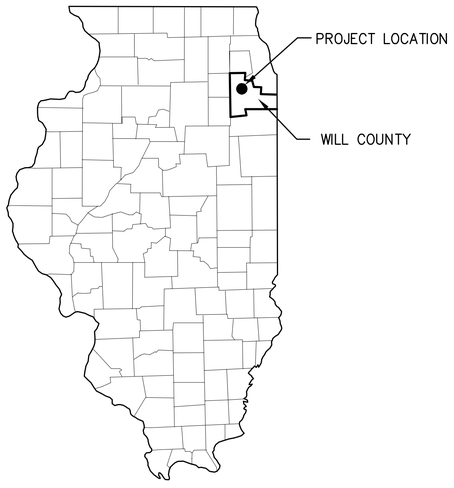
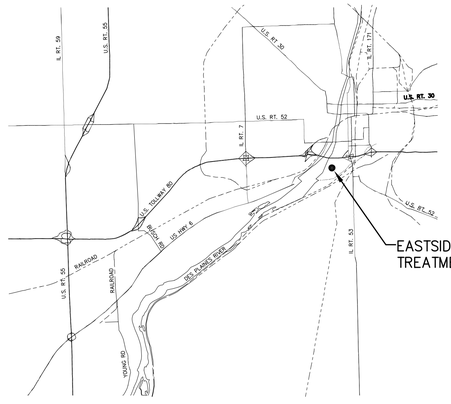
CITY OF JOLIET, ILLINOIS
EASTSIDE WASTEWATER TREATMENT PLANT
DIGESTER IMPROVEMENTS

JULY 2006



GENERAL LOCATION MAP



SCALE: 1" = 8000'±

PROJECT LOCATION MAP

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
ENGINEERS
DESIGN FIRM REGISTRATION
No. 184-000450
1817 SOUTH NEIL STREET
SUITE 100
CHAMPAIGN, ILLINOIS
(217) 373-8900
(217) 373-8923

DESIGNED BY: RJC/JLE
DRAWN BY: CSH/CWL
CHECKED BY: RLV
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

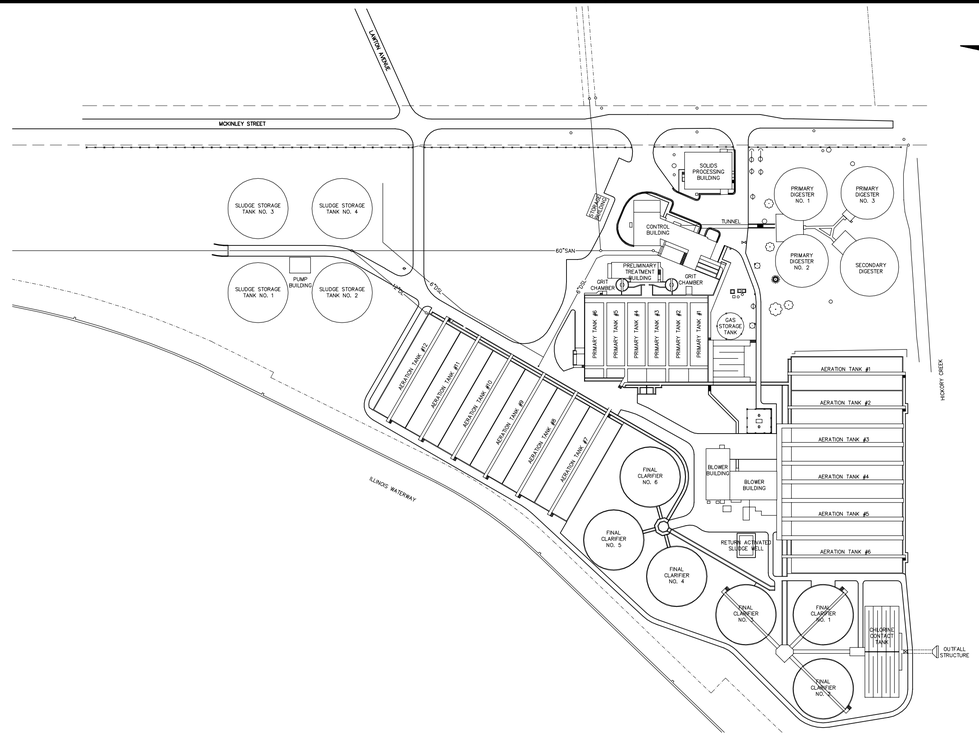
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
COVER DRAWING

DRAWING No.
G-1

DRAWING 1 OF 41



OVERALL SITE PLAN

0' 120' 240'

CONSTRUCTION SEQUENCE

DIGESTER AND GAS PIPING SEQUENCING

1. CITY TO DRAIN DIGESTER NO. 3 AS LOW AS POSSIBLE WITH EXISTING TRANSFER PUMPS.
2. CONTRACTOR IS RESPONSIBLE FOR CLEANING AND REMOVAL OF ANY REMAINING SLUDGE.
3. CONTRACTOR TO REMOVE COVER ON DIGESTER NO. 3.
   - REMOVE EXISTING GAS PIPING AND ASSOCIATED EQUIPMENT AS SHOWN ON PLANS.
   - INSTALL MIXING NOZZLES AND ASSOCIATED PIPING IN DIGESTER.
   - INSTALL SLUDGE MIXING PUMPS AND PIPING UP TO ISOLATION VALVES FOR EACH DIGESTER.
   - REPLACE GAS PIPING WITHIN DIGESTER.
   - INSTALL WASTE GAS BURNER AND ASSOCIATED GAS PIPING, METERS, ETC.
   - INSTALL GAS PIPING HEADER IN DIGESTER BUILDING WITH ISOLATION VALVES TO EACH DIGESTER.
   - REPLACE AND PAINT COVER.
4. PUT DIGESTER NO. 3 BACK INTO SERVICE.
5. PERFORM START-UP AND OPERATION OF MIXING PUMPS AND WASTE GAS BURNER.
6. CITY TO DRAIN DIGESTER NO. 2 AS LOW AS POSSIBLE WITH EXISTING TRANSFER PUMPS.
7. CONTRACTOR IS RESPONSIBLE FOR CLEANING AND REMOVAL OF ANY REMAINING SLUDGE.
8. CONTRACTOR TO REMOVE COVER ON DIGESTER NO. 3.
   - REMOVE EXISTING GAS PIPING AND ASSOCIATED EQUIPMENT AS SHOWN ON PLANS.
   - INSTALL MIXING NOZZLES AND ASSOCIATED PIPING IN DIGESTER.
   - REPLACE GAS PIPING WITHIN DIGESTER.
   - INSTALL SUPERNATANT TREE AND ASSOCIATED PIPING, ETC.
   - REPLACE AND PAINT COVER.
4. PUT DIGESTER NO. 2 BACK INTO SERVICE.
5. CITY TO DRAIN DIGESTER NO. 1 AS LOW AS POSSIBLE WITH EXISTING TRANSFER PUMPS.
6. CONTRACTOR IS RESPONSIBLE FOR CLEANING AND REMOVAL OF ANY REMAINING SLUDGE.
7. CONTRACTOR TO REMOVE COVER ON DIGESTER NO. 1.
   - REMOVE EXISTING GAS PIPING AND ASSOCIATED EQUIPMENT AS SHOWN ON PLANS.
   - INSTALL MIXING NOZZLES AND ASSOCIATED PIPING IN DIGESTER.
   - REPLACE GAS PIPING WITHIN DIGESTER.
   - REPLACE AND PAINT COVER.
8. CITY TO DRAIN DIGESTER NO. 4 AS LOW AS POSSIBLE WITH EXISTING TRANSFER PUMPS.
   - CONTRACTOR IS RESPONSIBLE FOR CLEANING AND REMOVAL OF ANY REMAINING SLUDGE.
   - PAINT COVER ON DIGESTER NO. 4.
   - CLEAN GAS PIPING FROM DIGESTER BUILDING UP TO DIGESTER NO. 4.
   - REPLACE GAS PIPING INSIDE DIGESTER NO. 4
9. PUT DIGESTER NO. 4 BACK INTO SERVICE.

SLUDGE STORAGE TANKS SEQUENCING

NOTE: WORK MUST BE COORDINATED WITH CITY TO COINCIDE WITH SLUDGE HAULERS REMOVING SLUDGE.

1. CITY WILL EMPTY ONE TANK AT A TIME AS MUCH AS POSSIBLE WITH EXISTING PUMPS.
2. CONTRACTOR IS RESPONSIBLE FOR CLEANING TANK AS NEEDED TO INSTALL PIPING CONNECTIONS.
3. INSTALL SUPERNATANT LINES ON 4 TANKS, 1 AT A TIME AND MAKE CONNECTIONS TO PARSHALL FLUME.
4. START-UP METER AND VALVE CONTROLS.

SEQUENCING NOTES:

1. ONLY ONE PUMP OR BOILER MAY BE REPLACED AT A TIME IN EACH OPERATIONAL AREA. PUMPS MUST BE STARTED AND PUT INTO SERVICE FOR MINIMUM 48 HOURS PRIOR TO ADDITIONAL REPLACEMENT.
2. CONCRETE WORK, EXTERIOR PAINTING, AND TUCK POINTING MUST BE COMPLETED IN TEMPERATURES ABOVE 50°.
3. ALL WORK TO BE COORDINATED WITH OWNER TO MINIMIZE DISRUPTION TO WWTP OPERATIONS.

INDEX OF DRAWINGS

GENERAL NOTES

1. NOT ALL OF THE GAS, POWER, OR TELEPHONE LINES, WHETHER ABOVE OR BELOW GROUND, HAVE BEEN SHOWN ON THE DRAWINGS. THE CONTRACTOR MUST REALIZE THAT THE ACTUAL LOCATIONS OF THE UTILITIES SHOWN ON THE DRAWINGS MAY BE DIFFERENT FROM THE LOCATIONS INDICATED.
2. THE LOCATIONS OF THE EXISTING YARD PIPING, SUCH AS RAW SEWAGE LINES, DRAIN LINES, NON-POTABLE WATER LINES, ETC., AS SHOWN ON THE DRAWINGS, HAS BEEN DETERMINED FROM PLANS FOR THE EXISTING FACILITIES AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR MUST ASSUME RESPONSIBILITY FOR ALL PIPING AND MUST REALIZE THAT THE ACTUAL LOCATIONS MAY BE DIFFERENT FROM THOSE INDICATED ON THE DRAWINGS.
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN IN SERVICE THE WASTEWATER TREATMENT FACILITY, ALL EXISTING PROCESS PIPING, AND ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION UNLESS OTHERWISE INDICATED IN THE DRAWINGS. ANY PIPING WHICH CAN BE REMOVED DURING CONSTRUCTION WITHOUT UNDUE INTERRUPTION OF SERVICE MAY BE REMOVED AND REPLACED BY THE CONTRACTOR WITH THE PERMISSION OF THE OWNER.
4. BEFORE WORKING WITH OR AROUND EXISTING UTILITIES, THE APPLICABLE UTILITY COMPANY SHALL BE CONTACTED BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL PRESERVE AND PROTECT PROPERTY MARKERS, SECTION CORNERS, SURVEY MARKS AND CITY BENCH MARKS, SUCH AS STONES, PIPES, OR OTHER MONUMENTS ENCOUNTERED. IF THE CONTRACTOR MUST RELOCATE THE PROPERTY MARKERS OR MONUMENTS, THEIR LOCATION SHALL BE REFERENCED BY A REGISTERED LAND SURVEYOR AND THE OWNER NOTIFIED BEFORE MOVING. ALL PROPERTY MARKERS AND MONUMENTS RELOCATED DURING CONSTRUCTION SHALL BE RE-ESTABLISHED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE AREA AND NO EXTRA COMPENSATION CONNECTED WITH OVERHEAD UTILITIES WILL BE ALLOWED.
7. THE CONTRACTOR IS RESPONSIBLE FOR DUST AND MUD CONTROL.
8. ROADWAY SURFACING AND BASE MATERIALS, OR ANY OTHER PROPERTY REMOVED OR DAMAGED, SHALL BE REPLACED OR REPAIRED AS PROVIDED FOR IN THE SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS.
9. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION TRAFFIC CONTROL.
10. IT IS INTENDED THAT GRADING BE PROVIDED TO ASSURE ADEQUATE DRAINAGE AWAY FROM THE BUILDINGS AND STRUCTURES. ALL GRADING SHALL BE APPROVED BY THE OWNER.
11. THE CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING EROSION CONTROL AND THE SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OR WORK ON THE PROJECT EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
12. INFORMATION ON DETAIL DRAWINGS TAKES PRIORITY OVER ALL GENERAL DRAWINGS AND SCHEDULES. CONFLICTS SHALL BE RESOLVED ACCORDINGLY.
13. WHEN CONNECTIONS ARE TO BE MADE TO EXISTING PIPING AND STRUCTURES, THE LOCATION AND ELEVATION OF THE EXISTING PIPING SHALL BE FIELD VERIFIED AND NOTIFICATION GIVEN TO THE OWNER IF THE EXISTING PIPING IS FOUND TO BE DIFFERENT THAN THAT SHOWN ON THE DRAWINGS.
14. THE COST OF ABIDING BY THE PROVISIONS OF PERMITS ISSUED BY VARIOUS AGENCIES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. ALL ASSOCIATED BONDING REQUIREMENTS AND COSTS ARE INCIDENTAL TO THE CONTRACT.
15. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING PERMITS FROM THE WILL COUNTY HIGHWAY DEPARTMENT (815/727-8476) WHEN OVERWEIGHT LOADS ARE TO BE TRANSPORTED TO AND FROM THE PLANT SITE. THE PERMIT WILL BE NECESSARY FOR LOADS EXCEEDING THE STATE MAXIMUM WEIGHT LIMIT OF 73,280 LBS. AN INDIVIDUAL PERMIT WILL BE REQUIRED FOR EACH OVERWEIGHT LOAD. THE CONTRACTOR MAY APPLY FOR THE PERMIT BY PHONE AND PICK UP AND SIGN THE PERMIT AT THE HIGHWAY DEPARTMENT OFFICES IN JOLIET. THE FOLLOWING INFORMATION WILL BE NEEDED:
   - A DESCRIPTION OF THE LOAD.
   - THE LOAD ORIGINATION AND DESTINATION.
   - THE LOAD'S TOTAL LENGTH, WIDTH, AND HEIGHT.
   - WEIGHTS OF SEPARATE COMPONENTS OF THE LOAD (TRACTOR WEIGHT, TRAILER WEIGHT, AND THE WEIGHT OF THE OBJECT BEING MOVED).
   - LICENSE NUMBERS OF THE TRACTOR AND TRAILER BEING USED.
   - DATE THAT THE MOVE WILL TAKE PLACE.

BENCHMARK

TBM #1: NORTHWEST BOLT ON FIRE HYDRANT WEST SIDE OF MCKINLEY NORTH OF MAIN ENTRANCE. ELEV. 523.41

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
ENGINEERS
DESIGN FIRM REGISTRATION No. 184-000450
1817 SOUTH NEIL STREET
SUITE 100
CHAMPAIGN, ILLINOIS
(217) 373-8900
(217) 373-8923

DESIGNED BY: RJC/JLE
DRAWN BY: CSH/CWL
CHECKED BY: RLV
DATE CHECKED: 07/06

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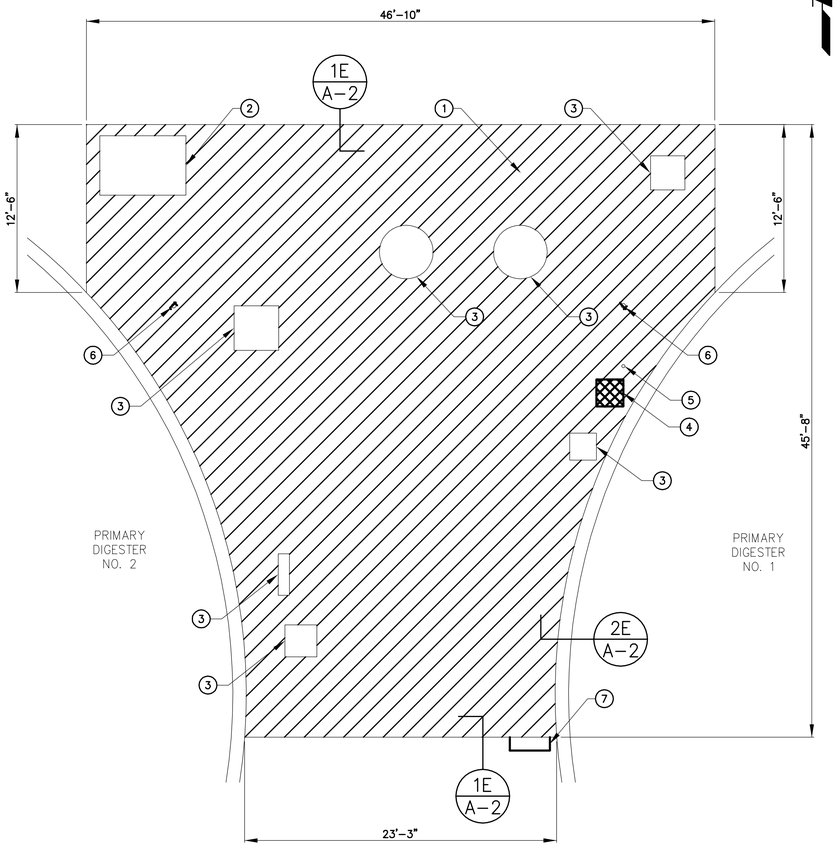
DATE REVISION

PROJECT No.
J02570

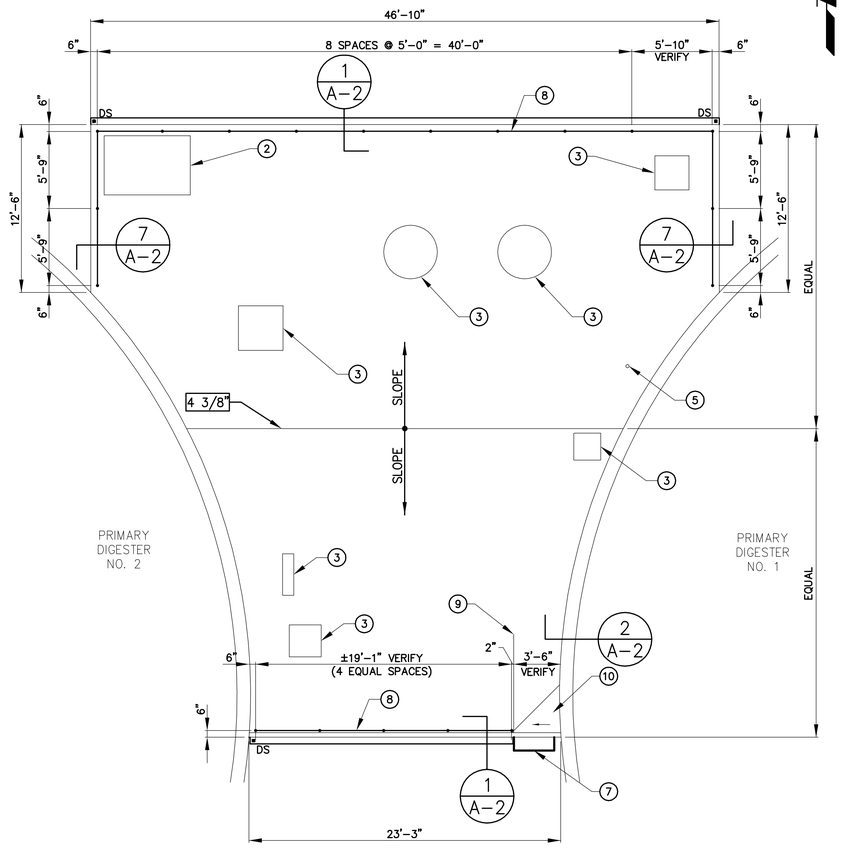
DRAWING TITLE
GENERAL NOTES, DRAWING INDEX AND OVERALL PLANT SITE

DRAWING No.
G-2

DRAWING 2 OF 41



1 / A-1 ROOF PLAN (DEMOLITION)
SCALE: 3/16"=1'-0"



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

GENERAL NOTES (ALL DRAWINGS)

1. ALL WORK SHALL BE DONE IN STRICT CONFORMANCE WITH FEDERAL, STATE, CITY OF JOLIET, ILLINOIS AND OTHER GOVERNING CODES AND ORDINANCES.
2. CONTRACTOR IS TO VERIFY ALL INFORMATION, DATA AND DIMENSIONS CONTAINED IN THE DRAWINGS AND PROJECT MANUAL BY INSPECTION AT THE SITE WHERE THE WORK IS TO BE PERFORMED.
3. IT IS NOT INTENDED TO SHOW EACH AND EVERY CONDITION. DRAWINGS SHOW ENGINEERS DESIGN INTENT. CONTRACTOR IS RESPONSIBLE FOR REVIEWING SERVICES REQUIRED TO SATISFY DESIGN INTENT. IF THE CONTRACTOR HAS ANY QUESTIONS REGARDING DESIGN INTENT, REQUEST CLARIFICATION BY ENGINEER BEFORE SUBMITTING BID PROPOSAL.
4. CONTRACTOR SHALL PROTECT ALL EXISTING MATERIALS AND/OR EQUIPMENT TO REMAIN IN WORK AREAS DURING CONSTRUCTION WORK. ANY EXISTING MATERIALS AND/OR EQUIPMENT DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AND/OR REPAIRED TO THE SATISFACTION OF THE OWNER, BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
5. CONTRACTOR SHALL SUPPLY AND INSTALL APPROX. (45) 30"X30" WALKWAY PADS TO BE LOCATED IN THE FIELD AS DIRECTED BY OWNER/ENGINEER. SEE SPECIFICATIONS.

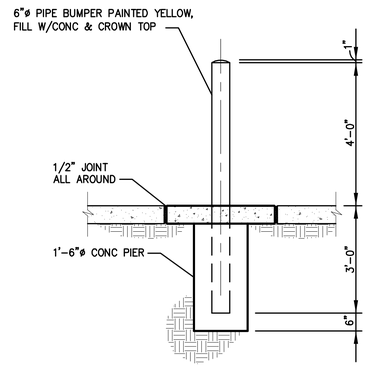
KEYNOTES (DRAWING A-1)

1. CROSSHATCHED AREA DENOTES EXISTING ROOFING SYSTEM, INCLUDING BALLAST, MEMBRANE(S), INSULATION, METAL FASCIA, AND ALL RELATED COMPONENTS TO BE REMOVED AND DISPOSED OF.
2. TEMPORARILY REMOVE EXISTING ROOF SCUTTLE. SEE DETAILS 3E/A-2 AND 3/A-2.
3. EXISTING MECHANICAL EQUIPMENT TO REMAIN. VERIFY TYPE AND SIZE. SEE DETAILS 4E/A-2 AND 4/A-2.
4. REMOVE AND DISPOSE OF EXISTING MECHANICAL EQUIPMENT AND RELATED COMPONENTS. FILL IN VOIDS IN ROOF SLAB AREAS AS REQUIRED FOR INSTALLATION OF NEW ROOFING SYSTEM.
5. EXISTING ROOF VENT TO REMAIN. SEE DETAIL 6/A-2.
6. REMOVE AND DISPOSE OF EXISTING ROOF DRAIN AND RELATED COMPONENTS TO BELOW ROOF SLAB. FILL IN VOIDS IN ROOF SLAB AS REQUIRED FOR INSTALLATION OF NEW ROOFING SYSTEM.
7. TEMPORARILY REMOVE AND PROTECT EXISTING METAL STAIRWAY. PAINT COLOR AS SELECTED BY OWNER AND RE-ATTACH TO STRUCTURE AS REQUIRED. SEE SPECIFICATION SECTION 09900 FOR PAINTING.
8. GUARD RAIL. SEE DETAIL 5/A-2.
9. SIDE OF EXISTING STAIRWAY.
10. SLOPE ROOF INSULATION TO CREATE CRICKET TO DIVERT WATER FROM METAL STAIRWAY AREA. ROOF EDGE DETAIL SIMILAR TO 7/A-2. VERIFY AND COORDINATE DETAIL WITH METAL STAIRWAY ATTACHMENT.

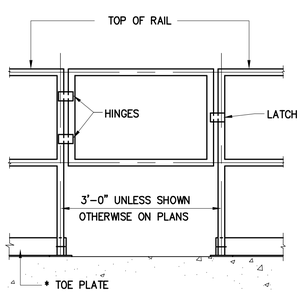
LEGEND

4 3/8" DENOTES THICKNESS OF RIGID INSULATION AT GIVEN LOCATION

DENOTES DOWNSPOUT LOCATION(S) AT GUTTER. VERIFY REQUIRED DOWNSPOUT LENGTHS. PROVIDE CONCRETE SPLASH BLOCKS AT EACH DOWNSPOUT LOCATION

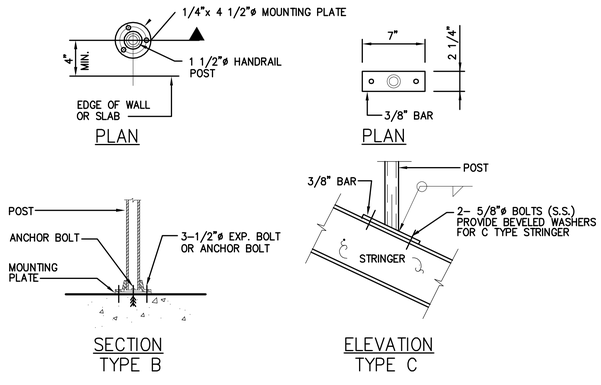


PIPE BOLLARD DETAIL
SCALE: 1/2"=1'-0"



SEE SPEC'S FOR SELF-CLOSING DETAILS.

SINGLE GATE DETAIL
SCALE: NONE



POST MOUNTING DETAIL
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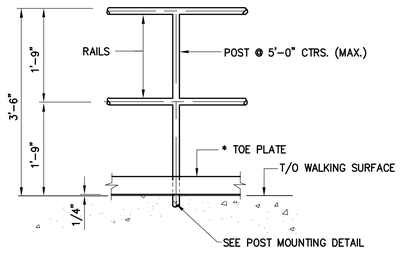

TYPICAL HANDRAIL DETAIL
SCALE: NONE
* PROVIDE TOE PLATE-1/4"x4" W/ 3/8" DIA. U-BOLT IN ALL LOCATIONS

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
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PLANNING
INTERIOR DESIGN

DESIGNED BY: EJO
DRAWN BY: CWL
CHECKED BY: EJO
DATE CHECKED: 06/06

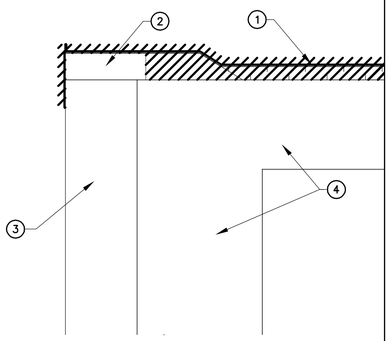
NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

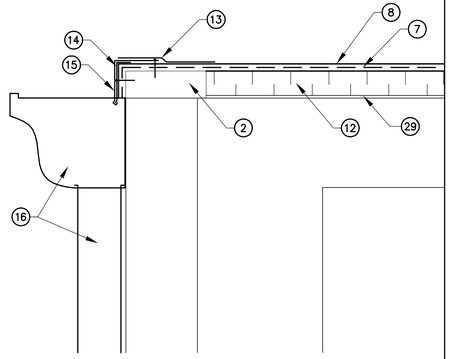
PROJECT No.
J02570

DRAWING TITLE
DIGESTER BUILDING ROOF PLAN AND DETAILS

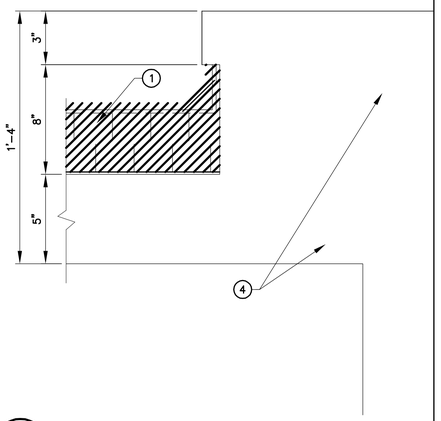
DRAWING No.
A-1
DRAWING 3 OF 41



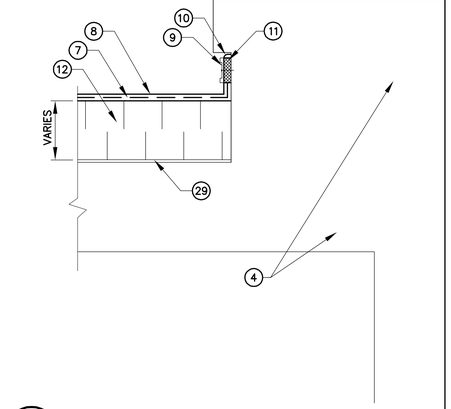
1E A-2 EXISTING ROOF DETAIL
SCALE: 3"=1'-0"



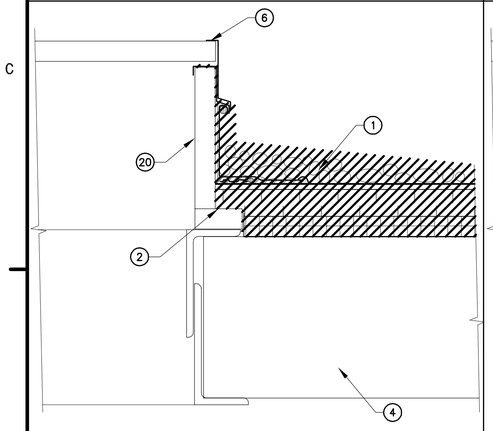
1 A-2 ROOF DETAIL
SCALE: 3"=1'-0"



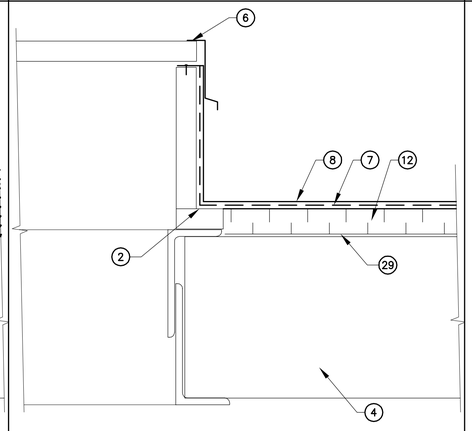
2E A-2 EXISTING DETAIL AT PARAPET
SCALE: 3"=1'-0"



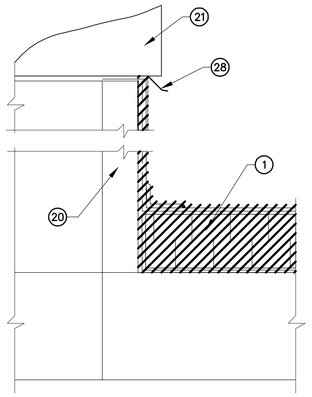
2 A-2 DETAIL AT PARAPET
SCALE: 3"=1'-0"



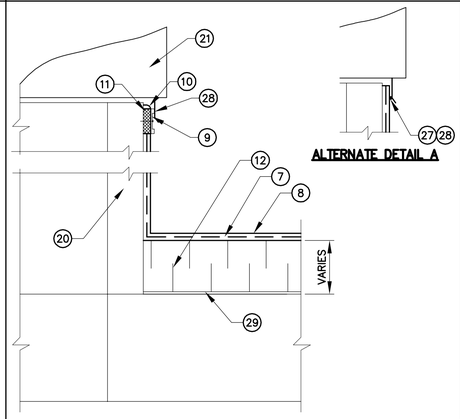
3E A-2 EXISTING DETAIL AT ROOF SCUTTLE
SCALE: 3"=1'-0"



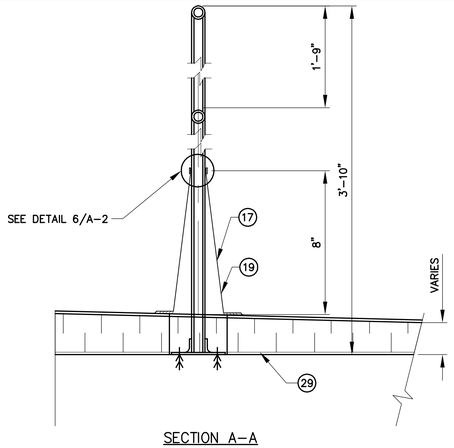
3 A-2 DETAIL AT ROOF SCUTTLE
SCALE: 3"=1'-0"



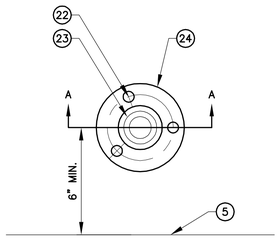
4E A-2 EXISTING DETAIL AT MECHANICAL EQUIPMENT CURB
SCALE: 3"=1'-0"



4 A-2 DETAIL AT MECHANICAL EQUIPMENT CURB
SCALE: 3"=1'-0"

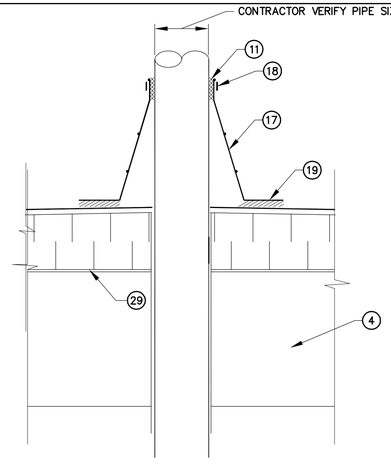


SECTION A-A

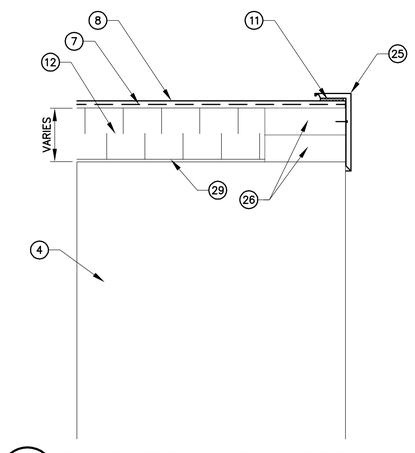


PLAN

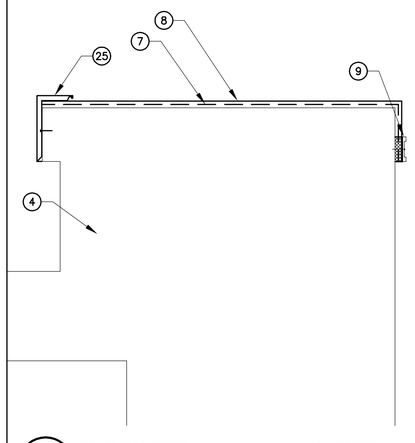
5 A-2 GUARD RAIL DETAILS
SCALE: 3"=1'-0"



6 A-2 DETAIL AT PIPE PENETRATION
SCALE: 3"=1'-0"



7 A-2 ROOF TERMINATION DETAIL
SCALE: 3"=1'-0"



8 A-2 DIGESTER WALL CAP DETAIL
SCALE: 3"=1'-0"

KEYNOTES (DRAWING A-2)

1. REMOVE AND DISPOSE OF ENTIRE EXISTING ROOFING SYSTEM. SEE KEYNOTE 1 ON DRAWING A-1.
2. EXISTING WOOD BLOCKING. VERIFY SIZE AND CONDITION, IF REQUIRED REPLACE WITH SAME SIZE TREATED LUMBER.
3. EXISTING FACE BRICK TO REMAIN.
4. EXISTING CONCRETE ROOF SLAB AND/OR STRUCTURE TO REMAIN. NO WORK.
5. EDGE OF WALL OR SLAB.
6. TEMPORARILY REMOVE ROOF SCUTTLE COVER. RE-ATTACH AFTER ROOFING WORK IS COMPLETED.
7. SURE-SEAL FAST ADHESIVE.
8. ROOF MEMBRANE. SEE SPECIFICATIONS.
9. TERMINATION BAR.
10. SEALANT.
11. WATER CUT-OFF MASTIC.
12. 1/8" PER FOOT TAPERED INSULATION. SEE ROOF PLAN 2/A-1, AND SPECIFICATIONS.
13. 6" WIDE PRESSURE-SENSATIVE FLASHING, SEMI-CURED OR CURED COVER STRIP.
14. 24" GAUGE GALVANIZED ANCHOR CLEAT.
15. DRIP EDGE FASCIA. SEE SPECIFICATIONS.
16. GUTTER AND DOWNSPOUT SYSTEM. "ALCOA" TRADITIONAL SELECT 6" OR EQUIVALENT. COLOR TO BE SELECTED BY OWNER FROM MANUFACTURER'S STANDARD COLORS.
17. PRE-MOLDED PIPE FLASHING. USE SPLIT FLASHING ONLY IF REQUIRED FOR INSTALLATION.
18. STAINLESS STEEL CLAMPING RING.
19. HOT AIR WELD.
20. EXISTING ROOF CURB TO REMAIN.
21. EXISTING MECHANICAL EQUIPMENT TO REMAIN DURING RE-ROOFING WORK.
22. 3-1/2"ø EXP. BOLTS OR ANCHOR BOLTS.
23. 1 1/2"ø HANDRAIL POST.
24. 1/4" X 4 1/2"ø MOUNTING PLATE.
25. ROOF EDGE TERMINATION. SEE SPECIFICATIONS
26. VERIFY CONDITION AND HEIGHT OF EXISTING BLOCKING. IF REQUIRED PROVIDE NEW BLOCKING TO CONFORM WITH TAPERED INSULATION SLOPE.
27. ROD AND SEALANT.
28. VERIFY IF MECHANICAL EQUIPMENT CURB FLASHING CAN BE BENT AND RETURNED TO POSITION. IF IT CAN USE DETAIL 4/A-2; IF NOT USE ALTERNATE DETAIL A.
29. VAPOR BARRIER. SEE SPECIFICATIONS.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
ENGINEERS
DESIGN FIRM REGISTRATION No. 184-000450
1817 SOUTH NEIL STREET
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ADG LTD
ARCHITECTURAL DESIGN GROUP
201 WEST SPRINGFIELD AVENUE
SUITE 707
CHAMPAIGN, ILLINOIS 61820
T. 217-352-2000
F. 217-355-2956
ARCHITECTURE
PLANNING
INTERIOR DESIGN

DESIGNED BY: EJO
DRAWN BY: CWL
CHECKED BY: EJO
DATE CHECKED: 06/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

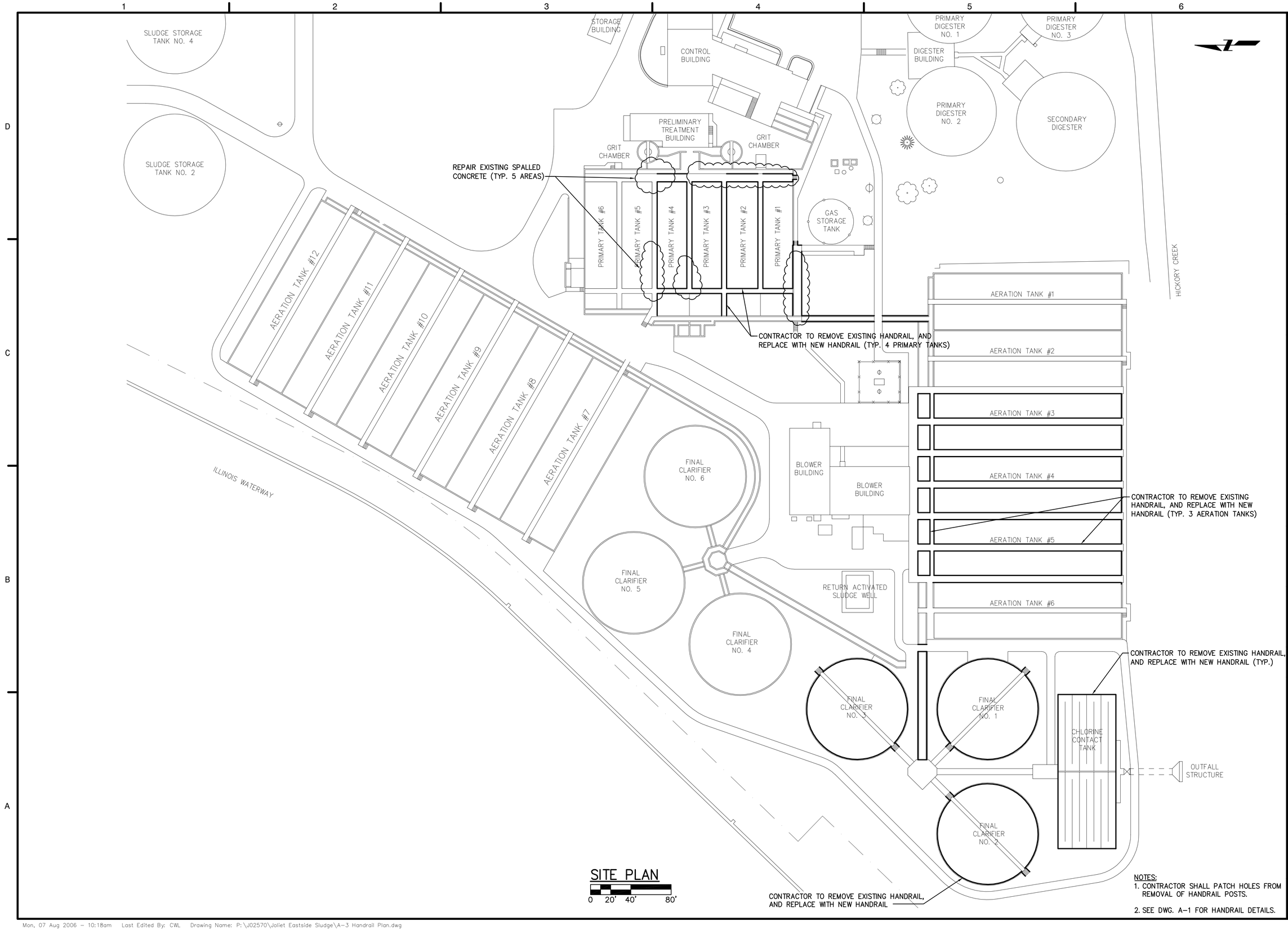
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
DIGESTER BUILDING
ROOF DETAILS

DRAWING No.
A-2

DRAWING 4 OF 41



SITE PLAN

0 20' 40' 80'

NOTES:
1. CONTRACTOR SHALL PATCH HOLES FROM REMOVAL OF HANDRAIL POSTS.
2. SEE DWG. A-1 FOR HANDRAIL DETAILS.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP
DIGESTER IMPROVEMENTS

Clark Dietz
ENGINEERS
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CHECKED BY: RLV
DATE CHECKED: 07/06

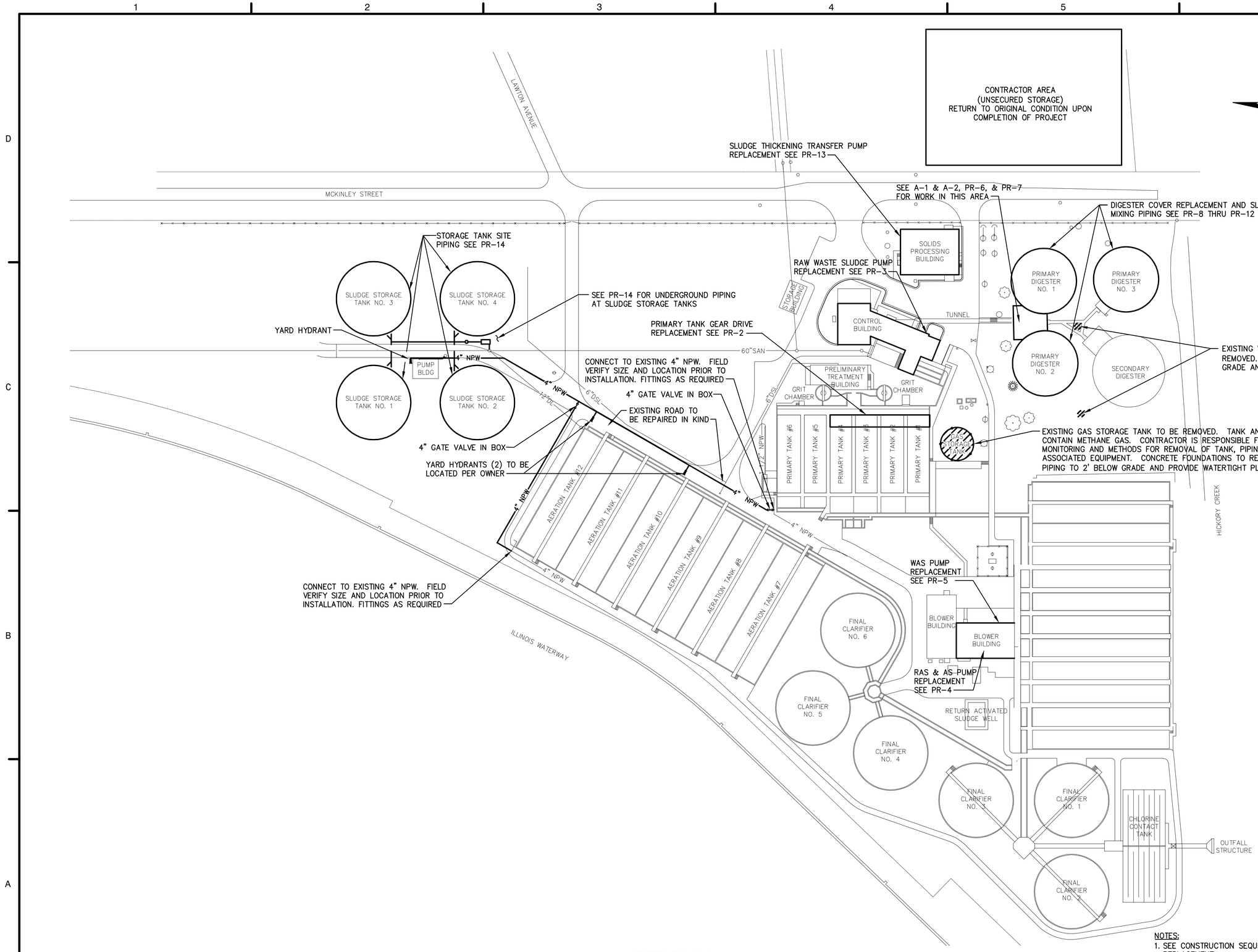
NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
HANDRAIL REPLACEMENT PLAN

DRAWING No.
A-3
DRAWING 5 OF 41



SITE PLAN

0 30' 60' 120'

NOTES:

1. SEE CONSTRUCTION SEQUENCE DWG. G-2 FOR DIGESTER COVER REPLACEMENT.
2. CRANES MUST BE SET EAST OR WEST OF EXISTING DIGESTERS. CARE SHOULD BE TAKEN TO AVOID EXISTING BURIED UTILITIES. COORDINATE WITH OWNER/ENGINEER ON LOCATION OF UTILITIES AND REPLACEMENT DIGESTER COVER CONSTRUCTION AREA.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER
IMPROVEMENTS

Clark Dietz
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CHECKED BY: RLV
DATE CHECKED: 07/06

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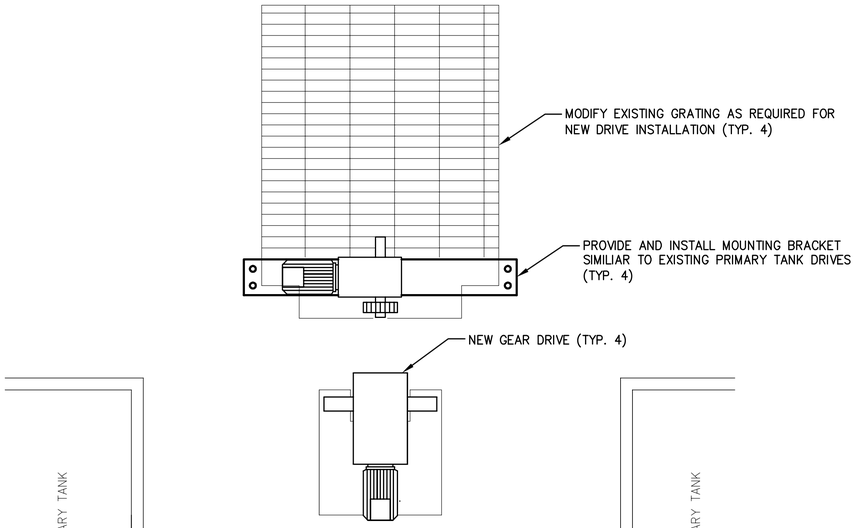
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
SITE PLAN

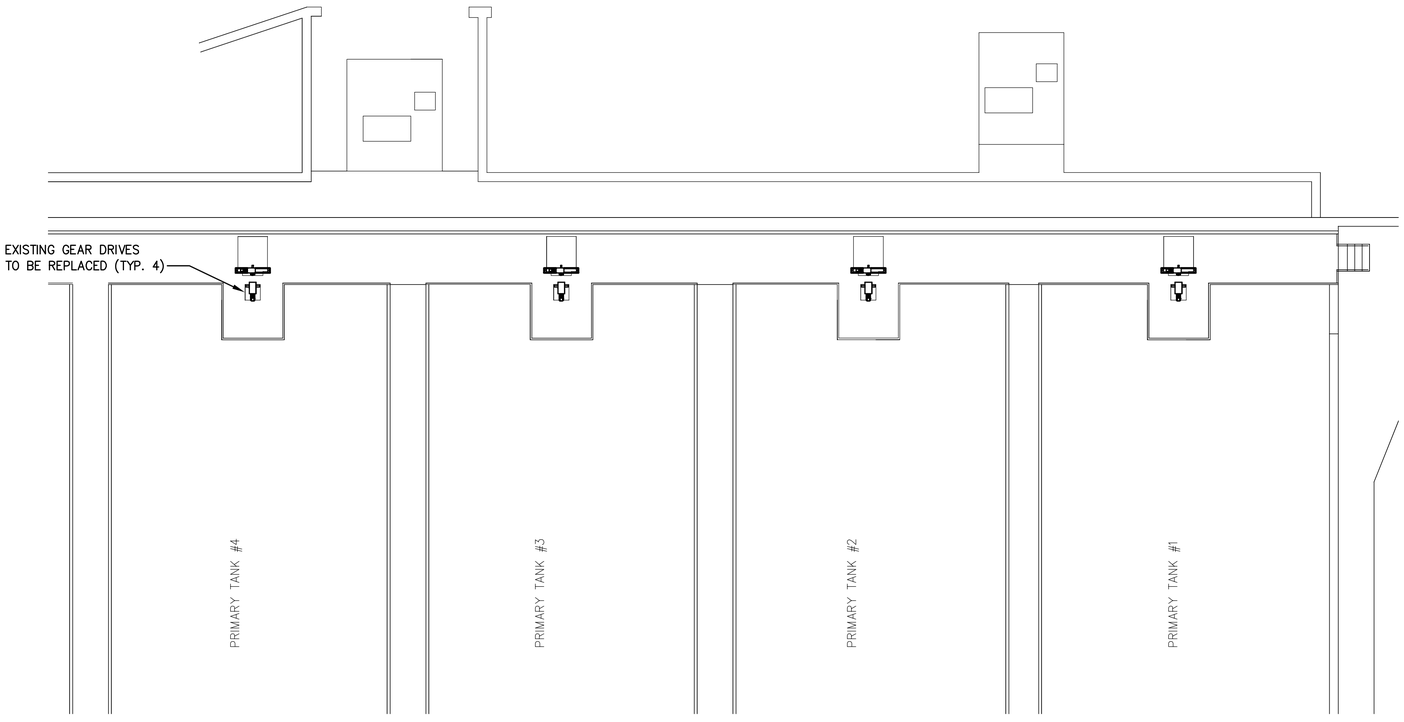
DRAWING No.
PR-1

DRAWING 6 OF 41



PRIMARY TANK GEAR DRIVES

0' 1' 2'



PRIMARY TANK GEAR DRIVES

0' 60' 120'

NOTES:

1. THE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS FOR REPLACEMENT OF THE DRIVE UNITS LOCATED AT EXISTING PRIMARY TANKS 1 THROUGH 4.
2. THE REPLACEMENT DRIVES SHALL BE V04-1758-1 (DUAL OUTPUT SHAFT) AND V04-1758-2 (SINGLE SHAFT) AS MANUFACTURED BY US FILTER/ENVIREX, WAUKESHA WI. PHONE # (262) 521-8218. NO SUBSTITUTIONS WILL BE ALLOWED.
3. A TOTAL OF ONE (1) SINGLE SHAFT AND ONE (1) DUAL OUTPUT SHAFT WILL BE FURNISHED AND INSTALLED FOR EACH EXISTING PRIMARY TANK.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE WORKING SYSTEM, INCLUDING ELECTRICAL AND CONTROL RECONNECTIONS.
5. EXISTING REMOVED DRIVES SHALL BE LEGALLY DISPOSED OF OFFSITE BY THE CONTRACTOR.
6. THE NEW DRIVES SHALL BE MOUNTED IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS DRAWING.
7. CONTRACTOR SHALL REPLACE EXISTING GEAR DRIVES AS SHOWN. ONLY ONE GEAR DRIVE SHALL BE OUT OF SERVICE AT ONE TIME. COORDINATE WITH OWNER FOR SHUT DOWN.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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DRAWN BY: CSH/CWL
CHECKED BY: RLV
DATE CHECKED: 07/06

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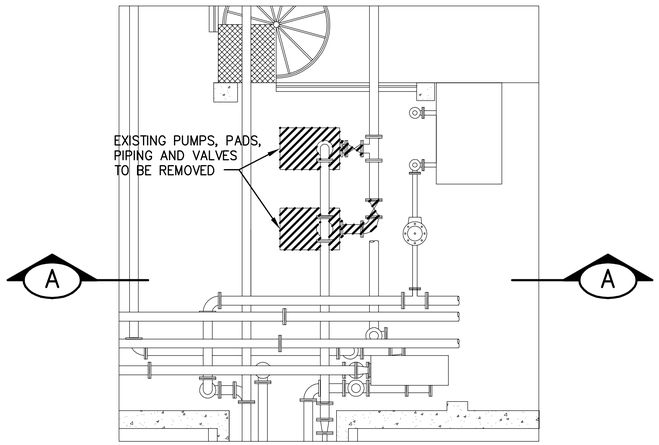
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
PRIMARY TANK GEAR DRIVES

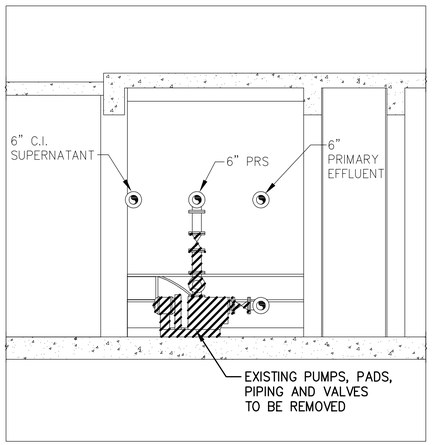
DRAWING No.
PR-2

DRAWING 7 OF 41



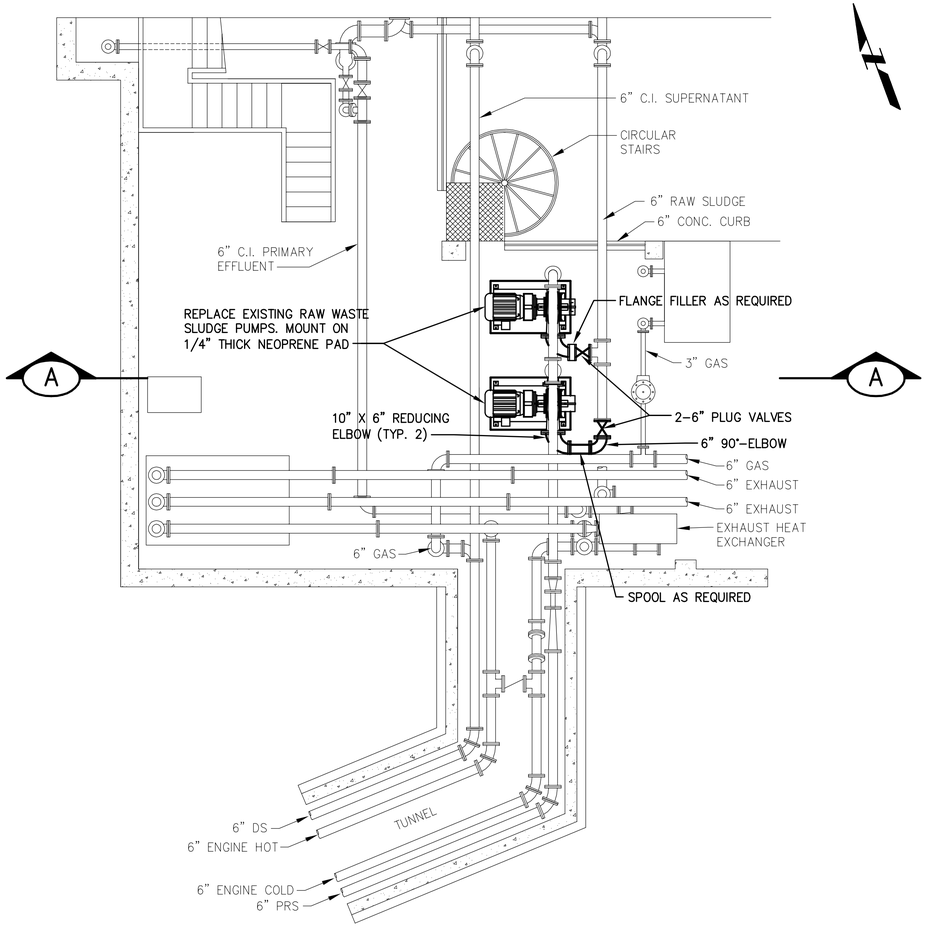
DEMOLITION PLAN

0 1' 2' 4' 8'



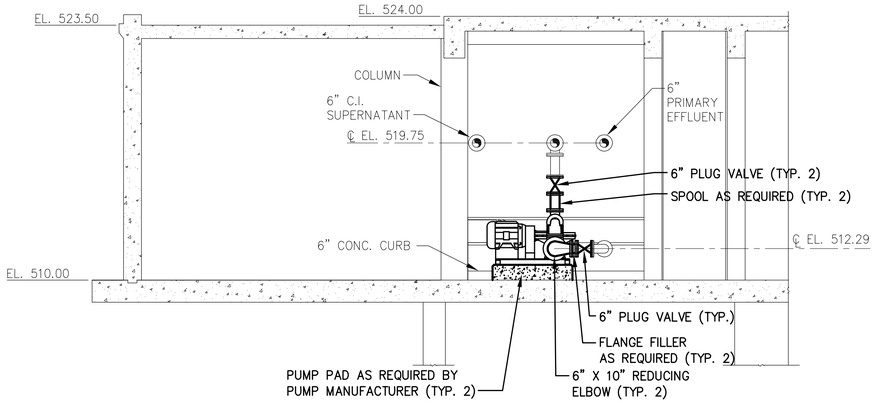
DEMOLITION SECTION A–A

0 1' 2' 4' 8'



PROPOSED PLAN

0 1' 2' 4' 8'



PROPOSED SECTION A–A

0 1' 2' 4' 8'

NOTE:
CONTRACTOR SHALL REPLACE EXISTING PUMPS AS SHOWN. ONLY ONE PUMP SHALL BE OUT OF SERVICE AT ONE TIME. COORDINATE WITH OWNER FOR SHUT DOWN.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER
IMPROVEMENTS

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DRAWN BY: CSH
CHECKED BY: RLV
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

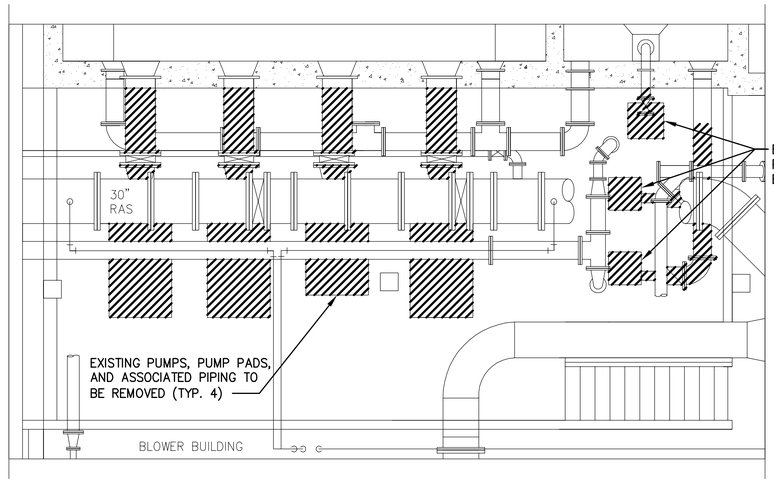
PROJECT No.
J02570

DRAWING TITLE

RAW WASTE SLUDGE PUMPS
DEMOLITION AND PROPOSED
PLANS AND SECTIONS

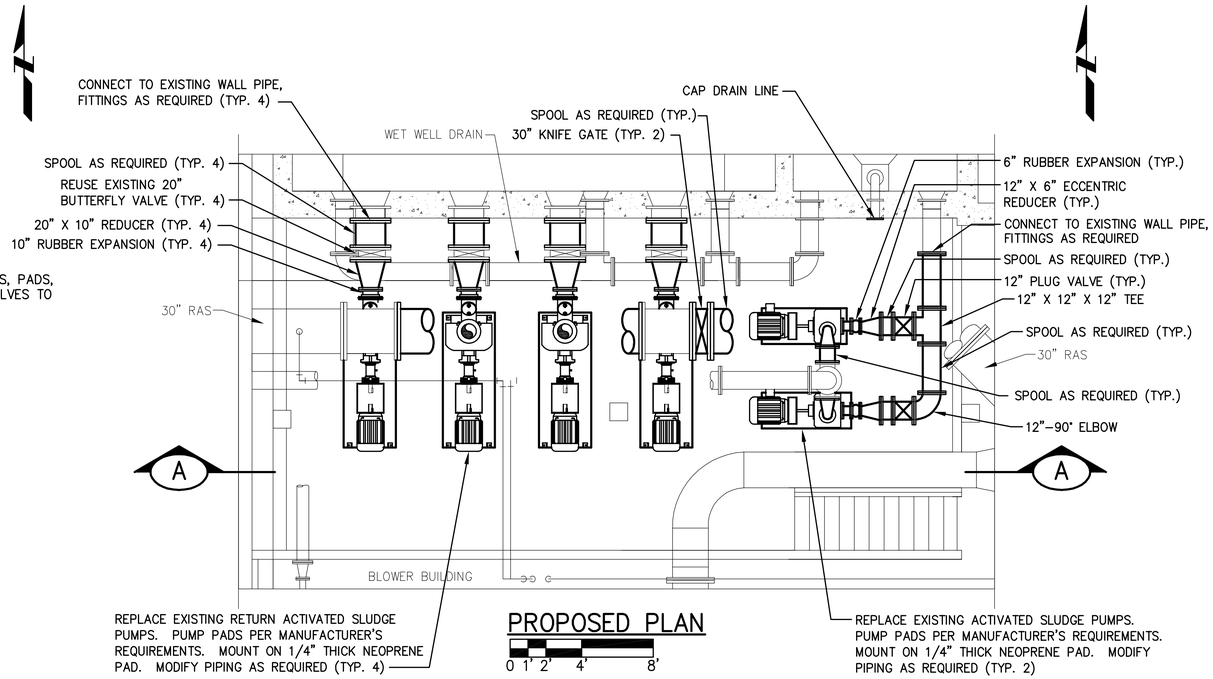
DRAWING No.
PR-3

DRAWING 8 OF 41



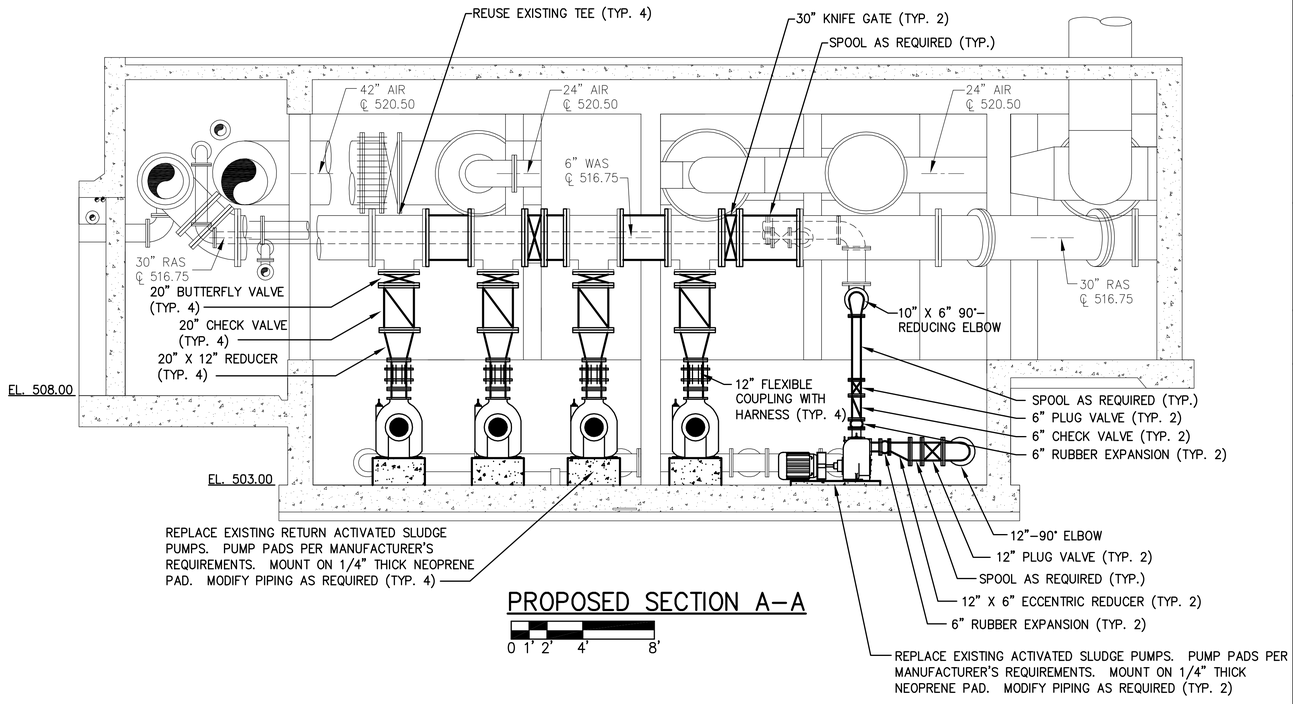
DEMOLITION PLAN

0 1' 2' 4' 8'



PROPOSED PLAN

0 1' 2' 4' 8'



PROPOSED SECTION A-A

0 1' 2' 4' 8'

NOTE:
CONTRACTOR SHALL REPLACE EXISTING PUMPS AS SHOWN. ONLY ONE PUMP SHALL BE OUT OF SERVICE AT ONE TIME. COORDINATE WITH OWNER FOR SHUT DOWN.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER
IMPROVEMENTS

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DRAWN BY: CSH
CHECKED BY: RLV
DATE CHECKED: 07/06

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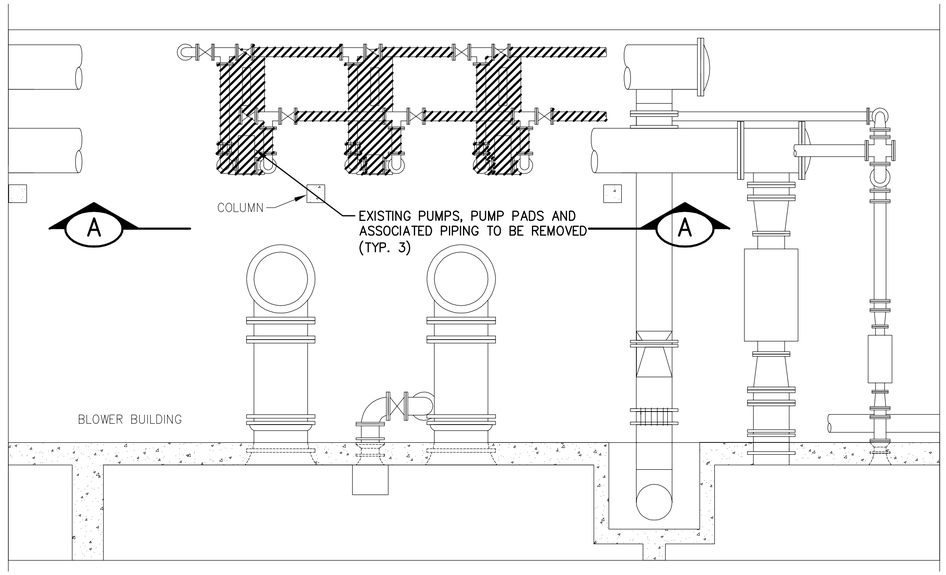
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
RAS PUMPS AND AS PUMPS
DEMOLITION AND PROPOSED
PLANS AND SECTIONS

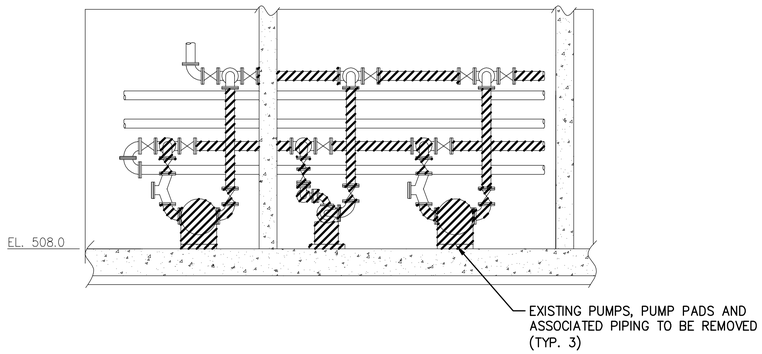
DRAWING No.
PR-4

DRAWING 9 OF 41



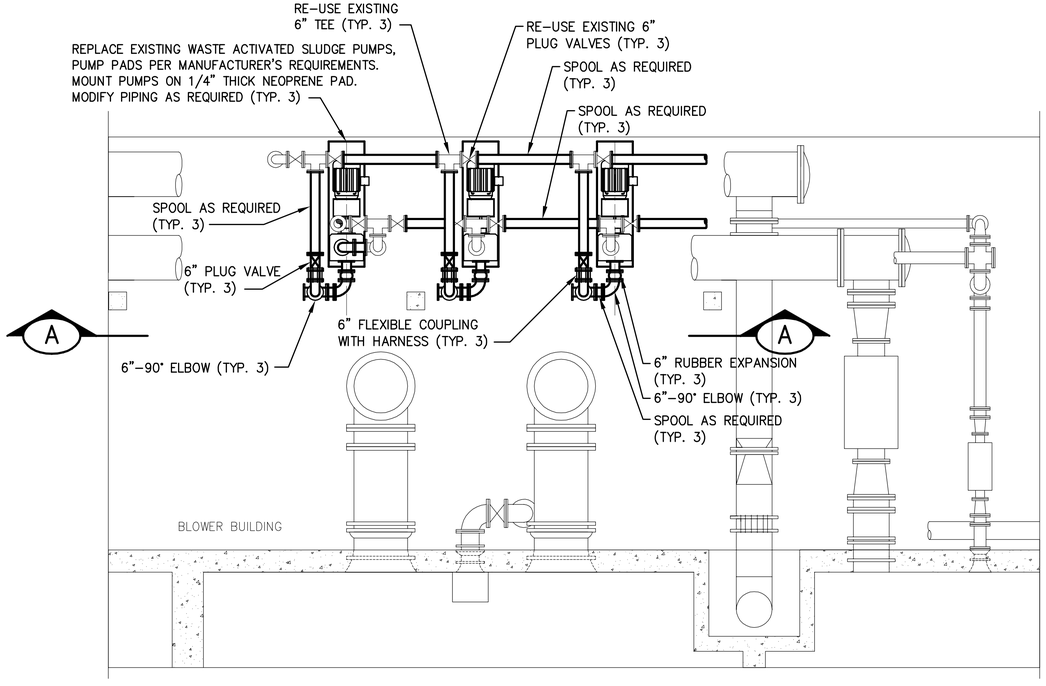
DEMOLITION PLAN

0 1' 2' 4' 8'



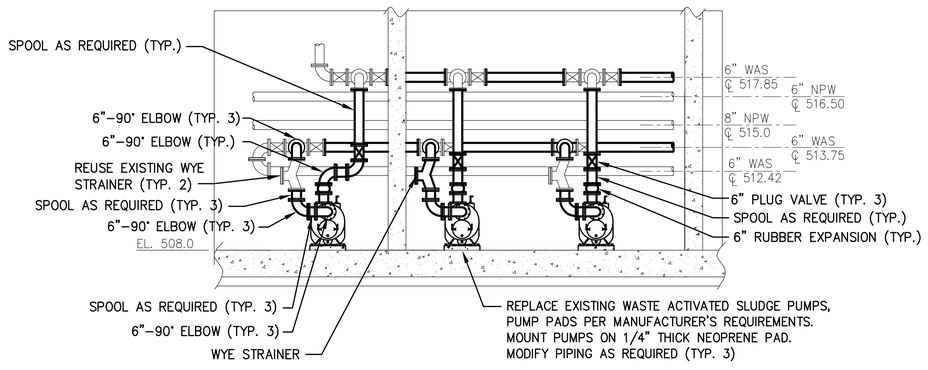
DEMOLITION SECTION A–A

0 1' 2' 4' 8'



PROPOSED PLAN

0 1' 2' 4' 8'



PROPOSED SECTION A–A

0 1' 2' 4' 8'

NOTE:
CONTRACTOR SHALL REPLACE EXISTING PUMPS AS SHOWN. ONLY ONE PUMP SHALL BE OUT OF SERVICE AT ONE TIME. COORDINATE WITH OWNER FOR SHUT DOWN.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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DATE CHECKED: 07/08

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

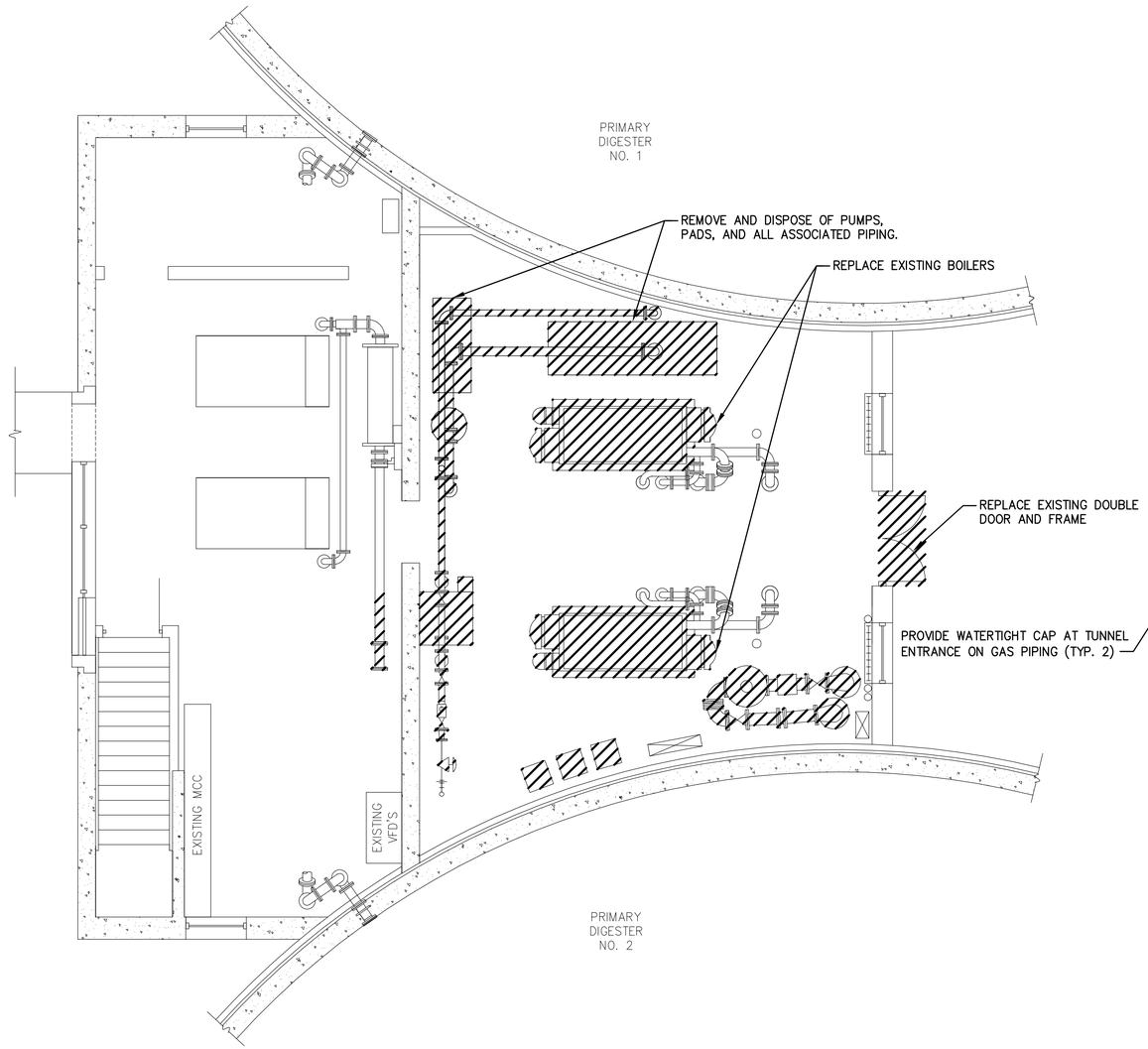
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
WAS PUMPS
DEMOLITION AND PROPOSED
PLANS AND SECTIONS

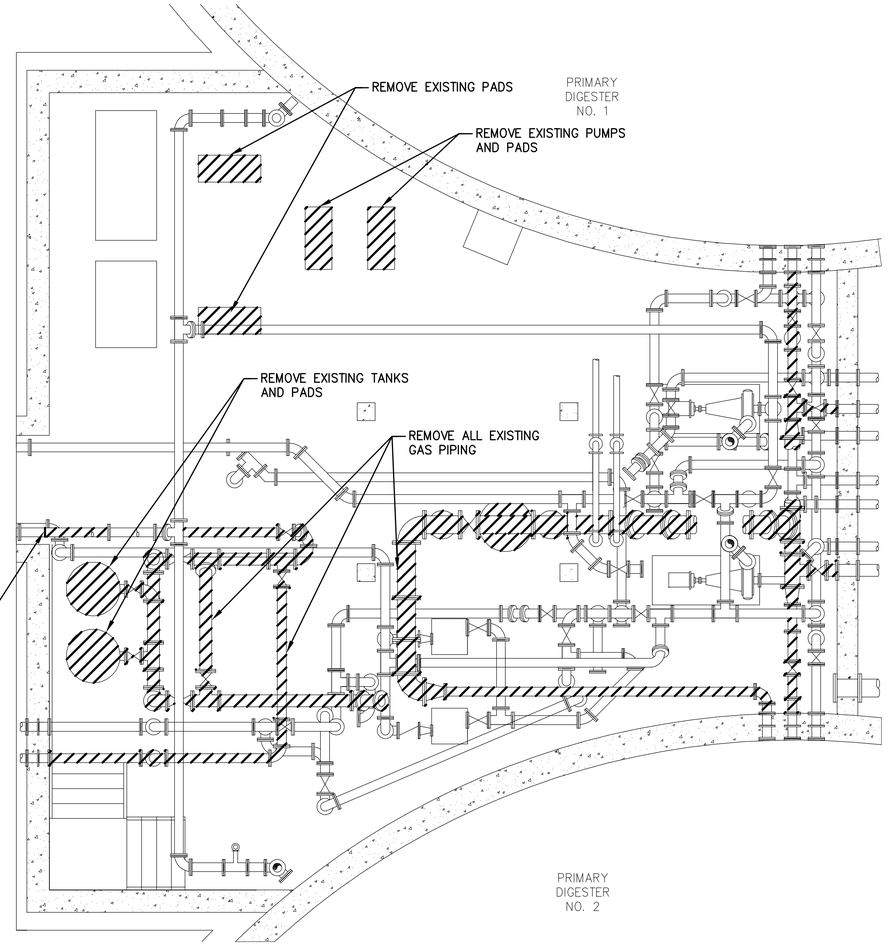
DRAWING No.
PR-5

DRAWING 10 OF 41



FIRST FLOOR PLAN

0 1' 2' 4' 8'



BASEMENT PLAN

0 1' 2' 4' 8'

NOTES:

1. PIPING MAY CONTAIN METHANE GAS. CONTRACTOR IS RESPONSIBLE FOR PROPER MONITORING AND METHODS FOR REMOVAL OF EXISTING PIPING.
2. NOT ALL GAS PIPING MAY BE SHOWN. THE INTENT IS TO REMOVE ALL EXISTING GAS PIPING. GENERALLY ALL GAS PIPING IS PAINTED RED,
3. ALL PIPING PENETRATIONS THAT ARE NOT REUSED SHALL BE FILLED WITH NON-SHRINK GROUT.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER
IMPROVEMENTS

Clark Dietz
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DRAWN BY: CWL
CHECKED BY: RLV
DATE CHECKED: 07/06

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DATE REVISION

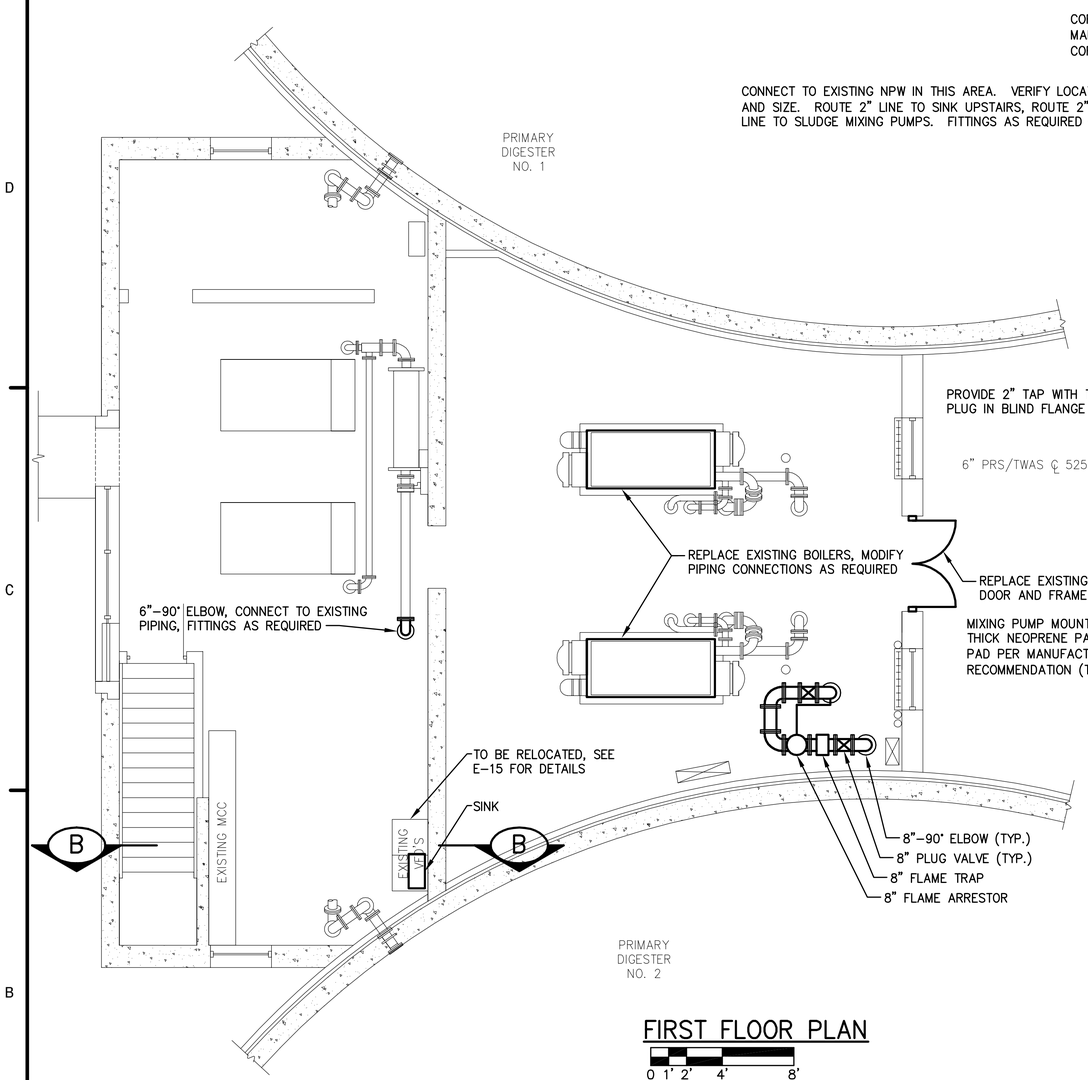
PROJECT No.
J02570

DRAWING TITLE

DIGESTER BUILDING
DEMOLITION PLANS

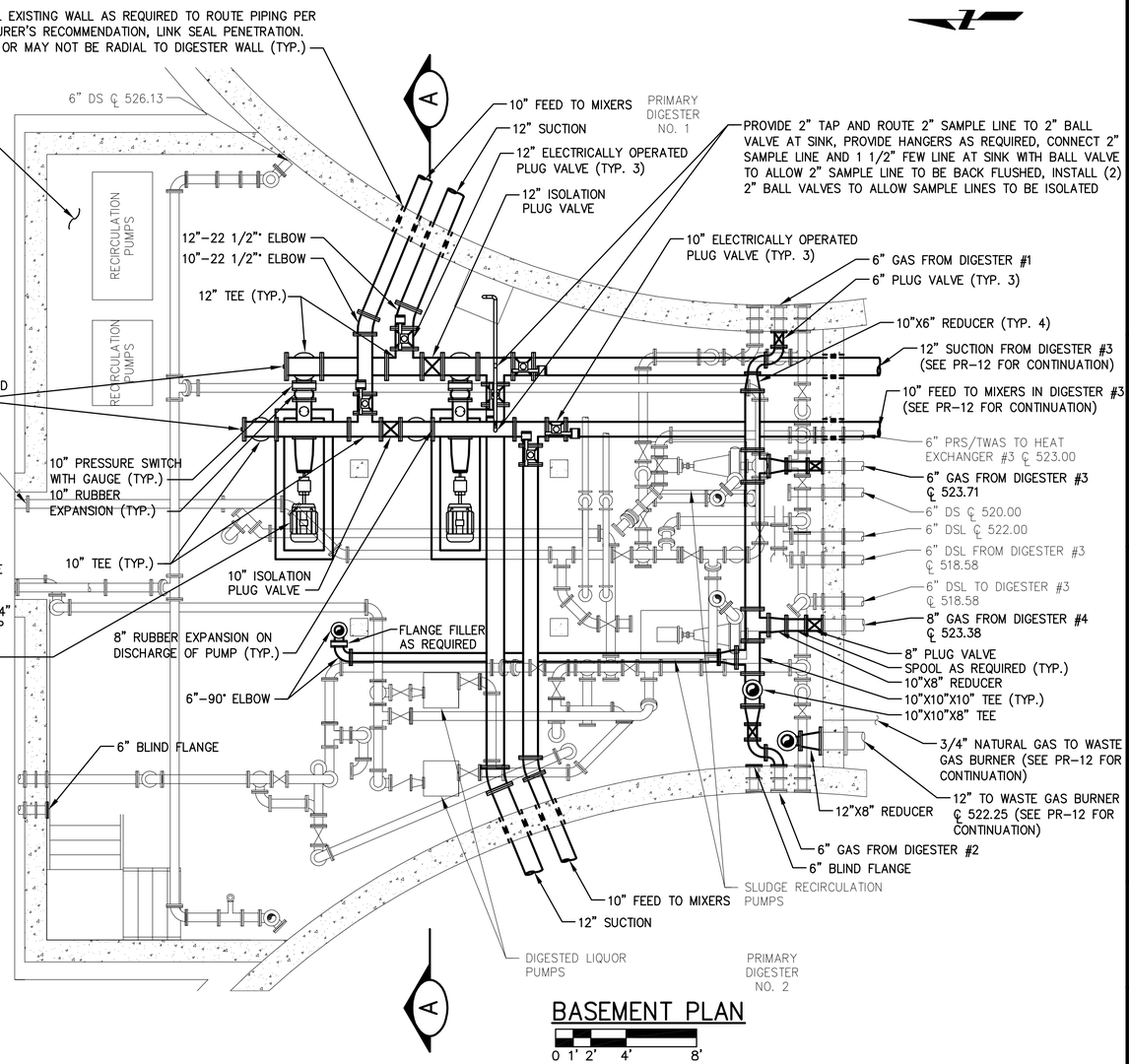
DRAWING No.
PR-6

DRAWING 11 OF 41



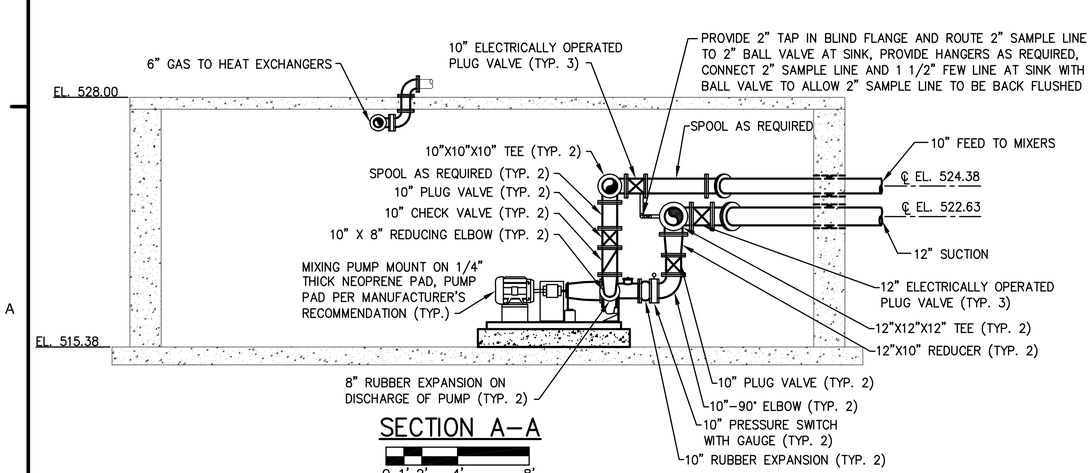
FIRST FLOOR PLAN

0 1' 2' 4' 8'



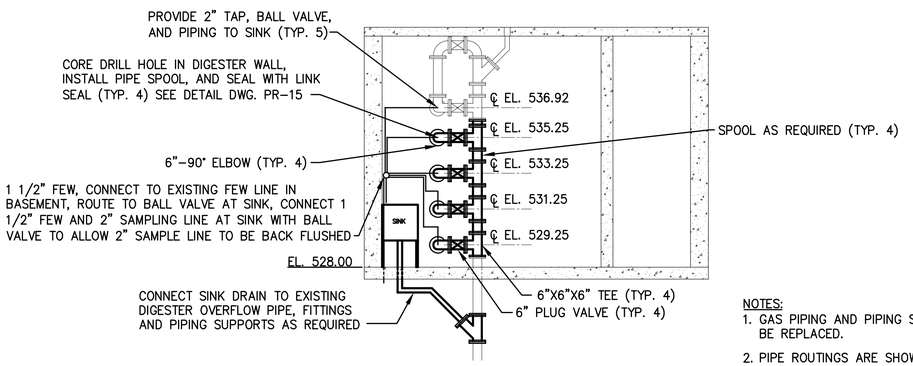
BASEMENT PLAN

0 1' 2' 4' 8'



SECTION A-A

0 1' 2' 4' 8'



SECTION B-B SUPERNATANT TREE

0 1' 2' 4' 8'

NOTES:

1. GAS PIPING AND PIPING SUPPORTS INSIDE ALL 4 DIGESTERS SHALL BE REPLACED.
2. PIPE ROUTINGS ARE SHOWN AS APPROXIMATE. ACTUAL ROUTING SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR, AND APPROVED BY THE OWNER/ENGINEER. NO ADDITIONAL COMPENSATION SHALL BE GIVEN DUE TO ALTERNATE ROUTING.
3. EXISTING 12" GAS LINE TO WASTE GAS BURNER, 6" GAS PIPING WALL PENETRATIONS TO DIGESTERS #1 & #2, 6" GAS TO DIGESTER #3, AND 8" GAS TO DIGESTER #4 SHALL ALL BE CLEANED.
4. SUPERNATANT TREE TO BE SIMILAR TO EXISTING SUPERNATANT TREE AT DIGESTER NO.1.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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ENGINEERS
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DESIGNED BY: RJC/JLE
DRAWN BY: CWL
CHECKED BY: RLV
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

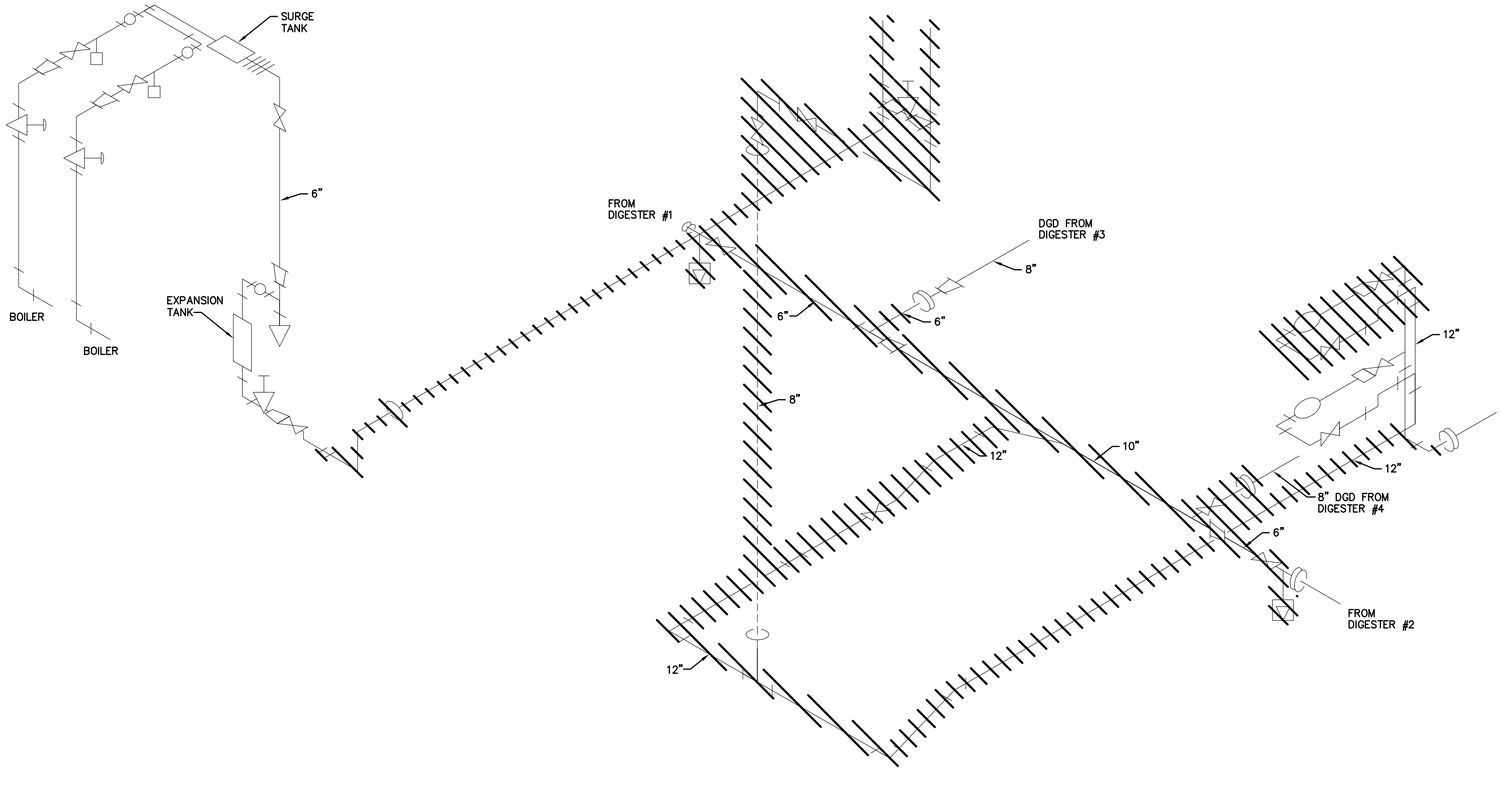
DATE REVISION

PROJECT No.
J02570

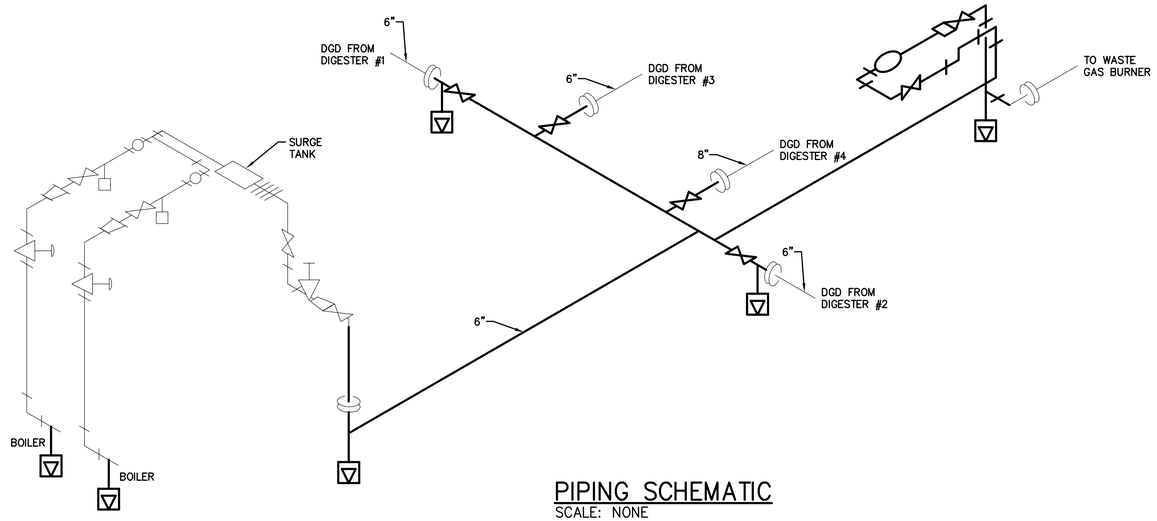
DRAWING TITLE
DIGESTER BUILDING PLANS AND SECTIONS

DRAWING No.
PR-7

DRAWING 12 OF 41



PIPING SCHEMATIC (EXIST)
SCALE: NONE



PIPING SCHEMATIC
SCALE: NONE

LEGEND

- DRIP TRAP
- WALL PENETRATION
- CHECK VALVE
- PLUG VALVE
- PRESSURE REGULATING VALVE
- REDUCER
- FLAME ARRESTOR
- BACKFLOW PREVENTOR

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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DESIGNED BY: RJC/JLE
DRAWN BY: CSH
CHECKED BY: RLV
DATE CHECKED: 07/06

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DATE REVISION

PROJECT No.
J02570

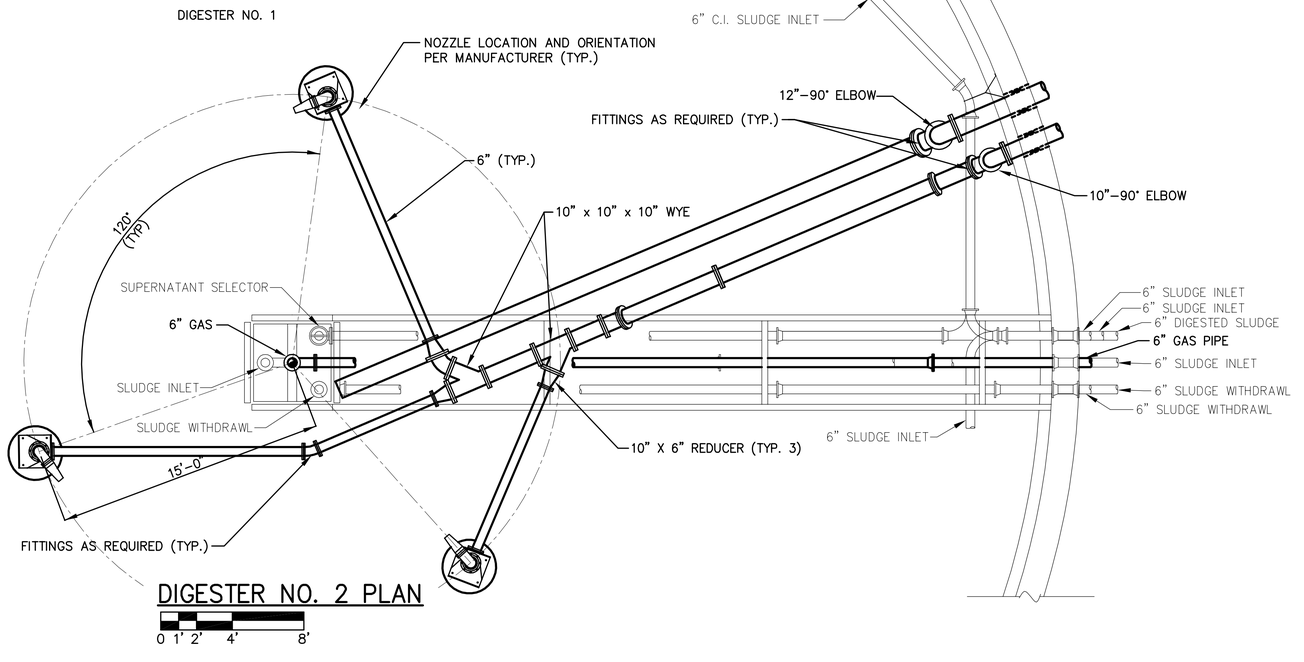
DRAWING TITLE
DIGESTER GAS SCHEMATIC

DRAWING No.
PR-8

DRAWING 13 OF 41

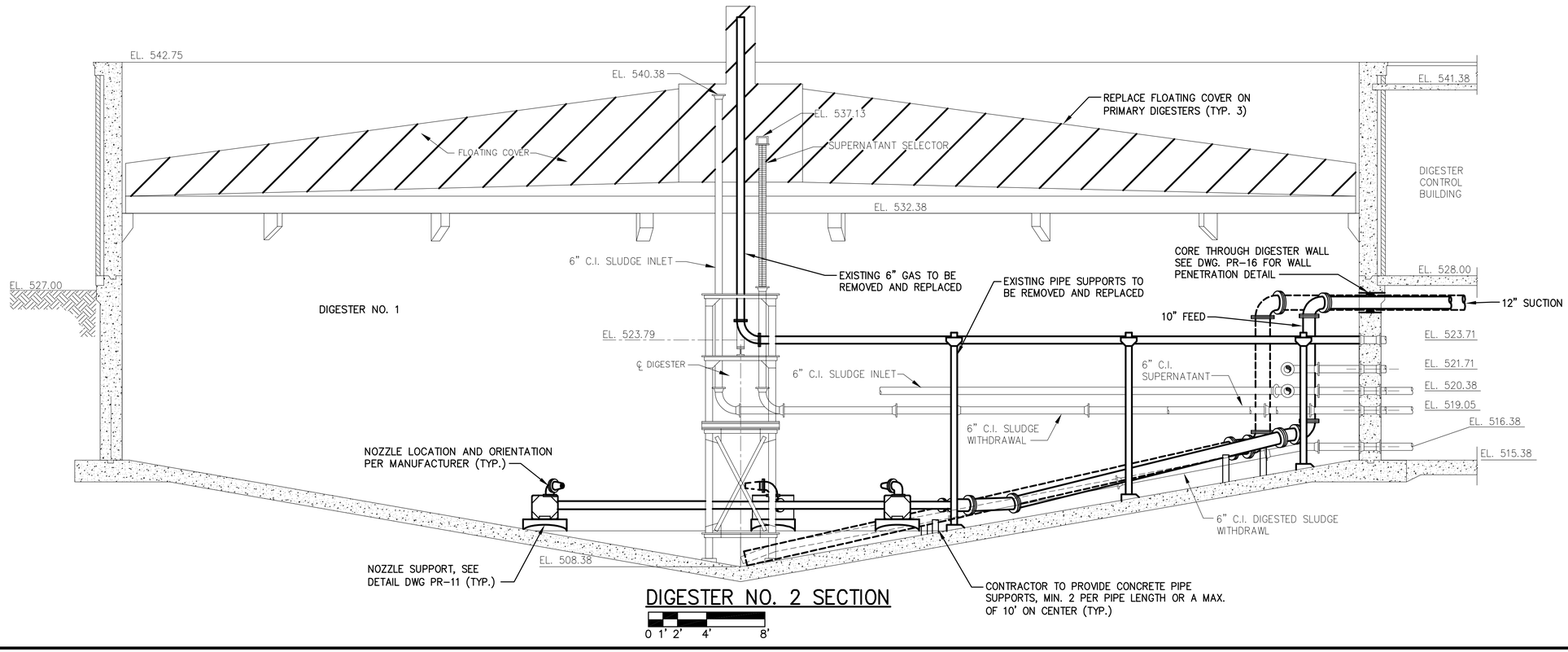
NOTES:

1. SLUDGE MIXING EQUIPMENT INDICATED ONLY. SEE EQUIPMENT MANUFACTURER DRAWINGS FOR INSTALLATION DETAILS. DIMENSIONS SHOWN ARE APPROXIMATE. ACTUAL DIMENSIONS TO BE DETERMINED BY MANUFACTURER AND APPROVED BY ENGINEER.
2. DIGESTERS WILL BE DRAINED BY OWNER. ONLY 1 DIGESTER SHALL BE OUT OF SERVICE AT A TIME. EXCESS SLUDGE WILL BE PRESENT, CONTRACTOR RESPONSIBLE FOR REMOVING ALL REMAINING SLUDGE.
3. ALL GAS PIPING AND PIPING SUPPORTS WITHIN DIGESTERS 1,2,3&4 SHALL BE REPLACED. COORDINATE WITH OWNER/ENGINEER.
4. FLOATING COVERS ON DIGESTERS 1,2,&3 TO BE DEMOLISHED AND REPLACED. COVER ON DIGESTER 4 TO BE PAINTED PER SPECIFICATIONS.
5. BRICK WALLS ON DIGESTERS 1,2,&3 SHALL BE TUCK POINTED PER SPECIFICATIONS.
6. DIGESTER 2 SHOWN, PERFORM SIMILAR WORK FOR DIGESTER 1. SEE DRAWING PR-12 FOR ORIENTATION.
7. ALL GAS PIPING LEFT IN SERVICE SHALL BE CLEANED AND FREE OF ANY MOISTURE BY CONTRACTOR.



DIGESTER NO. 2 PLAN

0 1' 2' 4' 8'



DIGESTER NO. 2 SECTION

0 1' 2' 4' 8'

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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(217) 373-8923

DESIGNED BY:	RJC/JLE
DRAWN BY:	CSH
CHECKED BY:	BLV
DATE CHECKED:	07/06

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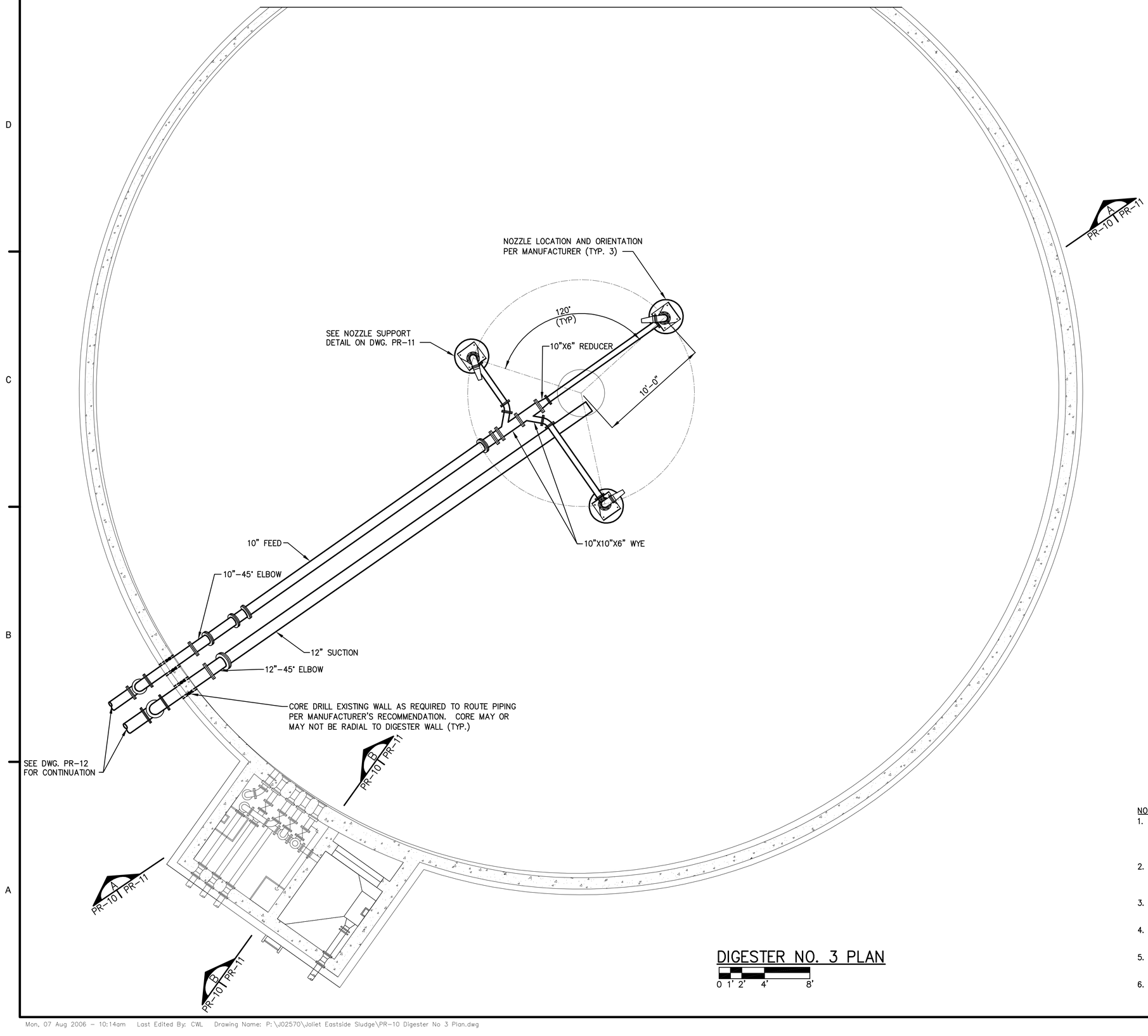
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
DIGESTER NO. 1
PLAN AND SECTION

DRAWING No.
PR-9

DRAWING 14 OF 41



DIGESTER NO. 3 PLAN

0 1' 2' 4' 8'

NOTES:

1. SLUDGE MIXING EQUIPMENT INDICATED ONLY. SEE EQUIPMENT MANUFACTURER DRAWINGS FOR INSTALLATION DETAILS. DIMENSIONS SHOWN ARE APPROXIMATE. ACTUAL DIMENSIONS TO BE DETERMINED BY MANUFACTURER AND APPROVED BY ENGINEER.
2. DIGESTERS WILL BE DRAINED BY OWNER. ONLY 1 DIGESTER SHALL BE OUT OF SERVICE AT A TIME. EXCESS SLUDGE WILL BE PRESENT, CONTRACTOR RESPONSIBLE FOR REMOVING ALL REMAINING SLUDGE.
3. ALL GAS PIPING AND PIPING SUPPORTS WITHIN DIGESTERS 1,2,3&4 SHALL BE REPLACED. COORDINATE WITH OWNER/ENGINEER.
4. FLOATING COVERS ON DIGESTERS 1,2,&3 TO BE DEMOLISHED AND REPLACED. COVER ON DIGESTER 4 TO BE PAINTED PER SPECIFICATIONS.
5. BRICK WALLS ON DIGESTERS 1,2,&3 SHALL BE TUCK POINTED PER SPECIFICATIONS.
6. ALL GAS PIPING LEFT IN SERVICE SHALL BE CLEANED AND FREE OF ANY MOISTURE BY CONTRACTOR.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
ENGINEERS
DESIGN FIRM REGISTRATION No. 184-000450
1817 SOUTH NEIL STREET
SUITE 100
CHAMPAIGN, ILLINOIS
(217) 373-8900
(217) 373-8923

DESIGNED BY: RJC/JLE
DRAWN BY: CSH/CWL
CHECKED BY: BLV
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

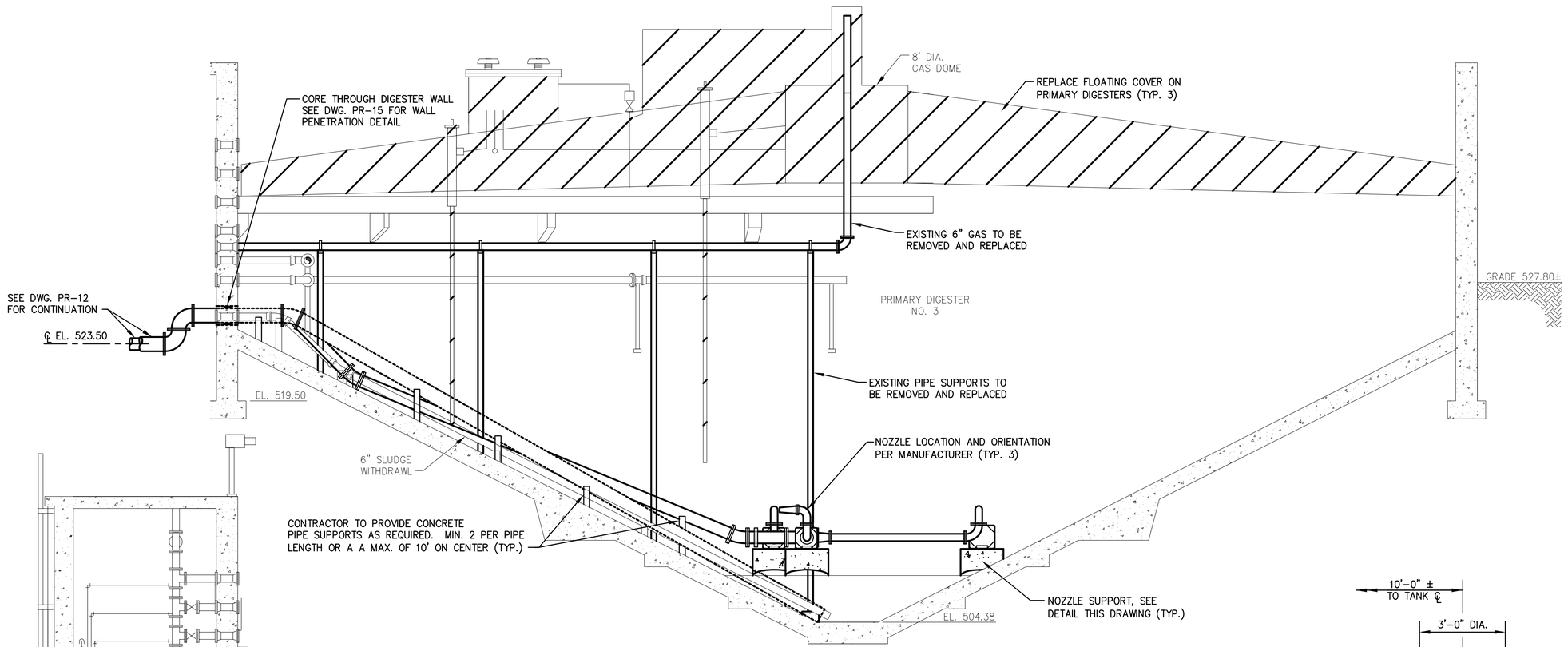
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
DIGESTER NO. 3 PLAN

DRAWING No.
PR-10

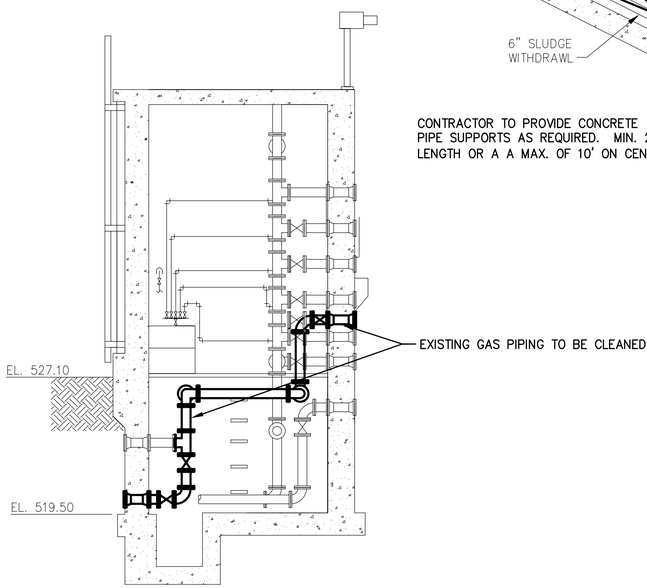
DRAWING 15 OF 41



SECTION A–A

PR–10 | PR–11

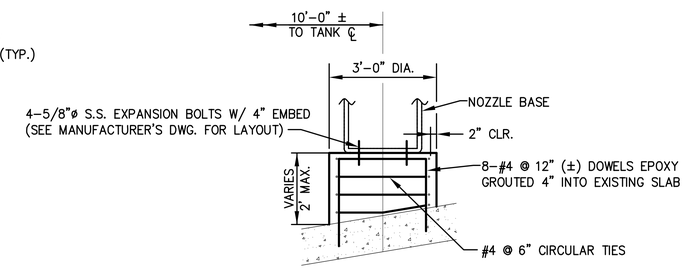
0 1' 2' 4' 8'



SECTION B–B

PR–10 | PR–11

0 1' 2' 4' 8'



NOTES:
1. DETAIL IS TYPICAL FOR ALL THREE DIGESTERS WITH 3 NOZZLE SUPPORTS REQUIRED FOR EACH DIGESTER.
2. ALL ELEVATIONS AND DIMENSIONS SHALL BE COORDINATED AND CONFIRMED WITH NOZZLE MANUFACTURER PRIOR TO INSTALLATION.

NOZZLE SUPPORT DETAIL

0 1' 2' 4'

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER
IMPROVEMENTS

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No. 184-000450
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DESIGNED BY: RJC/JLE
DRAWN BY: CSH/CWL
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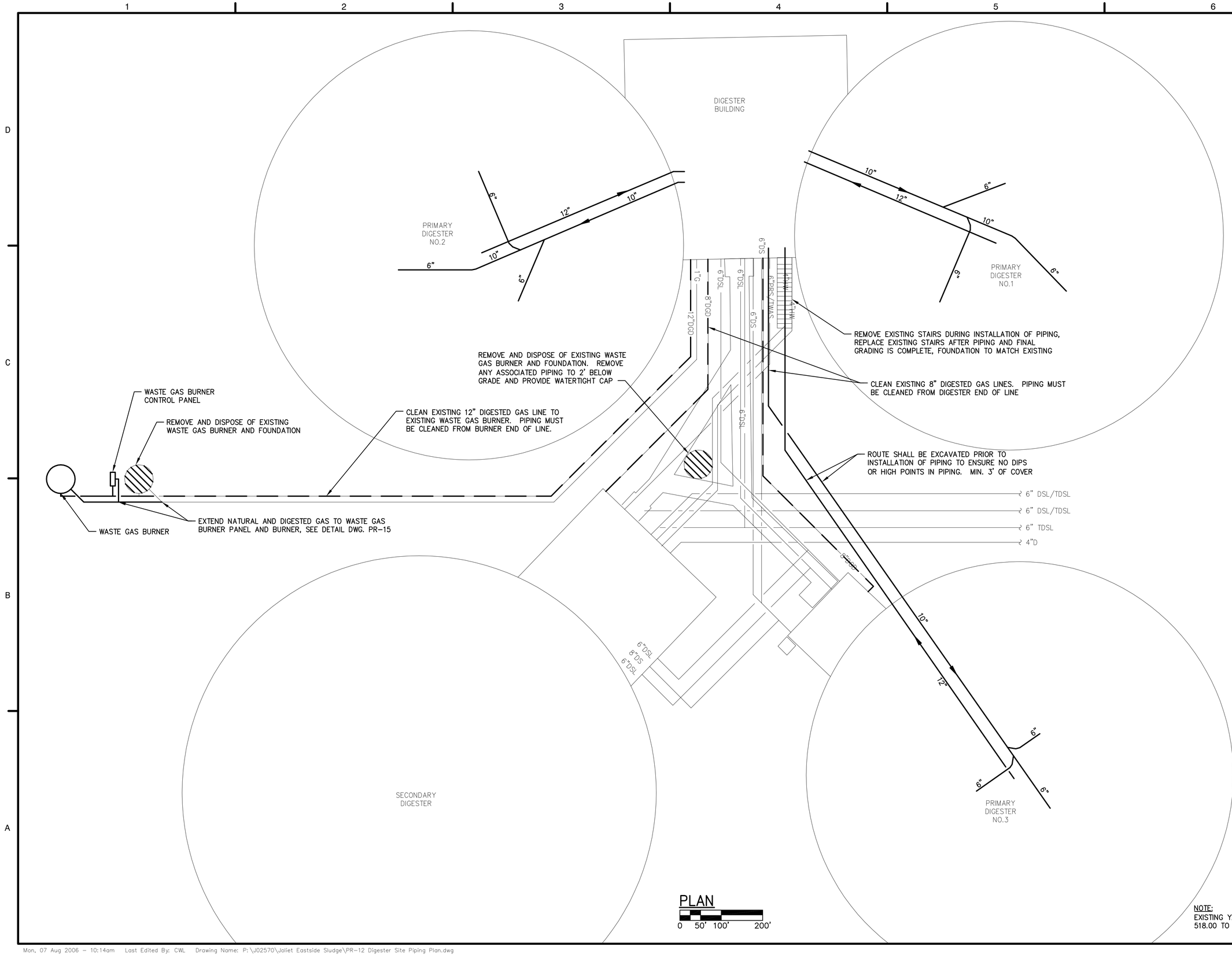
PROJECT No.
J02570

DRAWING TITLE

DIGESTER NO. 3
SECTION

DRAWING No.
PR-11

DRAWING 16 OF 41



WASTE GAS BURNER CONTROL PANEL

REMOVE AND DISPOSE OF EXISTING WASTE GAS BURNER AND FOUNDATION

CLEAN EXISTING 12" DIGESTED GAS LINE TO EXISTING WASTE GAS BURNER. PIPING MUST BE CLEANED FROM BURNER END OF LINE.

REMOVE AND DISPOSE OF EXISTING WASTE GAS BURNER AND FOUNDATION. REMOVE ANY ASSOCIATED PIPING TO 2' BELOW GRADE AND PROVIDE WATERTIGHT CAP

REMOVE EXISTING STAIRS DURING INSTALLATION OF PIPING, REPLACE EXISTING STAIRS AFTER PIPING AND FINAL GRADING IS COMPLETE, FOUNDATION TO MATCH EXISTING

CLEAN EXISTING 8" DIGESTED GAS LINES. PIPING MUST BE CLEANED FROM DIGESTER END OF LINE

ROUTE SHALL BE EXCAVATED PRIOR TO INSTALLATION OF PIPING TO ENSURE NO DIPS OR HIGH POINTS IN PIPING. MIN. 3' OF COVER

WASTE GAS BURNER

EXTEND NATURAL AND DIGESTED GAS TO WASTE GAS BURNER PANEL AND BURNER, SEE DETAIL DWG. PR-15

PLAN

NOTE:
EXISTING YARD PIPING ELEVATIONS
518.00 TO 525.00

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER
IMPROVEMENTS

Clark Dietz
ENGINEERS
DESIGN FIRM REGISTRATION
No. 184-000450
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DRAWN BY: CSH/CWL
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DATE	REVISION

PROJECT No.
J02570

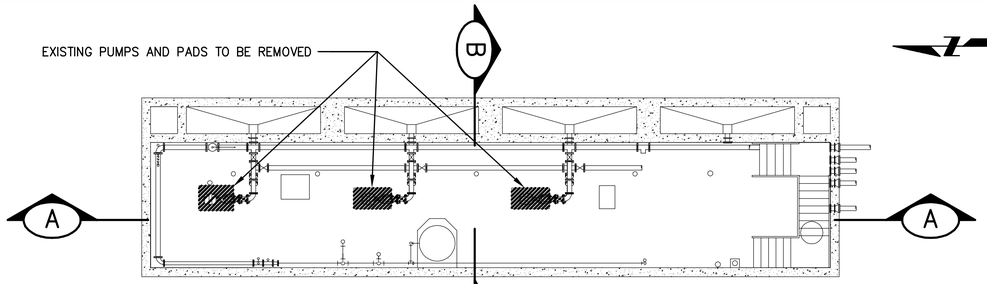
DRAWING TITLE

DIGESTER SITE
PIPING PLAN

DRAWING No.
PR-12
DRAWING 17 OF 41

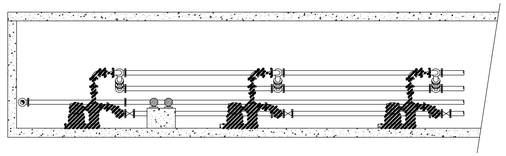
Mon, 07 Aug 2006 - 10:14am Last Edited By: CWL Drawing Name: P:\J02570\Joliet Eastside Sludge\PR-12 Digester Site Piping Plan.dwg

EXISTING PUMPS AND PADS TO BE REMOVED



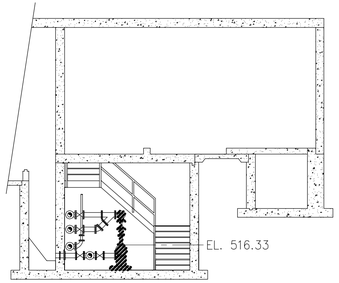
DEMOLITION PLAN

0 2' 4' 8' 16'



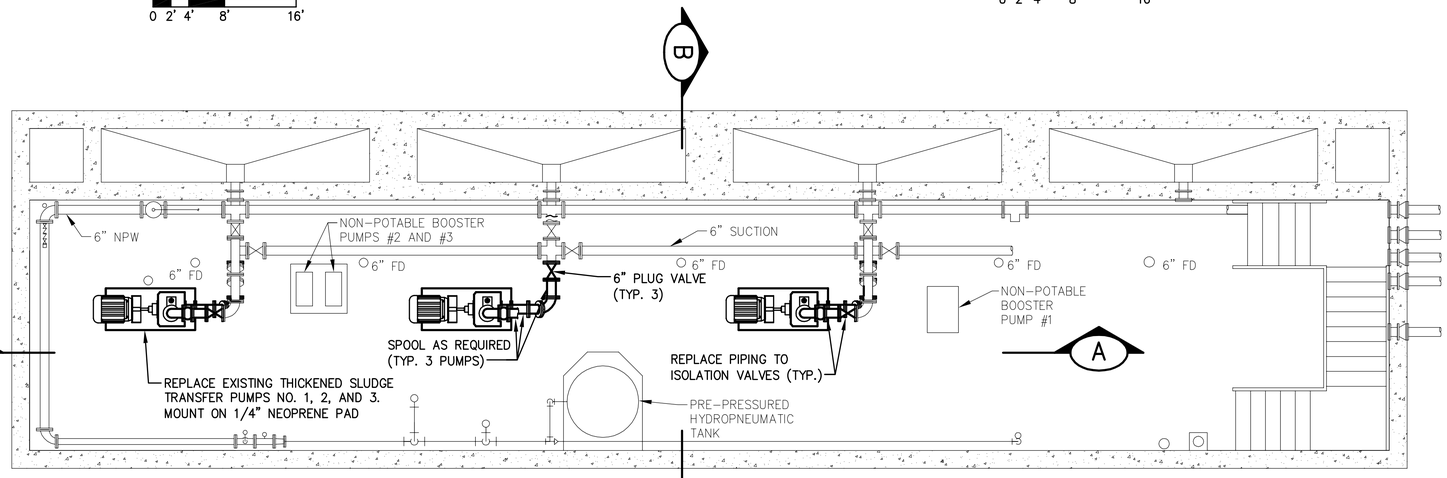
DEMOLITION SECTION A–A

0 2' 4' 8' 16'



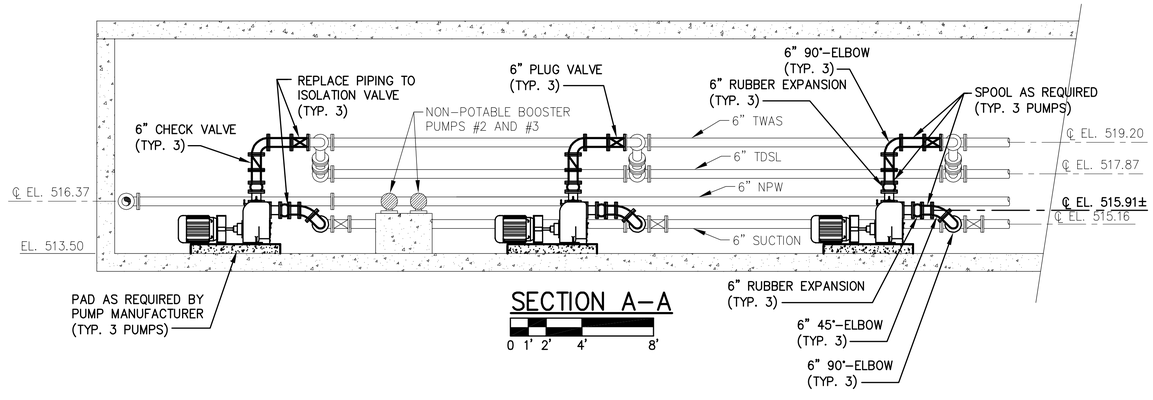
DEMOLITION SECTION B–B

0 2' 4' 8' 16'



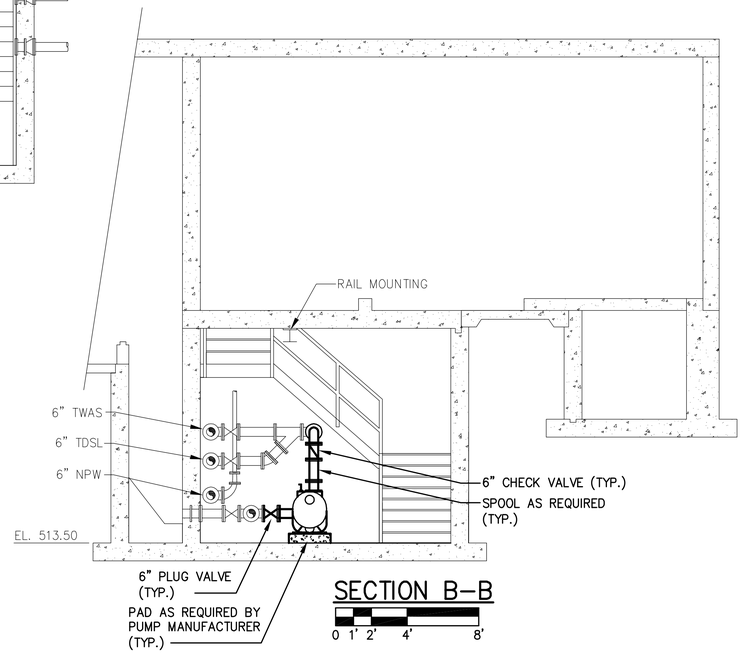
PLAN

0 1' 2' 4' 8'



SECTION A–A

0 1' 2' 4' 8'



SECTION B–B

0 1' 2' 4' 8'

NOTE:
CONTRACTOR SHALL REPLACE EXISTING PUMPS AS SHOWN. ONLY ONE PUMP SHALL BE OUT OF SERVICE AT ONE TIME. COORDINATE WITH OWNER FOR SHUT DOWN.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
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DESIGNED BY:	RJC/JJE
DRAWN BY:	CSH
CHECKED BY:	RLV
DATE CHECKED:	07/06

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DATE	REVISION

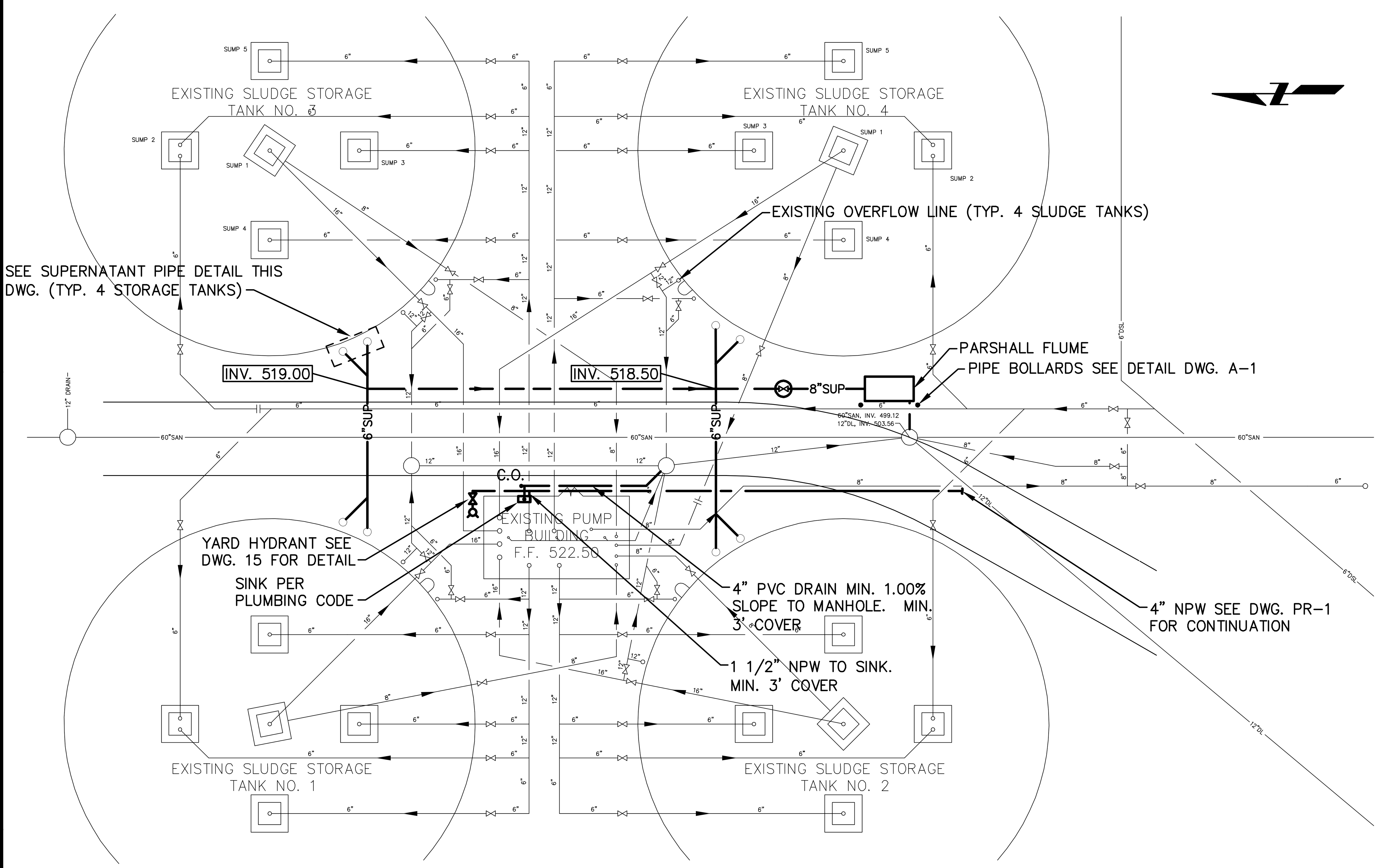
PROJECT No.
J02570

DRAWING TITLE

THICKENED SLUDGE TRANSFER PUMPS DEMOLITION AND PROPOSED PLANS AND SECTIONS

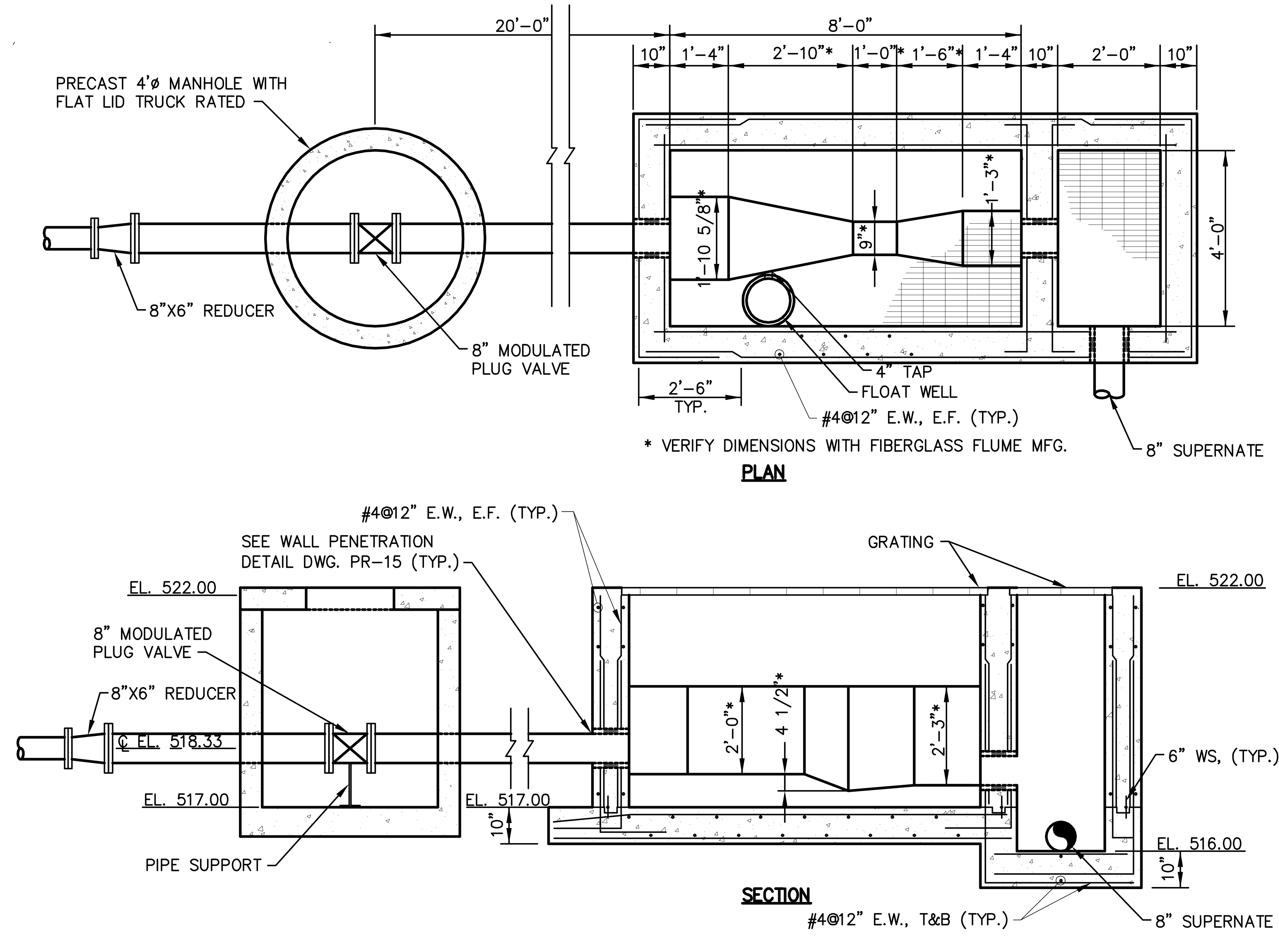
DRAWING No.
PR-13

DRAWING 18 OF 41


EXISTING SLUDGE STORAGE TANK NO. 3
EXISTING SLUDGE STORAGE TANK NO. 4
EXISTING SLUDGE STORAGE TANK NO. 1
EXISTING SLUDGE STORAGE TANK NO. 2
EXISTING OVERFLOW LINE (TYP. 4 SLUDGE TANKS)
SEE SUPERNATANT PIPE DETAIL THIS DWG. (TYP. 4 STORAGE TANKS)
PARSHALL FLUME
PIPE BOLLARDS SEE DETAIL DWG. A-1
INV. 519.00
INV. 518.50
8"SUP
6"SUP
C.O.
EXISTING PUMP BUILDING F.F. 522.50
YARD HYDRANT SEE DWG. 15 FOR DETAIL
SINK PER PLUMBING CODE
4" PVC DRAIN MIN. 1.00% SLOPE TO MANHOLE. MIN. 3' COVER
1 1/2" NPW TO SINK. MIN. 3' COVER
4" NPW SEE DWG. PR-1 FOR CONTINUATION

STORAGE TANK SITE PIPING

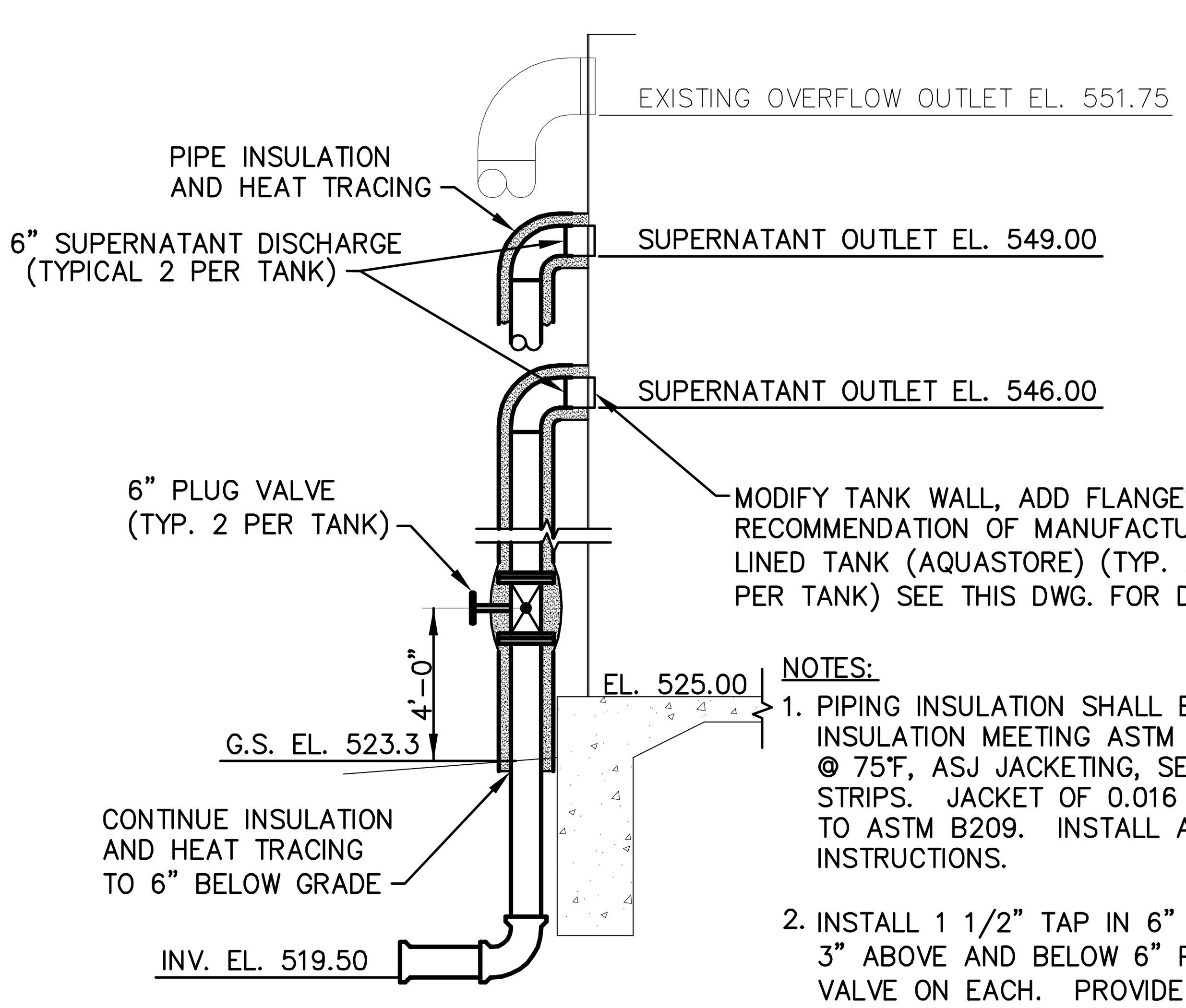
0 5' 10' 20' 40'


20'-0"
8'-0"
10" 1'-4" 2'-10"* 1'-0"* 1'-6"* 1'-4" 10" 2'-0" 10"
PRECAST 4'ø MANHOLE WITH FLAT LID TRUCK RATED
8"X6" REDUCER
8" MODULATED PLUG VALVE
1'-10 5/8"*
9"*
1'-3"*
4'-0"
4" TAP
FLOAT WELL
2'-6" TYP.
#4@12" E.W., E.F. (TYP.)
* VERIFY DIMENSIONS WITH FIBERGLASS FLUME MFG.
8" SUPERNATE
PLAN
#4@12" E.W., E.F. (TYP.)
SEE WALL PENETRATION DETAIL DWG. PR-15 (TYP.)
GRATING
EL. 522.00
EL. 522.00
8" MODULATED PLUG VALVE
8"X6" REDUCER
℄ EL. 518.33
EL. 517.00
EL. 517.00
2'-0"*
4 1/2"*
2'-3"*
6" WS, (TYP.)
EL. 516.00
10"
PIPE SUPPORT
SECTION
#4@12" E.W., T&B (TYP.)
8" SUPERNATE

SUPERNATANT PARSHALL FLUME PLAN AND SECTION

0 1' 2' 4'

NOTE:
PROVIDE FIBERGLASS INSERT PARSHALL FLUME WITH A 9" THROAT WIDTH AND A 4" TAP (MIN.) FOR REMOTE MOUNTED FLOAT WELL. FLOAT WELL TO BE 12"ø WATERTIGHT FIBERGLASS SUPPLIED BY MANUFACTURER OF PARSHALL FLUME INSERT. FLOAT WELL TO HAVE REMOVABLE TOP WITH OPENINGS AS REQUIRED FOR METER CABLES. SECURE FLOAT WELL TO OUTSIDE OF CONCRETE WALL. ALL HARDWARE INCLUDING, BOLTS, STRAPPING, ETC., TO BE STAINLESS STEEL.

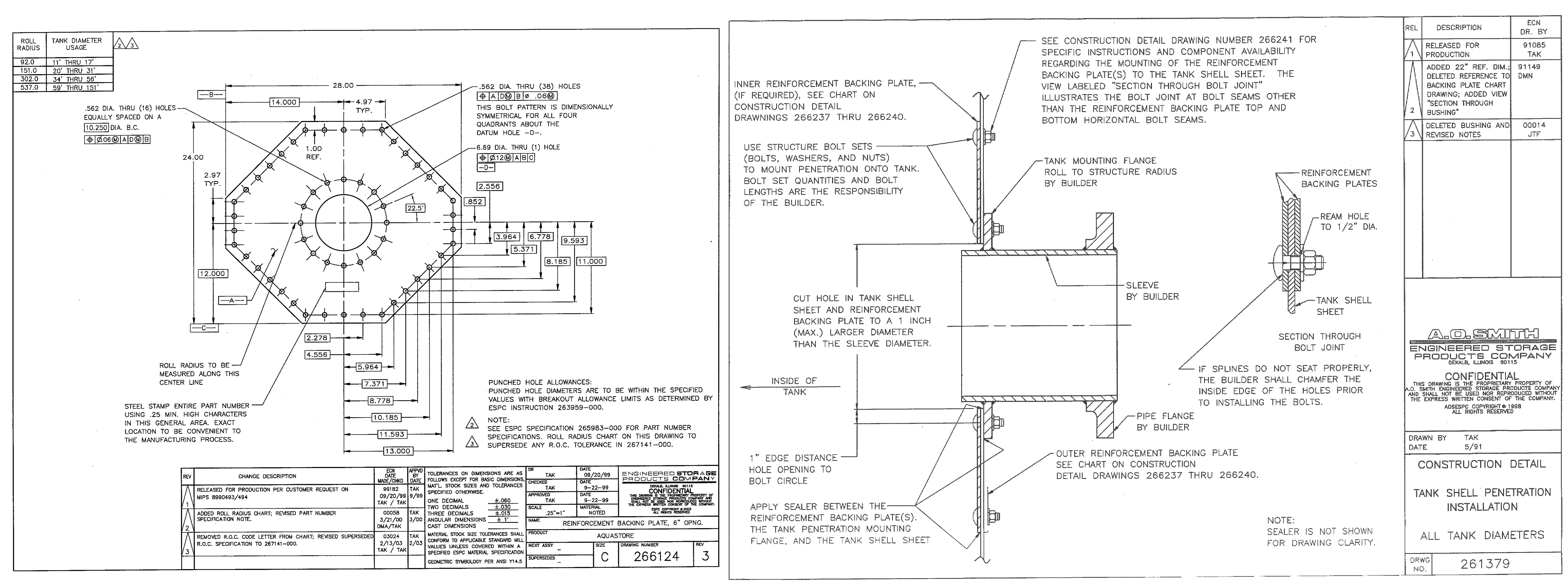

EXISTING OVERFLOW OUTLET EL. 551.75
PIPE INSULATION AND HEAT TRACING
6" SUPERNATANT DISCHARGE (TYPICAL 2 PER TANK)
SUPERNATANT OUTLET EL. 549.00
SUPERNATANT OUTLET EL. 546.00
MODIFY TANK WALL, ADD FLANGES PER RECOMMENDATION OF MANUFACTURER OF GLASS LINED TANK (AQUASTORE) (TYP. 2 LOCATIONS PER TANK) SEE THIS DWG. FOR DETAIL
6" PLUG VALVE (TYP. 2 PER TANK)
4'-0"
EL. 525.00
G.S. EL. 523.3
CONTINUE INSULATION AND HEAT TRACING TO 6" BELOW GRADE
INV. EL. 519.50

NOTES:

1. PIPING INSULATION SHALL BE 2" THICK FIBERGLASS PIPING INSULATION MEETING ASTM C547 WITH K FACTOR OF 0.25 @ 75°F, ASJ JACKETING, SELF SEALING LAP AND BUTT STRIPS. JACKET OF 0.016 INCH ALUMINUM CONFORMING TO ASTM B209. INSTALL ACCORDING TO MANUFACTURER INSTRUCTIONS.
2. INSTALL 1 1/2" TAP IN 6" VERTICAL SUPERNATANT LINE 3" ABOVE AND BELOW 6" PLUG VALVE AND PROVIDE BALL VALVE ON EACH. PROVIDE 10' OF 1 1/2" CLEAR FLEXIBLE HOSE WITH QUICK DISCONNECT AT BALL VALVE. INSTALL TAP IN SIDE OF 6" SUPERNATANT LINE CLOSEST TO THE OVERFLOW LINE.

SUPERNATANT DISCHARGE PIPES

SCALE: NONE


REINFORCEMENT BACKING PLATE, 6" OPNG.
AQUASTORE
266124
SEE CONSTRUCTION DETAIL DRAWING NUMBER 266241 FOR SPECIFIC INSTRUCTIONS AND COMPONENT AVAILABILITY REGARDING THE MOUNTING OF THE REINFORCEMENT BACKING PLATE(S) TO THE TANK SHELL SHEET.
INNER REINFORCEMENT BACKING PLATE, (IF REQUIRED). SEE CHART ON CONSTRUCTION DETAIL DRAWINGS 266237 THRU 266240.
USE STRUCTURE BOLT SETS (BOLTS, WASHERS, AND NUTS) TO MOUNT PENETRATION ONTO TANK. BOLT SET QUANTITIES AND BOLT LENGTHS ARE THE RESPONSIBILITY OF THE BUILDER.
TANK MOUNTING FLANGE ROLL TO STRUCTURE RADIUS BY BUILDER
REINFORCEMENT BACKING PLATES
REAM HOLE TO 1/2" DIA.
CUT HOLE IN TANK SHELL SHEET AND REINFORCEMENT BACKING PLATE TO A 1 INCH (MAX.) LARGER DIAMETER THAN THE SLEEVE DIAMETER.
SLEEVE BY BUILDER
TANK SHELL SHEET
SECTION THROUGH BOLT JOINT
INSIDE OF TANK
IF SPLINES DO NOT SEAT PROPERLY, THE BUILDER SHALL CHAMFER THE INSIDE EDGE OF THE HOLES PRIOR TO INSTALLING THE BOLTS.
PIPE FLANGE BY BUILDER
1" EDGE DISTANCE HOLE OPENING TO BOLT CIRCLE
OUTER REINFORCEMENT BACKING PLATE SEE CHART ON CONSTRUCTION DETAIL DRAWINGS 266237 THRU 266240.
APPLY SEALER BETWEEN THE REINFORCEMENT BACKING PLATE(S). THE TANK PENETRATION MOUNTING FLANGE, AND THE TANK SHELL SHEET
NOTE: SEALER IS NOT SHOWN FOR DRAWING CLARITY.
A.O. SMITH ENGINEERED STORAGE PRODUCTS COMPANY
CONFIDENTIAL
CONSTRUCTION DETAIL
TANK SHELL PENETRATION INSTALLATION
ALL TANK DIAMETERS
261379

SUPERNATANT PIPE CONNECTION DETAIL

SCALE: NONE

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
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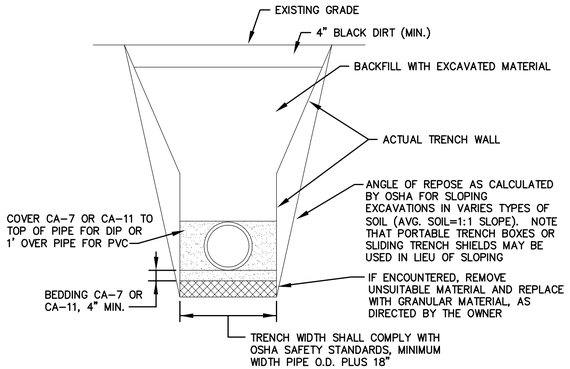
DATE REVISION

PROJECT No.
J02570

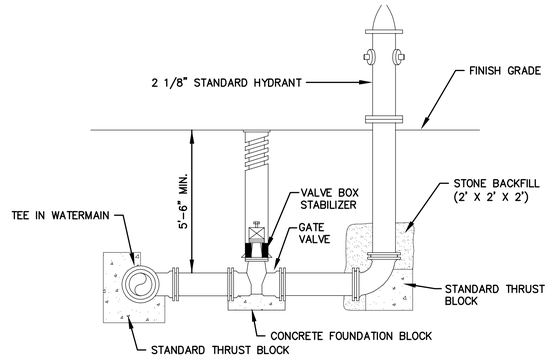
DRAWING TITLE
SLUDGE STORAGE
SUPERNATANT PLAN

DRAWING No.
PR-14



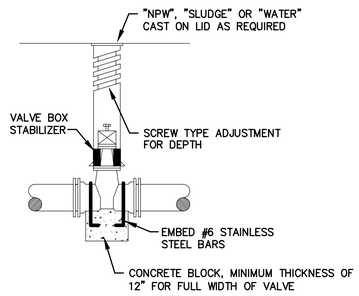
GRASS AREA TRENCH SECTION

SCALE: NONE



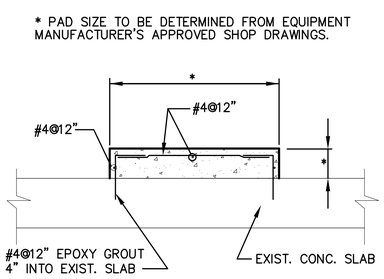
FREEZEPROOF FLUSHING YARD HYDRANT ASSEMBLY

SCALE: NONE



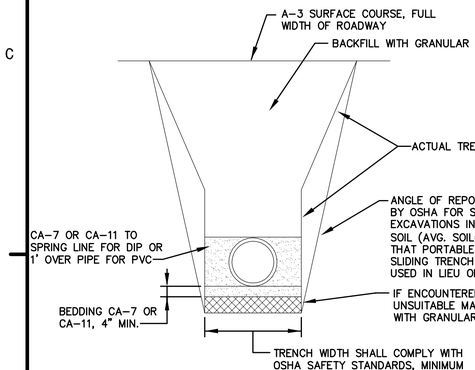
VALVE BOX INSTALLATION

SCALE: NONE



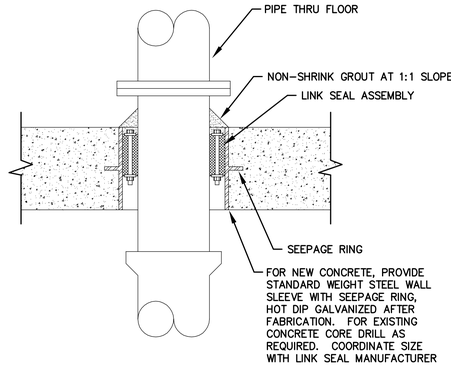
NEW PAD-EXISTING SLAB EQUIPMENT PAD REINFORCEMENT

SCALE: NONE



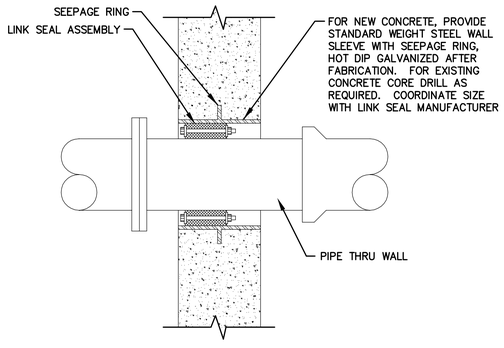
ROADWAY TRENCH SECTION

SCALE: NONE



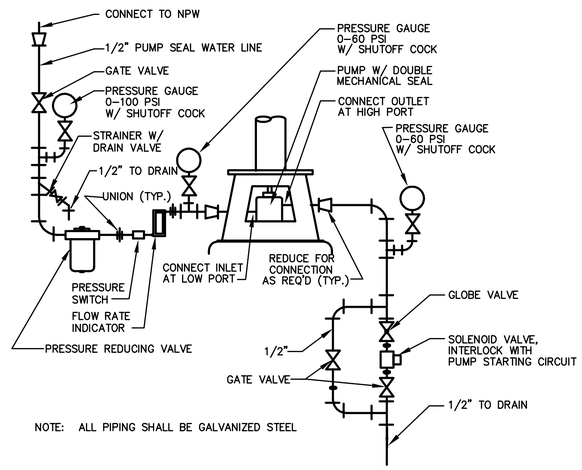
FLOOR PENETRATION DETAIL

SCALE: NONE



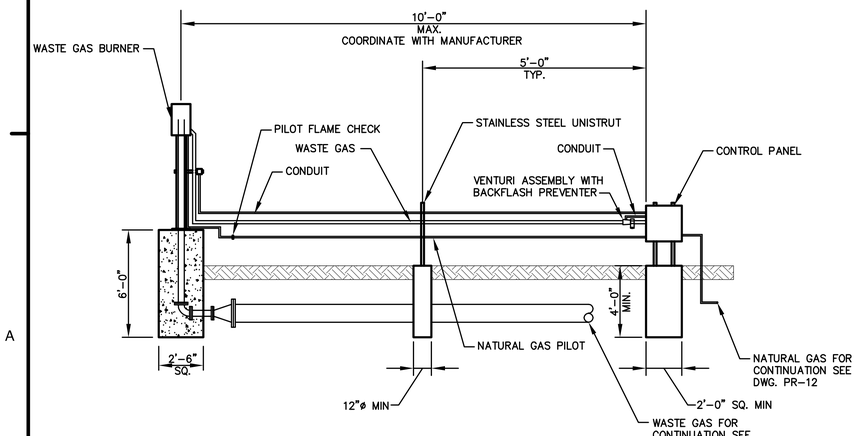
WALL PENETRATION DETAIL

SCALE: NONE



PUMP SEAL WATER PIPING SCHEMATIC

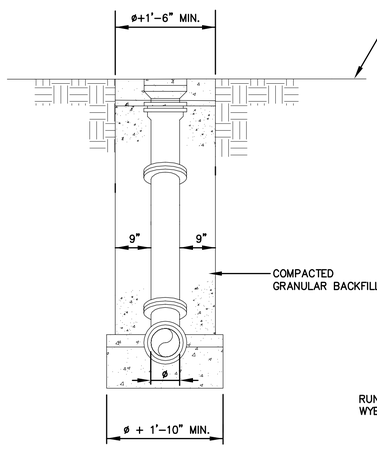
SCALE: NONE

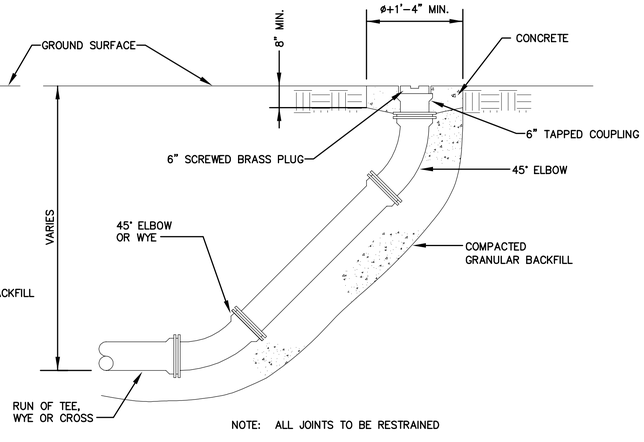


WASTE GAS BURNER SECTION

SCALE: NONE

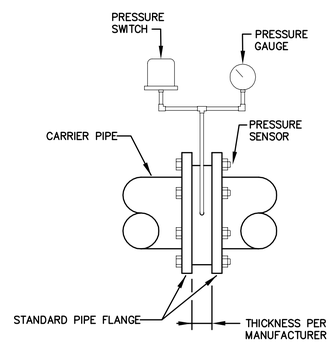
NOTE:
PIPING INSTALLATION PER MANUFACTURER'S RECOMMENDATION





PRESSURE CLEANOUT DETAIL

SCALE: NONE



PRESSURE SENSOR, SWITCH AND GAUGE ASSEMBLY DETAIL

SCALE: NONE

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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DATE REVISION

PROJECT No.
J02570

DRAWING TITLE

DETAILS

DRAWING No.
PR-15

DRAWING 20 OF 41

ELECTRICAL GENERAL NOTES

A. GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE 2005 NATIONAL ELECTRICAL CODE, THE MOST CURRENT EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE, AND ALL APPLICABLE LOCAL ORDINANCES.
2. CONTRACTOR SHALL FURNISH ALL MATERIALS FOR A COMPLETE AND WORKABLE SYSTEM.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND FOR PROVIDING ALL SUPERVISION, LABOR AND TOOLS FOR THE PROJECT.
4. ALL WORK IS TO CONFORM TO A TIME SCHEDULE TO BE ESTABLISHED BY THE OWNER.
5. CONTRACTOR SHALL COORDINATE THE WORK SCHEDULE WITH THE OWNER AND OBTAIN THE OWNER'S APPROVAL BEFORE ANY WORK INVOLVING A SHUTDOWN IS DONE.
6. ALL MATERIALS FURNISHED BY THE CONTRACTOR ARE TO BE NEW AND APPROVED BY THE OWNER AS TO MANUFACTURER AND TYPE.
7. ALL CONDUITS SHALL BE PROVIDED WITH AN EQUIPMENT GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH THE 2005 NATIONAL ELECTRICAL CODE.
8. ALL LOCATIONS AND DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL ELECTRICAL EQUIPMENT LOCATIONS AND EQUIPMENT DIMENSIONS.

B. RACEWAY NOTES

1. POWER, INSTRUMENTATION AND CONTROL WIRING SHALL BE INSTALLED IN SEPARATE CONDUITS. SHIELDED CONDUCTORS SHALL NOT BE INSTALLED IN THE SAME CONDUIT AS ANY UNSHIELDED CONDUCTORS.
2. REMOVE ALL UNUSED CONDUIT AND WIRE BACK TO SOURCE ASSOCIATED WITH EQUIPMENT BEING REMOVED OR RELOCATED. CONCEALED CONDUIT BELOW FLOOR OR UNDERGROUND MAY REMAIN IN PLACE.
3. ALL CONDUIT FOR POWER, LIGHTING, CONTROL AND INSTRUMENTATION SHALL BE HOT-DIPPED GALVANIZED HEAVY WALL RIGID STEEL. MINIMUM CONDUIT SIZE SHALL BE 3/4".
4. ALL UNDERGROUND CONDUITS SHALL BE RIGID STEEL HOT-DIPPED GALVANIZED 1" MINIMUM AND SHALL BE ENCASED IN RED CONCRETE 2'-6" MINIMUM BELOW GRADE, UNLESS OTHERWISE NOTED.
5. CONDUIT RUNS SHALL BE ROUTED TO AVOID, AND NEVER RUN BELOW, STEAM, WATER OR OTHER PIPE WHICH MAY HAVE AN ADVERSE EFFECT DUE TO HEAT OR LEAKS. WHERE CONDUIT PARALLELS OR CROSSES SUCH PIPES, A MINIMUM SEPARATION OF 12 INCHES SHALL BE MAINTAINED.
6. LIQUID-TIGHT FLEXIBLE CONDUIT (MAXIMUM OF 24") SHALL BE USED IN CONNECTING MOTORS, SENSING ELEMENTS, INSTRUMENTS, SOLENOID VALVES, OR ANY OTHER DEVICE WHICH TRANSMIT VIBRATION OR NOISE, REQUIRE MOVEMENT FOR ADJUSTMENT, OR REQUIRE REMOVAL FOR MAINTENANCE. MINIMUM SIZE OF FLEXIBLE CONDUIT SHALL BE 1/2".
7. JUNCTION BOXES, CABINETS, SWITCHES AND OTHER ELECTRICAL EQUIPMENT SHALL BE SOLIDLY ATTACHED PRIOR TO INSTALLATION OF CONDUIT.
8. CONDUIT, PULL BOXES, CABINETS, ETC. SHALL FORM A CONTINUOUS CONDUCTIVE GROUND SYSTEM. AT TRANSITIONS AND BREAKS, CONDUIT SHALL BE BONDED.
9. CONDUIT SHALL NOT BE FASTENED TO OTHER EQUIPMENT OR SO INSTALLED AS TO PREVENT THE READY REMOVAL OF OTHER EQUIPMENT FOR REPAIRS. INSTALLATION OF CONDUITS MUST NOT INTERFERE WITH ACCESS WAYS OR LADDERS.
10. ALL NEW CONDUITS INSIDE BUILDINGS SHALL BE PAINTED TO MATCH THE COLOR OF THE WALLS OR THE COLOR OF THE EXISTING CONDUITS.
11. ONLY PULLBOXES SPECIFICALLY REQUIRED BY THE ENGINEER IN LOCATIONS SHOWN ARE IDENTIFIED. CONTRACTOR SHALL PROVIDE ALL PULLBOXES REQUIRED TO MEET APPLICABLE CODES.
12. CONDUITS ENTERING EXTERIOR ENCLOSURES SHALL BE TERMINATED WITH STEEL OR IRON FITTINGS AND T&B EFCOR HUB CONNECTORS.

C. GROUNDING NOTES

1. ALL GROUND CONDUCTORS SHALL BE STRANDED BARE COPPER UNLESS OTHERWISE NOTED AND SIZED AS SHOWN ON THE DRAWINGS.
2. BURIED GROUND LOOP SHALL BE BARE COPPER AS INDICATED ON THE DRAWINGS. GROUND LOOP SHALL BE INSTALLED A MINIMUM OF 24" BELOW GROUND SURFACE.
3. GROUND RODS SHALL BE 3/4" DIA x 10'-0" LONG COPPER CLAD. CONNECTIONS TO GROUNDING CONDUCTOR SHALL BE WITH EXOTHERMIC WELDS.

D. WIRING NOTES

1. WIRING SHALL BE IDENTIFIED BY PERMANENT WIRE MARKERS AT EACH TERMINATION AND SHALL CORRESPOND WITH THE IDENTIFICATION NUMBERS ON THE DRAWINGS.
2. CONDUCTORS SHALL BE CONTINUOUS FROM POINT OF ORIGIN TO THE TERMINATION. NO CABLE SHALL BE SPLICED EXCEPT AS SHOWN ON THE DRAWINGS OR ON EXPLICIT INSTRUCTIONS OF THE OWNER.
3. TERMINALS ON THE TERMINAL BLOCK SHALL BE PLAINLY AND PERMANENTLY MARKED TO CORRESPOND WITH THE IDENTIFICATION NUMBERS ON THE DIAGRAMS.
4. ALL CABLE AND WIRE SHALL BE STRANDED COPPER. ALUMINUM CABLE AND WIRE ARE NOT ACCEPTABLE. ALL POWER AND CONTROL CABLE SHALL BE CROSS-LINKED POLYETHYLENE (XLP) OR POLYVINYL CHLORIDE (PVC) INSULATION (XHHW OR THHN-THWN), RATED 90°C FOR 600 VOLT.
5. CONTRACTOR SHALL FURNISH ALL LIGHTING FIXTURES, CONDUIT, JUNCTION BOXES, AND PULLBOXES AS REQUIRED. ALL OUTDOOR LIGHTING JUNCTION BOXES AND PULLBOXES SHALL BE STAINLESS STEEL NEMA 4X ENCLOSURES.

ELECTRICAL GENERAL NOTES (CONT.)

E. CONTROL NOTES

1. CONTRACTOR SHALL PROVIDE AND INSTALL ALL CABLES AND WIRE FROM CONTROL/INSTRUMENTATION DEVICES BACK TO ASSOCIATED CONTROL PANELS.
2. CONTRACTOR SHALL PROVIDE 20% SPARE CONTROL WIRES (MINIMUM OF 3 SPARES) FOR EACH CONTROL DEVICE. CAP SPARE WIRES AND LABEL AS SPARE.

F. BOX NOTES

1. FABRICATED BOXES 24 x 24 INCHES OR SMALLER SHALL BE MADE FROM 10 GAUGE STEEL SHEET.
2. FABRICATED BOXES LARGER THAN 24 x 24 INCHES SHALL BE MADE FROM 1/8" STEEL SHEET.
3. BOXES INSTALLED IN AN AREA DEFINED TO BE ACID OR CAUSTIC SHALL BE MADE FROM TYPE 316 STAINLESS STEEL UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
4. IN DRY AND/OR CLEAN AREAS CONDUIT ATTACHMENT TO THE BOX SHALL BE MADE BY THE USE OF DOUBLE STEEL LOCK NUT (ONE OF WHICH SHALL BE OF THE BONDING TYPE) AND AN INSULATING BUSHING ON THE END OF EACH CONDUIT TERMINATION IN THE BOX.
5. IN WET AND/OR DUSTY AREAS AND OUTDOORS, CONDUIT ATTACHMENT TO BOXES SHALL BE MADE WITH A WATERTIGHT CONDUIT HUB AS MANUFACTURED BY EFCOR CO. OR OWNER APPROVED EQUAL.
6. CONTRACTOR SHALL LEAVE SLACK IN ALL CABLE IN ALL BOXES.
7. CONTRACTOR SHALL FURNISH AND INSTALL BARRIERS IN BOXES AS CALLED FOR ON THE DRAWINGS. BARRIERS SHALL BE MADE FROM A MINIMUM OF 10 GAUGE STEEL SHEET AND HELD IN PLACE WITH CLIP ANGLES.
8. ALL BARRIERS SHALL BE INSTALLED UPON COMPLETION OF THE INSTALLATION OF CABLE AND SHALL BE REMOVABLE TO PERMIT FUTURE CABLE INSTALLATION.
9. ALL CABLES WITHIN THE BOX SHALL BEAR A CABLE IDENTIFICATION TAG IN ACCORDANCE WITH THE OWNERS ELECTRICAL SPECIFICATION.

SUGGESTED SEQUENCE OF CONSTRUCTION

THE FOLLOWING IS A SUGGESTED SEQUENCE OF CONSTRUCTION FOR THE UPGRADE TO THE ELECTRICAL DISTRIBUTION SYSTEM FOR THIS PROJECT. IT IS PROVIDED AS A GUIDELINE ONLY. THE CONTRACTOR SHALL SUBMIT THEIR PROPOSED DETAILED SEQUENCE OF CONSTRUCTION AND GET APPROVAL FROM THE OWNER AND ENGINEER PRIOR TO BEGINNING CONSTRUCTION. THIS SEQUENCE OF CONSTRUCTION SHALL CORRELATE WITH THE MILESTONES AND ACTIVITY DESCRIPTIONS IN THE CONSTRUCTION SCHEDULE.

A. EXCEPT AS SPECIFICALLY NOTED HEREIN, MAINTAIN EXISTING ELECTRICAL DISTRIBUTION SYSTEM AT ALL TIMES.

B. ALL POWER OUTAGES AT THE PLANT MUST BE COMPLETED DURING LOW FLOW AT THE PLANT (THERE SHALL BE 3 DAYS OF NO RAINFALL PRIOR TO THE OUTAGE AND NO FORCASTED RAINFALL DURING THE OUTAGE). POWER OUTAGES MUST BE COORDINATED WITH THE OWNER. NOTICE OF OUTAGES MUST BE GIVEN NO LATER THAN 7 DAYS PRIOR TO THE EVENT. THE CONTRACTOR SHALL GET APPROVAL FROM THE OWNER FOR POWER OUTAGES.

C. A MAXIMUM OF 8 HOURS SHALL BE ALLOWED FOR POWER OUTAGE NO. 1 WHICH WILL AFFECT ALL POWER TO THE PLANT. CONTRACTOR SHALL HAVE A PORTABLE GENERATOR ON SITE OF SUFFICIENT SIZE TO POWER THE PLANT IN THE EVENT THE OUTAGE LASTS MORE THAN EIGHT HOURS.

D. A MAXIMUM OF 24 HOURS SHALL BE ALLOWED FOR POWER OUTAGE NO. 2 FOR MCC-E. A MAXIMUM OF 48 HOURS SHALL BE ALLOWED FOR ALL OTHER POWER OUTAGES, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL HAVE A PORTABLE GENERATOR ON SITE OF SUFFICIENT SIZE TO POWER THE DESIGNATED LOAD IN THE EVENT THE OUTAGE LASTS MORE THAN THE DESIGNATED TIME.

E. CONTRACTOR SHALL HAVE ALL EQUIPMENT AND MATERIALS ON SITE BEFORE TAKING THE EXISTING ELECTRICAL DISTRIBUTION SYSTEM OUT OF SERVICE. OWNER SHALL HAVE FINAL SAY IF THE ELECTRICAL DISTRIBUTION SYSTEM CAN BE TAKEN OUT OF SERVICE.

F. THE FOLLOWING IS A SUGGESTED SEQUENCE OF CONSTRUCTION FOR THE UPGRADES TO THE ELECTRICAL DISTRIBUTION SYSTEM.

1. INSTALL CONCRETE PAD AND CONDUITS AS REQUIRED FOR PMG-1 FEEDER BAY.
2. EXTEND 5 KV DUCTBANK FROM PMG-1 FEEDER BAY TO LOCATION OF NEW 5 KV PAD MOUNTED SWITCH PMG-2.
3. EXCAVATE AND INSTALL CONDUITS AS REQUIRED FOR PMG-2, TRANSFORMER T-2 AND SWITCHBOARD MSWB-1. POUR CONCRETE PAD.
4. INSTALL PMG-2, TRANSFORMER T-2, AND SWITCHBOARD MSWB-1. INSTALL CONDUCTORS FROM PMG-2 TO TRANSFORMER T-2 TO SWITCHBOARD MSWB-1. TERMINATE ALL CABLES AND PREPARE TO ENERGIZE EQUIPMENT.
5. POWER OUTAGE NO. 1 – OPEN EXISTING MAIN SWITCH IN 5 KV SWITCHGEAR PMG-1. INSTALL FEEDER BAY ON EXISTING PMG-1 AND CONNECT FEEDER BAY BUS TO EXISTING BUS. CLOSE MAIN SWITCH TO RE-ENERGIZE PMG-1 (PLEASE NOTE THAT NEW FEEDER BAY SWITCH SHALL REMAIN OPEN).
6. INSTALL 5 KV CABLES FROM PMG-1 FEEDER BAY TO NEW 5 KV PAD MOUNTED SWITCH PMG-2. TERMINATE CABLES AND ENERGIZE PMG-2, TRANSFORMER T-2 AND SWITCHBOARD MSWB-1.
7. INSTALL CONDUITS AND CONDUCTORS AS REQUIRED FROM MSWB-1 TO MCC-E.

ABBREVIATIONS

A	AMPERES
BKR	BREAKER
C	CONDUIT
G	GROUND
HH	HANDHOLE
HV	HIGH VOLTAGE
KV	KILO-VOLTS
KVA	KILO-VOLT AMPERES
LV	LOW VOLTAGE
MCP	MOTOR CONTROL PROTECTOR
MH	MANHOLE
PH	PHASE
RAS	RETURN ACTIVATED SLUDGE
WAS	WASTE ACTIVATED SLUDGE
VFD	VARIABLE FREQUENCY DRIVE

SYMBOL LIST

- LIT — LEVEL INDICATING TRANSMITTER
- LS — LEVEL TRANSDUCER
- VO — VALVE OPERATOR
- CIRCUIT BREAKER
- FUSED SWITCH
- FEEDER CABLE
- PANEL, SWITCHBOARD, MCC, OR VFD BUS
- TRANSFORMER
- MOTOR, # INDICATES HORSEPOWER
- COPPER GROUND ROD
- EQUIPMENT TO BE REMOVED
- DISCONNECT SWITCH
- COMBINATION STARTER/DISCONNECT SWITCH

SYMBOL LIST (CONT.)

- LOCAL CONTROL STATION
- WALL MOUNTED YELLOW AND RED WARNING LIGHTS
- GAS DETECTION SENSOR
- GAS DETECTION ALARM HORN
- THERMAL SWITCH
- PRESSURE SWITCH
- SEAL WATER SOLENOID VALVE
- E-480V — EXISTING 480V DUCTBANK
- 480V — 480V DUCTBANK
- EDB — EXISTING LOW VOLTAGE DUCTBANK
- 5KV — 5KV DUCTBANK
- A-EDB — ABANDON UNDERGROUND DUCTBANK
- MOTOR CONTACTOR
- FORWARD CONTACTOR
- REVERSE CONTACTOR
- NORMALLY CLOSED CONTACT
- NORMALLY OPEN CONTACT
- PUSH-TO-TEST GREEN INDICATING LIGHT
- THERMAL OVERLOAD
- FUSE
- GROUND
- SELECTOR SWITCH
- ETM — ELAPSED TIME METER

SUGGESTED SEQUENCE OF CONSTRUCTION (CONT.)

8. POWER OUTAGE NO. 2 – TURN OFF BREAKER IN EXISTING I-LINE PANELBOARD FEEDING EXISTING MCC-E. DISCONNECT EXISTING FEEDER CONDUCTORS AT MCC-E. TERMINATE NEW CONDUCTORS TO EXISTING MCC-E MAIN BREAKER. TURN ON BREAKER IN MSWB-1 TO ENERGIZE MCC-E. REMOVE EXISTING CONDUCTORS PREVIOUSLY FEEDING MCC-E.
9. INSTALL CONDUITS AND CONDUCTORS AS REQUIRED FROM MSWB-1 TO THE VICINITY OF THE EXISTING C.B. ENGINE ROOM PANEL.
10. POWER OUTAGE NO. 3 – TURN OFF BREAKER IN EXISTING I-LINE PANELBOARD FEEDING EXISTING C.B. ENGINE ROOM PANEL. DISCONNECT AND REMOVE EXISTING CONDUCTORS FEEDING PANEL. EXTEND CONDUITS TO PANEL AND INSTALL CONDUCTORS AS REQUIRED. TERMINATE CONDUCTORS TO EXISTING MAIN BREAKER IN PANEL. TURN ON BREAKER IN MSWB-1 TO ENERGIZE PANEL.
11. EXCAVATE AND REMOVE EXISTING CONCRETE ENCASEMENT FROM EXISTING DUCTBANK FEEDING EXISTING MCC-B AS INDICATED. INSTALL DUCTBANK FROM MSWB-1 TO VICINITY OF EXISTING EXCAVATED DUCTBANK FEEDING MCC-B.
12. POWER OUTAGE NO. 4 – TURN OFF BREAKER IN EXISTING I-LINE PANELBOARD FEEDING EXISTING MCC-B. DISCONNECT AND REMOVE EXISTING CONDUCTORS FEEDING MCC-B. CUT EXISTING 4" DUCT FEEDING MCC-B AND EXTEND DUCT TO INTERCEPT EXISTING DUCT AS INDICATED. INSTALL CONDUCTORS FROM MSWB-1 TO MCC-B AND TERMINATE CONDUCTORS. TURN ON BREAKER IN MSWB-1 TO ENERGIZE MCC-B.
13. EXCAVATE AND REMOVE EXISTING CONCRETE ENCASEMENT FROM EXISTING DUCTBANK FEEDING EXISTING MCC-C AS INDICATED. INSTALL DUCTBANK FROM MSWB-1 TO VICINITY OF EXISTING EXCAVATED DUCTBANK FEEDING MCC-C.
14. POWER OUTAGE NO. 5 – TURN OFF EXISTING BREAKER IN EXISTING I-LINE PANELBOARD FEEDING EXISTING MCC-C. DISCONNECT AND REMOVE EXISTING CONDUCTORS FEEDING MCC-C. CUT EXISTING 4" DUCT FEEDING MCC-C AND EXTEND DUCT TO INTERCEPT EXISTING DUCT AS INDICATED. INSTALL CONDUCTORS FROM MSWB-1 TO MCC-C AND TERMINATE CONDUCTORS. TURN ON BREAKER IN MSWB-1 TO ENERGIZE MCC-C.
15. EXCAVATE AND REMOVE EXISTING CONCRETE ENCASEMENT FROM EXISTING DUCTBANK FEEDING EXISTING TRANSFORMER T-3 AS INDICATED. INSTALL DUCTBANK FROM PMG-2 TO VICINITY OF EXISTING EXCAVATED DUCTBANK FEEDING TRANSFORMER.
16. POWER OUTAGE NO. 6 – OPEN EXISTING 5 KV SWITCH FEEDING TRANSFORMER T-3. DISCONNECT AND REMOVE EXISTING 5 KV CABLES FEEDING TRANSFORMER T-3. CUT EXISTING DUCT AND EXTEND DUCT TO INTERCEPT EXISTING DUCT AS INDICATED. INSTALL 5 KV CABLES FROM PMG-2 TO TRANSFORMER T-3 AND TERMINATE CABLES. CLOSE 5 KV SWITCH IN PMG-2 TO ENERGIZE TRANSFORMER T-3.
17. AFTER EQUIPMENT HAS BEEN RE-ENERGIZED, CONCRETE ENCASE DUCTS AND BACKFILL TRENCHES AS REQUIRED.

PROJECT INFORMATION

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NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
ELECTRICAL GENERAL NOTES, SYMBOL LIST, AND SEQUENCE OF CONSTRUCTION

DRAWING No.
E-1

DRAWING 21 OF 41

KEYNOTES (THIS DRAWING)

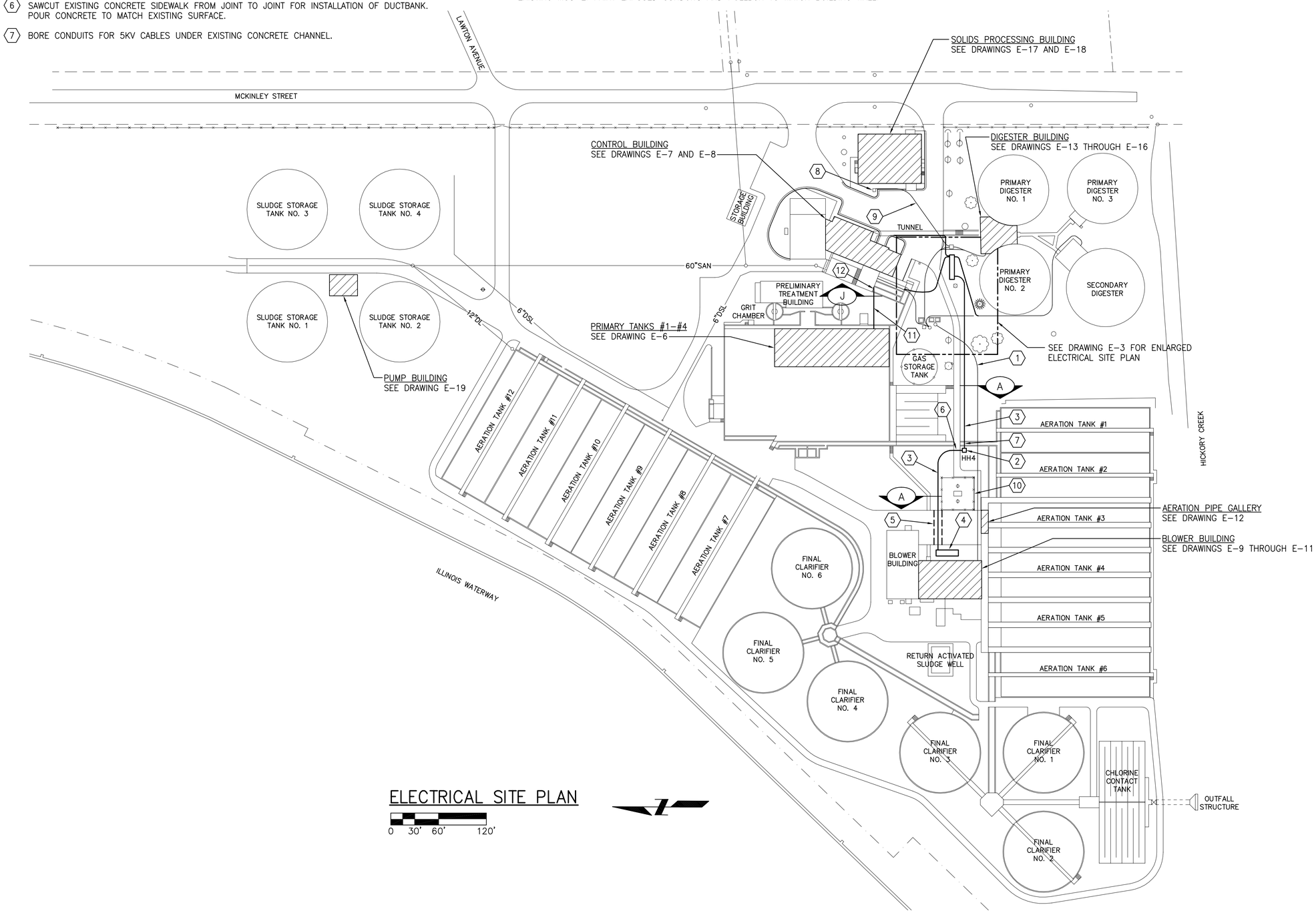
1. EXISTING UNDERGROUND DUCTBANK TO REMAIN.
2. PROVIDE HANDHOLE FOR 5KV CABLES.
3. PROVIDE 5KV DUCTBANK.
4. EXISTING SWITCHGEAR PMG-1. SEE DRAWING E-11 FOR DETAILS.
5. SAWCUT EXISTING ASPHALT ROAD FOR INSTALLATION OF DUCTBANK. PATCH ASPHALT TO MATCH EXISTING SURFACE.
6. SAWCUT EXISTING CONCRETE SIDEWALK FROM JOINT TO JOINT FOR INSTALLATION OF DUCTBANK. POUR CONCRETE TO MATCH EXISTING SURFACE.
7. BORE CONDUITS FOR 5KV CABLES UNDER EXISTING CONCRETE CHANNEL.

KEYNOTES (CONT.)

8. EXISTING TRANSFORMER T-3.
9. EXISTING UNDERGROUND DUCTBANK TO REMAIN AND BE REUSED.
10. EXISTING YARD AREA WITH COM.ED ATS AND TRANSFORMER.
11. PROVIDE DUCTBANK FOR PRIMARY TANK DRIVE POWER AND CONTROL WIRING.
12. PROVIDE (2) 14"Hx12"Wx6"D NEMA 12 PULLBOX MOUNTED 9' ABOVE GRADE TO CONTROL BUILDING WALL. EXTEND DUCTBANK CONDUIT AND WIRE INSIDE CONTROL BUILDING TO EXISTING MCC-E. PAINT EXPOSED CONDUITS AND PULLBOX TO MATCH BUILDING WALL.

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E-1 FOR GENERAL NOTES AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE DRAWING E-20 FOR DUCTBANK SECTIONS AND DUCTBANK CABLE SCHEDULE.



ELECTRICAL SITE PLAN

0 30' 60' 120'

PROJECT INFORMATION

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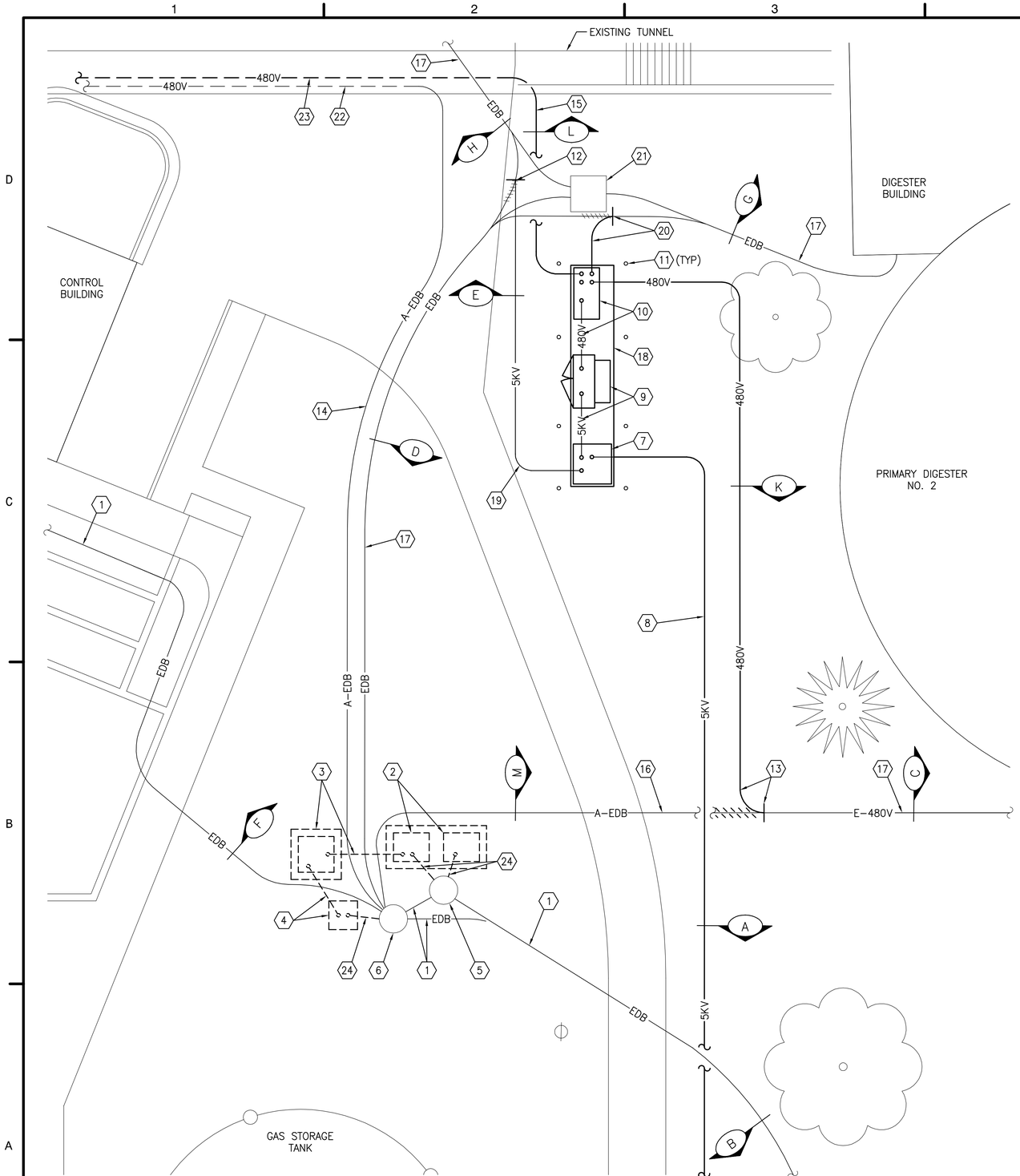
PROJECT No.
J02570

DRAWING TITLE
ELECTRICAL SITE PLAN

DRAWING No.
E-2

DRAWING 22 OF 41

Mon, 07 Aug 2006 - 4:32pm Last Edited By: CEL Drawing Name: P:\J02570\Joliet Eastside Sludge\ELEC\E-2 (site plan).dwg



ENLARGED ELECTRICAL SITE PLAN

0 2' 4' 8' 16'

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E-21 FOR ENLARGED PLAN OF PAD MOUNTED ELECTRICAL EQUIPMENT.
2. SEE DRAWING E-5 FOR MSWB-1 ELEVATION AND SCHEDULE.
3. SEE DRAWING E-20 FOR DUCTBANK SECTIONS AND DUCTBANK CABLE SCHEDULE.
4. SEE DRAWING E-1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.

KEYNOTES (THIS DRAWING)

1. EXISTING UNDERGROUND DUCTBANK TO REMAIN.
2. REMOVE EXISTING PAD MOUNTED 5KV SWITCHES PMG-2 AND CONCRETE PADS. REMOVE EXISTING 5KV CONDUCTORS FEEDING PMG-2 BACK TO 5KV SWITCHGEAR IN BLOWER BUILDING (SEE DRAWING E-10). REMOVE UNDERGROUND CONDUITS TO HV MANHOLE.
3. REMOVE EXISTING TRANSFORMER T-2 AND CONCRETE PAD. REMOVE ASSOCIATED UNDERGROUND CONDUITS/CONDUCTORS BACK TO PMG-2.
4. REMOVE EXISTING SQUARE D 800A, 480V, 3ø, 3W, MLO I-LINE PANELBOARD, CONCRETE PAD, AND ASSOCIATED UNDERGROUND CONDUITS/CONDUCTORS BACK TO TRANSFORMER T-2.
5. EXISTING HV MANHOLE TO REMAIN.
6. EXISTING LV MANHOLE MH3 TO REMAIN.
7. PROVIDE 5KV PAD MOUNTED SWITCH PMG-2.
8. PROVIDE CONCRETE ENCASED DUCTBANK FROM FEEDER BAY ON PMG-1 TO PMG-2.
9. PROVIDE TRANSFORMER T-2. PROVIDE (2) 3 1/2"C, 1 SPARE AND 1 WITH 3#2 (5KV) FROM TRANSFORMER TO PMG-2.
10. PROVIDE SWITCHBOARD MSWB-1. SEE DRAWING E-5 FOR ELEVATION AND SCHEDULE. EXTEND (4) 3"C, 1 SPARE AND OTHER (3) CONDUITS EACH WITH 3#500, 1#3/0G TO TRANSFORMER T-2.
11. PROVIDE 6" DIAMETER CONCRETE FILLED PIPE BOLLARD. SEE DRAWING E-21 FOR DETAIL.
12. INTERCEPT (2) EXISTING 4" DUCTS FEEDING EXISTING TRANSFORMER T-3 (SEE DRAWING E-2 FOR LOCATION) AND EXTEND TO NEW PMG-2.
13. INTERCEPT EXISTING 4" DUCT FEEDING MCC-C AND EXTEND TO NEW MSWB-1.
14. EXISTING UNDERGROUND DUCTBANK TO BE ABANDONED IN PLACE (REMOVE CONDUCTORS FROM MH3 TO C.B. ENGINE ROOM PANEL).
15. PROVIDE CONCRETE ENCASED DUCTBANK TO TUNNEL. PENETRATE TUNNEL WALL AND ROUTE CONDUITS TO EXISTING C.B. ENGINE ROOM PANEL AND MCC-E (SEE KEYNOTE 23).
16. EXISTING UNDERGROUND DUCTBANK TO BE ABANDONED IN PLACE (REMOVE CONDUCTORS FROM MH3 TO MCC-C).
17. EXISTING UNDERGROUND DUCTBANK TO REMAIN AND BE REUSED.
18. PROVIDE CONCRETE PAD. SEE DRAWING E-21 FOR DETAILS.
19. PROVIDE CONCRETE ENCASED DUCTBANK FROM PMG-2 TO EXISTING DUCTS (SEE KEYNOTE 12). REPLACE EXISTING 5KV CABLES FROM EXISTING PMG-2 TO EXISTING TRANSFORMER T-3 WITH NEW FROM PMG-2 TO EXISTING TRANSFORMER T-3.
20. INTERCEPT EXISTING 4" DUCT FEEDING MCC-B AND EXTEND TO MSWB-1.
21. EXISTING HANDHOLE HH1.
22. REMOVE CONDUITS AND CONDUCTORS IN EXISTING TUNNEL TO C.B. ENGINE ROOM PANEL.
23. PROVIDE (4) 3 1/2" RGS CONDUITS, (2) CONDUITS EACH WITH 3#350, 1#1G TO EXISTING C.B. ENGINE ROOM PANEL AND (2) CONDUITS EACH WITH 3#350, 1#2G TO EXISTING MCC-E.
24. REMOVE UNDERGROUND CONDUITS AND CONDUCTORS (PLUG OPENINGS IN MANHOLE AFTER CONDUITS ARE REMOVED).

PROJECT INFORMATION

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DRAWING TITLE
ENLARGED ELECTRICAL SITE PLAN

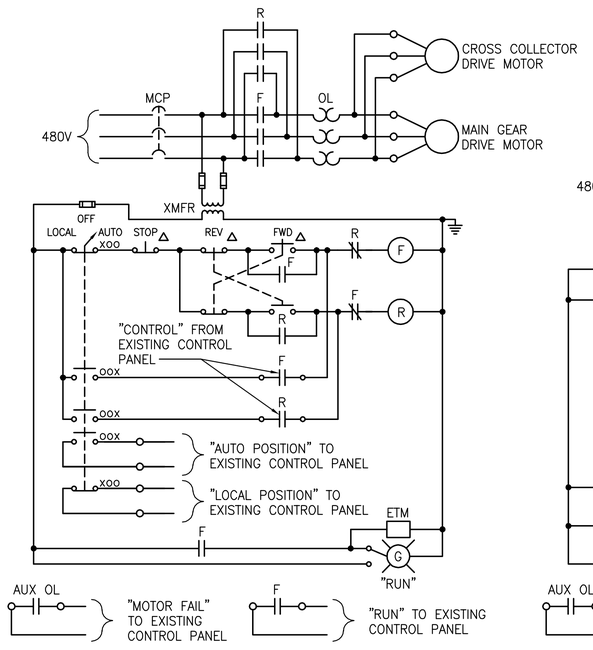
DRAWING No.
E-3

DRAWING 23 OF 41

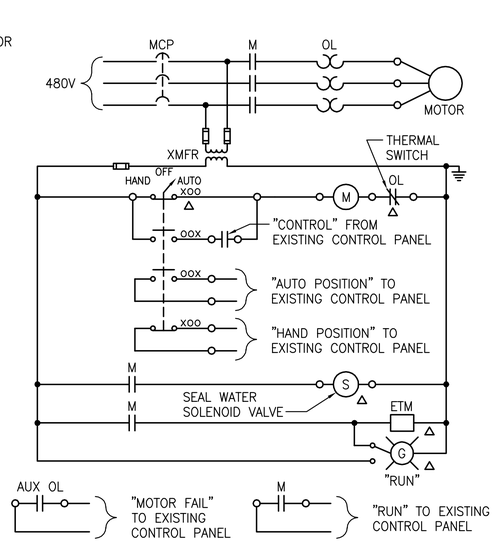
PROCESS MOTOR SCHEDULE

NAMEPLATE DESCRIPTION	EQUIPMENT TAG	STATUS	LOCATION	MOTOR HP	MOTOR VOLT	MOTOR PHASE	POWER EXIST. SOURCE	POWER NEW SOURCE	CONDUIT	CONDUCTOR	CONTROLLER TYPE	CONTROLLER SIZE	CONTROLLER LOCATION	CONTROLLER DIAGRAM	NOTES
PRIMARY TANK NO. 1 MAIN GEAR DRIVE	PST-101	REPLACE - 1/2 HP	PRIMARY TANKS	1/2	460	3	MCC-E	MCC-E	3/4"	3#12, 1#12G	FVR	1	MCC-E	TYPE 1	SEE NOTE 3
PRIMARY TANK NO. 1 CROSS COLLECTOR DRIVE	PST-101A	NEW	PRIMARY TANKS	1/3	460	3	N/A	MCC-E	3/4"	3#12, 1#12G	FVR	1	MCC-E	TYPE 1	SEE NOTE 3
PRIMARY TANK NO. 2 MAIN GEAR DRIVE	PST-102	REPLACE - 1/2 HP	PRIMARY TANKS	1/2	460	3	MCC-E	MCC-E	3/4"	3#12, 1#12G	FVR	1	MCC-E	TYPE 1	SEE NOTE 3
PRIMARY TANK NO. 2 CROSS COLLECTOR DRIVE	PST-102A	NEW	PRIMARY TANKS	1/3	460	3	N/A	MCC-E	3/4"	3#12, 1#12G	FVR	1	MCC-E	TYPE 1	SEE NOTE 3
PRIMARY TANK NO. 3 MAIN GEAR DRIVE	PST-103	REPLACE - 1/2 HP	PRIMARY TANKS	1/2	460	3	MCC-E	MCC-E	3/4"	3#12, 1#12G	FVR	1	MCC-E	TYPE 1	SEE NOTE 3
PRIMARY TANK NO. 3 CROSS COLLECTOR DRIVE	PST-103A	NEW	PRIMARY TANKS	1/3	460	3	N/A	MCC-E	3/4"	3#12, 1#12G	FVR	1	MCC-E	TYPE 1	SEE NOTE 3
PRIMARY TANK NO. 4 MAIN GEAR DRIVE	PST-104	REPLACE - 1/2 HP	PRIMARY TANKS	1/2	460	3	MCC-E	MCC-E	3/4"	3#12, 1#12G	FVR	1	MCC-E	TYPE 1	SEE NOTE 3
PRIMARY TANK NO. 4 CROSS COLLECTOR DRIVE	PST-104A	NEW	PRIMARY TANKS	1/3	460	3	N/A	MCC-E	3/4"	3#12, 1#12G	FVR	1	MCC-E	TYPE 1	SEE NOTE 3
RAW SLUDGE PUMP NO. 1	RSP-1	REPLACE - 20 HP	CONTROL BUILDING	30	460	3	CB ENGINE ROOM PNL	CB ENGINE ROOM PNL	1"	3#6, 1#8G	FVNR	3	NEAR MOTOR	TYPE 2	SEE NOTE 2
RAW SLUDGE PUMP NO. 2	RSP-2	REPLACE - 20 HP	CONTROL BUILDING	30	460	3	CB ENGINE ROOM PNL	CB ENGINE ROOM PNL	1"	3#6, 1#8G	FVNR	3	NEAR MOTOR	TYPE 2	SEE NOTE 2
RETURN ACTIVATED SLUDGE PUMP NO. 1	P-331	REPLACE - 50 HP	BLOWER BUILDING	40	460	3	MCC-D	MCC-D	1"	3#4, 1#8G	VFD	40 HP	NEAR MOTOR		SEE NOTE 3
RETURN ACTIVATED SLUDGE PUMP NO. 2	P-332	REPLACE - 50 HP	BLOWER BUILDING	40	460	3	MCC-D	MCC-D	1"	3#4, 1#8G	VFD	40 HP	NEAR MOTOR		SEE NOTE 3
RETURN ACTIVATED SLUDGE PUMP NO. 3	P-333	REPLACE - 50 HP	BLOWER BUILDING	40	460	3	MCC-D	MCC-D	1"	3#4, 1#8G	VFD	40 HP	NEAR MOTOR		SEE NOTE 3
RETURN ACTIVATED SLUDGE PUMP NO. 4	P-334	REPLACE - 50 HP	BLOWER BUILDING	40	460	3	MCC-D	MCC-D	1"	3#4, 1#8G	VFD	40 HP	NEAR MOTOR		SEE NOTE 3
ACTIVATED SLUDGE TANK DRAINAGE PUMP NO. 1	P-335	REPLACE - 7 1/2 HP	BLOWER BUILDING	7 1/2	460	3	MCC-D	MCC-D	3/4"	3#12, 1#12G	FVNR	1	MCC-D	TYPE 3	SEE NOTE 3
ACTIVATED SLUDGE TANK DRAINAGE PUMP NO. 2	P-336	REPLACE - 7 1/2 HP	BLOWER BUILDING	7 1/2	460	3	MCC-D	MCC-D	3/4"	3#12, 1#12G	FVNR	1	MCC-D	TYPE 3	SEE NOTE 3
WASTE ACTIVATED SLUDGE PUMP NO. 1	P-313	REPLACE - 10 HP	AERATION PIPE GALLERY	20	460	3	MCC-D/CONTROL PNL	MCC-D	3/4"	3#8, 1#10G	FVNR	2	MCC-D	TYPE 3	SEE NOTE 2
WASTE ACTIVATED SLUDGE PUMP NO. 2	P-314	REPLACE - 10 HP	AERATION PIPE GALLERY	20	460	3	MCC-D/CONTROL PNL	MCC-D	3/4"	3#8, 1#10G	FVNR	2	MCC-D	TYPE 3	SEE NOTE 2
WASTE ACTIVATED SLUDGE PUMP NO. 3	P-315	REPLACE - 10 HP	AERATION PIPE GALLERY	20	460	3	MCC-D/CONTROL PNL	MCC-D	3/4"	3#8, 1#10G	FVNR	2	MCC-D	TYPE 3	SEE NOTE 2
DIGESTER MIXING PUMP NO. 1	P-721	NEW	DIGESTER BUILDING	60	460	3	N/A	MCC-B	1 1/4"	3#1, 1#6G	FVNR	4	MCC-B	TYPE 4	SEE NOTE 3
DIGESTER MIXING PUMP NO. 2	P-722	NEW	DIGESTER BUILDING	60	460	3	N/A	MCC-B	1 1/4"	3#1, 1#6G	FVNR	4	MCC-B	TYPE 4	SEE NOTE 3
PRIMARY DIGESTER NO. 1 SUCTION VALVE ACTUATOR	MOV-731A	NEW	DIGESTER BUILDING	1 AMP	460	3	N/A	DIGESTER CONTROL PNL	3/4"	3#12, 1#12G	MFR. PANEL	N/A	ON ACTUATOR		SEE NOTE 3
PRIMARY DIGESTER NO. 1 DISCHARGE VALVE ACTUATOR	MOV-731B	NEW	DIGESTER BUILDING	1 AMP	460	3	N/A	DIGESTER CONTROL PNL	3/4"	3#12, 1#12G	MFR. PANEL	N/A	ON ACTUATOR		SEE NOTE 3
PRIMARY DIGESTER NO. 2 SUCTION VALVE ACTUATOR	MOV-732A	NEW	DIGESTER BUILDING	1 AMP	460	3	N/A	DIGESTER CONTROL PNL	3/4"	3#12, 1#12G	MFR. PANEL	N/A	ON ACTUATOR		SEE NOTE 3
PRIMARY DIGESTER NO. 2 DISCHARGE VALVE ACTUATOR	MOV-732B	NEW	DIGESTER BUILDING	1 AMP	460	3	N/A	DIGESTER CONTROL PNL	3/4"	3#12, 1#12G	MFR. PANEL	N/A	ON ACTUATOR		SEE NOTE 3
PRIMARY DIGESTER NO. 3 SUCTION VALVE ACTUATOR	MOV-733A	NEW	DIGESTER BUILDING	1 AMP	460	3	N/A	DIGESTER CONTROL PNL	3/4"	3#12, 1#12G	MFR. PANEL	N/A	ON ACTUATOR		SEE NOTE 3
PRIMARY DIGESTER NO. 3 DISCHARGE VALVE ACTUATOR	MOV-733B	NEW	DIGESTER BUILDING	1 AMP	460	3	N/A	DIGESTER CONTROL PNL	3/4"	3#12, 1#12G	MFR. PANEL	N/A	ON ACTUATOR		SEE NOTE 3
GRAVITY BELT THICKENER SLUDGE PUMP NO. 1	P-601	REPLACE - 20 HP	SOLIDS PROCESSING BLDG.	40	460	3	MCC-A	MCC-A	1"	3#4, 1#8G	FVNR	3	MCC-A	TYPE 3	SEE NOTE 2
GRAVITY BELT THICKENER SLUDGE PUMP NO. 2	P-602	REPLACE - 30 HP	SOLIDS PROCESSING BLDG.	40	460	3	MCC-A	MCC-A	1"	3#4, 1#8G	FVNR	3	MCC-A	TYPE 3	SEE NOTE 2
GRAVITY BELT THICKENER SLUDGE PUMP NO. 3	P-603	REPLACE - 30 HP	SOLIDS PROCESSING BLDG.	40	460	3	MCC-A	MCC-A	1"	3#4, 1#8G	FVNR	3	MCC-A	TYPE 3	SEE NOTE 2
SLUDGE SUPERNATANT LINE VALVE ACTUATOR	MOV-321	NEW	PARSHALL FLUME	1 AMP	460	3	N/A	480V PANEL PP1	3/4"	3#12, 1#12G	MFR. PANEL	N/A	ON ACTUATOR		SEE NOTE 3

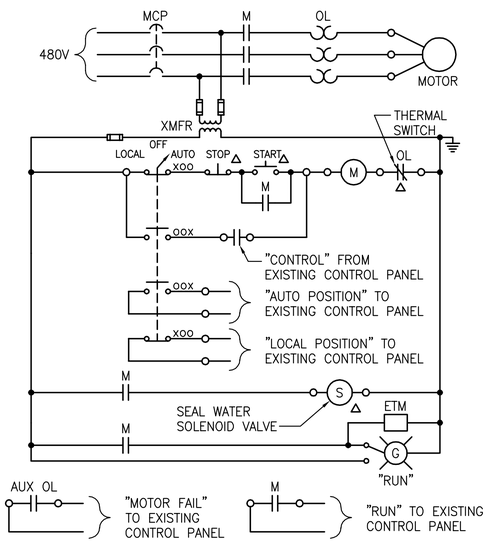
PROCESS MOTOR SCHEDULE NOTES:
1. REUSE EXISTING CONDUIT AND PROVIDE NEW WIRE.
2. REUSE EXISTING CONDUIT AND EXTEND TO EQUIPMENT AS REQUIRED. PROVIDE NEW WIRE.
3. PROVIDE NEW CONDUIT AND WIRE.



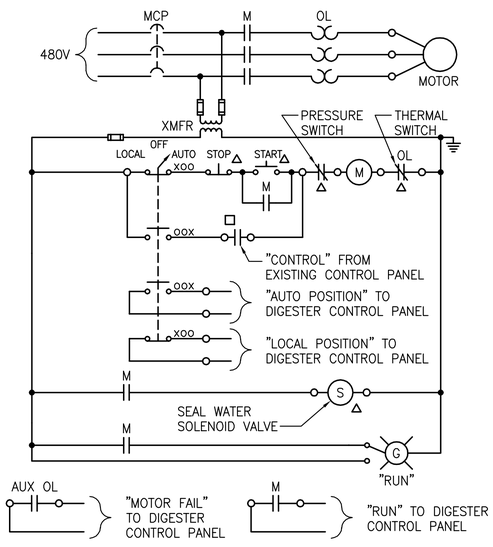
TYPE 1 CONTROL DIAGRAM
SCALE: NONE



TYPE 2 CONTROL DIAGRAM
SCALE: NONE



TYPE 3 CONTROL DIAGRAM
SCALE: NONE



TYPE 4 CONTROL DIAGRAM
SCALE: NONE

NOTES: △ = LOCATED AT MOTOR.
□ = LOCATED IN DIGESTER CONTROL PANEL BY MOTOR.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
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CHECKED BY: CEC/SEM
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
PROCESS MOTOR SCHEDULE AND CONTROL DIAGRAMS

DRAWING No.
E-4

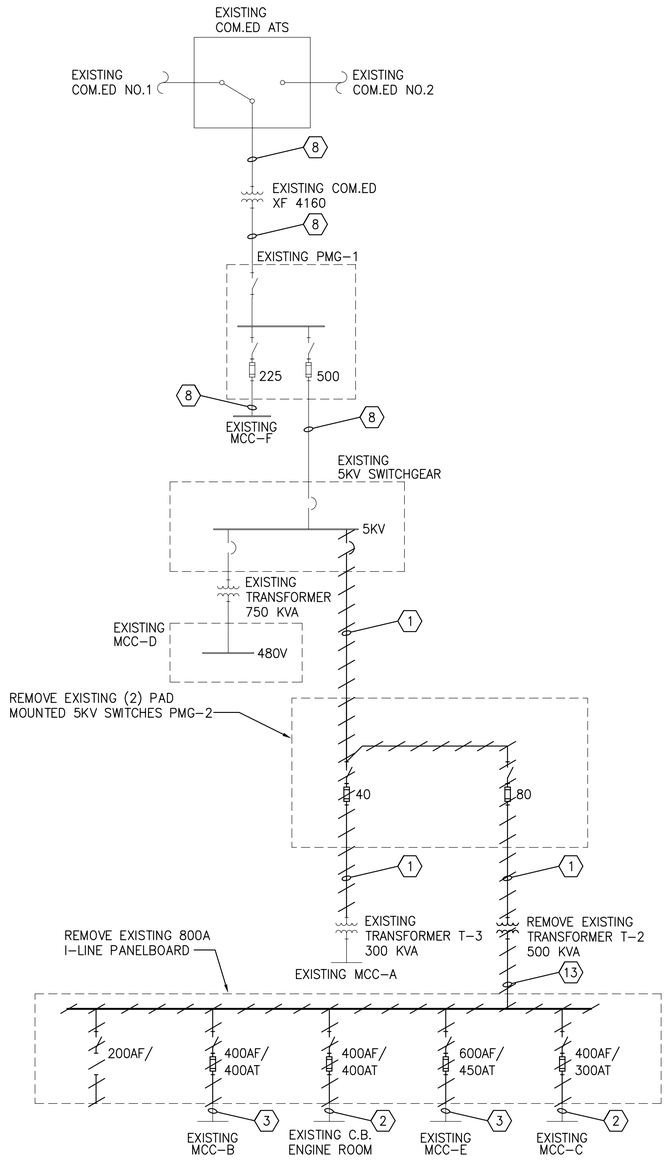
DRAWING 24 OF 41

KEYNOTES (THIS DRAWING)

1. REMOVE EXISTING 3#2 (5KV).
2. REMOVE EXISTING 3#500.
3. REMOVE EXISTING (2) SETS OF 3#350.
4. PROVIDE 3#600, 1#3G.
5. PROVIDE (2) SETS OF 3#350, 1#1G.
6. PROVIDE (2) SETS OF 3#350, 1#2G.
7. PROVIDE 3#350, 1#3G.

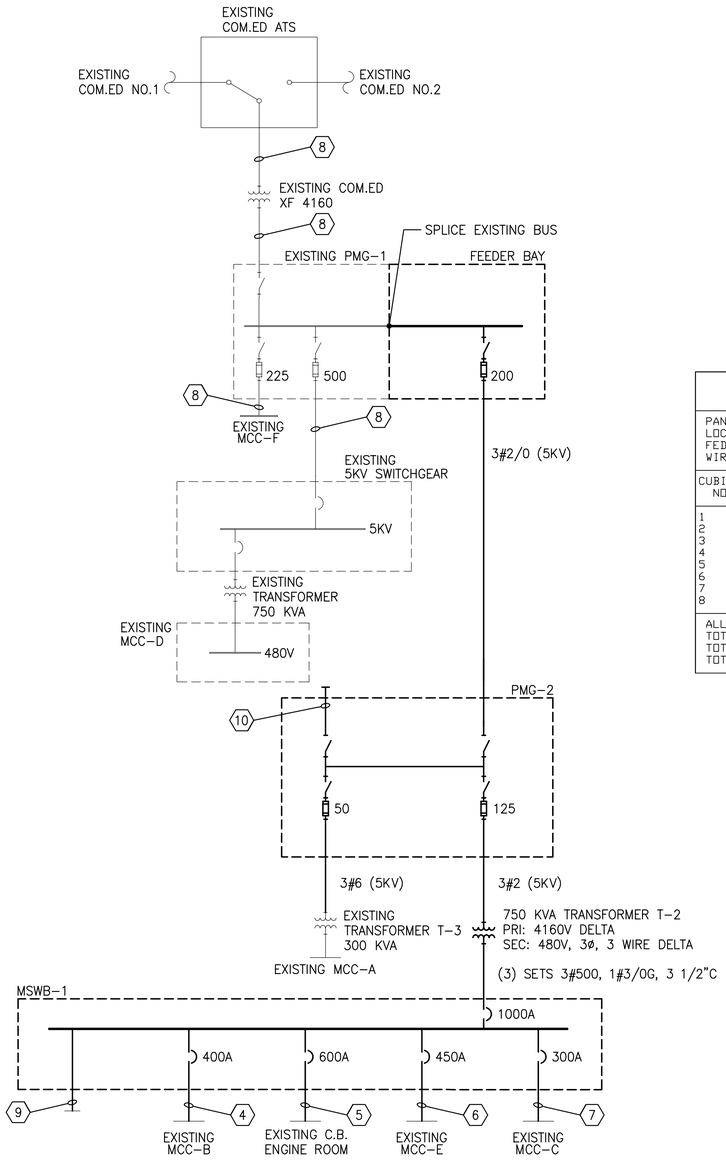
KEYNOTES (CONT.)

8. EXISTING 5KV CABLES TO REMAIN.
9. PROVIDE (4) 3 1/2" SPARE RGS CONDUITS THROUGH PAD TO BELOW GRADE OUTSIDE PAD. CAP CONDUITS ABOVE AND BELOW GRADE FOR FUTURE USE.
10. PROVIDE (2) 4" SPARE RGS CONDUITS THROUGH PAD TO BELOW GRADE OUTSIDE PAD. CAP CONDUITS ABOVE AND BELOW GRADE FOR FUTURE USE.
11. BOND TO GROUND GRID WITH EXOTHERMIC WELD.
12. EQUIPMENT GROUND CONDUCTOR INSTALLED IN CONDUIT WITH FEEDER CIRCUIT.
13. REMOVE EXISTING (2) SETS OF 3#500.



EXISTING POWER ONE-LINE DIAGRAM

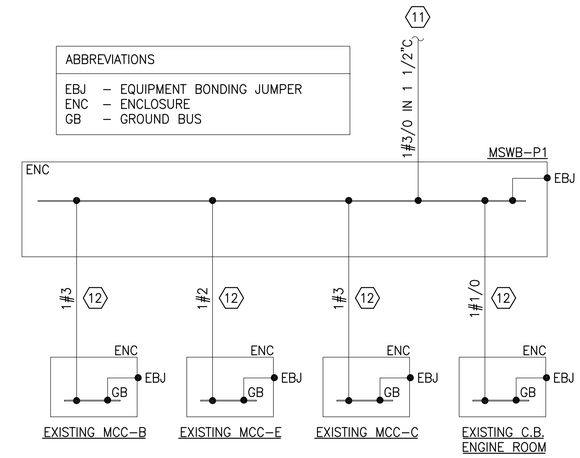
SCALE: NONE



PROPOSED POWER ONE-LINE DIAGRAM

SCALE: NONE

ABBREVIATIONS
EBJ – EQUIPMENT BONDING JUMPER
ENC – ENCLOSURE
GB – GROUND BUS



GROUNDING ONE-LINE DIAGRAM

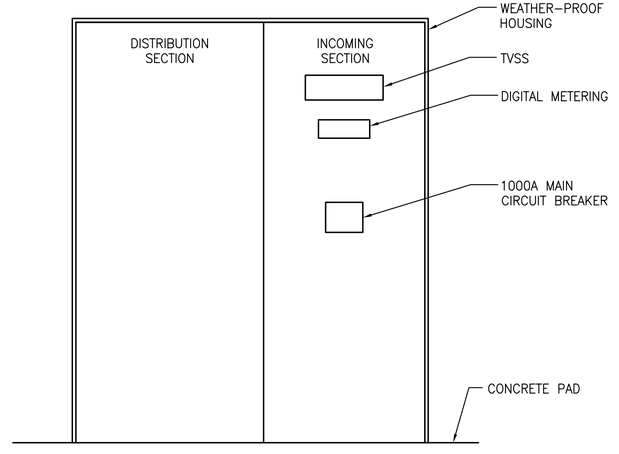
SCALE: NONE

SWITCHBOARD MSWB-1 SCHEDULE

PANEL:	MSWB-1	OC DEVICE TYPE:	1000 MCB	ENCLOSURE:	OUTDOOR RATED ENCL.	CONTINUOUS(A):	1200
LOCATION:	NEAR DIGESTER BLDG	DEVICE FAMILY:	Bolt On	MOUNTING:	Free Standing	AIC RATING(A):	42000
FED FROM:	TRANSFORMER T-2	MAINS(A):	BKR	VOLTAGE:	480		
WIRING:	3-Phase 3-Wire						

CUBICLE NO	DESCRIPTION	CONNECTED kVA	DEMAND kVA	DESIGN kVA	DESIGN MAX AMPS	OC DEVICE TYPE	OC DEVICE SIZE	P	NOTES
1	MCC-B	249.41	249.41		313.00	BKR	400	3	
2	MCC-C	178.75	178.75		215.00	BKR	300	3	
3	MCC-E	357.50	357.50		430.00	BKR	450	3	
4	C.B. ENGINE ROOM PANEL	332.55	332.55		400.00	BKR	600	3	
5	TVSS	0.00	0.00		0.00	BKR	30	3	
6	DIGITAL METERING	0.00	0.00		0.00	BKR	30	3	
7	SPACE	0.00	0.00		0.00		0	3	
8	SPACE	0.00	0.00		0.00		0	3	

ALL CONNECTED	KVA	MAX PH AMPS	* PHASE TOTALS	VA	AMPS	BUS TOTALS	KVA
TOTAL CONNECTED	1118.21	1345.0	* A-N	372737.0	1345.0	CONNECTED	1118.21
TOTAL DEMAND	440.43	530	* B-N	372737.0	1345.0	DEMAND	831.36
TOTAL DESIGN	831.36	1000	* C-N	372737.0	1345.0	DESIGN	440.43



MSWB-1 ELEVATION

SCALE: NONE

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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CHECKED BY: CEC/SEM
DATE CHECKED: 07/06

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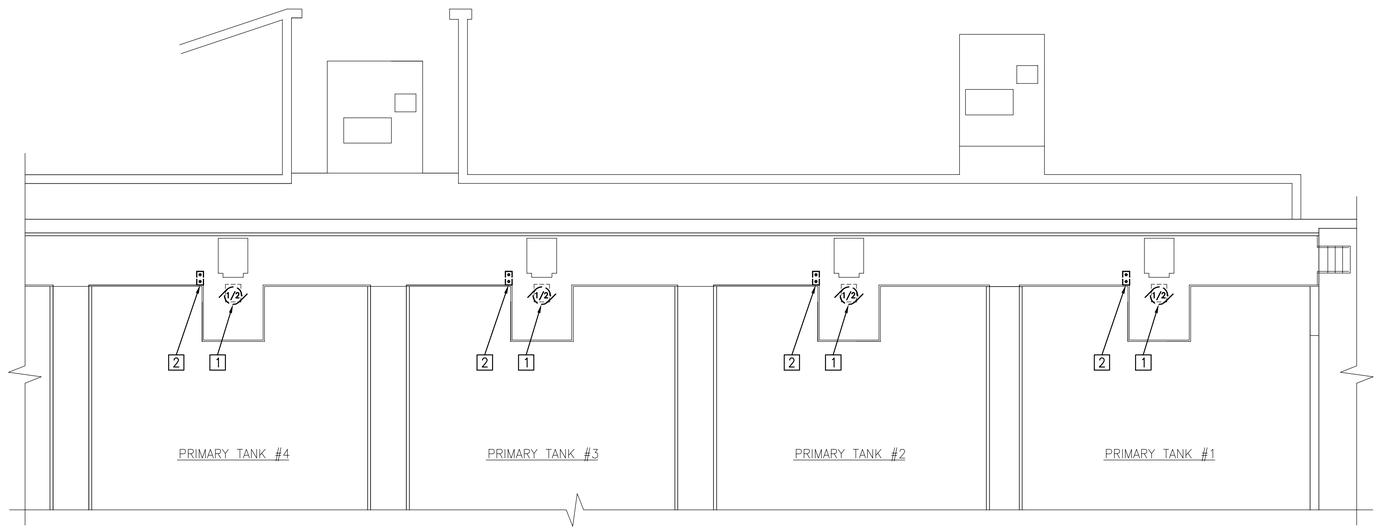
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
EXISTING AND PROPOSED POWER ONE-LINE DIAGRAM

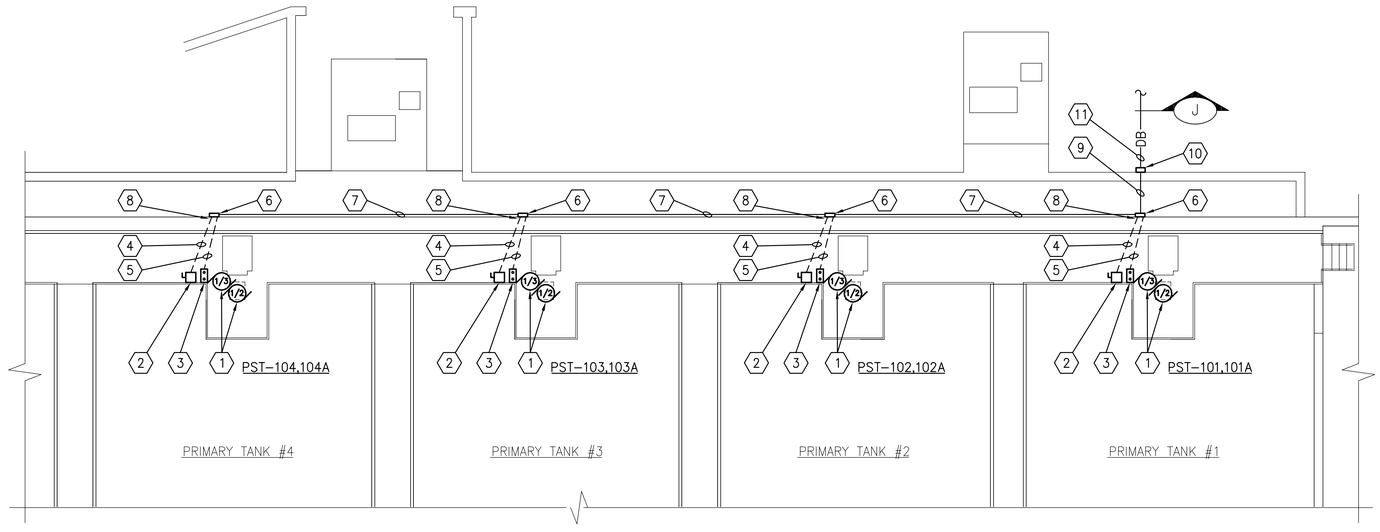
DRAWING No.
E-5

DRAWING 25 OF 41



ELECTRICAL DEMOLITION PLAN

0 2' 4' 8' 16'



ELECTRICAL PROPOSED PLAN

0 2' 4' 8' 16'

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E-1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E-4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.
3. ALL CONDUITS AND FITTING BY PRIMARY TANKS SHALL BE PVC COATED RGS CONDUIT.
4. SEE DRAWING E-20 FOR DUCTBANK SECTIONS AND DUCTBANK CABLE SCHEDULE.

DEMOLITION KEYNOTES (THIS DRAWING)

[1] DISCONNECT AND REMOVE EXISTING GEAR DRIVE MOTOR. REMOVE CONDUIT AND CONDUCTORS BACK TO MCC-E (SEE DRAWING E-8 FOR LOCATION).

[2] DISCONNECT AND REMOVE EXISTING START/STOP CONTROL STATION. REMOVE CONDUIT AND CONDUCTORS BACK TO MCC-E (SEE DRAWING E-8 FOR LOCATION).

KEYNOTES (THIS DRAWING)

(1) PRIMARY TANK MAIN GEAR DRIVE AND CROSS COLLECTOR DRIVE.

(2) PROVIDE HEAVY DUTY NEMA 4X, NON-FUSIBLE, 30A, 3 POLE DISCONNECT SWITCH FOR PRIMARY TANK DRIVES. MOUNT DISCONNECT SWITCH TO EXISTING HANDRAIL.

(3) PROVIDE FORWARD/STOP/REVERSE LOCAL CONTROL STATION IN NEMA 4X ENCLOSURE FOR CONTROL OF PRIMARY TANK GEAR DRIVE MOTORS (STOP PUSHBUTTON SHALL HAVE LOCKOUT CAPABILITIES).

(4) 3/4" PVC COATED RGS CONDUIT FOR 480V WIRES (LOCATED BELOW EXISTING CONCRETE DECK ABOVE WATER LEVEL).

(5) 3/4" PVC COATED RGS CONDUIT FOR 120V CONTROL WIRES (LOCATED BELOW EXISTING CONCRETE DECK ABOVE WATER LEVEL).

(6) (2) PVC COATED RGS CONDUIT FITTINGS.

(7) (2) 1 1/2" PVC COATED RGS CONDUITS, ONE WITH 480V WIRES AND ONE WITH 120V CONTROL WIRES. MOUNT CONDUITS TO EAST SIDE OF EXISTING HANDRAIL.

(8) CORE THROUGH EXISTING CONCRETE TANK WALL IMMEDIATELY BELOW CONCRETE DECK FOR CONDUITS.

(9) (2) 1 1/2" PVC COATED RGS CONDUITS SUSPENDED ABOVE EXISTING PRIMARY TANK WALLS.

(10) PROVIDE (2) 14"Hx12"Wx6"D NEMA 4X STAINLESS STEEL PULLBOXES ON SIDE OF TANK (ONE BOX FOR 480V WIRES AND ONE FOR 120V CONTROL WIRES).

(11) UNDERGROUND DUCTBANK TO CONTROL BUILDING. SEE DRAWING E-2 FOR CONTINUATION.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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DATE CHECKED: 07/06

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DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
PRIMARY TANK ELECTRICAL PLANS

DRAWING No.
E-6
DRAWING 26 OF 41

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E-1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E-4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.

DEMOLITION KEYNOTES (THIS DRAWING)

[1] DISCONNECT RAW SLUDGE PUMP AND REMOVE SEAL-TITE CONDUIT, CONDUCTORS, AND ASSOCIATED STARTER. EXISTING RGS CONDUIT STUBBED OUT OF FLOOR SHALL REMAIN AND BE REUSED. RAW SLUDGE PUMP STARTERS ARE FED FROM C.B. ENGINE ROOM PANEL (SEE DRAWING E-8 FOR LOCATION).

[2] REMOVE COMBINATION STARTER FOR RAW SLUDGE PUMP.

KEYNOTES (THIS DRAWING)

(1) RAW SLUDGE PUMP NO.1 (RSP-1).

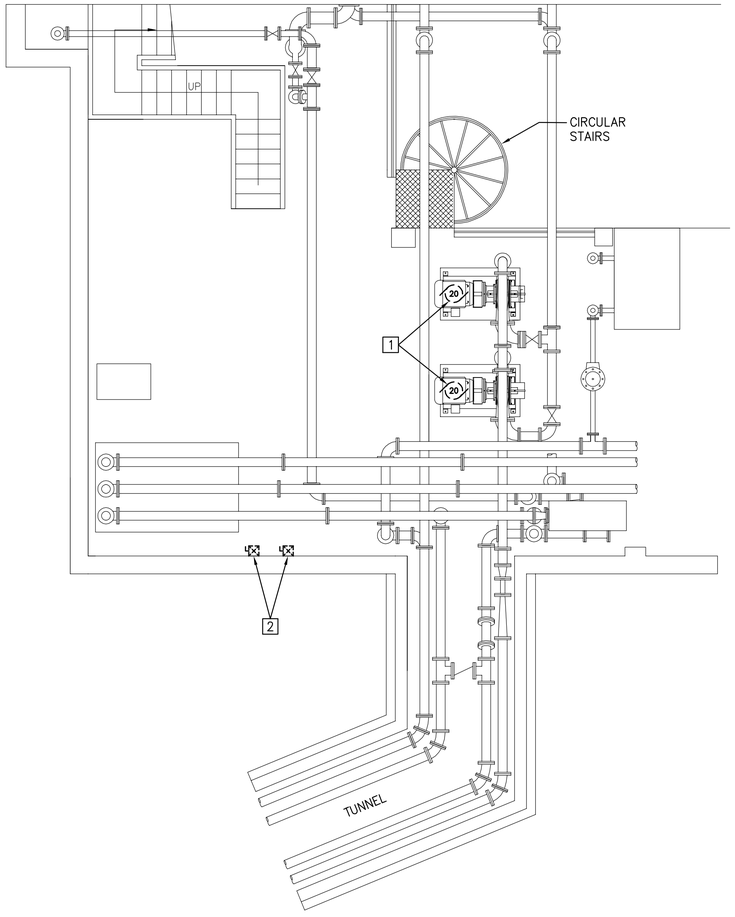
(2) RAW SLUDGE PUMP NO.2 (RSP-2).

(3) PROVIDE COMBINATION STARTER IN NEMA 12 ENCLOSURE FOR RAW SLUDGE PUMP.

(4) CONDUITS WITH 480V FEEDER CABLES UP TO EXISTING MCC-E. SEE DRAWING E-8 FOR CONTINUATION.

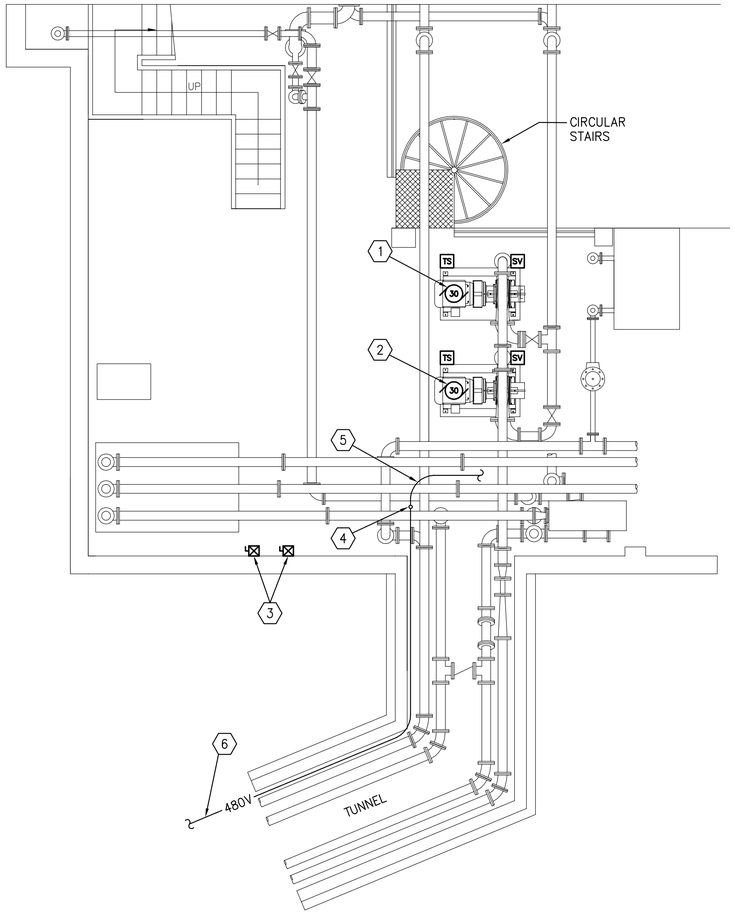
(5) CONDUITS WITH 480V FEEDER CABLES TO EXISTING C.B. ENGINE ROOM PANEL. SEE DRAWING E-8 FOR CONTINUATION.

(6) CONDUITS WITH 480V FEEDER CABLES TO SWITCHBOARD MSWB-1. SEE DRAWING E-3 FOR CONTINUATION.



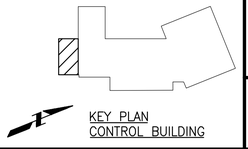
BASEMENT ELECTRICAL DEMOLITION PLAN

0 1' 2' 4' 8'



BASEMENT ELECTRICAL PROPOSED PLAN

0 1' 2' 4' 8'



KEY PLAN
CONTROL BUILDING

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
ENGINEERS
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CHECKED BY: CEC/SEM
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

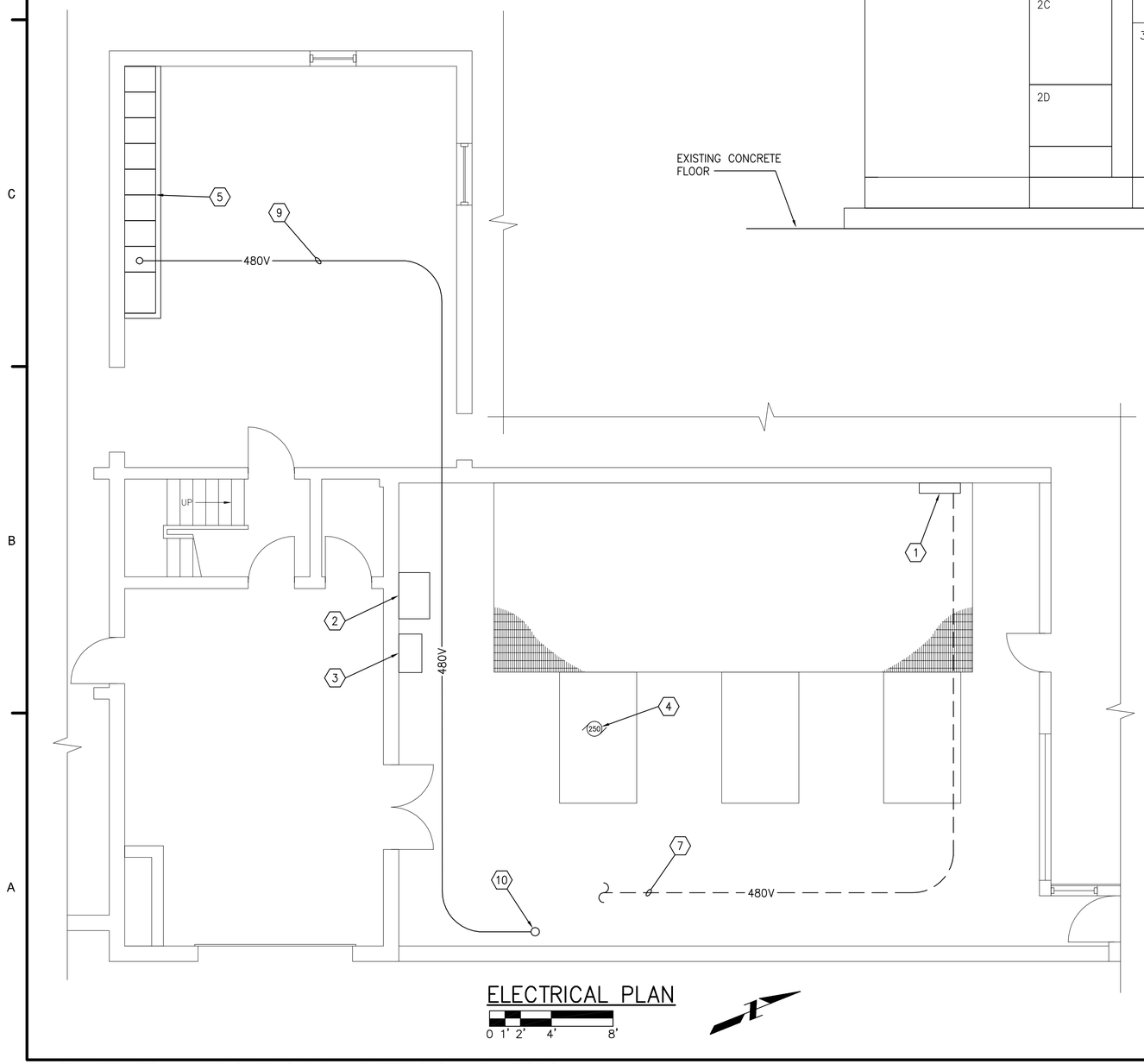
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
CONTROL BUILDING
BASEMENT ELECTRICAL
PLANS

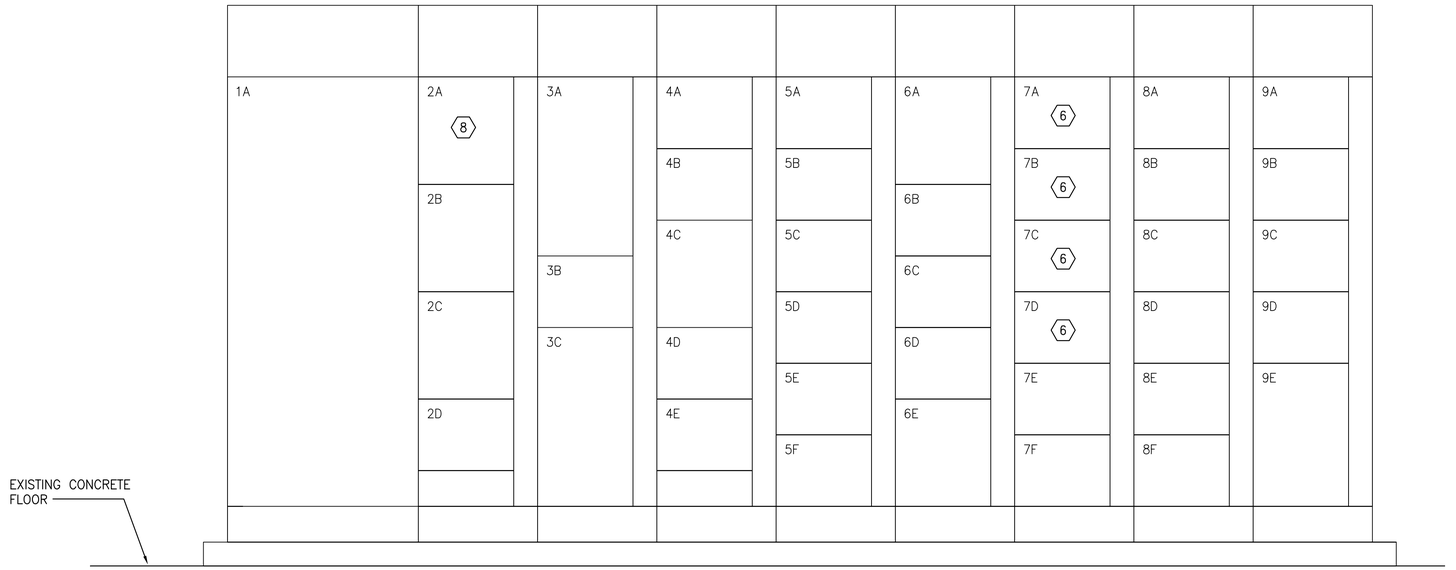
DRAWING No.
E-7
DRAWING 27 OF 41

Mon, 07 Aug 2006 - 4:33pm Last Edited By: CEL Drawing Name: P:\J02570\Joliet Eastside Sludge\ELEC\E-7 (control basement).dwg



ELECTRICAL PLAN

0 1' 2' 4' 8'



MCC–E ELEVATION

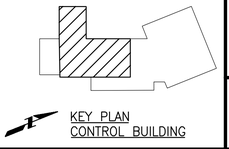
SCALE: NONE

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E–1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E–4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.

KEYNOTES (THIS DRAWING)

1. EXISTING 800A, 480V, 3ø, 3 WIRE, SQUARE D I–LINE C.B. ENGINE ROOM PANELBOARD WITH 600A MAIN BREAKER TO REMAIN AND BE REFED.
2. EXISTING 275KVA TRANSFORMER TO REMAIN (TRANSFORMER FED FROM C.B. ENGINE ROOM PANEL).
3. EXISTING DC PUMP CONTROLLER TO REMAIN.
4. EXISTING DC PUMP TO REMAIN.
5. EXISTING MCC–E TO REMAIN. SEE ELEVATION THIS DRAWING FOR ADDITIONAL INFORMATION.
6. REPLACE STARTER FOR PRIMARY TANK GEAR DRIVE WITH NEW STARTER FOR PRIMARY TANK MAIN GEAR DRIVE AND CROSS CONNECT DRIVE.
7. CONDUITS WITH 480V FEEDER CABLES TO TUNNEL (LOCATED IN BASEMENT). SEE DRAWING E–7 FOR CONTINUATION AND DRAWING E–5 FOR ADDITIONAL INFORMATION.
8. EXISTING MAIN CIRCUIT BREAKER. REPLACE EXISTING FEEDER CONDUCTORS. SEE DRAWING E–5 FOR DETAILS.
9. CONDUITS WITH 480V FEEDER CABLES.
10. CONDUITS WITH 480V FEEDER CABLES TO TUNNEL (LOCATED IN BASEMENT). SEE DRAWING E–7 FOR CONTINUATION AND DRAWING E–5 FOR ADDITIONAL INFORMATION.



KEY PLAN
CONTROL BUILDING

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
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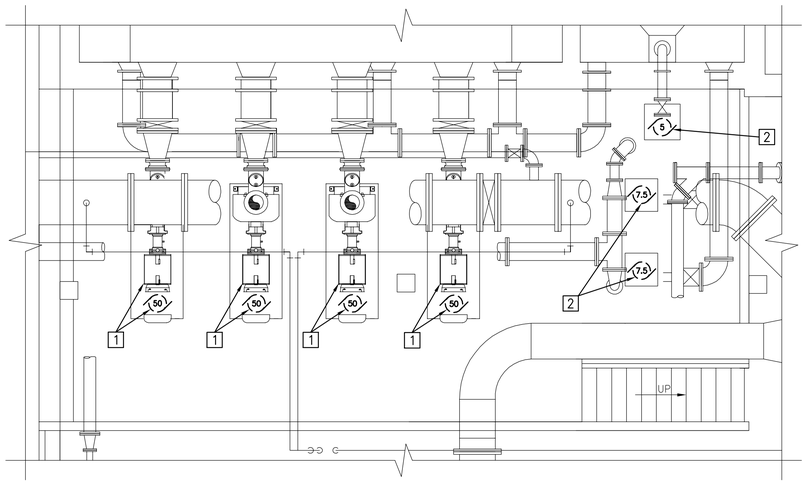
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
CONTROL BUILDING FIRST FLOOR ELECTRICAL PLAN AND MCC-E ELEVATION

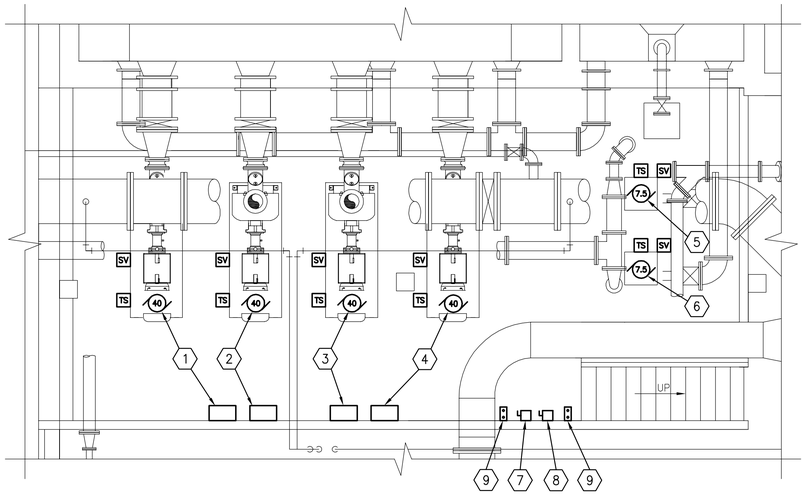
DRAWING No.
E-8

DRAWING 28 OF 41



BASEMENT ELECTRICAL DEMOLITION PLAN

0 1' 2' 4' 8'



BASEMENT ELECTRICAL PROPOSED PLAN

0 1' 2' 4' 8'

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E-1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E-4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.
3. SEE DRAWING E-11 FOR VFD SCHEDULE.

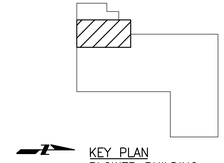
DEMOLITION KEYNOTES (THIS DRAWING)

[1] DISCONNECT EXISTING RAS PUMP AND ASSOCIATED SPEED CONTROL UNIT. REMOVE CONDUCTORS AND CONDUITS BACK TO SOURCE. EXISTING RAS PUMPS ARE FED FROM MCC-D (SEE DRAWING E-10 FOR LOCATION).

[2] DISCONNECT EXISTING ACTIVATED SLUDGE TANK DRAINAGE PUMPS. REMOVE CONDUCTORS AND CONDUITS BACK TO MCC-D (SEE DRAWING E-10 FOR LOCATION.)

KEYNOTES (THIS DRAWING)

1. RAS PUMP NO.2 (P-332) AND VFD.
2. RAS PUMP NO.3 (P-333) AND VFD.
3. RAS PUMP NO.1 (P-331) AND VFD.
4. RAS PUMP NO.4 (P-334) AND VFD.
5. ACTIVATED SLUDGE TANK DRAINAGE PUMP NO.1 (P-335).
6. ACTIVATED SLUDGE TANK DRAINAGE PUMP NO.2 (P-336).
7. PROVIDE 30A, 3 POLE, HEAVY DUTY NON-FUSIBLE DISCONNECT SWITCH IN NEMA 12 ENCLOSURE FOR ACTIVATED SLUDGE TANK DRAINAGE PUMP NO.1.
8. PROVIDE 30A, 3 POLE, HEAVY DUTY NON-FUSIBLE DISCONNECT SWITCH IN NEMA 12 ENCLOSURE FOR ACTIVATED SLUDGE TANK DRAINAGE PUMP NO.2.
9. START/STOP LOCAL CONTROL STATION.



KEY PLAN
BLOWER BUILDING

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
ENGINEERS
DESIGN FIRM REGISTRATION
No. 184-000450
1817 SOUTH NEIL STREET
SUITE 100
CHAMPAIGN, ILLINOIS
(217) 373-8900
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DESIGNED BY: JJF
DRAWN BY: RSL
CHECKED BY: CEC/SEM
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

PROJECT No.
J02570

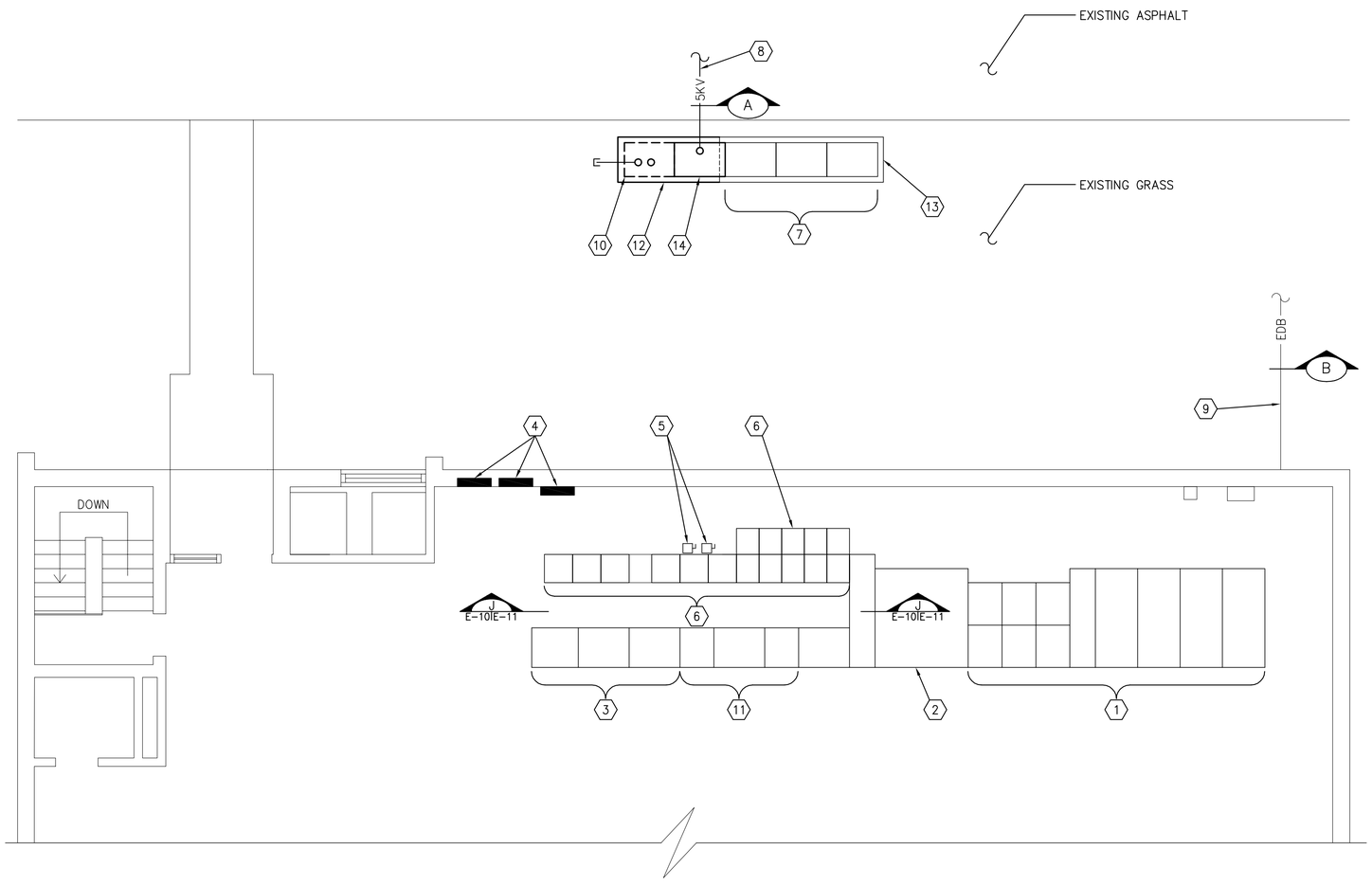
DRAWING TITLE

BLOWER BUILDING
BASEMENT
ELECTRICAL PLANS

DRAWING No.
E-9

DRAWING 29 OF 41

Mon, 07 Aug 2006 - 4:34pm Last Edited By: CBL Drawing Name: P:\J02570\Joliet Eastside Sludge\ELEC\E-9 (RAS pump).dwg



FIRST FLOOR ELECTRICAL PLAN

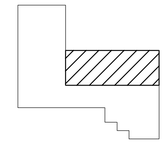
0 1' 2' 4' 8'

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E-1 FOR GENERAL NOTES AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E-4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.
3. CONTRACTOR SHALL LOCATE AND VERIFY UNDERGROUND GROUND GRID AROUND SWITCHGEAR PMG-1 AND MODIFY GROUND GRID AS REQUIRED FOR INSTALLATION OF FEEDER BAY AND CONCRETE PAD.
4. ALL MODIFICATIONS TO EXISTING CONTROL PANEL AND TERMINATION OF CONTROL WIRES AT PANEL SHALL BE BY OWNER (CONTRACTOR SHALL LABEL ALL CONTROL WIRES THAT ARE BEING ADDED).
5. SEE DRAWING E-20 FOR DUCTBANK SECTIONS AND DCUTBANK CABLE SCHEDULE.

KEYNOTES (THIS DRAWING)

1. EXISTING WESTINGHOUSE 5KV SWITCHGEAR TO REMAIN. DISCONNECT EXISTING SWITCH FEEDING EXISTING PAD MOUNTED GEAR PMG-2 (SEE DRAWING E-3 FOR LOCATION) AND REMOVE CONDUCTORS. LABEL SWITCH AS SPARE.
2. EXISTING 750KVA TRANSFORMER TO REMAIN.
3. EXISTING CONTROL PANEL TO REMAIN (SEE NOTE 4). REMOVE EXISTING VFD CONTROLLER FROM CONTROL PANEL FOR WAS PUMPS NO.1, 2, AND 3.
4. EXISTING LIGHTING PANELS TO REMAIN.
5. EXISTING DISCONNECT SWITCHES TO REMAIN.
6. EXISTING 480V MOTOR CONTROL CENTER MCC-D TO REMAIN. SEE DRAWING E-11 FOR ADDITIONAL INFORMATION.
7. EXISTING S&C 5KV SWITCHGEAR PMG-1. NAMEPLATE ON GEAR IS:
   - CATALOG #CDA716130
   - 4.16KV NOMINAL, 4.8 KV MAX
   - 60KV BIL
   - MAIN BUS 1200A
   - SHORT CIRCUIT: 37.5KA RMS SYMMETRICAL
   - 270MVA, 3ø SYMMETRICAL AT RATED NOMINAL VOLTAGE.
8. PROVIDE 5KV UNDERGROUND DUCTBANK FROM PMG-1 TO NEW "PMG-2." SEE DRAWING E-2 FOR CONTINUATION.
9. EXISTING UNDERGROUND DUCTBANK. SEE DRAWING E-2 FOR CONTINUATION. REMOVE EXISTING 3#2, 5KV CABLES FROM EXISTING 5KV GEAR IN BLOWER BUILDING TO EXISTING PMG-2 (SEE DRAWING E-3 FOR LOCATION). EXISTING CONTROL WIRING IN DUCTBANK SHALL REMAIN AS PRESENTLY INSTALLED.
10. SPACE FOR FUTURE FEEDER BAY.
11. EXISTING RAS PUMP CONTROL CABINETS (SEE NOTE 4).
12. PROVIDE REINFORCED CONCRETE PAD FOR FEEDER BAY (MATCH THICKNESS OF EXISTING PAD). DOWEL REBAR INTO EXISTING CONCRETE SLAB AND EPOXY REBAR IN PLACE. CONTRACTOR SHALL SIZE PAD TO ALLOW FOR FUTURE INSTALLATION OF ONE ADDITIONAL SWITCHGEAR FEEDER BAY. PROVIDE (2) 4" RGS CONDUITS THROUGH PAD AND CAPPED ABOVE AND BELOW GRADE FOR FUTURE USE.
13. EXISTING CONCRETE PAD.
14. PROVIDE (1) FEEDER BAY TO MATCH EXISTING TO FEED THE NEW PAD MOUNTED SWITCH "PMG-2." SEE DRAWING E-3 AND E-5 FOR ADDITIONAL INFORMATION.



KEY PLAN
BLOWER BUILDING

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
ENGINEERS
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DRAWN BY: RSL
CHECKED BY: CEC/SEM
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

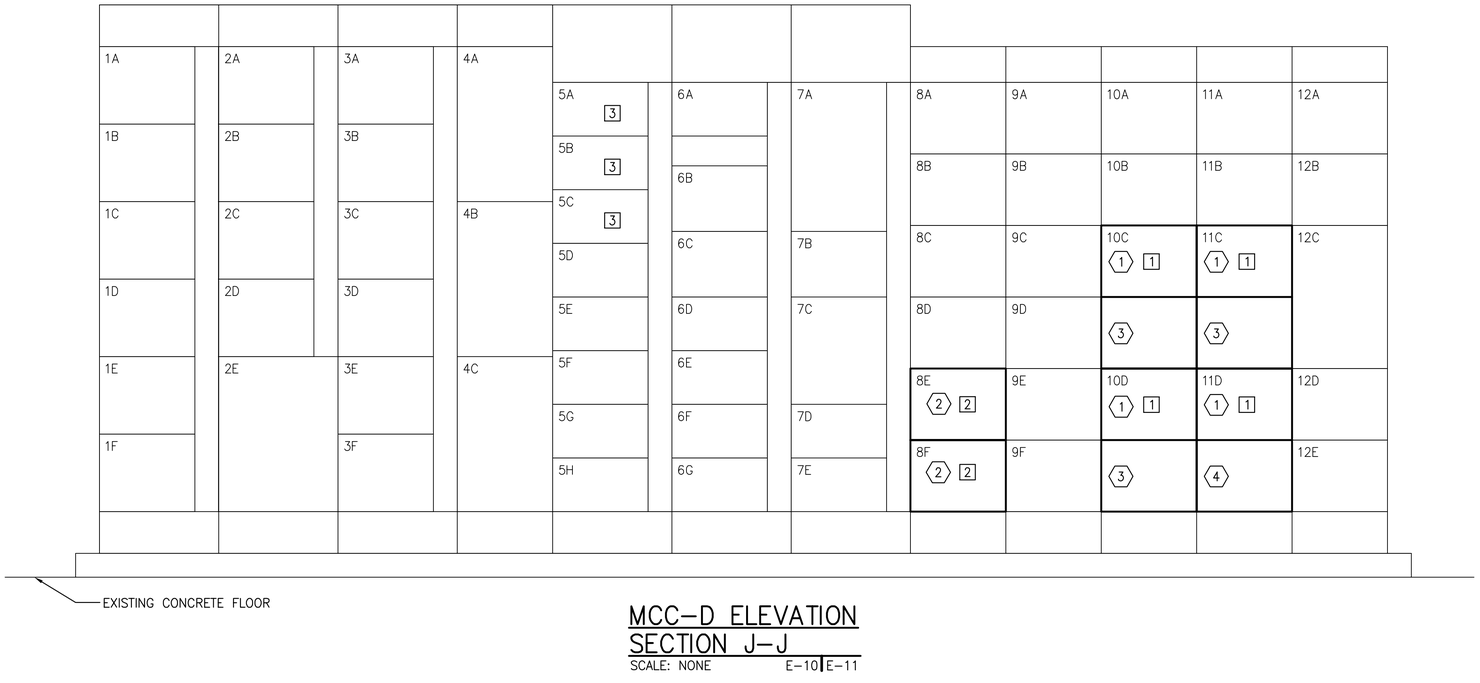
PROJECT No.
J02570

DRAWING TITLE

BLOWER BUILDING
FIRST FLOOR
ELECTRICAL PLAN

DRAWING No.
E-10

DRAWING 30 OF 41



MCC–D ELEVATION
SECTION J–J

SCALE: NONE E–10 | E–11

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E–1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E–4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.

DEMOLITION KEYNOTES (THIS DRAWING)

[1] REMOVE EXISTING RAS PUMP STARTER.

[2] REMOVE EXISTING ACTIVATED SLUDGE PUMP STARTER.

[3] ABANDON IN PLACE EXISTING CIRCUIT BREAKER FOR WAS PUMP. LABEL AS SPARE.

KEYNOTES (THIS DRAWING)

(1) RECONFIGURE BUCKET TO ACCEPT 110A, 3 POLE CIRCUIT BREAKER TO FEED NEW RAS PUMP VFD.

(2) PROVIDE NEMA SIZE 1 COMBINATION STARTER WITH 20A MCP FOR ACTIVATED SLUDGE TANK DRAINAGE PUMP. RECONNECT EXISTING CONTROL WIRING AS REQUIRED TO STARTER.

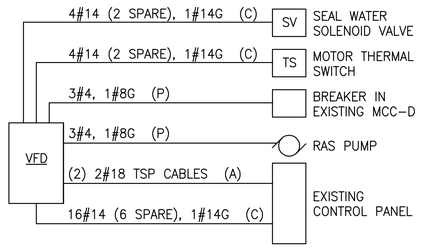
(3) PROVIDE NEMA SIZE 2 COMBINATION STARTER WITH 60A MCP FOR WAS PUMP.

(4) PROVIDE BLANK DOOR FOR EMPTY CUBICLE.

VARIABLE FREQUENCY DRIVE SCHEDULE

							ACCESSORIES													INPUTS/OUTPUTS											ENCLOSURE	
EQUIPMENT TAG	HP	AMPS	VOLTAGE	PHASE	RPM	LOCATION	VARIABLE TORQUE VFD	CONSTANT TORQUE VFD	HUMAN INTERFACE MODULE	MOTOR ELAPSED TIME METER	FUSIBLE DISCONNECT SWITCH	MANUAL BYPASS STARTER	VFD MANUAL SPEED CONTROL	H/O/A SWITCH	"CONTROL POWER ON" LIGHT	GREEN "RUN" LIGHT	FAULT RESET	HARMONIC GUARD TRAP FILTER	INPUT REACTOR	EXTERNALLY MOUNTED OUTPUT LINE REACTOR	START PUSHBUTTON	STOP PUSHBUTTON	VFD/BYPASS	"AUTO" POSITION	VFD FAULT	"HAND" POSITION	VFD RUNNING	REMOTE START/STOP	MOTOR THERMAL SWITCH	SEAL WATER SOLENOID VALVE	VFD SPEED (ANALOG INPUT)	VFD SPEED (ANALOG OUTPUT)	NEMA 1 ENCLOSURE	NEMA 12 ENCLOSURE
RAS PUMP NO.1	40	52	460	3	880	BLOWER BUILDING	X		X	X	X		X	X	X	X	X		X		X	X		X	X	X	X	X	X	X	X		X
RAS PUMP NO.2	40	52	460	3	880	BLOWER BUILDING	X		X	X	X		X	X	X	X	X		X		X	X		X	X	X	X	X	X	X	X	X		X
RAS PUMP NO.3	40	52	460	3	880	BLOWER BUILDING	X		X	X	X		X	X	X	X	X		X		X	X		X	X	X	X	X	X	X	X	X		X
RAS PUMP NO.4	40	52	460	3	880	BLOWER BUILDING	X		X	X	X		X	X	X	X	X		X		X	X		X	X	X	X	X	X	X	X	X		X

NOTES:
1. SEE SPECIFICATION SECTION 16483 VARIABLE FREQUENCY DRIVES FOR MORE DETAILS.
2. THE OUTPUTS FOR AUTO POSITION, HAND POSITION, FAULT, RUNNING, VFD/BYPASS, AND REMOTE START/STOP SHALL BE DRY CONTACTS RATED FOR 10A, 120V.
3. CONTRACTOR TO PROVIDE DRY RELAY CONTACTS FOR ALL MOTOR RUN AND FAIL SIGNALS.



RAS PUMP VFD INTERCONNECT DIAGRAM

SCALE: NONE

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
ENGINEERS
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DRAWN BY: RSL
CHECKED BY: CEC/SEM
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

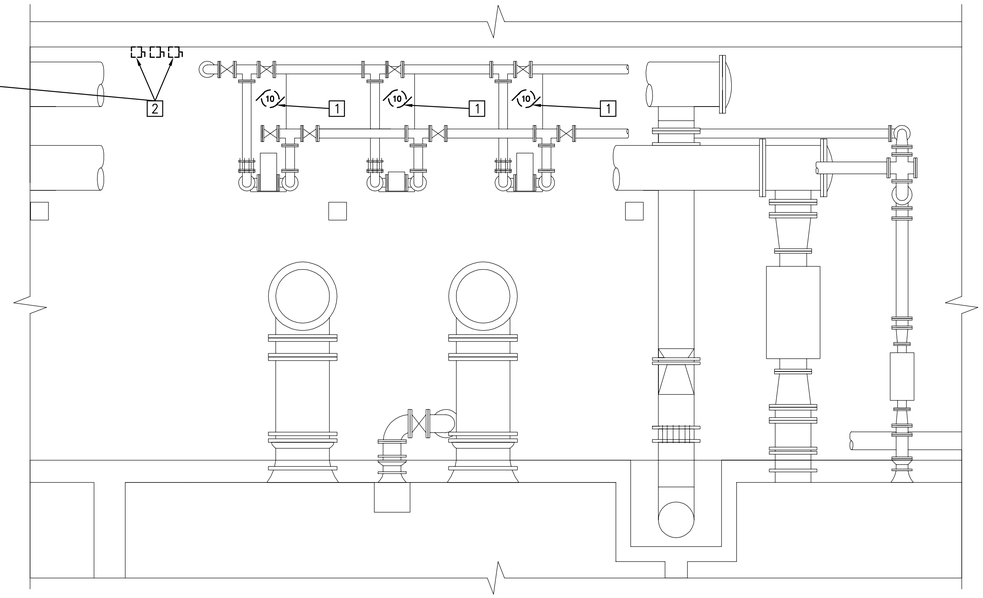
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
VFD SCHEDULE AND MCC-D ELEVATION

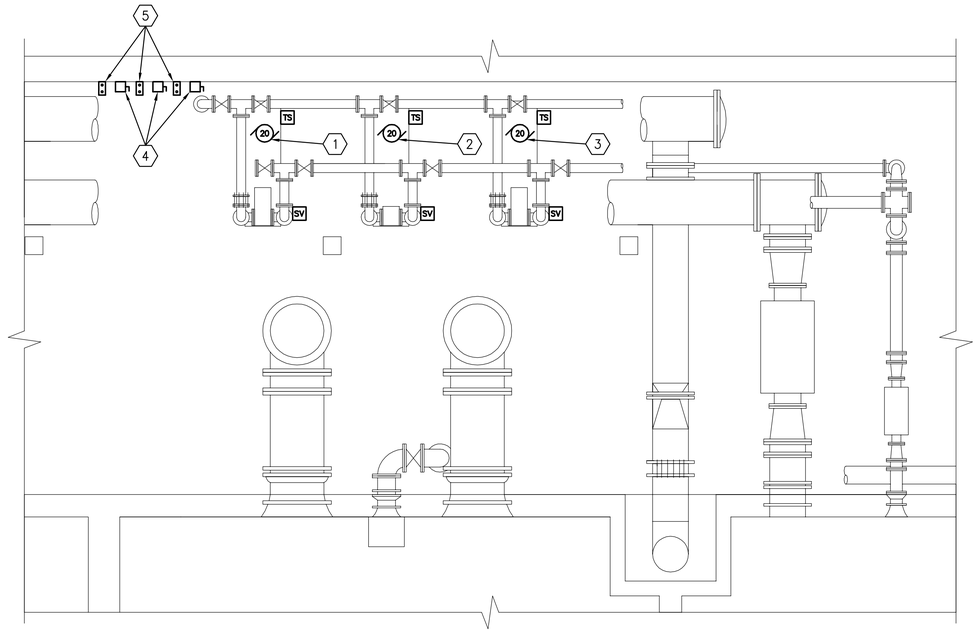
DRAWING No.
E-11

DRAWING 31 OF 41



ELECTRICAL DEMOLITION PLAN

0 1' 2' 4' 8'



ELECTRICAL PROPOSED PLAN

0 1' 2' 4' 8'

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E-1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E-4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.

DEMOLITION KEYNOTES (THIS DRAWING)

[1] DISCONNECT EXISTING WAS PUMP AND REMOVE CONDUIT AND CONDUCTORS BACK TO DISCONNECT SWITCH.

[2] REMOVE EXISTING DISCONNECT SWITCHES FOR WAS PUMPS. REUSE EXISTING CONDUIT AND REMOVE EXISTING CONDUCTORS BACK TO MCC-D (SEE DRAWING E-10 FOR LOCATION).

KEYNOTES (THIS DRAWING)

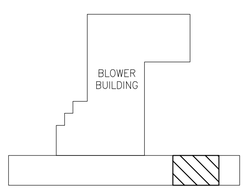
(1) WAS PUMP NO.1 (P-313).

(2) WAS PUMP NO.2 (P-314).

(3) WAS PUMP NO.4 (P-315).

(4) PROVIDE (3) HEAVY DUTY NEMA 12, NON-FUSIBLE, 60A, 3 POLE DISCONNECT SWITCHES FOR WAS PUMPS NO.1, 2 AND 3.

(5) PROVIDE START/STOP LOCAL CONTROL STATION FOR WAS PUMPS NO.1, 2, AND 3.



KEY PLAN
AERATION PIPE GALLERY

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
ENGINEERS
DESIGN FIRM REGISTRATION
No. 184-000450
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DRAWN BY: RSL
CHECKED BY: CEC/SEM
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

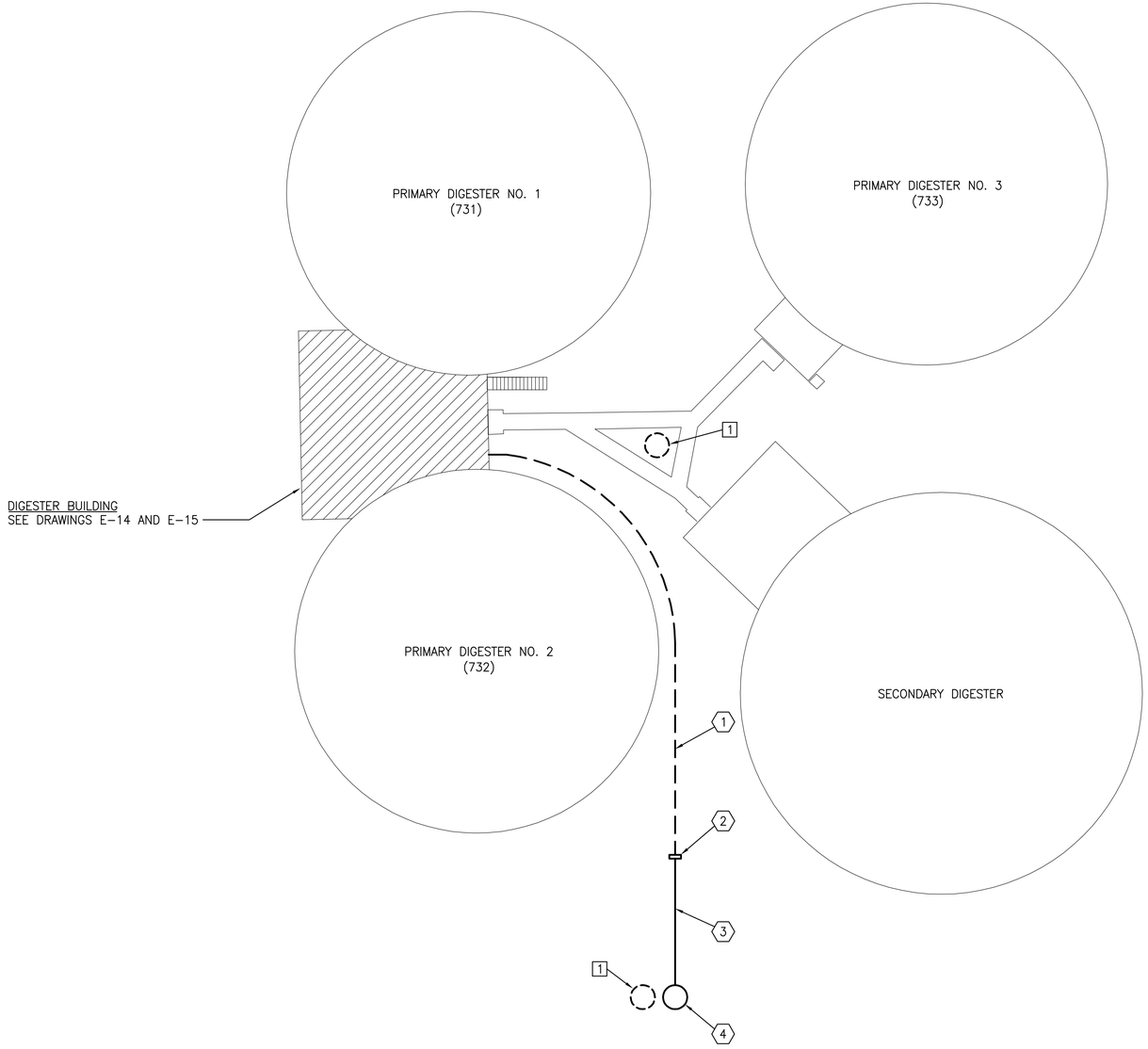
PROJECT No.
J02570

DRAWING TITLE
AERATION PIPE GALLERY
ELECTRICAL PLANS

DRAWING No.
E-12

DRAWING 32 OF 41

Mon, 07 Aug 2006 - 4:30pm Last Edited By: CEL Drawing Name: P:\J02570\Joint Eastside Sludge\ELEC\E-12 (WAS pump).dwg



DIGESTER ENLARGED ELECTRICAL PLAN

0 4' 8' 16' 32'

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E-1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE DRAWING E-15 FOR LOCATION OF 120V PANEL LP-B AND CONTROL PANEL SCC-B.
3. SEE DRAWING PR-15 FOR SECTION VIEW OF WASTE GAS BURNER AND ASSOCIATED PIPING AND CONTROL PANEL.

DEMOLITION KEYNOTES (THIS DRAWING)

[1] REMOVE ALL ELECTRICAL ASSOCIATED WITH WASTE GAS BURNERS. REMOVE ALL CONDUIT AND WIRE BACK TO SOURCE (ABANDON UNDERGROUND CONDUITS IN PLACE).

KEYNOTES (THIS DRAWING)

(1) PROVIDE 2#12, 1#12G, 1"C (120V POWER) UNDERGROUND FROM WASTE GAS BURNER CONTROL PANEL TO PANEL LP-B. PROVIDE 12#14 (4 SPARE), 1#14G, 1"C (CONTROL) FROM WASTE GAS BURNER CONTROL PANEL TO EXISTING CONTROL PANEL SCC-B.

(2) WASTE GAS BURNER CONTROL PANEL.

(3) PROVIDE 1" CONDUIT WITH MANUFACTURER PROVIDED HIGH TENSION CABLE AND THERMOCOUPLE WIRING FROM WASTE GAS BURNER CONTROL PANEL TO MANUFACTURER PROVIDED JUNCTION BOX MOUNTED ON WASTE GAS BURNER. ROUTE CONDUIT WITH WASTE GAS PIPING ABOVE GROUND.

(4) WASTE GAS BURNER.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
ENGINEERS
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DESIGNED BY: JJF
DRAWN BY: RSL
CHECKED BY: CEC/SEM
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
DIGESTER ENLARGED ELECTRICAL PLAN

DRAWING No.
E-13

DRAWING 33 OF 41

Mon, 07 Aug 2006 - 4:35pm Last Edited By: CEL Drawing Name: P:\J02570\Joliet Eastside Sludge\ELEC\E-13 (gas burner).dwg

ELECTRICAL NOTES (THIS DRAWING)

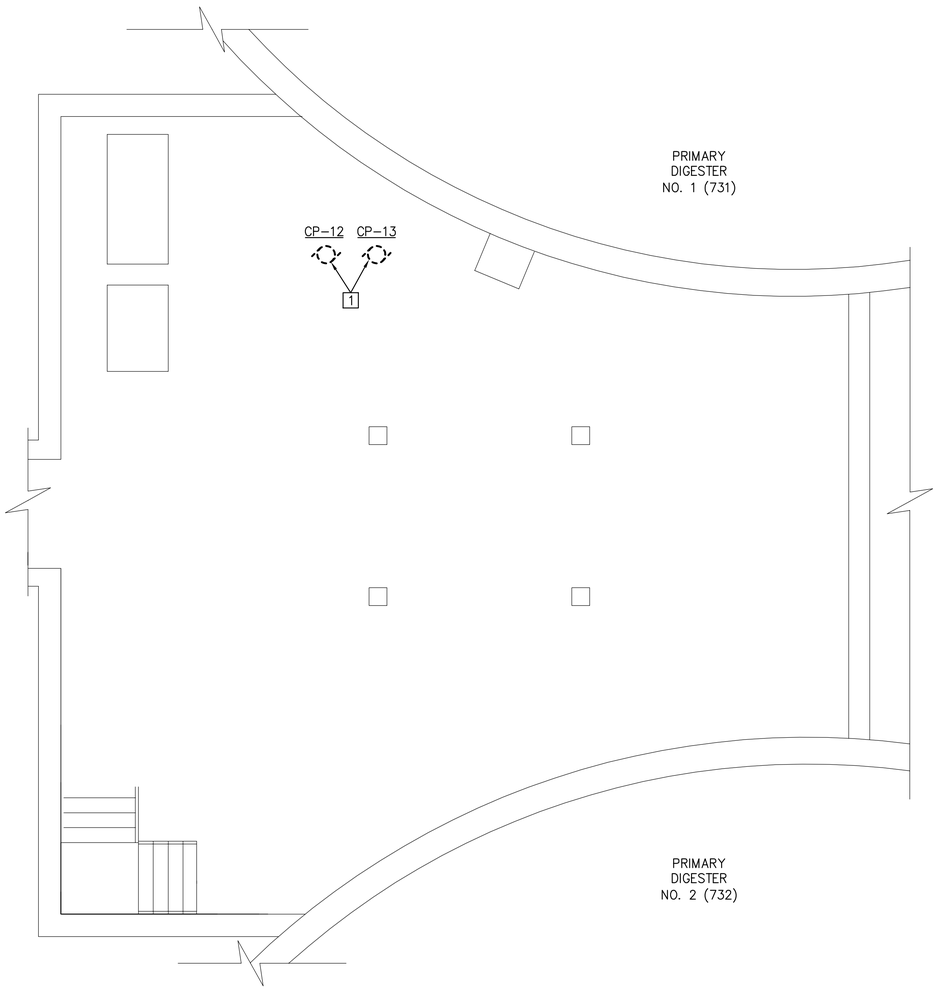
1. SEE DRAWING E–1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E–4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.
3. ALL WIRING, CONDUIT, AND ELECTRICAL EQUIPMENT IN THE PRIMARY DIGESTER BUILDING BASEMENT SHALL BE RATED FOR USE IN CLASS 1, DIVISION 2, GROUP D LOCATION PER THE 2005 NATIONAL ELECTRICAL CODE. PROVIDE SEAL–OFF FITTINGS REQUIRED FOR ALL CONDUIT AND WIRE ENTERING OR LEAVING THIS AREA.

DEMOLITION KEYNOTES (THIS DRAWING)

[1] DISCONNECT AND REMOVE ELECTRICAL DISCONNECT SWITCH AND ASSOCIATED CONDUIT AND WIRING BACK TO MCC–B (SEE DRAWING E–16 FOR LOCATION).

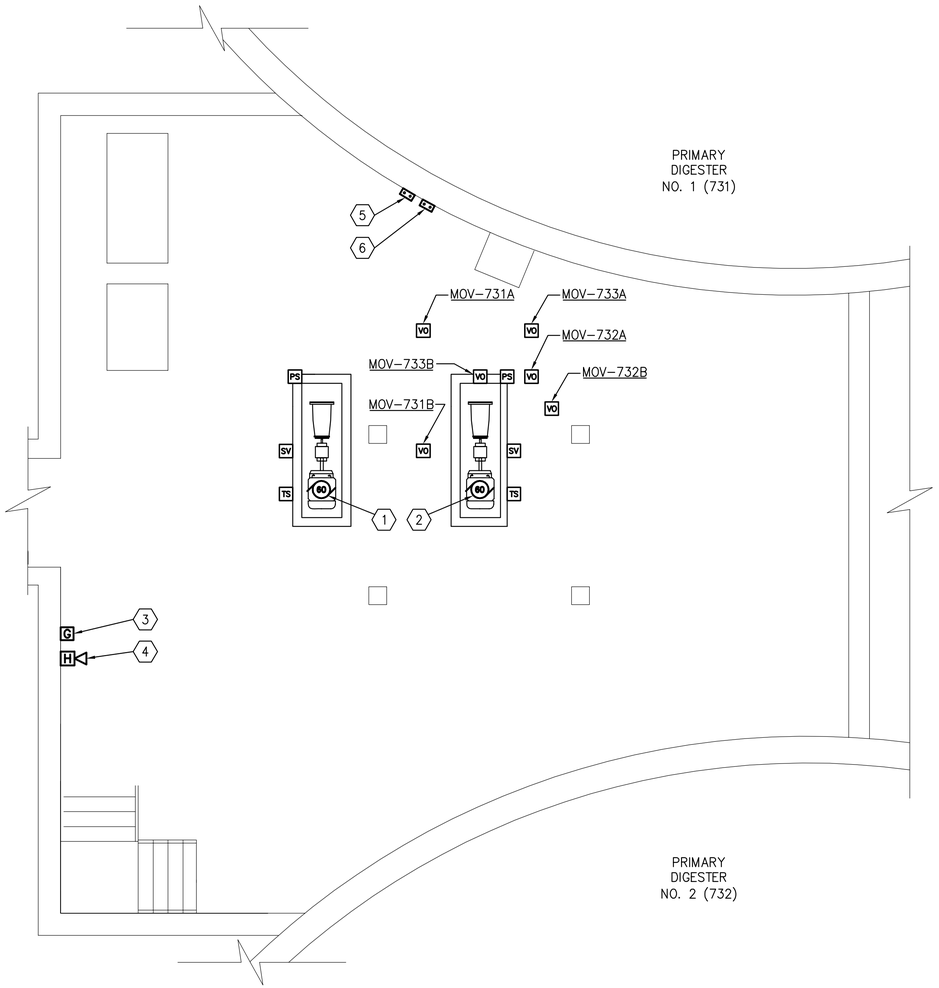
KEYNOTES (THIS DRAWING)

1. DIGESTER MIXING PUMP NO.1 (P–721).
2. DIGESTER MIXING PUMP NO.2 (P–722).
3. ZONE 1 GAS DETECTION SENSORS. MOUNT HYDROGEN SENSOR 3' AFF, MOUNT OXYGEN SENSOR 5' AFF, MOUNT LEL SENSOR 2' BELOW CEILING. SEE DRAWING E–16 FOR GAS DETECTION INTERCONNECT DIAGRAM.
4. PRIMARY DIGESTER BUILDING BASEMENT GAS DETECTION ALARM HORN. MOUNT HORN 8' AFF.
5. (6) OPEN/STOP/CLOSE LOCAL CONTROL STATIONS FOR PRIMARY DIGESTER SUCTION AND DISCHARGE VALVE ACTUATORS.
6. START/STOP LOCAL CONTROL STATION FOR DIGESTER MIXING PUMP NO.1 AND NO.2.



BASEMENT ELECTRICAL DEMOLITION PLAN

0 1' 2' 4' 8'



BASEMENT ELECTRICAL PROPOSED PLAN

0 1' 2' 4' 8'

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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DRAWN BY: RSL
CHECKED BY: CEC/SEM
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

PROJECT No.
J02570

DRAWING TITLE

DIGESTER BUILDING BASEMENT ELECTRICAL PLAN

DRAWING No.
E-14

DRAWING 34 OF 41

Mon, 07 Aug 2006 – 4:39pm Last Edited By: CEL Drawing Name: P:\J02570\Joliet Eastside Sludge\ELEC\E-14 (digester basement).dwg

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E-1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E-4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.
3. ALL MODIFICATIONS TO EXISTING SCC-B CONTROL PANEL AND TERMINATION OF CONTROL WIRES AT PANEL SHALL BE BY OWNER (CONTRACTOR SHALL LABEL ALL CONTROL WIRES THAT ARE BEING ADDED).
4. SEE DRAWING E-16 FOR GAS DETECTION SYSTEM INTERCONNECT DIAGRAM.
5. ALL WIRING, CONDUIT, AND ELECTRICAL EQUIPMENT IN AREAS WITH GAS HANDLING EQUIPMENT SHALL BE RATED FOR USE IN CLASS 1, DIVISION 2, GROUP D LOCATION PER THE 2005 NATIONAL ELECTRICAL CODE. PROVIDE SEAL-OFF FITTINGS REQUIRED FOR ALL CONDUIT AND WIRE ENTERING OR LEAVING THIS AREA.

DEMOLITION KEYNOTES (THIS DRAWING)

[1] EXISTING MCC-B. SEE MCC-B ELEVATION ON DRAWING E-16 FOR ADDITIONAL INFORMATION.

[2] RELOCATE EXISTING CONTROLLER FOR DIGESTED SLUDGE PUMP NO.1 (P-706) AND NO.2 (P-707). INTERCEPT EXISTING CONDUITS FEEDING INTO TOP OF CONTROLLER AND EXTEND CONDUIT AND WIRING AS REQUIRED TO NEW CONTROLLER LOCATION.

[3] DISCONNECT AND REMOVE EXISTING GAS DETECTION CONTROLLER AND ALL ASSOCIATED DETECTORS. REMOVE ALL CONDUIT AND CONDUCTORS BACK TO SOURCE.

[4] DISCONNECT ELECTRICAL TO EXISTING GAS COMPRESSOR AND REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT, CONDUIT AND CONDUCTORS BACK TO MCC-B.

[5] DISCONNECT AND REMOVE EXISTING CHART RECORDERS. REMOVE CONDUIT AND CONDUCTORS BACK TO EXISTING SCC-B CONTROL PANEL AND PANEL LP-B.

[6] EXISTING SCC-B CONTROL PANEL TO REMAIN.

[7] EXISTING 120V PANEL LP-B TO REMAIN.

[8] REMOVE EXISTING GAS COMPRESSOR CONTROL PANEL, PNEUMATIC TRANSDUCER, MANUAL MOTOR STARTER, AND ASSOCIATED ELECTRICAL.

[9] DISCONNECT ELECTRICAL TO DIGESTER TEMPERATURE CONTROL PANEL THAT WILL BE REPLACED. SEE KEYNOTE 9.

KEYNOTES (THIS DRAWING)

(1) EXISTING MCC-B. SEE MCC-B ELEVATION DRAWING E-16 FOR WORK REQUIRED IN MCC.

(2) GAS DETECTION CONTROLLER.

(3) ZONE 2 GAS DETECTION SENSORS. MOUNT HYDROGEN SENSOR 3' AFF, MOUNT OXYGEN SENSOR 5' AFF, MOUNT LEL SENSOR 2' BELOW CEILING.

(4) GAS DETECTION ALARM HORN. MOUNT HORN 8' AFF.

(5) YELLOW AND RED WARNING LIGHTS CONNECT TO GAS DETECTION CONTROLLER.

(6) RELOCATED CONTROLLER FOR DIGESTED SLUDGE PUMP NO.1 (P-706) AND NO.2 (P-707). PROVIDE 4" THICK CONCRETE HOUSEKEEPING PAD FOR CONTROLLER.

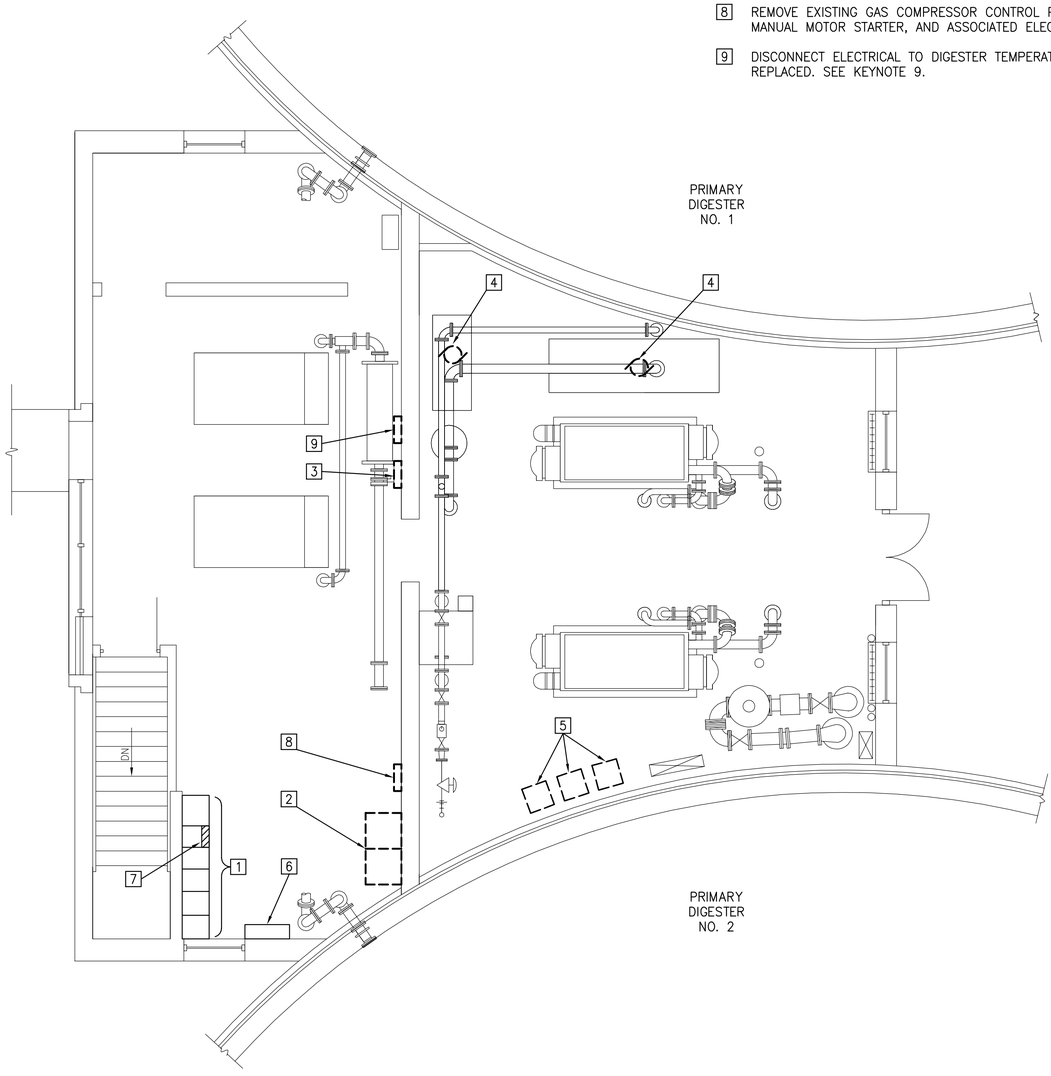
(7) PROVIDE 8"x8" NEMA 12 WIRE WAY TO INTERCEPT EXISTING CONDUITS PREVIOUSLY FEEDING INTO BOTTOM OF RELOCATED CONTROLLER. EXTEND WIRING AS REQUIRED THROUGH WIREWAY AND RECONNECT TO CONTROLLER AS REQUIRED.

(8) EXISTING SCC-B CONTROL PANEL (SEE NOTE 3).

(9) DIGESTER TEMPERATURE CONTROL PANEL. RECONNECT EXISTING CONDUIT AND WIRES AND PROVIDE NEW AS REQUIRED.

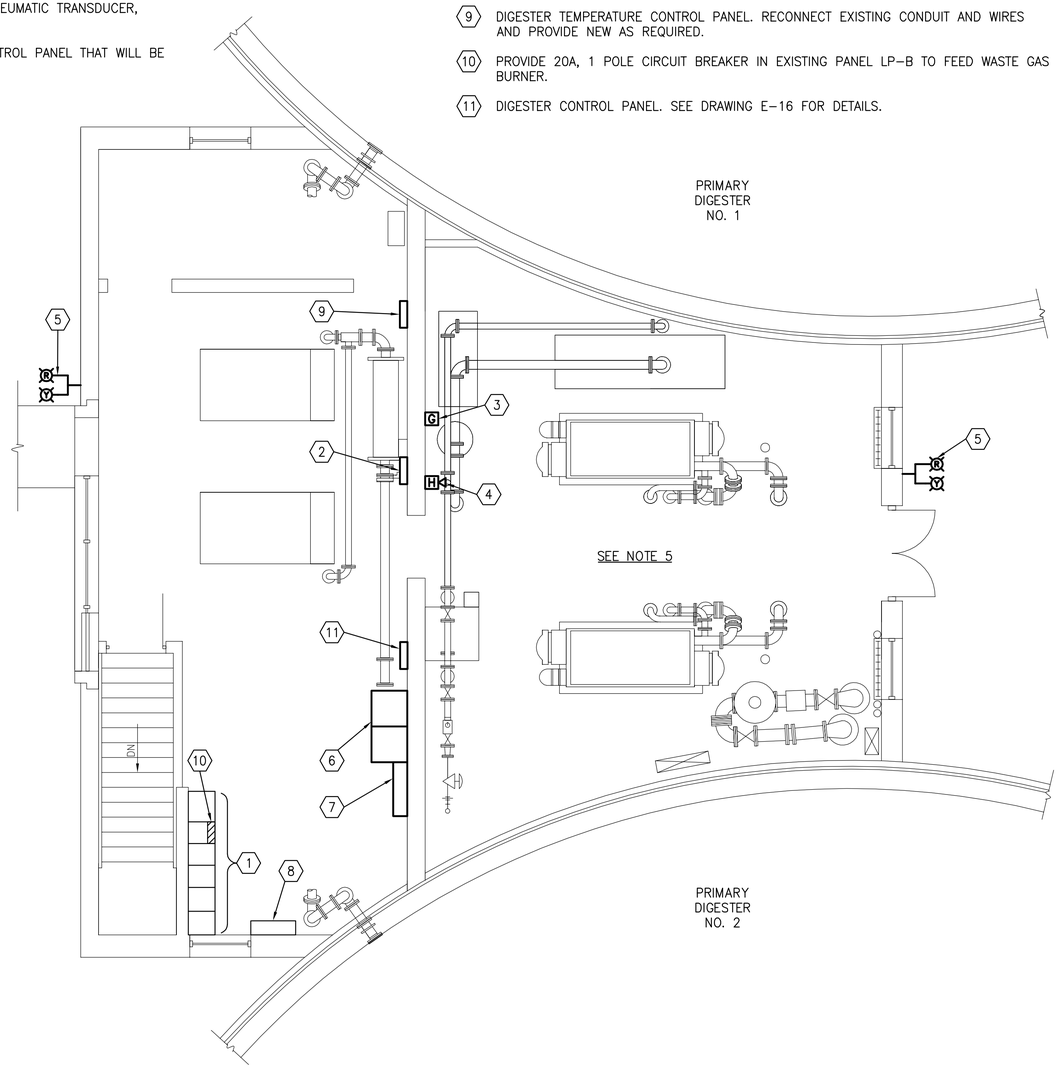
(10) PROVIDE 20A, 1 POLE CIRCUIT BREAKER IN EXISTING PANEL LP-B TO FEED WASTE GAS BURNER.

(11) DIGESTER CONTROL PANEL. SEE DRAWING E-16 FOR DETAILS.



FIRST FLOOR ELECTRICAL DEMOLITION PLAN

0 1' 2' 4' 8'



FIRST FLOOR ELECTRICAL PROPOSED PLAN

0 1' 2' 4' 8'

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
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DESIGN FIRM REGISTRATION No. 184-000450
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DRAWN BY: RSL
CHECKED BY: CEC/SEM
DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

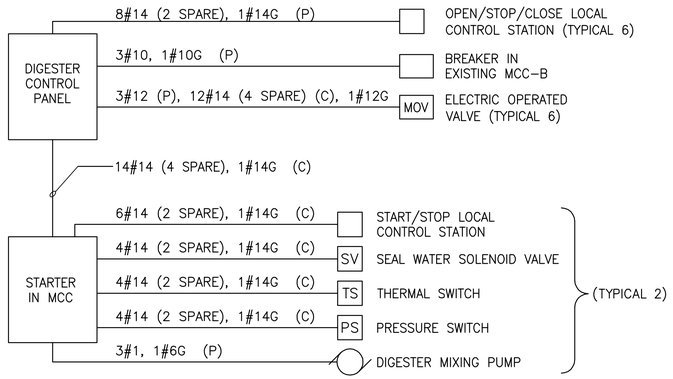
PROJECT No.
J02570

DRAWING TITLE
DIGESTER BUILDING FIRST FLOOR ELECTRICAL PLANS

DRAWING No.
E-15

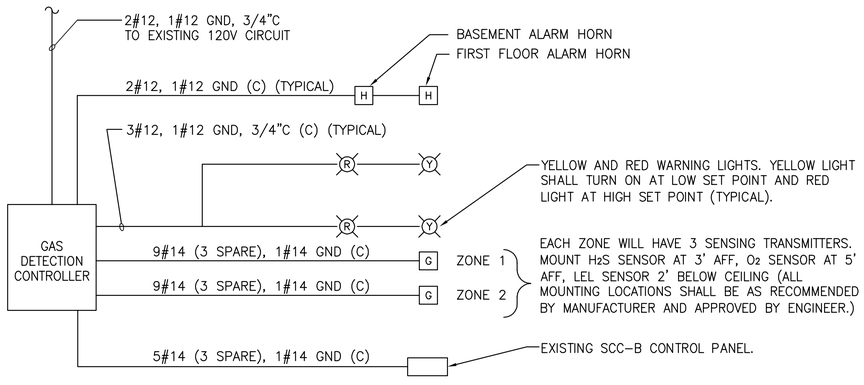
DRAWING 35 OF 41

Mon, 07 Aug 2006 - 4:39pm Last Edited By: CEL Drawing Name: P:\J02570\Joliet Eastside Sludge\ELEC\E-15 (digester 1st).dwg



DIGESTER CONTROL PANEL INTERCONNECT DIAGRAM

SCALE: NONE



DIGESTER BUILDING GAS DETECTION INTERCONNECT DIAGRAM

SCALE: NONE

ELECTRICAL NOTES (THIS DRAWING)

1. ALL WIRING, CONDUIT, AND ELECTRICAL EQUIPMENT IN THE PRIMARY DIGESTER BUILDING BASEMENT AND IN AREAS WITH GAS HANDLING EQUIPMENT SHALL BE RATED FOR USE IN CLASS 1, DIVISION 2, GROUP D LOCATION PER THE 2005 NATIONAL ELECTRICAL CODE. PROVIDE SEAL-OFF FITTINGS REQUIRED FOR ALL CONDUIT AND WIRE ENTERING OR LEAVING THIS AREA.

DEMOLITION KEYNOTES (THIS DRAWING)

[1] DISCONNECT AND REMOVE WIRING TO EXISTING STARTER FOR CP-13. LABEL STARTER AS SPARE.

[2] DISCONNECT WIRING TO AND REMOVE EXISTING STARTER ASSOCIATED WITH GAS BURNER SYSTEM BEING REMOVED.

[3] DISCONNECT AND REMOVE WIRING TO EXISTING STARTER FOR CP-12. LABEL STARTER AS SPARE.

KEYNOTES (THIS DRAWING)

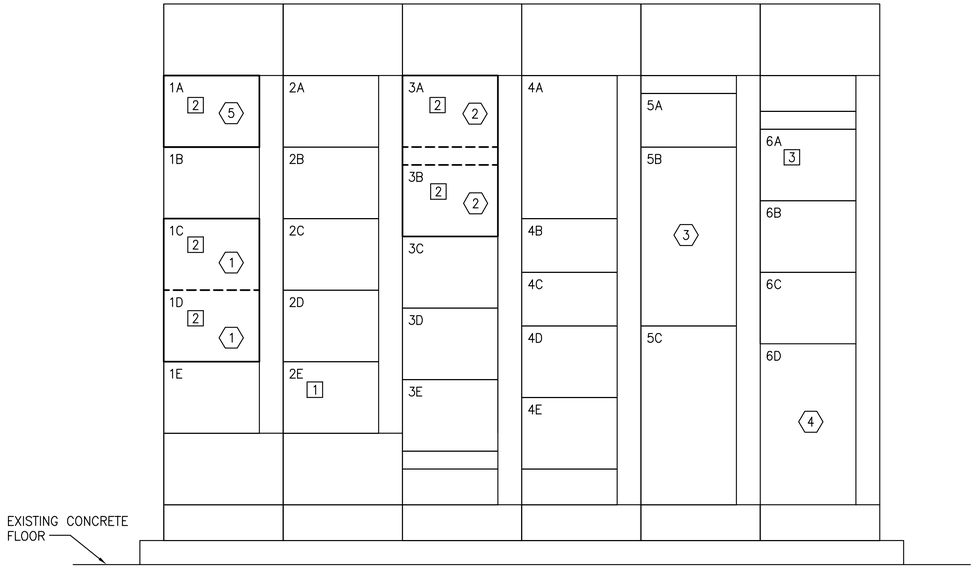
⟨1⟩ RECONFIGURE MCC BUCKET 1C AND 1D TO ACCEPT NEMA SIZE 4 COMBINATION STARTER WITH 110A MOTOR CIRCUIT PROTECTOR FOR DIGESTER MIXING PUMP NO.1.

⟨2⟩ RECONFIGURE MCC BUCKET 3A AND 3B TO ACCEPT NEMA SIZE 4 COMBINATION STARTER WITH 110A MOTOR CIRCUIT PROTECTOR FOR DIGESTER MIXING PUMP NO.2.

⟨3⟩ EXISTING 120V PANEL LP-B.

⟨4⟩ EXISTING MAIN CIRCUIT BREAKER. REPLACE EXISTING FEEDER CONDUCTORS. SEE DRAWING E-5 FOR DETAILS.

⟨5⟩ PROVIDE 30A, 3 POLE BREAKER TO FEED DIGESTER CONTROL PANEL.



MCC-B ELEVATION

SCALE: NONE

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
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DATE CHECKED: 07/06

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DATE REVISION

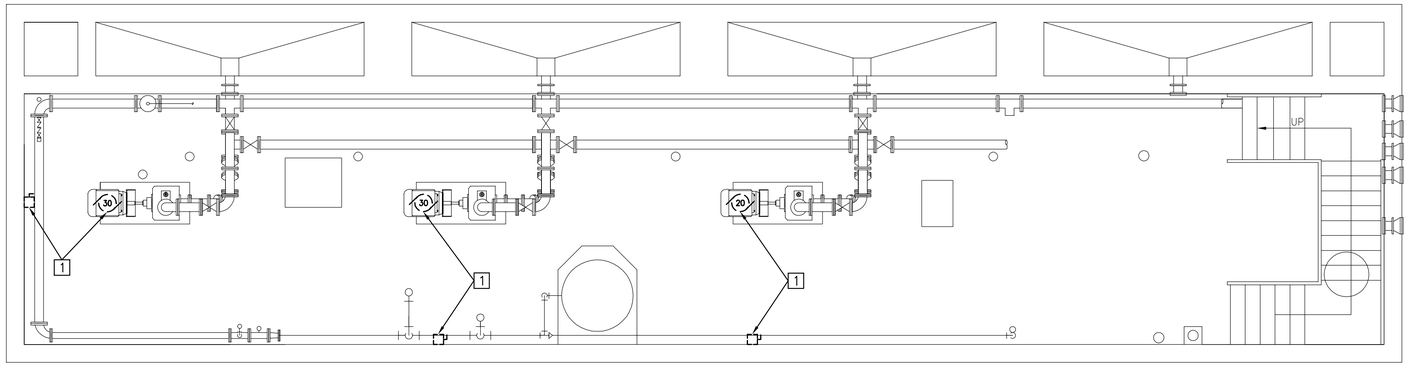
PROJECT No.
J02570

DRAWING TITLE
DIGESTER BUILDING MCC-B ELEVATION AND DETAILS

DRAWING No.
E-16

DRAWING 36 OF 41

Mon, 07 Aug 2006 - 4:39pm Last Edited By: CEL Drawing Name: P:\J02570\Joliet Eastside Sludge\ELEC\E-16 (digester details).dwg



BASEMENT ELECTRICAL DEMOLITION PLAN

0 1' 2' 4' 8'

ELECTRICAL NOTES (THIS DRAWING)

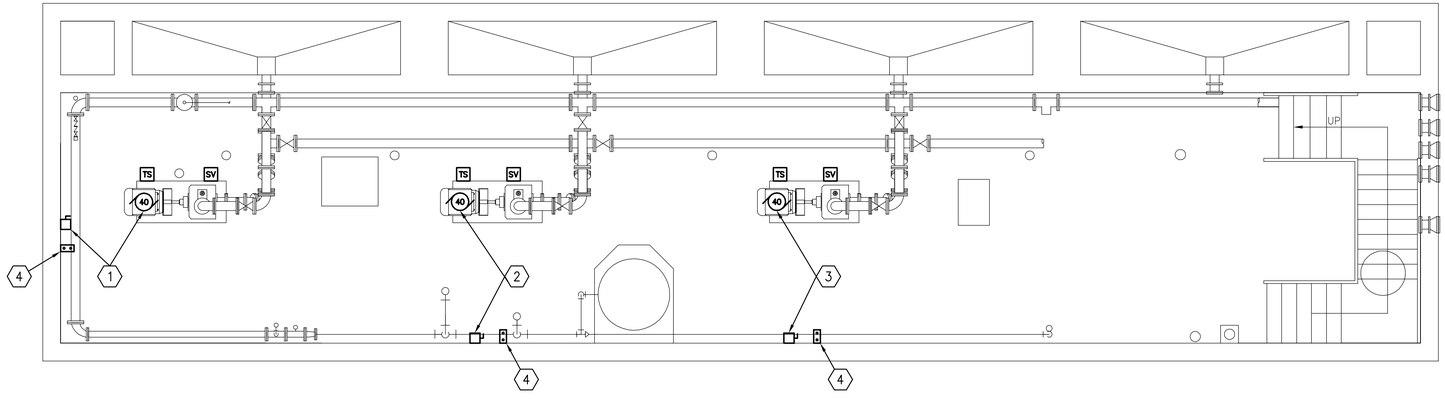
1. SEE DRAWING E-1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E-4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.

DEMOLITION KEYNOTES (THIS DRAWING)

[1] DISCONNECT AND REMOVE EXISTING DISCONNECT SWITCH AND ASSOCIATED WIRING BACK TO MCC-A (SEE DRAWING E-18 FOR LOCATION). REMOVE EXISTING CONDUIT AND WIRE FROM DISCONNECT SWITCH TO THICKENED SLUDGE TRANSFER PUMP MOTOR. EXISTING CONDUIT UP TO MCC-A SHALL REMAIN AND BE REUSED.

KEYNOTES (THIS DRAWING)

1. GRAVITY BELT THICKENER SLUDGE PUMP NO.3 (P-603). PROVIDE HEAVY DUTY, NEMA 12, NON-FUSIBLE, 100A, 3 POLE DISCONNECT SWITCH.
2. GRAVITY BELT THICKENER SLUDGE PUMP NO.2 (P-602). PROVIDE HEAVY DUTY, NEMA 12, NON-FUSIBLE, 100A, 3 POLE DISCONNECT SWITCH.
3. GRAVITY BELT THICKENER SLUDGE PUMP NO.1 (P-601). PROVIDE HEAVY DUTY, NEMA 12, NON-FUSIBLE, 100A, 3 POLE DISCONNECT SWITCH.
4. START/STOP LOCAL CONTROL STATION FOR GRAVITY BELT THICKENER SLUDGE PUMP.



BASEMENT ELECTRICAL PROPOSED PLAN

0 1' 2' 4' 8'

KEY PLAN
SOLIDS PROCESSING BUILDING

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

Clark Dietz
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DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

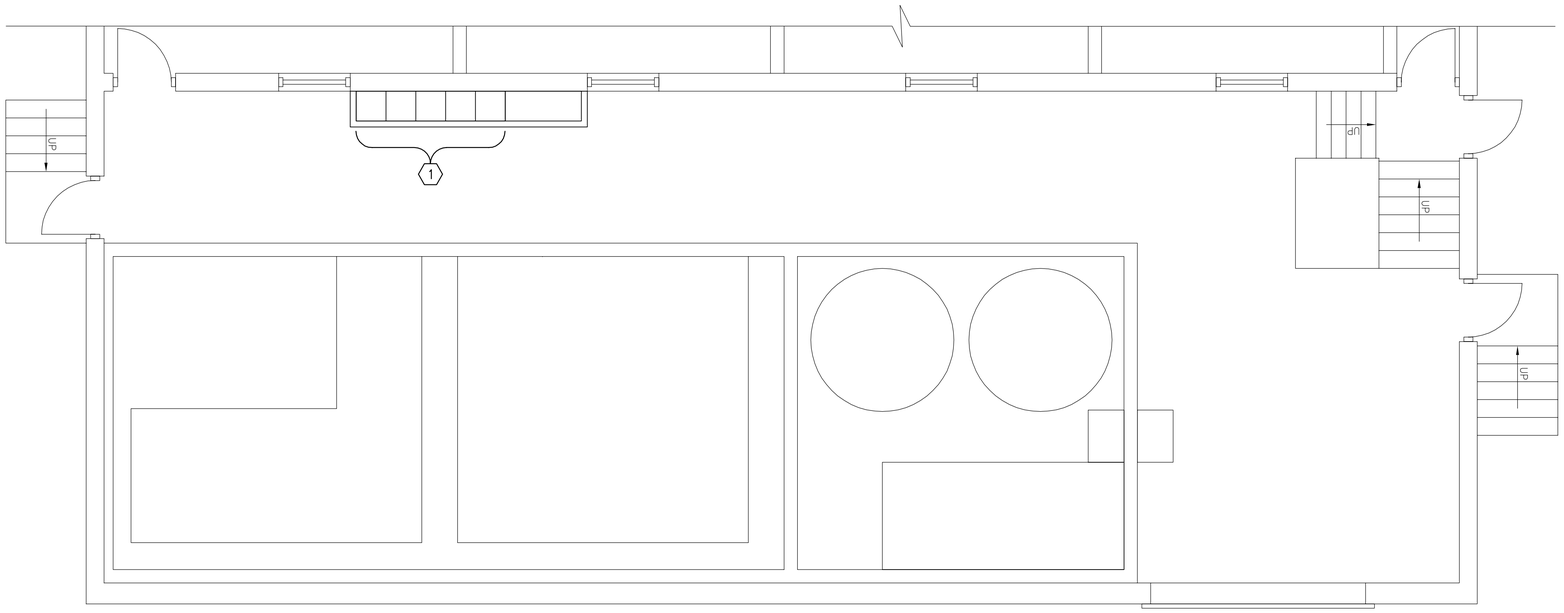
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
SOLIDS PROCESSING BUILDING BASEMENT ELECTRICAL PLANS

DRAWING No.
E-17

DRAWING 37 OF 41



FIRST FLOOR ELECTRICAL PLAN

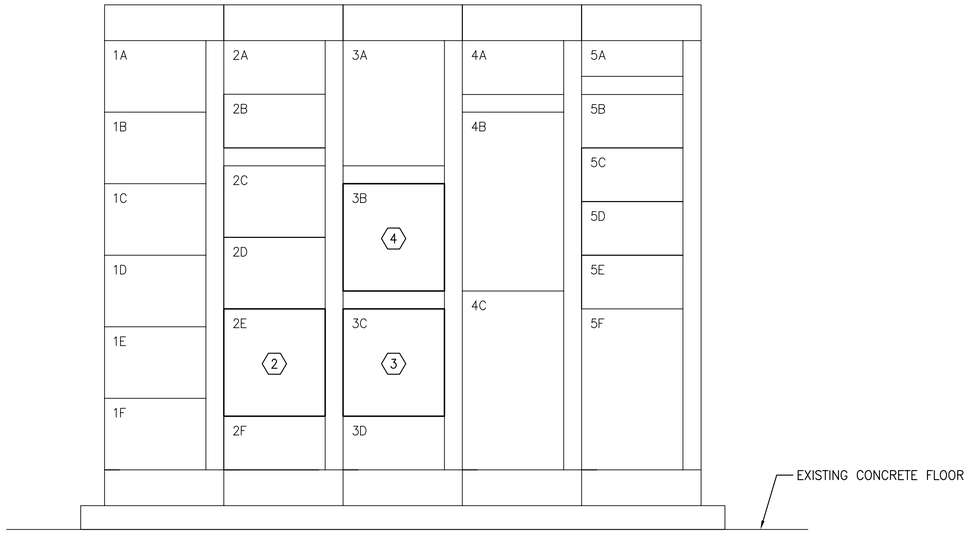
0 1' 2' 4' 8'

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E-1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E-4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.

KEYNOTES (THIS DRAWING)

1. EXISTING 400A, 480V, SQUARE D MODEL 5 MOTOR CONTROL CENTER MCC-A. SEE ELEVATION THIS DRAWING FOR ADDITIONAL INFORMATION.
2. REPLACE EXISTING COMBINATION STARTER FOR GRAVITY BELT THICKENER PUMP NO.1 (P-601) WITH NEW NEMA SIZE 3 COMBINATION STARTER WITH 90A MCP.
3. REPLACE EXISTING COMBINATION STARTER FOR GRAVITY BELT THICKENER PUMP NO.2 (P-602) WITH NEW NEMA SIZE 3 COMBINATION STARTER WITH 90A MCP.
4. REPLACE EXISTING COMBINATION STARTER FOR GRAVITY BELT THICKENER PUMP NO.3 (P-603) WITH NEW NEMA SIZE 3 COMBINATION STARTER WITH 90A MCP.



MCC-A ELEVATION

SCALE: NONE

KEY PLAN
SOLIDS PROCESSING BUILDING

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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DATE CHECKED: 07/06

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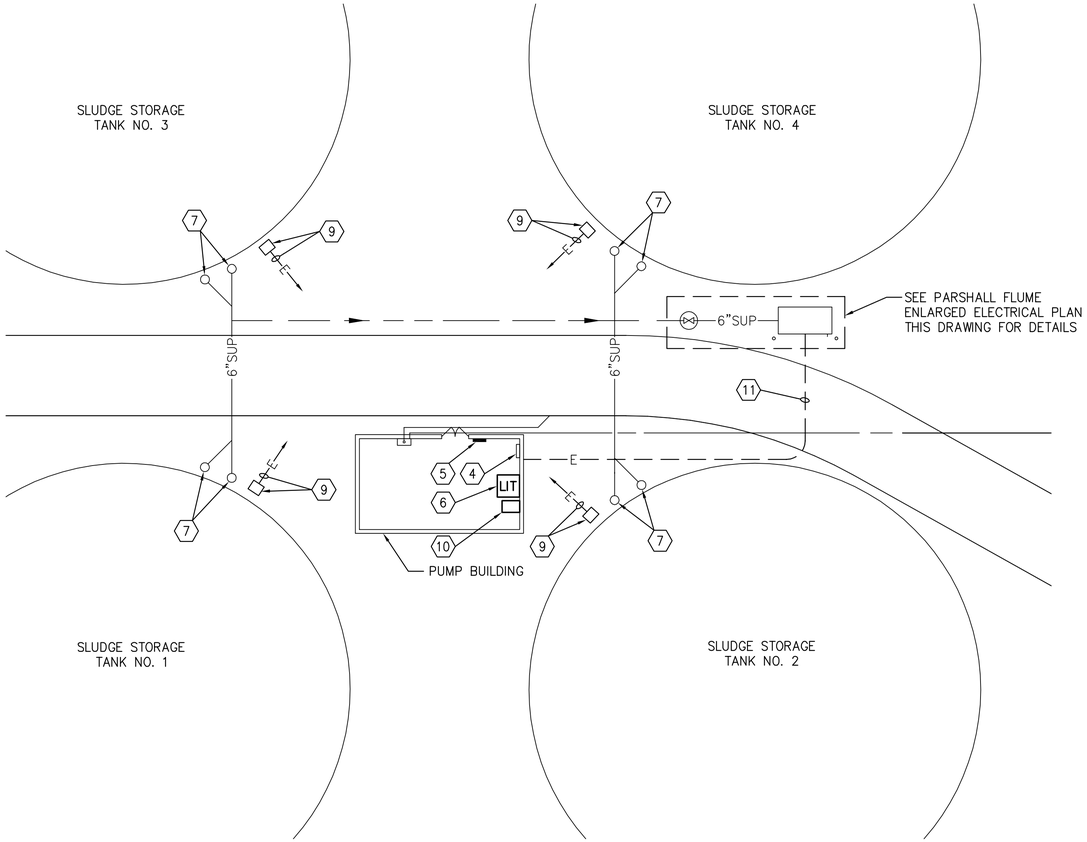
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
SOLIDS PROCESSING BUILDING FIRST FLOOR ELECTRICAL PLAN AND MCC-A ELEVATION

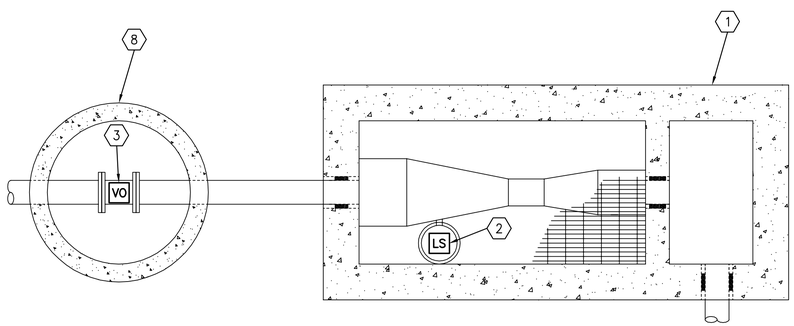
DRAWING No.
E-18

Mon, 07 Aug 2006 - 4:38pm Last Edited By: CBL Drawing Name: P:\J02570\Joliet Eastside Sludge\ELEC\E-18 (solids ii processing).dwg



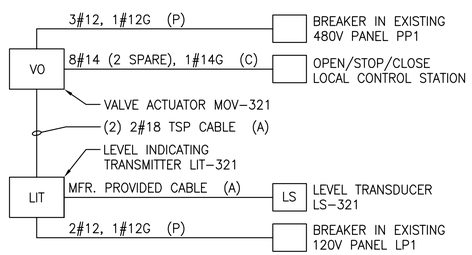
SLUDGE STORAGE ENLARGED ELECTRICAL PLAN

0 4' 8' 16' 32'



PARSHALL FLUME ENLARGED ELECTRICAL PLAN

0 1' 2' 4' 8'



SLUDGE SUPERNATANT LINE VALVE ACTUATOR INTERCONNECT DIAGRAM

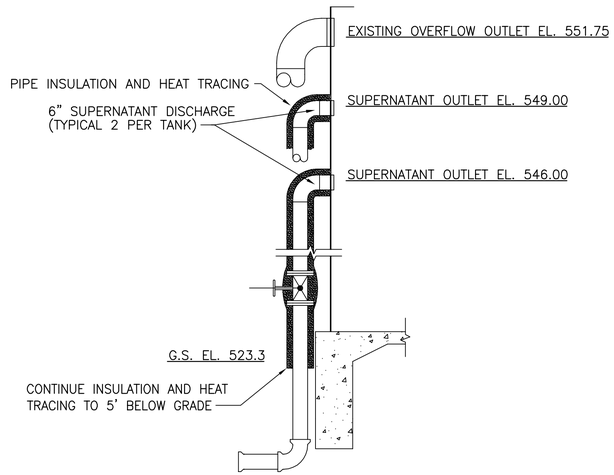
SCALE: NONE

ELECTRICAL NOTES (THIS DRAWING)

1. SEE DRAWING E-1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.
2. SEE PROCESS MOTOR SCHEDULE ON DRAWING E-4 FOR ADDITIONAL INFORMATION ON MOTOR LOADS.
3. SAWCUT AND PATCH EXISTING ROAD AS REQUIRED FOR UNDERGROUND CONDUITS (PATCH ROAD TO MATCH EXISTING SURFACE).

KEYNOTES (THIS DRAWING)

1. PARSHALL FLUME.
2. LEVEL TRANSDUCER LS-321 SHALL BE MOUNTED IN LEVEL WELL PER MANUFACTURER RECOMMENDATIONS. PROVIDE 1" RGS UNDERGROUND CONDUIT WITH MANUFACTURER PROVIDED CABLE FROM TRANSDUCER TO LEVEL TRANSMITTER IN PUMP BUILDING.
3. SLUDGE SUPERNATANT LINE VALVE ACTUATOR MOV-321. PROVIDE 3#12, 1#12G, 1" RGS C. UNDERGROUND FROM VALVE ACTUATOR TO 480V PANEL PP1 IN PUMP BUILDING.
4. EXISTING 480V PANEL PP1. PROVIDE (1) 20A, 3 POLE BREAKER TO FEED VALVE ACTUATOR.
5. EXISTING 120V LIGHTING PANEL LP1. PROVIDE (5) 20A, SINGLE POLE BREAKERS TO FEED HEAT TRACE CONTROLLERS AND LEVEL INDICATING TRANSMITTER LIT-321.
6. LEVEL INDICATING TRANSMITTER LIT-321 SHALL BE WALL MOUNTED 48" AFF. PROVIDE 2#12, 1#12G, 3/4" C. FROM TRANSMITTER TO EXISTING PANEL LP1.
7. PROVIDE HEAT TRACING OF SUPERNATANT DISCHARGE PIPING PER SUPERNATANT DISCHARGE PIPE DETAIL THIS DRAWING.
8. 4' DIAMETER MANHOLE.
9. PROVIDE HEAT TRACE CABLE, CONTROLLER, AND TEMPERATURE SENSOR. MOUNT TO STRUT TYPE SUPPORT SYSTEM ANCHORED TO TANK FOUNDATION. PROVIDE 2#10, 1#10G, 3/4" RGS UNDERGROUND CONDUIT FROM CONTROLLER TO EXISTING PANEL LP1 IN PUMP BUILDING.
10. OPEN/STOP/CLOSE LOCAL CONTROL STATION FOR MOV-321.
11. UNDERGROUND CONDUITS.



SUPERNATANT DISCHARGE PIPES

SCALE: NONE

NOTES:

1. PROVIDE HEAT TRACE CABLE, CONTROLLER, AND TEMPERATURE SENSOR FOR ALL SUPERNATANT PIPING AT SLUDGE STORAGE TANKS. SEE SPECIFICATIONS FOR REQUIREMENTS.
2. PIPING INSULATION SHALL BE PROVIDED PER DRAWING PR-14.
3. INSTALL HEAT TRACE CABLE, CONTROLLER AND TEMPERATURE SENSOR PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.
4. MOUNT CONTROLLER TO STRUT TYPE SUPPORT SYSTEM ANCHORED TO TANK FOUNDATION.

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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DATE CHECKED: 07/06

NOTE: DIMENSIONAL DATA IS NOT TO BE OBTAINED BY SCALING ANY PORTION OF THIS DRAWING.

DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
SLUDGE STORAGE ELECTRICAL PLANS AND NOTES

DRAWING No.
E-19

DRAWING 39 OF 41

Mon, 07 Aug 2006 - 4:37pm Last Edited By: CEL Drawing Name: P:\J02570\Joliet Eastside Sludge\ELEC\E-19 (pump building).dwg

ELECTRICAL NOTES (THIS DRAWING)

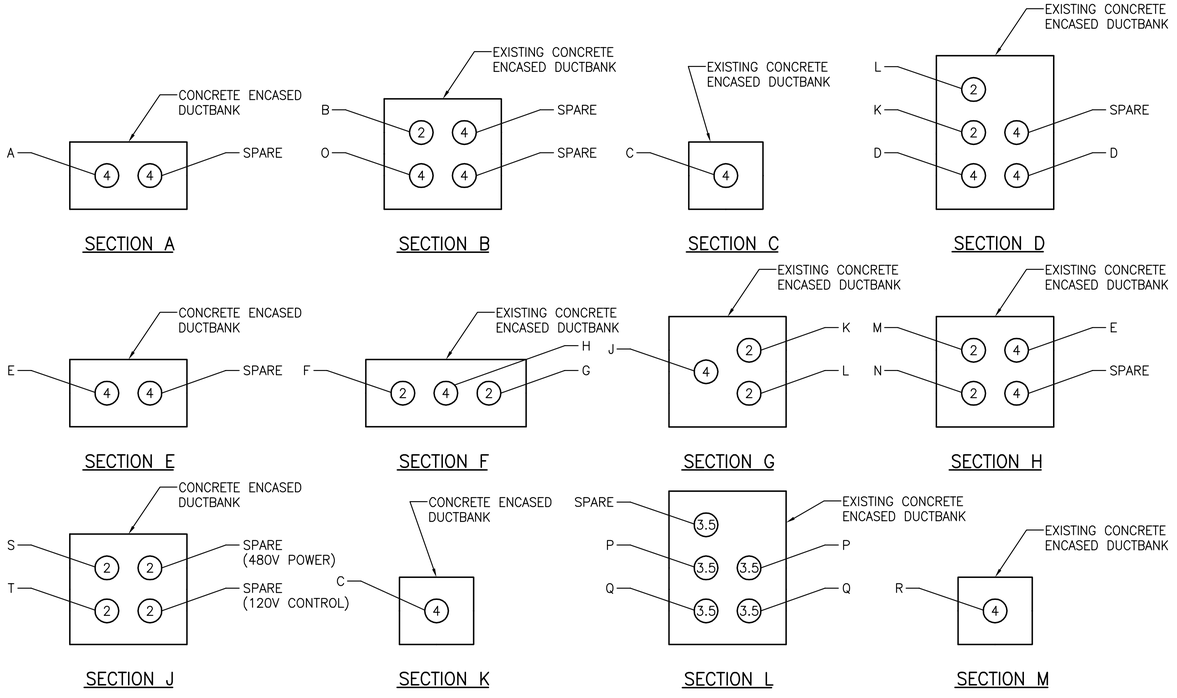
1. SEE DRAWING E-1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.

DUCTBANK CABLE SCHEDULE

MARK	FROM	TO	WIRE
A	PMG-2	FEEDER BAY ON EXISTING PMG-1	3#2/0 (5KV)
B	BLOWER BUILDING	CONTROL BUILDING	EXISTING CONTROL WIRING
C	MSWB-1	EXISTING MCC-C	3#350, 1#3 GRD (480V)
D	EXISTING I-LINE PANELBOARD	EXISTING MCC-B	REMOVE EXISTING 3#350 (480V)
E	PMG-2	EXISTING TRANSFORMER T-3	3#6 (5KV)
F	EXISTING LV MANHOLE MH3	EXISTING MCC-E	EXISTING CONTROL WIRING
G	EXISTING LV MANHOLE MH3	EXISTING MCC-E	EXISTING SIGNAL WIRING
H	EXISTING I-LINE PANELBOARD	EXISTING MCC-E	REMOVE EXISTING 6#350 (480V)
J	MSWB-1	EXISTING MCC-B	3#600, 1#3 GRD (480V)
K	EXISTING LV MANHOLE MH3	EXISTING MCC-B	EXISTING CONTROL WIRING
L	EXISTING LV MANHOLE MH3	EXISTING MCC-B	EXISTING SIGNAL WIRING
M	EXISTING HANDHOLE HH1	SOLIDS PROCESSING BUILDING	EXISTING CONTROL WIRING
N	EXISTING HADNHOLE HH1	SOLIDS PROCESSING BUILDING	EXISTING SIGNAL WIRING
O	EXISTING PMG-2	EXISTING PMG-1	REMOVE EXISTING 5KV CABLES
P	MSWB-1	EXISTING MCC-E	3#350, 1#2 GRD (480V)
Q	MSWB-1	EXISTING C.B. ENGINE ROOM PANEL	3#350, 1#1 GRD (480V)
R	EXISTING I-LINE PANELBOARD	EXISTING MCC-C	REMOVE EXISTING 3#500 (480V)
S	(4) PRIMARY TANK GEAR DRIVE MOTORS	EXISTING MCC-E	12#10, 4#10G (480V)
T	(4) PRIMARY TANK GEAR DRIVE MOTORS	EXISTING MCC-E	40#14 (20 SPARE), 4#14G (CONTROL)

NOTES:

1. ALL CONDUIT IN DUCTBANK SHALL BE PVC, EXCEPT FOR THE FIRST TEN FEET OF CONDUIT LEAVING A BUILDING, STRUCTURE, MANHOLE, OR HANDHOLE WHICH SHALL BE RGS, UNLESS OTHERWISE NOTED.
2. ALL CABLES SHALL BE NEW FROM POINT TO POINT UNLESS INDICATED AS EXISTING WIRING.



DUCTBANK SECTIONS

SCALE: NONE

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
EASTSIDE WWTP DIGESTER IMPROVEMENTS

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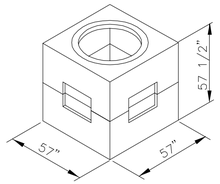
DATE REVISION

PROJECT No.
J02570

DRAWING TITLE
ELECTRICAL DETAILS

DRAWING No.
E-20

DRAWING 40 OF 41



DIMENSIONS

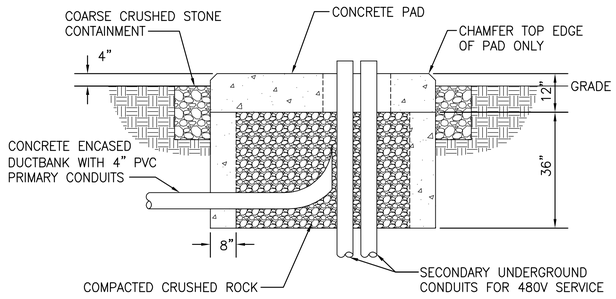
	LENGTH	WIDTH	HEIGHT
	IN.	IN.	IN.
INSIDE	48	48	48
OUTSIDE	57	57	57 1/2
MIN. EXCAVATION HOLE SIZE	63	63	--

	THICKNESS		WEIGHT
	IN.		LBS.
WALL	3 3/4	TOP	2,597
BEAM	NONE	BOTTOM	2,974
ROOF	5	TOTAL	5,571
FLOOR	4 1/2		

NOTES:

1. HANDHOLE AND HANDHOLE ACCESSORIES SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR.

HANDHOLE DETAIL
SCALE: NONE



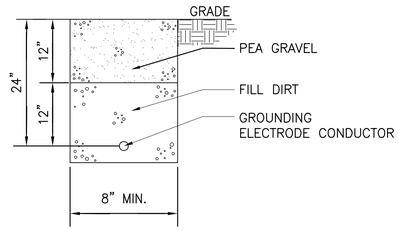
SECTION R–R
SCALE: NONE

ELECTRICAL NOTES (THIS DRAWING)

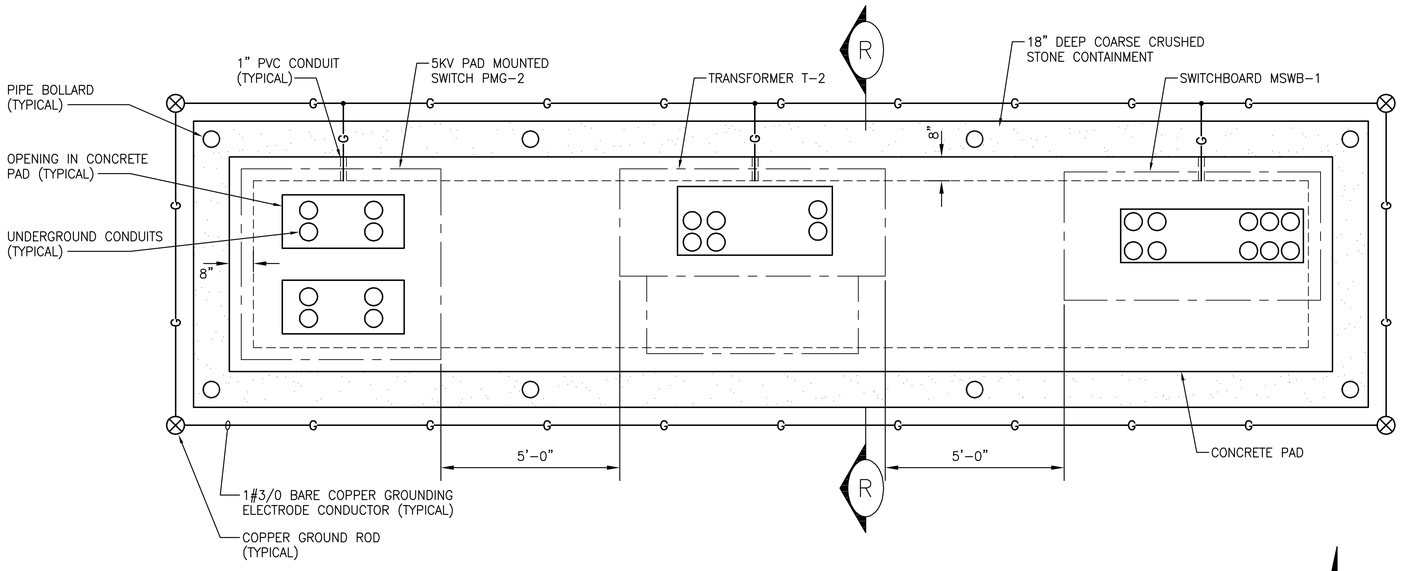
1. SEE DRAWING E–1 FOR GENERAL NOTES, SYMBOL LIST AND SUGGESTED SEQUENCE OF CONSTRUCTION.

ELECTRICAL EQUIPMENT PAD NOTES

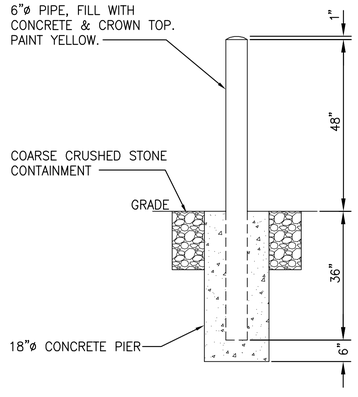
1. PAD TO BE INSTALLED ON 12" COMPACTED CRUSHED ROCK BASE. INSTALL REINFORCING BARS.
2. EXACT LOCATIONS OF CONDUIT STUBS MAY VARY, COORDINATE EXACT LOCATIONS PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH PROVIDED EQUIPMENT.
4. CONCRETE PAD SHALL EXTEND 4" PAST EDGE OF ELECTRICAL EQUIPMENT.



GROUNDING ELECTRODE CONDUCTOR TRENCH DETAIL
SCALE: NONE



PAD MOUNTED ELECTRICAL EQUIPMENT DETAIL – PLAN VIEW
SCALE: NONE



PIPE BOLLARD DETAIL
SCALE: NONE

PROJECT INFORMATION

CITY OF JOLIET, ILLINOIS
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PROJECT No.
J02570

DRAWING TITLE
ELECTRICAL DETAILS

DRAWING No.
E-21

DRAWING 41 OF 41

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