OAK CREEK WATER AND SEWER UTILITY
OAK CREEK, WISCONSIN
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER
MARCH 2011

WISCONSIN
CHARLES E. CRADDOCK
E-31555
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EXPIRES JULY 31, 2012
SIGNATURE
2/3/11
DATE

G-00-101 THRU G-00-103
E-00-101 THRU E-30-302
S-10-101 THRU S-20-103

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C-20-101
PR-00-101 THRU PR-30-101

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A-00-101 THRU A-30-104
(ARCHITECTURAL ONLY)

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A-00-101 THRU A-30-104
(STRUCTURAL ONLY)

WISCONSIN
KENDRICK R. PAYNE
27939
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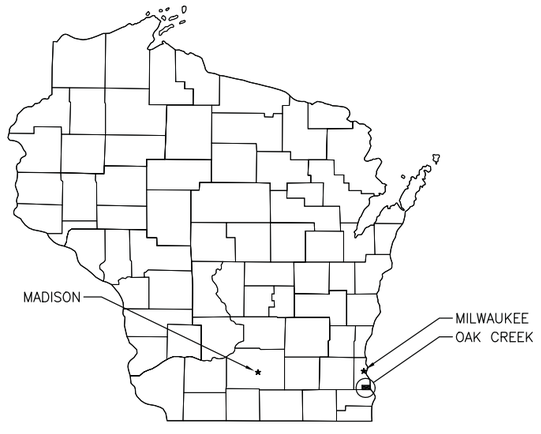
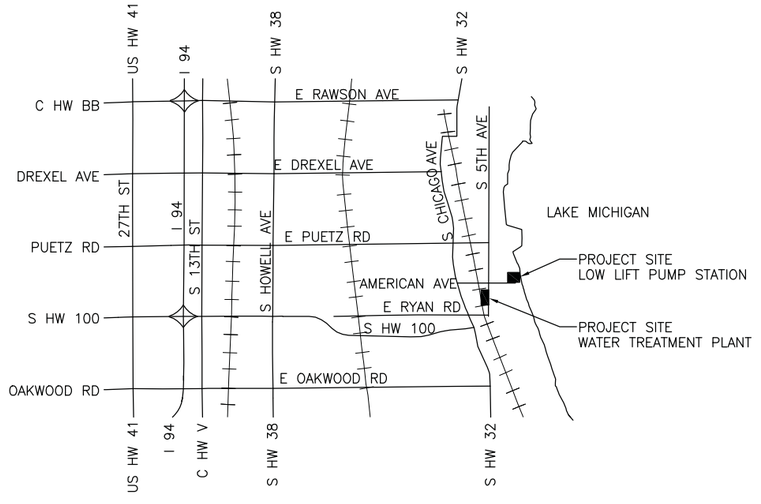
EXPIRES JULY 31, 2012
SIGNATURE
2/3/11
DATE

P-00-101 THRU P-30-201
HV-00-101 THRU HV-30-202
S-10-101 THRU S-20-103



STATE LOCATION MAP



PROJECT LOCATION MAP

FOR CONSTRUCTION

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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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

DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
COVER SHEET

PROJECT No.
00130014

DRAWING No.
G-00-101

SHEET 001 OF 088 SHEETS

INDEX OF DRAWINGS

GENERAL

SHEET NO.	DRAWING NO.	DRAWING TITLE
001	G-00-101	COVER SHEET
002	G-00-102	INDEX OF DRAWINGS
003	G-00-103	OVERALL SITE PLAN AND STAGING ENLARGED PLANS

CIVIL

SHEET NO.	DRAWING NO.	DRAWING TITLE
004	C-20-101	LOW LIFT PUMP STATION – CIVIL SITE PLAN

ARCHITECTURAL

SHEET NO.	DRAWING NO.	DRAWING TITLE
005	A-00-101	ARCHITECTURAL GENERAL NOTES
006	A-00-102	STRUCTURAL GENERAL NOTES AND ABBREVIATIONS
007	A-10-101	ADMINISTRATION AND FILTRATION FACILITY – ENLARGED FIRST FLOOR ARCHITECTURAL DEMOLITION PLAN
008	A-10-201	ADMINISTRATION AND FILTRATION FACILITY – ENLARGED FIRST FLOOR ARCHITECTURAL PLAN
009	A-10-202	ADMINISTRATION AND FILTRATION FACILITY – ENLARGED ROOF ARCHITECTURAL PLAN
010	A-10-301	ADMINISTRATION AND FILTRATION FACILITY – ARCHITECTURAL EXTERIOR ELEVATIONS
011	A-10-401	ADMINISTRATION AND FILTRATION FACILITY – STRUCTURAL SECTIONS AND DETAILS
012	A-10-402	ADMINISTRATION AND FILTRATION FACILITY – STRUCTURAL SECTIONS AND DETAILS
013	A-20-101	LOW LIFT PUMP STATION – ARCHITECTURAL DEMOLITION PLAN
014	A-20-201	LOW LIFT PUMP STATION – FIRST FLOOR ARCHITECTURAL PLAN
015	A-20-301	LOW LIFT PUMP STATION – ARCHITECTURAL EXTERIOR ELEVATIONS
016	A-20-401	LOW LIFT PUMP STATION – MEZZANINE STRUCTURAL PLAN AND DETAILS
017	A-20-402	LOW LIFT PUMP STATION – STRUCTURAL PLANS AND SECTIONS
018	A-30-101	ARCHITECTURAL DETAILS AND SCHEDULES
019	A-30-102	ARCHITECTURAL DETAILS
020	A-30-103	STRUCTURAL DETAILS
021	A-30-104	STRUCTURAL DETAILS

PROCESS

SHEET NO.	DRAWING NO.	DRAWING TITLE
022	PR-00-101	PROCESS GENERAL NOTES, LEGEND, AND ABBREVIATIONS
023	PR-20-101	LOW LIFT PUMP STATION – FIRST FLOOR PROCESS DEMOLITION PLAN
024	PR-20-201	LOW LIFT PUMP STATION – FIRST FLOOR PROCESS PLAN
025	PR-20-301	LOW LIFT PUMP STATION – POTASSIUM PERMANGANATE P&ID
026	PR-30-101	PROCESS DETAILS

PLUMBING

SHEET NO.	DRAWING NO.	DRAWING TITLE
027	P-00-101	PLUMBING GENERAL NOTES, LEGEND, AND ABBREVIATIONS
028	P-10-001	WATER TREATMENT PLANT – PLUMBING SITE PLAN
029	P-10-101	ADMINISTRATION AND FILTRATION FACILITY – FIRST FLOOR PLUMBING DEMOLITION PLAN
030	P-10-102	ADMINISTRATION AND FILTRATION FACILITY – LOWER LEVEL PLUMBING DEMOLITION PLAN
031	P-10-201	ADMINISTRATION AND FILTRATION FACILITY – ENLARGED FIRST FLOOR PLUMBING PLAN
032	P-10-202	ADMINISTRATION AND FILTRATION FACILITY – LOWER LEVEL PLUMBING PLAN
033	P-20-101	LOW LIFT PUMP STATION – FIRST FLOOR PLUMBING DEMOLITION PLAN
034	P-20-102	LOW LIFT PUMP STATION – MEZZANINE PLUMBING DEMOLITION PLAN
035	P-20-201	LOW LIFT PUMP STATION – FIRST FLOOR PLUMBING PLAN
036	P-20-202	LOW LIFT PUMP STATION – MEZZANINE PLUMBING PLAN
037	P-30-101	PLUMBING EQUIPMENT SCHEDULES AND DETAILS
038	P-30-201	PLUMBING DETAILS

HEATING/VENTILATION

SHEET NO.	DRAWING NO.	DRAWING TITLE
039	HV-00-101	HEATING/VENTILATION GENERAL NOTES, LEGEND, AND ABBREVIATIONS
040	HV-10-101	ADMINISTRATION AND FILTRATION FACILITY – FIRST FLOOR HEATING/VENTILATION DEMOLITION PLAN
041	HV-10-201	ADMINISTRATION AND FILTRATION FACILITY – ENLARGED FIRST FLOOR HEATING/VENTILATION PLAN
042	HV-20-101	LOW LIFT PUMP STATION – FIRST FLOOR HEATING/VENTILATION DEMOLITION PLAN
043	HV-20-102	LOW LIFT PUMP STATION – MEZZANINE HEATING/VENTILATION DEMOLITION PLAN
044	HV-20-201	LOW LIFT PUMP STATION – FIRST FLOOR HEATING/VENTILATION PLAN
045	HV-20-202	LOW LIFT PUMP STATION – MEZZANINE HEATING/VENTILATION PLAN
046	HV-30-101	HEATING EQUIPMENT SCHEDULES
047	HV-30-102	HEATING EQUIPMENT SCHEDULES
048	HV-30-201	HEATING DETAILS
049	HV-30-202	HEATING DETAILS

ELECTRICAL

SHEET NO.	DRAWING NO.	DRAWING TITLE
050	E-00-101	ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS
051	E-10-101	WATER TREATMENT PLANT – ELECTRICAL SITE PLAN
052	E-10-201	ADMINISTRATION AND FILTRATION FACILITY – FIRST FLOOR ELECTRICAL DEMOLITION PLAN
053	E-10-202	ADMINISTRATION AND FILTRATION FACILITY – ENLARGED FIRST FLOOR ELECTRICAL DEMOLITION PLAN
054	E-10-203	ADMINISTRATION AND FILTRATION FACILITY – LOWER LEVEL ELECTRICAL DEMOLITION PLAN
055	E-10-301	ADMINISTRATION AND FILTRATION FACILITY – ENLARGED FIRST FLOOR LIGHTING AND SPECIAL SYSTEMS PLAN
056	E-10-401	ADMINISTRATION AND FILTRATION FACILITY – FIRST FLOOR POWER PLAN
057	E-10-402	ADMINISTRATION AND FILTRATION FACILITY – ENLARGED FIRST FLOOR POWER PLAN
058	E-10-403	ADMINISTRATION AND FILTRATION FACILITY – FIRST FLOOR POWER PLAN
059	E-10-404	ADMINISTRATION AND FILTRATION FACILITY – LOWER LEVEL POWER PLAN
060	E-10-501	PRETREATMENT FACILITY – FIRST FLOOR POWER PLAN
061	E-10-601	WATER TREATMENT PLANT – POWER ONE-LINE DIAGRAM
062	E-10-602	WATER TREATMENT PLANT – POWER AND GROUNDING ONE-LINE DIAGRAMS
063	E-10-701	ADMINISTRATION AND FILTRATION FACILITY – 2.4 KV SWITCHGEAR SCHEDULE AND ELEVATION
064	E-10-702	ADMINISTRATION AND FILTRATION FACILITY – MCC-4 SCHEDULE AND ELEVATION
065	E-10-703	ADMINISTRATION AND FILTRATION FACILITY – ATS-101 AND MCC-8 SCHEDULE AND ELEVATION
066	E-20-201	LOW LIFT PUMP STATION – FIRST FLOOR ELECTRICAL DEMOLITION PLAN
067	E-20-301	LOW LIFT PUMP STATION – FIRST FLOOR LIGHTING AND SPECIAL SYSTEMS PLAN
068	E-20-401	LOW LIFT PUMP STATION – FIRST FLOOR POWER PLAN
069	E-20-402	LOW LIFT PUMP STATION – MEZZANINE POWER PLAN
070	E-20-601	LOW LIFT PUMP STATION – POWER ONE-LINE DIAGRAM
071	E-20-602	LOW LIFT PUMP STATION – GROUNDING ONE-LINE DIAGRAM
072	E-20-701	LOW LIFT PUMP STATION – MCC-2, ATS-102, AND PANEL A SCHEDULE AND ELEVATION
073	E-20-702	LOW LIFT PUMP STATION – PLC-G ENCLOSURE
074	E-30-101	EQUIPMENT CONNECTION SCHEDULE
075	E-30-102	LIGHT FIXTURE SCHEDULE, DUCTBANK SCHEDULE, AND SECTIONS
076	E-30-103	ACCESS CONTROL/VIDEO MONITORING CONNECTION SCHEDULE AND INTERCONNECT DIAGRAM
077	E-30-201	ELECTRICAL CONTROL DIAGRAMS
078	E-30-202	ELECTRICAL CONTROL DIAGRAMS
079	E-30-203	ELECTRICAL CONTROL DIAGRAMS
080	E-30-204	ELECTRICAL INTERCONNECT DIAGRAMS
081	E-30-205	ELECTRICAL INTERCONNECT DIAGRAMS
082	E-30-301	ELECTRICAL DETAILS
083	E-30-302	ELECTRICAL DETAILS

SECTIONS

SHEET NO.	DRAWING NO.	DRAWING TITLE
084	S-10-101	ADMINISTRATION AND FILTRATION FACILITY – BUILDING SECTIONS
085	S-10-102	ADMINISTRATION AND FILTRATION FACILITY – BUILDING SECTIONS
086	S-20-101	LOW LIFT PUMP STATION – BUILDING SECTION
087	S-20-102	LOW LIFT PUMP STATION – BUILDING SECTION
088	S-20-103	LOW LIFT PUMP STATION – BUILDING SECTIONS

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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

DATE	REVISION
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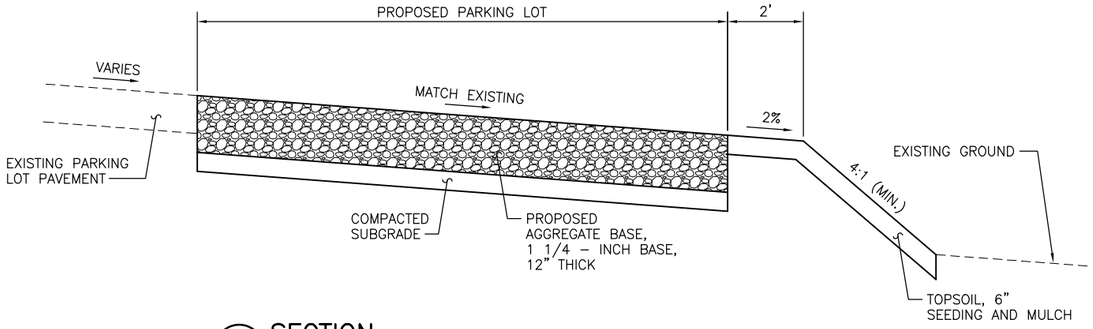
DRAWING TITLE
INDEX OF DRAWINGS

PROJECT No.
O0130014

DRAWING No.
G-00-102

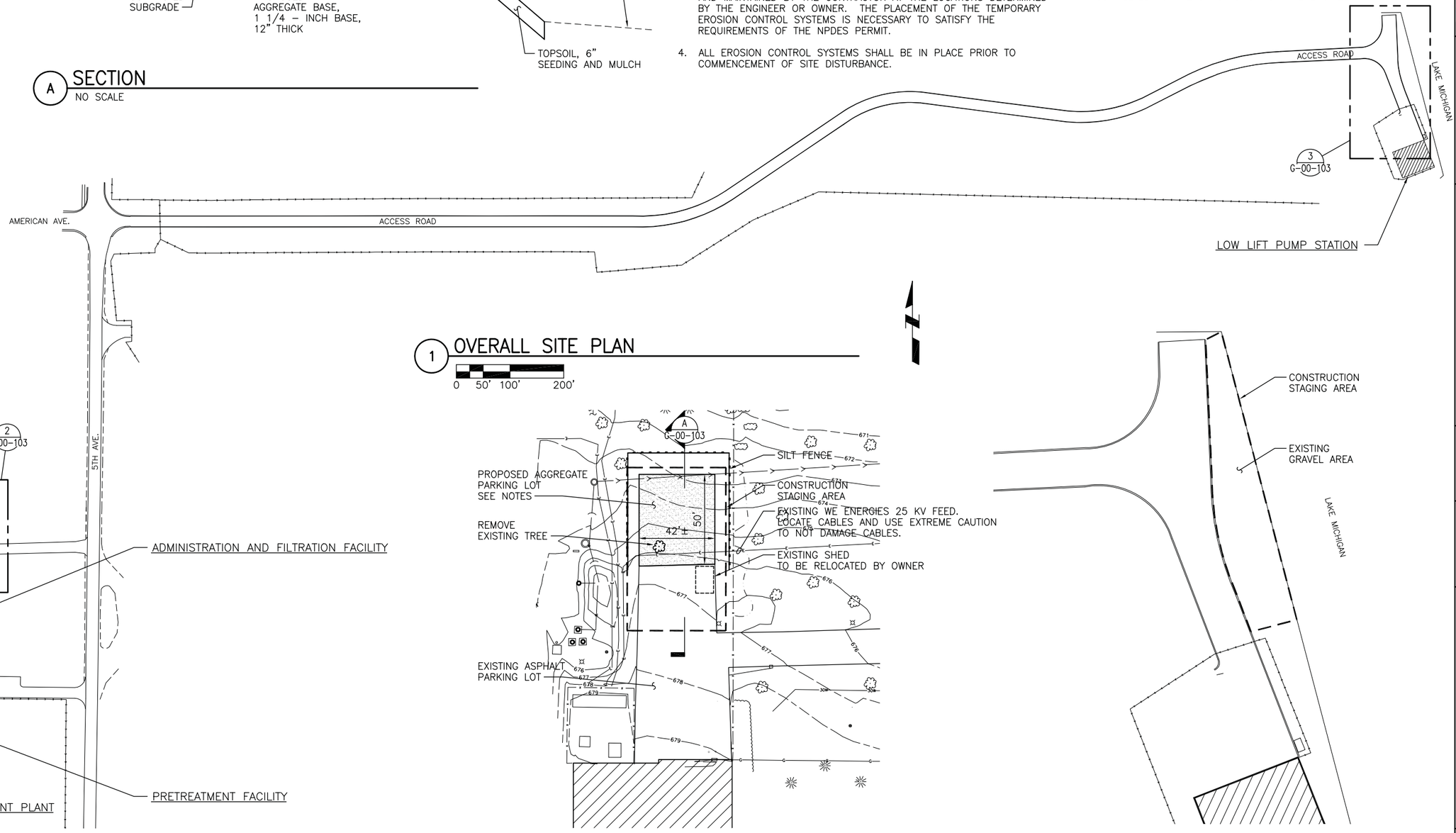
SHEET 002 OF 088 SHEETS



A SECTION
NO SCALE

NOTES

1. THE CONTRACTOR SHALL EXCAVATE EXISTING TOPSOIL WITHIN THE GRADING LIMITS AND STOCKPILE IT AT LOCATIONS APPROVED BY THE ENGINEER OR OWNER. THE TOPSOIL SHALL BE REUSED AND PLACED ON THE DISTURBED AREAS. THE CONTRACTOR WILL BE RESPONSIBLE FOR FURNISHING AND PLACING ANY ADDITIONAL TOPSOIL MATERIAL THAT MAY BE REQUIRED. THE TOPSOIL SHALL BE PLACED TO A MINIMUM THICKNESS OF 6" OVER ALL DISTURBED AREAS OF THE SITE.
2. THE FINISHED EARTHWORK SHALL HAVE VEGETATIVE SUSTAINING SOIL COVERING THE TOP 6" INCHES IN AREAS TO BE SEEDED.
3. THE TEMPORARY EROSION CONTROL SYSTEMS SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR AT THE LOCATIONS DETERMINED BY THE ENGINEER OR OWNER. THE PLACEMENT OF THE TEMPORARY EROSION CONTROL SYSTEMS IS NECESSARY TO SATISFY THE REQUIREMENTS OF THE NPDES PERMIT.
4. ALL EROSION CONTROL SYSTEMS SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF SITE DISTURBANCE.
5. THE CONTRACTOR WILL BE RESPONSIBLE FOR GRADING AND COMPACTING THE EXISTING EARTH SUBGRADE MATERIAL TO THE PROPOSED FINISHED ELEVATIONS PRIOR TO PLACING THE PROPOSED AGGREGATE BASE COURSE MATERIAL. THE CONTRACTOR SHALL FURNISH, SPREAD AND COMPACT THE AGGREGATE MATERIAL AS NECESSARY FOR THE PROPOSED IMPROVEMENTS.
6. AGGREGATE BASE COURSE SHALL BE PLACED WITH A MAXIMUM LIFT THICKNESS OF 6 INCHES AND SHALL BE COMPACTED TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROOF ROLLING A SECTION OF THE COMPACTED AGGREGATE BASE COURSE. THE PROOF ROLLING SHALL BE COMPLETED TO THE SATISFACTION OF THE ENGINEER.



1 OVERALL SITE PLAN
0 50' 100' 200'

2 WTP STAGING AREA ENLARGED PLAN
0 15' 30' 60'

3 LLPS STAGING AREA ENLARGED PLAN
0 15' 30' 60'

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: SMW/SEM
DRAWN BY: JRF
CHECKED BY: SEM
DATE CHECKED: 01/11

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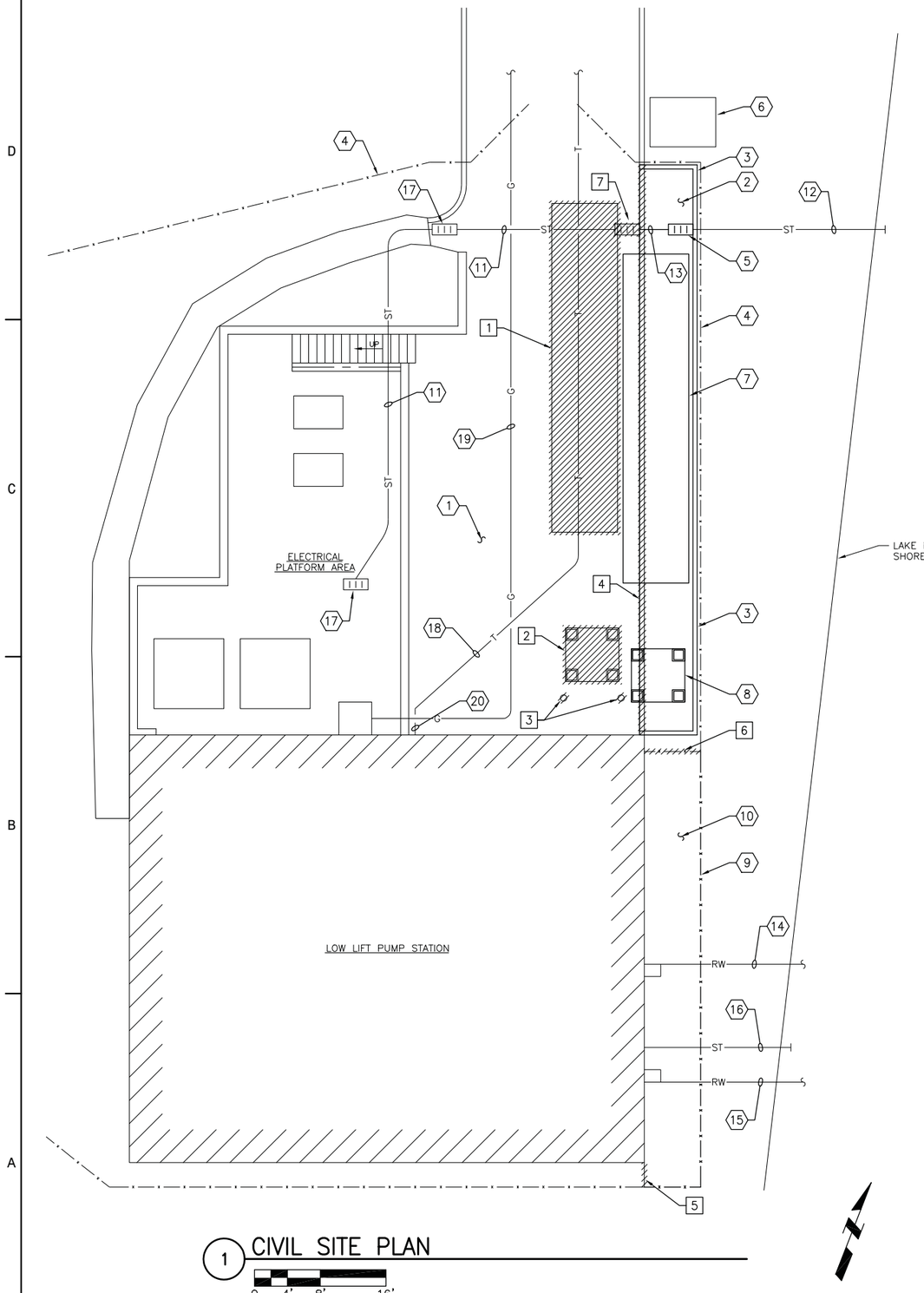
DRAWING TITLE
OVERALL SITE PLAN AND STAGING ENLARGED PLANS

PROJECT No.
O0130014

DRAWING No.
G-00-103

SHEET 003 OF 088 SHEETS



1 CIVIL SITE PLAN

0 4' 8' 16'

NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR DUST AND MUD CONTROL.
2. 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.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION TRAFFIC CONTROL.
4. IT IS INTENDED THAT GRADING BE PROVIDED TO ASSURE ADEQUATE DRAINAGE AWAY FROM THE BUILDING AND STRUCTURES. ALL GRADING SHALL BE APPROVED BY THE OWNER.
5. ALL EQUIPMENT SHOWN ON THIS DRAWING IS EXISTING AND TO REMAIN AS CURRENTLY INSTALLED, UNLESS OTHERWISE NOTED.

DEMOLITION KEYNOTES

1. RELOCATE EXISTING STORAGE CONTAINER WITH (18) 900 LB. BAGS OF CARBON.
2. RELOCATE EXISTING CARBON FEEDER. REMOVE (4) CONCRETE PADS FOR CARBON FEEDER SUPPORT LEGS. FILL HOLES AND PATCH CONCRETE SLAB TO MATCH EXISTING SURFACE.
3. REMOVE EXISTING STEEL PIPE BOLLARD. FILL HOLE AND PATCH CONCRETE SLAB TO MATCH EXISTING SURFACE.
4. REMOVE EXISTING CONCRETE CURB AND GUTTER.
5. REMOVE EXISTING CHAIN LINK FENCE DOOR.
6. REMOVE SECTION OF CHAIN LINK FENCE.
7. REMOVE EXISTING STORM SEWER CATCH BASIN. PROVIDE PIPE TO EXTEND 12" TO 15" PIPE AND INFILL MANHOLE. PATCH CONCRETE SLAB TO MATCH EXISTING SURFACE.

KEYNOTES

1. EXISTING CONCRETE SLAB.
2. PROVIDE CONCRETE SLAB TO MATCH EXISTING SLAB AND DOWEL INTO SLAB EVERY 24" (CONCRETE SLAB SHALL BE FLAT TO ALLOW STORAGE TRAILER DOORS TO PROPERLY OPEN). EXCAVATE AND REMOVE EXISTING DIRT/GRAVEL AREA AS REQUIRED FOR INSTALLATION OF NEW SLAB.
3. PROVIDE CONCRETE CURB AND GUTTER. LOCATE CURB AS CLOSE AS POSSIBLE TO EXISTING CHAIN LINK FENCE.
4. EXISTING CHAIN LINK FENCE.
5. PROVIDE 36"x16" STORM SEWER CATCH BASIN TO MATCH EXISTING BEING REMOVED.
6. EXISTING GARBAGE DUMPSTER.
7. RELOCATED STORAGE TRAILER. LOCATE CONTAINER 8' NORTH OF CARBON FEEDER TO ALLOW ACCESS BY FORK LIFT AND AS CLOSE AS POSSIBLE TO CONCRETE CURB.
8. RELOCATED CARBON FEEDER. LOCATE CARBON FEEDER 4' NORTH OF NORTH SIDE OF BUILDING TO ALLOW ACCESS BY FORK LIFT. SEE STRUCTUAL PLAN 3/A-20-402.
9. PROVIDE CHAIN LINK FENCE TO MATCH EXISTING FENCE.
10. REGRADE AND PROVIDE GRAVEL TO MATCH EXISTING SURFACE.
11. EXISTING 12" STORM SEWER.
12. EXISTING 15" STORM SEWER.
13. EXISTING 15" STORM SEWER TO BE MODIFIED AS REQUIRED TO REMOVE EXISTING CATCH BASIN AND ADD NEW ONE.
14. EXISTING 30" INLET FROM LAKE.
15. EXISTING 42" INLET FROM LAKE.
16. EXISTING 14" STORM SEWER TO LAKE.
17. EXISTING STORM SEWER CATCH BASIN.
18. EXISTING UNDERGROUND INCOMING TELEPHONE SERVICE.
19. EXISTING UNDERGROUND WE ENERGIES GAS SERVICE.
20. EXISTING CONDUIT WITH INCOMING TELEPHONE CABLE.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	JLE/SEM
DRAWN BY:	JRF
CHECKED BY:	TKB
DATE CHECKED:	01/11

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

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DRAWING TITLE
LOW LIFT PUMP STATION
CIVIL SITE PLAN

PROJECT No.
00130014

DRAWING No.
C-20-101

SHEET 004 OF 088 SHEETS

ARCHITECTURAL GENERAL NOTES

1. DIMENSIONS ON FLOOR PLAN ARE BASED ON FACE OF FINISHED WALL TO FACE OF FINISHED WALL (NOMINAL).

2. VERIFY ALL DIMENSIONS AND CONDITIONS AT JOB SITE. PORTIONS OF EXISTING CONSTRUCTION MAY HAVE BEEN REMOVED BY OWNER.

3. MAINTAIN CONTINUOUS UTILITY SERVICE TO WALL SPACES IN THE BUILDING NOT AFFECTED BY THIS WORK. COORDINATE WITH OWNER ANY MODIFICATION TO EXISTING PIPING, DUCTWORK, AND ANY ASSOCIATED EQUIPMENT OR ANY DISRUPTION IN SERVICES REQUIRED TO PERFORM WORK.

4. ALL THE FOLLOWING EQUIPMENT (PIPING, VALVES, DUCTWORK, CONDUIT, BOXES, HANGERS AND SUPPORTS, ETC.) BEING ADDED OR MODIFIED SHALL BE PAINTED TO MATCH EXISTING EQUIPMENT COLORS AT THE FACILITIES. ALL MAJOR EQUIPMENT (GENERATORS, TRANSFER SWITCHES, MOTOR CONTROL CENTERS, PANELBOARDS, PUMPS, MOTORS, MIXING TANK, MIXER, ETC.) SHALL BE FACTORY PAINTED WITH MANUFACTURER'S STANDARD COLORS UNLESS OTHERWISE NOTED.

ARCHITECTURAL DEMOLITION GENERAL NOTES

1. DEMOLITION DRAWINGS ARE PROVIDED AS A REFERENCE TO ESTABLISH THE GENERAL SCOPE OF DEMOLITION WORK. CONTRACTOR IS RESPONSIBLE TO COMPLETE ALL DEMOLITION WORK WHERE REQUIRED TO ACCOMMODATE NEW CONSTRUCTION AND PROTECT THE STRUCTURAL INTEGRITY OF EXISTING–TO–REMAIN.

2. MAINTAIN THE STRUCTURAL INTEGRITY OF THE EXISTING BUILDING AND MEZZANINE TO REMAIN. IMMEDIATELY CONTACT THE ARCHITECT IF SCHEDULED DEMOLITION WORK WILL COMPROMISE STRUCTURAL INTEGRITY OF EXISTING BUILDING OR MEZZANINE PRIOR TO DEMOLITION.

3. VERIFY EXISTING STRUCTURAL SUPPORTS AND LOCATION OF ALL STRUCTURAL SUPPORTING WALLS PRIOR TO DEMOLITION. ALL EXISTING STRUCTURAL SUPPORTS ARE TO REMAIN UNLESS NOTED OTHERWISE ON DEMOLITION PLAN.

4. COORDINATE ALL DEMOLITION WORK OUTLINED ON DEMOLITION PLAN WITH NEW FLOOR PLAN LAYOUT TO ALLOW FOR PROTECTION OF EXISTING–TO–REMAIN.

5. GENERAL CONTRACTOR IS REQUIRED TO COORDINATE WITH ALL OTHER CONTRACTORS FOR ALL DEMOLITION WORK. GENERAL CONTRACTOR SHALL PROVIDE NECESSARY ACCESS FOR OTHER CONTRACTORS REQUIRED TO PERFORM DEMOLITION WORK AS PART OF THEIR SCOPE.

6. CONTRACTOR IS RESPONSIBLE FOR PATCHING WALLS, FLOORS, ETC. AND LEVELING EXISTING SURFACES AS REQUIRED TO MATCH ALL ADJACENT SURFACES WHERE REMOVAL WORK HAS OCCURRED, ESPECIALLY WHERE REMOVED WALLS INTERSECT WALLS TO REMAIN AND EXISTING FLOORS SCHEDULED FOR NEW FINISHES.

7. SAWCUT, REMOVE AND PATCH ALL WALLS AND FLOORS AS REQUIRED FOR NEW MECHANICAL, PLUMBING AND ELECTRICAL WORK.

8. ALL REFERENCES TO MECHANICAL, PLUMBING AND ELECTRICAL DEMOLITION ARE FOR REFERENCE ONLY. CONTRACTORS ARE RESPONSIBLE TO REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DOCUMENTS FOR FULL SCOPE OF REQUIRED DEMOLITION.

9. OWNER IS TO REMOVE ALL LOOSE FURNITURE, EQUIPMENT AND ACCESSORIES THAT ARE TO BE SALVAGED PRIOR TO CONSTRUCTION.

10. BUILDING WILL REMAIN OPERATIONAL THROUGHOUT PROJECT DURATION.

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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: KLW/TOC
DRAWN BY: KLW/JRF
CHECKED BY: TOC
DATE CHECKED: 01/11

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DRAWING TITLE
ARCHITECTURAL
GENERAL NOTES

PROJECT No.
O0130014

DRAWING No.
A-00-101

SHEET 005 OF 088 SHEETS

STRUCTURAL GENERAL NOTES

1. THE BUILDING CODE APPLICABLE TO THIS PROJECT IS THE INTERNATIONAL BUILDING CODE 2006.
2. ALL DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE TYPICAL AND SHALL BE USED WHEREVER A SIMILAR CONDITION OCCURS UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AS IT RELATES TO NEW CONSTRUCTION. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER.
4. THE STABILITY AND STRENGTH OF THE COMPLETED STRUCTURE DEPENDS UPON THE INTERACTION OF VARIOUS CONNECTED PARTS SUCH AS DIAPHRAGMS, BRACES AND/OR SHEAR WALLS. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND/OR SHORING AS NECESSARY TO COMPLETE THE WORK.
5. DESIGN LOADS:

WATER TREATMENT PLANT:		
DEAD LOAD	ACTUAL WEIGHT	
LIVE LOAD, GENERATOR ROOM SLAB–ON–GRADE	150	PSF
EQUIPMENT:		
GENERATOR ON SLAB–ON–GRADE	24,000	POUNDS
TRANSFORMER	20,000	POUNDS
LOW LIFT PUMP STATION:		
DEAD LOAD:	ACTUAL WEIGHT	
MEZANNINE LIVE LOAD ABOVE GENERATOR ROOM	100	PSF
GENERATOR ROOM SLAB–ON–GRADE	150	PSF
EQUIPMENT:		
GENERATOR ON SLAB–ON–GRADE	24,000	POUNDS

REMOVAL AND PROTECTION

1. SAW CUT CONCRETE TO LINES AND SHAPES ON DRAWINGS. DO NOT CUT EXISTING REINFORCING BARS WHERE THEY ARE SHOWN TO BE CLEANED AND PRESERVED FOR INCORPORATION INTO NEW CONSTRUCTION.
2. PROVIDE SHORING AND BRACING FOR STRUCTURAL ELEMENTS DURING PARTIAL REMOVAL TO AVOID ANY DAMAGE TO THE EXISTING FACILITIES.
3. EXISTING STRUCTURES SHALL BE PROTECTED FROM OVERLOADING DUE TO CONSTRUCTION LOADINGS. HEAVY EQUIPMENT SHALL NOT BE OPERATED CLOSE TO EXISTING TANKS TO AVOID HIGH LATERAL EARTH PRESSURES ON WALLS.
4. DAMAGE TO ADJACENT FACILITIES DURING CONSTRUCTION SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.

STRUCTURAL STEEL

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
2. NEW MEMBERS ARE INDICATED AS (N) ON THE DRAWINGS AND ARE INCLUDED IN THIS CONTRACT. ALL OTHER MEMBERS SHOWN ARE EXISTING.
3. ALL WIDE FLANGE STRUCTURAL SHAPES SHALL CONFORM TO ASTM A992. ALL OTHER HOT ROLLED SHAPES SHALL CONFORM TO ASTM A36. ALL ANCHOR RODS SHALL CONFORM EITHER TO ASTM F1554 (GR. 36) WITH WELDABILITY SUPPLEMENT S1 OR ASTM A36.
4. ALL SQUARE AND RECTANGULAR HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500 GRADE B, Fy = 46 KSI.
5. UNLESS OTHERWISE SHOWN ON THE DRAWINGS ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER ASTM A325 BOLTS AND SHALL BE SNUG TIGHTENED (ASTM A325 N).
6. CONNECTIONS INDICATED AS BEING SLIP CRITICAL (SC) SHALL BE FULLY PRETENSIONED IN ACCORDANCE WITH THE AISC SPECIFICATIONS. BOLT INSTALLATION SHALL BE INSPECTED USING THE TURN OF NUT METHOD, OR AS AN ALTERNATE, TWIST–OFF TYPE A325 BOLTS MAY BE USED.
7. WELDED CONNECTIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ANSI/AWS D1.1 STRUCTURAL WELDING CODE, MADE WITH E70XX ELECTRODES AND PERFORMED BY CERTIFIED WELDERS.
8. ALL STRUCTURAL STEEL SHALL BE GIVEN ONE COAT OF PRIMER BEFORE LEAVING THE SHOP, IN ACCORDANCE WITH THE SPECIFICATIONS. STRUCTURAL STEEL SHALL BE GIVEN TWO COATS OF FIELD PAINT. FIELD PAINT SHALL BE BY THE SAME MANUFACTURER OF THE PRIME COAT. OWNER TO APPROVE COLORS AND PAINT MANUFACTURER.
9. ALL SURFACES OF EXISTING BASE METAL IN CONTACT WITH NEW BASE METAL SHALL BE CLEANED OF ALL DIRT, RUST, AND OTHER FOREIGN MATTER EXCEPT ADHERENT PAINT. SURFACES TO BE WELDED SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER INCLUDING PAINT FOR AT LEAST 2" FROM THE ROOT OF WELDS.
10. ALL BEAMS SHALL BE FABRICATED WITH NATURAL CAMBER UP. PROVIDE ADDITIONAL CAMBER AS NOTED ON THE DRAWINGS.

CAST–IN–PLACE CONCRETE

1. CONCRETE WORK ON THIS PROJECT SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301–02, STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE, PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE (ACI), DETROIT, MICHIGAN, EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.
2. ALL CONCRETE SHALL BE PROVIDED WITH A MINIMUM ULTIMATE COMPRESSIVE STRENGTH AT 28 DAYS (f'c) OF 4000 PSI.
3. ALL EXTERIOR CONCRETE, BUILDING FOUNDATIONS AND CONCRETE SUBJECT TO FREEZE–THAW SHALL HAVE 4% TO 7% AIR CONTENT BY VOLUME MEASURED IN ACCORDANCE WITH ASTM C231. AIR ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C260. THE SLUMP SHALL NOT EXCEED 4 INCHES MEASURED IN ACCORDANCE WITH ASTM C143.
4. REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
5. SUBMIT SHOP DRAWINGS OF THE REINFORCEMENT BARS PREPARED IN ACCORDANCE WITH ACI 315, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT.
6. FOR ALL EXPOSED CONCRETE PROVIDE CLASS 1 (PLASTIC PROTECTED) BAR SUPPORTS AND SPACERS IN ACCORDANCE WITH THE ACI 315 DETAILING MANUAL.
7. EXTEND ALL SLAB AND BEAM REINFORCEMENT INTO THE SUPPORT IN ACCORDANCE WITH ACI CODE. IF SUCH EXTENSIONS ARE NOT OBTAINABLE, THE BAR SHALL TERMINATE WITH STANDARD HOOK.
8. WELDING OF REINFORCING BARS SHALL NOT BE PERMITTED.
9. NO CALCIUM CHLORIDE WILL BE USED IN CONCRETE.
10. DUSTING WITH ANY MATERIAL TO ABSORB SURFACE WATER IS PROHIBITED.
11. CURING PROCEDURES IN ACCORDANCE WITH ACI 301 SHALL CONTINUE FOR A PERIOD OF AT LEAST 7 DAYS.
12. DO NOT MIX SALT, CHEMICALS OR OTHER FOREIGN MATERIALS WITH THE CONCRETE TO PREVENT FREEZING. MAINTAIN THE TEMPERATURE OF THE CONCRETE ABOVE 50 DEGREES FAHRENHEIT FOR FIVE DAYS AFTER PLACEMENT.
13. COVER FOR REINFORCEMENT FOR CAST–IN–PLACE CONCRETE SHALL BE AS FOLLOWS:

	MINIMUM COVER, INCHES
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3
CONCRETE EXPOSED TO EARTH OR WEATHER:	
#6 THROUGH #18 BARS	2
#5 BAR, W31 OR D31 WIRE, AND SMALLER	1 1/2
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS, WALLS, JOISTS:	
#11 BARS AND SMALLER	3/4
#14 AND #18 BARS	1 1/2
BEAMS, COLUMNS:	
PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS	1 1/2

14. UNLESS SHOWN OTHERWISE ON PLANS, LAP SPLICES OF UNCOATED REINFORCEMENT BARS SHALL BE AS FOLLOWS:

	LAP LENGTH, INCHES (SMALLER BAR)*								
BAR SIZE	#3	#4	#5	#6	#7	#8	#9	#10	#11
A) HORIZONTAL BARS SO PLACED THAT MORE THAN 12 INCHES OF CONCRETE WILL BE CAST BELOW THE BARS	25	33	41	49	71	81	91	102	114
B) HORIZONTAL BARS SO PLACED THAT LESS THAN 12 INCHES OF CONCRETE WILL BE CAST BELOW THE BARS	19	25	31	37	54	62	70	79	85
C) VERTICAL BARS	19	25	31	37	54	62	70	79	85

*LAP LENGTHS ARE CALCULATED FOR UNCOATED BARS IN ACCORDANCE WITH ACI 318–99, CLASS B SPLICES AND f'c = 4000 PSI. MINIMUM CLEAR SPACING BETWEEN BARS IS TWO BAR DIAMETERS AND MINIMUM COVER IS ONE BAR DIAMETER. FOR OTHER CONDITIONS, CALCULATE SPLICES IN ACCORDANCE WITH ACI 318–02. CLASS B SPLICES REQUIRED UNLESS NOTED OTHERWISE.

16. OBTAIN ENGINEER'S WRITTEN APPROVAL FOR ANY ADDITIONAL OR RELOCATED CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON DRAWINGS.
17. UNLESS SHOWN OTHERWISE, CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4 INCH.
18. CONCRETE BEAMS AND ADJACENT SLABS SHALL BE POURED MONOLITHICALLY SO THAT NO HORIZONTAL CONSTRUCTION JOINTS ARE PROVIDED, EXCEPT WHERE SHOWN ON DRAWINGS.
19. SEE MECHANICAL, ELECTRICAL, ARCHITECTURAL, AND PIPING DRAWINGS, AND EQUIPMENT MANUFACTURER'S SHOP DRAWINGS FOR LOCATION OF SLEEVES, HOLES, OPENINGS, RECESSES IN SLABS AND WALLS, CASTINGS, ANCHOR BOLTS, ETC.
20. SEE DRAWING S–## FOR CONSTRUCTION DETAILS FOR BONDING OF NEW CONCRETE TO EXISTING CONCRETE WITH BONDING COMPOUND. ALL NEW CONCRETE PLACED AGAINST EXISTING SURFACES SHALL HAVE EXISTING COATINGS INCLUDING PAINT AND WATERPROOFING REMOVED, ROUGHENED, CLEANED, AND BONDING AGENT APPLIED. SEE SPECIFICATIONS.
21. PROVIDE CONTROL JOINTS IN ALL NON–STRUCTURAL SLABS ON GRADE. SEE SPECIFICATIONS.
22. CONTRACTOR SHALL MAKE 4 CONCRETE CYLINDERS FOR EACH POUR. ONE CYLINDER WILL BE TESTED AT 7 DAYS AND THE OTHER TWO AT 28 DAYS TO VERIFY THE REQUIRED COMPRESSIVE STRENGTH. ONE CYLINDER WILL BE A SPARE. ALL TESTING WILL BE IN ACCORDANCE WITH ASTM STANDARDS AND WILL BE AT THE CONTRACTOR'S EXPENSE. ADDITIONAL TESTING OR REMOVAL AND REPLACEMENT OF DEFECTIVE CONCRETE WILL BE AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL SUBMIT TEST REPORTS TO THE OWNER WITHIN TWO (2) DAYS OF COMPLETION FOR EACH TEST.

ALUMINUM

1. ALL ALUMINUM SHALL CORRESPOND TO ALLOY 6061–T6. SEE SPECIFICATIONS.
2. ALUMINUM IN DIRECT CONTACT WITH DISSIMILAR METALS, CONCRETE, OR MASONRY SHALL BE COATED WITH A HEAVY–BODIED BITUMINOUS PAINT OR COVERED WITH NON–ABSORPTIVE INSULATING TAPE OR GASKET.
3. ALL BOLTED CONNECTIONS OF ALUMINUM SHALL BE MADE WITH STAINLESS STEEL BOLTS, 5/8" NOMINAL DIAMETER UNLESS SHOWN OTHERWISE.

MASONRY

1. MASONRY WORK ON THIS PROJECT SHALL CONFORM TO ALL REQUIREMENTS OF ACI 530.1, SPECIFICATION FOR MASONRY STRUCTURES, PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE (ACI), DETROIT, MICHIGAN, EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.
2. CONCRETE MASONRY UNITS SHALL BE IN ACCORDANCE WITH ASTM C90 AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI.
3. EXISTING BRICK AT THE WATER TREATMENT PLANT SHALL BE SALVAGED AND CLEANED IN SUFFICIENT QUANTITY TO BE INCORPORATED INTO NEW WORK.
4. MORTAR SHALL CONFORM TO ASTM C270, TYPE S MORTAR.
5. COMPRESSIVE STRENGTH OF CONCRETE MASONRY (f'm) SHALL BE 1500 PSI MINIMUM.
6. COMPRESSIVE STRENGTH OF BRICK MASONRY (f'm) SHALL BE 1500 PSI MINIMUM.
7. BAR REINFORCEMENT SHALL CONFORM TO ASTM A615 GRADE 60.
8. LENGTH OF BAR SPLICES SHALL BE EQUAL TO 48 BAR DIAMETERS.
9. JOINT REINFORCEMENT SHALL BE MADE OF COLD DRAWN WIRE AND SHALL CONFORM TO ASTM A82. JOINT REINFORCEMENT SHALL BE:
   3–9 GA, WIRE, TRUSS TYPE _ FOR CAVITY WALLS
   3–9 GA, WIRE, LADDER TYPE _ FOR COMPOSITE WALLS
   2–9 GA, WIRE, LADDER TYPE _ FOR SINGLE WYTHE WALLS
10. JOINT REINFORCEMENT, TIES AND ANCHORS SHALL BE GALVANIZED IN ACCORDANCE WITH ACI 530.1.
11. JOINT REINFORCEMENT SHALL BE PLACED IN ALL MASONRY WALLS AND SPACED 16" O.C., UNLESS OTHERWISE NOTED.
12. ALL CELLS WITH REINFORCEMENT, BOND BEAMS, MASONRY LINTELS AND SILLS SHALL BE FULLY GROUTED. GROUT SHALL CONFORM TO ASTM C476 AND SHALL HAVE 28–DAY COMPRESSIVE STRENGTH OF 2000 PSI MINIMUM.
13. MASONRY CONTROL JOINTS SHALL BE PLACED IN REGULAR INTERVALS, AS SHOWN ON ARCHITECTURAL DRAWINGS. BOND BEAM REINFORCEMENT SHALL BE CARRIED THROUGH CONTROL JOINTS.
14. LAY CONCRETE MASONRY UNITS WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS AND WEBS.
15. WYTHES IN REINFORCED COMPOSITE BRICK WALLS SHALL BE BONDED WITH 9 GA. WIRE TIES SPACED 16" O.C. VERTICALLY AND 32" HORIZONTALLY. TIES IN ALTERNATE COURSES SHALL BE STAGGERED.
16. WYTHES IN MULTIPLE–WYTHE BRICK WALLS SHALL BE BONDED BY MEANS OF MASONRY HEADERS.
17. ALL BRICK/CMU WALLS WITH NO CAVITY ARE COMPOSITE. PARGE (BACKPLASTER) FIRST WYTHE LAID WITH MORTAR NOT LESS THAN 3/8" THICK.

ALUMINIUM GRATING

1. ALUMINUM GRATING SHALL BE A SWAGE–LOCKED RECTANGULAR DESIGN. MAIN BEARING BARS ARE TO BE SPACED 1 3/16" CENTER TO CENTER. CROSS BARS SHALL BE SPACED AT 4" CENTER TO CENTER AND SHALL BE LOCKED TO BEARING BARS. HEIGHT OF BEARING BARS SHALL BE SELECTED TO MATCH EXISTING GRATING HEIGHT AT LOW LIFT STATION MEZZANINE. UNLESS OTHERWISE SHOWN MAIN BEARING BARS SHALL BE 3/16" THICK FOR THE DEPTH SHOWN ON THE PLANS.
2. ALUMINUM SHALL BE ACCORDING TO ASTM B221. BEARING BARS SHALL BE PROVIDED WITH A PLAIN FINISH.
3. GRATING SHALL BE BANDED.
4. GRATING SHALL BE FASTENED TO SUPPORTS BY MECHANICAL FASTENERS RECOMMENDED BY GRATING MANUFACTURER.

ABBREVIATIONS

ADD'L	=	ADDITIONAL	N.T.S.	=	NOT TO SCALE
ALUM	=	ALUMINUM	O.C.	=	ON CENTER
ARCH	=	ACHITECTURAL	OPEN'G	=	OPENING
BOT	=	BOTTOM	PL	=	PLATE
℄	=	CENTERLINE	REQ'D	=	REQUIRED
DIA	=	DIAMETER	S.S.	=	STAINLESS STEEL
DWG	=	DRAWING	SSL	=	SHORT SLOTTED HOLES
EA	=	EACH	STD	=	STANDARD
EL	=	ELEVATION	T&B	=	TOP AND BOTTOM
EF	=	EACH FACE	TYP	=	TYPICAL
EMBED	=	EMBEDMENT	W.S.	=	WATERSTOP
GALV	=	GALVANIZED	ø	=	DIAMETER
LLBB	=	LONG LEGS BACK TO BACK	°	=	DEGREES
LLS	=	LONG SLOTTED HOLES			
MAX	=	MAXIMUM			
MIN	=	MINIMUM			

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SMM
DRAWN BY:	SMM
CHECKED BY:	PS
DATE CHECKED:	01/11

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

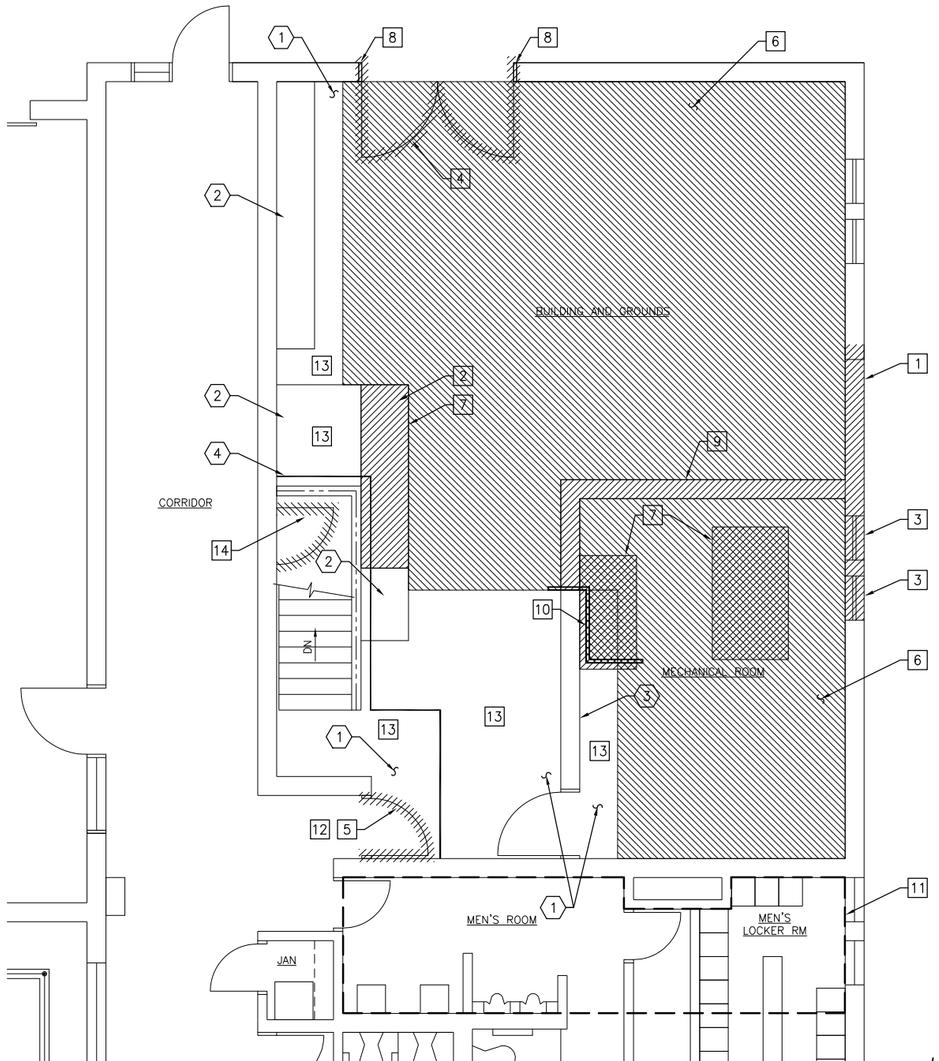
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
STRUCTURAL GENERAL NOTES AND ABBREVIATIONS

PROJECT No.
O0130014

DRAWING No.
A-00-102

SHEET 006 OF 088 SHEETS



1 ENLARGED FIRST FLOOR ARCHITECTURAL DEMOLITION PLAN
(ELEV. 99.0)

0 1' 2' 4' 8'

NOTES

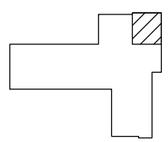
1. SEE DRAWING A–00–101 ARCHITECTURAL GENERAL NOTES.
2. CONTRACTOR SHALL USE EXTREME CAUTION WHEN CUTTING AND REMOVING CONCRETE FLOOR TO NOT DAMAGE UNDERGROUND CONDUITS AND UTILITIES. EXTREME CAUTION WILL NEED TO BE TAKEN DUE TO CONDUITS IN FLOOR THAT WILL NEED TO BE PROTECTED. CONTRACTOR SHALL TRACE ALL UNDERGROUND CONDUITS IN BUILDING AND GROUNDS ROOM AND MARK LOCATION ON CONCRETE FLOOR PRIOR TO REMOVAL OF FLOOR.
3. SEE DRAWING E–10–201 FOR WORK REQUIRED TO REMOVE CONCRETE FLOOR FOR GENERATOR AND SWITCHBOARD BEING REMOVED IN PUMP ROOM.
4. EXISTING CONCRETE FLOOR IS 7" THICK CONCRETE SLAB WITH 6x6WW MESH MEMBRANE ON 5" SAND CUSHION. CONCRETE SLAB IS THICKENED RUNNING EAST–WEST BELOW WALL BETWEEN BUILDING AND GROUNDS AND MECHANICAL ROOM.
5. AFTER EXISTING UNDERGROUND CONDUITS ARE LOCATED AND MARKED ON THE FLOOR, CONTRACTOR SHALL COORDINATE FINAL LOCATION OF ALL SAWCUTTING AND AREAS OF FLOOR REMOVAL WITH OWNER AND ENGINEER AND GET APPROVAL PRIOR TO PROCEEDING.

DEMOLITION KEYNOTES

1. REMOVE WALLS AND ALL ASSOCIATED COMPONENTS. PATCH AND PREPARE SURFACES TO ACCEPT NEW PLAN. SALVAGE BRICK.
2. SEE ELECTRICAL DRAWINGS FOR DEMOLITION REQUIREMENTS. TERMINATE ALL CONNECTIONS AS NECESSARY PER CODE.
3. REMOVE WINDOWS AND ASSOCIATED COMPONENTS. PREPARE SURFACES TO ACCEPT NEW PLAN.
4. REMOVE DOOR, FRAME AND ASSOCIATED COMPONENTS. MAINTAIN WALL ABOVE OPENING. PREPARE SURFACES TO ACCEPT NEW PLAN.
5. REMOVE DOOR AND FRAME AND WALL ABOVE OPENING. REMOVE CMU WALL CONSTRUCTION TO ROOF STRUCTURE ABOVE. PREPARE SURFACES TO ACCEPT NEW PLAN.
6. REMOVE CONCRETE FLOOR AND PREPARE SURFACES TO ACCEPT NEW PLAN.
7. REMOVE CONCRETE EQUIPMENT PAD AND PREPARE SURFACES TO ACCEPT NEW PLAN.
8. REMOVE STEEL ANGLE IRON AROUND BRICK OPENING. PATCH AND PREPARE SURFACES TO ACCEPT NEW PLAN.
9. REMOVE 12" CMU WALL AND ALL ASSOCIATED COMPONENTS. PATCH AND PREPARE SURFACES TO ACCEPT NEW PLAN.
10. PROVIDE PERMANENT SHORING TO EXCAVATE EARTH FOR PIPE TROUGH ADJACENT TO EXISTING 12" CMU WALL AND SLAB TO REMAIN IN PLACE.
11. REMOVE EXISTING CEILING TILES AND GRID AS NECESSARY IN THIS AREA TO INSTALL NEW PIPING.
12. REMOVE CEILING AS REQUIRED FOR INSTALLATION OF NEW DOOR AND WALL ABOVE.
13. REMOVE PAINT FROM REMAINING EXPOSED CONCRETE FLOORS.
14. REMOVE DOOR AND FRAME.

KEYNOTES

1. EXISTING CONCRETE SLAB TO REMAIN.
2. EXISTING CONCRETE EQUIPMENT PAD TO REMAIN.
3. EXISTING 12" CMU WALL TO REMAIN.
4. PROVIDE TEMPORARY WALL MADE FROM PLYWOOD WITH DOOR TO BUILDING AND GROUNDS ROOM FOR DUST CONTROL THROUGHOUT CONSTRUCTION.



KEY PLAN
NO SCALE

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OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	KLW/TOC
DRAWN BY:	KLW/JRF
CHECKED BY:	TOC
DATE CHECKED:	01/11

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

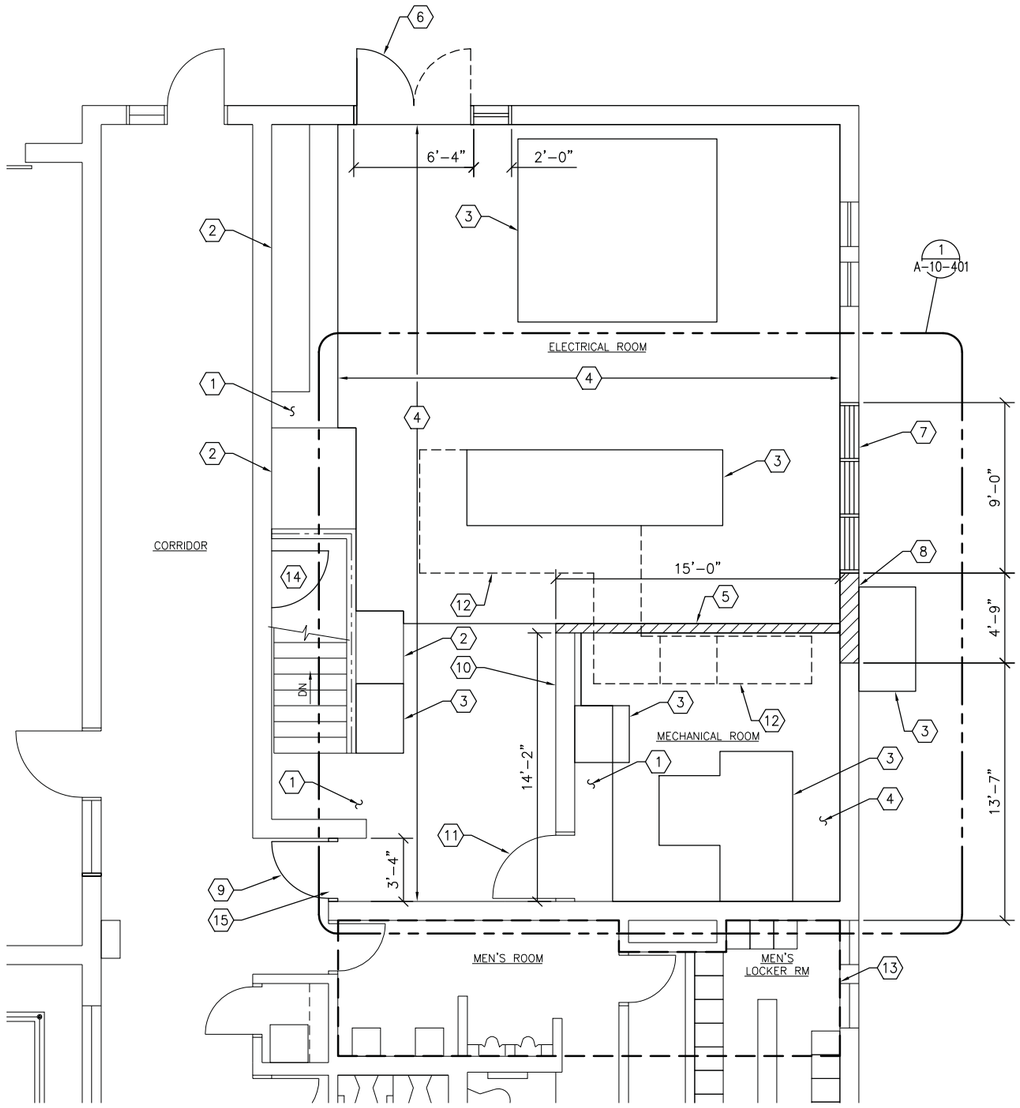
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND
FILTRATION FACILITY
ENLARGED FIRST FLOOR
ARCHITECTURAL
DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
A-10-101

SHEET 007 OF 088 SHEETS



1 ENLARGED FIRST FLOOR ARCHITECTURAL PLAN

(ELEV. 99.0)

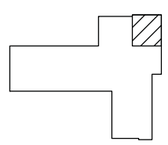
0 1' 2' 4' 8'

NOTES

1. SEE DRAWING A-00-101 FOR ARCHITECTURAL GENERAL NOTES.
2. ALL WALLS, FLOORS, AND CEILINGS IN ELECTRICAL ROOM AND MECHANICAL ROOM SHALL BE PAINTED TO MATCH EXISTING SURFACE COLORS.
3. PROVIDE 2-HOUR FIRE RATED SEAL AROUND ALL EXISTING AND NEW WALL PENETRATIONS IN ELECTRICAL ROOM WALLS.
4. PROVIDE LAMINATE SIGNS (TYPE TO MATCH EXISTING SIGNS) ON ELECTRICAL ROOM AND MECHANICAL ROOM INTERIOR DOORS.
5. GENERATOR SHALL BE MOVED TO THE EAST IN THE ELECTRICAL ROOM TO PROVIDE 36" CLEARANCE BETWEEN GENERATOR CONTROL PANEL AND OPENED DAMPER BLADES AND ACTUATOR. FINAL LOCATION SHALL BE DETERMINED IN THE FIELD.

KEYNOTES

1. EXISTING CONCRETE SLAB.
2. EXISTING CONCRETE EQUIPMENT PAD.
3. PROVIDE CONCRETE EQUIPMENT PAD (COORDINATE EXACT SIZE WITH SELECTED EQUIPMENT).
4. PROVIDE CONCRETE SLAB TO MATCH EXISTING.
5. PROVIDE 6" CMU WALL.
6. PROVIDE DOOR AND GLASS PANELS, DOOR C.
7. PROVIDE REMOVABLE LOUVER.
8. PROVIDE SMOOTH FACE CMU/BRICK WALL.
9. PROVIDE 3'-0" x 7'-0" x 1 3/4", 1 1/2 HOUR FIRE RATED DOOR AND FRAME, DOOR A.
10. EXISTING 12" CMU WALL.
11. EXISTING DOOR.
12. PIPE TROUGH.
13. REPLACE CEILING TILE AND GRID IN THIS AREA FOLLOWING COMPLETION OF PIPE WORK ABOVE.
14. PROVIDE 3'-0" x 7'-0" x 1 3/4", 1 1/2 HOUR FIRE RATED DOOR AND FRAME, DOOR B. FIELD VERIFY EXISTING SIZE. DOOR IS LOCATED AT BOTTOM OF STAIR.
15. INSTALL DOUBLE 3 1/2" x 3 1/2" STEEL ANGLE LINTEL ABOVE DOOR WITH 8" CMU TO EXTEND TIGHT TO BOTTOM OF PRECAST CONCRETE ROOF STRUCTURE.



KEY PLAN
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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	KLW/TOC
DRAWN BY:	KLW/JRF
CHECKED BY:	TOC
DATE CHECKED:	01/11

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

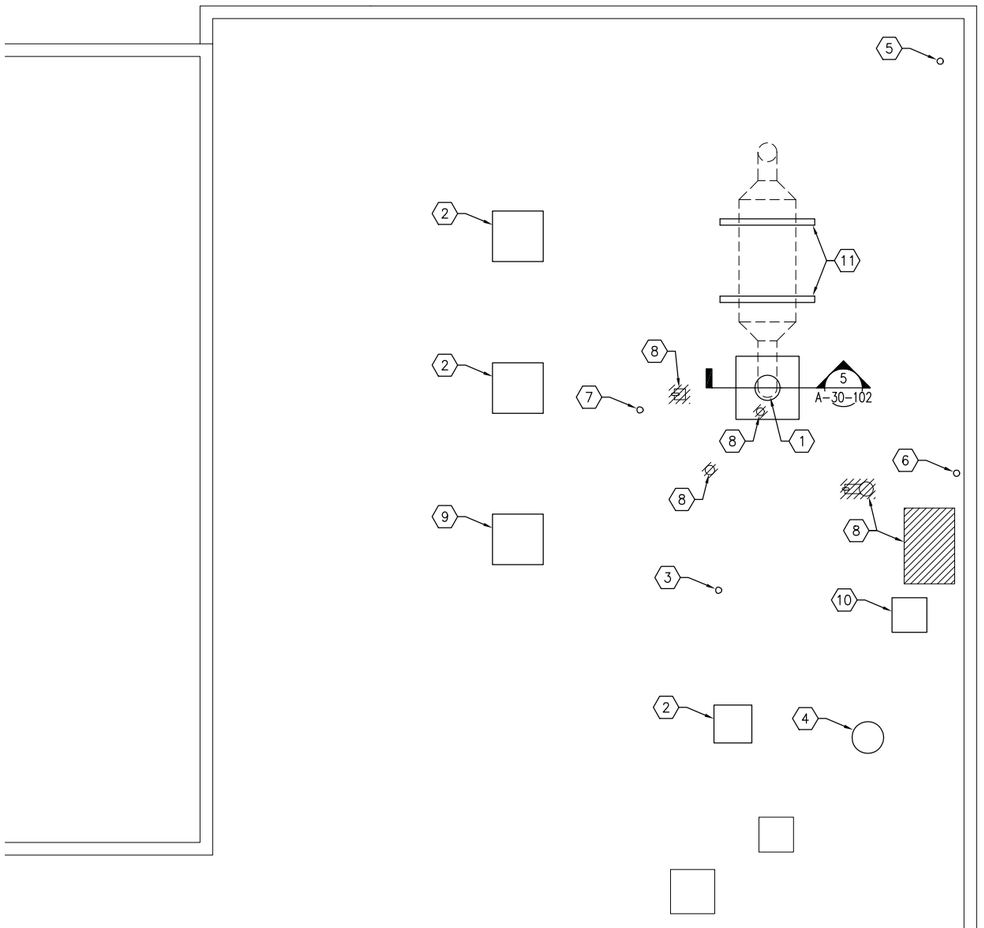
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY ENLARGED FIRST FLOOR ARCHITECTURAL PLAN

PROJECT No.
O0130014

DRAWING No.
A-10-201

SHEET 008 OF 088 SHEETS



NOTES

1. SEE DRAWING A-00-101 FOR ARCHITECTURAL GENERAL NOTES.

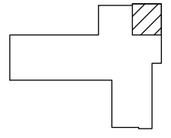
(#) KEYNOTES

1. GENERATOR EXHAUST THIMBLE.
2. ROOF MOUNTED EXHAUST FAN. SEE DETAIL 4/A-30-101.
3. WATER HEATER VENT PIPING. SEE DETAIL 5/A-30-101.
4. BOILER VENT PIPING. SEE DETAIL 5/A-30-101.
5. UNIT HEATER VENT PIPING. SEE DETAIL 5/A-30-101.
6. SANITARY VENT PIPING. SEE DETAIL 5/A-30-101.
7. GENERATOR CRANKCASE FUME DISPOSAL. SEE DETAIL 5/A-30-101.
8. PATCH ROOF AND DECK AT MECHANICAL EQUIPMENT REMOVAL. SEE DETAIL 6/A-30-101.
9. ROOF MOUNTED EXHAUST FAN. MODIFY EXISTING OPENING AND CURB AS REQUIRED FOR NEW FAN.
10. INTAKE AIR LOUVER. SEE DETAIL 4/A-30-101.
11. STEEL I-BEAM SUPPORT RAIL OVER B.U.R. TRAFFIC PAD. SEE DETAIL 7/A-30-101.

1 ENLARGED ROOF ARCHITECTURAL PLAN

(ELEV. 109.0)

0 1' 2' 4' 8'



KEY PLAN
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OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	KLW/TOC
DRAWN BY:	KLW/JRF
CHECKED BY:	TOC
DATE CHECKED:	01/11

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

DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY ENLARGED ROOF ARCHITECTURAL PLAN

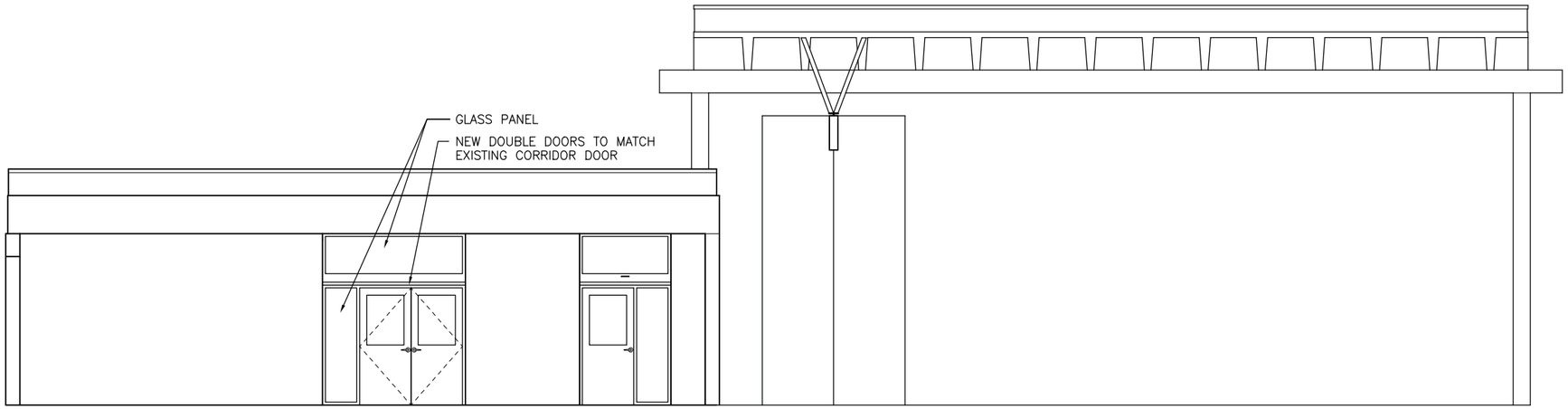
PROJECT No.
O0130014

DRAWING No.
A-10-202

SHEET 009 OF 088 SHEETS

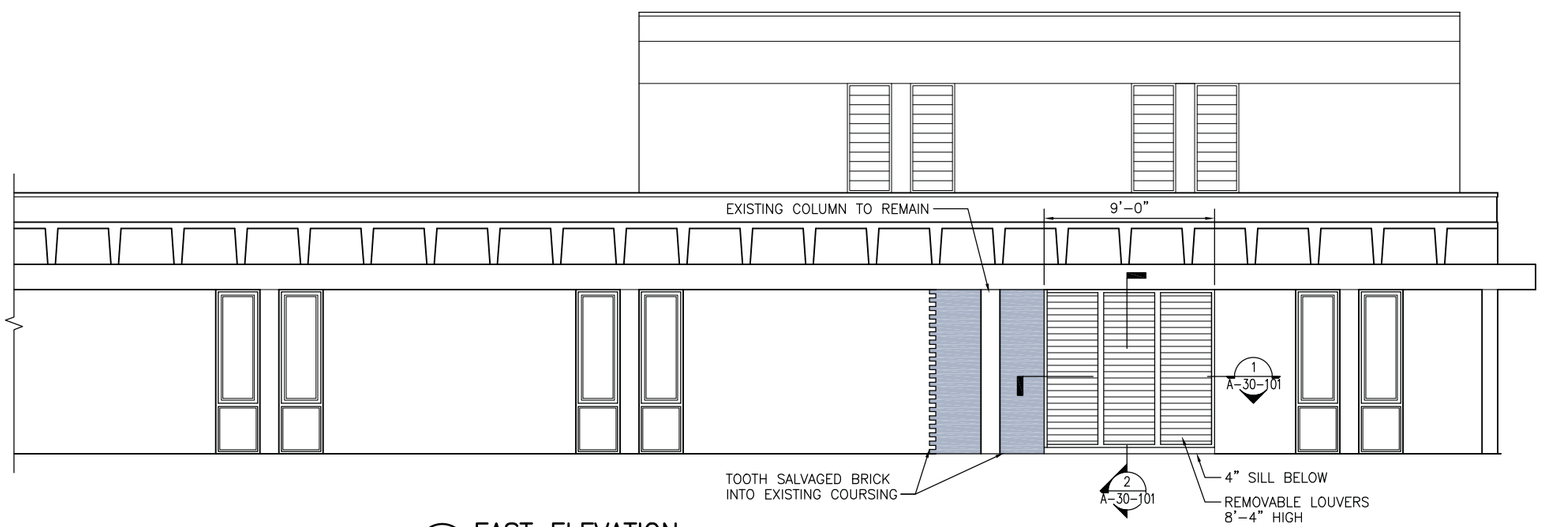
NOTES

1. SEE DRAWING A–00–101 FOR ARCHITECTURAL GENERAL NOTES.



1 NORTH ELEVATION

0 1' 2' 4' 8'



2 EAST ELEVATION

0 1' 2' 4' 8'

3 EXISTING ELEVATION

NO SCALE

Clark Dietz ENGINEERS

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ADMINISTRATION AND FILTRATION FACILITY
ARCHITECTURAL
EXTERIOR ELEVATIONS

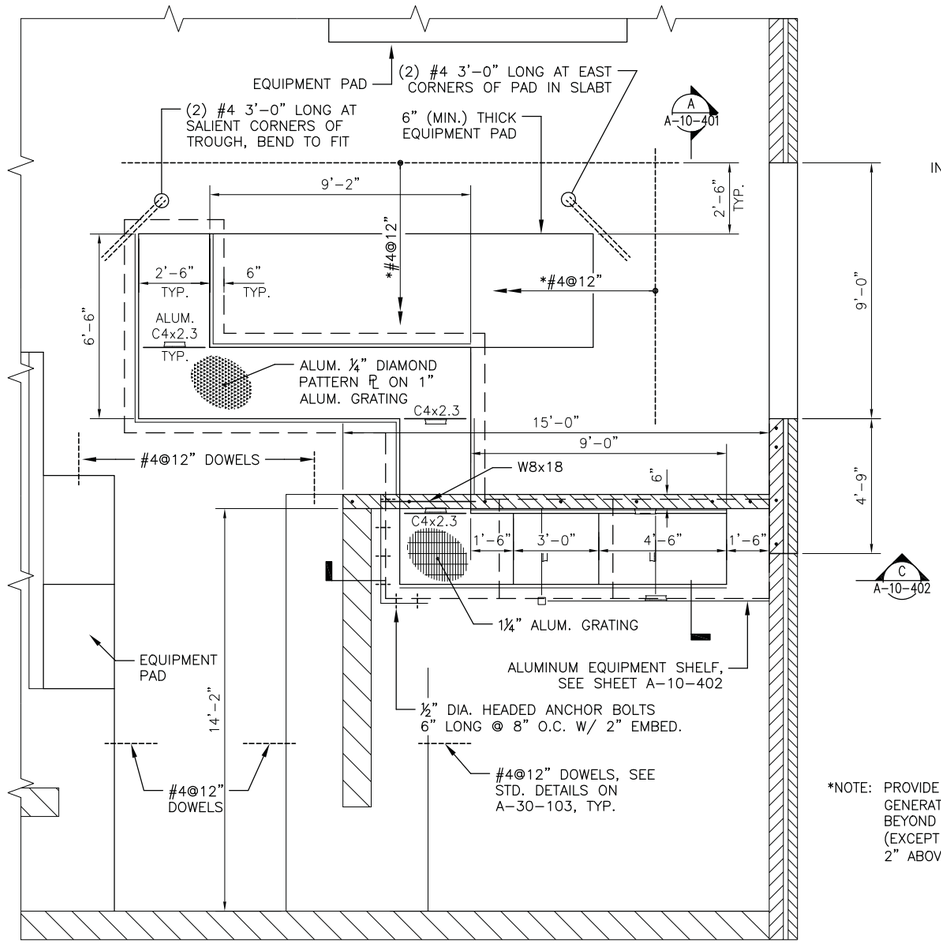
PROJECT No.

O0130014

DRAWING No.

A-10-301

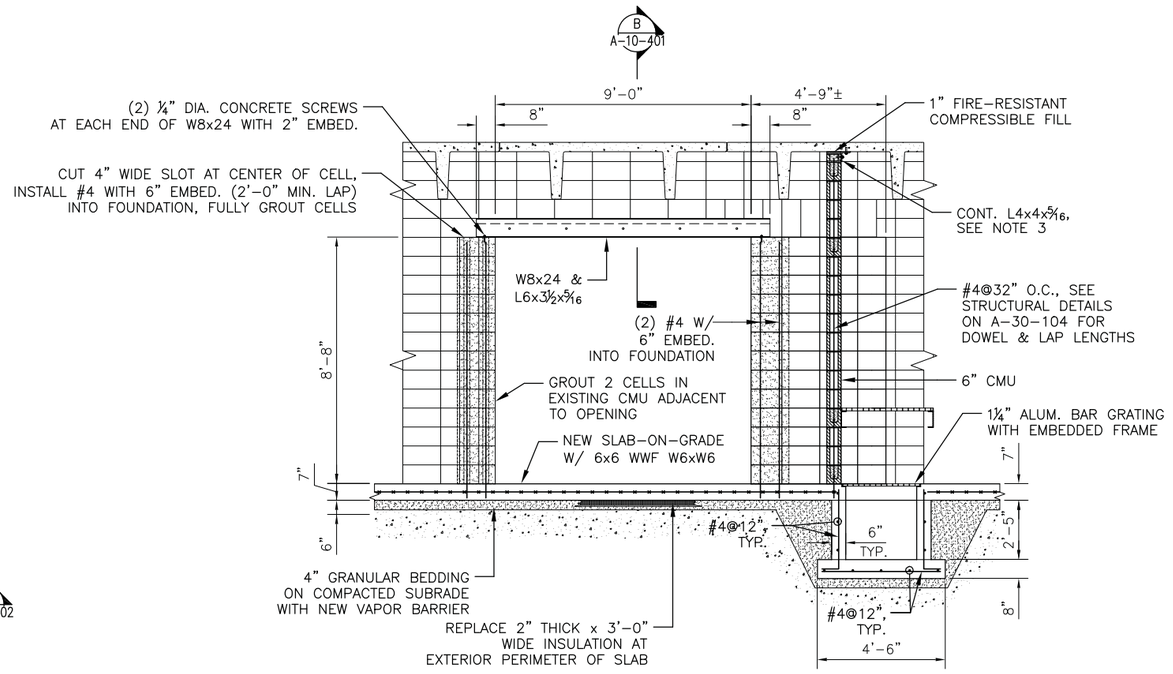
SHEET 010 OF 088 SHEETS



1 SLAB AND WALL STRUCTURAL PLAN

(ELEV. 99.0)

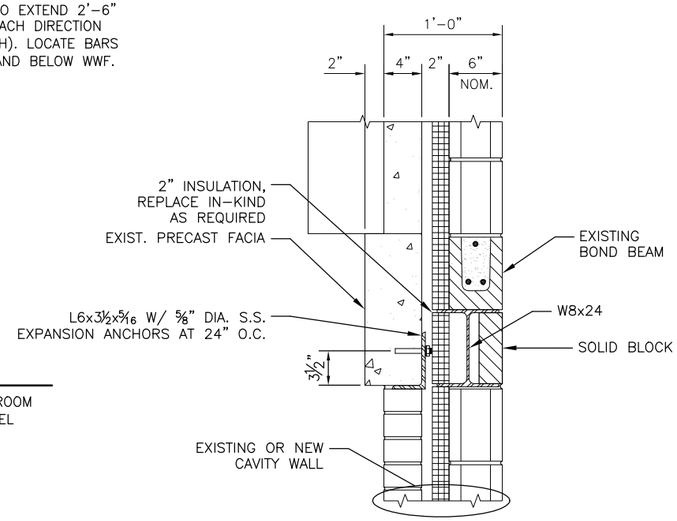
0 1' 2' 4'



A SECTION – WALL AND SLAB DETAILS

0 1' 2' 4'

*NOTE: PROVIDE #4@12" IN 7" SLAB IN LOCATION OF GENERATOR PAD. BARS ARE TO EXTEND 2'-6" BEYOND LIMITS OF SLAB IN EACH DIRECTION (EXCEPT ADJACENT TO TROUGH). LOCATE BARS 2" ABOVE BOTTOM OF SLAB AND BELOW WWF.



B SECTION – LINTEL

0 6" 1'

NOTES

1. SEE SHEET A-00-102 FOR STRUCTURAL GENERAL NOTES.
2. SEE SHEET A-30-103 FOR STRUCTURAL STANDARD DETAILS
3. ANGLE SHALL HAVE LONG SLOTTED VERTICAL HOLES IN VERTICAL LEG. ANCHORS SHALL BE ½" DIA. WITH 2" EMBEDMENT SPACED AT 32" O.C. INTO GROUTED CMU AND UNDERSIDE OF CONCRETE DOUBLE-T'S. NUTS SHALL NOT BE FULLY TIGHTENED.
4. STEEL LINTEL ANGLE, W8x24 AND W8x18 SHALL BE HOT-DIPPED GALVANIZED.
5. ALUMINUM BAR GRATING TO BE SUPPORTED ON ALUMINUM FRAME EMBEDDED INTO SLAB. PROVIDE ALUMINUM CHANNEL SUPPORTS WHERE INDICATED.IN ELECTRICAL ROOM, ALUMINIUM DIAMOND PATTERN PLATE SHALL BE WELDED TO 1" DEEP ALUMINUM BAR GRATING.
6. HORIZONTAL #4@12" BARS IN TROUGH WALLS AND SLABS SHALL BE CONTINUOUS WITH 1'-6" MINIMUM LAPS AND BENT BARS AT CORNERS.
7. GENERATOR SHALL BE MOVED TO THE EAST IN THE ELECTRICAL ROOM TO PROVIDE 36" CLEARANCE BETWEEN GENERATOR CONTROL PANEL AND OPENED DAMPER BLADES AND ACTUATOR. FINAL LOCATION SHALL BE DETERMINED IN THE FIELD.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
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DESIGNED BY:	SMM
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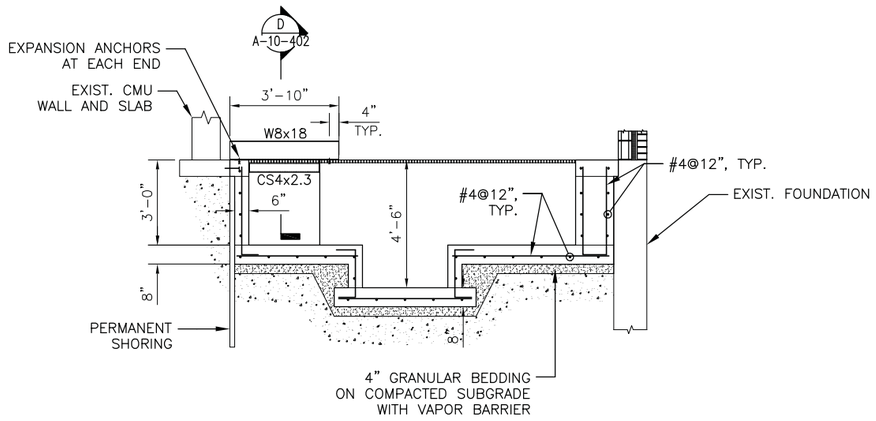
DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY STRUCTURAL SECTIONS AND DETAILS

PROJECT No.
O0130014

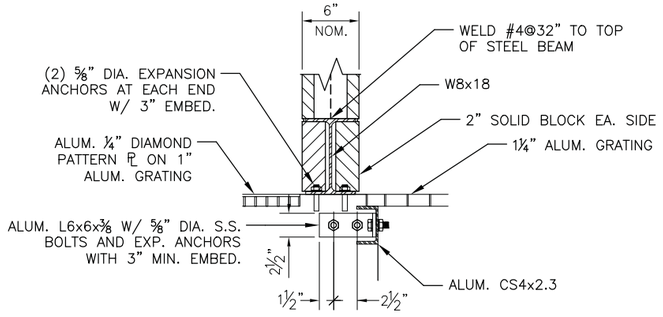
DRAWING No.
A-10-401

SHEET 011 OF 088 SHEETS



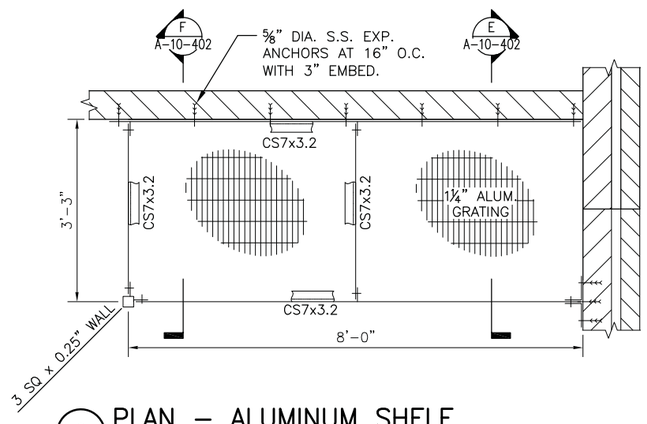
C SECTION – WALL AND SLAB DETAILS

0 1' 2' 4'



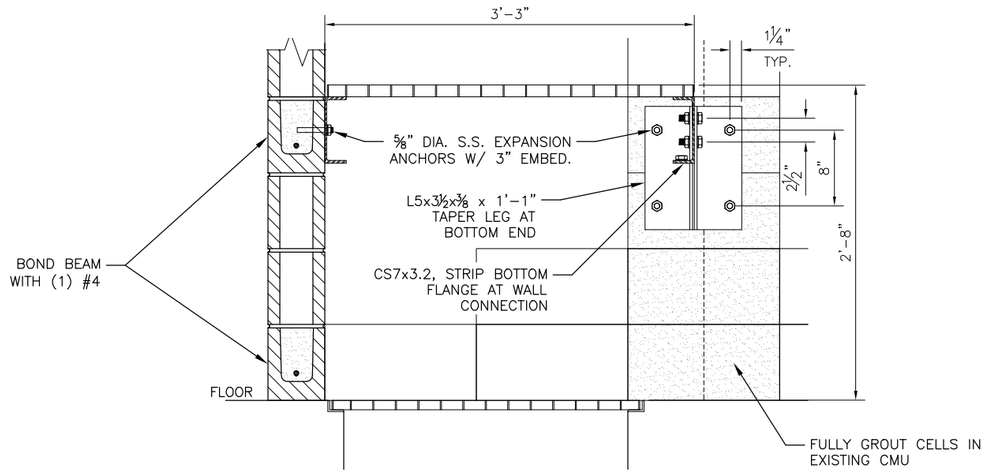
D SECTION – WALL AND GRATING SUPPORT

0 6" 1'



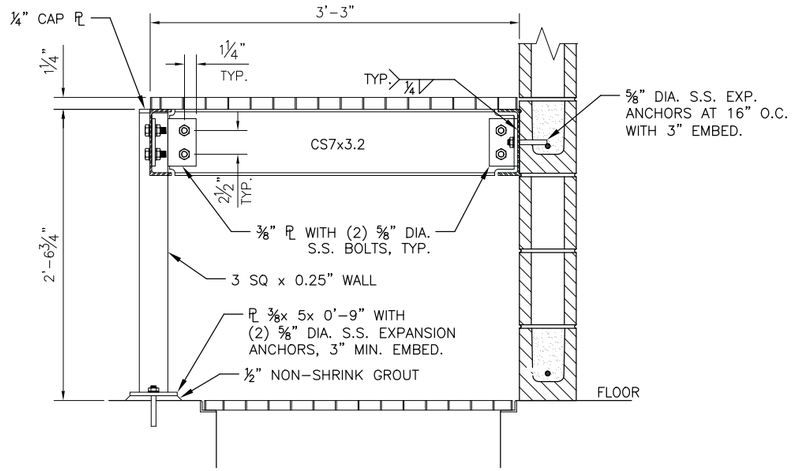
2 PLAN – ALUMINUM SHELF

0 1' 2'



E SECTION – SHELF SUPPORT

0 6" 1'



F SECTION – SHELF SUPPORT

0 6" 1'

NOTES

1. SEE SHEET A-00-102 FOR STRUCTURAL GENERAL NOTES.
2. SEE SHEET A-30-103 FOR STRUCTURAL STANDARD DETAILS.
3. CONNECTIONS NOT SHOWN ARE SIMILAR TO THOSE SHOWN IN SECTIONS.
4. NO MORE THAN ONE EXPANSION ANCHORS PER CMU CELL IS PERMITTED. EXPANSION ANCHORS SHALL BE A MINIMUM OF 2" FROM GROUTED JOINTS. VERIFY ARRANGEMENT OF CMU AND REVISE DIMENSIONS PRIOR TO SHOP DRAWING SUBMITTAL AND FABRICATION.

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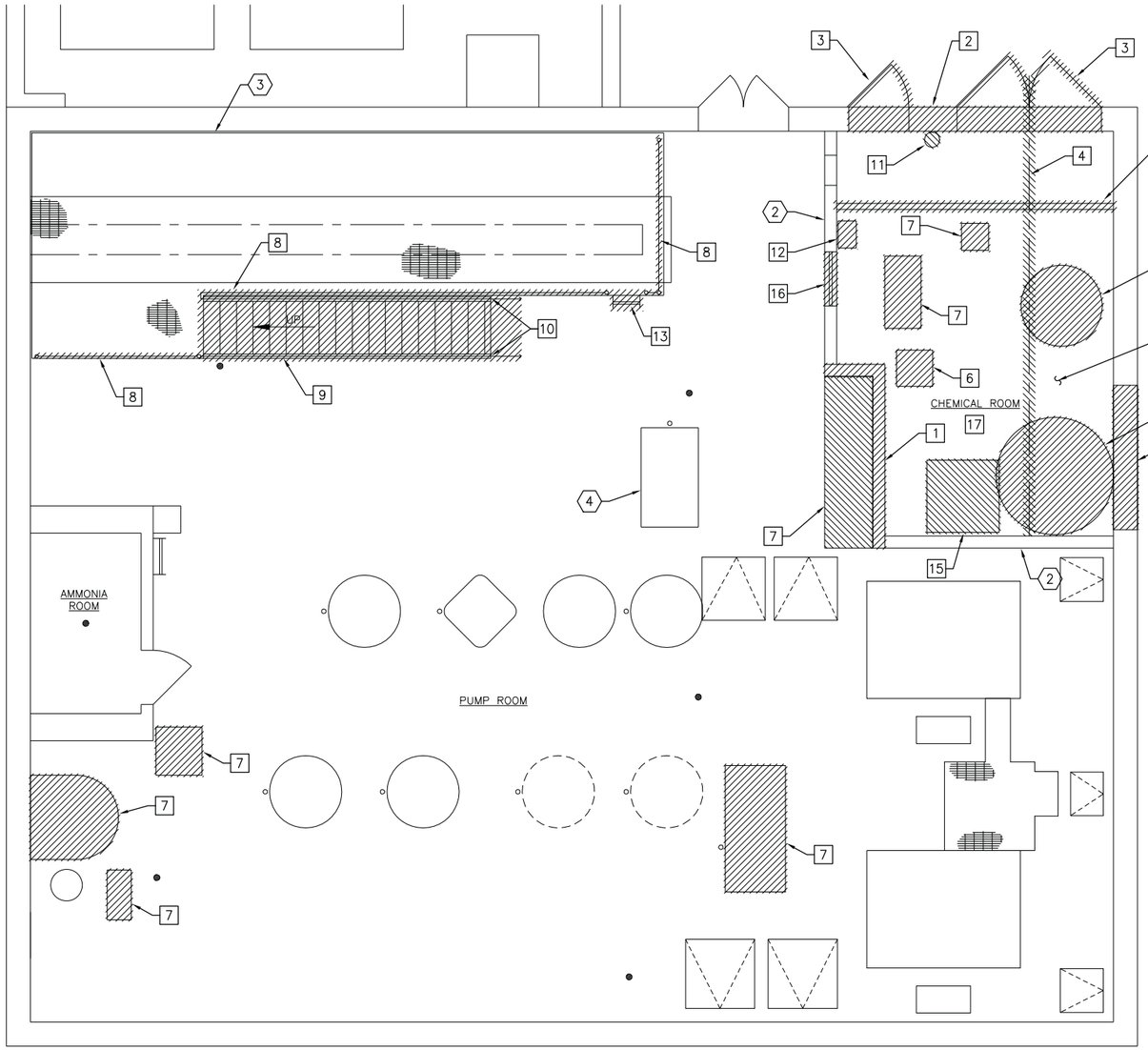
ADMINISTRATION AND FILTRATION FACILITY STRUCTURAL SECTIONS AND DETAILS

PROJECT No.
O0130014

DRAWING No.
A-10-402

SHEET 012 OF 088 SHEETS



1 ARCHITECTURAL DEMOLITION PLAN

(ELEV. 12.0)

0 1' 2' 4' 8'

NOTES

1. SEE DRAWING A–00–101 FOR ARCHITECTURAL GENERAL NOTES.

DEMOLITION KEYNOTES

1. REMOVE WALLS AND ALL ASSOCIATED COMPONENTS. PATCH AND PREPARE SURFACES TO ACCEPT NEW PLAN.
2. REMOVE WALLS AND ALL ASSOCIATED COMPONENTS TO 10'–0" AFF. PATCH AND PREPARE SURFACES TO ACCEPT NEW PLAN.
3. REMOVE DOORS AND ASSOCIATED COMPONENTS. PREPARE SURFACES TO ACCEPT NEW PLAN. SALVAGE DOOR HARDWARE FOR REUSE.
4. REMOVE CRANE BEAM, ALL ASSOCIATED COMPONENTS, AND STRUCTURAL SUPPORTS. PATCH CEILING AND EXTERIOR SURFACES TO MATCH ADJACENT EXISTING TO REMAIN.
5. REMOVE EXISTING CONCRETE CONTAINMENT CURB.
6. REMOVE EXISTING 24" X 24" STEEL GRATING AND INFILL DEPRESSION IN SLAB WITH CONCRETE TO MATCH EXISTING SURFACE.
7. REMOVE EXISTING CONCRETE EQUIPMENT PAD. PATCH AND FINISH SURFACE TO MATCH EXISTING.
8. REMOVE RAIL TO ACCOMMODATE NEW PLAN. MAINTAIN EXISTING RAIL IN CONDITION TO ACCEPT RAIL FOR NEW WORK.
9. RELOCATE EXISTING STAIR STRINGERS, ALUMINUM GRATING STAIR TREADS, AND ALUMINUM PIPE RAILS.
10. REMOVE EXISTING STAIR STRINGER SUPPORT ANCHOR BOLTS AND GROUT.
11. RELOCATE EXISTING FIRE EXTINGUISHER.
12. REMOVE EXISTING DEHUMIDIFIER, SUPPORT SHELF, AND BRACKETS.
13. RELOCATE EXISTING LADDER. REMOVE EXISTING ANCHOR BOLTS AND GROUT. PATCH AND FINISH SURFACE TO MATCH EXISTING.
14. REMOVE PART OF CONCRETE WALL AND ALL ASSOCIATED COMPONENTS TO INSTALL NEW LOUVER, LOCATED ABOVE CHEMICAL ROOM. PATCH AND PREPARE SURFACES TO ACCEPT NEW WORK.
15. REMOVE PART OF CONCRETE CEILING AND ALL ASSOCIATED COMPONENTS TO INSTALL NEW DUCT OPENING. PATCH AND PREPARE SURFACES TO ACCEPT NEW WORK.
16. REMOVE EXISTING BORROWED LIGHT.
17. REMOVE EXISTING EPOXY FLOORING.

KEYNOTES

1. EXISTING CONCRETE SLAB TO REMAIN.
2. EXISTING CMU WALL TO REMAIN.
3. EXISTING MEZZANINE TO REMAIN.
4. EXISTING CONCRETE EQUIPMENT PAD TO REMAIN.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE

WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	KLW/TOC
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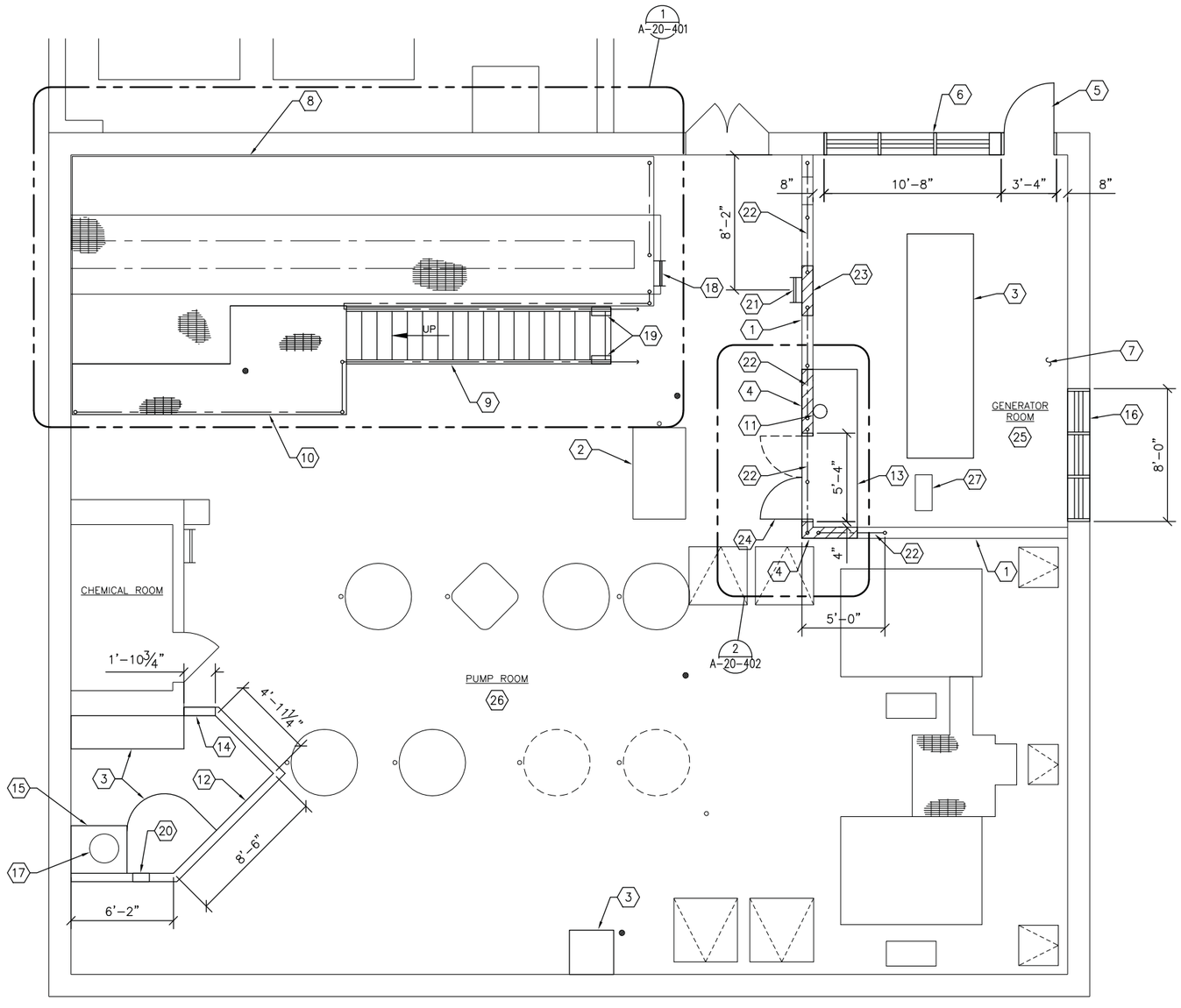
DRAWING TITLE

LOW LIFT PUMP STATION
ARCHITECTURAL
DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
A-20-101



1 FIRST FLOOR ARCHITECTURAL PLAN

(ELEV. 12.0)

0 1' 2' 4' 8'

NOTES

1. SEE DRAWING A–00–101 FOR ARCHITECTURAL GENERAL NOTES.
2. ALL WALLS, FLOORS, AND CEILINGS IN GENERATOR ROOM, CHEMICAL ROOM, POTASSIUM PERMANGANATE MIXING SYSTEM AREA AND MODIFIED WALLS (TO EXTERIOR BUILDING WALLS) SHALL BE PATCHED AND PAINTED TO MATCH EXISTING SURFACE COLORS. ALL SUPPORT BRACKETS NOT BEING USED SHALL BE REMOVED AND ALL HOLES IN WALLS, FLOORS, AND CEILING TO BE PATCHED.
3. PROVIDE 2–HOUR FIRE RATED SEAL AROUND ALL EXISTING AND NEW PENETRATIONS IN GENERATOR ROOM WALLS OR CEILING.
4. PROVIDE LAMINATE SIGNS (TYPE TO MATCH NEW SIGNS AT WTP) ON GENERATOR ROOM AND CHEMICAL ROOM INTERIOR DOORS.

(#) KEYNOTES

1. EXISTING CMU WALL.
2. EXISTING CONCRETE EQUIPMENT PAD.
3. PROVIDE CONCRETE EQUIPMENT PAD (COORDINATE EXACT SIZE WITH SELECTED EQUIPMENT). SEE DETAIL 2/A–30–103.
4. PROVIDE CMU WALL.
5. PROVIDE 3'–0" x 7'–0" x 1 3/4" DOOR AND FRAME, DOOR D.
6. PROVIDE REMOVABLE LOUVERS.
7. EXISTING CONCRETE SLAB.
8. EXISTING MEZZANINE.
9. RELOCATED STAIR STRINGERS, ALUMINUM GRATING STAIR TREADS, AND ALUMINUM PIPE RAILS.
10. PROVIDE MEZZANINE EXTENSION.
11. RELOCATED FIRE EXTINGUISHER.
12. PROVIDE 16" HIGH CONCRETE CONTAINMENT CURB. SEE STRUCTURAL SECTION E/A–20–402.
13. PROVIDE 12" THICK CONCRETE TO FILL IN OPENING IN CONCRETE CEILING TO MATCH EXISTING SURFACE. DOWEL REBAR INTO EXISTING CONCRETE CEILING TO TIE CONCRETE TOGETHER. SEE DETAIL C/A–20–402.
14. PROVIDE CONCRETE WALL. SEE STRUCTURAL SECTION F/A–20–402.
15. CONCRETE ENCASE EXISTING WET WELL VENT PIPE 16" HIGH. POUR CONTINGUOUS WITH CONTAINMENT CURB.
16. 52"H x 8'–0"W DARK BRONZE ANODIZED LOUVER, LOCATED ABOVE GENERATOR ROOM.
17. EXISTING WET WELL VENT PIPE.
18. RELOCATED LADDER. PROVIDE ANCHOR BOLTS AND GROUT AS REQUIRED.
19. PROVIDE ANCHOR BOLTS AND GROUT FOR STAIR STRINGERS AS REQUIRED.
20. MODIFY SUPPORT POST FOR PLATFORM AND ANCHOR TO CONTAINMENT CURB.
21. PROVIDE STEEL LADDER. SEE DETAIL 6 ON SHEET A–30–103.
22. REMOVABLE ALUMINUM GUARDRAIL WITH TOE PLATE (LOCATED ON CONCRETE CEILING). SEE DETAIL 5 ON SHEET A 30–103.
23. BLOCK IN OPENING FOR WINDOW WITH CMU.
24. PROVIDE PAIR 1 1/2" HOUR FIRE RATED DOORS AND FRAME, DOOR E.
25. PAINT FLOOR PER SPECIFICATIONS.
26. PATCH EPOXY FLOORING TO MATCH EXISTING AT REMOVALS AND NEW FLOORING.
27. PROVIDE PROTECTIVE STEEL COVER OVER PIPE CROSSING FLOOR. COVER SHALL BE CONSTRUCTED OF 3/16" MIN, THICK A36 STEEL PLATE WITH A MINIMUM WIDTH OF 2'–6" IN THE LINE OF PASSAGE. COVER SHALL BE "U" SHAPED AND COMPLETELY FIT OVER PIPE AND INSULATION. PROVIDE FLANGES WITH (2) ¼" CONCRETE SCREWS ON EACH SIDE OF COVER.

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OAK CREEK WATER and SEWER UTILITY

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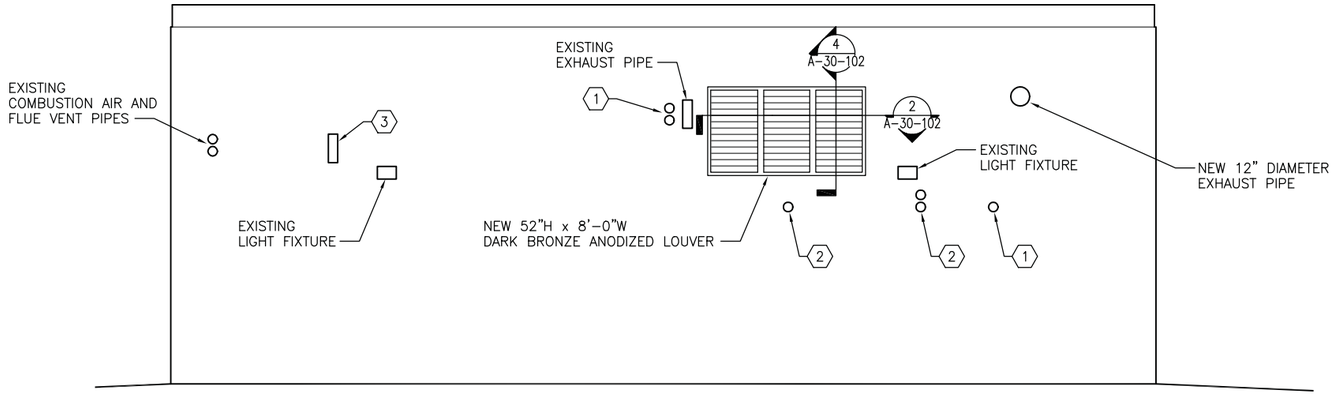
DRAWING TITLE
LOW LIFT PUMP STATION FIRST FLOOR ARCHITECTURAL PLAN

PROJECT No.
O0130014

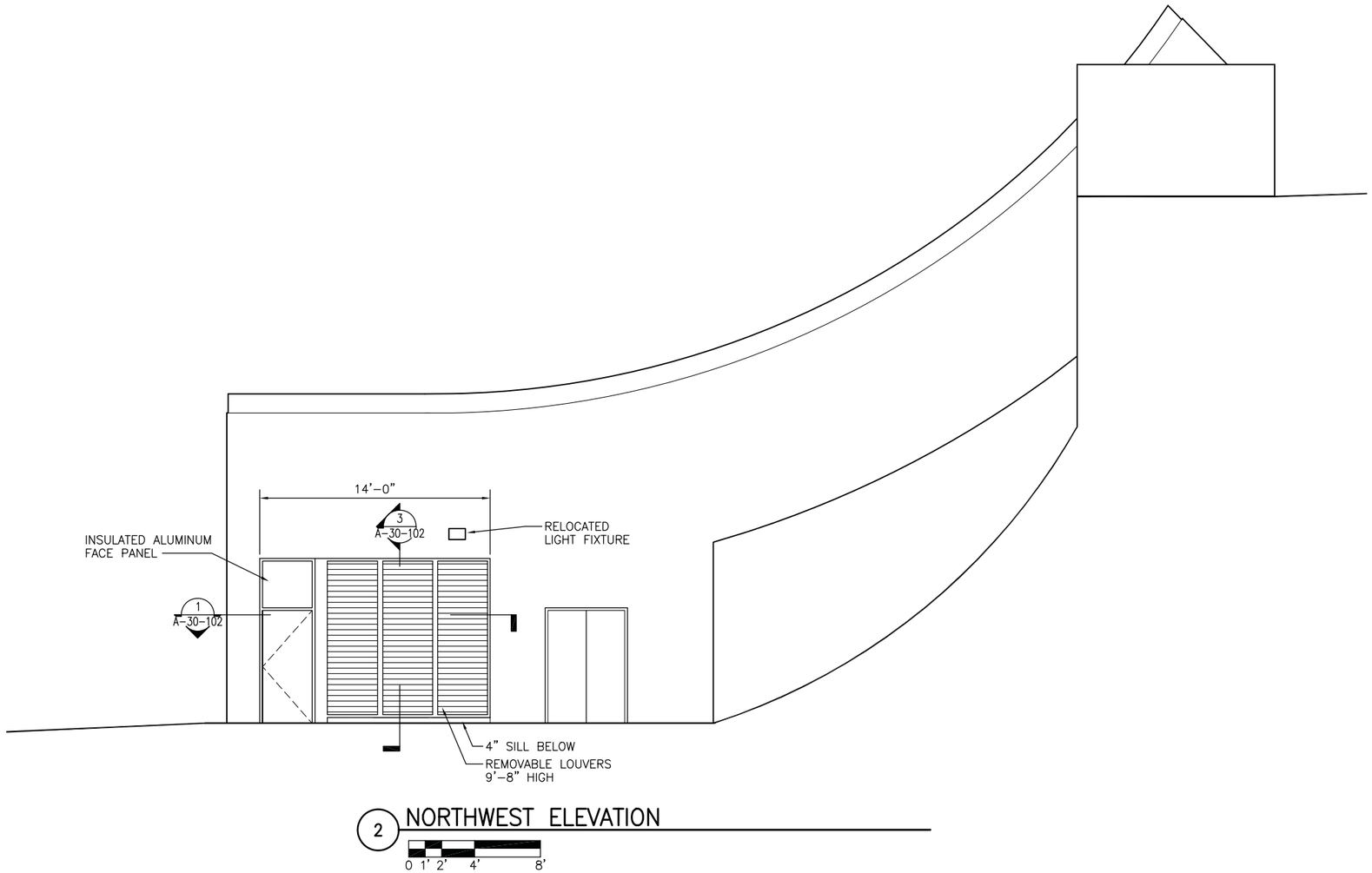
DRAWING No.
A-20-201

SHEET 014 OF 088 SHEETS



1 NORTHEAST ELEVATION

0 1' 2' 4' 8'



2 NORTHWEST ELEVATION

0 1' 2' 4' 8'

NOTES

1. SEE DRAWING A-00-101 FOR ARCHITECTURAL GENERAL NOTES.

KEYNOTES

1. REMOVE EXISTING VENT PIPE AND PATCH SURFACE TO MATCH EXISTING.
2. USE AND MODIFY EXISTING EXTERIOR WALL PENETRATION. SEAL OPENING WATER TIGHT.
3. REMOVE EXISTING EXHAUST PIPE AND PATCH SURFACE TO MATCH EXISTING.

3 EXISTING NORTHEAST ELEVATION

NO SCALE

4 EXISTING NORTHWEST ELEVATION

NO SCALE

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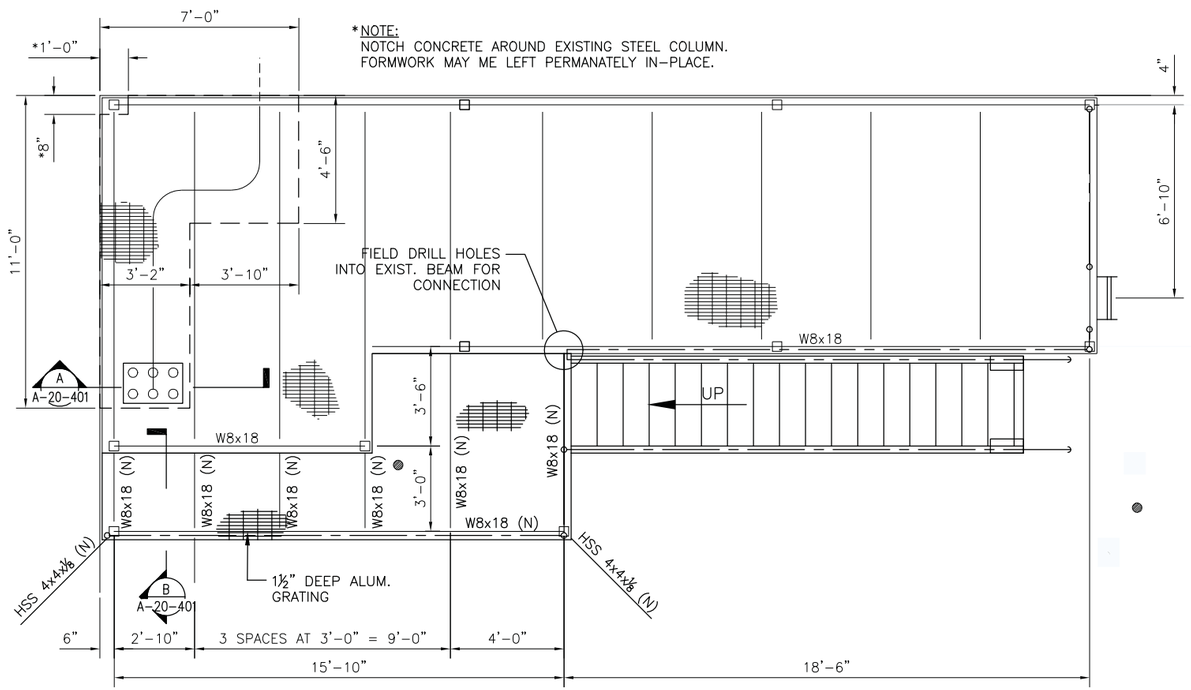
LOW LIFT PUMP STATION
ARCHITECTURAL
EXTERIOR ELEVATIONS

PROJECT No.
00130014

DRAWING No.
A-20-301

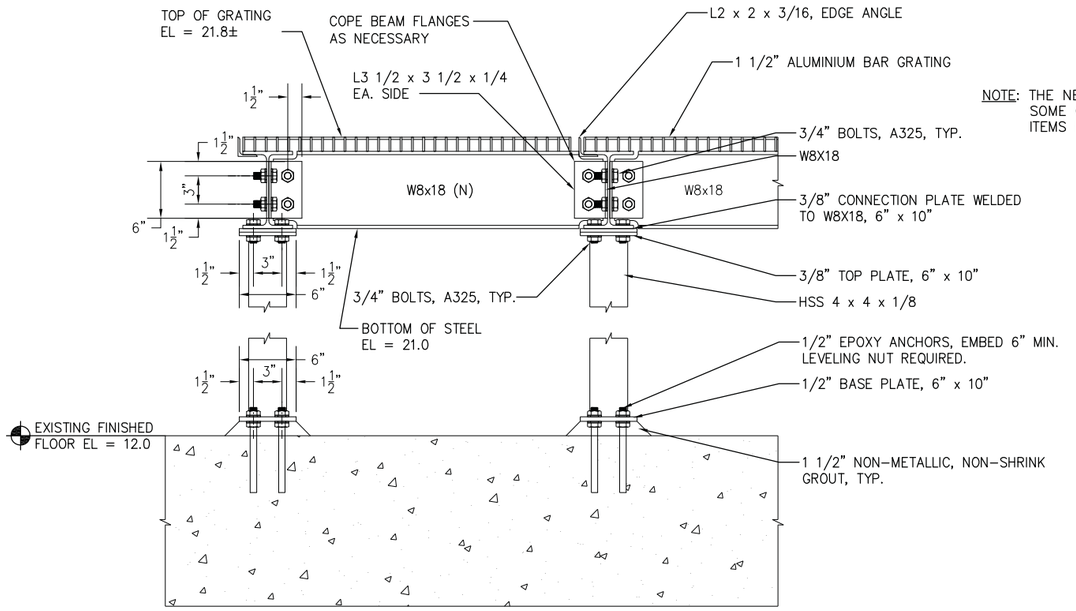
SHEET 015 OF 088 SHEETS



1 MEZZANINE STRUCTURAL PLAN

(ELEV. 21.80)

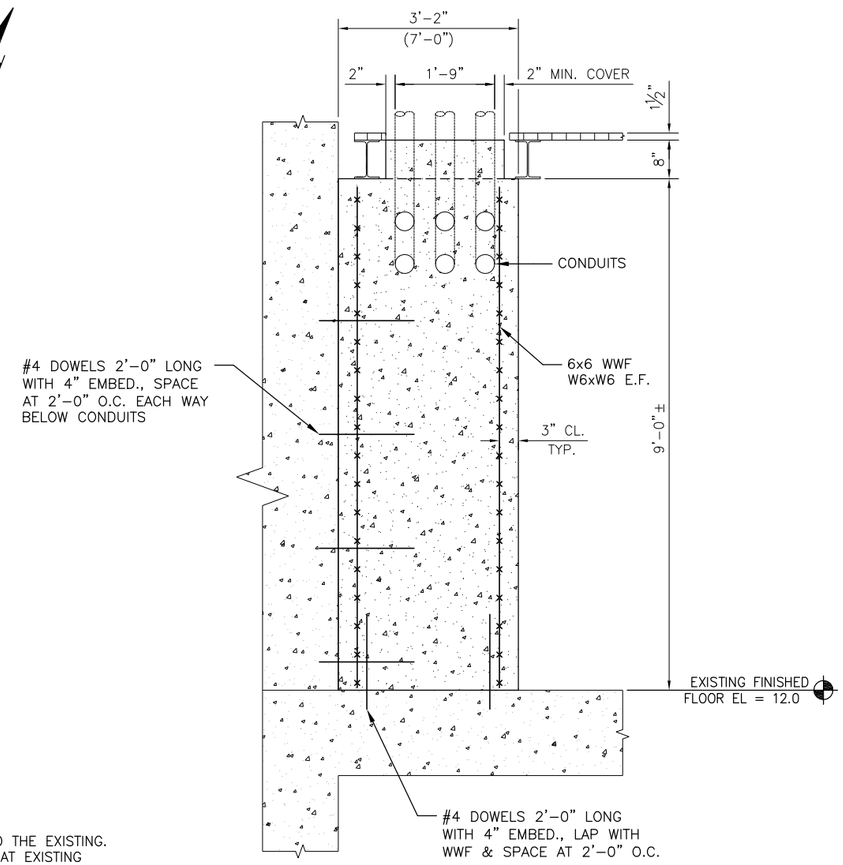
0 1' 2' 4'



B SECTION – MEZZANINE FRAMING & GRATING

0 6" 1'

NOTE: THE NEW WORK IS SIMILAR TO THE EXISTING. SOME CALLOUTS ARE SHOWN AT EXISTING ITEMS FOR CLARITY.



A SECTION – CONCRETE ENCASEMENT

0 6" 1' 2'

NOTES

1. SEE SHEET A-00-102 FOR STRUCTURAL GENERAL NOTES.
2. SEE SHEET A-30-103 FOR STRUCTURAL STANDARD DETAILS
3. CONTRACTOR SHALL VERIFY DIMENSIONS OF EXISTING MEZANNINE FRAMING INLCUDING BEAM SPACINGS, COLUMN HEIGHTS, AND CONNECTION DETAILS. NEW MEMBERS SHALL FRAME INTO EXISTING CONNECTION LOCATIONS UNLESS NOTED OTHERWISE.
4. PAINTED FINISH OF NEW STRUCTURAL STEEL SHALL MATCH COLOR OF EXISTING.
5. SALVAGE EXISTING ALUMINUM HANDRAIL AND INCORPORATE INTO NEW WORK.
6. EXISTING STAIR SHALL BE INCORPORATED INTO NEW WORK.
7. PROVIDE A MINIMUM OF 2" CONCRETE COVER FOR EXTENTS OF CONDUIT PACKAGE UP TO 9'-8" ABOVE FINISHED FLOOR (JUST BELOW ALUMINUM GRATING).
8. REMOVE ALUMINUM GRATING WHERE CONDUIT PACKAGE TURNS UPWARD INTO ATS UNIT.

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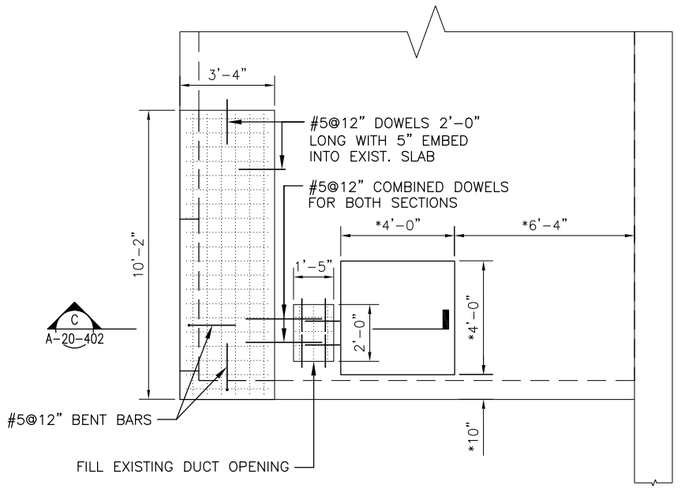
DRAWING TITLE
LOW LIFT PUMP STATION
MEZZANINE
STRUCTURAL PLAN
AND DETAILS

PROJECT No.
O0130014

DRAWING No.
A-20-401

SHEET 016 OF 088 SHEETS

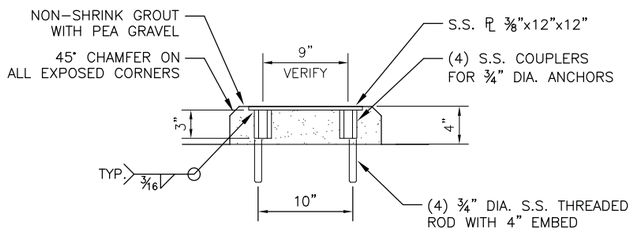


2 PLAN – GENERATOR ROOM CONCRETE CEILING

(ELEV. 22.0)

0 1' 2' 4'

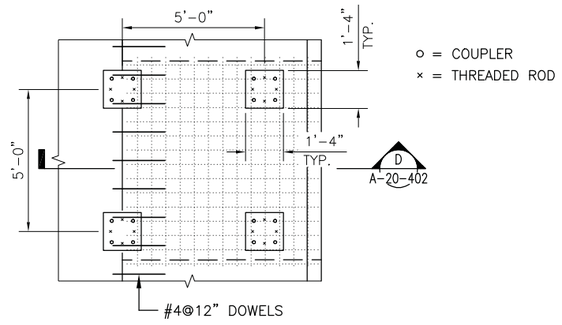
*NOTE:
CUT OPENING FOR NEW DUCT. NOMINAL DIMENSIONS SHOWN. COORDINATE DIMENSIONS AND LOCATION FOR SPECIFIC CONDITIONS AND EQUIPMENT.



NOTES:
1. COORDINATE THREADS AND FINAL LOCATION WITH CARBON FEEDER.
2. THREADED ROD EMBEDDED IN CONCRETE SHALL BE EPOXIED IN PLACE.
3. STAINLESS STEEL PLATES SHALL ALL BE LEVEL AND AT SAME ELEVATION.

4 DETAIL – SUPPORT PAD

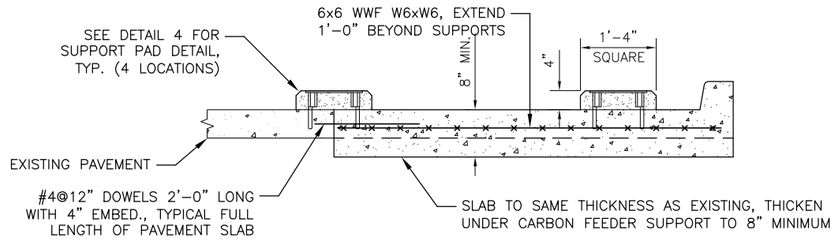
0 1' 2'



NOTE: SEE SHEET C-20-101 FOR CARBON FEEDER LOCATION

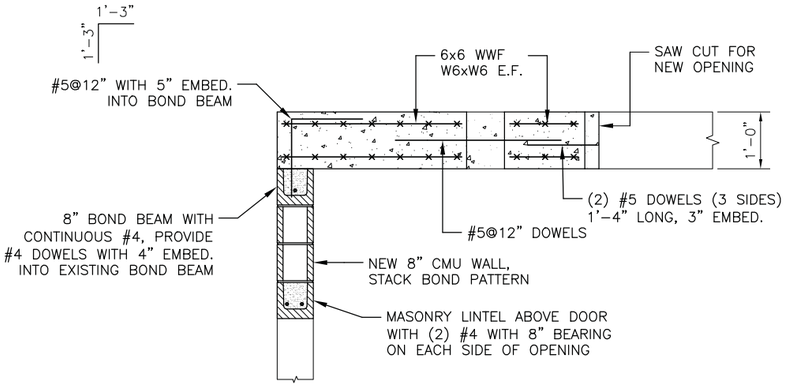
3 PLAN – CARBON FEEDER SUPPORT

0 1' 2' 4'



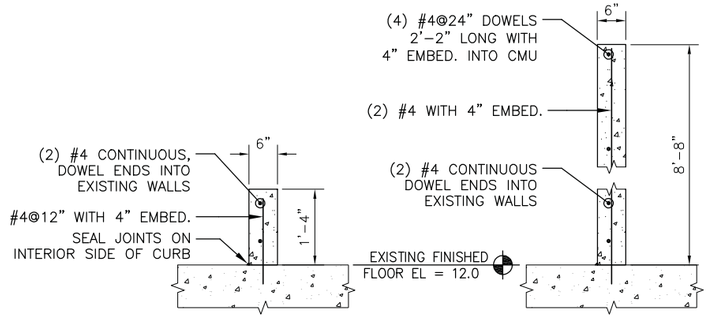
D SECTION – CARBON FEEDER SUPPORT

0 1' 2'



C SECTION – SLAB AND MASONRY WALL

0 1' 2'



E&F SECTION – CONTAINMENT CURB AND WALL

0 1' 2'

NOTES

1. SEE SHEET A-00-102 FOR STRUCTURAL GENERAL NOTES.
2. SEE SHEET A-30-103 FOR STRUCTURAL STANDARD DETAILS
3. CONTRACTOR SHALL VERIFY DIMENSIONS OF EXISTING SLAB OVER PROPOSED GENERATOR ROOM.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: SMM
DRAWN BY: SMM
CHECKED BY: PS
DATE CHECKED: 01/11

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

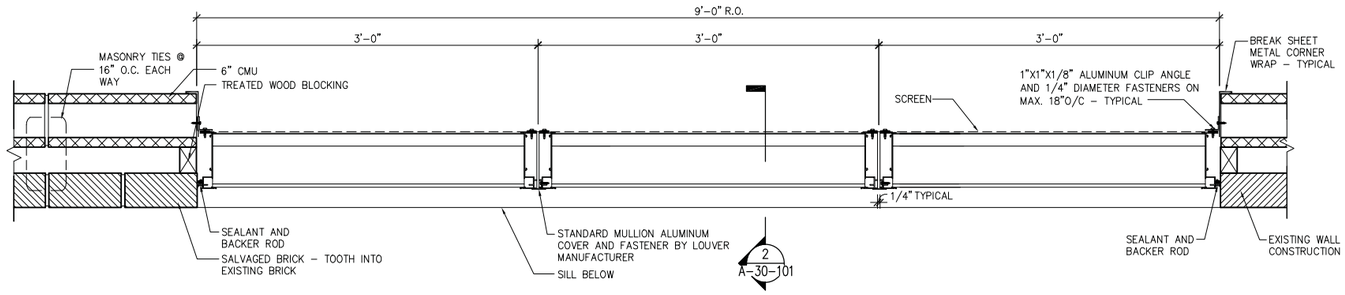
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
LOW LIFT PUMP STATION STRUCTURAL PLANS AND SECTIONS

PROJECT No.
O0130014

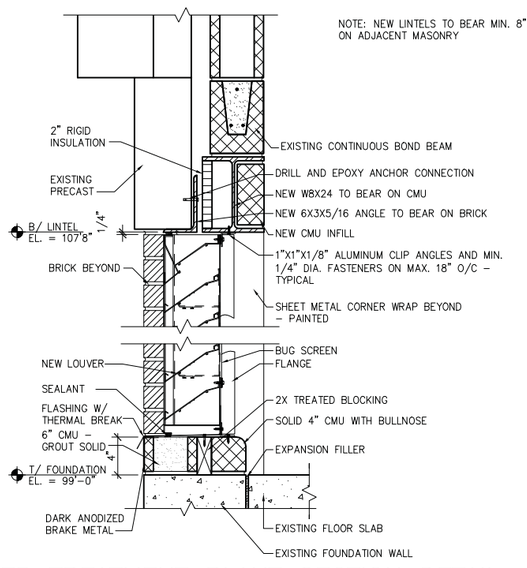
DRAWING No.
A-20-402

SHEET 017 OF 088 SHEETS



1 LOUVER PLAN AT WATER TREATMENT PLANT

0 6" 1' 1'-6"



2 WATER TREATMENT PLANT SECTION DETAIL

0 6" 1' 1'-6"

NOTE: FLASHING SIMILAR TO FIRESTONE DETAIL BU-BT-7

4 CURB DETAIL

0 6" 1' 1'-6"

NOTE: FLASHING SIMILAR TO FIRESTONE DETAIL BU-P-5

5 PLUMBING VENT DETAIL

0 6" 1' 1'-6"

6 OPENING INFILL DETAIL

0 6" 1' 1'-6"

7 SLEEPER PROTECTION DETAIL

0 6" 1' 1'-6"

ROOM FINISH SCHEDULE

ROOM NAME	NO.	FLOOR	BASE	WALLS NORTH	WALLS EAST	WALLS SOUTH	WALLS WEST	CEILING MAT'L	CEILING HT.	PAINT WALLS	PAINT CLG	REMARKS
GENERATOR ROOM	100	PAINT	NONE	EXISTING	EXISTING	EXISTING	EXISTING	OPEN	10'-0"	YES	YES	--
PUMP ROOM	101	EXISTING	NONE	EXISTING	EXISTING	EXISTING	EXISTING	OPEN	VARIES	YES	NO	NOTE 1
CHEMICAL ROOM	102	EXISTING	NONE	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING		YES	YES	--
ELECTRICAL ROOM	200	PAINT	NONE	EXISTING	EXISTING	EXISTING / CMU	EXISTING	OPEN	11'-10"	YES	YES	--
MECHANICAL ROOM	201	PAINT	NONE	CMU	EXISTING	EXISTING	EXISTING	OPEN	11'-10"	YES	YES	--

ROOM FINISH SCHEDULE NOTES:
1. PAINT AT AREAS OF NEW WORK ONLY.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	KLW/TOC
DRAWN BY:	KLW/JRF
CHECKED BY:	TOC
DATE CHECKED:	01/11

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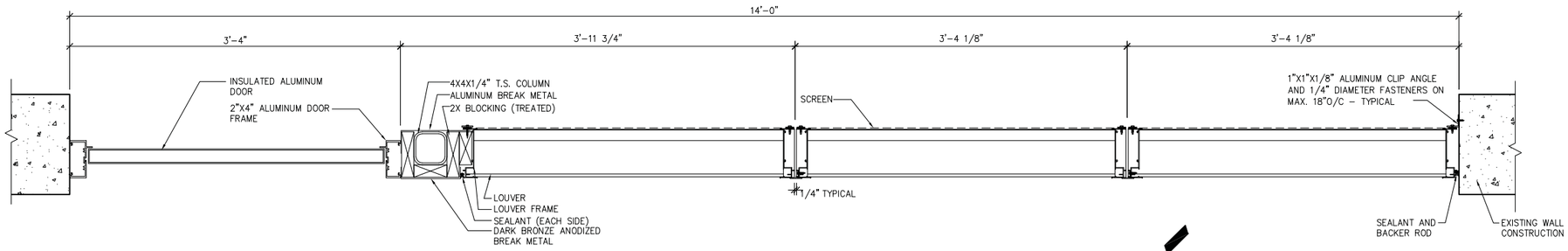
DRAWING TITLE
ARCHITECTURAL DETAILS AND SCHEDULES

PROJECT No.
O0130014

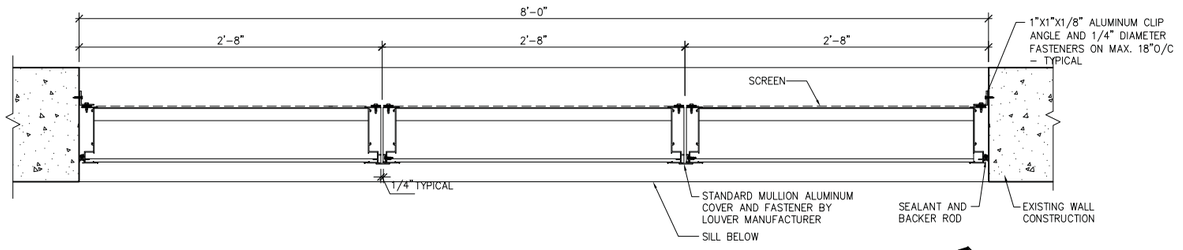
DRAWING No.
A-30-101

SHEET 018 OF 088 SHEETS



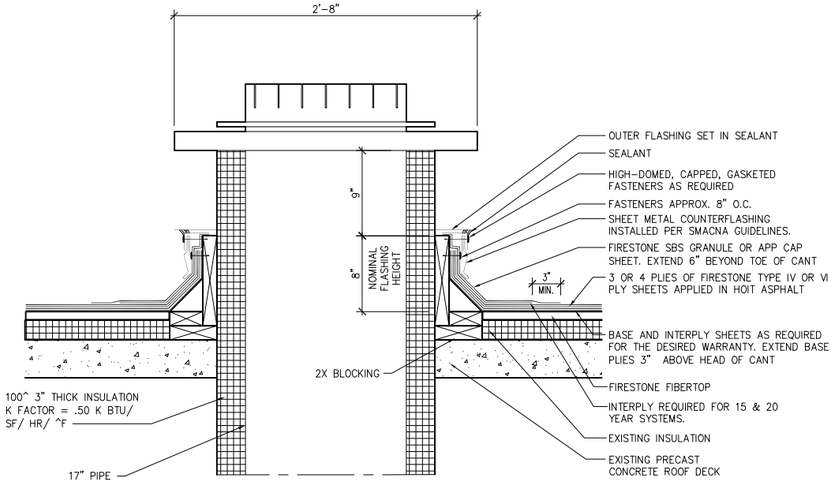
1 DOOR/LOUVER PLAN AT LOW LIFT PUMP STATION

0 6" 1' 1-'6"

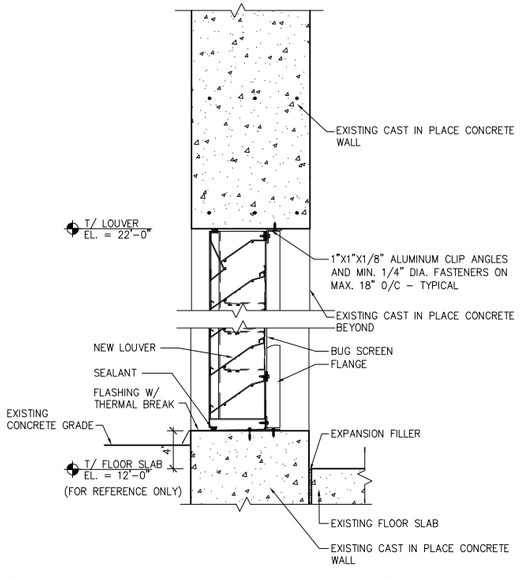


2 LOUVER PLAN AT LOW LIFT PUMP STATION MEZZANINE

0 6" 1' 1-'6"

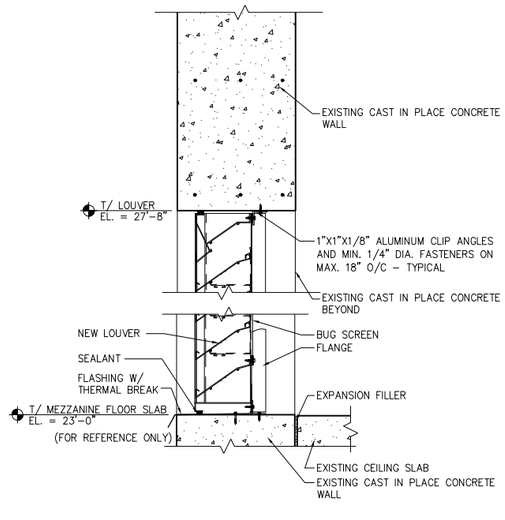


SECTION



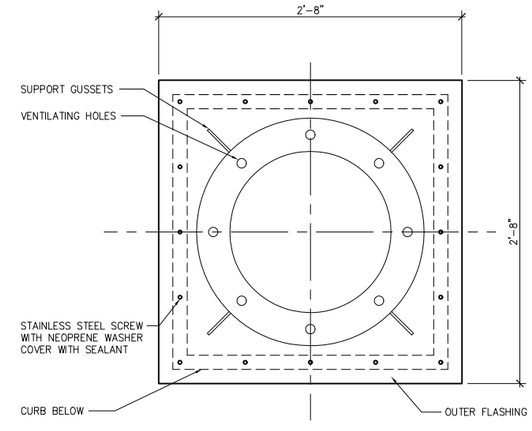
3 LOW LIFT PUMP STATION SECTION DETAIL

0 6" 1' 1-'6"



4 LOUVER SECTION AT LOW LIFT PUMP STATION MEZZANINE

0 6" 1' 1-'6"



PLAN

5 ROOF GENERATOR EXHAUST FLUE THIMBLE DETAIL

0 6" 1' 1-'6"

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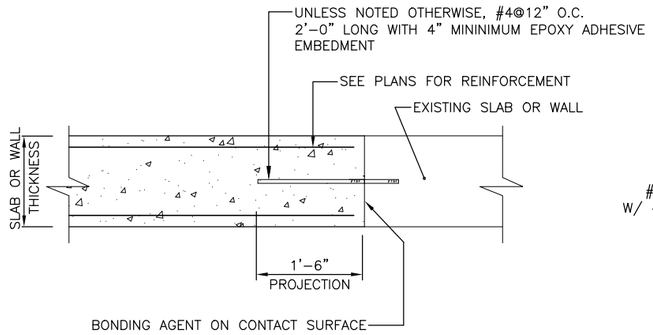
ARCHITECTURAL DETAILS

PROJECT No.
O0130014

DRAWING No.
A-30-102

SHEET 019 OF 088 SHEETS

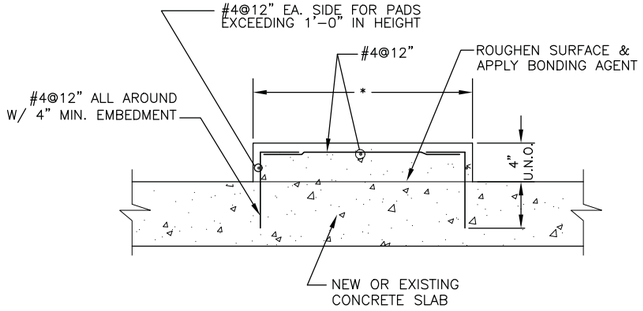


CONSTRUCTION PROCEDURE

1. IF PRESENT, REMOVE EXISTING WATERPROOFING AND PAINT. CLEAN EXISTING CONCRETE SURFACE THOROUGHLY OF ALL MUD, SCUM, DEBRIS AND LOOSE MATERIAL.
2. BUSH HAMMER TO ACHIEVE ROUGH SURFACE.
3. APPLY BONDING AGENT TO EXISTING CONCRETE SURFACE; SEE SPECIFICATIONS.
4. PLACE NEW CONCRETE AFTER ERECTION OF REINFORCEMENT AND FORMWORK.

1 CONSTRUCTION DETAILS NEW TO EXISTING CONCRETE

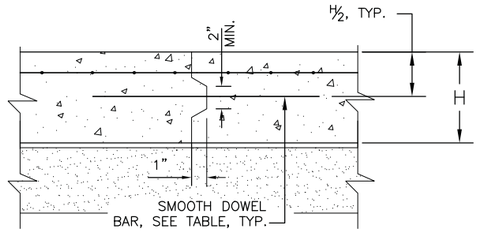
NO SCALE



*PAD SIZE TO BE DETERMINED FROM EQUIPMENT MANUFACTURER'S APPROVED SHOP DRAWINGS. SEE DRAWINGS FOR APPROXIMATE DIMENSIONS.

2 EQUIPMENT PAD REINFORCEMENT

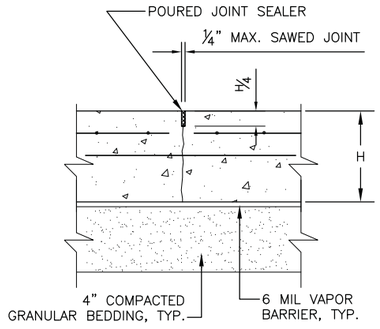
NO SCALE



NOTE: KEYWAY IS OPTIONAL. DO NOT PROVIDE IN SLAB LESS THAN 6" THICK OR IN COMBINATION WITH DOWEL BARS.

3 CONSTRUCTION JOINT

NO SCALE



NOTE: AT THE CONTRACTOR'S OPTION "STRESS LOCK" PLASTIC CONTROL JOINT OR APPROVED EQUAL MAY BE USED INSTEAD OF SAWED JOINT.

4 CONTRACTION JOINT

NO SCALE

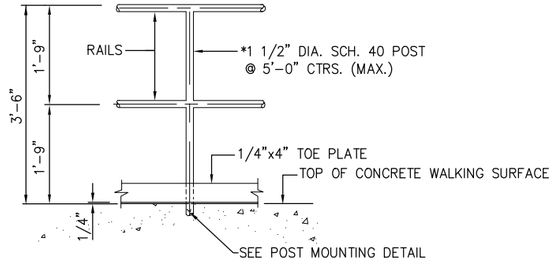
SLAB THICKNESS	DOWEL DIA. AND LENGTH	DOWEL SPACING
5"–6"	3/4"ø x 16"	12"
7"–8"	1"ø x 18"	12"
9"–11"	1 1/4"ø x18"	12"
12"	1 3/8"ø x 18"	12"

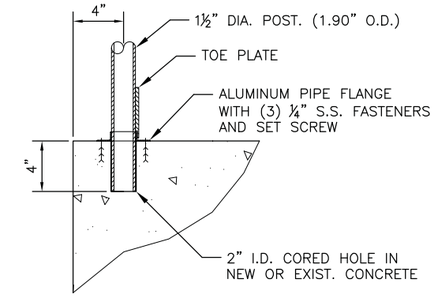
SLAB ON GRADE JOINT DETAILS

FOR BUILDING SLAB ONLY.

NOTES

1. SEE SHEET A-00-102 FOR STRUCTURAL GENERAL NOTES.

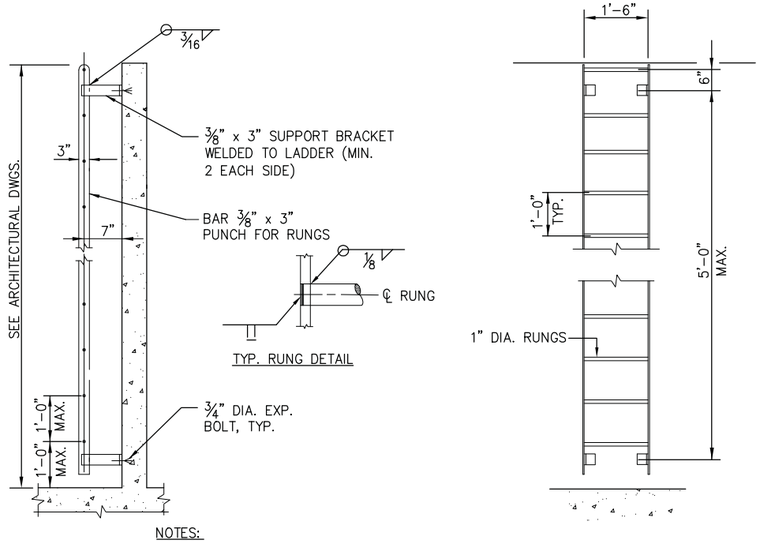




*MAXIMUM LENGTH OF SECTION OF REMOVABLE HANDRAIL IS 10'-0" WITH A MAXIMUM OF 3 POSTS.

5 REMOVABLE ALUMINUM GUARDRAIL DETAIL

NO SCALE



NOTES:

1. LADDER ATTACHED TO MASONRY WALLS SHALL ALSO BE BOLTED TO THE FLOOR.
2. ALL EXPANSION BOLTS SHALL BE STAINLESS STEEL. WHEN CONNECTING TO CMU, CELLS SHALL BE GROUTED PRIOR TO INSTALLATION OF BOLTS.

6 STEEL LADDER DETAIL

NO SCALE

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OAK CREEK WATER and SEWER UTILITY

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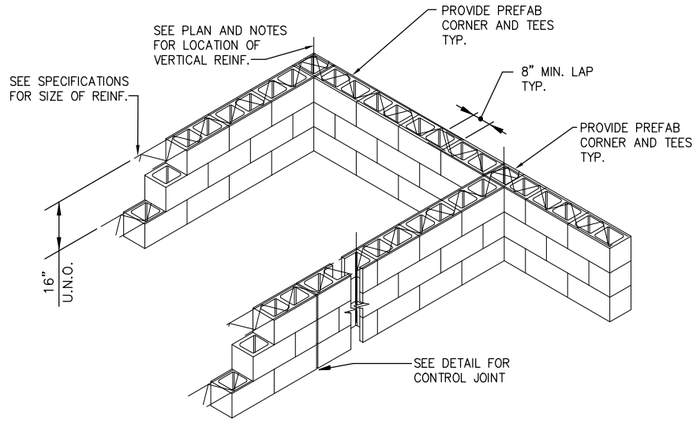
DRAWING TITLE
STRUCTURAL DETAILS

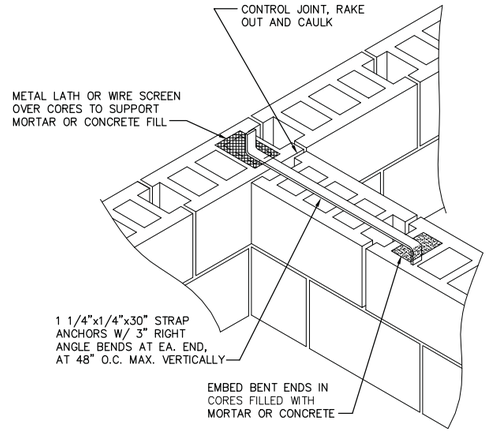
PROJECT No.
O0130014

DRAWING No.
A-30-103

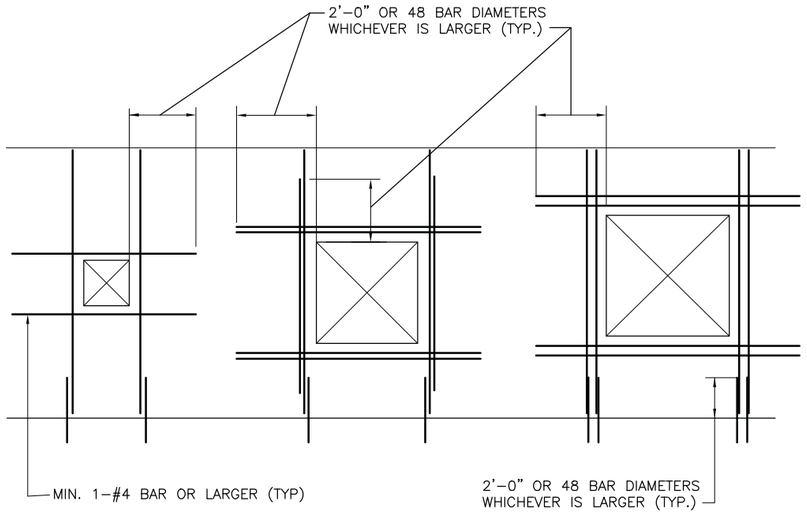
SHEET 020 OF 088 SHEETS



1 TYP JOINT REINFORCEMENT DETAIL
NO SCALE



2 WALL TO WALL ANCHORAGE AT INTERSECTION OF BEARING WALLS
NO SCALE



CASE 1
APPLIES TO (1) ALL OPENINGS IN NON-STRUCTURAL PARTITIONS OVER 100 IN. SQ. AND (2) ANY OPENING 2' OR LESS BOTH WAYS BUT OVER 100 IN. SQ. IN STRUCTURAL PARTITION OR EXTERIOR WALL.

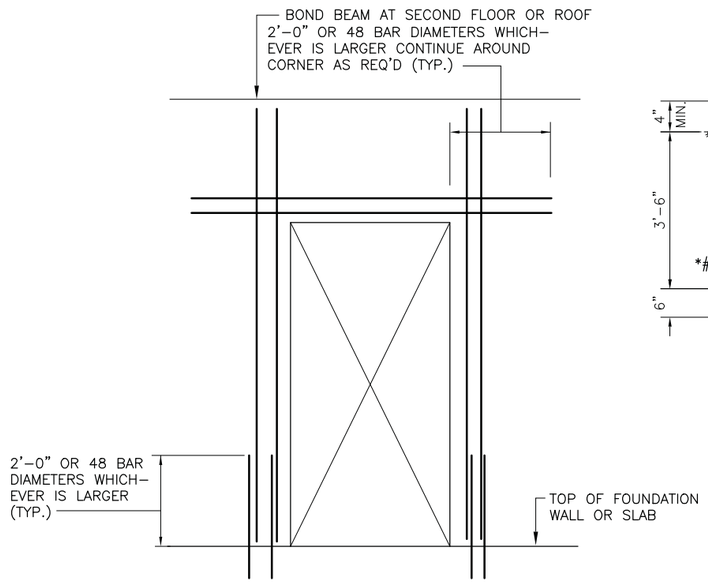
CASE 2
APPLIES TO STRUCTURAL PARTITION AND EXTERIOR WALLS WHEN OPENING EXCEEDS 2' BUT NOT MORE THAN 4' IN EITHER DIRECTION.

CASE 3
APPLIES TO STRUCTURAL PARTITION AND EXTERIOR WALLS WHEN OPENING EXCEEDS 4' IN EITHER DIRECTION.

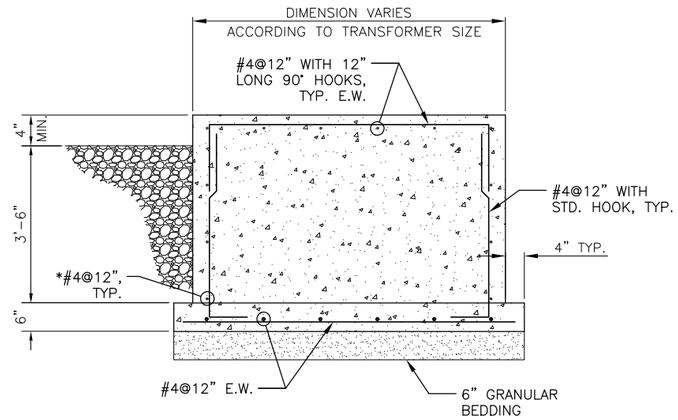
NOTES:

1. FOR VERTICAL REINFORCEMENT OF BARS, EA. BAR SHALL BE PLACED IN A SEPARATE CELL.
2. VERTICAL BARS SHALL BE BARS OF THE SAME SIZE, EXTENT, AND ANCHORAGE AS THE TYPICAL REINFORCEMENT IN THAT WALL UNLESS OTHERWISE NOTED.
3. VERTICAL REINFORCEMENT BARS CAN BE PART OF THE NORMAL VERTICAL REINFORCEMENT.

3 REINFORCEMENT AROUND WALL OPENINGS IN C.M.U.
NO SCALE



4 REINFORCEMENT AROUND DOOR OPENING IN C.M.U.
NO SCALE



NOTE: SEE SHEET E-10-401 FOR TRANSFORMER LOCATION

5 TRANSFORMER PAD
NO SCALE

NOTES

1. SEE SHEET A-00-102 FOR STRUCTURAL GENERAL NOTES.
2. BOND PATTERNS SHALL MATCH EXISTING CONDITIONS.
3. CMU WALL VERTICAL REINFORCEMENT:
   - 3.1. UNLESS NOTED OTHERWISE, PROVIDE #4 AT 32" ON-CENTER.
   - 3.2. PROVIDE (1) #4 AT EACH CORNER AND AT EACH INTERSECTION OF WALLS.
   - 3.3. PROVIDE (1) #4 AT EACH SIDE OF OPENINGS 4'-0" WIDE OR LESS.
   - 3.4. PROVIDE (2) #4 AT EACH SIDE OF OPENINGS GREATER THAN 4'-0" WIDE.
   - 3.5. PROVIDE #4 DOWELS INTO SLAB OR FOUNDATION WALL FOR EACH VERTICAL BAR IN CMU WALLS. PROVIDE MIN. EMBEDMENT OF 6".
4. CMU HORIZONTAL REINFORCEMENT: WHERE BOND BEAMS TERMINATE INTO EXISTING WALL, PROVIDE #4 DOWEL EXISTING BOND BEAM WITH 6" MIN. EMBEDMENT. PROVIDE 2'-0" MIN. LAP BETWEEN DOWEL AND NEW BOND BEAM REINFORCEMENT.
5. FOR LINTELS SEE DETAILS AND SECTIONS FOR EACH LOCATION REQUIRED.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SMM
DRAWN BY:	SMM
CHECKED BY:	PS
DATE CHECKED:	01/11

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DRAWING TITLE
STRUCTURAL DETAILS

PROJECT No.
O0130014

DRAWING No.
A-30-104

SHEET 021 OF 088 SHEETS

PROCESS 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 WATER 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 FAMILIARIZE HIMSELF WITH THE AREA AND NO EXTRA COMPENSATION CONNECTED WITH OVERHEAD UTILITIES WILL BE ALLOWED.
6. 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 OF THE ENGINEER.
7. INFORMATION ON DETAIL DRAWINGS TAKES PRIORITY OVER ALL GENERAL DRAWINGS AND SCHEDULES. CONFLICTS SHALL BE RESOLVED ACCORDINGLY.
8. 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.
9. 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.

PROCESS LEGEND

—PP—	POTASSIUM PERMANGANATE PIPING
—C—	CARBON FEED PIPING
—W—	WATER PIPING
—PW—	POTABLE WATER PIPING
—NPW—	NON–POTABLE WATER PIPING
—(NAME)—	EXISTING PIPING
	ELBOW DOWN OR AWAY
	ELBOW UP OR TOWARDS
	VALVE
	GAUGE
	TO BE REMOVED
	NEW CONNECTION TO EXISTING

PROCESS AND INSTRUMENTATION DIAGRAM LEGEND

	PROCESS PIPING
	ELECTRICAL SIGNAL
	VALVE
	PROCESS FLOW DIRECTION
	VIEWING GLASS
▷ D	DISCRETE SIGNAL
▷ A	ANALOG SIGNAL
XX	UNIT PROCESS NUMBER
XXXX	FIELD MOUNTED DEVICE
	UNIT NUMBER

PROCESS AND INSTRUMENTATION DIAGRAM ABBREVIATIONS

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

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: JLE
DRAWN BY: CWL
CHECKED BY: TKB
DATE CHECKED: 01/11

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

DATE	REVISION
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2/3/11	ISSUED FOR BIDS

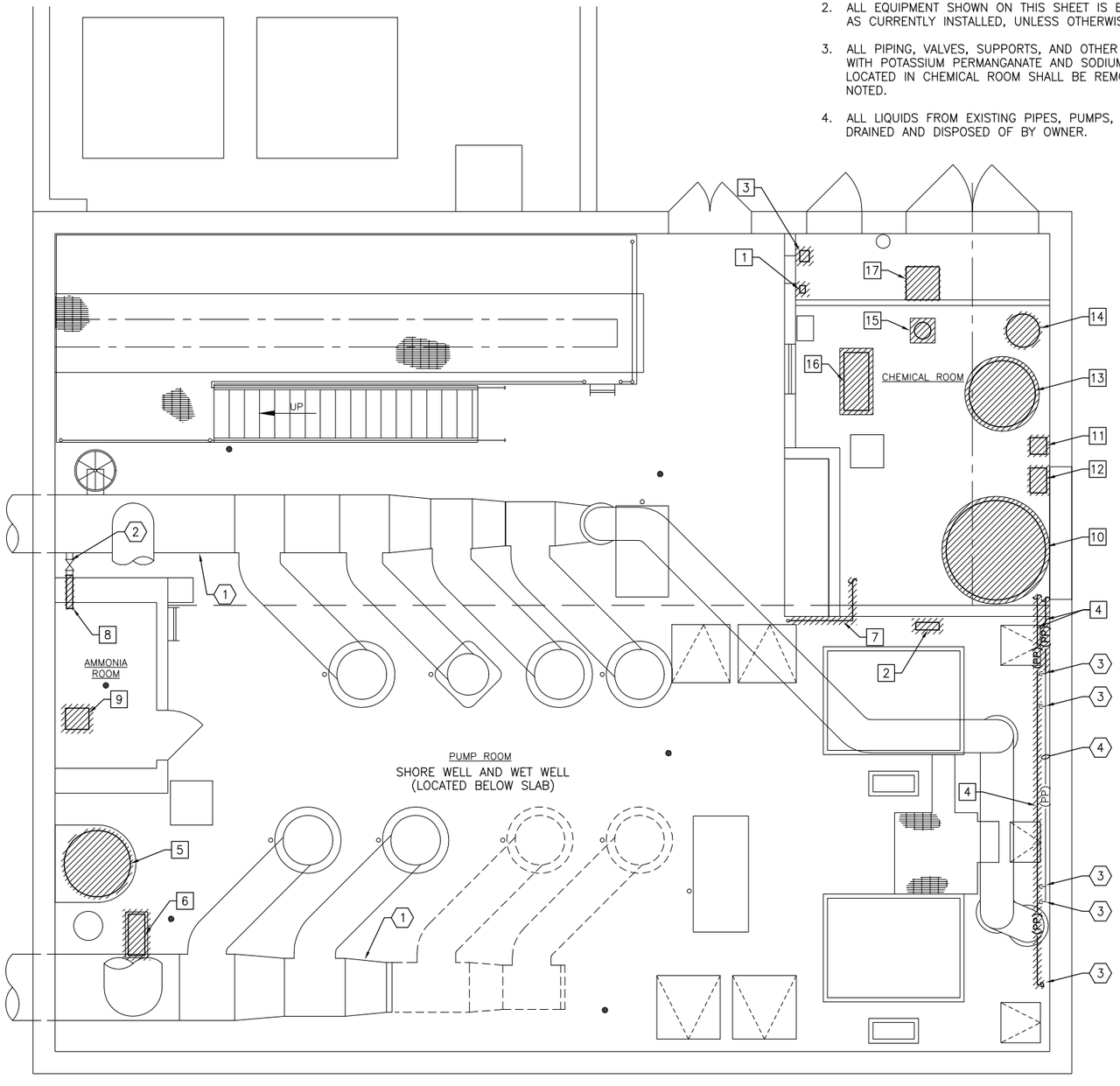
DRAWING TITLE
PROCESS GENERAL NOTES, LEGEND, AND ABBREVIATIONS

PROJECT No.
O0130014

DRAWING No.
PR-00-101

NOTES

1. SEE DRAWING PR-00-101 FOR PROCESS GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. ALL EQUIPMENT SHOWN ON THIS SHEET IS EXISTING AND TO REMAIN AS CURRENTLY INSTALLED, UNLESS OTHERWISE NOTED.
3. ALL PIPING, VALVES, SUPPORTS, AND OTHER EQUIPMENT ASSOCIATED WITH POTASSIUM PERMANGANATE AND SODIUM HYPOCHLORITE TANK LOCATED IN CHEMICAL ROOM SHALL BE REMOVED, UNLESS OTHERWISE NOTED.
4. ALL LIQUIDS FROM EXISTING PIPES, PUMPS, AND TANKS SHALL BE DRAINED AND DISPOSED OF BY OWNER.



1 FIRST FLOOR PROCESS DEMOLITION PLAN
(ELEV. 12.0)

0 1' 2' 4' 8'

DEMOLITION KEYNOTES

1. RELOCATE EXISTING SCALE INDICATOR PANEL.
2. REMOVE EXISTING CHLORINE DETECTOR PANEL AND ASSOCIATED DETECTOR IN CHEMICAL ROOM.
3. REMOVE EXISTING PORTABLE EYEWASH STATION.
4. REMOVE EXISTING POTASSIUM PERMANGANATE FEED PIPING.
5. REMOVE EXISTING HYDROPNEUMATIC TANK AND TURN OVER TO OWNER. REMOVE ASSOCIATED PIPING.
6. REMOVE EXISTING TURBINE WATER PUMP AND TURN OVER TO OWNER. REMOVE ASSOCIATED PIPING.
7. REMOVE EXISTING CHEMICAL FEED PIPING. EXISTING PIPE SLEEVE FEEDING INTO SHORE WELL TO REMAIN.
8. REMOVE EXISTING RAW WATER PIPING FEEDING THRU CONCRETE WALL TO AMMONIA ROOM. PATCH HOLE IN WALL TO MATCH EXISTING SURFACE.
9. REMOVE EXISTING WATER HOSE AND REEL.
10. REMOVE EXISTING 1,300 GALLON FIBERGLASS SODIUM HYPOCHLORITE TANK.
11. REMOVE EXISTING SODIUM HYPOCHLORITE CHEMICAL METERING PUMP, AND CONTROLLER AND TURN OVER TO OWNER. REMOVE ASSOCIATED PIPING.
12. REMOVE EXISTING POTASSIUM PERMANGANATE CHEMICAL METERING PUMP AND CONTROLLER AND TURN OVER TO OWNER.
13. REMOVE EXISTING 480 GALLON FIBERGLASS POTASSIUM PERMANGANATE MIXING TANK AND MIXER.
14. RELOCATE EXISTING 50 GALLON PLASTIC TUB FOR POTASSIUM PERMANGANATE WASTE.
15. RELOCATE EXISTING EDUCTOR PUMP.
16. RELOCATE EXISTING RAW WATER SUPPLY BOOSTER PUMP AND FILTER CANISTER.
17. RELOCATE EXISTING POTASSIUM PERMANGANATE SCALE.

KEYNOTES

1. EXISTING RAW WATER DISCHARGE PIPING TO REMAIN.
2. EXISTING VALVE ON RAW WATER PIPING TO REMAIN. PROVIDE BLIND FLANGE TO CAP OFF VALVE.
3. EXISTING PIPE SLEEVES FEEDING INTO SHORE WELL TO REMAIN AND BE REUSED.
4. EXISTING POTASSIUM PERMANGANATE FEED PIPING TO REMAIN AND BE REUSED.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	JLE
DRAWN BY:	JRF
CHECKED BY:	TKB
DATE CHECKED:	01/11

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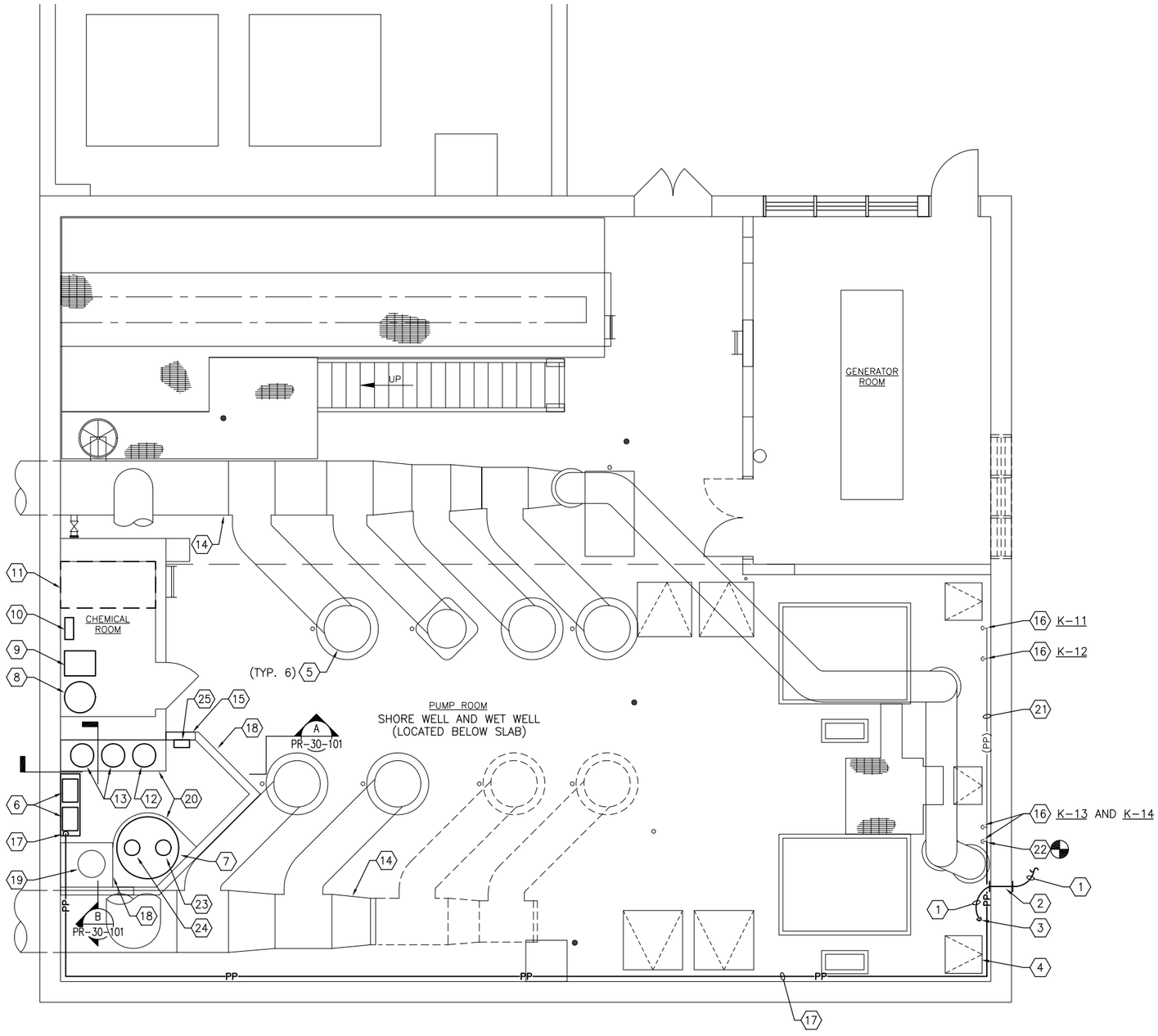
DRAWING TITLE
LOW LIFT PUMP STATION
FIRST FLOOR
PROCESS DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
PR-20-101

SHEET 023 OF 088 SHEETS



1 FIRST FLOOR PROCESS PLAN

(ELEV. 12.0)

0 1' 2' 4' 8'

NOTES

1. SEE DRAWING PR-00-101 FOR PROCESS GENERAL NOTES, LEGEND, AND ABBREVIATIONS.

KEYNOTES

1. PROVIDE 200' OF 2" FLEXIBLE PLASTIC PIPE (SIMILAR TO EXISTING CARBON FEEDER PIPE) FOR OWNER'S USE FOR CONNECTION TO CARBON FEEDER AND TO FEED INTO SHORE WELL.
2. CORE HOLE IN CONCRETE WALL AND INSTALL 2" PIPE THROUGH OPENING STUBBING PIPE 2" FROM WALL ON EACH SIDE (LOCATE PIPE 6" ABOVE INTERIOR CONCRETE SLAB AND COORDINATE FINAL LOCATION IN THE FIELD WITH THE ENGINEER). PROPERLY ANCHOR PIPE TO WALL AND SEAL AROUND PIPE WATERTIGHT. PROVIDE QUICK CONNECT COUPLING (SIMILAR TO EXISTING COUPLING ON CARBON FEEDER) ON END OF PIPE AND FOR CONNECTION TO EACH END OF THE PIPE. ALSO PROVIDE QUICK CONNECT BLANK CAP FOR EACH SIDE OF PIPE TO BE USED DURING WINTER TIME TO COVER OPENING IN PIPE.
3. CUT OFF EXISTING 4" STEEL PIPING FEEDING INTO SHOREWELL FLUSH WITH FLOOR AND PROVIDE SMOOTH FINISH ON CUT. PROVIDE EXTREME CARE TO NOT GET STEEL SHAVING IN THE SHOREWELL. OWNER WILL INSTALL 2" FLEXIBLE PLASTIC PIPE INTO OPENING TO FEED CARBON INTO SHOREWELL.
4. EXISTING HATCH OPENING INTO SHOREWELL.
5. EXISTING LOW LIFT PUMP.
6. PROVIDE POTASSIUM PERMANGANATE CHEMICAL METERING PUMPS P-4010, P-4011 AND CONTROLLERS SIC-4010, SIC-4011. PROVIDE STAINLESS STEEL SUPPORT FRAME AND FIBERGLASS GRATING SIMILAR TO EXISTING.
7. PROVIDE 625 GALLON FIBERGLASS POTASSIUM PERMANGANATE MIXING TANK T-4007.
8. RELOCATED 50 GALLON PLASTIC TUB FOR POTASSIUM PERMANGANATE WASTE.
9. RELOCATED POTASSIUM PERMANGANATE SCALE WE-4006.
10. RELOCATED SCALE INDICATOR PANEL WIT-4006.
11. SPACE FOR 25 KG BUCKETS OF POTASSIUM PERMANGANATE.
12. RELOCATED EDUCTOR PUMP P-4003.
13. RELOCATED RAW WATER SUPPLY BOOSTER PUMP P-4004 AND FILTER CANISTER FT-4004.
14. EXISTING RAW WATER DISCHARGE PIPING.
15. CONCRETE WALL.
16. EXISTING PIPE SLEEVE AND POTASSIUM PERMANGANATE FEED PIPING FEEDING INTO SHORE WELL.
17. PROVIDE POTASSIUM PERMANGANATE FEED PIPING FROM POTASSIUM PERMANGANATE SYSTEM. ROUTE PIPING ALONG WALL WITH EXISTING POTABLE WATER PIPING AND MOUNT ON EXISTING PIPE SUPPORTS.
18. PROVIDE 16" HIGH CONCRETE CONTAINMENT CURB.
19. EXISTING WET WELL VENT.
20. 4" CONCRETE EQUIPMENT PAD.
21. EXISTING POTASSIUM PERMANGANATE FEED PIPING.
22. CONNECT NEW POTASSIUM PERMANGANATE FEED PIPING TO EXISTING PIPING AS REQUIRED.
23. PROVIDE MIX TANK AGITATOR M-4007.
24. PROVIDE TANK LEVEL TRANSDUCER LE-4007.
25. PROVIDE TANK LEVEL TRANSMITTER LIT-4007.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: JLE
DRAWN BY: JRF
CHECKED BY: TKB
DATE CHECKED: 01/11

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2/3/11	ISSUED FOR BIDS

DRAWING TITLE
LOW LIFT PUMP STATION
FIRST FLOOR
PROCESS PLAN

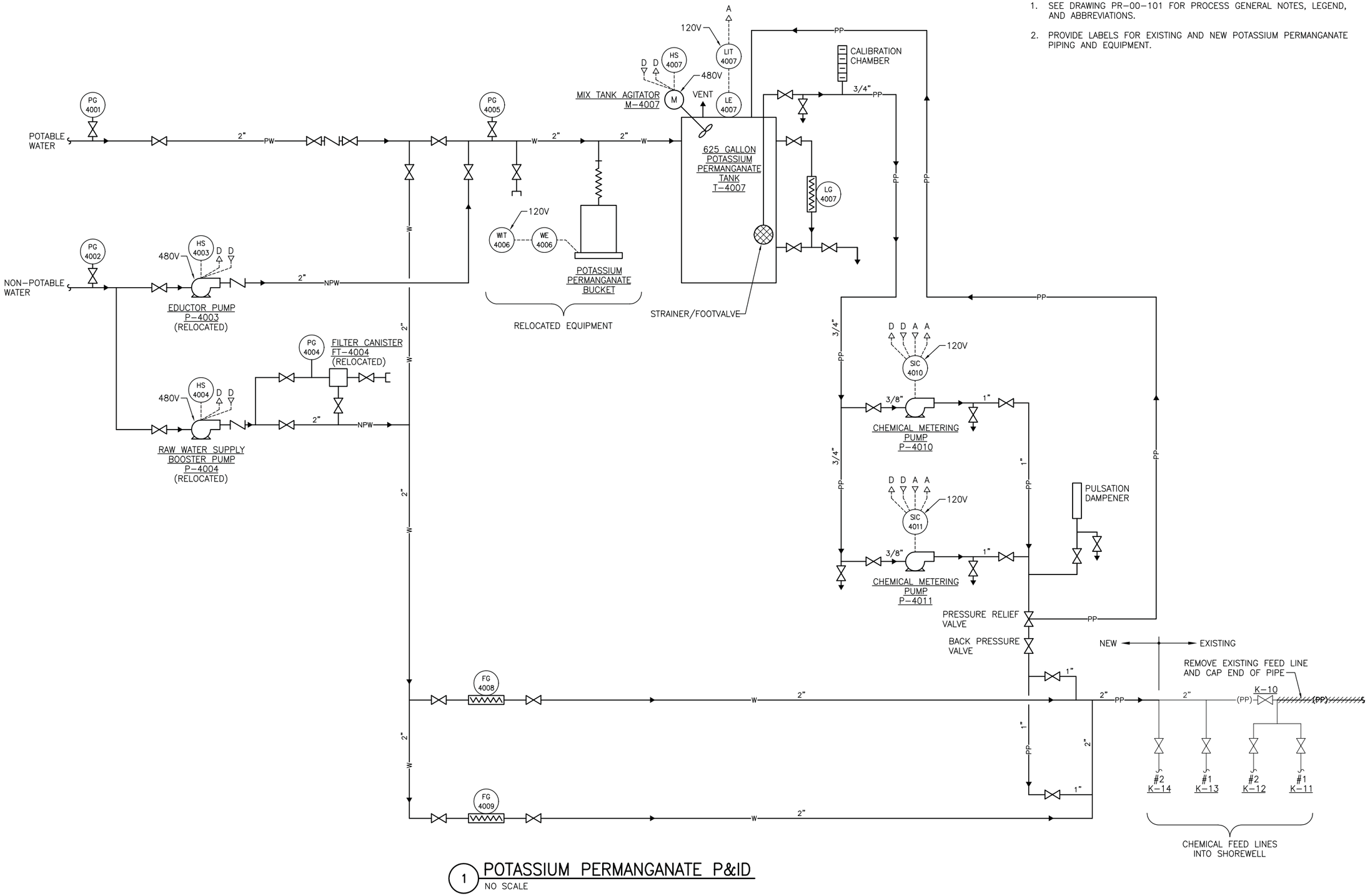
PROJECT No.
O0130014

DRAWING No.
PR-20-201

SHEET 024 OF 088 SHEETS

NOTES

1. SEE DRAWING PR-00-101 FOR PROCESS GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. PROVIDE LABELS FOR EXISTING AND NEW POTASSIUM PERMANGANATE PIPING AND EQUIPMENT.



1 POTASSIUM PERMANGANATE P&ID
NO SCALE

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
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DRAWING TITLE
LOW LIFT PUMP STATION POTASSIUM PERMANGANATE P&ID

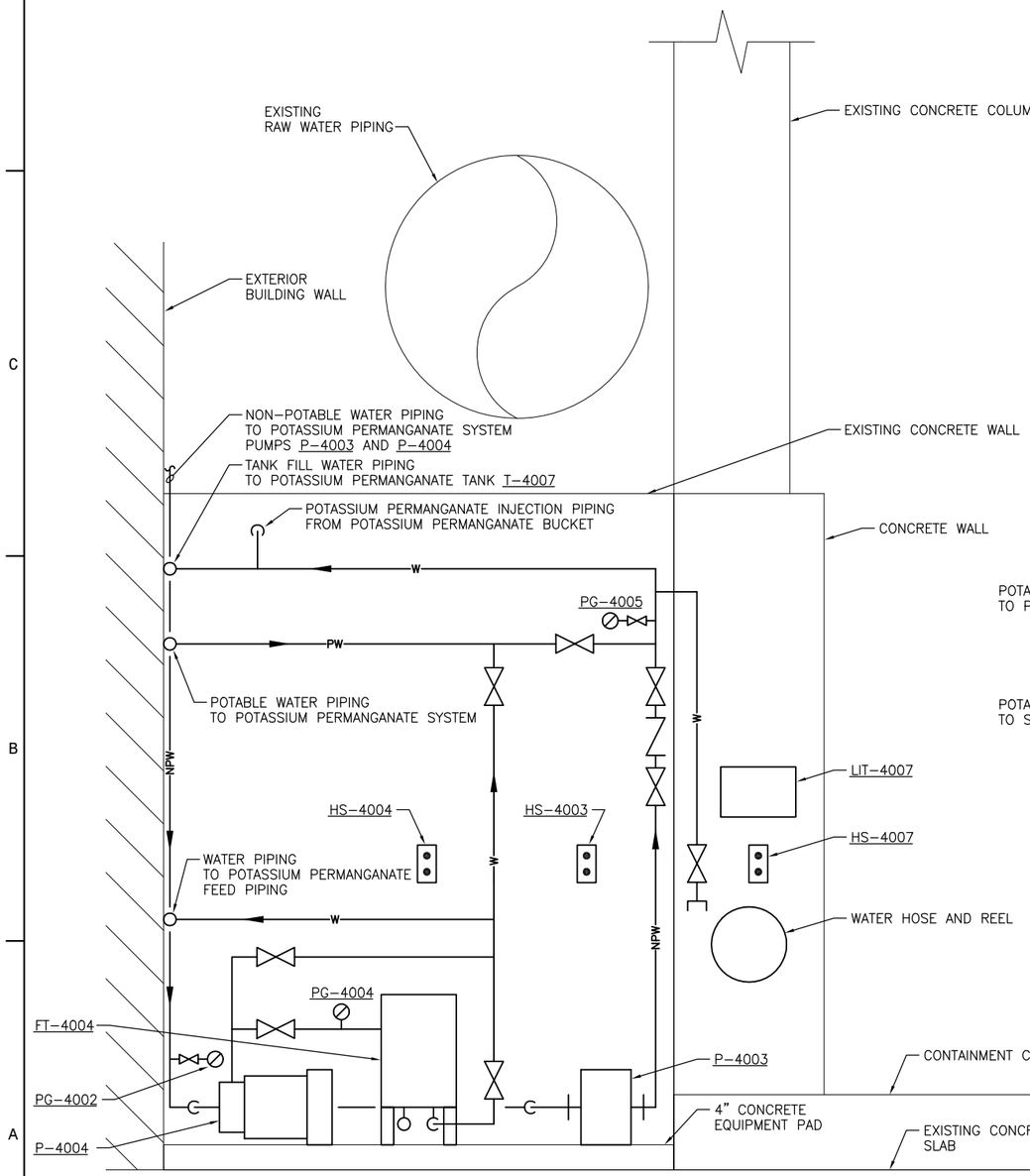
PROJECT No.
O0130014

DRAWING No.
PR-20-301

SHEET 025 OF 088 SHEETS

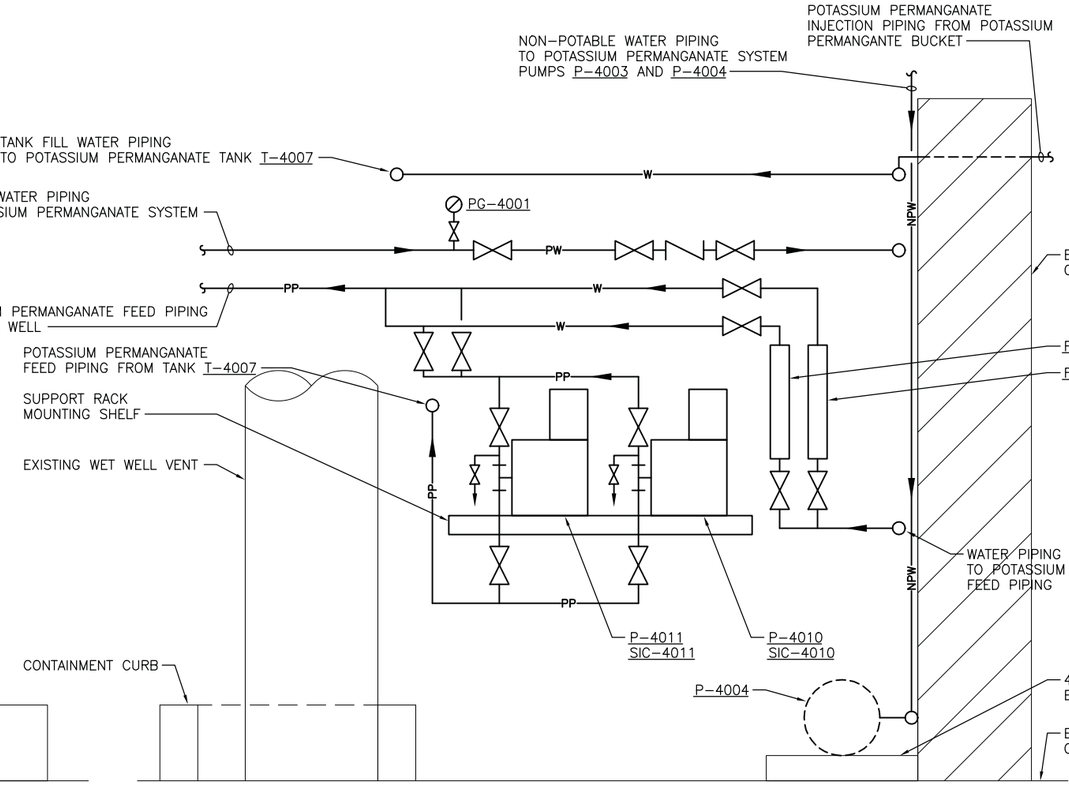
NOTES

1. SEE DRAWING PR-00-101 FOR PROCESS GENERAL NOTES, LEGEND, AND ABBREVIATIONS.



A NORTH ELEVATION

0 6" 1' 2'



B WEST ELEVATION

0 6" 1' 2'

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OAK CREEK WATER and SEWER UTILITY

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DRAWING TITLE

PROCESS DETAILS

PROJECT No.

O0130014

DRAWING No.

PR-30-101

SHEET 026 OF 088 SHEETS

PLUMBING GENERAL DEMOLITION NOTES

1. VERIFY EXACT SIZE AND LOCATION OF EXISTING UTILITIES PRIOR TO START OF DEMOLITION.
2. DISCONNECT ALL PLUMBING CONNECTIONS TO EQUIPMENT/FIXTURES BEING REMOVED BY OTHERS.
3. UNLESS OTHERWISE NOTED, REMOVAL OF PIPING SHALL INCLUDE ALL INSULATION, VALVES, HANGERS, SUPPORTS, EQUIPMENT PADS, FLASHING, CONTROLS, AND ASSOCIATED ACCESSORIES.
4. UNLESS OTHERWISE NOTED, REMOVAL OF PIPING SHALL BE BACK TO THE MAIN OR LAST ACTIVE SERVICE AND CAPPED.
5. ALL OPENINGS OR HOLES LEFT IN EXISTING WALLS, FLOORS, AND CEILINGS INCLUDING CHASES, SHALL BE PATCHED TO MATCH EXISTING CONDITIONS BY THE CONTRACTOR WHOSE WORK HAS CREATED THE OPENING OR HOLE. PATCHING SHALL BE IN ACCORDANCE WITH THE APPROPRIATE DIVISION OF THE SPECIFICATIONS.

PLUMBING GENERAL NOTES

1. PIPING IS SHOWN IN SCHEMATIC FORM ONLY, CHANGES IN ELEVATIONS ARE NOT NECESSARILY SHOWN. ROUTE PIPING IN AN ORDERLY MANNER AS REQUIRED FOR CLEARANCE WITH STRUCTURAL CONDITIONS. COORDINATE LOCATION OF PIPING WITH OTHER TRADES PRIOR TO INSTALLATION. WHERE POSSIBLE, RACK PIPING HORIZONTALLY OR VERTICALLY.
2. COORDINATE LOCATIONS AND SIZES OF CONNECTIONS TO EQUIPMENT.
3. ALL CONNECTIONS TO, OR SHUTDOWNS OF, EXISTING SYSTEMS SHALL BE COORDINATED WITH THE OWNER TO PROVIDE MINIMUM INTERFERENCE WITH THEIR OPERATION AND DOWNTIME OF THE SYSTEM. PROVIDE PROPOSED PHASING PLAN FOR CONNECTIONS TO EXISTING SERVICES TO OWNER FOR APPROVAL PRIOR TO STARTING WORK.
4. PROVIDE AND INSTALL ISOLATION VALVES IN ALL BRANCH PIPING, EXCLUDING SANITARY SEWER, VENT, AND STORM WATER SYSTEMS.
5. PROVIDE AND INSTALL ISOLATION VALVES FOR BATTERIES OF FIXTURES AND AT INDIVIDUAL BATHROOM GROUPS.
6. CONNECTIONS TO EQUIPMENT SHALL BE PROVIDED WITH ISOLATION VALVES AND UNIONS TO FACILITATE EQUIPMENT REMOVAL.
7. LOCATE ALL ISOLATION VALVES IN AN ACCESSIBLE LOCATION. WHERE VALVES ARE NOT ACCESSIBLE PROVIDE 12X12 ACCESS DOOR.
8. UNLESS OTHERWISE NOTED, CONCEAL ALL PLUMBING PIPING ABOVE CEILINGS, IN WALLS, OR INSIDE CHASES.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SUPPORTING SYSTEMS AND DEVICES FOR ALL PLUMBING PIPING, EQUIPMENT, AND ACCESSORIES.
10. COORDINATE THE LOCATIONS AND HEIGHTS OF ALL FIXTURES WITH ARCHITECTURAL PLANS AND CODE REQUIREMENTS PRIOR TO INSTALLATION.
11. PROVIDE AND INSTALL SLEEVES FOR ALL PIPING PASSING THROUGH WALLS, AND FLOORS.
12. PROVIDE FIRE STOPPING OR FIRE CAULK AT ALL PENETRATIONS OF FIRE AND/OR SMOKE RATED WALLS, CEILINGS, AND FLOORS. SEE ARCHITECTURAL PLANS FOR LOCATIONS OF FIRE AND/OR SMOKE RATED WALLS, CEILINGS, AND FLOORS.
13. LOCATE ALL PLUMBING EQUIPMENT TO PROVIDE MANUFACTURER'S MINIMUM SERVICE CLEARANCES.
14. VENTS SERVING FLOOR DRAINS LOCATED BELOW GRADE SHALL NOT BE COMBINED BELOW THE LEVEL OF THE FINISHED FLOOR.
15. ALL EXISTING INSULATION ON WATER LINES SHALL BE REPLACED WITH NEW IN THE BUILDING AND GROUNDS ROOM AT THE WATER TREATMENT PLANT AND PIPING THAT IS BEING MODIFIED AT LOW LIFT PUMP STATION. INSULATION SHALL BE PAINTED AND LABELED TO MATCH EXISTING.

PLUMBING ABBREVIATIONS

CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
V	SANITARY VENT
SAN	SANITARY SEWER
TW	TEMPERED WATER
CO	CLEANOUT IN FLOOR
LCO	LINE CLEANOUT
WH–#	WATER HEATER
HB–#	HOSE BIB/HYDRANT

PLUMBING LEGEND

SYMBOL	DESCRIPTION
PW	POTABLE COLD WATER
HW	DOMESTIC HOT WATER
TW	TEMPERED WATER
NPW	NON–POTABLE COLD WATER
D	DRAIN
SAN	SANITARY DRAIN, ABOVE GRADE
SAN	SANITARY DRAIN, BELOW GRADE
V	SANITARY VENT, ABOVE GRADE
V	SANITARY VENT, BELOW GRADE
ST	STORM DRAIN PIPING
G	NATURAL GAS
CA	COMPRESSED AIR
(NAME)	EXISTING PIPING

SYMBOL	DESCRIPTION
	ELBOW DOWN
	ELBOW UP
	RISE OR DROP
	TEE DOWN
	TEE UP
	CAP OR BLIND FLANGE
	UNION
	BALL VALVE
	GATE VALVE
	CHECK VALVE
CO	CLEANOUT
	LINE TYPE CLEANOUT
	HOSE BIBB
	TO BE REMOVED
	NEW CONNECTION TO EXISTING

PLUMBING FIXTURE ROUGH–IN SCHEDULE

FIXTURE	WASTE	VENT	TRAP	COLD WATER	HOT WATER	TEMPERED WATER
EMERGENCY SHOWER	DISCHARGE TO FLOOR	––	––	––	––	1–1/4"
FLOOR DRAIN	4" MIN.	2" MIN.	NOTE 3	––	––	––
CLEANOUT	3" MIN.	––	––	––	––	––

NOTES:

1. ALL DRAIN, WASTE, OR VENT LINES LOCATED BELOW A SLAB SHALL BE A MINIMUM OF 2" IN DIAMETER.
2. THE ABOVE SCHEDULE DENOTES THE MINIMUM REQUIREMENTS FOR THE ROUGH–IN OF EACH PLUMBING FIXTURE.
3. TRAP SHALL BE SAME SIZE AS WASTE.

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PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: NTP
DRAWN BY: NTP
CHECKED BY: KRP
DATE CHECKED: 01/11

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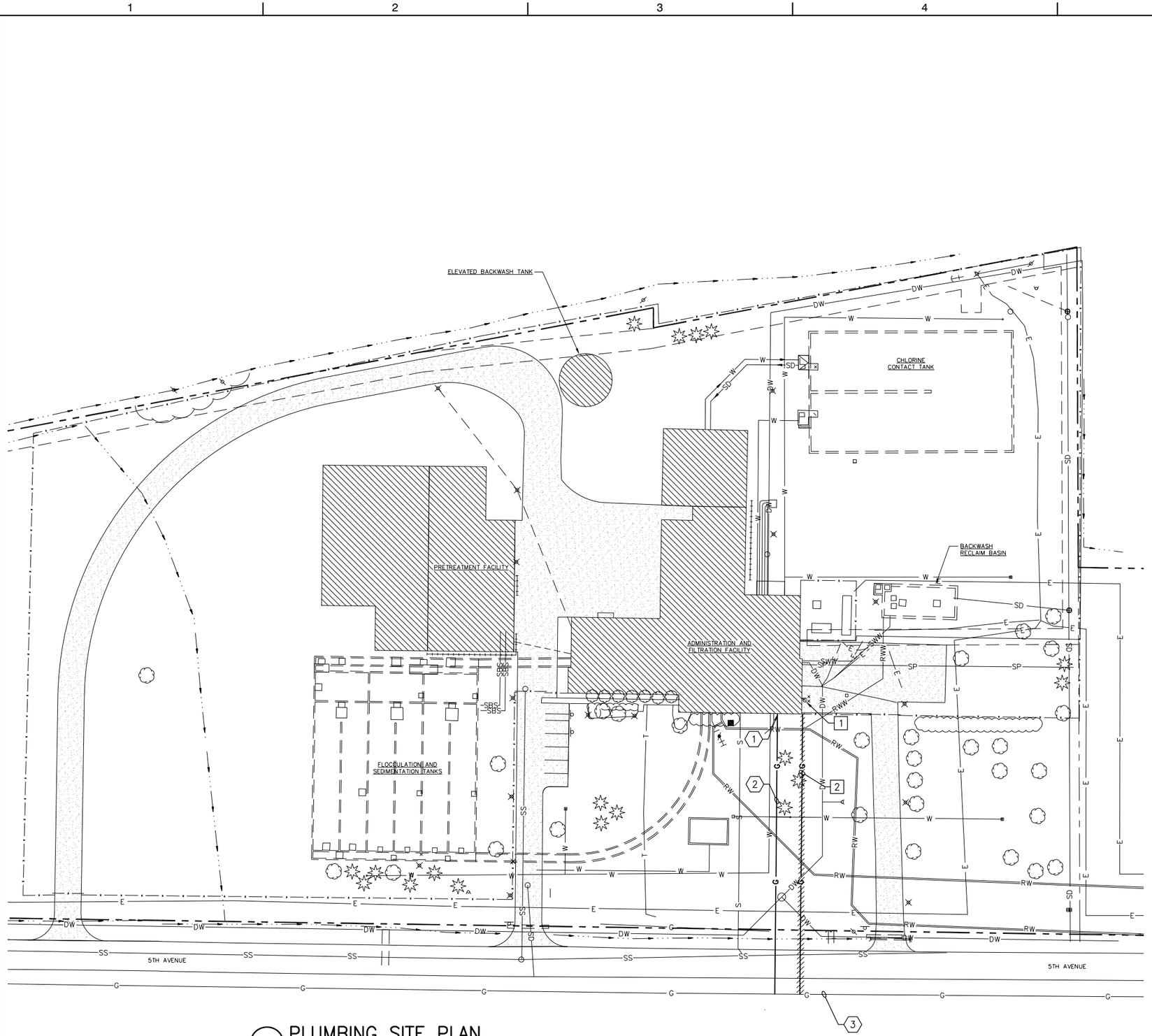
DRAWING TITLE
PLUMBING GENERAL NOTES, LEGEND AND ABBREVIATIONS

PROJECT No.
O0130014

DRAWING No.
P-00-101

SHEET 027 OF 088 SHEETS



1 PLUMBING SITE PLAN

0 20' 40' 80'

NOTES

1. SEE DRAWING P-00-101 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.

DEMOLITION KEYNOTES

1. EXISTING NATURAL GAS SERVICE METER TO BE REMOVED BY WE ENERGIES.
2. EXISTING UNDERGROUND NATURAL GAS SERVICE TO BE ABANDONED IN PLACE.

KEYNOTES

1. NATURAL GAS SERVICE METER BY WE ENERGIES.
2. HIGH PRESSURE NATURAL GAS PIPE PROVIDED BY WE ENERGIES.
3. EXISTING WE ENERGIES UNDERGROUND HIGH PRESSURE NATURAL GAS MAIN.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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DRAWING TITLE
WATER TREATMENT PLANT PLUMBING SITE PLAN

PROJECT No.
00130014

DRAWING No.
P-10-001

SHEET 028 OF 088 SHEETS

NOTES

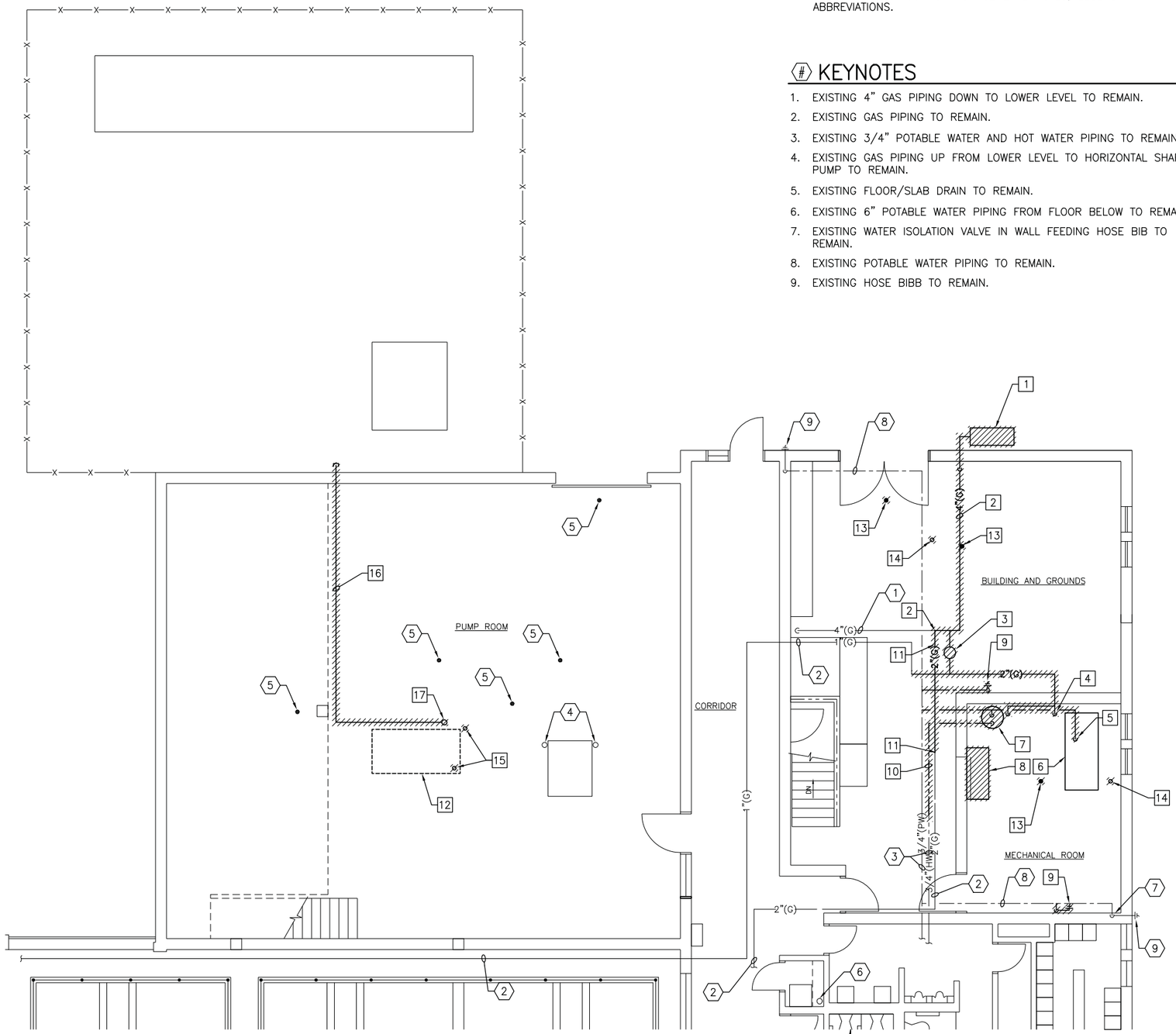
1. SEE DRAWING P-00-101 FOR GENERAL NOTES, LEGEND ABBREVIATIONS.

(#) KEYNOTES

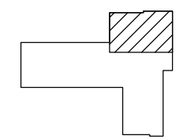
1. EXISTING 4" GAS PIPING DOWN TO LOWER LEVEL TO REMAIN.
2. EXISTING GAS PIPING TO REMAIN.
3. EXISTING 3/4" POTABLE WATER AND HOT WATER PIPING TO REMAIN.
4. EXISTING GAS PIPING UP FROM LOWER LEVEL TO HORIZONTAL SHAFT PUMP TO REMAIN.
5. EXISTING FLOOR/SLAB DRAIN TO REMAIN.
6. EXISTING 6" POTABLE WATER PIPING FROM FLOOR BELOW TO REMAIN.
7. EXISTING WATER ISOLATION VALVE IN WALL FEEDING HOSE BIB TO REMAIN.
8. EXISTING POTABLE WATER PIPING TO REMAIN.
9. EXISTING HOSE BIBB TO REMAIN.

(#) DEMOLITION KEYNOTES

1. EXISTING NATURAL GAS METER TO BE REMOVED AND REPLACED AT THE NEW LOCATION BY WE ENERGIES. SEE DRAWING P-10-201 FOR NEW LOCATION. CONTRACTOR SHALL COORDINATE THE REPLACEMENT REQUIREMENTS WITH WE ENERGIES.
2. REMOVE EXISTING 4" GAS PIPING INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES TO ALLOW FOR CONNECTIONS TO NEW GAS PIPING. TEMPORARILY CAP PIPING. SEE DRAWING P-10-201 FOR NEW WORK.
3. REMOVE EXISTING GAS REGULATOR. ASSOCIATED PIPING SHALL BE REMOVED TO ALLOW FOR CONNECTIONS TO NEW GAS PIPING. PATCH OPENING IN ROOF WATER TIGHT. SEE DRAWING P-10-201 FOR NEW WORK.
4. REMOVE EXISTING GAS PIPING TO HEATING HOT WATER BOILER INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES.
5. REMOVE EXISTING POTABLE WATER PIPING TO HEATING HOT WATER BOILER INCLUDING ALL INSULATION, SUPPORTS, HANGERS AND ACCESSORIES.
6. EXISTING HEATING HOT WATER BOILER TO BE REMOVED.
7. RELOCATE EXISTING DOMESTIC HOT WATER HEATER. DISCONNECT AND REMOVE ALL POTABLE WATER, HOT WATER AND GAS PIPING COMPLETE INCLUDING INSULATION, SUPPORTS AND HANGERS. SEE DRAWING P-10-201 FOR NEW LOCATION.
8. RELOCATE EXISTING AIR COMPRESSOR. CONTRACTOR SHALL REMOVE AND RECONNECT COMPRESSED AIR PIPING, DRYER, FILTER, DRAINS, VALVES, SUPPORTS, HANGERS, AND ALL ASSOCIATED ACCESSORIES AT NEW LOCATION. VERIFY LOCATION OF ALL EXISTING PIPING PRIOR TO DEMOLITION. SEE DRAWING P-10-202 FOR NEW LOCATION.
9. REMOVE EXISTING WALL MOUNTED HOSE BIBB. REMOVE 3/4" POTABLE WATER PIPING BACK TO MAIN INCLUDING ALL SUPPORTS, HANGERS, AND ACCESSORIES TO ALLOW FOR CONNECTION TO NEW POTABLE WATER PIPING. TEMPORARILY CAP PIPING FOR LATER EXTENSION. SEE DRAWING P-10-201 FOR NEW WORK.
10. REMOVE EXISTING 3/4" HOT WATER PIPING INCLUDING ALL SUPPORTS, HANGERS, AND ACCESSORIES TO ALLOW FOR CONNECTION TO NEW HOT WATER PIPING. TEMPORARILY CAP PIPING. SEE DRAWING P-10-201 FOR NEW WORK.
11. REMOVE EXISTING 2" GAS PIPING INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES TO ALLOW FOR CONNECTION TO NEW GAS PIPING. TEMPORARILY CAP PIPING. SEE DRAWING P-10-201 FOR NEW WORK.
12. EXISTING NATURAL GAS GENERATOR TO BE REMOVED. DISCONNECT AND REMOVE 2" GAS PIPING TO GENERATOR AND REMOVE PIPING DOWN TO LOWER LEVEL.
13. REMOVE EXISTING FLOOR DRAIN IN SLAB.
14. REMOVE EXISTING FLOOR CLEANOUT IN SLAB.
15. REMOVE EXISTING POTABLE WATER PIPING AND DRAIN PIPING FROM HEAT EXCHANGER DOWN THRU FLOOR. PATCH OPENING IN FLOOR TO MATCH EXISTING SURFACE.
16. REMOVE EXISTING 3/4" GAS VENT PIPING EXPOSED ALONG WALL INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES. PATCH OPENING IN EXTERIOR WALL WATER TIGHT.
17. REMOVE EXISTING 1 1/2" GAS PIPING FROM GENERATOR DOWN THROUGH FLOOR. PATCH OPENING IN FLOOR TO MATCH EXISTING SURFACE.



1 FIRST FLOOR PLUMBING DEMOLITION PLAN
(ELEV. 99.0)
0 2' 4' 8' 12'



KEY PLAN
NO SCALE

Clark Dietz ENGINEERS
DESIGN FIRM REGISTRATION No. 184-000450
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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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

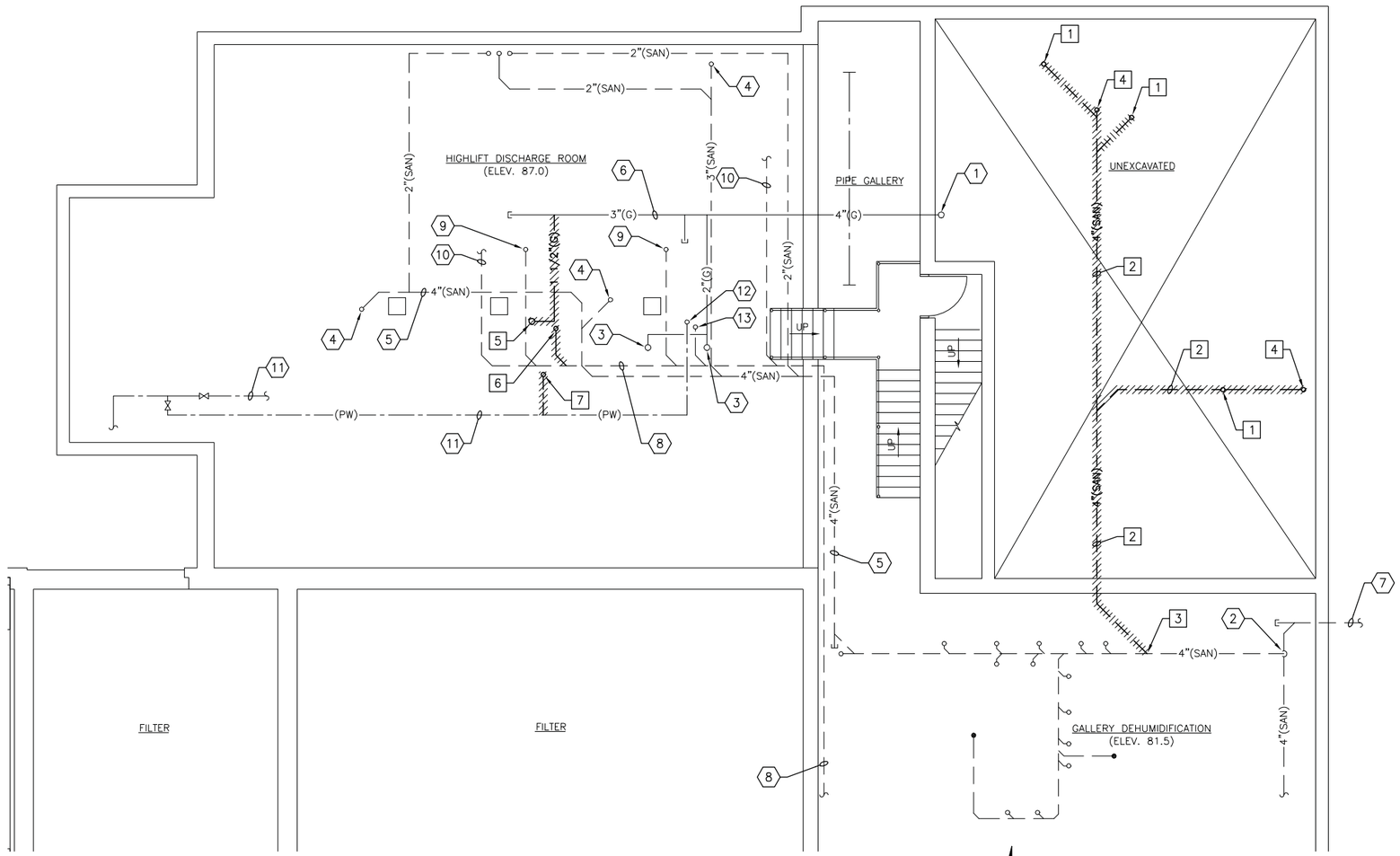
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY
FIRST FLOOR
PLUMBING
DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
P-10-101

SHEET 029 OF 088 SHEETS



1 LOWER LEVEL PLUMBING DEMOLITION PLAN

0 2' 4' 8' 12'

NOTES

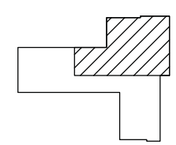
1. SEE DRAWING P-00-101 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.

DEMOLITION KEYNOTES

1. REMOVE EXISTING 4" SANITARY PIPING BELOW SLAB AND UP TO FLOOR DRAIN.
2. REMOVE EXISTING 4" SANITARY PIPING BELOW SLAB.
3. REMOVE EXISTING 4" SANITARY PIPING BACK TO MAIN AND CAP.
4. REMOVE EXISITING 4" SANITARY PIPING UP TO FLOOR CLEANOUT.
5. REMOVE EXISTING 1 1/2" GAS PIPING UP THRU FLOOR TO EXISTING NATURAL GAS GENERATOR. PROVIDE SHUT-OFF VALVE AND CAP AT THE MAIN.
6. REMOVE EXISTING DRAIN PIPING FROM GENERATOR HEAT EXCHANGER. REMOVE SANITARY PIPING BACK TO MAIN AND CAP. PATCH OPENING IN SLAB TO MATCH EXISTING.
7. REMOVE EXISTING POTABLE WATER PIPING UP THROUGH SLAB FROM GENERATOR HEAT EXCHANGER. PROVIDE SHUT-OFF VALVE AND CAP AT MAIN.

KEYNOTES

1. EXISTING 4" GAS PIPING FROM FLOOR ABOVE TO REMAIN.
2. EXISTING 4" SANITARY PIPING DOWN TO 4" SANITARY MAIN TO REMAIN.
3. EXISTING 2" GAS PIPING UP THRU SLAB TO EXISTING HORIZONTAL SHAFT PUMP TO REMAIN.
4. EXISTING SANITARY PIPING UP TO SLAB DRAIN TO REMAIN.
5. EXISTING 4" SANITARY PIPING TO REMAIN.
6. EXISTING GAS PIPING TO REMAIN.
7. EXISTING 6" SANITARY PIPING FROM BUILDING.
8. EXISTING 6" SEAL WATER DRAIN PIPING TO REMAIN.
9. EXISTING SEAL WATER DRAIN PIPING UP THRU SLAB TO REMAIN.
10. EXISTING SEAL WATER DRAIN PIPING FROM PUMPS TO REMAIN.
11. EXISTING POTABLE WATER PIPING TO REMAIN.
12. EXISTING POTABLE WATER PIPING UP THRU SLAB TO HORIZONTAL SHAFT PUMP TO REMAIN.
13. EXISTING HORIZONTAL SHAFT PUMP HEAT EXCHANGER DRAIN PIPING TO REMAIN.



KEY PLAN
NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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

DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND
FILTRATION FACILITY
LOWER LEVEL
PLUMBING DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
P-10-102

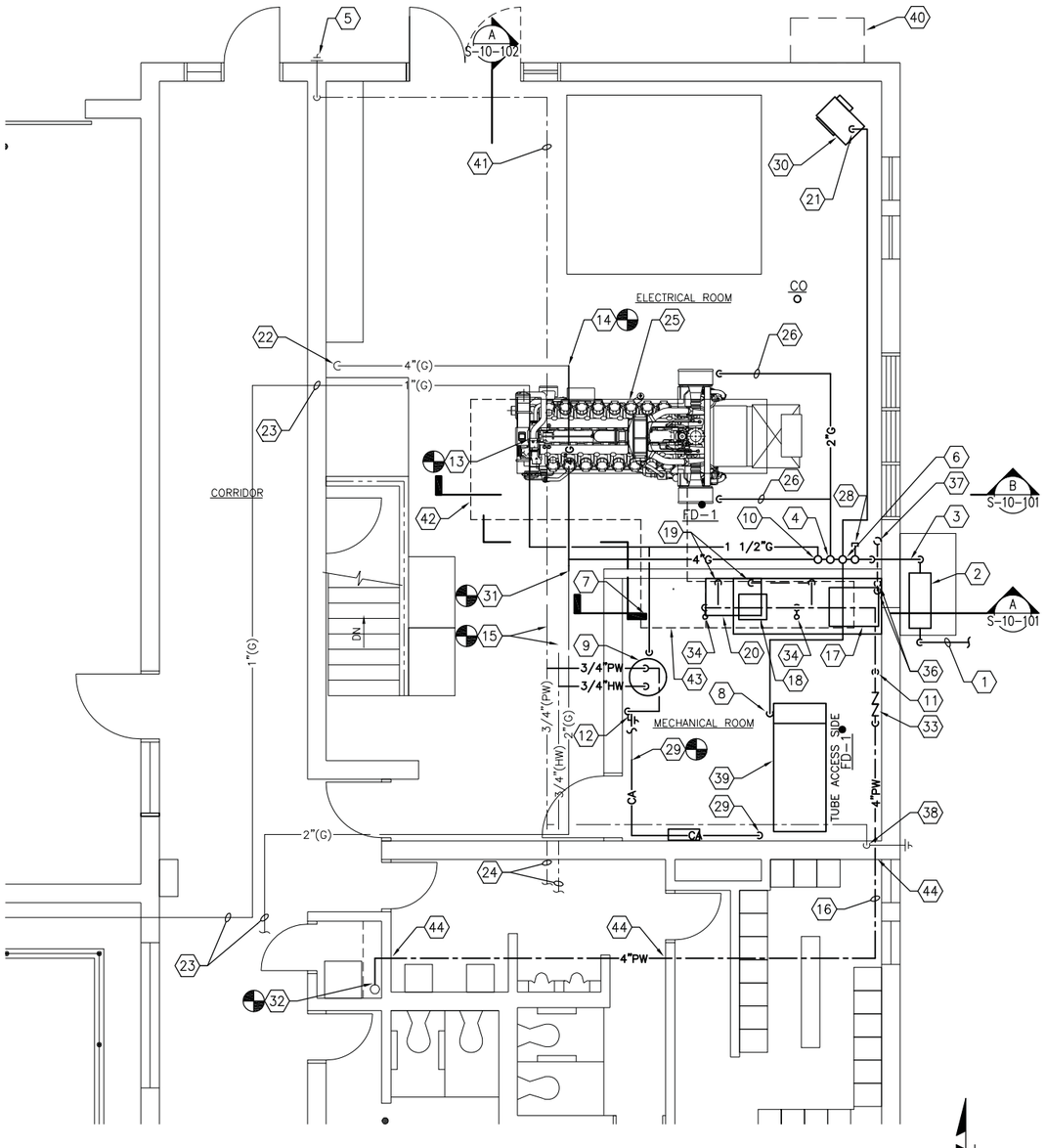
SHEET 030 OF 088 SHEETS

NOTES

1. SEE DRAWING P-00-101 FOR GENERAL NOTES, LEGENDS, AND ABBREVIATIONS.
2. ALL PIPING IN ELECTRICAL ROOM AND IN MECHANICAL ROOM ARE EXPOSED AT CEILING, UNLESS OTHERWISE INDICATED.
3. GENERATOR SHALL BE MOVED TO THE EAST IN THE ELECTRICAL ROOM TO PROVIDE 36" CLEARANCE BETWEEN GENERATOR CONTROL PANEL AND OPENED DAMPER BLADES AND ACTUATOR. FINAL LOCATION SHALL BE DETERMINED IN THE FIELD.

KEYNOTES

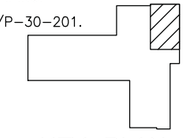
1. GAS SERVICE FROM WE ENERGIES. CONTRACTOR SHALL COORDINATE LOCATION AND SERVICE WITH WE ENERGIES.
2. GAS METER PROVIDED BY WE ENERGIES. THE METER SHALL BE RATED FOR 30,000 CFH AT 5 PSI. THE METER SHALL BE INSTALLED ON THE WALL. CONTRACTOR SHALL PROVIDE CONCRETE PAD BELOW METER. SEE DRAWING A-10-201 FOR ADDITIONAL INFORMATION. SEE DETAIL 1/P-30-101 FOR ADDITIONAL INFORMATION.
3. PROVIDE 4" GAS PIPING FROM METER INTO BUILDING. PROVIDE SLEEVE THROUGH WALL AND SEAL OPENING WATER TIGHT. SEE DETAIL 1/P-30-201.
4. PROVIDE 3" GAS PIPING FOR NATURAL GAS GENERATOR GEN-101. SEE DETAIL 1/P-30-201.
5. EXISTING HOSE BIBB.



1 ENLARGED FIRST FLOOR PLUMBING PLAN
(ELEV. 99.0)
0 1' 2' 4' 8'

KEYNOTES (CONT.)

6. PROVIDE 1 1/2" GAS PIPING INTO MECHANICAL ROOM. PROVIDE GAS REGULATOR TO ADJUST PRESSURE DOWN TO 14" WC FOR BOILER. TRANSITION PIPING TO 2 1/2" GAS.
7. PROVIDE 3/4" GAS PIPING DOWN TO RELOCATED WATER HEATER. SEE DETAIL 3/P-30-201.
8. PROVIDE 2 1/2" GAS PIPING DOWN TO HEATING HOT WATER BOILER B-101. SEE DETAIL 3/P-30-201.
9. RELOCATED WATER HEATER. PROVIDE 3/4" POTABLE WATER AND HOT WATER PIPING TO WATER HEATER. INSTALL WATER HEATER ON 4" THICK CONCRETE PAD.
10. PROVIDE 1" GAS PIPING. PROVIDE GAS REGULATOR TO ADJUST PRESSURE DOWN TO 1 PSI. TRANSITION PIPING TO 1 1/2" GAS.
11. PROVIDE 3/4" POTABLE WATER PIPING TO HEATING HOT WATER BOILER B-101.
12. PROVIDE 1/2" POTABLE WATER PIPING DOWN TO WALL MOUNTED HOSE BIBB HB-1. CONNECT TO EXISTING PIPING.
13. PROVIDE 1" GAS PIPING TO REFEED EXISTING 1" GAS PIPING FOR BUILDING SERVICES.
14. PROVIDE 4" GAS PIPING TO REFEED EXISTING 4" GAS PIPING FOR HORIZONTAL SHAFT PUMP.
15. PROVIDE 3/4" POTABLE WATER AND HOT WATER PIPING TO/FROM RELOCATED HOT WATER HEATER, CONNECT TO EXISTING PIPING.
16. PROVIDE 4" POTABLE WATER PIPING TO HEAT EXCHANGERS FOR GENERATOR COOLING.
17. JACKET WATER HEAT EXCHANGER HX-101A. PROVIDE 4" POTABLE WATER AND 4" DRAIN PIPING TO HEAT EXCHANGER. SEE DETAIL 10/P-30-201.
18. AFTER COOLER HEAT EXCHANGER HX-101B. PROVIDE 2" POTABLE WATER AND 2" DRAIN PIPING TO HEAT EXCHANGER. SEE DETAIL 10/P-30-201.
19. PROVIDE DRAIN PIPING FROM HEAT EXCHANGERS. ROUTE PIPING DOWN TO SUMP PIT.
20. SUMP PIT. PROVIDE 6" SANITARY PIPING DOWN THRU SLAB.
21. PROVIDE 3/4" GAS PIPING DOWN TO GAS FIRED UNIT HEATER. SEE DETAIL 3/P-30-201.
22. EXISTING 4" GAS PIPING DOWN TO LOWER LEVEL.
23. EXISTING GAS PIPING TO BUILDING SERVICES.
24. EXISTING POTABLE WATER AND HOT WATER PIPING.
25. NATURAL GAS STANDBY GENERATOR GEN-101.
26. PROVIDE 2" GAS PIPING DOWN TO GENERATOR GEN-101. SEE DETAIL 3/P-30-201.
27. --NOT USED--
28. PROVIDE 3" GAS PIPING FOR FUTURE GENERATOR. PROVIDE CAP AND ISOLATION VALVE.
29. COMPRESSED AIR PIPING FROM LOWER LEVEL. EXTEND AND CONNECT TO EXISTING EXISTING PIPING CONTRACTOR SHALL VERIFY SIZES OF ALL PIPING PRIOR TO INSTALLATION.
30. GAS UNIT HEATER GUH-1.
31. PROVIDE 2" GAS PIPING TO REFEED EXISTING 2" GAS PIPING FOR BUILDING SERVICES.
32. PROVIDE 4" POTABLE WATER PIPING CONNECTION WITH ISOLATION VALVE TO EXISTING 6" THREADED STEEL POTABLE WATER RISER FROM LOWER LEVEL.
33. PROVIDE 4" POTABLE WATER PIPING TO GENERATOR COOLING HEAT EXCHANGERS. PROVIDE RPZ TYPE BACKFLOW PREVENTER, APPROXIMATELY 4' ABOVE FINISHED FLOOR. ROUTE DRAIN PIPING TO FLOOR DRAIN. MAINTAIN TUBE REMOVAL CLEARANCE FOR GAS FIRED BOILER. SEE DETAIL 9/P-30-201.
34. PROVIDE LINE SIZE SOLENOID WATER FLOW CONTROL VALVE INTERCONNECTED WITH GENERATOR CONTROL PANEL. PROVIDE 120V CONTROL VALVE ACTUATOR. VERIFY VOTLAGE WITH GENERATOR MANUFACTURER.
35. --NOT USED--
36. PROVIDE 2" VENT PIPING UP THRU SLAB. EXTEND PIPING UP TO BELOW CEILING. CONNECT TO 3" VENT PIPING AT CEILING.
37. PROVIDE 2" VENT PIPING UP THRU SLAB. CONNECT TO 3" VENT PIPING AND EXTEND THRU ROOF. SEE DETAIL 4/P-30-201.
38. EXISTING WATER ISOLATION VALVE IN WALL FOR EXTERIOR HOSE BIBB.
39. GAS FIRED BOILER B-101.
40. SAWCUT AND REMOVE ASPHALT SURFACE FOR INSTALLATION OF SANITARY PIPING. PATCH ASPHALT SURFACE TO MATCH EXISTING.
41. EXISTING POTABLE WATER PIPING.
42. PIPE TRENCH FOR COOLANT PIPING.
43. PIPE TRENCH FOR COOLANT PIPING AND HEAT EXCHANGER DRAIN PIPING.
44. CORE EXISTING WALL FOR POTABLE WATER PIPING. SEE DETAIL 2/P-30-201.



KEY PLAN
NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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

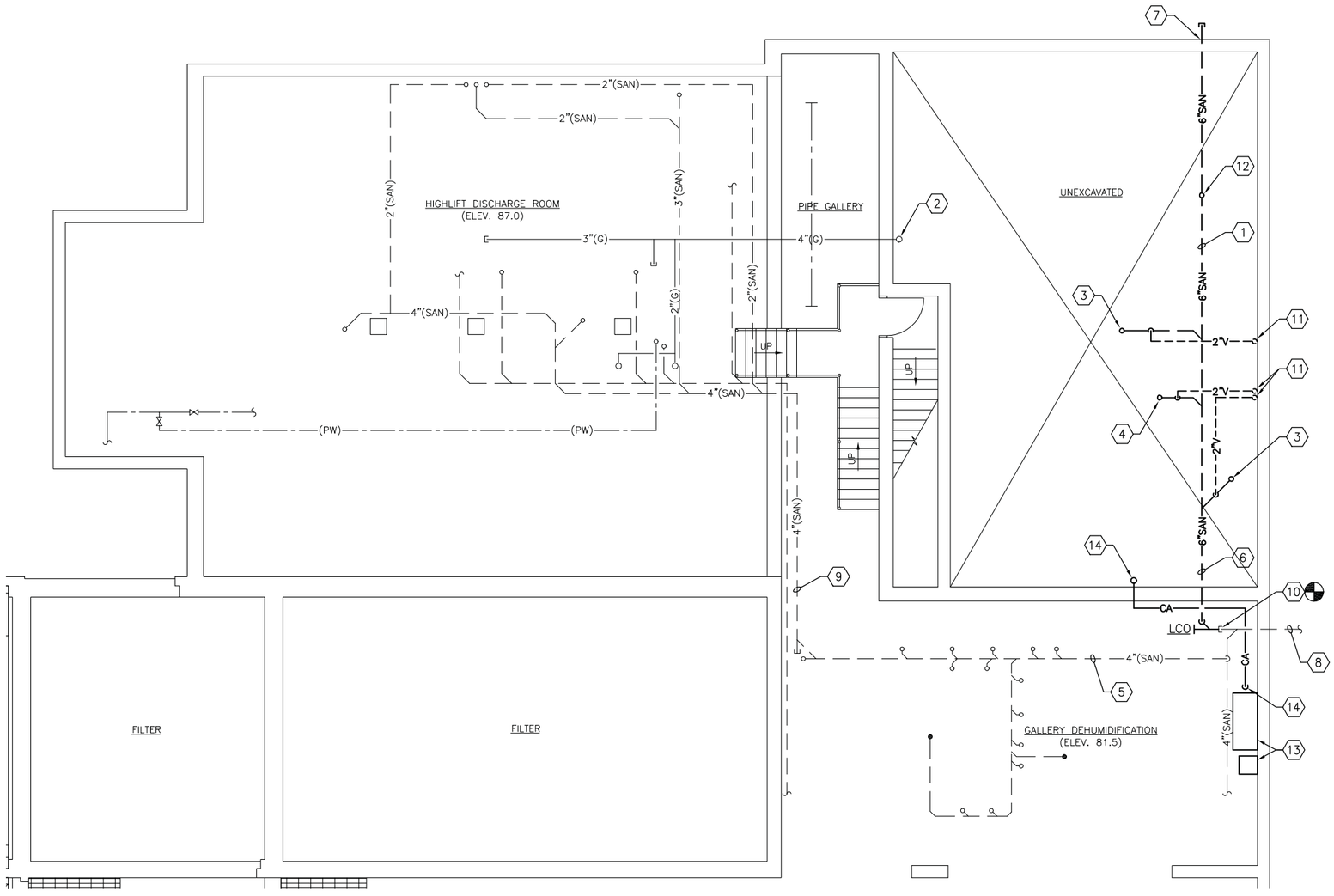
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY ENLARGED FIRST FLOOR PLUMBING PLAN

PROJECT No.
O0130014

DRAWING No.
P-10-201

SHEET 031 OF 088 SHEETS



NOTES

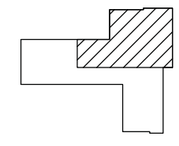
1. SEE DRAWING P-10-101 FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS.

KEYNOTES

1. PROVIDE 6" SANITARY PIPING BELOW SLAB.
2. EXISTING GAS PIPING FROM FLOOR ABOVE.
3. PROVIDE 4" SANITARY PIPING UP THRU SLAB TO FLOOR DRAIN FD-1. CONNECT TO FLOOR DRAIN.
4. PROVIDE 6" SANITARY PIPING UP THRU SLAB TO SUMP PIT.
5. EXISTING 4" SANITARY PIPING AT LOWER LEVEL CEILING.
6. PROVIDE 6" SANITARY PIPING FROM FIRST FLOOR.
7. PROVIDE 6" SANITARY PIPING THRU FOUNDATION (℄ ELEV. 92.0). COORDINATE FINAL ELEVATION IN FIELD. PROVIDE PIPE SLEEVE IN PENETRATION. EXTEND PIPING 3' PAST FOUNDATION WALL AND CAP FOR FUTURE EXPANSION. SEE DETAIL 1/P-30-201.
8. EXISTING 6" SANITARY PIPING FROM BUILDING (℄ ELEV. 87.5).
9. EXISTING SANITARY PIPING FROM PUMP ROOM.
10. PROVIDE 6" SANITARY PIPING, CONNECT TO EXISTING 6" SANITARY PIPING.
11. PROVIDE 2" VENT PIPING UP THRU SLAB.
12. PROVIDE 4" SANITARY PIPING UP THRU SLAB TO FLOOR CLEANOUT. SEE DETAIL 6/P-30-201.
13. RELOCATE EXISTING AIR COMPRESSOR AND DRYER FROM MECHANICAL ROOM. INSTALL AIR COMPRESSOR ON 4" CONCRETE PAD. PROVIDE NEW PIPING, FILTER, DRAIN, VALVES, SEPARATORS, AND QUICK CONNECTS ABOVE COMPRESSOR.
14. COMPRESSED AIR PIPING UP TO FLOOR ABOVE FROM RELOCATED AIR COMPRESSOR. COORDINATE PIPE SIZING PRIOR TO INSTALLATION.

1 LOWER LEVEL PLUMBING PLAN

0 2' 4' 8' 12'



KEY PLAN
NO SCALE

Clark Dietz ENGINEERS
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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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

DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

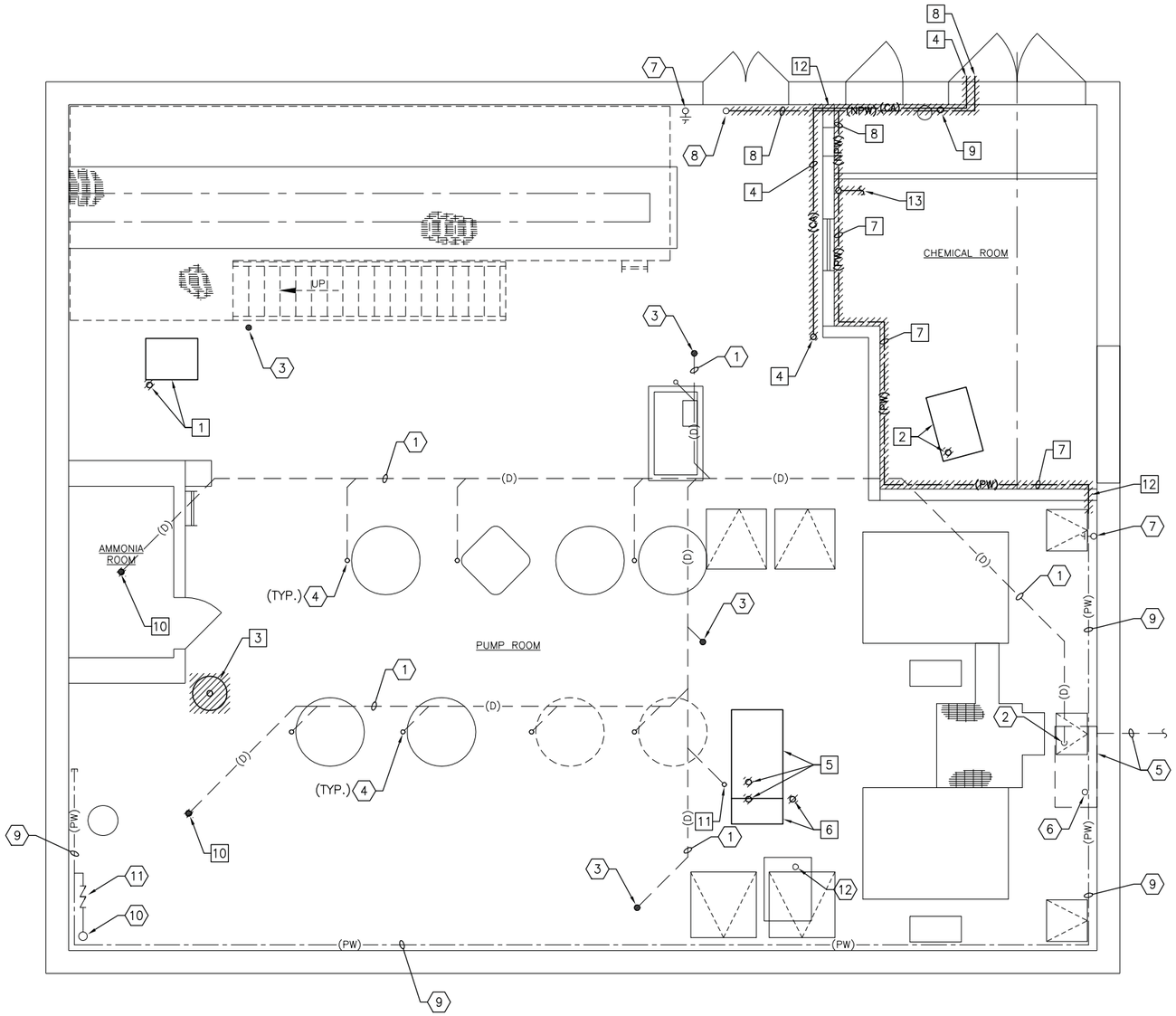
DRAWING TITLE
ADMINISTRATION AND
FILTRATION FACILITY
LOWER LEVEL
PLUMBING PLAN

PROJECT No.
O0130014

DRAWING No.
P-10-202

NOTES

1. SEE DRAWING P-00-101 FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS.



1 FIRST FLOOR PLUMBING DEMOLITION PLAN
(ELEV. 12.0)

0 1' 2' 4' 8'

DEMOLITION KEYNOTES

1. EXISTING GAS FIRED UNIT HEATER TO BE RELOCATED. CONTRACTOR SHALL DISCONNECT AND REMOVE GAS PIPING TO THE UNIT HEATER. TEMPORARILY CAP PIPING AND ALLOW FOR RECONNECTION. SEE DRAWING P-20-201 FOR NEW WORK.
2. EXISTING GAS FIRED UNIT HEATER TO BE REMOVED. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL GAS PIPING INCLUDING SUPPORTS, HANGERS AND ACCESSORIES BACK TO MAIN AND CAP.
3. RELOCATE EXISTING AIR COMPRESSOR TO NEW LOCATION. CONTRACTOR SHALL REMOVE AND RECONNECT COMPRESSED AIR PIPING, DRYER, FILTER, DRAINS, SUPPORTS, HANGERS, AND ALL ASSOCIATED ACCESSORIES TO NEW LOCATION. SEE DRAWING P-20-201 FOR NEW WORK.
4. REMOVE EXISTING COMPRESSED AIR PIPING INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES.
5. EXISTING NATURAL GAS FIRED GENERATOR TO BE REMOVED. DISCONNECT AND REMOVE NATURAL GAS PIPING INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES BACK TO MAIN AND CAP.
6. EXISTING HEAT EXCHANGER TO BE REMOVED. DISCONNECT AND REMOVE NON-POTABLE WATER PIPING INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES BACK TO MAIN AND CAP.
7. REMOVE EXISTING POTABLE WATER PIPING ALONG WALL INCLUDING ALL INSULATION, SUPPORTS, HANGERS AND ACCESSORIES.
8. REMOVE EXISTING NON-POTABLE WATER PIPING ALONG WALL INCLUDING ALL INSULATION, SUPPORTS, HANGERS AND ACCESSORIES.
9. REMOVE AND RELOCATE EXISTING 2" DRAIN VENT PIPING. SEE SHEET P-20-201 FOR NEW WORK.
10. PLUG AND REMOVE EXISTING FLOOR DRAIN, AND SEAL DRAIN PIPING PENETRATING CONCRETE SLAB WATERTIGHT. SEAL OPENING FLUSH WITH EXISTING SURFACE.
11. PLUG EXISTING DRAIN CONNECTION FOR DISCHARGE WATER FROM HEAT EXCHANGER. SEAL DRAIN PIPING AT CONCRETE SLAB WATERTIGHT. SEAL OPENING FLUSH WITH EXISTING SURFACE.
12. REMOVE EXISTING PIPING PENETRATING WALL AND SEAL OPENING TO MATCH EXISTING SURFACE.
13. REMOVE ALL EXISTING WATER PIPING, VALVES, ETC FEEDING EQUIPMENT IN CHEMICAL ROOM.

KEYNOTES

1. EXISTING DRAIN PIPING BELOW SLAB TO REMAIN.
2. EXISTING DRAIN PIPING BELOW SLAB INTO SUMP PIT TO REMAIN.
3. EXISTING FLOOR DRAIN TO REMAIN.
4. EXISTING DRAIN CONNECTION FOR DISCHARGE WATER FROM SEAL WATER PIPING TO REMAIN.
5. EXISTING SUMP PIT AND 14" DISCHARGE FROM SUMP PIT TO REMAIN.
6. EXISTING 4" STORM DRAIN PIPING DOWN FROM ROOF DRAIN INTO SUMP PIT TO REMAIN.
7. EXISTING NON-POTABLE WATER PIPING DOWN TO HOSE BIBB TO REMAIN.
8. EXISTING NON-POTABLE WATER PIPING FROM ABOVE TO REMAIN. PROVIDE VALVE AND CAP PIPING IN VERTICAL FOR PIPING BEING REMOVED.
9. EXISTING POTABLE WATER PIPING TO REMAIN.
10. EXISTING 4" POTABLE WATER RISER TO REMAIN.
11. EXISTING POTABLE WATER BACKFLOW PREVENTER ASSEMBLY TO REMAIN.
12. EXISTING GAS PIPING TO GAS FIRED UNIT HEATER TO REMAIN.

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OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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

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2/3/11	ISSUED FOR BIDS

DRAWING TITLE
LOW LIFT PUMP STATION
FIRST FLOOR
PLUMBING DEMOLITION PLAN

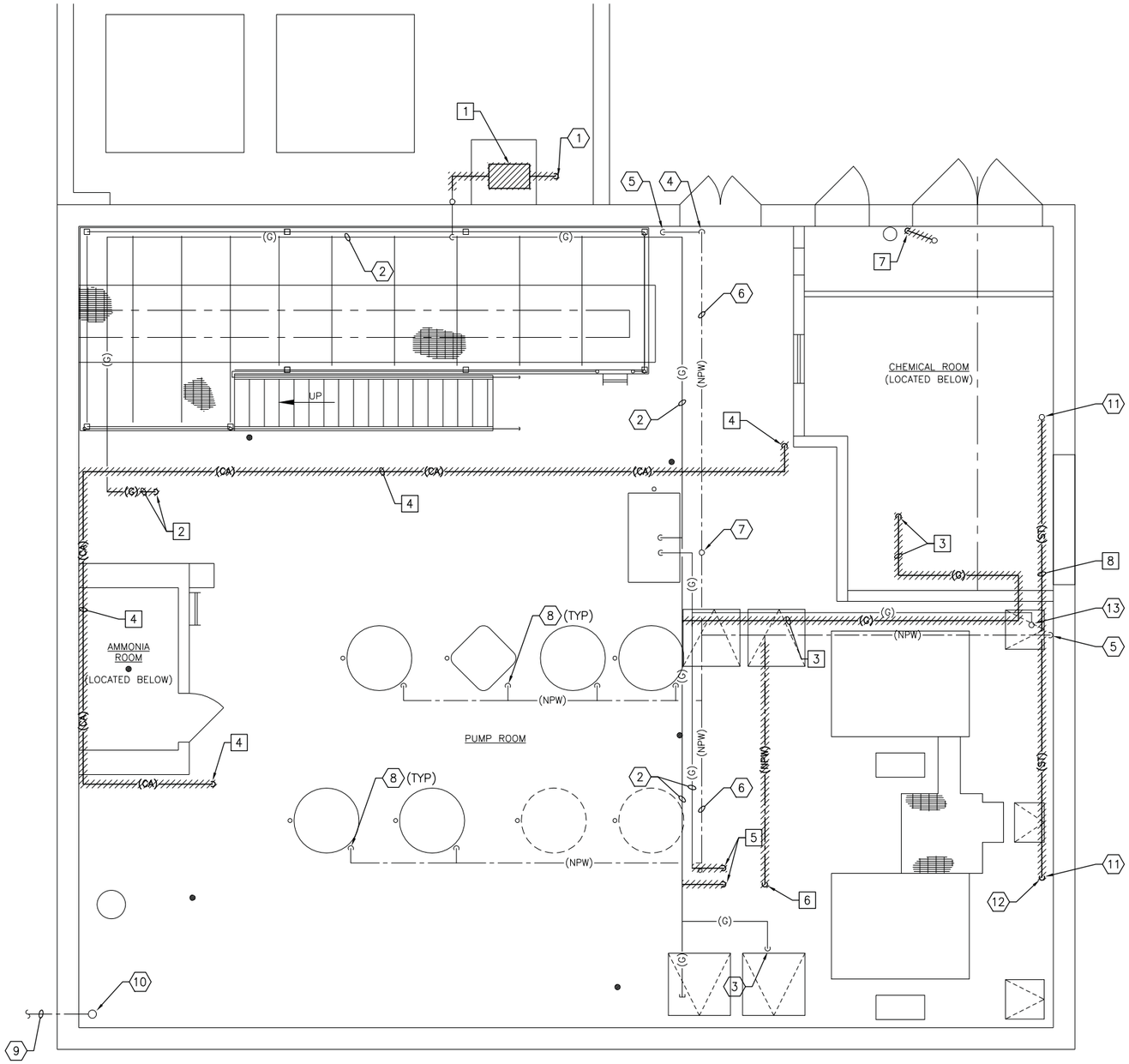
PROJECT No.
00130014

DRAWING No.
P-20-101

SHEET 033 OF 088 SHEETS

NOTES

1. SEE DRAWING P-00-101 FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS.



1 MEZZANINE PLUMBING DEMOLITION PLAN
(ELEV. 22.0)

0 1' 2' 4' 8'

DEMOLITION KEYNOTES

1. EXISTING GAS METER AND REGULATOR ASSEMBLY TO BE REMOVED AND REPLACED BY WE ENERGIES. CONTRACTOR SHALL COORDINATE THE REPLACEMENT REQUIREMENTS WITH WE ENERGIES.
2. REMOVE EXISTING 3/4" GAS PIPING DOWN TO THE EXISTING GAS FIRED UNIT HEATER AS REQUIRED TO ALLOW FOR RELOCATION OF EXISTING UNIT HEATER.
3. REMOVE EXISTING 3/4" GAS PIPING DOWN TO EXISTING GAS FIRED UNIT HEATER. PROVIDE SHUTOFF VALVE AT MAIN. CAP PIPE AT MAIN.
4. REMOVE EXISTING 1" COMPRESSED AIR PIPING TO AIR COMPRESSOR.
5. REMOVE EXISTING 1" GAS PIPING DOWN TO EXISTING GAS FIRED GENERATOR. CAP PIPE AT MAIN AND PROVIDE SHUTOFF VALVE.
6. REMOVE EXISTING 3/4" NON-POTABLE WATER PIPING DOWN TO EXISTING HEAT EXCHANGER. CAP PIPE AT MAIN.
7. REMOVE AND RELOCATE EXISTING 2" DRAIN VENT PIPING. SEE DRAWING P-20-202 FOR NEW WORK.
8. REMOVE AND RELOCATE EXISTING 4" STORM DRAIN PIPING TO AVOID NEW EXHAUST LOUVER PLENUM. PROVIDE STRUCTURAL SUPPORTS AS REQUIRED.

KEYNOTES

1. EXISTING 3" GAS SERVICE UP TO GAS METER TO REMAIN AND BE REUSED.
2. EXISTING GAS PIPING TO REMAIN.
3. EXISTING GAS PIPING TO GAS FIRED UNIT HEATER TO REMAIN.
4. EXISTING NON-POTABLE WATER DOWN TO BELOW MEZZANINE LEVEL TO REMAIN.
5. EXISTING NON-POTABLE WATER DOWN TO HOSE BIBB TO REMAIN.
6. EXISTING NON-POTABLE WATER PIPING ALONG CEILING TO REMAIN.
7. EXISTING NON-POTABLE WATER PIPING CONNECTION TO RAW WATER PIPING TO REMAIN.
8. EXISTING NON-POTABLE WATER PIPING DOWN TO SEAL WATER VALVE ON LOW LIFT PUMP TO REMAIN.
9. EXISTING 4" INCOMING POTABLE WATER SERVICE INTO BUILDING TO REMAIN.
10. EXISTING 4" POTABLE WATER RISER TO REMAIN.
11. EXISTING 4" STORM DRAIN PIPING FROM ROOF DRAIN TO REMAIN.
12. EXISTING 4" STORM DRAIN PIPING DOWN INTO SUMP PIT TO REMAIN.
13. EXISTING GAS VENT PIPING TO EXHAUST PIPE TO REMAIN.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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

DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

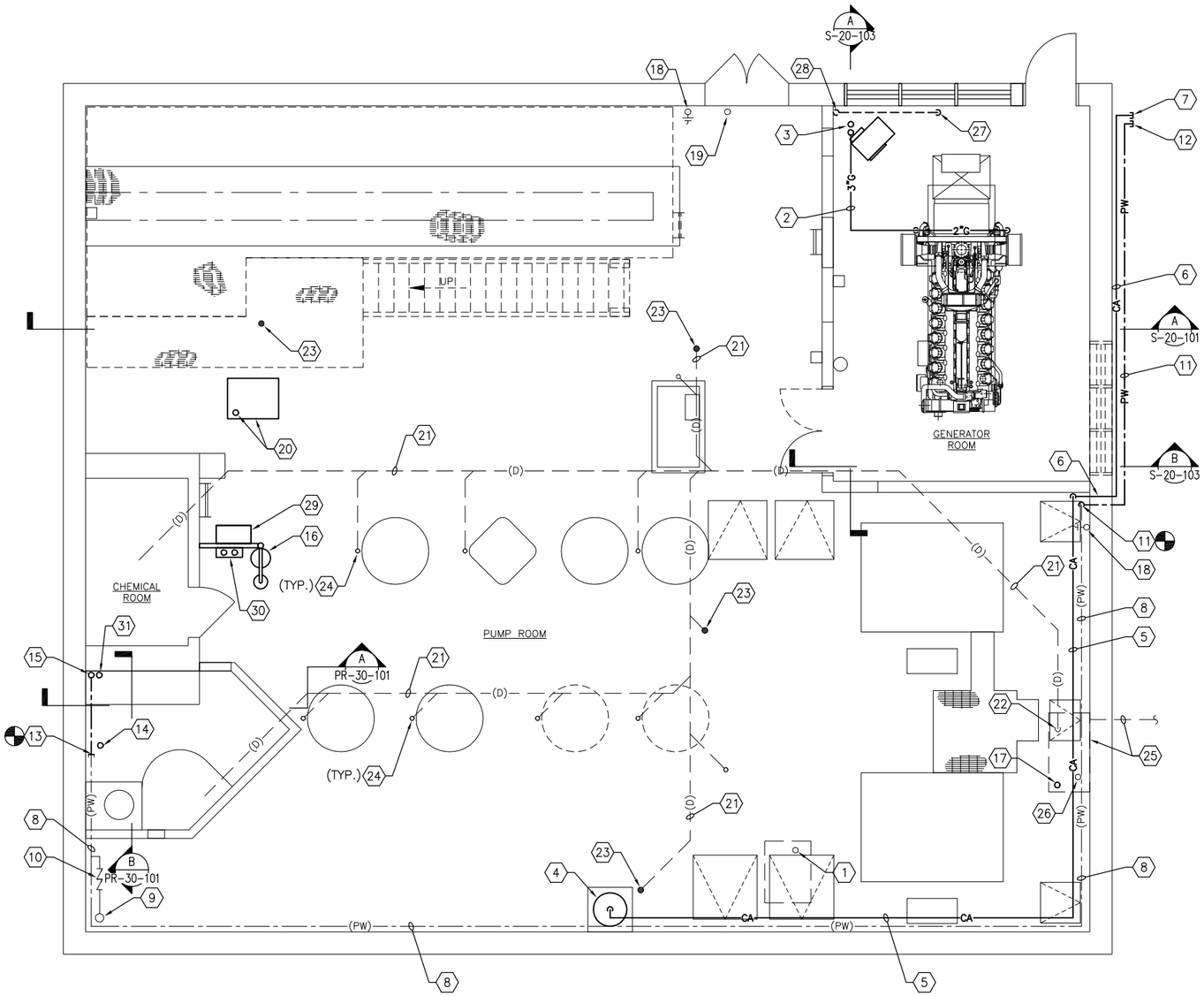
DRAWING TITLE
LOW LIFT PUMP STATION
MEZZANINE
PLUMBING DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
P-20-102

NOTES

1. SEE DRAWING P-00-101 FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS.



1 FIRST FLOOR PLUMBING PLAN (ELEV. 12.0)

0 1' 2' 4' 8'

KEYNOTES

1. EXISTING 1/2" GAS PIPING TO GAS FIRED UNIT HEATER TO REMAIN.
2. PROVIDE 3" GAS PIPING DOWN TO NATURAL GAS GENERATOR GEN-102, FROM ABOVE. SEE DETAIL 3/P-30-201.
3. PROVIDE 3/4" GAS PIPING DOWN TO GAS FIRED UNIT HEATER GUH-102, FROM ABOVE. SEE DETAIL 3/P-30-201.
4. RELOCATED EXISTING AIR COMPRESSOR AND DRYER. INSTALL COMPRESSOR ON 4" CONCRETE PAD. PROVIDE 1" COMPRESSED AIR PIPING, AIR VALVE, PRESSURE REGULATOR, FITTINGS, DRAINS, SEPARATORS, AND ACCESSORIES.
5. PROVIDE 3/4" COMPRESSED AIR PIPING TO CARBON FEEDER CONNECTION. ROUTE PIPING ALONG WALL WITH EXISTING POTABLE WATER PIPING AND USE EXISTING PIPE SUPPORTS.
6. PROVIDE 3/4" COMPRESSED AIR PIPING THRU EXTERIOR WALL. ROUTE PIPING ALONG EXTERIOR WALL. PROVIDE SLEEVE THRU WALL. SEE DETAIL 1/P-30-201. PROVIDE STAINLESS STEEL UNISTRUT SUPPORTS.
7. PROVIDE COMPRESSED AIR QUICK CONNECT FITTING FOR CONNECTION TO CARBON FEEDER CF-101. MOUNT 24" ABOVE GRADE. SLOPE PIPING TO NORTH AT 1/8"/FOOT TO ALLOW FOR DRAINING.
8. EXISTING 1 1/2" POTABLE WATER PIPING. INSULATE ALL EXISTING PIPING PER SPECIFICATIONS.
9. EXISTING 4" POTABLE WATER RISER.
10. EXISTING POTABLE WATER BACKFLOW PREVENTER ASSEMBLY.
11. PROVIDE 1 1/2" POTABLE WATER PIPING TO CARBON FEEDER CF-101 CONNECTION. CONNECT TO EXISTING PIPING. ROUTE PIPING THRU EXTERIOR WALL AND ROUTE ALONG EXTERIOR WALL. PROVIDE ISOLATION VALVE ON PIPING PRIOR TO WALL PENETRATION. SLOPE EXTERIOR PIPING TO NORTH AT 1/8"/FOOT TO ALLOW FOR DRAINING. SEE DETAIL 5/P-30-201. PROVIDE STAINLESS STEEL UNISTRUT SUPPORTS.
12. PROVIDE 1 1/2" POTABLE WATER PIPING FOR CONNECTION TO CARBON FEEDER (PROVIDE COUPLING AS REQUIRED TO CONNECT TO CARBON FEEDER PIPING).
13. PROVIDE 1 1/2" POTABLE WATER PIPING TO HOT WATER HEATER. CONNECT TO EXISTING PIPING.
14. PROVIDE 2" POTABLE WATER PIPING DOWN FROM MEZZANINE LEVEL TO POTASSIUM PERMANGANATE SYSTEM.
15. PROVIDE 1 1/2" POTABLE WATER PIPING UP TO MEZZANINE LEVEL.
16. PROVIDE FLOOR MOUNTED EMERGENCY SHOWER/EYEWASH ASSEMBLY ESEW-1. PROVIDE 1 1/4" TEMPERED WATER PIPING FROM THERMOSTATIC MIXING VALVE ASSEMBLY TO EMERGENCY SHOWER. CONNECT PIPING TO SHOWER AS REQUIRED. PROVIDE FLOW SWITCH IN PIPING. CONNECT SWITCH TO PLC. SEE ELECTRICAL DRAWINGS FOR DETAILS.
17. PROVIDE 6" DRAIN PIPING DOWN FROM MEZZANINE LEVEL INTO SUMP PIT. CORE HOLE THRU CONCRETE FLOOR INTO SUMP PIT. SEAL OPENING WATER TIGHT.
18. EXISTING NON-POTABLE WATER PIPING DOWN FROM MEZZANINE LEVEL TO HOSE BIBB.
19. EXISTING NON-POTABLE WATER PIPING FROM MEZZANINE LEVEL.
20. RELOCATED GAS UNIT HEATER. EXTEND 3/4" GAS PIPING DOWN FROM MEZZANINE LEVEL TO UNIT HEATER. REPLACE CONDENSATE DRAIN PIPING FROM UNIT HEATER TO EXISTING FLOOR DRAIN.
21. EXISTING DRAIN PIPING BELOW SLAB.
22. EXISTING DRAIN PIPING BELOW SLAB INTO SUMP PIT.
23. EXISTING FLOOR DRAIN.
24. EXISTING DRAIN CONNECTION FOR DISCHARGE WATER FROM SEAL WATER PIPING.
25. EXISTING SUMP PIT AND 14" DISCHARGE FROM SUMP PIT.
26. EXISTING 4" STORM DRAIN PIPING DOWN FROM MEZZANINE LEVEL INTO SUMP PIT.
27. EXISTING 2" DRAIN VENT PIPING FROM BELOW SLAB. ROUTE PIPING OVER TO WALL ALONG FLOOR.
28. PROVIDE 2" VENT PIPING UP TO ABOVE. ROUTE PIPING ALONG WALL.
29. PROVIDE WATER HEATER WH-102. INSTALL WATER HEATER ON UNISTRUT SUPPORT RACK. PROVIDE 1 1/4" POTABLE WATER, 1 1/4" HOT WATER, AND 1 1/2" GAS PIPING TO HOT WATER HEATER. SEE DETAIL 8/P-30-201.
30. PROVIDE THERMOSTATIC MIXING VALVE ASSEMBLY TMV-1. INSTALL MIXING VALVE ASSEMBLY ON UNISTRUT SUPPORT RACK. PROVIDE 1 1/4" POTABLE WATER, 1 1/4" HOT WATER, AND 1 1/4" TEMPERED WATER PIPING TO MIXING VALVE. SEE DETAIL 7/P-30-201.
31. 2" NON-POTABLE WATER DOWN TO LOWER LEVEL.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE

WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
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DRAWING TITLE

LOW LIFT PUMP STATION
FIRST FLOOR
PLUMBING PLAN

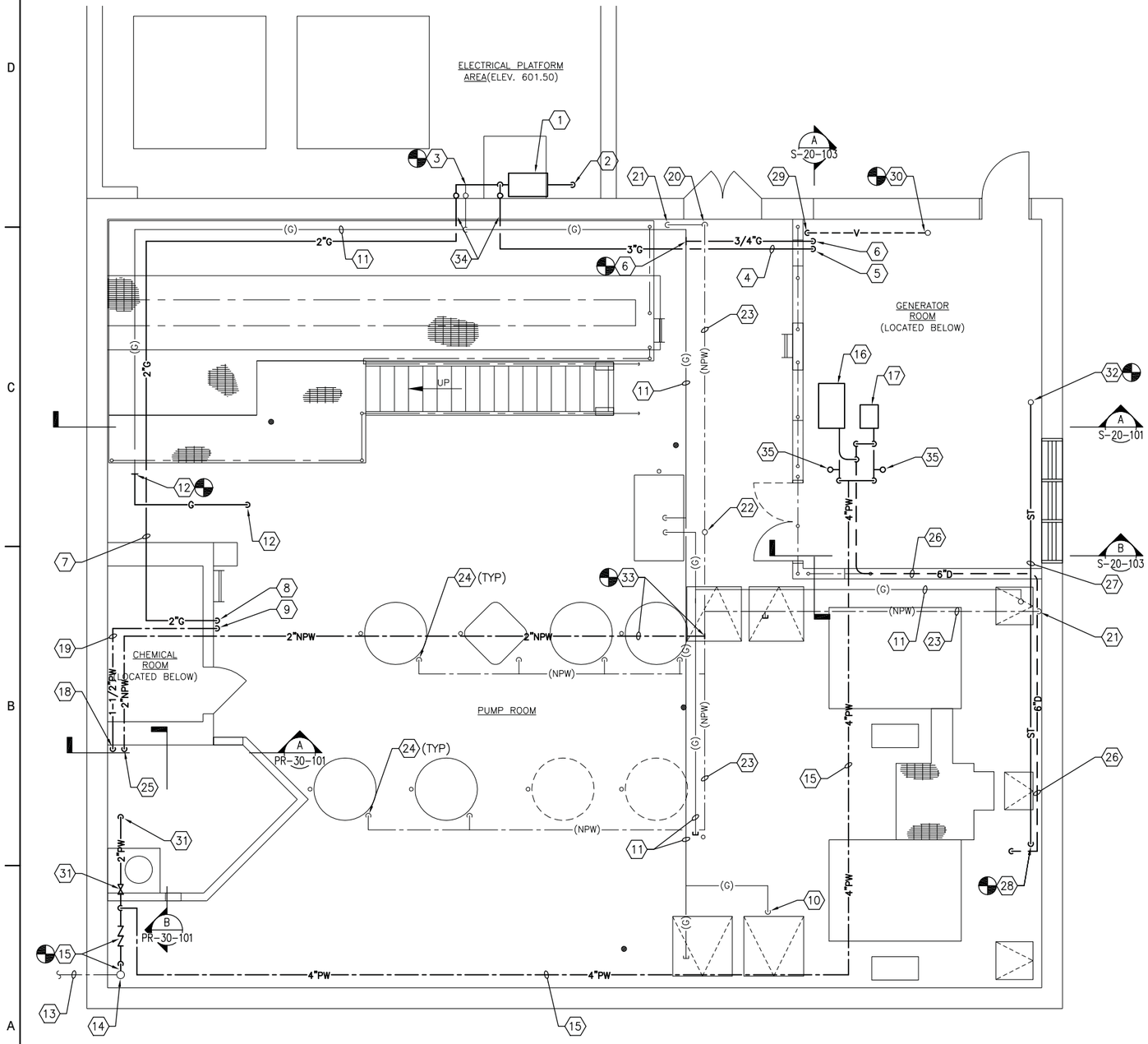
PROJECT No.
O0130014

DRAWING No.
P-20-201

SHEET 035 OF 088 SHEETS

NOTES

1. SEE DRAWING P-00-101 FOR GENERAL NOTES, LEGENDS AND ABBREVIATIONS.



1 MEZZANINE PLUMBING PLAN

(ELEV. 22.0)

0 1' 2' 4' 8'

KEYNOTES

1. GAS SERVICE AND METER PROVIDED BY WE ENERGIES. THE METER SHALL BE RATED FOR 13,000 CFH AT 5PSI. CONTRACTOR SHALL COORDINATE LOCATION AND SERVICE WITH WE ENERGIES AS REQUIRED. SEE DETAIL 2/P-30-101 FOR ADDITIONAL INFORMATION.
2. EXISTING 3" GAS SERVICE UP TO GAS METER TO REMAIN AND BE REUSED.
3. PROVIDE 4" GAS PIPING FROM GAS METER/MANIFOLD ASSEMBLY TO EXISTING BUILDING SERVICES. PROVIDE REGULATOR RATED FOR SAME SETTINGS AS EXISTING SERVICE. CONNECT TO EXISTING PIPING.
4. PROVIDE 3" GAS PIPING TO NATURAL GAS GENERATOR. ROUTE GAS PIPING ALONG WALL.
5. PROVIDE 3" GAS PIPING DOWN TO NATURAL GAS GENERATOR GEN-102, (LOCATED IN GENERATOR ROOM).
6. PROVIDE 3/4" GAS PIPING DOWN TO GAS FIRED UNIT HEATER (LOCATED IN GENERATOR ROOM). CONNECT TO EXISTING GAS PIPING.
7. PROVIDE 2" GAS PIPING FOR WATER HEATER.
8. PROVIDE 2" GAS PIPING DOWN TO WATER HEATER (LOCATED BELOW).
9. PROVIDE 1 1/2" POTABLE WATER PIPING DOWN TO WATER HEATER AND THERMOSTATIC MIXING VALVE ASSEMBLY (LOCATED BELOW).
10. EXISTING GAS PIPING TO GAS FIRED UNIT HEATER BELOW.
11. EXISTING GAS PIPING.
12. EXTEND 3/4" GAS PIPING DOWN TO RELOCATED GAS FIRED UNIT HEATER (LOCATED BELOW).
13. EXISTING 4" INCOMING POTABLE WATER SERVICE INTO BUILDING.
14. EXISTING 4" POTABLE WATER RISER.
15. PROVIDE 4" POTABLE WATER PIPING TO GENERATOR HEAT EXCHANGERS AND POTASSIUM PERMANGANATE SYSTEM. CONNECT TO EXISTING PIPING USING EXISTING VALVE. PROVIDE RPZ TYPE BACKFLOW PREVENTER (MOUNT ABOVE EXISTING BACKFLOW PREVENTER). SEE DETAILS 3/P-30-101 AND 9/P-30-201.
16. JACKET WATER HEAT EXCHANGER HX-102A. PROVIDE 4" POTABLE WATER AND 4" DRAIN PIPING TO HEAT EXCHANGER. SEE DETAIL 10/P-30-201.
17. AFTER COOLER HEAT EXCHANGER HX-102B. PROVIDE 2" POTABLE WATER AND 2" DRAIN PIPING TO HEAT EXCHANGER. SEE DETAIL 10/P-30-201.
18. PROVIDE 1 1/2" POTABLE WATER PIPING UP FROM BELOW.
19. ROUTE PIPING ALONG WALL. AVOID CONFLICT WITH EXISTING PROCESS PIPING.
20. EXISTING NON-POTABLE WATER PIPING DOWN TO BELOW MEZZANINE LEVEL.
21. EXISTING NON-POTABLE WATER PIPING DOWN TO HOSE BIBB.
22. EXISTING 4" NON-POTABLE WATER PIPING CONNECTION TO RAW WATER PIPING.
23. EXISTING NON-POTABLE WATER PIPING ALONG CEILING.
24. EXISTING NON-POTABLE WATER PIPING DOWN TO SEAL WATER VALVE ON LOW LIFT PUMP.
25. PROVIDE 2" NON-POTABLE WATER PIPING DOWN TO POTASSIUM PERMANGANATE SYSTEM (LOCATED BELOW).
26. PROVIDE 6" DRAIN PIPING FROM HEAT EXCHANGERS. ROUTE PIPING ALONG GENERATOR ROOM CEILING DOWN TO BELOW. CONNECT CONDENSATE DRAIN PIPING FROM SILENCER. SEE DRAWING HV-20-202 FOR LOCATION.
27. RELOCATE EXISTING 4" STORM DRAIN PIPING ALONG CEILING TO AVOID NEW EXHAUST LOUVER PLENUM.
28. RECONNECT EXISTING 4" STORM DRAIN PIPING DOWN FROM ROOF DRAIN AND DOWN INTO SUMP PIT (LOCATED BELOW) TO RELOCATED 4" STORM DRAIN.
29. PROVIDE 2" VENT PIPING FROM BELOW. ROUTE PIPING ALONG GENERATOR ROOM CEILING TO EXISTING SANITARY VENT THRU ROOF.
30. PROVIDE 2" SANITARY VENT PIPING UP TO EXISTING VENT THRU ROOF. TRANSITION TO EXISTING 4" VENT.
31. PROVIDE 2" POTABLE WATER PIPING DOWN TO POTASSIUM PERMANGANATE SYSTEM. PROVIDE ISOLATION VALVE.
32. RECONNECT EXISTING 4" PIPING DOWN FROM ROOF DRAIN TO RELOCATED 4" STORM DRAIN.
33. PROVIDE 2" NON-POTABLE WATER PIPING CONNECTED TO EXISTING NON-POTABLE WATER PIPING. PROVIDE SUPPORT BRACKET TO MOUNT OFF SIDE OF OVERHEAD MONORAIL.
34. CORE WALL FOR GAS PIPING. SEE DETAIL 1/P-30-201.
35. PROVIDE LINE SIZE SOLENOID WATER FLOW CONTROL VALVE INTERCONNECTED WITH GENERATOR CONTROL PANEL. PROVIDE 120V CONTROL VALVE ACTUATOR. VERIFY VOLTAGE WITH GENERATOR MANUFACTURER.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE

WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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DATE	REVISION
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2/3/11	ISSUED FOR BIDS

DRAWING TITLE

LOW LIFT PUMP STATION
MEZZANINE
PLUMBING PLAN

PROJECT No.

O0130014

DRAWING No.

P-20-202

SHEET 036 OF 088 SHEETS

WATER HEATER SCHEDULE – INSTANTANEOUS GAS FIRED

TAG	SERVICE / LOCATION	WATER FLOW (GPM)	WATER EWT (°F)	WATER LWT (°F)	WATER W.P.D. (PSI)	NATURAL GAS MIN. (MBH)	NATURAL GAS MAX. (MBH)	NATURAL GAS PRESSURE (IN WC)	THERMAL EFFICIENCY (%)	ELECTRIC DATA V	ELECTRIC DATA PH	ELECTRIC DATA HZ	INTAKE AIR	EXHAUST AIR	REMARKS	DESIGN BASIS MANUFACTURER	DESIGN BASIS MODEL NUMBER
WH–102	EMERGENCY SHOWER LLPS–PUMP ROOM	8.0	45.0	120.0	7.5	15.0	380.0	5–14	80.0	120	1	60	5"ø	5"ø	NOTE 1, 2, 3	TAKAGI	T–M50ASME

NOTES:

1. PROVIDE MANUFACTURER'S WALL MOUNTED SUPPORT KIT.
2. PROVIDE MANUFACTURER'S CONDENSATE NEUTRALIZER KIT IF REQUIRED.
3. PROVIDE MANUFACTURER'S INTAKE AND EXHAUST AIR TERMINATION KITS.

THERMOSTATIC MIXING VALVE SCHEDULE

TAG	SERVICE / LOCATION	VALVE DATA TYPE	FLOW CAPACITY MIN.	FLOW CAPACITY MAX.	INLET	OUTLET	TEMP. CONDITIONS (°F) ENT. CW	ENT. HW	LVG. TW	REMARKS	DESIGN BASIS MANUFACTURER	DESIGN BASIS MODEL NUMBER
TMV–1	WH–102 LLPS–PUMP ROOM	THERMOSTATIC	––	24.0	1–1/4"	1–1/4"	40.0	120.0	85.0	NOTE 1	LAWLER	SERIES 911E

NOTES:

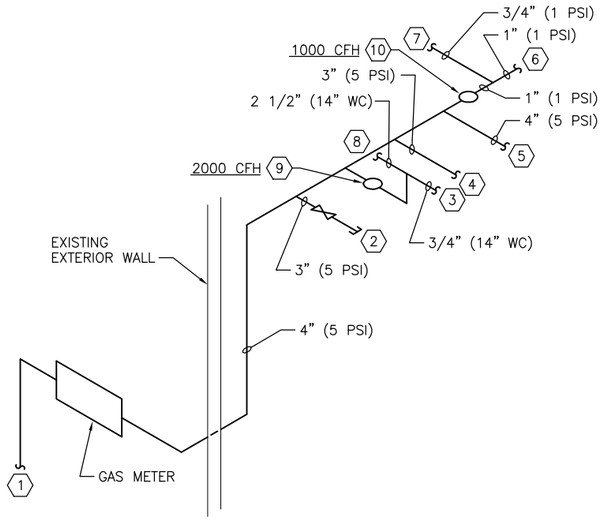
1. PROVIDE WITH LOCKING TEMPERATURE REGULATOR AND WALL SUPPORT BRACKET.

EQUIPMENT CONNECTION SCHEDULE

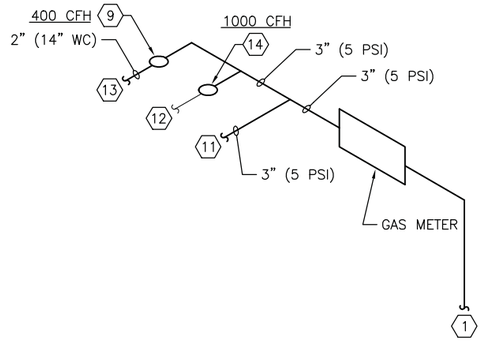
TAG	HW	PW	TW	G	D
HX–101A	––	4"	––	––	4"
HX–101B	––	2"	––	––	2"
HX–102A	––	4"	––	––	4"
HX–102B	––	2"	––	––	2"
TMV–1	1–1/4"	1–1/4"	1–1/4"	––	––
ESEW–1	––	––	1–1/4"	––	––
WH–101	3/4"	3/4"	––	––	––
WH–102	1"	1"	––	––	––
B–101	––	3/4"	––	2"	––

KEYNOTES

1. GAS SERVICE FROM WE ENERGIES.
2. 3" GAS PIPING FOR FUTURE GENERATOR.
3. 3/4" GAS PIPING FOR GAS FIRED UNIT HEATER GUH–1.
4. 3" GAS PIPING FOR GAS GENERATOR GEN–101.
5. 4" GAS PIPING TO REFEED EXISTING 4" GAS PIPING.
6. 1" GAS PIPING TO REFEED EXISTING 1" GAS PIPING.
7. 3/4" GAS PIPING FOR RELOCATED WATER HEATER.
8. 2 1/2" GAS PIPING FOR HEATING HOT WATER BOILER B–101.
9. GAS REGULATOR TO ADJUST PRESSURE DOWN TO 14" WC. CFH PROVIDED IS BASED ON AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY IN FIELD PRIOR TO SIZING REGULATORS.
10. GAS REGULATOR TO ADJUST PRESSURE DOWN TO 1 PSI. CFH PROVIDED IS BASED ON AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY IN FIELD PRIOR TO SIZING REGULATORS.
11. 3" GAS PIPING TO GAS GENERATOR GEN–102.
12. 4" GAS PIPING TO REFEED EXISTING 4" GAS PIPING.
13. 2" GAS PIPING FOR WATER HEATER WH–102.
14. GAS REGULATOR TO ADJUST PRESSURE TO EXISTING SERVICE SETTING. CFH PROVIDED IS BASED ON AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY IN FIELD PRIOR TO SIZING REGULATORS.
15. EXISTING 4" INCOMING POTABLE WATER SERVICE INTO BUILDING.
16. PROVIDE 4" POTABLE WATER PIPING. CONNECT TO EXISTING PIPING USING EXISTING VALVE.
17. PROVIDE RPZ TYPE BACKFLOW PREVENTER. MOUNT AT HEIGHT ABOVE EXISTING BACKFLOW PREVENTER TO ALLOW MAINTENANCE FROM EXISTING PLATFORM.
18. PROVIDE 2" POTABLE WATER PIPING TO POTASSIUM PERMANGANATE SYSTEM. PROVIDE ISOLATION VALVE.
19. PROVIDE 4" POTABLE WATER PIPING TO GENERATOR HEAT EXCHANGERS.
20. PROVIDE 1 1/2" POTABLE WATER PIPING TO HOT WATER HEATER. CONNECT TO EXISTING PIPING.
21. EXISTING POTABLE WATER BACKFLOW PREVENTER ASSEMBLY.
22. EXISTING 1 1/2" POTABLE WATER PIPING.



1 ADMINISTRATION AND FILTRATION FACILITY GAS PIPING DETAIL
NO SCALE



2 LOW LIFT PUMP STATION GAS PIPING DETAIL
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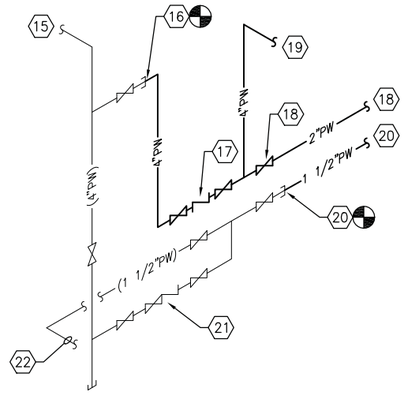

3 LLPS POTABLE WATER SERVICE DETAIL
NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: NTP
DRAWN BY: NTP
CHECKED BY: KRP
DATE CHECKED: 01/11

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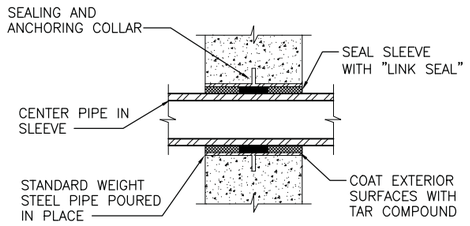
DRAWING TITLE
PLUMBING
EQUIPMENT SCHEDULES
AND DETAILS

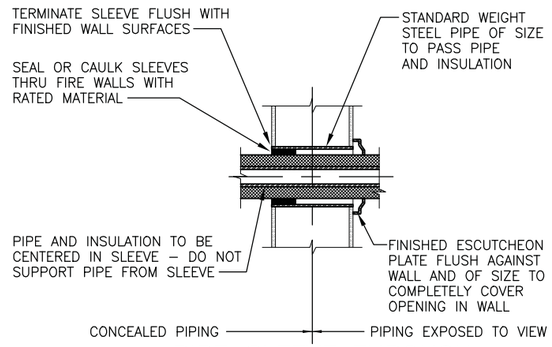
PROJECT No.
O0130014

DRAWING No.
P-30-101

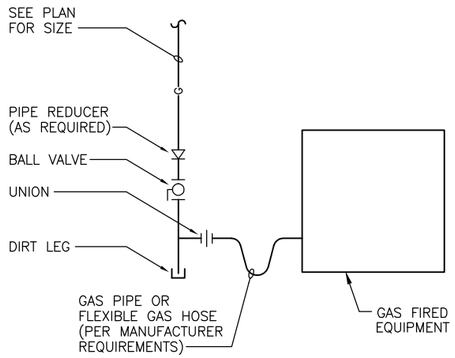
SHEET 037 OF 088 SHEETS



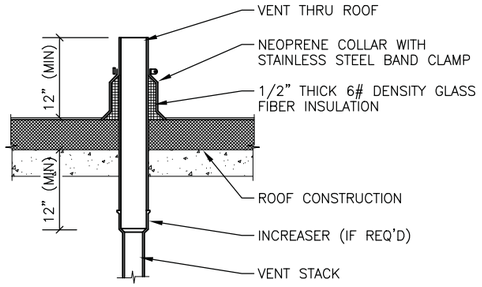
1 PIPE SLEEVE THROUGH EXTERIOR WALLS
NO SCALE



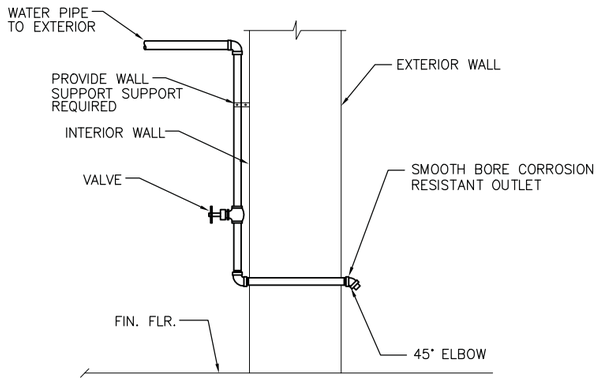
2 PIPE SLEEVE THROUGH INTERIOR WALLS
NO SCALE



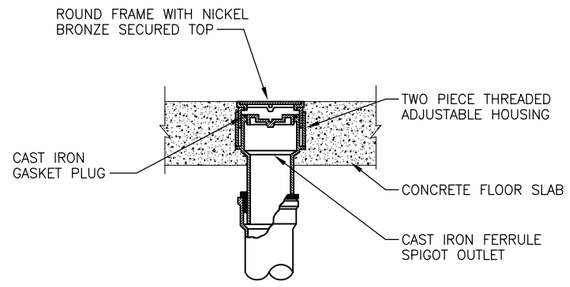
3 GAS PIPING SCHEMATIC
NO SCALE



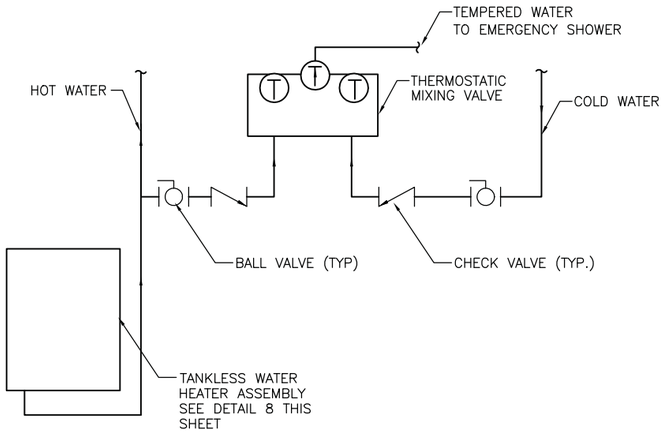
4 VENT THROUGH ROOF
NO SCALE



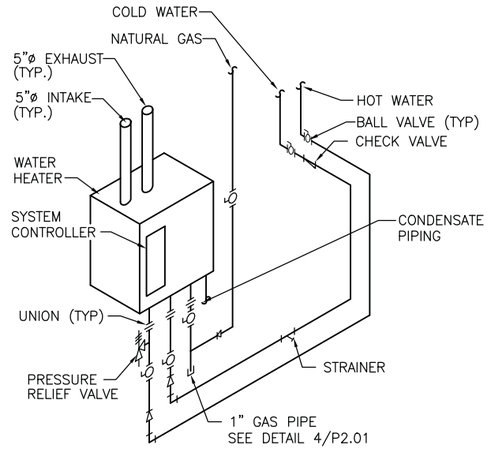
5 EXTERIOR DRAIN DETAIL
NO SCALE



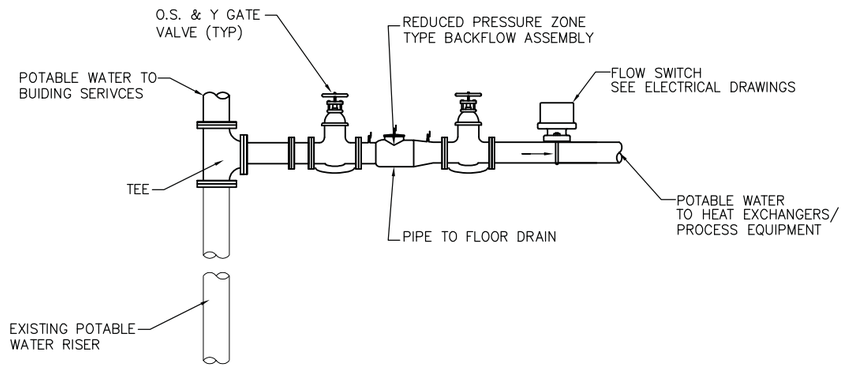
6 FLOOR CLEANOUT–(CONCRETE SLAB)
NO SCALE



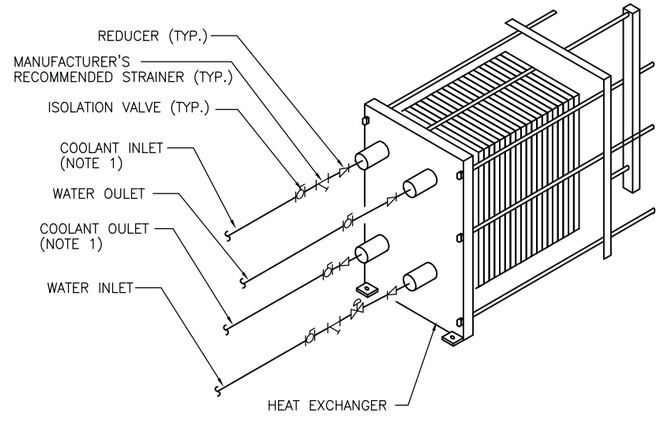
7 THERMOSTATIC MIXING VALVE DETAIL
NO SCALE



8 DOMESTIC GAS WATER HEATER DETAIL
NO SCALE



9 REDUCED PRESSURE ZONE BACKFLOW PREVENTER ASSEMBLY DETAIL
NO SCALE



NOTES:
1. SEE HEATING/VENTILATION DRAWINGS FOR COOLANT INLET AND OUTLET WORK.

10 HEAT EXCHANGER PLUMBING SCHEMATIC
NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
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DRAWING TITLE
PLUMBING DETAILS

PROJECT No.
O0130014

DRAWING No.
P-30-201

SHEET 038 OF 088 SHEETS

HEATING/VENTILATION LEGEND

SYMBOL	DESCRIPTION
	SUPPLY DUCT UP OR TOWARD
	SUPPLY DUCT DOWN OR AWAY
	RETURN DUCT UP OR TOWARD
	RETURN DUCT DOWN OR AWAY
	EXHAUST DUCT UP OR TOWARD
	EXHAUST DUCT DOWN OR AWAY
24/24	RECTANGULAR DUCT (FIRST FIGURE IS SIDE SHOWN) ALL DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS
XØ	ROUND DUCTWORK
	90° ELBOW WITH TURNING VANES
AD	ACCESS DOOR (HORIZONTAL/VERTICAL)
M	MOTORIZED DAMPER
	FLEXIBLE DUCT CONNECTION
	TRANSITION FROM RECTANGULAR TO ROUND DUCT
XX–X T	THERMOSTAT W/EQUIPMENT NUMBER
XX–X H	HUMIDISTAT W/EQUIPMENT NUMBER
EF–X	EXHAUST FAN W/ EQUIPMENT NUMBER
	DIRECTION OF AIRFLOW

SYMBOL	DESCRIPTION
HWS	HOT WATER HEATING SUPPLY
HWR	HOT WATER HEATING RETURN
JWCS	JACKET WATER COOLANT SUPPLY
JWCR	JACKET WATER COOLANT RETURN
ACCS	AFTER COOLER COOLANT SUPPLY
ACCR	AFTER COOLER COOLANT RETURN
V	RELIEF VENT
(NAME)	EXISTING PIPING
	ELBOW DOWN OR AWAY
	ELBOW UP OR TOWARD
	TEE DOWN OR AWAY
	TEE UP OR TOWARD
	RISE OR DROP
	90° ELBOW
	PIPE TEE
	PIPE TAKEOFF (FROM BOTTOM OF MAIN)
	PIPE TAKEOFF (FROM TOP OF MAIN)
	45° ELBOW
	45° BRANCH
	PITCH PIPING IN DIRECTION OF ARROW
	BALANCING VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	GATE VALVE
	GLOBE VALVE – TWO WAY
	GLOBE VALVE – THREE WAY
	CONTROL VALVE – TWO WAY
	CONTROL VALVE – THREE WAY
	3–WAY VALVE
	REDUCER
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	EMPTY WELL
	END CAP
P/T	PRESSURE / TEST POINT
P	GAUGE – PRESSURE
	THERMOMETER
	UNION – SCREWED
	TO BE REMOVED
	CONNECTION TO EXISTING
T	GAUGE – TEMPERATURE
T	THERMOSTATIC WELL

GENERAL HEATING/VENTILATION DEMOLITION NOTES

1. VERIFY EXACT SIZE AND LOCATION OF EXISTING UTILITIES PRIOR TO START OF DEMOLITION. SEE GENERAL CONDITIONS OF THE CONTRACT FOR ADDITIONAL INFORMATION.
2. DISCONNECT ALL HEATING PIPING AND DUCTWORK CONNECTIONS TO EQUIPMENT BEING REMOVED.
3. UNLESS OTHERWISE NOTED, REMOVAL OF DUCTWORK, PIPING AND/OR EQUIPMENT SHALL INCLUDE ALL INSULATION, DAMPERS, VALVES, HANGERS, SUPPORTS, EQUIPMENT PADS, FLASHING, ROOF CURB, CONTROLS, AND ASSOCIATED ACCESSORIES.
4. UNLESS OTHERWISE NOTED, REMOVAL OF PIPING SHALL BE BACK TO THE MAIN OR LAST ACTIVE SERVICE.
5. ALL OPENINGS OR HOLES LEFT IN EXISTING WALLS, FLOORS, AND CEILINGS TO REMAIN, INCLUDING CHASES, SHALL BE PATCHED TO MATCH EXISTING CONDITIONS BY THE CONTRACTOR WHOSE WORK HAS CREATED THE OPENING OR HOLE. PATCHING SHALL BE IN ACCORDANCE WITH THE APPROPRIATE DIVISION OF THE SPECIFICATIONS.
6. CONTRACTOR SHALL VERIFY SEQUENCE OF OPERATION OF EXISTING BOILER AND PUMPS PRIOR TO DEMOLITION. BOILER AND PUMPS PROVIDED BY THIS CONTRACT SHALL OPERATE ON THE SAME SEQUENCE OF OPERATION.

HEATING/VENTILATION ABBREVIATIONS

SA	SUPPLY AIR
EA	EXHAUST AIR
OA	OUTDOOR AIR
CFM	CUBIC FEET PER MINUTE
IL	INTAKE LOUVER
EL	EXHAUST LOUVER
GUH	ELECTRIC BASE HEATER
B	BOILER
EX	EXPANSION TANK

GENERAL HEATING/VENTILATION NOTES

1. DUCTWORK AND PIPING IS SHOWN IN SCHEMATIC FORM ONLY, OFFSETS AND CHANGES IN ELEVATIONS ARE NOT NECESSARILY SHOWN. ROUTE DUCTWORK AND PIPING AN ORDERLY MANNER AS REQUIRED FOR CLEARANCE WITH STRUCTURAL CONDITIONS. COORDINATE LOCATION OF DUCTWORK AND PIPING WITH OTHER TRADES PRIOR TO INSTALLATION. WHERE POSSIBLE RACK PIPING HORIZONTALLY AND VERTICALLY.
2. COORDINATE LOCATIONS AND SIZES OF DUCT CONNECTIONS AND PIPING CONNECTIONS TO EQUIPMENT BEING PROVIDED.
3. PROVIDE AND INSTALL MANUAL BALANCING DAMPERS IN ALL BRANCH DUCTWORK AND AT EACH AIR INLET AND OUTLET.
4. LOCATE ALL MANUAL BALANCING DAMPERS IN AN ACCESSIBLE LOCATION. WHERE DAMPERS ARE NOT ACCESSIBLE PROVIDE MINIMUM 18x18 ACCESS DOOR.
5. UNLESS OTHERWISE NOTED, CONCEAL ALL DUCTWORK AND PIPING ABOVE CEILINGS, IN WALLS, OR INSIDE CHASES.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SUPPORTING SYSTEMS AND DEVICES FOR ALL DUCTWORK, EQUIPMENT, PIPING AND ACCESSORIES.
7. PROVIDE AND INSTALL SLEEVES FOR ALL DUCTWORK AND PIPING PASSING THROUGH WALLS AND FLOORS.
8. PROVIDE FIRE AND/OR SMOKE DAMPERS AT ALL PENETRATIONS OF FIRE AND/OR SMOKE RATED WALLS, CEILINGS, AND FLOORS. SEE ARCHITECTURAL PLANS FOR LOCATIONS OF FIRE AND/OR SMOKE RATED WALLS, CEILINGS, AND FLOORS. PROVIDE ACCESS DOOR(S) TO FACILITATE RESETTING OF DAMPERS.
9. PROVIDE RIGID METAL DUCT, WITH NO EXCEPTION, WHERE FIRE AND/OR SMOKE RATED WALLS, CEILINGS, AND FLOORS ARE PENETRATED.
10. FOR DUCT CONNECTIONS TO TERMINAL DEVICES, FANS, AND OTHER EQUIPMENT SEE MECHANICAL DETAILS.
11. COORDINATE LOCATIONS OF ALL DIFFUSERS, GRILLES, AND REGISTERS WITH ARCHITECTURAL REFLECTED CEILING PLANS.
12. LOCATE AND INSTALL ALL MECHANICAL EQUIPMENT TO PROVIDE MANUFACTURER'S MINIMUM SERVICE CLEARANCES.
13. PROVIDE AND INSTALL ISOLATION VALVES IN ALL BRANCH PIPING.
14. CONNECTIONS TO EQUIPMENT SHALL BE PROVIDED WITH ISOLATION VALVES AND UNIONS TO FACILITATE EQUIPMENT REMOVAL.
15. LOCATE ALL ISOLATION VALVES IN AN ACCESSIBLE LOCATION. WHERE VALVES ARE NOT ACCESSIBLE PROVIDE 12X12 ACCESS DOOR.
16. SEE MECHANICAL DETAILS FOR EXACT PIPING CONNECTIONS TO TERMINAL UNITS, PUMPS, AND OTHER EQUIPMENT, INCLUDING VALVES, TRAPS, AND SYSTEM ACCESSORIES.
17. ALL EXISTING INSULATION ON WATER LINES SHALL BE REPLACED WITH NEW IN THE BUILDING AND GROUNDS ROOM AT THE WATER TREATMENT PLANT AND PIPING THAT IS BEING MODIFIED AT LOW LIFT PUMP STATION. INSULATION SHALL BE PAINTED AND LABELED TO MATCH EXISTING.

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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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

DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
HEATING/VENTILATION
GENERAL NOTES, LEGEND,
AND ABBREVIATIONS

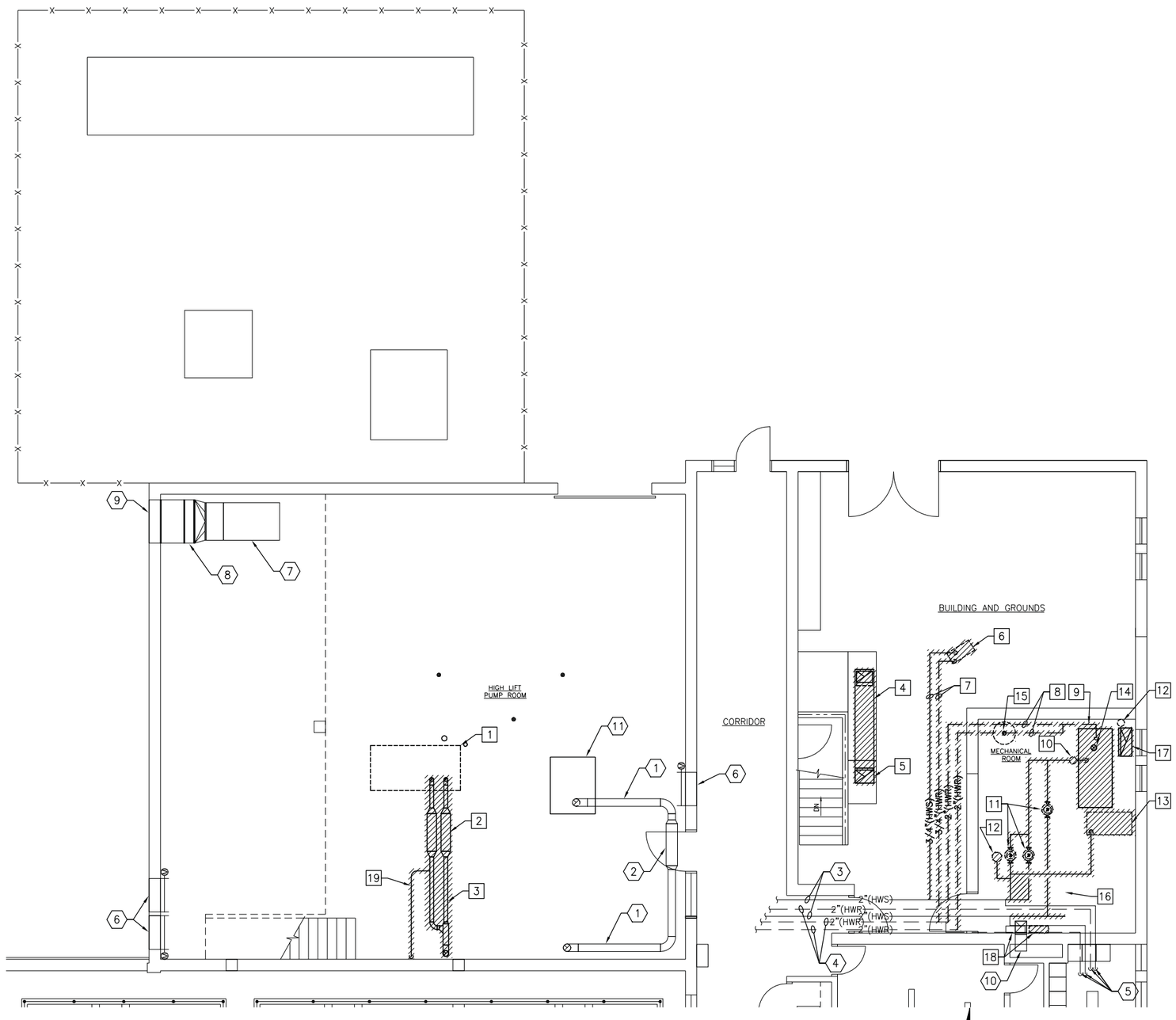
PROJECT No.
O0130014

DRAWING No.
HV-00-101

SHEET 039 OF 088 SHEETS

NOTES

1. SEE DRAWING HV-00-101 FOR GENERAL NOTES, LEGENDS, AND ABBREVIATIONS.

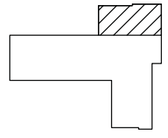


DEMOLITION KEYNOTES

1. EXISTING NATURAL GAS FIRED GENERATOR TO BE REMOVED. THIS CONTRACTOR SHALL DISCONNECT ALL EXHAUST PIPING, AND ALL COOLANT PIPING TO EXISTING HEAT EXCHANGERS.
2. REMOVE EXISTING GENERATOR SILENCER, INCLUDING ALL INSULATION, HANGERS, SUPPORTS AND ACCESSORIES.
3. REMOVE EXISTING (2) 4"ø EXHAUST PIPE INCLUDING ALL INSULATION, HANGERS, SUPPORTS AND ACCESSORIES. PATCH OPENINGS IN ROOF WATER TIGHT.
4. REMOVE EXISTING 20"x7" EXHAUST DUCTWORK INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES.
5. REMOVE EXISTING EXHAUST FAN, LOCATED ON ROOF ABOVE, INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES. EXISTING OPENING TO BE MODIFIED FOR NEW FAN. SEE DRAWING HV-10-201 FOR NEW WORK.
6. REMOVE EXISTING HOT WATER UNIT HEATER INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES.
7. REMOVE EXISTING 3/4" HEATING HOT WATER SUPPLY AND RETURN PIPING TO/FROM HOT WATER UNIT HEATER BACK TO MAIN AND CAP. REMOVE ALL ASSOCIATED SUPPORTS, HANGERS, INSULATION AND ACCESSORIES.
8. REMOVE EXISTING 2" HEATING HOT WATER RETURN PIPING AS REQUIRED TO ALLOW FOR CONNECTION TO NEW PIPING. REMOVE ALL ASSOCIATED INSULATION, SUPPORTS, HANGERS AND ACCESSORIES. TEMPORARILY CAP PIPING. SEE DRAWING HV-10-201 FOR NEW WORK.
9. REMOVE EXISTING HEATING HOT WATER BOILER. DISCONNECT AND REMOVE ALL ASSOCIATED PIPING AS REQUIRED. REMOVE ALL INSULATION, SUPPORTS, HANGERS, HOUSEKEEPING PAD AND ACCESSORIES.
10. REMOVE EXISTING AIR SEPARATOR INCLUDING ALL INSULATION, SUPPORTS, HANGERS, ACCESSORIES.
11. REMOVE EXISTING HEATING HOT WATER PUMPS INCLUDING ALL SUPPORTS, HANGERS, CONTROLS AND ACCESSORIES.
12. REMOVE EXISTING CHEMICAL FEED SYSTEM INCLUDING ALL PIPING, SUPPORTS, HANGERS AND ACCESSORIES.
13. REMOVE EXISTING HEATING WATER EXPANSION TANK INCLUDING ALL PIPING, INSULATION, SUPPORTS, HANGERS, AND ACCESSORIES.
14. REMOVE EXISTING 10"ø FLUE INCLUDING ALL INSULATION, HANGERS, SUPPORTS, AND ACCESSORIES. PATCH OPENING IN ROOF WATER TIGHT.
15. REMOVE EXISTING 3"ø FLUE FROM HOT WATER HEATER INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES. PATCH OPENING IN ROOF WATER TIGHT.
16. REMOVE EXISTING 2" HEATING HOT WATER SUPPLY PIPING AS REQUIRED TO ALLOW FOR CONNECTION TO NEW PIPING. REMOVE ALL ASSOCIATED INSULATION, SUPPORTS, HANGERS AND ACCESSORIES. TEMPORARILY CAP PIPING. SEE DRAWING HV-10-201 FOR NEW WORK.
17. REMOVE EXISTING INTAKE DUCTWORK, ROOF MOUNTED INTAKE HOOD, GRILLE, DAMPER, DAMPER ACTUATOR, AND ASSOCIATED CONTROLS.
18. EXISTING EAST TEMPERATURE CONTROL PANEL SHALL BE REPLACED WITH NEW PANEL. SEE DRAWING HV-10-201 FOR NEW WORK. EXISTING WEST TEMPERATURE CONTROL PANEL SHALL REMAIN.
19. REMOVE EXISTING (2) 3/4" CONDENSATE DRAIN PIPING INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES.

KEYNOTES

1. EXISTING EXHAUST PIPING FROM GAS FIRED HORIZONTAL SHAFT PUMP TO REMAIN.
2. EXISTING EXHAUST SILENCER FOR GAS FIRED HORIZONTAL SHAFT PUMP TO REMAIN.
3. EXISTING HEATING HOT WATER SUPPLY PIPING TO REMAIN.
4. EXISTING HEATING HOT WATER RETURN PIPING TO REMAIN.
5. EXISTING HEATING HOT WATER SUPPLY AND RETURN PIPING DOWN TO LOWER LEVEL TO REMAIN.
6. EXISTING INTAKE AIR LOUVERS WITH MOTORIZED DAMPERS TO REMAIN.
7. EXISTING EXHAUST FAN (LOCATED ABOVE MEZZANINE) TO REMAIN.
8. EXISTING EXHAUST DUCTWORK (LOCATED ABOVE MEZZANINE) TO REMAIN.
9. EXISTING EXHAUST LOUVER (LOCATED ABOVE MEZZANINE) TO REMAIN.
10. EXISTING EXHAUST DUCTWORK FROM LOWER LEVEL TO REMAIN.
11. EXISTING GAS FIRED HORIZONTAL SHAFT PUMP.



KEY PLAN
NO SCALE

1 FIRST FLOOR HEATING/VENTILATION DEMOLITION PLAN
(ELEV. 99.0)

0 2' 4' 8' 12'

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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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DATE	REVISION
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2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY
FIRST FLOOR
HEATING/VENTILATION
DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
HV-10-101

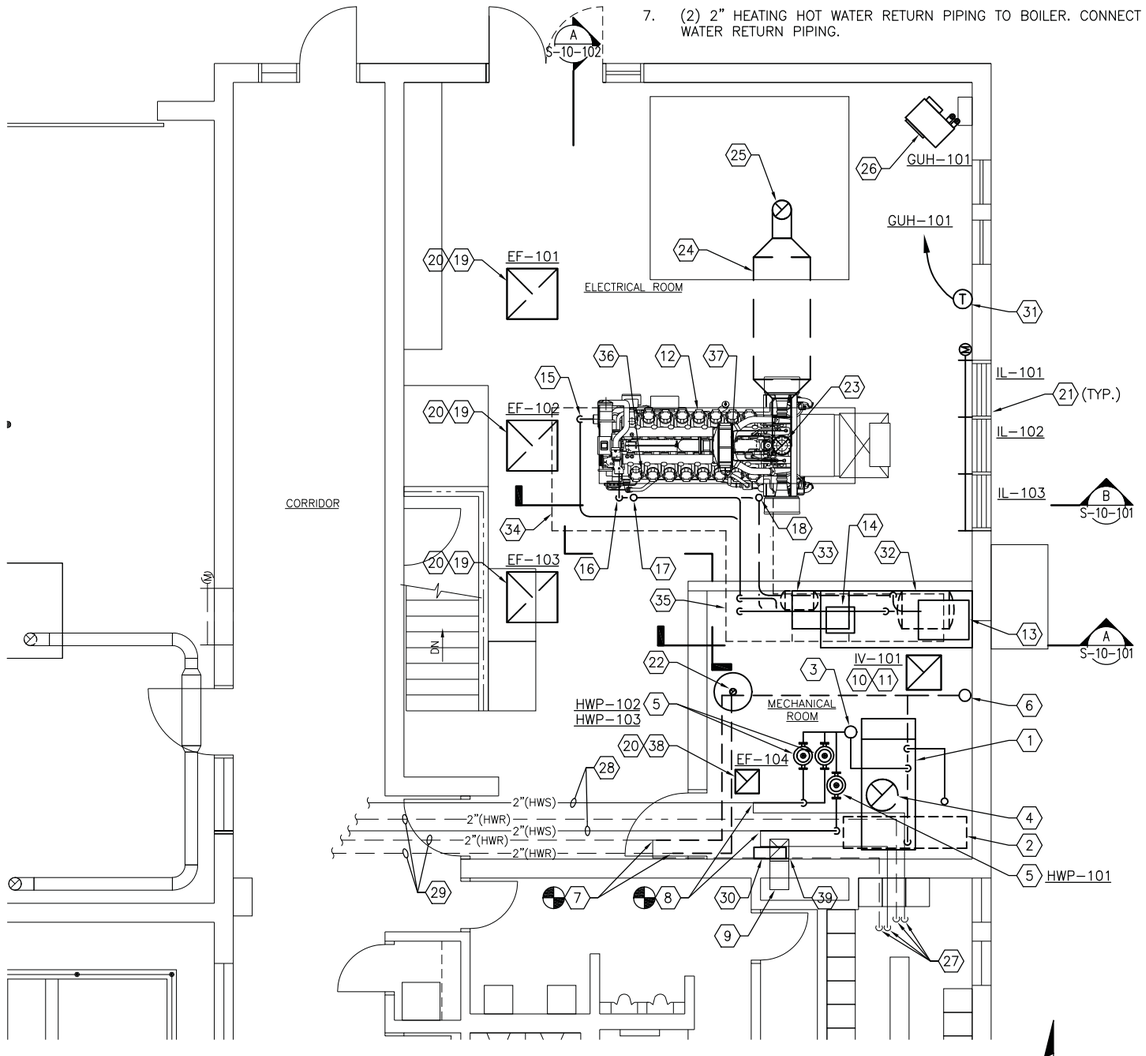
SHEET 040 OF 088 SHEETS

NOTES

1. SEE DRAWING HV-00-101 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. ALL EQUIPMENT ASSOCIATED WITH GENERATOR (e.g. HEAT EXCHANGERS, EXPANSION TANKS, SILENCER, COOLANT PIPING, EXHAUST PIPING, ETC.) SHALL BE INSTALLED PER MANUFACTURER INSTALLATION INSTRUCTIONS.
3. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF THE WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.
4. GENERATOR SHALL BE MOVED TO THE EAST IN THE ELECTRICAL ROOM TO PROVIDE 36" CLEARANCE BETWEEN GENERATOR CONTROL PANEL AND OPENED DAMPER BLADES AND ACTUATOR. FINAL LOCATION SHALL BE DETERMINED IN THE FIELD.

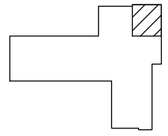
KEYNOTES

1. PROVIDE GAS FIRED HEATING HOT WATER BOILER B-101. CONNECT 3" HEATING HOT WATER SUPPLY AND RETURN PIPING. INTERCONNECT BOILER CONTROL PANEL TO RELOCATED TEMPERATURE CONTROL PANEL. INSTALL BOILER ON 4" THICK CONCRETE PAD. SEE DETAIL 3/HV-30-201.
2. PROVIDE HEATING HOT WATER EXPANSION TANK EX-101. SUPPORT FROM STRUCTURE/WALL AS REQUIRED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE DETAIL 3/HV-30-202.
3. PROVIDE 3" AIR SEPARATOR AS-101. SUPPORT FROM STRUCTURE AS REQUIRED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE DETAIL 3/HV-30-202.
4. PROVIDE COMBUSTION AIR AND FLUE UP FROM BOILER. PROVIDE MANUFACTURER'S RAIN CAP/TERMINATION KIT. ROUTE DUCTWORK UP THROUGH ROOF. SEAL OPENING WATER TIGHT. SEE DETAIL 8/HV-30-201.
5. PROVIDE INLINE HEATING HOT WATER PUMP HWP-#. CONNECT TO HEATING HOT WATER SUPPLY PIPING. SUPPORT FROM FLOOR AS REQUIRED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE DETAIL 1/HV-30-202 AND 2/HV-30-202.
6. PROVIDE CHEMICAL FEED SYSTEM. PROVIDE NECESSARY CLEARANCE FOR MAINTENANCE ACCESS. SEE DETAIL 7/HV-30-202.
7. (2) 2" HEATING HOT WATER RETURN PIPING TO BOILER. CONNECT TO EXISTING HEATING HOT WATER RETURN PIPING.
8. (2) 2" HEATING HOT WATER SUPPLY PIPING FROM BOILER. CONNECT TO EXISTING HEATING HOT WATER SUPPLY PIPING AS REQUIRED.
9. EXISTING 14"x12" EXHAUST DUCTWORK FROM LOWER LEVEL.
10. PROVIDE 22"x22" INTAKE DUCTWORK 12" BELOW BOTTOM OF DECK. PROVIDE MOTORIZED DAMPER MD-104 IN DUCT SECTION. PROVIDE 1/2" x 1/2" MESH SCREEN OVER OPENING. SEE ELECTRICAL DRAWINGS FOR CONTROL OPERATION.
11. PROVIDE ROOF MOUNTED INTAKE VENTILATOR IV-101. TRANSITION INTAKE DUCT WORK TO HOOD AND CONNECT. SEE DETAIL 8/HV-30-202.
12. NATURAL GAS GENERATOR GEN-101.
13. JACKET WATER HEAT EXCHANGER HX-101A. SEE DRAWING P-10-201 FOR WATER SUPPLY AND DRAIN PIPING. SEE DETAIL 5/HV-30-202.
14. AFTER COOLER HEAT EXCHANGER HX-101B. SEE DRAWING P-10-201 FOR WATER SUPPLY AND DRAIN PIPING. SEE DETAIL 5/HV-30-202.
15. PROVIDE 6" JACKET WATER COOLANT SUPPLY PIPING FROM HEAT EXCHANGER TO GENERATOR. ROUTE PIPING IN UTILITY TRENCH.
16. PROVIDE 6" JACKET WATER COOLANT RETURN PIPING FROM GENERATOR TO HEAT EXCHANGER. ROUTE PIPING IN UTILITY TRENCH.
17. PROVIDE 3" AFTER COOLER COOLANT SUPPLY PIPING FROM HEAT EXCHANGER TO GENERATOR. ROUTE PIPING IN UTILITY TRENCH.
18. PROVIDE 3" AFTER COOLER COOLANT RETURN PIPING FROM GENERATOR TO HEAT EXCHANGER. ROUTE PIPING IN UTILITY TRENCH.
19. PROVIDE 32"x32" EXHAUST DUCTWORK UP THROUGH ROOF. TERMINATE DUCTWORK 12" BELOW BOTTOM OF ROOF DECK. PROVIDE 1/2"X1/2" MESH SCREEN OVER OPENING.
20. PROVIDE ROOF MOUNTED EXHAUST FAN EF-#. PROVIDE GRAVITY DAMPER BELOW ROOF DECK. SEE DETAIL 6/HV-30-201. SEE ELECTRICAL DRAWINGS FOR CONTROLS AND OPERATION.
21. PROVIDE INTAKE AIR LOUVER IL-#. PROVIDE REMOVABLE LOUVERS. COORDINATE LOCATION AND ELEVATION WITH ARCHITECTURAL DRAWINGS. PROVIDE SECTIONAL MOTORIZED DAMPERS IN WALL OPENING. SEE ELECTRICAL DRAWINGS FOR CONTROLS AND OPERATION.
22. PROVIDE 3" FLUE UP FROM RELOCATED WATER HEATER. COORDINATE LOCATION WITH PLUMBING DRAWINGS. ROUTE FLUE UP THROUGH ROOF. SEAL OPENING WATER TIGHT. PROVIDE TALL CONE FLASHING, STORM COLLAR AND RAINCAP.
23. PROVIDE 12" GENERATOR EXHAUST PIPING UP FROM NATURAL GAS GENERATOR. ROUTE PIPE UP THROUGH ROOF. SEAL OPENING WATER TIGHT. SEE DETAIL 6/HV-30-202.
24. GENERATOR SILENCER ON ROOF ABOVE. TRANSITION EXHAUST PIPE TO/FROM SILENCER AS REQUIRED. MOUNT SILENCER ON 6" SUPPORT STAND ABOVE ROOF. ROUTE CONDENSATE DRAIN PIPING TO NEAREST ROOF DRAIN.
25. PROVIDE 12" EXHAUST PIPING FROM SILENCER. CONNECT TO SILENCER. PROVIDE 90° ELBOW AND TERMINATE WITH RAIN CAP.
26. PROVIDE GAS FIRED UNIT HEATER GUH-101. PROVIDE MANUFACTURER'S WALL/CEILING MOUNTED SUPPORT KIT. CONNECT COMBUSTION AIR INTAKE AND FLUE TO UNIT HEATER. PROVIDE MANUFACTURER'S CONCENTRIC VENT KIT. ROUTE DUCTWORK UP THROUGH ROOF. SEAL OPENING WATER TIGHT. SEE DETAIL 10/HV-30-201.
27. EXISTING HEATING HOT WATER SUPPLY AND RETURN PIPING DOWN TO LOWER LEVEL.
28. EXISTING HEATING HOT WATER SUPPLY PIPING.
29. EXISTING HEATING HOT WATER RETURN PIPING.
30. EXISTING TEMPERATURE CONTROL PANEL.
31. INSTALL THERMOSTAT ON INSULATED BASE.
32. EXPANSION TANK FOR JACKET WATER LOOP.
33. EXPANSION TANK FOR AFTER COOLER LOOP.
34. PIPE TRENCH FOR COOLANT PIPING.
35. PIPE TRENCH FOR COOLANT PIPING AND HEAT EXCHANGER DRAIN PIPING.
36. PROVIDE 2" PIPING FOR CRANKCASE FUME DISPOSAL AND DRIP COLLECTOR UP THROUGH ROOF.
37. PROVIDE AUTOMATIC BREATHER VALVE FOR AIR BLEED.
38. PROVIDE 12"x12" EXHAUST DUCTWORK UP THROUGH ROOF. TERMINATE DUCTWORK 12" BELOW BOTTOM OF ROOF DECK. PROVIDE 1/2" x 1/2" MESH SCREEN OVER OPENING.
39. PROVIDE TEMPERATURE CONTROL PANEL. RELOCATE EXISTING PNEUMATIC TUBING TO THIS PANEL. RELOCATE EXISTING SIEMENS CONTROL MODULE. SEE ELECTRICAL DRAWINGS FOR DETAILS.



1 ENLARGED FIRST FLOOR HEATING/VENTILATION PLAN
(ELEV. 99.0)

0 1' 2' 4' 8'



KEY PLAN
NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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DATE	REVISION
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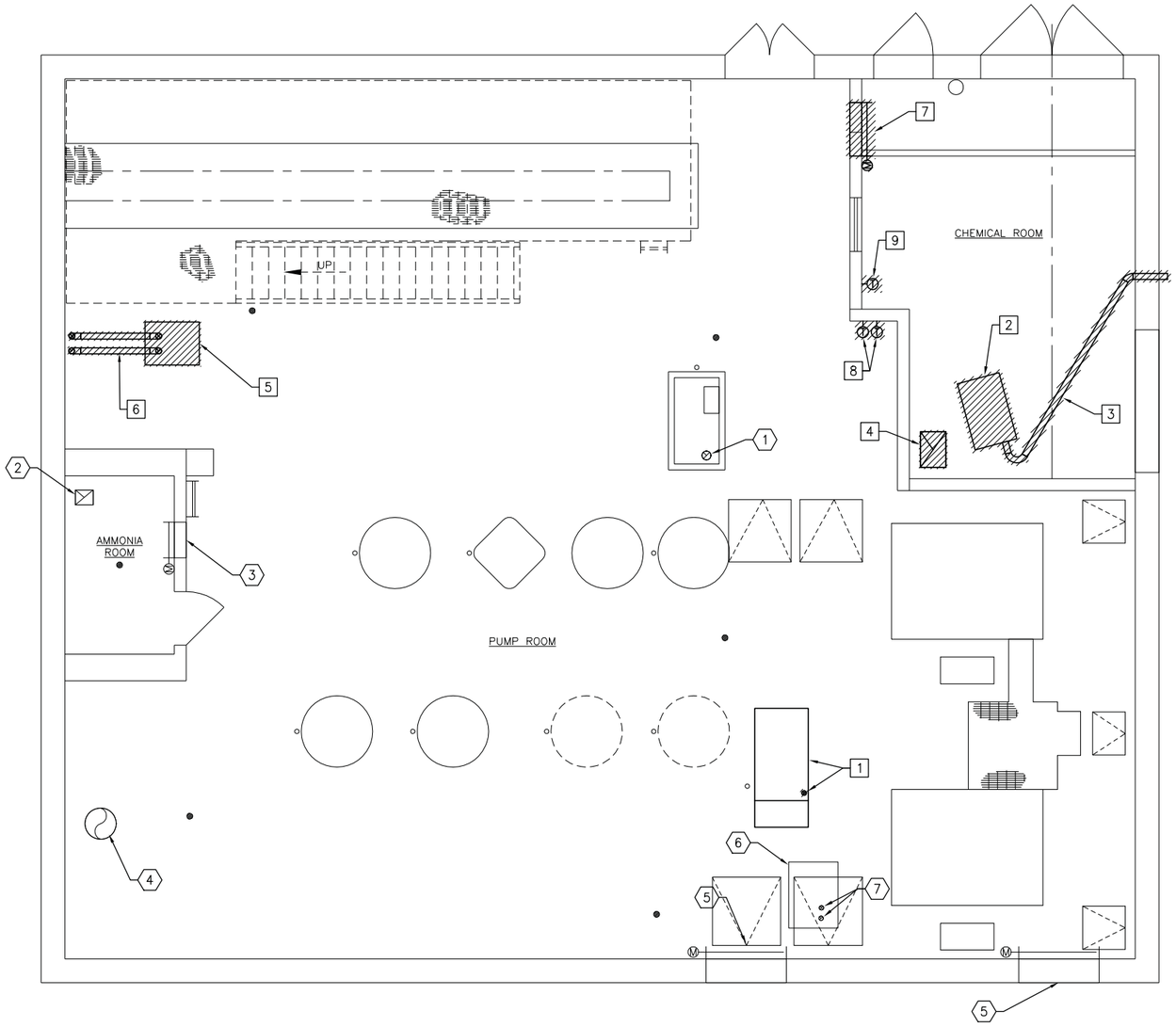
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND
FILTRATION FACILITY
ENLARGED FIRST FLOOR
HEATING/VENTILATION PLAN

PROJECT No.
O0130014

DRAWING No.
HV-10-201

SHEET 041 OF 088 SHEETS



1 FIRST FLOOR HEATING/VENTILATION DEMOLITION PLAN
(ELEV. 12.0)
0 1' 2' 4' 8'

NOTES

1. SEE DRAWING HV-00-101 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.

DEMOLITION KEYNOTES

1. EXISTING NATURAL GAS FIRED GENERATOR TO BE REMOVED. THIS CONTRACTOR SHALL DISCONNECT AND REMOVE ALL 3" EXHAUST PIPES AND ALL COOLANT PIPING TO EXISTING HEAT EXCHANGER INCLUDING SUPPORTS, HANGERS AND ACCESSORIES.
2. REMOVE EXISTING GAS FIRED UNIT HEATER COMPLETE, INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES.
3. REMOVE EXISTING 4" COMBUSTION AIR AND 4" FLUE VENT DUCTWORK COMPLETE INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES. PATCH EXISTING OPENING IN EXTERIOR WALL TO MATCH EXISTING.
4. REMOVE EXISTING 17"x24" EXHAUST DUCTWORK UP TO ABOVE CEILING COMPLETE, INCLUDING ALL SUPPORTS, HANGERS AND ACCESSORIES. PATCH EXISTING OPENING IN SLAB TO MATCH EXISTING. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
5. RELOCATE EXISTING GAS FIRED UNIT HEATER. MODIFY EXISTING SUPPORTS TO FACILITATE RELOCATION OF UNIT HEATER. SEE DRAWING HV-20-201 FOR NEW WORK.
6. MODIFY 3" COMBUSTION AIR AND 3" FLUE VENT PIPE FROM EXISTING GAS FIRED UNIT HEATER AS REQUIRED TO ALLOW FOR RELOCATION OF EXISTING UNIT HEATER, INCLUDING SUPPORTS, HANGERS AND ACCESSORIES.
7. REMOVE EXISTING 24"x36" WALL MOUNTED GRILLE AND ASSOCIATED MOTORIZED DAMPER ASSEMBLY COMPLETE INCLUDING SLEEVE, SUPPORTS AND ACCESSORIES. PATCH EXISTING WALL OPENING TO MATCH EXISTING.
8. REMOVE EXISTING THERMOSTAT FOR EAST UNIT HEATER AND EXISTING VANE AXIAL FAN. EXISTING CONTROL WIRING TO BE REMOVED AND REPLACED. SEE DRAWING HV-20-201 FOR NEW WORK.
9. REMOVE EXISTING THERMOSTAT AND EXISTING ASSOCIATED CONTROLS FOR UNIT HEATER.

KEYNOTES

1. EXISTING 6" EXHAUST PIPE FROM GAS FIRED HORIZONTAL SHAFT PUMP UP TO HIGH LEVEL TO REMAIN.
2. EXISTING 10"x12" EXHAUST DUCTWORK IN AMMONIA ROOM UP TO ABOVE CEILING TO REMAIN.
3. EXISTING 12"x24" WALL MOUNTED GRILLE AND MOTORIZED DAMPER ASSEMBLY TO REMAIN.
4. EXISTING 16" VENT PIPING FROM WET WELL UP THROUGH EXTERIOR WALL TO REMAIN.
5. EXISTING 54"x60" INTAKE AIR LOUVER AND MOTORIZED DAMPER ASSEMBLY TO REMAIN.
6. EXISTING GAS FIRED UNIT HEATER TO REMAIN.
7. EXISTING 3" COMBUSTION AIR AND 3" FLUE PIPE FROM GAS FIRED UNIT HEATER UP TO ABOVE TO REMAIN.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

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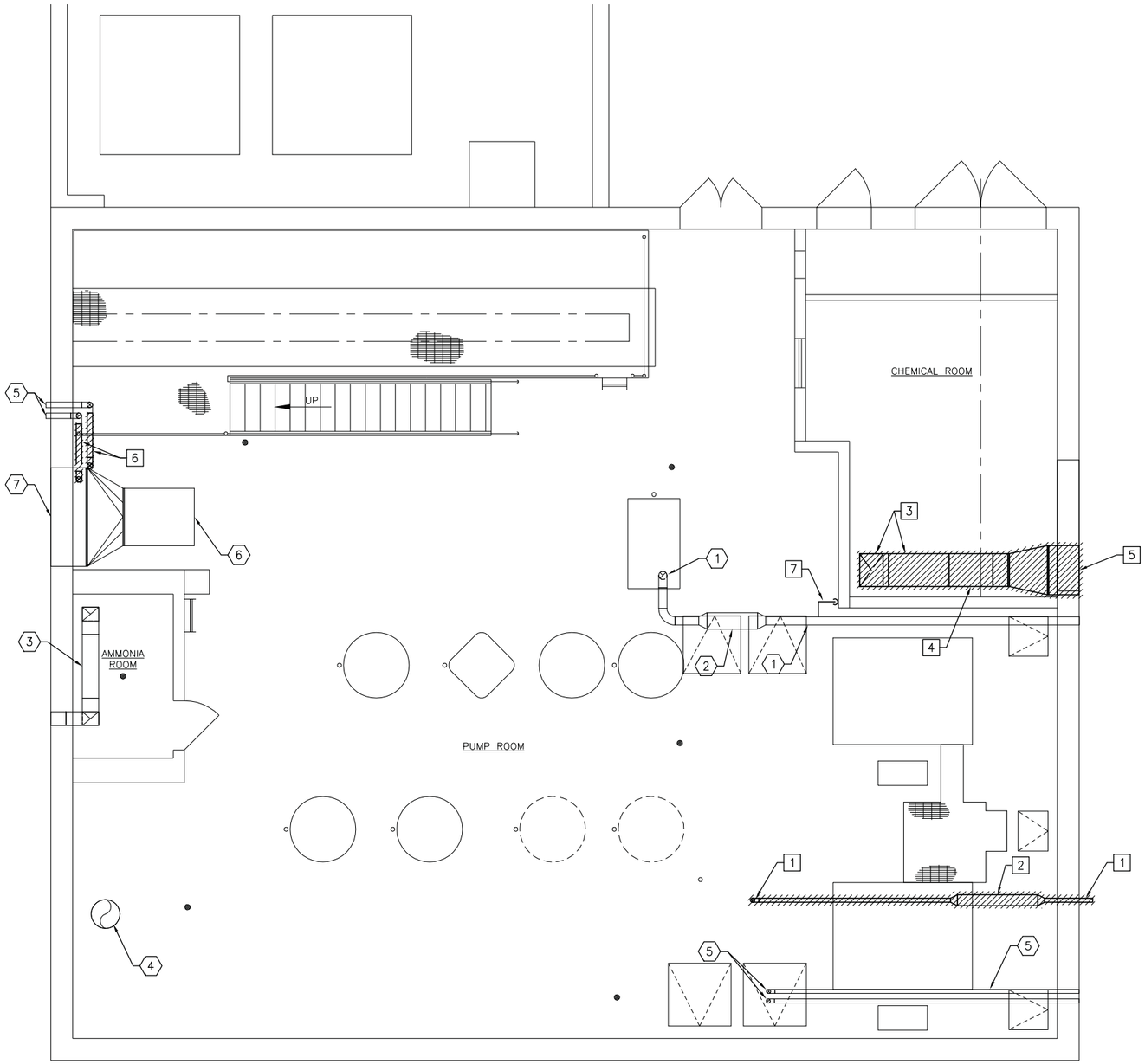
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
LOW LIFT PUMP STATION
FIRST FLOOR
HEATING/VENTILATION
DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
HV-20-101

SHEET 042 OF 088 SHEETS



1 MEZZANINE HEATING/VENTILATION DEMOLITION PLAN
(ELEV. 22.0)

0 1' 2' 4' 8'

NOTES

1. SEE DRAWING HV-00-101 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.

DEMOLITION KEYNOTES

1. REMOVE EXISTING 3" EXHAUST PIPE FROM EXISTING NATURAL GAS FIRED GENERATOR (LOCATED BELOW) COMPLETE, INCLUDING ALL INSULATION, HANGERS, SUPPORTS, AND ACCESSORIES. PATCH OPENING IN WALL TO MATCH EXISTING.
2. REMOVE EXISTING GENERATOR SILENCER, INCLUDING ALL INSULATION, HANGERS, SUPPORTS AND ACCESSORIES.
3. REMOVE EXISTING 17"x24" EXHAUST DUCTWORK COMPLETE, INCLUDING ALL SUPPORTS, HANGERS, PADS AND ACCESSORIES. PATCH OPENING IN CEILING WATER TIGHT. SEE STRUCTURAL DRAWINGS FOR DETAILS.
4. REMOVE EXISTING INLINE EXHAUST FAN COMPLETE INCLUDING ALL SUPPORTS, HANGERS, CONTROLS, AND ACCESSORIES. REMOVE ALL DUCTWORK CONNECTED TO FAN.
5. REMOVE EXISTING EXHAUST LOUVER IN EXTERIOR WALL. TEMPORARILY SEAL OPENING TO ALLOW MODIFICATIONS FOR NEW WORK. SEE DRAWING HV-20-202 FOR NEW WORK.
6. REMOVE 3" COMBUSTION AIR AND 3" FLUE FROM EXISTING GAS FIRED UNIT HEATER (LOCATED BELOW) AS REQUIRED TO ALLOW FOR RELOCATION OF EXISTING UNIT HEATER, INCLUDING SUPPORTS, HANGERS AND ACCESSORIES.
7. MODIFY AND RELOCATE EXISTING 3/4" DRAIN PIPING FROM EXHAUST PIPE AS REQUIRED TO ALLOW CONSTRUCTION OF NEW WALL.

KEYNOTES

1. EXISTING 6" EXHAUST FROM GAS FIRED HORIZONTAL SHAFT PUMP (LOCATED BELOW) TO REMAIN.
2. EXISTING EXHAUST SILENCER FOR GAS FIRED HORIZONTAL SHAFT PUMP TO REMAIN.
3. EXISTING 10"x12" EXHAUST DUCTWORK FROM AMMONIA ROOM TO REMAIN.
4. EXISTING 16" VENT PIPING FROM WET WELL UP THROUGH EXTERIOR WALL TO REMAIN.
5. EXISTING 3" COMBUSTION AIR AND 3" FLUE VENT PIPE FROM GAS FIRED UNIT HEATER (LOCATED BELOW) TO REMAIN.
6. EXISTING EXHAUST FAN ON PLATFORM TO REMAIN.
7. EXISTING 72"x72" EXHAUST LOUVER TO REMAIN.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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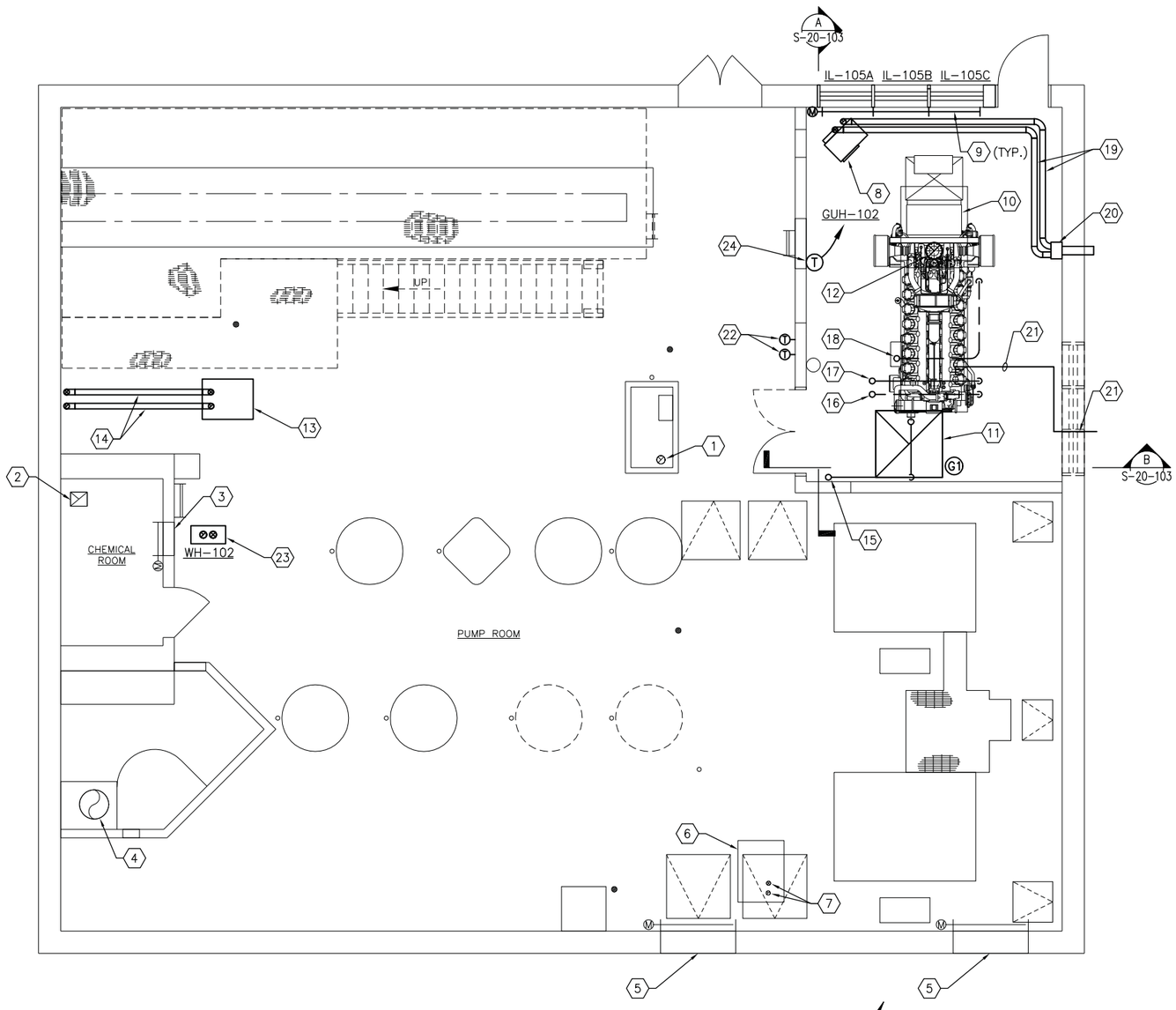
DRAWING TITLE
LOW LIFT PUMP STATION
MEZZANINE
HEATING/VENTILATION
DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
HV-20-102

SHEET 043 OF 088 SHEETS



1 FIRST FLOOR HEATING/VENTILATION PLAN

(ELEV. 12.0)

0 1' 2' 4' 8'

NOTES

1. SEE DRAWING HV-00-101 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. ALL EQUIPMENT ASSOCIATED WITH GENERATOR (e.g. HEAT EXCHANGERS, EXPANSION TANKS, SILENCER, COOLANT PIPING, EXHAUST PIPING, ETC.) SHALL BE INSTALLED PER MANUFACTURER INSTALLATION INSTRUCTIONS.
3. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF THE WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.

(#) KEYNOTES

1. EXISTING 6" EXHAUST PIPE FROM GAS FIRED HORIZONTAL SHAFT PUMP UP TO HIGH LEVEL.
2. EXISTING 10"x12" EXHAUST DUCTWORK IN CHEMICAL ROOM UP TO ABOVE CEILING.
3. EXISTING 12"x24" WALL MOUNTED GRILLE AND MOTORIZED DAMPER ASSEMBLY.
4. EXISTING 16" VENT PIPING FROM WET WELL UP THROUGH EXTERIOR WALL.
5. EXISTING 54"X60" INTAKE AIR LOUVER AND MOTORIZED DAMPER ASSEMBLY.
6. EXISTING GAS FIRED UNIT HEATER.
7. EXISTING COMBUSTION AIR AND FLUE PIPING FROM GAS FIRED UNIT HEATER UP HIGH LEVEL.
8. PROVIDE GAS FIRED UNIT HEATER GUH-102. PROVIDE MANUFACTURER'S WALL/CEILING MOUNTED SUPPORT KIT. CONNECT COMBUSTION AIR INTAKE AND FLUE VENT TO UNIT HEATER.
9. PROVIDE INTAKE AIR LOUVER IL-#. PROVIDE REMOVABLE LOUVERS. COORDINATE LOCATION AND ELEVATION WITH ARCHITECTURAL DRAWINGS. PROVIDE SECTIONAL MOTORIZED DAMPERS IN WALL OPENING. SEE ELECTRICAL DRAWINGS FOR CONTROLS AND OPERATION.
10. NATURAL GAS GENERATOR GEN-102.
11. 48"x48" EXHAUST DUCTWORK UP THROUGH GENERATOR ROOM CONCRETE CEILING. TERMINATE DUCTWORK BELOW BOTTOM OF CEILING. PROVIDE EXHAUST GRILLE ON OPENING AS INDICATED. SEE DETAIL 1/HV-30-201.
12. PROVIDE 12" GENERATOR EXHAUST PIPING UP FROM NATURAL GAS GENERATOR THROUGH GENERATOR ROOM CONCRETE CEILING. SEAL OPENING WATER TIGHT.
13. GAS FIRED UNIT HEATER. CONNECT COMBUSTION AIR AND FLUE TO UNIT HEATER. SUPPORT UNIT FROM STRUCTURE ABOVE.
14. EXTEND EXISTING 3" COMBUSTION AIR AND 3" FLUE PIPE. CONNECT TO EXISTING COMBUSTION AIR AND FLUE PIPE.
15. PROVIDE 6" JACKET WATER COOLANT SUPPLY PIPING FROM HEAT EXCHANGER (LOCATED ABOVE) TO GENERATOR.
16. PROVIDE 6" JACKET WATER COOLANT RETURN PIPING FROM GENERATOR TO HEAT EXCHANGER (LOCATED ABOVE).
17. PROVIDE 3" AFTER COOLER COOLANT SUPPLY PIPING FROM HEAT EXCHANGER (LOCATED ABOVE) TO GENERATOR.
18. PROVIDE 3" AFTER COOLER COOLANT RETURN PIPING FROM GENERATOR TO HEAT EXCHANGER (LOCATED ABOVE).
19. PROVIDE 4" COMBUSTION AIR INTAKE AND 4" FLUE FROM GAS FIRED UNIT HEATER. ROUTE PIPING AS CLOSE TO CEILING AS POSSIBLE.
20. PROVIDE GAS FIRED UNIT HEATER MANUFACTURER'S CONCENTRIC VENT KIT. USE AND MODIFY EXISTING EXTERIOR WALL PENETRATION FOR KIT INSTALLATION AS REQUIRED. SEE DETAIL 5/HV-30-201.
21. PROVIDE 2" PIPING FOR CRANKCASE FUME DISPOSAL AND DRIP COLLECTOR. USE AND MODIFY EXISTING EXTERIOR WALL PENETRATION FOR FUME DISPOSAL PIPING. SEAL OPENING WATER TIGHT.
22. PROVIDE THERMOSTATS FOR EXISTING UNIT HEATERS AND EXHAUST FAN. CONNECT/EXTEND EXISTING WIRING TO NEW THERMOSTAT AS REQUIRED. SEE ELECTRICAL DRAWINGS FOR CONTROLS AND OPERATION.
23. PROVIDE 5" FLUE AND 5" COMBUSTION AIR UP FROM WATER HEATER WH-102.
24. INSTALL THERMOSTAT ON INSULATED BASE.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE

WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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DRAWING TITLE

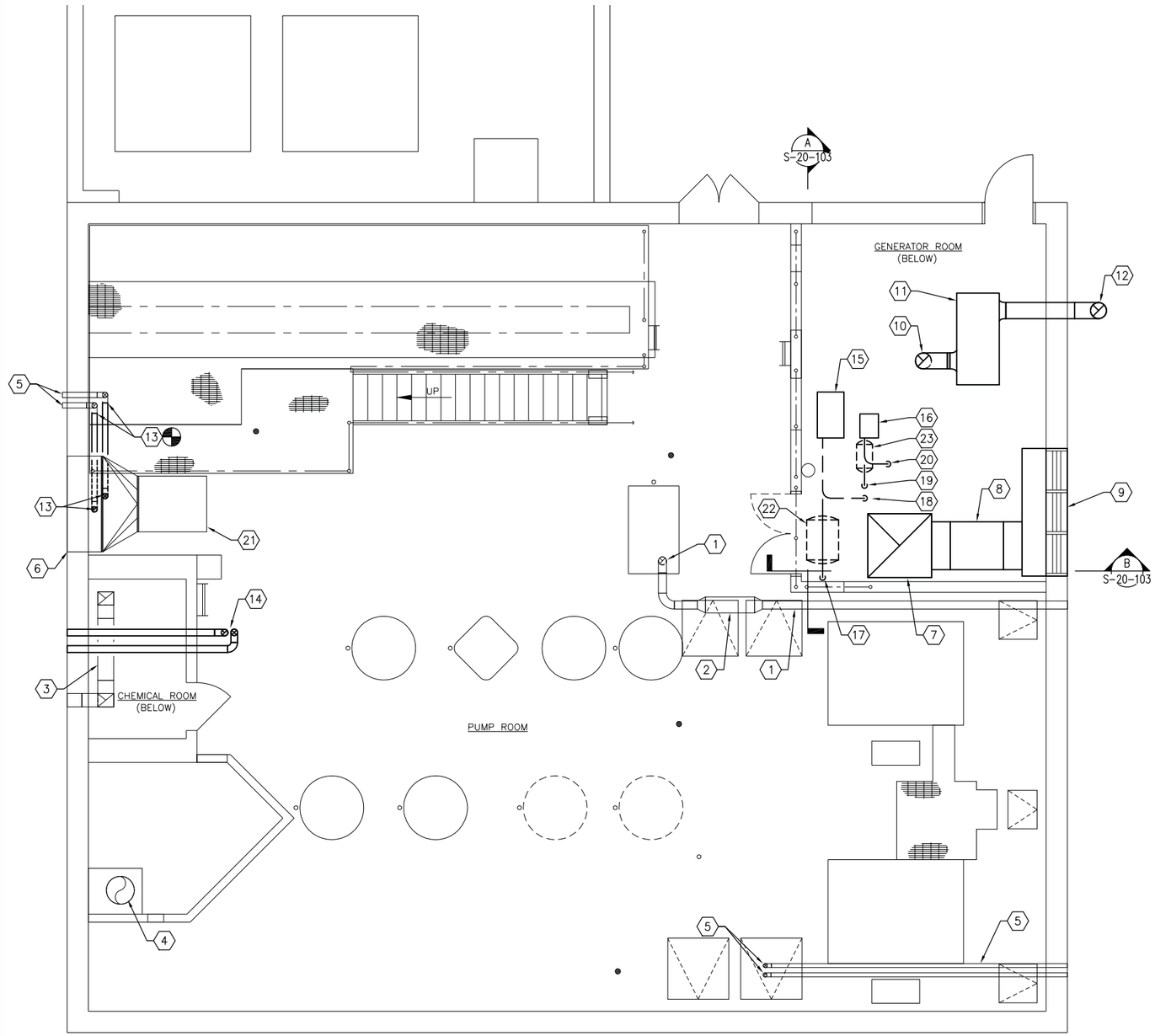
LOW LIFT PUMP STATION
FIRST FLOOR
HEATING/VENTILATION PLAN

PROJECT No.

O0130014

DRAWING No.

HV-20-201



1 MEZZANINE HEATING/VENTILATION PLAN

(ELEV. 22.0)

0 1' 2' 4' 8'

NOTES

1. SEE DRAWING HV-00-101 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. ALL EQUIPMENT ASSOCIATED WITH GENERATOR (e.g. HEAT EXCHANGERS, EXPANSION TANKS, SILENCER, COOLANT PIPING, EXHAUST PIPING, ETC.) SHALL BE INSTALLED PER MANUFACTURER INSTALLATION INSTRUCTIONS.
3. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF THE WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.

⟨#⟩ KEYNOTES

1. EXISTING 6" EXHAUST PIPE FROM GAS FIRED HORIZONTAL SHAFT PUMP (LOCATED BELOW).
2. EXISTING EXHAUST SILENCER FOR GAS FIRED HORIZONTAL SHAFT PUMP.
3. EXISTING 10"x12" EXHAUST DUCTWORK FROM CHEMICAL ROOM.
4. EXISTING 16"ø VENT PIPING FROM WET WELL UP THROUGH EXTERIOR WALL.
5. EXISTING COMBUSTION AIR AND FLUE VENT PIPING FROM GAS FIRED UNIT HEATER (LOCATED BELOW).
6. EXISTING 72"x72" EXHAUST LOUVER.
7. PROVIDE 48"x48" EXHAUST DUCTWORK UP FROM GENERATOR ROOM BELOW. BUILD DUCTWORK TO USE AS A PLENUM. CONNECT DUCTWORK FROM FAN TO PLENUM. SEE DETAIL 1/HV-30-201.
8. PROVIDE EXHAUST FAN EF-105. CONNECT DUCTWORK TO/FROM FAN. SEE DETAIL 9/HV-30-201.
9. PROVIDE EXHAUST LOUVER EL-101. SEE DRAWING A-20-201. COORDINATE LOCATION AND ELEVATION WITH ARCHITECTURAL DRAWINGS. PROVIDE 18" DEEP PLENUM OF SAME SIZE BEHIND LOUVER. CONNECT DUCTWORK FROM EF-105.
10. PROVIDE 12"ø EXHAUST PIPE UP FROM NATURAL GAS GENERATOR (LOCATED BELOW IN GENERATOR ROOM).
11. GENERATOR SILENCER. TRANSITION EXHAUST PIPE TO/FROM SILENCER AS REQUIRED. MOUNT SILENCER ON 6" SUPPORT STAND ON CEILING. ROUTE CONDENSATE PIPING TO DRAIN PIPING. SEE PLUMBING DRAWINGS FOR LOCATION.
12. PROVIDE 12"ø EXHAUST PIPE FROM SILENCER. CONNECT TO SILENCER. TERMINATE PIPING WITH MANUFACTURERS TERMINATION KIT. SEAL OPENING IN WALL WATER TIGHT. SEE DETAIL 6/HV-30-202.
13. PROVIDE 3" COMBUSTION AIR AND 3" FLUE VENT PIPE FROM RELOCATED GAS FIRED UNIT HEATER. CONNECT TO EXISTING COMBUSTION AIR AND FLUE PIPE AS REQUIRED.
14. PROVIDE 5" FLUE AND 5" COMBUSTION AIR UP FROM LOWER LEVEL. ROUTE DUCTWORK UP THROUGH EXTERIOR WALL. PROVIDE MANUFACTURER'S TERMINATION KIT. SEAL OPENING WATER TIGHT.
15. JACKET WATER HEAT EXCHANGER HX-102A. INSTALL HEAT EXCHANGER ON GENERATOR ROOM CEILING. SEE DRAWING P-20-202 FOR WATER SUPPLY AND DRAIN PIPING. SEE DETAIL 5/HV-30-202.
16. AFTER COOLER HEAT EXCHANGER HX-102B. INSTALL HEAT EXCHANGER ON GENERATOR ROOM CEILING. SEE DRAWING P-20-202 FOR WATER SUPPLY AND DRAIN PIPING. SEE DETAIL 5/HV-30-202.
17. PROVIDE INSULATED 6" JACKET WATER COOLANT SUPPLY PIPING DOWN FROM HEAT EXCHANGER TO GENERATOR (LOCATED BELOW IN GENERATOR ROOM). SEAL OPENING IN GENERATOR ROOM CONCRETE CEILING WATER TIGHT. SEE DETAIL 4/HV-30-201.
18. PROVIDE INSULATED 6" JACKET WATER COOLANT RETURN PIPING UP FROM GENERATOR (LOCATED BELOW IN GENERATOR ROOM) TO HEAT EXCHANGER. SEAL OPENING IN GENERATOR ROOM CONCRETE CEILING WATER TIGHT. SEE DETAIL 4/HV-30-201.
19. PROVIDE INSULATED 3" AFTER COOLER COOLANT SUPPLY PIPING DOWN FROM HEAT EXCHANGER TO GENERATOR (LOCATED BELOW IN GENERATOR ROOM). SEAL OPENING IN GENERATOR ROOM CONCRETE CEILING WATER TIGHT. SEE DETAIL 4/HV-30-201.
20. PROVIDE INSULATED 3" AFTER COOLER COOLANT RETURN PIPING UP FROM GENERATOR (LOCATED BELOW IN GENERATOR ROOM) TO HEAT EXCHANGER. SEAL OPENING IN GENERATOR ROOM CONCRETE CEILING WATER TIGHT. SEE DETAIL 4/HV-30-201.
21. EXISTING EXHAUST FAN ON PLATFORM.
22. EXPANSION TANK FOR JACKET WATER LOOP. SUPPORT FROM ROOF STRUCTURE ABOVE.
23. EXPANSION TANK FOR AFTER COOLER LOOP. SUPPORT FROM ROOF STRUCTURE ABOVE.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	NTP
DRAWN BY:	NTP
CHECKED BY:	KRP
DATE CHECKED:	01/11

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DRAWING TITLE
LOW LIFT PUMP STATION
MEZZANINE
HEATING/VENTILATION PLAN

PROJECT No.
O0130014

DRAWING No.
HV-20-202

BOILER SCHEDULE – GAS FIRED

TAG	SERVICE / LOCATION	FUEL DATA: INPUT (CFH)	FUEL DATA: MIN PRESS (IN WC)	INPUT (MBH)	OUTPUT (MBH)	MEDIA	FLOW RATE (GPM)	EWT/LWT (°F)	ELEC. CHAR. V	ELEC. CHAR. PH	ELEC. CHAR. HZ	REMARKS	DESIGN BASIS: MANUFACTURER	DESIGN BASIS: MODEL NUMBER
B–101	HEATING SYSTEM / MECHANICAL ROOM	1800	7 – 11	1800	1440	WATER	88.0	200/240	120	1	60	NOTE 1	BRYAN BOILERS	CLM–180–W

NOTES:
1. PROVIDE PRESSURE & TEMPERATURE RELIEF VALVE, MANUFACTURER'S CONTROLS, BURNER/BLOWER ASSEMBLY, AND MANUFACTURER'S GAS TRAIN.
2. PROVIDE MANUFACTURER'S CONCENTRIC VENT KIT.

EXPANSION TANK SCHEDULE

TAG	SERVICE / LOCATION	TYPE	ASME CONSTR.	PRESSURE RATING (PSIG)	TANK CAPACITY (GAL)	TANK SIZE (IN.) LGTH. x DIAM.	OPER. TEMP. (°F)	AIR PRE–CHARGE PRESSURE (PSIG)	REMARKS	DESIGN BASIS: MANUFACTURER	DESIGN BASIS: MODEL NUMBER
ET–101	HEATING SYSTEM / MECHANICAL ROOM	COMPRESSION TYPE	YES	60	100.0	78x20	240	30.0	--	BELL & GOSSETT	100

PUMP SCHEDULE

TAG	SERVICE / LOCATION	PUMP DATA: TYPE	PUMP DATA: OPER. TEMP. (°F)	PUMP DATA: FLOW (GPM)	PUMP DATA: T.D.H. (FT. OF H20)	PUMP DATA: RPM	PUMP DATA: MOTOR HP	ELEC. CHAR. V	ELEC. CHAR. PH	ELEC. CHAR. HZ	REMARKS	DESIGN BASIS: MANUFACTURER	DESIGN BASIS: MODEL NUMBER
HWP–101	DEHUMIDIFICATION UNIT / MECHANICAL ROOM	IN–LINE	240	44	75	1750	5	480	3	60	NOTE 1, 2	BELL & GOSSETT	80–2x2x9–1/2
HWP–102	HEATING SYSTEM BACK–UP / MECHANICAL ROOM	IN–LINE	240	44	75	1750	5	480	3	60	NOTE 1, 2	BELL & GOSSETT	80–2x2x9–1/2
HWP–103	HEATING SYSTEM / MECHANICAL ROOM	IN–LINE	240	44	75	1750	5	480	3	60	NOTE 1, 2	BELL & GOSSETT	80–2x2x9–1/2

NOTES:
1. PROVIDE LINE SIZE TRIPLE DUTY VALVE.
2. INTERCONNECT PUMPS TO RELOCATED TEMPERATURE CONTROL PANEL. SEE ELECTRICAL DRAWINGS FOR DETAILS.

UNIT HEATER SCHEDULE – GAS FIRED

TAG	LOCATION	AIRFLOW PATTERN	FAN DATA: AIR VOL. (CFM)	FAN DATA: THROW (FT.)	FAN DATA: MOTOR HP	TEMP RISE (°F DB)	INPUT (MBH)	OUTPUT (MBH)	GAS PRESS (IN WC)	NO. OF STAGES	ELECTRIC DATA V	ELECTRIC DATA PH	ELECTRIC DATA HZ	MOUNTING HEIGHT	REMARKS	DESIGN BASIS: MANUFACTURER	DESIGN BASIS: MODEL NUMBER
GUH–101	WTP–ELECTRICAL ROOM	HORIZ.	1345	30	1/6	60	105	87.15	10	1	120	1	60	9'–0"	NOTES 1, 2, 3	REZNOR	UDAS 100
GUH–102	LLPS–GENERATOR ROOM	HORIZ.	1345	30	1/6	60	105	87.15	10	1	120	1	60	9'–0"	NOTES 1, 2, 3	REZNOR	UDAS 100

NOTES:
1. PROVIDE WITH MANUFACTURER'S WALL MOUNTED ADJUSTABLE THERMOSTAT, WALL SUPPORT KIT AND CONCENTRIC VENT KIT.
2. PROVIDE STAINLESS STEEL HEAT EXCHANGERS AND TOTALLY ENCLOSED MOTOR.
3. ADJUST INTEGRAL LOUVER TO ACHIEVE REQUIRED THROW.

FAN SCHEDULE

TAG	SERVICE / LOCATION	AIR VOL. (CFM)	EXT. S.P. (IN. W.C.)	FAN SPEED (RPM)	MOTOR (HP)	DRIVE	FAN TYPE	ELECTRIC DATA V	ELECTRIC DATA PH	ELECTRIC DATA HZ	REMARKS	DESIGN BASIS: MANUFACTURER	DESIGN BASIS: MODEL NUMBER
EF–101	GENERATOR COMBUSTION AIR / WTP–ROOF	8335	0.2	551	1–1/2	BELT	CENT.	480	3	60	NOTE 1	GREENHECK	CUBE–300–15
EF–102	GENERATOR/SPACE HEAT RELIEF / WTP–ROOF	8335	0.2	551	1–1/2	BELT	CENT.	480	3	60	NOTE 1	GREENHECK	CUBE–300–15
EF–103	GENERATOR/SPACE HEAT RELIEF / WTP–ROOF	8335	0.2	551	1–1/2	BELT	CENT.	480	3	60	NOTE 1	GREENHECK	CUBE–300–15
EF–104	MECHANICAL ROOM / WTP–ROOF	300	0.25	979	1/4	BELT	CENT.	480	3	60	NOTE 1	GREENHECK	CUBE–098–4
EF–105	GENERATOR ROOM / LLPS–MEZZANINE	25000	0.5	1,410	10	BELT	VANE AXIAL	480	3	60	NOTE 2	GREENHECK	VAB–36F17–I–10

NOTES:
1. PROVIDE WITH MANUFACTURER'S 12" ROOF CURB.
2. PROVIDE WITH INVERTERDUTY MOTOR FOR VFD APPLICATION. SEE ELECTRICAL DRAWINGS FOR DETAILS.

GRILLES & DIFFUSER SCHEDULE

TAG	TYPE	FACE SIZE	AIR PATTERN	THROW (FEET)	MOUNTING	MATERIAL	FINISH	MAX N.C. LEVEL	REMARKS	DESIGN BASIS: MANUFACTURER	DESIGN BASIS: MODEL NUMBER
EG–1	3/4" SPACING 0° DEFLECTION	VARIES	--	--	SURFACE	STEEL	NOTE 1	30	--	TITUS	350ZFL

NOTES:
1. FINISH/COLOR TO BE SELECTED BY THE OWNER/ARCHITECT.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: NTP
DRAWN BY: NTP
CHECKED BY: KRP
DATE CHECKED: 01/11

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

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DRAWING TITLE
HEATING
EQUIPMENT SCHEDULES

PROJECT No.
O0130014

DRAWING No.
HV-30-101

SHEET 046 OF 088 SHEETS

LOUVER SCHEDULE

TAG	SERVICE / LOCATION	MATERIAL	TYPE	AIR VOL. (CFM)	SIZE (IN) W	H	D	MAX. VEL. (FPM)	FREE AREA (SQ. FT.)	FINISH	REMARKS	DESIGN BASIS MANUFACTURER	MODEL NUMBER
IL-101	GEN-101 COMBUSTION AIR / WTP-ELECTRICAL ROOM	ALUMINUM	FLANGED	8335	36	100	6	525	15.47	NOTE 2	NOTE 1	AWV	LE31
IL-102	GEN-101/ROOM HEAT RELIEF / WTP-ELECTRICAL ROOM	ALUMINUM	FLANGED	8335	36	100	6	525	15.47	NOTE 2	NOTE 1	AWV	LE31
IL-103	GEN-101/ROOM HEAT RELIEF / WTP-ELECTRICAL ROOM	ALUMINUM	FLANGED	8335	36	100	6	525	15.47	NOTE 2	NOTE 1	AWV	LE31
IL-105A	GEN-101 COMBUSTION AIR / LLPS-GENERATOR ROOM	ALUMINUM	FLANGED	8335	36	104	6	525	15.47	NOTE 2	NOTE 1	AWV	LE31
IL-105B	GEN-101/ROOM HEAT RELIEF / LLPS-GENERATOR ROOM	ALUMINUM	FLANGED	8335	36	104	6	525	15.47	NOTE 2	NOTE 1	AWV	LE31
IL-105C	GEN-101/ROOM HEAT RELIEF / LLPS-GENERATOR ROOM	ALUMINUM	FLANGED	8335	36	104	6	525	15.47	NOTE 2	NOTE 1	AWV	LE31
EL-101	EF-105 / LLPS-MEZZANINE	ALUMINUM	FLANGED	25000	96	52	6	1200	20.84	NOTE 2	NOTE 1	AWV	LE31

NOTES:
1. PROVIDE WITH FRAMED BIRD SCREEN, REMOVABLE FROM OUTSIDE, TO MATCH LOUVER FINISH.
2. FINISH/COLOR TO BE SELECTED BY THE OWNER/ARCHITECT

EQUIPMENT CONNECTION SCHEDULE

TAG	HWS	HWR	JWCS	JWCR	ACCS	ACCR
HX-101A	--	--	6"	6"	--	--
HX-101B	--	--	--	--	2"	2"
HX-102A	--	--	6"	6"	--	--
HX-102B	--	--	--	--	2"	2"
HWP-101	2" (2)	--	--	--	--	--
HWP-102	2" (2)	--	--	--	--	--
HWP-103	2" (2)	--	--	--	--	--
B-101	3"	3"	--	--	--	--
AS-101	3"	3"	--	--	--	--
ET-101	1"	--	--	--	--	--
CHEMICAL FEEDER	--	3/4"	--	--	--	--

DAMPER SCHEDULE

TAG	SERVICE / LOCATION	DAMPER SIZE (IN.) WIDTH	HEIGHT	BLADE CONFIGURATION	MOUNTING	TYPE	REMARKS
MD-101	INTAKE LOUVER, IL-101 / WTP-ELECTRICAL ROOM	36	100	PARALLEL	NOTE 1	TWO-POSITION	
MD-102	INTAKE LOUVER, IL-102 / WTP-ELECTRICAL ROOM	36	100	PARALLEL	NOTE 1	TWO-POSITION	
MD-103	INTAKE LOUVER, IL-103 / WTP-ELECTRICAL ROOM	36	100	PARALLEL	NOTE 1	TWO-POSITION	
MD-104	INTAKE LOUVER, IL-104 / WTP-MECHANICAL ROOM	22	22	PARALLEL	--	TWO-POSITION	
MD-105A	INTAKE LOUVER, IL-105A / LLPS-GENERATOR ROOM	36	104	PARALLEL	NOTE 1	TWO-POSITION	
MD-105B	INTAKE LOUVER, IL-105B / LLPS-GENERATOR ROOM	36	104	PARALLEL	NOTE 1	TWO-POSITION	
MD-105C	INTAKE LOUVER, IL-105C / LLPS-GENERATOR ROOM	36	104	PARALLEL	NOTE 1	TWO-POSITION	

NOTES:
1. DAMPERS SHALL BE MOUNTED BEHIND LOUVERS, AND WITHIN THE WALL OPENING. PROVIDE DUCT COLLAR FOR DAMPER MOUNTING.

AIR INLET/OUTLET CONNECTION SCHEDULE

SYMBOL	TAG	NECK SIZE	DUCT SIZE	REMARKS
G1	EG-1	--	48"x48"	NOTE 1

NOTES:
1. PROVIDE WITH INTEGRAL, GANG OPERATED, OPPOSED BLADE DAMPER.

INTAKE/EXHAUST VENTILATOR SCHEDULE

TAG	SERVICE / LOCATION	AIR VOL. (CFM)	S.P. (IN W.C.)	THROAT AREA (FT^2)	MAX. VELOCITY (FPM)	REMARKS	DESIGN BASIS MANUFACTURER	MODEL NUMBER
IV-101	B-1, EF-104 / ROOF	1680	0.03	3.36	500	NOTE 1	GREENHECK	FGI SERIES

NOTES:
1. PROVIDE 14" HIGH MANUFACTURER'S ROOF CURB.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: NTP
DRAWN BY: NTP
CHECKED BY: KRP
DATE CHECKED: 01/11

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

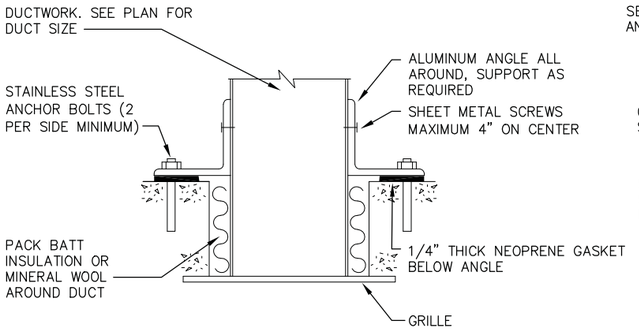
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
HEATING
EQUIPMENT SCHEDULES

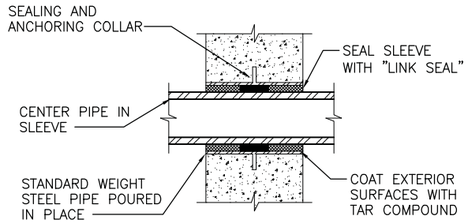
PROJECT No.
O0130014

DRAWING No.
HV-30-102

SHEET 047 OF 088 SHEETS



1 DUCT PENETRATION THROUGH CEILING
NO SCALE



2 PIPE SLEEVE THROUGH EXTERIOR WALLS
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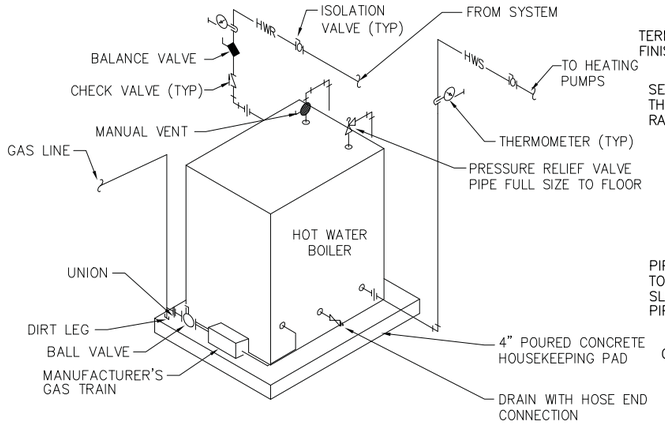

3 BOILER PIPING SCHEMATIC
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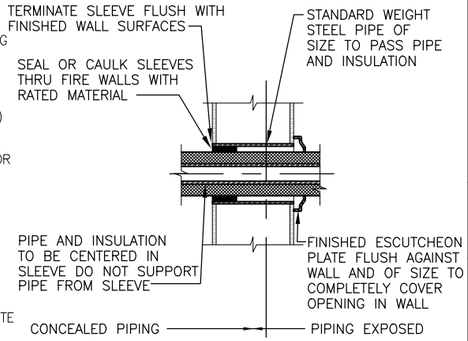
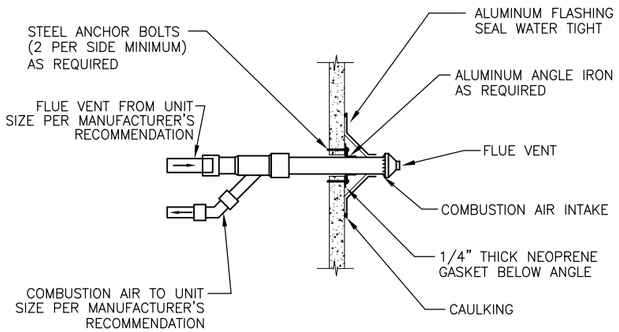
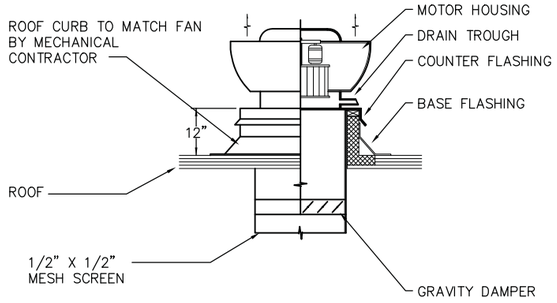


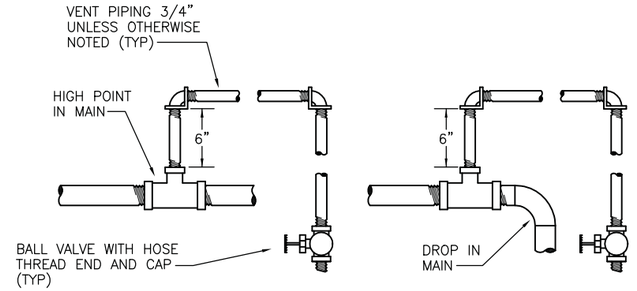
4 PIPE SLEEVE THROUGH INTERIOR WALLS
NO SCALE



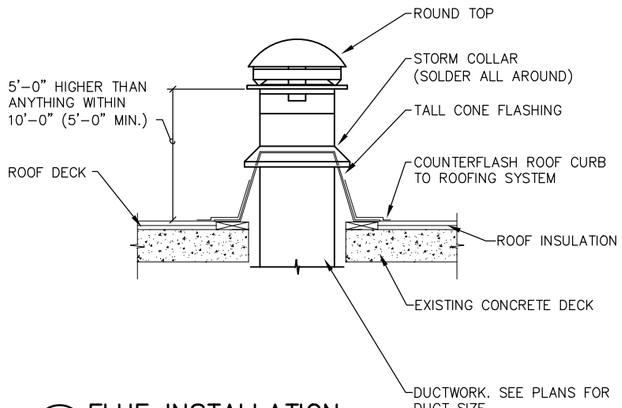
5 CONCENTRIC VENT DETAIL THROUGH WALL
NO SCALE



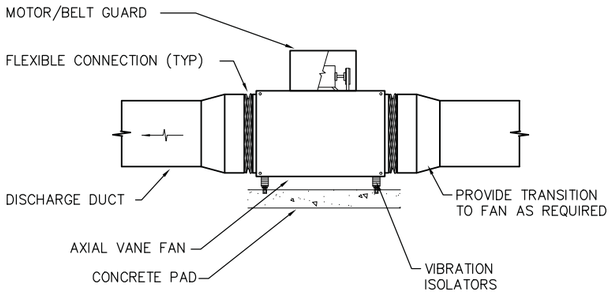
6 FAN INSTALLATION – ROOF MOUNTED (UPBLAST TYPE)
NO SCALE



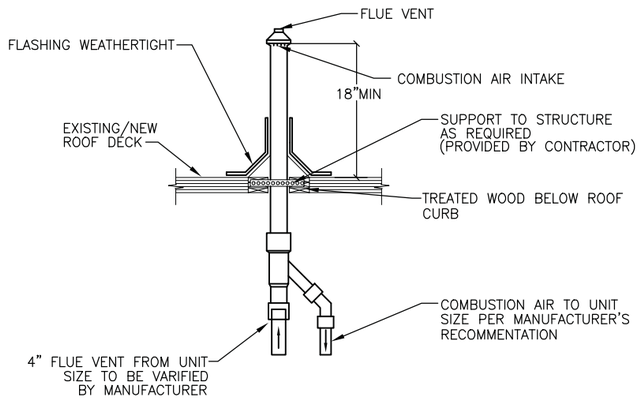
7 TYPICAL PIPING MAIN VENT DETAILS
NO SCALE



8 FLUE INSTALLATION
NO SCALE



9 BASE MOUNTED FAN INSTALLATION
NO SCALE



10 CONCENTRIC VENT DETAIL THROUGH ROOF
NO SCALE

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OAK CREEK
WATER and SEWER UTILITY

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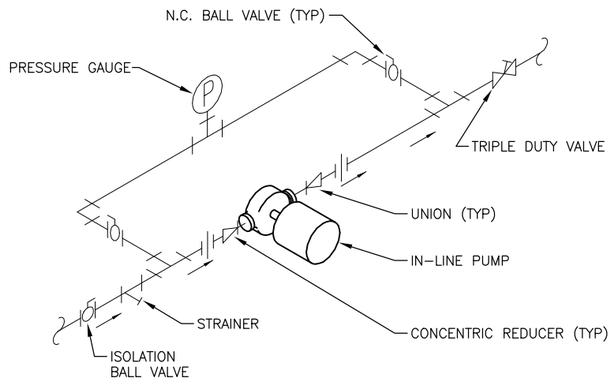
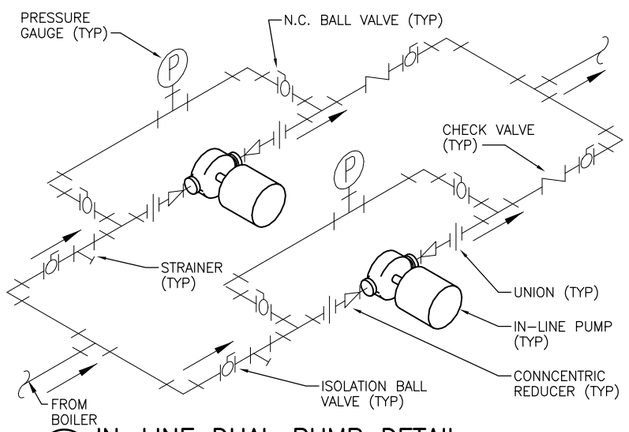
PROJECT No.
O0130014

DRAWING No.
HV-30-201

SHEET 048 OF 088 SHEETS



1 IN-LINE PUMP DETAIL
NO SCALE



2 IN-LINE DUAL PUMP DETAIL
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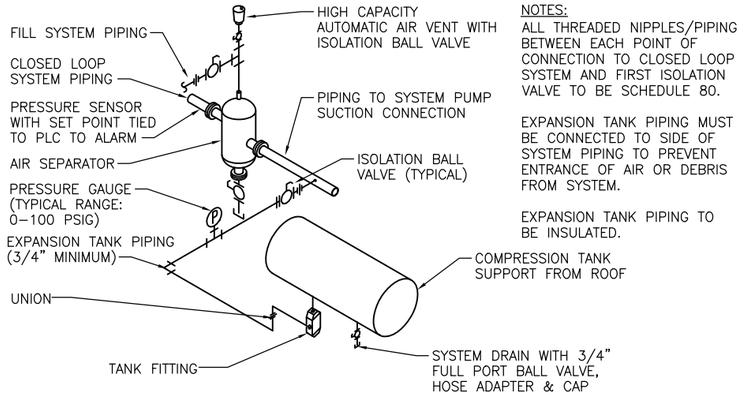


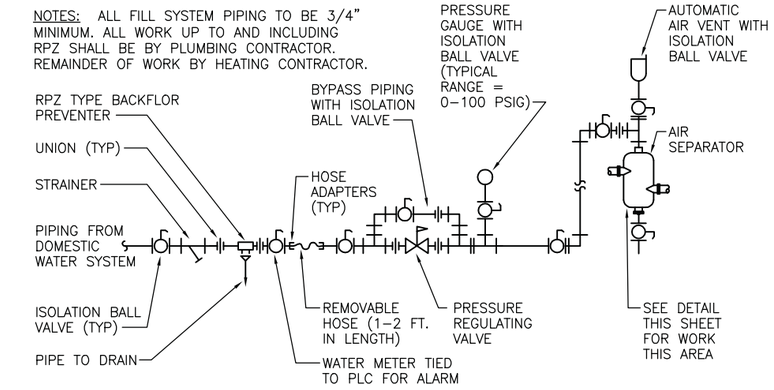
NOTES:
ALL THREADED NIPPLES/PIPING BETWEEN EACH POINT OF CONNECTION TO CLOSED LOOP SYSTEM AND FIRST ISOLATION VALVE TO BE SCHEDULE 80.

EXPANSION TANK PIPING MUST BE CONNECTED TO SIDE OF SYSTEM PIPING TO PREVENT ENTRANCE OF AIR OR DEBRIS FROM SYSTEM.

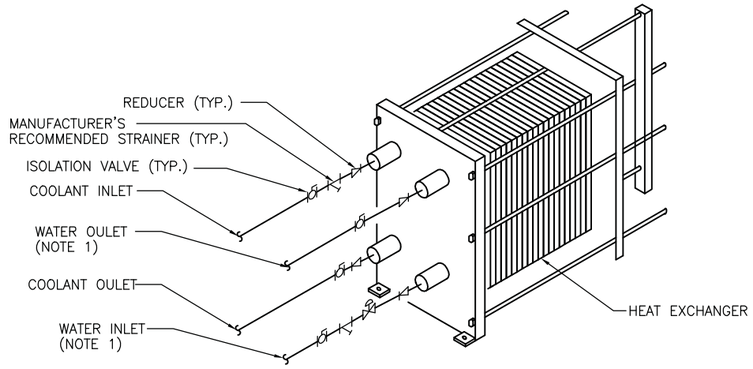
EXPANSION TANK PIPING TO BE INSULATED.

3 CLOSED LOOP HYDRONIC SYSTEM AIR SEPARATOR/EXPANSION TANK SCHEMATIC
NO SCALE

NOTES: ALL FILL SYSTEM PIPING TO BE 3/4" MINIMUM. ALL WORK UP TO AND INCLUDING RPZ SHALL BE BY PLUMBING CONTRACTOR. REMAINDER OF WORK BY HEATING CONTRACTOR.

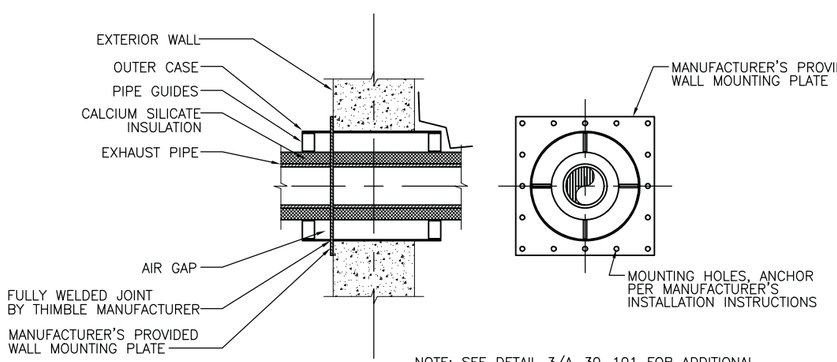


4 CLOSED LOOP HYDRONIC SYSTEM FILL SYSTEM PIPING SCHEMATIC
NO SCALE



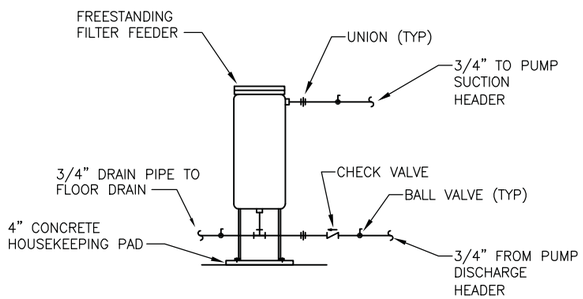
NOTES:
1. SEE PLUMBING DRAWINGS FOR DOMESTIC WATER INLET AND OUTLET WORK.

5 GENERATOR HEAT EXCHANGER PIPING SCHEMATIC
NO SCALE



NOTE: SEE DETAIL 3/A-30-101 FOR ADDITIONAL ROOF INSTALLATION INFORMATION.

6 EXHAUST THIMBLE THROUGH WALL/ROOF
NO SCALE



7 CHEMICAL FEED SYSTEM
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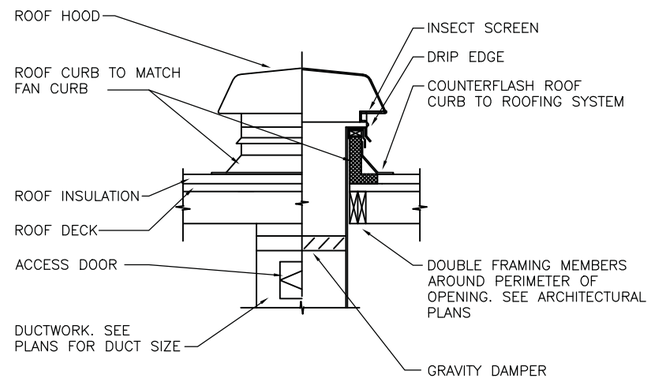

8 INTAKE VENTILATOR DETAIL
NO SCALE

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HEATING DETAILS

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O0130014

DRAWING No.
HV-30-202

SHEET 049 OF 088 SHEETS

ELECTRICAL GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE 2008 NATIONAL ELECTRICAL CODE AND ALL APPLICABLE CODES.

2. CONTRACTOR SHALL FURNISH ALL MATERIALS FOR A COMPLETE AND WORKABLE SYSTEM. ALL MATERIALS FURNISHED BY THE CONTRACTOR ARE TO BE NEW.

3. ALL CONDUIT SHALL BE RIGID GALVANIZED STEEL CONNECTED TO THREADED HUB FITTINGS, UNLESS OTHERWISE NOTED. ALL UNDERGROUND CONDUIT SHALL BE PVC, EXCEPT FOR ELBOWS TURNING UP FROM DUCTBANKS AND CONDUITS EXTENDING ABOVE GRADE SHALL BE RGS. UNDERGROUND PVC CONDUITS SHALL HAVE CONCRETE ENCASED DUCTBANKS DOWELED INTO BUILDING OR STRUCTURE WALLS TO AVOID SHEARING OF THE PVC CONDUITS. ALL CONDUITS SHALL BE EXPOSED IN SPACE UNLESS OTHERWISE NOTED BELOW:
   - CONDUIT IN SPACES WITH DROP CEILINGS SHALL BE EMT AND INSTALLED ABOVE DROP CEILING.
   - CONDUITS INDICATED ON PLANS SHALL BE INSTALLED AS NOTED.

4. PAINT ALL RACEWAYS (E.G. CONDUITS, BOXES, WIRE TROUGHS, ETC.) EXPOSED IN ROOMS LIGHT GRAY TO MATCH EXISTING PAINT COLOR OF EXISTING CONDUITS AT THE PLANT. PROVIDE LABELS ON ALL RACEWAYS AND BOXES TO MATCH EXISTING AT PLANT.

5. ALL BRANCH CIRCUIT WIRING AND MOTOR LEADS SHALL BE #12 AWG IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED.

6. REMOVE ALL UNUSED CONDUIT AND WIRE FROM EQUIPMENT BEING REMOVED OR RELOCATED BACK TO SOURCE. CONCEALED CONDUIT BELOW SLAB OR UNDERGROUND MAY REMAIN IN PLACE (CUT OFF CONDUITS FLUSH AT WALL OR FLOOR AND FILL IN CONDUIT OPENING). PATCH AND PAINT OPENING IN WALL OR FLOOR TO MATCH EXISTING SURFACE.

7. CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL MATERIALS REMOVED AS PART OF THIS PROJECT, INCLUDING BUT NOT LIMITED TO MCC, FIXTURES, LAMPS, BALLASTS (WITH AND WITHOUT PCB), CONDUIT, WIRE AND OTHER BUILDING MATERIALS. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS. ALL DISPOSAL SHALL BE AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL INCLUDE $1,000.00 IN HIS BID AS ALLOWANCE FOR TESTING/DISPOSAL.

8. THE LOCATION OF UTILITIES AND STRUCTURES, BOTH SURFACE AND SUBSURFACE, ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE SURVEY AND ARE NOT NECESSARILY COMPLETE OR CORRECT. THE EXACT LOCATION AND PROTECTION OF UTILITIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. DURING CONSTRUCTION THE CONTRACTOR SHALL USE DILIGENCE TO PROTECT ALL EXISTING UTILITIES AND STRUCTURES WHETHER SHOWN ON THE DRAWINGS OR NOT. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RESTORATION OF SAME IN ACCORDANCE WITH THE DIRECTIONS OF THE OWNER AND FOR ANY RESULTING CONTINGENT DAMAGES.

9. ALL ACCESS CONTROL/VIDEO MONITORING WIRING SHALL BE INSTALLED IN RACEWAY.

10. ALL WIRING DEVICES SHALL BE BROWN IN COLOR. ALL COVER PLATES SHALL BE STAINLESS STEEL, UNLESS OTHERWISE NOTED.

11. EACH HOMERUN TO PANELBOARDS SHALL CONSIST OF A MAXIMUM OF THREE CIRCUITS WITH THE FOLLOWING WIRES: 3 HOTS, 3 NEUTRALS AND ONE GROUND. EACH SINGLE PHASE CIRCUIT SHALL HAVE ITS OWN NEUTRAL (I.E. NO SHARING OF NEUTRALS). WHEN COMBINING POWER AND CONTROL WIRING IN RACEWAYS FOR PROCESS AND INSTRUMENTATION EQUIPMENT, DERATE WIRE AND PROVIDE WIRE FILL IN RACEWAY PER THE NEC.

12. ALL CONDUCTORS SHALL BE CONTINUOUS FROM POINT OF ORIGIN TO THE END USE LOAD. NO CONDUCTORS SHALL BE SPLICED EXCEPT AS SHOWN ON THE DRAWINGS OR ON EXPLICIT INSTRUCTIONS FROM THE ENGINEER.

ELECTRICAL LEGEND

NOTE: SYMBOLS SHOWN LIGHT ARE EXISTING, BOLD ARE NEW.

	WALL MOUNTED HID LIGHT FIXTURE
	FLUORESCENT LIGHT FIXTURE
	FLUORESCENT LIGHT FIXTURE WITH EMERGENCY BATTERY PACK
	WALL MOUNTED EXIT SIGN
	DUAL HEAD EMERGENCY LIGHT
S#	SINGLE POLE LIGHT SWITCH (# INDICATES SWITCH LEG)
S3,#	THREE WAY LIGHT SWITCH (# INDICATES SWITCH LEG)
2	DUPLEX RECEPTACLE (NUMBER INDICATES CIRCUIT IN PANEL)
2 GFI	GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE (NUMBER INDICATES CIRCUIT IN PANEL)
2 WP,GFI	WEATHERPROOF GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE (NUMBER INDICATES CIRCUIT IN PANEL)
SM	MANUAL MOTOR STARTER
	COMBINATION STARTER/DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	NON-FUSED DISCONNECT SWITCH
	MOTOR (SEE EQUIPMENT CONNECTION SCHEDULE FOR HORSEPOWER)
J	JUNCTION OR PULLBOX
HS	HAND SWITCH
MD	MOTORIZED DAMPER
A	ELECTRICALLY INTERLOCKED BREAKER
K	KIRK-KEY INTERLOCKED BREAKER
R	PROTECTIVE RELAYING
M	WE ENERGY METER
M	OWNER METERING
S	WALL MOUNTED INTERCOM SPEAKER
P	WALL MOUNTED HANDSET
I	INTERCOM
	VIDEO CAMERA
CR	CARD READER
ES	ELECTRIC DOOR STRIKE
DC	DOOR CONTACT
RX	REQUEST-TO-EXIT DEVICE
BS	BREAK GLASS SWITCH
DW	DISCHARGE TRANSMISSION MAIN
E	ELECTRICAL
G	GAS
RW	RAW WATER
RWW	RECLAIMED WASH WATER
S	SEWER
SD	STORM DRAIN
SP	SUMP PUMP DISCHARGE
SS	SANITARY SEWER
SWW	SPENT WASH WATER
T	TELEPHONE
W	WATER
	TO BE REMOVED OR ABANDONED

	PANEL, MCC OR SWITCHGEAR
	FEEDER CIRCUIT
	SWITCH
	CIRCUIT BREAKER
	FUSE
	SOFT START CONTROLLER OR VFD
	TRANSFORMER
	GENERATOR
	TRANSFER SWITCH
	CT'S/PT'S
	DRAWOUT BREAKER
LLPS	LOW LIFT PUMP STATION
WTP	WATER TREATMENT PLANT
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	PUSHBUTTON
	SELECTOR SWITCH
G	PUSH TO TEST INDICATING LIGHT
	DISCONNECT SWITCH
	GROUND

LIGHT FIXTURE DESIGNATIONS:

A1 — INDICATES FIXTURE TYPE

3,a — INDICATES SWITCH LEG (IF APPLICABLE)

INDICATES CIRCUIT IN LIGHTING PANEL (IF APPLICABLE)

ELECTRICAL ABBREVIATIONS

A	AMPERES
AF	AMPERES FRAME
AFF	ABOVE FINISHED FLOOR
ALUM	ALUMINUM
AT	AMPERES TRIP
ATS	AUTOMATIC TRANSFER SWITCH
CKT	CIRCUIT
CLG	CEILING
CONC	CONCRETE
CONT	CONTINUED
D	DEEP
DN	DOWN
E	ELECTRIC
EM	EMERGENCY
FDR	FEEDER
FLA	FULL LOAD AMPERES
FLUOR	FLUORESCENT
FVNR	FULL VOLTAGE NON REVERSING
G,GND	GROUND
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
H	HIGH
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
KV	KILO-VOLT
KVA	KILO-VOLT AMPERES
KW	KILOWATTS
LED	LIGHT EMITTING DIODE
LLPS	LOW LIFT PUMP STATION
LP	LIGHTING PANEL
M	MOTOR
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MET	METAL
MFR	MANUFACTURER
MLO	MAIN LUG ONLY
MMS	MANUAL MOTOR STARTER
N/A	NON APPLICABLE
NL	NIGHT LIGHT
OL	OVERLOADS
OC	OVERCURRENT
P	POLE
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PRI	PRIMARY
PTZ	PAN/TILT/ZOOM
PVC	POLYVINYL CHLORIDE
REX	REQUEST TO EXIT
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
TP	TWISTED PAIR
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VA	VOLT AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WIDE
WP	WEATHER PROOF
WTP	WATER TREATMENT PLANT
XFMR	TRANSFORMER

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
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AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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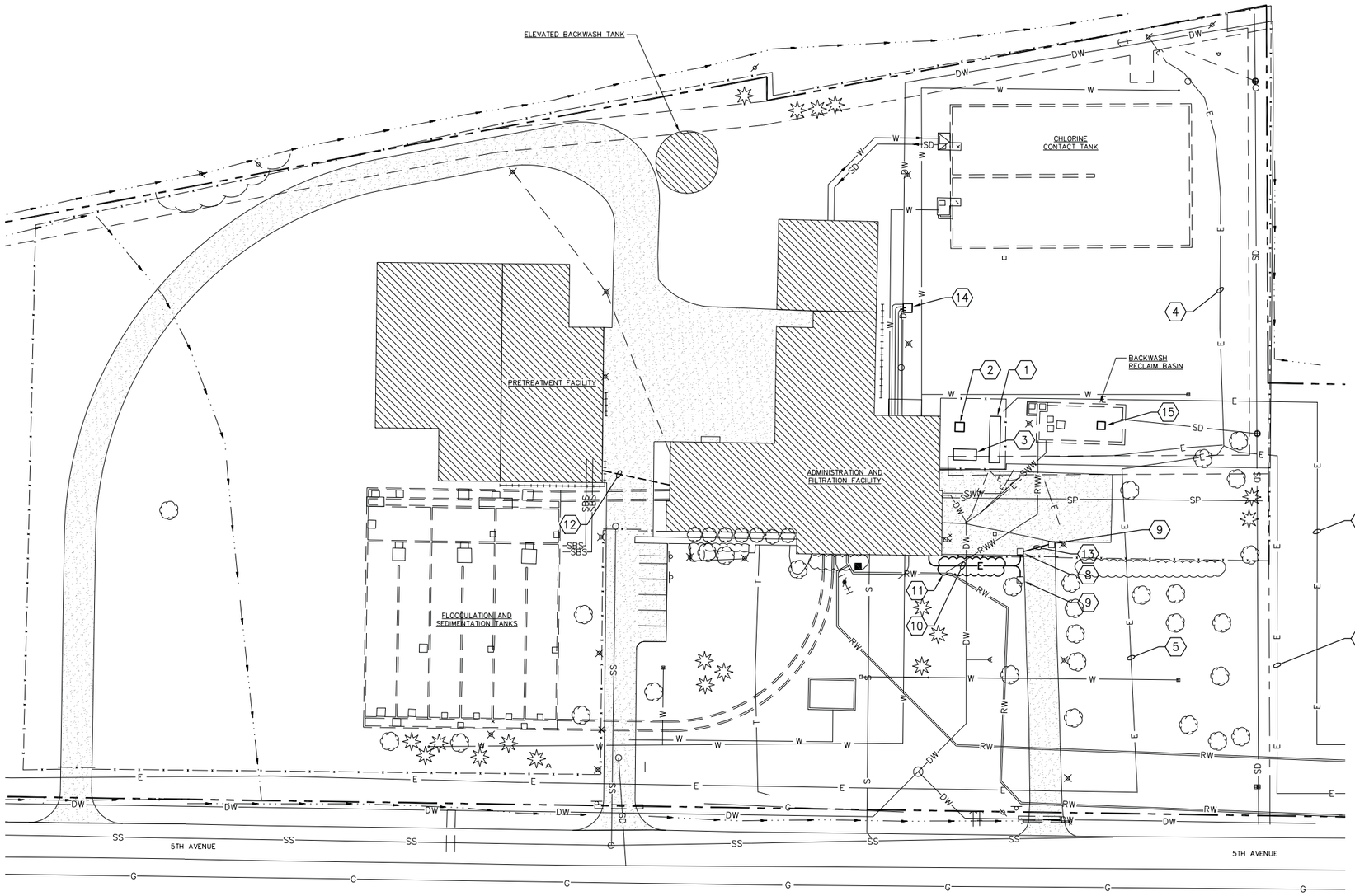
DRAWING TITLE
ELECTRICAL
GENERAL NOTES, LEGEND,
AND ABBREVIATIONS

PROJECT No.
O0130014

DRAWING No.
E-00-101

SHEET 050 OF 088 SHEETS



1 ELECTRICAL SITE PLAN

0 20' 40' 80'

NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.

KEYNOTES

1. EXISTING OUTDOOR 24.9 KV SWITCHGEAR.
2. TRANSFORMER XFMR-3A WEST.
3. EXISTING TRANSFORMER XFMR-3B EAST.
4. EXISTING WE ENERGIES 25 KV FEED #1 – WEST SOURCE (PENNSYLVANIA AVE. SUBSTATION).
5. EXISTING WE ENERGIES 25 KV FEED #2 – EAST SOURCE (PENNSYLVANIA AVE. SUBSTATION).
6. EXISTING LOW LIFT PUMP STATION 25 KV FEED #1.
7. EXISTING LOW LIFT PUMP STATION 25 KV FEED #2.
8. EXISTING NORTH GATE OPENER.
9. EXISTING NORTH GATE CARD READER.
10. PROVIDE THE FOLLOWING DIRECT BURIED CONDUITS (LOCATE CONDUITS 48" WEST OF EXISTING CHAIN LINK FENCE). SEE DRAWING E-10-301 AND E-10-402 FOR CONTINUATION.
    - 1" CONDUIT WITH 3#12, 1#12 GROUND FOR POWER FROM PANEL B-RIGHT TO NORTH GATE OPENER.
    - 1" CONDUIT WITH CONTROL WIRES TO NORTH GATE CONTROLLER.
    - 1" CONDUIT WITH CONTROL WIRES FOR NORTH GATE CARD READERS AND INTERCOM.
    - 1" SPARE CONDUIT.
11. REMOVE EXISTING SHRUBS FOR INSTALLATION OF DIRECT BURIED CONDUITS.
12. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING UNDERGROUND CONDUITS FROM USS NO. 1 AND USS NO. 2 TO MCC-10 (SEE DRAWINGS E-10-403 AND E-10-501 FOR CONTINUATION).
13. PROVIDE (2) 1" DIRECT BURIED CONDUITS WITH WIRING TO CARD READER. SAWCUT ASPHALT SURFACE TO REMOVE AS REQUIRED FOR INSTALLATION OF CONDUITS (PATCH TO MATCH EXISTING SURFACE).
14. EXISTING METER PIT. REPLACE CONTROL WIRING FROM METER TO RELOCATED AUTOCON METER PIT PANEL (EXTEND CONDUIT IN BUILDING AS REQUIRED).
15. REMOVE ABANDONED (2) 2#18 TSP CABLES FROM METER TO EXISTING AUTOCON PANEL LOCATED IN ELECTRICAL ROOM (ABANDON UNDERGROUND CONDUIT IN PLACE).

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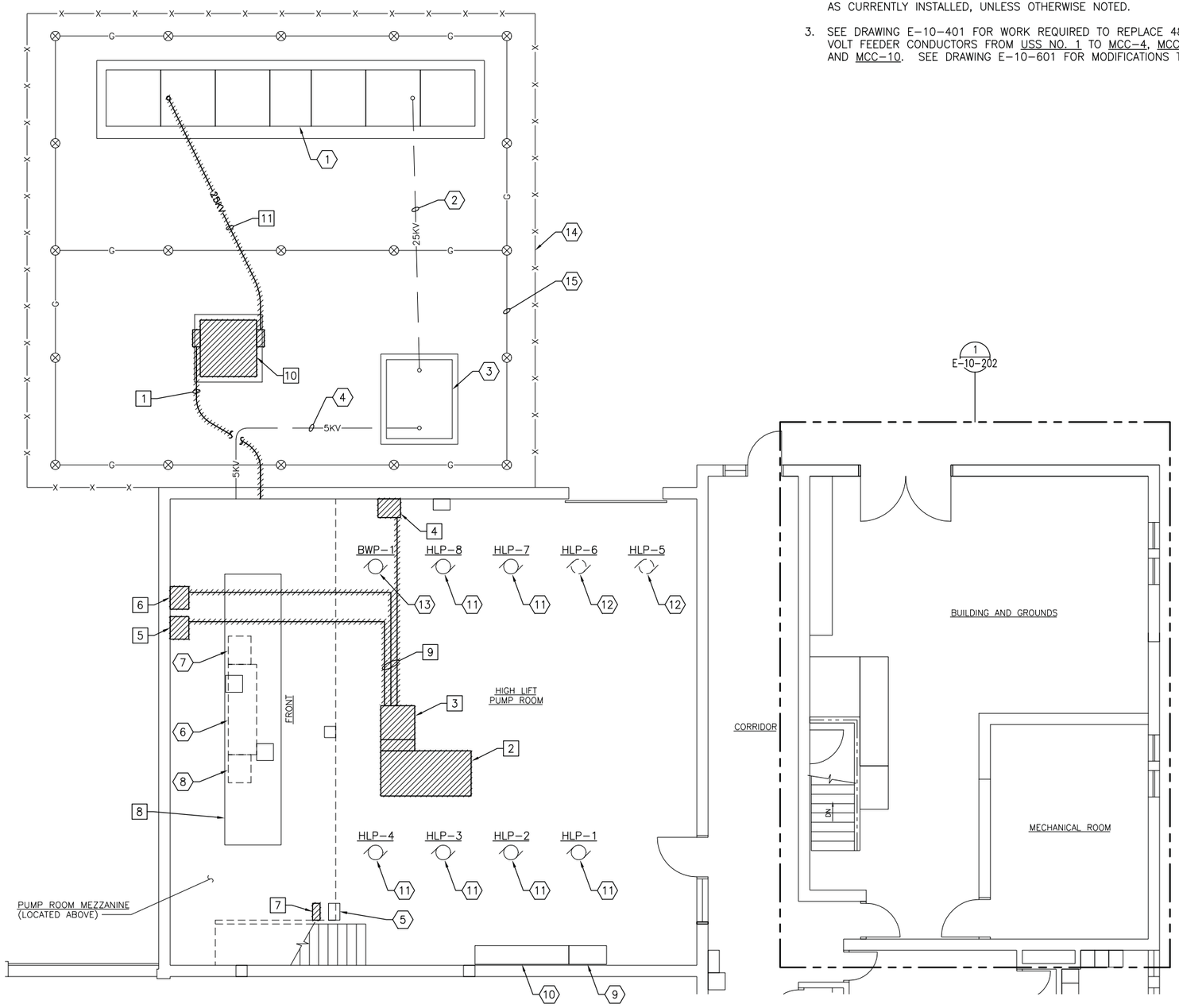
WATER TREATMENT PLANT ELECTRICAL SITE PLAN

PROJECT No.
O0130014

DRAWING No.
E-10-101

SHEET 051 OF 088 SHEETS



NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. ALL EQUIPMENT SHOWN ON THIS SHEET IS EXISTING AND TO REMAIN AS CURRENTLY INSTALLED, UNLESS OTHERWISE NOTED.
3. SEE DRAWING E-10-401 FOR WORK REQUIRED TO REPLACE 480 VOLT FEEDER CONDUCTORS FROM USS NO. 1 TO MCC-4, MCC-8, AND MCC-10. SEE DRAWING E-10-601 FOR MODIFICATIONS TO ATS.

DEMOLITION KEYNOTES

1. REMOVE EXISTING 5 KV SERVICE LATERAL CABLES FROM XFMR-3A WEST TO 2.4 KV SWITCHGEAR (ABANDON UNDERGROUND DUCTBANK IN PLACE). SEE DRAWING E-10-203 FOR CONTINUATION.
2. REMOVE EXISTING 250 KW NATURAL GAS STANDBY GENERATOR. REMOVE EXISTING CONCRETE EQUIPMENT PAD. PATCH AND FINISH SURFACE TO MATCH EXISTING.
3. REMOVE EXISTING SWITCHBOARD SB NO. 1. REMOVE EXISTING CONCRETE EQUIPMENT PAD. PATCH AND FINISH SURFACE TO MATCH EXISTING.
4. RETROFIT EXISTING AUTOMATIC TRANSFER SWITCH ATS-1. SEE NOTE 3.
5. RETROFIT EXISTING AUTOMATIC TRANSFER SWITCH ATS-3 (LOCATED ABOVE ON PUMP ROOM MEZZANINE). SEE NOTE 3.
6. RETROFIT EXISTING AUTOMATIC TRANSFER SWITCH ATS-4 (LOCATED ABOVE ON PUMP ROOM MEZZANINE). SEE NOTE 3.
7. REMOVE EXISTING WE ENERGIES METERING SOCKET, CABINET, AND ASSOCIATED CONDUIT/WIRE.
8. RETROFIT 2.4 KV SWITCHGEAR (SEE DRAWING E-10-701 FOR REQUIRED MODIFICATIONS).
9. REMOVE EXISTING CONDUITS AND FEEDER CONDUCTORS FROM SB NO. 1 TO ATS-1, ATS-3, AND ATS-4.
10. REPLACE EXISTING TRANSFORMER XFMR-3A WEST AND CONCRETE PAD.
11. REPLACE EXISTING 25KV CABLES FEEDING XFMR-3A WEST (EXISTING UNDERGROUND CONDUITS SHALL REMAIN AND BE EXTENDED AS REQUIRED).

KEYNOTES

1. EXISTING OUTDOOR 24.9 KV SWITCHGEAR TO REMAIN.
2. EXISTING UNDERGROUND 25KV FEED TO XFMR-3A EAST TO REMAIN.
3. EXISTING TRANSFORMER XFMR-3B EAST TO REMAIN.
4. EXISTING UNDERGROUND DUCTBANK WITH 5 KV SERVICE LATERAL CABLES FROM XFMR-3B EAST TO 2.4 KV SWITCHGEAR TO REMAIN. SEE DRAWING E-10-203 FOR CONTINUATION.
5. EXISTING WE ENERGIES METERING CABINET TO REMAIN.
6. EXISTING UNIT SUBSTATION USS NO. 1 AND 2 TO REMAIN (LOCATED ABOVE ON PUMP ROOM MEZZANINE).
7. EXISTING TRANSFORMER XFMR-1 (NORTH) TO REMAIN (LOCATED ABOVE ON PUMP ROOM MEZZANINE).
8. EXISTING TRANSFORMER XFMR-2 (SOUTH) TO REMAIN (LOCATED ABOVE ON PUMP ROOM MEZZANINE).
9. EXISTING MOTOR CONTROL CENTER MCC-2 TO REMAIN.
10. EXISTING MOTOR CONTROL CENTER MCC-1 TO REMAIN.
11. EXISTING HIGH LIFT PUMP TO REMAIN.
12. FUTURE HIGH LIFT PUMP.
13. EXISTING BACKWASH PUMP TO REMAIN.
14. EXISTING CHAIN LINK FENCE TO REMAIN.
15. EXISTING BARE COPPER GROUND GRID WITH GROUND RODS.

1 FIRST FLOOR ELECTRICAL DEMOLITION PLAN
(ELEV. 99.0)
0 2' 4' 8' 12'

KEY PLAN
NO SCALE

Clark Dietz ENGINEERS
DESIGN FIRM REGISTRATION No. 184-000450
125 WEST CHURCH STREET
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PHONE : 217.373.8900
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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

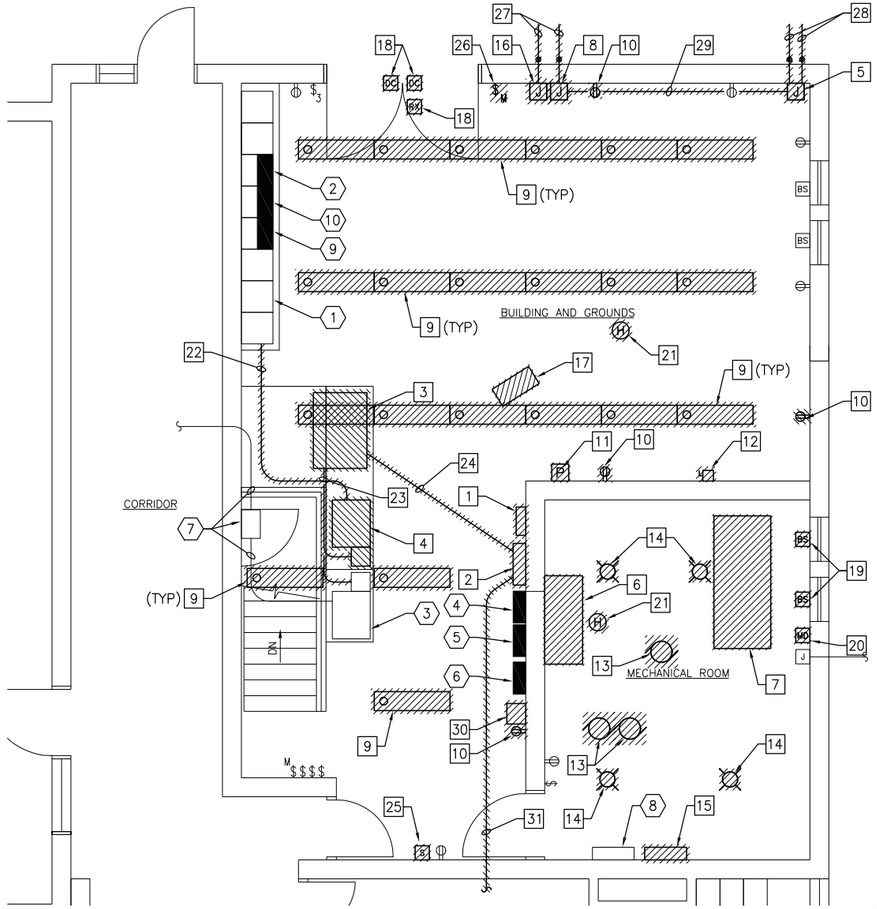
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY
FIRST FLOOR
ELECTRICAL
DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
E-10-201

SHEET 052 OF 088 SHEETS



1 ENLARGED FIRST FLOOR ELECTRICAL DEMOLITION PLAN

(ELEV. 99.0)

0 1' 2' 4' 8'

NOTES

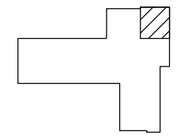
1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. ALL EQUIPMENT SHOWN ON THIS SHEET IS EXISTING AND TO REMAIN AS CURRENTLY INSTALLED, UNLESS OTHERWISE NOTED.
3. SEE DRAWING E-10-401 FOR WORK REQUIRED TO REPLACE 208 VOLT FEEDER CONDUCTORS FROM PANEL PA TO D-LEFT, C, AND H.
4. SEE DRAWING E-10-402 FOR WORK ASSOCIATED WITH RELOCATED OR REPLACED EQUIPMENT.

KEYNOTES

1. EXISTING MOTOR CONTROL CENTER MCC-4 TO REMAIN.
2. EXISTING 208Y/120V PANEL E TO REMAIN.
3. EXISTING TRANSFORMER XFMR-T4A TO REMAIN.
4. EXISTING 208Y/120V PANEL B-LEFT TO REMAIN AND BE REFED.
5. EXISTING 208Y/120V PANEL B-RIGHT TO REMAIN.
6. EXISTING 240/120V PANEL Z AND TRANSFORMER XFMR-T4B TO REMAIN.
7. EXISTING 480V FEEDER FROM USS NO. 1 AND PULLBOX TO REMAIN.
8. EXISTING TEMPERATURE CONTROL PANEL TO REMAIN.
9. EXISTING 480Y/277V PANEL AA TO REMAIN.
10. EXISTING 480Y/277V PANEL EE TO REMAIN.

DEMOLITION KEYNOTES

1. RELOCATE EXISTING AUTOCON METER PIT PANEL. SEE DRAWING E-30-205 FOR DETAILS.
2. REPLACE EXISTING 208Y/120V PANEL PA.
3. RELOCATE EXISTING BYPASS ISOLATION SWITCH.
4. RELOCATE EXISTING TRANSFORMER XFMR-T4.
5. RELOCATE EXISTING READER MODULE FOR NORTH GATE CARD READER. REMOVE EXISTING WALL BOX.
6. RELOCATE EXISTING AIR COMPRESSOR AND COMBINATION STARTERS.
7. REMOVE ELECTRICAL CONNECTED TO EXISTING BOILER AND CONTROL PANEL.
8. REPLACE EXISTING JUNCTION BOX, CONDUIT, AND CONTROL WIRING FOR NORTH GATE CONTROLLER.
9. REMOVE EXISTING 4' FLUORESCENT LIGHT FIXTURE.
10. REMOVE EXISTING DUPLEX RECEPTACLE.
11. RELOCATE EXISTING PAGING SYSTEM HANDSET.
12. REMOVE EXISTING WELDER DISCONNECT SWITCH AND RECEPTACLE AND TURN OVER TO OWNER.
13. REMOVE ELECTRICAL CONNECTED TO EXISTING HEATING WATER PUMP.
14. REMOVE EXISTING INCANDESCENT LIGHT FIXTURE.
15. EXISTING TEMPERATURE CONTROL PANEL TO BE REPLACED. SEE DRAWING E-30-204 FOR DETAILS.
16. REPLACE EXISTING JUNCTION BOX, CONDUIT, AND POWER WIRING FOR NORTH GATE CONTROLLER.
17. REMOVE ELECTRICAL CONNECTED TO EXISTING GAS UNIT HEATER.
18. REPLACE EXISTING DOOR CONTACTS. RELOCATE EXISTING REQUEST-TO-EXIT DEVICE.
19. REMOVE EXISTING BREAK GLASS SWITCH.
20. REMOVE ELECTRICAL CONNECTED TO EXISTING MOTORIZED DAMPER.
21. REMOVE EXISTING HEAT DETECTOR.
22. REPLACE EXISTING 480 VOLT FEEDER FROM XFMR-T4 TO MCC-4.
23. REPLACE EXISTING 208 VOLT FEEDERS FROM XFMR-T4 AND XFMR-T4A TO BYPASS ISOLATION SWITCH.
24. REMOVE EXISTING CONDUIT AND 208 VOLT FEEDER FROM BYPASS ISOLATION SWITCH TO PANEL PA (ABANDON UNDERGROUND CONDUIT IN PLACE).
25. REPLACE WALL MOUNTED INTERCOM SPEAKER.
26. REMOVE EXISTING MANUAL MOTOR STARTER FOR GAS UNIT HEATER.
27. REPLACE 1 1/2" AND 3/4" UNDERGROUND CONDUIT AND WIRE GOING TO NORTH GATE CONTROLLER.
28. REPLACE EXISTING UNDERGROUND CONDUITS AND CONTROL WIRES TO CARD READER.
29. REPLACE EXISTING CONDUIT WITH 9 LOW VOLTAGE CABLES FOR ACCESS CONTROL SYSTEM FROM DOWN LOW TO UP HIGH BY CEILING.
30. RELOCATE EXISTING AIR DRYER FOR AIR COMPRESSOR.
31. REMOVE EXISTING CONDUIT AND 208 VOLT FEEDER FROM PANEL PA TO C (ABANDON UNDERGROUND CONDUIT IN PLACE).



KEY PLAN
NO SCALE

Clark Dietz ENGINEERS
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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

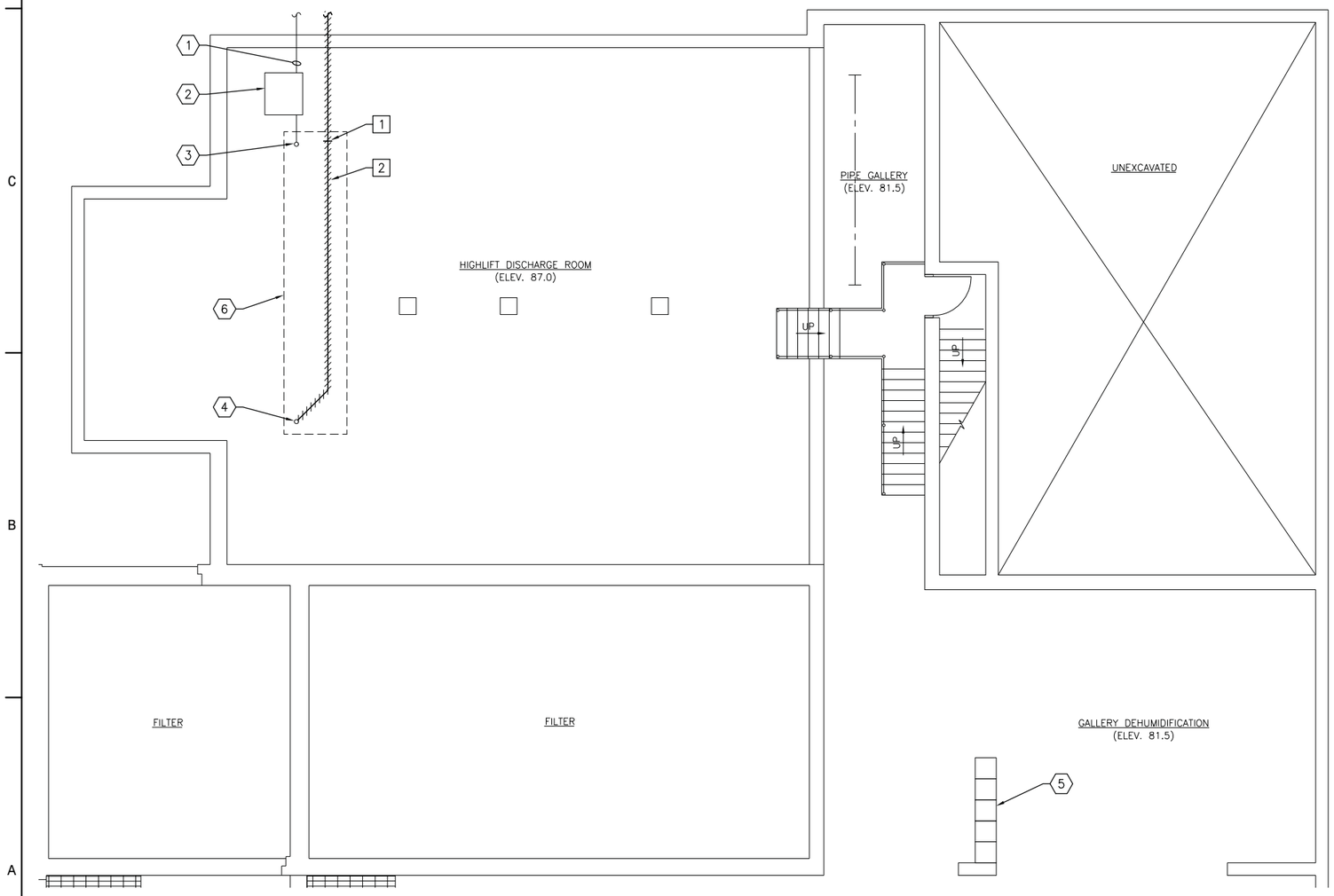
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY
ENLARGED FIRST FLOOR ELECTRICAL DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
E-10-202

SHEET 053 OF 088 SHEETS



1 LOWER LEVEL ELECTRICAL DEMOLITION PLAN

0 2' 4' 8' 12'

NOTES

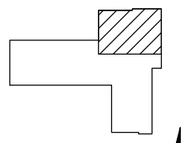
1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.

DEMOLITION KEYNOTES

1. REMOVE 5 KV SERVICE LATERAL CABLES FROM XFMR-3A WEST TO 2.4 KV SWITCHGEAR. REMOVE EXISTING CONDUITS FROM POINT SHOWN TO EXTERIOR WALL (CAP CONDUITS AT WALL WITH WATERPROOF PLUG). SEE DRAWING E-10-201 FOR CONTINUATION.
2. REMOVE EXISTING 5 KV SERVICE LATERAL CABLES FROM XFMR-3A WEST TO 2.4 KV SWITCHGEAR (CONDUITS TO REMAIN AND BE REUSED).

KEYNOTES

1. EXISTING CONDUITS WITH 5 KV SERVICE LATERAL CABLES FROM XFMR-3B EAST TO 2.4 KV SWITCHGEAR TO REMAIN. SEE DRAWING E-10-201 FOR CONTINUATION.
2. EXISTING PULLBOX TO REMAIN.
3. EXISTING CONDUITS WITH 5 KV SERVICE LATERAL CABLES FROM XFMR-3B EAST THRU FLOOR UP TO 2.4 KV SWITCHGEAR TO REMAIN.
4. EXISTING CONDUITS FEEDING THRU FLOOR UP TO 2.4 KV SWITCHGEAR TO REMAIN.
5. EXISTING MOTOR CONTROL CENTER MCC-8 TO REMAIN AND BE REFED. SEE DRAWING E-10-404 FOR NEW WORK.
6. EXISTING 2.4KV SWITCHGEAR (LOCATED ABOVE ON FIRST FLOOR).



KEY PLAN
NO SCALE

Clark Dietz
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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

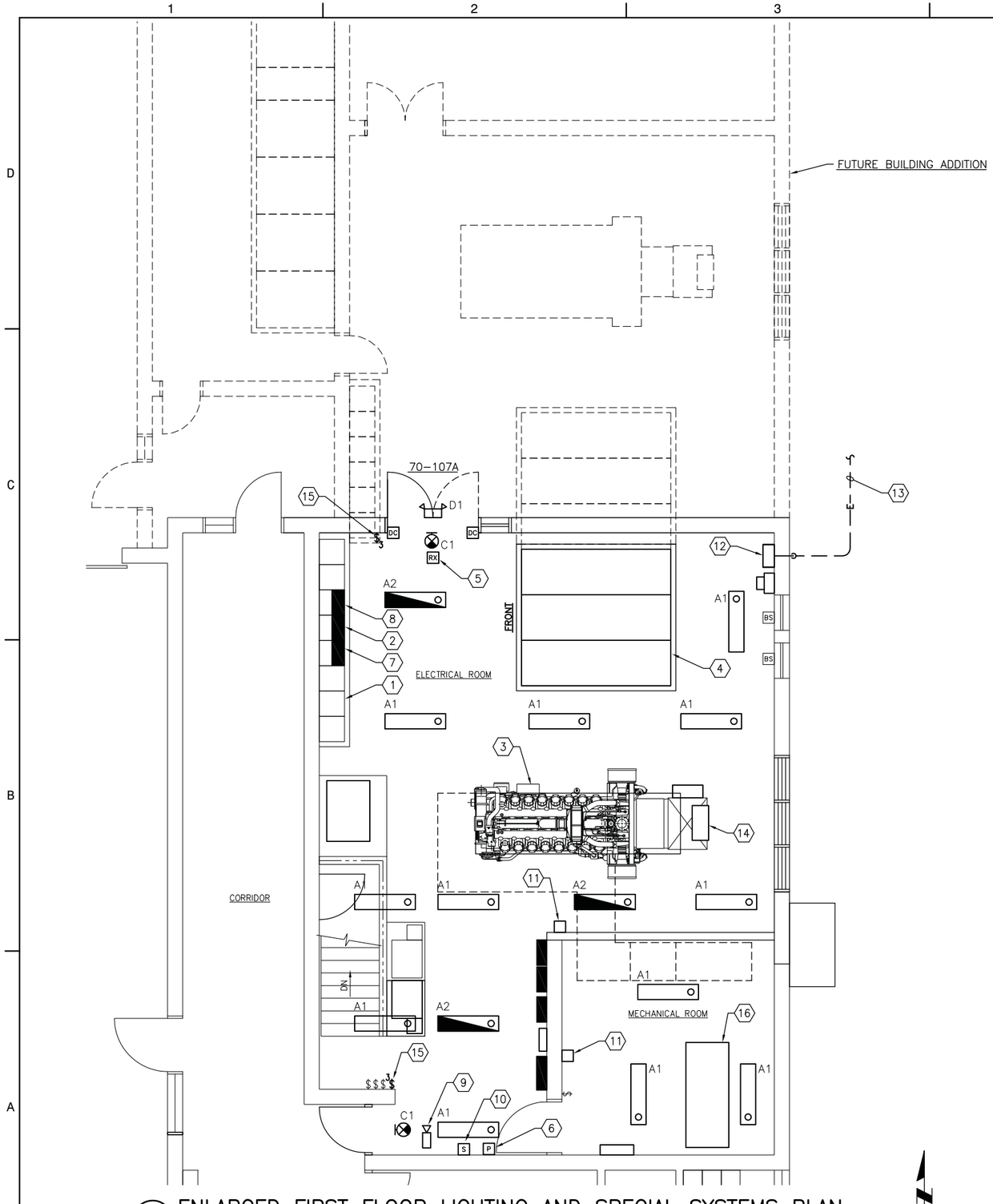
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY
LOWER LEVEL ELECTRICAL DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
E-10-203

SHEET 054 OF 088 SHEETS



1 ENLARGED FIRST FLOOR LIGHTING AND SPECIAL SYSTEMS PLAN

(ELEV. 99.0)

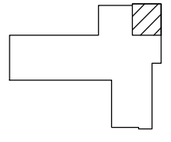
0 1' 2' 4' 8'

NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE DRAWING E-30-102 FOR LIGHT FIXTURE SCHEDULE.
3. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF THE WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.
4. EMERGENCY LIGHTS BALLASTS SHALL BE WIRED WITH HOT LEG TO TURN LAMPS ON UPON LOSS OF POWER TO ROOM. EXIT SIGNS SHALL BE WIRED HOT AND UNSWITCHED.
5. GENERATOR SHALL BE MOVED TO THE EAST IN THE ELECTRICAL ROOM TO PROVIDE 36" CLEARANCE BETWEEN GENERATOR CONTROL PANEL AND OPENED DAMPER BLADES AND ACTUATOR. FINAL LOCATION SHALL BE DETERMINED IN THE FIELD.

(#) KEYNOTES

1. EXISTING MOTOR CONTROL CENTER MCC-4.
2. EXISTING 480Y/277V PANEL EE. REUSE EXISTING 20 AMP, 1 POLE CIRCUIT BREAKERS TO REFEED LIGHTS IN ELECTRICAL ROOM AND MECHANICAL ROOM. PROVIDE NEW CONDUIT AND WIRE TO FEED NEW LIGHTS.
3. NATURAL GAS STANDBY GENERATOR GEN-101.
4. AUTOMATIC TRANSFER SWITCH ATS-101.
5. RELOCATED REQUEST-TO-EXIT DEVICE.
6. RELOCATED PAGING SYSTEM HANDSET. REPLACE EXISTING WIRING BACK TO AUDIO EQUIPMENT IN BCP-1 (EXTEND CONDUIT AS REQUIRED).
7. EXISTING 480Y/277V PANEL AA.
8. EXISTING 208Y/120V PANEL E.
9. PROVIDE SURVEILLANCE CAMERA 70-C107A. CAMERA SHALL BE AXIS #P1344 TO MATCH EXISTING CAMERAS. PROVIDE CAT 6 CABLE IN 3/4" CONDUIT FROM CAMERA TO EXISTING NETWORK SWITCH AND COMMUNICATION ENCLOSURE LOCATED IN CONTROL ROOM (SEE DRAWING E-10-402 FOR LOCATION).
10. PROVIDE WALL MOUNTED INTERCOM SPEAKER. SPEAKER SHALL BE TESSCO #SPC15T TO MATCH EXISTING SPEAKERS. RECONNECT TO EXISTING AUDIO CABLE.
11. PROVIDE TEMPERATURE SENSOR TIED TO PLC-H IN BCP-1 FOR MONITORING ROOM TEMPERATURE AND CONTROL OF EXHAUST FANS.
12. PROVIDE 18"x18"x4" HINGED COVER ENCLOSURE FOR RELOCATED READER MODULE FOR NORTH GATE CARD READERS AND DOOR 70-107A DEVICES. REPLACE EXISTING CONDUIT AND CONTROL WIRES LOCATED ON NORTH WALL WITH NEW.
13. PROVIDE DIRECT BURIED CONDUITS WITH WIRE TO GATE OPENER, INTERCOM, AND CARD READERS (SEE DRAWINGS E-10-101 FOR CONTINUATION).
14. GEN-101 GENERATOR CONTROL PANEL.
15. REPLACE 3-WAY LIGHT SWITCH FOR ELECTRICAL ROOM LIGHTS.
16. BOILER B-101.



KEY PLAN

NO SCALE

Clark Dietz ENGINEERS
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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY ENLARGED FIRST FLOOR LIGHTING AND SPECIAL SYSTEMS PLAN

PROJECT No.
O0130014

DRAWING No.
E-10-301

SHEET 055 OF 088 SHEETS

NOTES

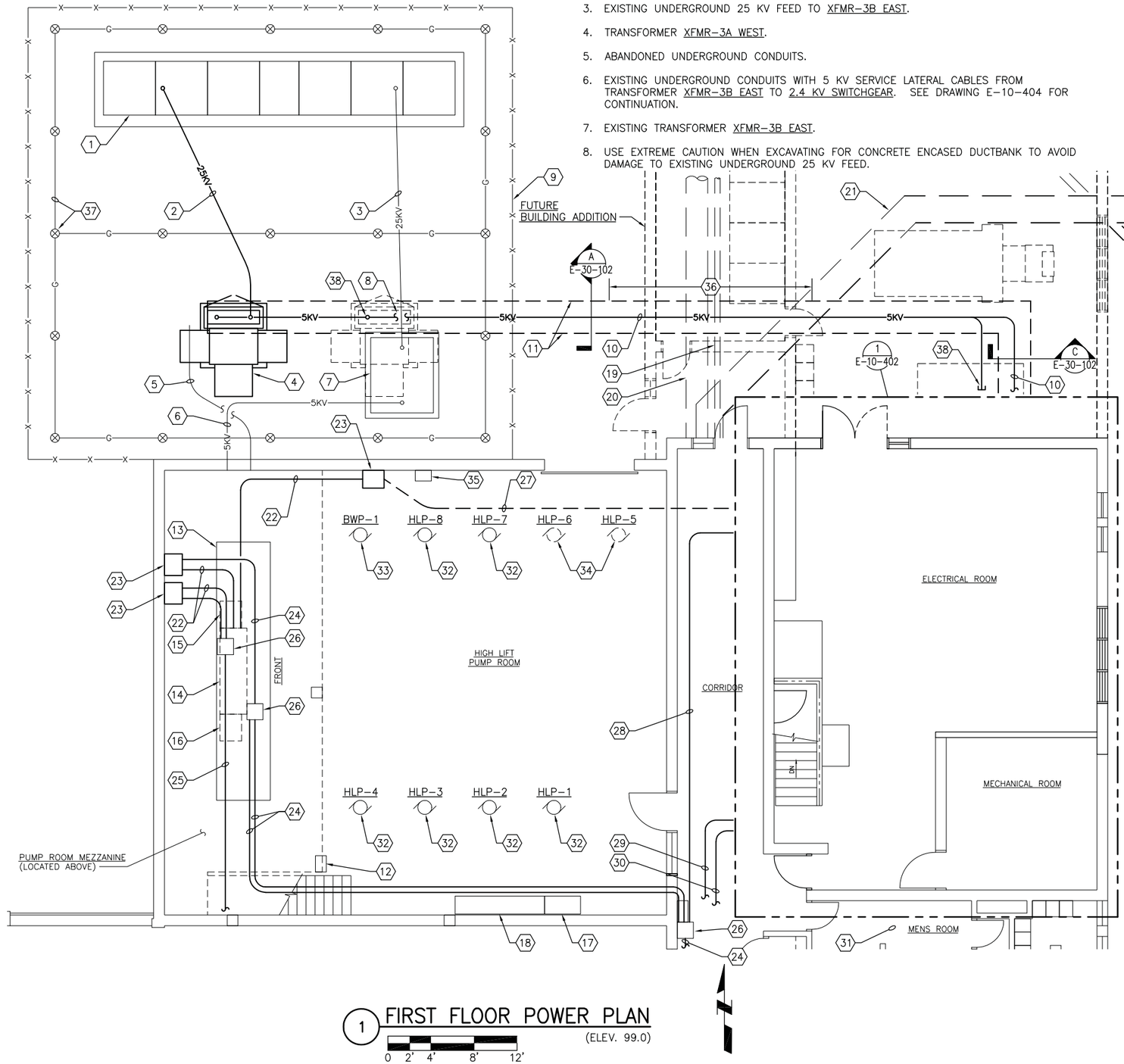
1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE DRAWING E-10-601 AND E-10-602 FOR POWER ONE-LINE DIAGRAM.

KEYNOTES

1. EXISTING OUTDOOR 24.9 KV SWITCHGEAR.
2. REPLACE EXISTING 25 KV CABLES FEEDING XFMR-3A WEST (REUSED EXISTING UNDERGROUND CONDUIT AND EXTEND AS REQUIRED AT TRANSFORMER).
3. EXISTING UNDERGROUND 25 KV FEED TO XFMR-3B EAST.
4. TRANSFORMER XFMR-3A WEST.
5. ABANDONED UNDERGROUND CONDUITS.
6. EXISTING UNDERGROUND CONDUITS WITH 5 KV SERVICE LATERAL CABLES FROM TRANSFORMER XFMR-3B EAST TO 2.4 KV SWITCHGEAR. SEE DRAWING E-10-404 FOR CONTINUATION.
7. EXISTING TRANSFORMER XFMR-3B EAST.
8. USE EXTREME CAUTION WHEN EXCAVATING FOR CONCRETE ENCASED DUCTBANK TO AVOID DAMAGE TO EXISTING UNDERGROUND 25 KV FEED.

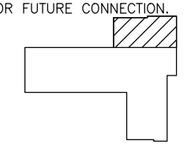
KEYNOTES (CONT.)

9. EXISTING CHAIN LINK FENCE. REPAIR FENCE IF DAMAGED DURING INSTALLATION OF DUCTBANK. VERIFY EXISTING GROUNDING OF FENCE AND MODIFY AS REQUIRED TO PROPERLY GROUND.
10. PROVIDE CONCRETE ENCASED DUCTBANK WITH 5 KV SERVICE LATERAL CABLES FROM XFMR-3A WEST TO ATS-101. SEE DRAWING E-10-402 FOR CONTINUATION
11. SAWCUT ASPHALT SURFACE TO REMOVE AS REQUIRED FOR INSTALLATION OF DUCTBANK (PATCH TO MATCH EXISTING SURFACE).
12. EXISTING WE ENERGIES METERING CABINET.
13. EXISTING 2.4 KV SWITCHGEAR (SEE DRAWING E-10-701 FOR REQUIRED MODIFICATIONS).
14. EXISTING UNIT SUBSTATION USS NO. 1 AND 2 (LOCATED ABOVE ON PUMP ROOM MEZZANINE).
15. EXISTING TRANSFORMER XFMR-1 (NORTH) (LOCATED ABOVE ON PUMP ROOM MEZZANINE).
16. EXISTING TRANSFORMER XFMR-2 (SOUTH) (LOCATED ABOVE ON PUMP ROOM MEZZANINE).
17. EXISTING MOTOR CONTROL CENTER MCC-2.
18. EXISTING MOTOR CONTROL CENTER MCC-1.
19. EXISTING UNDERGROUND 6" SUMP PUMP DISCHARGE PIPE (℄ ELEVATION 85.0).
20. EXISTING UNDERGROUND 24" SPENT WASH WATER PIPE (℄ ELEVATION 87.0).
21. EXISTING UNDERGROUND 30" DISCHARGE PIPE (℄ ELEVATION 90.5).
22. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING OVERHEAD CONDUIT FROM USS NO. 1 TO ATS-1, ATS-3, AND ATS-4.
23. RETROFIT ATS-1, ATS-3, AND ATS-4 TO BECOME PULL BOXES. ATS-3 AND ATS-4 ARE LOCATED ON PUMP ROOM MEZZANINE.
24. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING OVERHEAD CONDUIT FROM USS NO. 1 AND USS NO. 2 TO MCC-10. SEE DRAWING E-10-403 FOR CONTINUATION.
25. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING OVERHEAD CONDUIT FROM USS NO. 1 TO MCC-8.
26. EXISTING PULL BOX.
27. REPLACE 480 VOLT FEEDER CONDUCTORS IN SLAB FROM USS NO. 1 TO MCC-4 VIA ATS-1 ENCLOSURE.
28. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING CONDUIT LOCATED ABOVE DROP CEILING FROM USS NO. 1 TO MCC-4.
29. PROVIDE OVERHEAD CONDUIT TO CONNECT TO EXISTING CONDUIT LOCATED ABOVE DROP CEILING FOR 208 VOLT FEEDER CONDUCTORS FROM PANEL PA TO H. SEE DRAWING E-10-403 FOR CONTINUATION.
30. PROVIDE OVERHEAD CONDUIT TO CONNECT TO EXISTING CONDUIT LOCATED ABOVE DROP CEILING FOR 208 VOLT FEEDER CONDUCTORS FROM PANEL PA TO D-LEFT. SEE DRAWING E-10-403 FOR CONTINUATION.
31. PROVIDE 208 VOLT FEEDER CONDUCTORS IN EXISTING UNDERGROUND CONDUIT FROM PANEL PA TO C. SEE DRAWING E-10-403 FOR CONTINUATION.
32. EXISTING HIGH LIFT PUMP.
33. EXISTING BACKWASH PUMP.
34. FUTURE HIGH LIFT PUMP.
35. EXISTING HORIZONTAL SHAFT PUMP CONTROL PANEL. REPLACE EXISTING GENERATOR RUN SIGNAL FROM ATS-1 TO NEW ATS-101.
36. CONCRETE ENCASED DUCTBANK IN THIS AREA SHALL HAVE PVC CONDUIT WITH REBARS FOR REINFORCING. CONCRETE SHALL BE FORMED AND FINISHED ON ALL 4 SIDES WITH CHAMFERED EDGES.
37. EXISTING 1#4/0 BARE COPPER GROUND GRID (BURIED 18" BELOW GRADE) WITH (2) 8' x 5/8" COPPER GROUND RODS LOCATED ALONG GRID. CONTRACTOR SHALL VERIFY INTEGRITY OF GROUND GRID AND MODIFY AS REQUIRED. ANY DAMAGE CAUSED BY EXCAVATION TO GROUND GRID SHALL BE REPLACED AT THE CONTRACTORS COST.
38. STUB CONDUITS OUT BELOW GRADE FROM DUCTBANK AND CAP FOR FUTURE CONNECTION.



1 FIRST FLOOR POWER PLAN (ELEV. 99.0)

0 2' 4' 8' 12'



KEY PLAN
NO SCALE

Clark Dietz ENGINEERS
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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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DATE	REVISION
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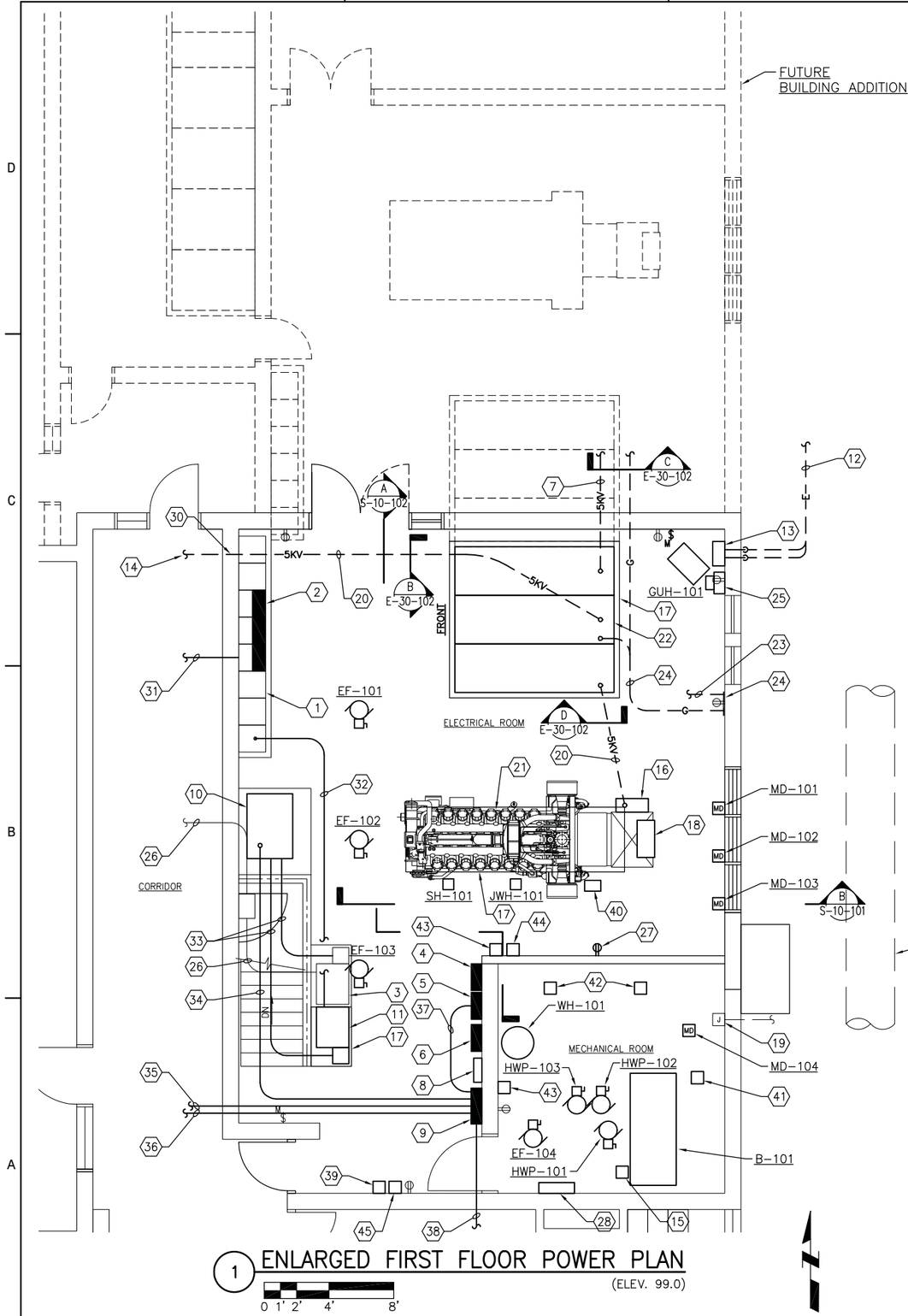
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY
FIRST FLOOR POWER PLAN

PROJECT No.
O0130014

DRAWING No.
E-10-401

SHEET 056 OF 088 SHEETS



1 ENLARGED FIRST FLOOR POWER PLAN
(ELEV. 99.0)
0 1' 2' 4' 8'

NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE DRAWING E-30-101 FOR EQUIPMENT CONNECTION SCHEDULE.
3. SEE DRAWING E-10-601 AND E-10-602 FOR POWER ONE-LINE DIAGRAMS.
4. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF THE WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.
5. PROVIDE FIRE CAULK AROUND ALL NEW AND EXISTING CONDUITS PENETRATING WALLS AROUND ELECTRICAL ROOM TO PROVIDE 2-HOUR FIRE RATING.
6. GENERATOR SHALL BE MOVED TO THE EAST IN THE ELECTRICAL ROOM TO PROVIDE 36" CLEARANCE BETWEEN GENERATOR CONTROL PANEL AND OPENED DAMPER BLADES AND ACTUATOR. FINAL LOCATION SHALL BE DETERMINED IN THE FIELD.

(#) KEYNOTES

1. EXISTING MOTOR CONTROL CENTER MCC-4. SEE DRAWING E-10-702 FOR DETAILS.
2. EXISTING 208Y/120V PANEL E.
3. EXISTING TRANSFORMER XFMR-T4A.
4. REFEED EXISTING 208Y/120V PANEL B-LEFT.
5. EXISTING 208Y/120V PANEL B-RIGHT. REMOVE (2) SPARE 20A, 1 POLE CIRCUIT BREAKERS AND INSTALL (1) 30A, 2 POLE BREAKER FOR JWH-101. USE (3) 20A, 1 POLE CIRCUIT BREAKER FOR THE FOLLOWING: SH-101, GUH-101, AIR DRYER. USE EXISTING 20A, 1 POLE CIRCUIT BREAKER FEEDING "S-EMERGENCY GENERATOR" FOR GENERATOR BATTERY CHARGER.
6. EXISTING 240/120V PANEL Z AND TRANSFORMER XFMR-T4B.
7. PROVIDE CONCRETE ENCASED DUCTBANK WITH 5KV SERVICE LATERAL CABLES. SEE DRAWING E-10-401 FOR CONTINUATION.
8. PROVIDE ELECTRICAL CONNECTION TO RELOCATED AUTOCON METER PIT PANEL. SEE DRAWING E-30-205 FOR DETAILS.
9. 208Y/120V PANEL PA.
10. RELOCATED BYPASS ISOLATION SWITCH.
11. RELOCATED TRANSFORMER XFMR-T4.
12. PROVIDE DIRECT BURIED CONDUITS WITH WIRING TO GATE CONTROLLER (SEE DRAWING E-10-101 FOR CONTINUATION).
13. PROVIDE JUNCTION BOX FOR NORTH GATE CONTROLLER POWER AND CONTROL WIRING. EXTEND CONDUIT AND WIRE AS REQUIRED.
14. PROVIDE CONDUITS WITH 5KV CABLES (LOCATED BELOW IN LOWER LEVEL). SEE DRAWING E-10-404 FOR CONTINUATION.
15. PROVIDE ELECTRICAL CONNECTION TO BOILER MAKE-UP WATER FLOW SWITCH.

(#) KEYNOTES (CONT.)

16. GEN-101 POWER TERMINATION BOX.
17. 4" CONCRETE EQUIPMENT PAD.
18. GEN-101 GENERATOR CONTROL PANEL.
19. EXISTING JUNCTION BOX AND CONDUIT FOR POWER TO FOUNTAIN.
20. PROVIDE UNDERGROUND CONCRETE ENCASED CONDUITS WITH 5KV CABLES.
21. NATURAL GAS STANDBY GENERATOR GEN-101.
22. ATS-101 AND WE ENERGIES METERING SECTION.
23. PROVIDE 1" PVC CONDUIT WITH 1#4/0 BARE COPPER GROUNDING ELECTRODE TO NEW REBAR IN CONCRETE.
24. PROVIDE 4" x 24" x 1/4" COPPER GROUND BAR (WALL MOUNT AT 24" AFF) FOR TERMINATING BUILDING GROUND. PROVIDE 1" UNDERGROUND CONDUIT WITH GROUNDING ELECTRODE CONDUCTOR TO ATS-101, EXISTING GROUND GRID OUTSIDE OF THE BUILDING, AND WATER PIPE.
25. PROVIDE METER CABINET AND SOCKET AS REQUIRED FOR WE ENERGIES METER (PROVIDE 1" CONDUIT WITH CONTROL WIRING TO METERING SECTION IN ATS-101 AS REQUIRED PER WE ENERGIES STANDARDS).
26. EXISTING 480 VOLT FEEDER FROM USS NO. 1 TO XFMR-T4.
27. USE EXISTING 120 VOLT CIRCUIT FEEDING EXISTING RECEPTACLES BEING REMOVED FOR NEW DUPLEX RECEPTACLE.
28. EXISTING TEMPERATURE CONTROL PANEL TC-1 AND NEW TEMPERATURE CONTROL PANEL TC-2. SEE DETAIL HV-10-201 FOR DETAILS.
29. EXISTING 30" RAW WATER PIPE.
30. CORE THRU LOWER LEVEL WALL AND PROVIDE WATERTIGHT SEAL AROUND CONDUITS.
31. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING UNDERGROUND CONDUIT FROM MCC-4 TO USS NO. 1 VIA ATS-1 ENCLOSURE.
32. PROVIDE OVERHEAD CONDUIT WITH 480 VOLT FEEDER CONDUCTORS FROM MCC-4 TO XFMR-T4.
33. PROVIDE OVERHEAD CONDUIT WITH 208 VOLT FEEDER CONDUCTORS FROM XFMR-T4 AND XFMR-T4A TO BYPASS ISOLATION SWITCH.
34. PROVIDE OVERHEAD CONDUIT WITH 208 VOLT FEEDER CONDUCTORS FROM BYPASS ISOLATION SWITCH TO PA.
35. PROVIDE OVERHEAD CONDUIT TO CONNECT TO EXISTING CONDUIT ABOVE DROP CEILING FOR 208 VOLT FEEDER CONDUCTORS FROM PANEL PA TO H.
36. PROVIDE OVERHEAD CONDUIT TO CONNECT TO EXISTING CONDUIT ABOVE DROP CEILING FOR 208 VOLT FEEDER CONDUCTORS FROM PANEL PA TO D-LEFT.
37. PROVIDE OVERHEAD CONDUIT WITH 208 VOLT FEEDER CONDUCTORS FROM PANEL PA TO B-LEFT.
38. PROVIDE OVERHEAD CONDUIT WITH 208 VOLT FEEDER CONDUCTORS FROM PANEL PA TO C. CORE EXISTING CMU WALL. SEE DRAWING E-10-403 FOR CONTINUATION.
39. GENERATOR REMOTE EMERGENCY STOP STATION.
40. GENERATOR BATTERY CHARGER.
41. PROVIDE ELECTRICAL CONNECTION TO POTABLE WATER FLOW CONTROL VALVE.
42. PROVIDE ELECTRICAL CONNECTION TO GENERATOR HEAT EXCHANGER LOW COOLANT LEVEL SWITCH.
43. PROVIDE ELECTRICAL CONNECTION TO TEMPERATURE SENSOR FOR CONTROL OF EXHAUST FAN.
44. THERMOSTAT FOR GUH-101.
45. REMOTE GENERATOR ANNUNCIATOR PANEL.

KEY PLAN
NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

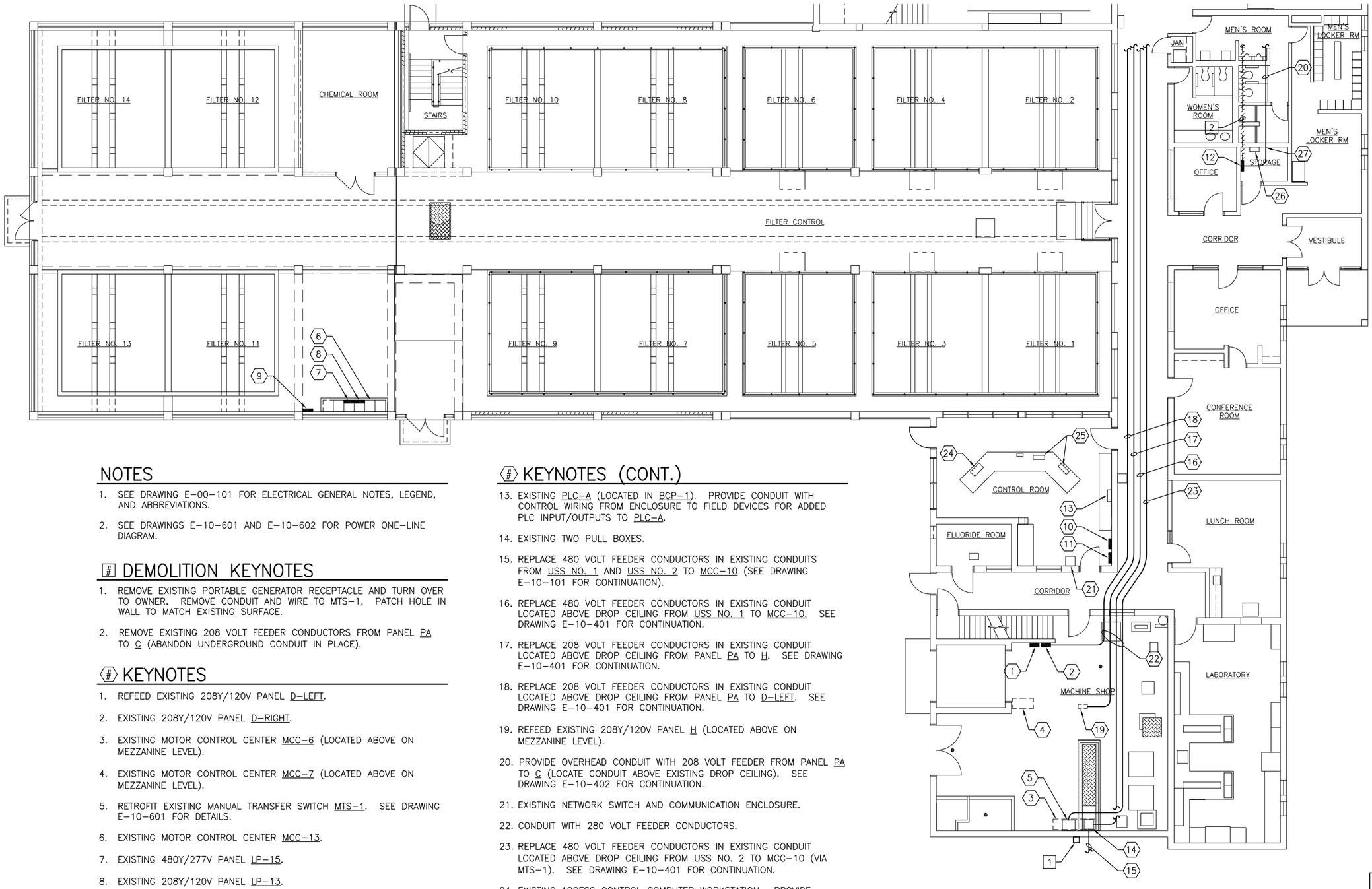
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY ENLARGED FIRST FLOOR POWER PLAN

PROJECT No.
00130014

DRAWING No.
E-10-402

SHEET 057 OF 088 SHEETS



NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE DRAWINGS E-10-601 AND E-10-602 FOR POWER ONE-LINE DIAGRAM.

DEMOLITION KEYNOTES

1. REMOVE EXISTING PORTABLE GENERATOR RECEPTACLE AND TURN OVER TO OWNER. REMOVE CONDUIT AND WIRE TO MTS-1. PATCH HOLE IN WALL TO MATCH EXISTING SURFACE.
2. REMOVE EXISTING 208 VOLT FEEDER CONDUCTORS FROM PANEL PA TO C (ABANDON UNDERGROUND CONDUIT IN PLACE).

KEYNOTES

1. REFEED EXISTING 208Y/120V PANEL D-LEFT.
2. EXISTING 208Y/120V PANEL D-RIGHT.
3. EXISTING MOTOR CONTROL CENTER MCC-6 (LOCATED ABOVE ON MEZZANINE LEVEL).
4. EXISTING MOTOR CONTROL CENTER MCC-7 (LOCATED ABOVE ON MEZZANINE LEVEL).
5. RETROFIT EXISTING MANUAL TRANSFER SWITCH MTS-1. SEE DRAWING E-10-601 FOR DETAILS.
6. EXISTING MOTOR CONTROL CENTER MCC-13.
7. EXISTING 480Y/277V PANEL LP-15.
8. EXISTING 208Y/120V PANEL LP-13.
9. EXISTING 208Y/120V PANEL LP-12B.
10. EXISTING 208Y/120V PANEL LP-12A.
11. EXISTING 208Y/120V PANEL LP-12.
12. REFEED EXISTING 208Y/120V PANEL C. REMOVE PART OF CMU WALL ABOVE DROP CEILING TO INSTALL CONDUIT DOWN CORE IN CMU TO EXISTING PANEL. INSTALL BREAKERS AS REQUIRED FOR TEMPORARY POWER TO CONSTRUCTION TRAILERS.
13. EXISTING PLC-A (LOCATED IN BCP-1). PROVIDE CONDUIT WITH CONTROL WIRING FROM ENCLOSURE TO FIELD DEVICES FOR ADDED PLC INPUT/OUTPUTS TO PLC-A.
14. EXISTING TWO PULL BOXES.
15. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING CONDUITS FROM USS NO. 1 AND USS NO. 2 TO MCC-10 (SEE DRAWING E-10-101 FOR CONTINUATION).
16. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING CONDUIT LOCATED ABOVE DROP CEILING FROM USS NO. 1 TO MCC-10. SEE DRAWING E-10-401 FOR CONTINUATION.
17. REPLACE 208 VOLT FEEDER CONDUCTORS IN EXISTING CONDUIT LOCATED ABOVE DROP CEILING FROM PANEL PA TO H. SEE DRAWING E-10-401 FOR CONTINUATION.
18. REPLACE 208 VOLT FEEDER CONDUCTORS IN EXISTING CONDUIT LOCATED ABOVE DROP CEILING FROM PANEL PA TO D-LEFT. SEE DRAWING E-10-401 FOR CONTINUATION.
19. REFEED EXISTING 208Y/120V PANEL H (LOCATED ABOVE ON MEZZANINE LEVEL).
20. PROVIDE OVERHEAD CONDUIT WITH 208 VOLT FEEDER FROM PANEL PA TO C (LOCATE CONDUIT ABOVE EXISTING DROP CEILING). SEE DRAWING E-10-402 FOR CONTINUATION.
21. EXISTING NETWORK SWITCH AND COMMUNICATION ENCLOSURE.
22. CONDUIT WITH 280 VOLT FEEDER CONDUCTORS.
23. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING CONDUIT LOCATED ABOVE DROP CEILING FROM USS NO. 2 TO MCC-10 (VIA MTS-1). SEE DRAWING E-10-401 FOR CONTINUATION.
24. EXISTING ACCESS CONTROL COMPUTER WORKSTATION. PROVIDE PROGRAMMING AND GRAPHIC MODIFICATIONS AS REQUIRED TO INCORPORATE NEW SURVEILLANCE CAMERA AND CHANGES MADE TO ACCESS CONTROL SYSTEM.
25. EXISTING OPERATOR WORKSTATION.
26. EXISTING ACCESS CONTROL NETWORK CONTROLLER NC-3.
27. CORE EXISTING CMU WALL FOR CONDUIT.

1 FIRST FLOOR POWER PLAN (ELEV. 99.0)

0 2' 4' 8' 16'

KEY PLAN
NO SCALE

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

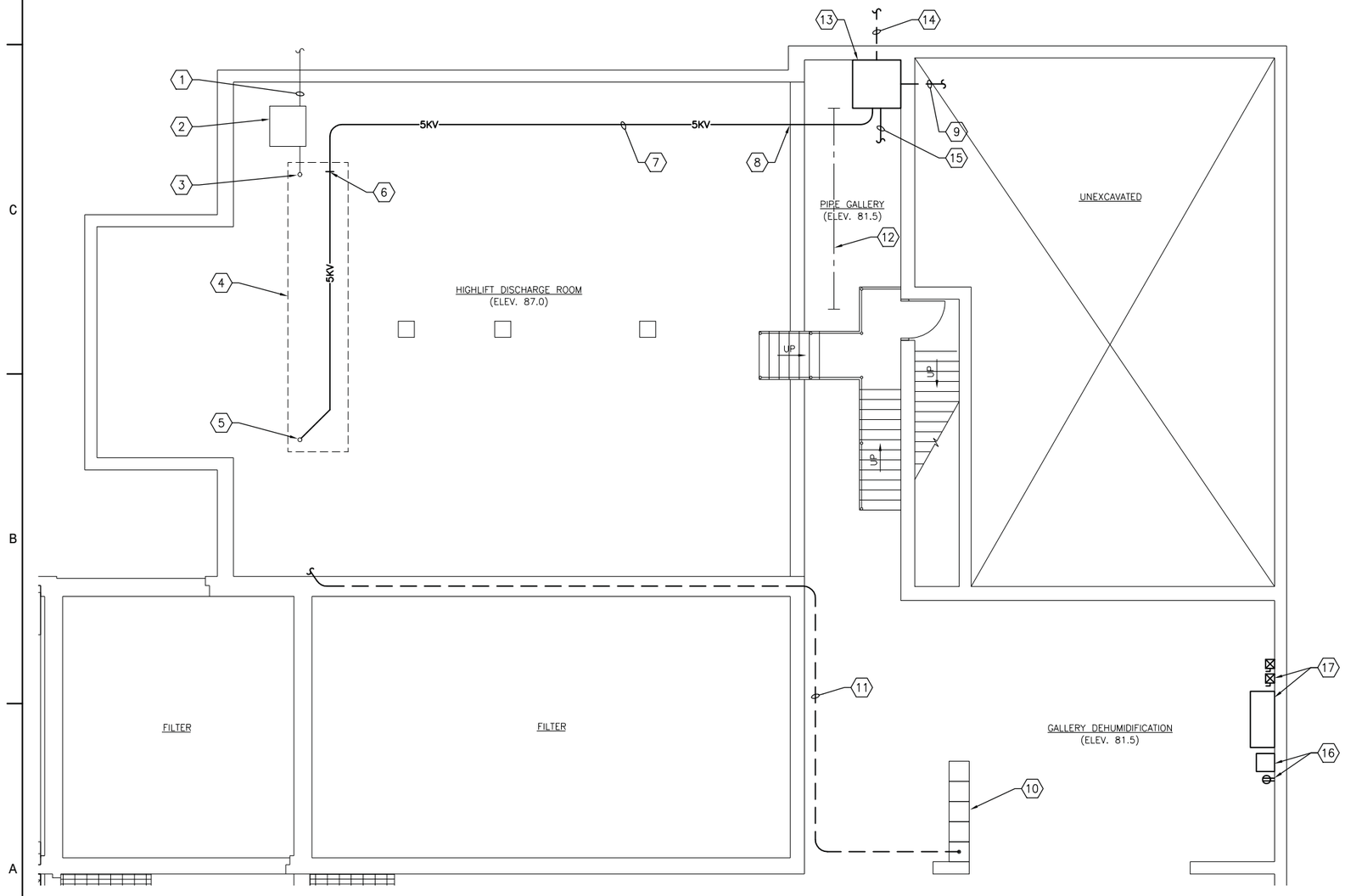
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY FIRST FLOOR POWER PLAN

PROJECT No.
O0130014

DRAWING No.
E-10-403

SHEET 058 OF 088 SHEETS



1 LOWER LEVEL POWER PLAN

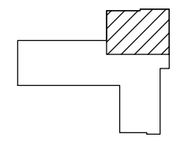
0 2' 4' 8' 12'

NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE DRAWING E-10-601 AND E-10-602 FOR POWER ONE-LINE DIAGRAM.
3. SEE DRAWING E-30-101 FOR EQUIPMENT CONNECTION SCHEDULE.

KEYNOTES

1. EXISTING CONDUITS WITH 5 KV SERVICE LATERAL CABLES FROM XFMR-3B EAST TO 2.4 KV SWITCHGEAR. SEE DRAWING E-10-401 FOR CONTINUATION.
2. EXISTING PULLBOX.
3. EXISTING CONDUITS WITH 5 KV SERVICE LATERAL CABLES THRU FLOOR UP TO 2.4 KV SWITCHGEAR.
4. EXISTING 2.4 KV SWITCHGEAR (LOCATED ABOVE ON FIRST FLOOR).
5. EXISTING 4" CONDUITS WITH NEW 5 KV CABLES FEEDING THRU FLOOR UP TO 2.4 KV SWITCHGEAR.
6. SPLICE NEW 4" CONDUITS TO EXISTING 4" CONDUITS. PROVIDE 5 KV CABLES FROM ATS-101 TO 2.4 KV SWITCHGEAR.
7. PROVIDE (2) 4" CONDUITS WITH 5 KV CABLES FROM 2.4 KV SWITCHGEAR TO ATS-101. CONDUITS SHALL BE MOUNTED AS CLOSE TO CEILING AS POSSIBLE AVOIDING EXISTING PROCESS PIPING.
8. CORE CONCRETE WALL FOR CONDUITS.
9. PROVIDE UNDERGROUND CONDUITS TO ATS-101. SEE DRAWING E-10-402 FOR CONTINUATION.
10. REFEED EXISTING MOTOR CONTROL CENTER MCC-8. SEE DRAWING E-10-703 FOR DETAILS.
11. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING CONDUIT FROM USS NO. 1 TO MCC-8. SEE DRAWING E-10-401 FOR CONTINUATION.
12. EXISTING HOIST BEAM (NEW CONDUITS SHALL BE LOCATED ABOVE BEAM).
13. PROVIDE 48"W x 48"L x 20"D PULLBOX WITH SCREW ON COVER LOCATED ON BOTTOM SIDE (MOUNT PULLBOX TIGHT TO CEILING AND HOLD OFF NORTH WALL 6"). CONDUITS SHALL CONNECT TO PULLBOX TO ALLOW PROPER BENDING RADIUS FOR NEW AND FUTURE 5 KV CABLES.
14. LAYOUT PULLBOX FOR FUTURE INSTALLATION OF (3) 4" CONDUITS FOR 5 KV CABLES. SEE KENOTE 13.
15. PROVIDE 1" PVC CONDUIT WITH GROUNDING ELECTRODE CONDUCTOR TO EXISTING WATER PIPE.
16. PROVIDE DUPLEX RECEPTACLE FOR AIR DRYER (MOUNTED AT 48" AFF) AND FED FROM SPARE 20 AMP CIRCUIT BREAKER IN PANEL B-RIGHT ON UPPER LEVEL.
17. PROVIDE ELECTRICAL CONNECTION TO (2) RELOCATED COMBINATION STARTERS FOR AIR COMPRESSOR AC-101 FROM UPPER LEVEL.



KEY PLAN
NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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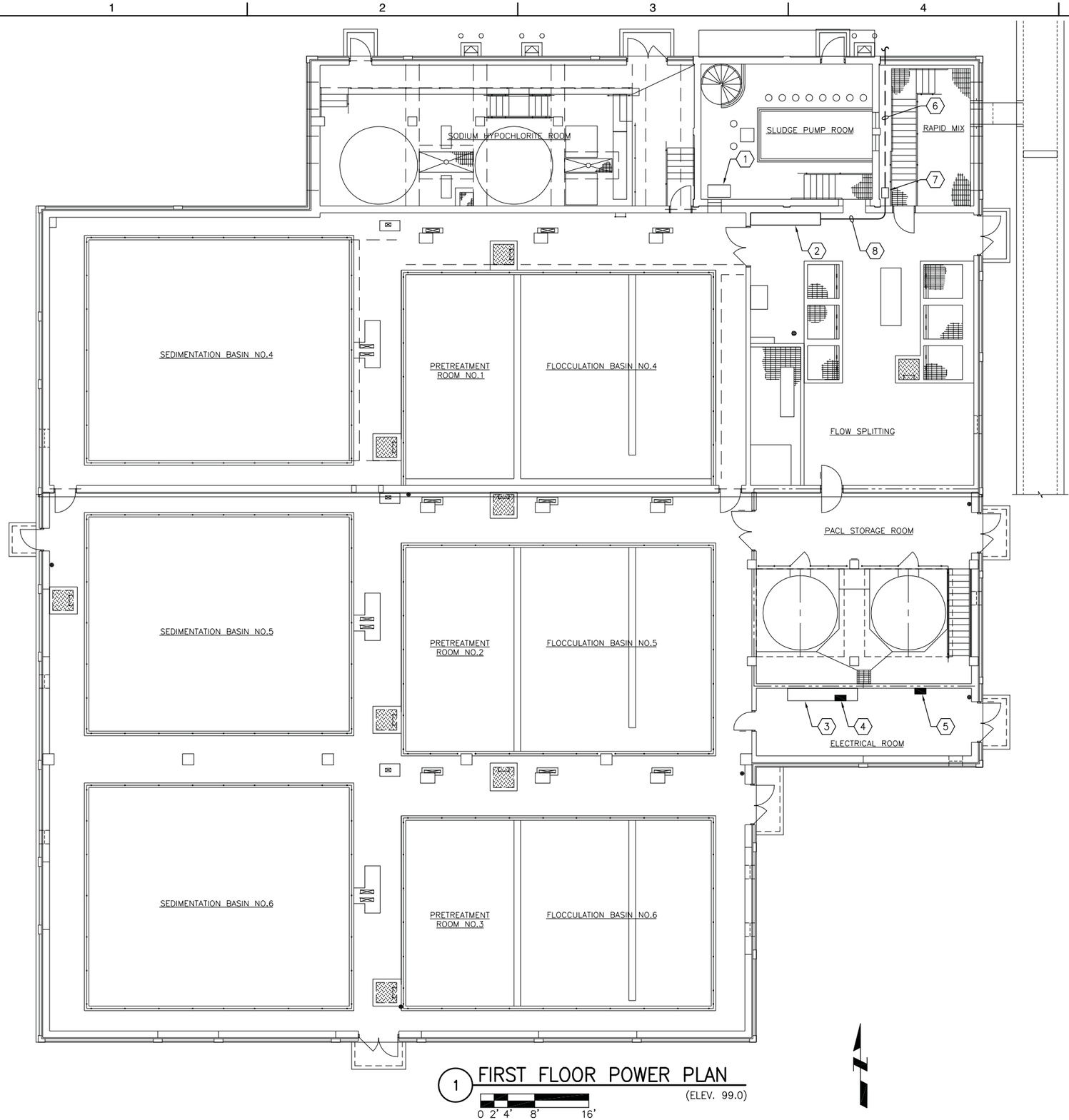
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND
FILTRATION FACILITY
LOWER LEVEL POWER PLAN

PROJECT No.
O0130014

DRAWING No.
E-10-404

SHEET 059 OF 088 SHEETS



1 FIRST FLOOR POWER PLAN
(ELEV. 99.0)

0 2' 4' 8' 16'

NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE DRAWINGS E-10-601 AND E-10-602 FOR POWER ONE-LINE DIAGRAM.

(#) KEYNOTES

1. EXISTING MOTOR CONTROL CENTER MCC-9.
2. REFEED EXISTING MOTOR CONTROL CENTER MCC-10.
3. EXISTING MOTOR CONTROL CENTER MCC-14.
4. EXISTING 208Y/120V PANEL LP-14.
5. EXISTING 208Y/120V PANEL LP-14A.
6. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING UNDERGROUND OR CONCEALED CONDUIT FROM USS NO. 1 AND USS NO. 2 TO MCC-10 (SEE DRAWING E-10-101 FOR CONTINUATION).
7. EXISTING PULLBOX.
8. REPLACE 480 VOLT FEEDER CONDUCTORS IN EXISTING CONDUITS FROM USS NO. 1 AND USS NO. 2 TO MCC-10.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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

DATE	REVISION
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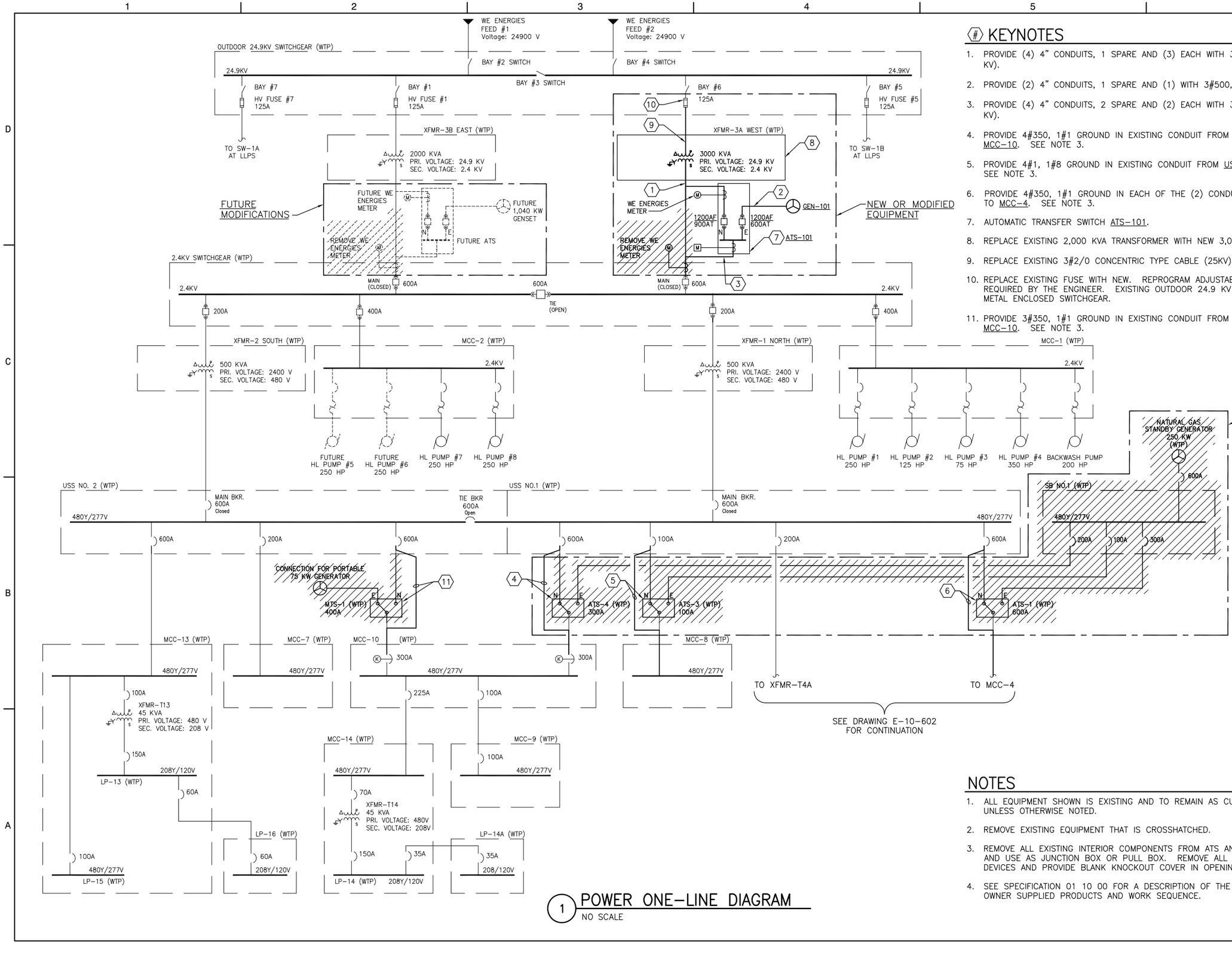
DRAWING TITLE
PRETREATMENT FACILITY FIRST FLOOR POWER PLAN

PROJECT No.
O0130014

DRAWING No.
E-10-501

SHEET 060 OF 088 SHEETS



KEYNOTES

1. PROVIDE (4) 4" CONDUITS, 1 SPARE AND (3) EACH WITH 3#500, 1#3/0 G (5 KV).
2. PROVIDE (2) 4" CONDUITS, 1 SPARE AND (1) WITH 3#500, 1#3/0 G (5 KV).
3. PROVIDE (4) 4" CONDUITS, 2 SPARE AND (2) EACH WITH 3#500, 1#3/0 G (5 KV).
4. PROVIDE 4#350, 1#1 GROUND IN EXISTING CONDUIT FROM USS NO. 1 TO MCC-10. SEE NOTE 3.
5. PROVIDE 4#1, 1#8 GROUND IN EXISTING CONDUIT FROM USS NO. 1 TO MCC-8. SEE NOTE 3.
6. PROVIDE 4#350, 1#1 GROUND IN EACH OF THE (2) CONDUITS FROM USS NO. 1 TO MCC-4. SEE NOTE 3.
7. AUTOMATIC TRANSFER SWITCH ATS-101.
8. REPLACE EXISTING 2,000 KVA TRANSFORMER WITH NEW 3,000 KVA TRANSFORMER.
9. REPLACE EXISTING 3#2/0 CONCENTRIC TYPE CABLE (25KV) WITH NEW.
10. REPLACE EXISTING FUSE WITH NEW. REPROGRAM ADJUSTABLE SETTINGS AS REQUIRED BY THE ENGINEER. EXISTING OUTDOOR 24.9 KV SWITCHGEAR IS S&C METAL ENCLOSED SWITCHGEAR.
11. PROVIDE 3#350, 1#1 GROUND IN EXISTING CONDUIT FROM USS NO. 2 TO MCC-10. SEE NOTE 3.

NOTES

1. ALL EQUIPMENT SHOWN IS EXISTING AND TO REMAIN AS CURRENTLY INSTALLED, UNLESS OTHERWISE NOTED.
2. REMOVE EXISTING EQUIPMENT THAT IS CROSSHATCHED.
3. REMOVE ALL EXISTING INTERIOR COMPONENTS FROM ATS AND MTS ENCLOSURE AND USE AS JUNCTION BOX OR PULL BOX. REMOVE ALL COVER MOUNTED DEVICES AND PROVIDE BLANK KNOCKOUT COVER IN OPENINGS.
4. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF THE WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.

1 POWER ONE-LINE DIAGRAM

NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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

DATE	REVISION
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DRAWING TITLE
WATER TREATMENT PLANT POWER ONE-LINE DIAGRAM

PROJECT No.
O0130014

DRAWING No.
E-10-601

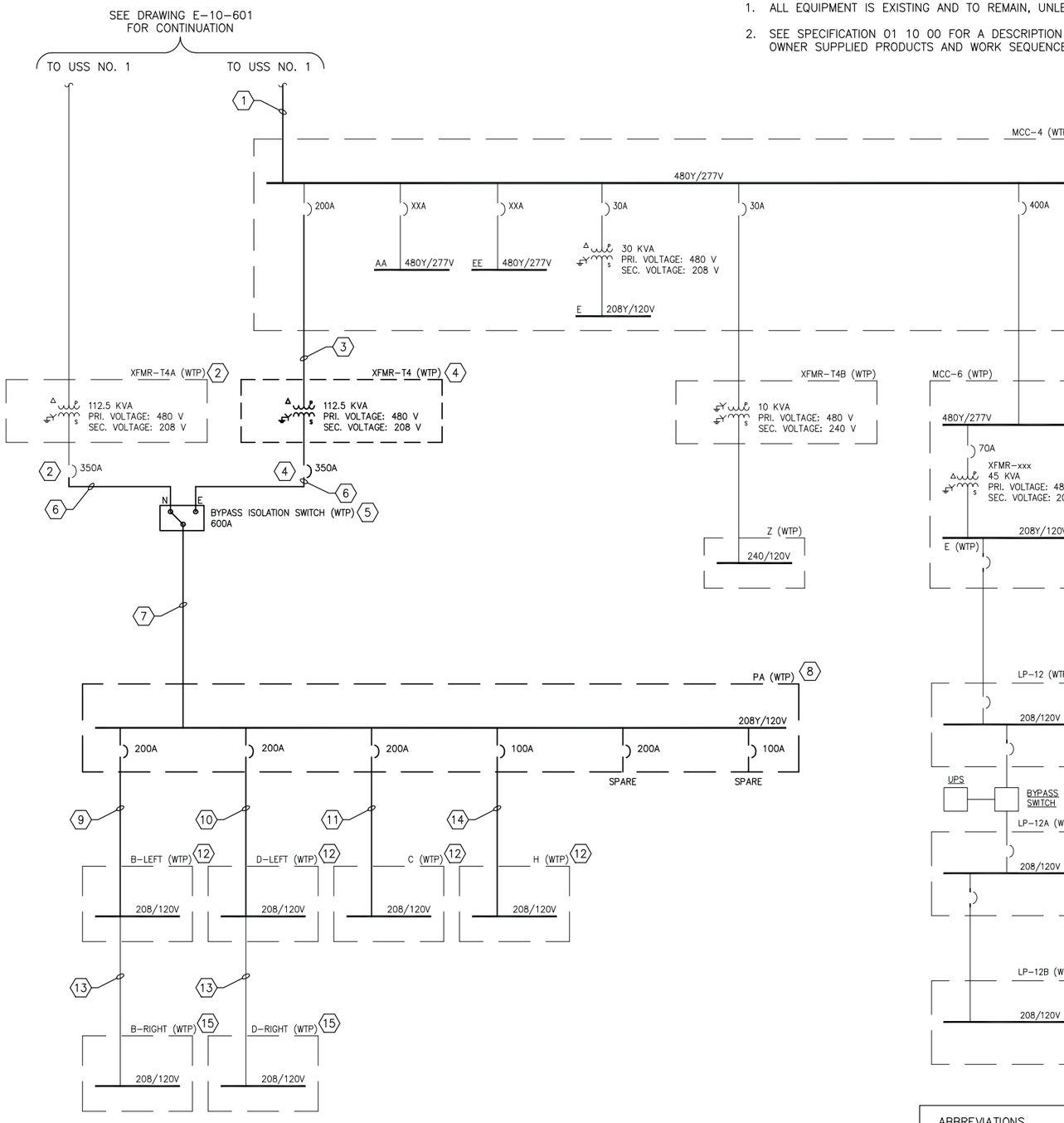
SHEET 061 OF 088 SHEETS

NOTES

1. ALL EQUIPMENT IS EXISTING AND TO REMAIN, UNLESS OTHERWISE NOTED.
2. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF THE WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.

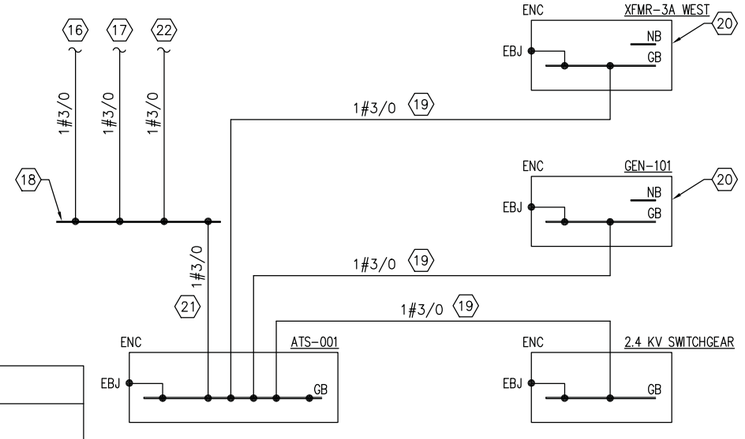
(#) KEYNOTES

1. PROVIDE 3#350, 1#1 GROUND IN EACH OF THE (2) CONDUITS FROM USS NO. 1 TO MCC-4.
2. EXISTING XFMR-T4A AND CIRCUIT BREAKER TO REMAIN.
3. REPLACE EXISTING 480V FEEDER WITH 3#3/0, 1#6 GROUND FROM MCC-4 TO XFMR-T4 (REUSE EXISTING CONDUIT AND EXTEND AS REQUIRED).
4. RELOCATE EXISTING XFMR-T4 AND CIRCUIT BREAKER.
5. RELOCATE EXISTING BYPASS ISOLATION SWITCH.
6. REPLACE EXISTING 208 VOLT FEEDER WITH OVERHEAD 3 1/2" CONDUIT WITH 4#500, 1#3 GROUND.
7. REMOVE EXISTING 208 VOLT FEEDER CABLES FROM BYPASS ISOLATION SWITCH TO PA (ABANDON IN PLACE UNDERGROUND CONDUITS). PROVIDE OVERHEAD 3 ½" CONDUIT WITH 4#500, 1#3 GROUND.
8. REPLACE EXISTING 208Y/120V PANEL PA. PANEL SHALL BE 600A MLO, 3ø, 4W, 208Y/120V, 42 KAIC RATED, NEMA 1 SURFACE MOUNTED ENCLOSURE. PROVIDE 3 POLE CIRCUIT BREAKERS AS INDICATED.
9. REPLACE EXISTING 208 VOLT FEEDER WITH OVERHEAD 2" CONDUIT WITH 4#3/0, 1#6 GROUND FROM PA TO B-LEFT.
10. REPLACE EXISTING 208 VOLT FEEDER WITH 4#3/0, 1#6 GROUND FROM PA TO D-LEFT (REUSE EXISTING 2 1/2" CONDUIT AND EXTEND AS REQUIRED).
11. REPLACE EXISTING 208 VOLT FEEDER WITH OVERHEAD 2" CONDUIT WITH 4#3/0, 1#6 GROUND FROM PA TO C.
12. REFEED EXISTING PANEL.
13. EXISTING 208V FEEDER TO REMAIN.
14. REPLACE EXISTING 208 VOLT FEEDER WITH 4#1, 1#8 GROUND FROM PA TO H (REUSE EXISTING 2 1/2" CONDUIT AND EXTEND AS REQUIRED).
15. EXISTING PANEL TO REMAIN.
16. BOND TO EXISTING GROUND GRID WITH EXOTHERMIC WELD.
17. BOND TO WATER PIPE WITH GROUND CLAMP.
18. PROVIDE COPPER GROUND BAR (LOCATED ON EAST WALL OF ELECTRICAL ROOM).
19. EQUIPMENT GROUND CONDUCTOR INSTALLED IN CONDUIT WITH PHASE CONDUCTORS.
20. DO NOT BOND NEUTRAL BUS TO GROUND BUS AT GENERATOR OR AT TRANSFORMER.
21. GROUNDING ELECTRODE CONDUCTOR IN 1" PVC CONDUIT.
22. BOND TO REBAR IN ELECTRICAL AND MECHANICAL ROOMS CONCRETE FLOOR.



1 POWER ONE-LINE DIAGRAM
NO SCALE

ABBREVIATIONS
EBJ – ENCLOSURE BONDING JUMPER
ENC – ENCLOSURE
GB – GROUND BUS
NB – NEUTRAL BUS



2 GROUNDING ONE-LINE DIAGRAM
NO SCALE

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OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
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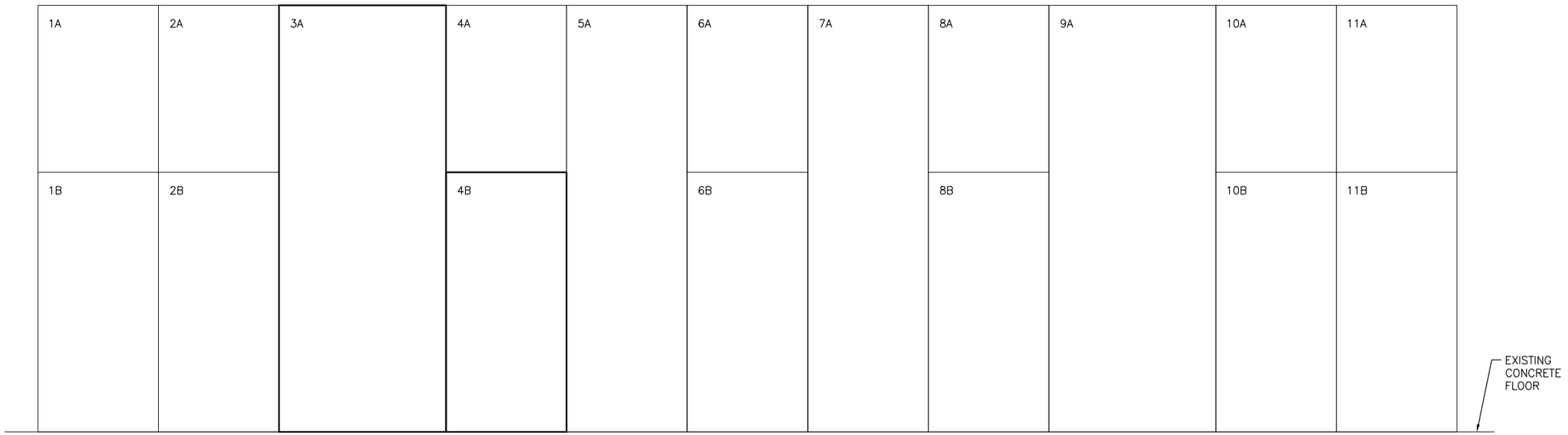
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
WATER TREATMENT PLANT POWER AND GROUNDING ONE-LINE DIAGRAMS

PROJECT No.
O0130014

DRAWING No.
E-10-602

SHEET 062 OF 088 SHEETS



1 EXISTING 2.4KV SWITCHGEAR ELEVATION
NO SCALE

2.4KV SWITCHGEAR SCHEDULE

CUBICLE	DESCRIPTION	MODIFICATIONS
1A	FEEDER NO. 1 METERING COMPARTMENT UNIT SUBSTATION NO. 1 (NORTH)	
1B	FEEDER NO. 1	
2A	FEEDER NO. 2 METERING COMPARTMENT MCC–1	
2B	FEEDER NO. 2	
3A	WEPCO METERING COMPARTMENT	SEE NOTE 2
4A	INCOMING LINE NO. 1 METERING COMPARTMENT	
4B	INCOMING LINE NO. 1	SEE NOTE 3
5A	AUXILIARY CUBICLE	
6A	TIE COMPARTMENT	
6B	TIE CIRCUIT BREAKER	
7A	AUXILIARY CUBICLE	
8A	INCOMING LINE NO. 2 METERING COMPARTMENT	
8B	INCOMING LINE NO. 2	
9A	WEPCO METERING COMPARTMENT	
10A	FEEDER NO. 3 METERING COMPARTMENT UNIT SUBSTATION NO. 2 (SOUTH)	
10B	FEEDER NO. 3 UNIT SUBSTATION NO. 2 (SOUTH)	
11A	FEEDER NO. 4 METERING COMPARTMENT MCC–2	
11B	FEEDER NO. 4 MCC–2	

2.4KV SWITCHGEAR NOTES:

1. EXISTING 2.4 KV SWITCHGEAR IS A GE HORIZONTAL DRAW OUT METAL CLAD SWITCHGEAR, 2400 VOLT, 3 PHASE, 3 WIRE. SEE DRAWING E–10–601 FOR ADDITIONAL INFORMATION.
2. COORDINATE WITH WE ENERGIES ON REMOVAL OF EXISTING WE ENERGIES CTS/PTS. DISCONNECT AND REMOVE CONTROL WIRING FROM CTS/PTS TO REMOVE METER SOCKET (COORDINATE WORK WITH WE ENERGIES). REPLACE NAMEPLATE INDICATING "ABANDONED INCOMING LINE NO. 1 METERING COMPARTMENT".
3. DISCONNECT EXISTING 5 KV CABLES FROM XFMR–3A WEST AND CONNECT NEW 5 KV CABLES FROM ATS–101.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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

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3/21/11	ISSUED FOR CONST.
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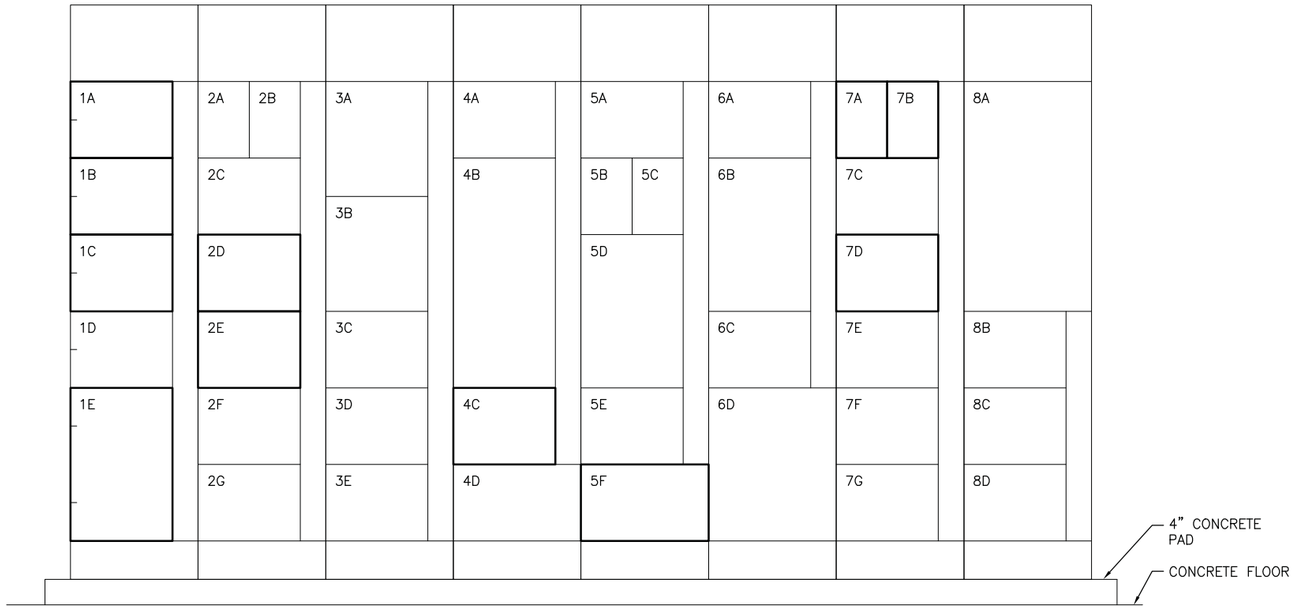
DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY
2.4 KV SWITCHGEAR SCHEDULE AND ELEVATION

PROJECT No.
O0130014

DRAWING No.
E-10-701

SHEET 063 OF 088 SHEETS



1 MCC–4 ELEVATION
NO SCALE

MCC–4 SCHEDULE

CUBICLE	DESCRIPTION	MODIFICATIONS
1A	SPACE	SEE NOTE 9
1B	SPACE	SEE NOTE 10
1C	SPACE	SEE NOTE 11
1D	SPACE	
1E	NORMAL POWER TRANSFORMER T–4	SEE NOTE 2
2A	CRANE DISCONNECT SWITCH K	
2B	FOUNTAIN TRANSFORMER	
2C	SPACE	
2D	KATHABAR HEAT CIRCULATING PUMP	SEE NOTE 12
2E	M–92 PUMP NO. 3	SEE NOTE 3
2F	SPARE STARTER	
2G	SPARE STARTER	
3A	M–70 RECLAIMED WATER PUMP NO. 1	
3B	M–71 RECLAIMED WATER PUMP NO. 2	
3C	M–95 AXIVANE FAN NO. 1	
3D	SPACE	
3E	SPACE	
4A	PANEL AA MAIN CIRCUIT BREAKER	
4B	PANEL AA	
4C	WELDER OUTLET	SEE NOTE 4
4D	INCOMING LINE FROM CUBICLE 5F	

CUBICLE	DESCRIPTION	MODIFICATIONS
5A	SPACE	
5B	SPACE	
5C	PANEL EE MAIN CIRCUIT BREAKER	
5D	LIGHTING PANEL EE	
5E	SPACE	
5F	INCOMING LINE FROM GENERATOR TRANSFER SWITCH	SEE NOTE 5
6A	SPACE	
6B	LIGHTING PANEL E	
6C	LIGHTING XFMR CIRCUIT BREAKER	
6D	30KVA LIGHTING XFMR	
7A	M–93 AIR COMPRESSOR	SEE NOTE 6
7B	M–94 BOILER MOTOR	SEE NOTE 7
7C	M–46 SUMP PUMP NO. 1	
7D	M–91 PUMP NO. 2	SEE NOTE 8
7E	M–96 AXIVANE FAN NO. 2	
7F	SPACE	
7G	SPACE	
8A	MCC NO. 6 FEEDER BREAKER	
8B	SPACE	
8C	SPACE	
8D	SPACE	

MCC–4 NOTES:

1. EXISTING MCC–4 IS AN ALLIS–CHALMERS MCC, 480 VOLT, 3 PHASE, 4 WIRE. SEE DRAWINGS E–10–601 AND E–10–602 FOR ADDITIONAL INFORMATION.
2. REPLACE 480 VOLT FEEDER TO XFMR–T4.
3. REUSE M–92 PUMP NO. 3 COMBINATION STARTER TO FEED HWP–103. REPLACE THERMAL OVERLOADS AS REQUIRED. REPLACE NAMEPLATE INDICATING "HEATING WATER PUMP HWP–103".
4. ABANDON EXISTING BREAKER FEEDING WELDER OUTLET IN PLACE. REPLACE LABEL INDICATING "SPARE".
5. REPLACE 480 VOLT FEEDER FROM USS NO. 1 TO MAIN LUGS. PROVIDE TEMPORARY 480 VOLT FEED FROM USS NO. 1 DURING REPLACEMENT OF FEEDER. REPLACE NAMEPLATE INDICATING "INCOMING LINE FROM USS NO. 1".
6. ABANDON EXISTING BREAKER FEEDING M–93 AIR COMPRESSOR IN PLACE. REPLACE LABEL INDICATING "SPARE".
7. ABANDON EXISTING BREAKER FEEDING M–94 BOILER MOTOR IN PLACE. REPLACE LABEL INDICATING "SPARE".
8. REUSE M–91 PUMP NO. 2 COMBINATION STARTER TO FEED HWP–102. REPLACE THERMAL OVERLOADS AS REQUIRED. REPLACE NAMEPLATE INDICATING "HEATING WATER PUMP HWP–102".
9. PROVIDE SIZE 1 COMBINATION STARTER IN EXISTING SPACE FOR EF–101.
10. PROVIDE SIZE 1 COMBINATION STARTER IN EXISTING SPACE FOR EF–102.
11. PROVIDE SIZE 1 COMBINATION STARTER IN EXISTING SPACE FOR EF–103.
12. REUSE KATHABAR HEAT CIRCULATING PUMP COMBINATION STARTER TO FEED HWP–101. REPLACE THERMAL OVERLOAD AS REQUIRED. REPLACE NAMEPLATE INDICATING "HEATING WATER PUMP HWP–101 (KATHABAR)".

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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

DATE	REVISION
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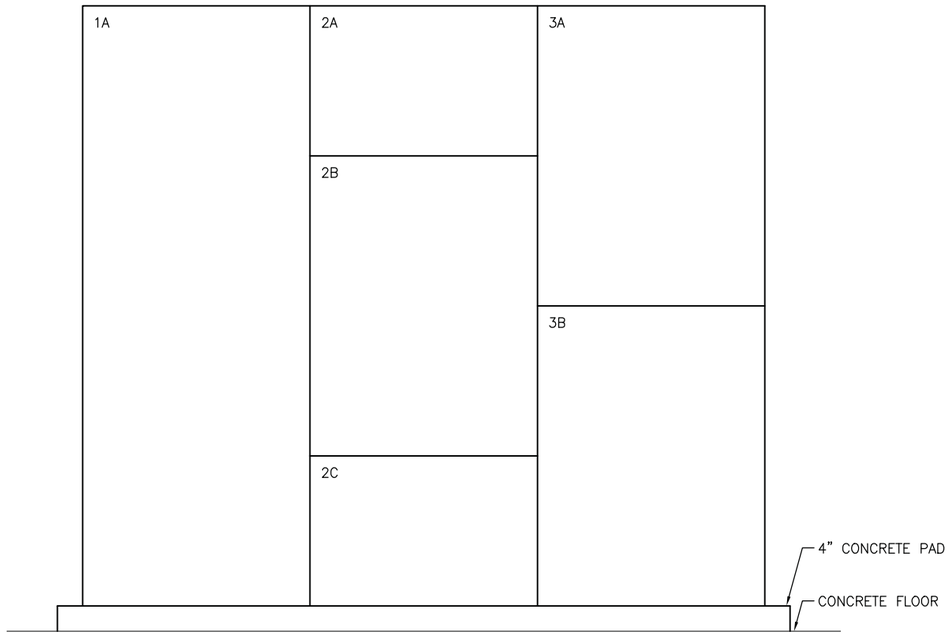
DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY MCC-4 SCHEDULE AND ELEVATION

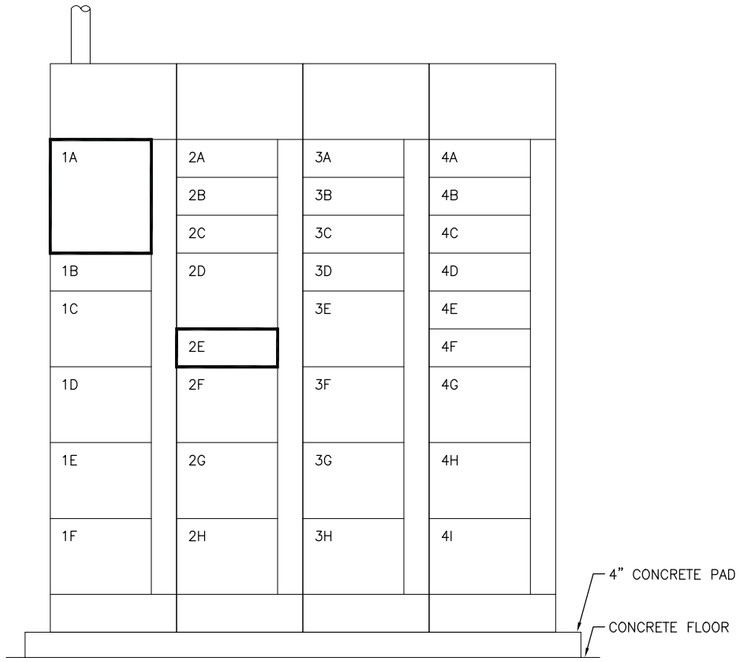
PROJECT No.
O0130014

DRAWING No.
E-10-702

SHEET 064 OF 088 SHEETS



1 ATS–101 ELEVATION
NO SCALE



2 MCC–8 ELEVATION
NO SCALE

ATS–101 SCHEDULE

CUBICLE	DESCRIPTION
1A	WE ENERGIES METERING COMPARTMENT
2B	UTILITY PT COMPARTMENT
2B	TRANSFER SWITCH CONTROLS AND METERING
2C	GENERATOR PT COMPARTMENT
3A	UTILITY BREAKER
3B	GENERATOR BREAKER

ATS–101 NOTES:
1. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS.

MCC–8 SCHEDULE

CUBICLE	DESCRIPTION	MODIFICATIONS
1A	MAIN LUGS	SEE NOTE 3
1B	SPACE	
1C	M–47 SUMP PUMP 2	
1D	M–106 SAMPLE PUMP	
1E	FIC SAMPLE PUMP	
1F	SPACE	
2A	KATHABAR FEEDER	
2B	FV–5–16–1	
2C	FV–5–16–2	
2D	RESERVOIR SAMPLE PUMP	
2E	SPACE	SEE NOTE 2
2F	SPACE	
2G	SPACE	
2H	SPACE	
3A	FILTER #7 VALVES	
3B	FILTER #8 VALVES	
3C	FILTER #9 VALVES	
3D	FILTER #10 VALVES	
3E	SLUDGE PUMP #1 SOUTH	
3F	SPARE STARTER	
3G	SPARE STARTER	
3H	FILTER TO WASTE #8 EAST	
4A	FILTER #1 VALVES	
4B	FILTER #2 VALVES	
4C	FILTER #3 VALVES	
4D	FILTER #4 VALVES	
4E	FILTER #5 VALVES	
4F	FILTER #6 VALVES	
4G	SPARE	
4H	BLANK	
4I	BLANK	

MCC–8 NOTES:
1. EXISTING MCC–8 IS A GE 8000 LINE MCC, 480V, 3 PHASE, 4 WIRE.
2. ADD 30A, 3 POLE CIRCUIT BREAKER IN EXISTING SPACE TO FEED RELOCATED AIR COMPRESSOR AC–101 COMBINATION STARTERS.
3. REPLACE 480 VOLT FEEDER FROM USS NO. 1 TO MAIN LUGS. PROVIDE TEMPORARY 480 VOLT FEED FROM USS NO. 1 DURING REPLACEMENT OF FEEDER.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: SEM
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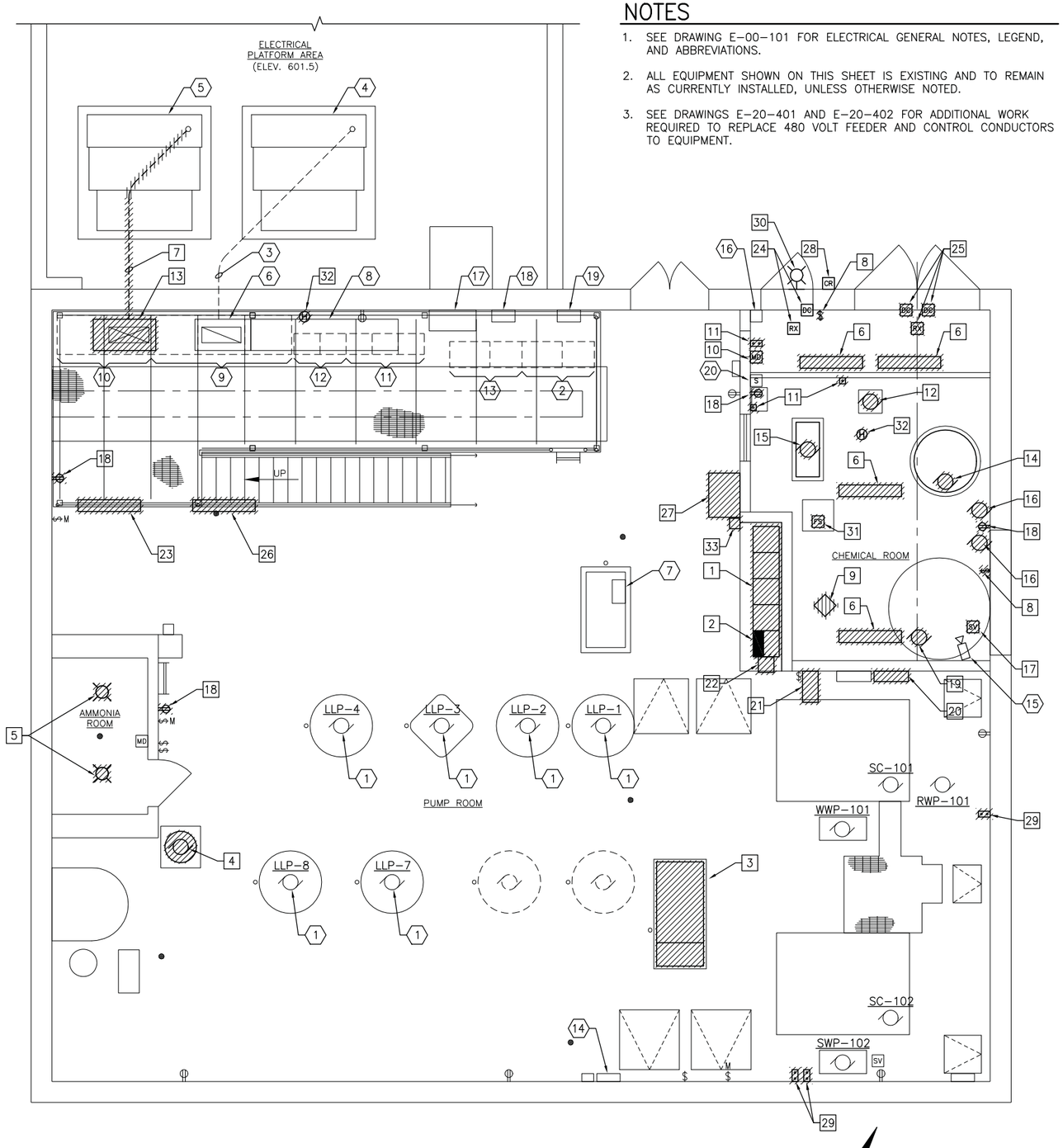
DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY
ATS-101 AND MCC-8
SCHEDULE AND ELEVATION

PROJECT No.
O0130014

DRAWING No.
E-10-703

SHEET 065 OF 088 SHEETS



1 FIRST FLOOR ELECTRICAL DEMOLITION PLAN

(ELEV. 12.0)

0 1' 2' 4' 8'

NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. ALL EQUIPMENT SHOWN ON THIS SHEET IS EXISTING AND TO REMAIN AS CURRENTLY INSTALLED, UNLESS OTHERWISE NOTED.
3. SEE DRAWINGS E-20-401 AND E-20-402 FOR ADDITIONAL WORK REQUIRED TO REPLACE 480 VOLT FEEDER AND CONTROL CONDUCTORS TO EQUIPMENT.

DEMOLITION KEYNOTES

1. REPLACE EXISTING MCC-2 AND MCC-3. CUT OFF ALL UNDERGROUND CONDUITS AT FLOOR. REMOVE (2) BUCKETS FROM MCC AND TURN OVER TO OWNER.
2. REPLACE EXISTING 208Y/120V PANEL A.
3. REMOVE EXISTING NATURAL GAS STANDBY GENERATOR.
4. REPLACE ELECTRICAL CONNECTED TO EXISTING AIR COMPRESSOR.
5. REMOVE EXISTING INCANDESCENT LIGHT FIXTURE.
6. REMOVE EXISTING 4' FLUORESCENT LIGHT FIXTURE.
7. REPLACE EXISTING 480 VOLT SERVICE LATERAL CABLES FROM XFMR-1B (EXISTING UNDERGROUND CONDUITS TO REMAIN).
8. REMOVE EXISTING LIGHT SWITCH.
9. REMOVE ELECTRICAL CONNECTED TO EXISTING GAS UNIT HEATER.
10. REMOVE ELECTRICAL CONNECTED TO EXISTING MOTORIZED DAMPER.
11. REMOVE EXISTING CONTROL STATION.
12. REMOVE ELECTRICAL CONNECTED TO EXISTING EDUCTOR PUMP.
13. REMOVE EXISTING PULLBOX LOCATED BELOW MSWB-1B.
14. REMOVE ELECTRICAL CONNECTED TO EXISTING MIX TANK AGITATOR.
15. REMOVE ELECTRICAL CONNECTED TO EXISTING RAW WATER SUPPLY BOOSTER PUMP.
16. REMOVE ELECTRICAL CONNECTED TO EXISTING CHEMICAL METERING PUMP.
17. REMOVE ELECTRICAL CONNECTED TO ABANDONED SOLENOID VALVE.
18. REMOVE EXISTING DUPLEX RECEPTACLE.
19. REMOVE ELECTRICAL CONNECTED TO EXISTING EXHAUST FAN NO. 6 (LOCATED ABOVE CHEMICAL ROOM).
20. REMOVE EXISTING CHLORINE DETECTOR PANEL.
21. REMOVE EXISTING GENERATOR ATS.
22. REPLACE EXISTING (3) LIGHTING CONTACTORS FOR OUTSIDE LIGHTS, INSIDE NORTH LIGHTS, INSIDE SOUTH LIGHTS.
23. REMOVE EXISTING 4' FLUORESCENT LIGHT FIXTURE (LOCATED ABOVE MEZZANINE).
24. RELOCATE EXISTING DOOR CONTACT, ELECTRIC STRIKE, AND REQUEST-TO-EXIT DEVICE.
25. REMOVE EXISTING DOOR CONTACT AND REQUEST-TO-EXIT DEVICE.
26. RELOCATE EXISTING 4' FLUORESCENT LIGHT FIXTURE (LOCATED ABOVE MEZZANINE).
27. REPLACE EXISTING PLC-G ENCLOSURE. REMOVE STEEL TROUGH BELOW ENCLOSURE AND CUT OFF CONDUITS AT FLOOR. REPLACE LOW TEMPERATURE SENSOR MOUNTED ON ENCLOSURE. REMOVE PLC AND TURN OVER TO OWNER.
28. RELOCATE EXISTING CARD READER.
29. REPLACE EXISTING LOCAL CONTROL STATION.
30. RELOCATE EXISTING HID LIGHT FIXTURE.
31. REMOVE EXISTING SUMP PIT FLOAT.
32. REPLACE EXISTING HIGH TEMPERATURE SENSOR.
33. REPLACE EXISTING LOW TEMPERATURE SENSOR.

KEYNOTES

1. EXISTING LOW LIFT PUMP TO REMAIN.
2. EXISTING LOW LIFT PUMP NO. 7 VFD (LOCATED ABOVE ON MEZZANINE) TO REMAIN.
3. EXISTING 480 VOLT SERVICE LATERAL CABLES IN UNDERGROUND CONDUITS FROM XFMR-1A TO REMAIN.
4. EXISTING TRANSFORMER XFMR-1A TO REMAIN.
5. EXISTING TRANSFORMER XFMR-1B TO REMAIN.
6. EXISTING PULLBOX LOCATED BELOW MSWB-1A TO REMAIN.
7. EXISTING HORIZONTAL SHAFT NATURAL GAS PUMP AND CONTROL PANEL TO REMAIN.
8. EXISTING PULLBOX LOCATED BELOW MCC-1A AND MCC-1B TO REMAIN.
9. EXISTING MAIN SWITCHBOARD MSWB-1A (LOCATED ABOVE ON MEZZANINE) TO REMAIN.
10. REFEED EXISTING MAIN SWITCHBOARD MSWB-1B (LOCATED ABOVE ON MEZZANINE).
11. EXISTING MOTOR CONTROL CENTER MCC-1A (LOCATED ABOVE ON MEZZANINE) TO REMAIN.
12. EXISTING MOTOR CONTROL CENTER MCC-1B (LOCATED ABOVE ON MEZZANINE) TO REMAIN.
13. EXISTING LOW LIFT PUMP NO. 2 VFD (LOCATED ABOVE ON MEZZANINE) TO REMAIN.
14. EXISTING HORIZONTAL SHAFT NATURAL GAS PUMP AUTOMATIC CONTROL PANEL AND 3 PHASE UNDERVOLTAGE MONITOR TO REMAIN.
15. EXISTING SURVEILLANCE CAMERA TO REMAIN.
16. EXISTING JUNCTION BOX WITH READER MODULE FOR ACCESS CONTROL TO REMAIN.
17. EXISTING NETWORK SWITCH AND COMMUNICATION ENCLOSURE.
18. EXISTING TELEPHONE CABINET.
19. EXISTING ACCESS CONTROL NETWORK CONTROLLER NC-5 AND POWER SUPPLY PS-5.
20. EXISTING WALL MOUNTED INTERCOM SPEAKER TO REMAIN.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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

DATE	REVISION
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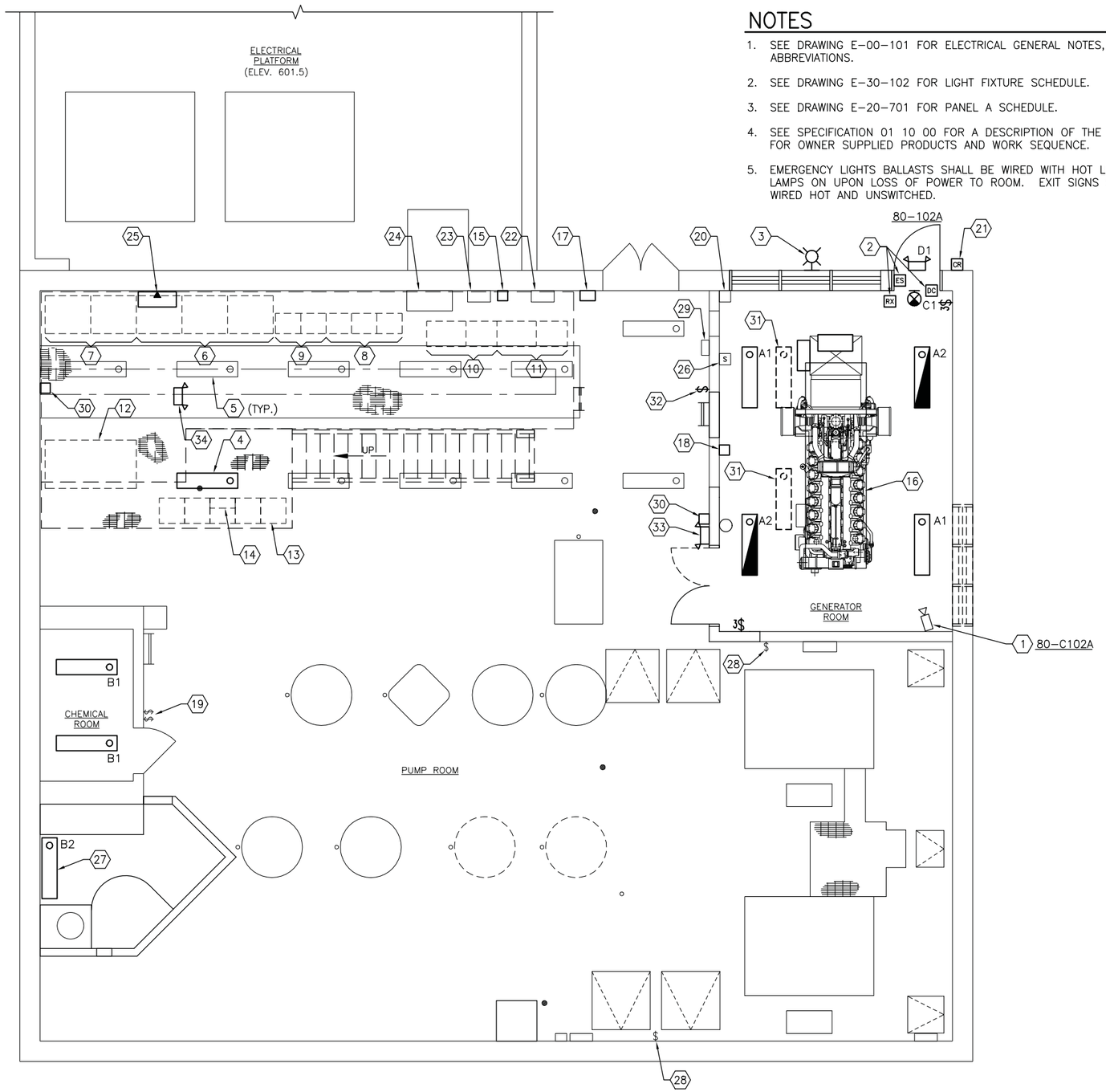
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
LOW LIFT PUMP STATION FIRST FLOOR ELECTRICAL DEMOLITION PLAN

PROJECT No.
O0130014

DRAWING No.
E-20-201

SHEET 066 OF 088 SHEETS



1 FIRST FLOOR LIGHTING AND SPECIAL SYSTEMS PLAN

(ELEV. 12.0)

0 1' 2' 4' 8'

NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE DRAWING E-30-102 FOR LIGHT FIXTURE SCHEDULE.
3. SEE DRAWING E-20-701 FOR PANEL A SCHEDULE.
4. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF THE WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.
5. EMERGENCY LIGHTS BALLASTS SHALL BE WIRED WITH HOT LEG TO TURN LAMPS ON UPON LOSS OF POWER TO ROOM. EXIT SIGNS SHALL BE WIRED HOT AND UNSWITCHED.

KEYNOTES

1. EXISTING SURVEILLANCE CAMERA.
2. RELOCATED DOOR CONTACT, ELECTRIC STRIKE, AND REQUEST-TO-EXIT DEVICE.
3. RELOCATED HID LIGHT FIXTURE. CORE HOLE THRU EXISTING CONCRETE WALL TO REFEED LIGHT FIXTURE.
4. RELOCATED 4' FLUORESCENT LIGHT FIXTURE (LOCATED UP HIGH ABOVE MEZZANINE).
5. EXISTING 4' FLUORESCENT LIGHT FIXTURE (LOCATED UP HIGH BY CEILING).
6. EXISTING MAIN SWITCHBOARD MSWB-1A (LOCATED ABOVE ON MEZZANINE).
7. EXISTING MAIN SWITCHBOARD MSWB-1B (LOCATED ABOVE ON MEZZANINE).
8. EXISTING MOTOR CONTROL CENTER MCC-1A (LOCATED ABOVE ON MEZZANINE).
9. EXISTING MOTOR CONTROL CENTER MCC-1B (LOCATED ABOVE ON MEZZANINE).
10. EXISTING LOW LIFT PUMP NO. 2 VFD (LOCATED ABOVE ON MEZZANINE).
11. EXISTING LOW LIFT PUMP NO. 7 VFD (LOCATED ABOVE ON MEZZANINE).
12. AUTOMATIC TRANSFER SWITCH ATS-102 (LOCATED ABOVE ON MEZZANINE).
13. MOTOR CONTROL CENTER MCC-2 (LOCATED ABOVE ON MEZZANINE).
14. 208Y/120V PANEL A (LOCATED ABOVE ON MEZZANINE).
15. PROVIDE ENCLOSURE WITH (3) 20 AMP, 3 POLE LIGHTING CONTACTORS FOR OUTSIDE LIGHTS, INSIDE NORTH LIGHTS, INSIDE SOUTH LIGHTS.
16. NATURAL GAS STANDBY GENERATOR GEN-102.
17. EXISTING LIGHT SWITCHES. REWIRE TO NEW LIGHTING CONTACTORS.
18. PROVIDE TEMPERATURE SENSOR TIED TO PLC-G FOR MONITORING ROOM TEMPERATURE AND CONTROL OF VFD-105.
19. EXISTING (2) LIGHT SWITCHES FOR CHEMICAL ROOM LIGHTS AND CEILING FAN.
20. EXISTING JUNCTION BOX WITH READER MODULE FOR ACCESS CONTROL.
21. RELOCATED CARD READER.
22. EXISTING ACCESS CONTROL NETWORK CONTROLLER NC-5 AND POWER SUPPLY PS-5.
23. EXISTING TELEPHONE CABINET.
24. EXISTING NETWORK SWITCH AND COMMUNICATION ENCLOSURE.
25. PLC-G ENCLOSURE. PROVIDE DATA OUTLET IN ENCLOSURE WITH CAT 6 CABLE IN 3/4" CONDUIT TO EXISTING NETWORK SWITCH AND COMMUNICATION ENCLOSURE.
26. EXISTING WALL MOUNTED INTERCOM SPEAKER.
27. LIGHT FIXTURE SHALL BE CONTROLLED FROM "INSIDE SOUTH LIGHTS" LIGHTING CONTACTOR.
28. EXISTING LIGHT SWITCH FEEDING HOSE REEL LIGHT.
29. EXISTING RADIONICS ALARM PANEL.
30. PROVIDE TEMPERATURE SENSOR TIED TO PLC-G FOR MONITORING ROOM TEMPERATURE.
31. PROVIDE TYPE A1 LIGHT FIXTURE ABOVE GENERATOR ROOM CEILING (PENDANT MOUNT AS HIGH AS POSSIBLE).
32. PROVIDE LIGHT SWITCH FOR A1 LIGHT FIXTURES LOCATED ABOVE GENERATOR ROOM CEILING.
33. REPLACE EXISTING EMERGENCY LIGHT WITH NEW D2 LIGHT FIXTURE.
34. PROVIDE D2 LIGHT FIXTURE MOUNTED TO FACE OF EXISTING CONCRETE BEAM LOCATED ABOVE MEZZANINE (WIRE TO UNSWITCHED HOT WIRE FEEDING LIGHTS ON MEZZANINE).

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

DATE	REVISION
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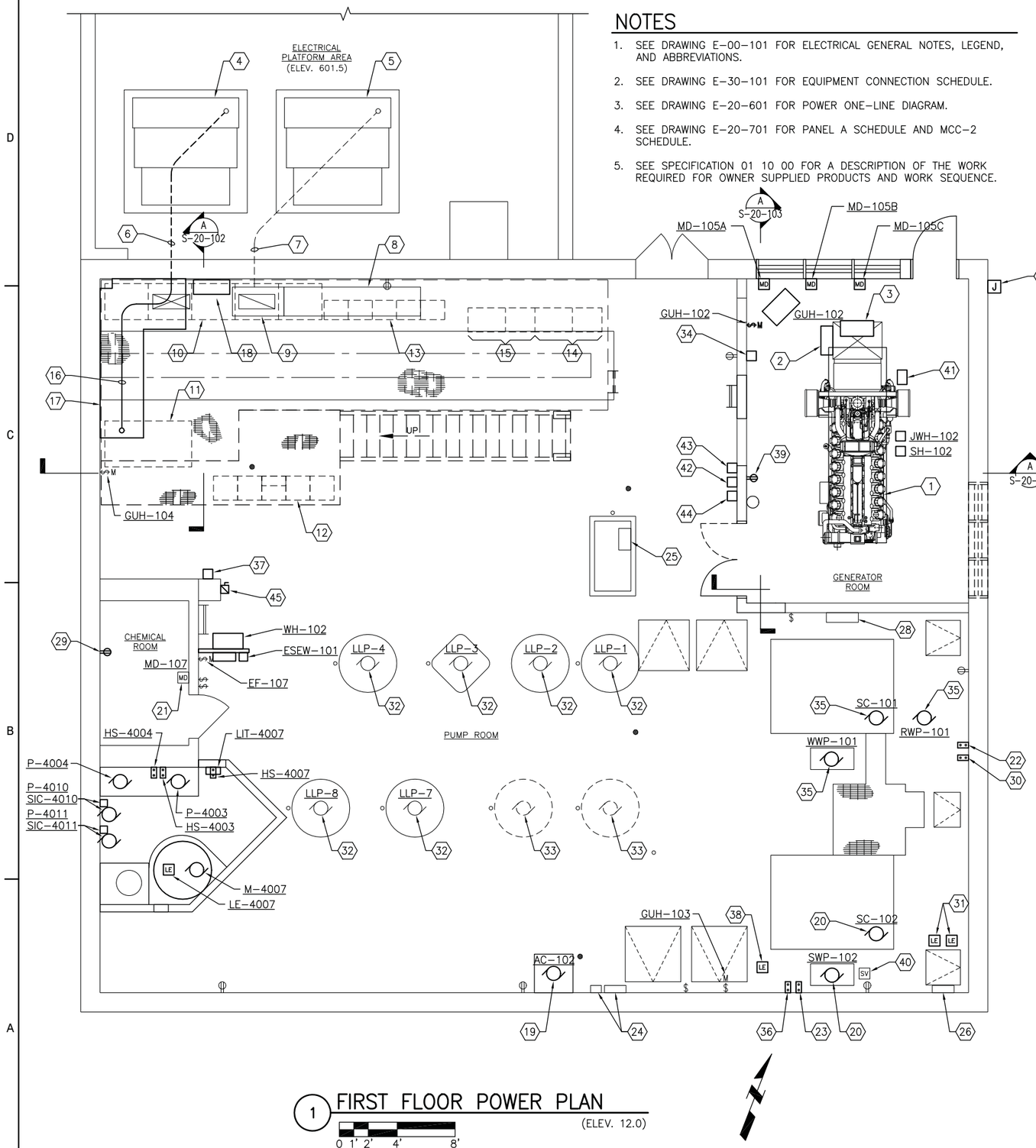
DRAWING TITLE
LOW LIFT PUMP STATION
FIRST FLOOR
LIGHTING AND SPECIAL
SYSTEMS PLAN

PROJECT No.
O0130014

DRAWING No.
E-20-301

SHEET 067 OF 088 SHEETS



NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE DRAWING E-30-101 FOR EQUIPMENT CONNECTION SCHEDULE.
3. SEE DRAWING E-20-601 FOR POWER ONE-LINE DIAGRAM.
4. SEE DRAWING E-20-701 FOR PANEL A SCHEDULE AND MCC-2 SCHEDULE.
5. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF THE WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.

KEYNOTES

1. NATURAL GAS STANDBY GENERATOR GEN-102.
2. GEN-102 MAIN CIRCUIT BREAKER.
3. GEN-102 CONTROL PANEL.
4. EXISTING TRANSFORMER XFMR-1B (LOCATED ABOVE ON ELECTRICAL PLATFORM AREA). DISCONNECT EXISTING AND RECONNECT NEW SERVICE LATERAL CABLES.
5. EXISTING TRANSFORMER XFMR-1A (LOCATED ABOVE ON ELECTRICAL PLATFORM AREA).
6. REPLACE EXISTING 480 VOLT SERVICE LATERAL CABLES FROM XFMR-1B IN EXISTING UNDERGROUND CONDUITS.
7. EXISTING UNDERGROUND CONDUITS WITH 480 VOLT SERVICE LATERAL CABLES TO MSWB-1A.
8. EXISTING PULLBOX WITH 480 VOLT FEEDER CABLES.
9. EXISTING PULLBOX WITH 480 VOLT SERVICE LATERAL CONDUCTORS TO MSWB-1A.
10. EXISTING MSWB-1A AND MSWB-1B (LOCATED ABOVE ON MEZZANINE).
11. ATS-102 (LOCATED ABOVE ON MEZZANINE).
12. MCC-2 (LOCATED ABOVE ON MEZZANINE).
13. EXISTING MCC-1A AND MCC-1B (LOCATED ABOVE ON MEZZANINE).
14. EXISTING LOW LIFT PUMP NO. 7 VFD (LOCATED ABOVE ON MEZZANINE).
15. EXISTING LOW LIFT PUMP NO. 2 VFD (LOCATED ABOVE ON MEZZANINE).
16. PROVIDE CONDUITS WITH 480 VOLT SERVICE LATERAL CABLES FROM XFMR-1B TO ATS-102. MOUNT CONDUITS UP HIGH BELOW MEZZANINE STEEL FRAMING. SEE KEYNOTE 17.
17. CONCRETE ENCASEMENT FOR CONDUITS WITH 480 VOLT SERVICE LATERAL CABLES FROM EXISTING FLOOR TO MEZZANINE STRUCTURE. SEE DRAWING A-20-401 FOR DETAILS.
18. PROVIDE PLC-G ENCLOSURE.
19. PROVIDE CONDUIT AND WIRE TO FEED RELOCATED EQUIPMENT.
20. REPLACE WIRING FOR 480 VOLT POWER FEED TO EXISTING EQUIPMENT (REUSE EXISTING CONDUIT AND EXTEND AS REQUIRED).
21. REPLACE CONTROL WIRING FOR EXISTING EQUIPMENT (REUSE EXISTING CONDUIT AND EXTEND AS REQUIRED).
22. REPLACE LOCAL CONTROL STATION HS-RWP-101, CONDUIT, AND CONTROL WIRING FOR RWP-101.
23. REPLACE LOCAL CONTROL STATION HS-SWP-102, CONDUIT, AND CONTROL WIRING FOR SWP-102.
24. EXISTING HORIZONTAL SHAFT NATURAL GAS PUMP AUTOMATIC CONTROL PANEL AND 3 PHASE UNDERVOLTAGE MONITOR. REPLACE CONTROL WIRING TO CONTROL PANEL (REUSE EXISTING CONDUIT AND EXTEND AS REQUIRED).
25. EXISTING HORIZONTAL SHAFT NATURAL GAS PUMP AND CONTROL PANEL.
26. REPLACE WIRING FOR 480 VOLT POWER FEED TO TRAVELING SCREEN SC-102 CONTROL PANEL (REUSE EXISTING CONDUIT AND EXTEND AS REQUIRED). PROVIDE CONDUIT AND CONTROL WIRING TO PLC-G.
27. PROVIDE 12"x12"x4" NEMA 4X JUNCTION BOX WITH INSULATED TERMINAL STRIPS FOR CONNECTION TO CARBON FEEDER CF-101 (MOUNT JUNCTION BOX AT 24" ABOVE GRADE). PROVIDE REMOVABLE KNOCKOUT ON BOTTOM OF ENCLOSURE FOR CONNECTION OF SEALTIGHT CONDUIT TO CF-101.
28. EXISTING WATER LEVEL DIFFERENTIAL CONTROLLER.
29. PROVIDE 120 VOLT DUPLEX RECEPTACLE FOR WIT-4006 (MOUNT AT 48" AFF)
30. PROVIDE LOCAL CONTROL STATION HS-WWP-101, CONDUIT, AND CONTROL WIRING FOR WWP-101.
31. REPLACE ANALOG CONTROL WIRING FROM EXISTING SHORE WELL BEFORE SCREEN LEVEL TRANSMITTER RAW WATER TEMPERATURE SENSOR TO PLC-G VIA SC-102 CONTROL PANEL (REUSE EXISTING CONDUIT AND EXTEND AS REQUIRED).
32. EXISTING LOW LIFT PUMP.
33. FUTURE LOW LIFT PUMP.
34. THERMOSTAT FOR GUH-102.
35. PROVIDE NEW OVERHEAD CONDUIT WITH WIRES TO REFEED EQUIPMENT (ABANDON EXISTING UNDERGROUND CONDUIT IN PLACE).
36. REPLACE LOCAL CONTROL STATION, CONDUIT, AND CONTROL WIRING FOR SC-102.
37. REPLACE ANALOG CONTROL WIRING FROM EXISTING RAW WATER TEMPERATURE SENSOR TO PLC-G.
38. REPLACE ANALOG CONTROL WIRING FROM EXISTING SHORE WELL AFTER SCREEN LEVEL TRANSMITTER TO PLC-G VIA SC-102 CONTROL PANEL (REUSE EXISTING CONDUIT AND EXTEND AS REQUIRED).
39. PROVIDE 120 VOLT DUPLEX RECEPTACLE (CONNECT TO EXISTING RECEPTACLE BRANCH CIRCUIT).
40. EXISTING SPRAY WATER SWP-102 SOLENOID VALVE.
41. GENERATOR BATTERY CHARGER.
42. GENERATOR REMOTE EMERGENCY STOP STATION.
43. THERMOSTAT FOR GUH-103 AND GUH-104.
44. REMOTE GENERATOR ANNUNCIATOR PANEL.
45. PROVIDE TEMPORARY 200 AMP, 3 POLE FUSIBLE DISCONNECT SWITCH FOR EXISTING NATURAL GAS GENERATOR. PROVIDE TEMPORARY CABLES AND TERMINATE ON EXISTING GENERATOR AND MCC-2 THAT WILL BE USED ONLY IF POWER IS LOST DURING CONSTRUCTION.

1 FIRST FLOOR POWER PLAN

(ELEV. 12.0)

0 1' 2' 4' 8'

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

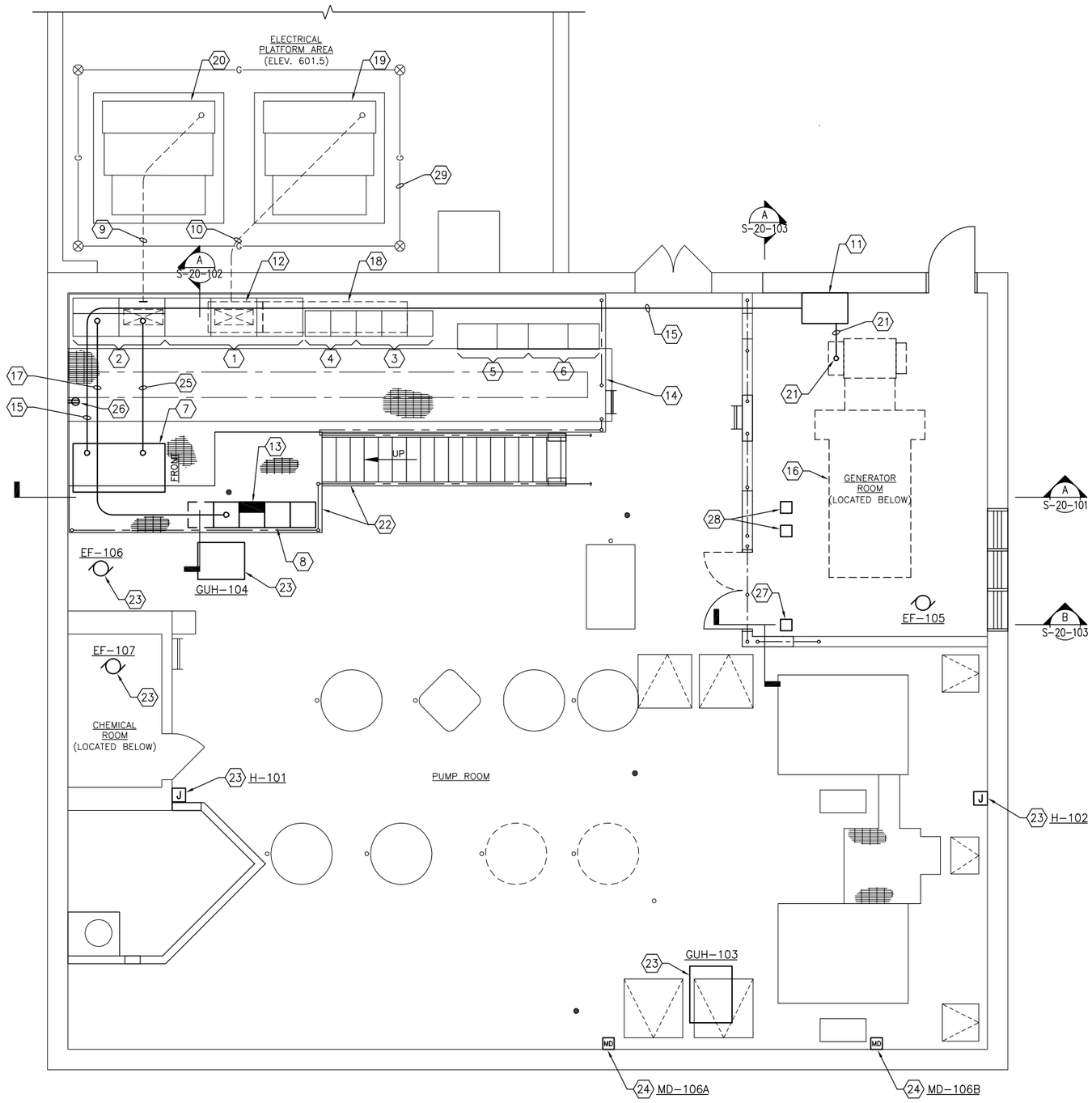
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
LOW LIFT PUMP STATION
FIRST FLOOR
POWER PLAN

PROJECT No.
O0130014

DRAWING No.
E-20-401

SHEET 068 OF 088 SHEETS



1 MEZZANINE POWER PLAN

(ELEV. 22.0)

0 1' 2' 4' 8'

NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE DRAWING E-30-101 FOR EQUIPMENT CONNECTION SCHEDULE.
3. SEE DRAWING E-20-601 FOR POWER ONE-LINE DIAGRAM.
4. SEE DRAWING E-20-701 FOR PANEL A SCHEDULE AND MCC-2 SCHEDULE.
5. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF THE WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.

KEYNOTES

1. EXISTING MAIN SWITCHBOARD MSWB-1A.
2. REFEED EXISTING MAIN SWITCHBOARD MSWB-1B.
3. EXISTING MOTOR CONTROL CENTER MCC-1A.
4. EXISTING MOTOR CONTROL CENTER MCC-1B.
5. EXISTING LOW LIFT PUMP NO. 2 VFD.
6. EXISTING LOW LIFT PUMP NO. 7 VFD.
7. AUTOMATIC TRANSFER SWITCH ATS-102.
8. MOTOR CONTROL CENTER MCC-2.
9. REPLACE EXISTING 480 VOLT SERVICE LATERAL CABLES FROM XFMR-1B IN EXISTING UNDERGROUND CONDUITS.
10. EXISTING UNDERGROUND CONDUITS WITH 480 VOLT SERVICE LATERAL CABLES FROM XFMR-1A TO MSWB-1A.
11. PROVIDE 24"W x 48"L x 24"D PULLBOX WITH SCREW ON COVER LOCATED ON SIDE (MOUNT UP HIGH BY CEILING).
12. EXISTING PULLBOX (LOCATED BELOW MSWB-1A).
13. 208Y/120V PANEL A.
14. EXISTING MEZZANINE.
15. PROVIDE CONDUITS WITH 480 VOLT FEEDER CABLES AND CONTROL WIRING FROM MAIN CIRCUIT BREAKER AND CONTROL PANEL ON GEN-102 TO ATS-102.
16. NATURAL GAS STANDBY GENERATOR GEN-102 (LOCATED BELOW IN GENERATOR ROOM).
17. PROVIDE CONDUITS WITH 480 VOLT FEEDER CABLES FROM MSWB-1B TO MCC-2.
18. EXISTING PULLBOX (LOCATED BELOW MSWB-1A, MCC-1A, AND MCC-1B) FOR 480 VOLT FEEDER CABLES.
19. EXISTING TRANSFORMER XFMR-1A.
20. EXISTING TRANSFORMER XFMR-1B.
21. CORE CONCRETE CEILING AND EXTEND CONDUITS DOWN TO GEN-102 MAIN CIRCUIT BREAKER (LOCATED BELOW IN GENERATOR ROOM).
22. MEZZANINE EXTENSION AND RELOCATED STAIRS.
23. REPLACE WIRING FOR POWER FEED TO EXISTING EQUIPMENT (REUSE EXISTING CONDUIT AND EXTEND AS REQUIRED).
24. REPLACE CONTROL WIRING FOR EXISTING EQUIPMENT (REUSE EXISTING CONDUIT AND EXTEND AS REQUIRED).
25. PROVIDE CONDUITS WITH 480 VOLT FEEDER CABLES FROM ATS-102 TO MSWB-1B MAIN BREAKER.
26. PROVIDE 120 VOLT DUPLEX RECEPTACLE MOUNTED 12" ABOVE MEZZANINE (CONNECT TO EXISTING RECEPTACLE BRANCH CIRCUIT).
27. PROVIDE ELECTRICAL CONNECTION TO POTABLE WATER FLOW CONTROL VALVE.
28. PROVIDE ELECTRICAL CONNECTION TO GENERATOR HEAT EXCHANGER LOW COOLANT LEVEL SWITCH.
29. EXISTING GROUND GRID.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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2/3/11	ISSUED FOR BIDS

DRAWING TITLE
LOW LIFT PUMP STATION MEZZANINE POWER PLAN

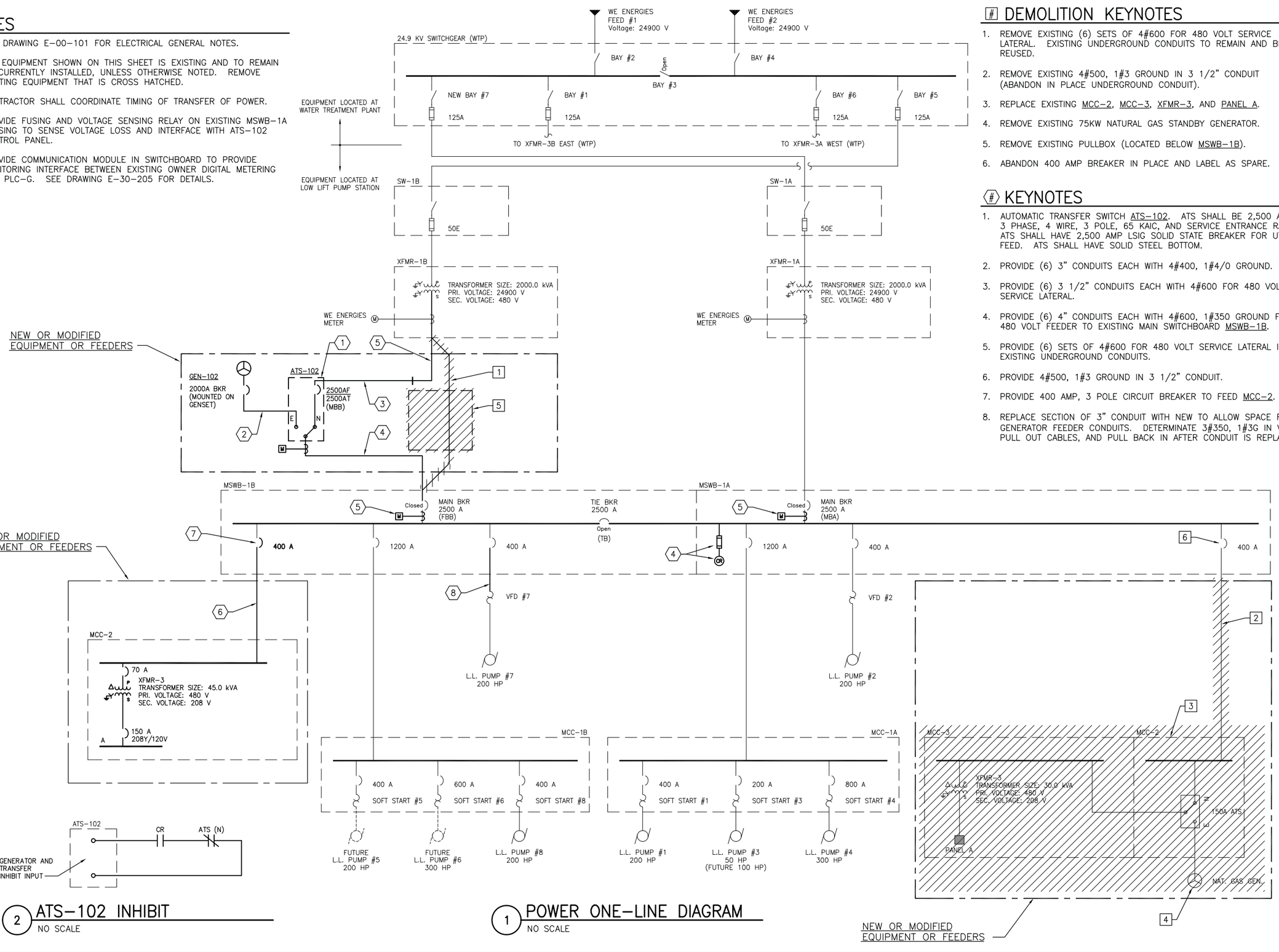
PROJECT No.
O0130014

DRAWING No.
E-20-402

SHEET 069 OF 088 SHEETS

NOTES

1. SEE DRAWING E-00-101 FOR ELECTRICAL GENERAL NOTES.
2. ALL EQUIPMENT SHOWN ON THIS SHEET IS EXISTING AND TO REMAIN AS CURRENTLY INSTALLED, UNLESS OTHERWISE NOTED. REMOVE EXISTING EQUIPMENT THAT IS CROSS HATCHED.
3. CONTRACTOR SHALL COORDINATE TIMING OF TRANSFER OF POWER.
4. PROVIDE FUSING AND VOLTAGE SENSING RELAY ON EXISTING MSWB-1A BUSSING TO SENSE VOLTAGE LOSS AND INTERFACE WITH ATS-102 CONTROL PANEL.
5. PROVIDE COMMUNICATION MODULE IN SWITCHBOARD TO PROVIDE MONITORING INTERFACE BETWEEN EXISTING OWNER DIGITAL METERING AND PLC-G. SEE DRAWING E-30-205 FOR DETAILS.



DEMOLITION KEYNOTES

1. REMOVE EXISTING (6) SETS OF 4#600 FOR 480 VOLT SERVICE LATERAL. EXISTING UNDERGROUND CONDUITS TO REMAIN AND BE REUSED.
2. REMOVE EXISTING 4#500, 1#3 GROUND IN 3 1/2" CONDUIT (ABANDON IN PLACE UNDERGROUND CONDUIT).
3. REPLACE EXISTING MCC-2, MCC-3, XFMR-3, AND PANEL A.
4. REMOVE EXISTING 75KW NATURAL GAS STANDBY GENERATOR.
5. REMOVE EXISTING PULLBOX (LOCATED BELOW MSWB-1B).
6. ABANDON 400 AMP BREAKER IN PLACE AND LABEL AS SPARE.

KEYNOTES

1. AUTOMATIC TRANSFER SWITCH ATS-102. ATS SHALL BE 2,500 AMP, 3 PHASE, 4 WIRE, 3 POLE, 65 KAIC, AND SERVICE ENTRANCE RATED. ATS SHALL HAVE 2,500 AMP LSIG SOLID STATE BREAKER FOR UTILITY FEED. ATS SHALL HAVE SOLID STEEL BOTTOM.
2. PROVIDE (6) 3" CONDUITS EACH WITH 4#400, 1#4/0 GROUND.
3. PROVIDE (6) 3 1/2" CONDUITS EACH WITH 4#600 FOR 480 VOLT SERVICE LATERAL.
4. PROVIDE (6) 4" CONDUITS EACH WITH 4#600, 1#350 GROUND FOR 480 VOLT FEEDER TO EXISTING MAIN SWITCHBOARD MSWB-1B.
5. PROVIDE (6) SETS OF 4#600 FOR 480 VOLT SERVICE LATERAL IN EXISTING UNDERGROUND CONDUITS.
6. PROVIDE 4#500, 1#3 GROUND IN 3 1/2" CONDUIT.
7. PROVIDE 400 AMP, 3 POLE CIRCUIT BREAKER TO FEED MCC-2.
8. REPLACE SECTION OF 3" CONDUIT WITH NEW TO ALLOW SPACE FOR GENERATOR FEEDER CONDUITS. DETERMINATE 3#350, 1#3G IN VFD, PULL OUT CABLES, AND PULL BACK IN AFTER CONDUIT IS REPLACED.

2 ATS-102 INHIBIT
NO SCALE

1 POWER ONE-LINE DIAGRAM
NO SCALE

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
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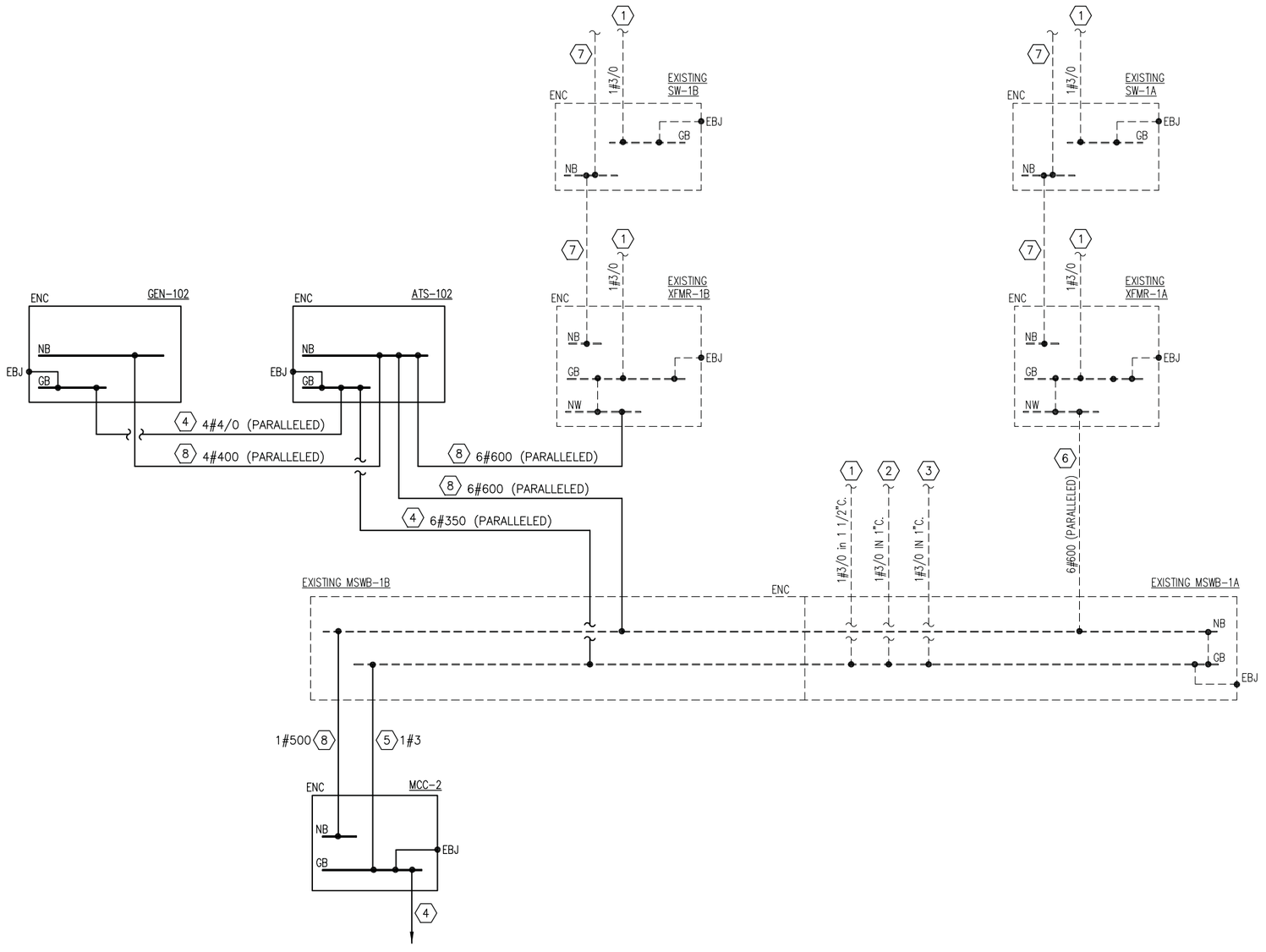
DRAWING TITLE
LOW LIFT PUMP STATION POWER ONE-LINE DIAGRAM

PROJECT No.
O0130014

DRAWING No.
E-20-601

SHEET 070 OF 088 SHEETS



KEYNOTES

1. EXISTING BOND TO GROUND GRID WITH EXOTHERMIC WELD.
2. EXISTING BOND TO BUILDING STEEL COLUMN WITH EXOTHERMIC WELD.
3. EXISTING BOND TO RAW WATER PIPE WITH GROUND CLAMP.
4. EQUIPMENT GROUND CONDUCTOR INSTALLED IN CONDUIT WITH PHASE CONDUCTORS.
5. EQUIPMENT GROUND CONDUCTOR INSTALLED IN CONDUIT WITH FEEDER CIRCUIT.
6. EXISTING NEUTRAL CONDUCTOR INSTALLED IN CONDUIT WITH PHASE CONDUCTORS.
7. EXISTING CONCENTRIC NEUTRAL ON MEDIUM VOLTAGE CABLE.
8. NEUTRAL CONDUCTOR INSTALLED IN CONDUIT WITH PHASE CONDUCTORS.

1 GROUNDING ONE-LINE DIAGRAM
NO SCALE

ABBREVIATIONS
ENC – ENCLOSURE
EBJ – ENCLOSURE BONDING JUMPER
GB – GROUND BUS
NB – NEUTRAL BUS
NW – NEUTRAL WINDING ON TRANSFORMER

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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DATE	REVISION
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2/3/11	ISSUED FOR BIDS

DRAWING TITLE
LOW LIFT PUMP STATION
GROUNDING ONE-LINE
DIAGRAM

PROJECT No.
O0130014

DRAWING No.
E-20-602

SHEET 071 OF 088 SHEETS

NOTES

1. SEE SPECIFICATION 01 10 00 FOR A DESCRIPTION OF THE WORK REQUIRED FOR OWNER SUPPLIED PRODUCTS AND WORK SEQUENCE.

MCC-2 SCHEDULE

PANEL: MCC-2 | OC DEVICE TYPE: Breaker | ENCLOSURE: NEMA 1 | MAINS(A): MLO | CONTINUOUS(A): 600
LOCATION: MEZZANINE | DEVICE FAMILY: Bolt On | MOUNTING: Free Standing | WIRING: 3-Phase 4-Wire | AIC RATING(A): 42000
FED FROM: MSWB-1B BUS | VOLTAGE: 480/277 | FAULT CURRENT(A) 40067
INCIDENT ENERGY: 0.00 J/cm2 @ 0.00(mm) | BOUNDARY: 0.00(mm) | PPE Category:

NO	DESCRIPTION	NOTES	HP	Max FLA	OC DEVICE TYPE	OC DEVICE AMPS	P	STARTER SIZE	STARTER TYPE	STARTER SP	STARTER AC	FEEDER/RACEWAY
1AL	AIR COMPRESSOR AC-102		3	4.8	BKR	15	3					
1AR	SPARE				BKR	15	3					
1BL	PUMP ROOM HOIST H-101		1.5	3	BKR	15	3					
1BR	SCREEN HOIST H-102		2	3.4	BKR	15	3					
1C	SCREEN SC-102	SEE NOTE 1	0		MCP	15	3	1	FVNR			
1D	EXHAUST FAN EF-106		7.5	11	MCP	20	3	1	FVNR			
1E	WW PUMP WWP-101		5	7.6	MCP	15	3	1	FVNR			
1F	POWER FAILURE CONTROL	SEE NOTE 3	0			0	3					
2A	RW SUPPLY PUMP P-4004		3	4.8	MCP	15	3	1	FVNR			
2B	EDUCTOR PUMP P-4003		3	4.8	MCP	15	3	1	FVNR			
2C	TANK AGITATOR M-4007		2	3.4	MCP	15	3	1	FVNR			
2D	RW SAMPLE PUMP RWP-101		1	2.1	MCP	15	3	1	FVNR			
2E	SW PUMP SWP-102		15	21	MCP	40	3	2	FVNR			
3A	PANEL A											
3B	XFMR-3			44.99								
4A	MAIN LUGS			0.001								
4B	SCREEN SC-101	SEE NOTE 4	2.0	1.6	MCP	15	3	1	2SPD			
4C	EXHAUST FAN EF-105		10	14	BKR	25	3		VFD			
4D	SPACE						3					
4EL	XFMR-3 BREAKER				BKR	70	3					
4ER	SPARE				BKR	30	3					

ALL CONNECTED	KVA	MAX PH AMPS	* PHASE TOTALS	VA	AMPS	BUS TOTALS	KVA
TOTAL CONNECTED	96.88	121.0	* A-N	33525.4	121.0	CONNECTED	96.88
TOTAL DEMAND	96.88	121.0	* B-N	31336.1	113.1	DEMAND	96.88
TOTAL DESIGN	106.00	133.7	* C-N	32057.3	115.7	DESIGN	106.00

NOTES:
1. PROVIDE RELAYS AS REQUIRED TO MATCH EXISTING INTERFACE TO HORIZONTAL SHAFT NATURAL GAS PUMP CONTROL PANEL RELAYS.
2. PROVIDE 2 SETS OF LUGS FOR MAIN LUGS, ONE THAT CAN BE USED FOR PERMANENT WIRING AND OTHER TO BE USED FOR TEMPORARY WIRING FROM 75 KW NATURAL GAS GENERATOR DURING CONSTRUCTION.
3. PROVIDE PHASE LOSS RELAY.
4. PROVIDE 2 SPEED, 2 WINDING STARTER.

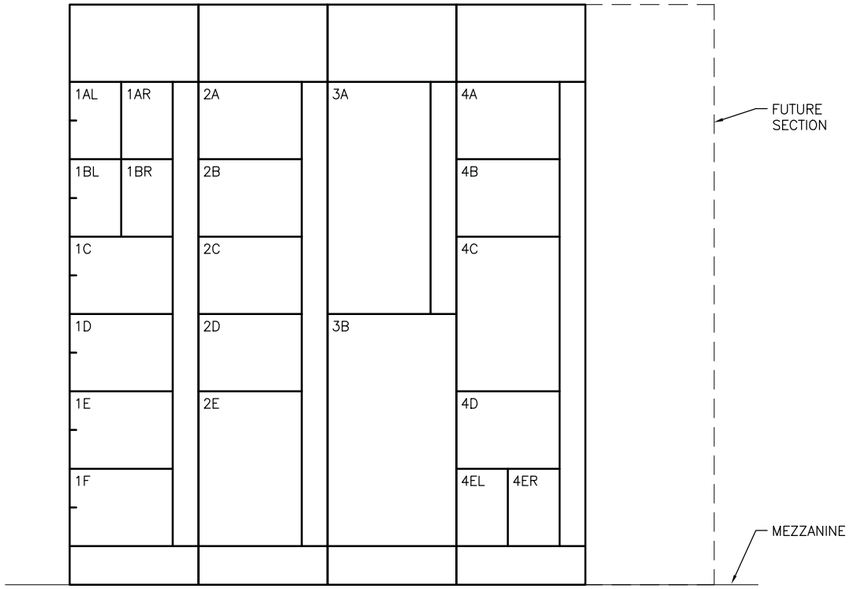
PANEL A SCHEDULE

PANEL: A | OC DEVICE TYPE: Breaker | ENCLOSURE: NEMA 12 | MAINS(A): 150A BKR | CONTINUOUS(A): 225
LOCATION: MCC-2 | DEVICE FAMILY: Bolt On | MOUNTING: Flush | WIRING: 3-Phase 4-Wire | AIC RATING(A): 10000
FED FROM: XFMR-3 SEC | VOLTAGE: 208/120 | FAULT CURRENT(A) 3580
INCIDENT ENERGY: 0.00 J/cm2 @ 0.00(mm) | BOUNDARY: 0.00(mm) | PPE Category:

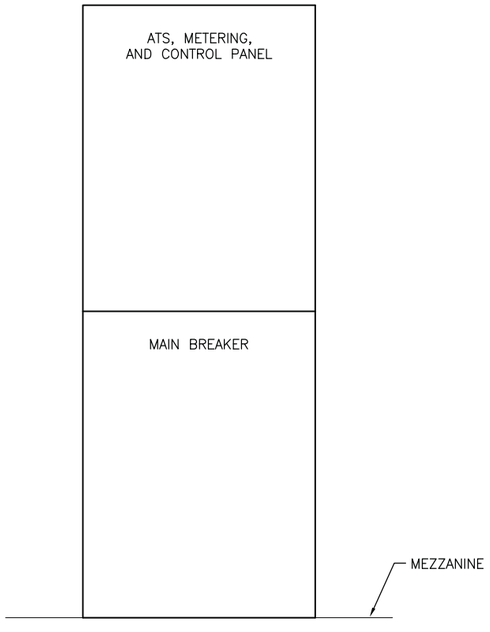
CKT	DESCRIPTION	NOTES	DEMAND CODE	VA	OC AMPS	P	PHASE	OC AMPS	P	VA	DEMAND CODE	NOTES	DESCRIPTION	CKT
1	LTS-PUMP RM ROW 1		LTS	961	20	1	A	20	1	961	LTS		LTS-PUMP RM ROW 2	2
3	LTS-PUMP RM ROW 1		LTS	961	20	1	B	20	1	961	LTS		LTS-PUMP RM ROW 2	4
5	LTS-PUMP RM ROW 3		LTS	961	20	1	C	20	1	961	LTS		LTS-PUMP RM ROW 5	6
7	LTS-PUMP RM ROW 4		LTS	961	20	1	A	20	1	480	LTS		LTS-GENERATOR RM	8
9	SPARE		SPARE	600	20	1	B	20	1	480	LTS		LTS-OUTSIDE	10
11	RECP - PUMP RM		REC	900	20	1	C	20	1	480	LTS		LTS-OUTSIDE	12
13	EF-107		COOLING	1201	20	1	A	20	1	900	REC		RECP - PUMP RM	14
15	LTS-CHEM RM, DROP LT		LTS	240	20	1	B	20	1	600	GEN		NC-5, PS-5	16
17	ESEW-1		GEN	100	20	1	C	20	1	600	GEN		PLC-G	18
19	RAW WATER TEMP SENS		GEN	120	20	1	A	30	2	3125	HEATING		GENERATOR JWH-102	20
21	SPARE		SPARE	600	20	1	B	"		3125			"	22
23	MD-105A/B/C		COOLING	480	20	1	C	20	1	1500	HEATING		GENERATOR SH-102	24
25	MD-107		COOLING	120	20	1	A	20	1	240	GEN		LLP-1 PUMP CONTROL	26
27	RECP - GENERATOR RM		REC	360	20	1	B	20	1	240	GEN		HOR SHAFT PUMP CONT	28
29	CHEM FEED PMP P-4010		GEN	120	20	1	C	20	2	120	GEN		MD-106A/B	30
31	CHEM FEED PMP P-4011		GEN	120	20	1	A	"		120			"	32
33	WIT-4006, WIT-4007, LIT-4007		GEN	120	20	1	B	20	1	240	COOLING		EAST OVERHEAD FAN	34
35	WH-102		GEN	120	20	1	C	20	1	600	GEN		GENERATOR BATTERY CH	36
37	GUH-102		HEATING	120	20	1	A	20	1	600	SPARE		SPARE	38
39	GUH-103		HEATING	120	20	1	B	20	1	120	GEN		SC-102 CONTROL PANEL	40
41	GUH-104		HEATING	120	20	1	C	30	1	1920	GEN		CARBON FEEDER CF-1	42

ALL CONNECTED	KVA	MAX PH AMPS	* PHASE TOTALS	VA	AMPS	BUS TOTALS	KVA
TOTAL CONNECTED	27.44	84.9	* A-N	10190.4	84.9	CONNECTED	27.44
TOTAL DEMAND	27.44	84.9	* B-N	8835.0	73.6	DEMAND	27.44
TOTAL DESIGN	32.20	101.8	* C-N	8764.7	73.0	DESIGN	32.20

NOTES:
1. EXISTING LOADS FED FROM PANEL A SHALL BE REFED WITH NEW WIRE. REUSE EXISTING CONDUIT WHERE POSSIBLE AND EXTEND AS REQUIRED.



1 MCC-2 ELEVATION
NO SCALE



2 ATS-102 ELEVATION
NO SCALE

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DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
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DRAWING TITLE
LOW LIFT PUMP STATION MCC-2, ATS-102, AND PANEL A SCHEDULE AND ELEVATION

PROJECT No.
O0130014

DRAWING No.
E-20-701

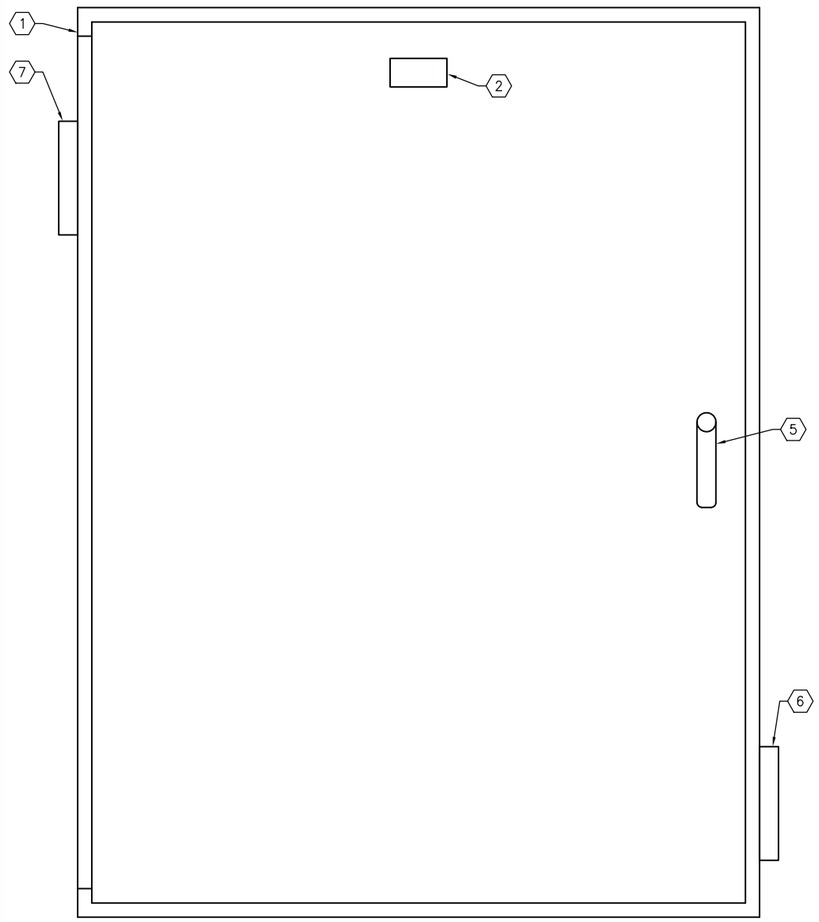
SHEET 072 OF 088 SHEETS

NOTES

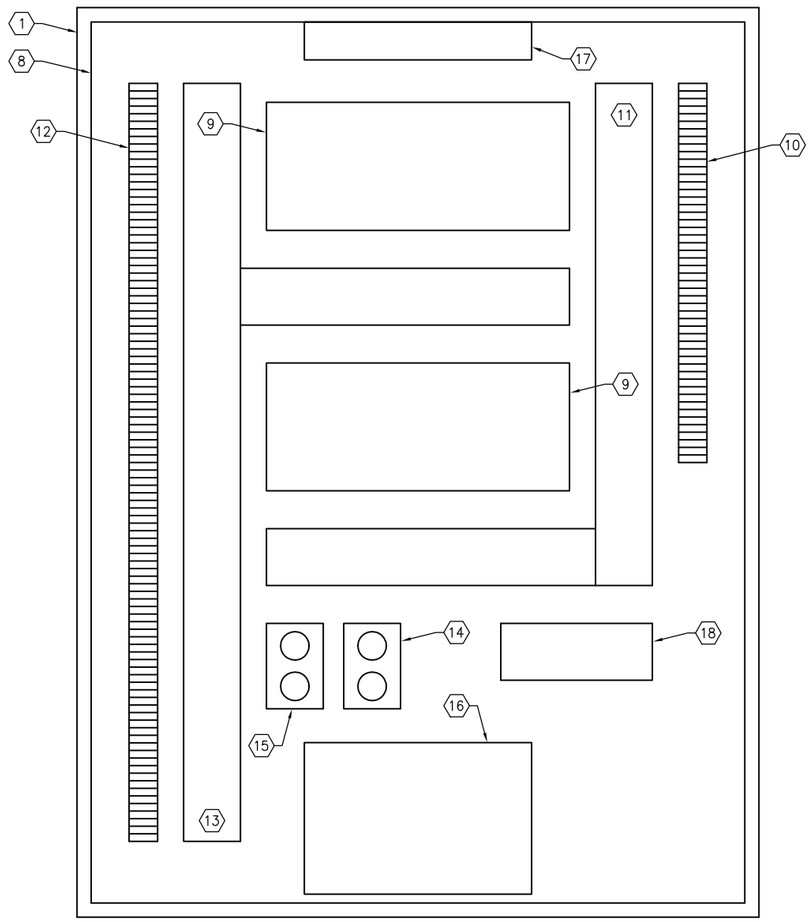
1. PANEL LAYOUT SHOWN IS A SUGGESTED LAYOUT TO MATCH EXISTING PLC ENCLOSURE ON SITE. INTEGRATOR SHALL BUILD PANEL AND LAYOUT COMPONENTS TO PROPERLY FIT IN ENCLOSURE. ENGINEER WILL REVIEW AND APPROVE PANEL LAYOUT DURING SHOP DRAWING REVIEW.
2. PROVIDE ALL NEW CONTROL WIRING BETWEEN PLC-G, MOTOR CONTROL CENTER, AND REMOTE FIELD DEVICES AND CONTROL PANELS. SEE SPECIFICATION SECTION 26 90 00 FOR ADDITIONAL INFORMATION.

KEYNOTES

1. 48"H x 36"W x 16"D NEMA 12 HINGED COVER ENCLOSURE.
2. LAMINATED NAMEPLATE.
3. --NOT USED--
4. --NOT USED--
5. HANDLE WITH 3-POINT LATCH.
6. INTAKE LOUVER WITH FILTER.
7. EXHAUST LOUVER WITH FAN.
8. INTERIOR MOUNTING PANEL.
9. PLC CHASSIS (10 SLOT RACK).
10. TERMINAL STRIPS FOR ANALOG SIGNALS.
11. PLASTIC CHANNEL WITH REMOVABLE COVER FOR ANALOG CABLES.
12. TERMINAL STRIPS FOR 120 VOLT AND DISCRETE SIGNALS.
13. PLASTIC CHANNEL WITH REMOVABLE COVER FOR DISCRETE CONTROL WIRES.
14. DUPLEX RECEPTACLE (USED FOR SERVICE EQUIPMENT).
15. DUPLEX RECEPTACLE (USED FOR UPS).
16. PROVIDE APC (OR EQUAL) UPS WITH MINIMUM SIZE OF 1500 VA.
17. FLUORESCENT LIGHT FIXTURE (MOUNTED TO TOP OF ENCLOSURE) WITH DOOR SWITCH.
18. POWER XPERT GATEWAY (EATON # PXG600A).



1 EXTERIOR DOOR LAYOUT
NO SCALE



2 INTERIOR PANEL LAYOUT
NO SCALE

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OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
LOW LIFT PUMP STATION
PLC-G ENCLOSURE

PROJECT No.
O0130014

DRAWING No.
E-20-702

SHEET 073 OF 088 SHEETS

EQUIPMENT CONNECTION SCHEDULE

EQUIPMENT				MOTOR OR LOAD			DISCONNECT SWITCH		POWER SOURCE		LOCAL CONTROL PANEL			DIAGRAM	PLC	NOTES
TAG	DESCRIPTION	STATUS	LOCATION	FLA	HP	VOLTS/ø	SIZE	ENCLOSURE	EXISTING	NEW	TAG	ENCLOSURE	LOCATION			
AC-101	AIR COMPRESSOR	RELOCATED	WTP – PIPE GALLERY	1.6	0.75	480/3	--	--	MCC-4	MCC-8	--	--	--	--		
AC-102	AIR COMPRESSOR	RELOCATED	LLPS– PUMP ROOM	4.8	3	480/3	30A	W/LCP	MCC-3	MCC-2	--	EXISTING	LLPS – PUMP ROOM	--		
B-101	BOILER	REPLACED	WTP – MECHANICAL ROOM	5	--	120/1	30A	W/LCP	MCC-4	A	TC PANEL	REPLACED	WTP – MECHANICAL ROOM	23		
CF-101	CARBON FEEDER	EXISTING	LLPS – EXTERIOR	16	1	120/1	30A	W/LCP	A	A	--	EXISTING	LLPS – EXTERIOR	22	PLC-G	2#10,1#10G
EF-101	EXHAUST FAN	NEW	WTP– ELECTRICAL ROOM	3	1.5	480/3	30A	NEMA 3R	--	MCC-4	--	--	--	1		
EF-102	EXHAUST FAN	NEW	WTP– ELECTRICAL ROOM	3	1.5	480/3	30A	NEMA 3R	--	MCC-4	--	--	--	2		
EF-103	EXHAUST FAN	NEW	WTP– ELECTRICAL ROOM	3	1.5	480/3	30A	NEMA 3R	--	MCC-4	--	--	--	2		
EF-104	EXHAUST FAN	NEW	WTP– MECHANICAL ROOM	0.25	0.25	480/3	30A	NEMA 3R	--	MCC-4	--	--	--	2		
EF-105	EXHAUST FAN	NEW	LLPS – PUMP ROOM	14	10	480/3	30A	W/LCP	--	MCC-2	VFD-105	NEMA 12	LLPS – PUMP ROOM (MCC-2)	20		
EF-106	AXIVANE EXHAUST FAN	EXISTING	LLPS – PUMP ROOM	11	7.5	480/3	--	--	MCC-3	MCC-2	--	--	--	3		
EF-107	EXHAUST FAN	EXISTING	LLPS – CHEMICAL ROOM	9.8	0.5	120/1	--	--	A	A	--	--	--	7		2#12,1#12G
GEN-101	STANDBY GENERATOR	NEW	WTP – ELECTRICAL ROOM	--	--	2.4KV/3	--	--	--	--	--	--	--	21	PLC-A	
GEN-102	STANDBY GENERATOR	NEW	LLPS – GENERATOR ROOM	--	--	480/3	2000A	GENSET MTD.	--	--	--	--	--	21	PLC-G	
GUH-101	GAS FIRED UNIT HEATER	NEW	WTP– ELECTRICAL ROOM	0.5	0.1	120/1	20A	NEMA 12	--	B-RIGHT	--	--	--	30		2#12,1#12G
GUH-102	GAS FIRED UNIT HEATER	REPLACED	LLPS – GENERATOR ROOM	0.5	0.1	120/1	20A	NEMA 12	--	A	--	--	--	30		2#12,1#12G
GUH-103	GAS FIRED UNIT HEATER	EXISTING	LLPS – PUMP ROOM	0.5	0.1	120/1	--	--	A	A	--	--	--	30		2#12,1#12G
GUH-104	GAS FIRED UNIT HEATER	EXISTING	LLPS – PUMP ROOM	0.5	0.1	120/1	--	--	A	A	--	--	--	30		2#12,1#12G
H-101	PUMP ROOM HOIST	EXISTING	LLPS – PUMP ROOM	3	1.5	480/3	--	--	MCC-3	MCC-2	--	EXISTING	LLPS – PUMP ROOM	--		
H-102	SCREEN BASKET TROLLEY AND HOIST	EXISTING	LLPS – PUMP ROOM	3.4	2	480/3	--	--	MCC-3	MCC-2	--	EXISTING	LLPS – PUMP ROOM	--		
HWP-101	HEATING WATER PUMP (KATHABAR)	REPLACED	WTP – MECHANICAL ROOM	7.6	5	480/3	30A	NEMA 12	MCC-4	MCC-4	TC PANEL	REPLACED	WTP – MECHANICAL ROOM	4		
HWP-102	HEATING WATER PUMP	REPLACED	WTP – MECHANICAL ROOM	7.6	5	480/3	30A	NEMA 12	MCC-4	MCC-4	TC PANEL	REPLACED	WTP – MECHANICAL ROOM	4		
HWP-103	HEATING WATER PUMP	REPLACED	WTP – MECHANICAL ROOM	7.6	5	480/3	30A	NEMA 12	MCC-4	MCC-4	TC PANEL	REPLACED	WTP – MECHANICAL ROOM	4		
MD-101	MOTORIZED DAMPER	NEW	WTP – ELECTRICAL ROOM	0.1	1/30	120/1	--	--	--	MCC-4	--	--	--	1		2#12,1#12G
MD-102	MOTORIZED DAMPER	NEW	WTP – ELECTRICAL ROOM	0.1	1/30	120/1	--	--	--	MCC-4	--	--	--	2		2#12,1#12G
MD-103	MOTORIZED DAMPER	NEW	WTP – ELECTRICAL ROOM	0.1	1/30	120/1	--	--	--	MCC-4	--	--	--	2		2#12,1#12G
MD-104	MOTORIZED DAMPER	NEW	WTP – MECHANICAL ROOM	0.1	1/30	120/1	--	--	--	MCC-4	--	--	--	2		2#12,1#12G
MD-105A	MOTORIZED DAMPER	NEW	LLPS – GENERATOR ROOM	0.1	1/30	120/1	--	--	--	A	--	--	--	20		2#12,1#12G
MD-105B	MOTORIZED DAMPER	NEW	LLPS – GENERATOR ROOM	0.1	1/30	120/1	--	--	--	A	--	--	--	20		2#12,1#12G
MD-105C	MOTORIZED DAMPER	NEW	LLPS – GENERATOR ROOM	0.1	1/30	120/1	--	--	--	A	--	--	--	20		2#12,1#12G
MD-106A	MOTORIZED DAMPER	EXISTING	LLPS – PUMP ROOM	0.1	1/30	240/1	--	--	--	A	--	--	--	3		2#12,1#12G
MD-106B	MOTORIZED DAMPER	EXISTING	LLPS – PUMP ROOM	0.1	1/30	240/1	--	--	--	A	--	--	--	3		2#12,1#12G
MD-107	MOTORIZED DAMPER	EXISTING	LLPS – CHEMICAL ROOM	0.1	1/30	120/1	--	--	--	A	--	--	--	7		2#12,1#12G
JWH-101A	GENERATOR JACKET WATER HEATER	NEW	WTP – ELECTRICAL ROOM	24	5KW	208/1	--	--	--	B-RIGHT	GEN-101	NEMA 1	WTP – ELECTRICAL ROOM	21		2#10,1#10G
JWH-102A	GENERATOR JACKET WATER HEATER	NEW	LLPS – GENERATOR ROOM	24	5KW	208/1	--	--	--	A	GEN-102	NEMA 1	LLPS – GENERATOR ROOM	21		2#10,1#10G
SH-101	GENERATOR STRIP HEATER	NEW	WTP – ELECTRICAL ROOM	10	1.2KW	120/1	--	--	--	B-RIGHT	GEN-101	NEMA 1	WTP – ELECTRICAL ROOM	21		2#12,1#12G
SH-102	GENERATOR STRIP HEATER	NEW	LLPS – GENERATOR ROOM	10	1.2KW	120/1	--	--	--	A	GEN-102	NEMA 1	LLPS – GENERATOR ROOM	21		2#12,1#12G
P-4003	EDUCTOR PUMP	RELOCATED	LLPS – PUMP ROOM	4.8	3	480/3	--	--	MCC-3	MCC-2	HS-4003	NEMA 12	LLPS – PUMP ROOM	5	PLC-G	
P-4004	RAW WATER SUPPLY BOOSTER PUMP	RELOCATED	LLPS – PUMP ROOM	4.8	3	480/3	--	--	MCC-3	MCC-2	HS-4004	NEMA 12	LLPS – PUMP ROOM	5	PLC-G	
M-4007	POTASSIUM PERMANGANATE MIX TANK AGITATOR	REPLACED	LLPS – PUMP ROOM	3.4	2	480/3	--	--	MCC-3	MCC-2	HS-4007	NEMA 12	LLPS – PUMP ROOM	5	PLC-G	
P-4010	POTASSIUM PERMANGANATE CHEMICAL METERING PUMP	REPLACED	LLPS – PUMP ROOM	0.6	1/4	120/1	--	W/LCP	A	A	SIC-4010	NEMA 12	LLPS – PUMP ROOM	25	PLC-G	2#12,1#12G
P-4011	POTASSIUM PERMANGANATE CHEMICAL METERING PUMP	NEW	LLPS – PUMP ROOM	0.6	1/4	120/1	--	W/LCP	A	A	SIC-4011	NEMA 12	LLPS – PUMP ROOM	25	PLC-G	2#12,1#12G
LIT-4007	CHEMICAL TANK LEVEL TRANSMITTER	NEW	LLPS – PUMP ROOM	0.1	--	120/1	--	--	--	A	LIT-4007	NEMA 12	LLPS – PUMP ROOM	28	PLC-G	2#12,1#12G
--	RAW WATER TEMPERATURE SENSOR	EXISTING	LLPS – PUMP ROOM	0.1	--	120/1	--	--	--	A	--	--	--	--	PLC-G	2#12,1#12G
RWP-101	RAW WATER SAMPLE PUMP	EXISTING	LLPS – PUMP ROOM	2.1	1	480/3	--	--	MCC-3	MCC-2	HS-RWP-101	NEMA 12	LLPS – PUMP ROOM	6	PLC-G	
SWP-102	SPRAY WATER PUMP	EXISTING	LLPS – PUMP ROOM	21	15	480/3	--	--	MCC-3	MCC-2	HS-SWP-102	NEMA 12	LLPS – PUMP ROOM	6	PLC-G	3#10,1#10G
WWP-101	WASH WATER PUMP	EXISTING	LLPS – PUMP ROOM	7.6	5	480/3	--	--	MCC-3	MCC-2	HS-WWP-101	NEMA 12	LLPS – PUMP ROOM	6	PLC-G	
SC-101	TRAVELING SCREEN	EXISTING	LLPS – PUMP ROOM	3.4	2 & 0.5	480/3	--	--	MCC-3	MCC-2	EXISTING	EXISTING	LLPS – PUMP ROOM	8	PLC-G	6#12,1#12G
SC-102	TRAVELING SCREEN	EXISTING	LLPS – PUMP ROOM	2.1	1	480/3	--	--	MCC-3	MCC-2	LCP-SC-102	EXISTING	LLPS – PUMP ROOM	9 & 26	PLC-G	
WH-102	DOMESTIC WATER HEATER	NEW	LLPS – PUMP ROOM	1	--	120/1	20A	NEMA 12	--	A	--	--	--	--		2#12,1#12G

NOTES:
1. ALL POWER WIRING SHALL BE 3#12, 1#12G IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED.

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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

DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
EQUIPMENT CONNECTION SCHEDULE

PROJECT No.
O0130014

DRAWING No.
E-30-101

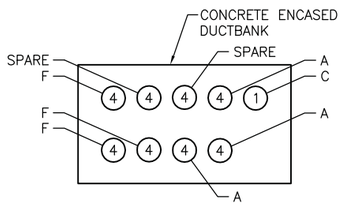
SHEET 074 OF 088 SHEETS

LIGHT FIXTURE SCHEDULE

ITEM	DESCRIPTION	LAMP	MOUNTING	COMMENTS	MANUFACTURER	SERIES/MODEL NO.
A1	4' INDUSTRIAL FLUOR. FIXTURE WITH BAKED WHITE ENAMEL 10% UPLIGHT REFLECTOR	3 – F32T8	PENDANT MOUNT AT 9' AFF		LITHONIA METALUX COLUMBIA	AF10 332 MVOLT GEB10RS EQUIVALENT EQUIVALENT
A2	4' INDUSTRIAL FLUOR. FIXTURE WITH BAKED WHITE ENAMEL 10% UPLIGHT REFLECTOR AND EMERGENCY BATTERY PACK	3 – F32T8	PENDANT MOUNT AT 9' AFF		LITHONIA METALUX COLUMBIA	AF10 332 MVOLT GEB10RS EQUIVALENT EQUIVALENT
B1	4' VAPORTIGHT FLUOR. FIXTURE WITH ACRYLIC LENS AND FIBERGLASS HOUSING	3 – F32T8	CEILING MOUNT		LITHONIA METALUX COLUMBIA	DM–332–AR–MVOLT–GEB10RS EQUIVALENT EQUIVALENT
B2	4' VAPORTIGHT FLUOR. FIXTURE WITH ACRYLIC LENS AND FIBERGLASS HOUSING	3 – F32T8	WALL MOUNT SEE DETAIL		LITHONIA METALUX COLUMBIA	DM–332–AR–MVOLT–GEB10RS EQUIVALENT EQUIVALENT
C1	LED TYPE EXIT LIGHT FIXTURE, SINGLE FACE, SELF–CONTAINED BATTERY AND CHARGER, AND STENCIL RED FACE	LED EXIT	WALL MOUNT	PROVIDE HIGH OUTPUT BATTERY TO POWER REMOTE HEAD	LITHONIA	LHQM SW3R 120/277 HO
D1	2 HEAD EMERGENCY LIGHT, FIBERGLASS WITH SWIVEL LAMP SOCKETS	2 – 6W HALOGEN	WALL MOUNT AT 8' AFF	PROVIDE WET LOCATION RATED	LITHONIA	ELA NX H0606
D2	2 HEAD EMERGENCY LIGHT, FIBERGLASS WITH SWIVEL LAMP SOCKETS	2 – 20W HALOGEN	WALL MOUNT	PROVIDE WET LOCATION RATED	LITHONIA	IND 654 H2006

DUCTBANK CABLE SCHEDULE

MARK	FROM	TO	WIRE
A	XFMR–3A WEST	ATS–101	4#500, 1#3/0G (5KV)
B	ATS–101	2.4KV SWITCHGEAR	3#500, 1#3/0G (5KV)
C	COPPER GROUND BAR	GROUND GRID	1#3/0
D	GEN–101	ATS–101	4#500, 1#3/0G (5KV)
E	COPPER GROUND BAR	WATER PIPE	1#3/0
F	FUTURE XFMR–3B EAST	FUTURE ATS–103	––



A DUCTBANK SECTION
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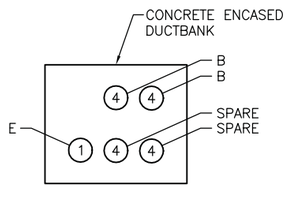

B DUCTBANK SECTION
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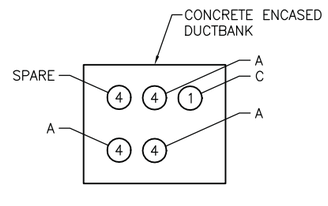

C DUCTBANK SECTION
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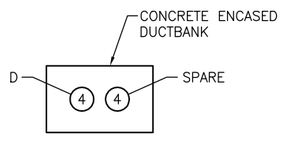

D CONDUIT SECTION
NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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

DATE	REVISION
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2/3/11	ISSUED FOR BIDS

DRAWING TITLE
LIGHT FIXTURE SCHEDULE, DUCTBANK SCHEDULE, AND SECTIONS

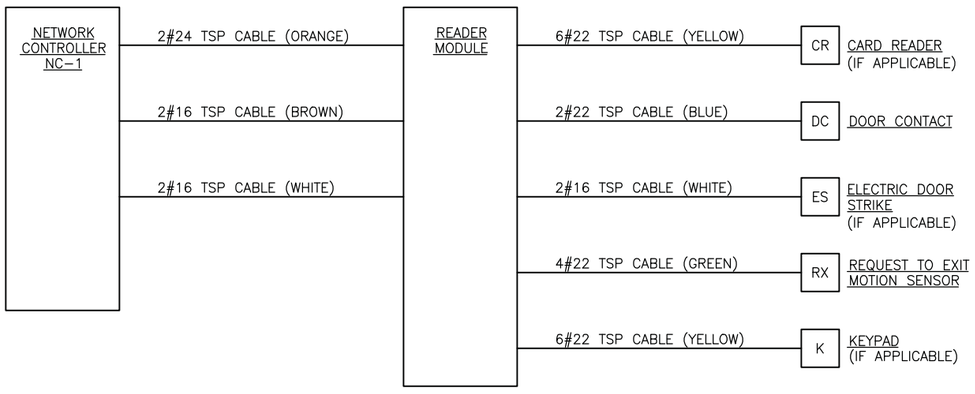
PROJECT No.
O0130014

DRAWING No.
E-30-102

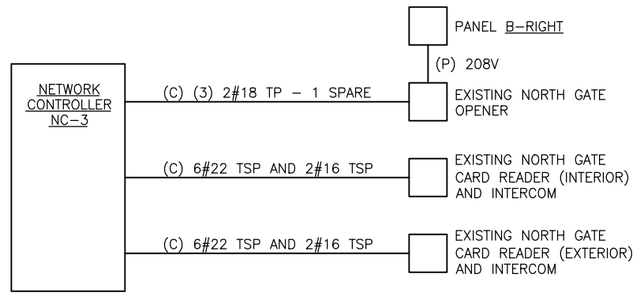
SHEET 075 OF 088 SHEETS

ACCESS CONTROL/VIDEO MONITORING CONNECTION SCHEDULE

EQUIPMENT			COMPONENTS															
TAG	LOCATION	AREA CONTROLLED	EXTERIOR CARD READER (EXISTING)	EXTERIOR CARD READER (RELOCATE)	DOOR CONTACT	ELECTRIC DOOR STRIKE (RELOCATE)	REQUEST TO EXIT MOTION SENSOR (RELOCATE)	ARMING KEYPAD	EXISTING GATE CONTROLLER (OPEN/CLOSE CONTACTS)	INTERIOR CAMERA (FIXED)	INTERIOR CAMERA (PAN-TILT-ZOOM)	EXTERIOR CAMERA (FIXED)	EXTERIOR CAMERA (PAN-TILT-ZOOM)	EXTERIOR CAMERA (EXISTING)	NETWORK CONTROLLER	POWER SUPPLY	NOTES
00-NEXT	NORTH GATE (EXTERIOR)	WATER TREATMENT PLANT	X												NC-3	PS-3	
00-NINT	NORTH GATE (INTERIOR)	WATER TREATMENT PLANT	X						X						NC-3	PS-3	
70-107A	ADMINISTRATION AND FILTRATION FACILITY	ELECTRICAL ROOM			X		X								NC-3		
80-102A	LOW LIFT PUMP STATION	GENERATOR ROOM		X	X	X	X								NC-5	PS-5	
80-102B	LOW LIFT PUMP STATION	GENERATOR ROOM			X										NC-5		
70-C107A	ADMINISTRATION AND FILTRATION FACILITY	ELECTRICAL ROOM								X					--	--	



1 TYPICAL DOOR READER MODULE
NO SCALE
TYPICAL FOR THE FOLLOWING:
– NC-2,NC-3,NC-4,NC-5,NC-6



2 NORTH GATE OPENER, READER, AND INTERCOM
NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ACCESS CONTROL/VIDEO MONITORING CONNECTION SCHEDULE AND INTERCONNECT DIAGRAM

PROJECT No.
O0130014

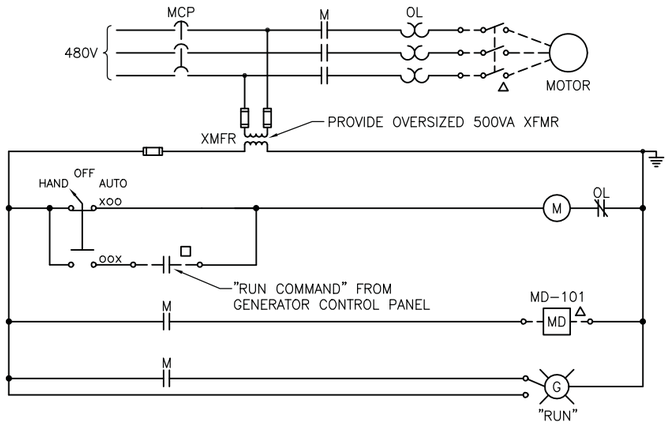
DRAWING No.
E-30-103

SHEET 076 OF 088 SHEETS

LEGEND

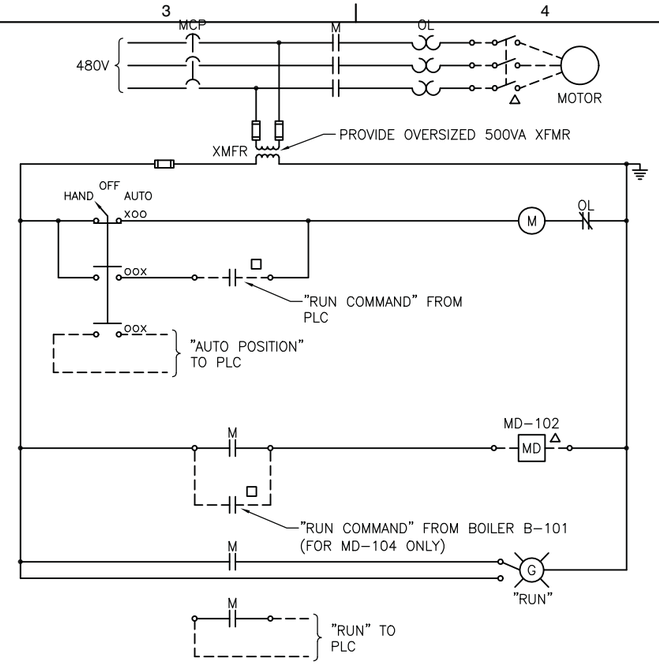
△ = REMOTE MOUNTED DEVICE.

□ = DEVICE LOCATED IN LOCAL PANEL.



1 EXHAUST FAN EF–101

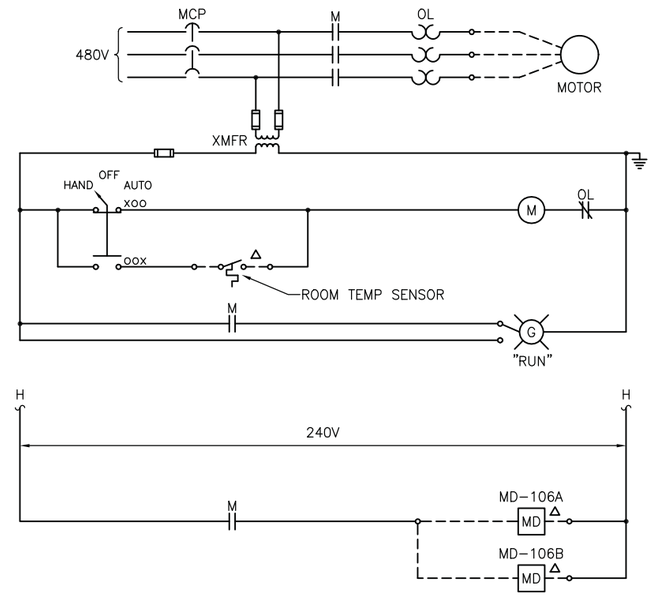
NO SCALE



2 EXHAUST FAN EF–102

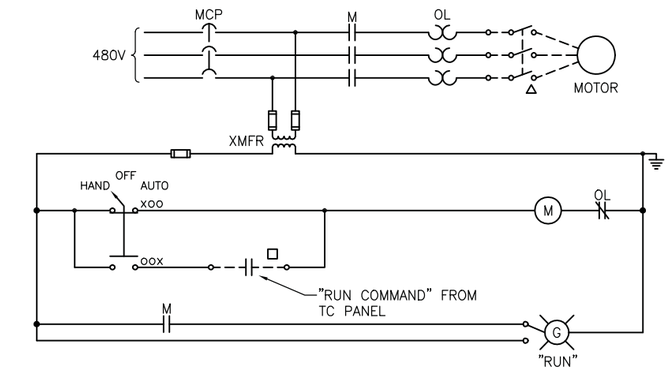
NO SCALE

TYPICAL FOR THE FOLLOWING:
– EF–103, EF–104



3 EXHAUST FAN EF–106

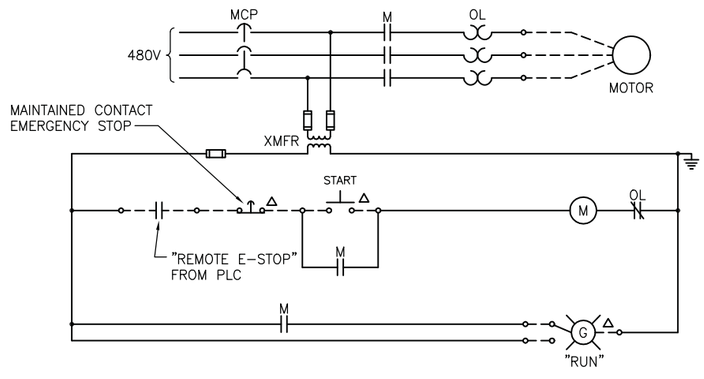
NO SCALE



4 HEATING WATER PUMP HWP–101

NO SCALE

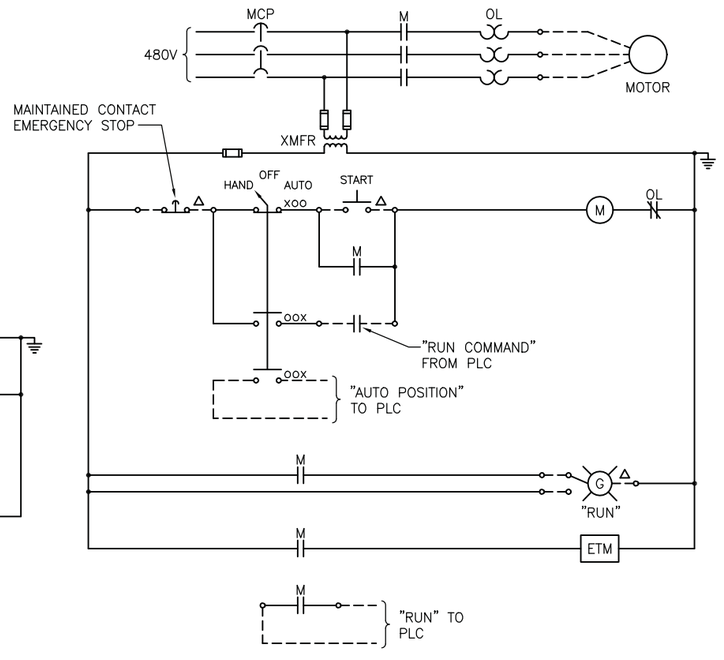
TYPICAL FOR THE FOLLOWING:
– HWP–102
– HWP–103



5 EDUCTOR PUMP P–4003

NO SCALE

TYPICAL FOR THE FOLLOWING:
– P–4004
– M–4007



6 RAW WATER SAMPLE PUMP RWP–101

NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE

WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE

ELECTRICAL
CONTROL DIAGRAMS

PROJECT No.

O0130014

DRAWING No.

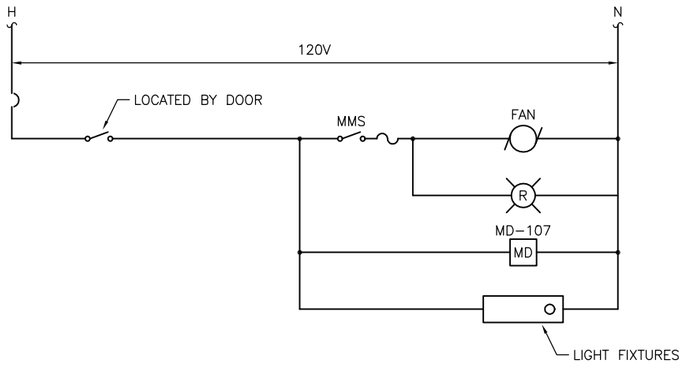
E-30-201

SHEET 077 OF 088 SHEETS

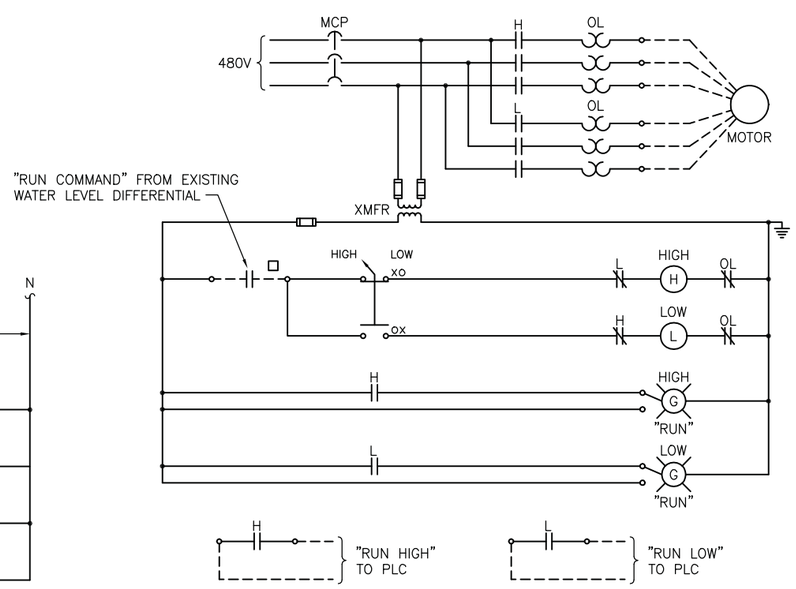
LEGEND

△ = REMOVE MOUNTED DEVICE.

□ = DEVICE LOCATED IN LOCAL PANEL.

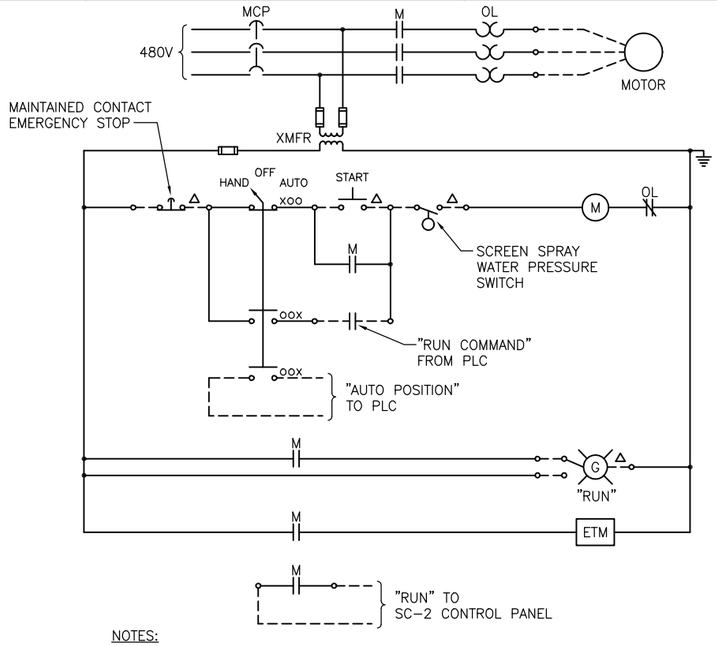


7 EXHAUST FAN EF–107
NO SCALE



NOTES:
1. CONTRACTOR SHALL CONFIRM CONTROL WIRING INTERFACE TO EXISTING EQUIPMENT AND MODIFY AS REQUIRED.
2. PROVIDE COVER MOUNTED AMP METER.

8 TRAVELING SCREEN SC–101
NO SCALE



NOTES:
1. CONTRACTOR SHALL CONFIRM CONTROL WIRING INTERFACE TO EXISTING EQUIPMENT AND MODIFY AS REQUIRED.
2. PROVIDE COVER MOUNTED AMP METER.

9 TRAVELING SCREEN SC–102
NO SCALE

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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

DATE	REVISION
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DRAWING TITLE
ELECTRICAL CONTROL DIAGRAMS

PROJECT No.
O0130014

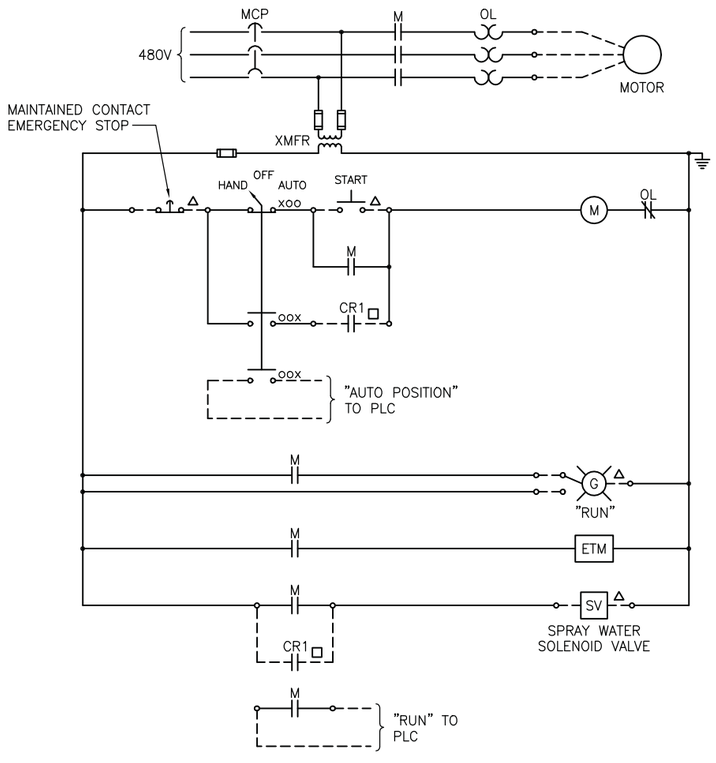
DRAWING No.
E-30-202

SHEET 078 OF 088 SHEETS

LEGEND

△ = REMOTE MOUNTED DEVICE.

□ = DEVICE LOCATED IN LOCAL PANEL.

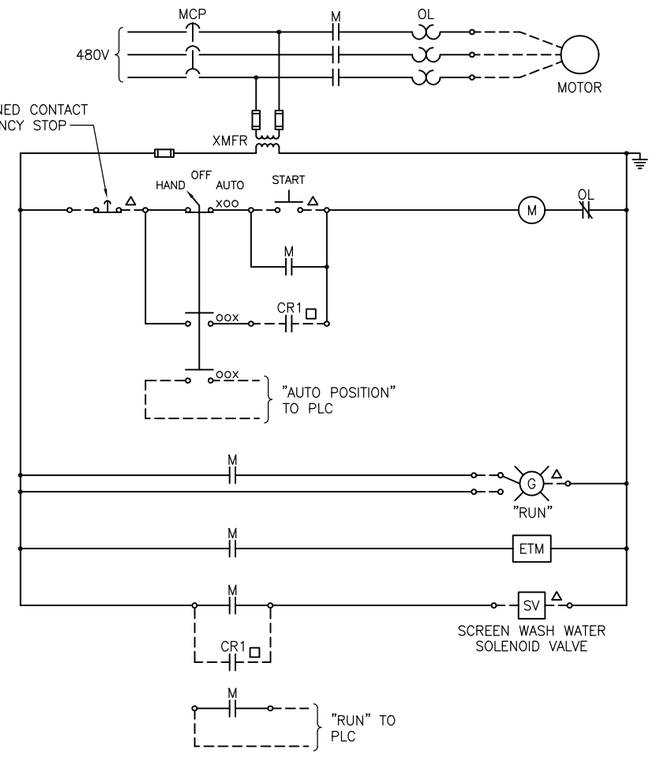


NOTES:

1. CONTRACTOR SHALL CONFIRM CONTROL WIRING INTERFACE TO EXISTING EQUIPMENT AND MODIFY AS REQUIRED.
2. CR1 IS FROM "SPRAY WATER PUMP RELAY" IN SC-102 CONTROL PANEL.

10 SPRAY WATER PUMP SWP-102

NO SCALE



NOTES:

1. CONTRACTOR SHALL CONFIRM CONTROL WIRING INTERFACE TO EXISTING EQUIPMENT AND MODIFY AS REQUIRED.
2. CR1 IS FROM "SCREEN WASH WATER SOLENOID" SIGNAL IN WATER LEVEL DIFFERENTIAL CONTROLLER.

11 WASH WATER PUMP WWP-101

NO SCALE

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DRAWING TITLE

ELECTRICAL
CONTROL DIAGRAMS

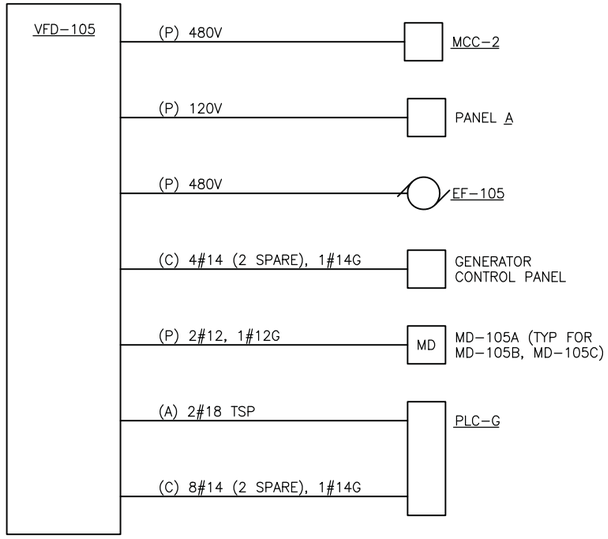
PROJECT No.

O0130014

DRAWING No.

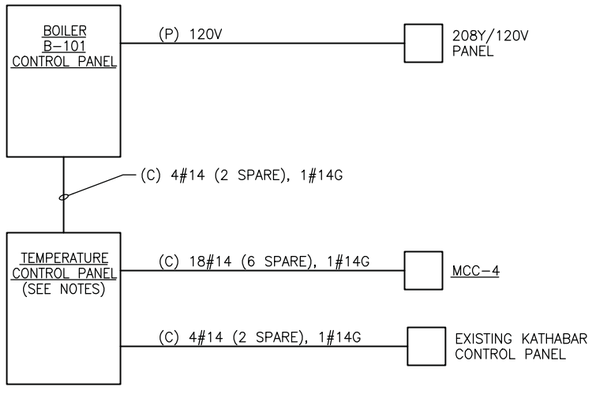
E-30-203

SHEET 079 OF 088 SHEETS



20 EXHAUST FAN EF-105

NO SCALE

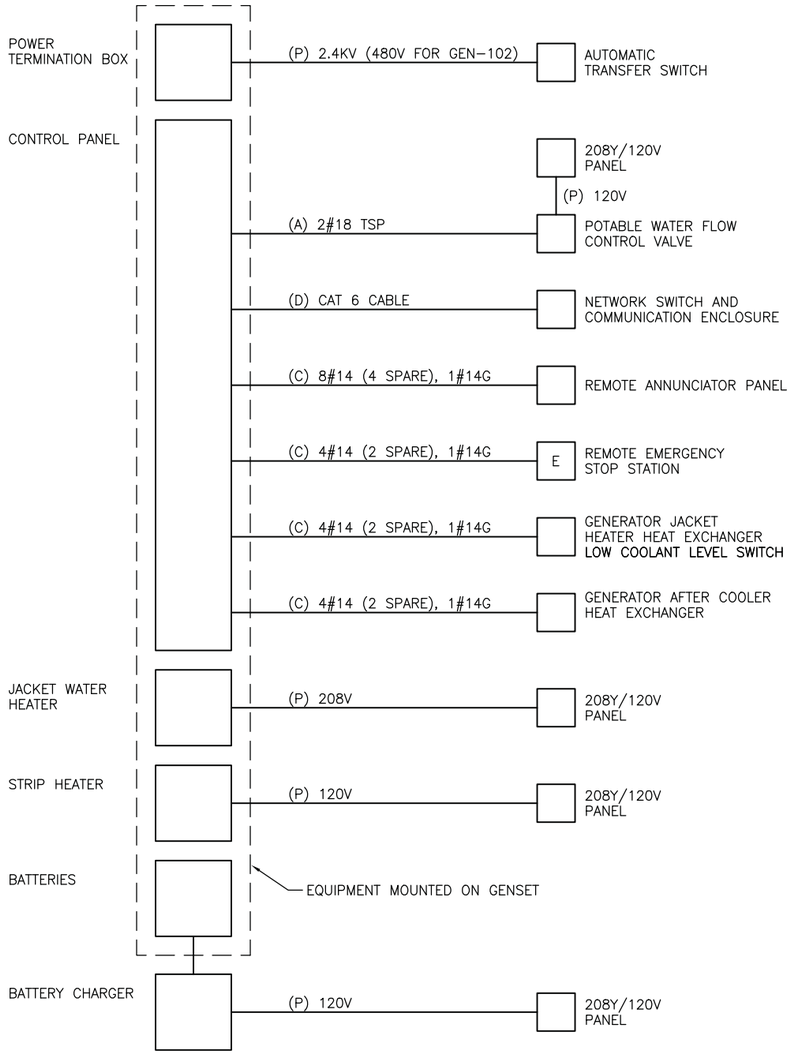


TEMPERATURE CONTROL PANEL NOTES

1. REPLACE EXISTING EAST TEMPERATURE CONTROL PANEL ENCLOSURE WITH NEW 24" x 24" x 6" HINGED COVER ENCLOSURE TO MATCH WEST TEMPERATURE CONTROL PANEL (MOUNT ENCLOSURE BELOW THE WEST TEMPERATURE CONTROL PANEL). PROVIDE NIPPLE CONDUITS BETWEEN PANELS FOR CONTROL WIRES AS REQUIRED.
2. RELOCATE EXISTING SIEMENS I/O MODULE TO NEW PANEL. PROVIDE NEW CONTROL WIRES FROM MCC-4 AND EQUIPMENT CONTROL PANELS FOR THE FOLLOWING POINTS:
   a. HEATING WATER PUMP HWP-101 "KATHABAR" RUN COMMAND (DISCRETE OUTPUT). TYPICAL FOR HWP-102 AND HWP-103.
   b. HEATING WATER PUMP HWP-101 "KATHABAR" RUN (DISCRETE INPUT). TYPICAL FOR HWP-102 AND HWP-103.
   c. KATHABAR STATUS (DISCRETE INPUT)
   d. BOILER B-101 ENABLE (DISCRETE OUTPUT)
3. RELOCATE EXISTING (3) CONTROL DEVICES MOUNTED ON SIDE OF EXISTING PANEL TO NEW PANEL. PROVIDE CONTROL WIRING AS REQUIRED FOR EXISTING CONTROL FUNCTION.
4. RELOCATE EXISTING POWER SUPPLY AND PROVIDE 120 VOLT POWER FEED.
5. PROVIDE WIRING FOR TRANSMIT/RECEIVE SIGNAL TO EXISTING I/O MODULE IN EXISTING WEST TEMPERATURE CONTROL PANEL.
6. VERIFY THAT BOILER B-101 CONTROL OPERATION MATCHES EXISTING CONTROL LOGIC FOR EXISTING BOILER AND PROVIDES PROPER INTERFACE WITH EXISTING KATHABAR CONTROL SYSTEM.

23 TEMPERATURE CONTROL SYSTEM

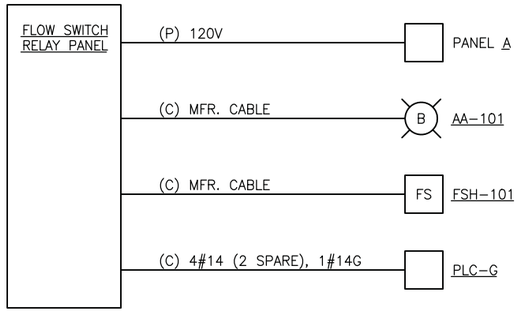
NO SCALE



21 GENERATOR GEN-101

NO SCALE

TYPICAL FOR THE FOLLOWING:
- GEN-102

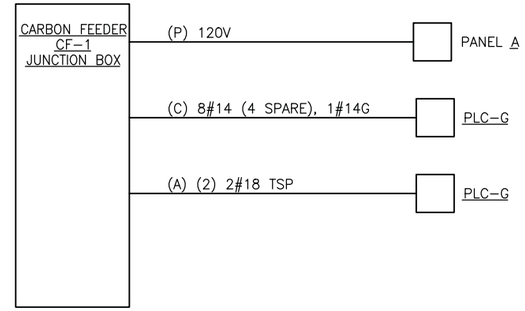


24 EYE WASH SHOWER ESEW-101

NO SCALE

CABLE LEGEND

(A) ANALOG
(C) CONTROL
(D) DATA
(P) POWER

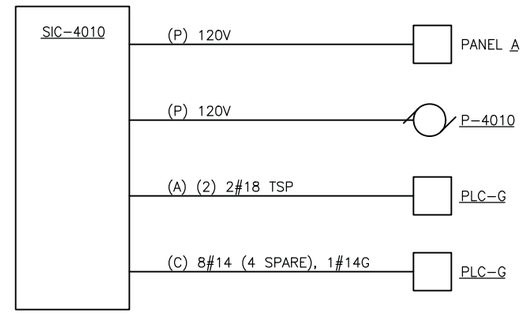


NOTES

1. CONTRACTOR SHALL COORDINATE WITH EXISTING CARBON FEEDER MANUFACTURER TO HAVE THE PLC LOCATED IN CONTROL PANEL REPROGRAMMED FOR REMOTE START SIGNAL AND CARBON FEED RATE.

22 CARBON FEEDER CF-1

NO SCALE



POTASSIUM PERMANGANATE CHEMICAL METERING PUMP P-4010

25

NO SCALE

TYPICAL FOR THE FOLLOWING:
- P-4011

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

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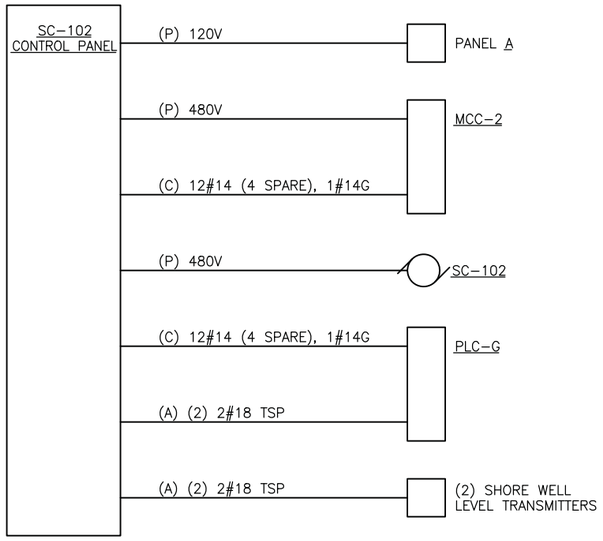
DRAWING TITLE
ELECTRICAL INTERCONNECT DIAGRAMS

PROJECT No.
O0130014

DRAWING No.
E-30-204

SHEET 080 OF 088 SHEETS

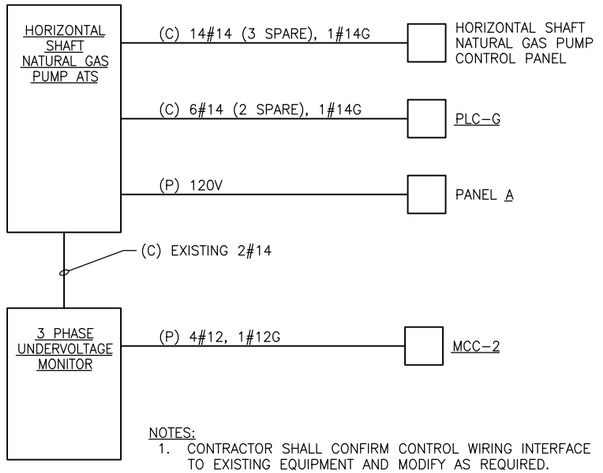


26 TRAVELING SCREEN SC-102

NO SCALE

CABLE LEGEND

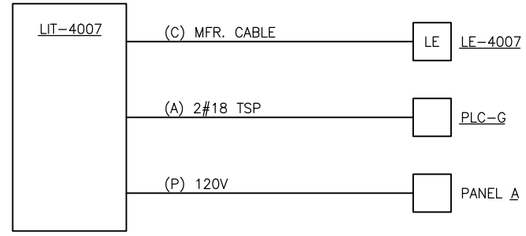
(A) ANALOG
(C) CONTROL
(D) DATA
(P) POWER



NOTES:
1. CONTRACTOR SHALL CONFIRM CONTROL WIRING INTERFACE TO EXISTING EQUIPMENT AND MODIFY AS REQUIRED.

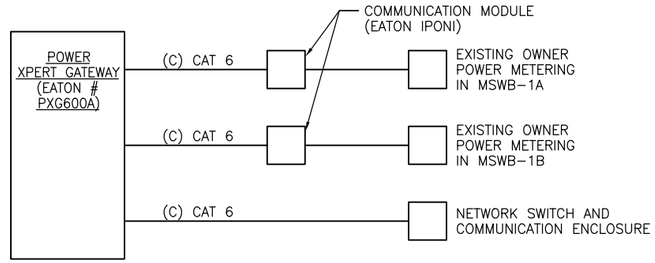
27 LLPS HORIZONTAL SHAFT PUMP

NO SCALE



28 LEVEL TRANSMITTER LIT-4007

NO SCALE

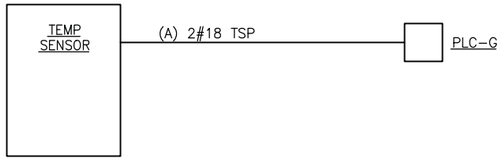


NOTES:
1. PROVIDE EATON # ELC-PS02 POWER SUPPLY FOR GATEWAY.
2. PROVIDE 8 HOURS FIELD SERVICE BY MANUFACTURER'S REPRESENTATIVE TO CONFIGURE GATEWAY AND COORDINATE WITH OWNER ON PROGRAMMING OF PLANT SCADA SYSTEM.

32 MSWB-1A SWITCHBOARD METERING

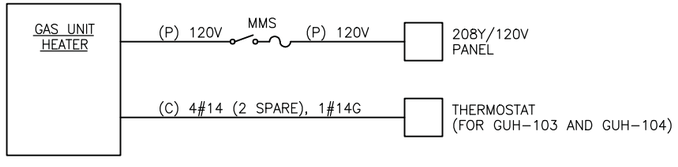
NO SCALE

TYPICAL FOR THE FOLLOWING:
- MSWB-1B



29 TEMPERATURE SENSOR

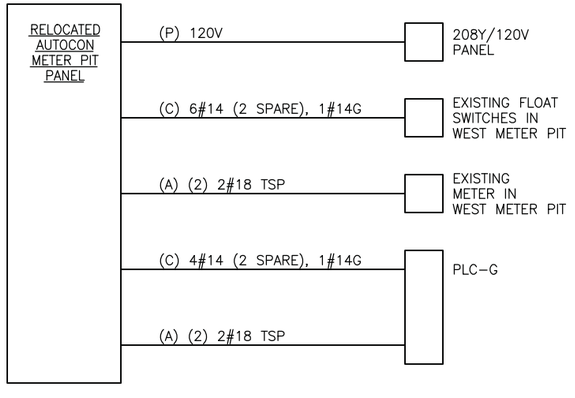
NO SCALE



30 GAS UNIT HEATER GUH-101

NO SCALE

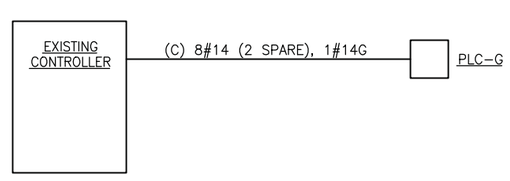
TYPICAL FOR THE FOLLOWING:
- GUH-102,GUH-103,GUH-104



NOTES:
1. REMOVE ABANDONED 9#14 FROM AUTOCON METER PIT PANEL TO OLD COMPUTER STATION.
2. REMOVE ABANDONED (2) 2#18 TSP CABLES FROM AUTOCON METER PIT PANEL TO RECLAIM BASIN.
3. REPLACE EXISTING WIRES AND CABLES FROM WEST METER PIT TO AUTOCON METER PIT PANEL (EXTEND CONDUITS TO RELOCATED PANEL).

31 AUTOCON METER

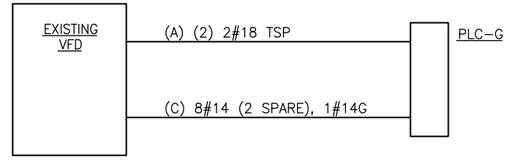
NO SCALE



33 LOW LIFT PUMP #1 CONTROLLER

NO SCALE

TYPICAL FOR THE FOLLOWING:
- PUMP #3, #4, #5, #6, #8



34 LOW LIFT PUMP #2 VFD

NO SCALE

TYPICAL FOR THE FOLLOWING:
- PUMP #7

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Partners in Design ARCHITECTS

OAK CREEK
WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY: SEM
DRAWN BY: JRF
CHECKED BY: CEC
DATE CHECKED: 01/11

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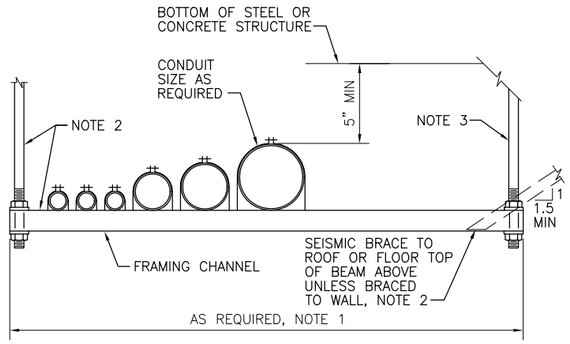
DRAWING TITLE
ELECTRICAL
INTERCONNECT DIAGRAMS

PROJECT No.
O0130014

DRAWING No.
E-30-205

SHEET 081 OF 088 SHEETS

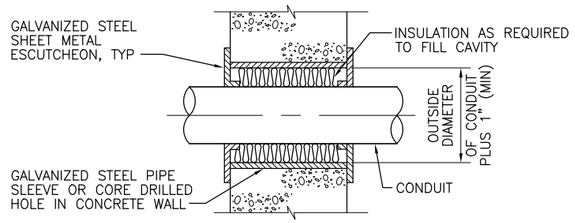


SINGLE RACK

NOTES:

1. LENGTH VARIES WITH NUMBER OF CONDUITS TO BE SUPPORTED AND SPACING BETWEEN CONDUITS.
2. DETERMINE SPAN AND TYPE OF SUPPORTS, LOCATE SUPPORTS, AND SIZE SUPPORT RODS, CONNECTIONS AND BRACES PER MANUFACTURER'S RECOMMENDATIONS AND SEISMIC REQUIREMENTS.
3. AT STEEL STRUCTURE, USE GRINNEL MALLEABLE BEAM CLAMP. AT CONCRETE STRUCTURE, USE UNIVERSAL CONCRETE INSERT, UNISTRUT CHANNEL WITH #4 x 3'-0" BELOW, OR GRINNEL FIGURE 52 ATTACHMENT PLATE, SIMILAR. TYPE AND SIZE AS REQUIRED BY TOTAL LOADS.
4. USE STAINLESS STEEL HARDWARE IN WET AND/OR CORROSIVE AREAS.
5. SPACE CONDUIT SUFFICIENTLY TO ALLOW REMOVAL OF ONE CONDUIT WITHOUT DISTURBING ADJACENT CONDUITS.

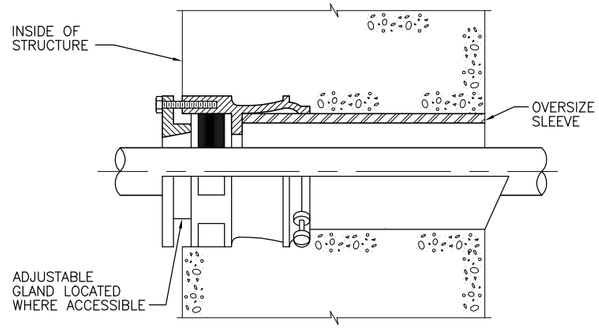
1 CONDUIT RACKING SYSTEM
NO SCALE



NOTE:

CONDUITS WHICH INDIVIDUALLY PASS THRU AN INTERIOR WALL SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL. IF WALL IS A FIRE WALL, FILL CAVITY WITH FIRE STOP SEALANT SPECIFIED IN SECTION 07 84 00.

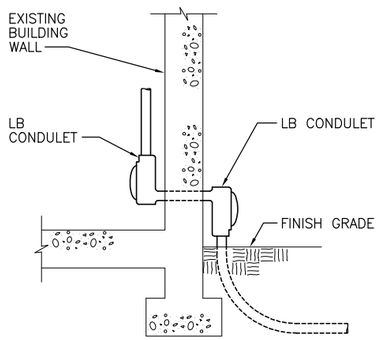
2 INTERIOR WALL PENETRATION
NO SCALE



NOTES:

1. USE WATERTIGHT CONDUIT SEAL WHERE CONDUIT PENETRATIONS OF BUILDING EXTERIOR WALLS ARE BELOW GRADE AND CONDUIT FEEDS INTO INTERIOR EXPOSED SPACE.

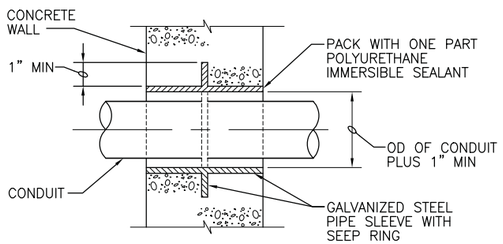
3 WATERTIGHT WALL CONDUIT SEAL
NO SCALE



NOTES:

1. INSTALL CONDUITS THROUGH EXISTING WALLS IN ACCORDANCE WITH THIS DETAIL IF NOT OTHERWISE INDICATED.
2. DRILL HOLE USING METHODS THAT LEAVE A SMOOTH OPENING. SEAL OPENING AROUND CONDUIT, INSIDE AND OUTSIDE, WITH ONE PART POLYURETHANE IMMERSIBLE SEALANT.

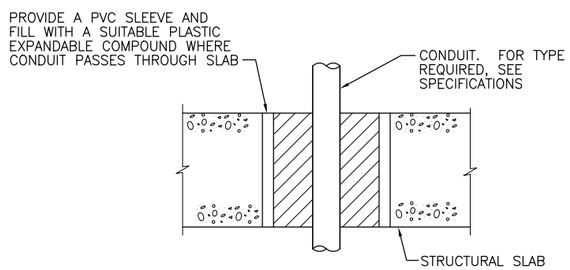
4 CONDUIT ENTRANCE
NO SCALE



NOTES:

1. ALL CONDUITS THROUGH WALL WITH EXCAVATED FILL ON EACH SIDE OF WALL SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL.

5 CONDUIT UNDERGROUND ENTRANCE
NO SCALE



NOTE:

ALL CONDUITS THROUGH CONCRETE FLOOR SLABS AND EQUIPMENT PADS SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL.

6 SLAB PENETRATION
NO SCALE

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OAK CREEK WATER and SEWER UTILITY

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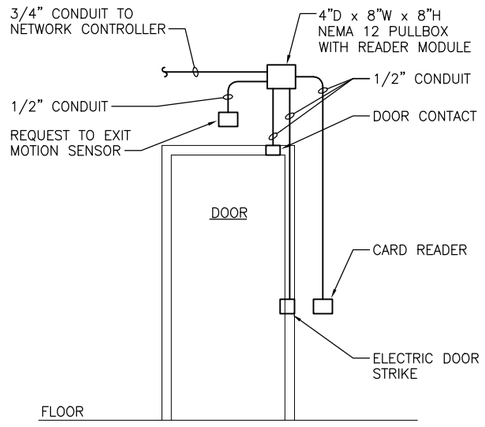
DRAWING TITLE
ELECTRICAL DETAILS

PROJECT No.
O0130014

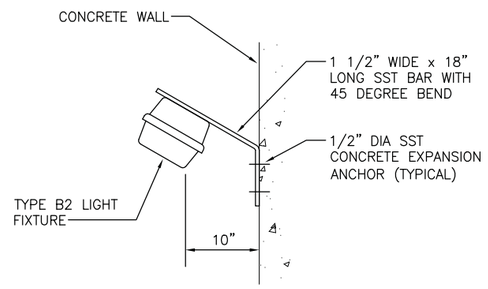
DRAWING No.
E-30-301

SHEET 082 OF 088 SHEETS



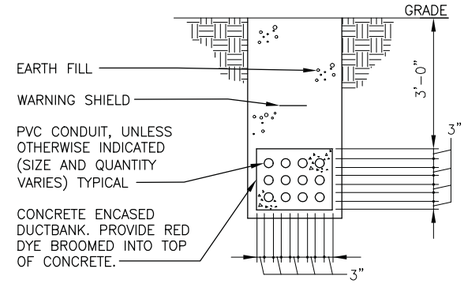
NOTES:
1. LOCATE PULLBOX WITH READER MODULE 12" ABOVE DOOR OR 6" ABOVE DROP CEILING IF DROP CEILING IS PRESENT.

7 ACCESS CONTROL EQUIPMENT MOUNTING
NO SCALE

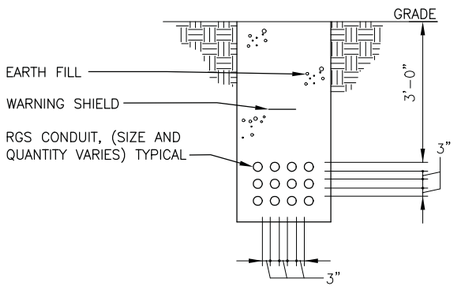


NOTE:
PROVIDE 2 MOUNTING BRACKETS PER LIGHT FIXTURE.

8 TYPE B2 LIGHT FIXTURE INSTALLATION
NO SCALE



9 CONCRETE ENCASED DUCTBANK
NO SCALE



NOTES:
1. BACKFILL WITH SAND AROUND CONDUITS AND UP TO 4" ABOVE CONDUITS.

10 DIRECT BURIED CONDUIT
NO SCALE

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Partners in Design ARCHITECTS

OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SEM
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

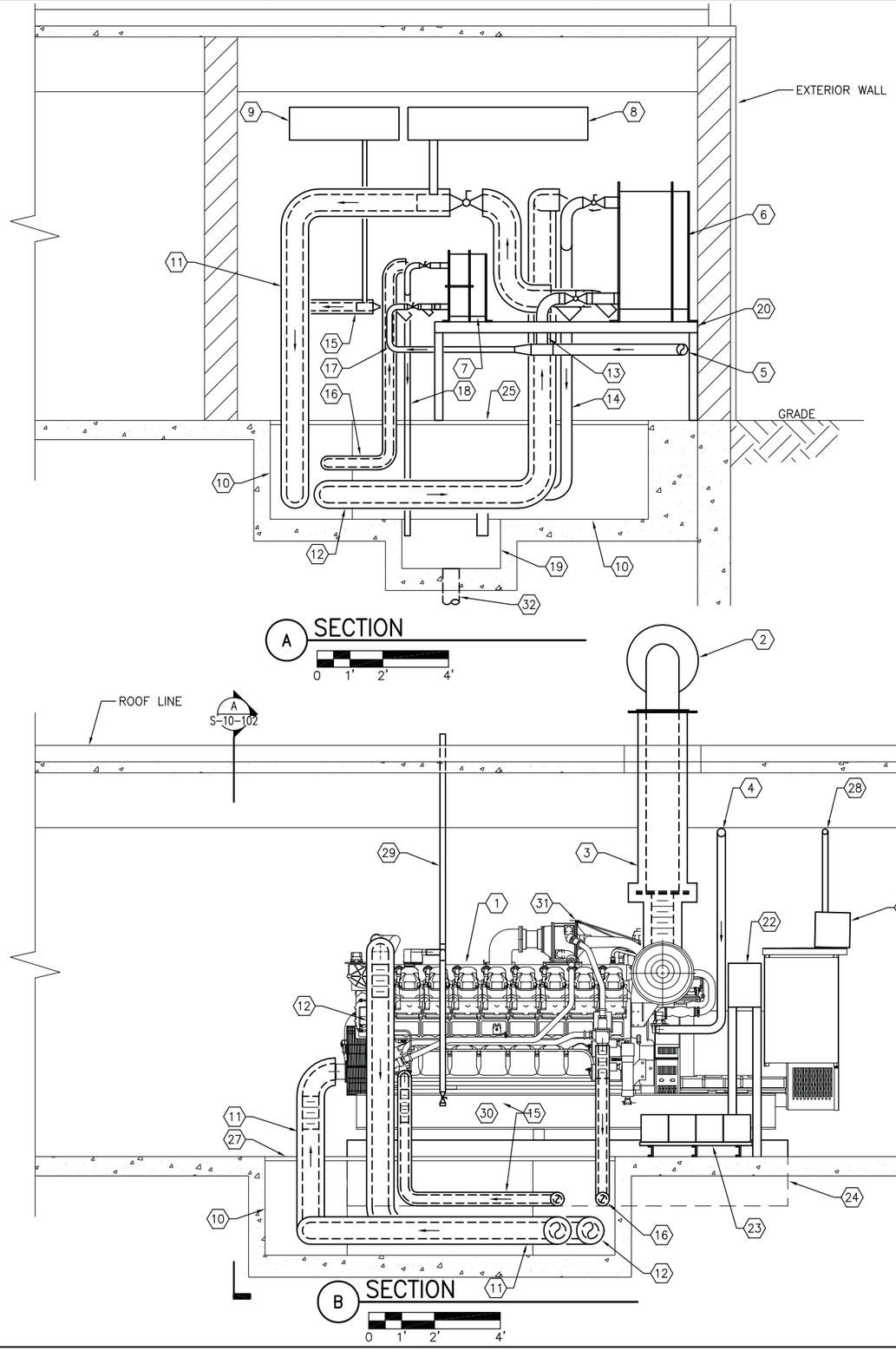
DATE	REVISION
3/21/11	ISSUED FOR CONST.
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ELECTRICAL DETAILS

PROJECT No.
O0130014

DRAWING No.
E-30-302

SHEET 083 OF 088 SHEETS



NOTES

1. SEE DRAWINGS E-00-101, P-00-101, AND HV-00-101 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. EXPOSED INSULATED COOLANT PIPING IN ELECTRICAL ROOM SHALL HAVE STAINLESS STEEL JACKET FROM FLANGE CONNECTION ON GENERATOR DOWN TO FLOOR AND EXTEND 2" BELOW ALUMINUM PLATE ON TRENCH. JACKET SEAM SHALL BE ON GENERATOR SIDE OF PIPE.
3. GENERATOR SHALL BE MOVED TO THE EAST IN THE ELECTRICAL ROOM TO PROVIDE 36" CLEARANCE BETWEEN GENERATOR CONTROL PANEL AND OPENED DAMPER BLADES AND ACTUATOR. FINAL LOCATION SHALL BE DETERMINED IN THE FIELD.

(#) KEYNOTES

1. GENERATOR GEN-101.
2. GENERATOR SILENCER.
3. INSULATED 12" DIAMETER EXHAUST PIPING.
4. 3" GAS PIPING TO GENERATOR.
5. 4" POTABLE WATER PIPING.
6. JACKET WATER HEAT EXCHANGER HX-101A.
7. AFTER COOLER HEAT EXCHANGER HX-101B.
8. JACKET WATER LOOP EXPANSION TANK.
9. AFTER COOLER LOOP EXPANSION TANK.
10. PIPE TRENCH.
11. INSULATED 6" JACKET WATER COOLANT SUPPLY PIPING.
12. INSULATED 6" JACKET WATER COOLANT RETURN PIPING.
13. 4" POTABLE WATER PIPING FOR JACKET WATER HEAT EXCHANGER.
14. 4" DRAIN PIPING FOR JACKET WATER HEAT EXCHANGER.
15. INSULATED 3" AFTER COOLER COOLANT SUPPLY PIPING.
16. INSULATED 3" AFTER COOLER COOLANT RETURN PIPING.
17. 2" POTABLE WATER PIPING FOR AFTER COOLER HEAT EXCHANGER.
18. 2" DRAIN PIPING FOR AFTER COOLER HEAT EXCHANGER.
19. SUMP PIT.
20. ALUMINUM GRATING ON STAINLESS STEEL SUPPORT RACK.
21. GENERATOR CONTROL PANEL.
22. BATTERY CHARGER.
23. BATTERY RACK.
24. GENERATOR EQUIPMENT PAD.
25. ALUMINUM GRATING OVER PIPE TRENCH.
26. INTAKE AIR LOUVER AND MOTORIZED DAMPER.
27. ALUMINUM PLATE OVER PIPE TRENCH.
28. CONDUITS FOR 120 VOLT POWER AND CONTROL WIRING.
29. 2" PIPING FOR CRANKCASE FUME DISPOSAL.
30. 2" PIPING WITH VALVE FOR CRANKCASE DRIP COLLECTOR.
31. AUTOMATIC BREATHER VALVE FOR AIR BLEED.
32. 6" SANITARY PIPING.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE
WATER TREATMENT PLANT AND LOW LIFT PUMP STATION STANDBY POWER

DESIGNED BY:	SEM/JRF
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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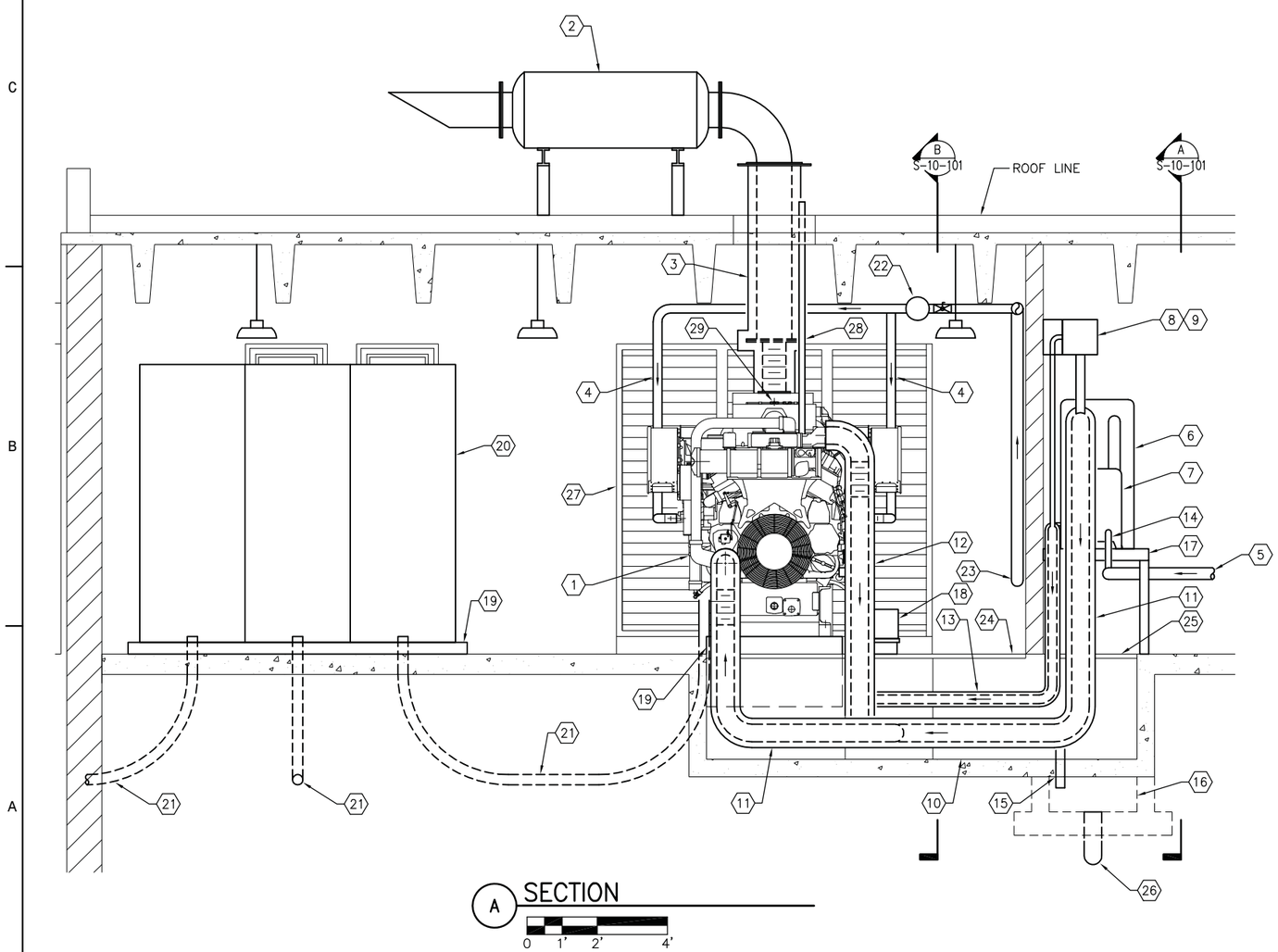
2/3/11	ISSUED FOR BIDS

DRAWING TITLE
ADMINISTRATION AND FILTRATION FACILITY BUILDING SECTIONS

PROJECT No.
O0130014

DRAWING No.
S-10-101

SHEET 084 OF 088 SHEETS



A SECTION

0 1' 2' 4'

NOTES

1. SEE DRAWINGS E-00-101, P-00-101, AND HV-00-101 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. EXPOSED INSULATED COOLANT PIPING IN ELECTRICAL ROOM SHALL HAVE STAINLESS STEEL JACKET FROM FLANGE CONNECTION ON GENERATOR DOWN TO FLOOR AND EXTEND 2" BELOW ALUMINUM PLATE ON TRENCH. JACKET SEAM SHALL BE ON GENERATOR SIDE OF PIPE.

(#) KEYNOTES

1. GENERATOR GEN-101.
2. GENERATOR SILENCER.
3. INSULATED 12" DIAMETER EXHAUST PIPING.
4. 3" GAS PIPING TO GENERATOR.
5. 4" POTABLE WATER PIPING.
6. JACKET WATER HEAT EXCHANGER HX-101A.
7. AFTER COOLER HEAT EXCHANGER HX-101B.
8. JACKET WATER LOOP EXPANSION TANK.
9. AFTER COOLER LOOP EXPANSION TANK.
10. PIPE TRENCH.
11. INSULATED 6" JACKET WATER COOLANT SUPPLY PIPING.
12. INSULATED 6" JACKET WATER COOLANT RETURN PIPING.
13. INSULATED 3" AFTER COOLER COOLANT SUPPLY PIPING.
14. 2" POTABLE WATER PIPING FOR AFTER COOLER HEAT EXCHANGER.
15. 2" DRAIN PIPING FOR AFTER COOLER HEAT EXCHANGER.
16. SUMP PIT.
17. ALUMINUM GRATING ON STAINLESS STEEL SUPPORT RACK.
18. BATTERY RACK.
19. EQUIPMENT PAD.
20. ATS-101 AND WE ENERGIES METERING SECTION.
21. CONCRETE ENCASED UNDERGROUND CONDUITS WITH 5KV CABLES.
22. GAS VALVE AND REGULATOR.
23. 4" GAS PIPING TO GAS METER.
24. ALUMINUM PLATE OVER PIPE TRENCH.
25. ALUMINUM GRATING OVER PIPE TRENCH.
26. 6" SANITARY PIPING.
27. MOTORIZED DAMPERS.
28. 2" PIPING FOR CRANKCASE FUME DISPOSAL.
29. AUTOMATIC BREATHER VALVE FOR AIR BLEED.

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE

WATER TREATMENT PLANT
AND LOW LIFT PUMP STATION
STANDBY POWER

DESIGNED BY:	SEM/JRF
DRAWN BY:	JRF
CHECKED BY:	CEC
DATE CHECKED:	01/11

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

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2/3/11	ISSUED FOR BIDS

DRAWING TITLE

ADMINISTRATION AND
FILTRATION FACILITY
BUILDING SECTION

PROJECT No.
O0130014

DRAWING No.
S-10-102

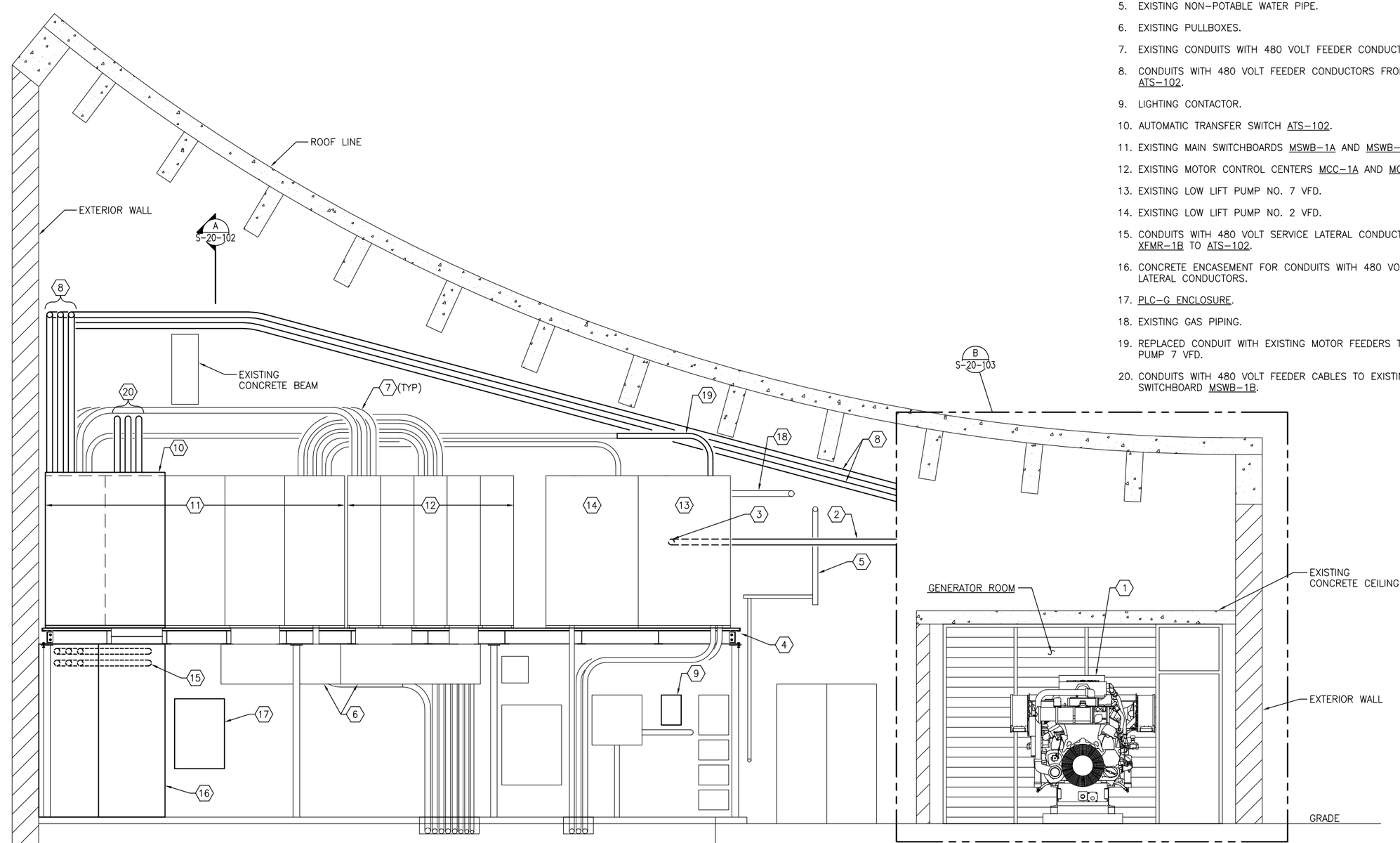
SHEET 085 OF 088 SHEETS

NOTES

1. SEE DRAWINGS E-00-101, P-00-101, AND HV-00-101 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.

KEYNOTES

1. GENERATOR GEN-102.
2. 3" GAS PIPING TO GENERATOR.
3. 3" GAS PIPING FROM GAS METER.
4. EXISTING MEZZANINE.
5. EXISTING NON-POTABLE WATER PIPE.
6. EXISTING PULLBOXES.
7. EXISTING CONDUITS WITH 480 VOLT FEEDER CONDUCTORS.
8. CONDUITS WITH 480 VOLT FEEDER CONDUCTORS FROM GEN-102 TO ATS-102.
9. LIGHTING CONTACTOR.
10. AUTOMATIC TRANSFER SWITCH ATS-102.
11. EXISTING MAIN SWITCHBOARDS MSWB-1A AND MSWB-1B.
12. EXISTING MOTOR CONTROL CENTERS MCC-1A AND MCC-1B.
13. EXISTING LOW LIFT PUMP NO. 7 VFD.
14. EXISTING LOW LIFT PUMP NO. 2 VFD.
15. CONDUITS WITH 480 VOLT SERVICE LATERAL CONDUCTORS FROM XFMR-1B TO ATS-102.
16. CONCRETE ENCASEMENT FOR CONDUITS WITH 480 VOLT SERVICE LATERAL CONDUCTORS.
17. PLC-G ENCLOSURE.
18. EXISTING GAS PIPING.
19. REPLACED CONDUIT WITH EXISTING MOTOR FEEDERS TO LOW LIFT PUMP 7 VFD.
20. CONDUITS WITH 480 VOLT FEEDER CABLES TO EXISTING MAIN SWITCHBOARD MSWB-1B.



A SECTION

0 1' 2' 4' 6'

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OAK CREEK WATER and SEWER UTILITY

PROJECT TITLE

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AND LOW LIFT PUMP STATION
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DRAWING TITLE

LOW LIFT PUMP STATION
BUILDING SECTION

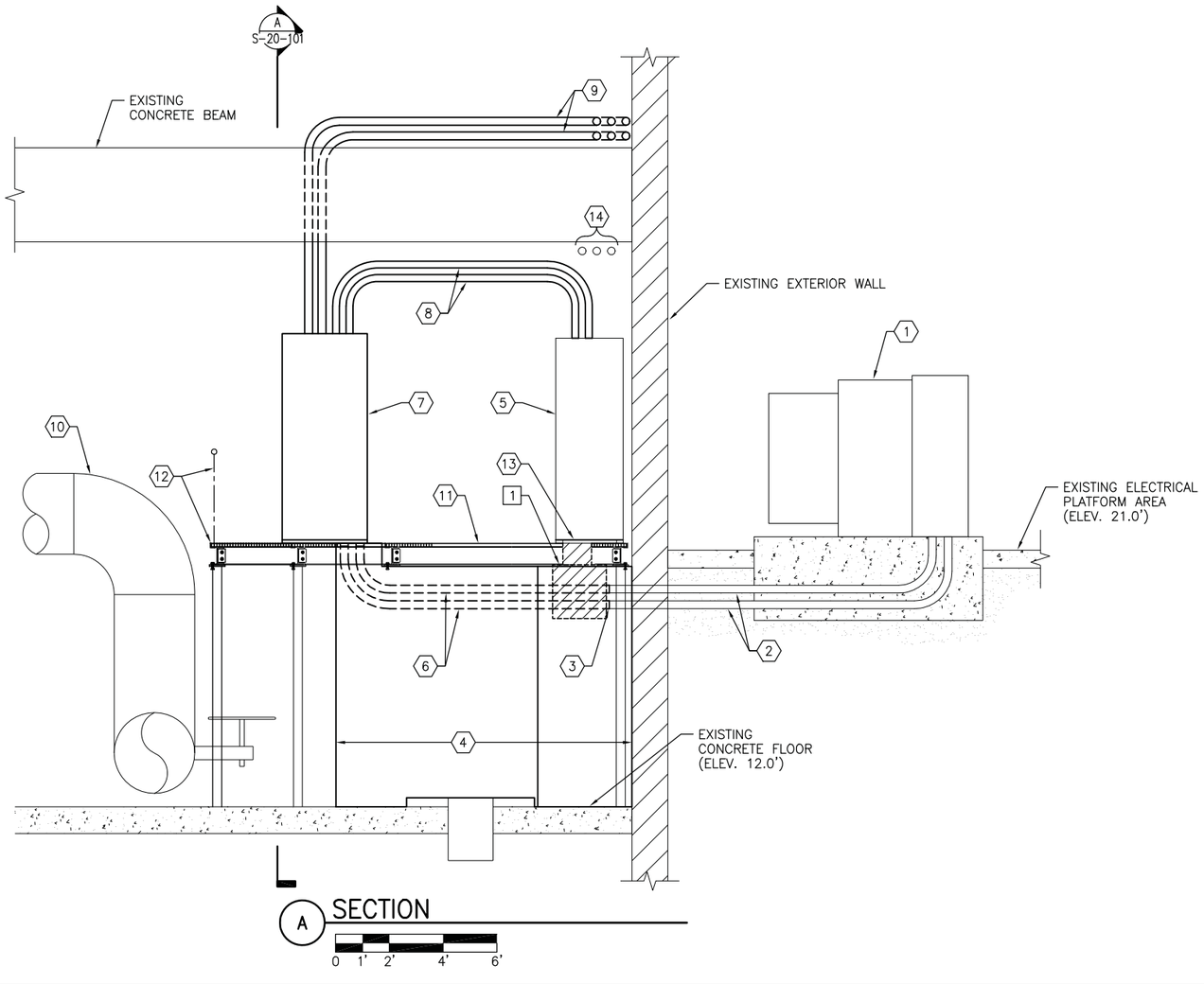
PROJECT No.

O0130014

DRAWING No.

S-20-101

SHEET 086 OF 088 SHEETS



NOTES

1. SEE DRAWING E–00–101, P–00–101, AND HV–00–101 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.

DEMOLITION KEYNOTES

1. REMOVE EXISTING PULLBOX AND SERVICE LATERAL CABLES FROM TRANSFORMER XFMR–1B TO MAIN SWITCHBOARD MSWB–1B.

KEYNOTES

1. EXISTING TRANSFORMER XFMR–1B.
2. REPLACE EXISTING 480 VOLT SERVICE LATERAL CABLES IN UNDERGROUND CONDUITS.
3. CONNECT NEW CONDUITS TO EXISTING CONDUITS WHERE THEY PENETRATE EXISTING EXTERIOR WALL.
4. CONCRETE WALL TO ENCASE SERVICE LATERAL CONDUITS.
5. EXISTING MAIN SWITCHBOARD MSWB–1B.
6. CONDUITS WITH 480 VOLT SERVICE LATERAL CABLES ENCASED IN CONCRETE TO AUTOMATIC TRANSFER SWITCH ATS–102.
7. AUTOMATIC TRANSFER SWITCH ATS–102.
8. CONDUITS WITH 480 VOLT FEEDER CABLES TO EXISTING MAIN SWITCHBOARD MSWB–1B.
9. CONDUITS WITH 480 VOLT FEEDER CABLES FROM NATURAL GAS STANDBY GENERATOR GEN–102.
10. EXISTING 36" RAW WATER PIPE.
11. EXISTING MEZZANINE.
12. NEW MEZZANINE AND HANDRAIL.
13. PROVIDE STEEL PLATE IN BOTTOM OF MSWB–1B TO COVER OPENING WHERE CABLES ENTERED BOTTOM OF EQUIPMENT.
14. EXISTING CONDUITS WITH 480 VOLT FEEDER CONDUCTORS.

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DRAWING TITLE
LOW LIFT PUMP STATION
BUILDING SECTION

PROJECT No.
O0130014

DRAWING No.
S-20-102

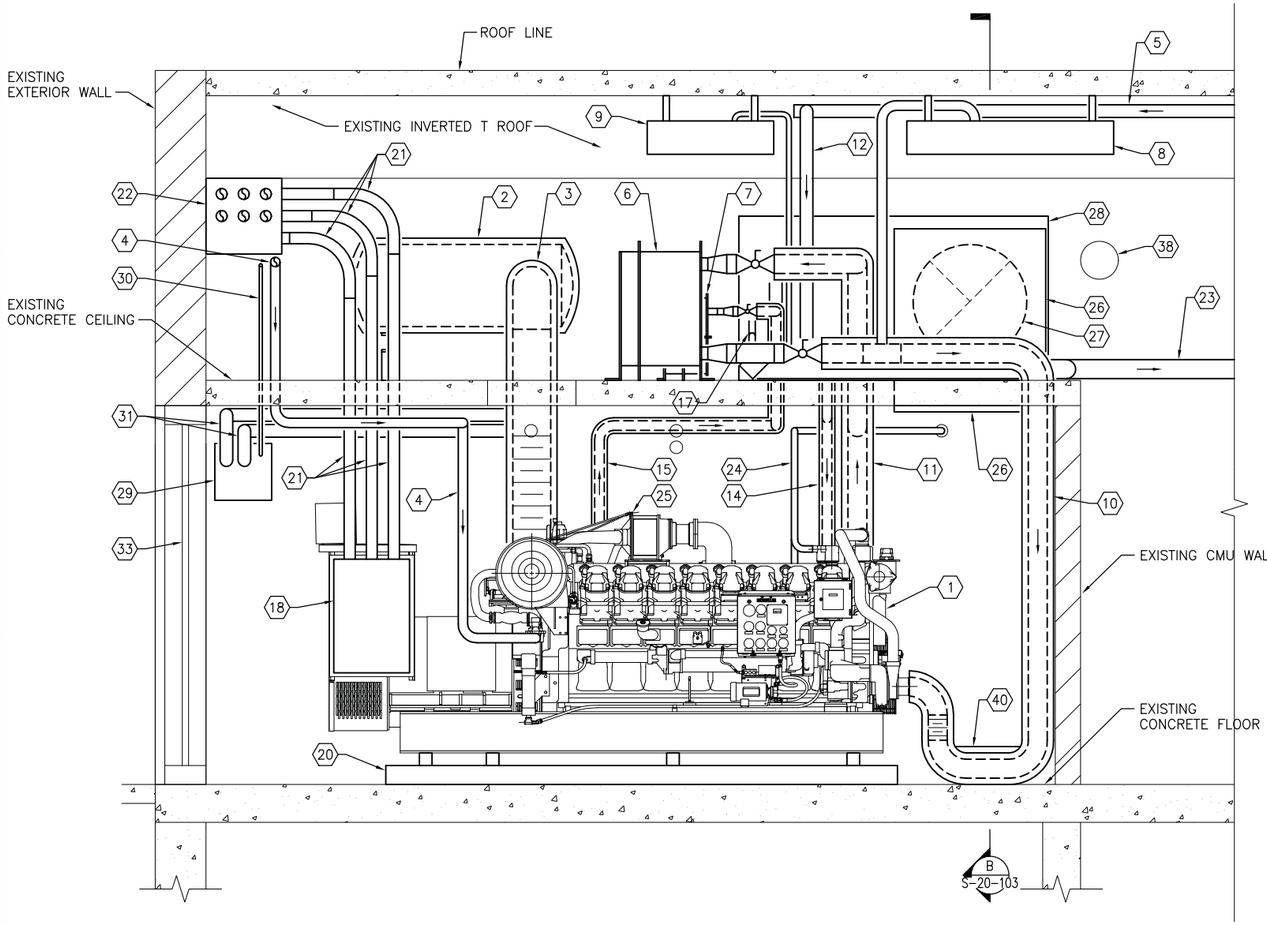
SHEET 087 OF 088 SHEETS

NOTES

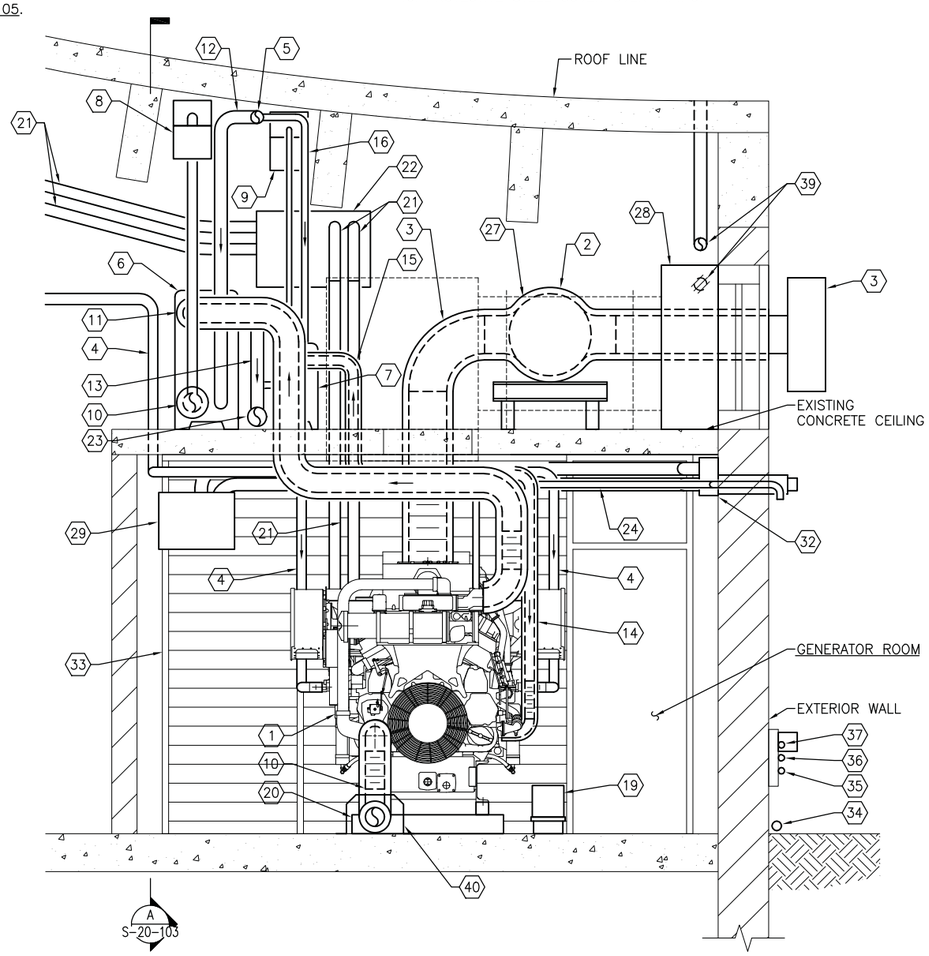
1. SEE DRAWING E-00-101, P-00-101, AND HV-00-101 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. GUARDRAIL AROUND EXISTING CONCRETE CEILING NOT SHOWN FOR CLARITY.

KEYNOTES

1. GENERATOR GEN-102.
2. GENERATOR SILENCER.
3. 12" DIAMETER EXHAUST PIPING WITH STEEL SCREEN ON END OF HORIZONTAIL PIPE.
4. 2" GAS PIPING TO GENERATOR.
5. 4" POTABLE WATER PIPING.
6. JACKET WATER HEAT EXCHANGER HX-102A.
7. AFTER COOLER HEAT EXCHANGER HX-102B.
8. JACKET WATER LOOP EXPANSION TANK.
9. AFTER COOLER LOOP EXPANSION TANK.
10. INSULATED 6" JACKET WATER COOLANT SUPPLY PIPING.
11. INSULATED 6" JACKET WATER COOLANT RETURN PIPING.
12. 4" POTABLE WATER PIPING FOR JACKET WATER HEAT EXCHANGER.
13. 4" DRAIN PIPING FOR JACKET WATER HEAT EXCHANGER.
14. INSULATED 3" AFTER COOLER COOLANT SUPPLY PIPING.
15. INSULATED 3" AFTER COOLER COOLANT RETURN PIPING.
16. 2" POTABLE WATER PIPING FOR AFTER COOLER HEAT EXCHANGER.
17. 2" DRAIN PIPING FOR AFTER COOLER HEAT EXCHANGER.
18. GENERATOR MAIN CIRCUIT BREAKER.
19. BATTERY RACK.
20. CONCRETE EQUIPMENT PAD.
21. CONDUITS WITH 480 VOLT FEEDER CABLES.
22. PULLBOX.
23. 6" DRAIN PIPING FROM HEAT EXCHANGERS.
24. 2" PIPING FOR CRANKCASE FUME DISPOSAL.
25. AUTOMATIC BREATHER VALVE FOR AIR BLEED.
26. 48"x48" EXHAUST DUCTWORK WITH EXHAUST GRILLE.
27. EXHAUST FAN EF-105.
28. EXHAUST LOUVER EL-101 WITH 18" DEEP PLENUM.
29. GAS FIRED UNIT HEATER GUH-102.
30. 3/4" GAS PIPING TO GAS FIRED UNIT HEATER.
31. COMBUSTION AIR INTAKE AND FLUE VENT FOR GAS FIRED UNIT HEATER.
32. CONCENTRIC VENT KIT FOR GAS FIRED UNIT HEATER.
33. MOTORIZED DAMPERS.
34. FLEXIBLE CARBON FEED PIPING.
35. 3/4" COMPRESSED AIR PIPING.
36. 1 1/2" INSULATED POTABLE WATER PIPING.
37. (3) 3/4" CONDUITS FEEDING CARBON FEEDER JUNCTION BOX.
38. EXISTING 6" EXHAUST PIPE.
39. RELOCATE EXISTING 4" STORM DRAIN PIPING.
40. PROTECTIVE STEEL COVER OVER PIPING.



A SECTION
0 1' 2' 4'



B SECTION
0 1' 2' 4'

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STANDBY POWER

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DRAWING TITLE
LOW LIFT PUMP STATION
BUILDING SECTIONS

PROJECT No.
O0130014

DRAWING No.
S-20-103

SHEET 088 OF 088 SHEETS