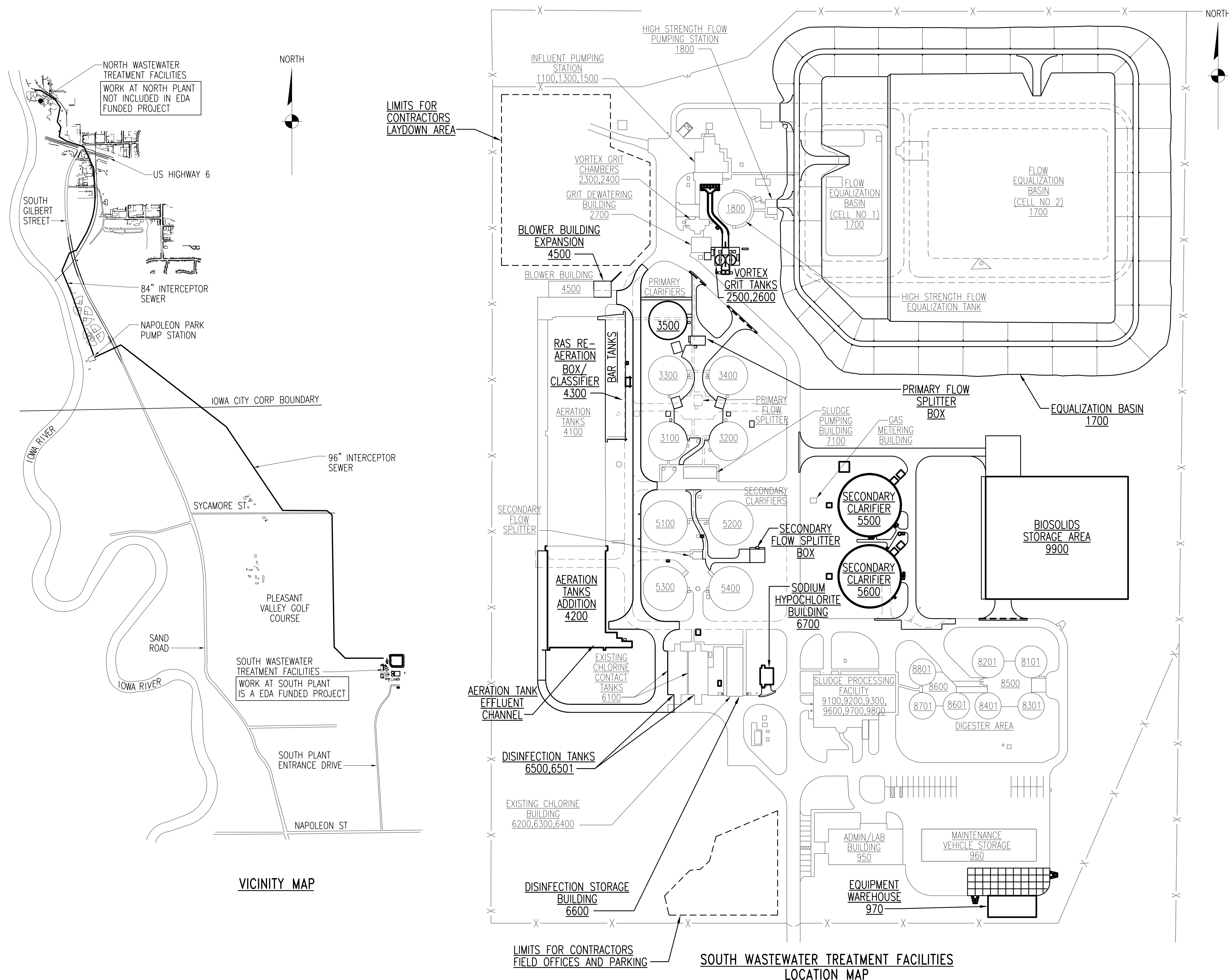


CITY OF IOWA CITY, IOWA WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

VOLUME 1

U.S. DEPARTMENT OF COMMERCE ECONOMIC
DEVELOPMENT ADMINISTRATION FINANCIAL
ASSISTANCE AWARD NO. 05-79-04921



THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:O BENNETT D. REISCHAUER 12-02-11 IA. REG. NO. 07997 EXP. DATE 12-31-13 G1-G7,G10,G14,G21-G29,D41-D46 C1-C5,C11-C22,C27-C29,C57,C58	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:O GREGORY A. LUDWIG 12-02-11 IA. REG. NO. 03589 EXP. DATE 06-30-13 A1-A4	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:O KEVIN B. HALL 12-02-11 IA. REG. NO. 17771 EXP. DATE 12-31-13 S1-S7
THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:O THOMAS J. MORGAN 12-02-11 IA. REG. NO. 19064 EXP. DATE 12-31-13 ALL "D" DRAWINGS, ALL "P" DRAWINGS, G8	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:O CANDICE LYNN BARK 12-02-11 IA. REG. NO. 19910 EXP. DATE 12-31-13 C31-C53,C56	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:O JAY M. BRADY 12-02-11 IA. REG. NO. 13153 EXP. DATE 12-31-12 G11-G13,C61
THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:O JON J. BOVENKAMP 12-02-11 IA. REG. NO. 15551 EXP. DATE 12-31-12 M3-M6	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:O JEREMY D. COOAN 12-02-11 IA. REG. NO. 19921 EXP. DATE 12-31-13 ALL "E" DRAWINGS, G9,D12-D29	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:O KEVIN B. HALL 12-02-11 IA. REG. NO. 17771 EXP. DATE 12-31-13 S1-S8
THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL BENNETT D. REISCHAUER 01-10-12 IA. REG. NO. 07997 EXP. DATE 12-31-13 G1-G7,G10,G14,G21-G29,D41-D46 C1-C5,M1,M2,C11-C29,C55,C57,C58	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL GREGORY A. LUDWIG 01-10-12 IA. REG. NO. 03589 EXP. DATE 06-30-13 A1-A4	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL JAY M. BRADY 01-10-12 IA. REG. NO. 13153 EXP. DATE 12-31-12 G11-G13,C61,P100-P201,P400-P405,P601-P905
THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL THOMAS J. MORGAN 01-10-12 IA. REG. NO. 19064 EXP. DATE 12-31-13 ALL "D" DRAWINGS, ALL "P" DRAWINGS, G8	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL CANDICE LYNN BARK 01-10-12 IA. REG. NO. 19910 EXP. DATE 12-31-13 C31-C53,C56,P301-P304,P501,P502	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL JAY M. BRADY 01-10-12 IA. REG. NO. 13153 EXP. DATE 12-31-12 G11-G13,C61,P100-P201,P400-P405,P601-P905
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THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL BENNETT D. REISCHAUER 01-25-12 IA. REG. NO. 07997 EXP. DATE 12-31-13 G1,G5,C1,C3,C14,C15,C17,C18,C20,C26,C27, C55,C57,C58,D42	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL GREGORY A. LUDWIG 01-25-12 IA. REG. NO. 03589 EXP. DATE 06-30-13 A1,A3	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL KEVIN B. HALL 01-25-12 IA. REG. NO. 17771 EXP. DATE 12-31-13 S1
THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL THOMAS J. MORGAN 01-25-12 IA. REG. NO. 19064 EXP. DATE 12-31-13 G8, ALL "P" DRAWINGS, ALL "D" DRAWINGS	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL CANDICE LYNN BARK 01-25-12 IA. REG. NO. 19910 EXP. DATE 12-31-13 C35,C38,C42,C43,C45,C46, P301-P304,P501,P502	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL JAY M. BRADY 01-25-12 IA. REG. NO. 13153 EXP. DATE 12-31-12 P102,P110,P201,P401,P403-P405 P600-P905
THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL JON J. BOVENKAMP 01-25-12 IA. REG. NO. 15551 EXP. DATE 12-31-12 M4	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL JEREMY D. COOAN 01-25-12 IA. REG. NO. 19921 EXP. DATE 12-31-13 ALL "E" DRAWINGS, G9,D12-D14,D17,D22-D25,D29	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL KEVIN B. HALL 02-22-12 IA. REG. NO. 17771 EXP. DATE 12-31-13 S1,S8
THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL KEVIN B. HALL 02-22-12 IA. REG. NO. 17771 EXP. DATE 12-31-13 S1,S8	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL THOMAS J. MORGAN 02-22-12 IA. REG. NO. 19064 EXP. DATE 12-31-13 P900-P905, I111-I911	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL KEVIN B. HALL 02-22-12 IA. REG. NO. 17771 EXP. DATE 12-31-13 S1,S8
THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL BENNETT D. REISCHAUER 03-06-12 IA. REG. NO. 07997 EXP. DATE 12-31-13 D41-D44,C12,C13,C15,C16,C27	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL THOMAS J. MORGAN 03-06-12 IA. REG. NO. 19064 EXP. DATE 12-31-13 I11-130	THE ORIGINAL OF THIS DRAWING WAS SIGNED, SEALED, AND CERTIFIED BY: REV:ALL KEVIN B. HALL 02-22-12 IA. REG. NO. 17771 EXP. DATE 12-31-13 S1,S8

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PROFESSIONAL ENGINEER
JAMES B. LUND
19754
IOWA

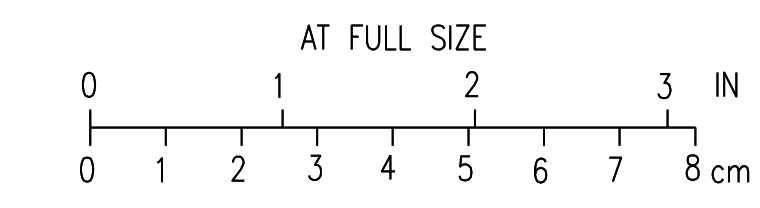
I HEREBY CERTIFY THAT REVISIONS TO THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

JAMES B. LUND 05-011-2012
LICENSE NUMBER: 19754
MY LICENSE RENEWAL DATE IS 12-31-13
PAGE(S) OR SHEET(S) COVERED BY THIS SEAL:
G1,G15,G21,C456,E1,D41,D45,C13,C16,C32,C34-C36,C38,C55,P100,
P200,P201,P400,P403-P405,P502,P600,P602-P700,P800,P806,E111
P807,P810,P902,D17,D22-D24,E14,E16-E16B,E17,E22,E31,I13-I30

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- NORTH WASTEWATER TREATMENT PLANT: 1000 SOUTH CLINTON ST. IOWA CITY, IOWA 52240



4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	CLB	CLB	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

Stanley Consultants Inc.
225 Iowa Avenue, Muscatine, Iowa 52761-3764
www.stanleyconsultants.com

CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

GENERAL
COVER SHEET
DRAWING SET 1 OF 2

DESIGNED	CL BARK	SCALE:	NONE
DRAWN	LJ OSBORN	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		

DWG NO	DRAWING TITLE
	GENERAL
G1	COVER SHEET - DRAWING SET 1 OF 2
G2	DRAWING INDEX - SHEET 1 - DRAWING SET 1 OF 2
G4	GENERAL LEGENDS AND NOTES
G5	GENERAL ABBREVIATIONS
G6	PIPING SYSTEM AND EQUIPMENT CODES
G7	MECHANICAL LEGEND
G8	PIPE & INSTRUMENTATION DIAGRAM LEGEND
G9	ELECTRICAL LEGEND AND NOTES
G10	SITE KEY PLAN
G11	HYDRAULIC PROFILE
G12	FLOW DIAGRAM - PROCESS
G13	FLOW DIAGRAM - SLUDGE
G14	WETLAND - PROTECTION AND RESTORATION
G15	SITE CERTIFICATE PLAN
	CONSTRUCTION SEQUENCING
G21	SHEET 1 - CONSTRUCTION PHASE 1
G22	SHEET 2 - CONSTRUCTION PHASE 2
G23	SHEET 3 - CONSTRUCTION PHASE 3
G24	SHEET 4 - CONSTRUCTION PHASE 4
G25	SHEET 5 - CONSTRUCTION PHASE 5
G26	SHEET 6 - CONSTRUCTION PHASE 6
G27	SHEET 7 - CONSTRUCTION PHASE 7
G28	SHEET 8 - CONSTRUCTION PHASE 8
G29	SHEET 9 - OTHER CONSTRUCTION COMPONENTS
	CIVIL TYPICAL DETAILS
C1	TYPICAL DETAILS - SHEET 1
C2	TYPICAL DETAILS - SHEET 2
C3	TYPICAL DETAILS - SHEET 3
C4	TYPICAL DETAILS - SHEET 4
C5	TYPICAL DETAILS - SHEET 5
	STRUCTURAL TYPICAL NOTES-DETAILS
S1	TYPICAL NOTES - SHEET 1
S2	TYPICAL NOTES - SHEET 2
S3	TYPICAL DETAILS - SHEET 1
S4	TYPICAL DETAILS - SHEET 2
S5	TYPICAL DETAILS - SHEET 3
S6	TYPICAL DETAILS - SHEET 4
S7	TYPICAL DETAILS - SHEET 5
S8	TYPICAL DETAILS - SHEET 6
	ARCHITECTURAL TYPICAL DETAILS-SCHEDULES
A1	INTERIOR FINISH AND OPENING SCHEDULES
A2	TYPICAL OPENING DETAILS
A3	TYPICAL DETAILS - SHEET 1
A4	TYPICAL DETAILS - SHEET 2
	MECHANICAL TYPICAL DETAILS-SCHEDULES
M1	PROCESS PIPING - TYPICAL DETAILS - SHEET 1
M2	PIPING - TYPICAL DETAILS - SHEET 2
M3	PLUMBING & HVAC - TYPICAL DETAILS - SHEET 1
M4	PLUMBING & HVAC - TYPICAL DETAILS - SHEET 2
M5	PLUMBING & HVAC - TYPICAL DETAILS - SHEET 3
M6	PLUMBING & HVAC - TYPICAL DETAILS - SHEET 4
	ELECTRICAL TYPICAL DETAILS-SCHEDULES
E1	TYPICAL NOTES AND WIRING DEVICE SCHEDULE
E2	LIGHTING FIXTURE SCHEDULE - SHEET 1
E3	LIGHTING FIXTURE SCHEDULE - SHEET 2
E4	TYPICAL DETAILS - SHEET 1
E5	TYPICAL DETAILS - SHEET 2
E6	TYPICAL DETAILS - SHEET 3
E7	TYPICAL DETAILS - SHEET 4
E8	TYPICAL DETAILS - SHEET 5

DWG NO	DRAWING TITLE
	SITE DEMOLITION
D41	EQUALIZATION BASIN
D42	PAVING - SHEET 1
D43	PAVING - SHEET 2 - DEMOLITION DETAILS
D44	PAVING - SHEET 3 - DEMOLITION DETAILS
D45	RETURN FLOW MEASUREMENT STRUCTURE - DEMOLITION DETAILS
D46	BYPASS FLOW MEASUREMENT STRUCTURE - DEMOLITION DETAILS
	SITE
C11	SITE GRADING AND DIMENSION PLAN - SHEET 1
C12	SITE GRADING AND DIMENSION PLAN - SHEET 2
C13	SITE GRADING AND DIMENSION PLAN - SHEET 3
C14	SITE GRADING AND DIMENSION PLAN - SHEET 4
C15	SITE GRADING AND DIMENSION PLAN - SHEET 5
C16	SITE GRADING AND DIMENSION PLAN - SHEET 6
C17	SITE GRADING AND DIMENSION PLAN - SHEET 7
C18	SITE GRADING AND DIMENSION PLAN - SHEET 8
C19	SITE GRADING AND DIMENSION PLAN - SHEET 9
C20	SITE GRADING AND DIMENSION PLAN - SHEET 10
C21	SITE GRADING AND DIMENSION PLAN - SHEET 11
C22	SITE GRADING AND DIMENSION PLAN - SHEET 12
C23	ROAD ALIGNMENT TABLES
C24	ROAD PROFILES - SHEET 1
C25	ROAD PROFILES - SHEET 2
C26	PAVING DETAILS - SHEET 1
C27	PAVING DETAILS - SHEET 2
C28	PAVING DETAILS - SHEET 3
C29	PAVING DETAILS - SHEET 4
C31	SITE PIPING PLAN - SHEET 1
C32	SITE PIPING PLAN - SHEET 2
C33	SITE PIPING PLAN - SHEET 3
C34	SITE PIPING PLAN - SHEET 4
C35	SITE PIPING PLAN - SHEET 5
C36	SITE PIPING PLAN - SHEET 6
C37	SITE PIPING PLAN - SHEET 7
C38	SITE PIPING PLAN - SHEET 8
C39	SITE PIPING PLAN - SHEET 9
C40	SITE PIPING PLAN - SHEET 10
C41	SITE PIPING PLAN - SHEET 11
C42	SITE PIPING PLAN - SHEET 12
C43	ENLARGED SITE PIPING PLAN - SHEET 1
C44	ENLARGED SITE PIPING PLAN - SHEET 2
C45	ENLARGED SITE PIPING PLAN - SHEET 3
C46	ENLARGED SITE PIPING PLAN - SHEET 4
C51	SITE PIPING PROFILES - SHEET 1
C52	SITE PIPING PROFILES - SHEET 2
C53	SITE PIPING PROFILES - SHEET 3
C55	FLOW EQUALIZATION BASIN SECTIONS
C56	FLOW EQUALIZATION BASIN DETAILS
C57	RETURN FLOW MEASUREMENT STRUCTURE - MODIFICATIONS
C58	BYPASS FLOW MEASUREMENT STRUCTURE - MODIFICATIONS
C61	TANK DRAIN PUMPING STATION - PLAN AND SECTION
	SITE ELECTRICAL
E51	SITE PLAN - SHEET 1 -
E52	SITE PLAN - SHEET 2
E53	SITE PLAN - SHEET 3
E54	SITE PLAN - SHEET 4
E55	SITE PLAN - SHEET 5
E56	SITE PLAN - SHEET 6
E57	SITE PLAN - SHEET 7
E58	SITE PLAN - SHEET 8
E59	SITE PLAN - SHEET 9
E60	SITE PLAN - SHEET 10
E61	SITE PLAN - SHEET 11


DWG NO	DRAWING TITLE
E62	SITE PLAN - SHEET 12
E63	TANK DRAIN PUMPING STATION - PLAN AND SECTION
E64	SITE DETAILS - SHEET 1
	PIPING AND INSTRUMENTATION DIAGRAMS
P100	INFLUENT PUMP STATION - PLC CONTROL POWER
P101	INFLUENT PUMP STATION - SCREENING
P102	INFLUENT PUMP STATION - PUMPING, FLOW MEASUREMENT
P110	FLOW EQUALIZATION AND - HIGH STRENGTH FLOW CONTROL
P200	INFLUENT GRIT AREA - PLC CONTROL POWER
P201	GRIT REMOVAL AND GRIT DEWATERING
P301	PRIMARY CLARIFIER 3100 & 3200
P302	PRIMARY CLARIFIER 3300
P303	PRIMARY CLARIFIER 3400
P304	PRIMARY CLARIFIERS 3500
P400	AERATION BUILDING - PLC CONTROL POWER
P401	AERATION TANKS - SHEET 1
P402	AERATION TANKS - SHEET 2
P403	MIXED LIQUOR RECYCLE PUMPS
P404	AERATION BLOWERS
P405	BAR TANK AND RAS SELECTOR
P501	SECONDARY CLARIFIERS - 5100, 5200, 5300 & 5400
P502	SECONDARY CLARIFIERS - 5500 & 5600
P600	DISINFECTION STORAGE BUILDING - PLC CONTROL POWER
P601	UV DISINFECTION TANKS
P602	EFFLUENT WATER SYSTEM
P603	SODIUM HYPOCHLORITE SYSTEM
P700	SLUDGE PUMPING STATION - PLC CONTROL POWER
P701	PRIMARY SLUDGE PUMPING MODIFICATIONS
P702	RETURN ACTIVATED - SLUDGE PUMPING MODIFICATIONS
P800	SLUDGE DIGESTION STATION - PLC CONTROL POWER
P802	SLUDGE DIGESTION - SLUDGE PIPING SCHEMATIC - SHEET 1
P803	SLUDGE DIGESTION - SLUDGE PIPING SCHEMATIC - SHEET 2
P804	SLUDGE DIGESTION - SLUDGE PIPING SCHEMATIC - SHEET 3
P805	SLUDGE DIGESTION - SLUDGE PIPING SCHEMATIC - SHEET 4
P806	SLUDGE DIGESTION - SLUDGE PIPING SCHEMATIC - SHEET 5
P807	SLUDGE DIGESTION - SLUDGE PIPING SCHEMATIC - SHEET 6
P808	SLUDGE DIGESTION - SLUDGE PIPING SCHEMATIC - SHEET 7
P809	SLUDGE DIGESTION GAS - SHEET 1
P810	SLUDGE DIGESTION GAS - SHEET 2
P811	SLUDGE DIGESTION HEATING WATER - SHEET 1
P812	SLUDGE DIGESTION HEATING WATER - SHEET 2
P900	SLUDGE PROCESSING STATION - PLC CONTROL POWER
P901	WASTE ACTIVATED SLUDGE THICKENING
P902	ROTARY DRUM THICKENER
P903	SLUDGE PROCESSING FACILITY - POLYMER SYSTEM - SHEET 1
P904	SLUDGE PROCESSING FACILITY - POLYMER SYSTEM - SHEET 2
P905	BELT FILTER PRESS
	ELECTRICAL ONE-LINE DIAGRAMS
E11	SITE DISTRIBUTION
D12	MCC-1 DEMOLITION - INFLUENT PUMPING STATION - SHEET 1
D13	MCC-1 DEMOLITION - INFLUENT PUMPING STATION SHEET 2
D14	MCC-3 DEMOLITION - SLUDGE PUMPING BUILDING - SHEET 1
D15	MCC-3 DEMOLITION - SLUDGE PUMPING BUILDING - SHEET 2
D16	MCC-4 DEMOLITION - DISINFECTION STORAGE BUILDING
D17	MCC-5 DEMOLITION - GRIT DEWATERING

DWG NO	DRAWING TITLE
D18	MCC-B1 DEMOLITION - BLOWER BUILDING - SHEET 1
D19	MCC-B1 DEMOLITION - BLOWER BUILDING - SHEET 2
D20	MCC-B2 DEMOLITION - BLOWER BUILDING - SHEET 1
D21	MCC-B2 DEMOLITION - BLOWER BUILDING - SHEET 2
D22	MCC-SP1 DEMOLITION - SLUDGE PROCESSING - SHEET 1
D23	MCC-SP1 DEMOLITION - SLUDGE PROCESSING - SHEET 2
D24	MCC-SP2 DEMOLITION - SLUDGE PROCESSING FACILITY
D25	MCC-DG1 DEMOLITION - DIGESTER BUILDING
D26	MCC-DG2 DEMOLITION - DIGESTER BUILDING
D27	MCC-DG3 DEMOLITION - DIGESTER BUILDING - SHEET 1
D28	MCC-DG3 DEMOLITION - DIGESTER BUILDING - SHEET 2
D29	MCC-DG3 DEMOLITION - DIGESTER BUILDING - SHEET 3
E12	MCC-1 DIAGRAM AND ELEVATION - INFLUENT PUMPING STATION - SHEET 1
E13	MCC-1 DIAGRAM AND ELEVATIONS - INFLUENT PUMPING STATION - SHEET 2
E14	MCC-3 DIAGRAM AND ELEVATION - SLUDGE PUMPING BUILDING - SHEET 1
E15	MCC-3 DIAGRAM AND ELEVATION - SLUDGE PUMPING BUILDING - SHEET 2
E16	MCC-4 DIAGRAM AND ELEVATION OPTION A - DISINFECTION STORAGE BUILDING - SHEET 1
E16A	MCC-4 DIAGRAM AND ELEVATION OPTION A - DISINFECTION STORAGE BUILDING - SHEET 2
E16B	MCC-4 DIAGRAM AND ELEVATION OPTION B - DISINFECTION STORAGE BUILDING - SHEET 1
E16C	MCC-4 DIAGRAM AND ELEVATION OPTION B - DISINFECTION STORAGE BUILDING - SHEET 2
E17	MCC-5 DIAGRAM AND ELEVATION - GRIT DEWATERING
E18	MCC-B1 DIAGRAM AND ELEVATION - BLOWER BUILDING - SHEET 1
E19	MCC-B1 DIAGRAM AND ELEVATION - BLOWER BUILDING - SHEET 2
E20	MCC-B2 DIAGRAM AND ELEVATION - BLOWER BUILDING - SHEET 1
E21	MCC-B2 DIAGRAM AND ELEVATION - BLOWER BUILDING - SHEET 2
E22	MCC-SP1 DIAGRAM AND ELEVATION - SLUDGE PROCESSING - SHEET 1
E23	MCC-SP1 DIAGRAM AND ELEVATION - SLUDGE PROCESSING - SHEET 2
E24	MCC-SP2 DIAGRAM AND ELEVATION - SLUDGE PROCESSING FACILITY
E25	MCC-DG1 DIAGRAM AND ELEVATION - DIGESTER BUILDING
E26	MCC-DG2 DIAGRAM AND ELEVATION - DIGESTER BUILDING
E27	MCC-DG3 DIAGRAM AND ELEVATION - DIGESTER BUILDING - SHEET 1
E28	MCC-DG3 DIAGRAM AND ELEVATION - DIGESTER BUILDING - SHEET 2
E29	MCC-DG3 DIAGRAM AND ELEVATION - DIGESTER BUILDING - SHEET 3
E30	MCC-2 DIAGRAM AND ELEVATION - SLUDGE PUMPING BUILDING
E31	MCC-B3 DIAGRAM AND ELEVATION - AERATION TANKS - SHEET 1
E32	MCC-B3 DIAGRAM AND ELEVATION - AERATION TANK - SHEET 2
	INSTRUMENTATION
I11	CONCEPTUAL NETWORK BLOCK DIAGRAM - SHEET 1
I12	CONCEPTUAL NETWORK BLOCK DIAGRAM - SHEET 2
I13	CONCEPTUAL NETWORK BLOCK DIAGRAM - SHEET 3
I14	CONCEPTUAL NETWORK BLOCK DIAGRAM - SHEET 4
I15	CONCEPTUAL NETWORK BLOCK DIAGRAM - SHEET 5
I21	SOUTH INFLUENT PUMPING STATION - PAC SYSTEM LAYOUT
I22	SOUTH VORTEX GRIT COLLECTOR - PAC SYSTEM LAYOUT
I23	SOUTH AERATION BLOWER STATION - PAC SYSTEM LAYOUT
I24	SOUTH SLUDGE PUMPING STATION - PAC SYSTEM LAYOUT
I25	SOUTH DISINFECTION STORAGE BUILDING - PAC SYSTEM LAYOUT
I27	SOUTH SLUDGE PROCESSING STATION - PAC SYSTEM LAYOUT

DWG NO	DRAWING TITLE
I28	SOUTH DRUM THICKENER CONTROL PANEL - PAC SYSTEM LAYOUT
I29	SOUTH SLUDGE DIGESTER STATION - PAC SYSTEM LAYOUT
I30	SOUTH SLUDGE DIGESTER MCC ROOM - PAC SYSTEM LAYOUT
I111	SIPS PANEL E-STOP INTERFACE WIRING
I201	HIGH STRENGTH AND GRIT DEWATERING CONTROL SCHEMATIC - SHEET 1
I202	HIGH STRENGTH AND GRIT DEWATERING CONTROL SCHEMATIC - SHEET 2
I211	SIPS3 PANEL E-STOP INTERFACE WIRING
I301	PRIMARY CLARIFIERS CONTROL SCHEMATICS
I401	BLOWER BUILDING CONTROL SCHEMATICS
I411	SABS PANEL E-STOP INTERFACE WIRING
I501	SECONDARY CLARIFIERS CONTROL SCHEMATICS
I601	EFLUENT WATER & SODIUM HYPOCHLORITE CONTROL SCHEMATICS
I611	SDBS PANEL E-STOP INTERFACE WIRING
I711	SSPUS PANEL E-STOP INTERFACE WIRING
I801	MIXING AND CIRCULATING WATER PUMPS CONTROL SCHEMATICS
I811	SSDS PANEL E-STOP INTERFACE WIRING
I901	SLUDGE PROCESSING AREA CONTROL SCHEMATICS
I911	SSPRS AND SSPRS-2 PANELS E-STOP WIRING



4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	CLB	CLB	BDP	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDP	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



Stanley Consultants Inc.

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**GENERAL
DRAWING INDEX - SHEET 1
DRAWING SET 1 OF 2**

DESIGNED CL BARK	SCALE: AS NOTED
DRAWN DA SCHMIDT	NO. 22800
CHECKED CL BARK	REV.
APPROVED BD REISCHAUER	G2
APPROVED	4
DATE DECEMBER 2, 2011	



CADD: D1-PR4

VIEW MARKERS

SECTION A-S1
DESIGNATES CUTTING PLANE OF SECTION

ELEVATION B-S1
DESIGNATES DIRECTION FROM WHICH PLAN OR ELEVATION IS VIEWED

DETAIL C-S1
DESIGNATES LOCATION OF DETAIL

VIEW IDENTIFICATION NUMBER
DRAWING NUMBER(S) ON WHICH VIEW IS CALLED OUT

DIMENSIONS AND SCALE

DIMENSIONS AND/OR ELEVATIONS MARKED THUS (+) ARE APPROXIMATE. OBTAIN FINAL DIMENSIONS FOR CONSTRUCTION FROM THE ENGINEER.

DIMENSIONS AND/OR ELEVATIONS MARKED THUS (±) ARE ASSUMED AND MAY BE VARIED BY THE CONTRACTOR TO SUIT EQUIPMENT FURNISHED. FINAL DIMENSIONS ARE SUBJECT TO THE REVIEW OF THE ENGINEER.

DIMENSIONS AND/OR ELEVATIONS MARKED THUS (+/-) MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

DIMENSIONS ARE GENERALLY TO SCALE, BUT SHOULD NOT BE SCALED. USE DIMENSIONS SHOWN. NTS (NOT TO SCALE) IS SHOWN ONLY WHERE DIMENSION IS OBVIOUSLY OUT OF SCALE.

NUMERIC SCALE VALUES (1/4"=1'-0", ETC) APPLY ONLY AT FULL SIZE.

ROOM AND OPENING IDENTIFICATION SYMBOLS

101 DOOR OPENING ROOM NAME

W101 WINDOW OPENING 101 ROOM NUMBER

LV101 LOUVER OPENING

DRAWING AND PROCESS AREA DESIGNATION SYSTEM

1. DRAWINGS ARE SUBDIVIDED BY DISCIPLINE AS FOLLOWS:

- G GENERAL
- D DEMOLITION
- C CIVIL
- A ARCHITECTURAL
- S STRUCTURAL
- P PIPING AND INSTRUMENT DIAGRAM
- M MECHANICAL EQUIPMENT, HEATING, VENTILATING, AND AIR CONDITIONING
- E ELECTRICAL
- I INSTRUMENTATION

2. GENERAL AND STANDARD DETAIL DRAWINGS IN EACH DISCIPLINE, ARE NUMBERED 0 TO 99. THE REMAINING DRAWINGS, AND EQUIPMENT, GENERALLY ARE NUMBERED IN ACCORDANCE WITH THEIR ASSOCIATED PROCESS ARE AS FOLLOWS:

PROCESS AREA	DRAWING NUMBERS	EQUIPMENT NUMBERS
00: GENERAL, STANDARDS & SITE	001 - 099	-
10: INFLUENT HANDLING	100 - 199	1000 - 1999
20: PRELIMINARY TREATMENT	200 - 299	2000 - 2999
30: PRIMARY CLARIFICATION	300 - 399	3000 - 3999
40: BIOLOGICAL OXIDATION	400 - 499	4000 - 4999
50: SECONDARY CLARIFICATION	500 - 599	5000 - 5999
60: DISINFECTION	600 - 699	6000 - 6999
70: SLUDGE PUMPING	700 - 799	7000 - 7999
80: SLUDGE DIGESTION	800 - 899	8000 - 8999
90: SLUDGE PROCESSING	900 - 949	9000 - 9499
95: PLANT SITE MANAGEMENT	950 - 980	9500 - 9800
99: BIOSOLIDS STORAGE AREA	990 - 999	9900 - 9999

GENERAL MATERIALS LEGEND

	EARTH		BRICK IN SECTION
	ROCK		ROUGH WOOD (IN SECTION)
	CRUSHED ROCK		PLYWOOD
	SAND, CMU, PLASTER		RIGID INSULATION
	GRANULAR FILL		BATT INSULATION
	CONCRETE		GLASS (ELEVATION)
	REINFORCING BARS IN CONCRETE		RIPRAP
	WELDED WIRE FABRIC		RIPRAP (LARGE)
	STEEL (IN SECTION)		WATER LEVEL
	NON-FERROUS METAL		

GENERAL SYMBOLS

REVISION IDENTIFICATION SYMBOL: THE NUMBER IN THE TRIANGLE INDICATES THE REVISION NUMBER IDENTIFIED. THE LETTER "A" IMMEDIATELY TO THE RIGHT OF THE TRIANGLE INDICATES THE REVISION IS PART OF A CONTRACT ADDENDUM. WHEN REVISIONS INVOLVE LESS THAN ENTIRE DRAWING, PRINCIPAL ASPECTS OF REVISIONS ARE "CLOUDED".

CONTRACT IDENTIFICATION: NUMBER AT LEFT INDICATES CONTRACT FURNISHING, NUMBER AT RIGHT INDICATES CONTRACT INSTALLING.

KEYNOTE: SUBSTITUTE NUMBER FOR ASTERISK

COLUMN IDENTIFICATION: SUBSTITUTE LETTER OR NUMBER FOR ASTERISK

EL. 100'-0" ELEVATION DESIGNATION

EXISTING OBJECT LINE

EXISTING OBJECT TO BE REMOVED OR RELOCATED

OUTLINE OF NEW OR RELOCATED OBJECT

CENTER LINE

HIDDEN LINE

SURFACE BREAK LINE

MATERIAL BREAK LINE

MATCH LINE

OPENING OR DEPRESSION IN SLAB OR WALL

OPENING WITH GRATING COVER (PLAN)

OPENING WITH CHECKERED PLATE COVER (PLAN)

MASONRY CONTROL JOINT (IN PLAN)

MASONRY EXPANSION JOINT (IN PLAN)

GUARDRAIL/HANDRAIL

OR PL PROPERTY LINE

OR CL CENTERLINE

DIAMETER OR ROUND

SQUARE

CONSTRUCTION JOINT (KEYWAY)

CONSTRUCTION JOINT (KEYWAY) WITH WATERSTOP

ROUGHENED CONSTRUCTION JOINT

ROUGHENED CONSTRUCTION JOINT WITH WATERSTOP

SITE PLAN UTILITY SYMBOLS

	HANDHOLE		EXISTING UTILITY (TO REMAIN)
	MANHOLE		UTILITY/STRUCTURE DEMOLITION
	MANHOLE WITH VALVE		UTILITY/STRUCTURE (ABANDONED)
	CATCH BASIN		DEWATERING WELL
	HEADWALL		UTILITY POLE
	CULVERT END SECTION		LIGHT POLE
	YARD/FIRE HYDRANT		POLE SUPPORT
	YARD CLEAN OUT		
	CAPPED OR PLUGGED		
	TOWER		
	TELEPHONE PEDESTAL		
	ELECTRICAL LINE		
	TELEPHONE LINE		
	COMMUNICATION LINE		
	FIBER OPTIC LINE		

CIVIL PLAN SYMBOLS

PROPERTY LINE

RIGHT OF WAY

BASE LINE, DATUM LINE

ONE STATION MARK

FIVE STATION MARK

POINT OF CURVE, POINT OF TANGENT

SURVEY HUB, POINT OF INTERSECTION

SURVEY MONUMENT

EXISTING CONTOUR

MINOR PROPOSED CONTOUR

MAJOR PROPOSED CONTOUR

EDGE OF WATER

DITCH FLOWLINE

SWALE OR DEPRESSION

SLOPE (3 HORIZ TO 1 VERT)

SWAMP OR WETLAND

BENCH MARK

SOIL BORING

EXISTING FENCE/PROPERTY LINE

GUARD RAIL

RIPRAP

RAILROAD (ONE LINE)

RAILROAD (TWO LINE)

SIGN (ONE POST)

SIGN (TWO POST)

EXISTING SPOT ELEVATION

PROPOSED SPOT ELEVATION

TOP OF CURB ELEVATION

GUTTER OR GROUND ELEVATION

EXISTING CUT OR FILL SLOPE; ARROWS POINT DOWN SLOPE

NEW CUT OR FILL SLOPE; ARROWS POINT DOWN SLOPE

TREE

HANDICAP PAVEMENT MARKING

SITE PLAN VALVE SYMBOLS

	GATE VALVE
	CHECK VALVE
	PLUG VALVE
	GLOBE VALVE
	BALL VALVE
	POST INDICATOR VALVE

HVAC

DUCT-(SIZE VARIES)
FIRST FIGURE = SIDE SHOWN
SECOND FIGURE = SIDE NOT SHOWN

ROUND DUCT

FLAT OVAL DUCT

DIRECTION OF FLOW IN DUCT

DOUBLE THICKNESS, AIRFOIL TURNING VANES IN ELBOW

SQUARE ELBOW WITH TURNING VANES

TEE WITH TURNING VANES

FIRE DAMPER

FLEXIBLE DUCT

FLEXIBLE DUCT CONNECTION

INCLINED DROP IN ELEVATION OF DUCT WITH RESPECT TO AIR FLOW

INCLINED RISE IN ELEVATION OF DUCT WITH RESPECT TO AIR FLOW

MOTORIZED DAMPER-PARALLEL OR OPPOSED BLADE-PLAN VIEW

VOLUME DAMPER (MANUAL)

MANUAL DAMPER-PARALLEL OR OPPOSED BLADE-SECTION VIEW

MANUAL DAMPER-OPPOSED BLADE-SECTION VIEW

BACKDRAFT DAMPER-PLAN VIEW

BACKDRAFT DAMPER-SECTION VIEW

REHEAT OR PREHEAT COIL IN DUCT

ACCESS DOOR IN DUCT SIDE OR BOTTOM

RECTANGULAR RETURN DUCT TURNING DOWN

RECTANGULAR RETURN DUCT TURNING UP

RECTANGULAR SUPPLY DUCT TURNING DOWN

RECTANGULAR SUPPLY DUCT TURNING UP

RETURN OR EXHAUST DUCT TAP FROM BOTTOM OF DUCT

RETURN, SUPPLY, OR EXHAUST BRANCH DUCT IN SIDE OF DUCT W/VOLUME DAMPER

ROUND DUCT TURNING DOWN

ROUND DUCT TURNING UP

SPLITTER DAMPER

CEILING DIFFUSER IDENTIFYING # THROWS

SQUARE TO ROUND TRANSITION

VOLUME EXTRACTOR

RETURN, SUPPLY, OR EXHAUST BRANCH DUCT IN SIDE OF DUCT W/VOLUME DAMPER

HVAC

AIR FLOW, SUPPLY OR VENTILATING

AIR FLOW, RETURN OR EXHAUST

SLOT DIFFUSER OR RETURN

UNIT HEATER

HUMIDISTAT

THERMOSTAT

FIRE DAMPER

SMOKE DAMPER

REFRIGERANT SENSOR

DUCT SMOKE DETECTOR

DIFFERENTIAL PRESSURE SENSOR

DIFFERENTIAL PRESSURE TRANSMITTER

SUPPLY OR VENTILATING DIFFUSER W/CFM AND FIXTURE TYPE SHOWN

RETURN OR EXHAUST DUCT W/CFM AND FIXTURE TYPE SHOWN

ROOF MOUNTED EXHAUST FAN

FAN

DUCT TEMPERATURE SENSOR

FILTER

OPPOSED BLADE DAMPER (SCHEMATIC)

PARALLEL BLADE DAMPER (SCHEMATIC)

MOTORIZED ACTUATOR (SCHEMATIC)

DIFFERENTIAL PRESSURE SENSOR (SCHEMATIC)

FIRE DAMPER (NUMBER INDICATES FIRE RATING OTHER THAN 1 HOUR)

SMOKE DAMPER

FIRE & SMOKE DAMPER (NUMBER INDICATES FIRE RATING OTHER THAN 1 HOUR)

FIRE PROTECTION SYSTEM

FIRE LINE SERVICE

FIRE SPRINKLER LINE

WET STANDPIPE

DRY STANDPIPE

UPRIGHT SPRINKLER HEAD

PENDANT SPRINKLER HEAD

SIDEWALL SPRINKLER HEAD

POST INDICATOR AND VALVE

OUTSIDE SCREW AND YOKE GATE VALVE

TAMPER PROOF VAVE

ALARM CHECK VALVE

DRY PIPE VALVE

DELUGE VALVE

SIDEWALL SPRINKLER HEAD

FIRE HOSE CABINET (SURFACE MOUNTED)

FIRE VALVE CABINET (SURFACE MOUNTED)

HOSE REEL

FLOW DETECTOR/SWITCH

FREE STANDING FIRE DEPT CONNECTION (SIAMESE)

WALL MOUNTED FIRE DEPT CONNECTION (SIAMESE)

GENERAL NOTES

1. ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS LEGEND MAY NOT APPEAR ON THIS SET OF DRAWINGS.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

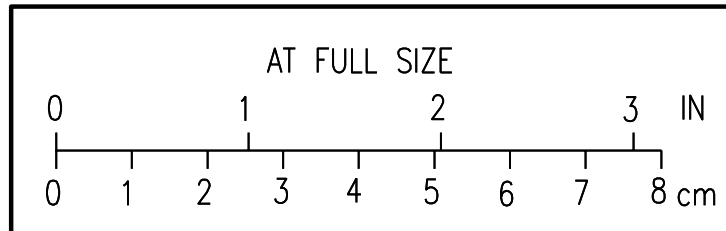
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

GENERAL LEGENDS AND NOTES

DESIGNED	CL BARK	SCALE:	AS NOTED
DRAWN	D.WILGES	NO.	22800
CHECKED	CL BARK	REV.	2
APPROVED	BD REISCHAUER		
DATE	DECEMBER 2, 2011		



CADD 01-14

ABBREVIATIONS

NOTES:

1. ALL ABBREVIATIONS SHOWN ON THIS LEGEND MAY NOT APPEAR ON THIS SET OF DRAWINGS.

Table with 4 columns of abbreviations and their corresponding full names. Includes terms like AMPERE, CONCRETE, FLANGE, LOW POINT, PLATE, TREAD(S), etc.

Revision table with columns: NO., REVISIONS, DSGN, CHKD, APVD, DATE. Contains entries for RECORD DRAWING, ADDED ABBREVIATION, and ISSUED FOR CONSTRUCTION.

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CITY OF IOWA CITY, IOWA WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

GENERAL GENERAL ABBREVIATIONS

Approval table with columns: DESIGNED, DRAWN, CHECKED, APPROVED, DATE, SCALE, NO., REV. Includes names like CL BARK, LJ OSBORN and a date of DECEMBER 2, 2011.



CADD D-1-R4

11 12

GENERAL	VALVES	PLUMBING/PIPING FITTINGS	SCHEMATIC/FITTINGS AND VALVES	GENERAL NOTES																		
<p>NEW WORK</p> <p>EXISTING</p> <p>FUTURE</p> <p>STREAM IDENTIFICATION</p> <p>FLOW ARROW</p> <p>PITCH DOWN IN DIRECTION OF FLOW</p>	<p>SWING CHECK</p> <p>BALL CHECK</p> <p>WAFER CHECK</p> <p>FLOAT</p> <p>PINCH</p> <p>BALANCING</p> <p>FLAP GATE</p> <p>ANGLE SAFETY RELIEF</p> <p>VACUUM RELIEF</p> <p>QUICK OPEN</p> <p>BACKFLOW PREVENTER</p> <p>AUTOMATIC RECIRCULATION</p> <p>GAGE COCK</p> <p>POPPET OR TELESCOPING</p> <p>PRESSURE REDUCING WITH EXTERNAL TAP (ARROW INDICATES FLOW DIRECTION)</p> <p>BACK PRESSURE REGULATOR EXTERNAL TAP (ARROW INDICATES FLOW DIRECTION)</p> <p>PRESSURE REDUCING, SELF-CONTAINED (ARROW INDICATES FLOW DIRECTION)</p> <p>BACK PRESSURE REGULATOR SELF-CONTAINED (ARROW INDICATES FLOW DIRECTION)</p> <p>THREE-WAY (WITH TYP FAIL POSITION)</p> <p>FOUR-WAY (WITH TYP FAIL POSITION)</p> <p>CONTROL VALVE ASSEMBLY</p> <p>SOLENOID AUTOMATED VALVE</p>	<p>Y-STRAINER</p> <p>Y-STRAINER W/ DRAIN</p> <p>CAPPED Y-STRAINER W/ N.C. BALL VALVE</p> <p>BUCKET STRAINER</p> <p>SIMPLEX STRAINER</p> <p>DUPLEX STRAINER</p> <p>START-UP STRAINER</p> <p>TEMPORARY STRAINER IN-LINE</p> <p>DRAIN</p> <p>SPRAY NOZZLE</p> <p>FLOW STRAIGHTENING VANE</p> <p>VENT THRU ROOF (PLAN)</p> <p>AIR VENT</p> <p>STEAM VENT</p> <p>(MANUAL VENT) MV (AUTOMATIC VENT) AV</p> <p>CONSERVATION VENT</p> <p>FIRE HOSE VALVE</p> <p>CENTRIFUGAL PUMP</p> <p>INLINE PUMP</p> <p>UTILITY STATION (LETTER, IF ANY, DESIGNATES TYPE)</p> <p>SEAL WATER CONTROL UNIT</p>	<p>ALL FITTINGS AND VALVES MAYBE SHOWN AS INDICATED UNLESS STATED (PLAN) ONLY.</p> <p>VTR VENT THRU ROOF</p> <p>SHOCK ABSORBER OR WATER HAMMER ARRESTOR</p> <p>TRAP (LAV, DRAIN, ECT.)</p>	<p>1. ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS LEGEND MAY NOT APPEAR ON THIS SET OF DRAWINGS.</p> <p>2. FOR GENERAL LEGEND AND ABBREVIATIONS, SEE "GG" DRAWINGS.</p> <p>3. ALL PIPE SIZES ARE PIPE DIAMETERS UNLESS NOTED OTHERWISE.</p>																		
TIE POINT DESIGNATORS																						
<p>TIE POINT TO EQUIPMENT OR ANOTHER CONTRACT</p> <p>X = EQUIPMENT OR CONTRACT DESIGNATOR</p> <p>YY = P&ID NUMBER</p> <p>ZZZ = TIE POINT NUMBER</p>																						
<p>TIE POINT INTO AN EXISTING SYSTEM</p> <p>YYY = P&ID DRAWING NUMBER</p> <p>XX = TIE POINT NUMBER</p>																						
VALVES																						
<p>NORMALLY OPEN</p> <p>NORMALLY CLOSED</p> <p>GATE</p> <p>PARALLEL SLIDE GATE</p> <p>GLOBE</p> <p>BALL</p> <p>PLUG</p> <p>STOP CHECK</p> <p>V-BALL</p> <p>BUTTERFLY</p> <p>NEEDLE</p> <p>DIAPHRAGM</p> <p>ANGLE GLOBE</p> <p>ANGLE GATE</p> <p>KNIFE GATE</p> <p>SLIDE GATE</p> <p>SLUICE GATE</p>																						
SCHEMATIC/FITTINGS AND VALVES																						
		PLUMBING LINE TYPES																				
		<p>COLD WATER</p> <p>HOT WATER</p> <p>DOMESTIC HOT WATER CIRCULATING</p>																				
		PIPE AND FITTINGS																				
		<p>FLANGED JOINT</p> <p>MECHANICAL JOINT</p> <p>PUSH-ON JOINT</p> <p>WELDED JOINT</p> <p>GROOVED END MECHANICAL COUPLING (VICTAULIC)</p> <p>WELDNECK FLANGE JOINT</p> <p>SLEEVE TYPE MECHANICAL COUPLING</p> <p>RESTRAINED SLEEVE TYPE MECHANICAL COUPLING</p> <p>FLANGED COUPLING ADAPTER</p> <p>RESTRAINED FLANGED COUPLING ADAPTER</p> <p>EXPANSION JOINT</p>																				
REVISIONS		<table border="1"> <tr> <td>2</td> <td>RECORD DRAWING</td> <td>JBL</td> <td>JBL</td> <td>JBL</td> <td>12-31-2014</td> </tr> <tr> <td>1</td> <td>ISSUED FOR CONSTRUCTION</td> <td>CLB</td> <td>CLB</td> <td>BDP</td> <td>01-10-2012</td> </tr> <tr> <td>NO.</td> <td>REVISIONS</td> <td>DSGN</td> <td>CHKD</td> <td>APVD</td> <td>DATE</td> </tr> </table>			2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014	1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDP	01-10-2012	NO.	REVISIONS	DSGN	CHKD	APVD	DATE
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014																	
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<p>CITY OF IOWA CITY, IOWA WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT</p> <p>GENERAL MECHANICAL LEGEND</p> <p>DESIGNED CL BARK DRAWN LJ OSBORN CHECKED CL BARK APPROVED BD REISCHAUER APPROVED DATE DECEMBER 2, 2011</p> <p>SCALE: AS NOTED NO. 22800</p> <p>REV. 2</p>		<p>AT FULL SIZE</p>																				

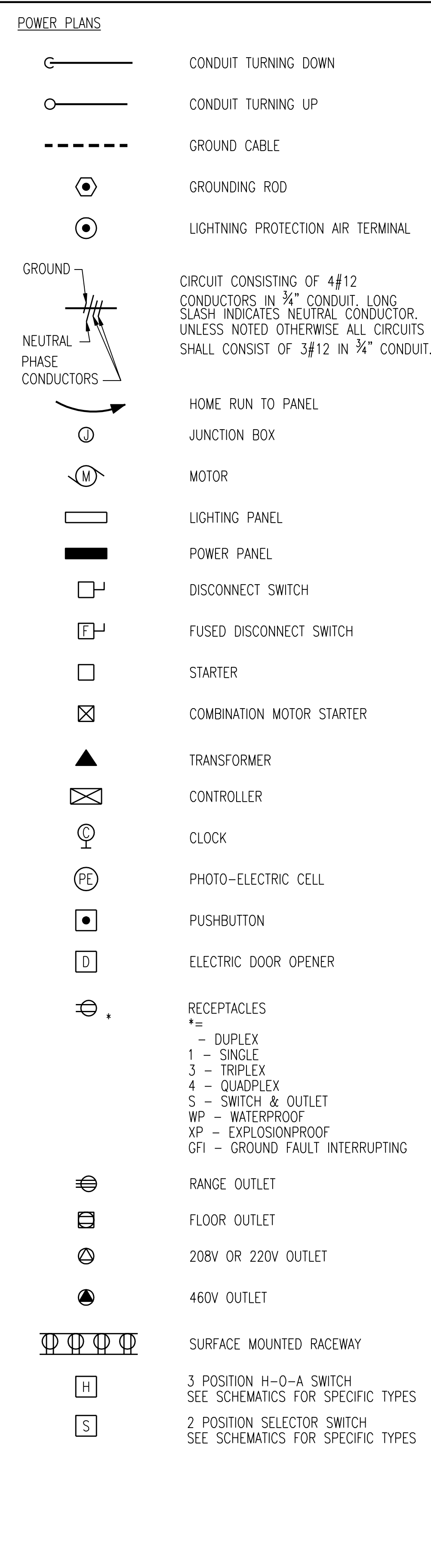
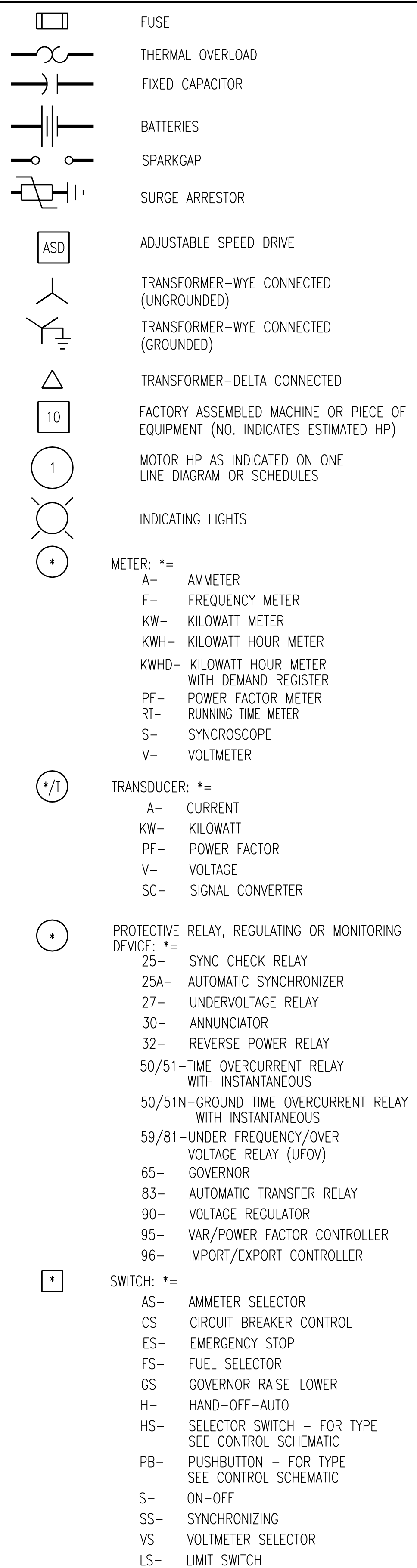
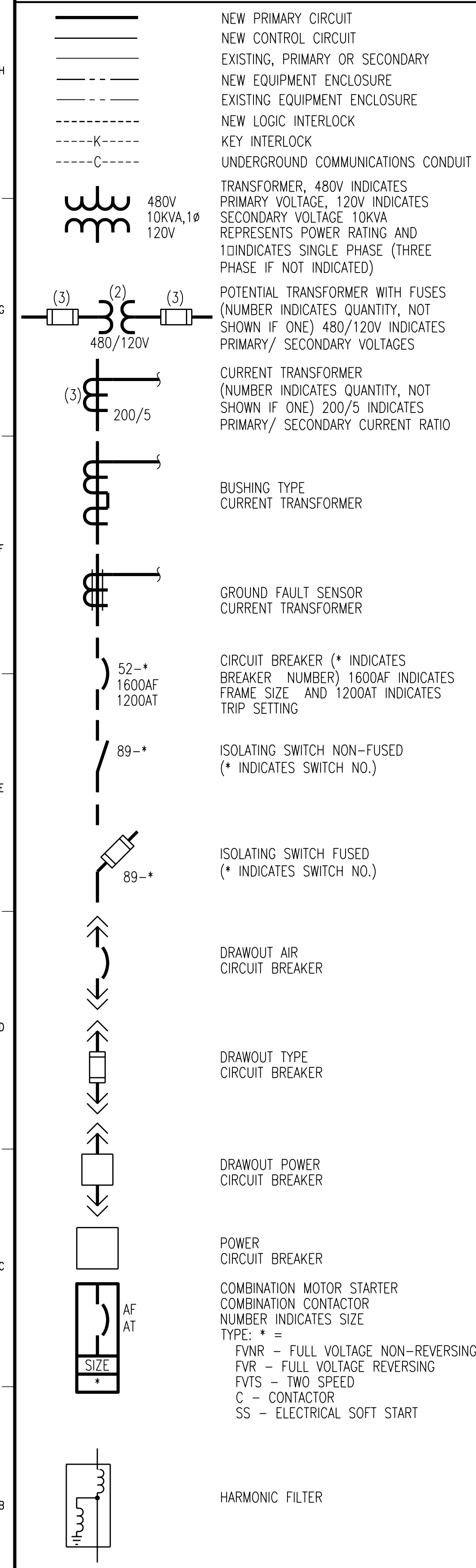
CADD: D1-R4

PIPING

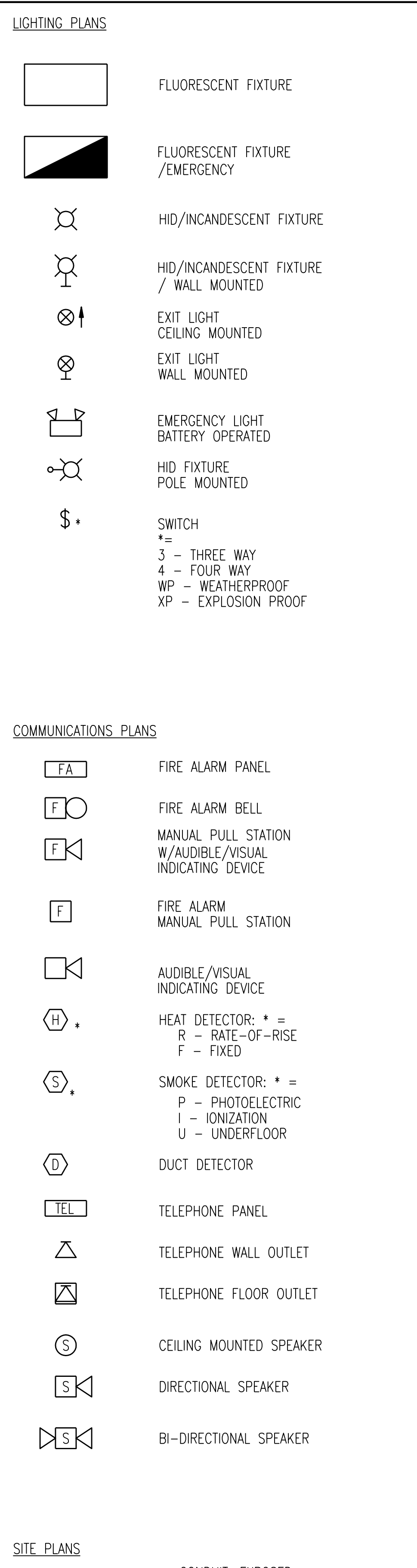
INSTRUMENTATION

PIPING				INSTRUMENTATION																																																																																																																																															
MECHANICAL EQUIPMENT		VALVES		PIPE LINE DEVICES		ACTUATORS		FUNCTION IDENTIFICATION																																																																																																																																											
BELT FILTER PRESS BELT THICKENER BLOWER, CENTRIFUGAL BOILER BURNER, WASTE GAS COMPRESSOR, PISTON COMPRESSOR, ROTARY LOBE DRIVE UNIT DRIVE, VARIABLE SPEED HEAT EXCHANGER, SHELL AND TUBE TYPE FAN FILTER, INLET AIR GRINDER MIXER MIXER, STATIC PUMP, AIR LIFT PUMP, CENTRIFUGAL PUMP, DIAPHRAGM PUMP, GEAR OR ROTARY LOBE PUMP, METERING PUMP, PROGRESSIVE CAVITY PUMP, SUBMERSIBLE PUMP, VERTICAL SILENCER TANK WEIR, CIPOLLETTI OR BROAD CRESTED SCREEN, INTAKE ROTARY DRUM THICKENER		VALVE NORMALLY CLOSED VALVE NORMALLY OPEN GATE VALVE GLOBE VALVE ANGLE VALVE NEEDLE VALVE CHECK VALVE BUTTERFLY VALVE BALL VALVE VENTED BALL VALVE PLUG VALVE WAFER CHECK VALVE BALL CHECK VALVE PINCH VALVE SLIDE GATE VALVE KNIFE GATE VALVE TELESCOPING VALVE ANGLE GLOBE VALVE MUD VALVE ROOT OR GAGE VALVE BALANCING VALVE FLOAT VALVE THREE WAY VALVE (WITH TYPICAL FAIL POSITION) FOUR WAY VALVE (WITH TYPICAL FAIL POSITION) PRESSURE RELIEF OR SAFETY VALVE DIAPHRAGM VALVE QUICK OPENING VALVE VEE BALL VALVE PRESSURE REDUCING REGULATOR WITH EXTERNAL TAP GAGE COCK HOSE BIBB OR WALL HYDRANT EXPLOSION RELIEF VALVE		CONCENTRIC REDUCER ECCENTRIC REDUCER STRAINER AIR/GAS FILTER CHEMICAL SEAL FUNNEL OR DRAIN SPRAY NOZZLE TRAP STEAM VENT MANUAL AIR VENT AUTOMATIC AIR VENT FLAME TRAP FLAME TRAP WITH THERMAL SHUTOFF SEDIMENT TRAP INJECTOR SEPARATOR FLAP GATE ADJUSTABLE WEIR GATE SLUICE GATE (NORMALLY OPEN) SLUICE GATE (NORMALLY CLOSED) SLIDE GATE (NORMALLY OPEN) SLIDE GATE (NORMALLY CLOSED) CALIBRATION CHAMBER PULSATION DAMPENER TRIPLE DUTY VALVE PRESSURE INDICATOR PITOT TUBE (ANNUBAR) PRESSURE SWITCH DECANter EXPANSION JOINT RUPTURE DISC UNION		AIR CYLINDER OPERATOR HYDRAULIC CYLINDER OPERATOR MOTOR OPERATOR SOLENOID ACTUATOR PNEUMATIC ACTUATOR DIAPHRAGM ACTUATOR DIAPHRAGM ACTUATOR WITH ELECTRO/PNEUMATIC POSITIONER ELECTRO/HYDRAULIC ACTUATOR DOUBLE PISTON ACTUATOR HAND ACTUATOR MANUAL RESET AUTOMATIC RESET FLOAT OPERATOR FLUME WEIR FLOW ELEMENT ROTAMETER VENTURI TUBE OR FLOW NOZZLE PITOT TUBE (ANNUBAR) FLOW SIGHT GLASS OR OTHER IN-LINE FLOW METER MAGNETIC FLOW TUBE		PROCESS LINE (W/ FLOW ARROW) SERVICE LINE FUTURE LINE ELECTRICAL SIGNAL PNEUMATIC SIGNAL OR TUBING CAPILLARY TUBING HYDRAULIC LINE COMPUTER SIGNAL ELECTRICAL OR PNEUMATIC TUBING FLOW ARROW INDICATES CHANGE IN LINE NUMBER OR SPEC SONIC SIGNAL STREAM ARROW <p>CONTINUED TO OR FROM P&ID DRAWING NUMBER</p> <p>P110 FIRST LINE OF TEXT GRID G-12 SECOND LINE OF TEXT THIRD LINE OF TEXT</p> <p>THREE LINES OF DESCRIPTION TEXT</p> <p>GRID LOCATION OF CONTINUED STREAM ARROW ON OTHER DRAWING</p> <p>STREAM ARROW INDICATES FLOW ENTERING OR LEAVING DRAWING AND CONTINUED ON OTHER DRAWING</p>																																																																																																																																											
<p>INSTRUMENT TAG NUMBER CODING</p> <p>xxxx-y####z*</p> <p>WHERE: xxxx REFERS TO FUNCTION IDENTIFICATION y REFERS TO THE PREFIX IDENTIFICATION CODE #### REFERS TO THE ORIGINAL NUMBERING SCHEME IF NOT PREFIXED, OR THE EQUIPMENT NUMBER IF PREFIXED z REFERS TO THE SITE LOCATION: A - SOUTH PLANT B - NAPOLEON PARK C - NORTH PLANT * SEQUENTIAL NUMBERING FOR DUPLICATE TAG NUMBERS</p>								<p>INSTRUMENT TAG NUMBER PREFIX IDENTIFICATION CODING</p> <p>A - GATE B - BLOWER C - COLLECTOR OR CHEMICAL FEED D - NOT USED E - EVAPORATOR F - FLOW G - GRINDER H - THICKENER I - NOT USED J - NOT USED K - PACKAGED UNIT L - WELL M - MIXER N - CHANNEL O - BOILER P - PUMP Q - OTHER R - SCREEN S - SEPARATOR T - TANK U - UNIT HEATER V - VALVE W - WASHER X - HEAT EXCHANGER OR MISC Y - ENGINE GENERATOR Z - ANALYZER</p> <p>OSC - OPEN STOP CLOSE LOR - LOCAL OFF REMOTE HOR - HAND OFF REMOTE HOA - HAND OFF AUTO EX - EXISTING MCC - MOTOR CONTROL CENTER PS - PRIMARY STANDBY</p>																																																																																																																																											
<p>CONTROL PANEL CODING</p> <p>SABSCP SOUTH AERATION BLOWER STATION CONTROL PANEL SDSB SOUTH DISINFECTION STORAGE CONTROL PANEL SIPS SOUTH INFLUENT PUMPING STATION CONTROL PANEL SIPS-3CP SOUTH INFLUENT GRIT AREA CONTROL PANEL SSDSCP SOUTH SLUDGE DIGESTER STATION 8500 CONTROL PANEL SSDS-3CP SOUTH SLUDGE DIGESTER STATION 8600 CONTROL PANEL SSPRSCP SOUTH SLUDGE PROCESSING STATION CONTROL PANEL SSPRS-2CP SOUTH SLUDGE REMOTE CHASSIS CONTROL PANEL SSPUSCP SOUTH SLUDGE PUMPING STATION CONTROL PANEL</p>								<p>TIE POINT DESIGNATOR</p> TIE POINT INTO AN EXISTING SYSTEM																																																																																																																																											
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<p>Stanley Consultants Inc.</p> <p>225 Iowa Avenue, Muscatine, Iowa 52761-3764 www.stanleyconsultants.com</p> <p>CITY OF IOWA CITY, IOWA WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT</p> <p>GENERAL PIPE & INSTRUMENTATION DIAGRAM LEGEND</p> <table border="1"> <tr> <td>DESIGNED SA TRIPMACKER</td> <td>SCALE: AS NOTED</td> <td></td> </tr> <tr> <td>DRAWN D.WILGES</td> <td>NO. 22800</td> <td>REV.</td> </tr> <tr> <td>CHECKED SA TRIPMACKER</td> <td></td> <td></td> </tr> <tr> <td>APPROVED TJ MERGEN</td> <td></td> <td></td> </tr> <tr> <td>DATE DECEMBER 2, 2011</td> <td>G8</td> <td>3</td> </tr> </table>								DESIGNED SA TRIPMACKER	SCALE: AS NOTED		DRAWN D.WILGES	NO. 22800	REV.	CHECKED SA TRIPMACKER			APPROVED TJ MERGEN			DATE DECEMBER 2, 2011	G8	3																																																																																																																													
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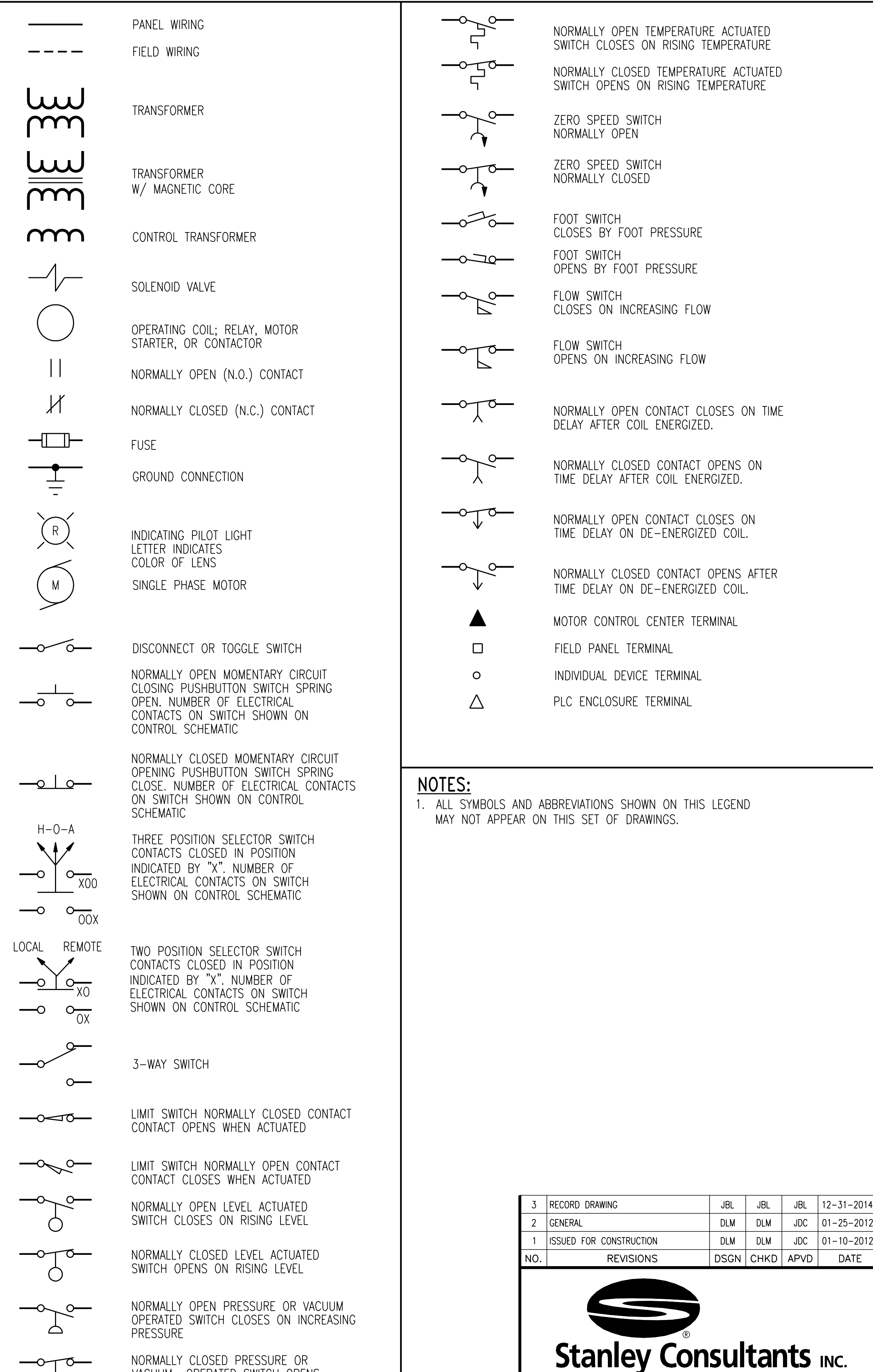
ONE-LINE DIAGRAMS



ELECTRICAL PLANS



ELECTRICAL MOTOR AND CONTROL SCHEMATICS



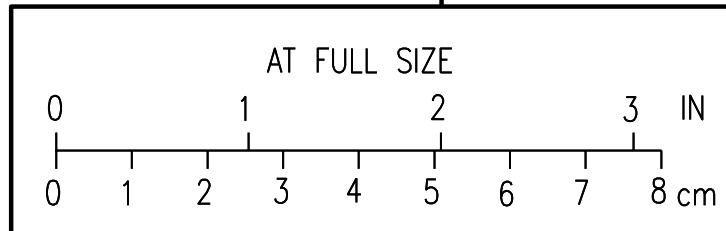
NOTES:
1. ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS LEGEND MAY NOT APPEAR ON THIS SET OF DRAWINGS.

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1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

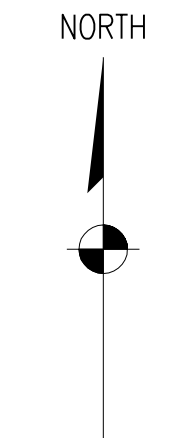
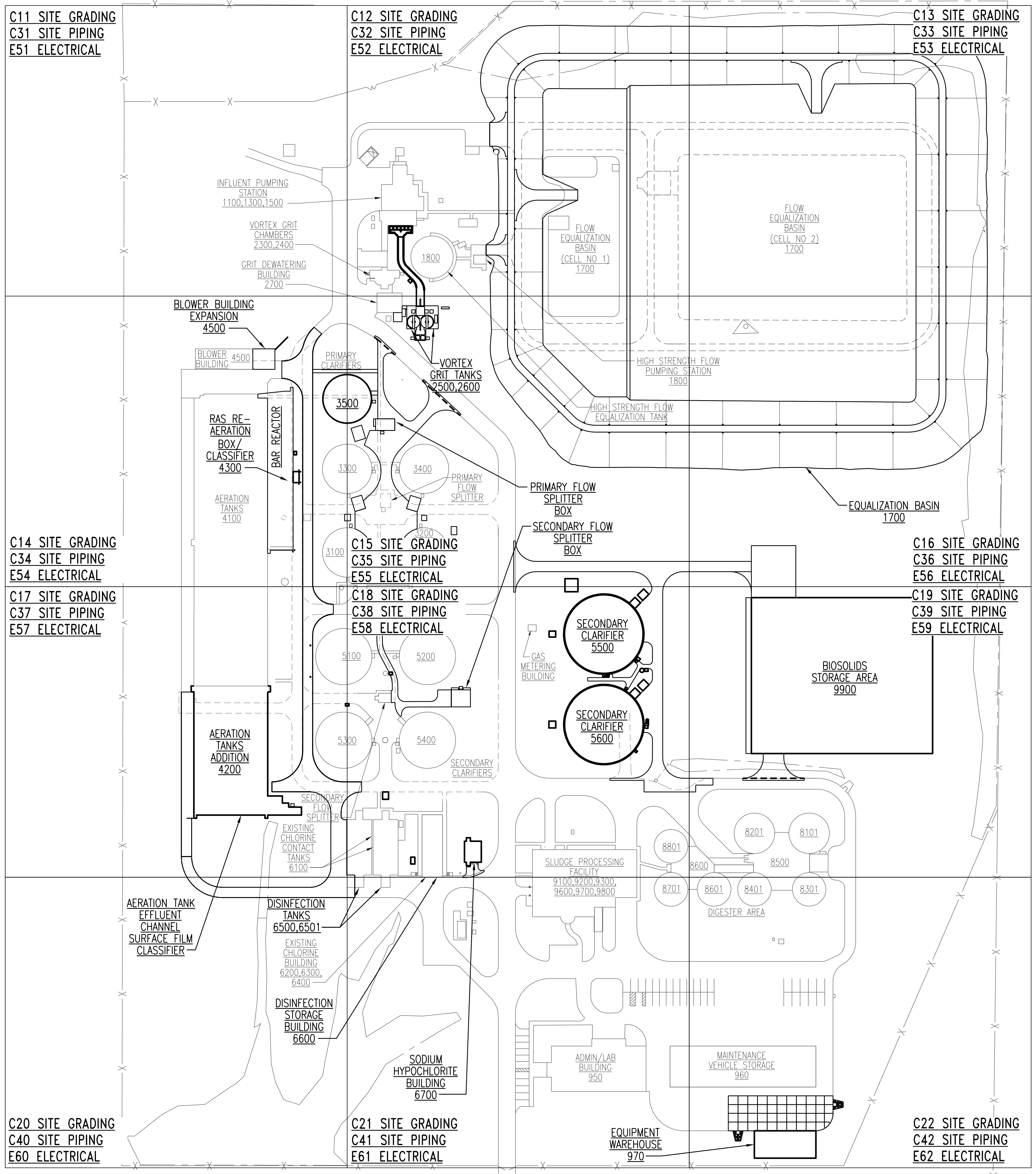
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

GENERAL
ELECTRICAL LEGEND AND NOTES



DESIGNED	DL MORITZ	SCALE:	AS NOTED
DRAWN	DL WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	3
APPROVED	JD COOHN		
DATE	DECEMBER 2, 2011		



C11 SITE GRADING
C31 SITE PIPING
E51 ELECTRICAL

C12 SITE GRADING
C32 SITE PIPING
E52 ELECTRICAL

C13 SITE GRADING
C33 SITE PIPING
E53 ELECTRICAL

C14 SITE GRADING
C34 SITE PIPING
E54 ELECTRICAL

C15 SITE GRADING
C35 SITE PIPING
E55 ELECTRICAL

C16 SITE GRADING
C36 SITE PIPING
E56 ELECTRICAL

C17 SITE GRADING
C37 SITE PIPING
E57 ELECTRICAL

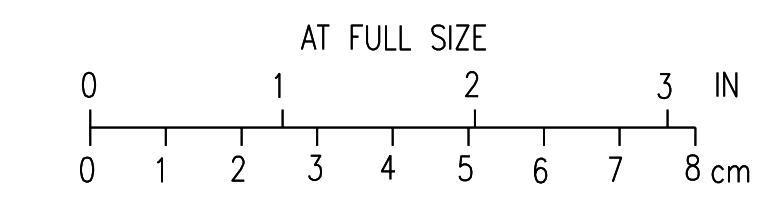
C18 SITE GRADING
C38 SITE PIPING
E58 ELECTRICAL

C19 SITE GRADING
C39 SITE PIPING
E59 ELECTRICAL

C20 SITE GRADING
C40 SITE PIPING
E60 ELECTRICAL

C21 SITE GRADING
C41 SITE PIPING
E61 ELECTRICAL

C22 SITE GRADING
C42 SITE PIPING
E62 ELECTRICAL



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

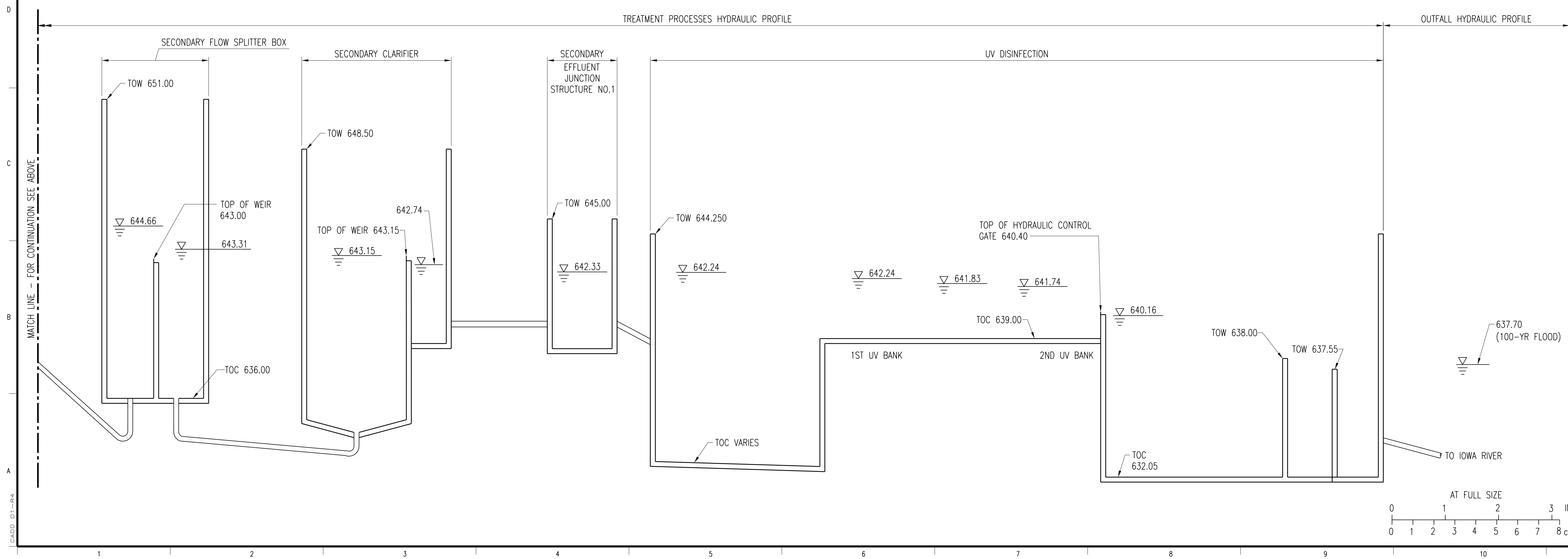
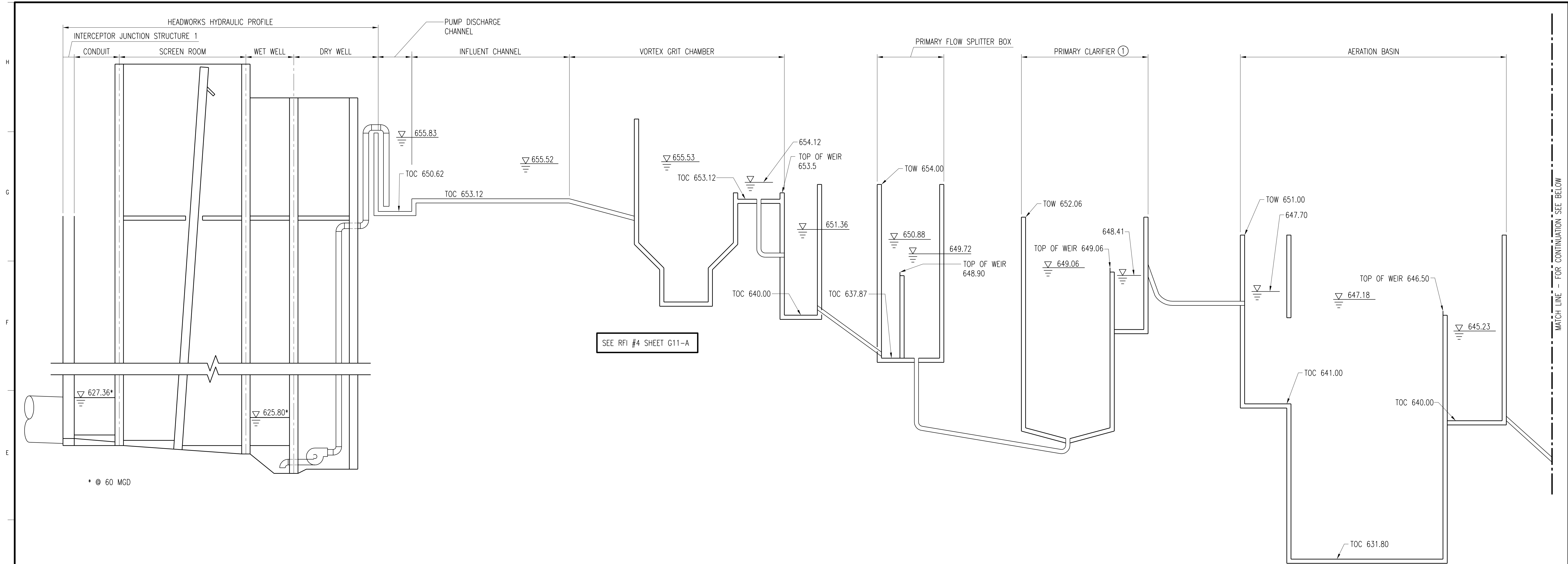
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**GENERAL
SITE KEY PLAN**

DESIGNED	CL BARK	SCALE: NONE	REV.
DRAWN	LJ OSBORN	NO. 22800	
CHECKED	CL BARK		
APPROVED	BD REISCHAUER		
DATE	DECEMBER 2, 2011	G10	2

CADD: D1-R4



NOTES:

1. TOW FOR COL 3501A IS 652.60 FT.

NOTE:
WATER SURFACE ELEVATIONS ARE BASED ON A FLOW RATE OF 30 MGD.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	MA	MA	JMB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

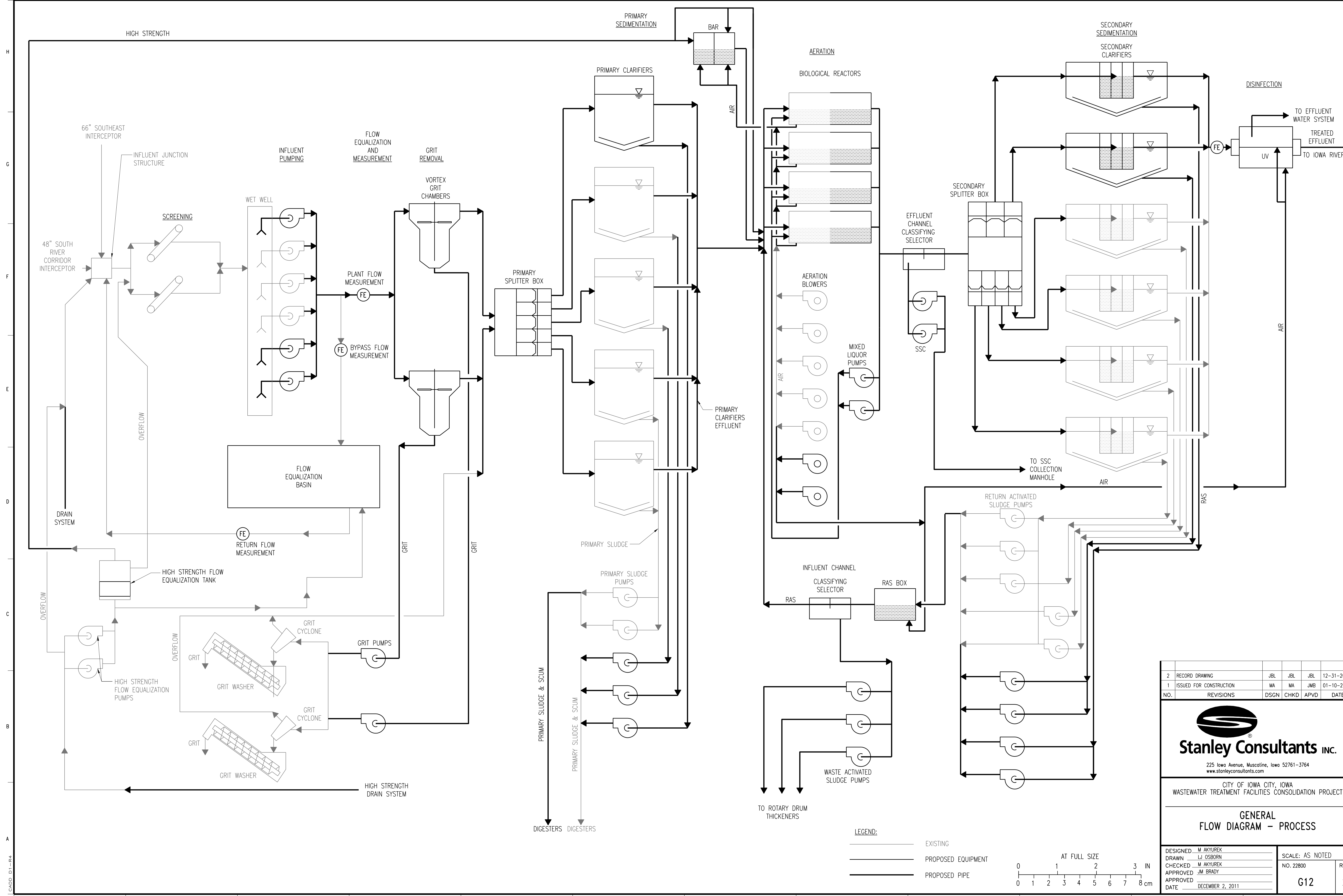
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**GENERAL
HYDRAULIC PROFILE**

DESIGNED M. AKYUREK	SCALE: NO SCALE
DRAWN L.J. OSBORN	NO. 22800
CHECKED M. AKYUREK	REV.
APPROVED J.M. BRADY	G11
APPROVED	2
DATE DECEMBER 2, 2011	



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	MA	MA	JMB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

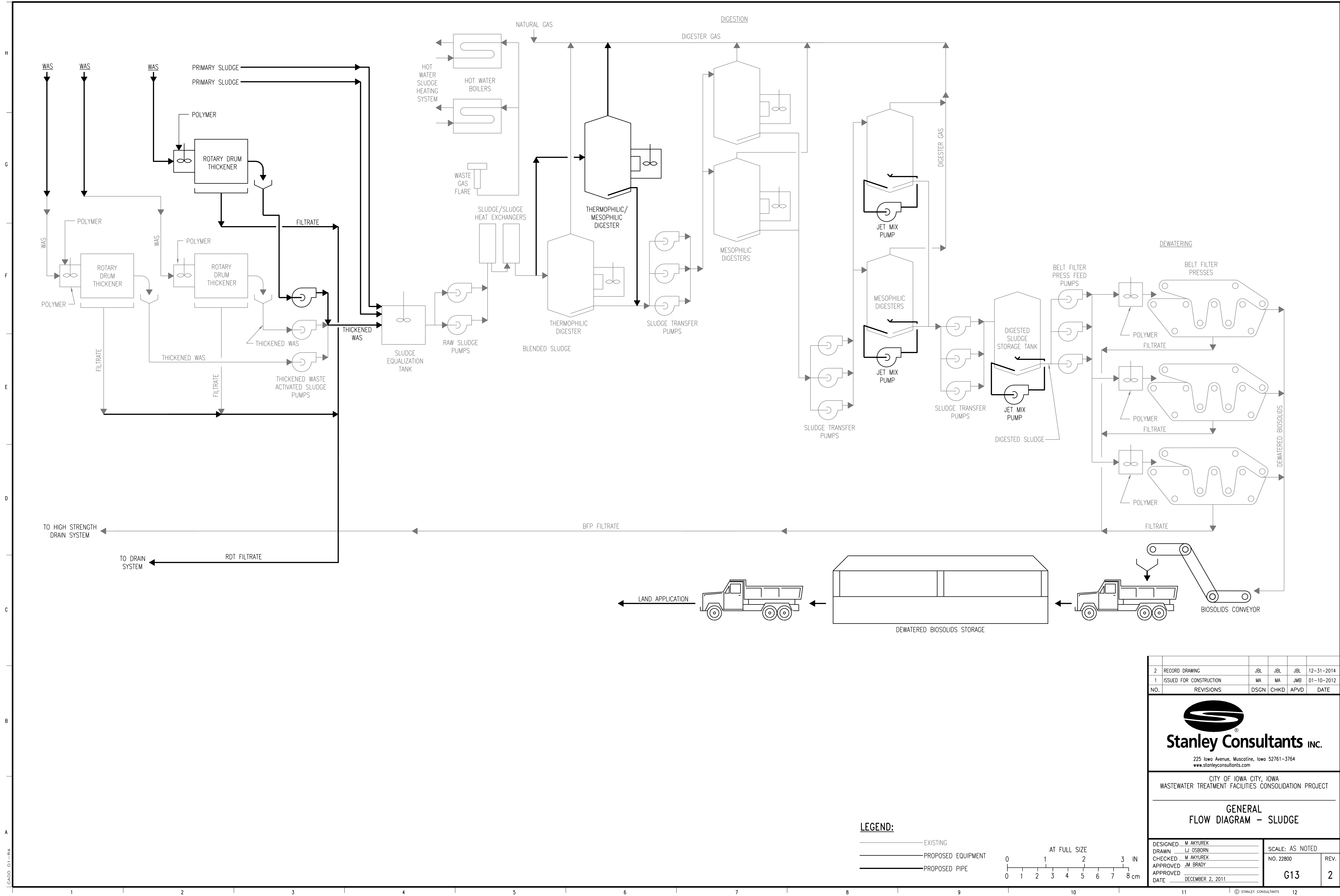
**GENERAL
FLOW DIAGRAM - PROCESS**

DESIGNED	M. AKYUREK	SCALE:	AS NOTED	REV.	
DRAWN	L.J. OSBORN	NO.	22800		
CHECKED	M. AKYUREK				
APPROVED	J.M. BRADY				
APPROVED					
DATE	DECEMBER 2, 2011				

- LEGEND:**
- EXISTING
 - PROPOSED EQUIPMENT
 - PROPOSED PIPE



CADD: D1-1-R4



TO HIGH STRENGTH DRAIN SYSTEM

TO DRAIN SYSTEM

BFP FILTRATE

RDT FILTRATE

LAND APPLICATION

DEWATERED BIOSOLIDS STORAGE

BIOSOLIDS CONVEYOR

LEGEND:

- EXISTING
- PROPOSED EQUIPMENT
- PROPOSED PIPE



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	MA	MA	JMB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

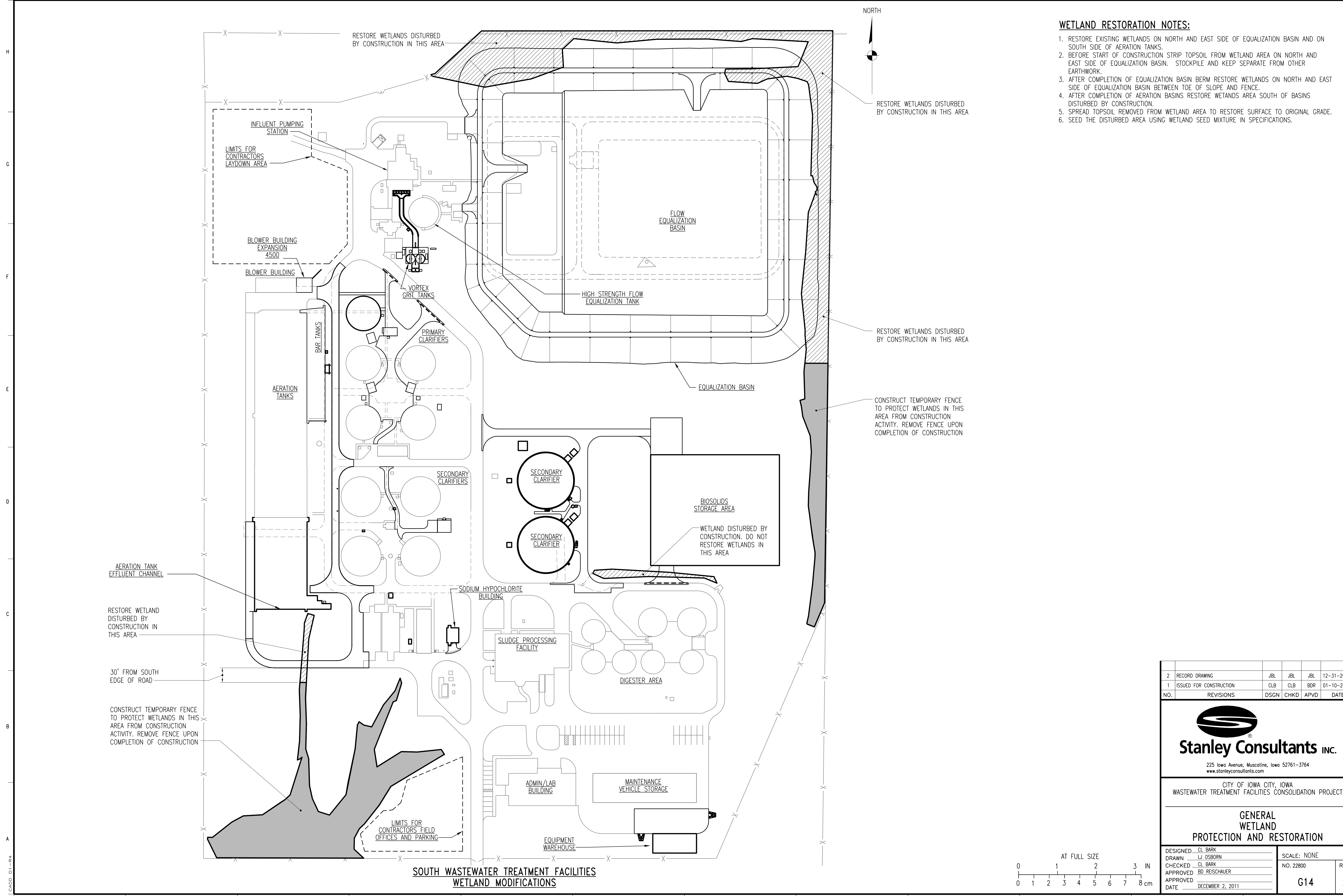
**GENERAL
FLOW DIAGRAM - SLUDGE**

DESIGNED	M. AKYUREK	SCALE:	AS NOTED	REV.	
DRAWN	L.J. OSBORN	NO.	22800		
CHECKED	M. AKYUREK				
APPROVED	J.M. BRADY				
APPROVED					
DATE	DECEMBER 2, 2011				

G13

2

CADD: D1-1-R4



WETLAND RESTORATION NOTES:

1. RESTORE EXISTING WETLANDS ON NORTH AND EAST SIDE OF EQUALIZATION BASIN AND ON SOUTH SIDE OF AERATION TANKS.
2. BEFORE START OF CONSTRUCTION STRIP TOPSOIL FROM WETLAND AREA ON NORTH AND EAST SIDE OF EQUALIZATION BASIN. STOCKPILE AND KEEP SEPARATE FROM OTHER EARTHWORK.
3. AFTER COMPLETION OF EQUALIZATION BASIN BERM RESTORE WETLANDS ON NORTH AND EAST SIDE OF EQUALIZATION BASIN BETWEEN TOE OF SLOPE AND FENCE.
4. AFTER COMPLETION OF AERATION BASINS RESTORE WETLANDS AREA SOUTH OF BASINS DISTURBED BY CONSTRUCTION.
5. SPREAD TOPSOIL REMOVED FROM WETLAND AREA TO RESTORE SURFACE TO ORIGINAL GRADE.
6. SEED THE DISTURBED AREA USING WETLAND SEED MIXTURE IN SPECIFICATIONS.

RESTORE WETLANDS DISTURBED BY CONSTRUCTION IN THIS AREA

RESTORE WETLANDS DISTURBED BY CONSTRUCTION IN THIS AREA

RESTORE WETLANDS DISTURBED BY CONSTRUCTION IN THIS AREA

CONSTRUCT TEMPORARY FENCE TO PROTECT WETLANDS IN THIS AREA FROM CONSTRUCTION ACTIVITY. REMOVE FENCE UPON COMPLETION OF CONSTRUCTION

WETLAND DISTURBED BY CONSTRUCTION. DO NOT RESTORE WETLANDS IN THIS AREA

RESTORE WETLAND DISTURBED BY CONSTRUCTION IN THIS AREA

30' FROM SOUTH EDGE OF ROAD

CONSTRUCT TEMPORARY FENCE TO PROTECT WETLANDS IN THIS AREA FROM CONSTRUCTION ACTIVITY. REMOVE FENCE UPON COMPLETION OF CONSTRUCTION

**SOUTH WASTEWATER TREATMENT FACILITIES
WETLAND MODIFICATIONS**



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**GENERAL
WETLAND
PROTECTION AND RESTORATION**

DESIGNED	CL BARK	SCALE: NONE	REV. 2
DRAWN	LJ OSBORN	NO. 22800	
CHECKED	CL BARK		
APPROVED	BD REISCHAUER		
DATE	DECEMBER 2, 2011	G14	

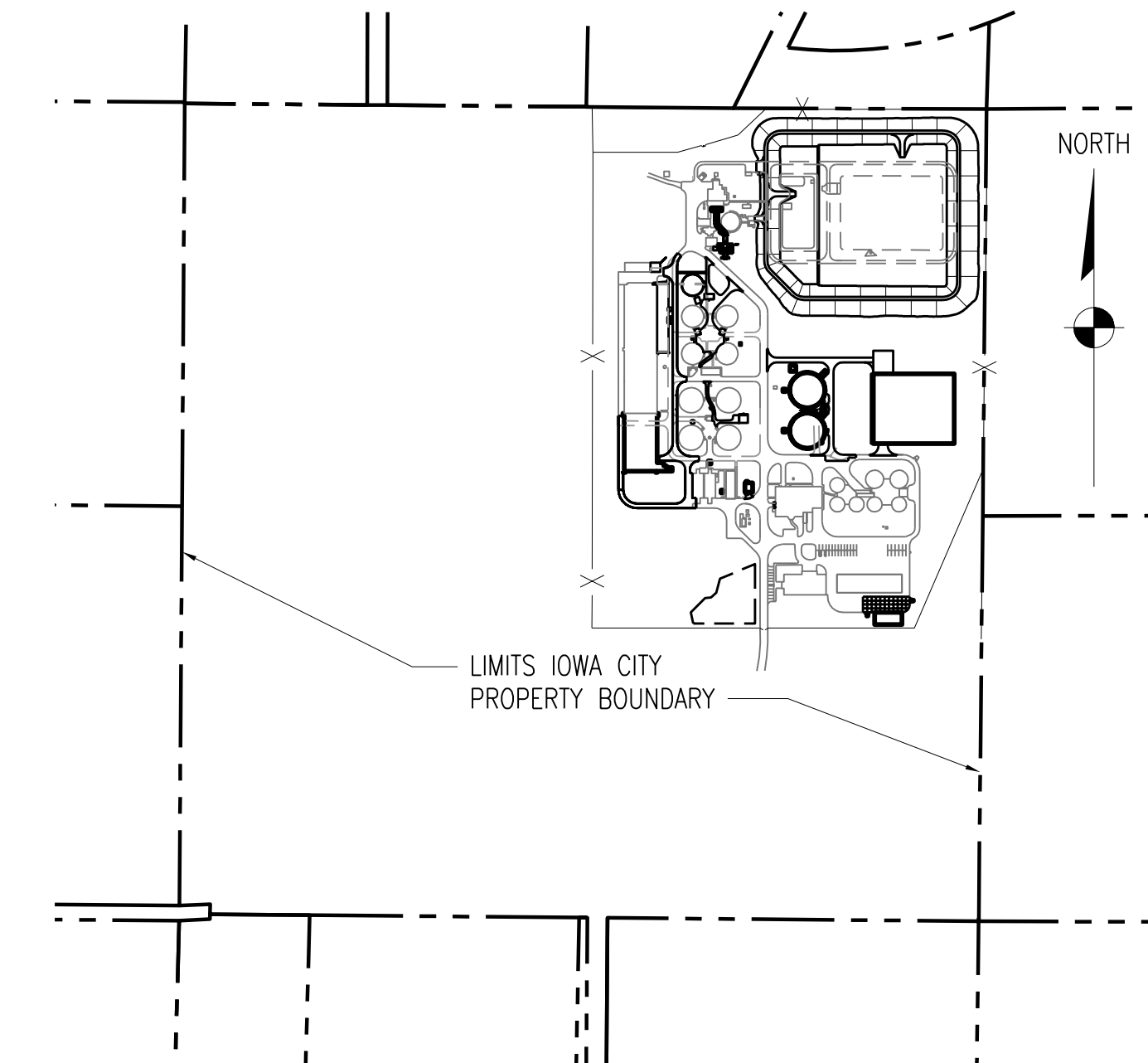
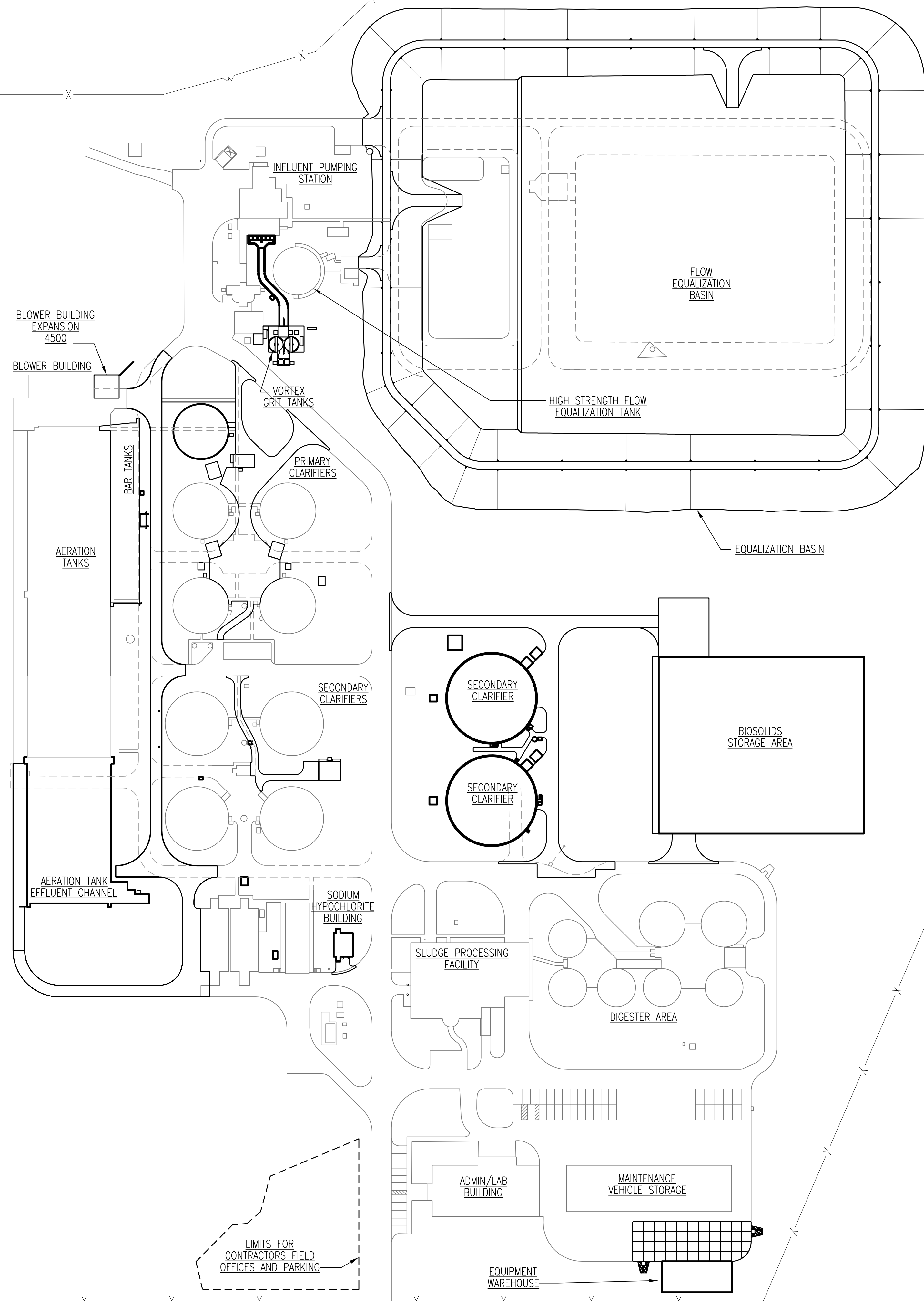
CADD: D1-144

PROPERTY LINE
(TYP)

NORTH

NOTE:

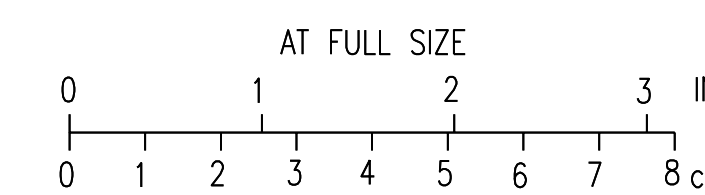
1. ENTIRE PROPERTY CONSISTS OF 163.5 ACRES. ADDITIONAL PROPERTY LOCATED SOUTH AND WEST OF IOWA CITY SOUTH WWTP. SEE INSERT BELOW.



(NE1/4 SEC35 T79N R6W)
SOUTH WASTEWATER TREATMENT PLANT INSERT

PROPERTY LINE
(TYP)

**SOUTH WASTEWATER TREATMENT FACILITIES
WETLAND MODIFICATIONS**



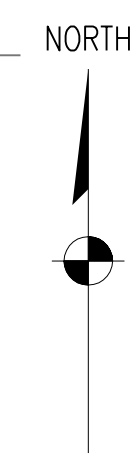
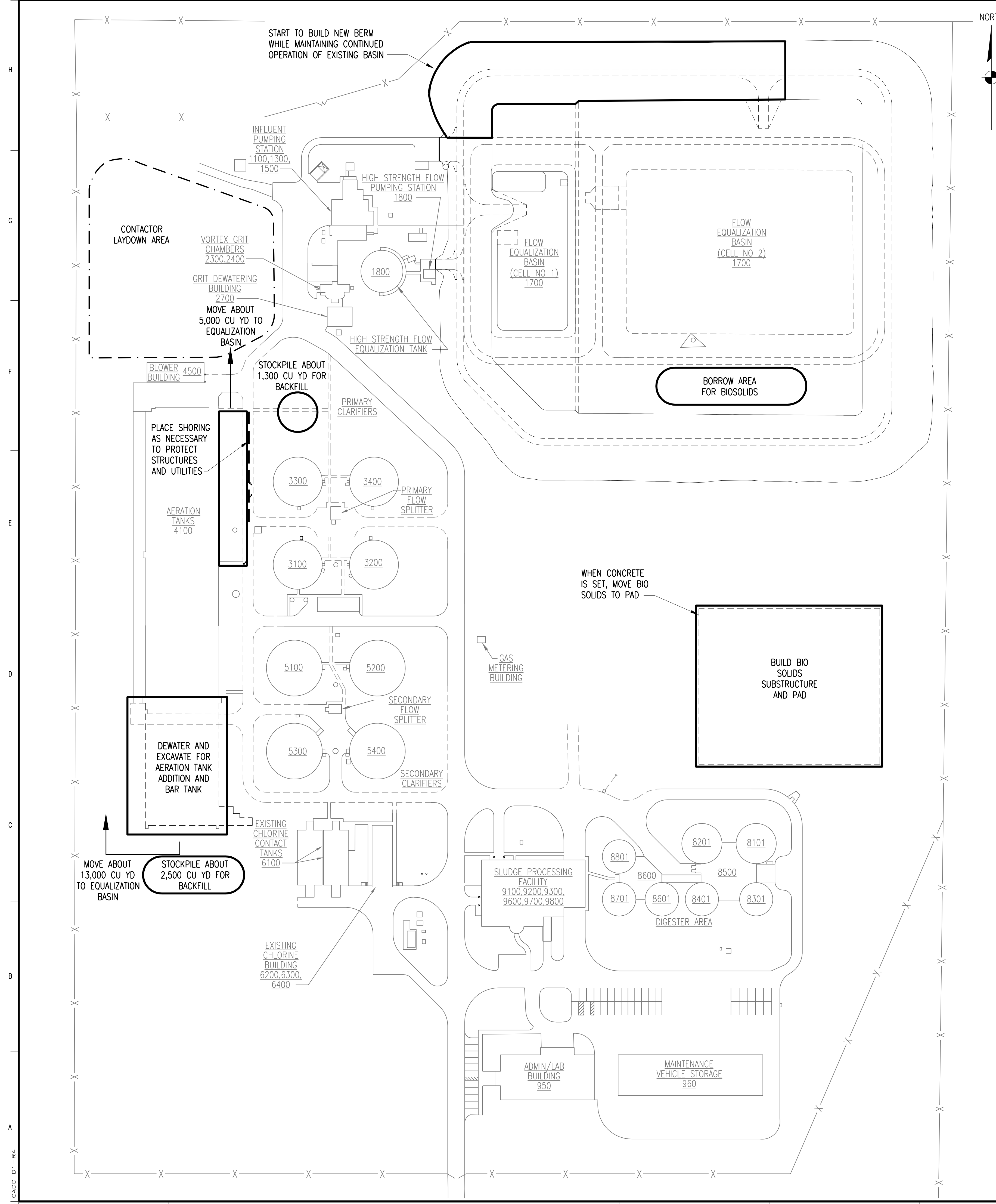
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
0	ISSUED FOR CONSTRUCTION	JBL	JBL	BDR	01-25-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

SITE CERTIFICATE PLAN

DESIGNED	JBL LUND	SCALE: NONE	REV.
DRAWN	GA GOOS	NO. 22800	
CHECKED	JBL LUND		
APPROVED	BD REISCHAUER		
APPROVED		G15	3
DATE	JANUARY 25, 2012		



CONSTRUCTION SEQUENCING NOTES:

1. EXISTING WASTEWATER TREATMENT PLANT MUST BE MAINTAINED IN CONTINUOUS OPERATION THROUGHOUT CONSTRUCTION.
2. CONSTRUCT WORK IN STAGES TO ACCOMMODATE OWNER'S USE OF PREMISES DURING CONSTRUCTION PERIOD; COORDINATE CONSTRUCTION SCHEDULE AND OPERATIONS WITH OWNER.
3. SCHEDULE AND CONDUCT WORK TO MINIMIZE INTERFERENCE WITH PLANT OPERATION AND MAINTENANCE.
4. CONSTRUCTION SEQUENCING DRAWINGS ARE PROVIDED FOR INFORMATION ONLY AND ARE NOT INTENDED TO RESTRICT CONTRACTOR MEANS, METHODS OR SCHEDULE OF WORK.
5. CONSTRUCTION SEQUENCING DRAWINGS SHOW A CONSTRUCTION SEQUENCE OF WORK THAT CAN BE USED. CONTRACTOR CAN PROPOSE ALTERNATIVE CONSTRUCTION SEQUENCING.
6. INSTALL AND OPERATE DEWATERING SYSTEMS AS REQUIRED FOR EXCAVATION AND CONSTRUCTION. OPERATE DEWATERING SYSTEMS TO MINIMIZE GROUNDWATER DRAWDOWN OFF SITE.
7. PROVIDE TEMPORARY PIPING, PUMPING, POWER, AND CONTROL FACILITIES AS REQUIRED TO MAINTAIN CONTINUOUS PLANT OPERATION AND COMPLETE TREATMENT EXCEPT AS OTHERWISE SPECIFIED. CONTRACTOR RESPONSIBLE FOR PROVIDING ALARMS FOR ANY PUMP SYSTEM FAILURES AND PROVIDING RAPID RESPONSE TO REPAIR ANY SYSTEM OUTAGES.
8. MAINTAIN ROAD ACCESS FOR PLANT OPERATIONS VEHICLES TO ALL TREATMENT PROCESS UNITS, OR PROVIDE ALTERNATE TEMPORARY ROAD ACCESS.
9. SEE SPECIFICATION SECTION 01 15 00 FOR ADDITIONAL INFORMATION ON SEQUENCING OF CONSTRUCTION ACTIVITIES.

CONSTRAINTS AND OBJECTIVES:

1. CONSTRUCT AS MUCH OF THE PROJECT AS POSSIBLE AROUND EXISTING WASTEWATER PLANT OPERATIONS BEFORE IMPACTING PLANT OPERATIONS.
2. CONSTRUCT THE NEW EQUALIZATION BASIN EXPANSION EARLY SO THAT THE EXTRA CAPACITY IS AVAILABLE FOR ANY PLANNED OR UNPLANNED PLANT SHUTDOWN DURING CONSTRUCTION.
3. CONSTRUCT THE BIOSOLIDS STORAGE STRUCTURE EARLY SO STORED BIOSOLIDS CAN BE RELOCATED TO MAKE WAY FOR THE EXCAVATION FOR THE NEW SECONDARY CLARIFIERS.

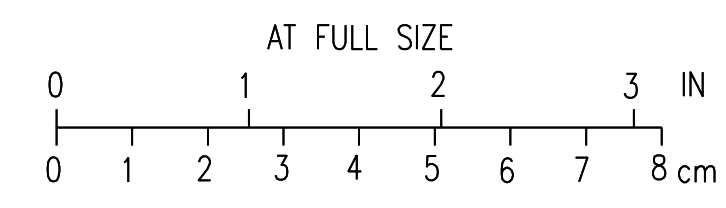
CONSTRUCTION PHASE 1:

1. EXISTING PLANT WILL REMAIN IN NORMAL OPERATION DURING PHASE 1 CONSTRUCTION.
2. CONSTRUCT BIOSOLIDS STORAGE STRUCTURE INCLUDING ROOF AND DRAINAGE SYSTEM.
3. MOVE EXISTING BIOSOLIDS TO NEW BIOSOLIDS STORAGE STRUCTURE.
4. PLACE SHORING AT NEW AERATION TANK ADDITION AND BAR CHANNEL TO PROTECT EXISTING ROADS, PIPING AND CLARIFIERS.
5. DEWATER AND EXCAVATE FOR CONSTRUCTION OF NEW AERATION TANK ADDITION; STOCKPILE ABOUT 2,500 CUBIC YARDS OF MATERIAL FOR BACKFILL AND MOVE ABOUT 13,000 CUBIC YARDS OF MATERIAL FOR THE CONSTRUCTION OF THE NORTH EQUALIZATION BASIN BERMS.
6. DEWATER AND EXCAVATE FOR THE BAR CHANNEL; STOCKPILE ABOUT 1,300 CUBIC YARDS OF MATERIAL FOR BACKFILL AND MOVE ABOUT 5,000 CUBIC YARDS OF MATERIAL FOR CONSTRUCTION OF THE NORTH EQUALIZATION BASIN BERM.
7. START CONSTRUCTION OF THE NEW EQUALIZATION BASIN BY CONSTRUCTING THE NEW BERMS WITH BORROW FROM EXCAVATION OF AERATION TANK ADDITION AND THE BAR CHANNEL.



CHANGE CONSTRUCTION PHASE 1 NOTE 3. TO READ:
 3. OWNER WILL MOVE EXISTING BIOSOLIDS TO NEW BIOSOLIDS STORAGE STRUCTURE.
 CHANGE NOTE POINTING TO NEW BIOSOLIDS STRUCTURE TO READ
 "WHEN CONCRETE HAS SET, OWNER WILL MOVE BIOSOLIDS TO PAD."

**CONSTRUCTION PHASE 1
 OPERATION OF EXISTING
 TREATMENT PLANT NORMAL**



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED ADDENDUM COMMENTS	LJO	JLB	JLB	05-11-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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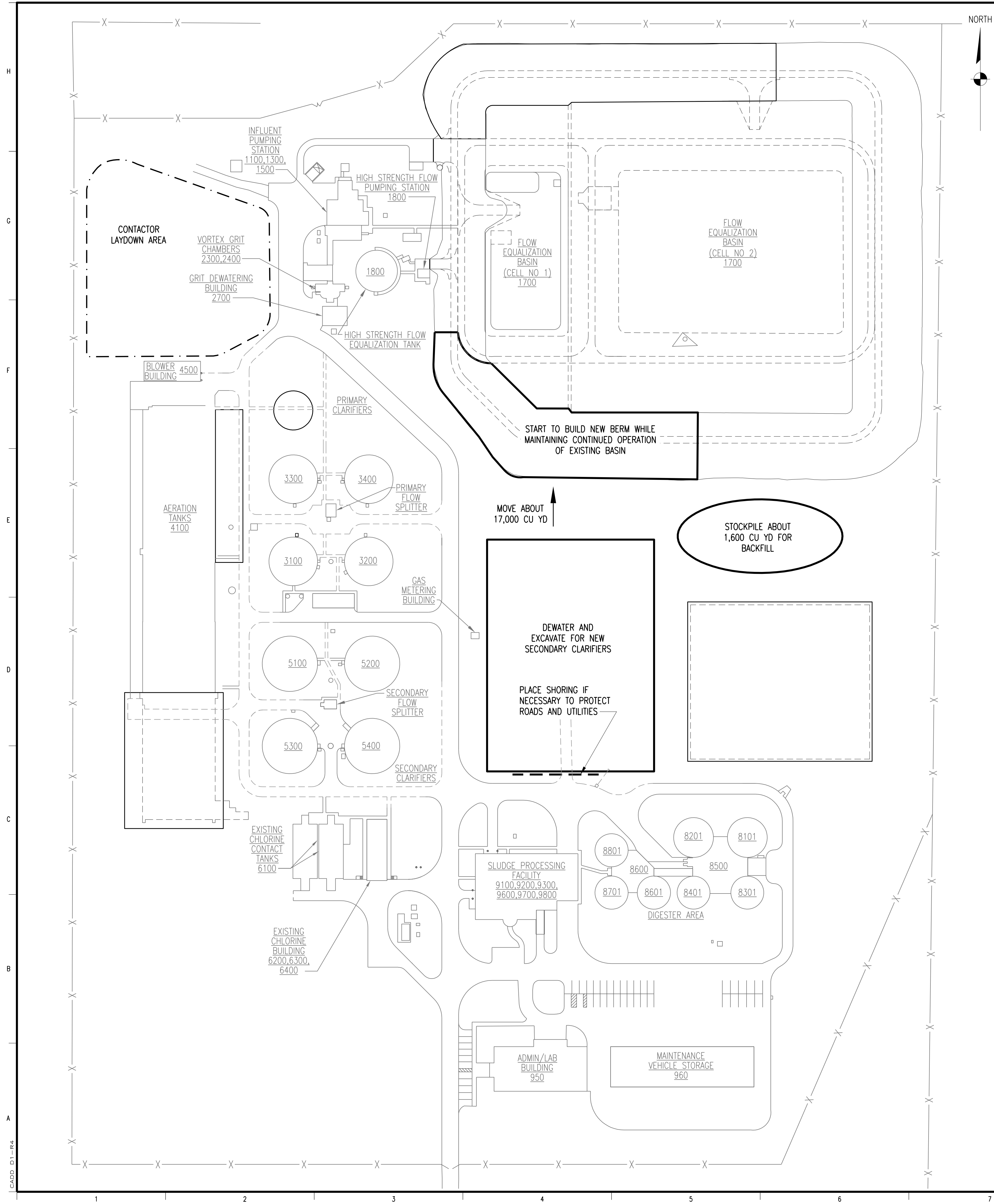
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**CONSTRUCTION SEQUENCING
 SHEET 1
 CONSTRUCTION PHASE 1**

DESIGNED	CL BARK	SCALE:	NONE	REV.	
DRAWN	LJ OSBORN	NO.	22800		
CHECKED	CL BARK				
APPROVED	BO REISCHAUER				
APPROVED					
DATE	DECEMBER 2, 2011				

G21 3

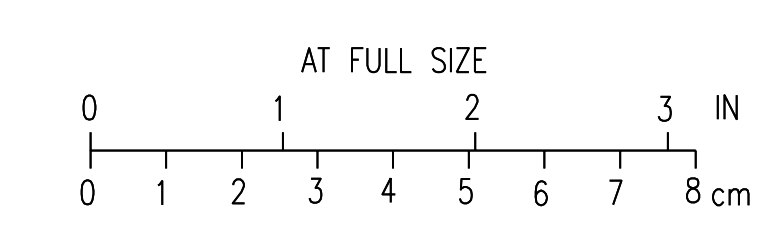
CADD D1-1-R4



CONSTRUCTION PHASE 2:

1. EXISTING PLANT WILL REMAIN IN NORMAL OPERATION DURING PHASE 2 CONSTRUCTION.
2. PLACE SECONDARY CLARIFIER SHORING AS NECESSARY TO PROTECT EXISTING ROADS AND UTILITIES, DEWATER THE AREA FOR THE NEW SECONDARY CLARIFIERS.
3. EXCAVATE FOR THE NEW SECONDARY CLARIFIERS; STOCKPILE ABOUT 1,600 CUBIC YARDS OF MATERIAL FOR BACKFILL AND MOVE ABOUT 17,000 CUBIC YARDS OF MATERIAL TO START CONSTRUCTION OF THE SOUTH BERM OF THE NEW EQUALIZATION BASIN.
4. START CONSTRUCTION OF THE NEW EQUALIZATION BASIN SOUTH BERM WITH BORROW FROM THE NEW SECONDARY CLARIFIERS.

**CONSTRUCTION PHASE 2
OPERATION OF EXISTING
TREATMENT PLANT NORMAL**



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

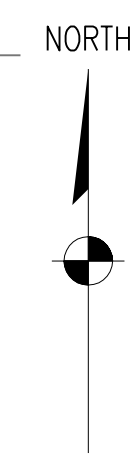
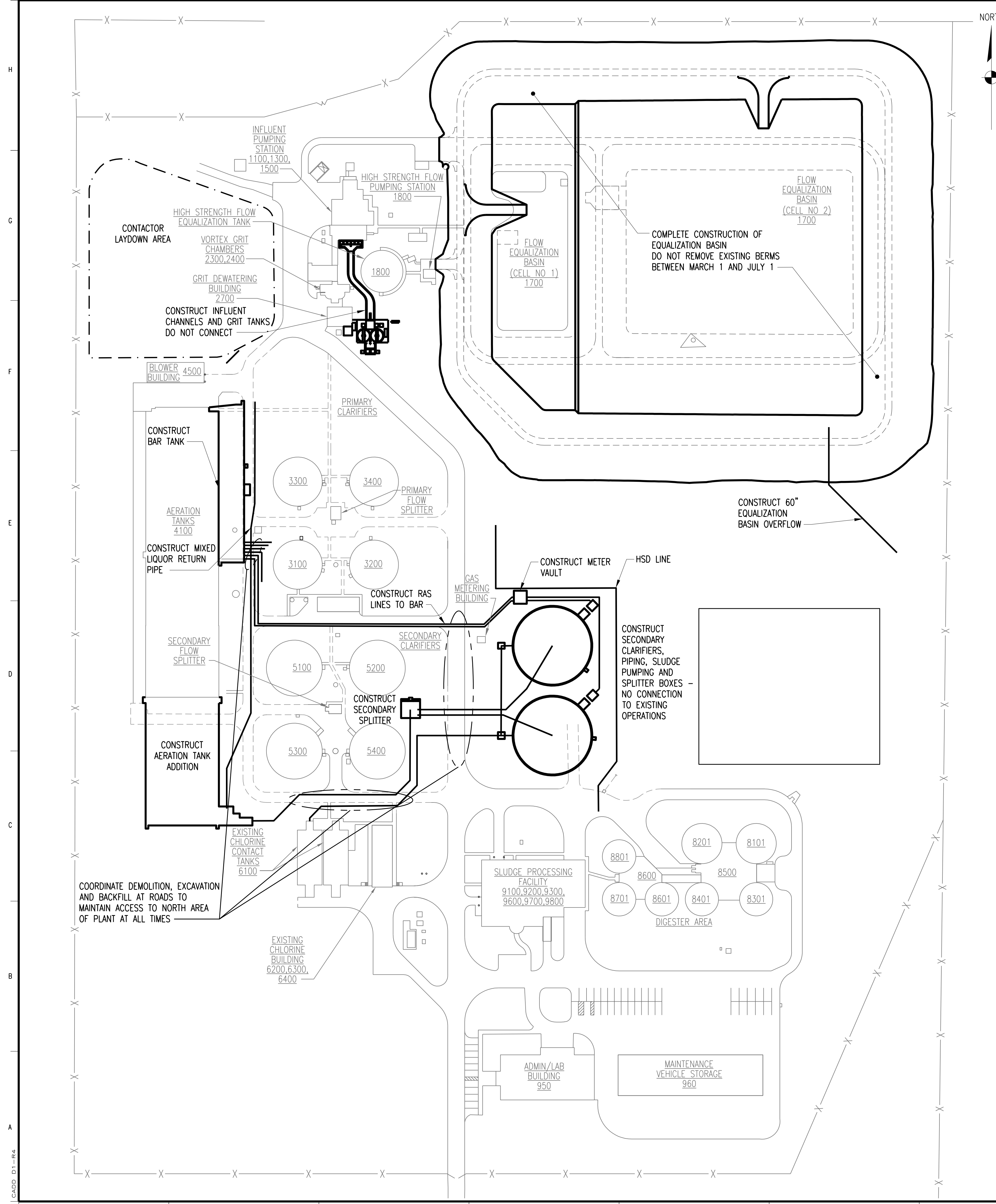

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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**CONSTRUCTION SEQUENCING
SHEET 2
CONSTRUCTION PHASE 2**

DESIGNED	CL BARK	SCALE: NONE	REV. 2
DRAWN	LJ OSBORN	NO. 22800	
CHECKED	CL BARK		
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011	G22	

CADD D1-R4




CONSTRUCTION PHASE 3:

1. EXISTING PLANT WILL REMAIN IN NORMAL OPERATION DURING PHASE 3 CONSTRUCTION.
2. CONSTRUCT AERATION TANK ADDITION AND BAR TANK AND CHANNELS BUT DO NOT DEMO OR DISRUPT OPERATIONS OF EXISTING AERATION TANKS. DO NOT MAKE ANY HOOKUPS TO EXISTING PLANT ELEMENTS.
3. CONSTRUCT THE NEW SECONDARY CLARIFIERS, SPLITTER BOXES, SLUDGE PUMPING RAS METER VAULT, RAS RETURN LINES TO THE NEW BAR RAS SELECTOR CHANNEL, MIXED LIQUOR LINES TO SECONDARY FLOW SPLITTER AND NEW SECONDARY CLARIFIERS, MIXED LIQUOR RETURN PIPE, AND THE SECONDARY EFFLUENT LINES TO DISINFECTION.
4. COORDINATE DEMOLITION OF ROADS TO MAINTAIN ACCESS TO THE NORTH AREA OF THE PLANT AT ALL TIMES.
5. CONSTRUCT NEW INFLUENT CHANNEL AND GRIT TANKS; DO NOT MAKE CONNECTION AT INFLUENT PUMP STATION.
6. COMPLETE CONSTRUCTION OF EXPANDED EQUALIZATION BASIN WHILE MAINTAINING FULL OPERATION OF EQUALIZATION BASIN.
 - a. BUILD NEW BERMS AS FAR AS POSSIBLE WITH AVAILABLE SPOIL FROM PHASE 1 AND 2 CONSTRUCTION.
 - b. DEMO EXISTING EQUALIZATION BASIN BERMS AND LINER THAT ARE NOT PART OF NEW BASIN AND COMPLETE CONSTRUCTION OF NEW EQUALIZATION BASIN.
 - c. CONSTRUCT NEW 60" EQUALIZATION BASIN EMERGENCY "OVERFLOW" PIPE.
7. SCHEDULE CONSTRUCTION SO EQUALIZATION BASIN MAINTAINS EXISTING CAPACITY TO THE EXTENT POSSIBLE AND EXISTING CAPACITY MUST BE AVAILABLE BETWEEN MARCH 1 AND JULY 1.

**CONSTRUCTION PHASE 3
OPERATION OF EXISTING
TREATMENT PLANT NORMAL**



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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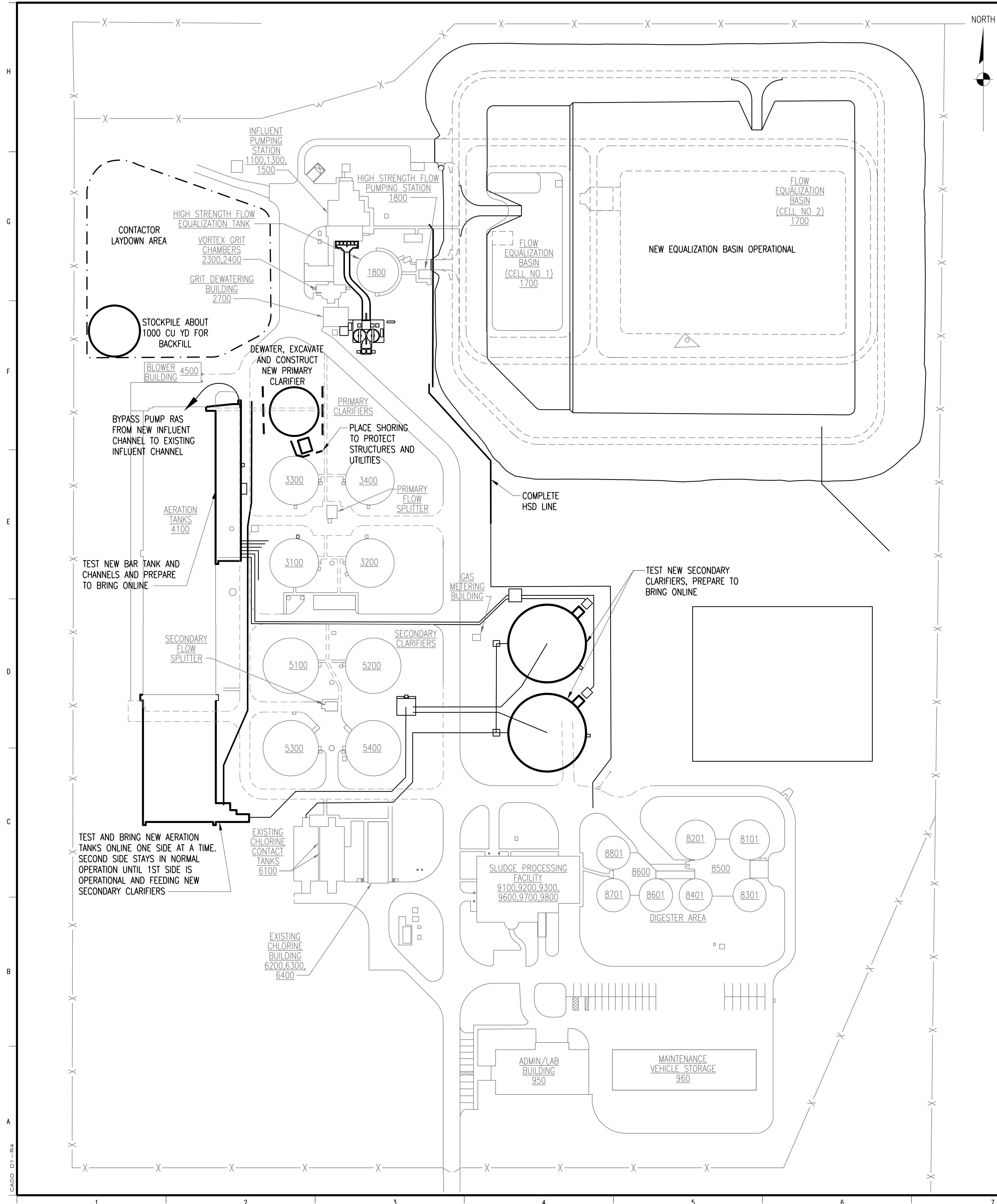
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**CONSTRUCTION SEQUENCING
SHEET 3
CONSTRUCTION PHASE 3**

DESIGNED CL BARK	SCALE: NONE	REV. 2
DRAWN LJ OSBORN	NO. 22800	
CHECKED CL BARK		
APPROVED BO REISCHAUER		
APPROVED	G23	
DATE DECEMBER 2, 2011		

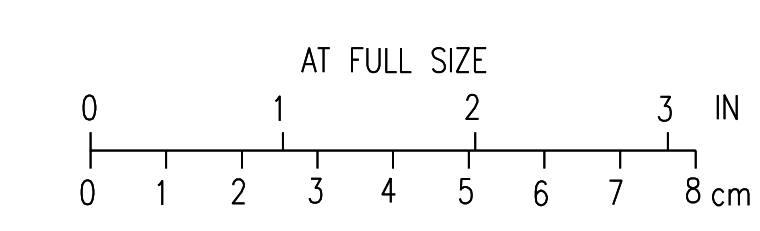
CADD D1-144



CONSTRUCTION PHASE 4:

1. PLACE SHORING AT NEW PRIMARY CLARIFIER TO PROTECT EXISTING ROADS, PIPING AND CLARIFIERS. DEWATER AND CONSTRUCT NEW PRIMARY CLARIFIER.
2. TEST NEW BAR TANK AND CHANNELS.
3. BRING NEW BAR TANK AND CHANNELS ONLINE. SET UP PUMPED BYPASS FROM NEW INFLUENT CHANNEL NEXT TO BAR TANK TO EXISTING AERATION TANK INFLUENT CHANNEL AND PUMP AS NECESSARY.
4. TEST NEW SECONDARY CLARIFIERS AND BRING ONLINE.
5. TEST NEW AERATION TANK ADDITION AND BRING ONLINE ONE HALF AT A TIME, WEST SIDE FIRST, WHILE MAINTAINING STANDARD OPERATION OF EAST HALF UNTIL WEST HALF IS FEEDING NEW SECONDARY CLARIFIERS. THEN PLACE ALL FLOW THROUGH WEST HALF AND CONNECT AND BRING EAST HALF ON LINE.

CONSTRUCTION PHASE 4
 OPERATION OF EXISTING TREATMENT PLANT
 NORMAL PREPARING TO BRING NEW
 SECONDARY CLARIFIERS AND AERATION
 BASIN ADDITION ONLINE



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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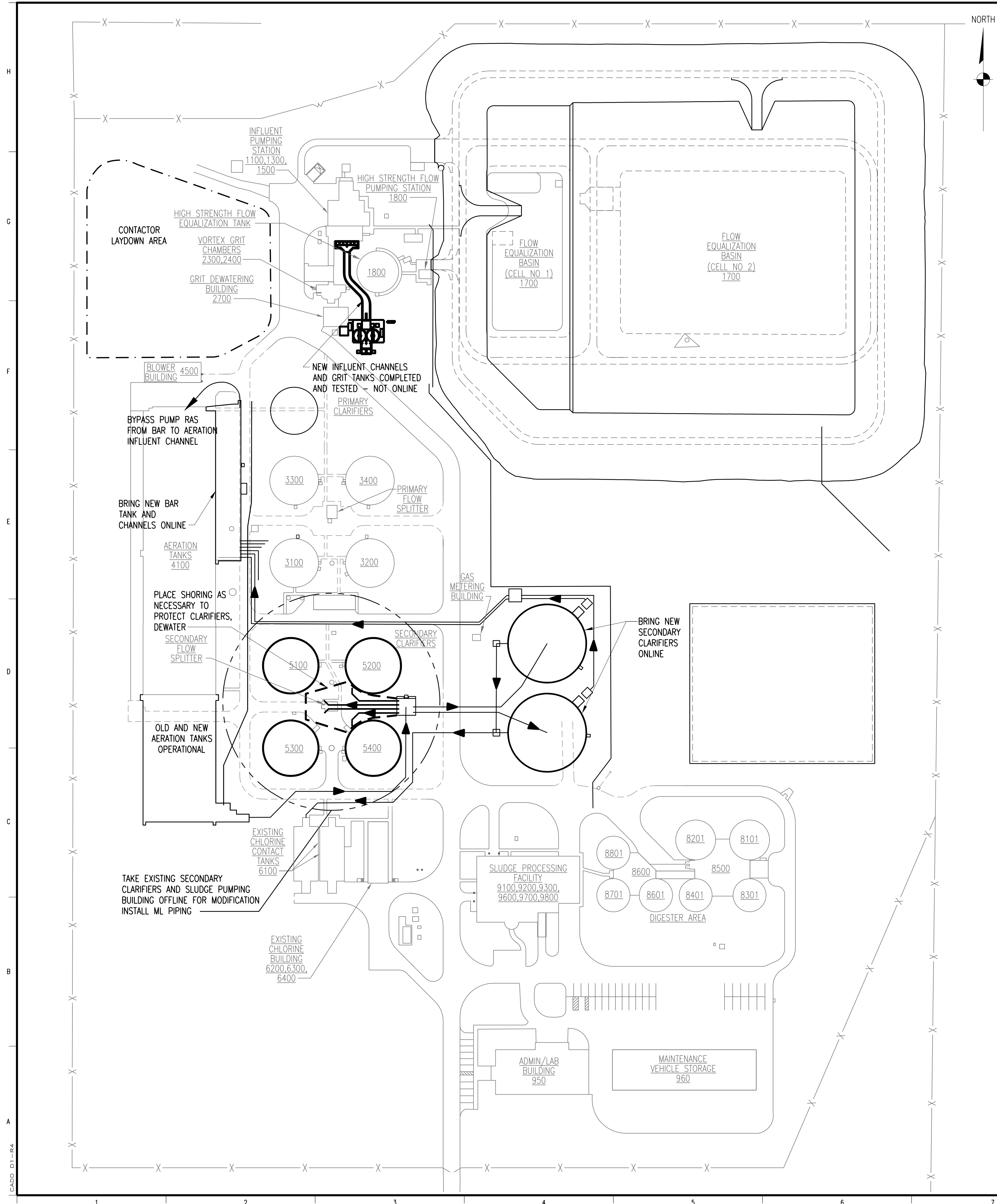
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**CONSTRUCTION SEQUENCING
 SHEET 4
 CONSTRUCTION PHASE 4**

DESIGNED	CL BARK	SCALE:	NONE	REV.	
DRAWN	LJ OSBORN	NO.	22800		
CHECKED	CL BARK				
APPROVED	BD REISCHAUER				
APPROVED					
DATE	DECEMBER 2, 2011				

G24 **2**

CADD D1-1-R4



CONSTRUCTION PHASE 5:

1. WHEN NEW SECONDARY CLARIFIERS ARE IN OPERATION AND RAS IS FLOWING TO NEW BAR RAS CHANNEL, TAKE EXISTING SECONDARY CLARIFIERS AND SLUDGE PUMPING BUILDING OFFLINE, CONSTRUCT MODIFICATIONS.
2. CONTINUE BYPASS PUMPING OF RAS FROM EXISTING AERATION BASIN INLET CHANNEL TO NEW AERATION BASIN INLET CHANNEL.
3. PLACE SHORING AS NECESSARY TO PROTECT EXISTING SECONDARY CLARIFIERS AND DEWATER FOR EXCAVATION AT ML PIPING FOR CONNECTION BETWEEN NEW SECONDARY FLOW SPLITTER AND EXISTING SECONDARY CLARIFIERS.
4. CONSTRUCT ML PIPING AND HOOKUP TO EXISTING SECONDARY CLARIFIERS.
5. CONSTRUCT EXISTING SLUDGE PUMPING BUILDING MODIFICATIONS.

CONSTRUCTION PHASE 5
 PRIMARY CLARIFIERS IN STANDARD OPERATION, NEW SECONDARY CLARIFIERS ONLINE, OLD SECONDARY CLARIFIERS OFFLINE FOR MODIFICATION. NEW AERATION TANKS FEEDING NEW SECONDARY CLARIFIERS



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

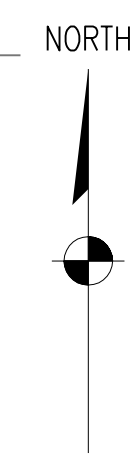
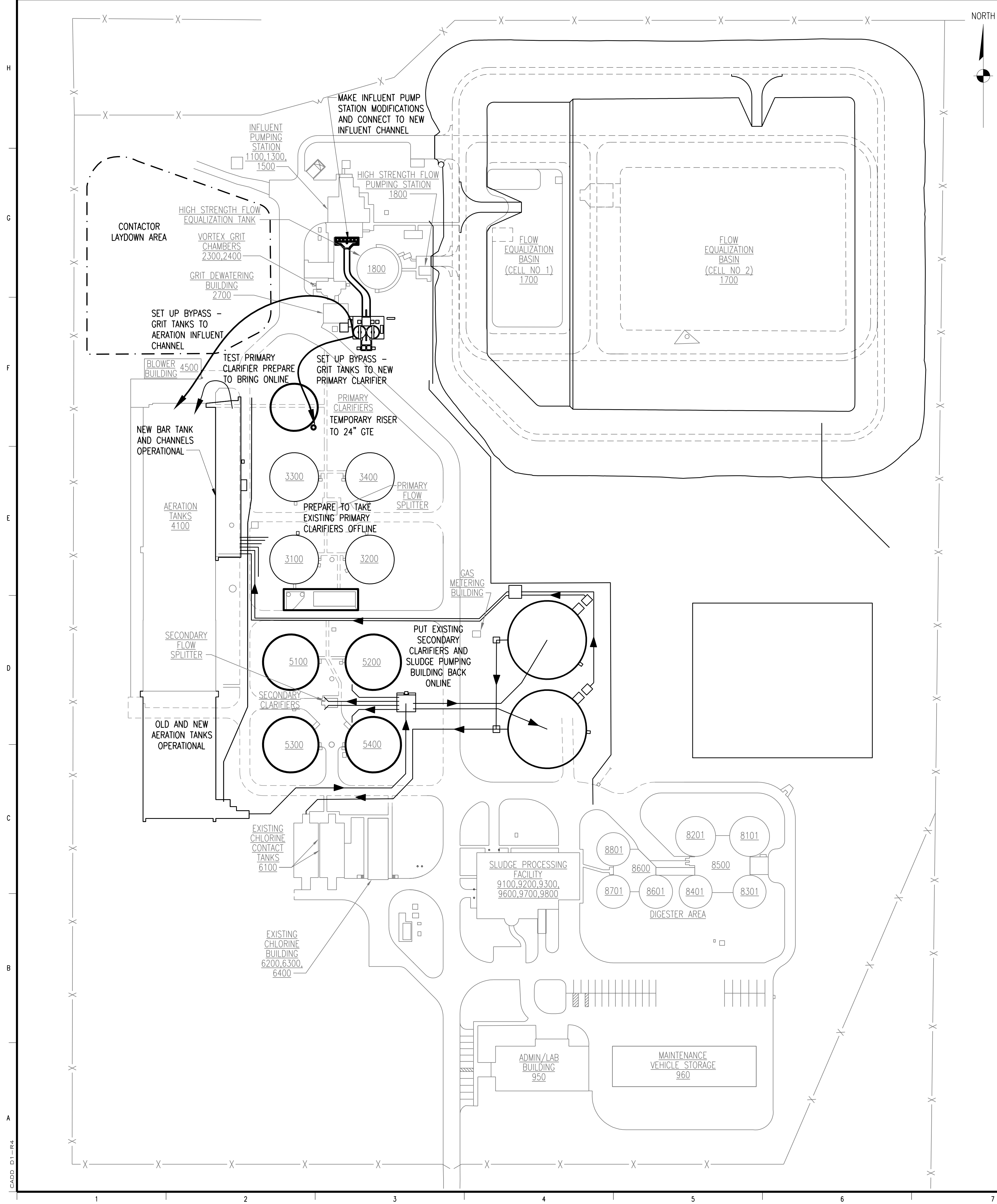

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**CONSTRUCTION SEQUENCING
 SHEET 5
 CONSTRUCTION PHASE 5**

DESIGNED	CL BARK	SCALE:	NONE	REV.	
DRAWN	LJ OSBORN	NO.	22800		
CHECKED	CL BARK				
APPROVED	BD REISCHAUER				
APPROVED					
DATE	DECEMBER 2, 2011				

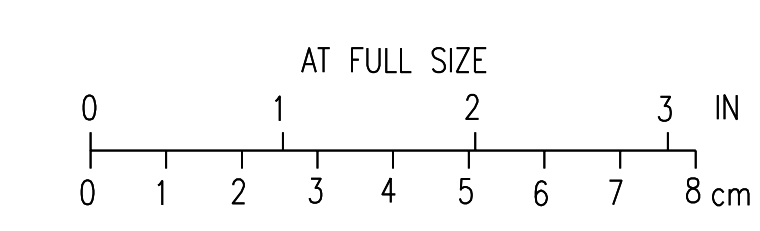
G25 **2**



CONSTRUCTION PHASE 6:

1. TEST EXISTING SECONDARY CLARIFIERS AND SLUDGE PUMPING BUILDING MODIFICATIONS AND BRING ONLINE.
2. TEST NEW PRIMARY CLARIFIER AND PREPARE TO BRING ONLINE.
3. PLACE TEMPORARY RISER TO FEED GRIT TANK EFFLUENT TO NEW PRIMARY CLARIFIER AND SETUP BYPASS FROM NEW GRIT TANKS TO TEMPORARY RISER.
4. SETUP BYPASS FROM NEW GRIT TANKS TO AERATION TANK INFLUENT CHANNEL.
5. CONSTRUCT INFLUENT PUMP STATION MODIFICATIONS INCLUDING CONNECTIONS TO NEW INFLUENT CHANNEL, MAINTAINING ADEQUATE INFLUENT PUMPING OPERATIONS AT ALL TIMES.
6. PREPARE TO TAKE OLD PRIMARY CLARIFIERS OFFLINE.
7. MAINTAIN CAPABILITY TO BYPASS EXCESS FLOW TO FLOW EQUALIZATION BASIN AT ALL TIMES.

CONSTRUCTION PHASE 6
ALL SECONDARY CLARIFIERS ONLINE
PREPARE TO TAKE OLD PRIMARY CLARIFIERS OFFLINE



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

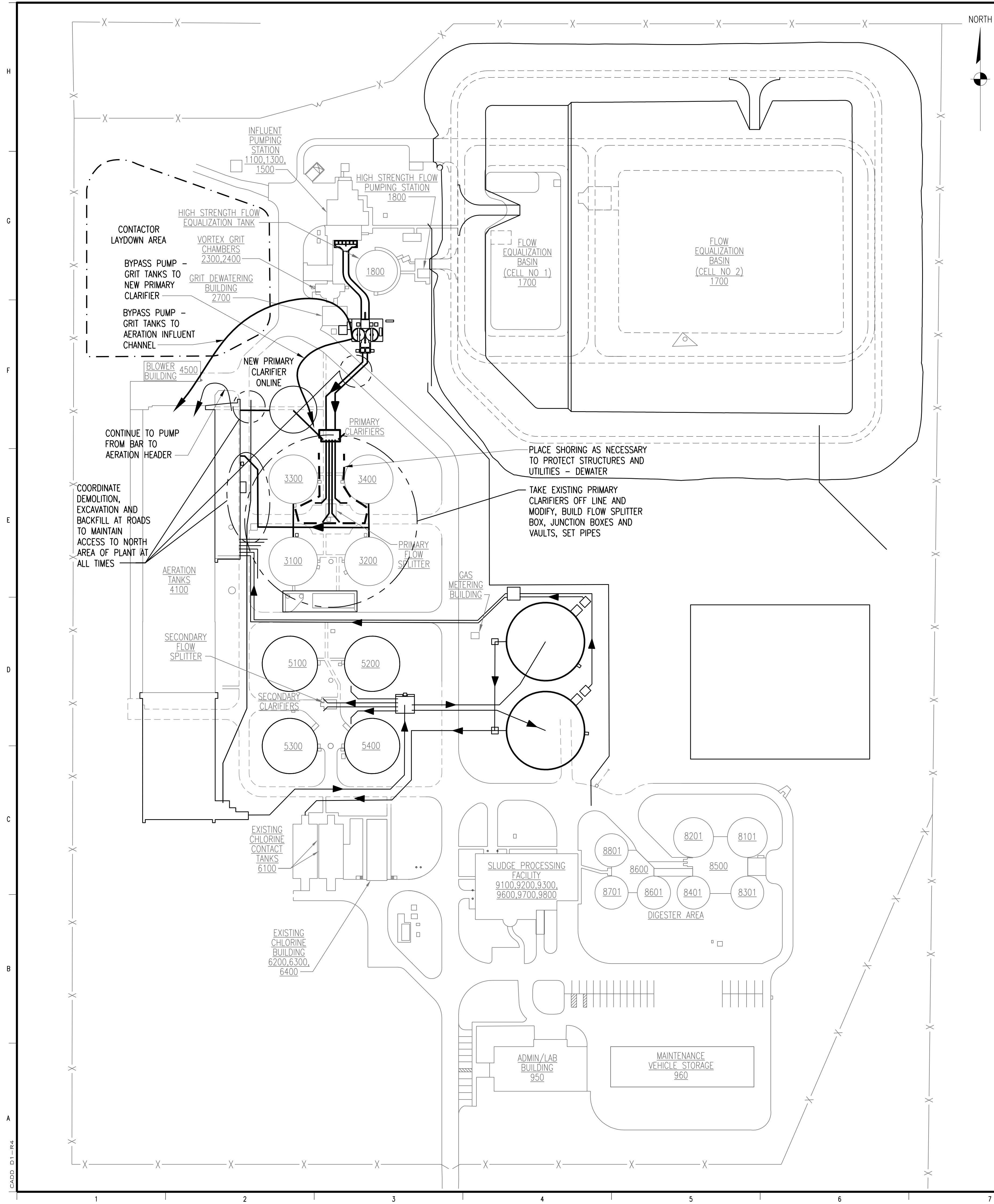
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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

CONSTRUCTION SEQUENCING
SHEET 6
CONSTRUCTION PHASE 6

DESIGNED	CL BARK	SCALE:	NONE	REV.	
DRAWN	LJ OSBORN	NO.	22800		
CHECKED	CL BARK				
APPROVED	BD REISCHAUER				
APPROVED					
DATE	DECEMBER 2, 2011				

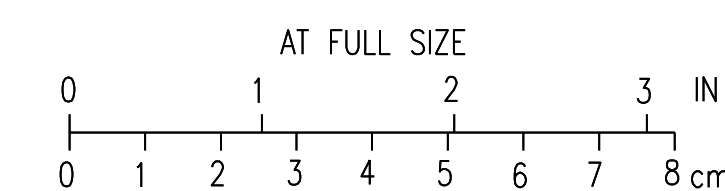
G26 **2**



CONSTRUCTION PHASE 7:

1. SCHEDULE WORK SO THAT EXISTING PRIMARY CLARIFIERS ARE NOT OUT OF SERVICE BETWEEN MARCH 1 AND JULY 1.
2. BRING NEW PRIMARY CLARIFIER ONLINE.
3. OPERATE BYPASS FROM GRIT TANKS TO NEW PRIMARY CLARIFIER AND EXISTING AERATION BASIN INFLUENT CHANNEL.
4. PUMP MAXIMUM DESIGN FLOW OF UP TO 6 MGD THROUGH NEW PRIMARY CLARIFIER AND PUMP ONLY FLOW IN EXCESS OF 6 MGD TO THE AERATION BASIN INFLUENT CHANNEL.
5. TAKE EXISTING PRIMARY CLARIFIERS OFFLINE.
6. PLACE SHORING AS NECESSARY TO PROTECT ROADS, PIPING AND CLARIFIERS AND DEWATER.
7. CONSTRUCT PRIMARY CLARIFIER PIPING, SPLITTER BOX AND VAULTS.
8. MAKE CONNECTIONS TO EXISTING PRIMARY CLARIFIERS.
9. MAKE PRIMARY EFFLUENT CONNECTION AT AERATION BASIN INFLUENT CHANNEL NEXT TO BAR TANKS.
10. COORDINATE DEMOLITION AT ROADS TO MAINTAIN ACCESS TO NORTH AREA OF PLANT AT ALL TIMES, ANY REQUIRED CLOSURE OF MAIN ACCESS ROAD MUST BE LESS THAN 4 DAYS.

CONSTRUCTION PHASE 7
NEW PRIMARY CLARIFIER ONLINE, BYPASS
EXISTING PRIMARY CLARIFIERS AND TAKE
OFFLINE FOR MODIFICATIONS



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

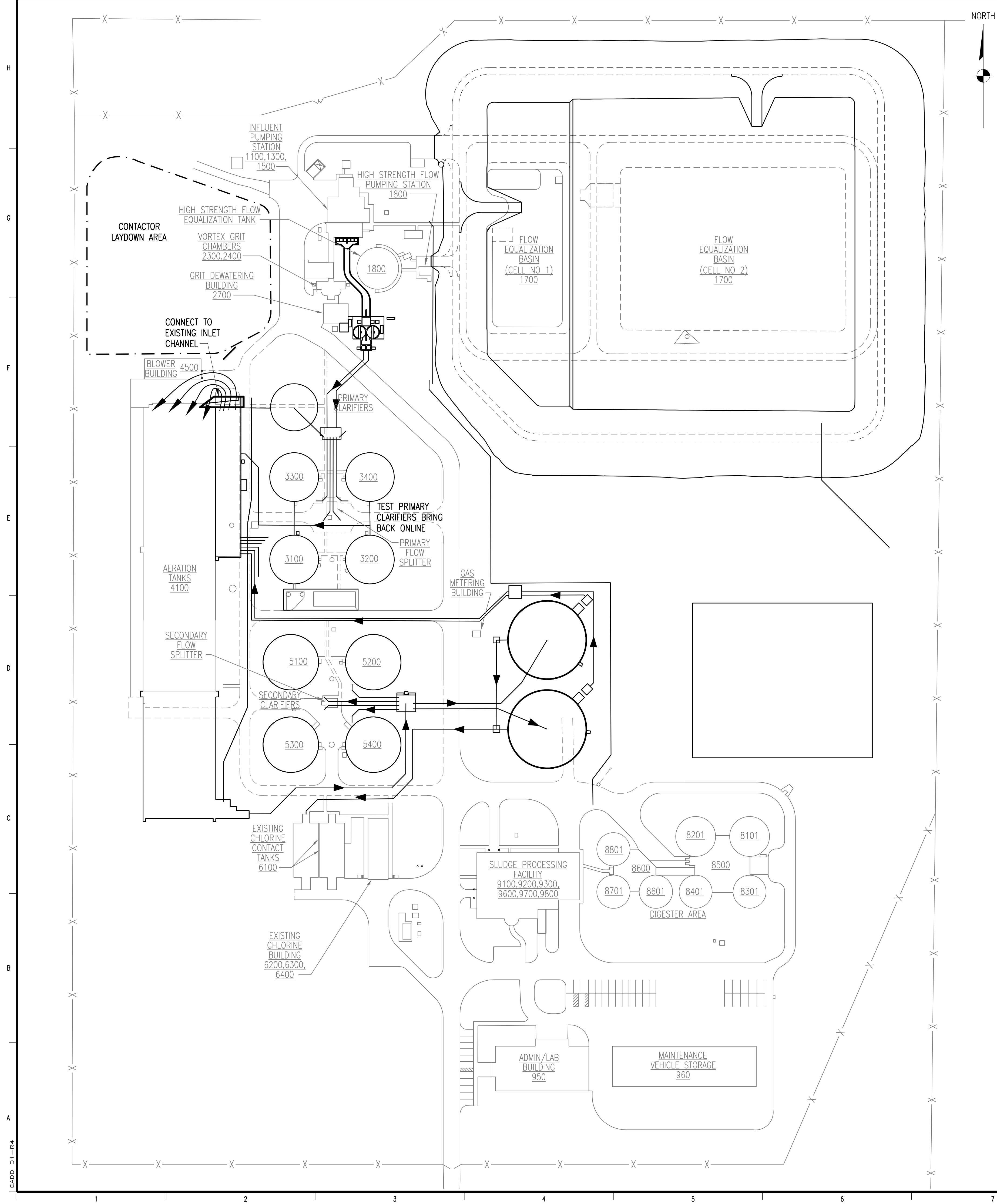

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

CONSTRUCTION SEQUENCING
SHEET 7
CONSTRUCTION PHASE 7

DESIGNED	CL BARK	SCALE: NONE	REV. 2
DRAWN	LJ OSBORN	NO. 22800	
CHECKED	CL BARK		
APPROVED	BD REISCHAUER		
APPROVED		G27	
DATE	DECEMBER 2, 2011		

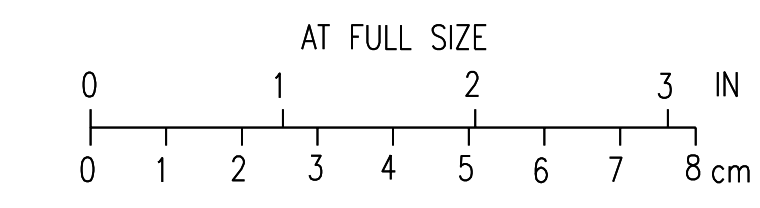
CADD D1-144




CONSTRUCTION PHASE 8:

1. TEST EXISTING PRIMARY CLARIFIERS AND BRING BACK ONLINE.
2. CLOSE EXISTING INLET GATES AT NORTH END OF AERATION TANKS AND BYPASS PUMP FROM NEW INFLUENT CHANNEL INTO AERATION TANKS.
3. PLACE NEW PRIMARY CLARIFIER IN STANDARD OPERATION AND REMOVE BYPASS FROM GRIT TANKS TO AERATION HEADER AND NEW PRIMARY CLARIFIER.
4. TAKE EXISTING AERATION BASIN INLET CHANNEL OUT OF OPERATION.
5. CONNECT NEW INLET CHANNEL TO EXISTING INLET CHANNEL AND CONNECT MIXED LIQUOR RETURN PIPING TO EXISTING PIPING NEAR INLET CHANNEL.
6. REMOVE TEMPORARY BULKHEAD AND PLACE INLET CHANNEL INTO OPERATION AND REMOVE TEMPORARY BYPASS PUMPING.
7. PLACE AERATION TANKS IN STANDARD OPERATION. COMMISSION PLANT.

CONSTRUCTION PHASE 8
ALL CLARIFIERS ONLINE – CONSTRUCT
NORTH END OF AERATION BASIN –
COMMISSION PLANT



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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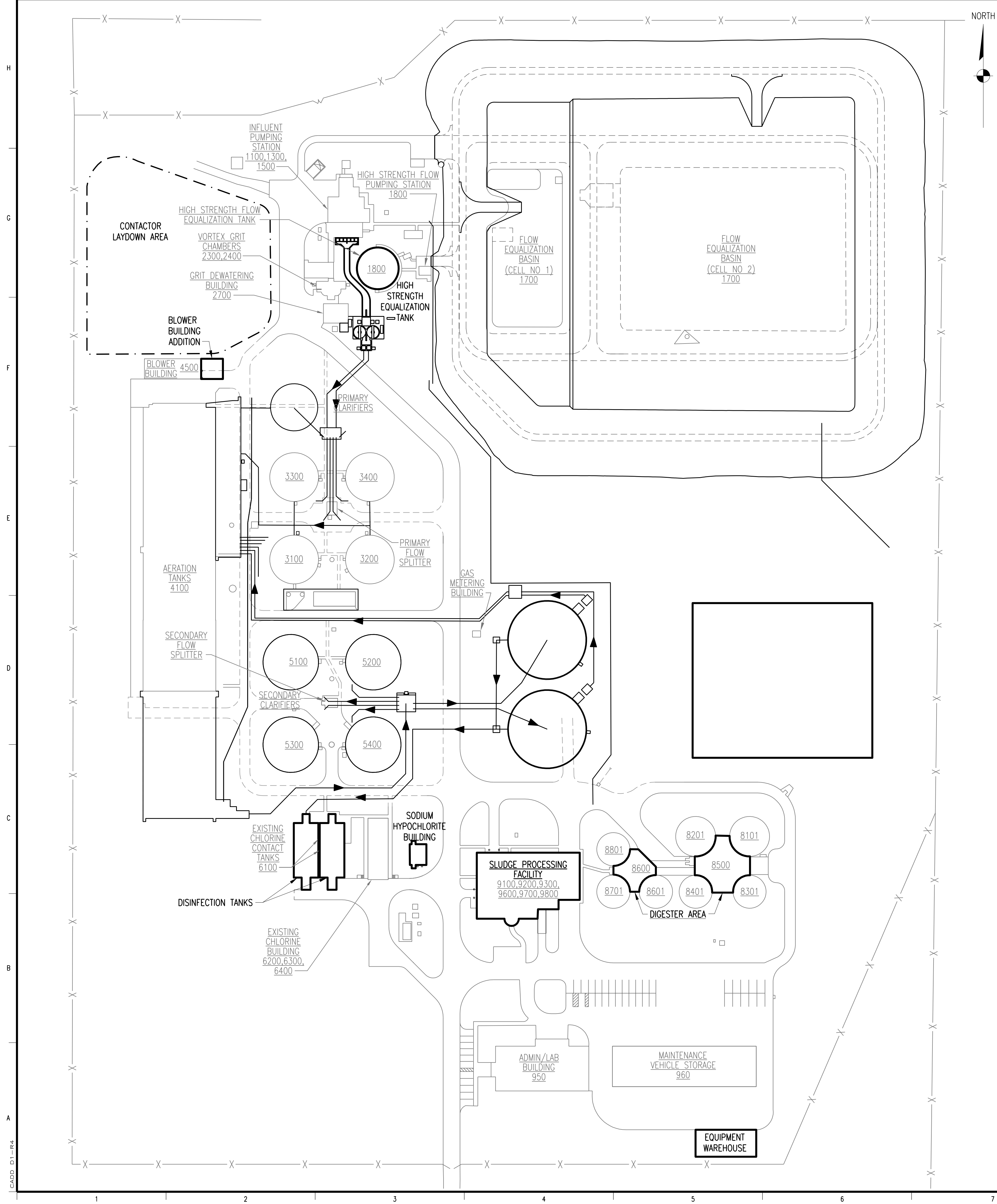
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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

CONSTRUCTION SEQUENCING
SHEET 8
CONSTRUCTION PHASE 8

DESIGNED CL BARK	SCALE: NONE	REV. 1
DRAWN LJ OSBORN	NO. 22800	
CHECKED CL BARK	G28	
APPROVED BO REISCHAUER	DATE: DECEMBER 2, 2011	

CADD D1-144



OTHER CONSTRUCTION COMPONENTS:

THE PROJECT INCLUDES CONSTRUCTION OF AND MODIFICATION TO A NUMBER OF FACILITIES THAT ARE NOT ON THE CRITICAL PATH. CONSTRUCTION OF THESE ELEMENTS CAN BE SCHEDULED AT CONTRACTORS CONVENIENCE BASED ON THE CONTRACTORS APPROVED SCHEDULE AND NEED TO BE COORDINATED WITH THE OWNER TO MAINTAIN NORMAL PLANT OPERATIONS. THESE COMPONENTS ARE:

1. HIGH STRENGTH EQUALIZATION TANK. MODIFICATIONS TO THE HIGH STRENGTH EQUALIZATION TANK AND ASSOCIATED FACILITIES CAN TAKE PLACE AT ANY TIME BASED ON THE CONTRACTORS APPROVED SCHEDULE.
2. BLOWER BUILDING ADDITION. THE ADDITION TO THE BLOWER BUILDING CAN TAKE PLACE AT ANY TIME BASED ON THE CONTRACTORS APPROVED SCHEDULE. MODIFICATIONS TO THE EXISTING BUILDING AND EQUIPMENT MUST BE PLANNED SO THAT ADEQUATE AIRFLOW IS MAINTAINED TO THE AERATION TANKS AT ALL TIMES.
3. DISINFECTION AREA. THE MODIFICATIONS TO THE DISINFECTION AREA CAN TAKE PLACE AT ANY TIME BASED ON THE CONTRACTORS APPROVED SCHEDULE. DEMOLITION AND MODIFICATION OF EXISTING CHLORINE CONTACT TANKS AND CONSTRUCTION OF UV DISINFECTION MUST BE DONE IN A WAY TO MAINTAIN DISINFECTION OPERATION AT ALL TIMES. IF WORK IS DONE DURING TIME OF YEAR WHEN DISINFECTION IS REQUIRED, DISINFECTION IS NOT REQUIRED BETWEEN NOVEMBER 15 AND MARCH 15.
4. SODIUM HYPOCHLORITE. CONSTRUCTION OF THE NEW SODIUM HYPOCHLORITE BUILDING CAN TAKE PLACE AT ANY TIME BASED ON THE CONTRACTORS APPROVED SCHEDULE BUT MUST BE PLACED IN OPERATION PRIOR TO DECOMMISSIONING OF THE EXISTING PLANT CHLORINATION SYSTEM.
5. DIGESTER AREA. MODIFICATIONS IN THE DIGESTER COMPLEX CAN TAKE PLACE AT ANY TIME BASED ON CONTRACTORS APPROVED SCHEDULE. DEMOLITION AND MODIFICATION TO EQUIPMENT SHOULD BE PLANNED TO WORK AROUND PLANT OPERATIONS WITH LITTLE OR NO IMPACT ON FUNCTIONS.
6. SLUDGE PROCESSING FACILITY. THE MODIFICATIONS TO THE SLUDGE PROCESSING FACILITY CAN TAKE PLACE AT ANY TIME BASED ON THE CONTRACTORS APPROVED SCHEDULE. DEMOLITION AND MODIFICATION TO EQUIPMENT SHOULD BE PLANNED TO WORK AROUND PLANT OPERATIONS WITH LITTLE OR NO IMPACT ON FUNCTIONS.
7. EQUIPMENT WAREHOUSE. THE EQUIPMENT WAREHOUSE CAN BE CONSTRUCTED AT ANY TIME BASED ON THE CONTRACTORS APPROVED SCHEDULE. CONSTRUCT EQUIPMENT WAREHOUSE PRIOR TO START OF CONSTRUCTION ON NEW ROTATING DRUM THICKENERS SO OWNER CAN MOVE EQUIPMENT STORED IN SLUDGE PROCESSING FACILITY TO NEW WAREHOUSE.
8. ROADS. MISCELLANEOUS SITE ROADS AND OTHER SITE WORK.
9. NORTH PLANT IMPROVEMENTS. MODIFICATIONS TO THE NORTH PLANT DIVERSION STRUCTURE AND OTHER WORK AT THE NORTH PLANT CANNOT BE UNDERTAKEN UNTIL AFTER THE SOUTH PLANT WORK IS SUBSTANTIALLY COMPLETE AND SOUTH PLANT IS IN FULL OPERATION.

CONSTRUCTION PHASE – OTHER ELEMENTS
PLANT OPERATION NORMAL
SCHEDULE ELEMENTS DURING PHASES 1–8



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDP	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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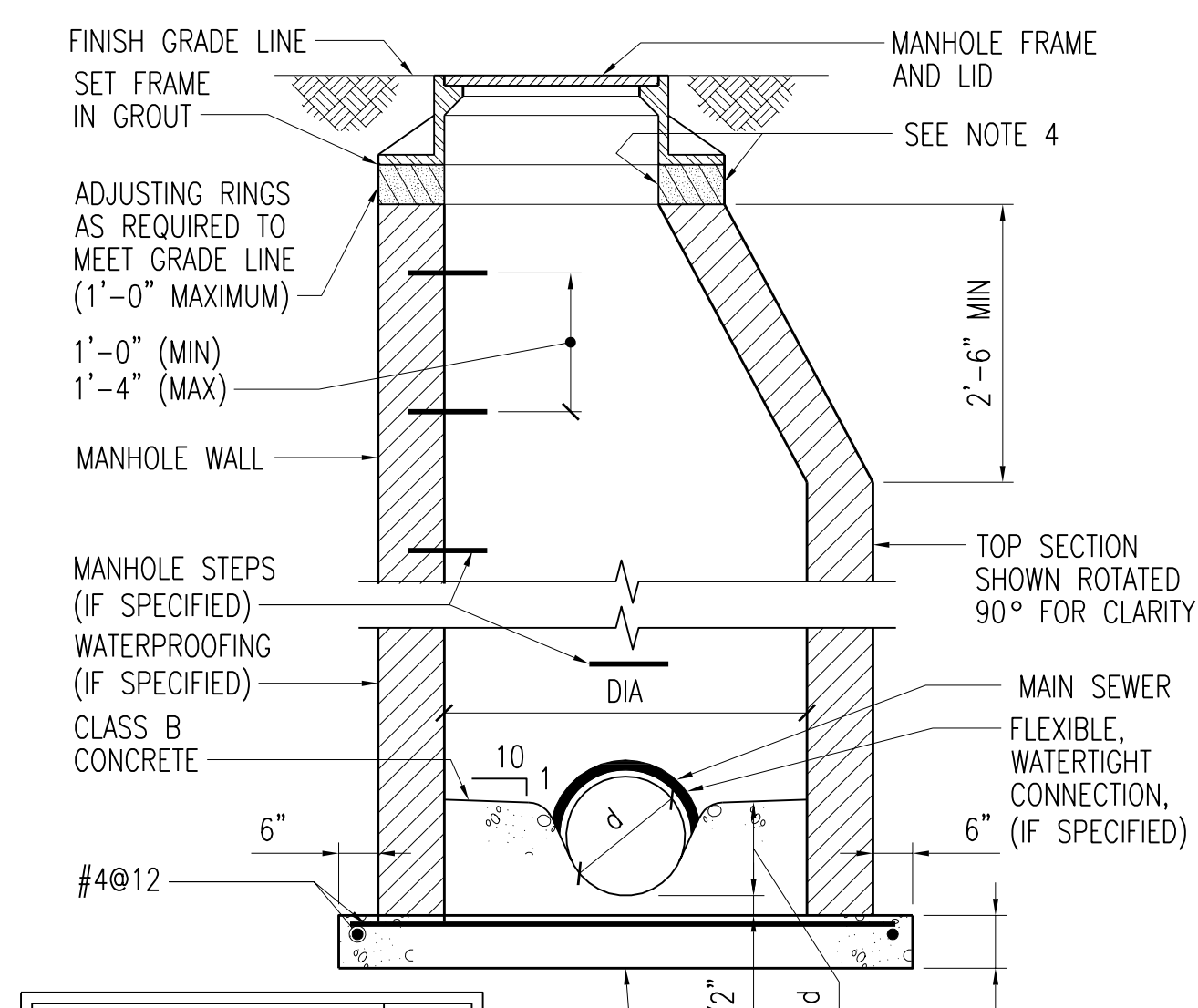
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

CONSTRUCTION SEQUENCING
SHEET 9
OTHER CONSTRUCTION COMPONENTS

DESIGNED	CL BARK	SCALE:	NONE	REV.	
DRAWN	LJ OSBORN	NO.	22800		
CHECKED	CL BARK				
APPROVED	BD REISCHAUER				
APPROVED					
DATE	DECEMBER 2, 2011				

G29 **2**

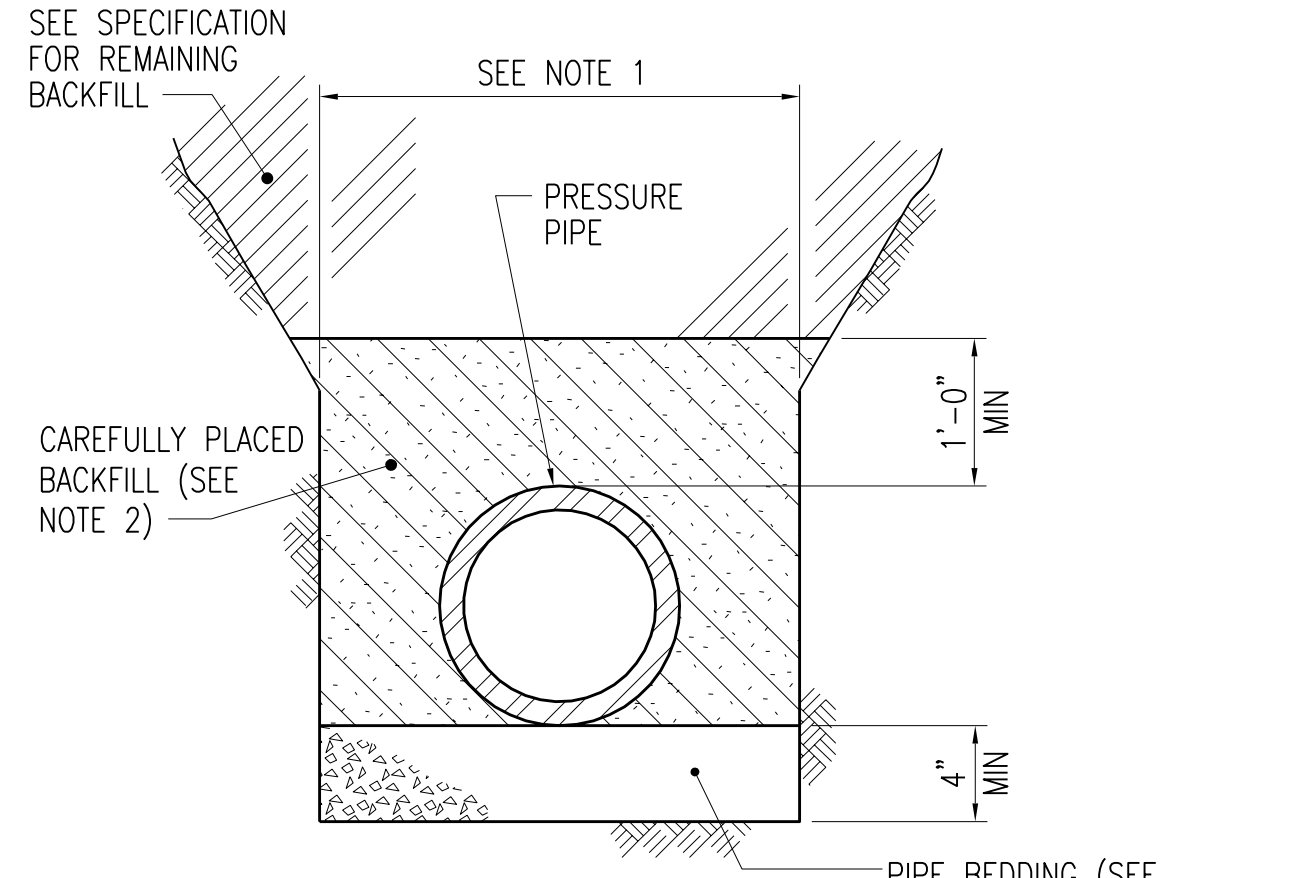
CADD: D1-1-R4



DIAMETER OF MAIN SEWER	DIA
24" AND UNDER	4'-0"
27" TO 42" INCLUSIVE	5'-0"

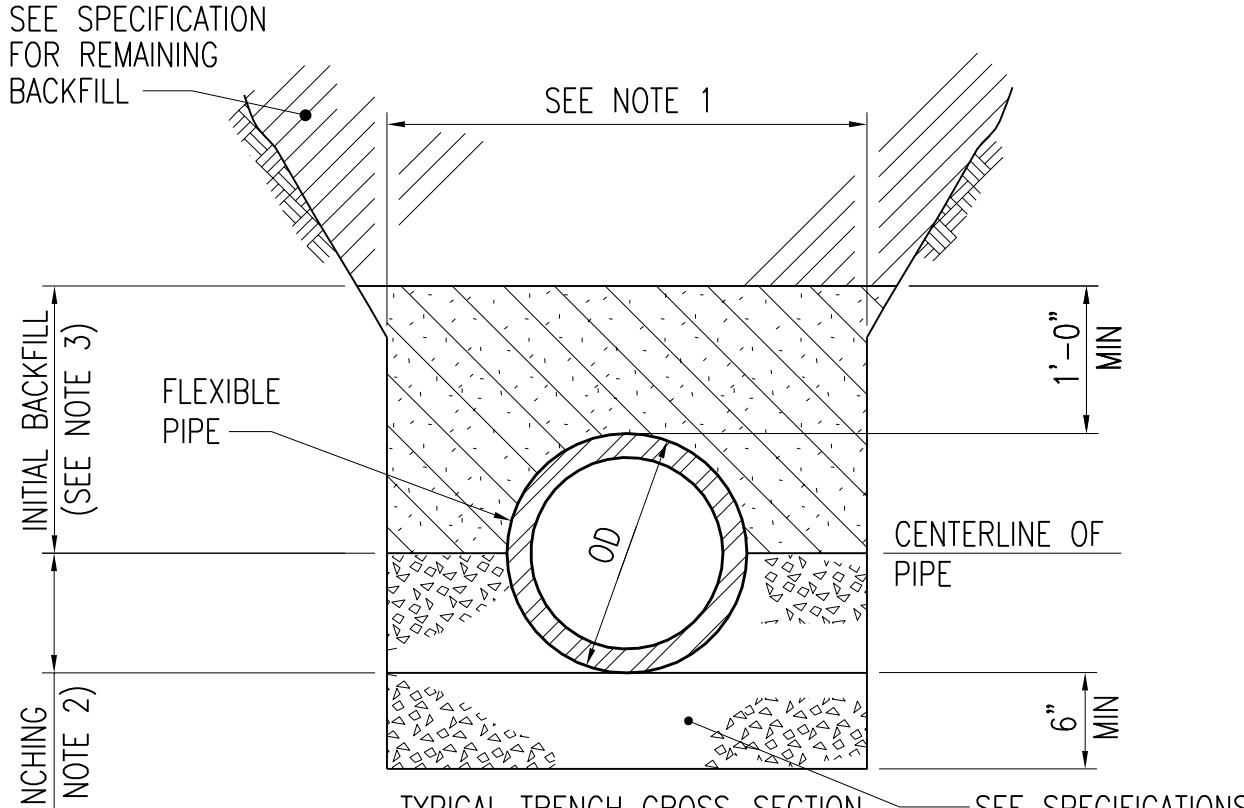
- NOTES:
- SEE SPECIFICATIONS FOR MATERIALS, CASTINGS, WATERPROOFING REQUIREMENTS AND CONCRETE.
 - MANHOLE COVER TO BE CENTERED DIRECTLY OVER FLOW LINE OF MAIN SEWER.
 - INTEGRAL FLOOR AND WALL SECTION MAY BE USED.
 - SEE SPECIFICATIONS FOR CHIMNEY SEALS IF REQUIRED.

ECCENTRIC MANHOLE
SCALE: NONE



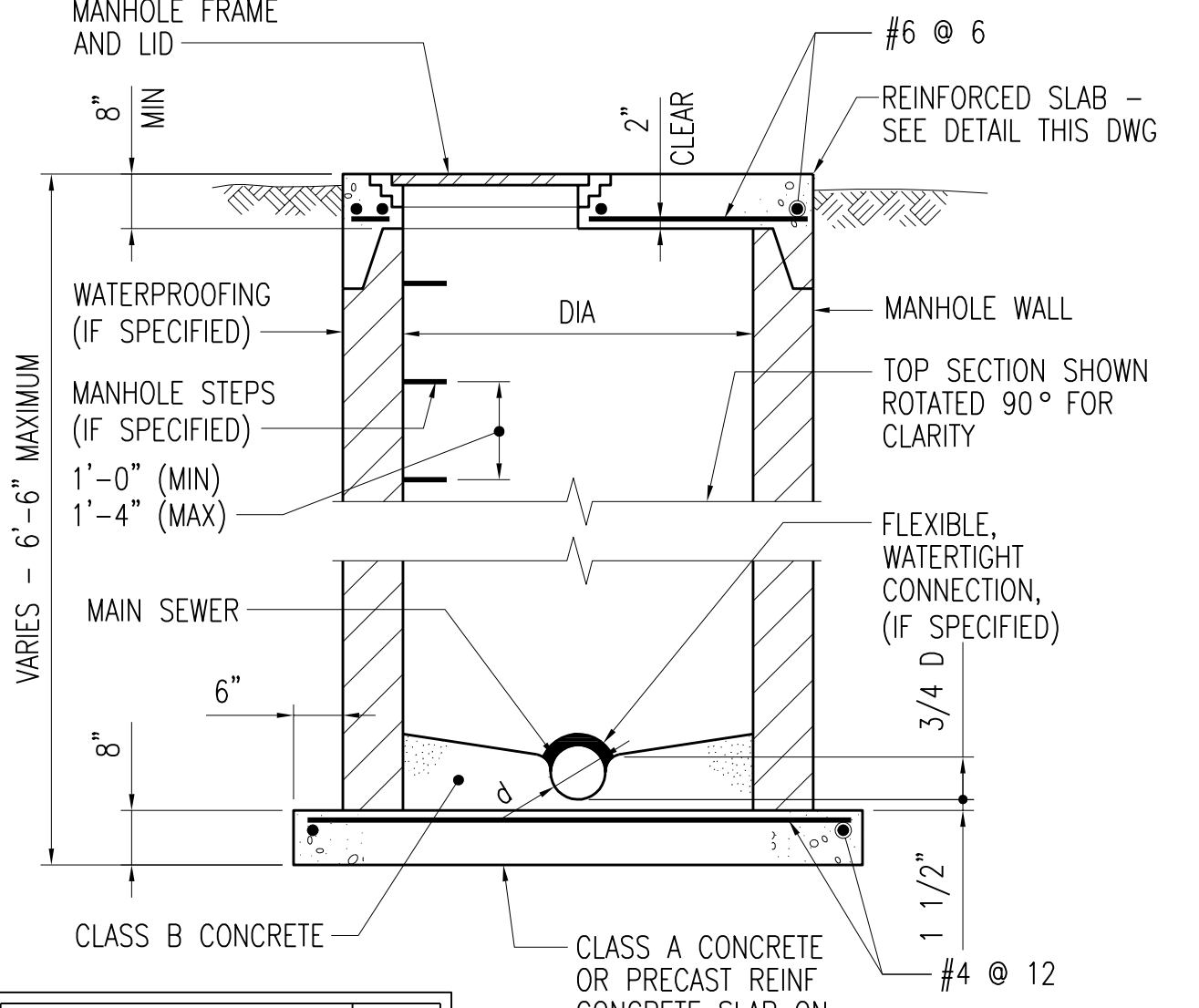
TYPICAL TRENCH CROSS-SECTION PRESSURE PIPE BEDDING
SCALE: NONE

- NOTES:
- MAXIMUM TRENCH WIDTH = PIPE OUTSIDE DIAMETER PLUS 2'.
 - CAREFULLY PLACED BACKFILL SHALL BE CAREFULLY COMPACTED, FINELY DIVIDED, JOB EXCAVATED MATERIAL, FREE FROM DEBRIS, STONES LARGER THAN 1/2", ORGANIC MATTER AND FROZEN MATERIAL, COMPACTED IN 6" LAYERS TO 85% MAXIMUM DENSITY, ASTM D698. SELECT BACKFILL MAY BE SUBSTITUTED FOR JOB EXCAVATED MATERIAL AND SHALL BE USED WHERE REMAINING BACKFILL IS SPECIFIED TO BE SELECT BACKFILL MATERIAL.



TYPICAL TRENCH CROSS-SECTION TYPE II PIPE BEDDING
SCALE: NONE

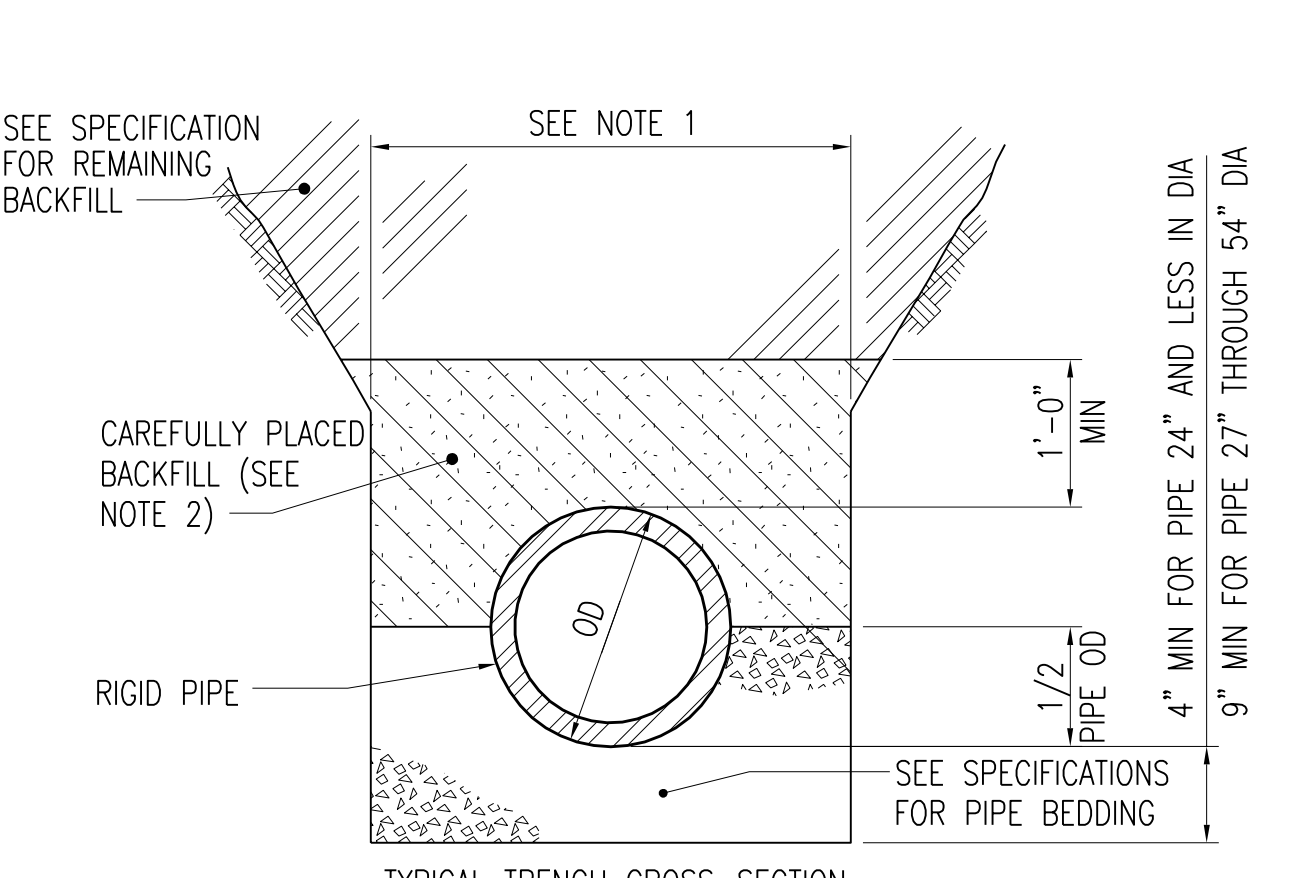
- NOTES:
- MAXIMUM TRENCH WIDTH = PIPE OUTSIDE DIAMETER PLUS 2'.
 - HAUNCHING SHALL BE GRADED COARSE SAND AND GRAVELS, GRANULAR AND NON-COHESIVE WITH MAXIMUM SIZE OF 3/4" AND NOT MORE THAN 5% PASSING NO. 200 SIEVE. COMPACTED TO 85% MAXIMUM DENSITY ASTM D698.
 - INITIAL BACKFILL SHALL BE EITHER SAME MATERIAL AS HAUNCHING; FINE SAND; OR FINELY DIVIDED JOB EXCAVATED, SAND-CLAY OR GRAVEL-CLAY MIXTURE WITH MAXIMUM SIZE OF 3/4". COMPACT TO 85% MAXIMUM DENSITY, ASTM D698 IF SAME MATERIAL AS HAUNCHING; COMPACT TO 90% IF ANY OTHER MATERIAL.



DIAMETER OF MAIN SEWER	DIA
24" AND UNDER	4'-0"
27" TO 42" INCLUSIVE	5'-0"

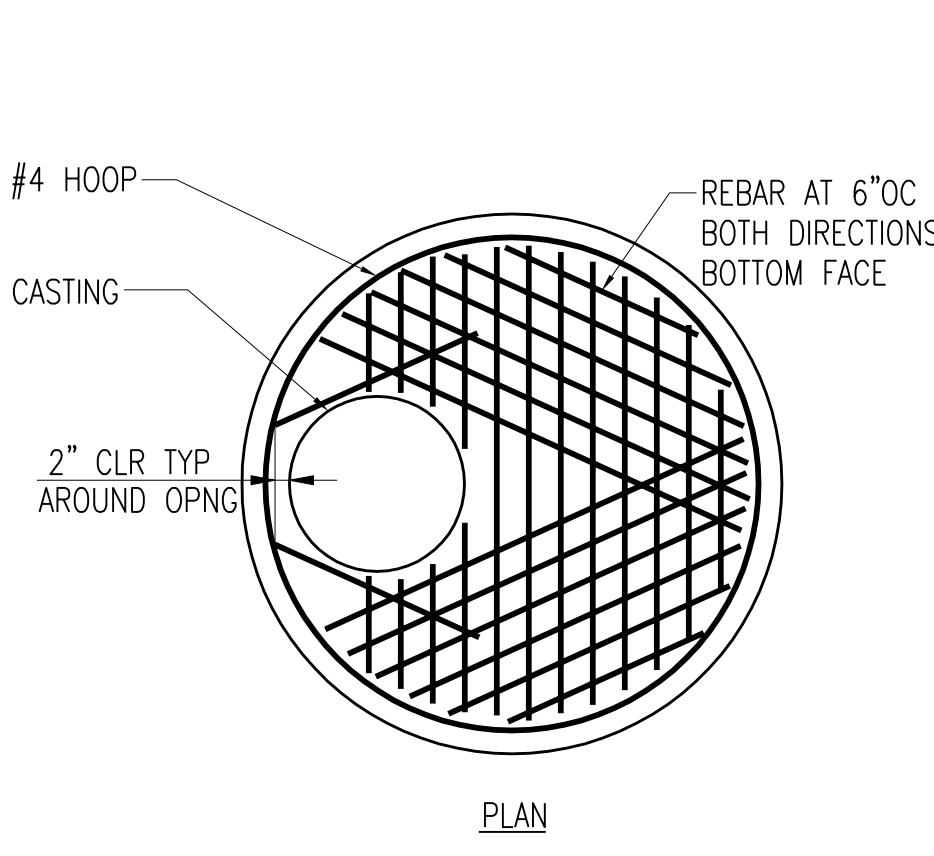
- NOTES:
- SEE SPECIFICATIONS FOR MATERIALS, CASTINGS, WATERPROOFING REQUIREMENTS AND CONCRETE.
 - MANHOLE COVER TO BE CENTERED DIRECTLY OVER FLOW LINE OF MAIN SEWER.
 - INTEGRAL FLOOR AND WALL SECTION MAY BE USED.
 - SEE SPECIFICATIONS FOR CHIMNEY SEALS IF REQUIRED.

SHALLOW MANHOLE
SCALE: NONE



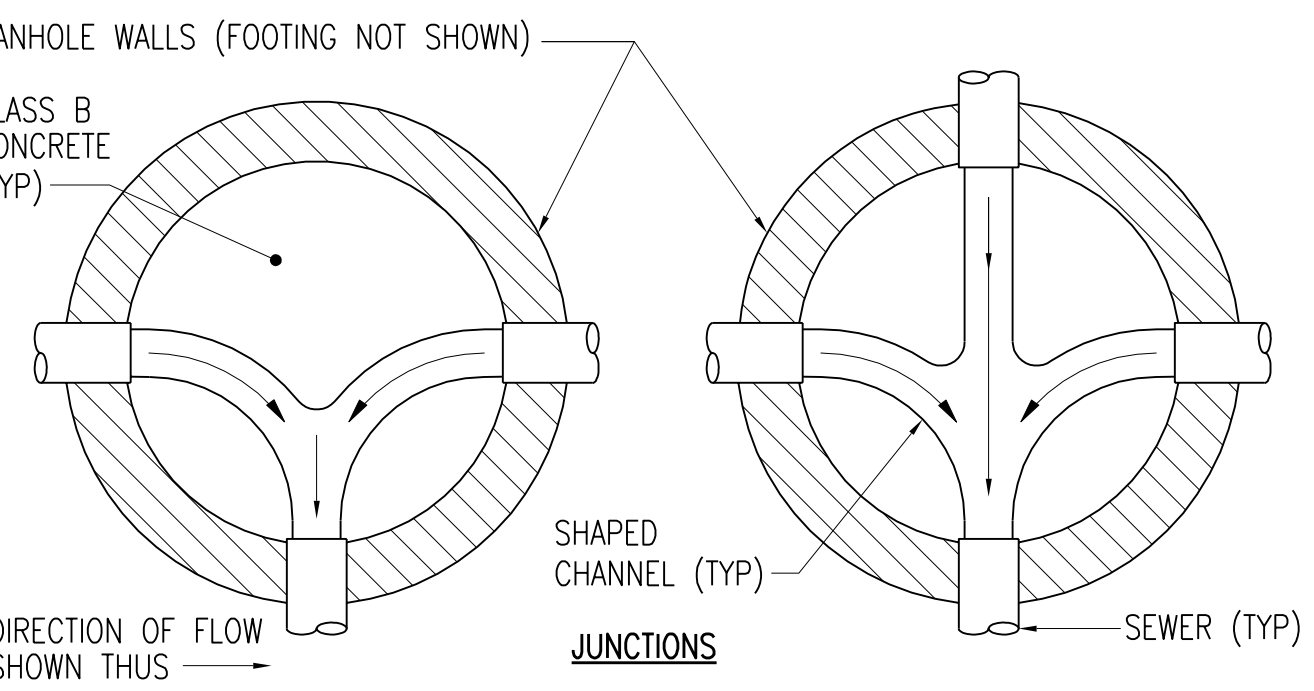
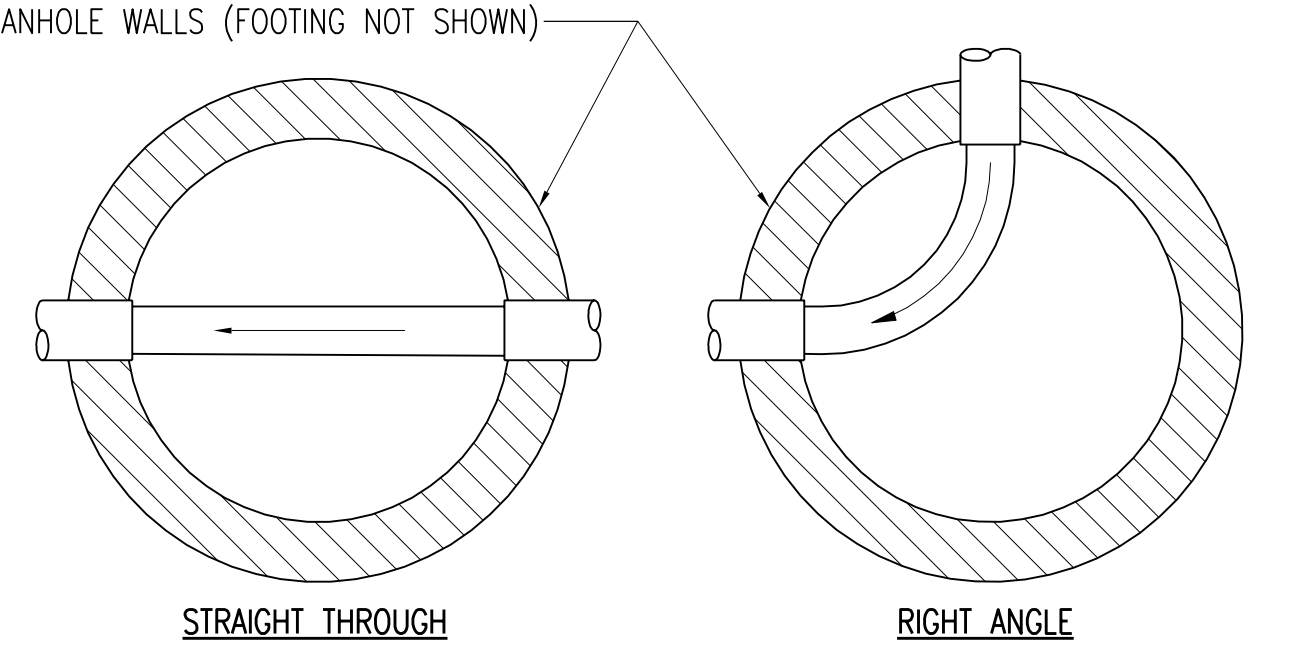
TYPICAL TRENCH CROSS-SECTION CLASS "B" PIPE BEDDING
SCALE: NONE

- NOTES:
- MAXIMUM TRENCH WIDTH = PIPE OUTSIDE DIAMETER PLUS 2'.
 - CAREFULLY PLACED BACKFILL SHALL BE CAREFULLY COMPACTED, FINELY DIVIDED, JOB EXCAVATED MATERIAL, FREE FROM DEBRIS, STONES LARGER THAN 1/2", ORGANIC MATTER AND FROZEN MATERIAL, COMPACTED IN 6" LAYERS TO 95% MAXIMUM DENSITY, ASTM D698. SELECT BACKFILL MAY BE SUBSTITUTED FOR JOB EXCAVATED MATERIAL AND SHALL BE USED WHERE REMAINING BACKFILL IS SPECIFIED TO BE SELECT BACKFILL MATERIAL.



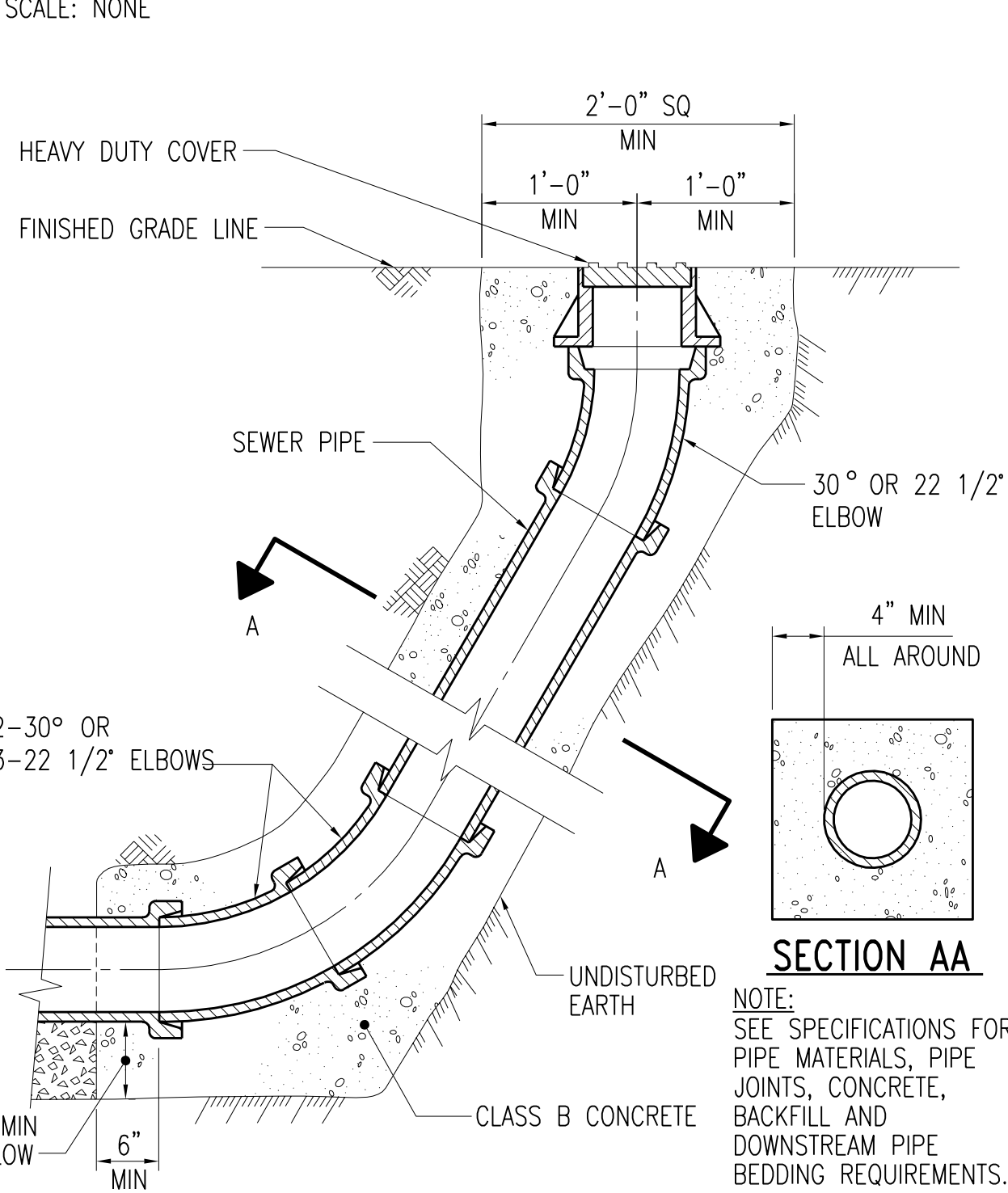
MANHOLE ID, INCHES	REBAR SIZE, #	SLAB THICKNESS, INCHES
48	4	8
60	5	10
72	5	10

REINFORCED SLAB DETAILS
SCALE: NONE

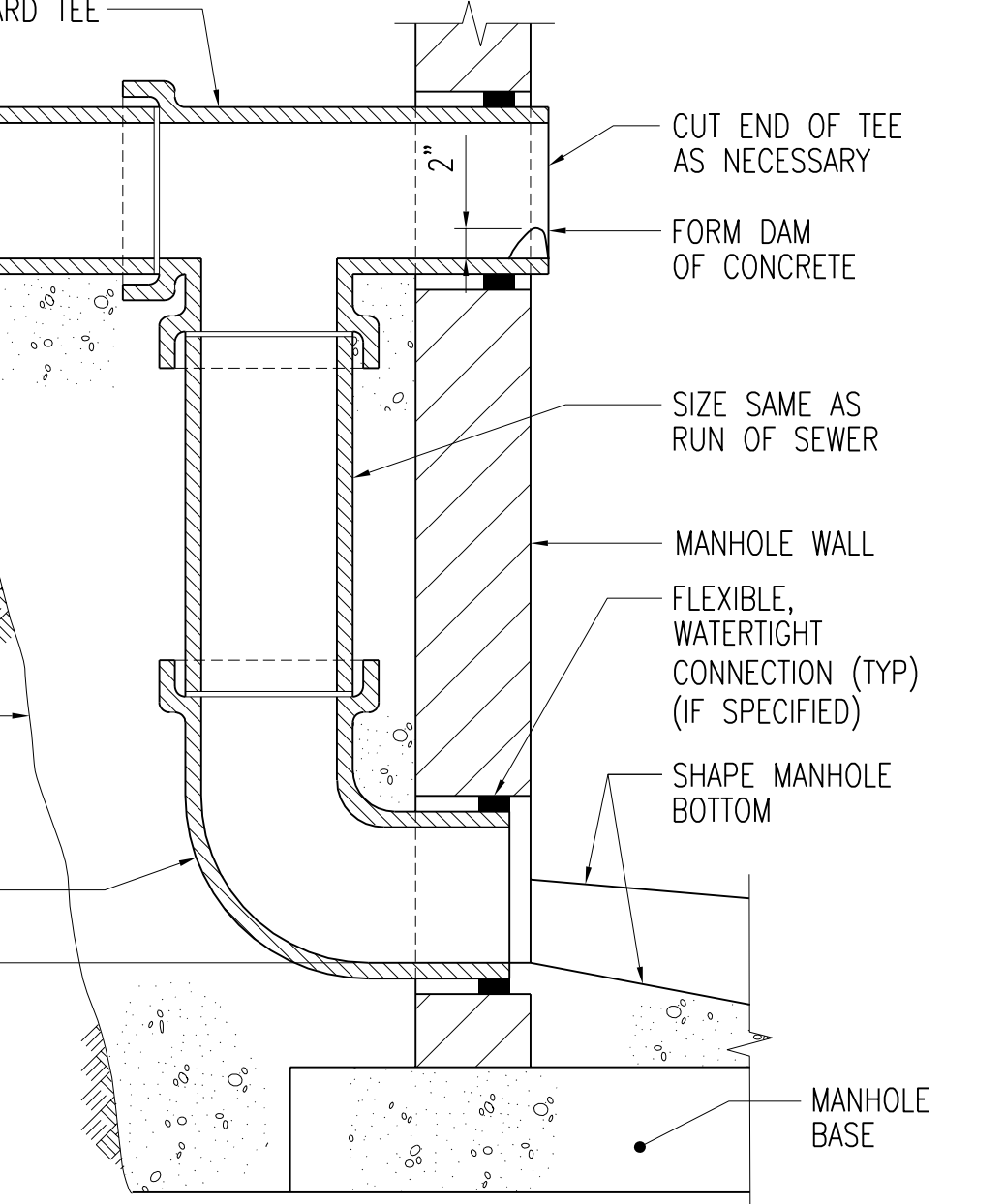


- NOTES:
- DEPTH OF ALL CHANNELS TO BE 3/4 X DIAMETER OF THE LARGEST SEWER ENTERING OR LEAVING MANHOLE.

MANHOLE BOTTOMS
SCALE: NONE

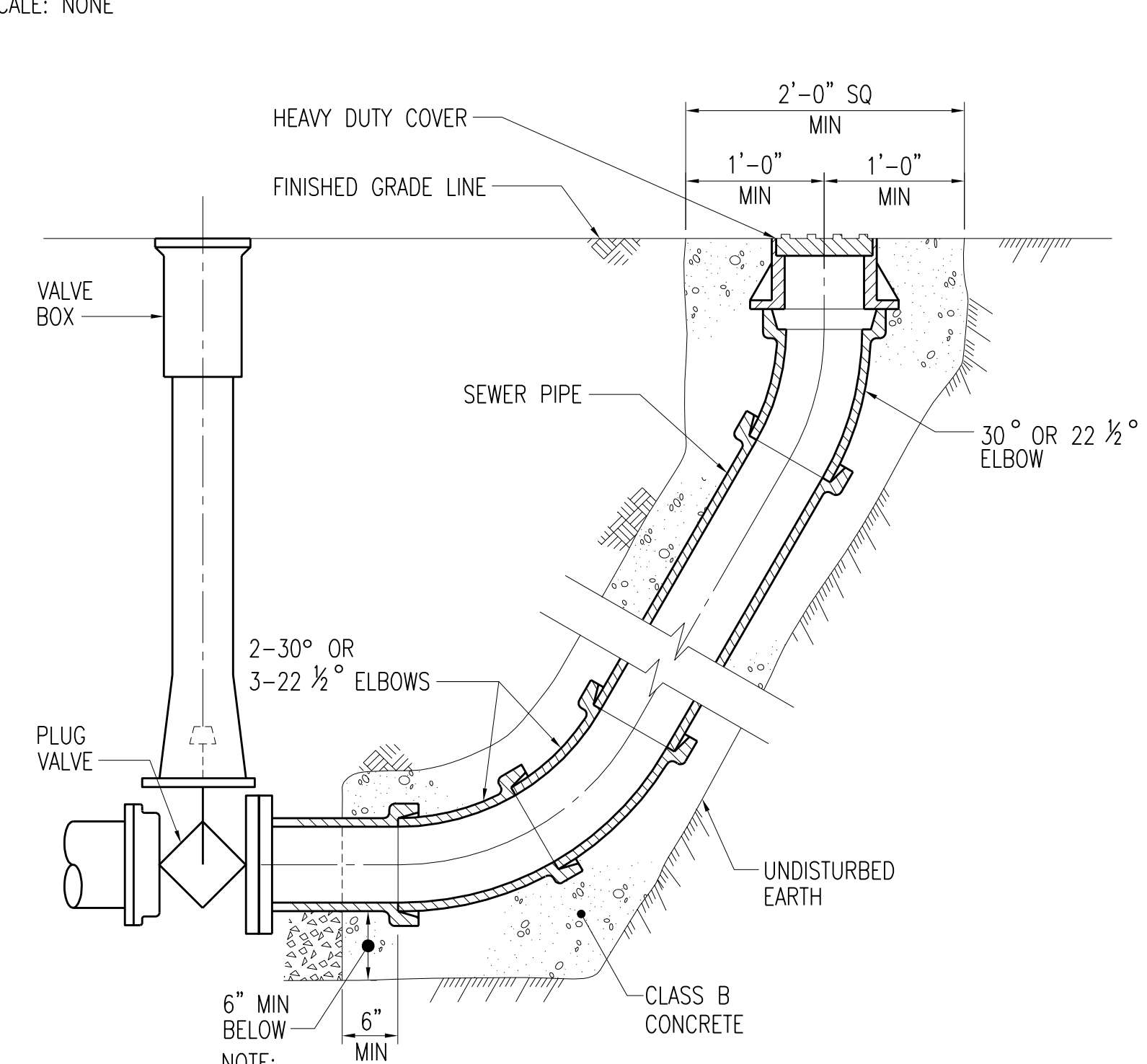


TERMINAL CLEAN-OUT
SCALE: NONE



- NOTES:
- ENCASE DROP PIPE WITH CLASS B CONCRETE 4" EACH SIDE AND FROM SIDE OF MANHOLE TO UNDISTURBED EARTH.
 - DROP CONNECTION TO BE USED FOR ALL SANITARY SEWERS ENTERING MANHOLES MORE THAN 24" ABOVE OUTLET PIPE.
 - FOR GENERAL DIMENSIONS OF MANHOLE SEE MANHOLE DETAIL.

MANHOLE DROP CONNECTION
SCALE: NONE



TERMINAL CLEAN-OUT FOR PRESSURE LINES
SCALE: NONE

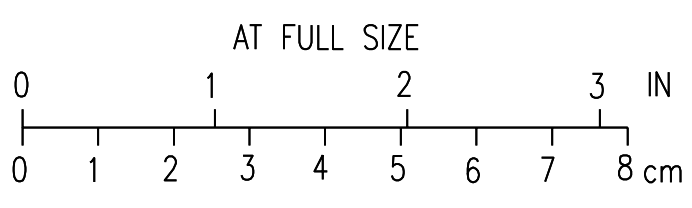
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED NOTES	CLB	CLB	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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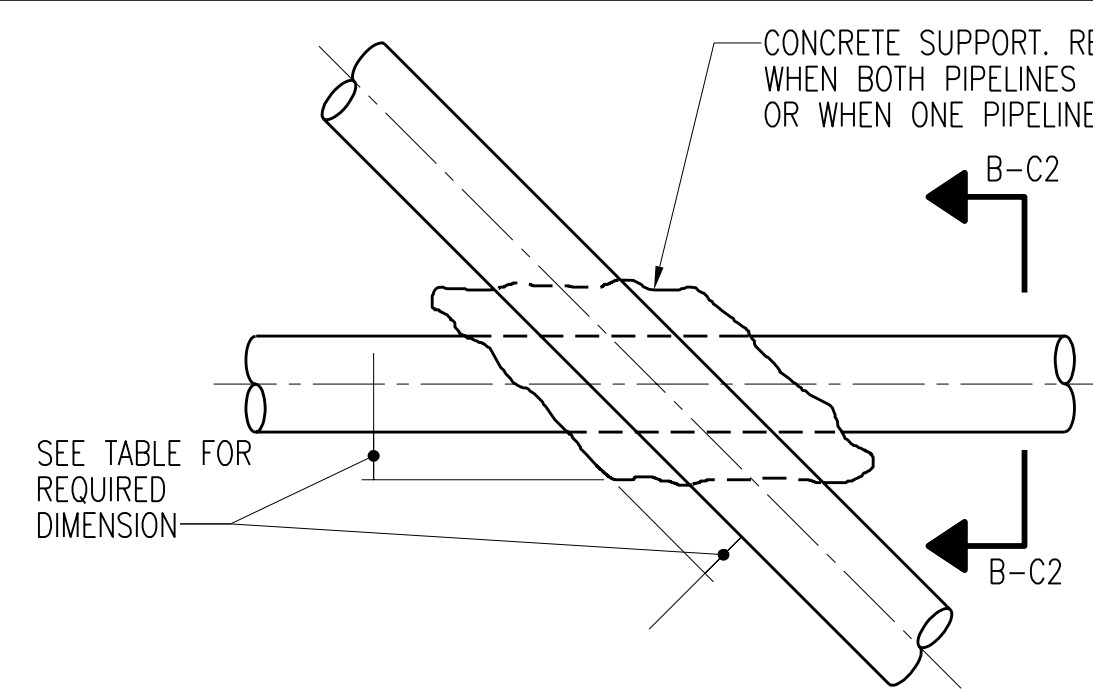
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

CIVIL TYPICAL DETAILS SHEET 1

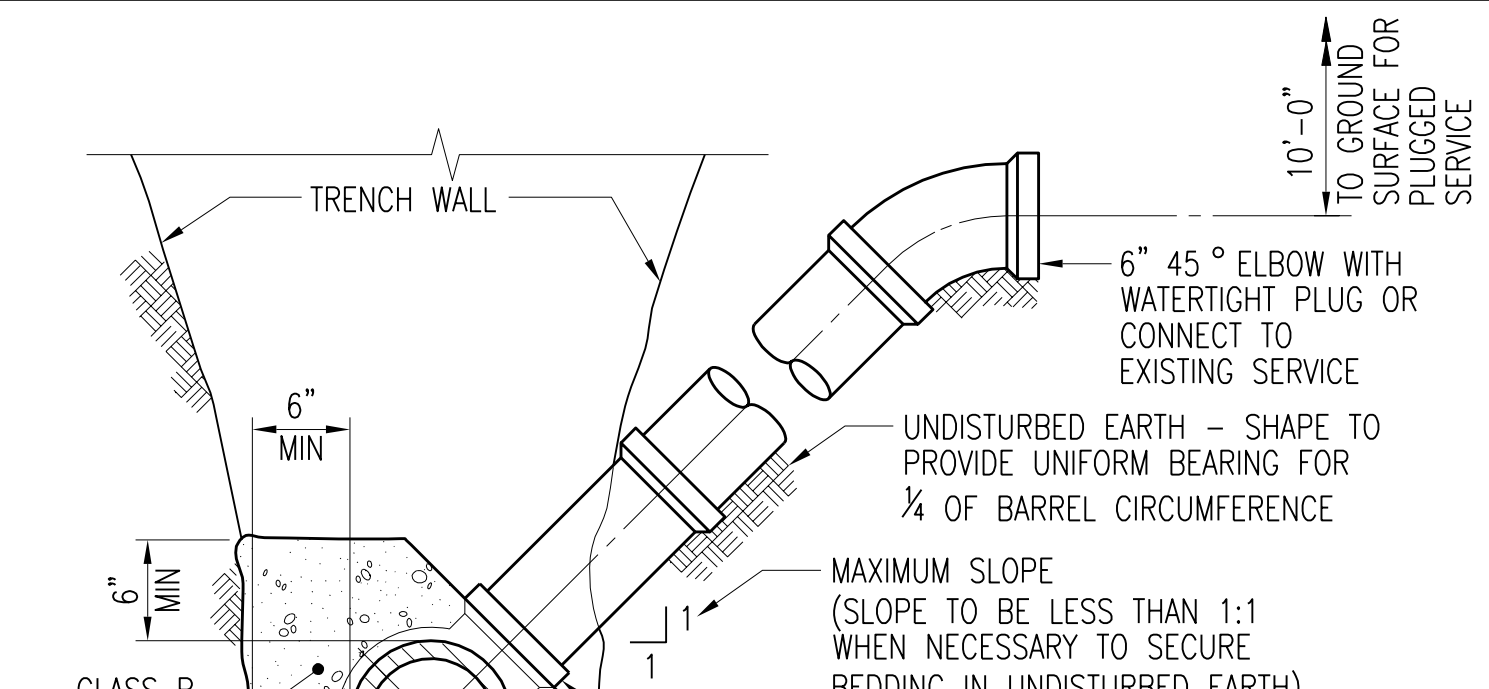
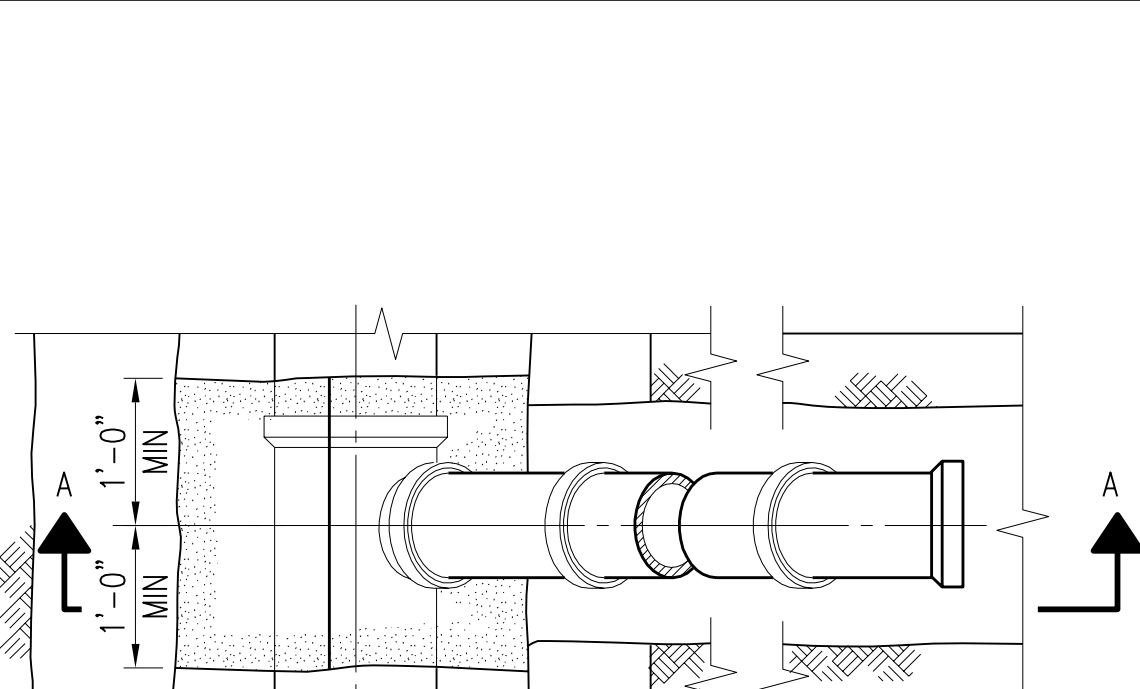
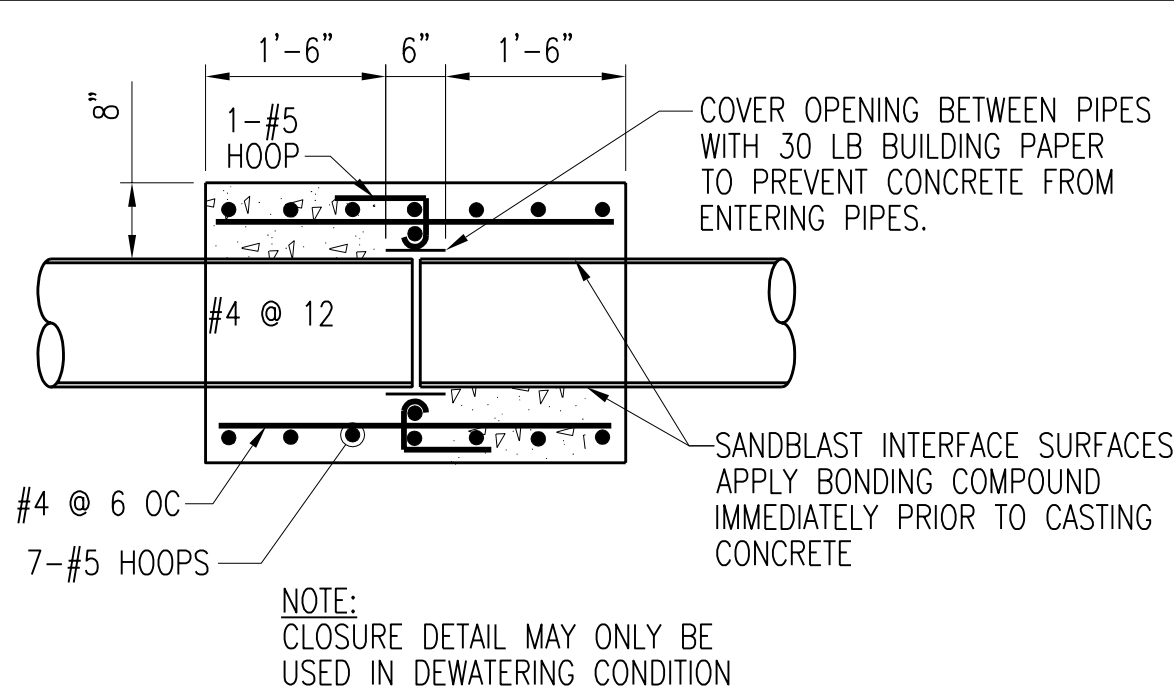
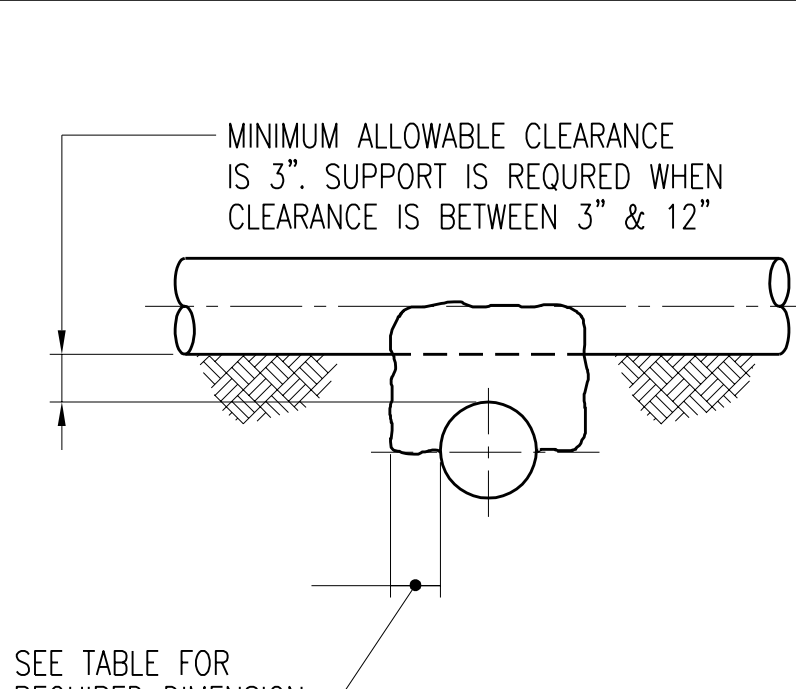
DESIGNED	CL BARK	SCALE: AS NOTED	NO. 22800	REV. 3
DRAWN	LJ OSBORN			
CHECKED	CL BARK			
APPROVED	BO REISCHAUER			
DATE	DECEMBER 2, 2011			



CADD D1-184



PIPELINE SIZE	TYPICAL DIMENSION
SMALLER THAN 2-1/2"	3"
2-1/2 TO 12"	6"
LARGER THAN 12"	12"



CONCRETE SUPPORT FOR PIPE CROSSINGS

DETAIL A-C2

SCALE: NONE

SECTION B-C2

SCALE: NONE

DETAIL C-C2

SCALE: NONE

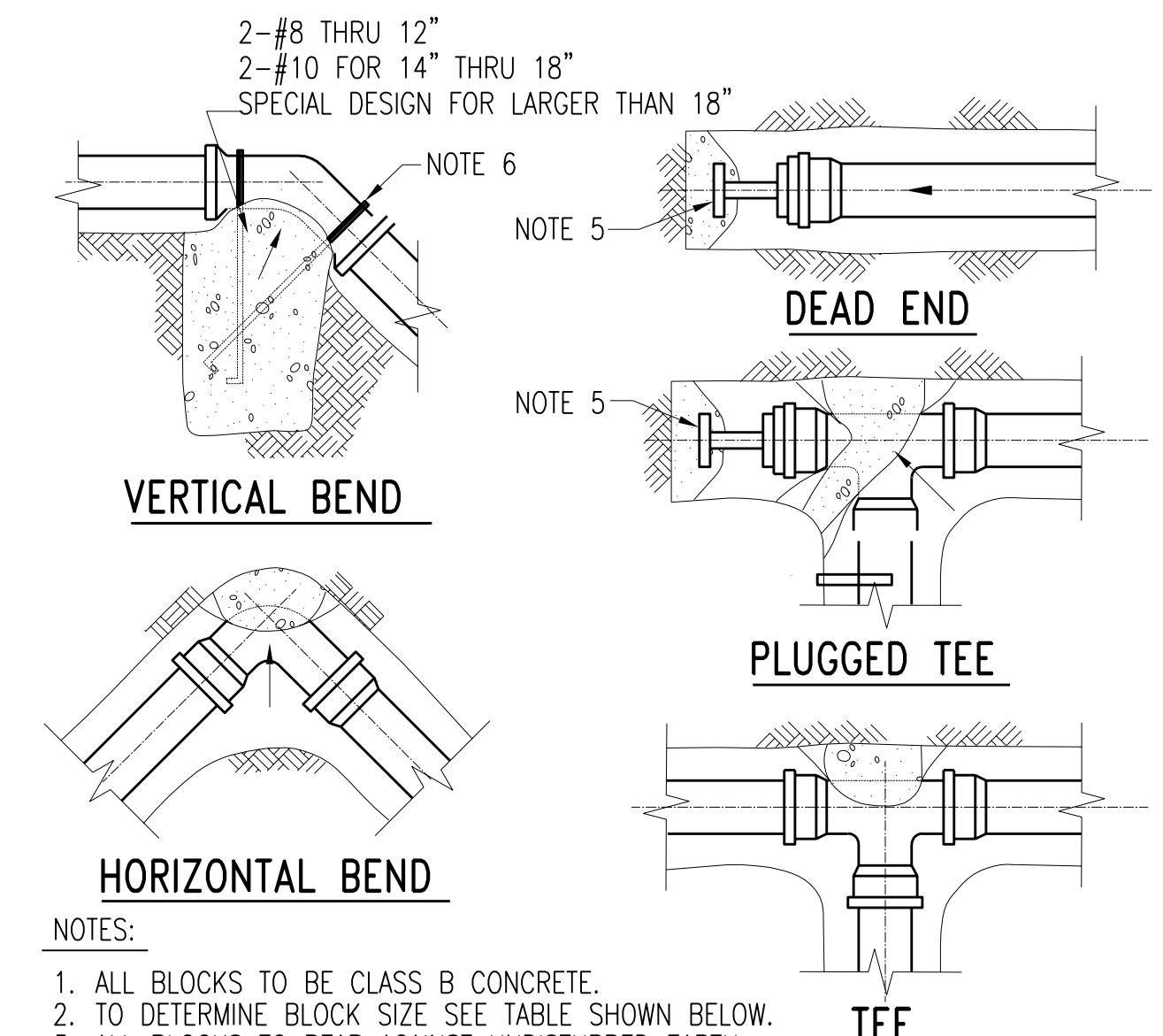
NOTES:

1. FOR PIPE MATERIAL AND CONCRETE SEE SPECIFICATIONS.

SEWER RISER CIVIL DETAIL CS-7 SECTION AA

DETAIL D-C2

SCALE: NONE

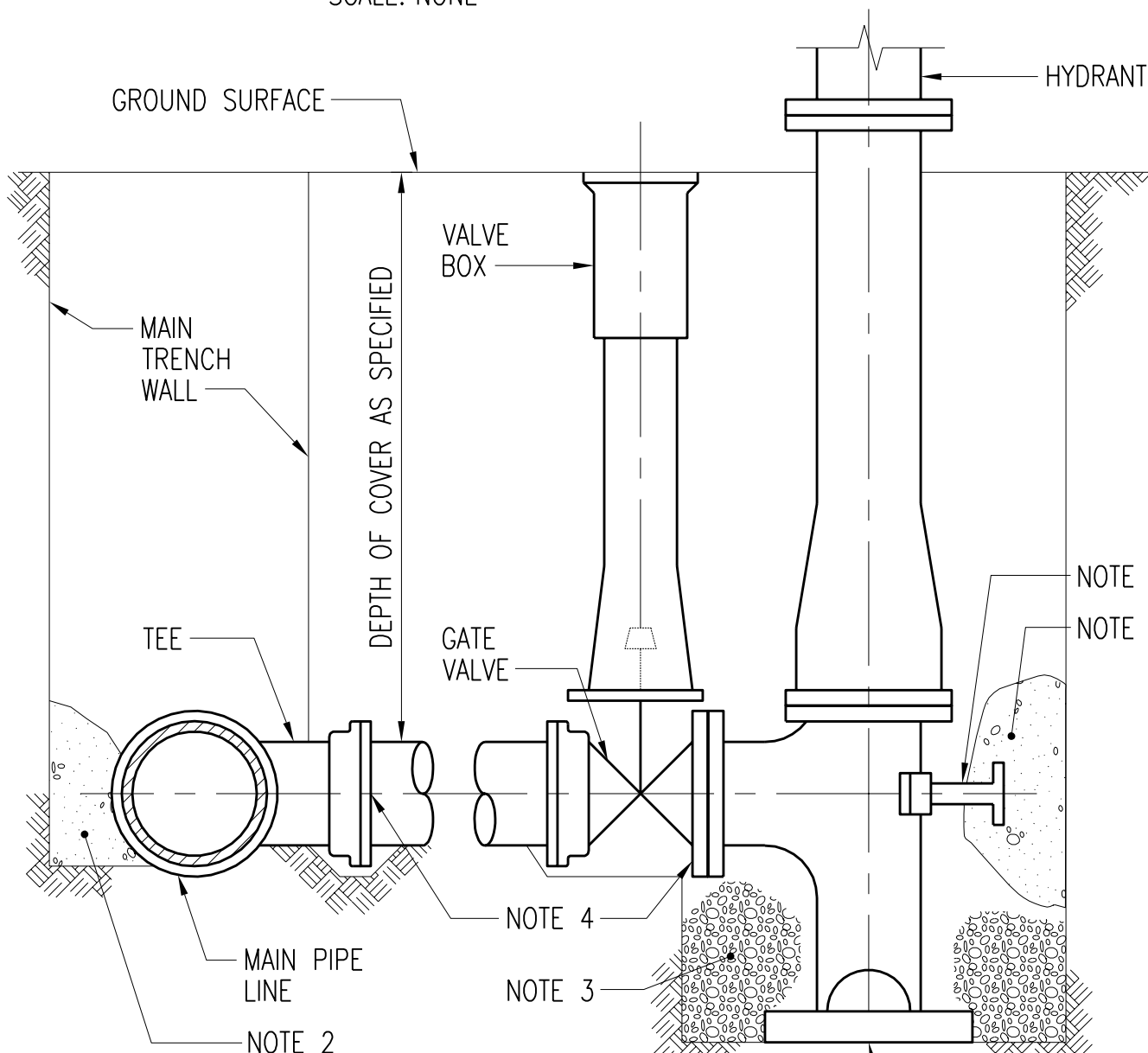


NOTES:

- ALL BLOCKS TO BE CLASS B CONCRETE.
- TO DETERMINE BLOCK SIZE SEE TABLE SHOWN BELOW.
- ALL BLOCKS TO BEAR AGAINST UNDISTURBED EARTH.
- ARROWS INDICATE DIRECTION OF THRUST.
- 3" STANDARD WEIGHT STEEL PIPE W/3/8" X 6" X 6" STEEL PLATES.
- COAT EXPOSED PORTION OF BARS WITH BITUMASTIC COMPOUND.

THRUST BLOCK DETAILS

NOMINAL DIAMETER (INCHES)	THRUST BLOCK TABLE					
	AREA REQUIRED (SF) FOR DEGREE BEND SHOWN					
	90°	45°	22 1/2°	11 1/4°	DEAD END	TEE
6	2.3	1.2	0.6	0.5	1.6	
8	4.0	2.2	1.1	0.6	2.8	
10	6.1	3.3	1.7	0.9	4.3	
12	8.8	4.8	2.4	1.2	6.2	

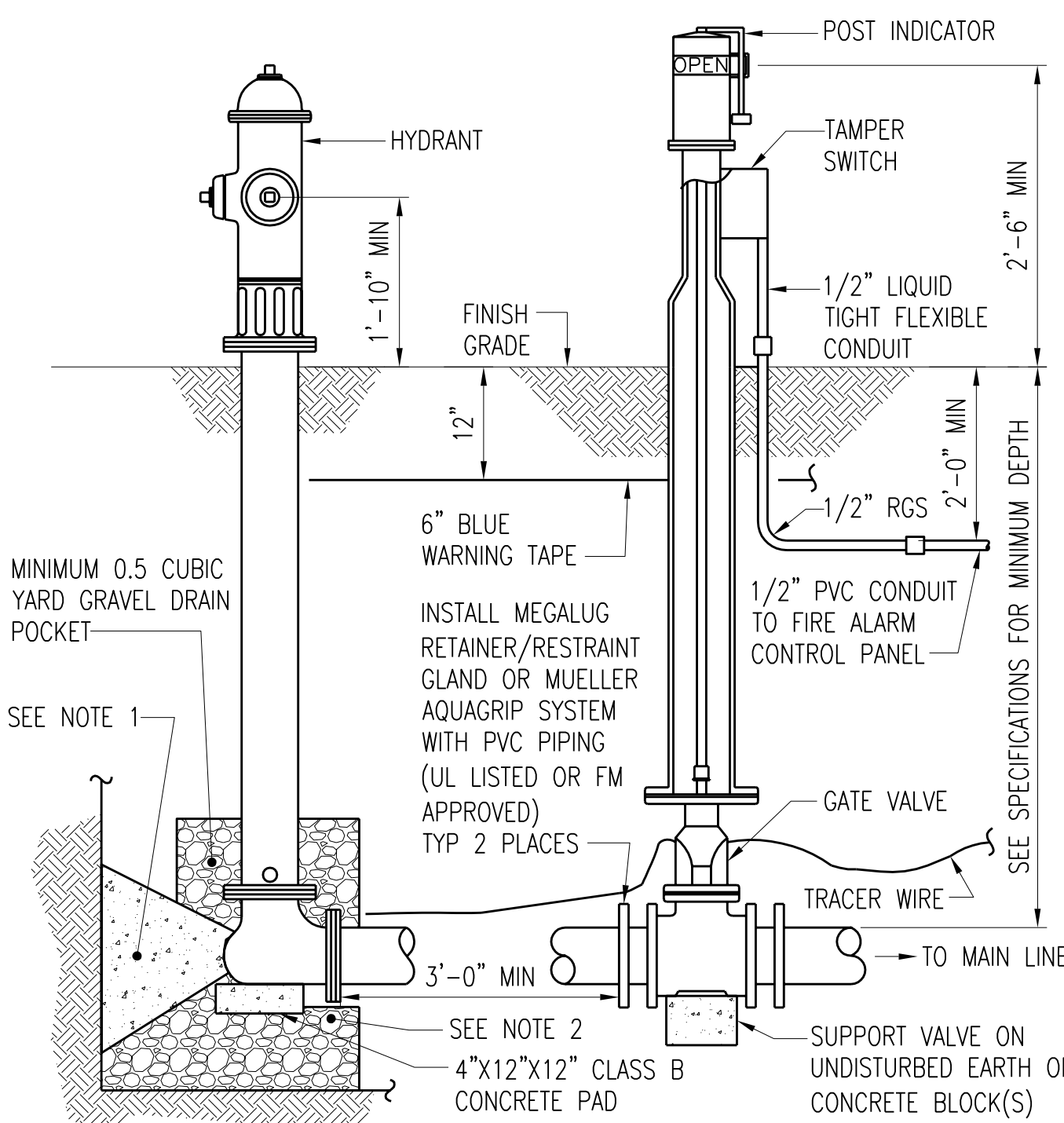


- NOTES:
- 2" STANDARD WEIGHT STEEL PIPE W/1/4" X 4" X 4" STEEL PLATES.
 - CONCRETE THRUST BLOCK AGAINST UNDISTURBED EARTH.
 - BACKFILL WITH GRAVEL TO 18" ABOVE BOTTOM OF HYDRANT STAND PIPE.
 - SEE SPECIFICATIONS FOR TYPE OF JOINTS.

STANDARD HYDRANT CIVIL DETAIL CS-19

DETAIL E-C2

SCALE: NONE

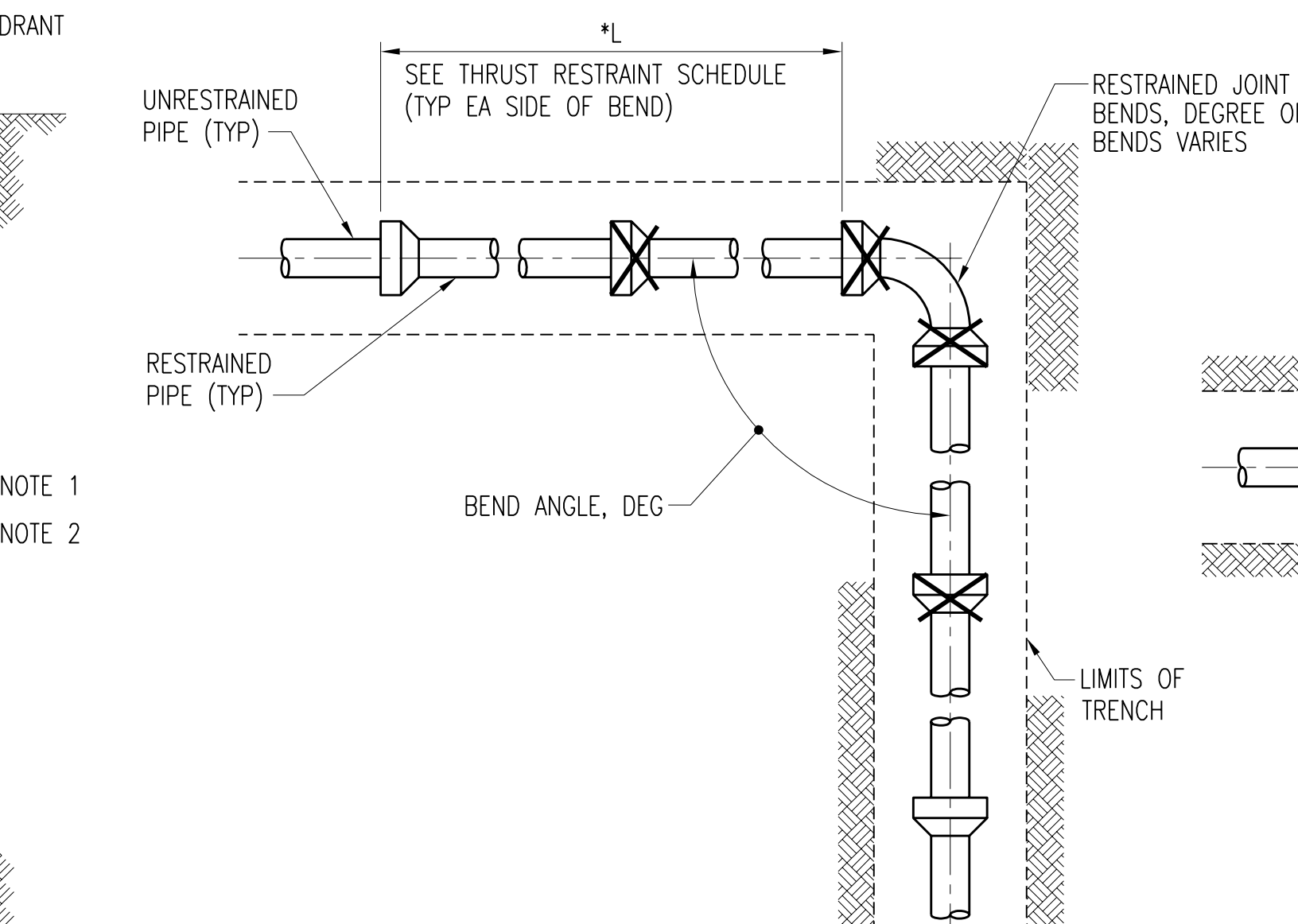


- NOTES:
- CONCRETE THRUST BLOCK AGAINST UNDISTURBED EARTH.
 - BACKFILL WITH GRAVEL.
 - SEE SPECIFICATIONS FOR TYPE OF JOINTS.

STANDARD HYDRANT WITH PIV DETAIL

DETAIL F-C2

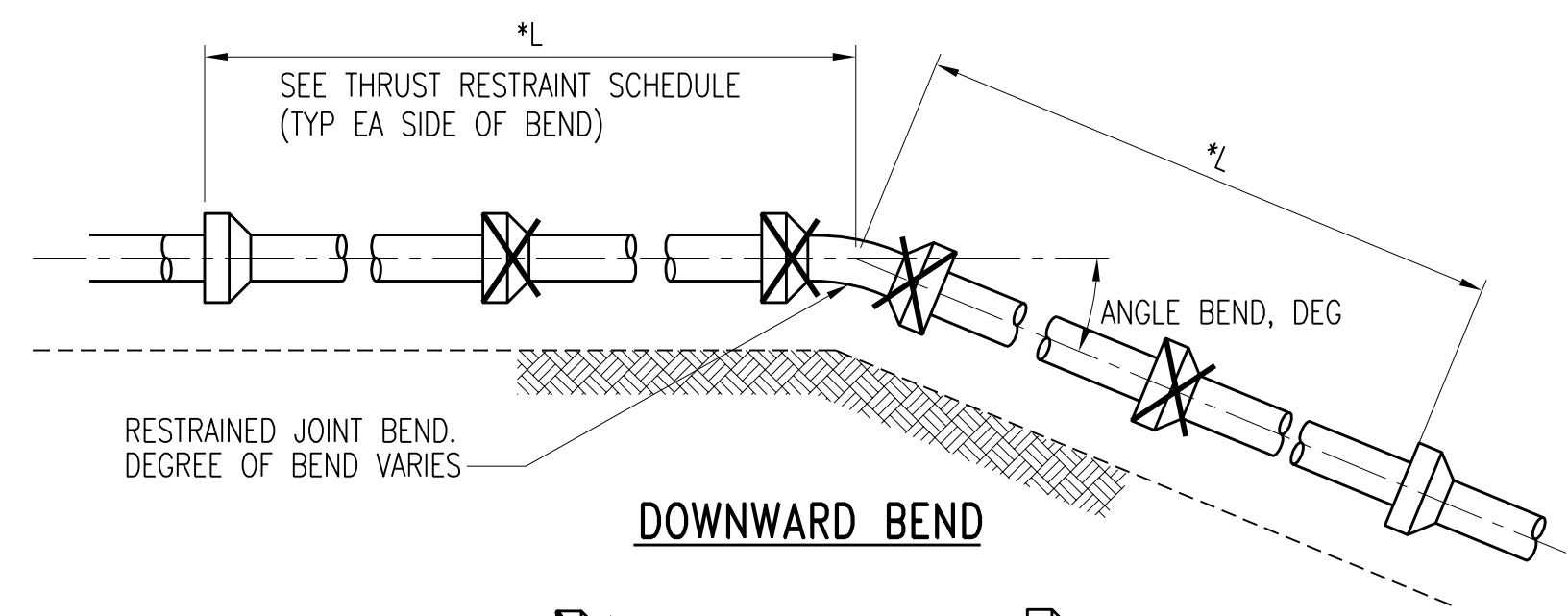
SCALE: NONE



HORIZONTAL BEND

HORIZONTAL TEE

HORIZONTAL DEAD END



DOWNWARD BEND

UPWARD BEND

RESTRAINED JOINT UNRESTRAINED JOINT

TYPICAL THRUST RESTRAINT DETAILS

DETAIL G-C2

SCALE: NONE

THRUST RESTRAINT SCHEDULE FOR RESTRAINED JOINT PIPE

NOMINAL PIPE SIZE INCHES	LENGTH FACTOR (Lf), FT												HORIZONTAL TEE TO DEAD-END				
	DUCTILE IRON, CONCRETE (ROUGH EXTERIOR SURFACE)						TEE OR DEAD-END	PLASTIC, STEEL, COPPER (SMOOTH EXTERIOR SURFACE)									
	HORIZONTAL OR UPWARD BEND ANGLES DEG			DOWNWARD BEND ANGLES DEG				HORIZONTAL OR UPWARD BEND ANGLES DEG			DOWNWARD BEND ANGLES DEG						
	11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°	11 1/4°	22 1/2°	45°	90°	
1	0	0	1	3	0	1	1	3	3	0	1	2	5	1	1	2	6
2	1	1	2	5	1	1	3	6	6	1	2	3	8	1	2	4	10
3	1	2	4	9	1	2	4	10	10	1	2	5	12	2	3	6	15
4	1	2	5	11	1	3	5	13	13	2	3	6	16	2	4	8	20
6	2	3	7	17	2	4	8	20	20	2	5	9	23	3	6	12	28
8	2	4	9	23	3	5	11	26	26	3	6	12	29	4	7	15	37
10	3	6	11	28	3	6	13	32	32	4	7	15	36	4	9	19	45
12	3	7	14	33	4	8	16	38	38	4	8	17	42	5	11	22	53
16	4	9	18	43	5	10	21	50	50	6	12	25	61	8	15	32	77
20	5	10	22	52	6	12	25	62	62	7	15	31	74	9	19	39	95
24	6	12	25	61	7	14	30	72	72	9	17	36	87	11	22	46	112
30	7	15	31	74	9	18	37	88	88	10	21	43	105	13	27	56	135
36	8	17	36	86	10	20	42	102	102	12	24	50	122	15	31	65	157
42	10	19	40	97	11	23	48	116	116	13	27	56	136	17	35	73	177
48	11	21	44	107	13	26	53	128	128	15	30	63	151	19	39	82	197
54	11	23	48	116	14	28	58	140	140	16	32	68	163	21	43	89	214

NOTE: THE VALUES FOR Lf IN THE TABLE ABOVE ARE BASED ON A MINIMUM 3 FEET OF COVER OVER THE PIPE AND THE SOILS PRESENT AT THE JOB SITE. DIFFERENT VALUES MUST BE DETERMINED FOR DIFFERENT CONDITIONS.

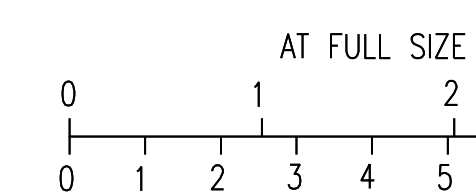
CALCULATION OF REQUIRED LENGTH OF RESTRAINED JOINT PIPE

*L = Lf x (P/100)

Lf = LENGTH FACTOR (SEE TABLE ABOVE)

*L = MINIMUM LENGTH OF RESTRAINED JOINT PIPE REQUIRED FOR FITTING, LIN. FT.

P = DESIGN MAXIMUM PRESSURE INSIDE PIPE (USUALLY THE TEST PRESSURE, SEE SPECIFICATION SECTION 15061, LB/SQ. IN. (PSI))



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDP	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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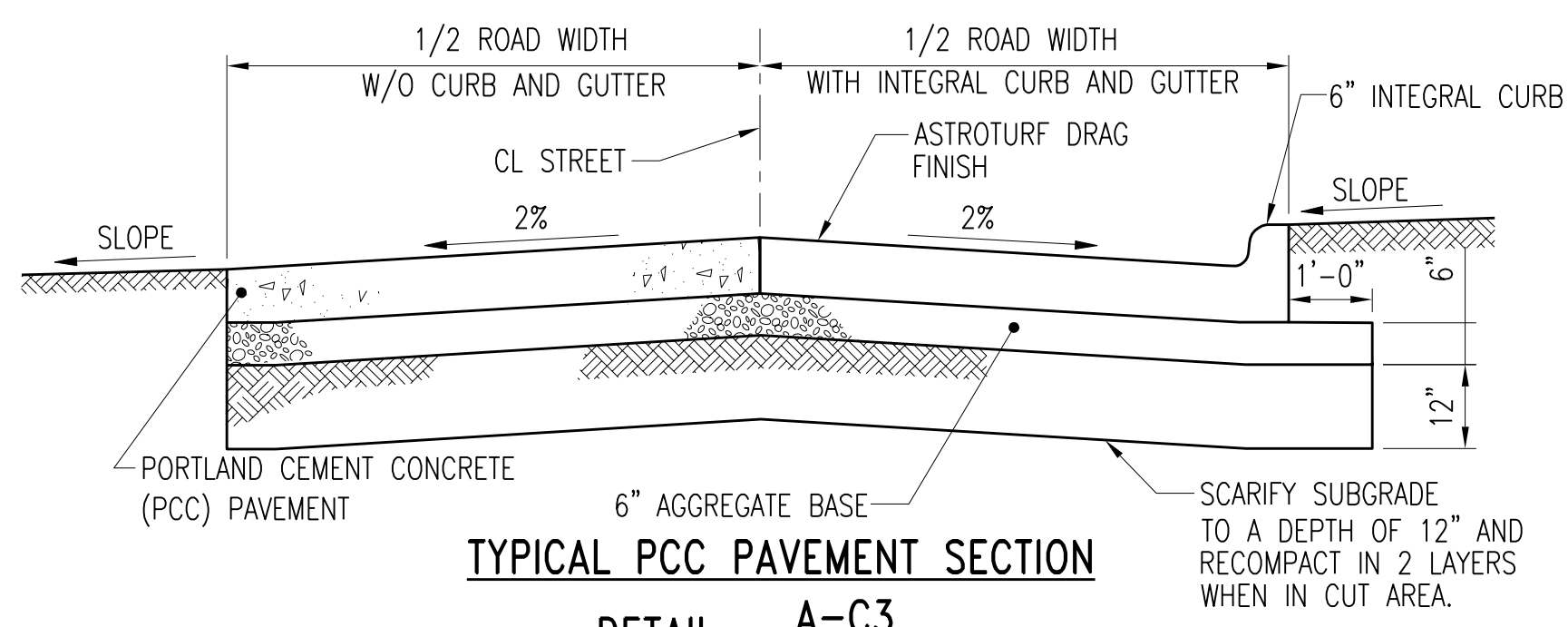
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

CIVIL TYPICAL DETAILS SHEET 2

DESIGNED	CL BARK	SCALE:	AS NOTED
DRAWN	LJ OSBORN	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
DATE	DECEMBER 2, 2011		

C2

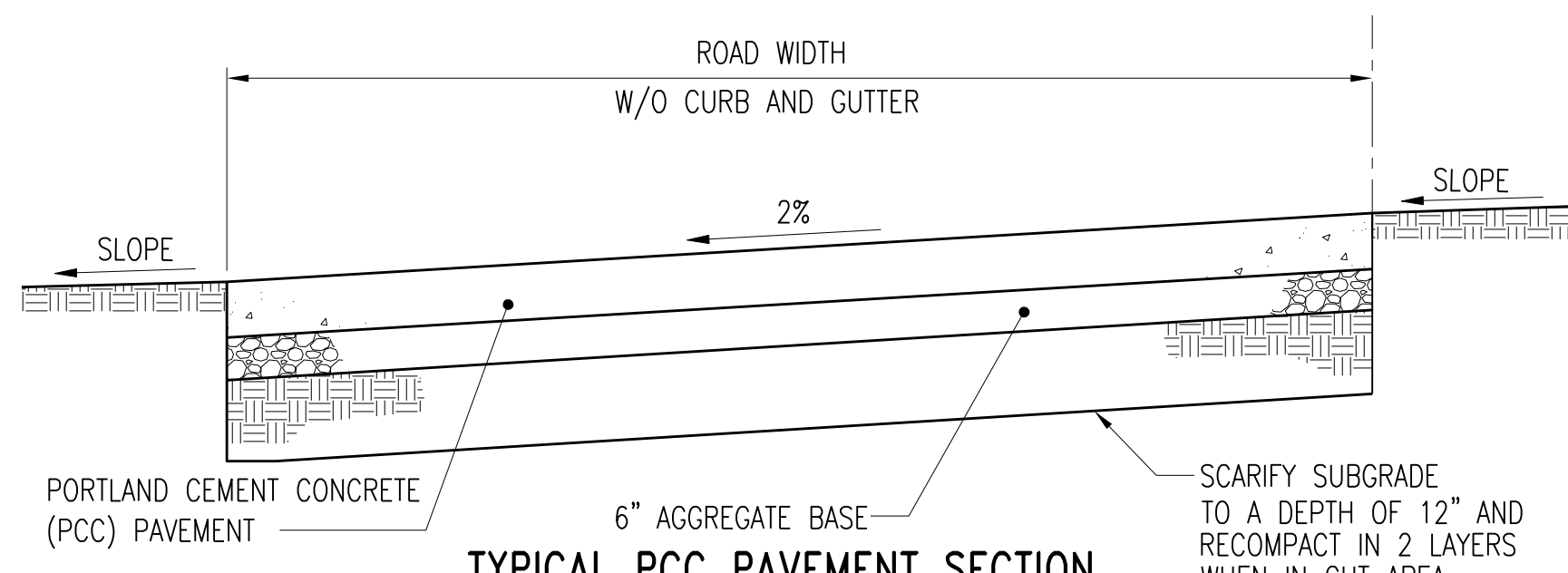
2



TYPICAL PCC PAVEMENT SECTION

DETAIL A-C3

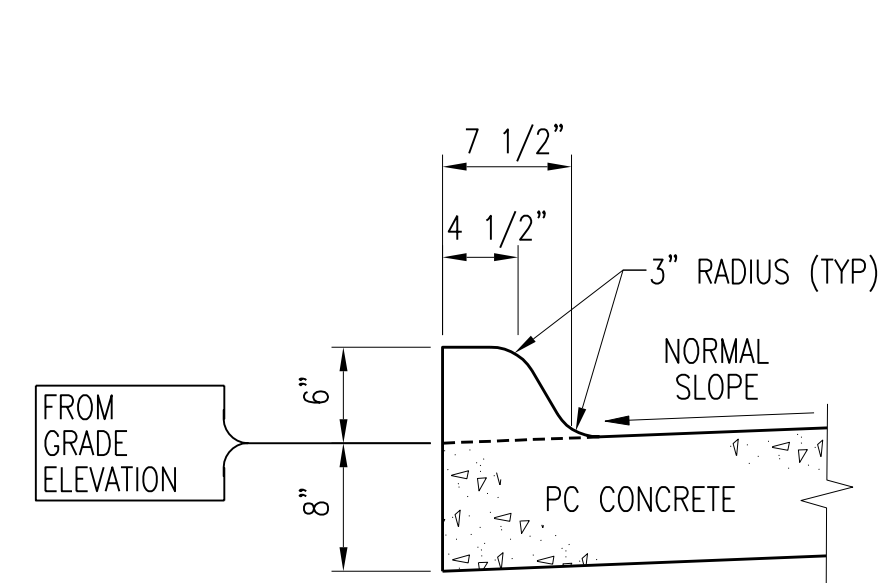
SCALE: NONE
NOTE: 1. CONCRETE PAVEMENT TO BE 8" THICK



TYPICAL PCC PAVEMENT SECTION

DETAIL D-C3

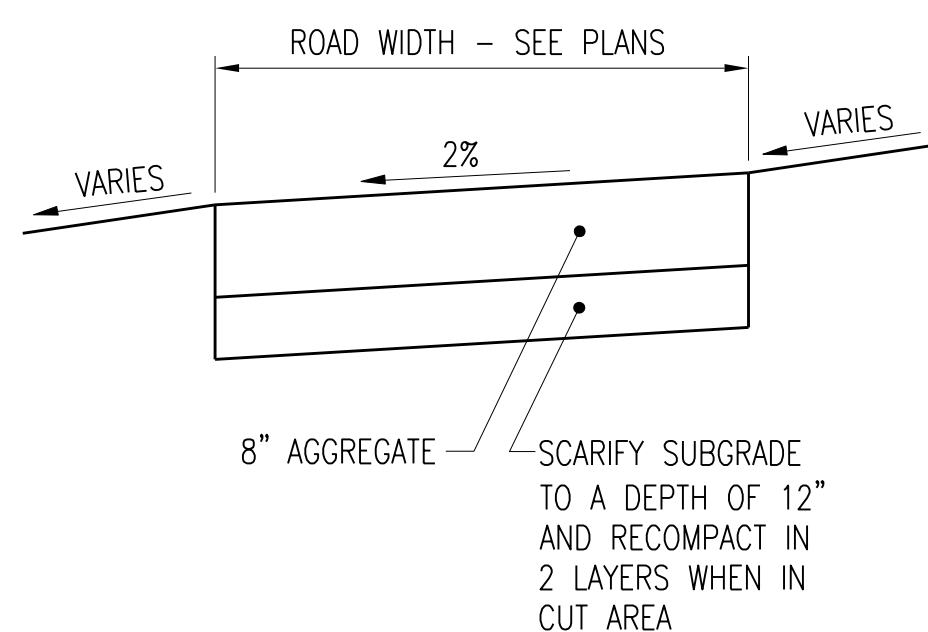
SCALE: NONE
NOTE: 1. CONCRETE PAVEMENT TO BE 8" THICK



INTEGRAL CURB

DETAIL E-C3

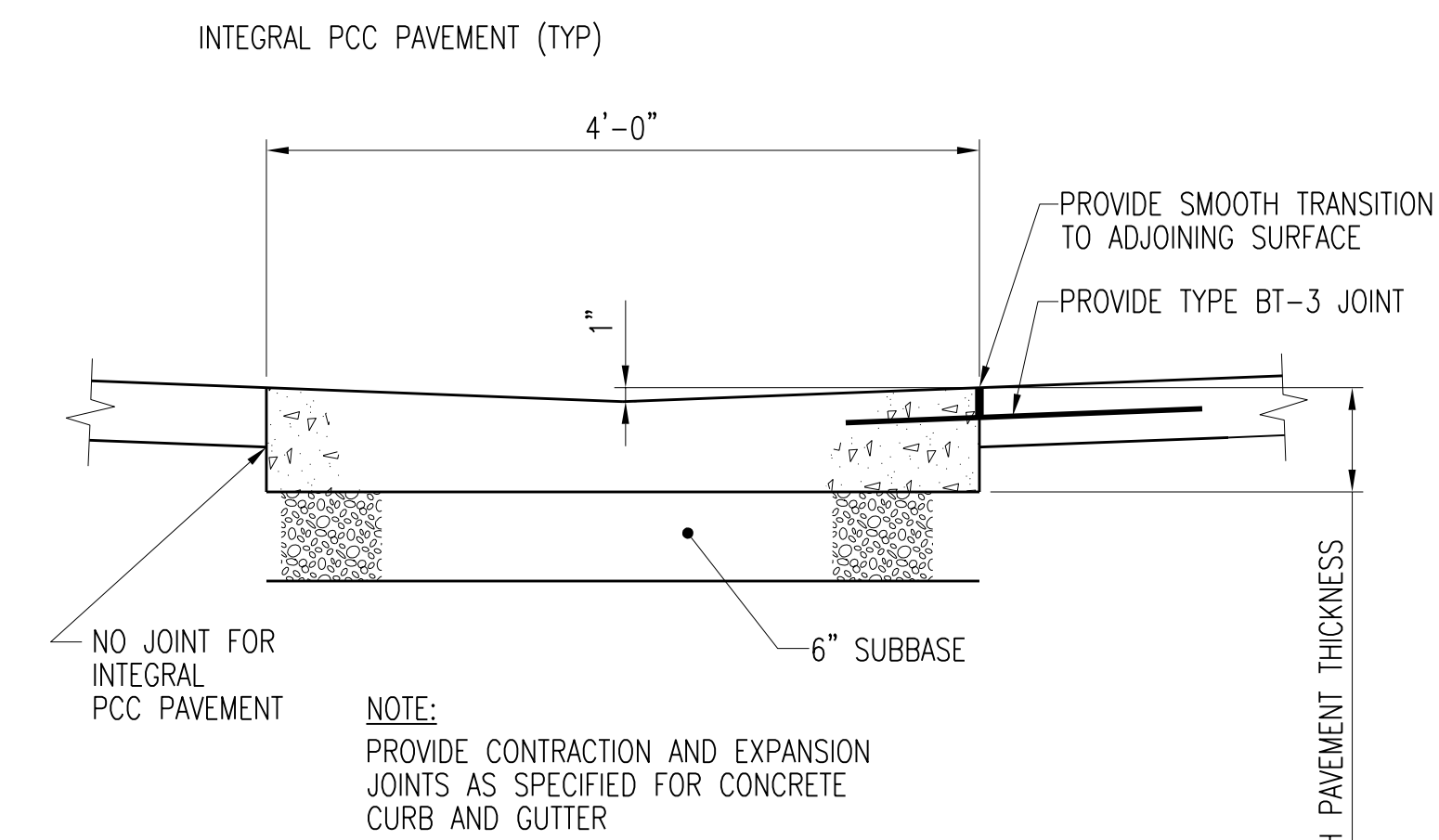
SCALE: NONE



TYPICAL AGGREGATE ROAD SECTION

DETAIL F-C3

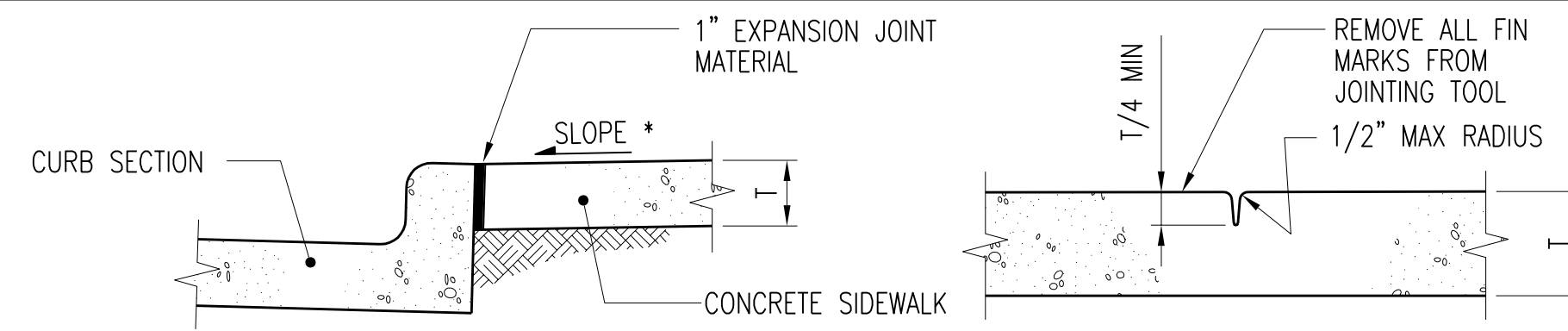
SCALE: NONE



VALLEY GUTTER

DETAIL K-C3

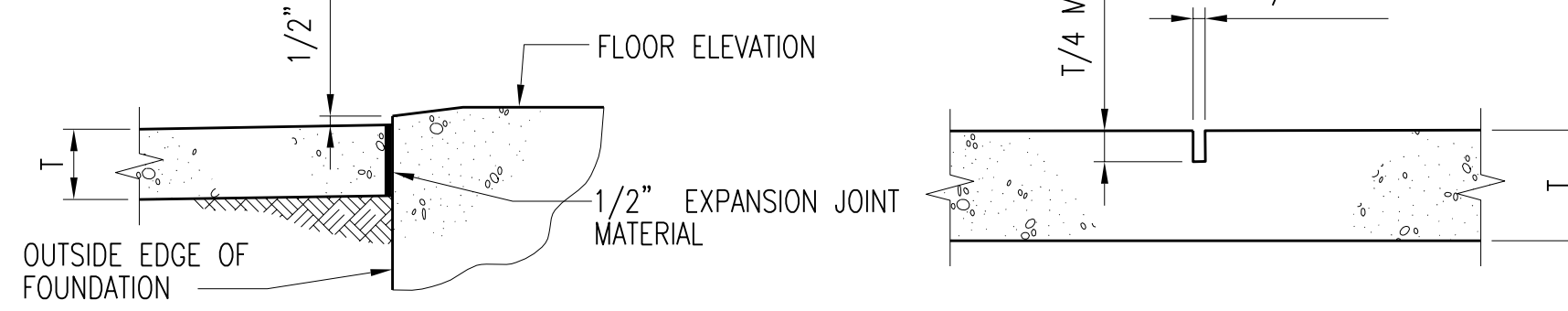
SCALE: NONE



ABUTTING CURB

* NORMAL SIDEWALK CROSS SLOPE IS 1/4" PER FOOT

HAND TOOLED CONTROL JOINT



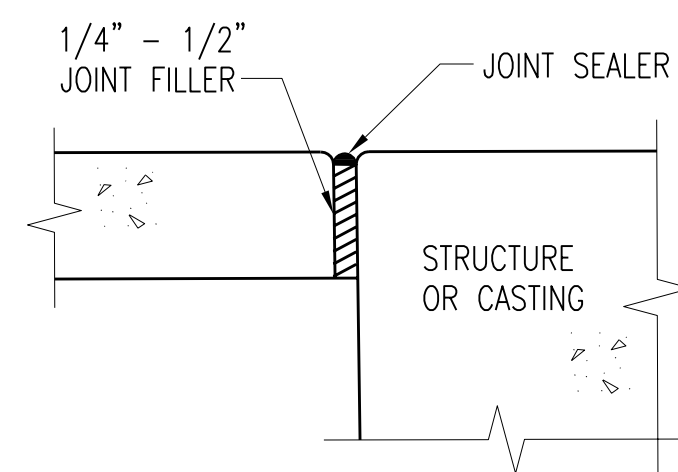
APPROACH SLAB AT BUILDING

SAWED CONTROL JOINT

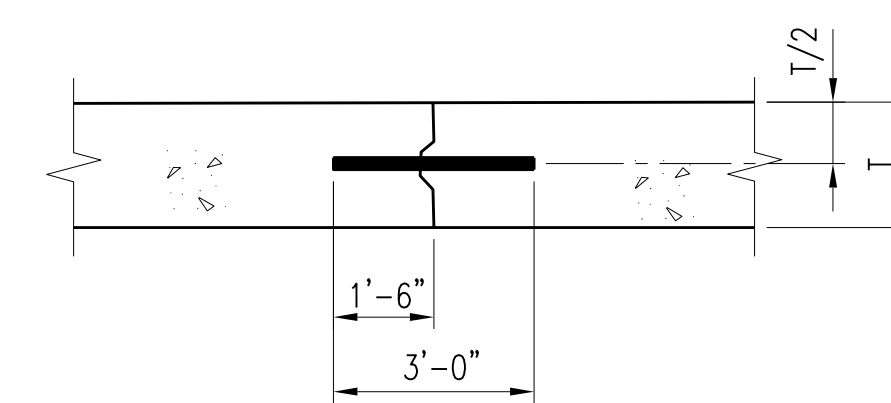
TYPICAL SIDEWALK DETAILS

DETAIL B-C3

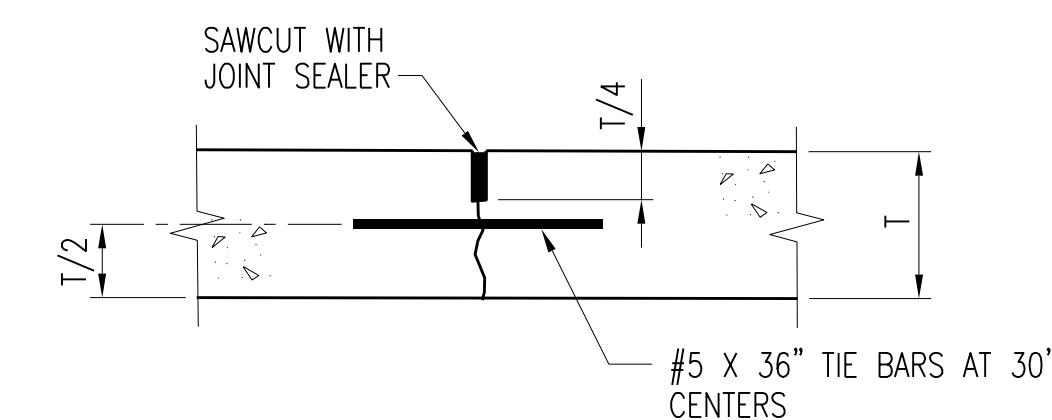
SCALE: NONE



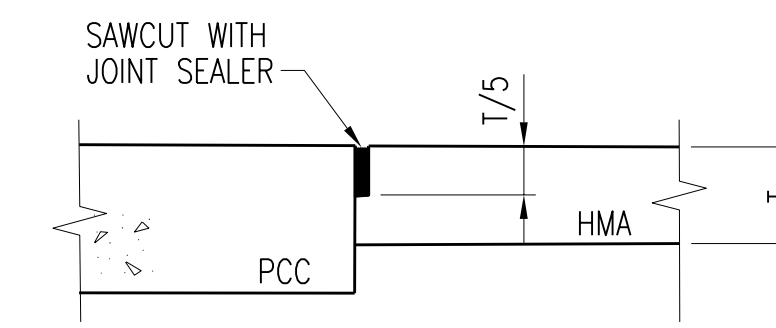
ISOLATION JOINT DETAIL



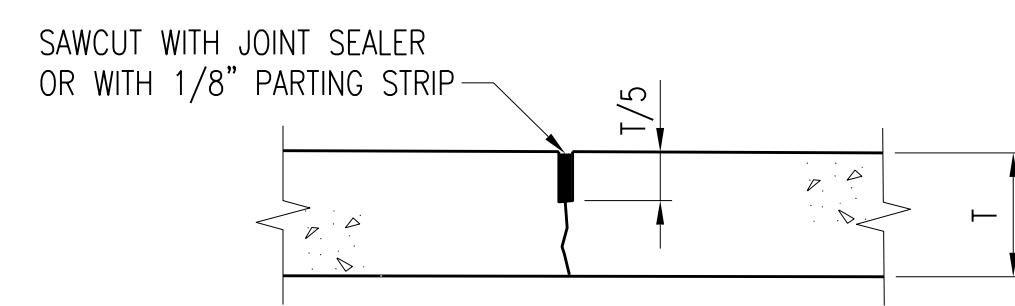
TYPICAL BAR PLACEMENT DETAIL



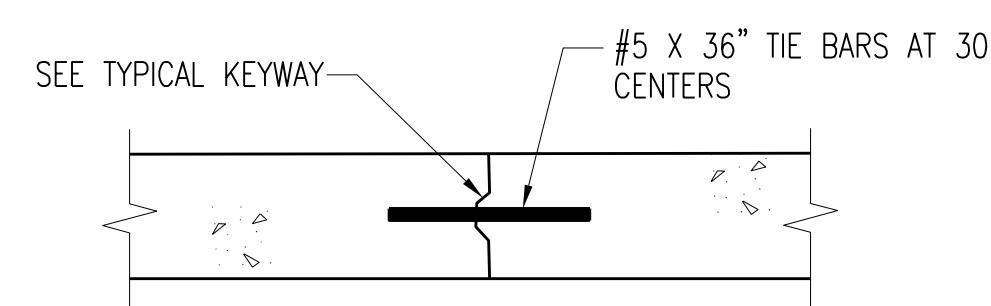
TYPE "L" LONGITUDINAL CONSTRUCTION JOINT DETAIL



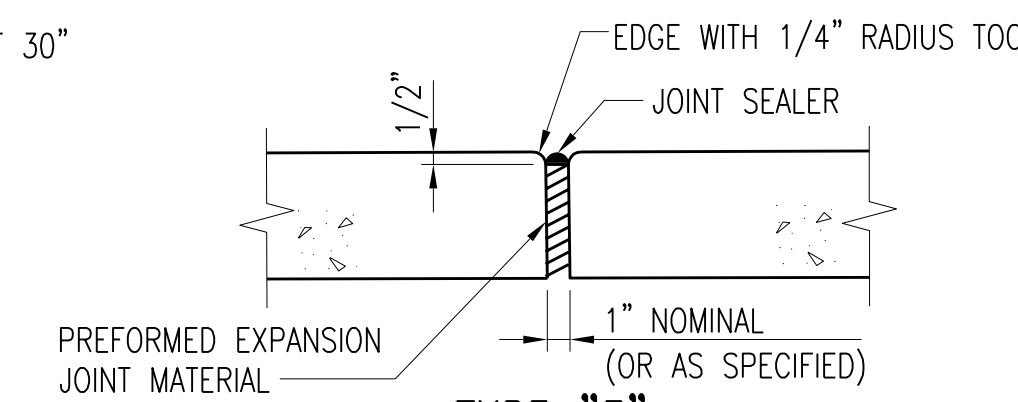
PCC/ HMA BUTT JOINT DETAIL



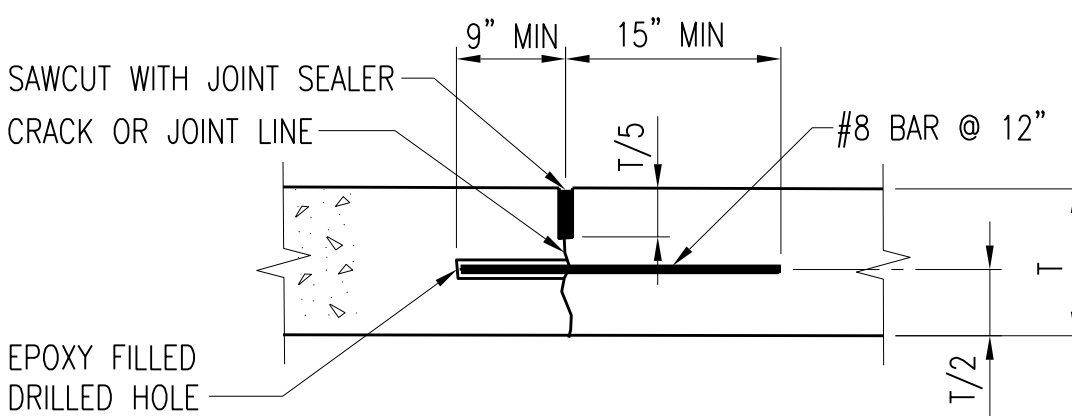
TYPE "C" TRANSVERSE CONSTRUCTION JOINT DETAIL



TYPE "KD" CONSTRUCTION JOINT DETAIL



TYPE "E" EXPANSION JOINT DETAIL

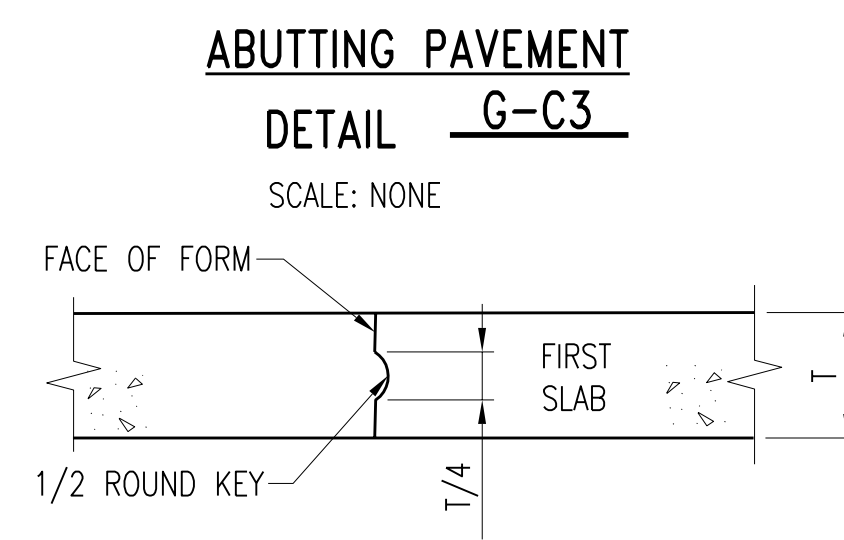


TYPE "BT-3"

JOINT RIGID TIE ABUTTING PAVEMENT

DETAIL H-C3

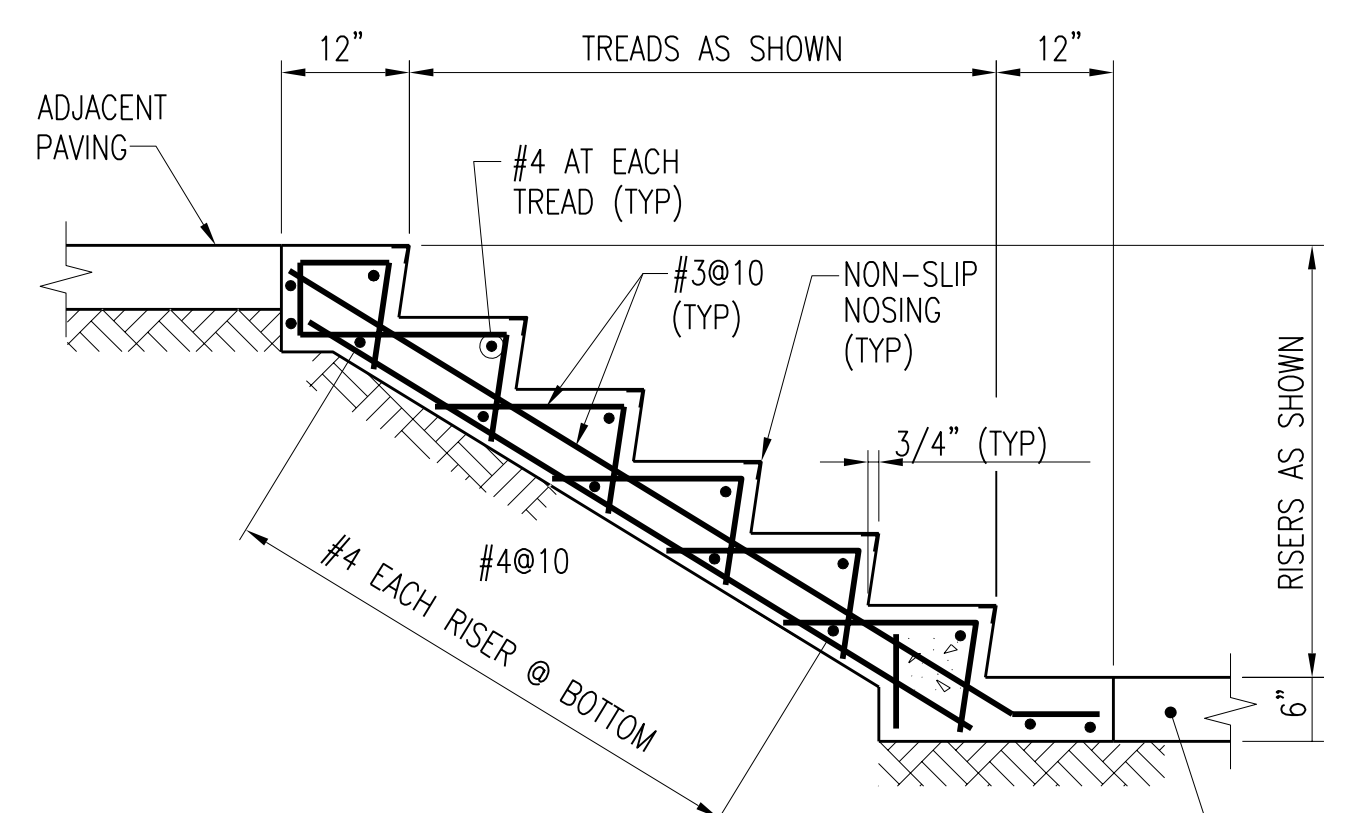
SCALE: NONE



TYPICAL KEYWAY DETAIL

DETAIL J-C3

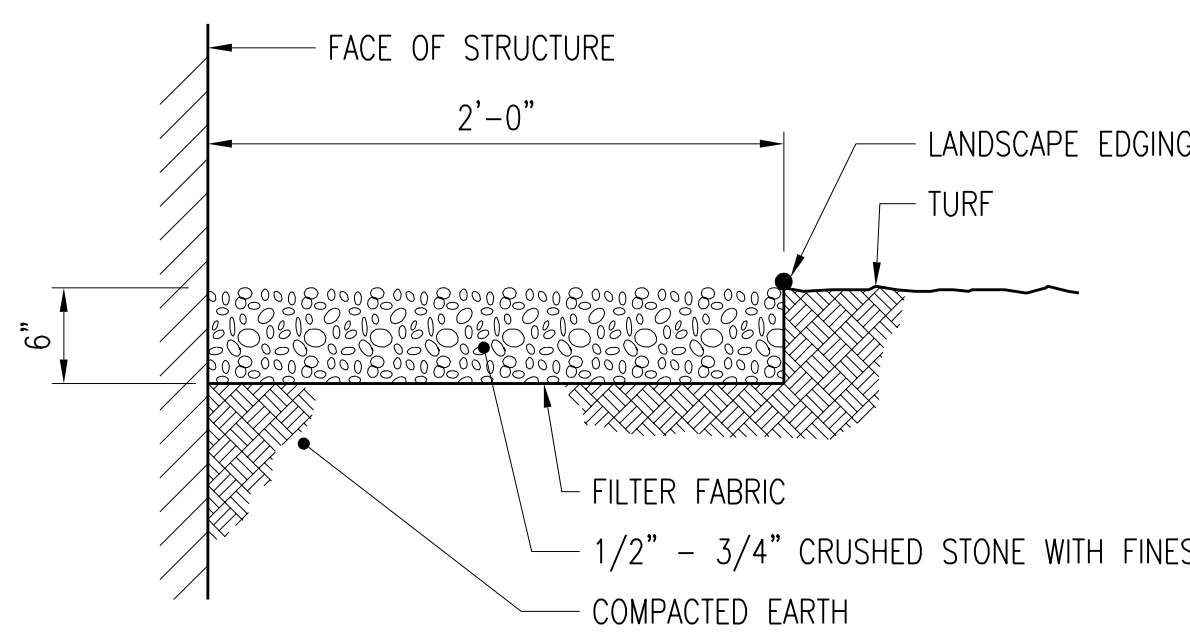
SCALE: NONE



CONCRETE STAIR ON GRADE

DETAIL L-C3

SCALE: 3/4"=1'-0"



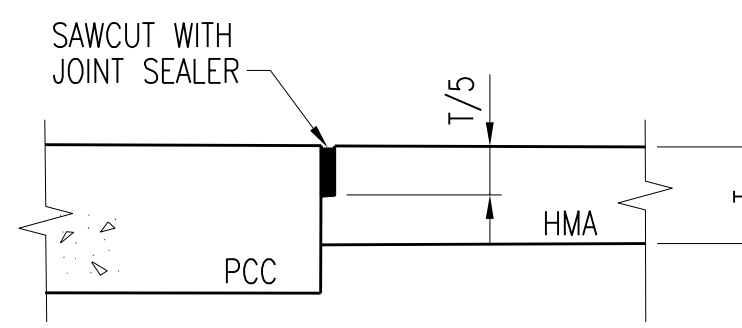
MOWING STRIP DETAIL

DETAIL M-C3

SCALE: NONE

- GENERAL NOTES:**
1. MAXIMUM JOINT SPACING FOR 8" PAVEMENT: 15'
 2. LENGTH OF CONCRETE PANEL SHALL NOT EXCEED WIDTH BY MORE THAN 25%.
 3. AVOID ACUTE ANGLES IN PANEL CORNERS (NOT LESS THAN 75').
 4. PROVIDE ISOLATION JOINT WHERE NEW CONCRETE ABUTS EXISTING CONCRETE, STRUCTURES, PIPES, POSTS, OR HYDRANTS.

- PAVEMENT JOINT NOTES:**
1. WIDTH OF SAWCUT EQUALS 1/8".
 2. ALL PREFORMED JOINT MATERIAL SHALL BE INSTALLED PERPENDICULAR TO PAVEMENT SURFACE AND CARE EXERCISED THROUGHOUT THE CONSTRUCTION OF THE PAVEMENT TO ENSURE THAT THE JOINT MATERIAL REMAINS IN PROPER POSITION UPON COMPLETION OF PAVING OPERATION.
 3. A) TIE BAR DIMENSIONS SHOWN ARE FOR DEFORMED STEEL.
B) TIE BARS SHALL BE SUPPORTED AND HELD SECURELY IN PLACE DURING CONCRETE PLACEMENT.



PCC/ HMA BUTT JOINT DETAIL

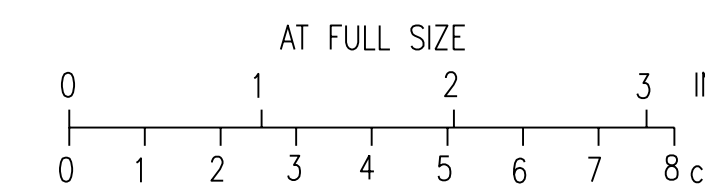
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	CLB	CLB	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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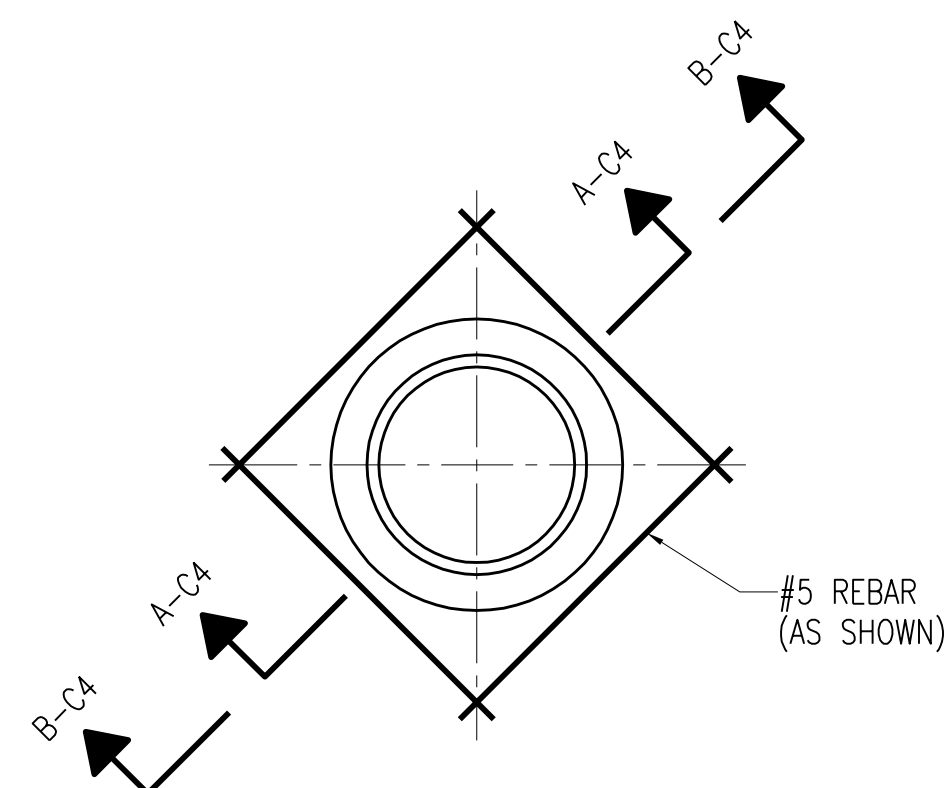
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TYPICAL DETAILS
SHEET 3

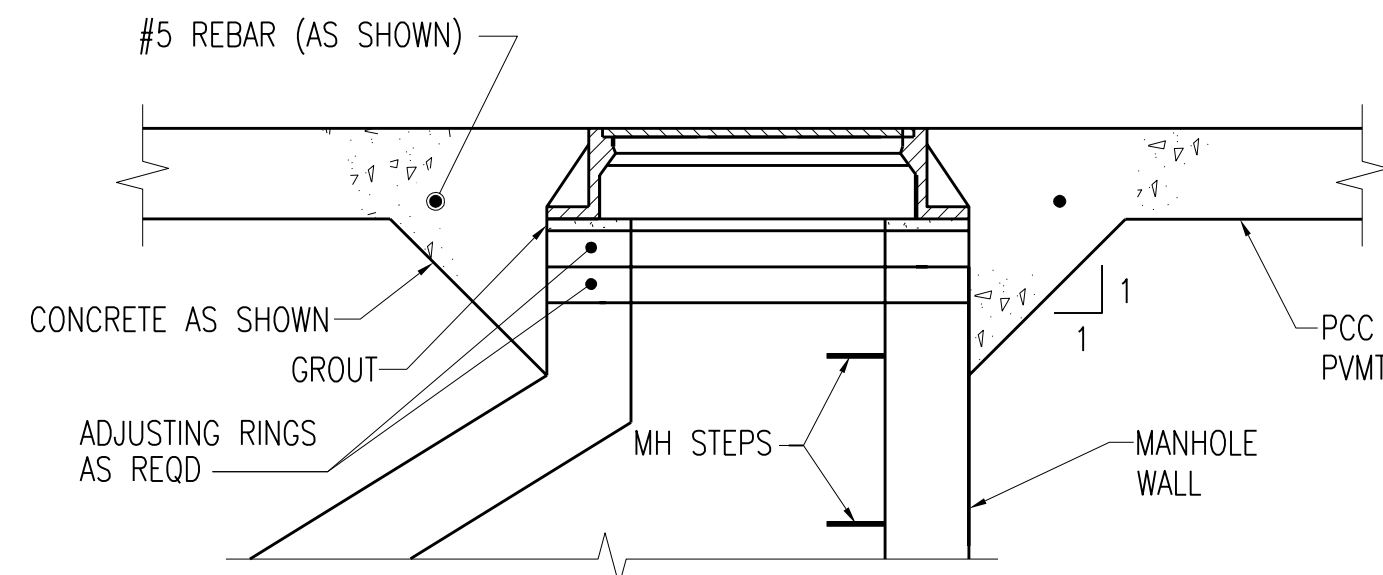
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DRAWN	LJ OSBORN	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		



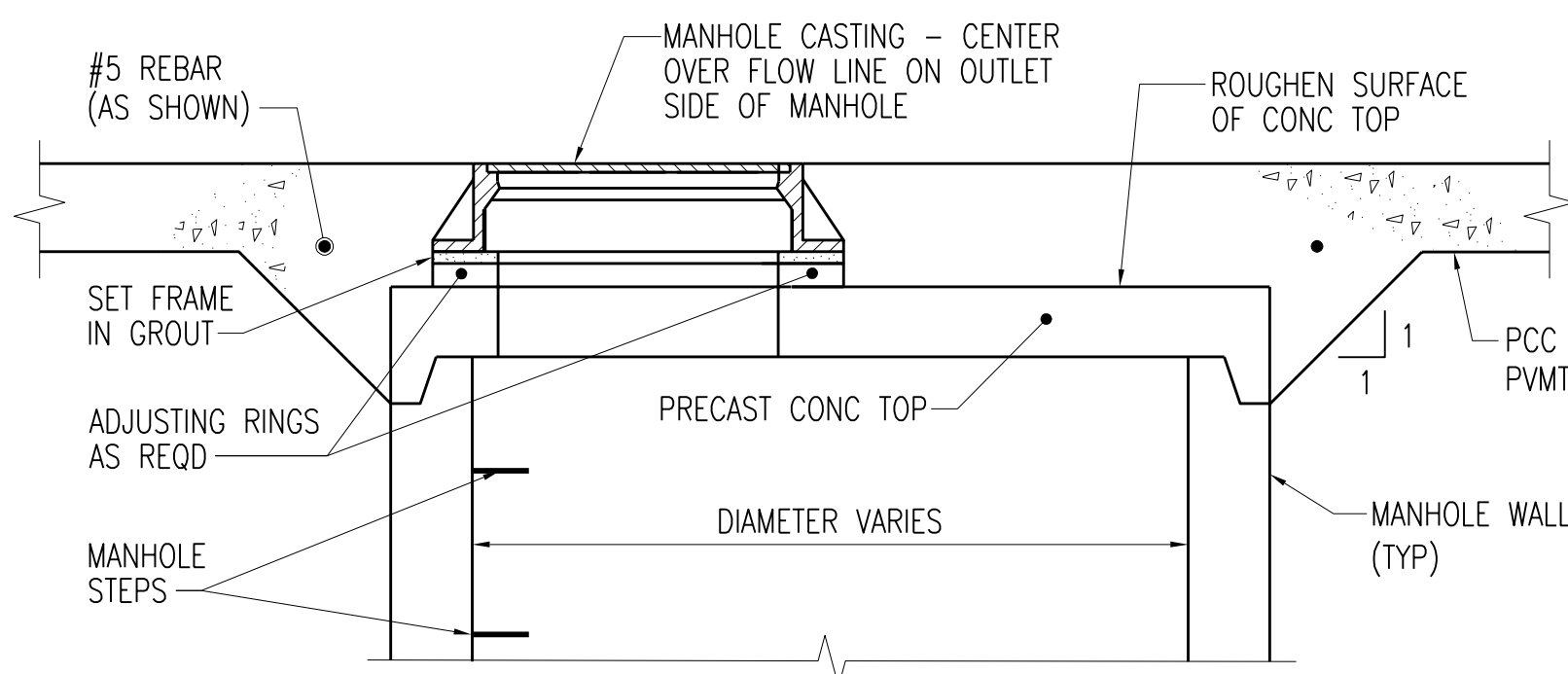
CADD: D1-R4



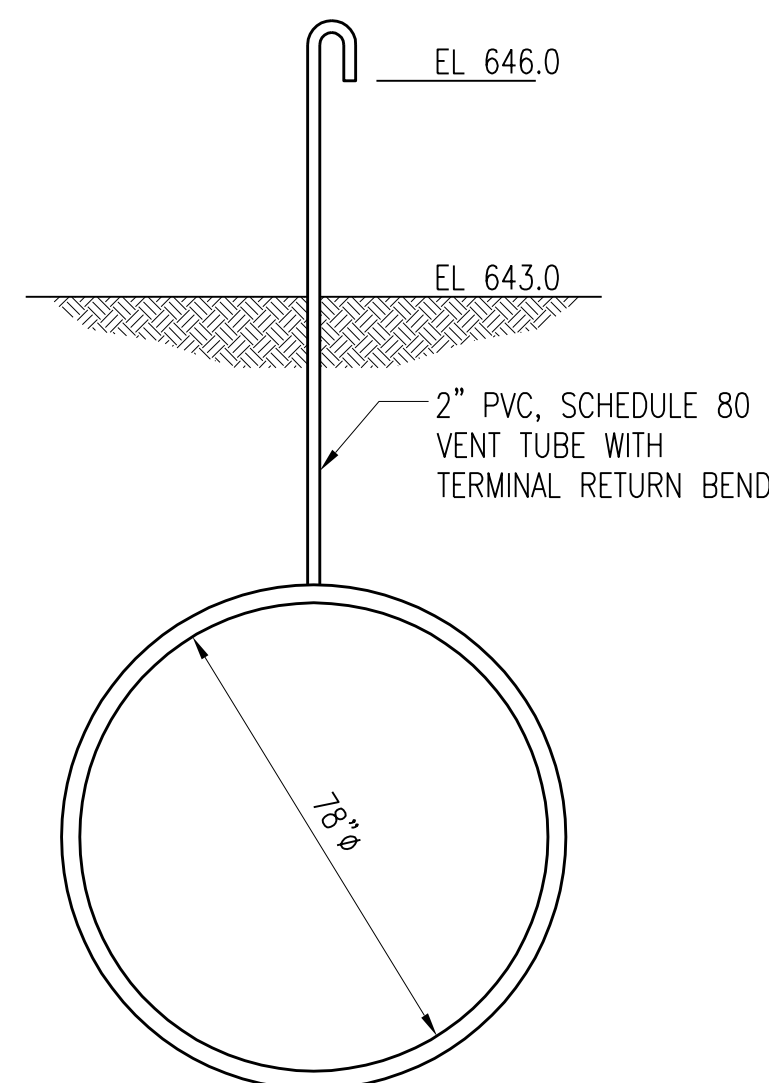
STANDARD MANHOLE BOXOUT PLAN
SCALE: 3/4" = 1'-0"



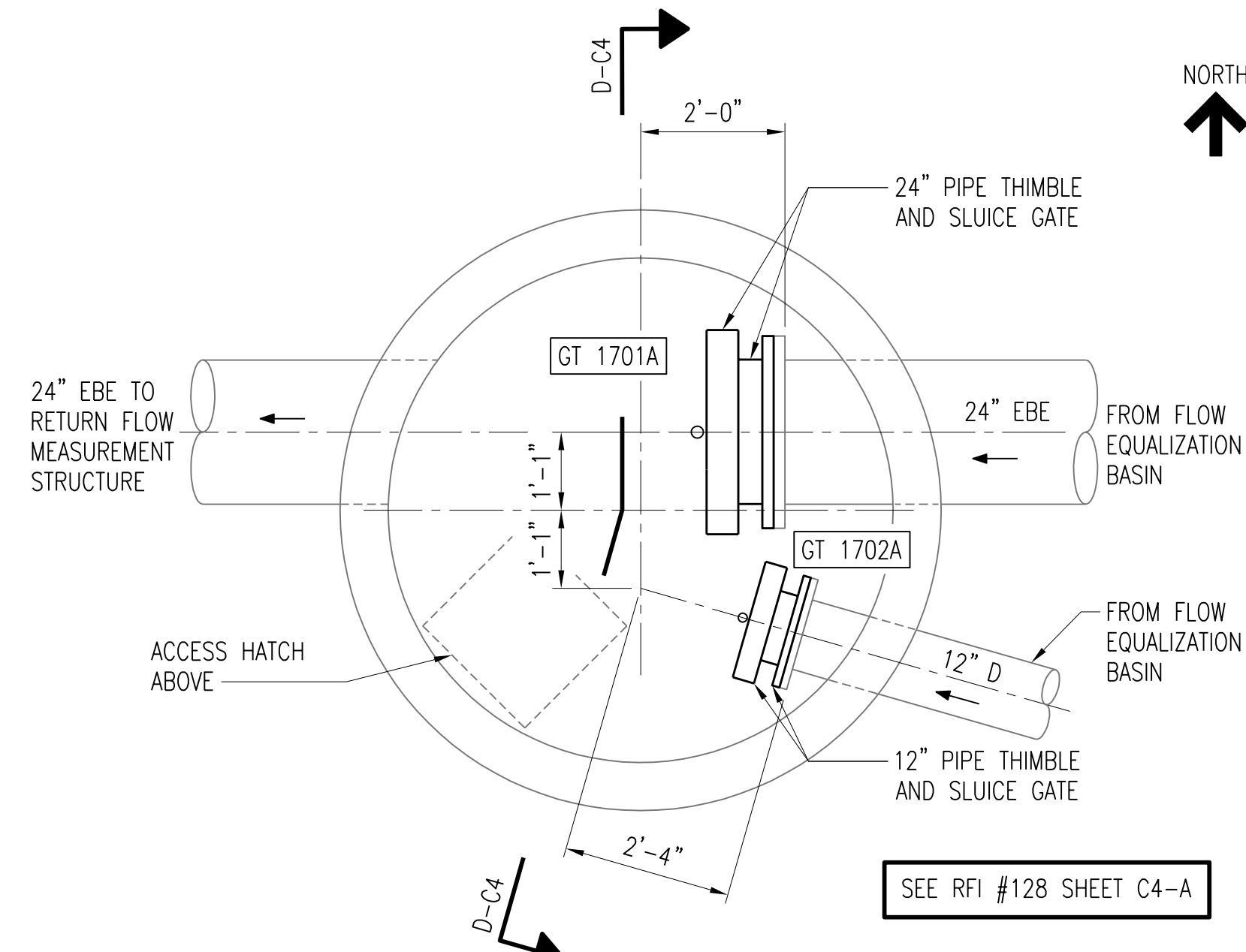
SECTION A-C4
SCALE: 3/4" = 1'-0"



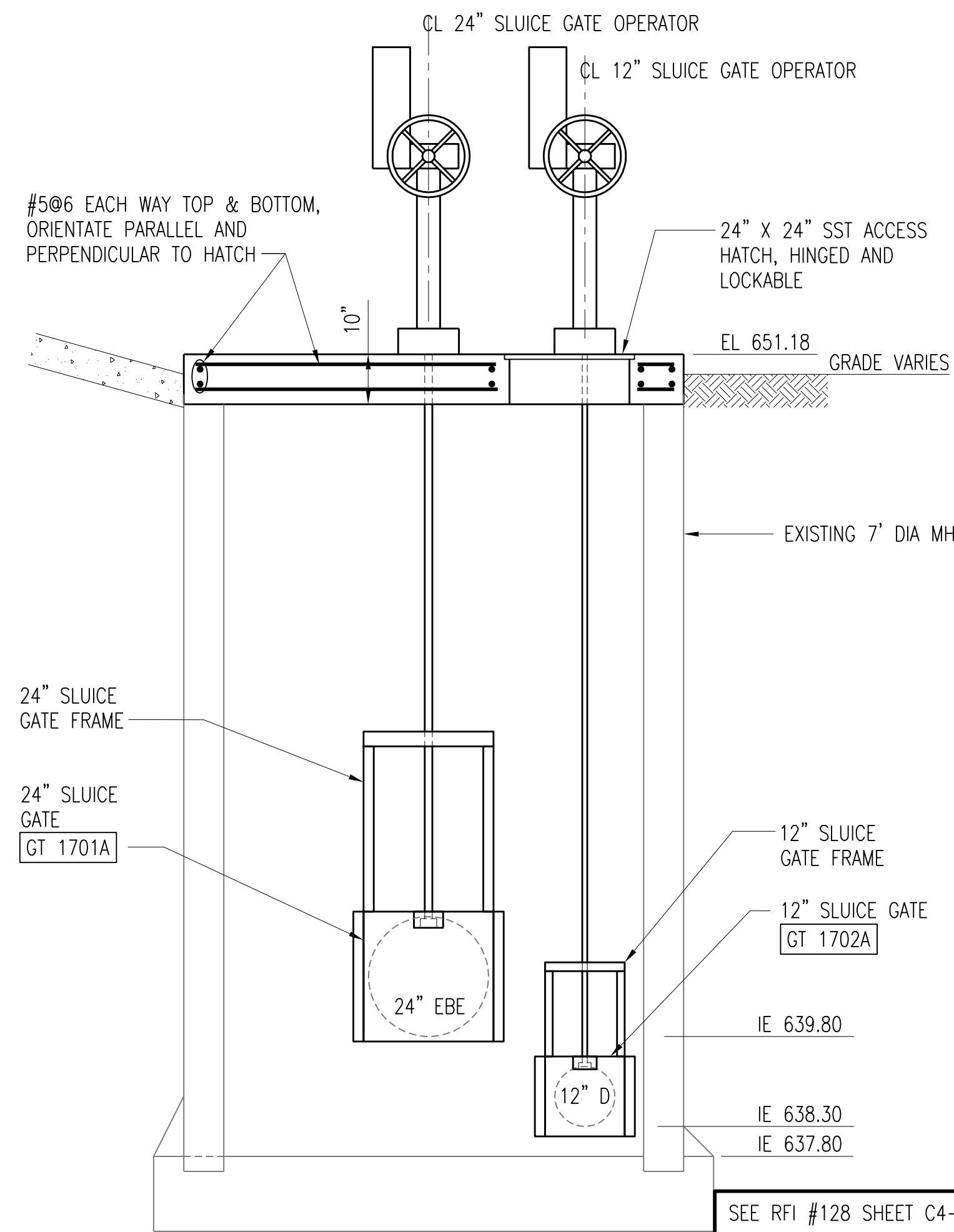
SECTION B-C4
SCALE: 3/4" = 1'-0"



DETAIL E-C4
SCALE: 3/8" = 1'-0"

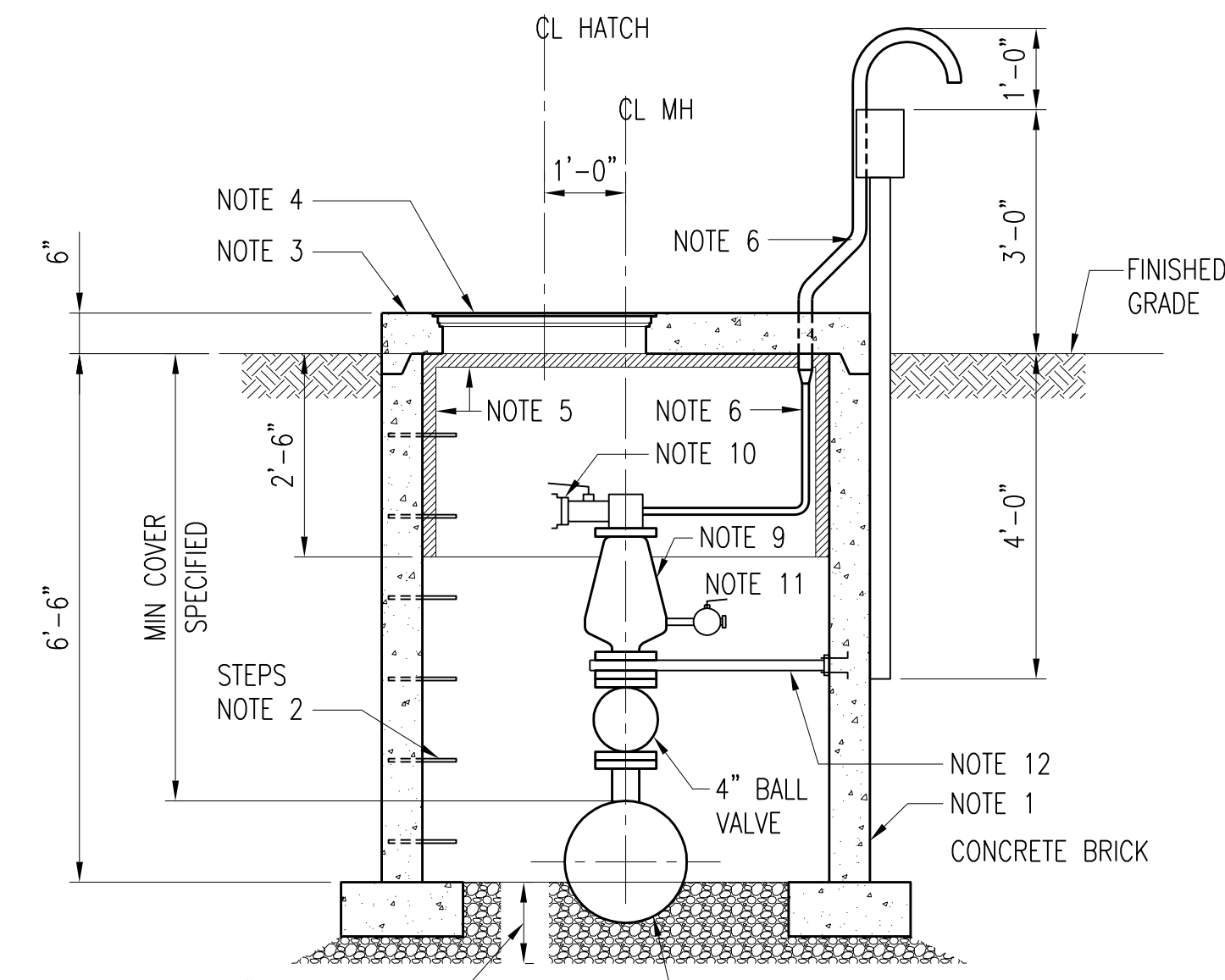


RETURN FLOW CONTROL MANHOLE
SCALE: 1/2" = 1'-0"



SECTION D-C4
SCALE: 1/2" = 1'-0"

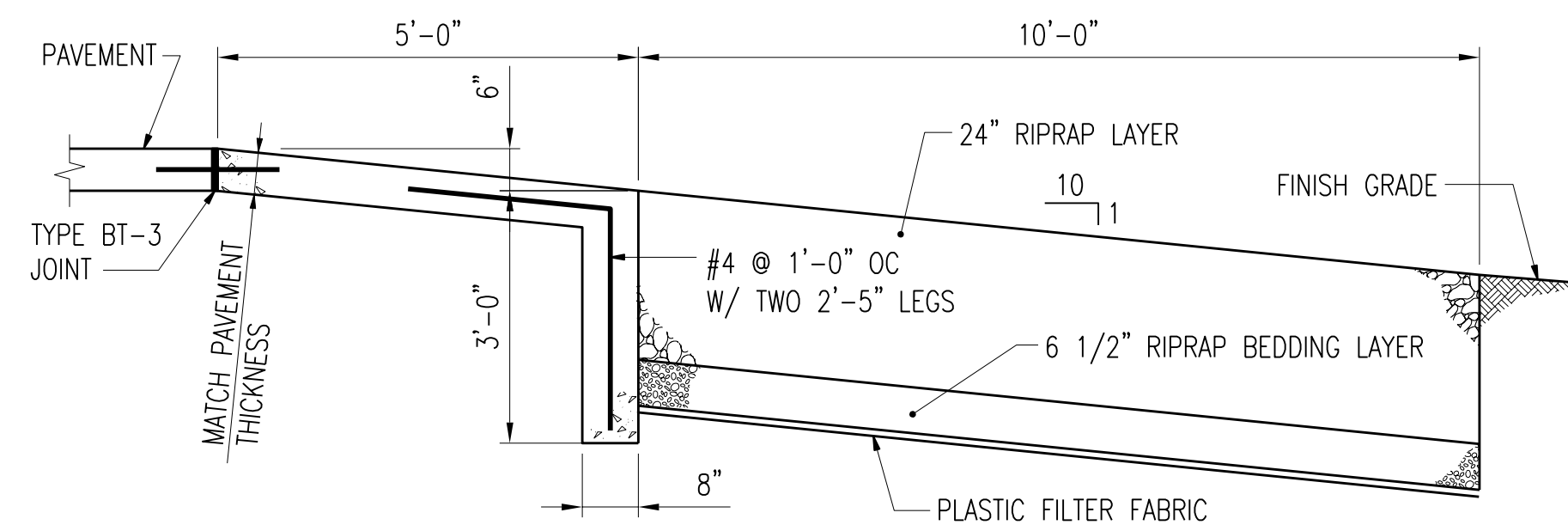
- RETURN FLOW CONTROL MANHOLE NOTES:**
- SEE DRAWING C12 FOR STRUCTURE LOCATION.
 - SEE DRAWING C32 FOR CONTINUATION OF SITE PIPING.
 - REMOVE EXISTING GATES, ACTUATORS, AND TOP SLAB AND INSTALL NEW GATES, ACTUATORS, AND TOP SLAB.



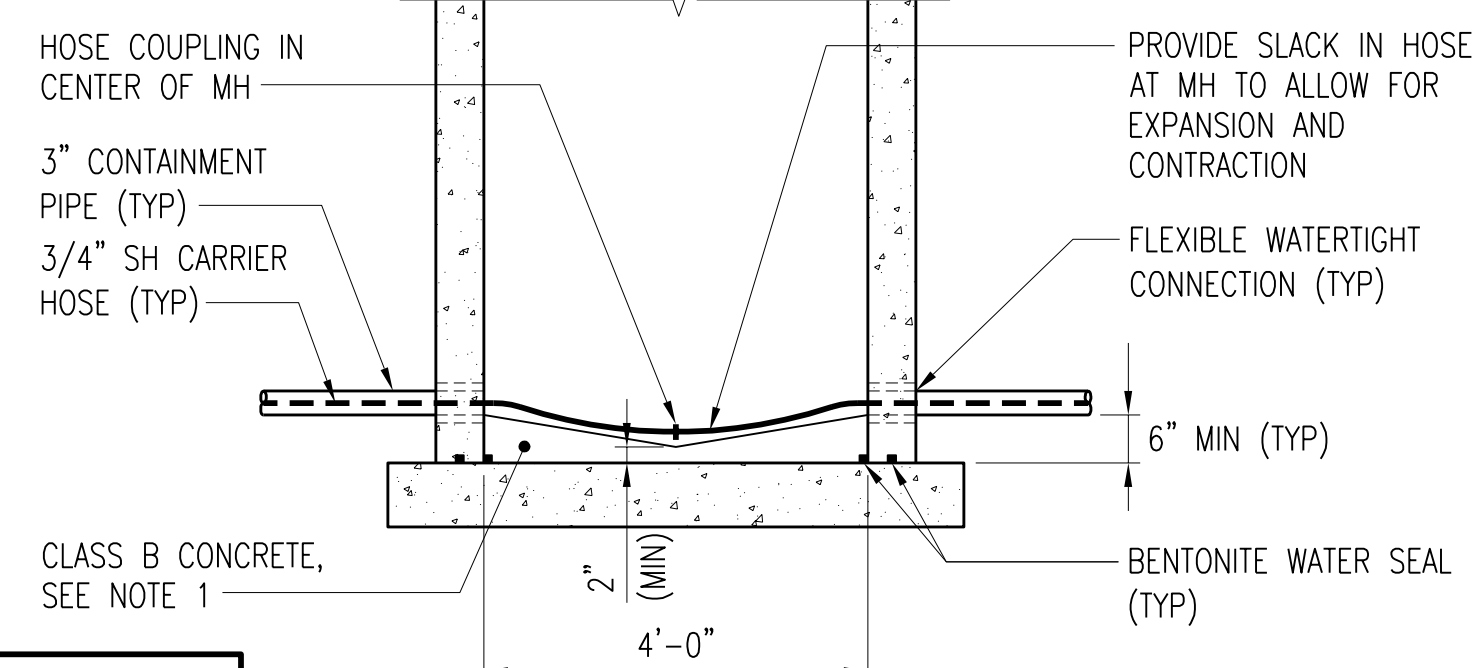
AIR RELEASE VALVE MANHOLE DETAIL
SCALE: 1/2" = 1'-0"

AIR RELEASE VALVE MANHOLE NOTES:

- 60" RCP; ASTM C76 CLASS II, WALL B, OR ASTM C478.
- POLYPROPYLENE ENCAPSULATED 1/2" STEEL ROD; 5" EMBEDMENT AND PROJECTION, 10" WIDTH.
- 60" DIAMETER (ID) PRECAST REINFORCED CONCRETE TOP WITH CAST-IN-PLACE HATCH.
- CAST IRON, HINGED ACCESS HATCH; NEENAH R-6665-20H OR EQUAL.
- 2" STYROFOAM INSULATION SECURELY ATTACHED TO MANHOLE TOP AND SIDES. USE FLEXIBLE STYROFOAM AROUND MANHOLE SIDES.
- 1" AND 2" BLACK, PVC, CPVC OR ABS, SCHEDULE 80 VENT TUBING WITH TERMINAL RETURN BEND. ATTACH SECURELY TO POST. INCREASE FROM 1" TO 2" PIPE IMMEDIATELY BELOW PRECAST TOP AND EXTEND 2" VENT TO 8' ABOVE GRADE AS SHOWN.
- NOT USED.
- NOT USED.
- 2" OR 4" AUTOMATIC AIR RELEASE VALVE WITH STAINLESS STEEL BODY, FLOAT, FLOAT STEM, BOLTS AND NUTS, WASHER AND SPRING. ALL OTHER PARTS TO BE CORROSION RESISTANT NYLON OR PLASTIC. A.R.I. USA, INC. MODEL D-025 (2" THREADED OR 4" FLANGED).
- STAINLESS STEEL NIPPLE, ANGLE, BALL VALVE AND QUICK COUPLING.
- STAINLESS STEEL NIPPLE AND BALL VALVE.
- STRAP AND ANCHORS: 1/8" THICK x 1-1/2" WIDE STAINLESS STEEL STRAP WITH STAINLESS STEEL ANCHORS SET IN EPOXY IN WALL.



SECTION C-C4
SCALE: 1/2" = 1'-0"

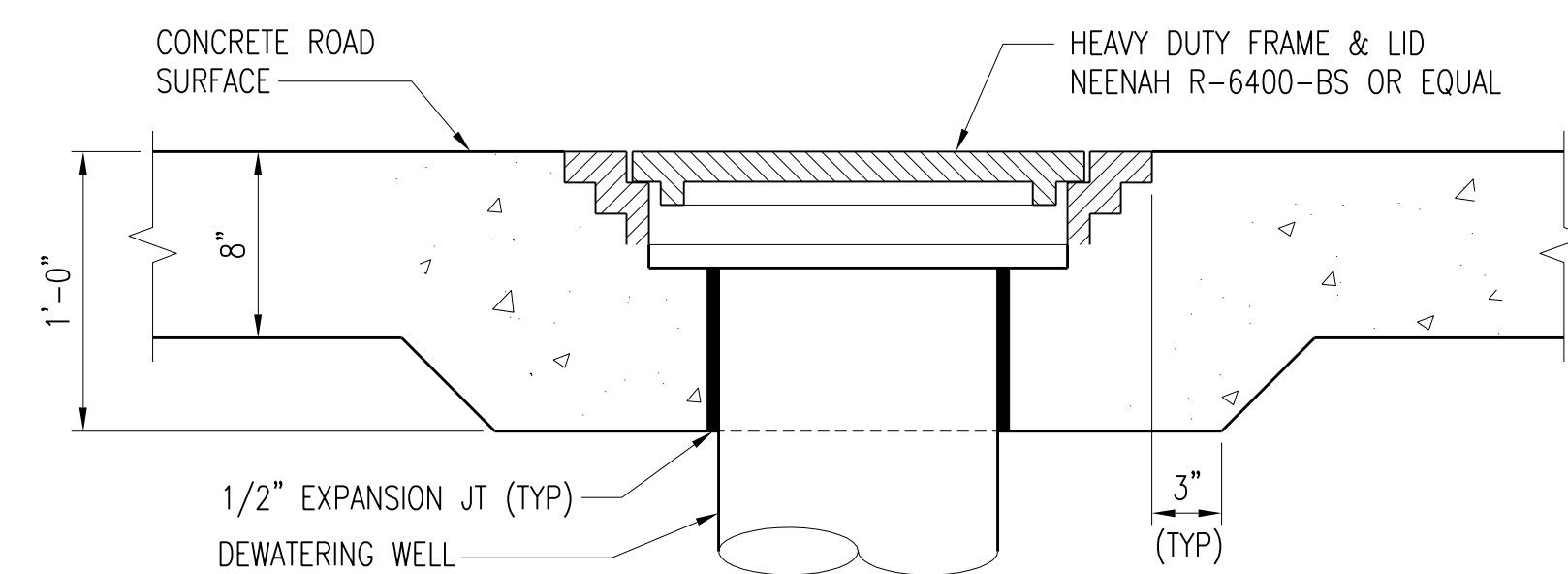


SODIUM HYPOCHLORITE MANHOLE NOTES:

- SLOPE CONCRETE TO CENTER OF MANHOLE TO FORM DEPRESSION.
- SEE DRAWING C1 FOR MANHOLE TYPICAL DETAILS INCLUDING TOP SECTION.

SODIUM HYPOCHLORITE MANHOLE DETAIL
SCALE: 1/2" = 1'-0"

SEE RFI #180 SHEET C4-A



DEWATERING WELL MODIFICATIONS DETAIL
(DEWATERING WELL MODIFICATIONS IN PAVED AREAS ONLY)
SCALE: 1 1/2" = 1'-0"

ADD NOTE TO DETAIL E-C4 TO READ:

"INSTALL 3 GUARD POSTS AS SHOWN ON DRAWING S4, EVENLY SPACED AROUND PVC PIPE."

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DGNS	CHKD	APVD	DATE

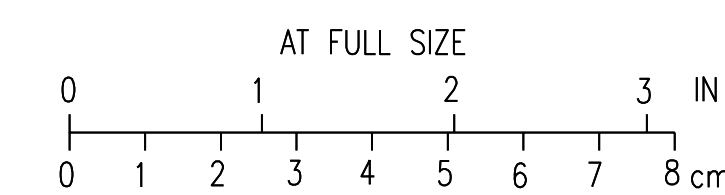
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SHEET 4**

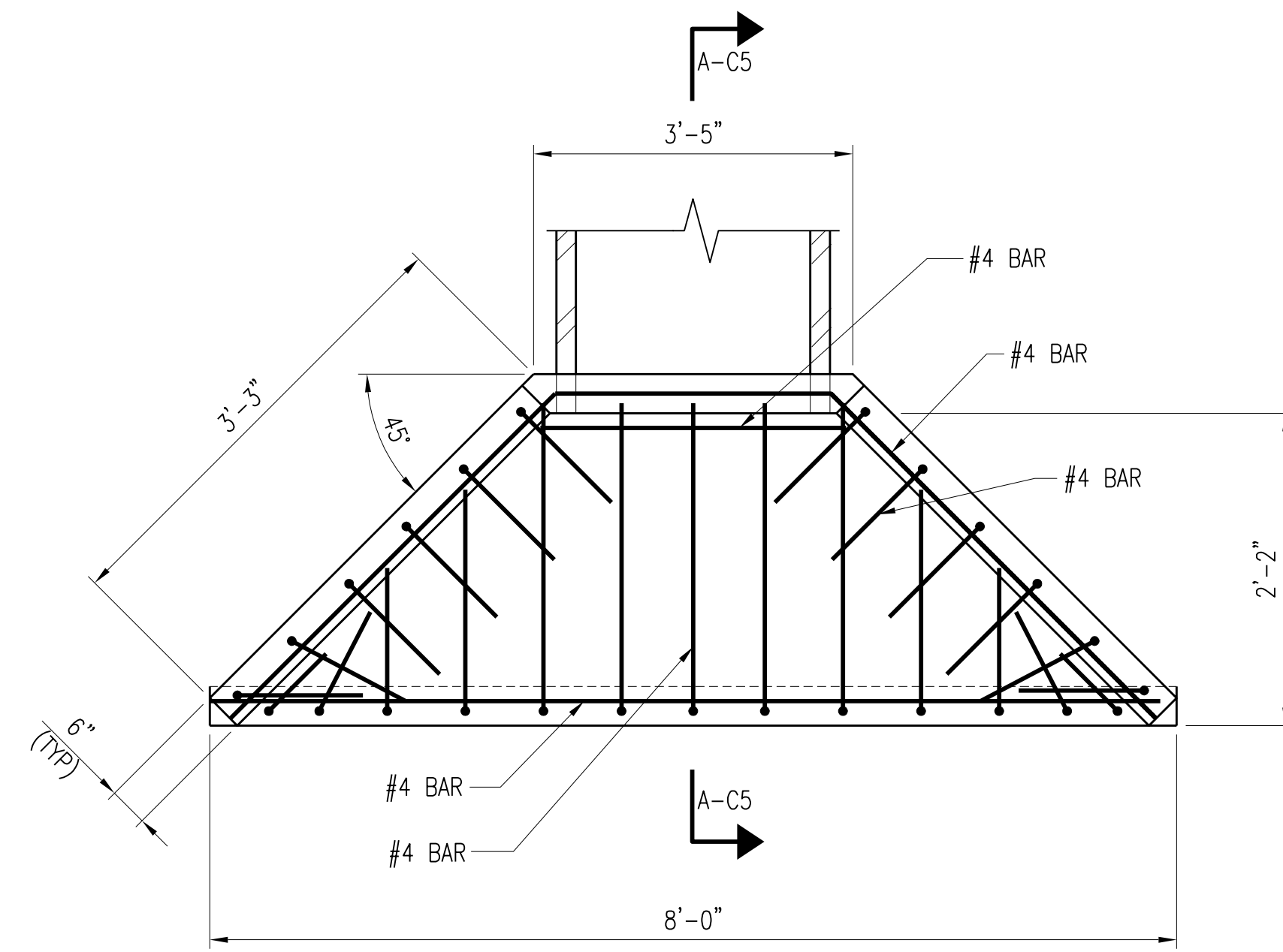
DESIGNED	CL BARK	SCALE:	AS NOTED
DRAWN	LJ OSBORN	NO.	22800
CHECKED	CL BARK	REV.	
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APPROVED			
DATE	DECEMBER 2, 2011		

C4 3



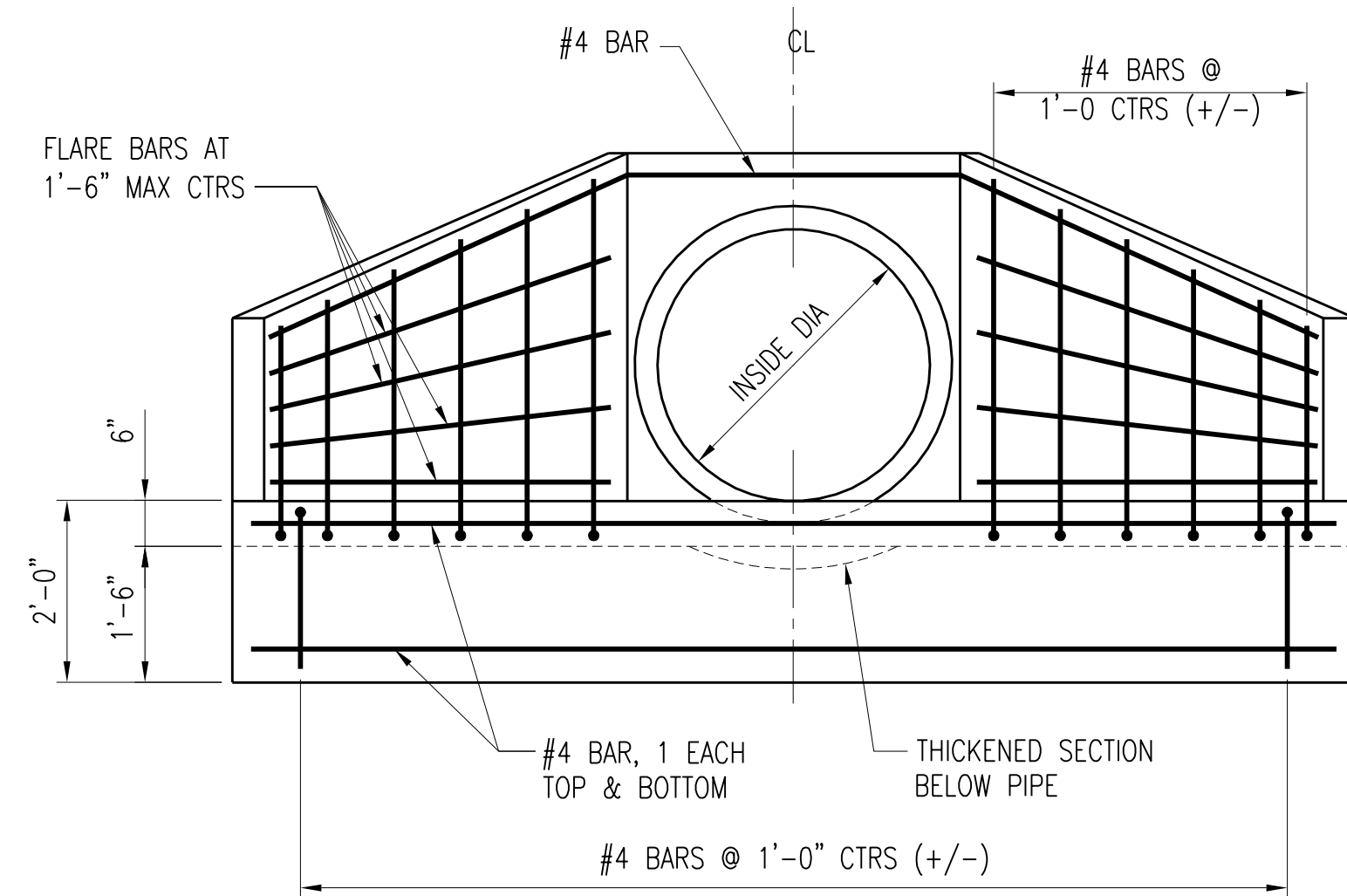
NOTES:

1. ALL REINFORCING SHALL BE PLACED IN A SINGLE LAYER AT MID-DEPTH UNLESS OTHERWISE NOTED.



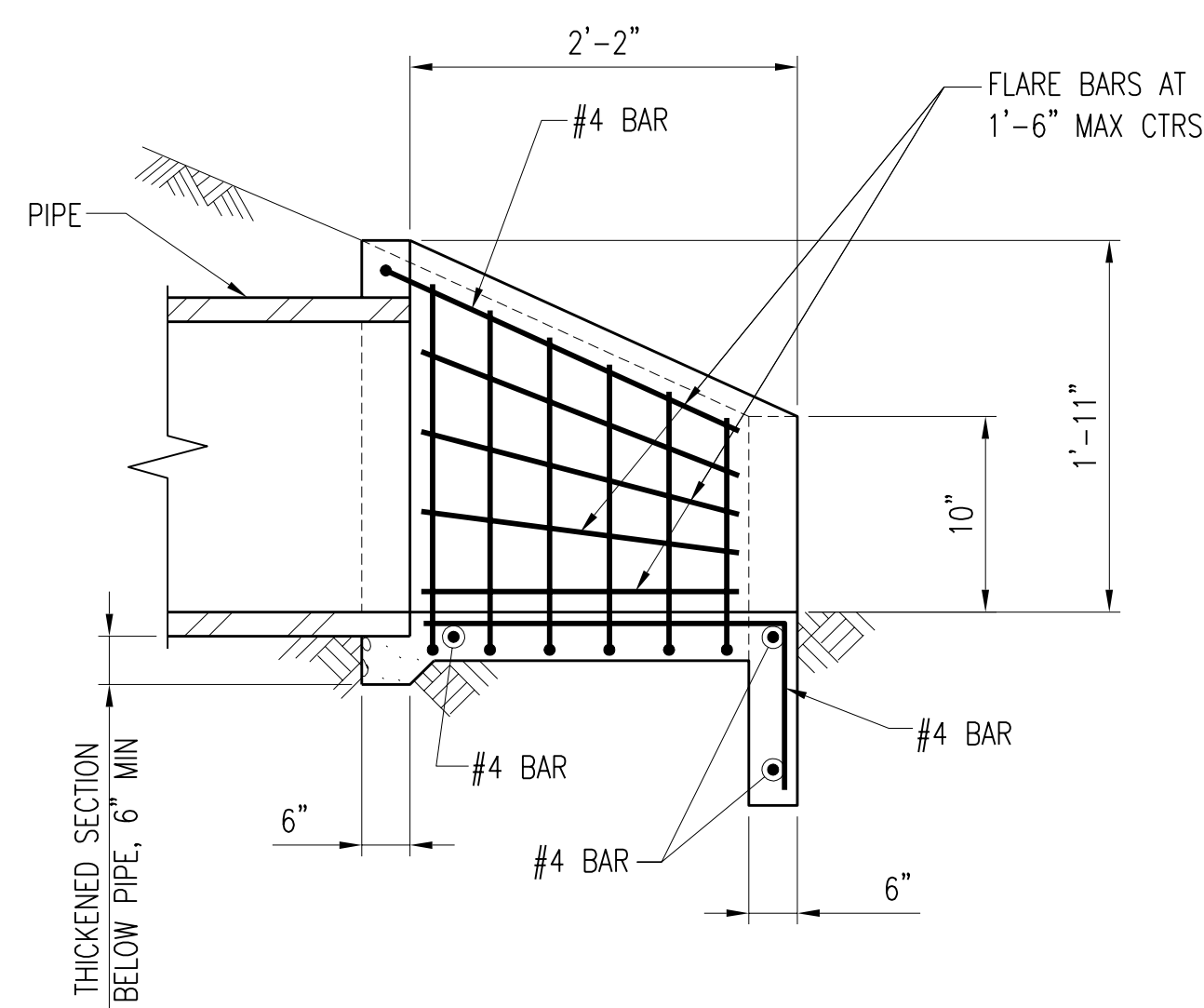
12" PIPE HEADWALL PLAN

SCALE: NO SCALE



12" PIPE HEADWALL END VIEW

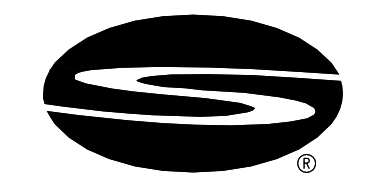
SCALE: NO SCALE



SECTION A-C5

SCALE: NO SCALE

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



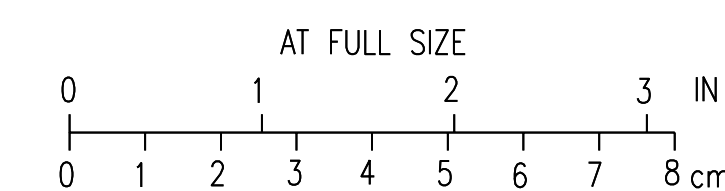
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TYPICAL DETAILS
SHEET 5**

DESIGNED	CL BARK	SCALE:	AS NOTED
DRAWN	LJ OSBORN	NO.	22800
CHECKED	CL BARK	REV.	2
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		



STRUCTURAL DESIGN CRITERIA:

- BUILDING CODE: INTERNATIONAL BUILDING CODE (IBC) 2009; PUBLISHED BY INTERNATIONAL CODE COUNCIL, INC.
- ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES; PUBLISHED BY AMERICAN SOCIETY OF CIVIL ENGINEERS.
- STEEL DESIGN CODE: SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN (ASD) 2005; PUBLISHED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
- CONCRETE DESIGN CODE: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318-08; PUBLISHED BY AMERICAN CONCRETE INSTITUTE.
- CONCRETE TANK DESIGN CODE: CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES, ACI 350-06; PUBLISHED BY AMERICAN CONCRETE INSTITUTE.
- MASONRY DESIGN CODE: BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES AND RELATED COMMENTARIES, ACI 530-08; PUBLISHED BY AMERICAN CONCRETE INSTITUTE.
- STRUCTURAL STEEL: SEE SPECIFICATION.
- CONCRETE COMPRESSIVE STRENGTH: 4000 PSI AT 28 DAYS 
- PRECAST CONCRETE COMPRESSIVE STRENGTH: 5000 PSI MINIMUM AT 28 DAYS.
- MASONRY COMPRESSIVE STRENGTH (f_m): 1500 PSI.
- REINFORCING STEEL: ASTM A615, GRADE 60.
- WELDED WIRE FABRIC: ASTM A185.
- REQUIRED SAFE NET ALLOWABLE SOIL BEARING PRESSURE: 2000 PSF, UNO.
- FROST DEPTH: 4.0 FEET.
- FLOOR LIVE LOADS:
 - UNIFORM LIVE LOAD: SEE PLANS
 - CONCENTRATED LOAD: SEE PLANS
- ROOF LIVE LOADS: 20 PSF
- ROOF SNOW LOAD:
 - GROUND SNOW LOAD (P_g): 25 PSF
 - FLAT ROOF SNOW LOAD (P_f): 20 PSF
 - SNOW EXPOSURE FACTOR (C_e): 1.0
 - SNOW IMPORTANCE FACTOR (I): 1.1
 - THERMAL FACTOR (C_t): 1.0
- WIND DESIGN DATA:
 - BASIC WIND SPEED (3 SEC GUST): 90 MPH
 - WIND IMPORTANCE FACTOR (I): SEE PLANS
 - OCCUPANCY CATEGORY: SEE PLANS
- EARTHQUAKE DESIGN DATA:
 - SEISMIC IMPORTANCE FACTOR (I): SEE PLANS
 - OCCUPANCY CATEGORY: SEE PLANS
 - SHORT PERIOD SPECTRAL RESPONSE ACCELERATION (S_S): 0.102g
 - 1 SECOND SPECTRAL RESPONSE ACCELERATION (S_1): 0.053g
 - SITE CLASS: D
 - SHORT PERIOD SPECTRAL RESPONSE PARAMETER (S_{DS}): 0.068g
 - 1 SECOND SPECTRAL RESPONSE PARAMETER (S_{D1}): 0.035g
 - SEISMIC DESIGN CATEGORY (SDC): "A"
- FLOOD DESIGN DATA:
 - DESIGN FLOOD ELEVATION: 643.5 FT





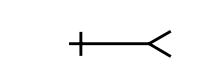



GENERAL NOTES:

- DESIGN, INSTALL AND OPERATE DEWATERING SYSTEM(S) AS REQUIRED FOR PERFORMANCE OF AND PROTECTION OF WORK. DEWATER IN MANNER TO AVOID DAMAGE TO ADJACENT PROPERTY. IF DEWATERING SYSTEM TEMPORARILY SHUTS DOWN, PROVIDE FOR AUTOMATIC FLOODING OF CONSTRUCTION WHICH WILL BE INCOMPLETE AND/OR DETRIMENTALLY AFFECTED.
- DESIGN, INSTALL, AND REMOVE SHEETING, SHORING AND BRACING AS REQUIRED TO PROTECT PERSONNEL, PUBLIC, WORK, AND ADJACENT STRUCTURES.
- LATERALLY BRACE ALL MASONRY WALLS UNTIL PERPENDICULAR WALLS, ROOF DECK, AND OTHER LATERAL SUPPORTS ARE IN PLACE AND SECURED.

FIELD MEASUREMENT NOTES:

- ALL DIMENSIONS OF EXISTING CONSTRUCTION ARE APPROXIMATE; CONTRACTOR SHALL MAKE ALL NECESSARY FIELD MEASUREMENTS OF EXISTING STRUCTURES, BREECING AND EQUIPMENT TO VERIFY DIMENSIONS SHOWN ON DRAWINGS AND TO PROVIDE DIMENSIONS NOT SHOWN, PRIOR TO FABRICATION. COSTS FOR MODIFICATIONS OF NEW CONSTRUCTION, DUE TO LACK OF CONFIRMATION OF DIMENSIONS BY FIELD MEASUREMENTS SHALL BE BORNE BY CONTRACTOR.
- CONTRACTOR'S STRUCTURAL STEEL DETAILER SHALL MAKE NECESSARY FIELD MEASUREMENTS OF EXISTING CONDITIONS TO ENSURE NEW CONNECTION DETAILS SHOWN ON SHOP DRAWINGS ARE COMPATIBLE WITH EXISTING CONDITIONS AND ARE CONSTRUCTIBLE AS DETAILED.



GENERAL STRUCTURAL SYMBOLS

SLAB CONTROL JOINT	----	CHANNEL ORIENTATION	
SLAB CONSTRUCTION JOINT	----	STRUCTURAL TUBE ORIENTATION	
SLAB EXPANSION JOINT	----	MOMENT CONNECTION	
GUARDRAIL	----	METAL DECK	
SLOPE ARROW		DECK SPAN	
EXPANSION ANCHOR			
BEAM ORIENTATION			

CONCRETE DEMOLITION NOTES:

- REMOVE CONCRETE TO LIMITS SHOWN.
- AT LIMITS OF CONCRETE TO BE REMOVED WHERE EXISTING CONCRETE IS TO REMAIN, PERFORM REMOVAL AS FOLLOWS:
 - WHERE LIMITS OF CONCRETE REMOVAL FORM A CORNER, CORE DRILL (3" DIA MINIMUM) CONCRETE AT CORNER PRIOR TO SAW CUTTING. OVER CUTTING BY SAW AT CORNERS IS NOT PERMITTED.
 - INITIATE REMOVAL BY SAW CUT. SAW CUTS MAY BE MADE THROUGH ENTIRE THICKNESS OF CONCRETE UNLESS EXISTING REINFORCING IS SHOWN TO REMAIN AND EXTEND INTO SUBSEQUENT NEW CONCRETE CONSTRUCTION.
 - WHERE SAW CUTTING THROUGH ENTIRE SECTION IS NOT POSSIBLE DUE TO SPACE LIMITATIONS FOR EQUIPMENT OR WHERE NOT PERMITTED DUE TO RETENTION OF EXISTING REINFORCING, REMOVE CONCRETE BY PRE-DRILLING SERIES OF HOLES ALONG LINE OF REMOVAL TO WEAKEN CONCRETE AND THEN REMOVE CONCRETE BY USE OF HAND HELD JACK HAMMERS.
 - EXISTING CONCRETE TO REMAIN SHALL NOT BE DAMAGED BY CONCRETE REMOVAL PROCESS. INSPECT CONCRETE TO REMAIN AT DEMOLITION LIMITS AND REPORT TO ENGINEER ANY EVIDENCE OF DAMAGED CONDITIONS.
 - EXISTING REINFORCING BARS THAT ARE TO BE RETAINED SHALL NOT BE DAMAGED BY DEMOLITION PROCESS. DAMAGED BARS OR BARS BENT EXCESSIVELY BY DEMOLITION PROCESS SHALL BE CUT AND MECHANICALLY SPLICED AT CONTRACTOR'S EXPENSE.

CONCRETE NOTES:

- EXPOSED CONCRETE CORNER CHAMFER: 1" UNLESS SHOWN OTHERWISE.
- KEYWAY DIMENSIONS: DEPTH 1-1/2"; WIDTH ONE-THIRD THAT OF MEMBER UNLESS SHOWN OTHERWISE.
- ALL CONSTRUCTION JOINTS SHALL HAVE KEYWAYS OR ROUGHENED JOINTS UNLESS SHOWN OTHERWISE. 
- CONSTRUCTION JOINTS AS SHOWN MAY BE VARIED TO SUIT PLACING SEQUENCE PROVIDED THE RELOCATION, ADDITION, OR DELETION OF CONSTRUCTION JOINTS IS APPROVED BY THE ENGINEER PRIOR TO PREPARATION OF REINFORCING STEEL SHOP DRAWINGS.
- CONCRETE IN VERTICAL COLUMNS OR WALLS SHALL BE IN PLACE A MINIMUM OF TWO HOURS, OR UNTIL CONCRETE IS NO LONGER PLASTIC, BEFORE CONCRETE IS PLACED FOR SLABS, BEAMS OR GIRDERS SUPPORTED THEREON. REMOVE LAITANCE AND ROUGHEN SURFACE BEFORE PLACING CONCRETE FOR HORIZONTAL SECTION.
- PROVIDE WATERSTOPS OF TYPE INDICATED FOR ALL JOINTS BELOW GRADE.
- SECURE WATERSTOPS TO PREVENT DISPLACEMENT OR FOLDING OVER DURING PLACEMENT OF CONCRETE. SECURE BY TYING WITH WIRE TO REINFORCING STEEL OR OTHER APPROVED METHOD.
- PROVIDE PIPE SLEEVE FOR ALL PIPES AND CONDUITS THAT PASS THROUGH MASONRY OR CONCRETE. MAKE SLEEVES IN WALLS FLUSH AND EXTEND SLEEVES IN FLOORS 4" ABOVE TOP OF FLOOR UNLESS SHOWN OTHERWISE.
- PIPE AND PIPE SLEEVES FOR PIPES SMALLER THAN 4" ARE NOT SHOWN. SEE SPECIFICATIONS. FINAL LOCATION SUBJECT TO ENGINEER'S APPROVAL.
- PROVIDE SETTING TEMPLATES TO POSITION ANCHOR BOLTS PRIOR TO PLACING CONCRETE. ACCURATELY POSITION BOLTS TO ASSURE CORRECT VERTICAL AND HORIZONTAL LOCATION TO MATCH STEEL OR EQUIPMENT BOLT PATTERN.
- ALL METAL FABRICATIONS EMBEDDED IN CONCRETE, OTHER THAN REINFORCING AND ANCHOR BOLTS, SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 AND ASTM A386 AS APPLICABLE.
- CONCRETE SHALL NOT BE LOADED UNTIL IT HAS ATTAINED SUFFICIENT STRENGTH TO SAFELY WITHSTAND LOADING AND UNTIL REQUIRED SHORING AND BRACING HAVE BEEN INSTALLED.
- DO NOT PLACE LOADS WITHIN 6 FEET OF CONSTRUCTION JOINT IN SLABS FOR AT LEAST 7 DAYS AFTER SLAB IS PLACED.
- DO NOT PERFORM ANY OPERATIONS NEAR GROUND FLOOR SLAB PLACEMENT WHICH COULD CAUSE VIBRATION OR SETTLEMENT OF THE SUPPORTING SOIL STRATA FOR AT LEAST 7 DAYS AFTER SLAB IS PLACED.
- CONSTRUCTION CRANE OR OTHER HEAVY ERECTION EQUIPMENT WILL NOT BE PERMITTED ON SLABS. LOCATIONS OF CONSTRUCTION CRANES ON SITE ARE SUBJECT TO APPROVAL OF ENGINEER.
- FOUNDATION WALLS SHALL BE ADEQUATELY BRACED DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR PREVENTION OF FLOATATION OF STRUCTURES DURING CONSTRUCTION.
- DO NOT PLACE CONCRETE UNTIL REINFORCING STEEL PLACEMENT HAS BEEN VERIFIED BY ENGINEER OR OWNERS REPRESENTATIVE.
- UNLESS NOTED OTHERWISE, DO NOT BACKFILL TUNNELS, VAULTS OR PIT WALLS UNTIL TOP SLAB HAS BEEN INSTALLED AND ALL CONCRETE HAS ATTAINED 100% OF DESIGN STRENGTH.
- UNLESS NOTED OTHERWISE, DO NOT BACKFILL BASEMENT WALLS UNTIL FLOOR SUPPORTING TOP OF WALL HAS BEEN INSTALLED COMPLETE AND ALL CONCRETE HAS ATTAINED 100% OF DESIGN STRENGTH.
- PROVIDE 2" MINIMUM THICKNESS (OR AS NOTED ON DRAWINGS) UNREINFORCED CONCRETE MUD MAT BENEATH ALL CONCRETE PLACEMENTS AGAINST SOILS WHICH WILL BE DISTURBED BY CONSTRUCTION OPERATIONS, RUNNING WATER, DRYING OUT OR OTHER CAUSE. MUD MAT MAY BE OMITTED FOR PLACEMENTS ON STABLE COHESIVE SOILS WHICH REMAIN UNDISTURBED UNTIL CONCRETE PLACEMENT PROVIDED REINFORCING STEEL SUPPORTS ARE PROPERLY PROVIDED AND INSTALLED. REINFORCING STEEL SUPPORTS WHERE MUD MAT IS NOT USED SHALL BE ON PRECAST UNREINFORCED CONCRETE BLOCKS SUPPORTED ON CONCRETE FOOTINGS (BELOW THE BOTTOM OF THE POUR) TO PREVENT BLOCKS FROM BEING PUSHED INTO THE SUBGRADE. MUDMATS NOT REQUIRED ON STRUCTURES PLACED ON ROCK DRAINAGE FILL.
- PRECAST UNREINFORCED CONCRETE BLOCKS USED TO SUPPORT SLAB AND FOOTING REINFORCING SHALL HAVE SAME COMPRESSIVE STRENGTH AS SPECIFIED FOR SLAB OR FOOTING. 

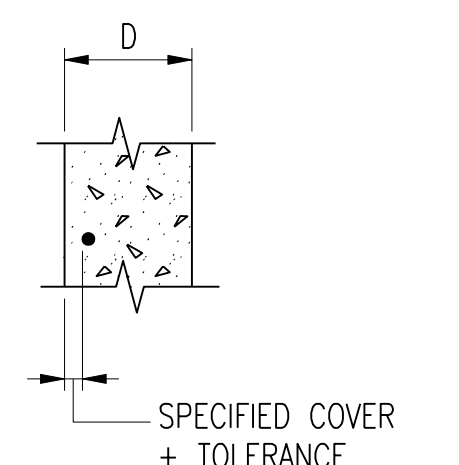
REINFORCING STEEL NOTES:

SEE RFI #22 SHEET C4-A AND SHOP DRAWING R01.03

- CONFORM WITH ACI 318 AND ACI STANDARD FOR "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."
- REINFORCING SHALL BE CONTINUOUS AROUND ALL CORNERS UNLESS SHOWN OTHERWISE.
- SHIFT REINFORCING BARS TO CLEAR ANCHOR BOLTS AND EMBEDDED ITEMS; OBTAIN ENGINEER'S APPROVAL AND ADD EXTRA REINFORCING BAR IF REQUESTED BY ENGINEER. CUTTING OF REINFORCING BARS NOT PERMITTED.
- REINFORCING SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS UNLESS SHOWN OTHERWISE.
- TERMINATE ALL REINFORCING STEEL AT EXPANSION JOINTS UNLESS SHOWN OTHERWISE.
- TACK WELDING TO REINFORCING BARS IS NOT PERMITTED.
- LAP OR MECHANICALLY CONNECT ALL #11 AND SMALLER BAR SPLICES AND OR MECHANICALLY CONNECT ALL #14 AND LARGER BAR SPLICES UNLESS APPROVED OTHERWISE BY ENGINEER.
- MINIMUM BAR SPLICE LAP LENGTH SHALL BE AS SHOWN. WHERE LAP LENGTH IS NOT SHOWN ON DRAWINGS, USE MINIMUM LENGTH SHOWN IN THE FOLLOWING TABLE.

BAR SIZE	REINFORCING BAR MINIMUM SPLICE LAP LENGTH IN INCHES								
	#3	#4	#5	#6	#7	#8	#9	#10	#11
TOP BARS	24	32	40	48	70	80	90	102	113
OTHER BARS	19	25	31	37	54	62	70	78	87

- CLASS B SPLICE FOR $f_y = 60,000$ PSI, $f'_c = 4000$ PSI, NORMAL WEIGHT CONCRETE, UNCOATED BARS AND FOLLOWING:
 - CLEAR SPACING OF BARS ≥ 2 BAR DIA AND COVER \geq BAR DIA, OR
 - CLEAR SPACING OF BARS \geq DIA BAR AND COVER \geq DIA BAR, AND STIRRUPS OR TIES THROUGHOUT LAP NOT LESS THAN ACI CODE MINIMUM.
 - TOP BARS ARE DEFINED AS HORIZONTAL BARS PLACED SO THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
 - MINIMUM BAR SPLICE LAP LENGTH OF HEAVY MACHINE FOUNDATIONS LARGER THAN 100 HORSEPOWER SHALL BE INCREASED 30 PERCENT OVER THAT LISTED IN TABLE FOR BAR SPLICE LAP LENGTH UNLESS SHOWN OTHERWISE.
 - SPLICE LAP LENGTH FOR WELDED WIRE FABRIC SHALL BE NOT LESS THAN 6" OR SPACING OF WIRES PLUS 2" WHICHEVER IS GREATER.
 - LOCATE SPLICES WHERE SHOWN. WHERE NO SPLICES ARE SHOWN, TOP REINFORCING IN SLABS AND BEAMS MAY BE SPLICED IN MIDDLE ONE-HALF OF SPAN BETWEEN SUPPORTS AND BOTTOM REINFORCING MAY BE SPLICED OVER OR NEAR SUPPORTS.
 - REINFORCING BAR SPLICES PERMITTED ONLY WHERE SHOWN OR APPROVED BY ENGINEER.
 - FOR SLAB REINFORCING BARS, PLACE BARS SPANNING IN THE SHORT DIRECTION WITH MINIMUM CONCRETE COVER SPECIFIED UNLESS SHOWN OTHERWISE.
 - PROVIDE STANDARD 90 DEGREE HOOKS FOR TOP REINFORCING BARS AT DISCONTINUOUS END OF ALL BEAMS UNLESS SHOWN OTHERWISE.
 - EXTRA REINFORCING SHALL BE IN ADDITION TO REINFORCING SHOWN OR NOTED.
 - ALL BARS INDICATED AS BEING BENT SHALL HAVE STANDARD 90 DEGREE HOOKS UNLESS SHOWN OTHERWISE. 180 DEGREE HOOKS ARE AN ACCEPTABLE ALTERNATE WHERE APPROVED BY ENGINEER.
 - PROVIDE EXTRA HAIRPIN REINFORCING AROUND ALL ANCHOR BOLTS LARGER THAN 3/4" DIAMETER. EXTEND LEGS OF HAIRPIN THE STANDARD EMBEDMENT LENGTH. SPACE HAIRPINS, ALONG BOLT, 1-1/2" FROM SURFACE AND AT 3" ON CENTER AROUND UPPER 1/3 OF ANCHOR BOLT EMBEDMENT (8" MAXIMUM).
- | ANCHOR BOLT DIAMETER | HAIRPIN SIZE
UNLESS SHOWN OTHERWISE | |
|----------------------|--|----|
| | <1-1/2" | #3 |
| 1-5/8" TO 2" INCL | #4 | |
| >2" | #5 | |
- PROVIDE REINFORCING BAR DOWELS IN FOOTINGS OF THE SAME NUMBER, SPACING AND SIZE AS COLUMN, PIER, OR WALL REINFORCING UNLESS SHOWN OTHERWISE.
 - ALL BARS SHALL BE SECURELY PLACED IN FINAL POSITION PRIOR TO PLACING CONCRETE. PLACING BARS INTO WET CONCRETE IS PROHIBITED.
 - REINFORCING CONCRETE COVER UNLESS OTHERWISE SHOWN: 2" WITH FOLLOWING EXCEPTIONS; 3" WHEN DEPOSITED AGAINST EARTH.
 - CONCRETE REINFORCEMENT SHALL BE PLACED WITHIN FOLLOWING TOLERANCE RELATIVE TO FORMED OR UNFORMED CONCRETE SURFACE:



SPECIFIED COVER	TOLERANCE	
	$D \leq 12"$	$D > 12"$
3/4"	-1/8", +1/4"	-1/8", +3/8"
1"	$\pm 1/4"$	-1/4", +3/8"
1 1/2" OR GREATER	$\pm 3/8"$	-3/8", +1/2"

NOTE:
TOLERANCES APPLY ONLY AT LOCAL ANOMALIES.
SIZE CHAIRS AND SPACERS FOR SPECIFIED COVER.

MASONRY WALL REINFORCEMENT:

- JOINT (HORIZONTAL) REINFORCEMENT:
 - MATERIAL: SEE SPECIFICATIONS.
 - SIZE: STANDARD 9 GAGE.
 - SPACING 16" OC VERTICALLY. PLACE ADDITIONAL JOINT REINFORCEMENT AS FOLLOWS:
 - IN FIRST AND SECOND HORIZONTAL JOINTS ABOVE AND BELOW OPENINGS. EXTEND 30" MINIMUM EACH SIDE OF OPENING.
 - CONTINUOUS IN FIRST AND SECOND JOINTS BELOW TOP OF WALLS.
 - AT OTHER LOCATIONS NOTED ON DRAWINGS.
 - LAP JOINT REINFORCEMENT ENDS 6" MINIMUM.
 - REINFORCE JOINT CORNERS AND INTERSECTIONS WITH PREFABRICATED CORNER AND "T" INTERSECTION JOINT REINFORCING.
- CELL (VERTICAL) REINFORCEMENT:
 - MATERIAL: DEFORMED BARS CONFORMING TO SPECIFICATIONS. BAR SIZE: SEE PLANS
 - REINFORCED CELL HORIZONTAL SPACING: SEE PLANS. PLACE ADDITIONAL CELL REINFORCEMENT AS FOLLOWS:
 - IN 2 ADJACENT CELLS IMMEDIATELY ON EACH SIDE OF CONTROL AND EXPANSION JOINTS.
 - IN ADJACENT CELLS LOCATED IMMEDIATELY ON EACH SIDE OF OPENINGS.
 - AT ALL CORNER CELLS.
 - AT ALL OTHER LOCATIONS WHERE NOTED ON DRAWINGS.
 - LAP REINFORCING BARS AS FOLLOWS:
#4 BAR: 2'-6", #5 BAR: 3'-0", #6 BAR: 3'-6".
 - REINFORCING SHALL EXTEND FULL HEIGHT OF WALL EXCEPT WHERE INDICATED OTHERWISE OR WHERE INTERRUPTED BY WALL OPENINGS.
 - EACH REINFORCED CELL FOR EXTERIOR MASONRY WALL SHALL HAVE A MATCHING SIZE DOWEL CAST IN FOUNDATION.
 - EACH REINFORCED CELL SHALL BE GROUTED FULL AND PROPERLY CONSOLIDATED.
- BOND BEAM REINFORCEMENT:
 - 2-#5 BARS, UNLESS NOTED OTHERWISE.



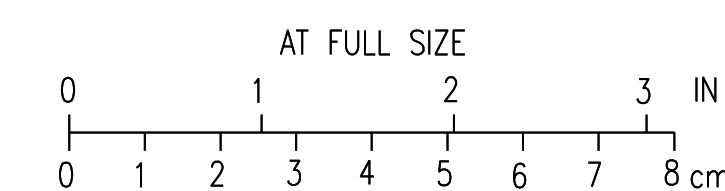
NO.	REVISIONS	DSGN	CHKD	APVD	DATE
4	RECORD DRAWING	---	---	---	---/---/2015
3	REVISED PER ADDENDUM NO.1	KBH	KBH	LHB	02-22-2012
2	REVISED AND REISSUED	KBH	KBH	LHB	01-25-2012
1	ISSUED FOR CONSTRUCTION	KBH	KBH	LHB	01-10-2012


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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

TYPICAL NOTES SHEET 1

DESIGNED: KB HALL	SCALE: AS NOTED	REV. 4
DRAWN: JM KOENIG	NO. 22800	
CHECKED: KB HALL		
APPROVED: LH BADTRAM		
APPROVED:		
DATE: DECEMBER 2, 2011		

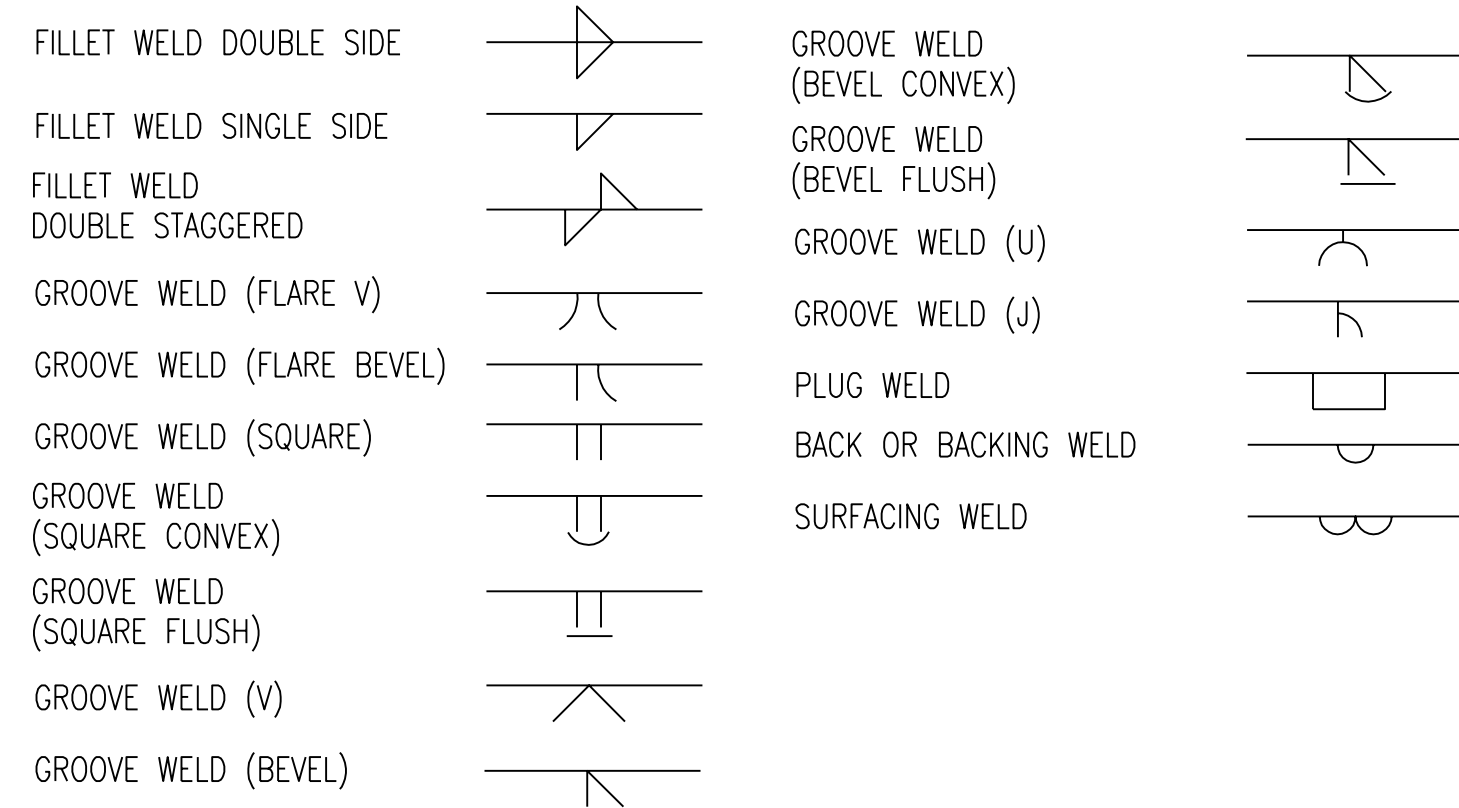


STEEL NOTES:

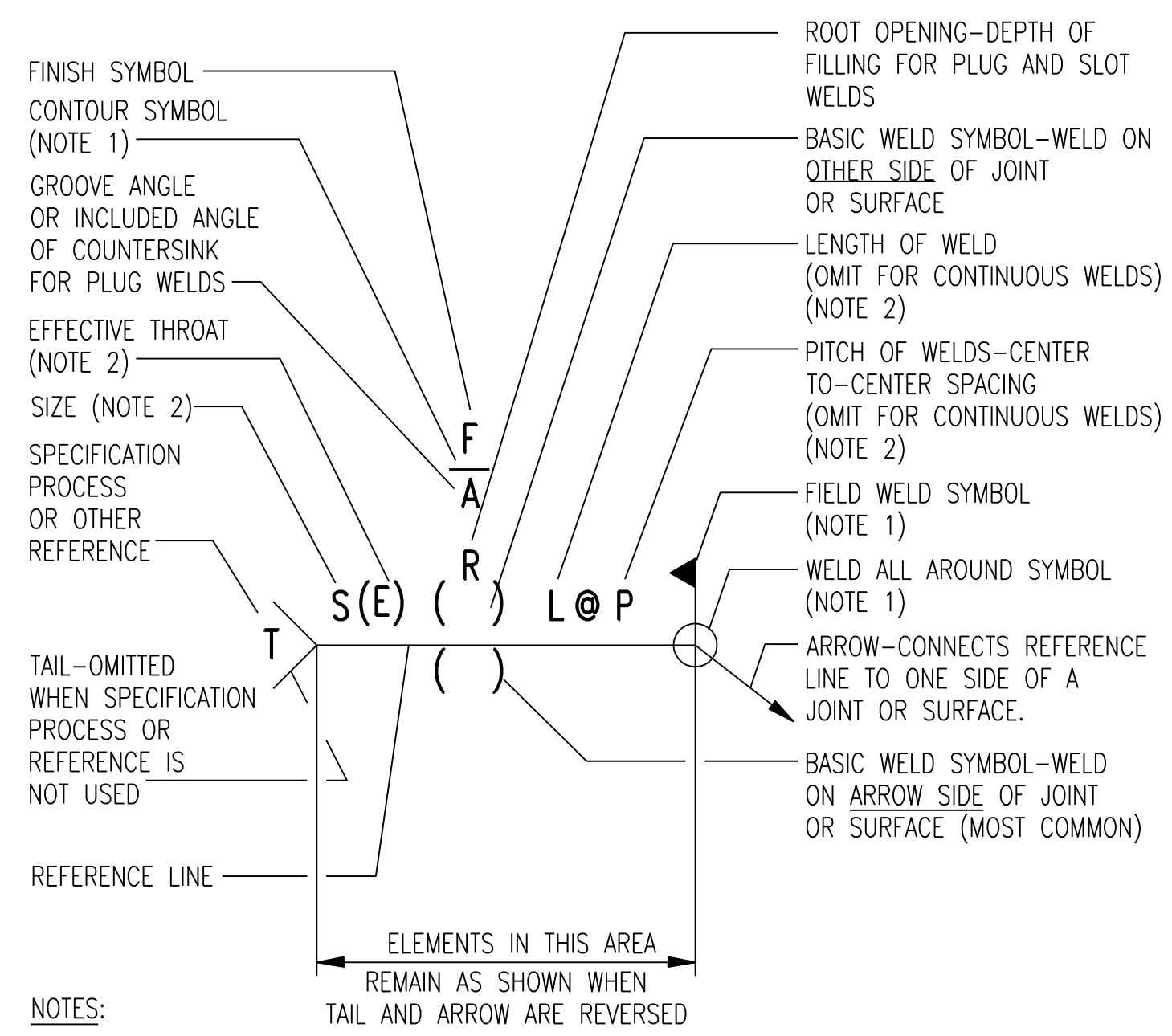
- DIMENSIONS: TO CENTERLINES OF COLUMNS, BEAMS AND PIPES; BACKS OF CHANNELS AND ANGLES; TOP SURFACES OF BEAMS AND TUBES, AND INSIDE OF BREECHING PLATES UNLESS SHOWN OTHERWISE.
- ELEVATIONS: REFER TO TOP SURFACE OF FLANGE OF MEMBER (AND CENTERLINE OF PIPES) UNLESS SHOWN OTHERWISE.
- FRAMING MEMBERS NOTED BY DEPTH AND WEIGHT SHALL CONFORM TO THE AISC SPECIFICATION. FRAMING MEMBERS NOTED BY DEPTH ONLY ARE FULLY SIZED ON ANOTHER PLAN OR ELEVATION.
- THE EXTENT OF GUARDRAIL AND KICK PLATE AROUND FLOORS, PLATFORMS, AND STAIRS IS INDICATED BY A GUARDRAIL CENTERLINE TOGETHER WITH KICK PLATE DETAILS. PROVIDE GUARDRAIL AND KICK PLATE AROUND ALL NEW AND MODIFIED PLATFORMS.
- WHERE OPENINGS IN GRATING ARE SHOWN OR REQUIRED FOR PASSAGE OF PIPING, COLUMNS, OR OTHER STRUCTURAL STEEL, EDGE BIND OPENING WITH 1/4" KICK PLATE WELDED TO THE GRATING.
- COORDINATE NEW GUARDRAIL AND PLATFORMS WITH EXISTING PRIOR TO FABRICATION. MAKE FIELD MEASUREMENTS AND MINOR MODIFICATIONS WHERE CONFLICTS OCCUR.
- ALL KICK PLATES SHALL EXTEND A MINIMUM OF 4 INCHES ABOVE WALKING SURFACE.
- WELD SYMBOLS SHOWN MAY NOT DISTINGUISH BETWEEN FIELD AND SHOP WELDING. CONTRACTOR SHALL PROVIDE AS MUCH WELDING AS PRACTICAL IN THE SHOP. CONTRACTOR'S SHOP DRAWINGS SHALL SHOW ALL WELDING AND DISTINGUISH BETWEEN FIELD AND SHOP WELDING.
- WHERE FILLET WELD SIZES ARE NOT NOTED ON DRAWINGS, PROVIDE MINIMUM SIZE IN ACCORDANCE WITH AWS D1.1, 5.14. ALL OTHER TYPE WELDS NOT SIZED ON DRAWINGS SHALL DEVELOP FULL STRENGTH OF MEMBERS ATTACHED.
- ANCHOR BOLTS FOR ALL MACHINERY OVER 30 HORSEPOWER SHALL HAVE TWO HEAVY HEX NUTS.
- SET ELEVATION OF BASEPLATES TO TOP OF BASEPLATE AND ANCHOR BOLTS TO TOP OF BOLT. DO NOT WORK FROM TOP OF CONCRETE.
- PROVIDE STAINLESS STEEL FASTENERS FOR ALL BOLTED CONNECTIONS WHERE ONE OR MORE MEMBERS OR ELEMENTS ARE STAINLESS STEEL MATERIAL.
- PROVIDE GALVANIZED FASTENERS FOR ALL BOLTED CONNECTIONS WHERE ONE OR MORE MEMBERS OR ELEMENTS ARE GALVANIZED MATERIAL.
- MISCELLANEOUS ANCHOR BOLTS, EXPANSION ANCHORS, ANCHOR RODS, AND FASTENERS NOT INDICATED, BUT REQUIRED FOR ANCHORAGE OF EQUIPMENT AND MATERIALS, SHALL BE PROVIDED (AS RECOMMENDED BY MANUFACTURER OF ITEMS). ANCHORAGE WILL BE SUBJECT TO REVIEW BY ENGINEER.
- ANCHOR BOLTS FOR MECHANICAL EQUIPMENT WHICH ARE NOT DETAILED ON DRAWINGS, BUT ARE FURNISHED UNDER THIS CONTRACT, SHALL HAVE SUFFICIENT EXTENSION FOR TWO HEAVY HEX NUTS.
- BOLT HOLES IN BASEPLATES SHALL BE SIZED AS FOLLOWS UNLESS INDICATED OTHERWISE ON DRAWINGS:

DIAMETER OF BOLT	HOLE DIAMETER
5/8"	7/8"
3/4"	1 1/16"
7/8"	1 3/16"
1" TO 2"	BOLT DIA + 1/2"
OVER 2"	BOLT DIA + 1"

WELD SYMBOLS



LOCATION OF ELEMENTS OF A WELDING SYMBOL



- NOTES:**
- SUPPLEMENTARY SYMBOL.
 - SHOWN ON SAME SIDE OF REFERENCE LINE AS THE WELD SYMBOL. IF "WELD BOTH SIDES", DIMENSIONS ARE REQUIRED ON BOTH SYMBOLS, EVEN IF SAME DIMENSIONS.

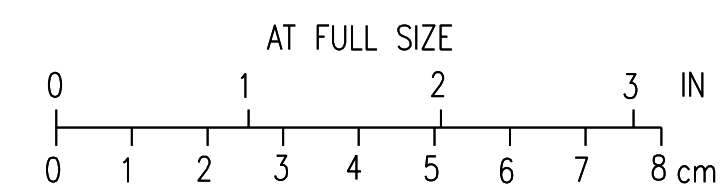
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1	ISSUED FOR CONSTRUCTION	KBH	KBH	LHB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

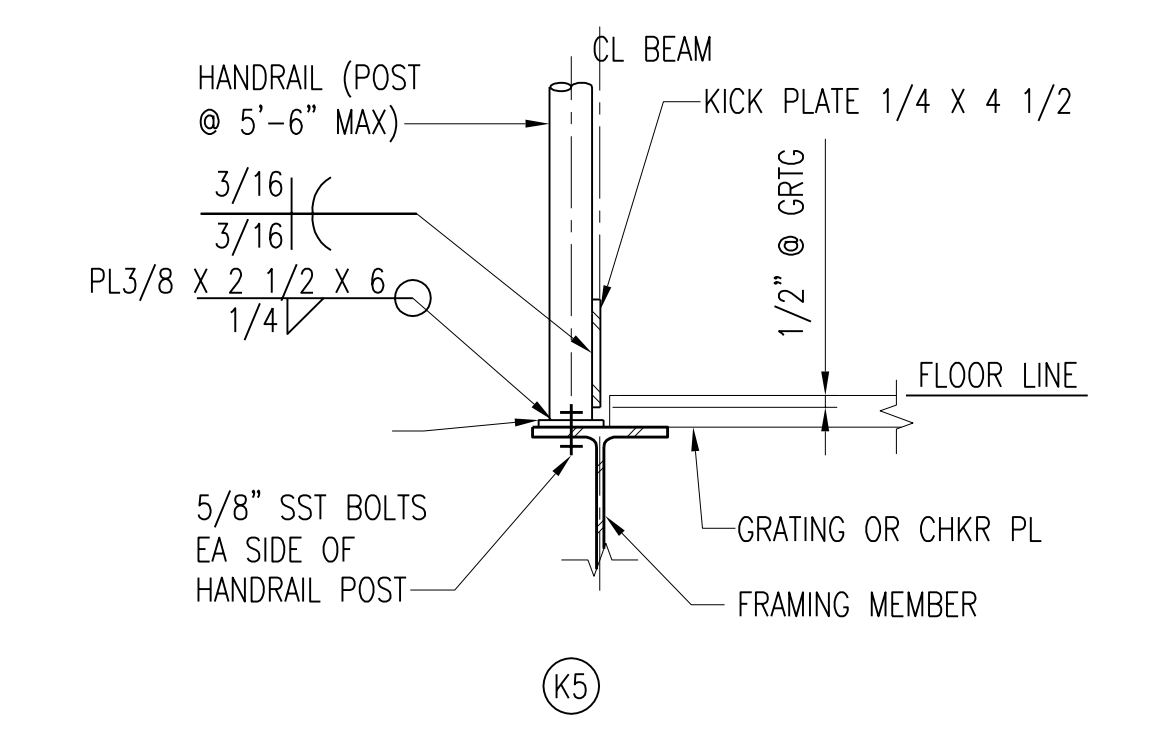
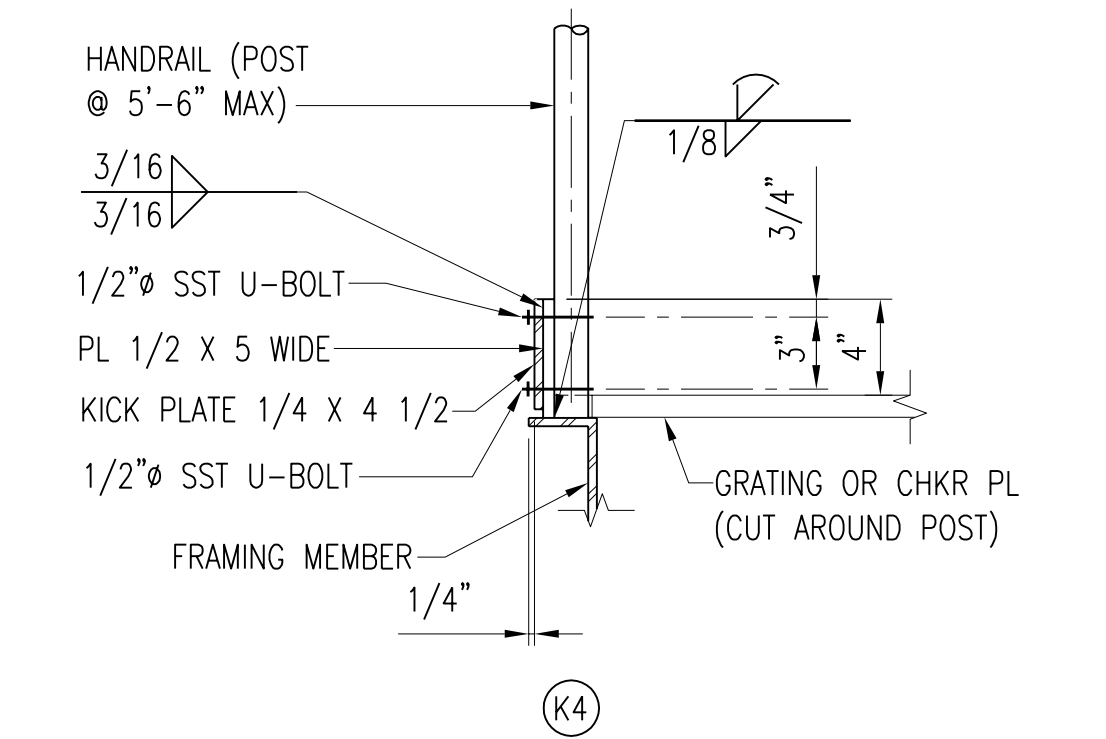
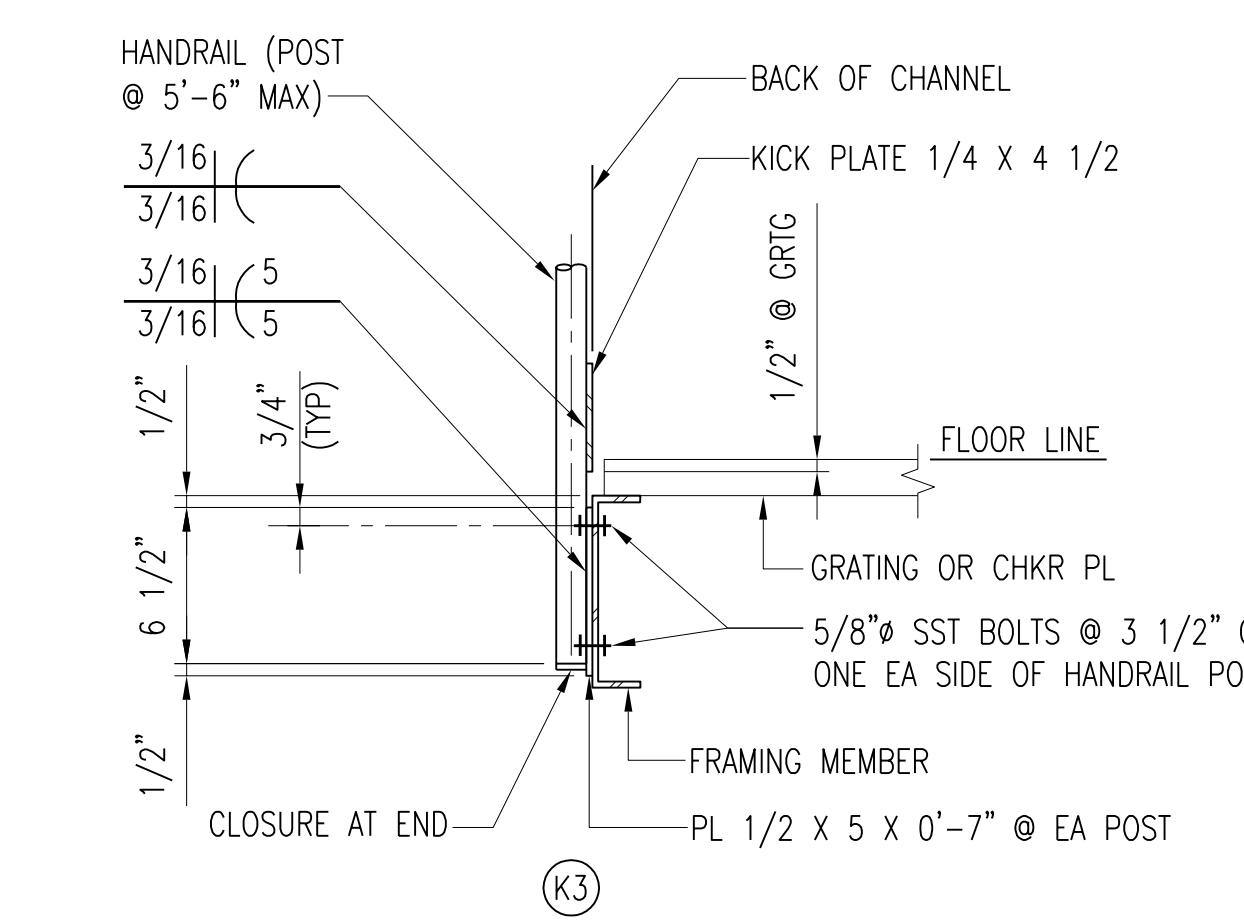
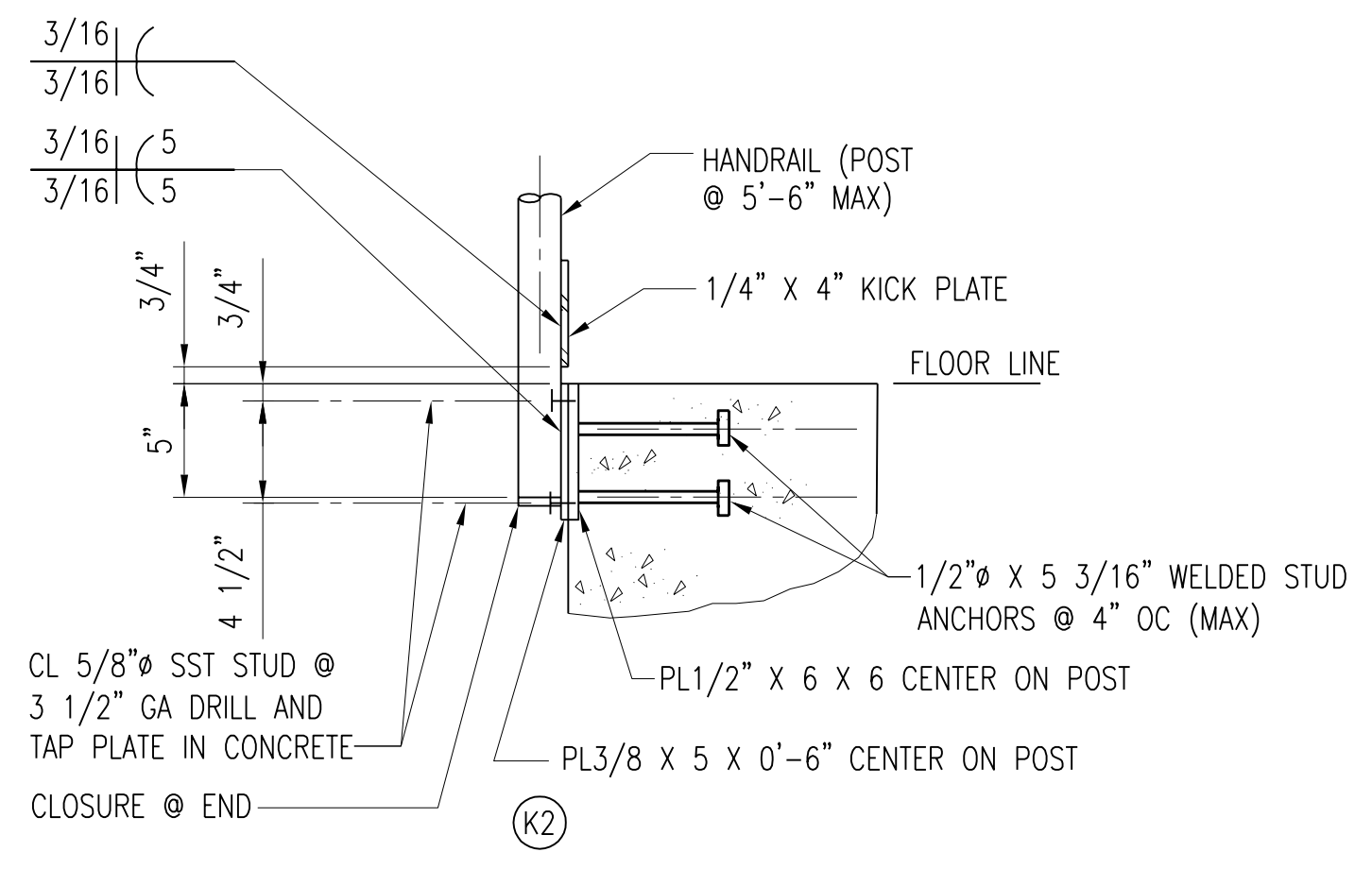
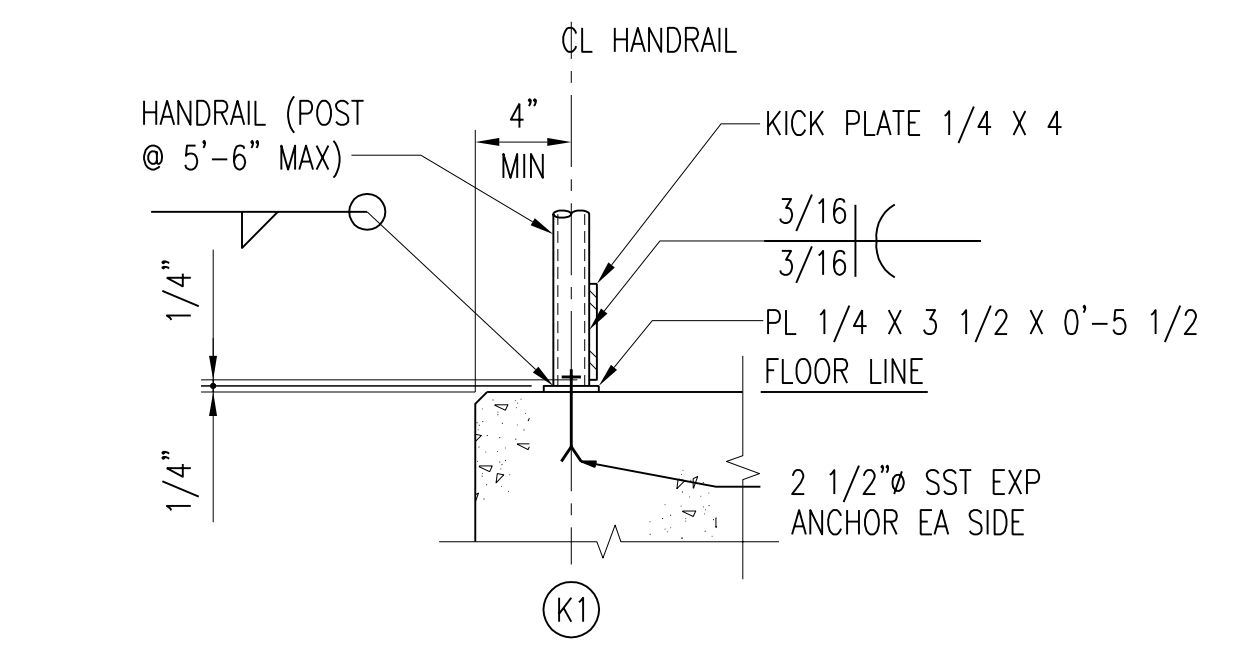

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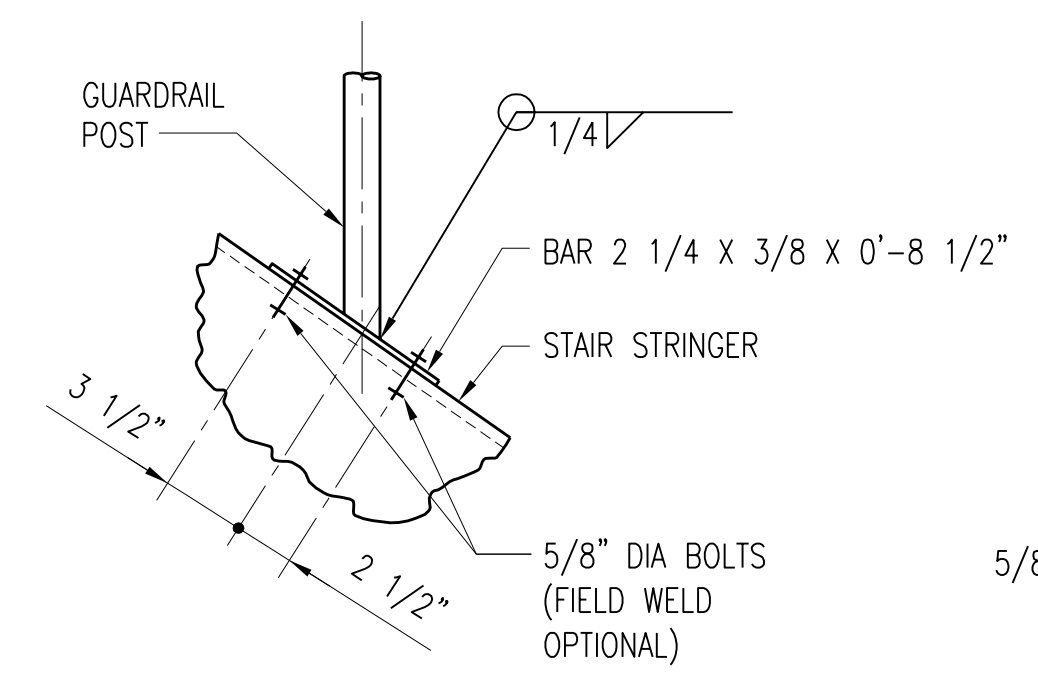
**TYPICAL NOTES
SHEET 2**

DESIGNED	KB HALL	SCALE:	AS NOTED
DRAWN	JM KOENIG	NO.	22800
CHECKED	KB HALL	REV.	
APPROVED	LH BADTRAM		
APPROVED			
DATE	DECEMBER 2, 2011		

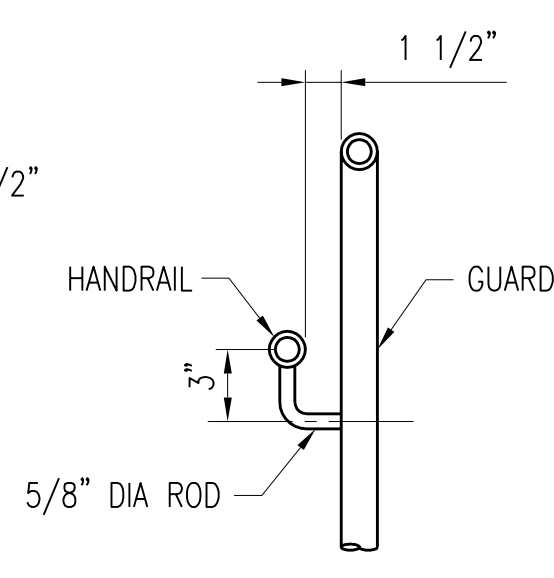




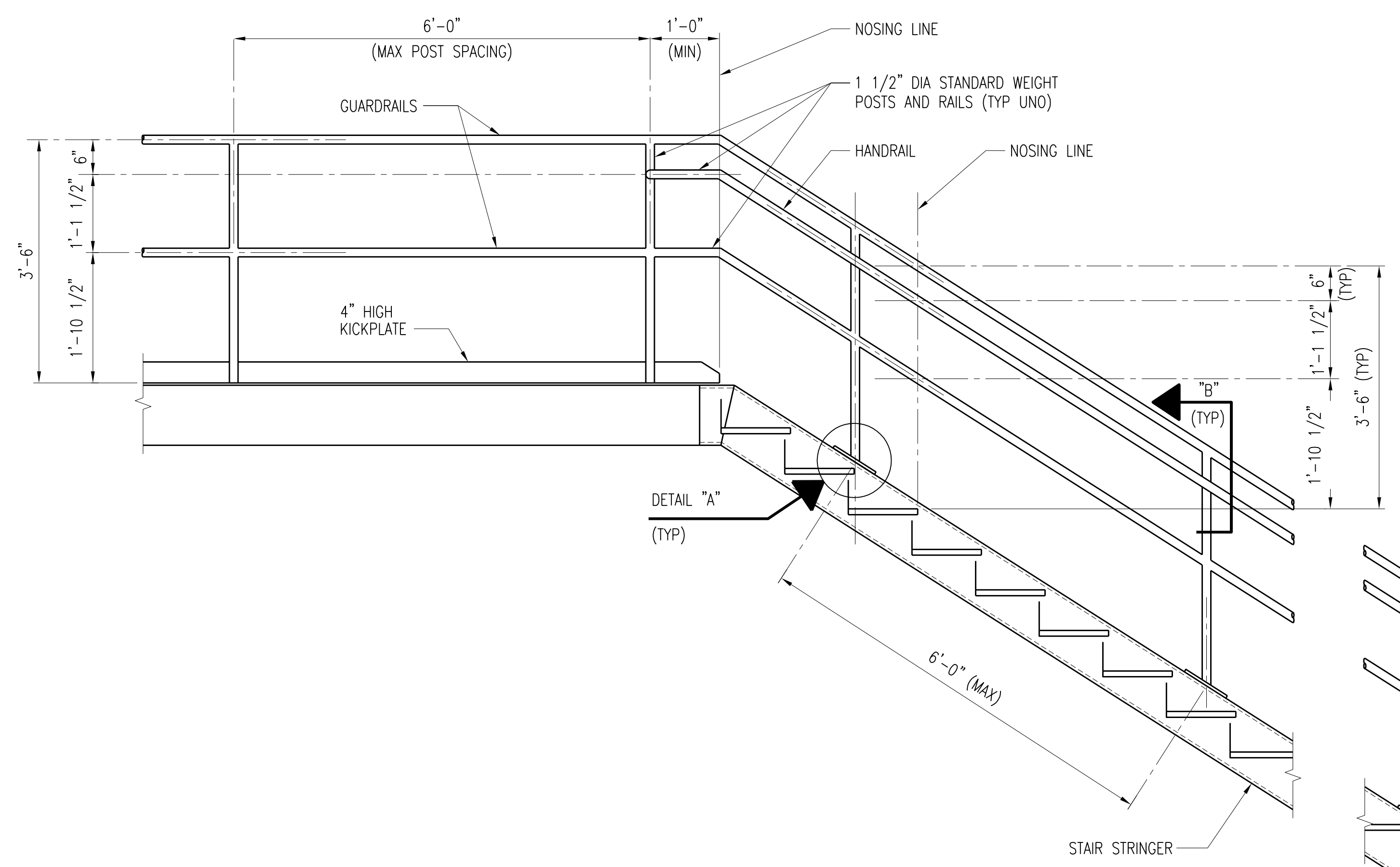
TYPICAL HANDRAIL AND KICKPLATE DETAILS
NO SCALE



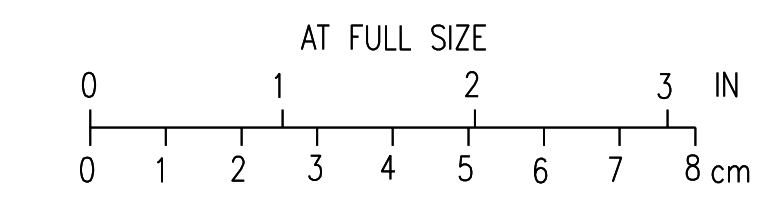
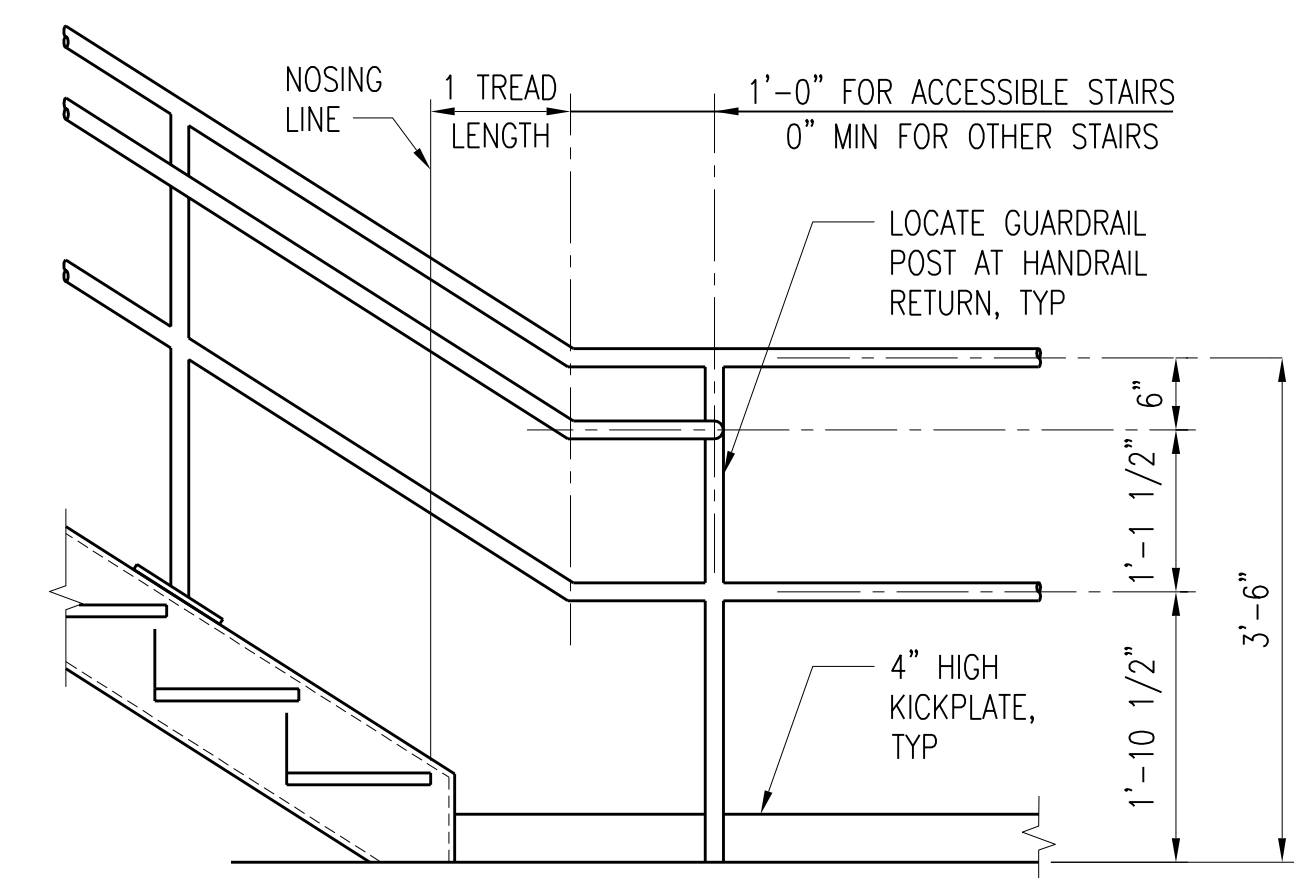
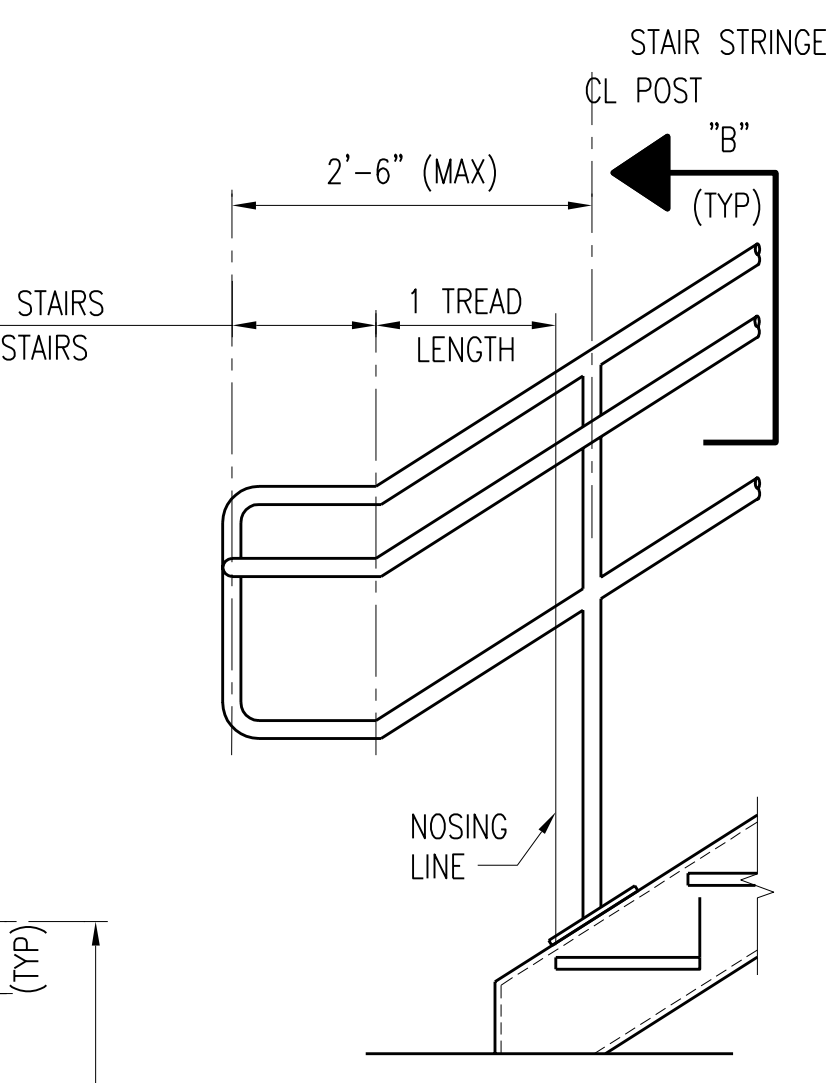
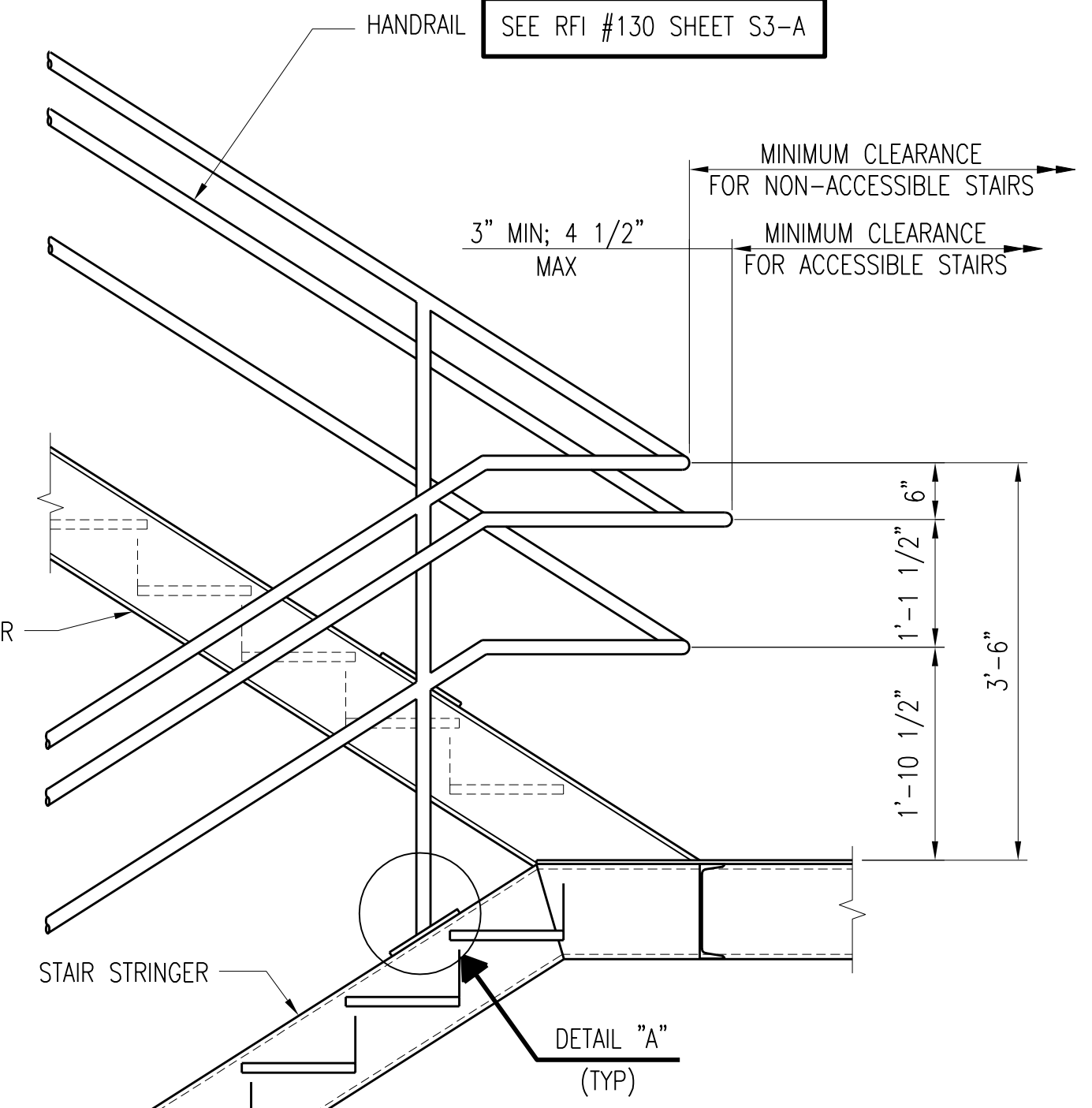
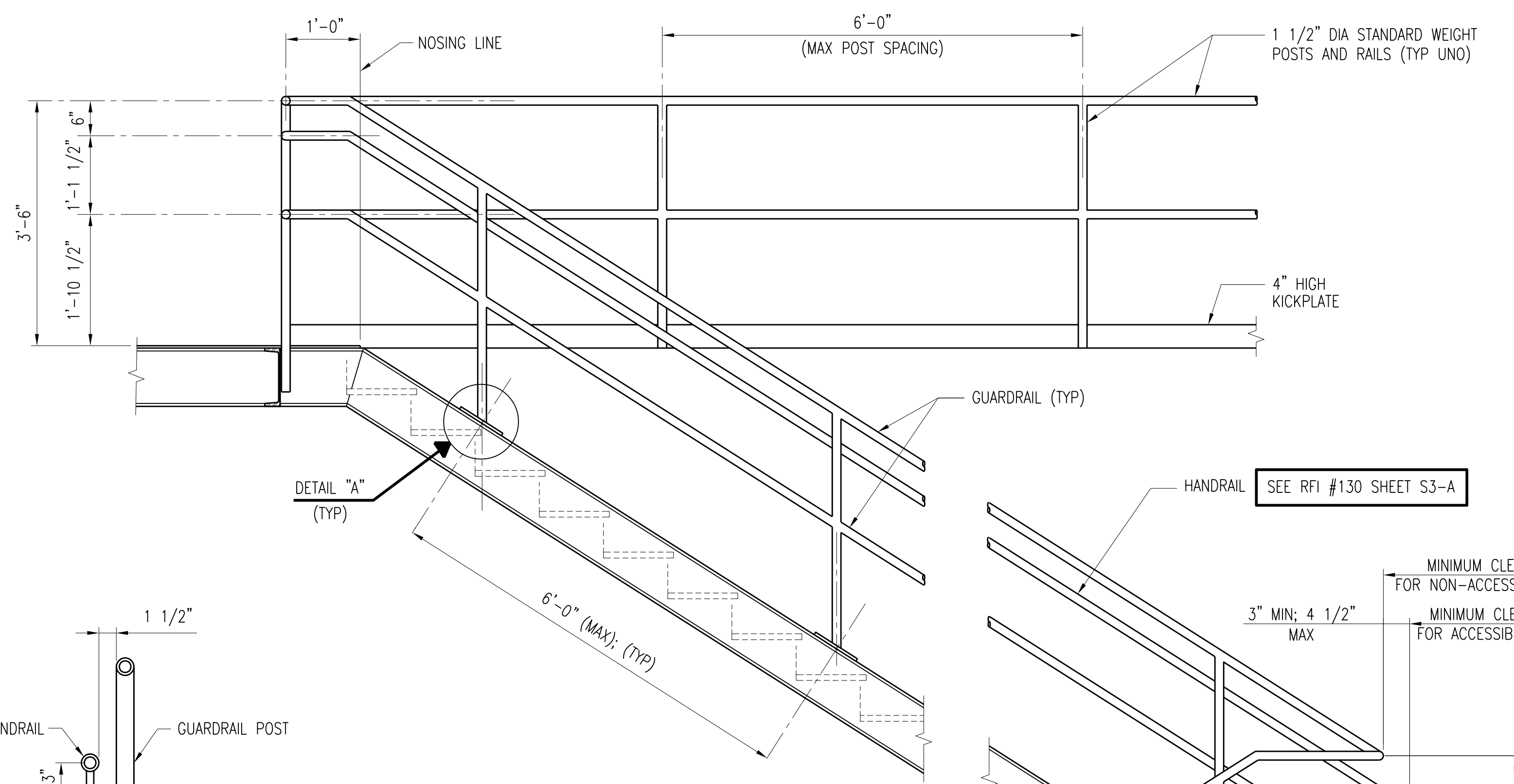
DETAIL A
NO SCALE



SECTION B
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TYPICAL GUARDRAIL AND HANDRAIL DETAILS
NO SCALE



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	KBH	KBH	LHB	01-10-2012
NO.	REVISIONS	DGN	CHKD	APVD	DATE

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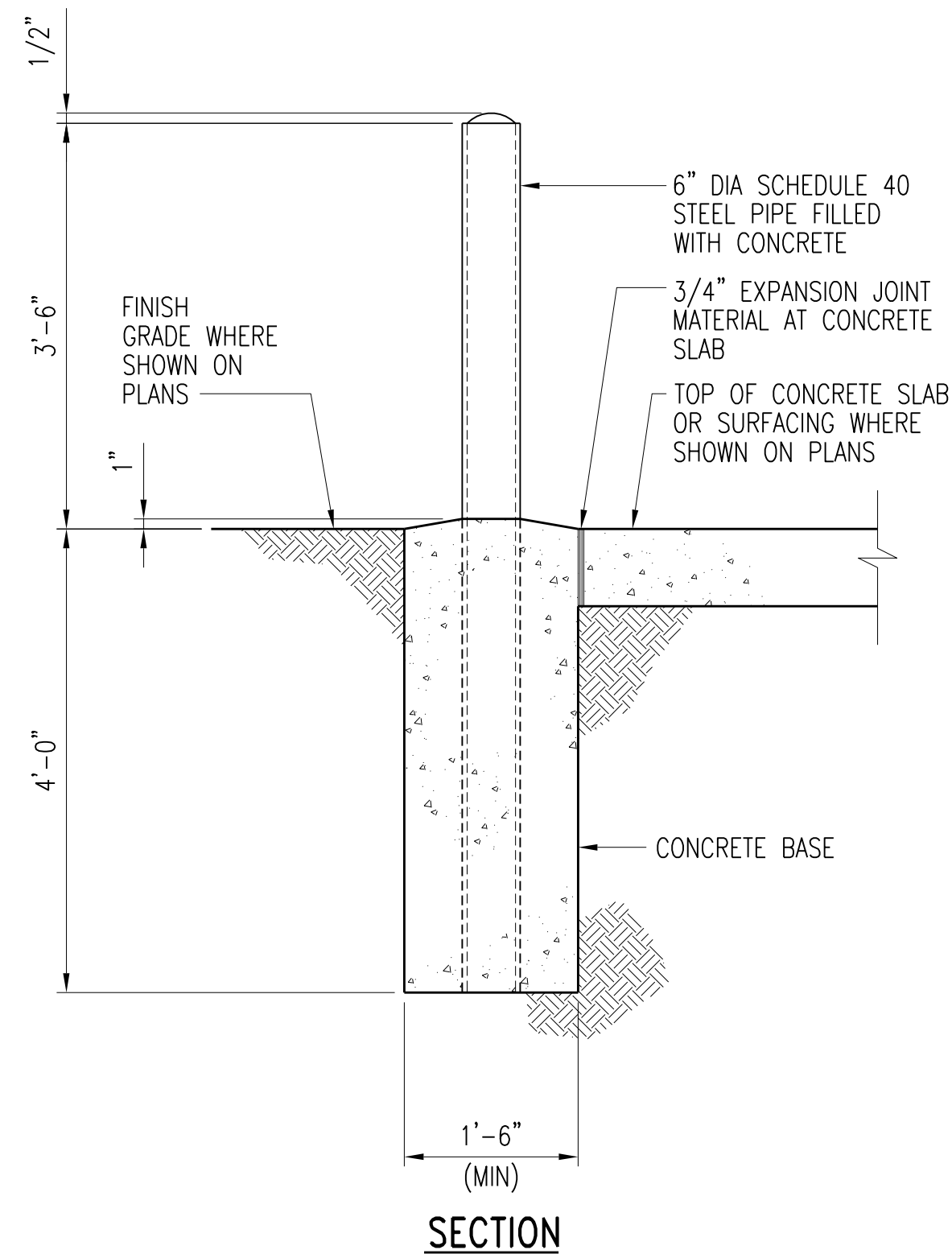
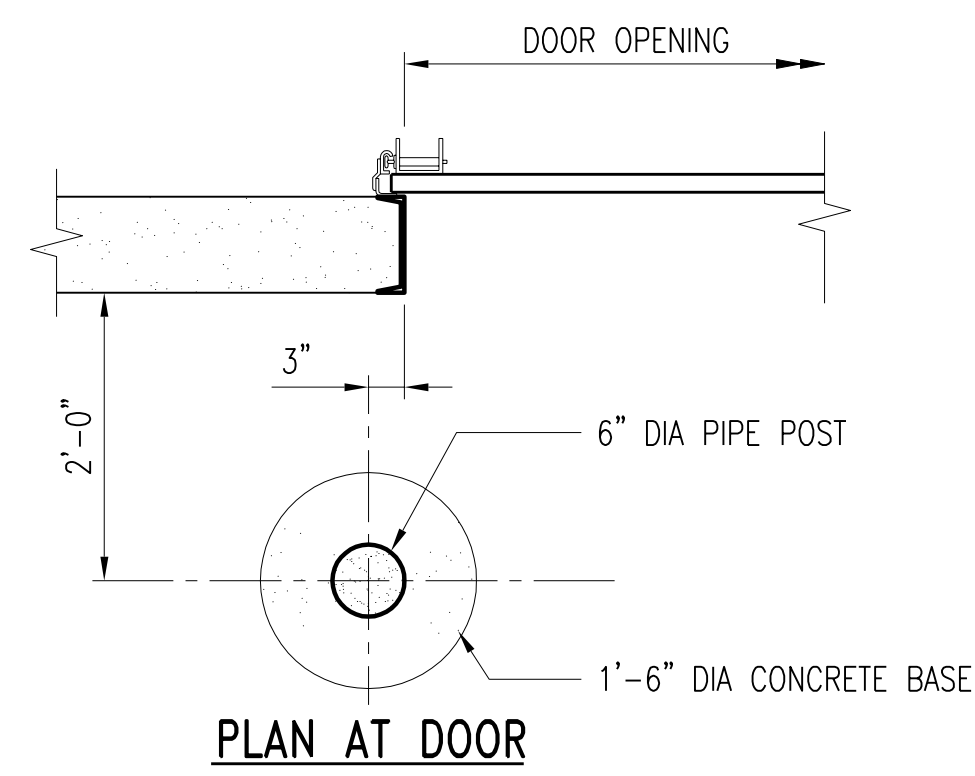
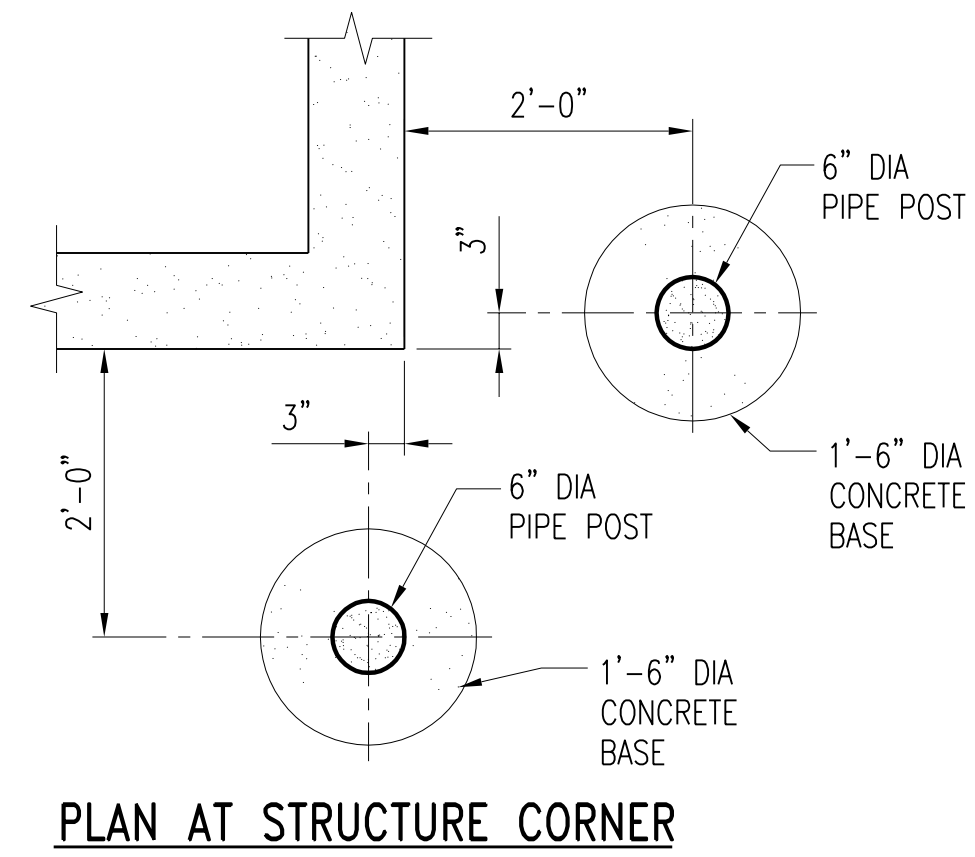
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TYPICAL DETAILS SHEET 1

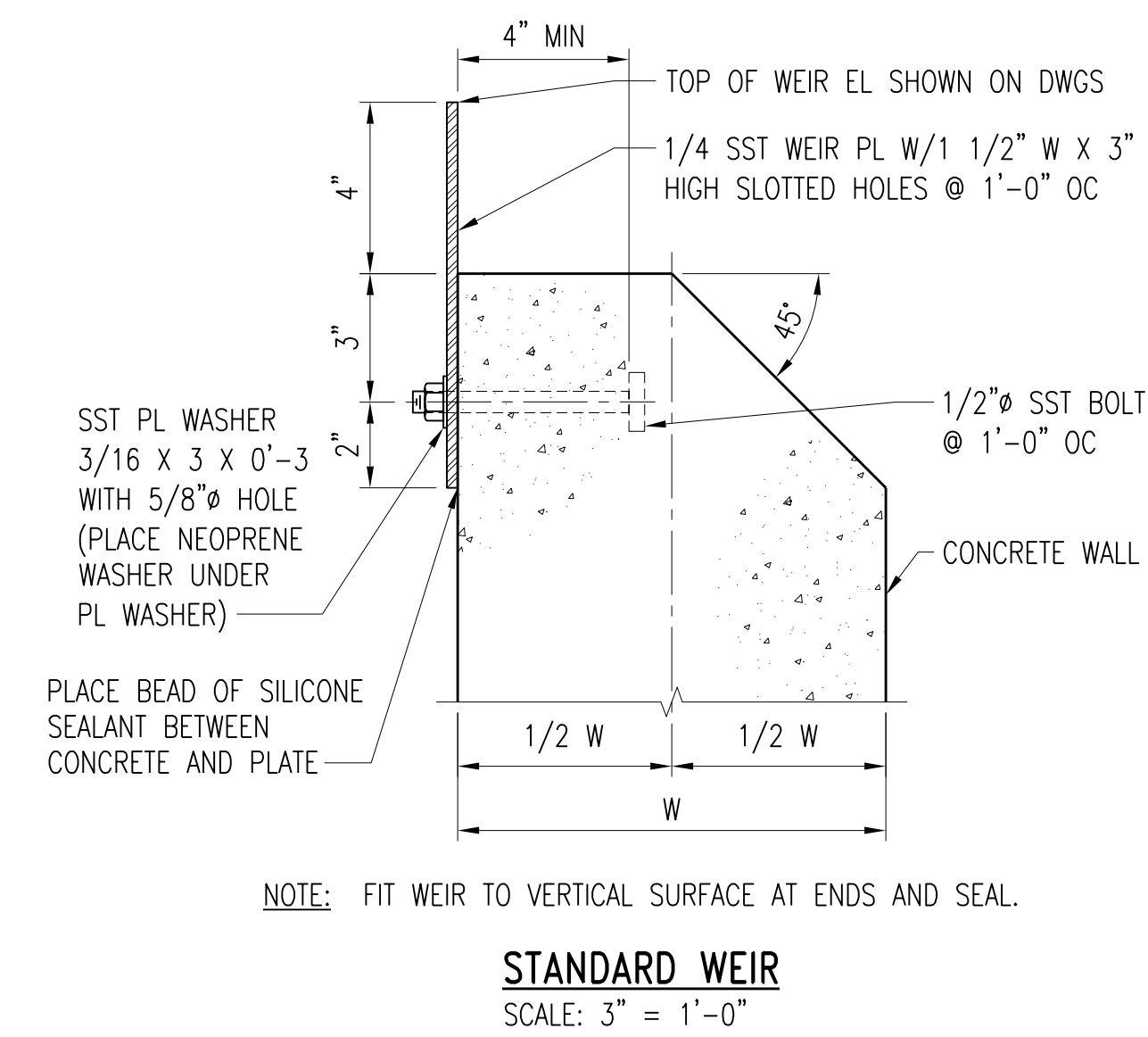
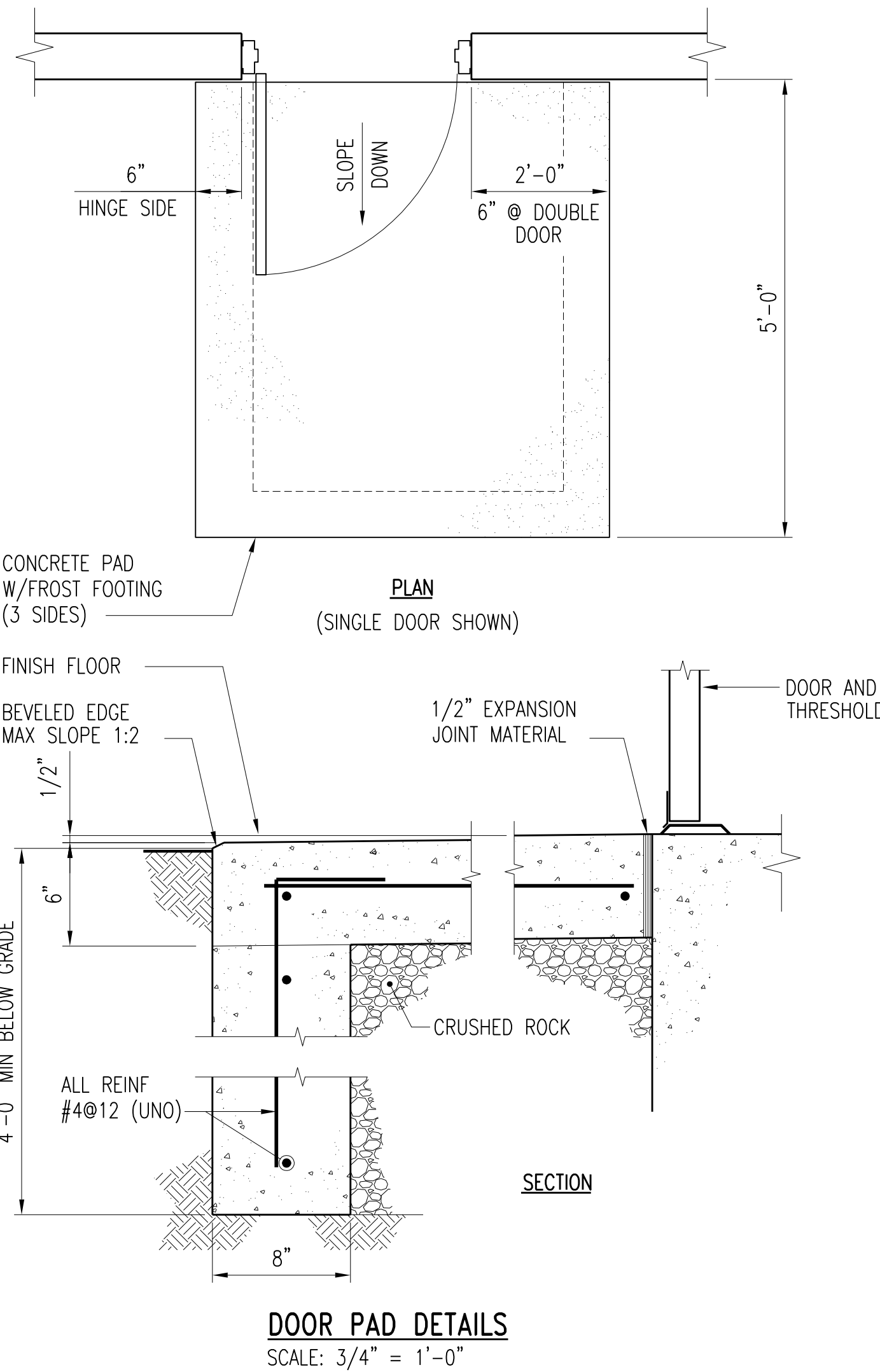
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DRAWN	DA SCHMIDT	NO.	22800	
CHECKED	KB HALL			
APPROVED	LH BADTRAM			
APPROVED				
DATE	DECEMBER 2, 2011			

S3 **2**

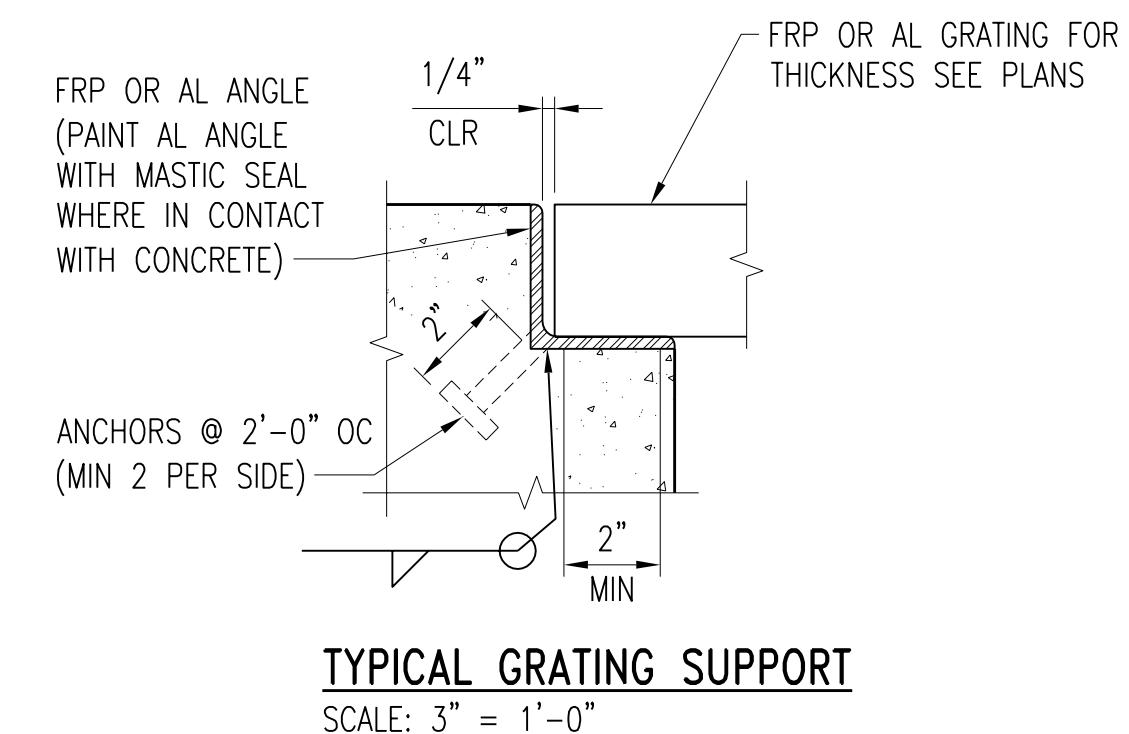
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GUARD POST DETAIL
SCALE: NO SCALE



NOTE: FIT WEIR TO VERTICAL SURFACE AT ENDS AND SEAL.



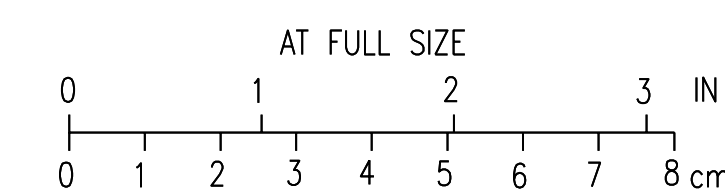
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1	ISSUED FOR CONSTRUCTION	KBH	KBH	LHB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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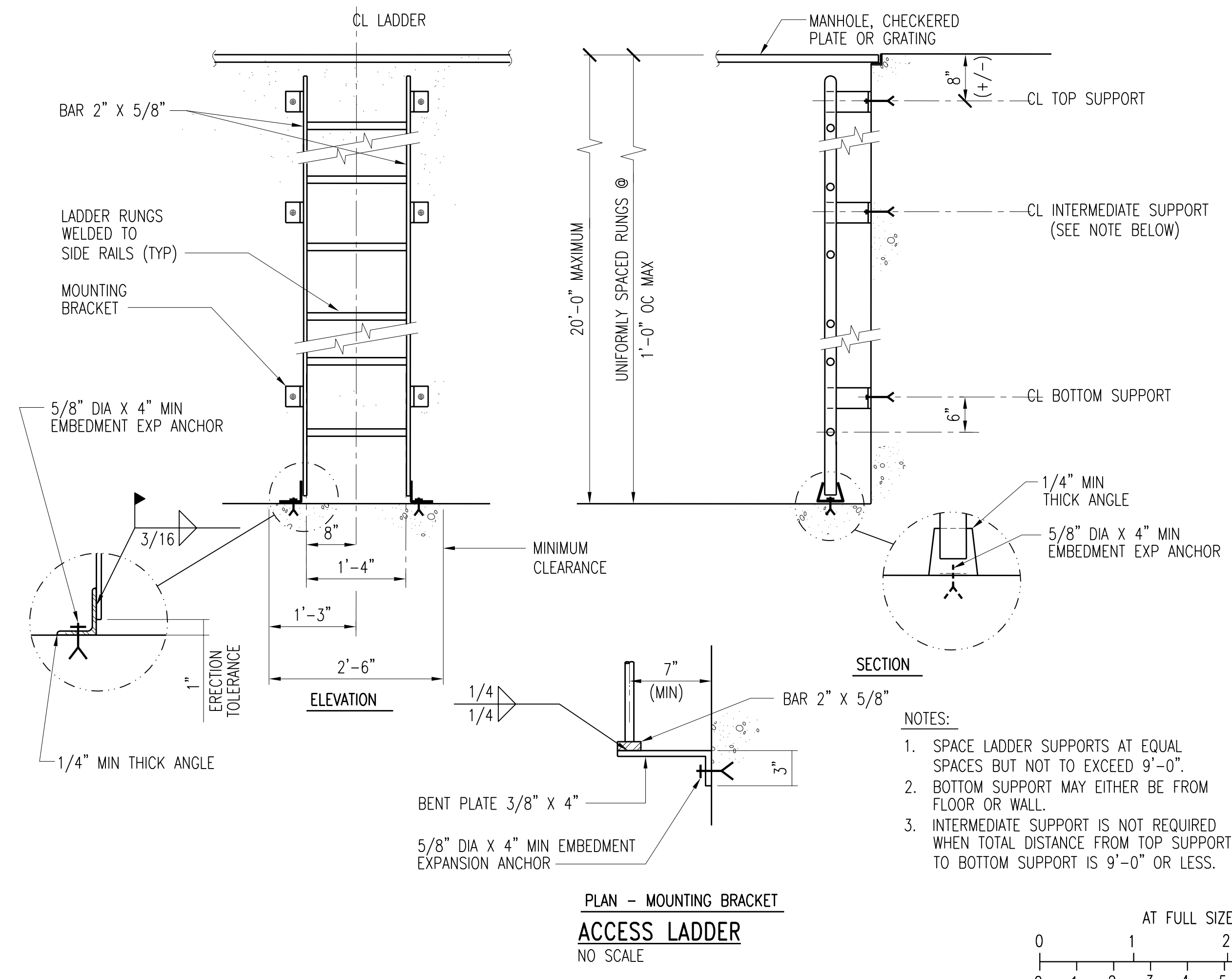
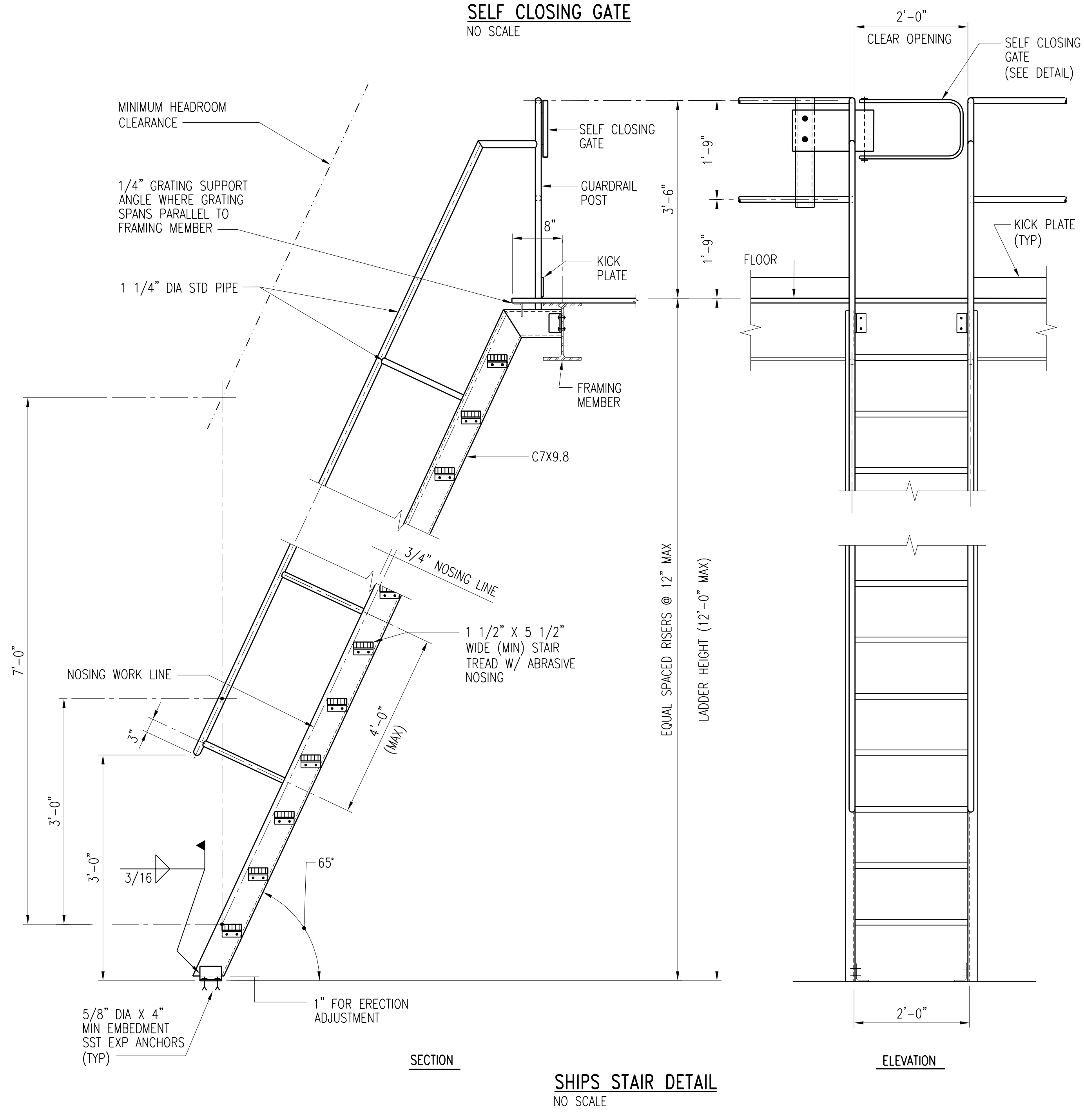
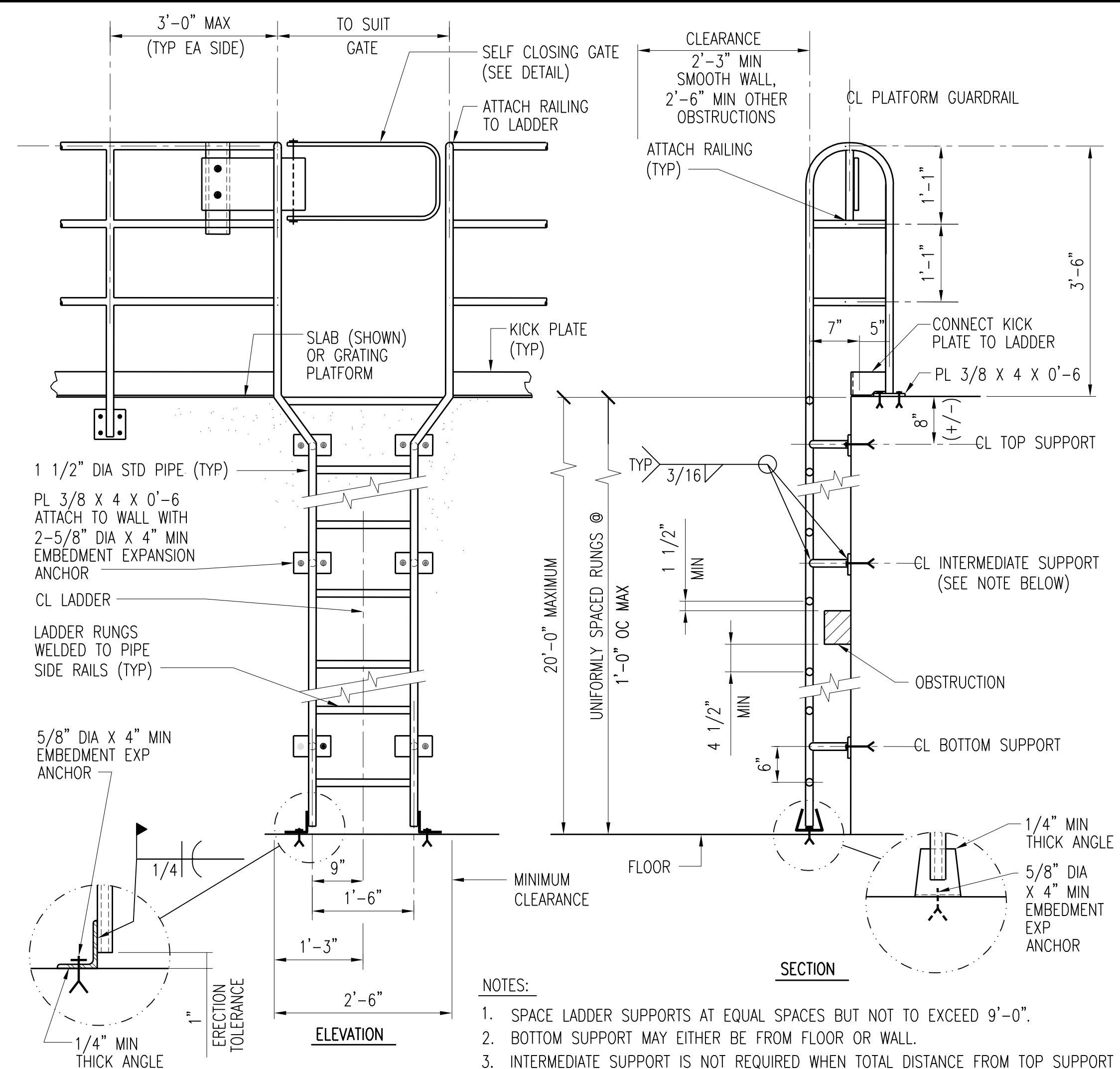
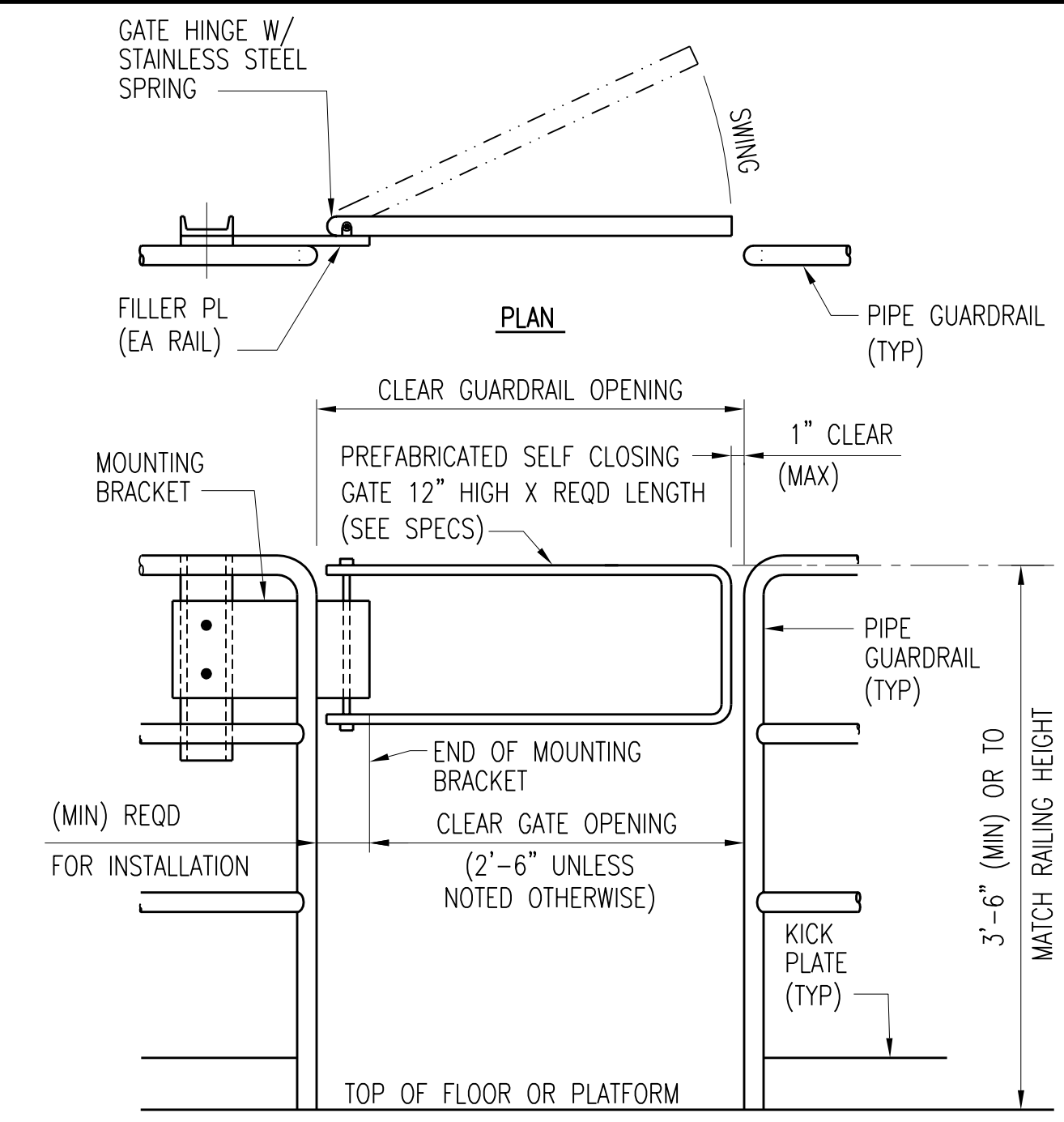
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**TYPICAL DETAILS
SHEET 2**

DESIGNED	KB HALL	SCALE:	AS NOTED
DRAWN	JM KOENIG	NO.	22800
CHECKED	KB HALL	REV.	
APPROVED	LH BADTRAM		
APPROVED			
DATE	DECEMBER 2, 2011		



S4 2



- NOTES:**
1. SPACE LADDER SUPPORTS AT EQUAL SPACES BUT NOT TO EXCEED 9'-0".
 2. BOTTOM SUPPORT MAY EITHER BE FROM FLOOR OR WALL.
 3. INTERMEDIATE SUPPORT IS NOT REQUIRED WHEN TOTAL DISTANCE FROM TOP SUPPORT TO BOTTOM SUPPORT IS 9'-0" OR LESS.

- NOTES:**
1. SPACE LADDER SUPPORTS AT EQUAL SPACES BUT NOT TO EXCEED 9'-0".
 2. BOTTOM SUPPORT MAY EITHER BE FROM FLOOR OR WALL.
 3. INTERMEDIATE SUPPORT IS NOT REQUIRED WHEN TOTAL DISTANCE FROM TOP SUPPORT TO BOTTOM SUPPORT IS 9'-0" OR LESS.

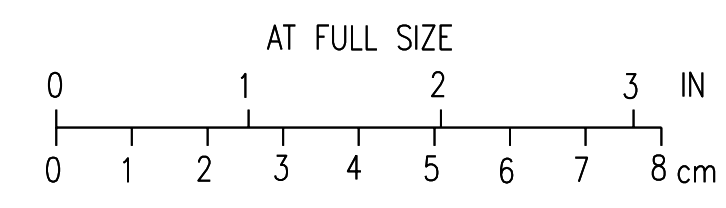
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1	ISSUED FOR CONSTRUCTION	KBH	KBH	LHB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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TYPICAL DETAILS
SHEET 3

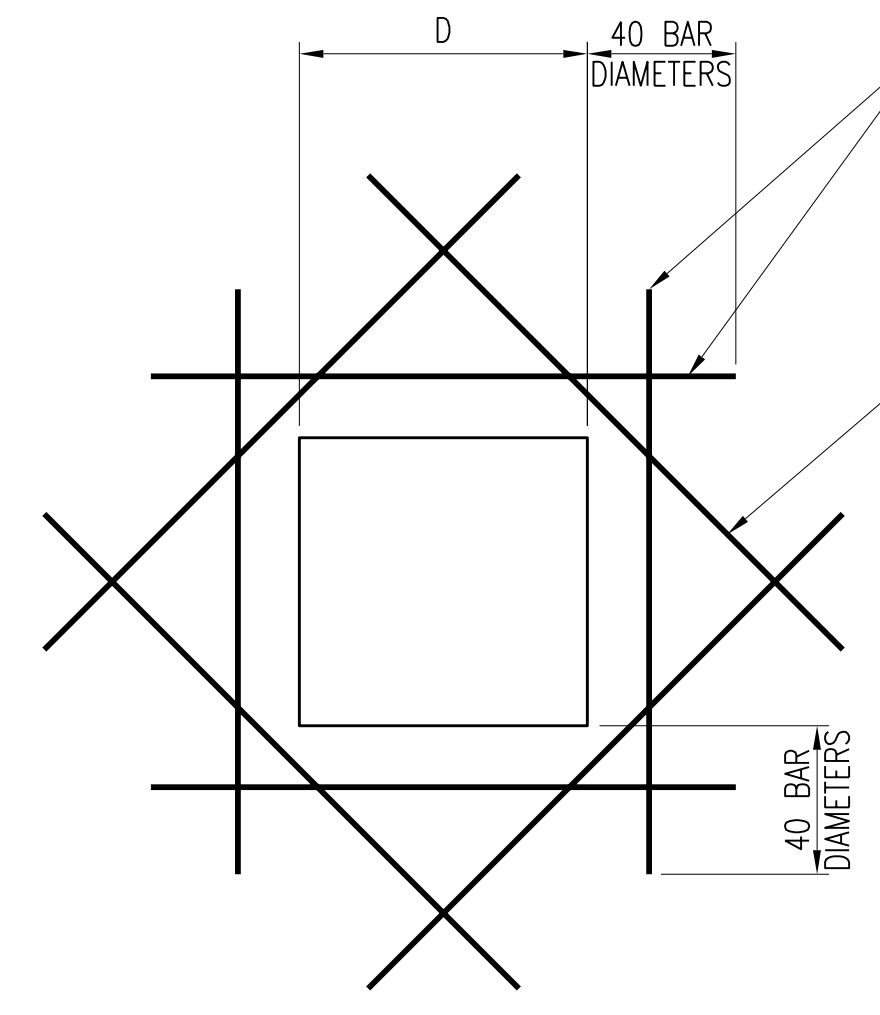
DESIGNED	KB HALL	SCALE:	AS NOTED
DRAWN	JM KOENIG	NO.	22800
CHECKED	KB HALL	REV.	
APPROVED	LH BADTRAM		
DATE	DECEMBER 2, 2011	S5	1



CADD: D1-R4

NOTES:

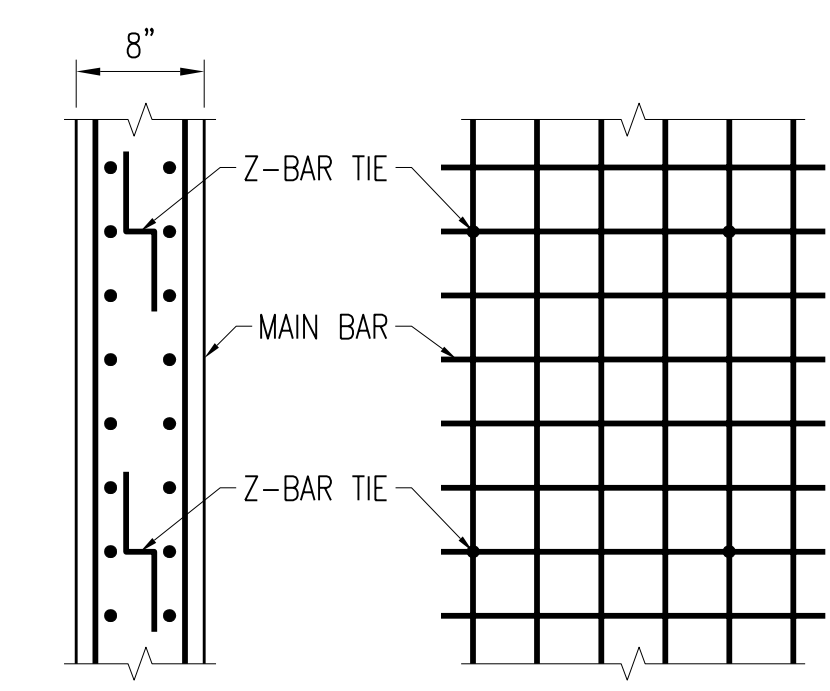
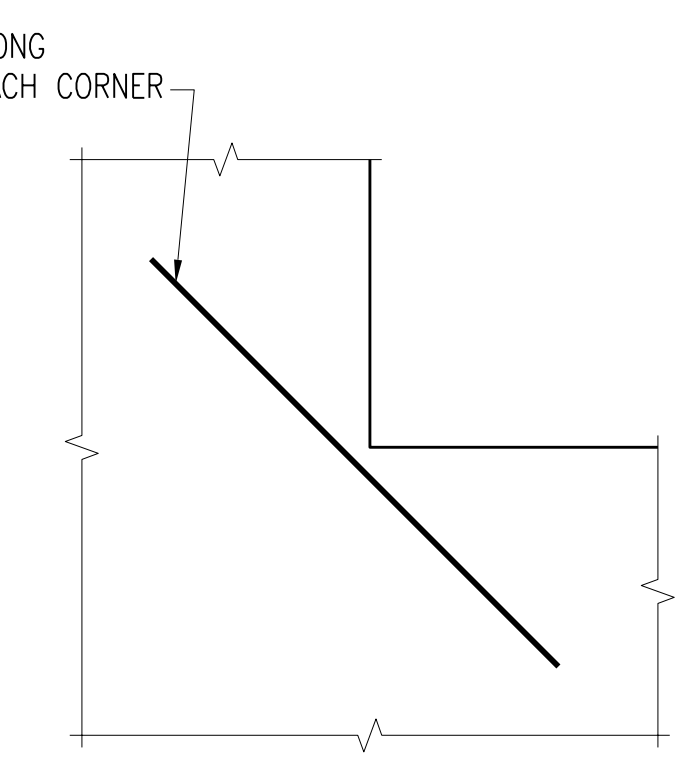
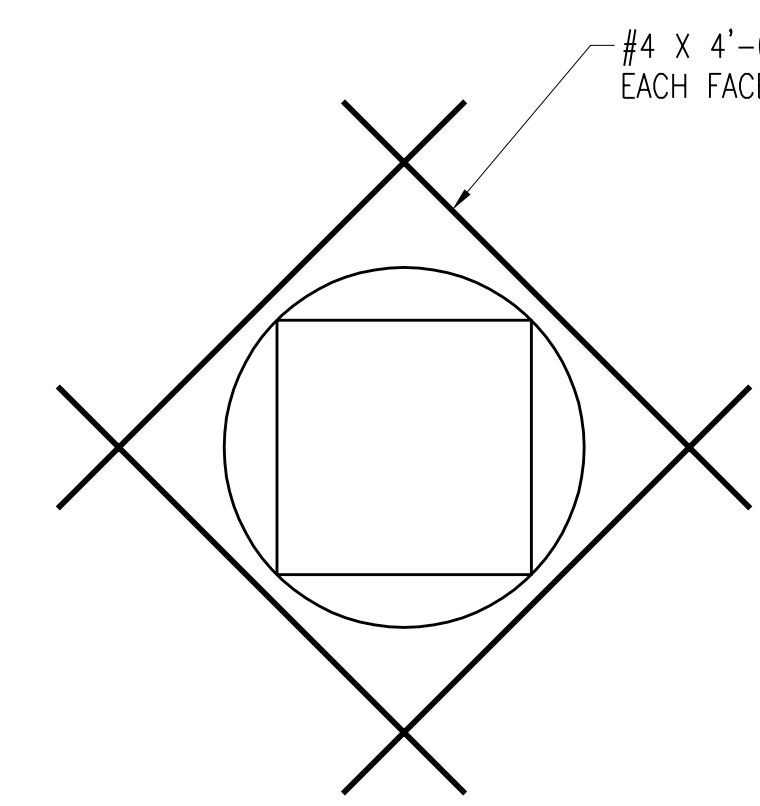
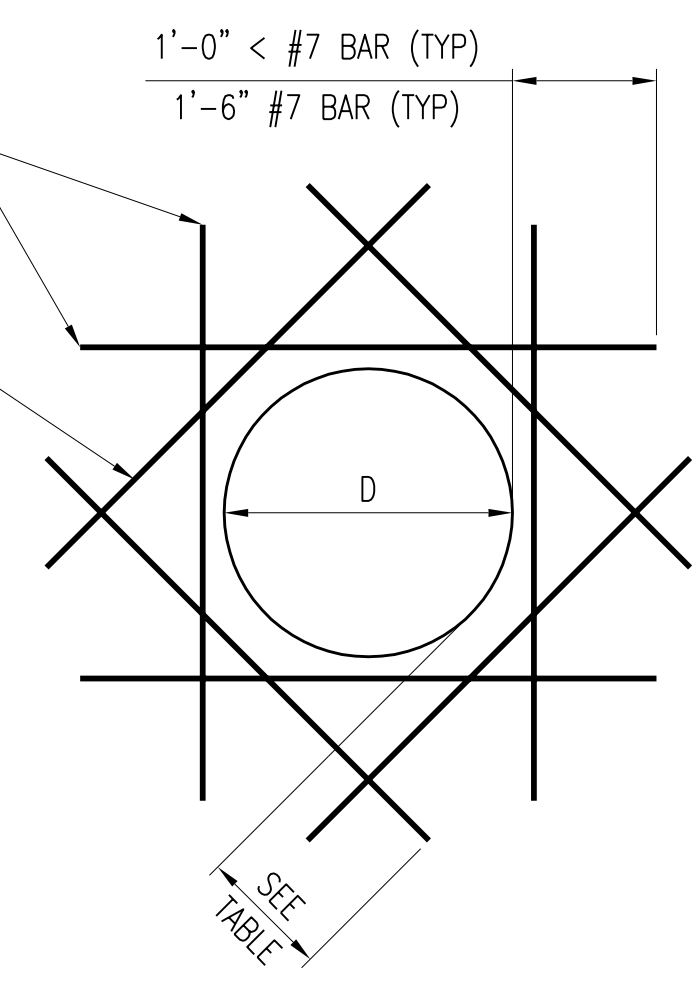
1. ALL LADDERS, GATES AND ATTACHMENT PLATES ARE ALUMINUM; ALL BOLTS AND EXPANSION ANCHORS FOR LADDERS ARE STAINLESS STEEL.
2. WATERSTOPS ARE ONLY REQUIRED AT TANK OR VAULT JOINTS WHERE WATERTIGHTNESS IS ESSENTIAL.



OPENING > 4'-0": USE BARS REQUIRED FOR 48" OPENING OR AS SHOWN ON DRAWINGS. OPENINGS > 1'-8" AND < 4'-0": EXTRA BARS EQUAL IN TOTAL AREA TO REGULAR REINFORCING CUT BY OPENING. PLACE ONE HALF TOTAL AREA TO EACH SIDE OF OPENING AND IN THE SAME TRANSVERSE POSITION AS REGULAR REINFORCING

ONE EXTRA BAR EACH CORNER PER LAYER OF REGULAR REINFORCING (SEE TABLE BELOW). PLACE IN SAME TRANSVERSE POSITION AS REGULAR REINFORCING

REINFORCING SCHEDULE			
THICKNESS OF CONCRETE	BAR SIZE	BAR LENGTH	
		RECTANGULAR OPENING	CIRCULAR OPENING
< 12"	#4	4'-0"	D + 1'-0"
12" TO 18"	#5	4'-0"	D + 1'-0"
18" TO 24"	#6	5'-0"	D + 1'-0"
> 24"	#7	6'-0"	D + 1'-6"



* REPLACE Z-BARS WITH #4 STANDEES FOR SLABS AND #4 U-BARS FOR WALLS

SECTION ELEVATION

NOTE: PROVIDE Z-BAR OF SAME DIAMETER AS THE LARGEST BAR UP TO A MAXIMUM #6 Z-BAR DIAMETER FOR WALLS AND BETWEEN A #5 BAR AND #11 BAR FOR SLABS.

TIE BAR DETAILS - WALLS & SLABS

NO SCALE

RECTANGULAR OPENINGS

FOR OPENING LARGER THAN 1'-8" IN DIAMETER OR DIAGONAL

CIRCULAR OPENINGS

FOR OPENINGS 1'-8" AND SMALLER IN DIAMETER OR DIAGONAL

ISOLATED RE-ENTRANT CORNERS

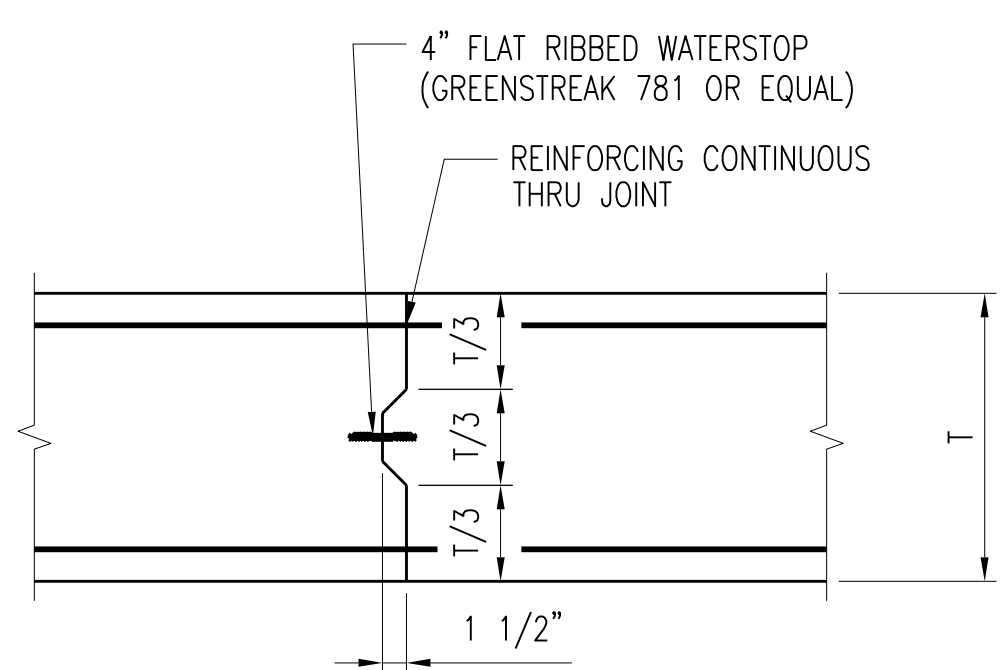
TIE BAR DETAILS - WALLS & SLABS

NO SCALE

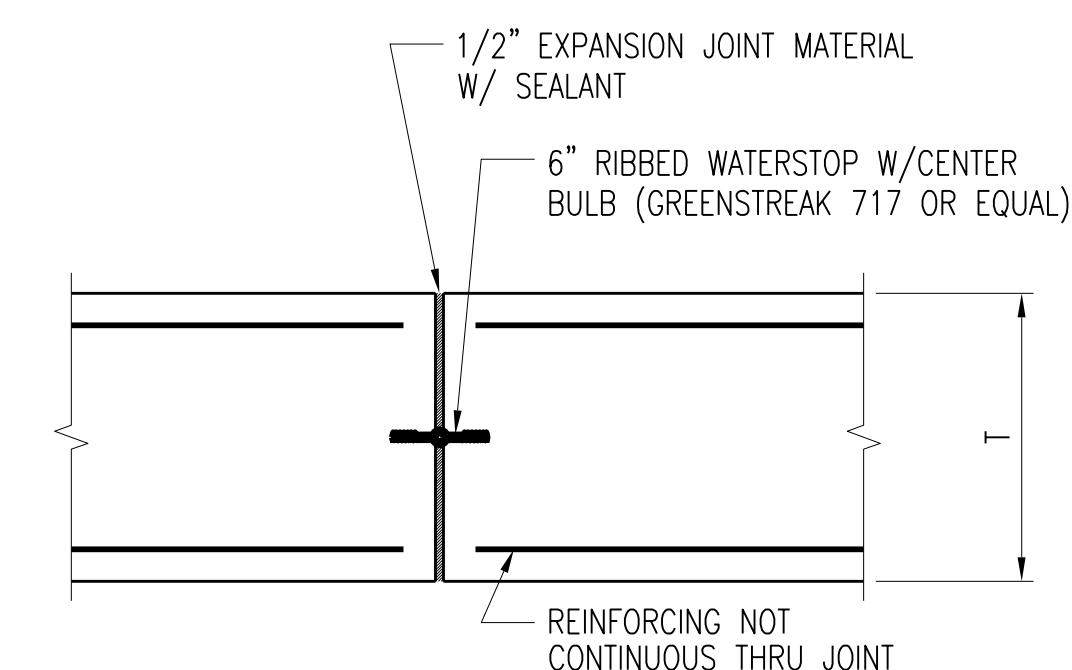
(NOTE: TYPICAL REQUIRED UNLESS ADDITIONAL REINFORCEMENT SPECIFICALLY INDICATED AT OPENINGS ON DRAWINGS)

TYPICAL EXTRA REINFORCING AT OPENINGS IN WALLS AND SLABS

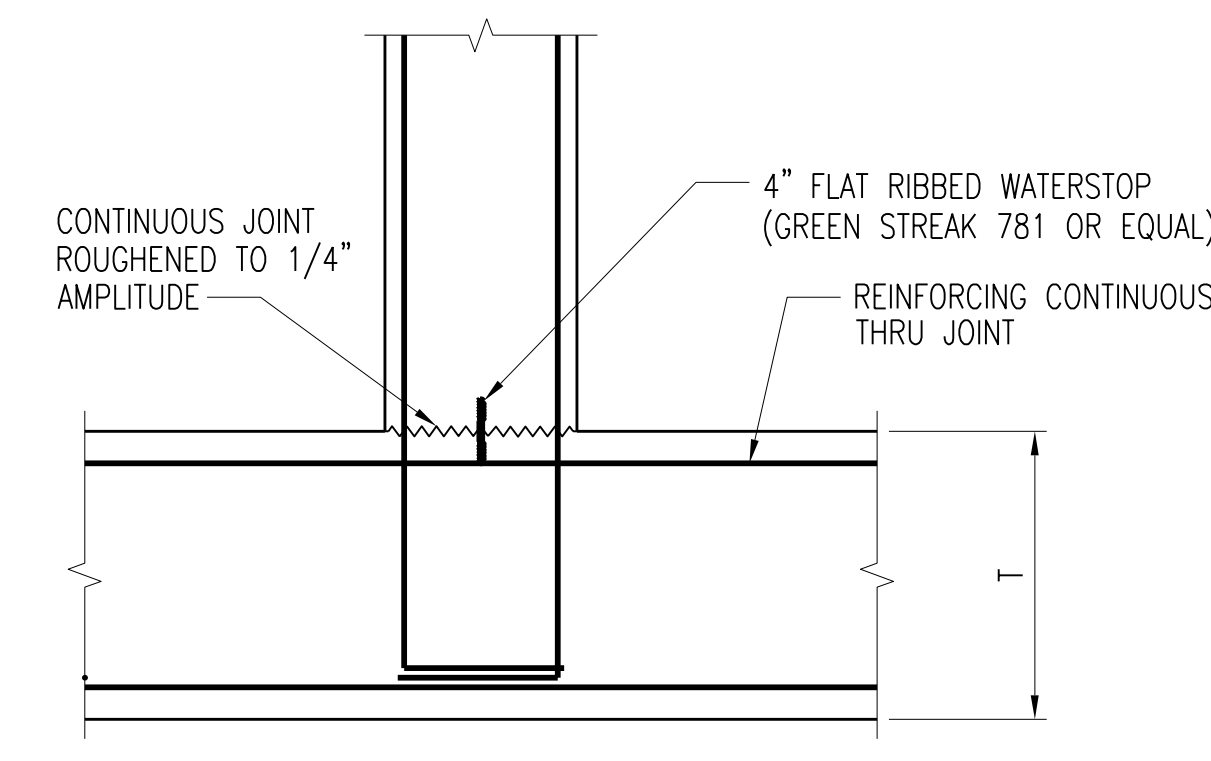
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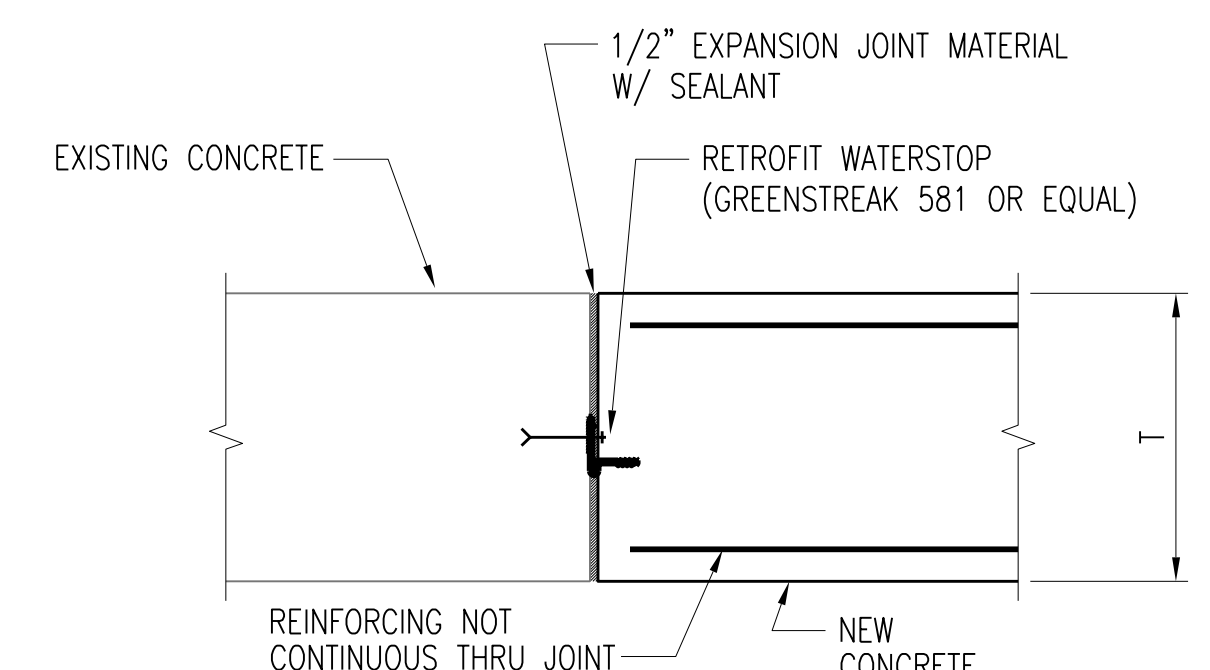
VERTICAL CONSTRUCTION JOINT DETAIL
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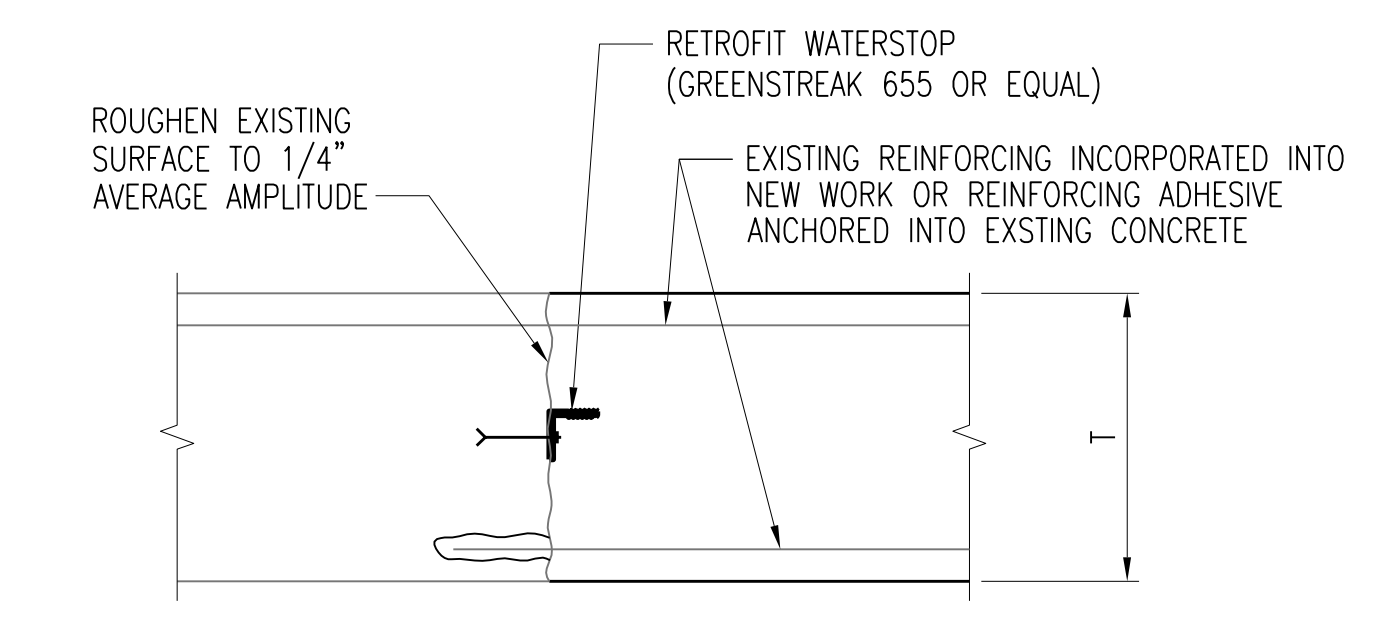
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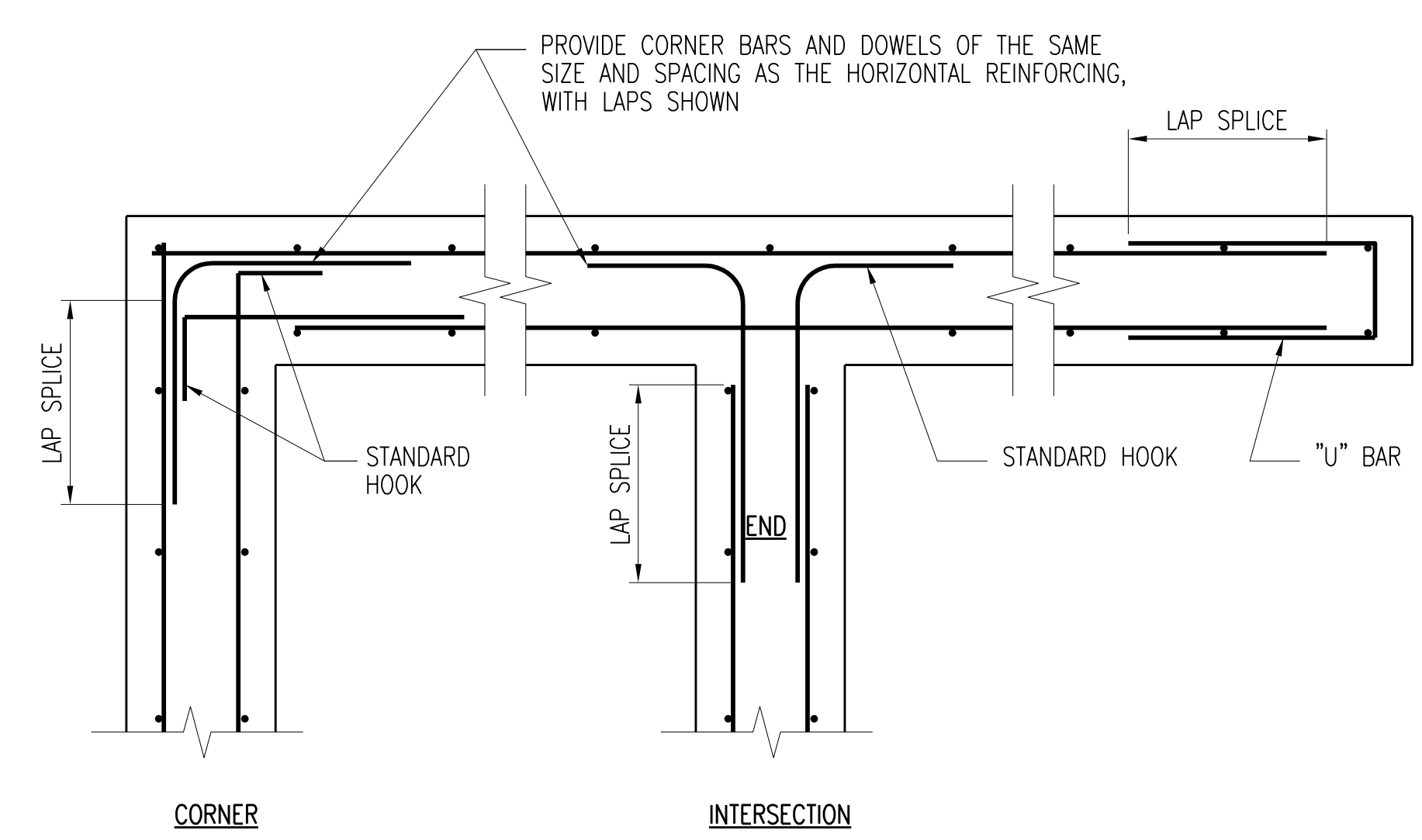
HORIZONTAL CONSTRUCTION JOINT DETAIL
NO SCALE



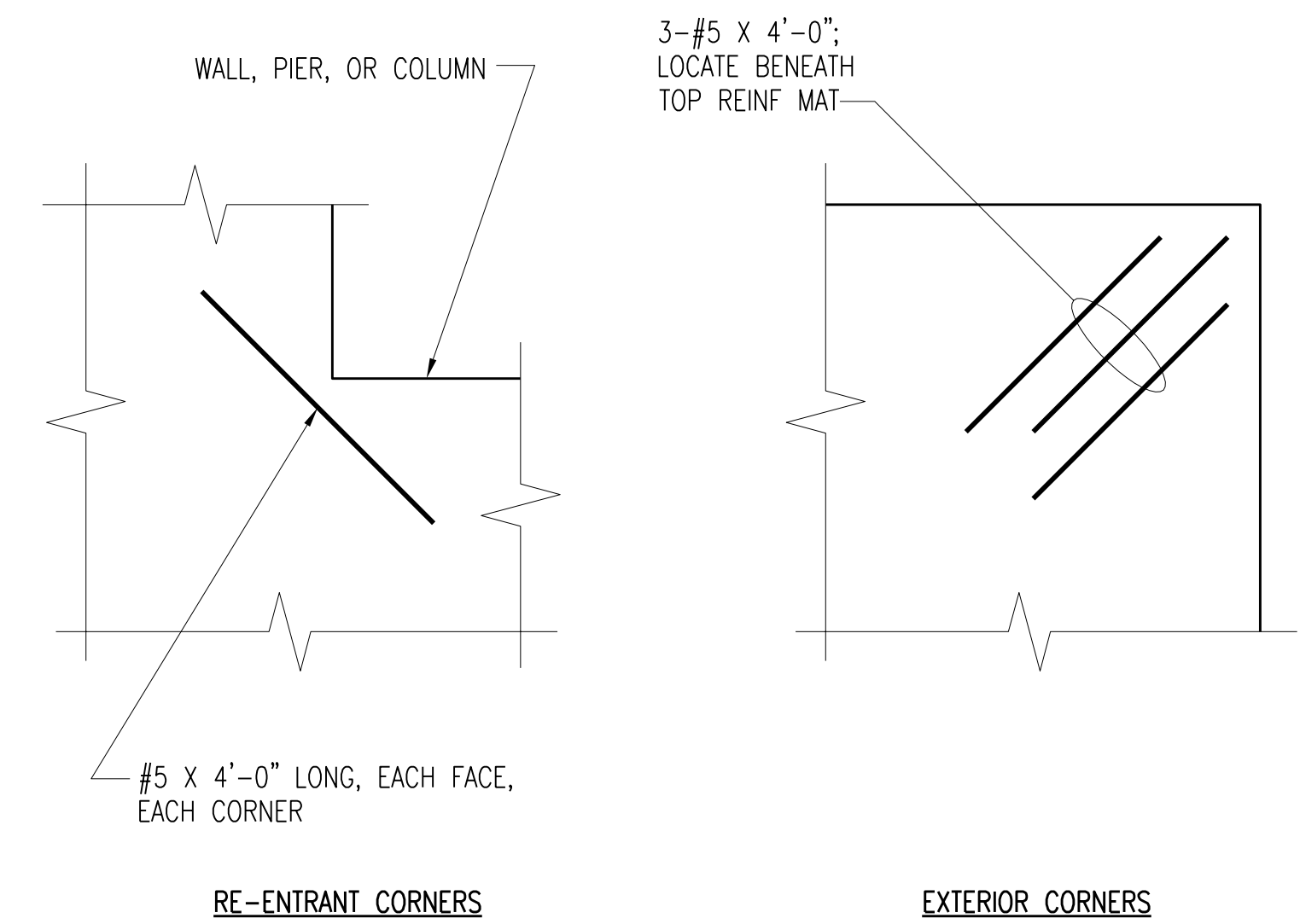
EXPANSION JOINT @ EXISTING CONCRETE DETAIL
NO SCALE



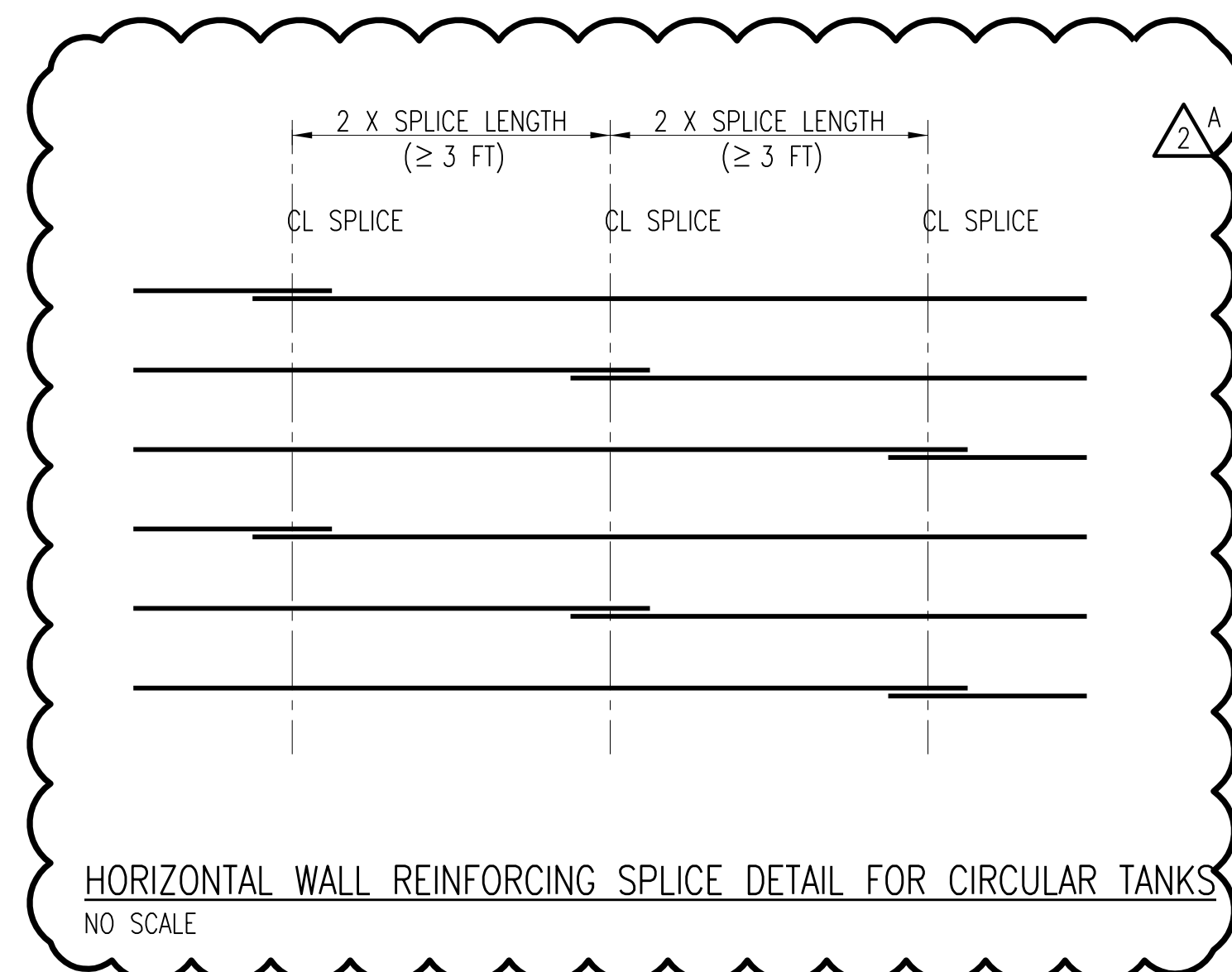
CONSTRUCTION JOINT @ EXISTING CONCRETE DETAIL
NO SCALE



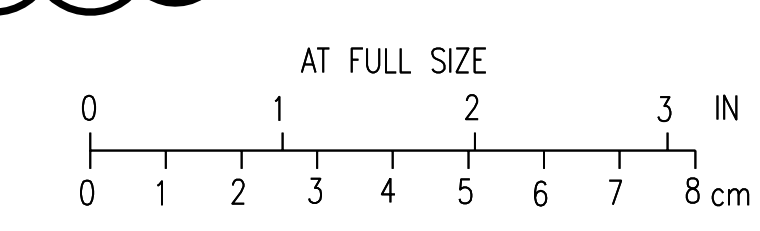
TYPICAL CONCRETE CORNER REINFORCING DETAILS
NO SCALE



TYPICAL EXTRA REINFORCING IN SLABS ON GRADE DETAIL
NO SCALE



HORIZONTAL WALL REINFORCING SPLICE DETAIL FOR CIRCULAR TANKS
NO SCALE



2	ADDED ADDENDUM SKETCH	LJO	JBL	JBL	05-11-2012
1	ISSUED FOR CONSTRUCTION	KBH	KBH	LHB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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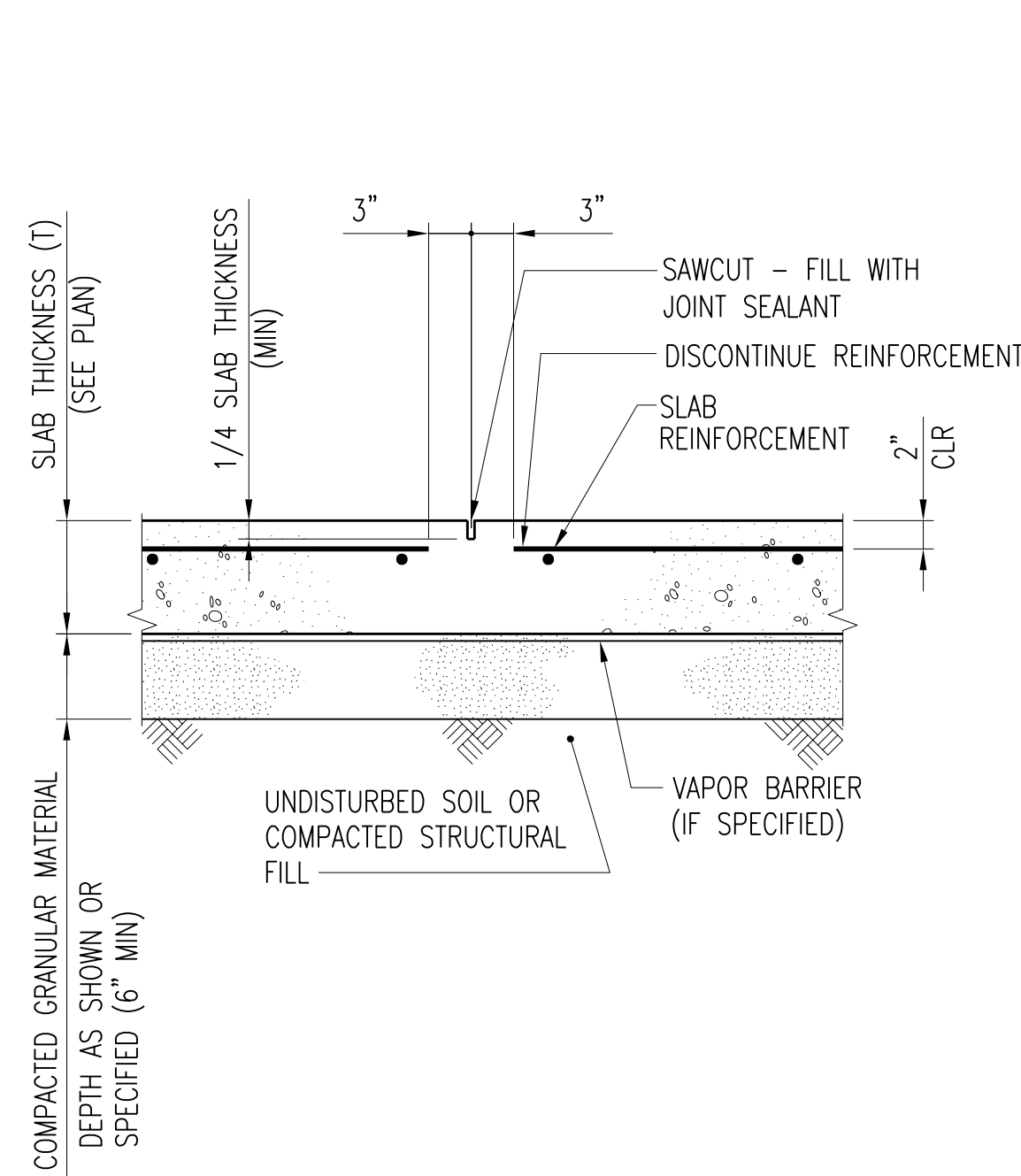
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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**TYPICAL DETAILS
SHEET 4**

DESIGNED	KB HALL	SCALE:	AS NOTED
DRAWN	DA SCHMIDT	NO.	22800
CHECKED	KB HALL	REV.	
APPROVED	LH BADTRAM		
APPROVED			
DATE	DECEMBER 2, 2011		

S6 1

CADD: D1-R4



SLAB CONTROL JOINT TYPE CLJ-1
NO SCALE

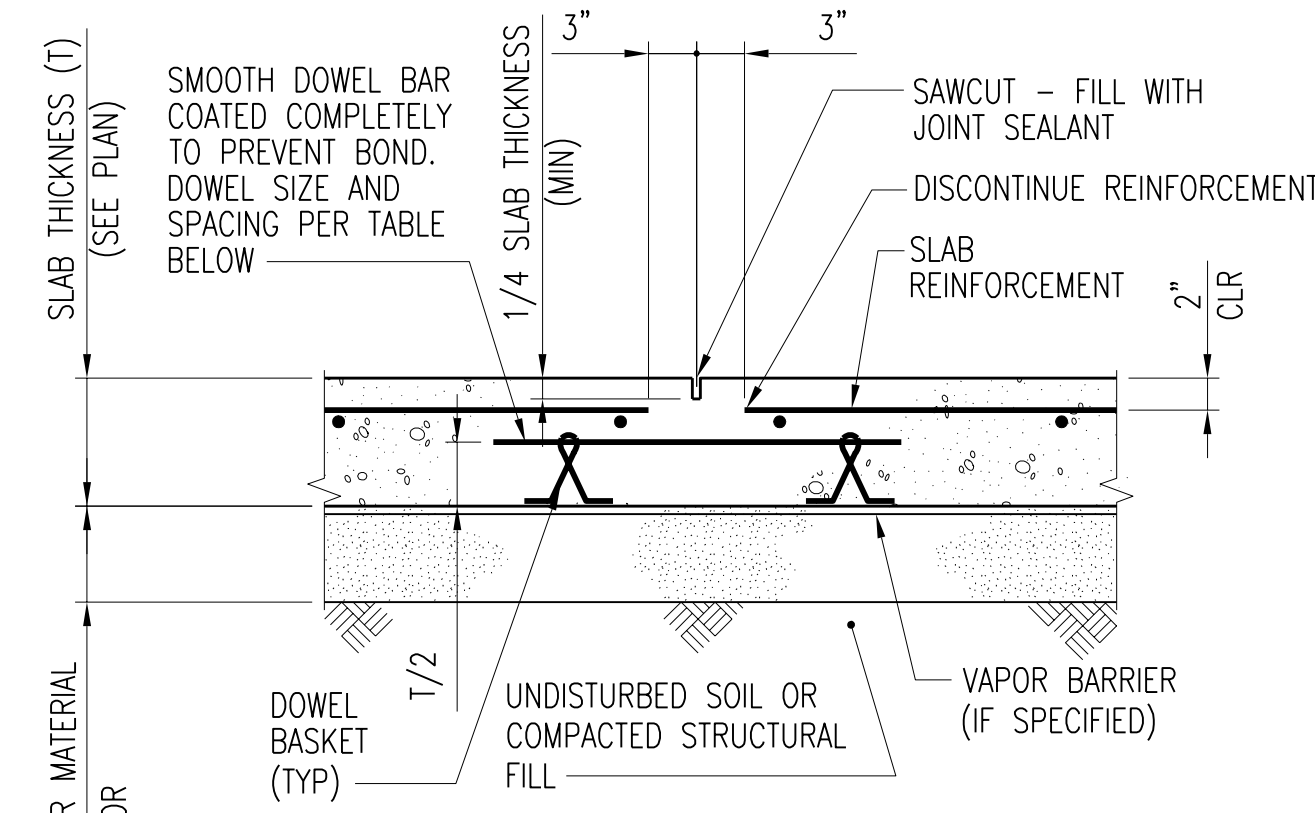
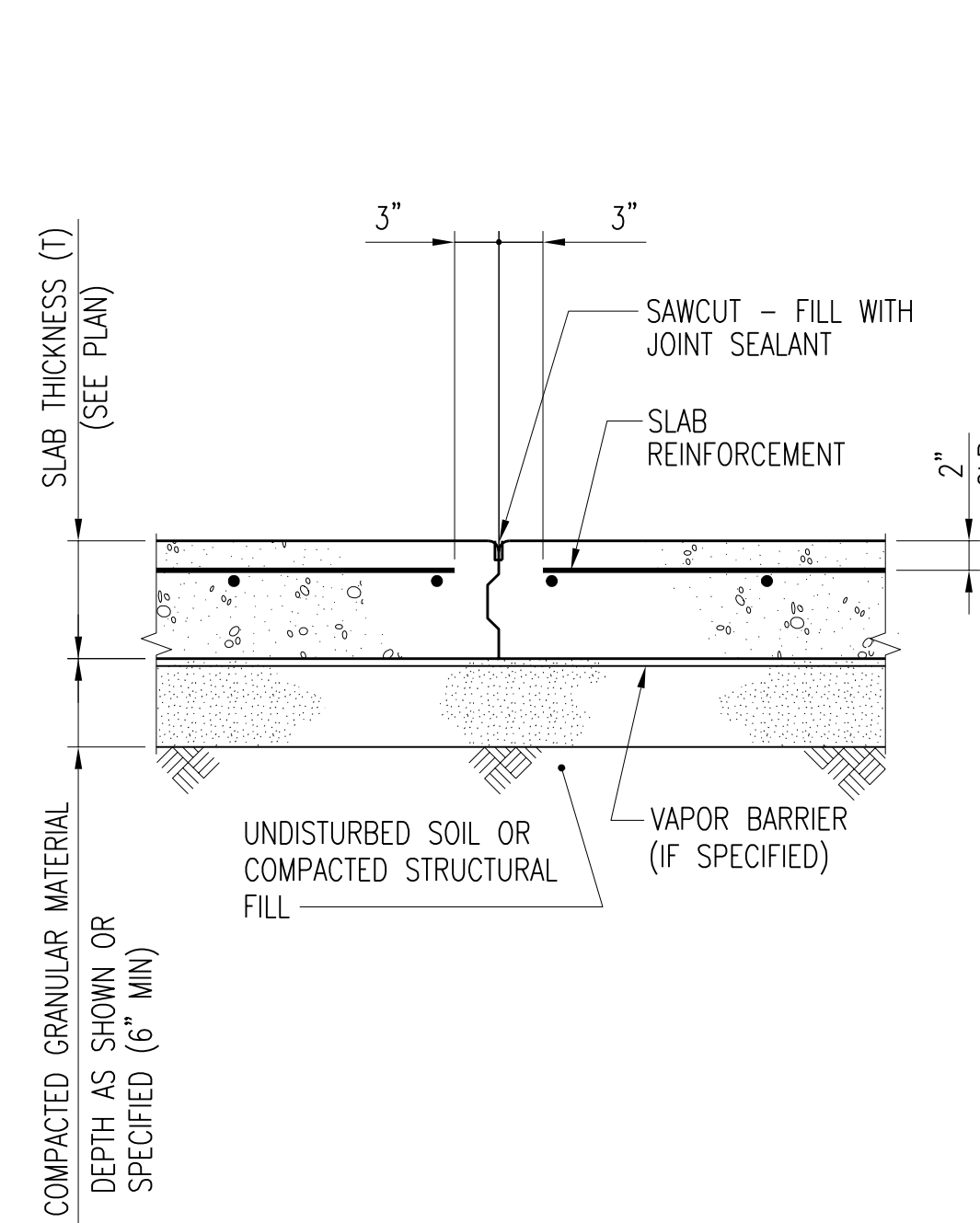
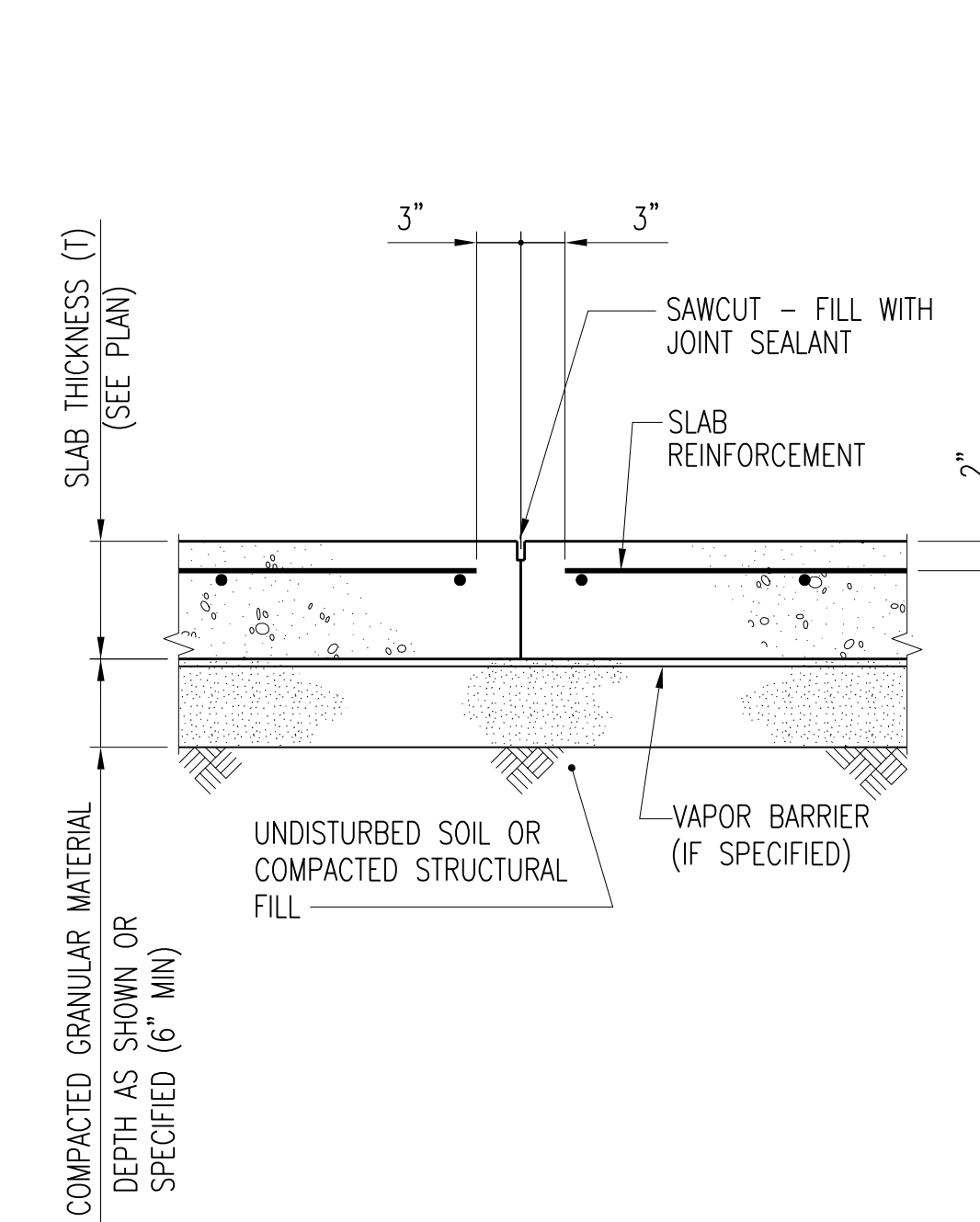


TABLE OF DOWEL SIZE AND SPACING			
SLAB THICKNESS (T), INCHES	DIAMETER, INCHES	TOTAL LENGTH, INCHES	SPACING INCHES CENTER TO CENTER
5	5/8	2'-0"	12
6	3/4	2'-2"	12
7	7/8	2'-2"	12
8	1	2'-2"	12
9	1 1/8	2'-6"	12
10	1 1/4	2'-6"	12

SLAB CONTROL JOINT TYPE CLJ-2
NO SCALE



SLAB KEYED CONSTRUCTION JOINT TYPE CJ-1
NO SCALE



SLAB BUTT-TYPE CONSTRUCTION JOINT TYPE CJ-2
NO SCALE

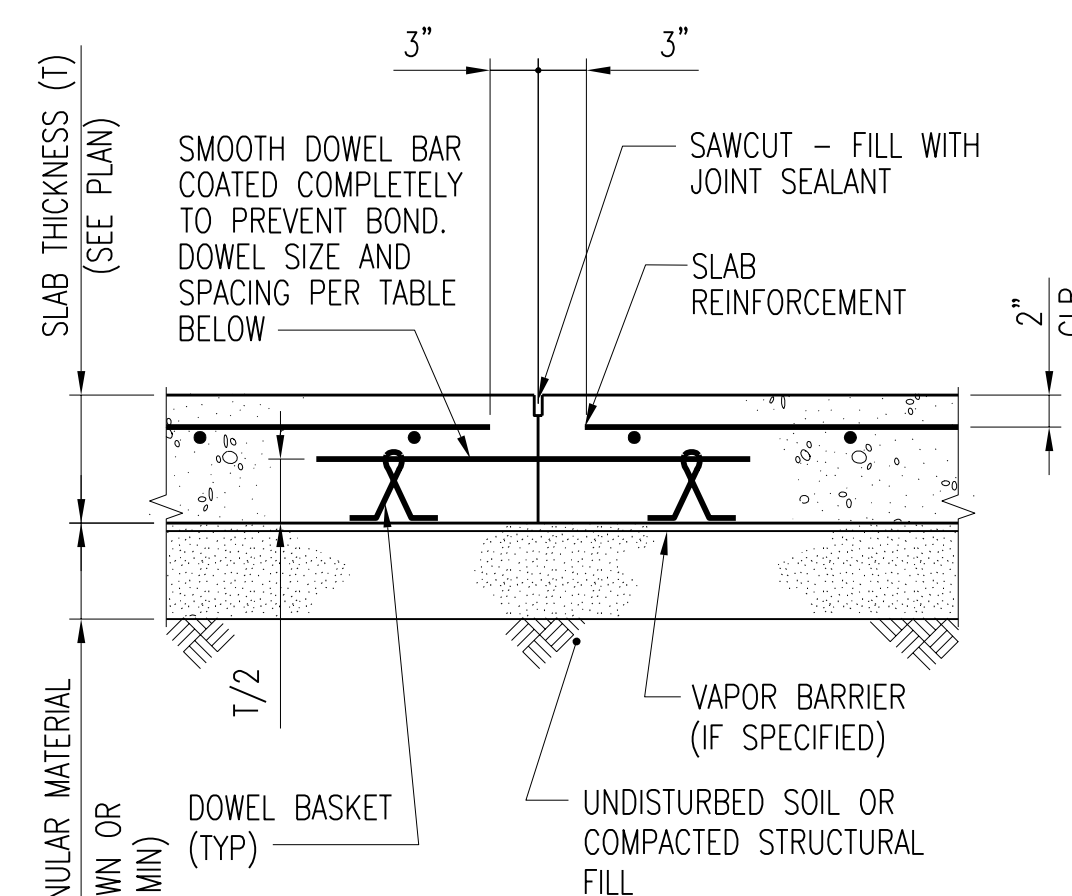


TABLE OF DOWEL SIZE AND SPACING			
SLAB THICKNESS (T), INCHES	DIAMETER, INCHES	TOTAL LENGTH, INCHES	SPACING (IN.) CENTER TO CENTER
5	5/8	12	12
6	3/4	14	12
7	7/8	14	12
8	1	14	12
9	1 1/8	16	12
10	1 1/4	16	12

SLAB BUTT-TYPE CONSTRUCTION JOINT WITH DOWELS TYPE CJ-3
NO SCALE

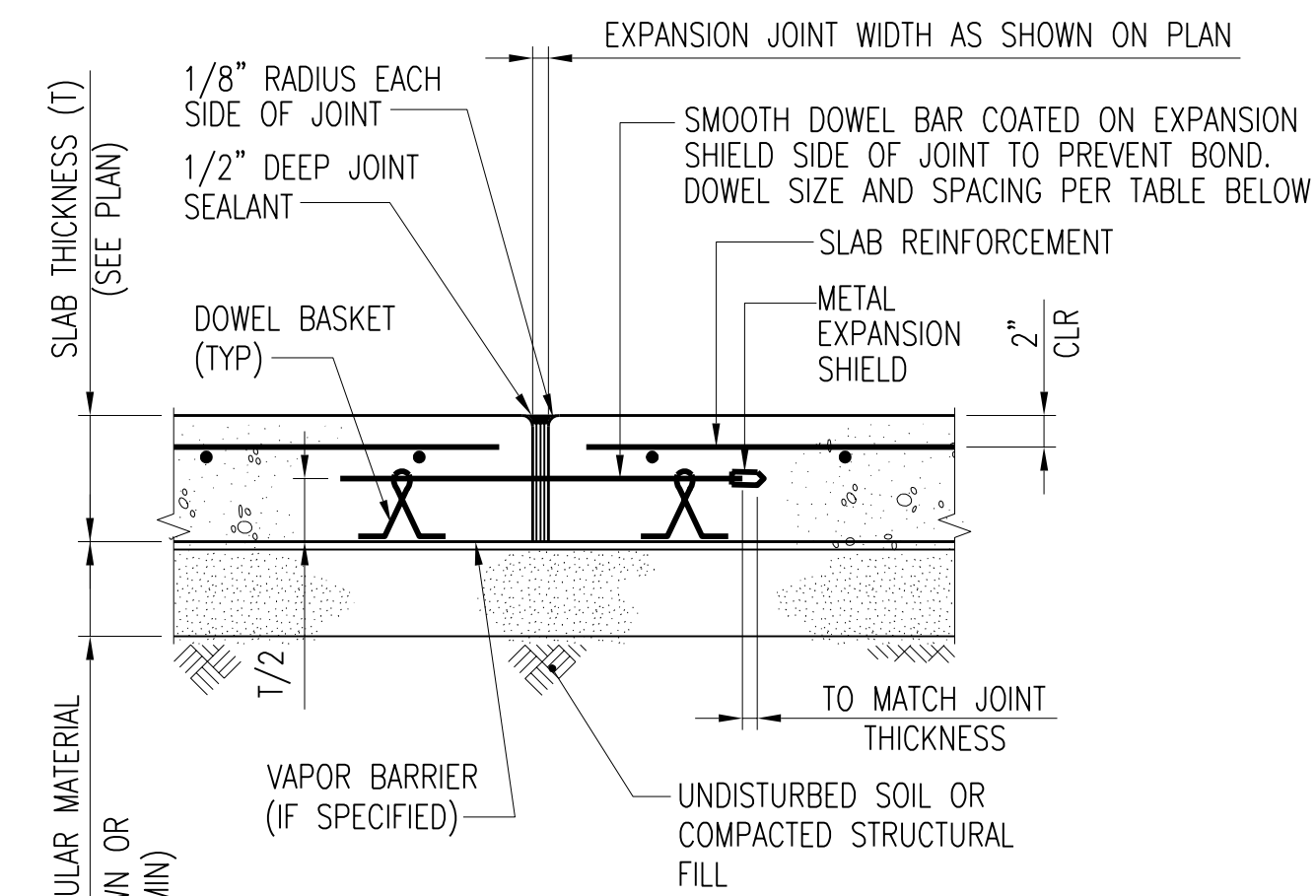
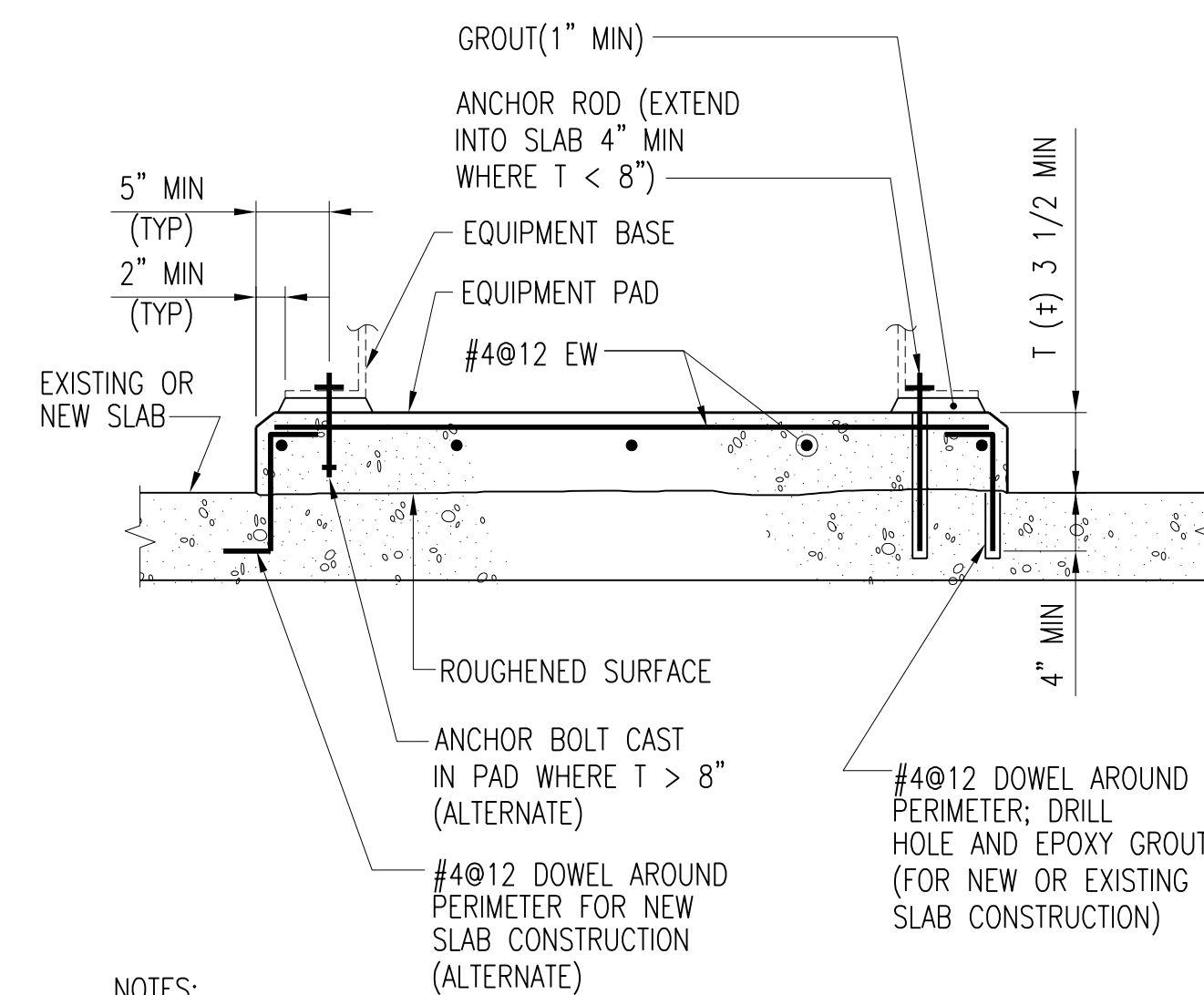


TABLE OF DOWEL SIZE AND SPACING			
SLAB THICKNESS (T), INCHES	DIAMETER, INCHES	TOTAL LENGTH, INCHES	SPACING INCHES CENTER TO CENTER
5	5/8	12	12
6	3/4	14	12
7	7/8	14	12
8	1	14	12
9	1 1/8	16	12
10	1 1/4	16	12

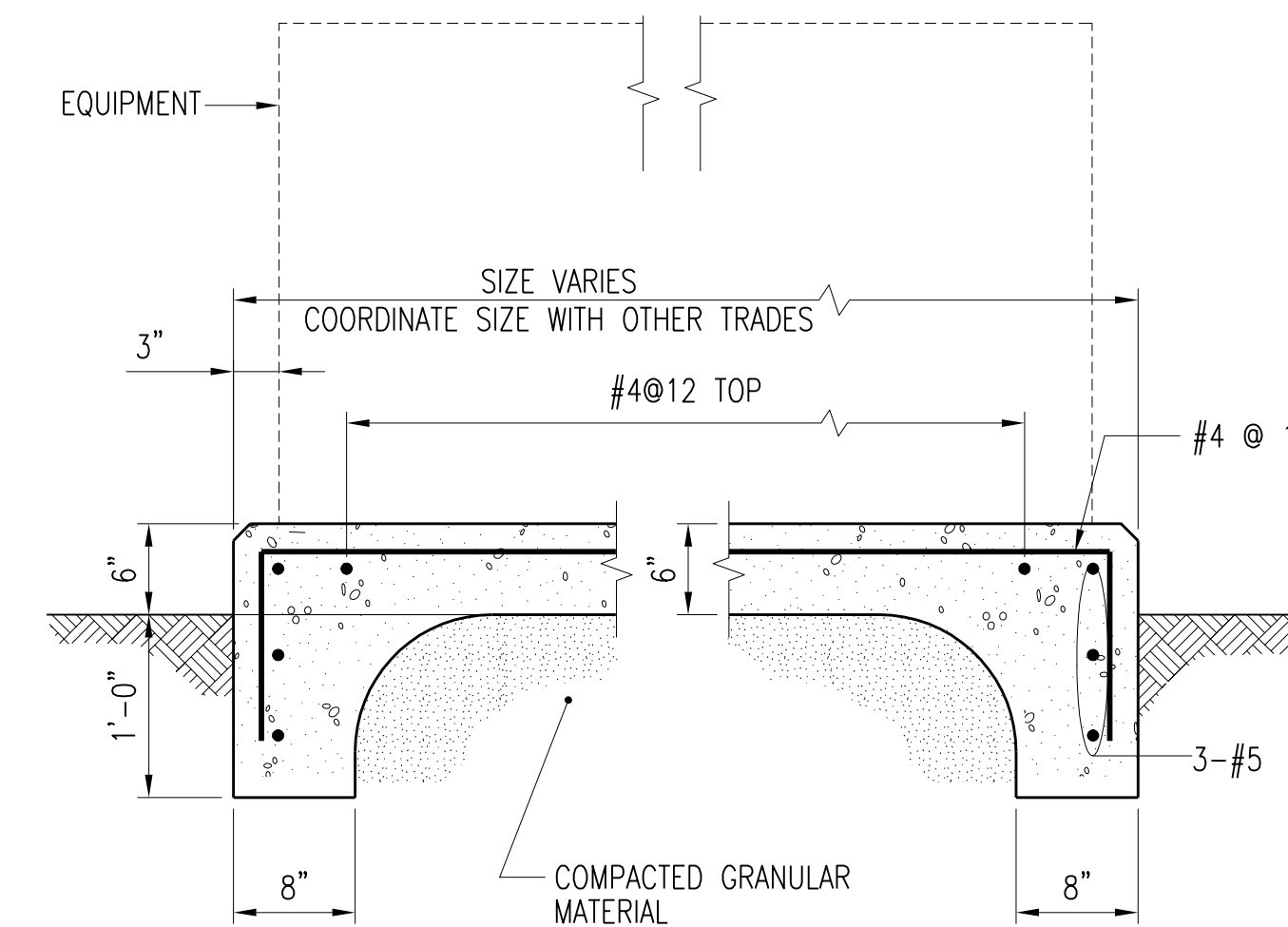
SLAB EXPANSION JOINT TYPE EJ-1
NO SCALE



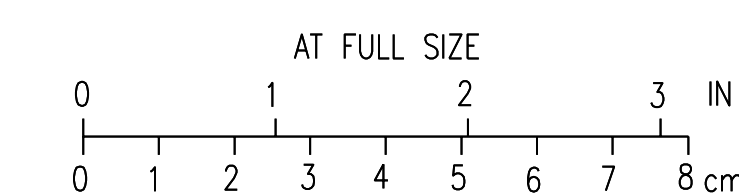
NOTES:

1. ANCHOR BOLT/ROD SIZE AND LOCATION TO SUIT EQUIPMENT.
2. DOWELS AROUND PERIMETER ARE NOT REQUIRED FOR HOUSEKEEPING PADS FOR EQUIPMENT WHICH DOES NOT REQUIRE ANY ANCHORAGE.

INTERIOR EQUIPMENT PAD DETAIL
NO SCALE



EXTERIOR EQUIPMENT PAD DETAIL
NO SCALE



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	KBH	KBH	LHB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

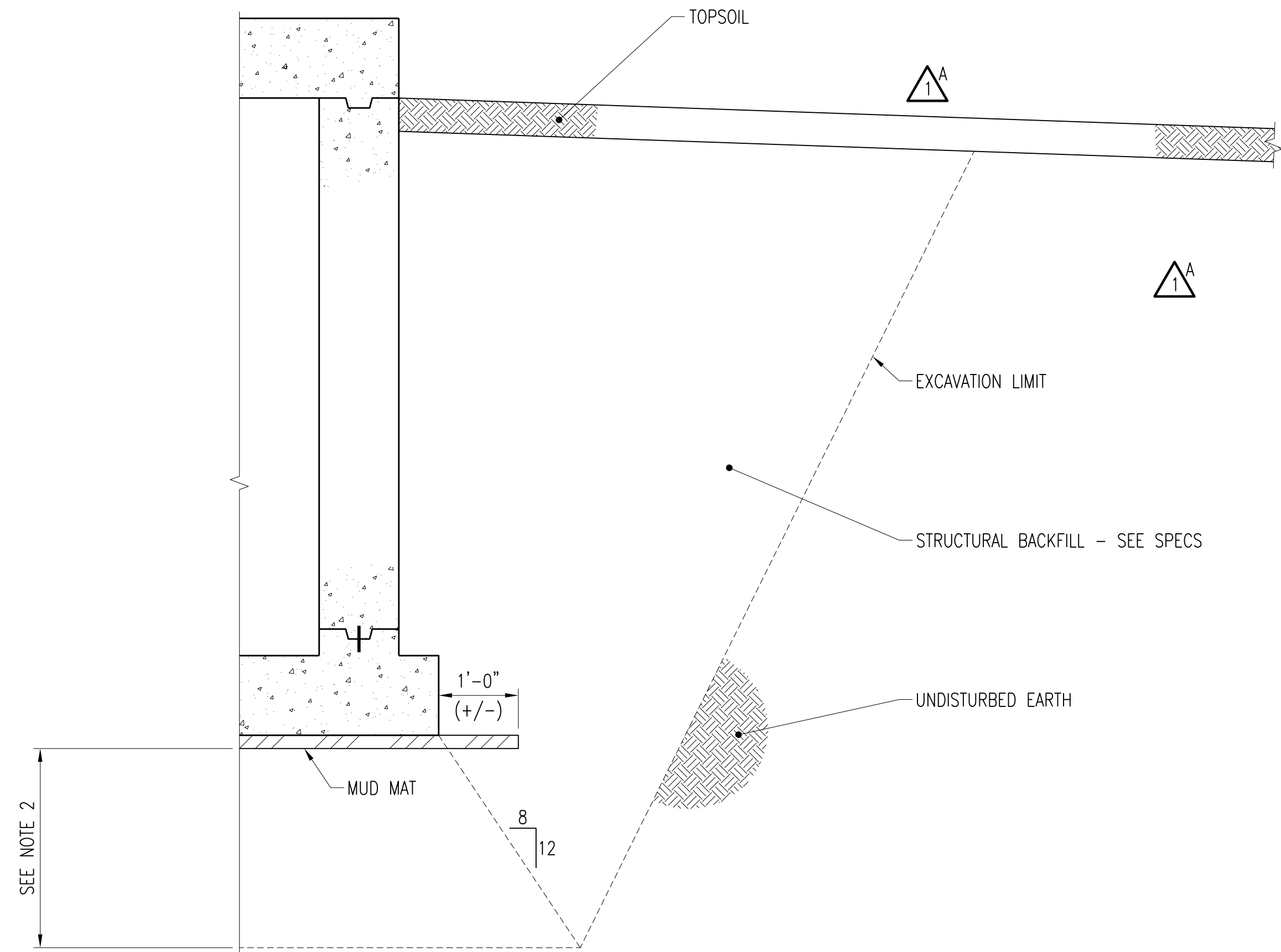

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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**TYPICAL DETAILS
SHEET 5**

DESIGNED	KB HALL	SCALE:	AS NOTED
DRAWN	JM KOENIG	NO.	22800
CHECKED	KB HALL	REV.	
APPROVED	LH BADTRAM		
APPROVED			
DATE	DECEMBER 2, 2011		

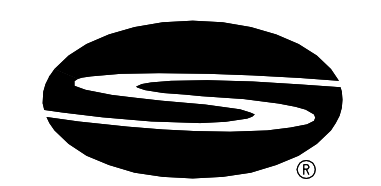
S7 2



- NOTES:**
1. THIS DETAIL APPLIES TO ALL BURIED STRUCTURES.
 2. OVER EXCAVATION & STRUCTURAL FILL WHERE REQUIRED TO OBTAIN SAFE ALLOWABLE SOIL PRESSURE. INCLUDE IN BID TO LEVELS SHOWN FOR VARIOUS STRUCTURES. REQUIREMENTS, IF ANY, TO BE DETERMINED AFTER OWNER'S SOILS CONSULTANT INSPECTS MATERIALS AT BOTTOM OF BASE SLAB OR FOUNDATION AND INITIAL SUBGRADE COMPACTION BY CONTRACTOR. OVER EXCAVATION WORK SHALL BE AUTHORIZED BY ENGINEER IN WRITING PRIOR TO PERFORMING OVER EXCAVATION AT EACH STRUCTURE. ELEVATION SHOWN ON DRAWINGS IS AN ESTIMATION WHICH SHALL BE CONFIRMED AS EXCAVATION PROGRESSES. CONTRACTOR SHALL EXCAVATE TEST PITS AS DIRECTED BY OWNER'S SOILS CONSULTANT AND DELAY MASS EXCAVATION BELOW BOTTOM OF FOUNDATION LEVEL UNTIL SOIL'S CONSULTANT ESTABLISHES APPROXIMATE LEVEL OF EXCAVATION. PERFORM EXCAVATIONS TO LEVELS DIRECTED BY ENGINEER. CONTRACTOR TO HAVE A PERSON ON SITE WITH AUTHORITY TO ADJUST EXCAVATION LIMITS AS AND WHEN DIRECTED.

BACKFILL DETAIL
NO SCALE

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	REVISED PER ADDENDUM NO.1	KBH	KBH	LHB	02-22-2012
0	ISSUED FOR CONSTRUCTION	KBH	KBH	LHB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

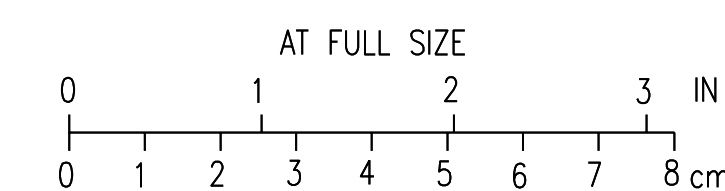


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TYPICAL DETAILS
SHEET 6

DESIGNED	KB HALL	SCALE:	AS NOTED	REV.
DRAWN	JM KOENIG	NO.	22800	
CHECKED	KB HALL			2
APPROVED	LH BADTRAM			
APPROVED				
DATE	JANUARY 10, 2012			



INTERIOR FINISH SCHEDULE REMARKS:
1. OPEN TO UNDERSIDE OF CONSTRUCTION ABOVE - PAINT.

INTERIOR FINISH SCHEDULE ABBREVIATIONS:

CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
EC	EXPOSED CONSTRUCTION
EP	EPOXY PAINT
HNDR	HARDENER
MLP	METAL PANEL LINER
HCD	HOLLOW CORE DECK

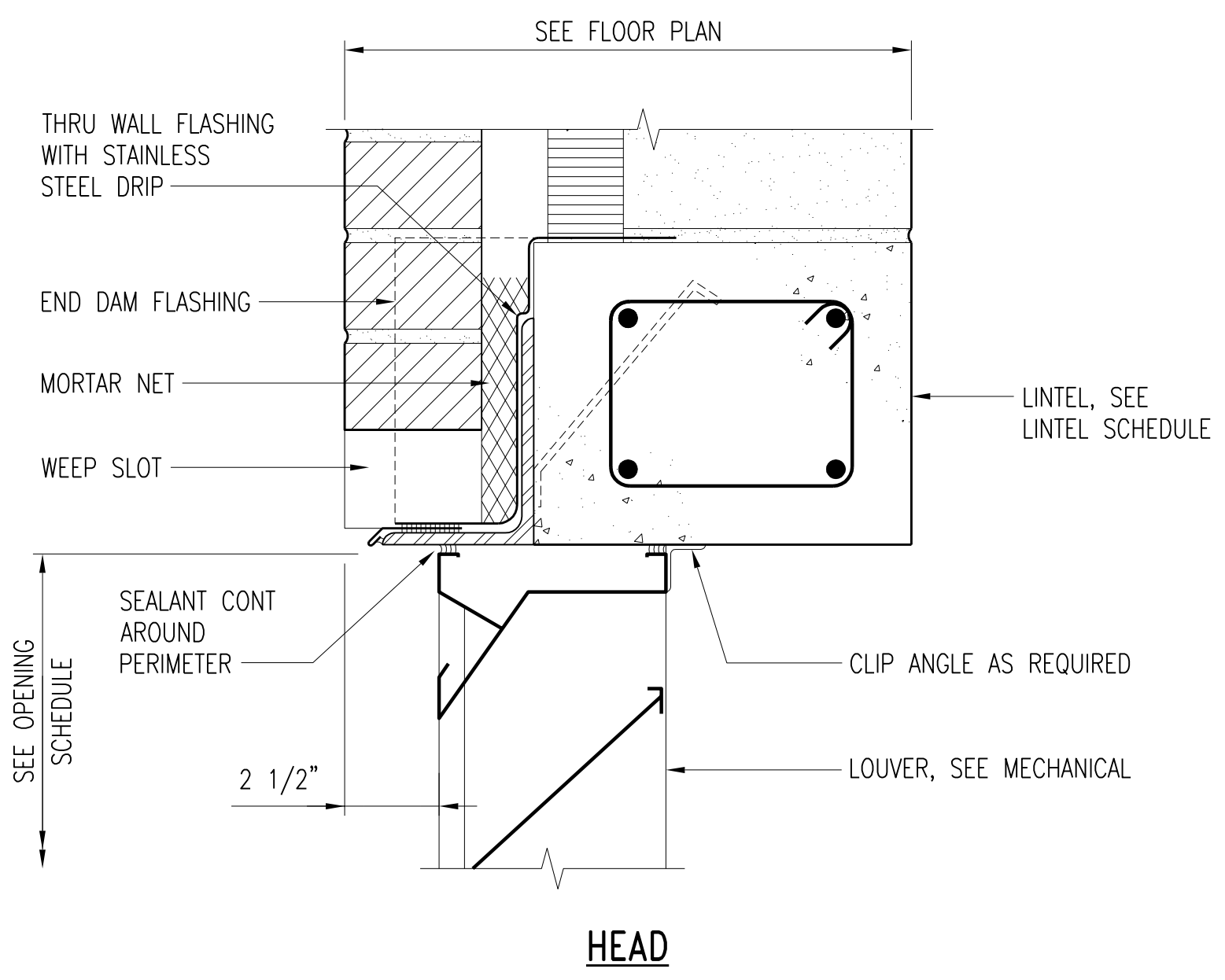
BUILDING	ROOM NO	ROOM NAME	FLOOR		BASE		WALLS		CEILING			REMARKS
			MATL	FINISH	FINISH	COLOR	MATL	FINISH	MATL	FINISH	HEIGHT	
GRIT DEWATERING BUILDING	270	ELECTRICAL ROOM	CONC	HDNR	--	--	CMU	EP	HCD	PAINT		1
BLOWER BUILDING	450	BLOWER ROOM	CONC	HDNR	--	--	CMU	EP	HCD	PAINT		1, CMU - SOUNDBLOX
SODIUM HYPOCHLORITE BUILDING	670	TANK ROOM	CONC	HDNR	--	--	CMU	EP	HCD	PAINT		1
EQUIPMENT WAREHOUSE	970	WAREHOUSE STORAGE	CONC	HDNR	--	--	CMU/MLP	EP	MLP	--		

BUILDING	OPENING NUMBER	DOOR		FRAME			DETAILS			FIRE RATING	HARDWARE SET	REMARKS
		TYPE	SIZE (W X H)	MATL	TYPE	ELEVATION	MATL	HEAD	JAMB			
GRIT DEWATERING BUILDING	270A	F	3'-0" X 7'-2"	HM	A	1	HM	H1	J1	S1		
	271A	F	3'-0" X 7'-2"	FRP	A	1	FRP	H1 SIM	J1 SIM	S1 SIM		NEW OPNG IN EXISTING WALL
	LV272	--	SEE NOTE 4	--	--	--	AL	SEE DETAILS THIS DWG			--	LOUVER, SEE NOTE 4
BLOWER BUILDING	450A	HG	3'-0" X 7'-2"	FRP	A	1	FRP	H1	J1	S1		HW-1
	450B	C	10'-0" X 9'-0"	STL	--	--	STL	H3	J2	S2		--
	LV454	--	SEE NOTE 4	--	--	--	AL	SEE DETAILS THIS DWG			--	LOUVER, SEE NOTE 4
	SEE RFI #112 SHEET A1-A											
SODIUM HYPOCHLORITE BUILDING	670A	F	3'-0" X 7'-2"	FRP	A	1	FRP	H1	J1	S1		
	670B	C	8'-0" X 8'-0"	STL	--	--	STL	H3	J2	S2		--
	670C	F	3'-0" X 7'-2"	FRP	A	1	FRP	H1	J1	S1		
EQUIPMENT WAREHOUSE	970A	HG	3'-0" X 7'-2"	HM	A	1	HM	H2	J1	S1		
	970B	CW	14'-0" X 11'-0"	STL	--	--	STL	H4	J3	S2		--
	970C	CW	14'-0" X 11'-0"	STL	--	--	STL	H4	J3	S2		--
	970D	HG	3'-0" X 7'-2"	HM	A	1	HM	H2	J1	S1		
	970E	CW	14'-0" X 11'-0"	STL	--	--	STL	H4	J3	S2		--

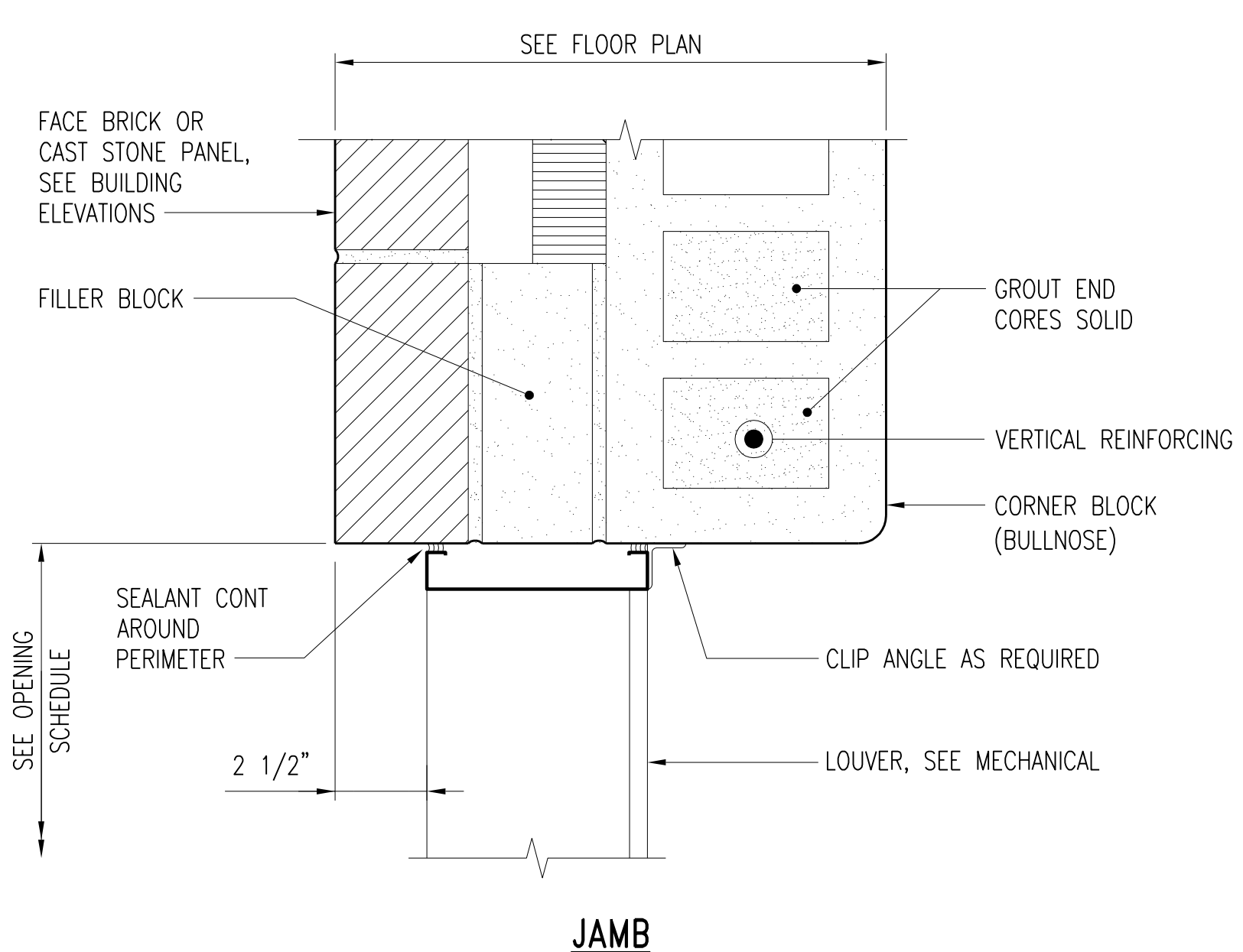
OPENING SCHEDULE NOTES:

- REFER TO DRAWING A2 FOR OPENING DETAILS.
- REFER TO SPECIFICATIONS FOR HARDWARE SETS.
- ALL GLAZING IN DOORS SHALL BE TYPE 4 (SEE SPECIFICATIONS).
- LOUVER OPENING SIZE DIMENSIONED ON PLANS AND ELEVATIONS. COORDINATE OPENING WITH LOUVER SCHEDULE ON DRAWING M4.

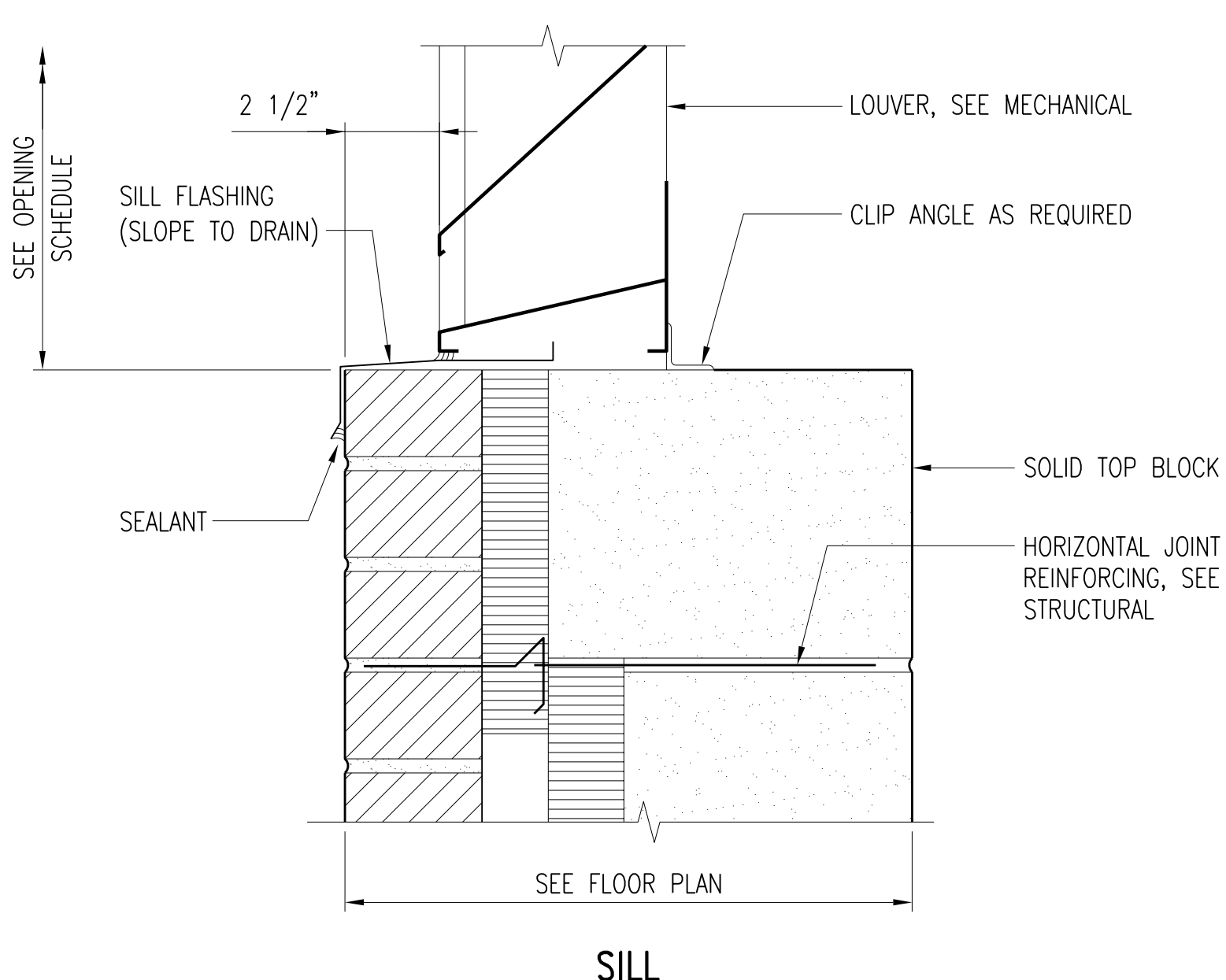
SEE RFI #99 SHEET A1-A



HEAD

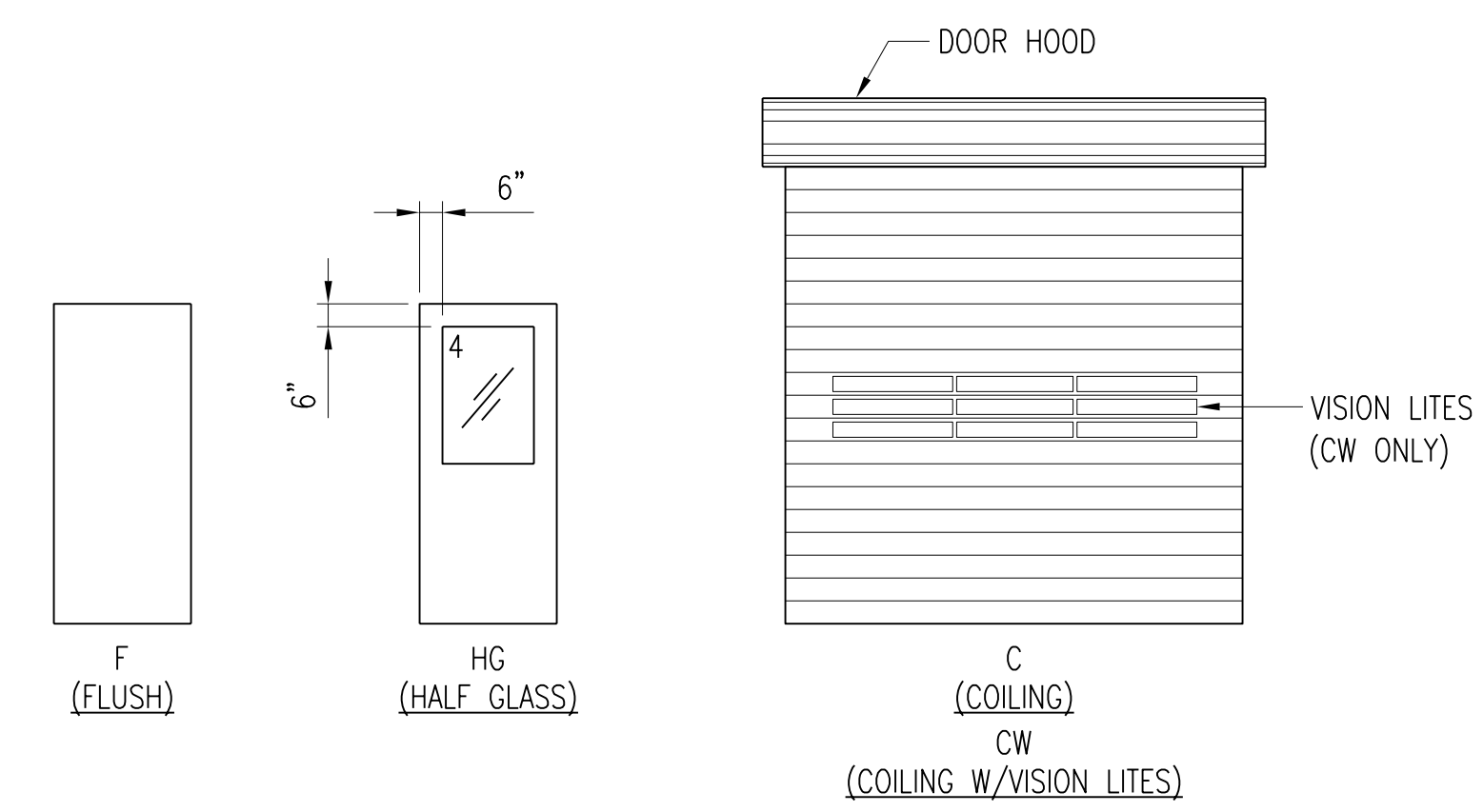


JAMB

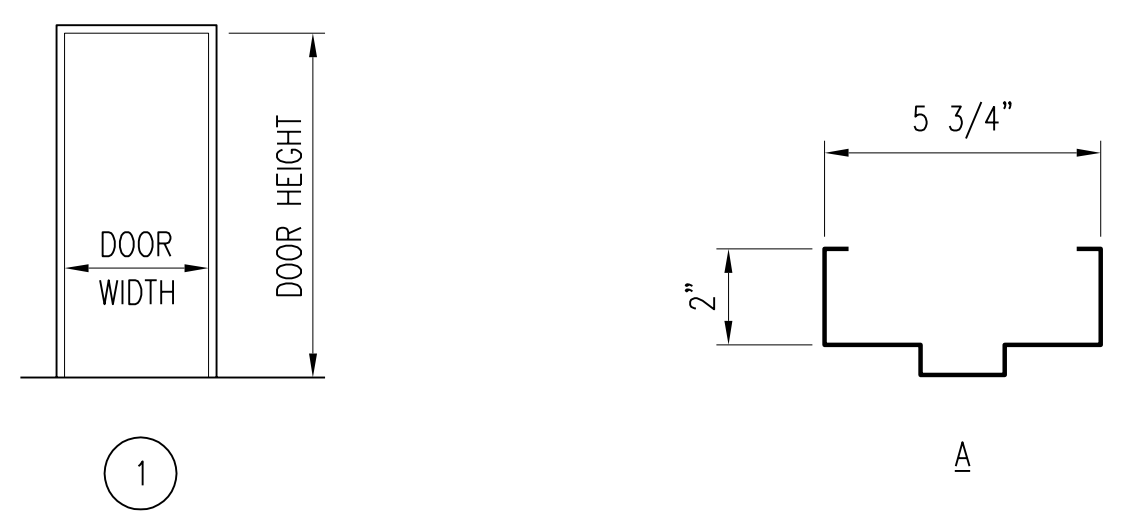


SILL

TYPICAL LOUVER DETAILS
SCALE: 3" = 1'-0"

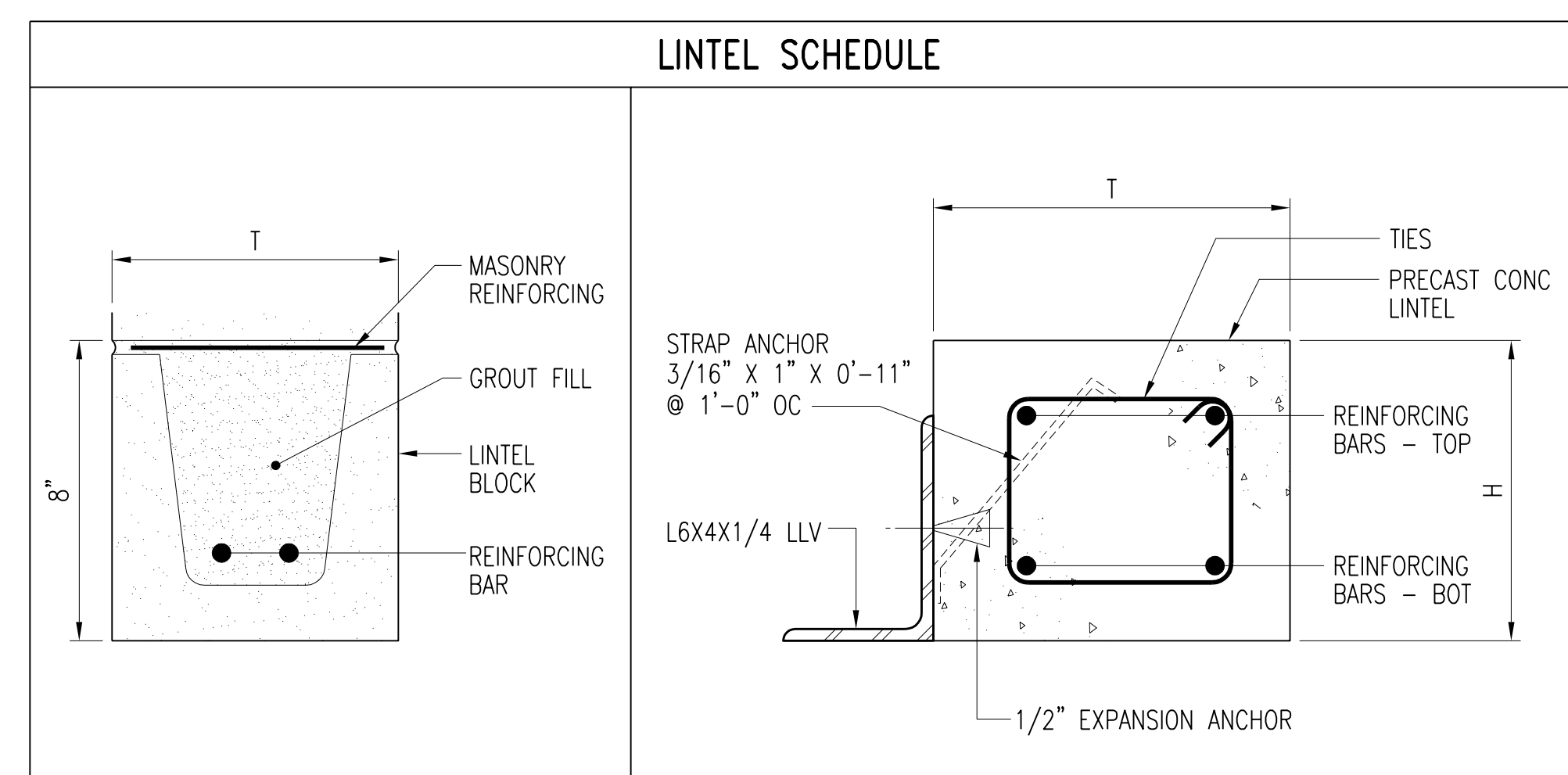


DOOR TYPES
NO SCALE



FRAME ELEVATIONS
NO SCALE

FRAME TYPE
SCALE: 3" = 1'-0"



"T"	MAX SPAN	REINFORCING	MIN BRG (EA END)	"T"	"H"	MAX SPAN	REINFORCING	TIES	MIN BRG (EA END)
6"	4'-8"	2 - #5	8"	10"	8"	3'-4"	2 - #4 TOP, 2 - #4 BOT	#3 @ 10" OC	8"
8"	4'-8"	2 - #5	8"	10"	8"	6'-4"	2 - #5 TOP, 2 - #6 BOT	#3 @ 10" OC	8"
10"	4'-8"	2 - #6	8"	10"	12"	12'-0"	2 - #5 TOP, 2 - #6 BOT	#3 @ 10" OC	8"

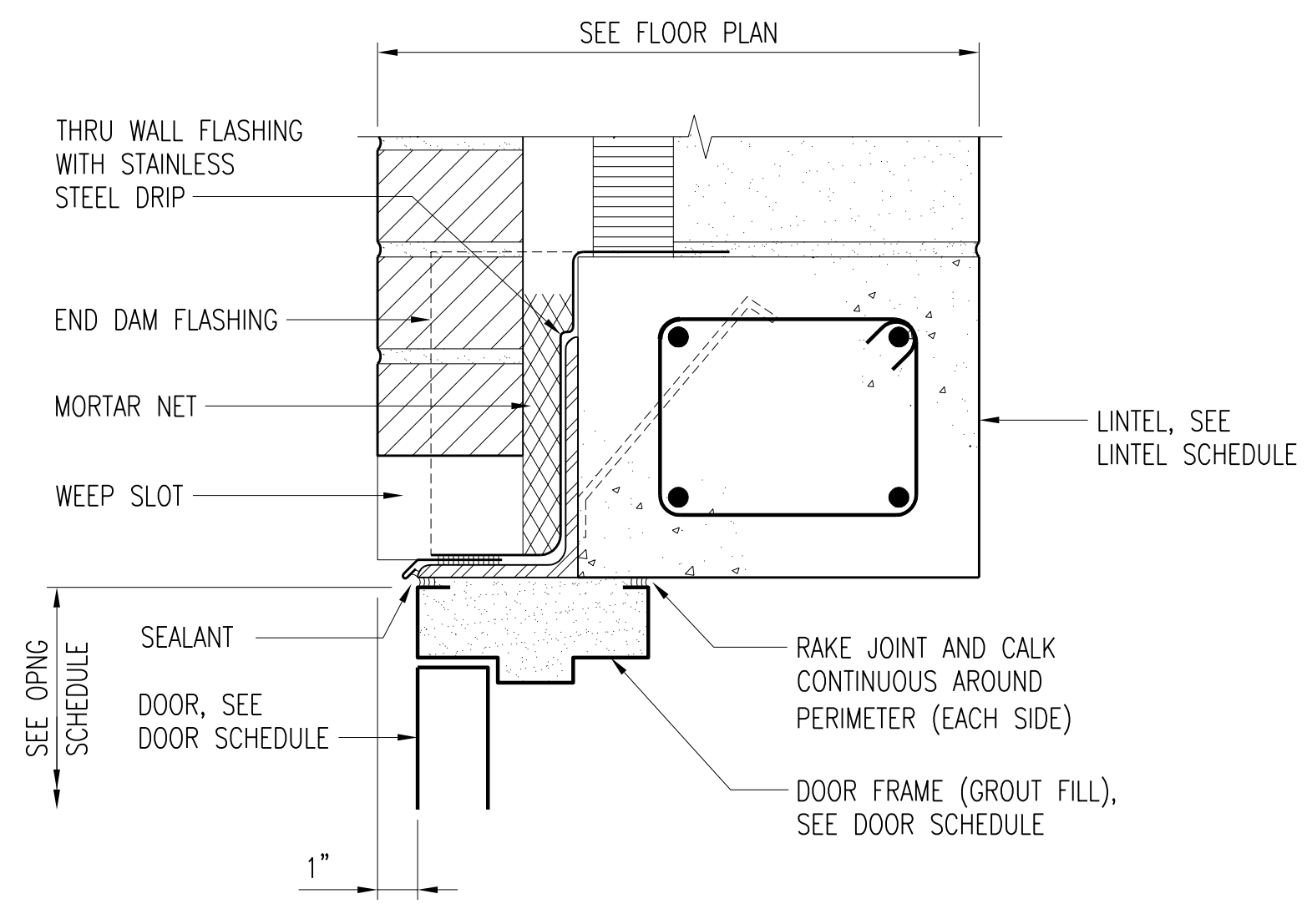
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REV OPENING SCHEDULE	GAL	GAL	DS	01-25-2012
1	ISSUED FOR CONSTRUCTION	GAL	GAL	DS	01-10-2012
NO.	REVISIONS	DGN	CHKD	APVD	DATE

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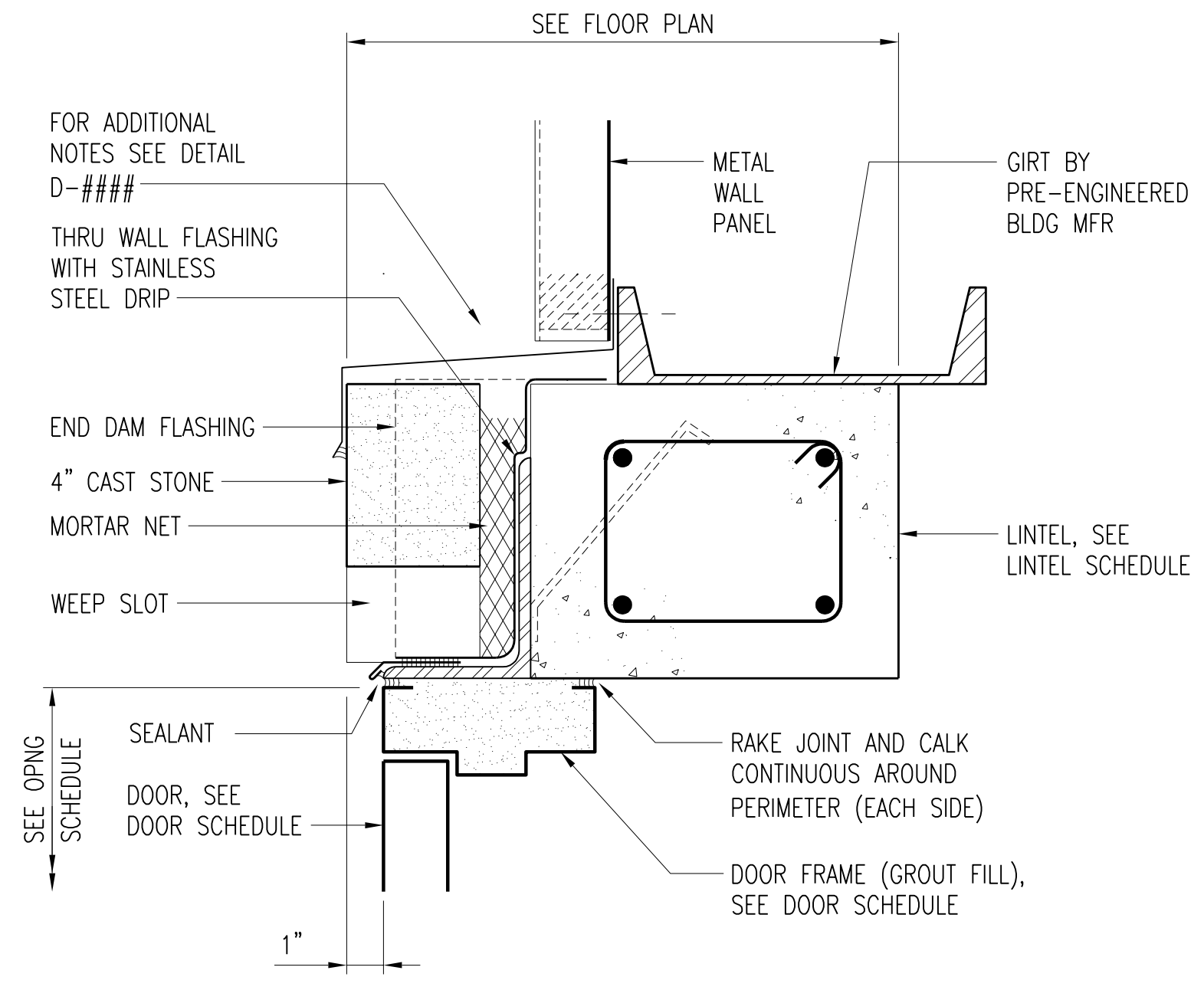
ARCHITECTURAL TYPICAL DETAILS-SCHEDULES AND OPENING SCHEDULES

DESIGNED	GA LUDWIG	SCALE:	AS NOTED
DRAWN	DA HUMISTON	NO.	22800
CHECKED	GA LUDWIG	REV.	
APPROVED	D SARKAR		
APPROVED			
DATE	DECEMBER 2, 2011		

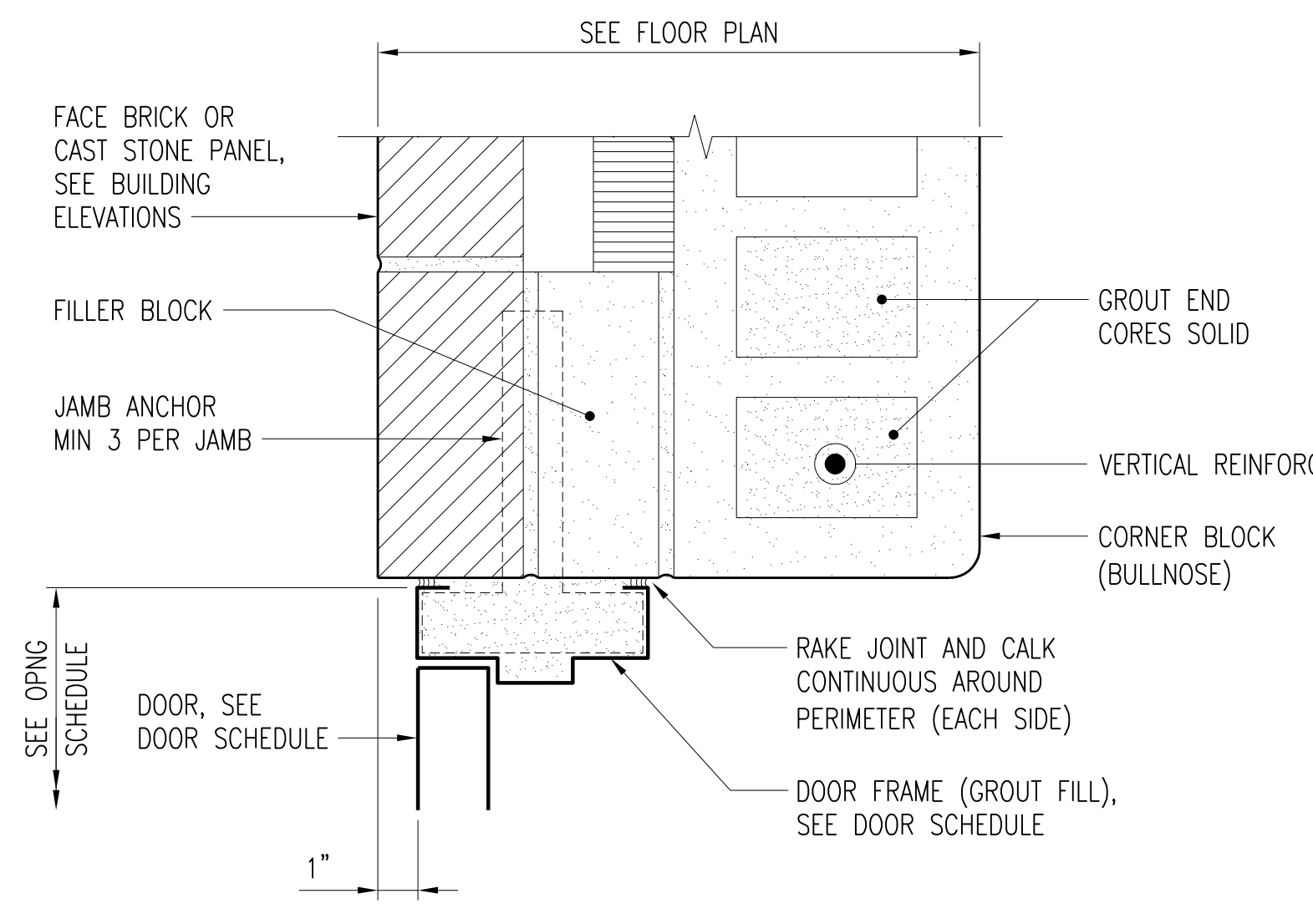




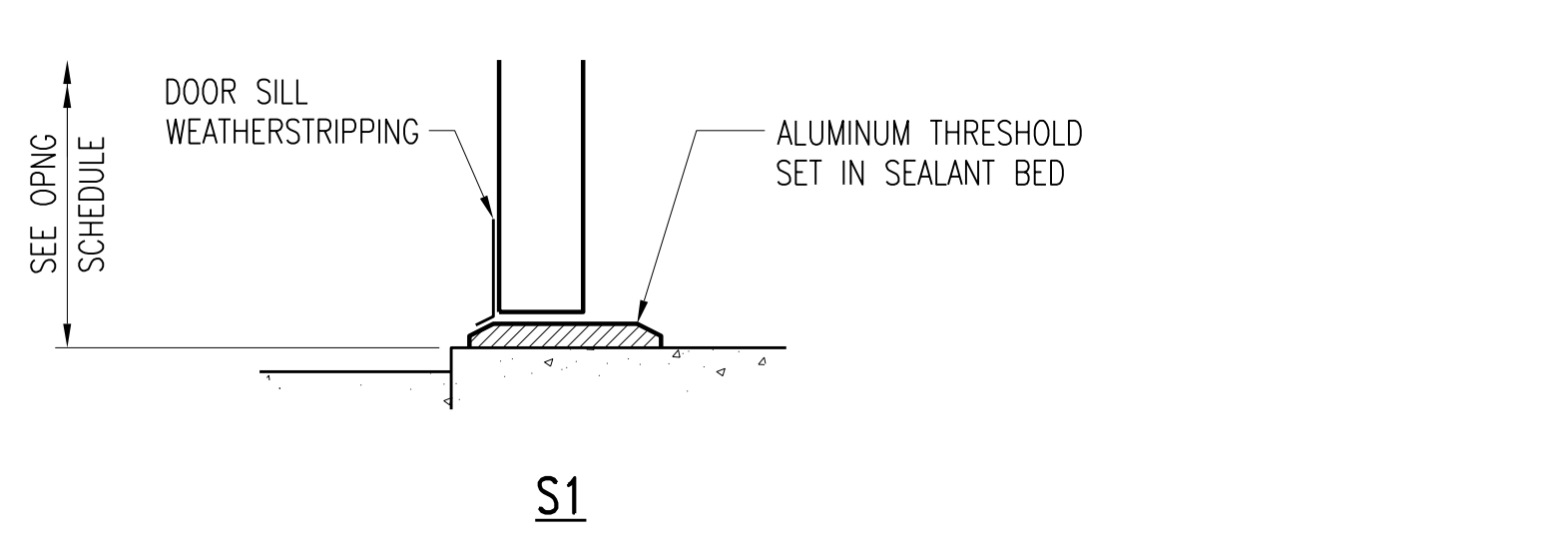
H1



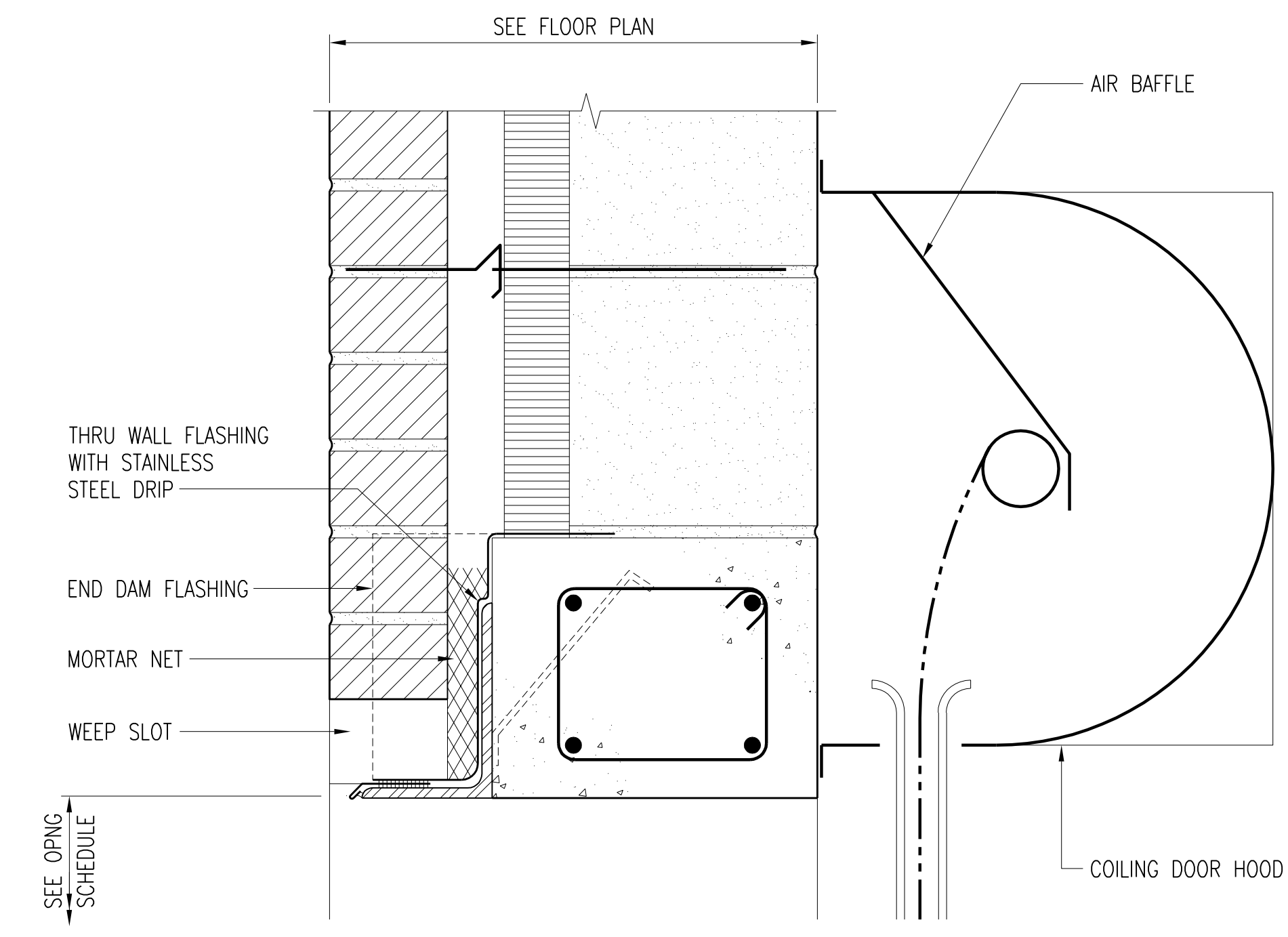
H2



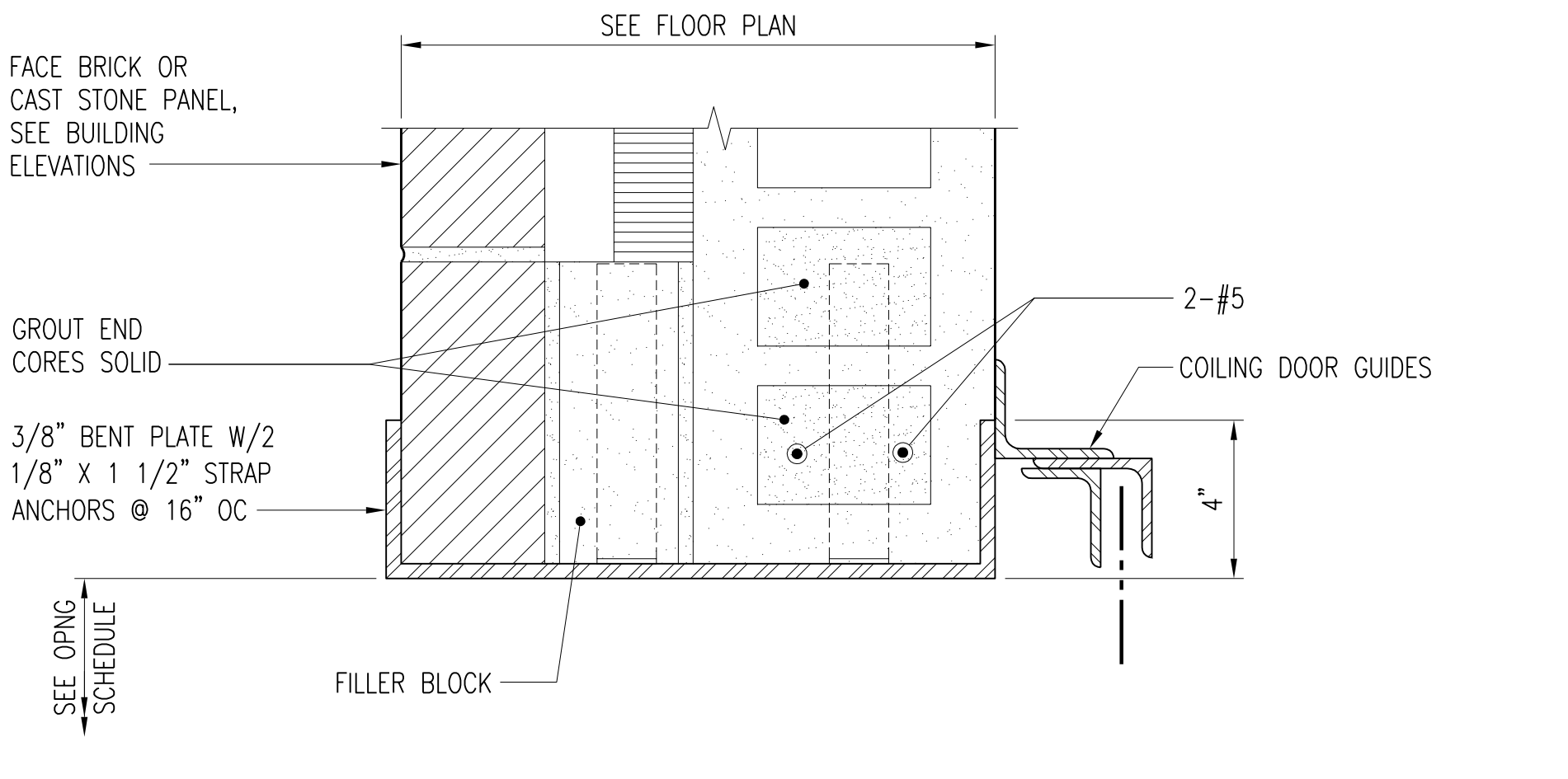
J1



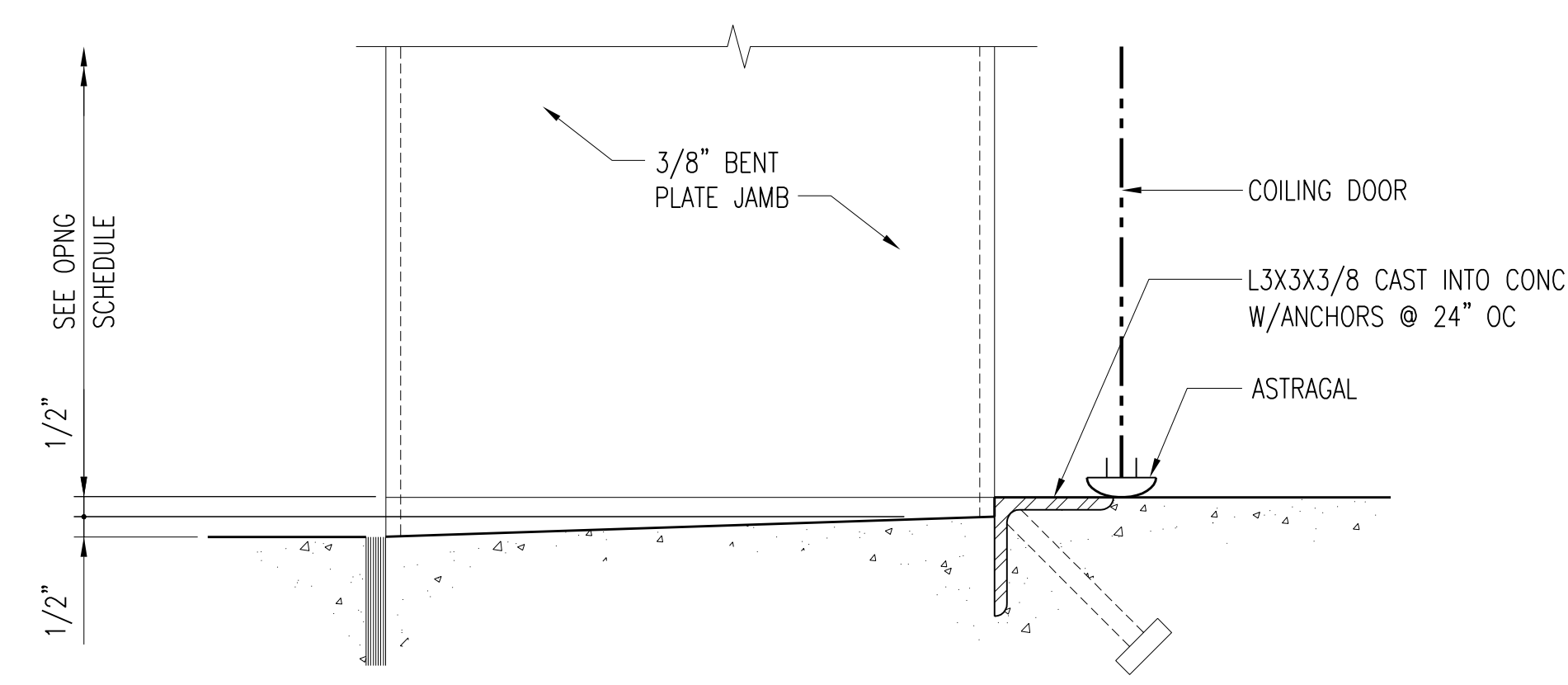
S1



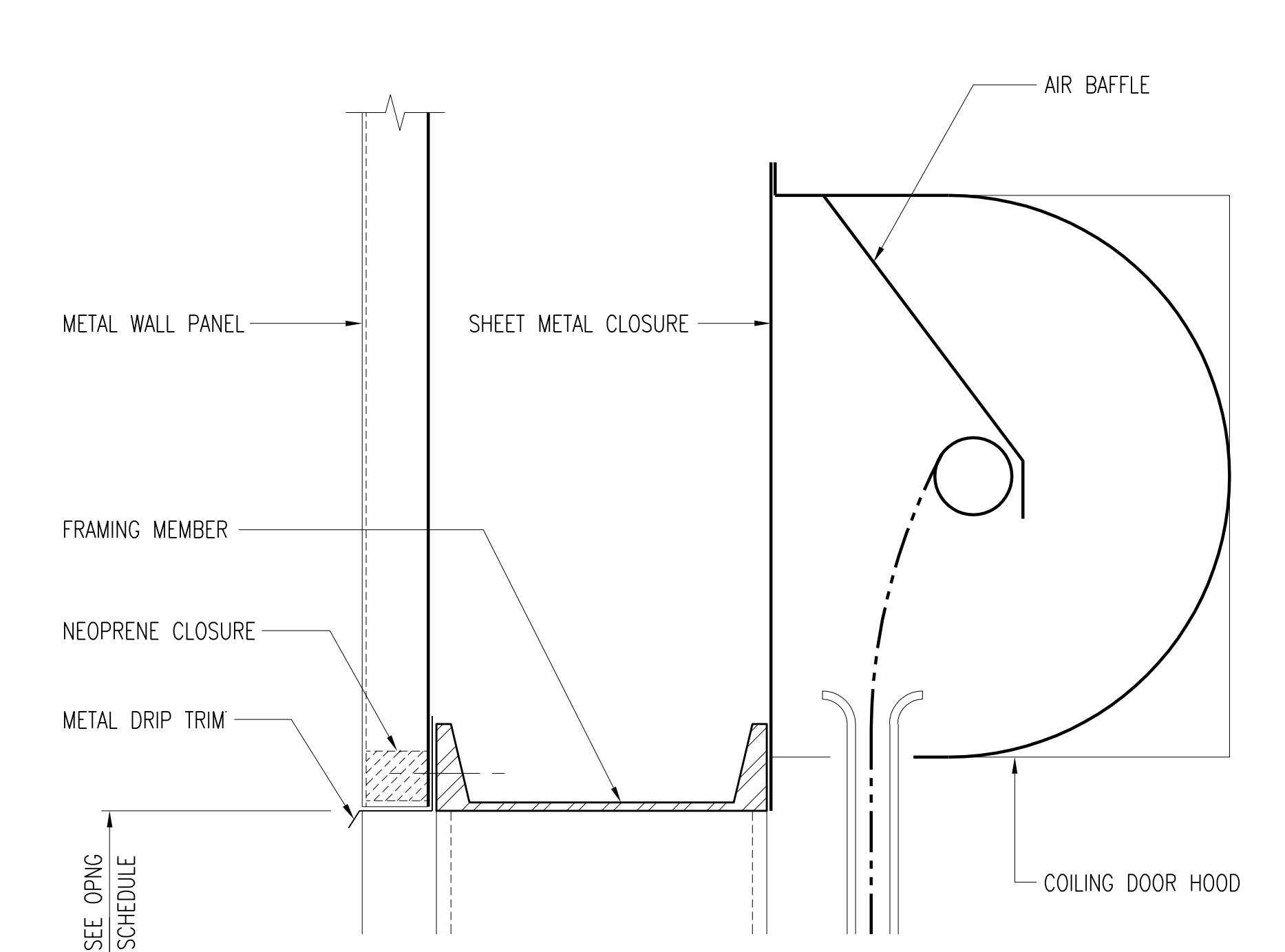
H3



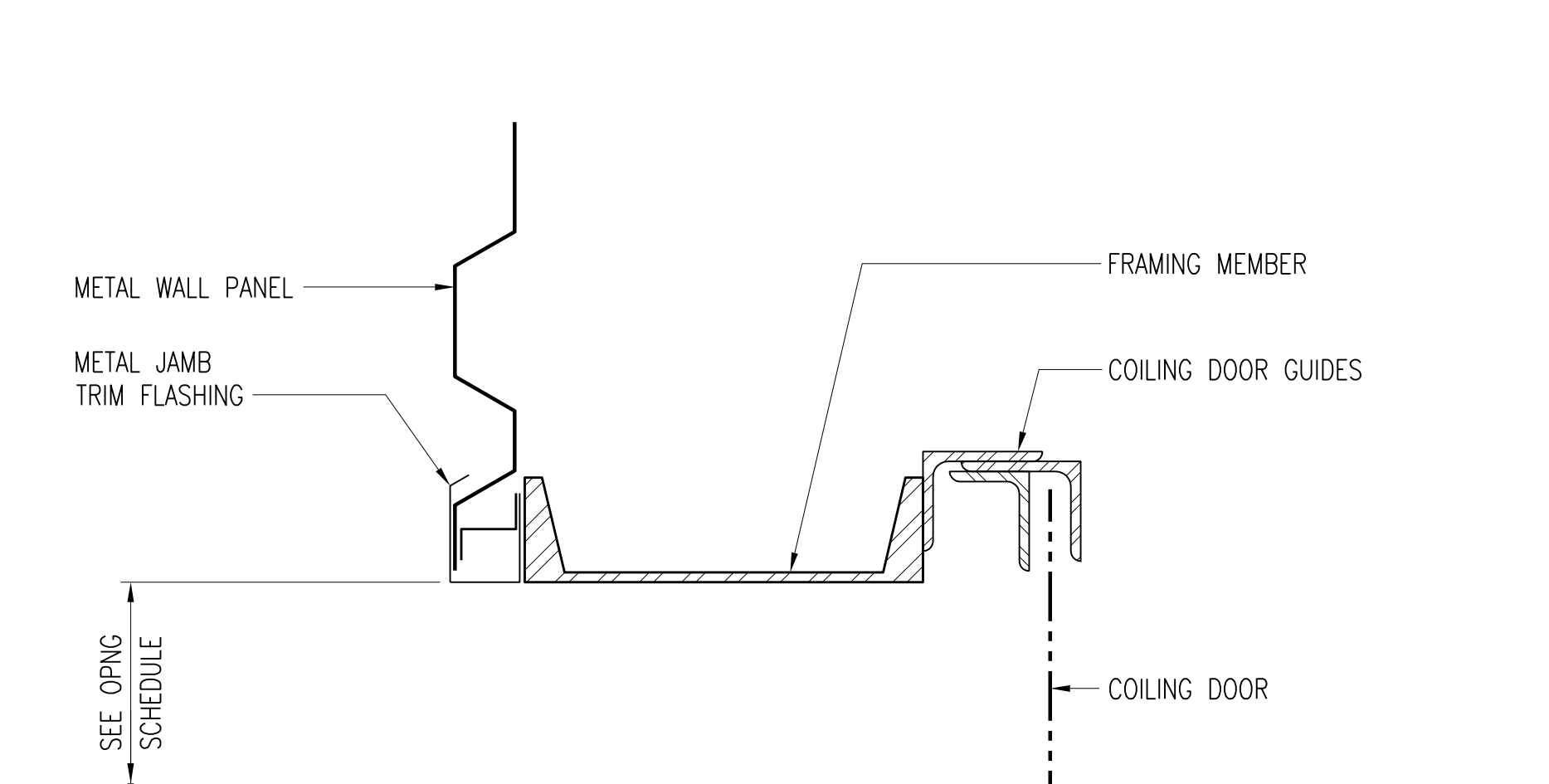
J2



S2



H4



J3

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	GAL	GAL	DS	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



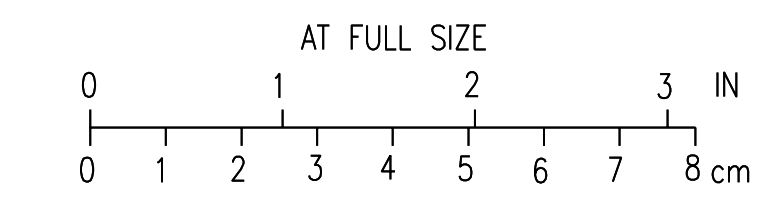
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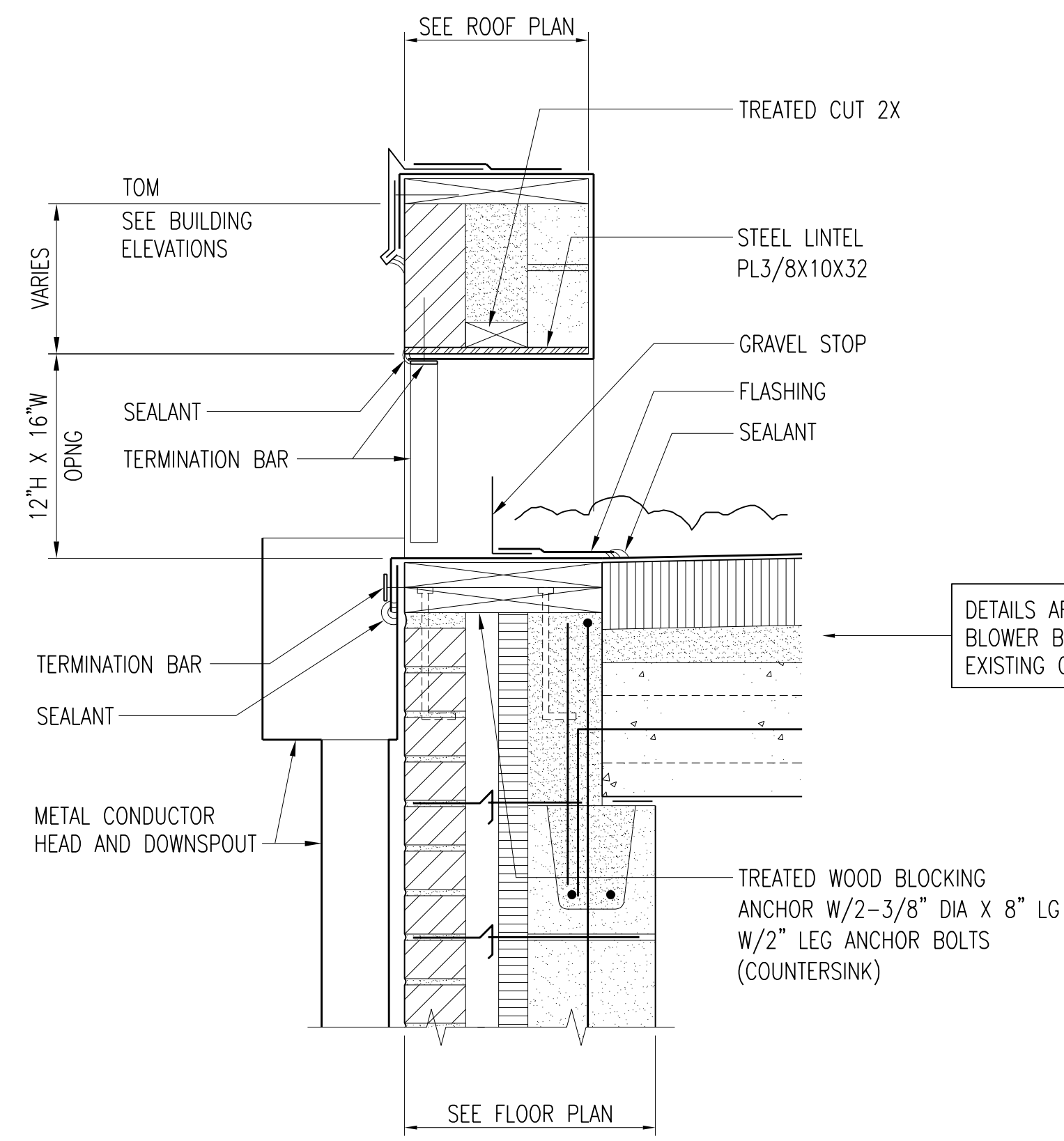
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ARCHITECTURAL TYPICAL DETAILS-SCHEDULES
TYPICAL OPENING DETAILS

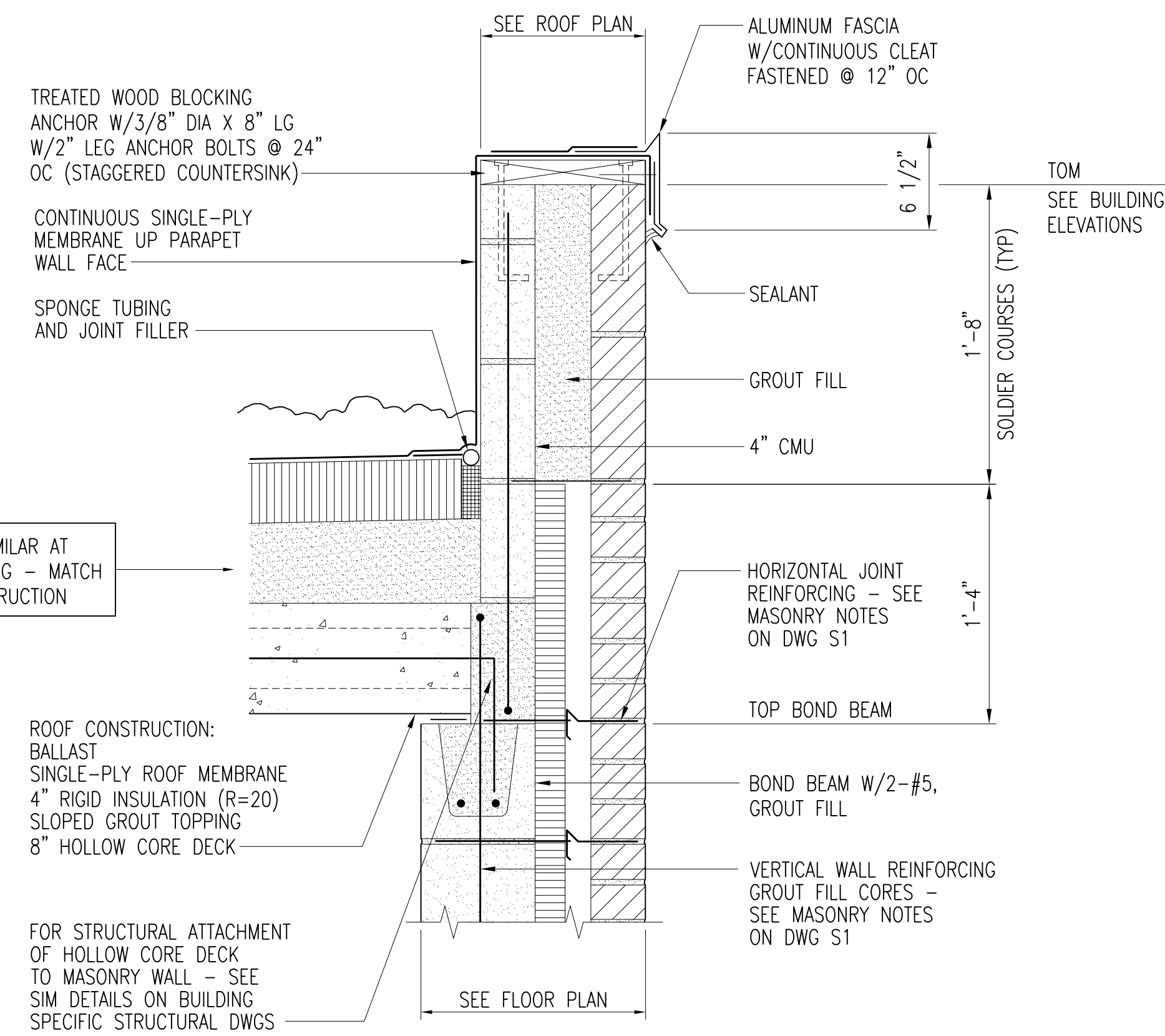
DESIGNED	GA LUDWIG	SCALE: 3"=1'-0"	NO. 22800	REV.
DRAWN	DA HUMISTON			
CHECKED	GA LUDWIG			
APPROVED	D SARKAR			
APPROVED				
DATE	DECEMBER 2, 2011		A2	2



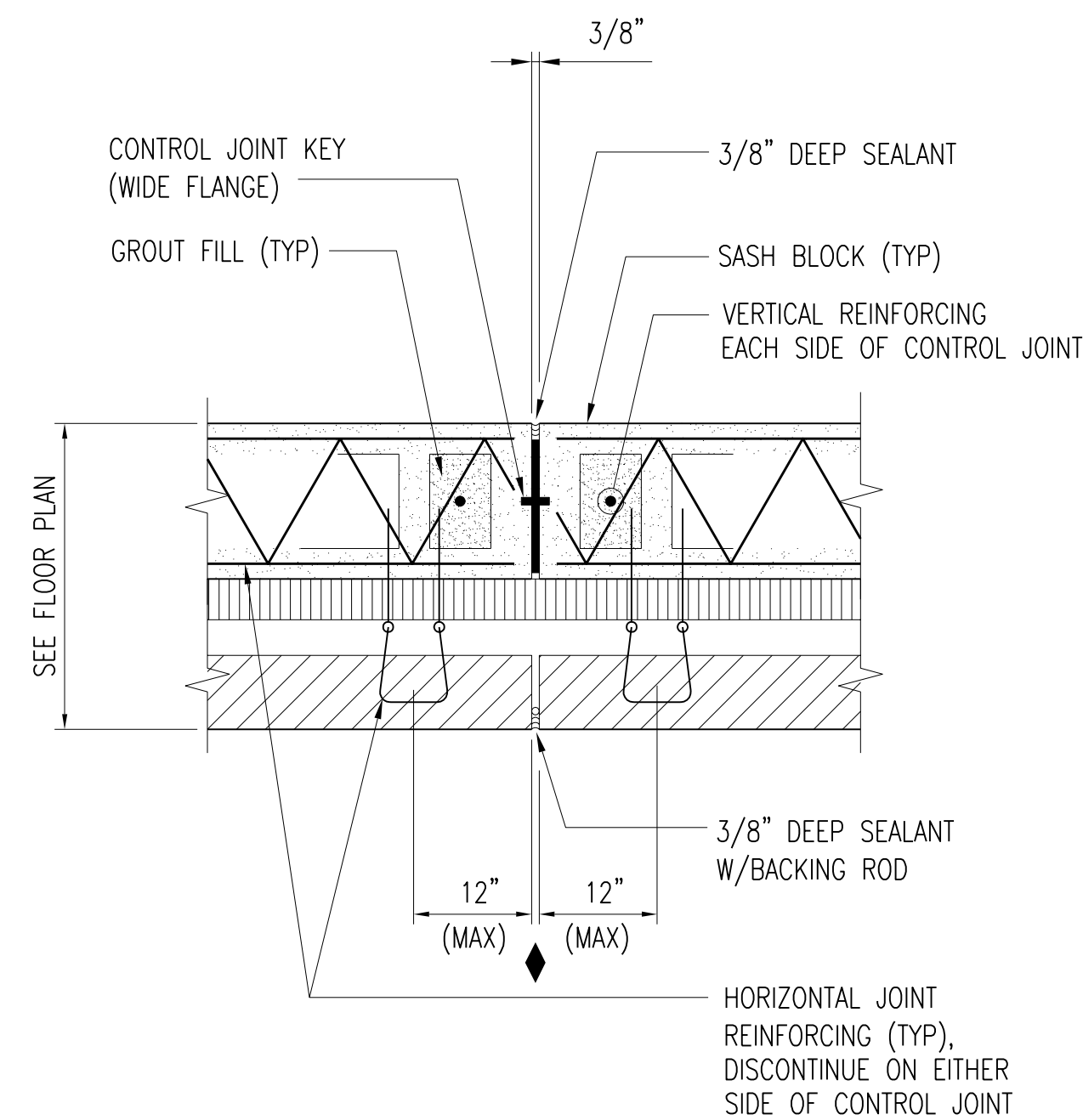
CADD: D1-R4



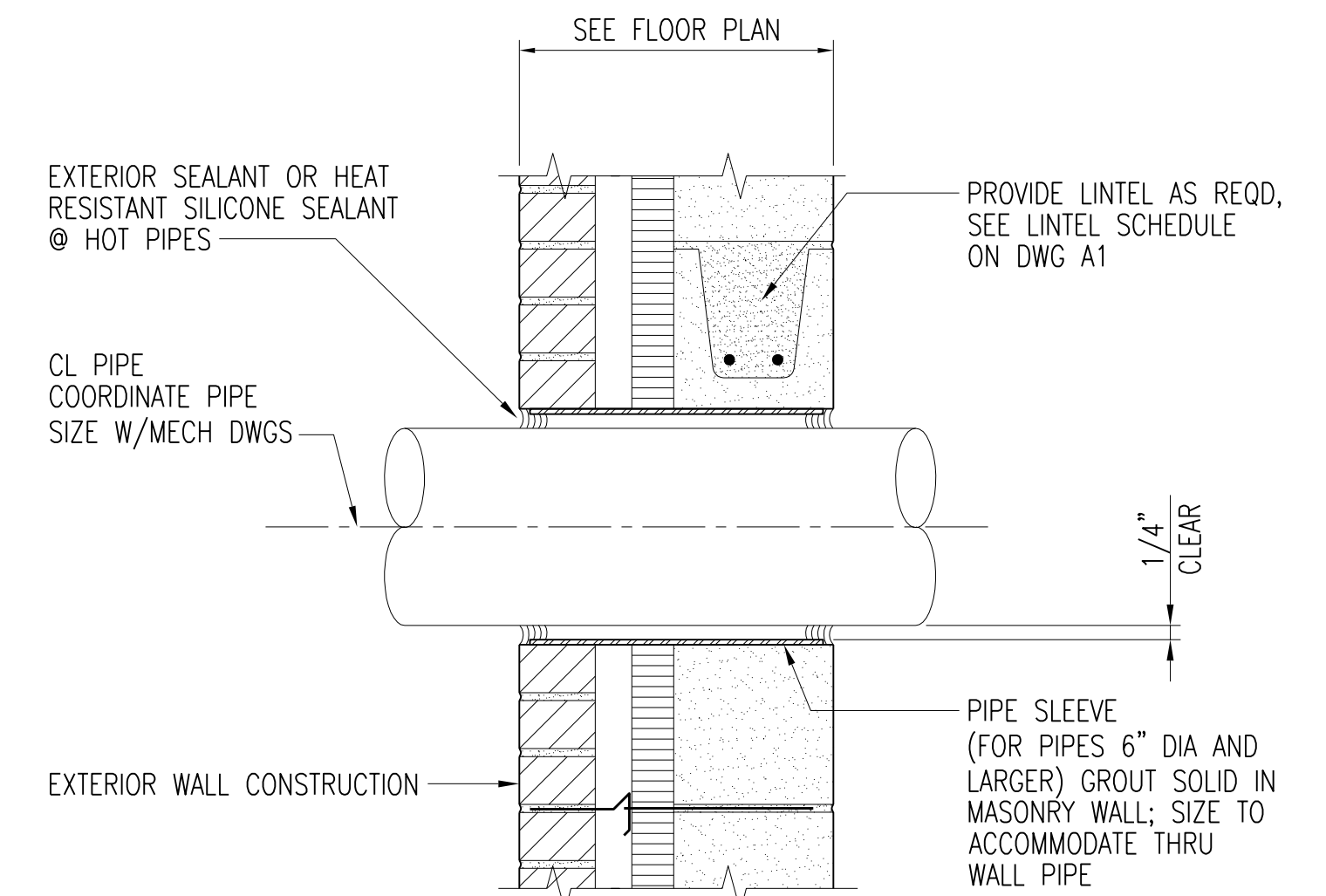
TYPICAL SCUPPER/PARAPET DETAIL @ LOW SIDE
SCALE: 1/2" = 1'-0"



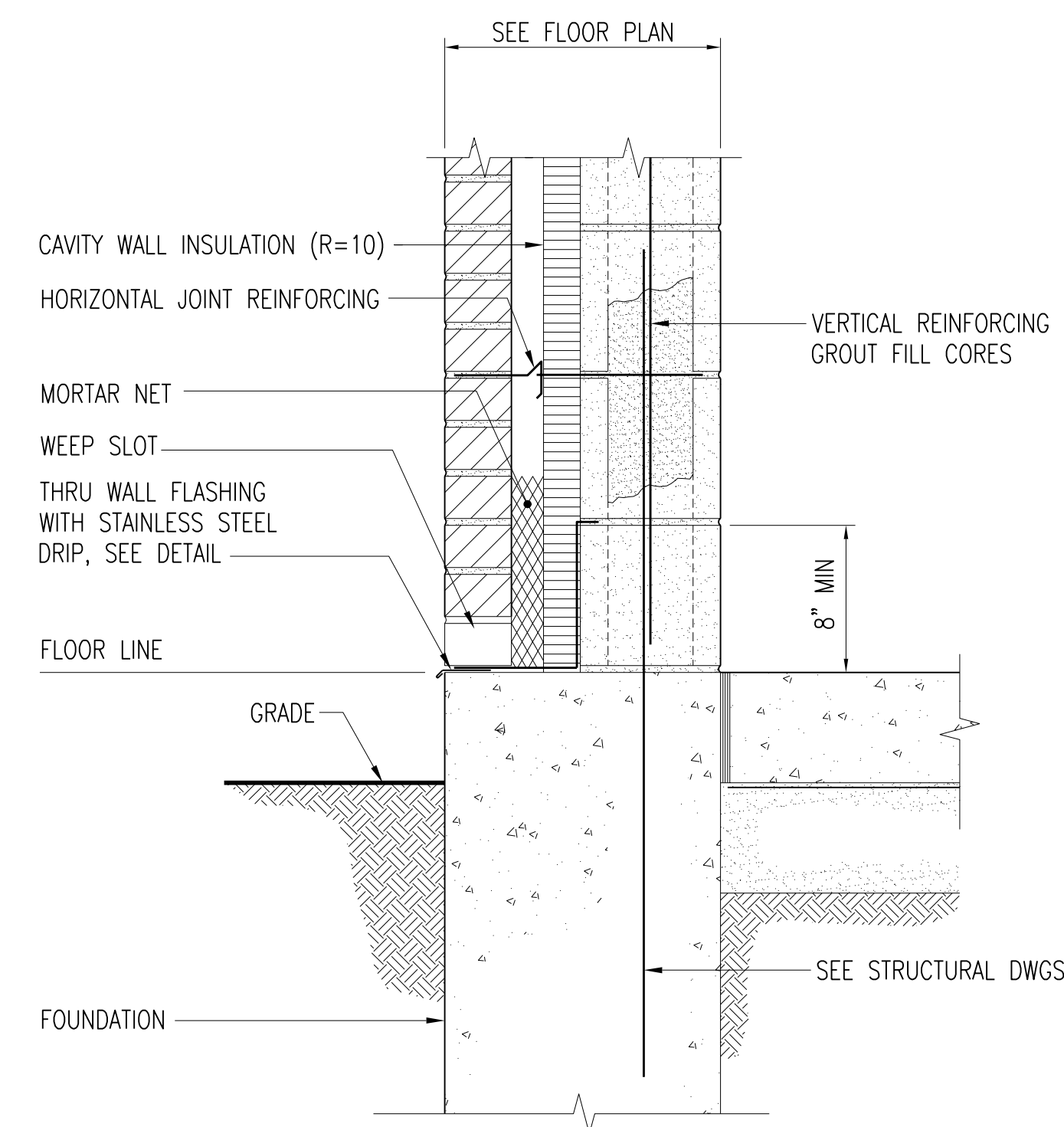
TYPICAL PARAPET DETAIL @ HIGH SIDE
SCALE: 1/2" = 1'-0"



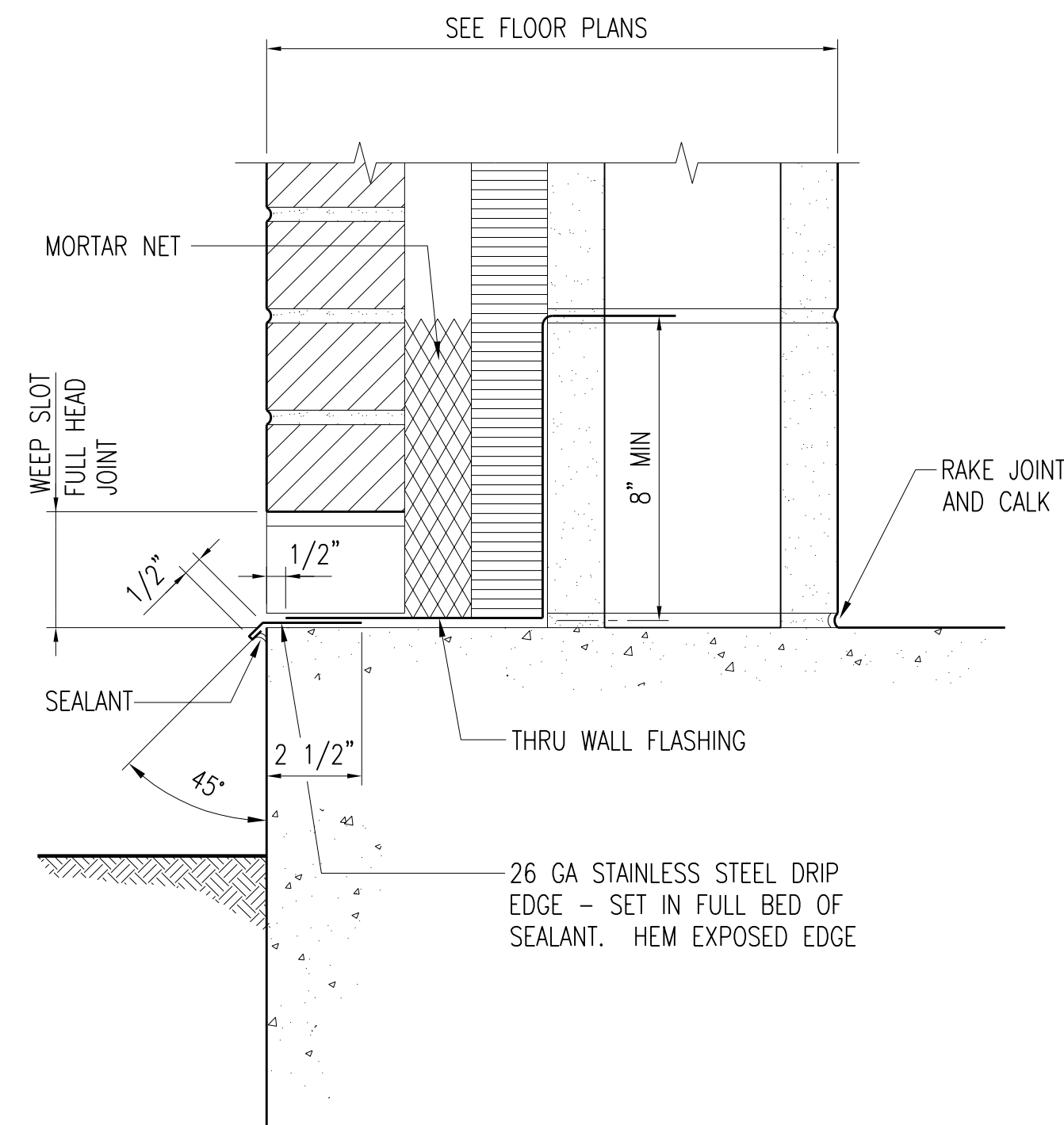
TYPICAL CONTROL JOINT TYPE 1
SCALE: 1/2" = 1'-0"



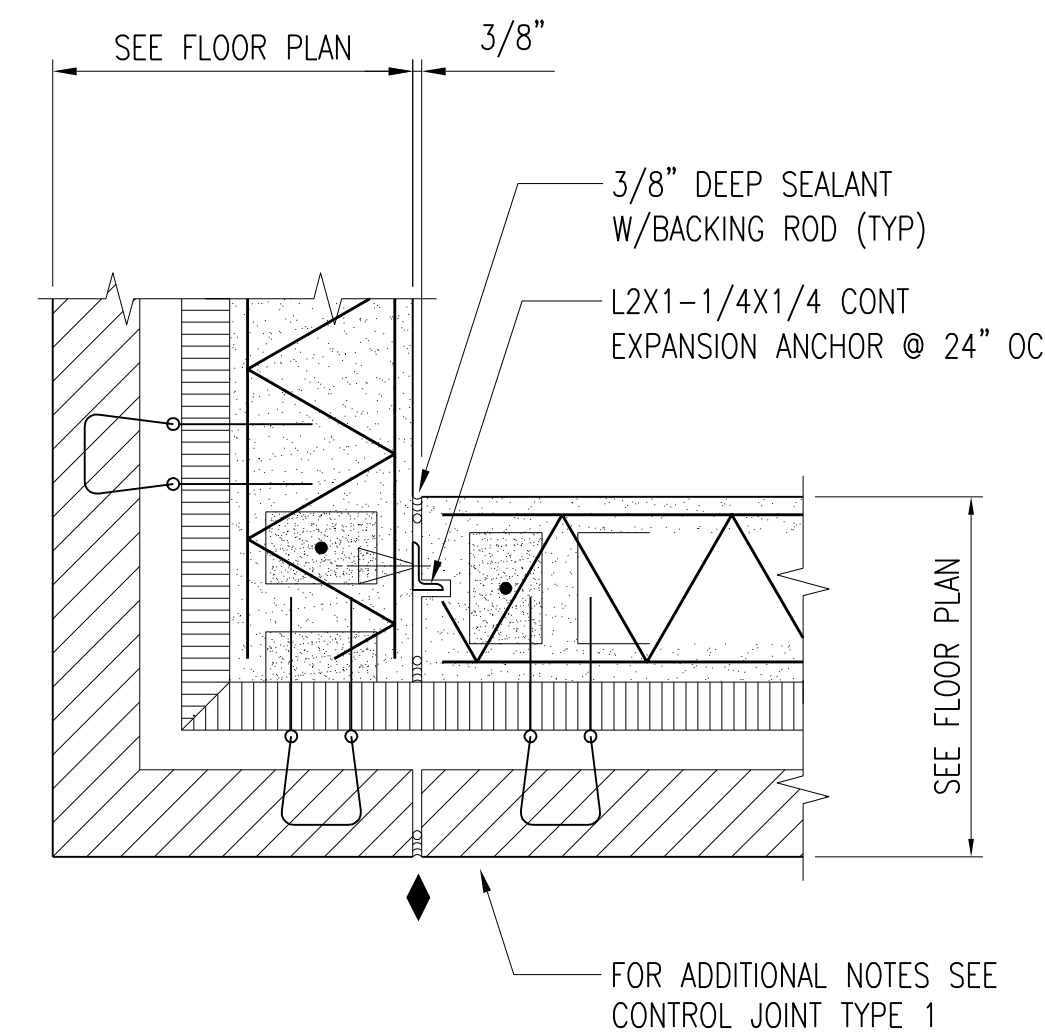
TYPICAL PIPE THRU WALL DETAIL
SCALE: 1/2" = 1'-0"



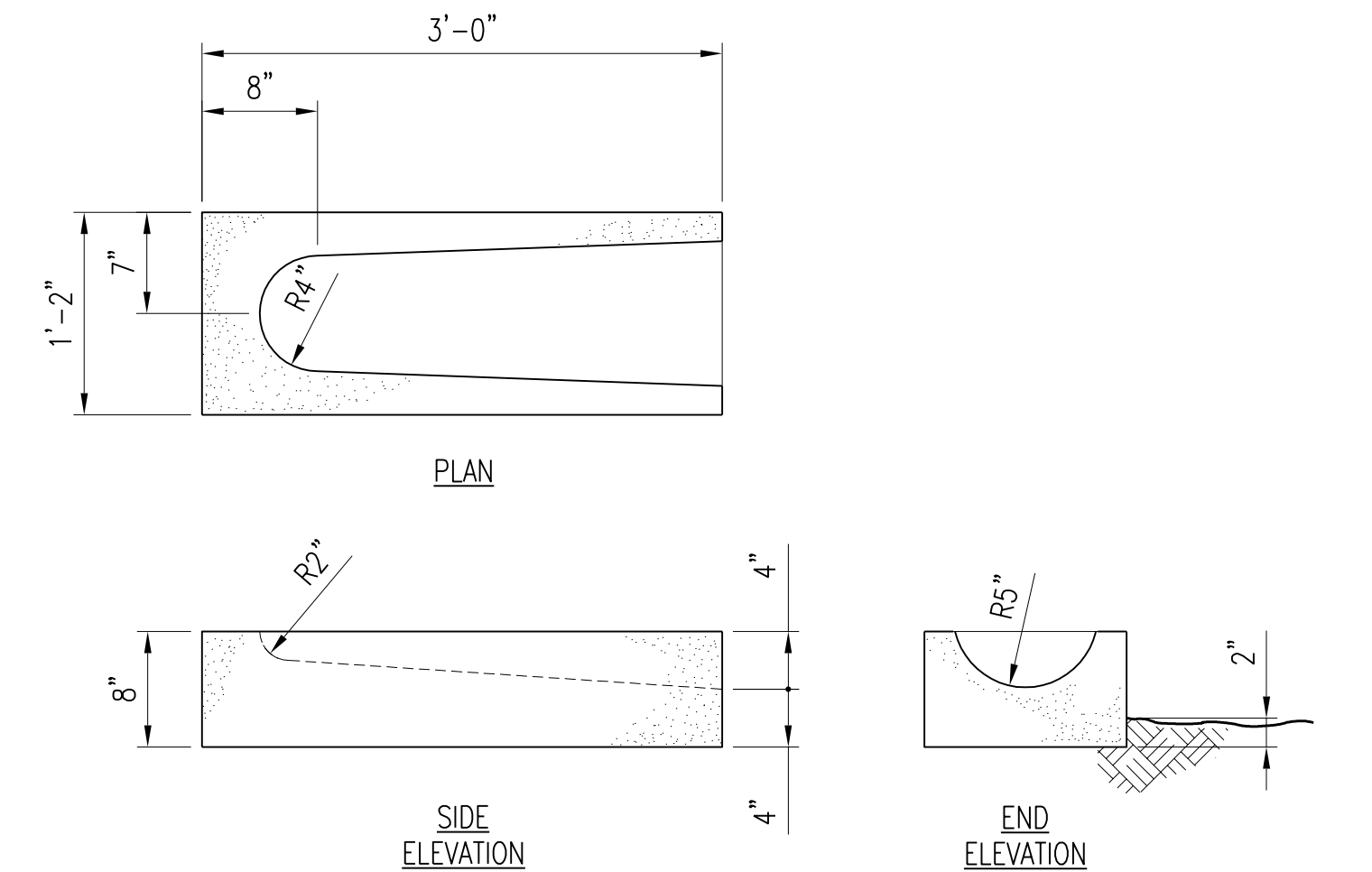
TYPICAL WALL BASE DETAIL
SCALE: 1/2" = 1'-0"



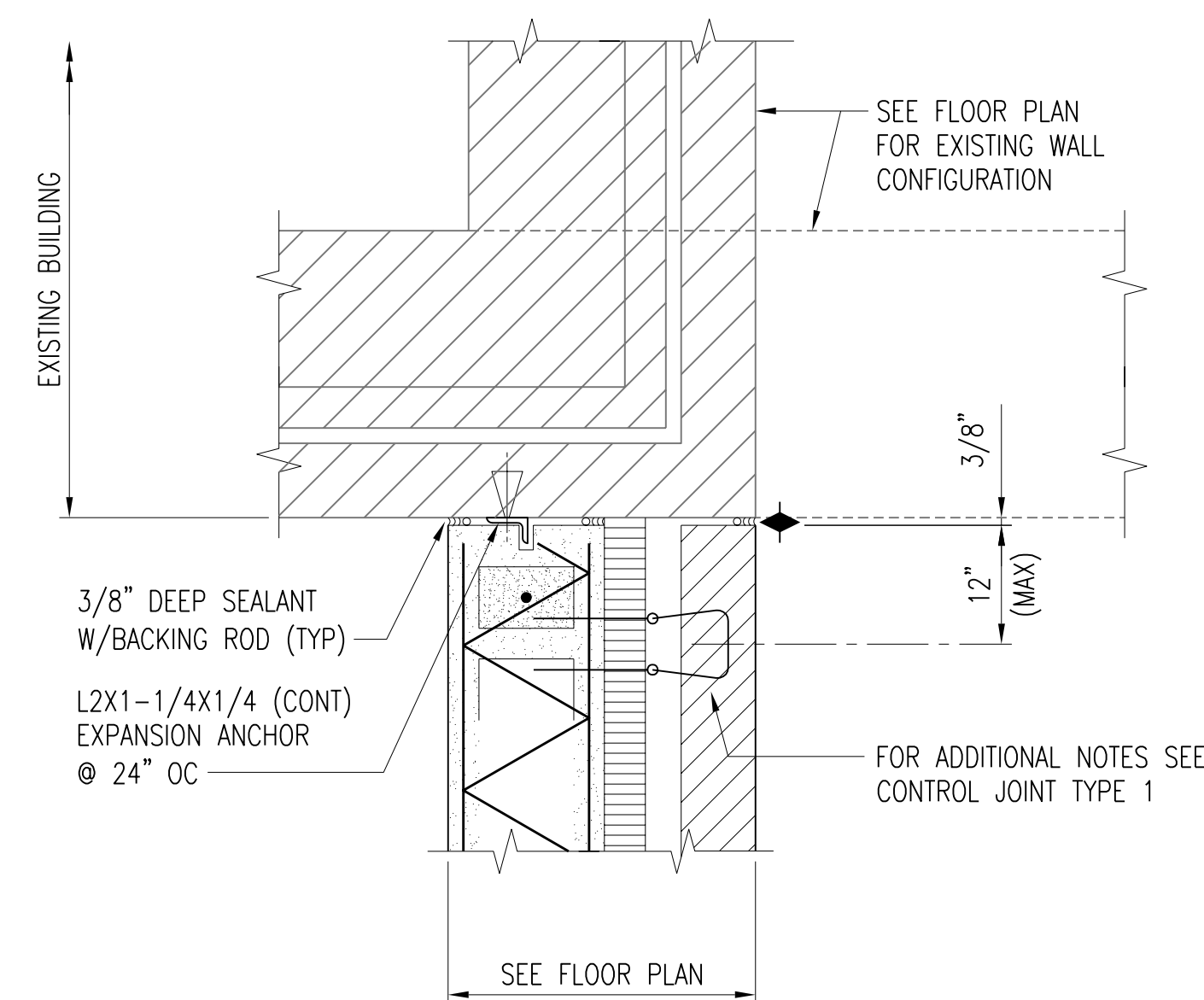
TYPICAL THRU-WALL FLASHING DETAIL
SCALE: 3/8" = 1'-0"



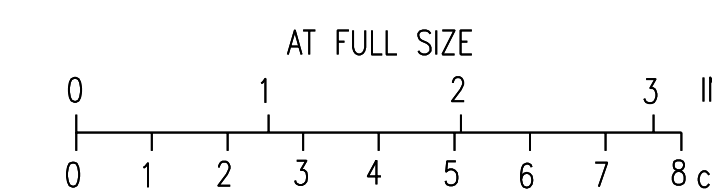
TYPICAL CONTROL JOINT TYPE 2
SCALE: 1/2" = 1'-0"



PRECAST CONCRETE SPLASH BLOCK
NO SCALE



TYPICAL CONTROL JOINT @ EXISTING BUILDING
SCALE: 1/2" = 1'-0"



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REV ROOF CONST NOTE-PARAPET DET	GAL	GAL	DS	01-25-2012
1	ISSUED FOR CONSTRUCTION	GAL	GAL	DS	01-10-2012
NO.	REVISIONS	DGSN	CHKD	APVD	DATE

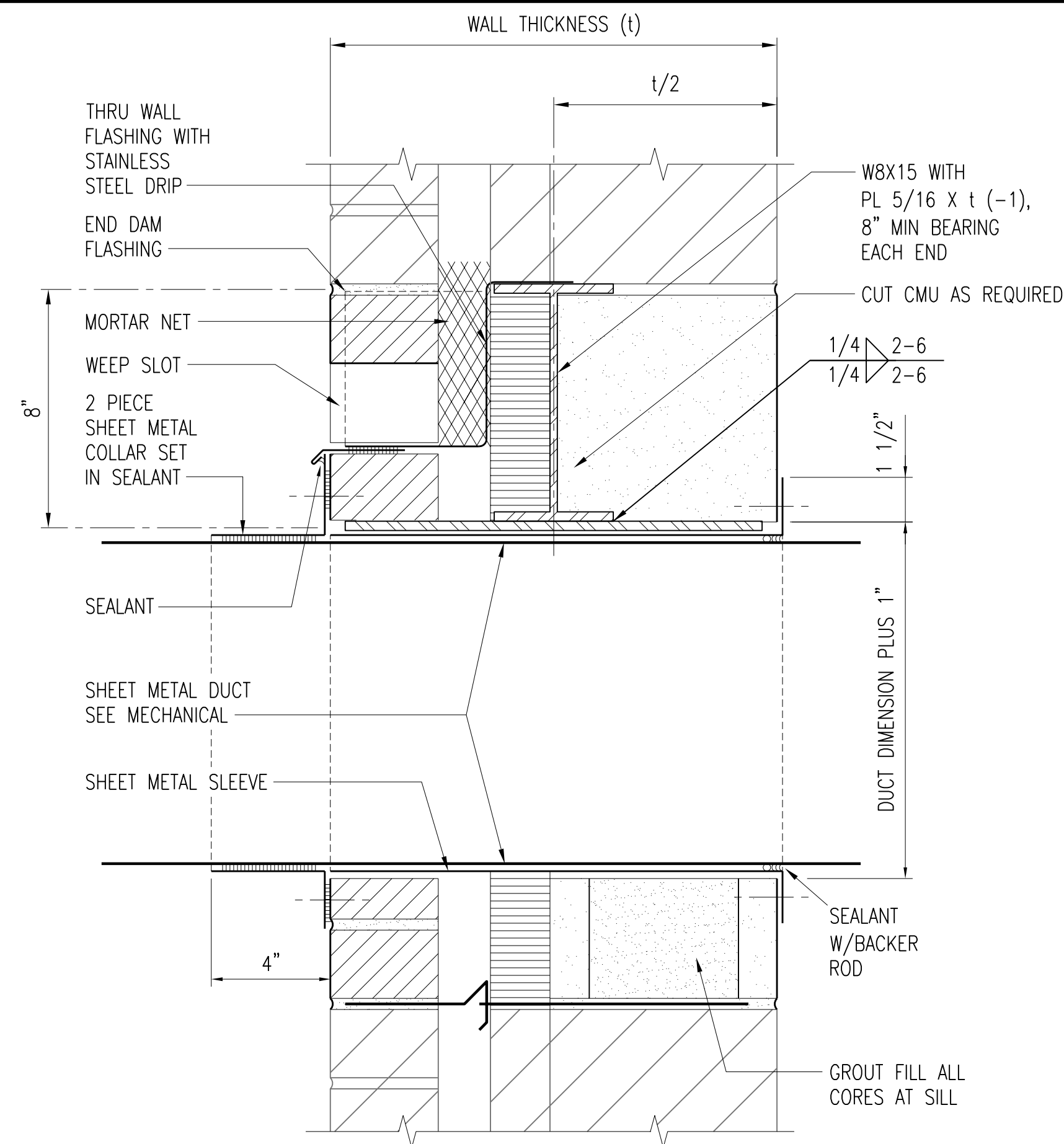

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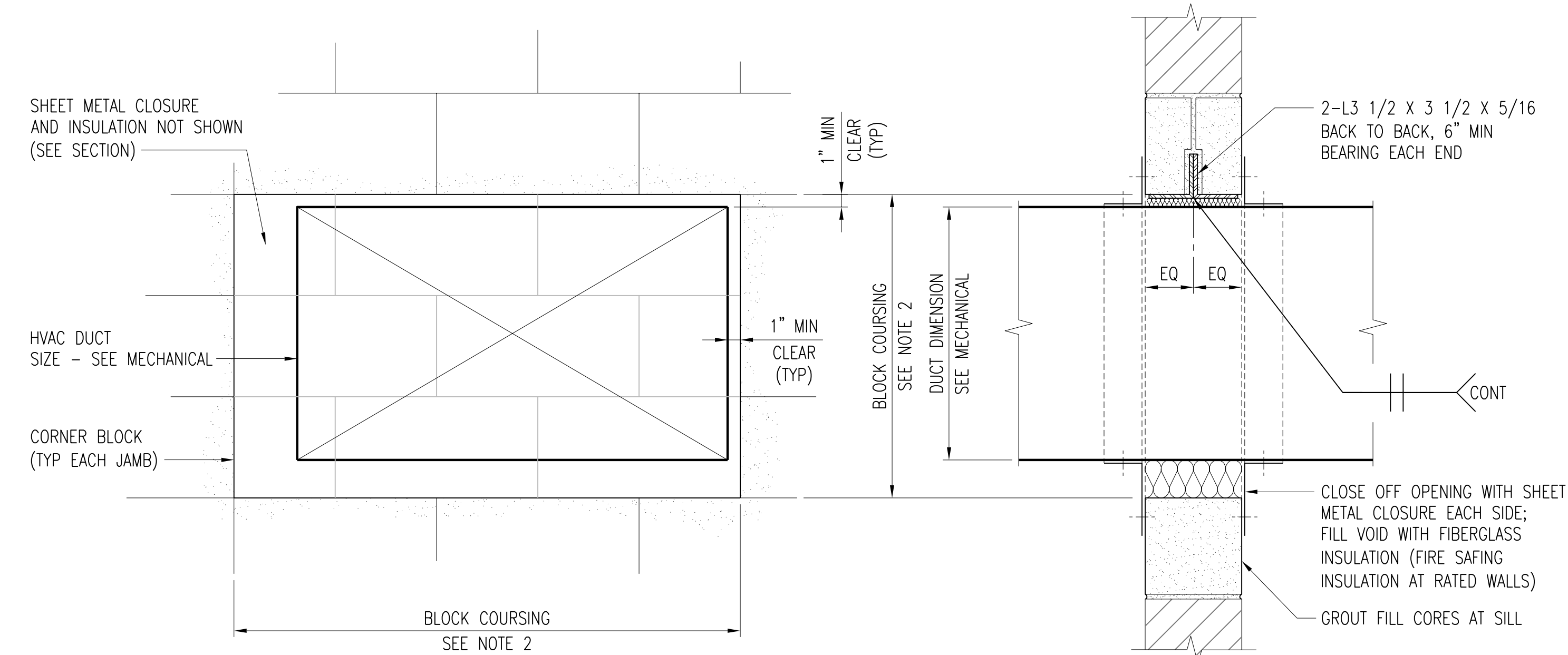
**ARCHITECTURAL TYPICAL DETAILS-SCHEDULES
TYPICAL DETAILS
SHEET 1**

DESIGNED	GA LUDWIG	SCALE:	AS NOTED
DRAWN	DA HUMISTON	NO.	22800
CHECKED	GA LUDWIG	REV.	
APPROVED	D SARKAR		
APPROVED			
DATE	DECEMBER 2, 2011		

A3 **3**

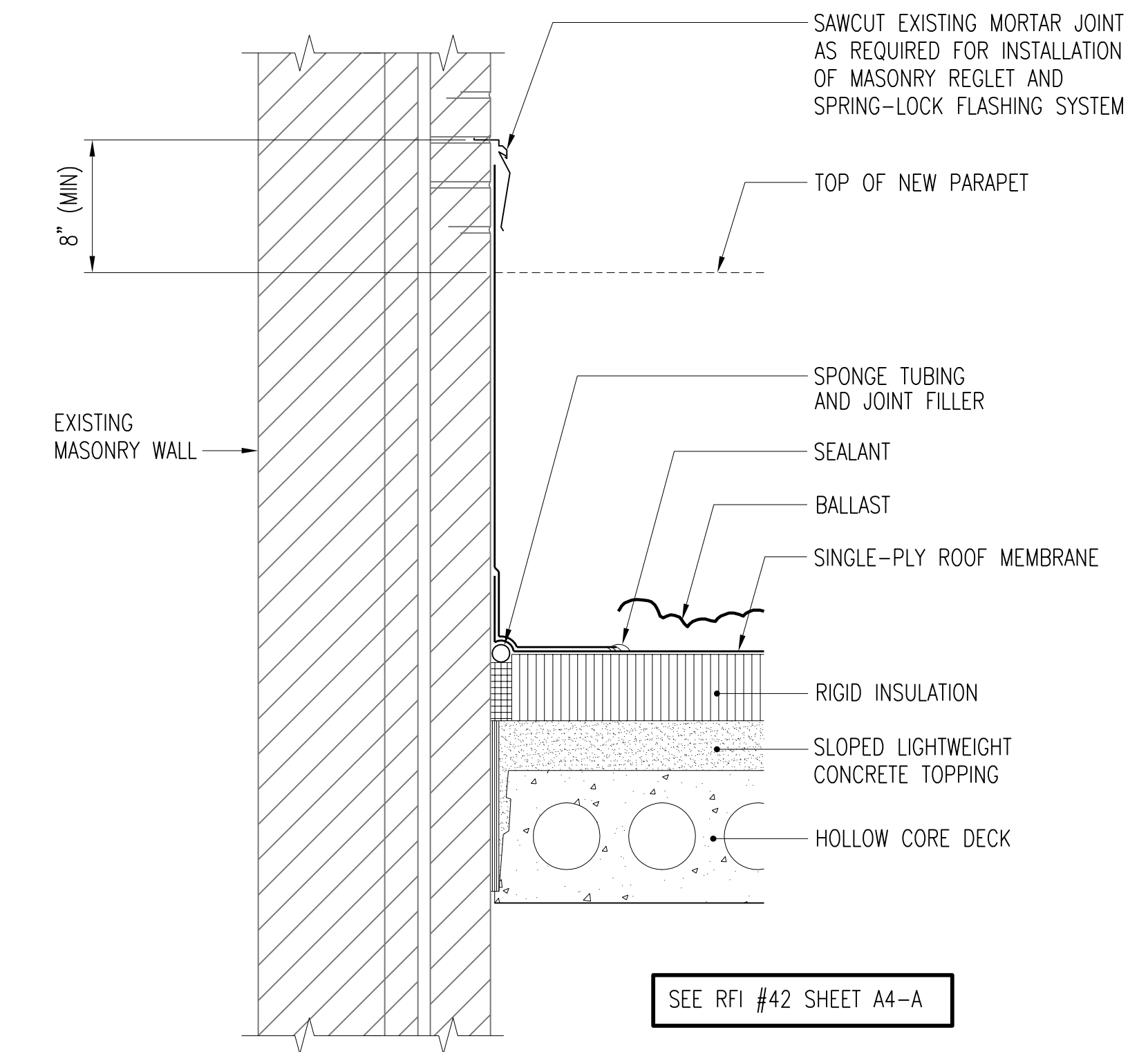


TYPICAL HVAC DUCT PENETRATION THRU EXISTING EXTERIOR WALL DETAIL
SCALE: 3" = 1'-0"

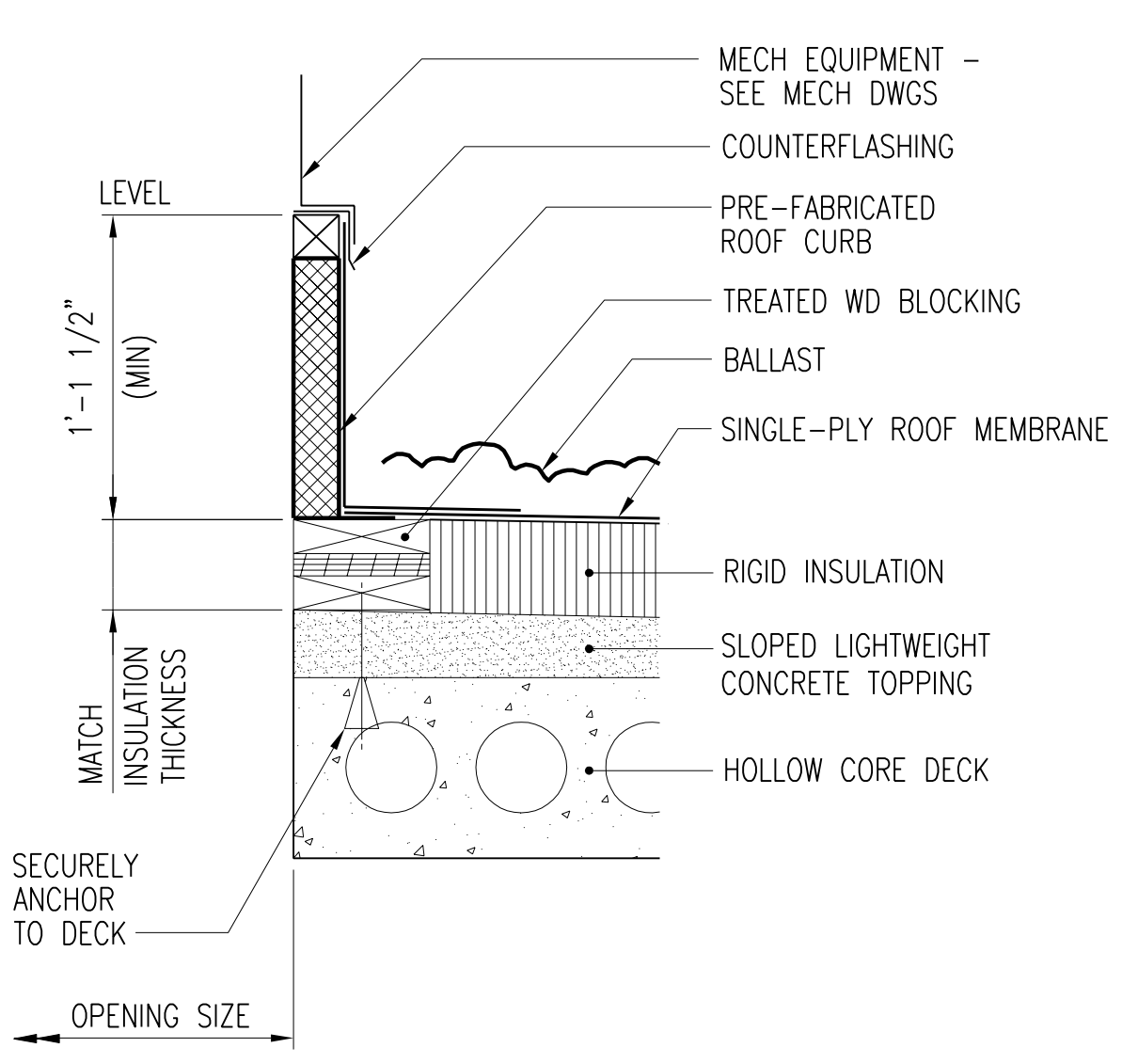


ELEVATION
NOTES:
1. FOR HVAC DUCT LOCATIONS SEE MECHANICAL DRAWINGS. COORDINATE OPENING WITH HVAC DUCT SHOWN ON MECHANICAL DRAWINGS.
2. CONTRACTOR TO PROVIDE A MASONRY WALL OPENING TO SUIT HVAC DUCT REQUIREMENTS. LIMITS OF MASONRY OPENING SHALL MATCH BLOCK COURSING EACH DIRECTION.
3. AT A RATED WALL CONDITION, CONTRACTOR SHALL ENSURE INSTALLATION MEETS UL REQUIREMENTS.

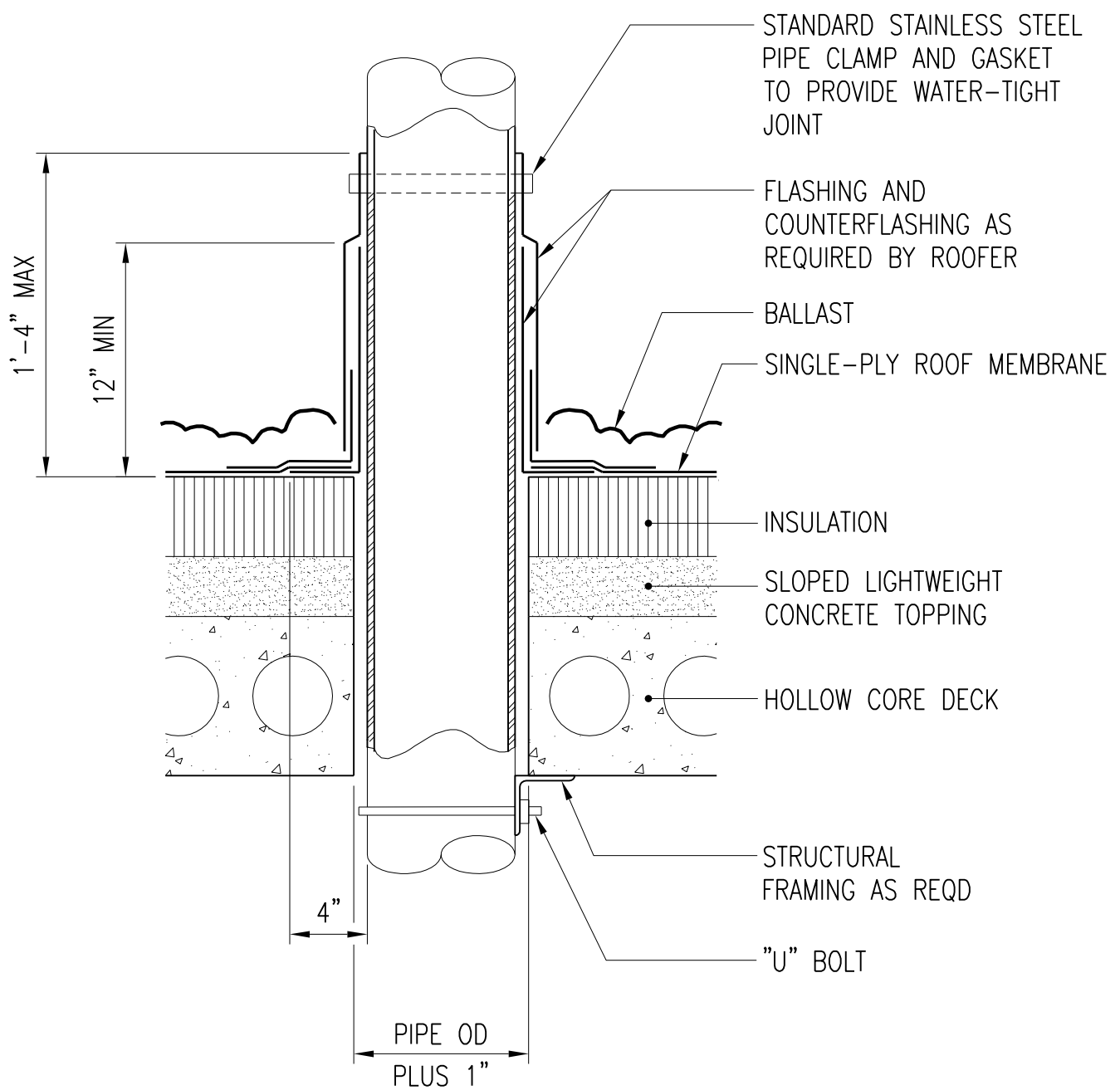
TYPICAL HVAC DUCT PENETRATION THRU EXISTING INTERIOR WALL DETAIL
SCALE: 1 1/2" = 1'-0"



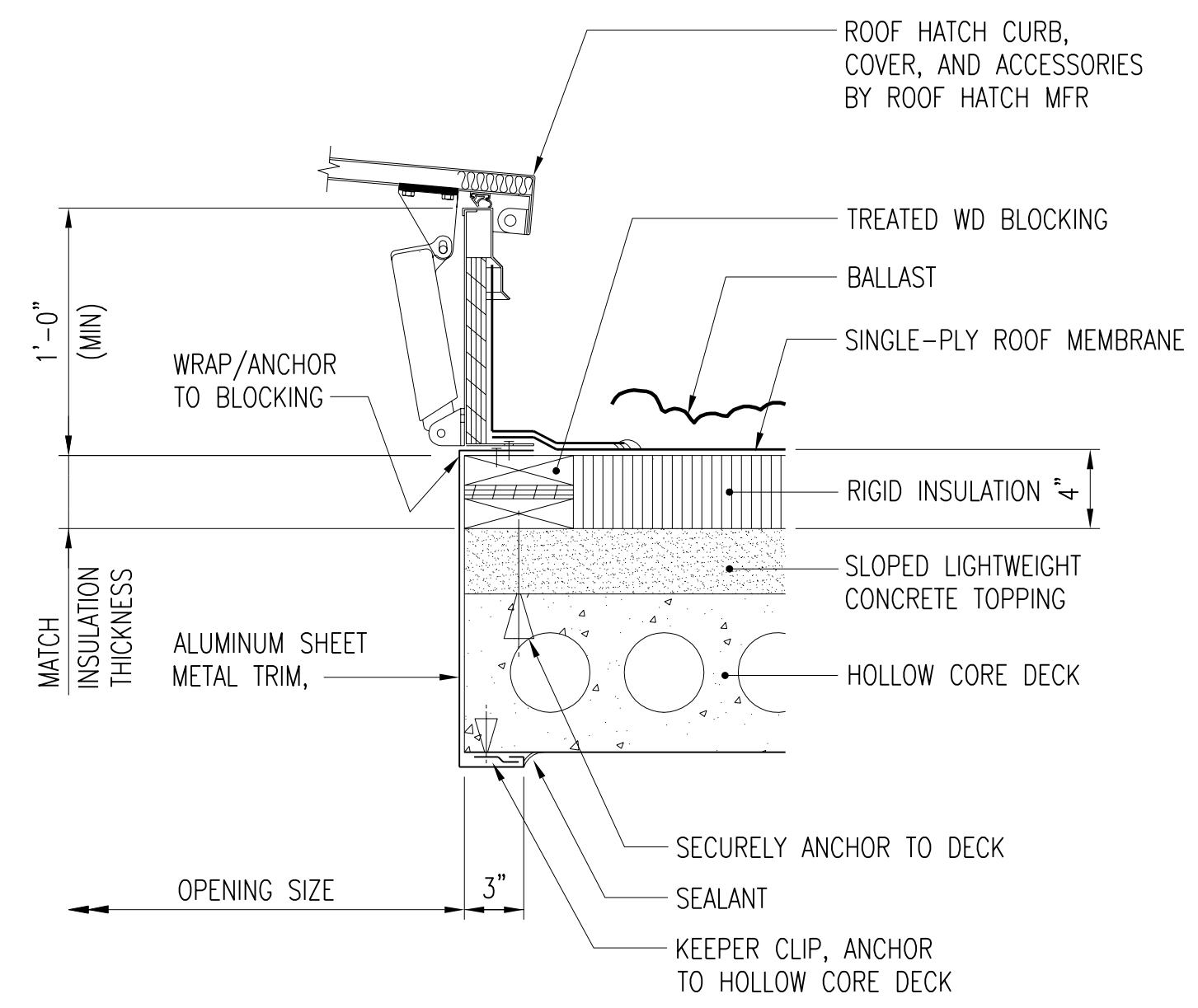
SECTION A-A4
SCALE: 1 1/2" = 1'-0"



TYPICAL ROOF CURB FLASHING DETAIL
SCALE: 1 1/2" = 1'-0"



TYPICAL VENT THRU ROOF FLASHING DETAIL
SCALE: 1 1/2" = 1'-0"



TYPICAL ROOF HATCH FLASHING DETAIL
SCALE: 1 1/2" = 1'-0"

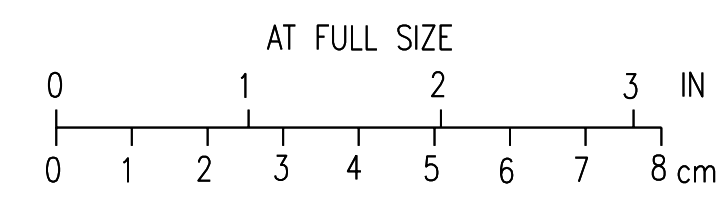
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	GAL	GAL	DS	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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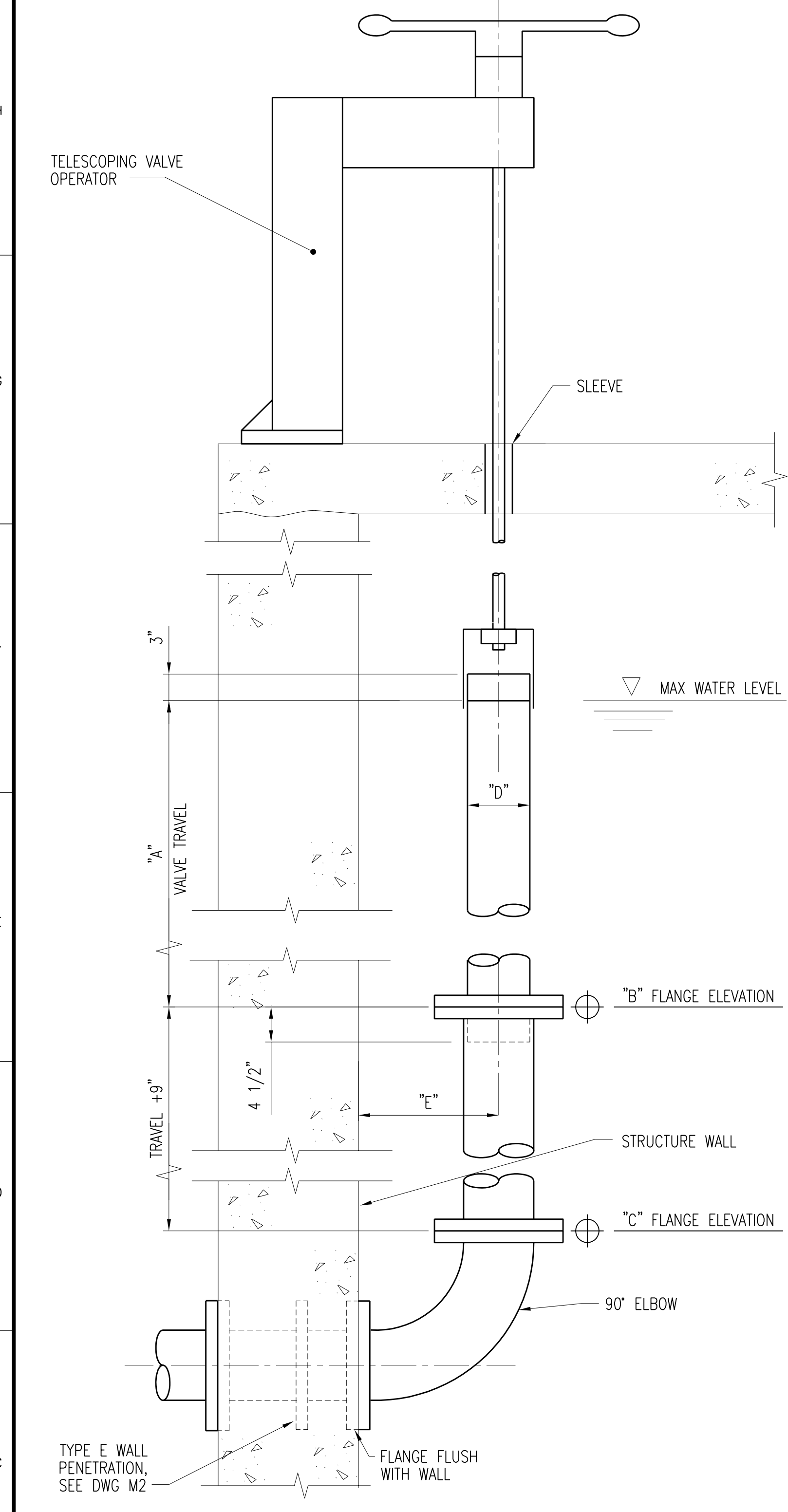
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ARCHITECTURAL TYPICAL DETAILS-SCHEDULES
TYPICAL DETAILS
SHEET 2

DESIGNED	GA LUDWIG	SCALE:	AS NOTED
DRAWN	DA HUMISTON	NO.	22800
CHECKED	GA LUDWIG	REV.	2
APPROVED	D SARKAR	DATE	DECEMBER 2, 2011

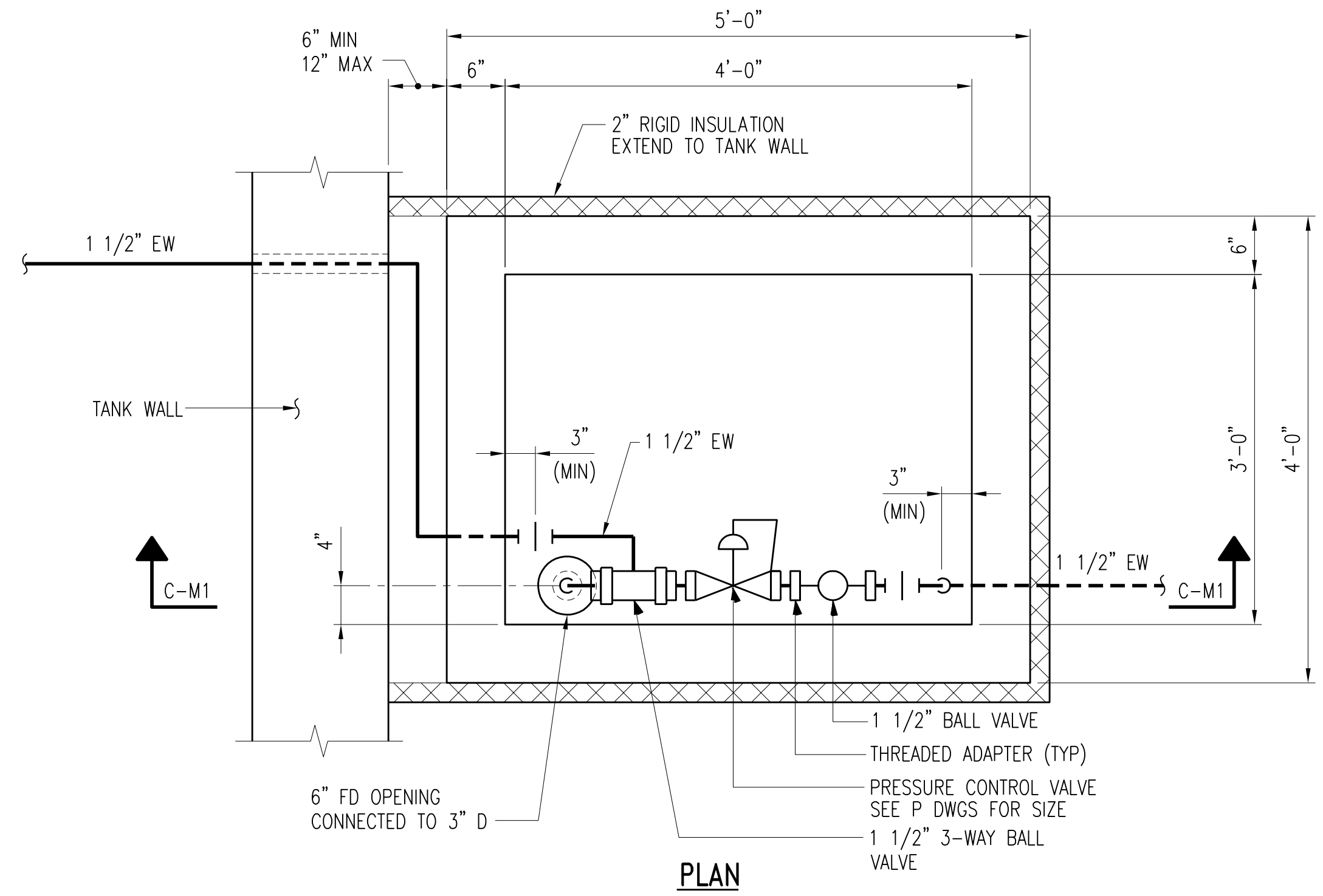


CADD: D1-R4



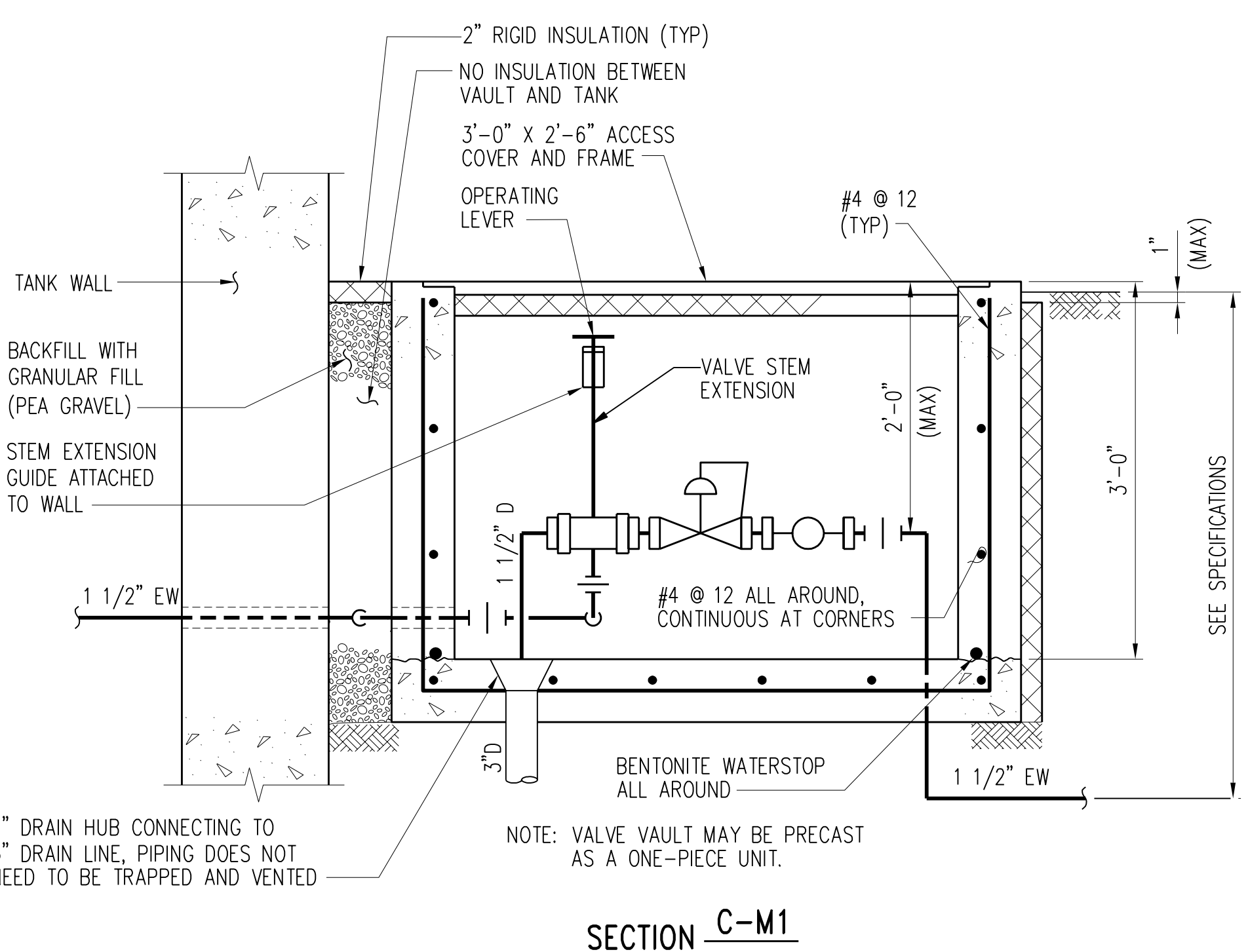
TYPICAL TELESCOPING VALVE DETAIL
DETAIL A-M1
 SCALE: NONE

TELESCOPING VALVES						
EQUIPMENT NUMBER	LOCATION	"A" TRAVEL	"B" FLANGE ELEVATION	"C" FLANGE ELEVATION	"D" SLIP TUBE DIA.	"E" OFFSET
TV 4301	BAR 4310	2.50'	646.75	643.50	24"	22"
TV 4302	BAR 4320	2.50'	646.75	643.50	24"	22"
TV 4303 THRU TV 4306	TRAIN-1 THRU TRAIN-4	2.50'	647.00	643.75	14"	14"



SEE RFI #161 SHEET M1-A

TYPICAL PRESSURE REDUCING VALVE VAULT DETAIL
DETAIL B-M1
 SCALE: NONE



SECTION C-M1

TYPICAL PRESSURE REDUCING VALVE VAULT DETAIL

DETAIL B-M1
 SCALE: NONE



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDP	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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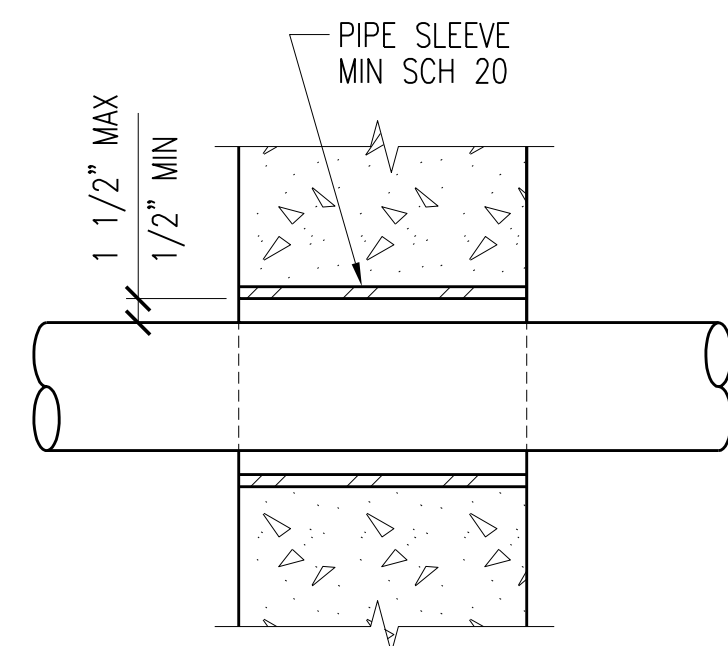
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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

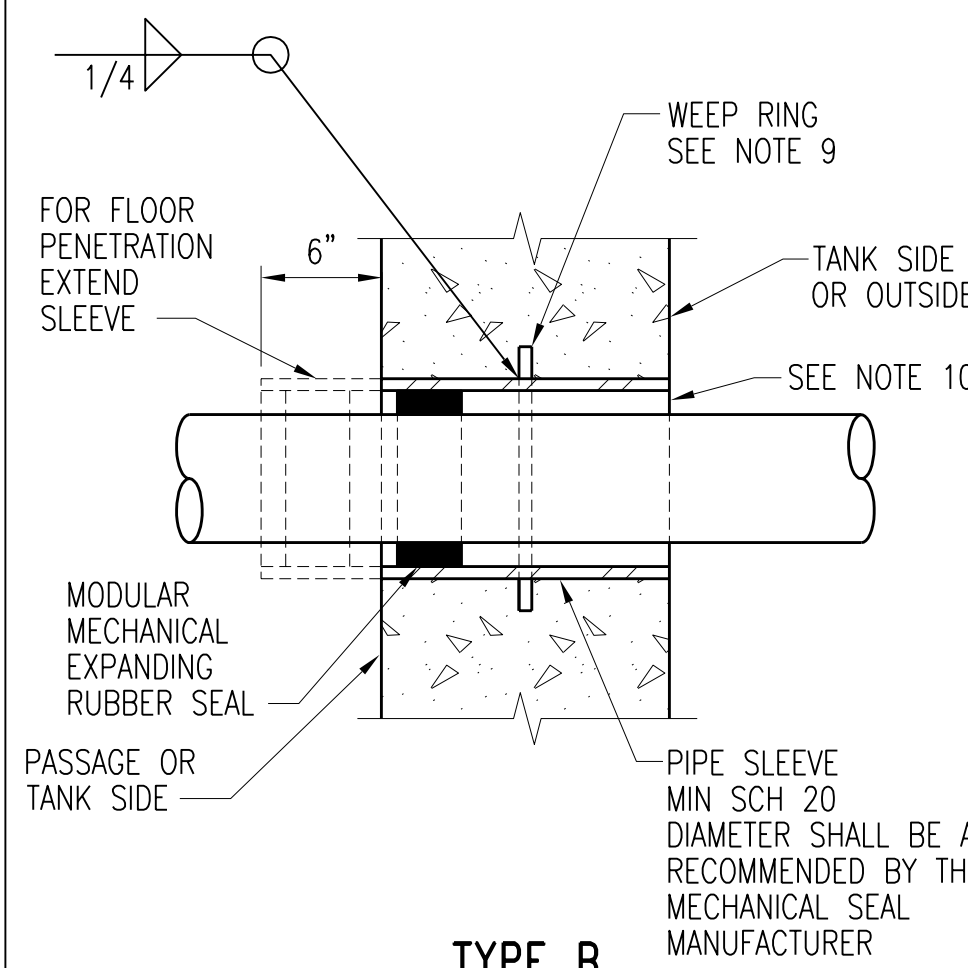
MECHANICAL TYPICAL DETAILS-SCHEDULES
PROCESS PIPING - TYPICAL DETAILS
SHEET 1

DESIGNED CL BARK	SCALE: AS NOTED	<table border="1" style="width: 100%;"> <tr> <td>NO. 22800</td> <td>REV.</td> </tr> <tr> <td style="text-align: center;">M1</td> <td style="text-align: center;">2</td> </tr> </table>	NO. 22800	REV.	M1	2
NO. 22800	REV.					
M1	2					
DRAWN GA GOOS						
CHECKED JM BRADY						
APPROVED BD REISCHAUER						
DATE DECEMBER 2, 2011						

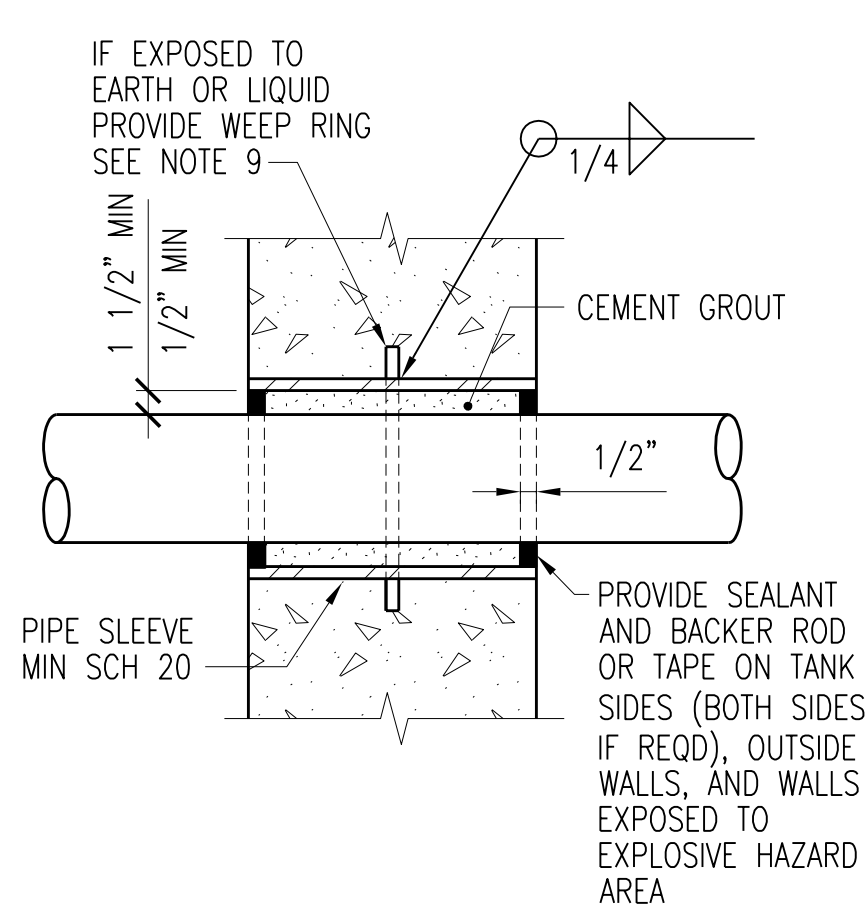
CADD: D1-R4



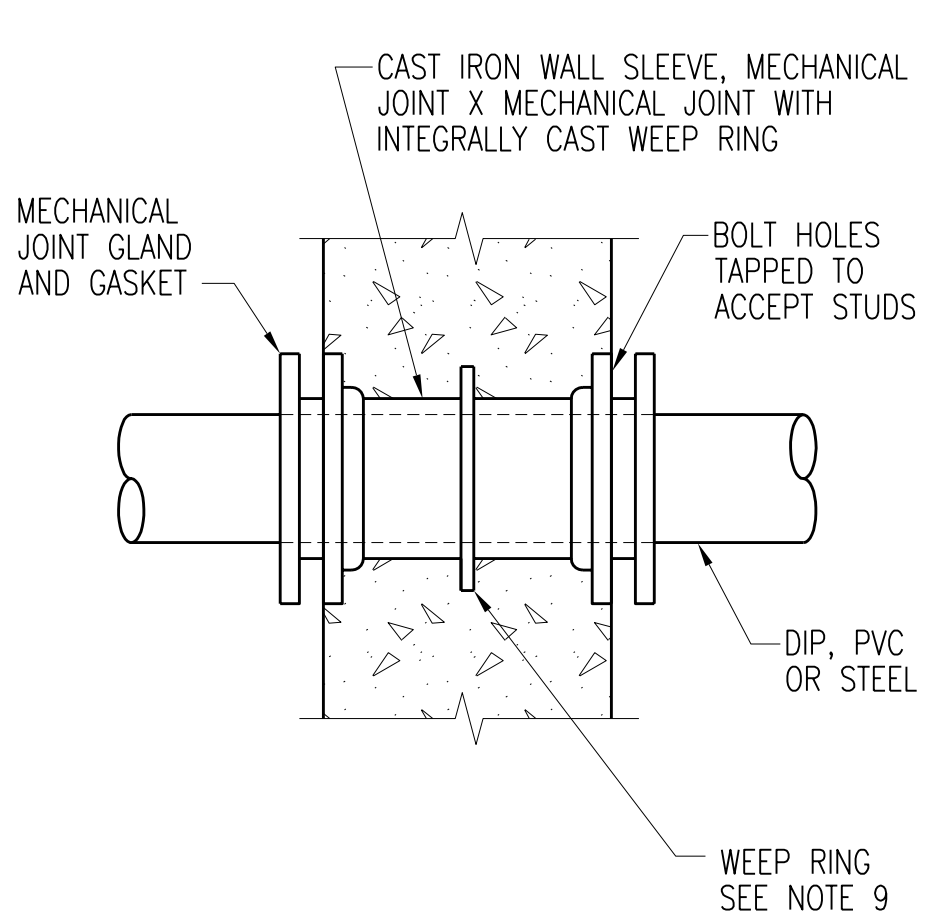
**TYPE A
WALL
PIPE PENETRATION**



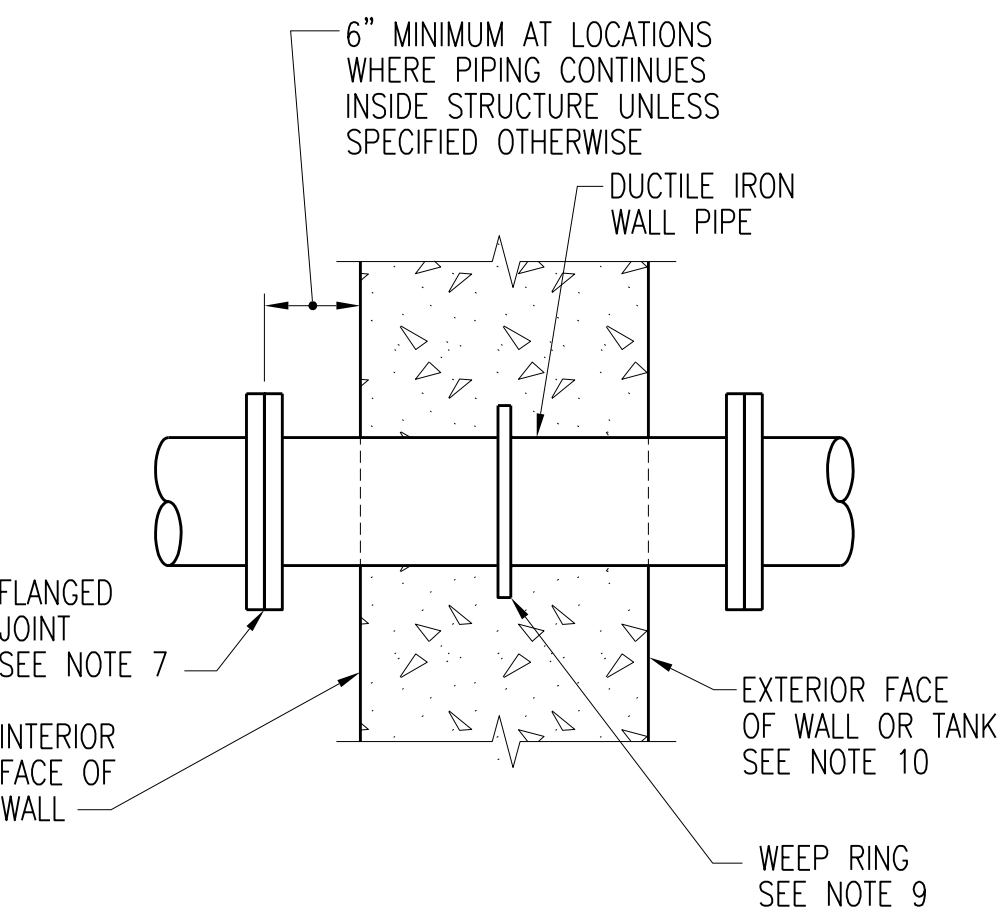
**TYPE B
WALL AND FLOOR
PIPE PENETRATION**



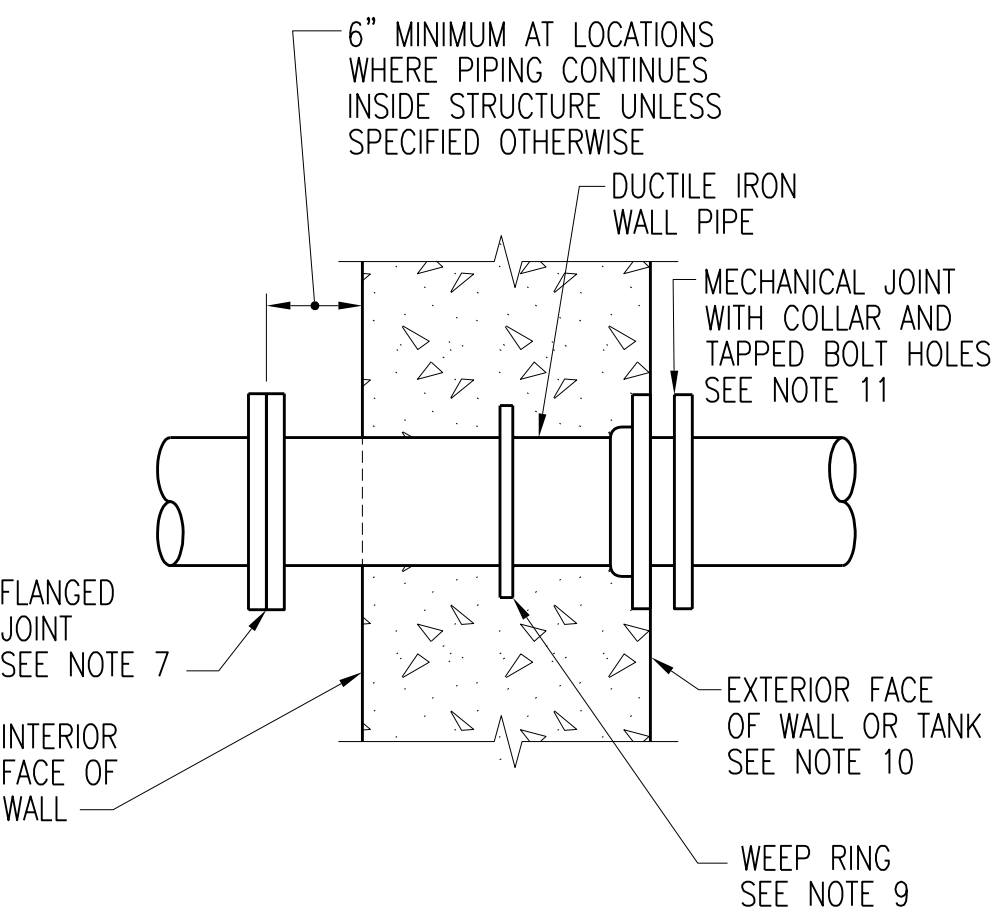
**TYPE C
WALL
PIPE PENETRATION**



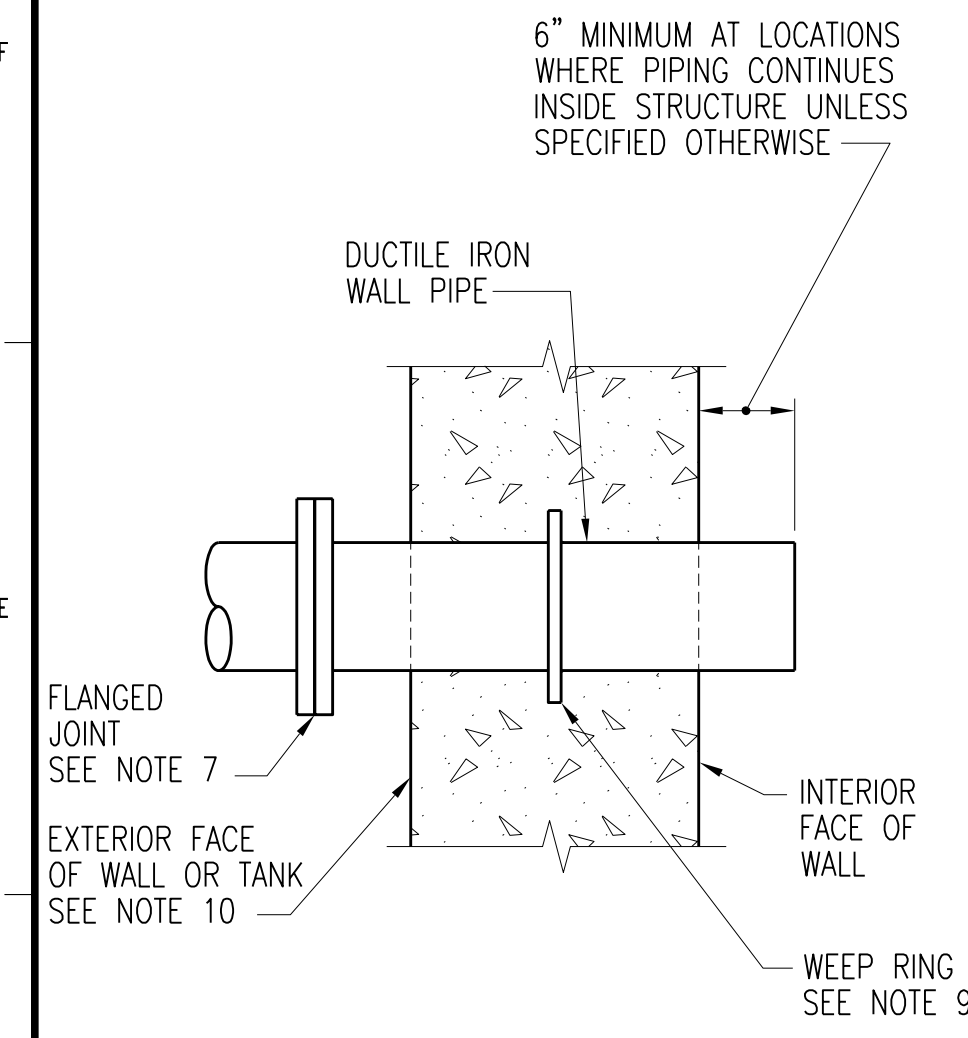
**TYPE D
WALL
PIPE PENETRATION**



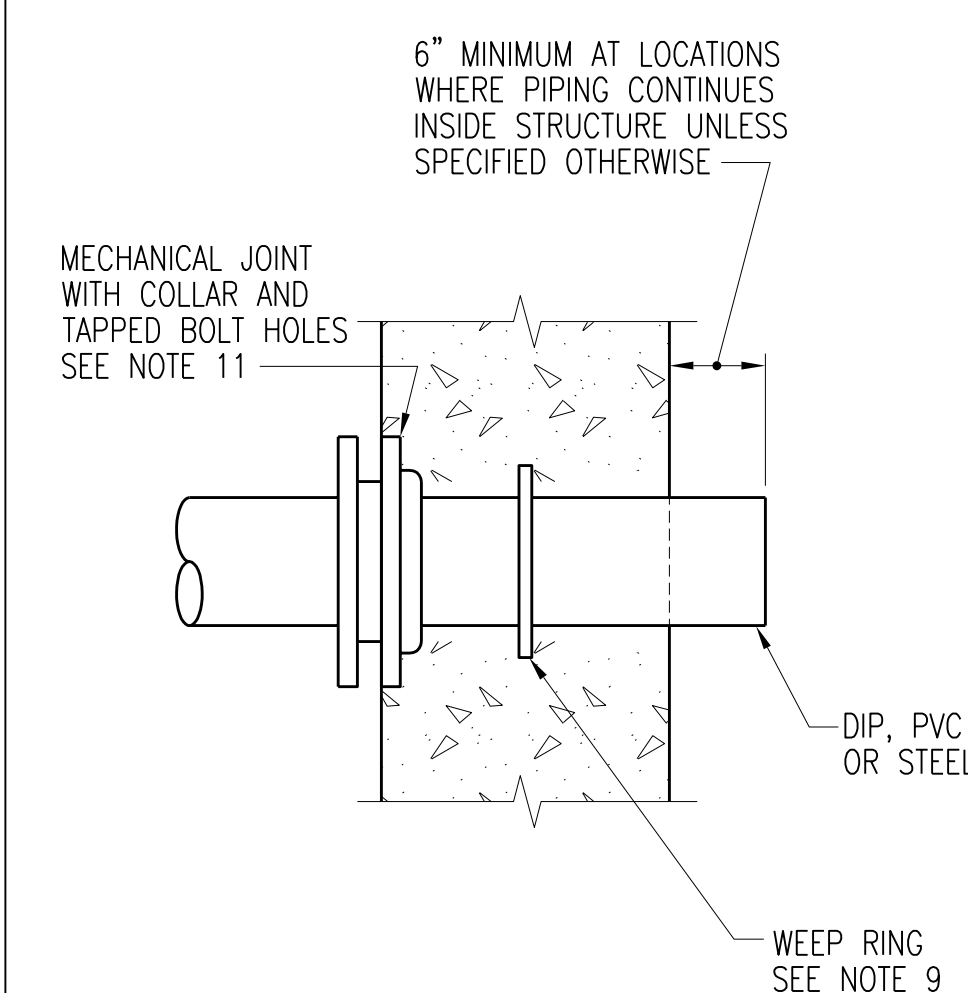
**TYPE E
WALL
PIPE PENETRATION**



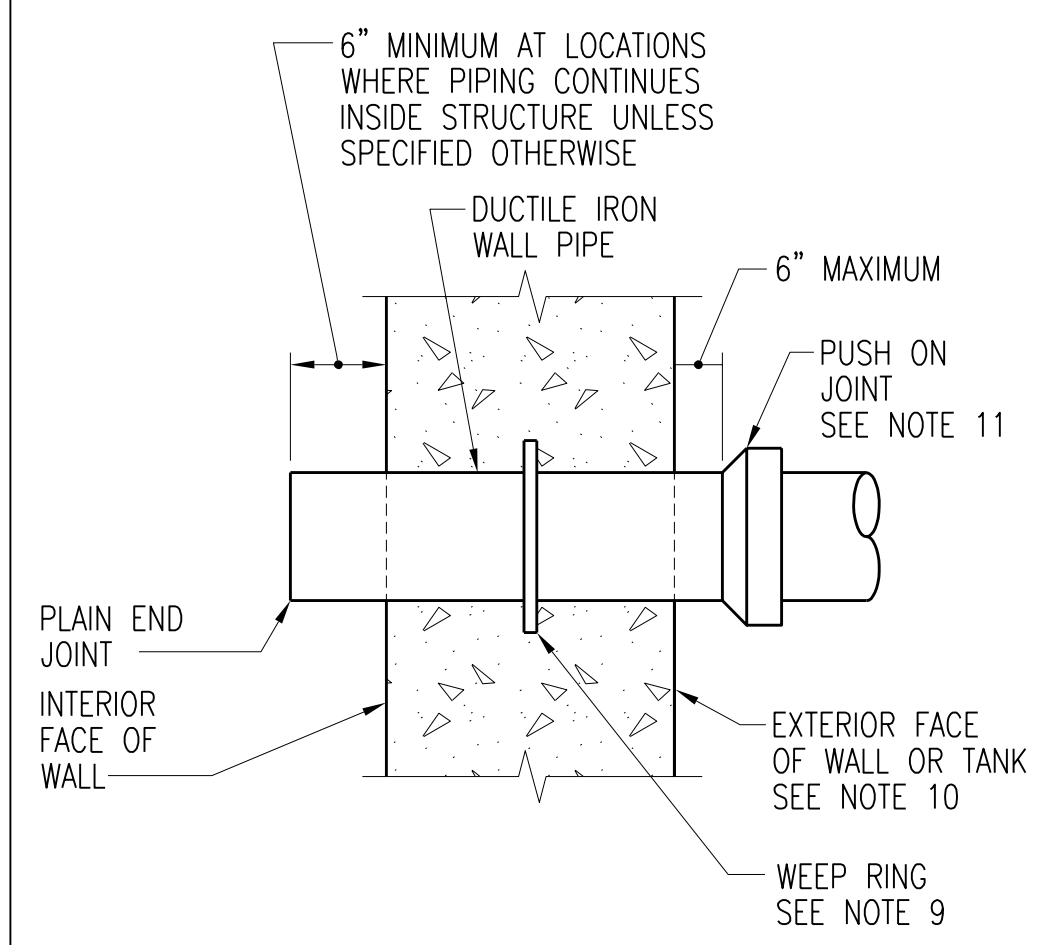
**TYPE F
WALL
PIPE PENETRATION**



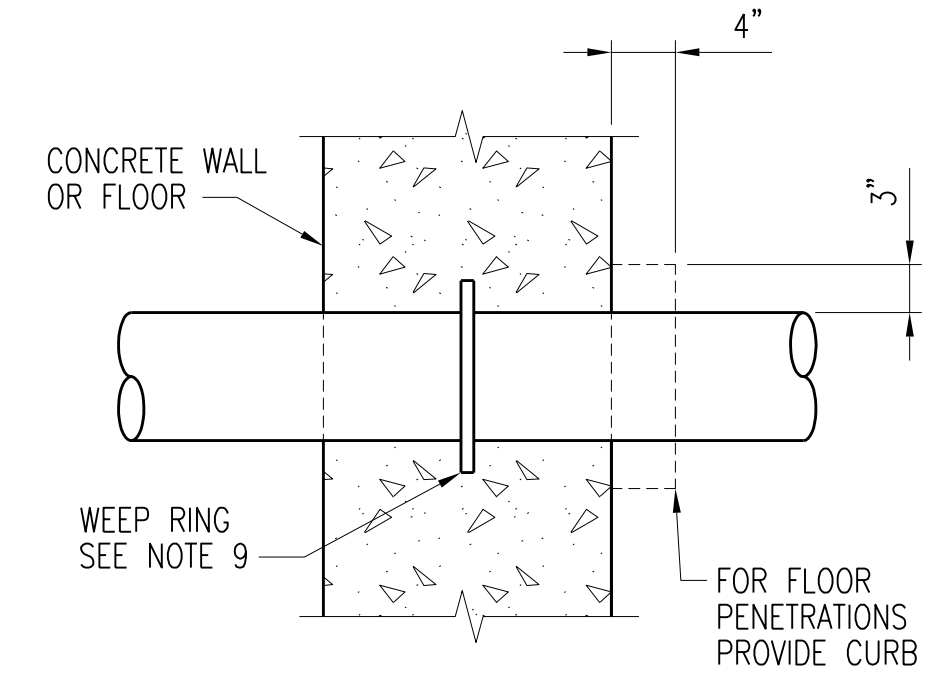
**TYPE G
WALL
PIPE PENETRATION**



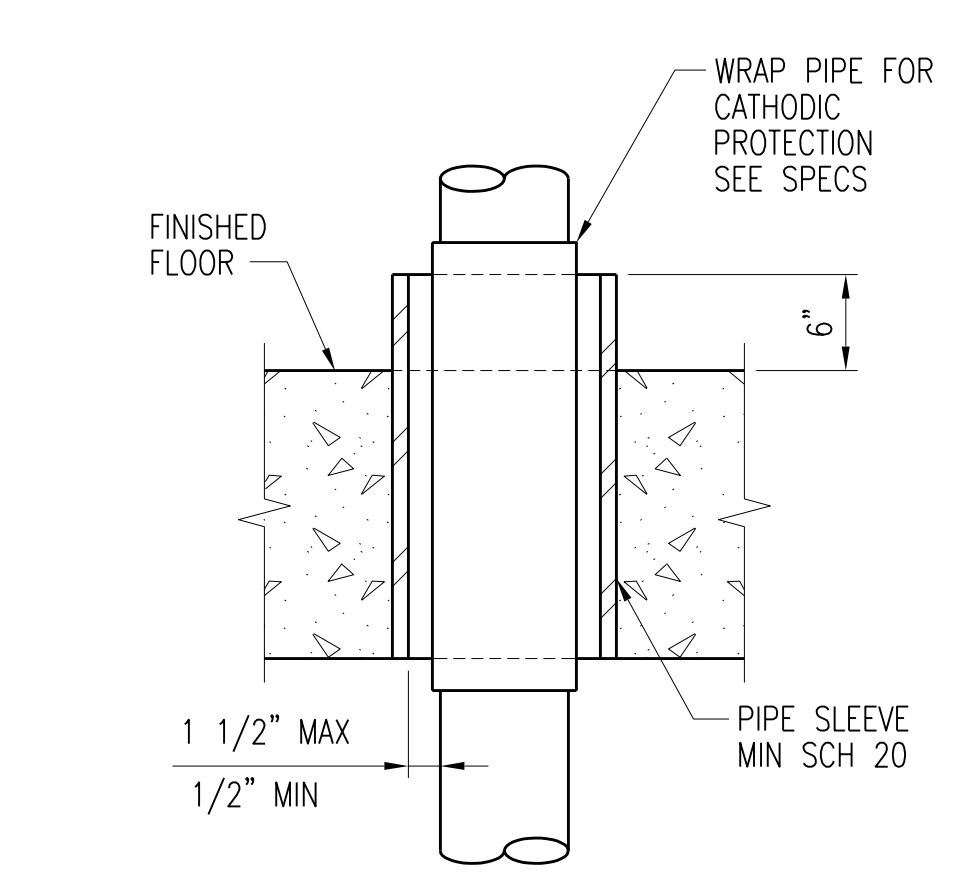
**TYPE H
WALL
PIPE PENETRATION**



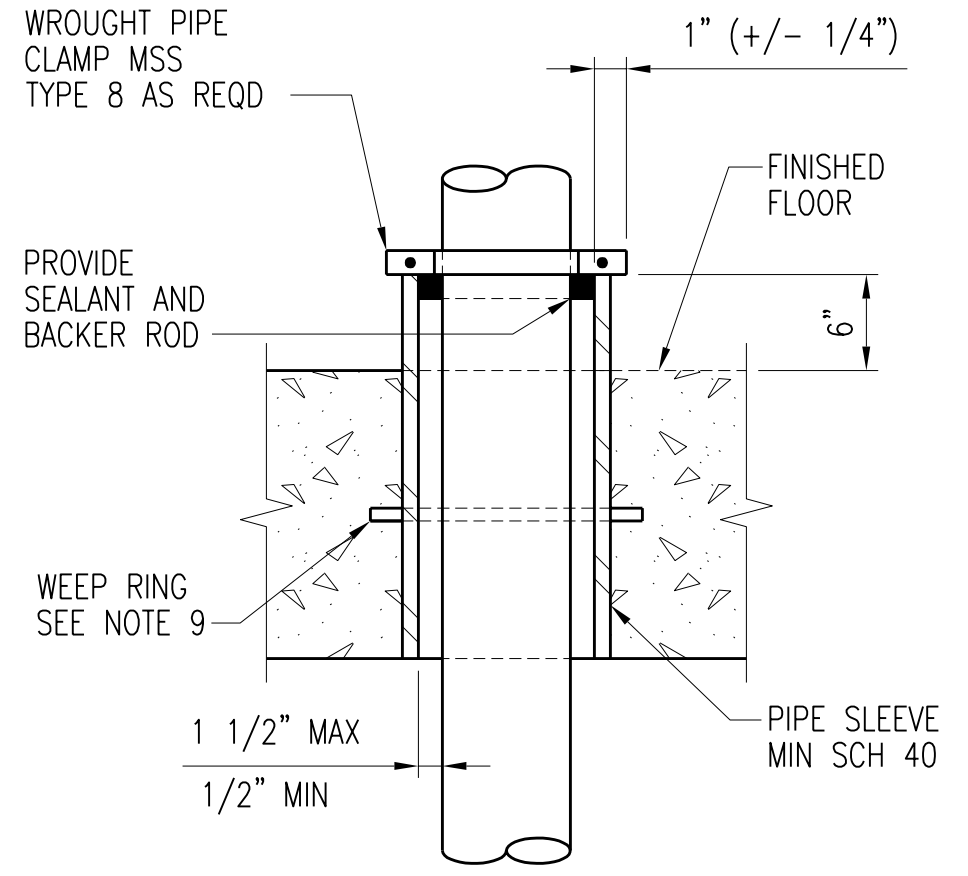
**TYPE J
WALL
PIPE PENETRATION**



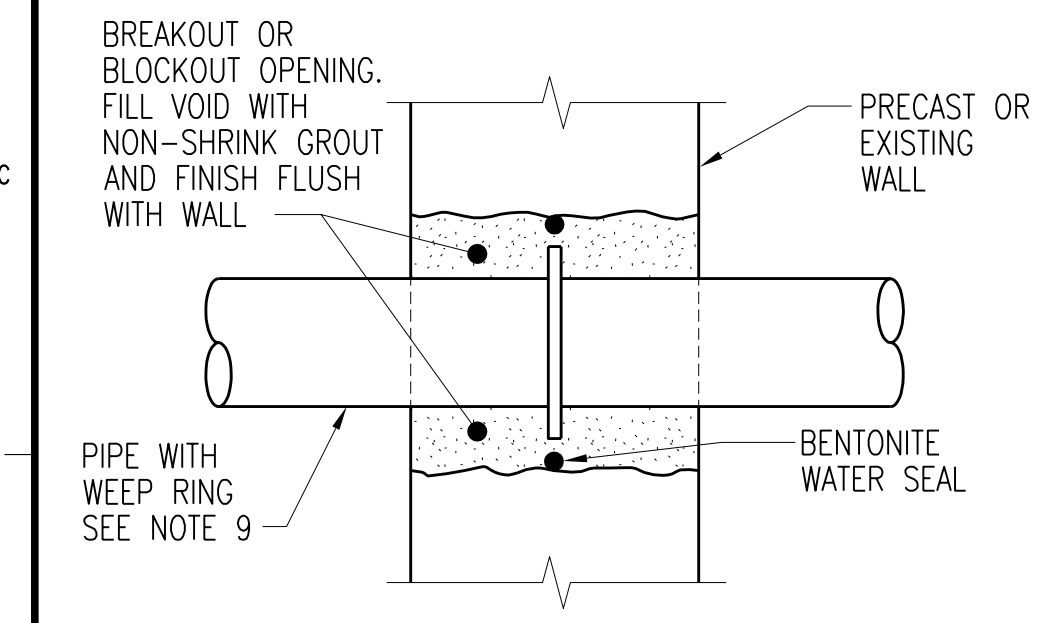
**TYPE K
FLOOR AND WALL
PIPE PENETRATION**



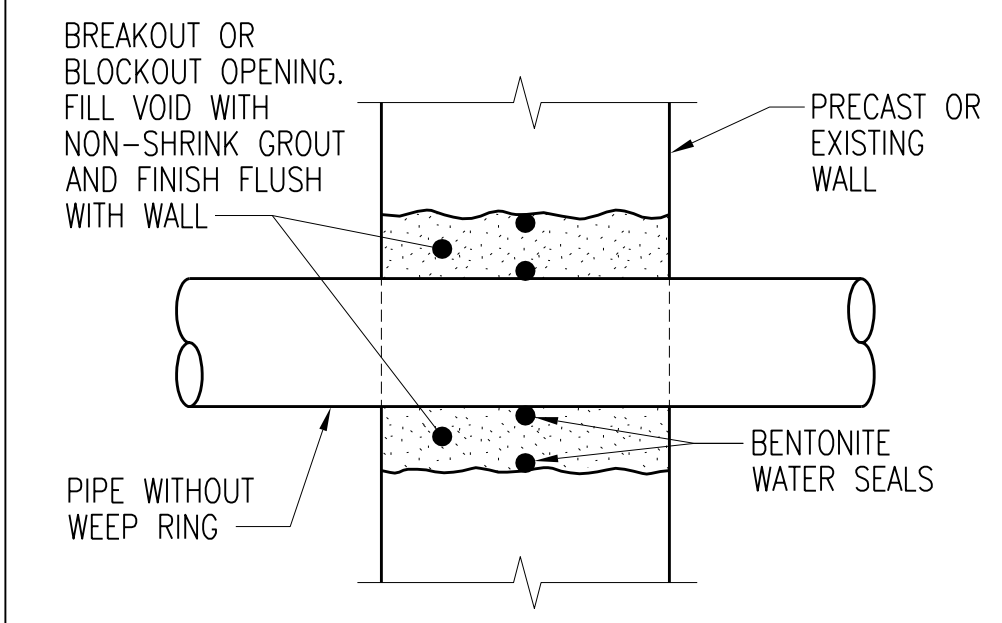
**TYPE L
FLOOR
PIPE PENETRATION**



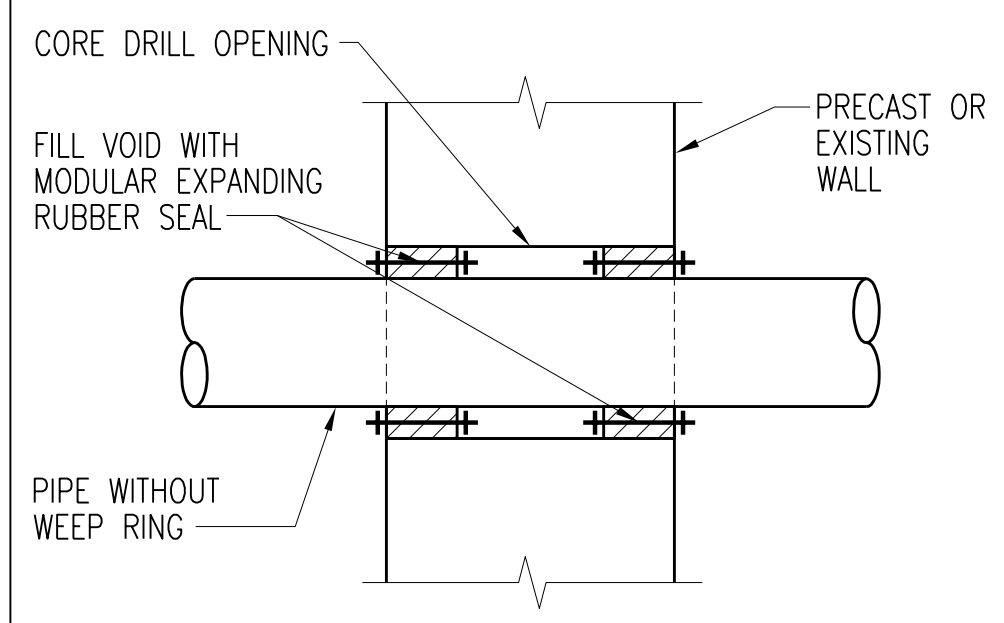
**TYPE M
CEILING AND FLOOR
PIPE PENETRATION**



**TYPE N
WATER SEAL FOR
EXISTING OR PRECAST WALL
DETAIL A**



**TYPE P
WATER SEAL FOR
EXISTING OR PRECAST WALL
DETAIL B**




**TYPE P
WATER SEAL FOR
EXISTING OR PRECAST WALL
DETAIL C**

- NOTES:**
- PIPE PENETRATIONS SHALL CONFORM TO TABLE AT LEFT, EXCEPT AS OTHERWISE SPECIFIED.
 - "TANK" SHALL MEAN ANY PART OF A STRUCTURE CONTAINING LIQUID.
 - "PASSAGE" SHALL MEAN ANY ROOM, GALLERY, TUNNEL, OR SIMILAR ENCLOSURE.
 - WATER SURFACE "WS" SHALL MEAN AN ELEVATION 9" ABOVE MAXIMUM WATER SURFACE SHOWN.
 - ALL STEEL SLEEVES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
 - IN CONDITION 5, TYPE B, C OR D SHALL BE USED WHERE ONE SIDE CONTAINS EXPLOSION PROOF EQUIPMENT, WHERE FLOODING IS POSSIBLE, OR WHERE SPECIFIED.
 - CAST IRON FLANGES MAY BE INSTALLED FLUSH WITH WALL AND TAPPED FOR STUDS WHERE SPECIFIED.
 - INSULATION SHALL NOT EXTEND THROUGH SLEEVES, UNLESS OTHERWISE SPECIFIED.
 - WEEP RING DIAMETER AND THICKNESS SHALL BE MANUFACTURERS STANDARD. FOR FIELD FABRICATED SLEEVES, WEEP RING SHALL HAVE A MINIMUM DIAMETER 3" GREATER THAN THE OUTSIDE PIPE DIAMETER AND A MINIMUM THICKNESS OF 3/16".
 - SEAL WITH MASTIC SEALANT WHERE WALL IS EXPOSED TO LIQUID, EARTH, OR AN EXPLOSION HAZARD AREA.
 - A FLANGE JOINT SHOULD BE USED ON EXTERIOR FACE OF WALL OR TANK IF PIPE IS ABOVE GROUND.
 - ALL OF THE PIPE PENETRATIONS SHOWN ON THIS SHEET MAY NOT BE REQUIRED ON THIS PROJECT.
 - ALL PIPE PENETRATIONS SHOWN ARE FOR CAST-IN-PLACE CONCRETE, EXCEPT TYPE N AND P WHICH ARE FOR EXISTING OR PRECAST CONCRETE PENETRATIONS.

PIPE PENETRATION TYPES				
	CONDITION		TYPE	
	FROM	TO	DUCTILE IRON OR CAST IRON PIPE	PLASTIC PIPE
1	TANK	TANK BELOW W.S.	B, D, F OR J	B, C OR D
2	TANK	TANK ABOVE W.S.	B OR C	B OR C
3	PASSAGE	TANK BELOW W.S.	B, C, D, F OR J	B, C OR D
4	PASSAGE	TANK ABOVE W.S.	B, C OR H	B, C OR H
5	PASSAGE	PASSAGE	A OR L SEE NOTE 6	A OR L SEE NOTE 6
6	PASSAGE	OUTSIDE ABOVE ROOF	AS SHOWN	
7	PASSAGE	OUTSIDE WALL ABOVE GROUND	B, C, D, F OR J	B, C, D, F OR J
8	PASSAGE	OUTSIDE WALL BELOW GROUND	B, C, D, F OR J	B, C, D, F OR J
9	TANK	OUTSIDE ABOVE GROUND	B, C, D, F OR J	B, C, D, F OR J
10	TANK	OUTSIDE BELOW GROUND	B, C, D, F OR J	B, C, D, F OR J

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	JMB	JMB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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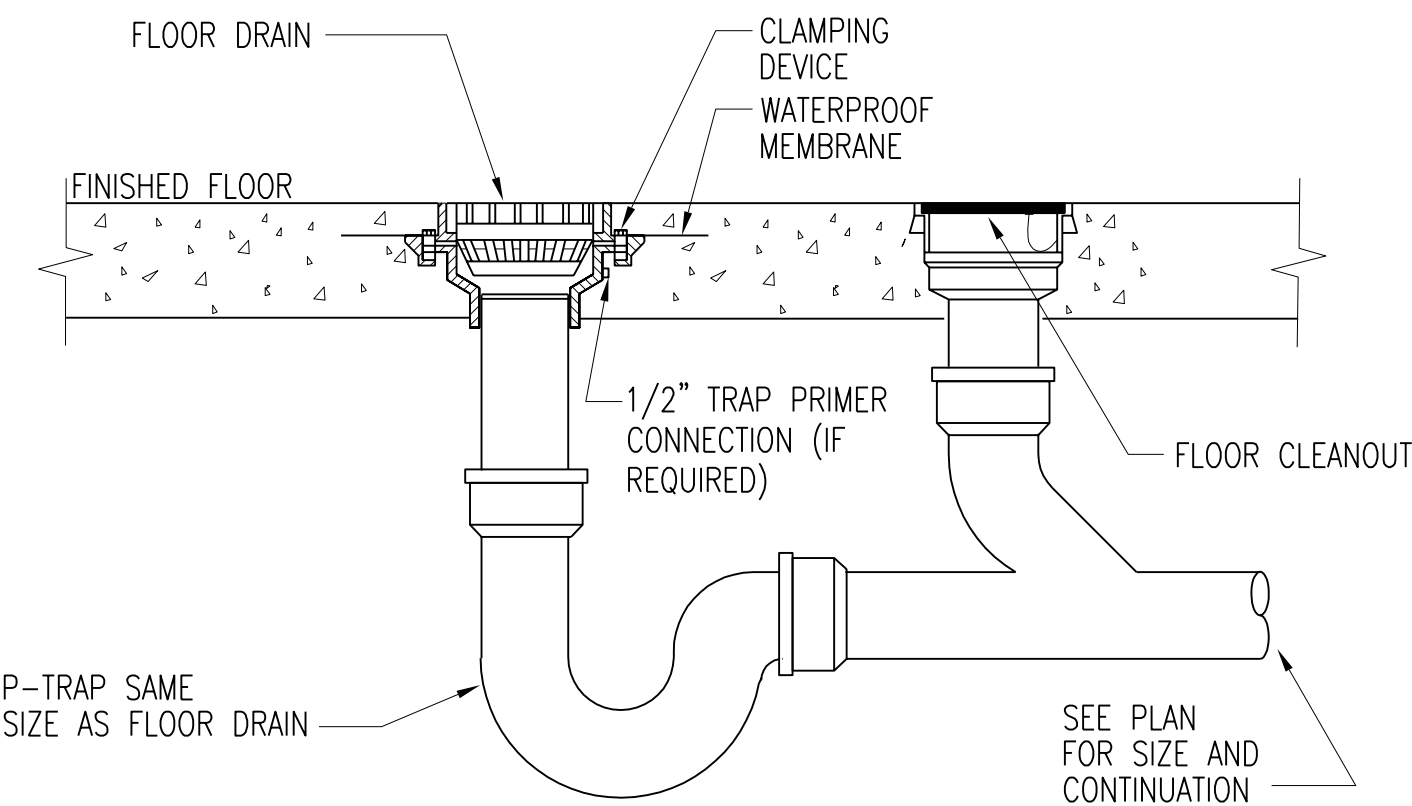
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**MECHANICAL TYPICAL DETAILS-SCHEDULES
 PIPING - TYPICAL DETAILS
 SHEET 2**

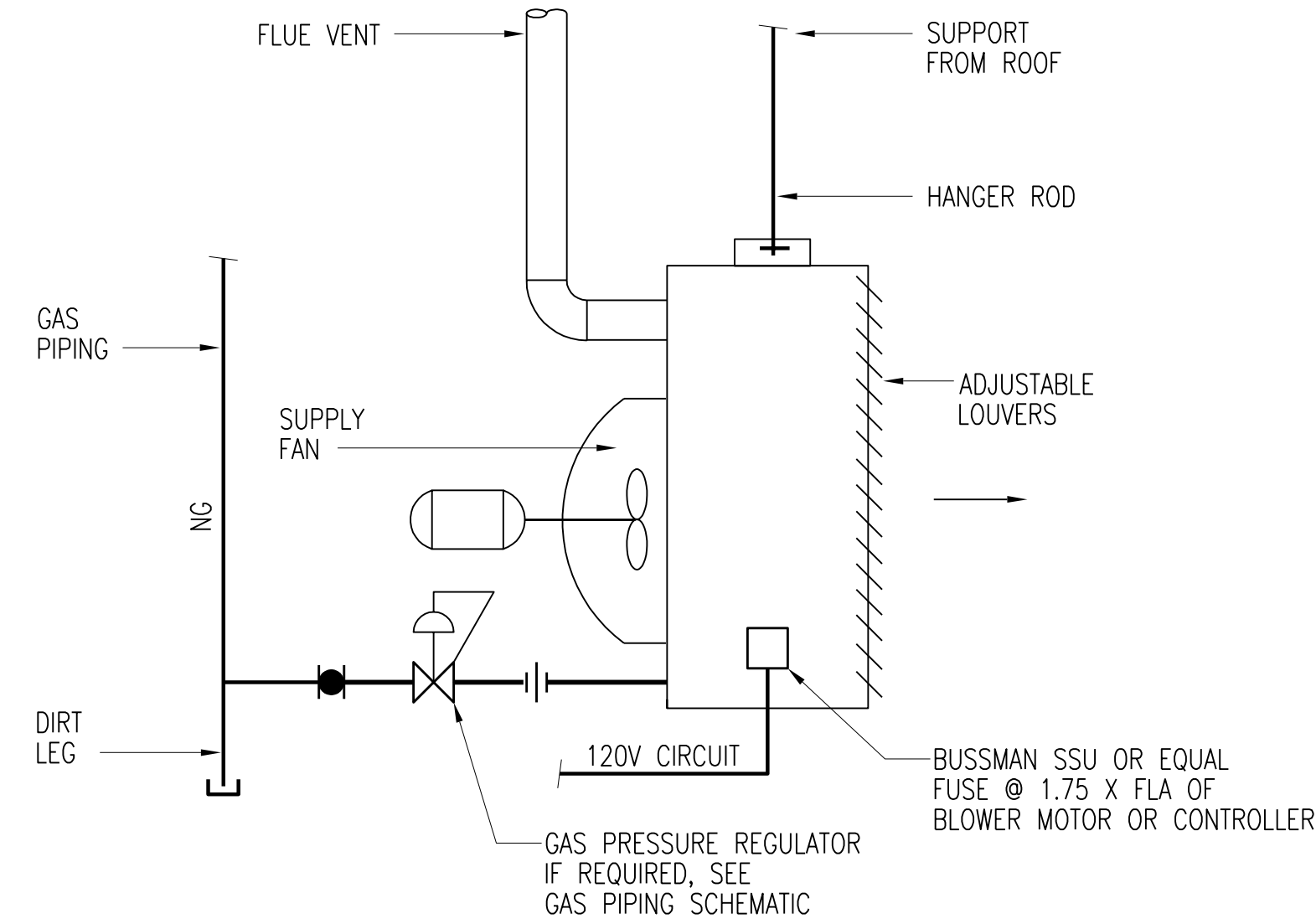
DESIGNED: JM BRADY	SCALE: AS NOTED	NO. 22800	REV. 2
DRAWN: D. WILGES			
CHECKED: JM BRADY			
APPROVED: BO REISCHAUER			
APPROVED: _____			
DATE: DECEMBER 2, 2011			



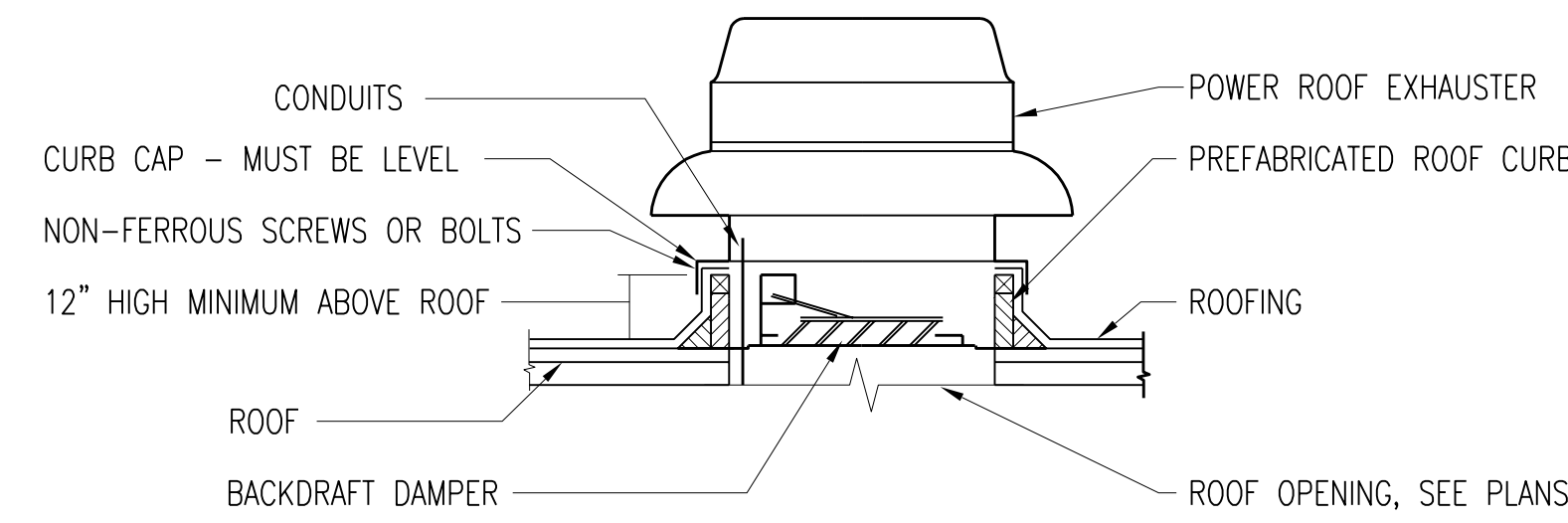
CADD: D1-1-R4



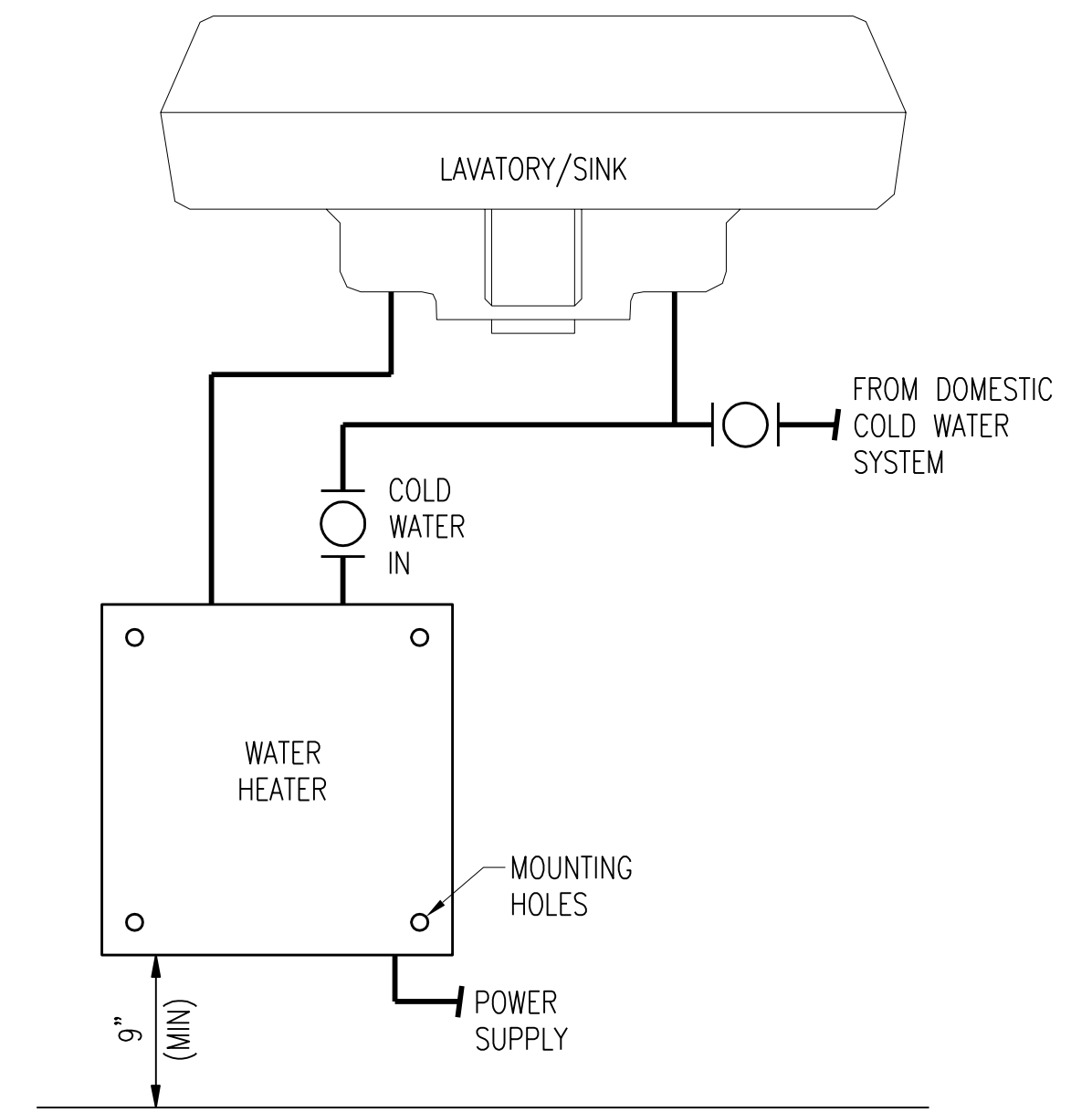
TYPICAL FLOOR DRAIN AND CLEANOUT
SCALE: NONE



TYPICAL GAS-FIRED UNIT HEATER
SCALE: NONE

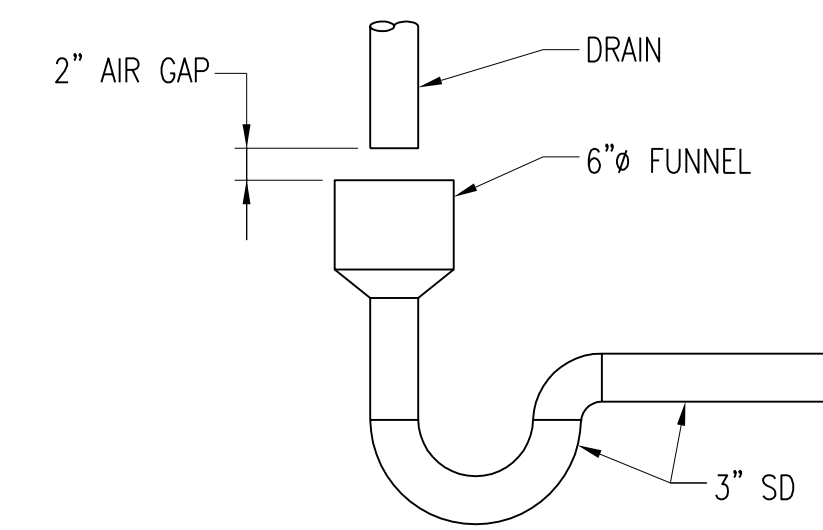


TYPICAL POWER ROOF EXHAUSTER
SCALE: NONE

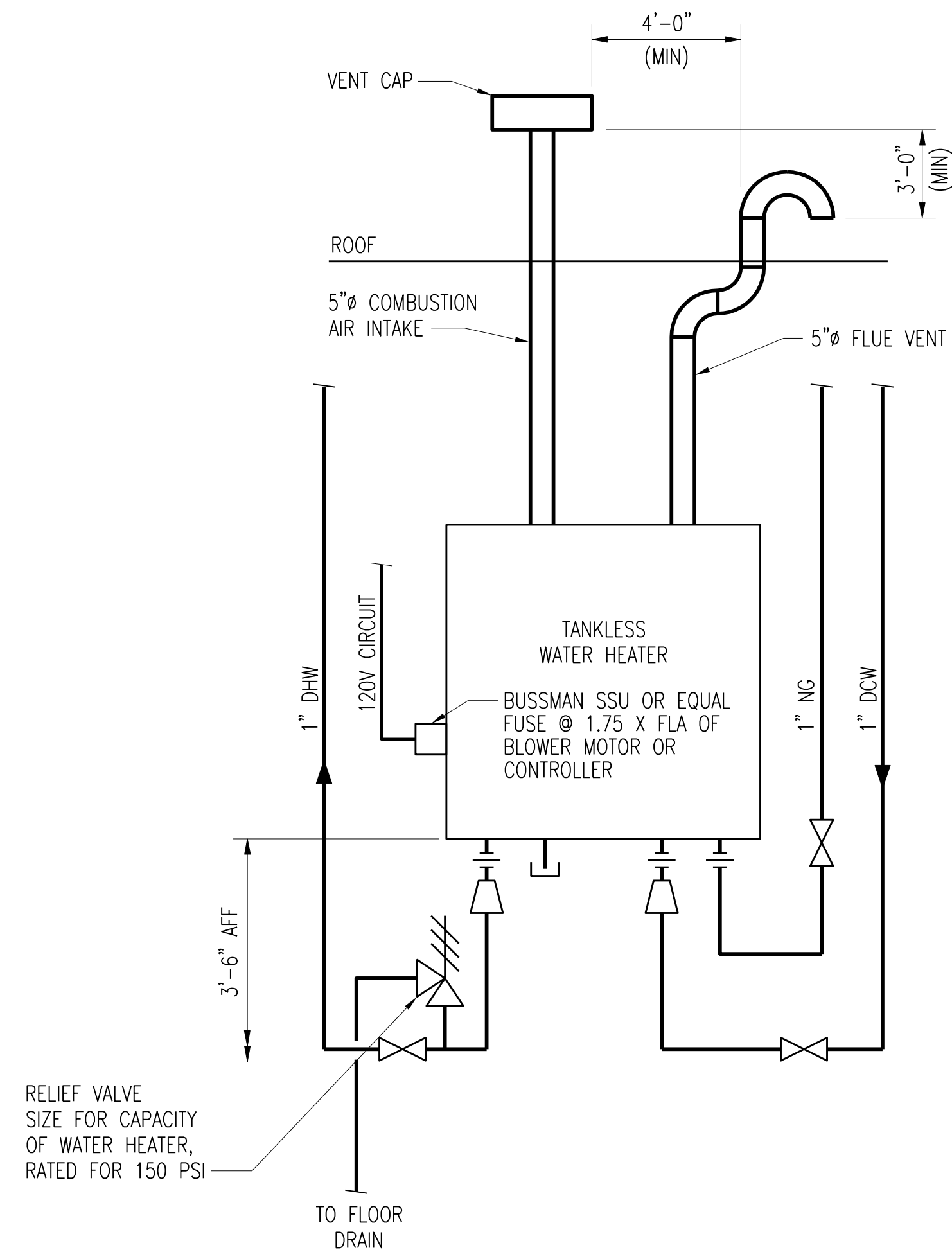


NOTES:
1. MOUNT HEATER IN VERTICAL UPRIGHT POSITION AND AS CLOSE TO THE POINT OF USE AS POSSIBLE.

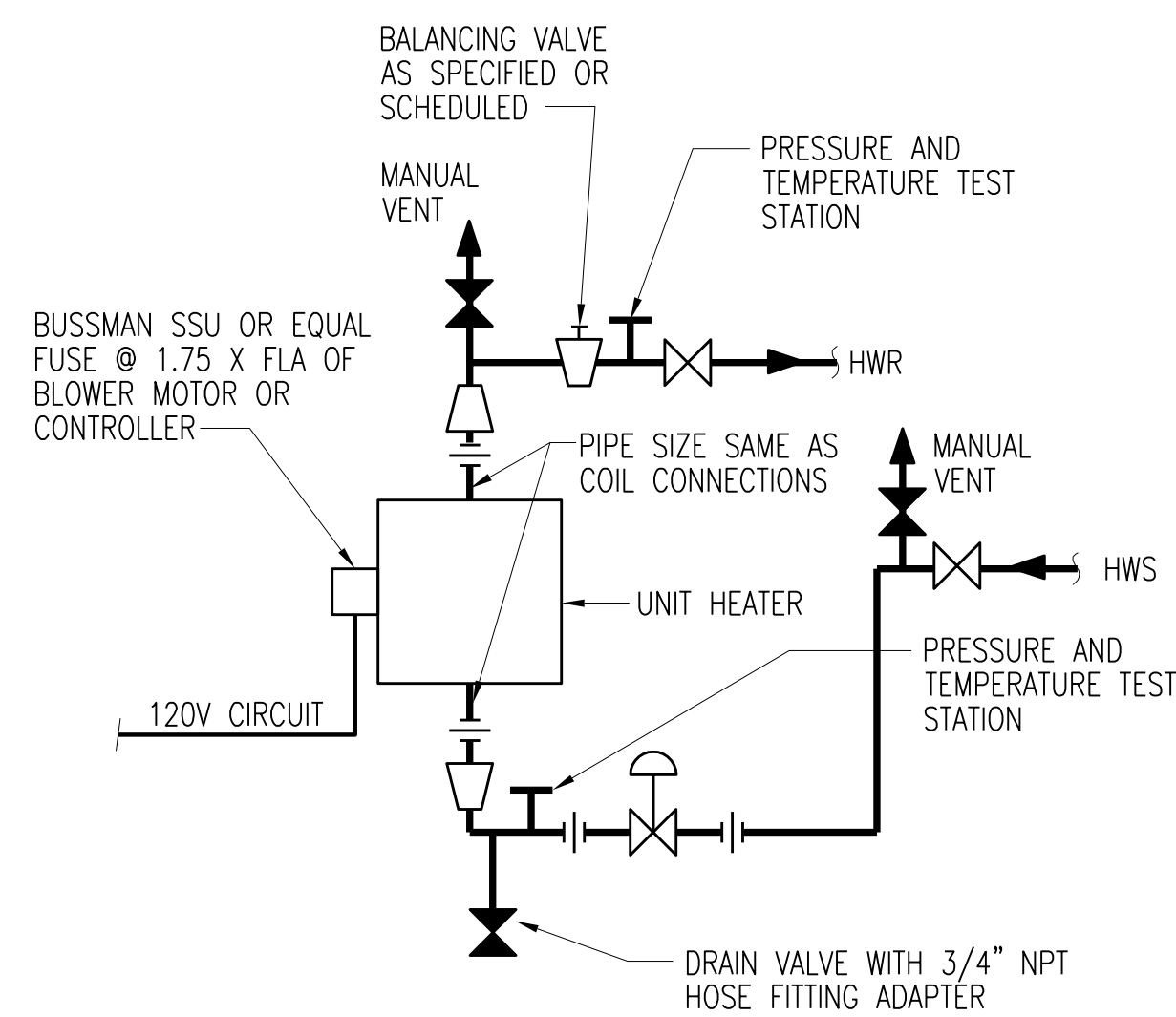
POINT OF USE WATER HEATER DETAIL



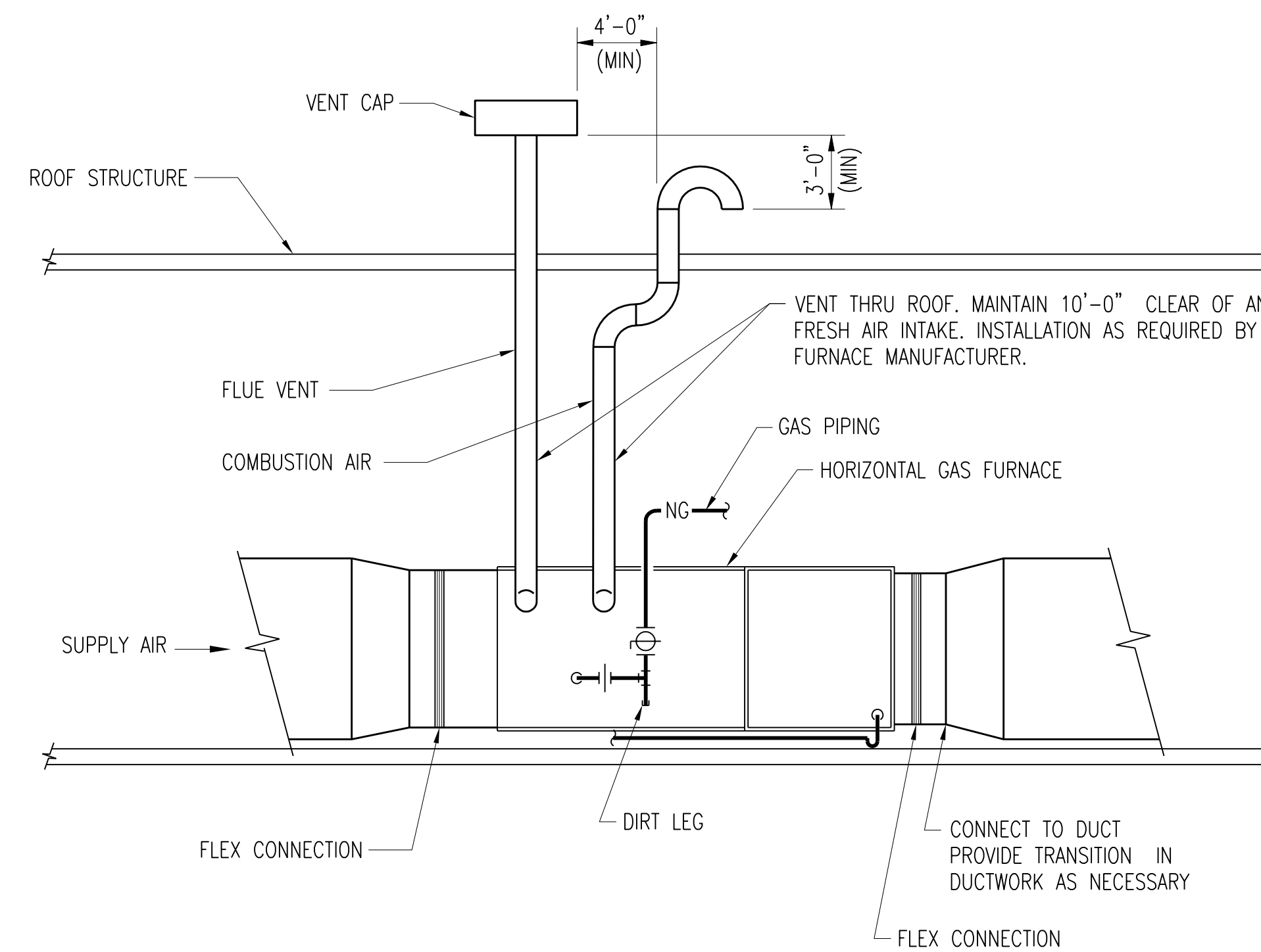
FUNNEL DRAIN DETAIL
SCALE: NONE



TANKLESS WATER HEATER DETAIL
SCALE: NONE



TYPICAL HOT WATER UNIT HEATER PIPING DETAIL
SCALE: NONE



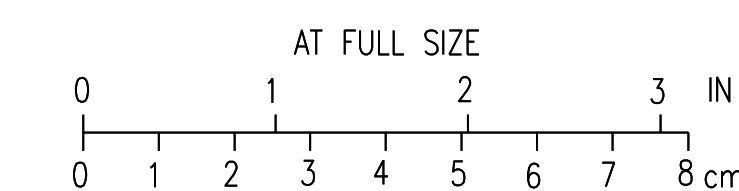
TYPICAL HORIZONTAL GAS FURNACE
SCALE: NONE

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	JLL	JJB	JJB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
MECHANICAL TYPICAL DETAILS-SCHEDULES
PLUMBING & HVAC - TYPICAL DETAILS
SHEET 1

DESIGNED	JL LEE	SCALE:	AS NOTED	REV.	
DRAWN	D. WILGES	NO.	22800		
CHECKED	JJ BOVENKAMP				
APPROVED	JJ BOVENKAMP				
DATE	DECEMBER 2, 2011				



PACKAGED HEAT RECOVERY UNIT (HRU) SCHEDULE																																	
PLAN DESIGNATION	LOCATION	SERVICE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	SUPPLY FAN					RETURN FAN				GAS HEATING SECTION			HEAT RECOVERY UNIT						FILTER SECTION		ELECTRICAL			NOTES					
					AIRFLOW (CFM)	MIN. O. A. (CFM)	EXTERNAL STATIC PRESSURE (in. w.c.)	BRAKE POWER (HP)	MOTOR POWER (HP)	AIRFLOW (CFM)	EXTERNAL STATIC PRESSURE (in. w.c.)	BRAKE POWER (HP)	MOTOR POWER (HP)	MIN. EFFICIENCY (%)	EAT (°F DB)	LAT (°F DB)	TYPE	FLOW RATE (CFM)	MAXIMUM PRESSURE DROP (in. w.c.)	EAT (°F DB)	LAT (°F DB)	FLOW RATE (CFM)	MAXIMUM PRESSURE DROP (in. w.c.)	EAT (°F DB)	LAT (°F DB)	TYPE	MERV RATING		TYPE	MERV RATING	MCA	MOP	V/Hz/PHASE
HRU-7101A	SLUDGE PUMPING BUILDING	BASEMENT	VENMAR	HRV2000E	1875	1875	1.05	1.14	1.5	1875	1.0	0.95	1.5	---	---	---	SENSIBLE	1875	0.86	-10.0	20	1875	0.86	50	21.4	THROWAWAY	7	THROWAWAY	7	11.73	20	230/60/3	(1) (2) (3) (4)

NOTES:
 (1) SEE DRAWINGS FOR ARRANGEMENT
 (2) EXTERNAL STATIC PRESSURE INCLUDES FILTERS, DUCTWORK, AND ALL COILS NOT IN AHU CASING
 (3) PROVIDE UNIT SUITABLE FOR OUTDOOR INSTALLATION
 (4) PROVIDE FUSED DISCONNECT SWITCH

PACKAGED GAS HEATING ROOFTOP AIR HANDLING UNIT (AHU) SCHEDULE																													
PLAN DESIGNATION	LOCATION	SERVICE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	SUPPLY FAN					EVAPORATOR COIL				GAS HEATING SECTION			COMPRESSORS			CONDENSER FAN		FILTER SECTION		ELECTRICAL			EER	NOTES	
					AIRFLOW (CFM)	MIN. O. A. (CFM)	E.S.P. (IN. WG)	BRAKE POWER (HP)	MOTOR POWER (HP)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	REFRIG.	MIN. EFFICIENCY (%)	EAT db (°F)	LAT db (°F)	NO.	RLA EACH	AMBIENT AIR TEMP. (°F)	NO.	MOTOR POWER (HP) EACH	TYPE	MERV RATING	MCA	MOP			V/Hz/PHASE
AHU 9004A	SLUDGE PROCESSING FACILITY	ELECTRONICS EQUIPMENT STORAGE	TRANE	YHC	2280	440	0.5	0.6	0.75	77.6	64.8	57.4	55.1	R-410A	80	53.0	102.0	1	9.6	95.0	1	0.75	THROWAWAY	7	16.3	25	460/60/3	12.6	(1) (2) (3) (4) (5)

NOTES:
 (1) SEE DRAWINGS FOR ARRANGEMENT
 (2) EXTERNAL STATIC PRESSURE INCLUDES FILTERS, DUCTWORK, AND ALL COILS NOT IN AHU CASING
 (3) PROVIDE EPOXY COATING FOR ALL COILS
 (4) PROVIDE POWERED EXHAUST FAN
 (5) PROVIDE FACTORY-INSTALLED DISCONNECT SWITCH

HOT WATER UNIT HEATER (UH) SCHEDULE													
PLAN DESIGNATION	LOCATION	SERVICE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ARRANGEMENT	SUPPLY FAN		HOT WATER COIL				ELECTRICAL	NOTES
						FLOW RATE (CFM)	MOTOR POWER (hp)	EWT (°F)	LWT (°F)	CAPACITY (MBH)	WATER PRESSURE DROP (ft)		
UH 9201A	SLUDGE PROCESSING FACILITY	BELT FILTER PRESS ROOM	TRANE	UHS-120	HORIZONTAL	1900	0.33	180	160	60	1.0	115/60/1	(1) (2) (3)
UH 9202A	SLUDGE PROCESSING FACILITY	BELT FILTER PRESS ROOM	TRANE	UHS-120	HORIZONTAL	1900	0.33	180	160	60	1.0	115/60/1	(1) (2) (3)
UH 9203A	SLUDGE PROCESSING FACILITY	BELT FILTER PRESS ROOM	TRANE	UHS-120	HORIZONTAL	1900	0.33	180	160	60	1.0	115/60/1	(1) (2) (3)
UH 9204A	SLUDGE PROCESSING FACILITY	VEHICLE STORAGE BAY/SLUDGE LOADING BAY	TRANE	UHS-120	HORIZONTAL	1900	0.33	180	160	60	1.0	115/60/1	(1) (2) (3)
UH 9209A	SLUDGE PROCESSING FACILITY	VEHICLE STORAGE BAY/SLUDGE LOADING BAY	TRANE	UHS-48	HORIZONTAL	630	0.05	180	160	24	0.5	115/60/1	(1) (2) (3)
UH 9210A	SLUDGE PROCESSING FACILITY	POLYMER ROOM	TRANE	UHS-48	HORIZONTAL	630	0.05	180	160	18	0.5	115/60/1	(1) (2) (3)
UH 9211A	SLUDGE PROCESSING FACILITY	POLYMER ROOM	TRANE	UHS-48	HORIZONTAL	630	0.05	180	160	18	0.5	115/60/1	(1) (2) (3)
UH 9212A	SLUDGE PROCESSING FACILITY	VEHICLE STORAGE BAY/SLUDGE LOADING BAY	TRANE	UHS-120	HORIZONTAL	1900	0.33	180	160	60	1.0	115/60/1	(1) (2) (3)
UH 9213A	SLUDGE PROCESSING FACILITY	VEHICLE STORAGE BAY/SLUDGE LOADING BAY	TRANE	UHS-120	HORIZONTAL	1900	0.33	180	160	60	1.0	115/60/1	(1) (2) (3)
UH 9214A	SLUDGE PROCESSING FACILITY	VEHICLE STORAGE BAY/SLUDGE LOADING BAY	TRANE	UHS-120	HORIZONTAL	1900	0.33	180	160	60	1.0	115/60/1	(1) (2) (3)

NOTES:
 (1) PROVIDE UNIT MOUNTED DISCONNECT SWITCH
 (2) PROVIDE MANUAL MOTOR STARTER
 (3) PROVIDE EPOXY PHENOLIC COATING FOR COILS

ELECTRIC UNIT HEATER (UH) SCHEDULE													
PLAN DESIGNATION	LOCATION	SERVICE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	TYPE	MOUNTING POSITION	SUPPLY FAN		ELECTRICAL		NOTES		
							FLOW RATE (CFM)	MOTOR POWER (hp)	CAPACITY (kW)	V/Hz/PHASE			
UH 1304A	INFLUENT PUMPING STATION	STAIRWELL 1	TRANE	UHXA	EXPLOSION PROOF	CEILING EXPOSED	2,400	0.5	20.0	480/60/3	(1) (2)		
UH 1305A	INFLUENT PUMPING STATION	STAIRWELL 2	TRANE	UHEC	GENERAL PURPOSE	CEILING EXPOSED	1,100	0.05	20.0	480/60/3	(1)		
UH 2501A	VORTEX GRIT TANKS	PUMP ROOM	TRANE	UHXA	EXPLOSION PROOF	CEILING EXPOSED	2,450	0.5	15	480/60/3	(1) (2)		
UH 2705A	GRIT DEWATERING BUILDING	ELEC ROOM	TRANE	UHEC	GENERAL PURPOSE	CEILING EXPOSED	400	---	3.3	480/60/3	(1)		

NOTES:
 (1) PROVIDE UNIT MOUNTED DISCONNECT SWITCH
 (2) PROVIDE UNIT MOUNTED EXPLOSION-PROOF THERMOSTAT

SPLIT-SYSTEM AIR CONDITIONER (FCU & ACCU) SCHEDULE																		
PLAN DESIGNATION	LOCATION	SERVICE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL (OUTDOOR UNIT)	BASIS OF DESIGN MODEL (INDOOR UNIT)	TOTAL COOLING CAPACITY (MBH)	COOLING AMBIENT (°F)	REFRIGERANT		COMPRESSOR			INDOOR FAN FLA	ELECTRICAL			SEER	NOTES
								TYPE	NO. CIRCUITS	TYPE	COMPRESSOR RLA	FAN MOTOR FLA		MIN. CIRCUIT AMPACITY	MAX. OVER CURRENT PROTECTION	VOLTS/Hz/PH		
FCU/ACCU-7101A	SLUDGE PUMPING BUILDING	CONTROL ROOM	MITSUBISHI ELECTRIC	MUY-GA24NA	MSY-GA24NA	22.00	95.0	R-410A	1	HERMETIC	17	0.93	0.76	17	20	230/60/1	17.5	(1) (2) (3) (4)
FCU/ACCU-7102A	SLUDGE PUMPING BUILDING	CONTROL ROOM	MITSUBISHI ELECTRIC	MUY-GA24NA	MSY-GA24NA	22.00	95.0	R-410A	1	HERMETIC	17	0.93	0.76	17	20	230/60/1	17.5	(1) (2) (3) (4)

NOTES:
 (1) PROVIDE WALL MOUNTING KIT & SINGLE POINT CONNECTION FOR POWER
 (2) BOTTOM OF FAN COIL UNIT (INDOOR UNIT) SHALL BE AT A MIN HT OF 6 FEET ABOVE FINISHED FLOOR
 (3) PROVIDE DISCONNECT SWITCHES FOR BOTH INDOOR AND OUTDOOR UNITS
 (4) PROVIDE UNIT SUITABLE FOR PIPING RUN OF 50 FEET. USE MANUFACTURER PROVIDED REFRIGERANT TUBING SETS AND POWER WIRING HARNESS BETWEEN ACCU AND FCU.

PACKAGED GAS HEATING FURNACE (FUR) SCHEDULE													
PLAN DESIGNATION	LOCATION	SERVICE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	AIRFLOW (CFM)	GAS HEATING SECTION				ELECTRICAL			NOTES
						MINIMUM INLET GAS PRESSURE (in. w.c.)	MIN. EFFICIENCY (%)	EAT (°F DB)	LAT (°F DB)	MCA	MOP	V/Hz/PHASE	
FUR-7101A	SLUDGE PUMPING BUILDING	BASEMENT/CONTROL ROOM	HASTINGS	IHRDV	1875	6	80	20	100	4	20	115/60/1	(1) (2)

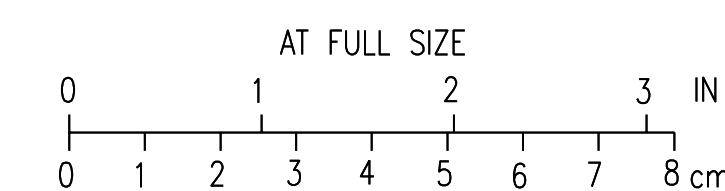
NOTES:
 (1) PROVIDE MODULATING GAS BURNER CONTROL DOWN TO 30% OF FULL CAPACITY
 (2) PROVIDE UNIT SUITABLE FOR NATURAL GAS OPERATION

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	JLL	JJB	JJB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
MECHANICAL TYPICAL DETAILS-SCHEDULES
PLUMBING & HVAC - TYPICAL DETAILS
SHEET 3

DESIGNED	JL LEE	SCALE:	AS NOTED
DRAWN	D.WILGES	NO.	22800
CHECKED	JJ BOVENKAMP	REV.	2
APPROVED	JJ BOVENKAMP		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-1-R4

HEATING WATER COIL (HC) SCHEDULE																	
PLAN DESIGNATION	LOCATION	SERVICE	FLOW RATE (CFM)	MINIMUM COIL AREA (ft ²)	MAXIMUM FACE VELOCITY (FPM)	MAXIMUM AIR PRESSURE DROP (in. w.g.)	MINIMUM ROWS	AIR CONDITIONS		WATER CONDITIONS				MAX. WATER PRESSURE DROP (ft)			NOTES
								EAT (°F)	LAT (°F)	FLOW RATE (GPM)	EWT (°F)	LWT (°F)	ACV SIZE (in)	COIL	ACV	TOTAL	
HC-1	SLUDGE PROCESSING FACILITY	AHU 9202A	8,405	12.46	750	0.80	4	-10.0	67.0	48.0	180	150.5	1	2.0	10.0	12.0	(1) (2)

NOTES:
 (1) PROVIDE COIL SUITABLE FOR INTEGRAL FACE AND BYPASS DAMPER
 (2) COIL SHALL BE CERTIFIED IN ACCORDANCE WITH AHRI STANDARD 410

ELECTRIC WATER HEATER (WH) SCHEDULE													
PLAN DESIGNATION	LOCATION	SERVICE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	TYPE	ELEMENT (KW)	STORAGE CAPACITY (GAL)	FLOWRATE AT TEMPERATURE RISE 75°F RISE (GPM)	ELECTRICAL			NOTES	
									MCA	MOP	V/Hz/PHASE		
WH 9201A	SLUDGE PROCESSING FACILITY	EMERGENCY SHOWERS	A.O. SMITH	DEN-120	TANK	12	120	1	14.4	20	480/60/3	(1) (2) (3)	

NOTES:
 (1) ROUTE DRAINS TO NEAREST FLOOR DRAIN
 (2) PROVIDE TWO 6 KW ELEMENTS WITH SIMULTANEOUS OPERATION
 (3) PROVIDE ASME RATED FULL SIZE T&P RELIEF VALVE

PACKAGED ELECTRIC HEATING MAKEUP AIR UNIT (MAU) SCHEDULE																		
PLAN DESIGNATION	LOCATION	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	FLOW RATE (CFM)	SUPPLY FAN				ELECTRIC HEATING COIL			FILTER SECTION			ELECTRICAL DATA			NOTES
					MINIMUM OUTDOOR AIR (CFM)	EXTERNAL STATIC PRESSURE (in. w.g.)	BRAKE POWER (Hp)	MOTOR POWER (Hp)	CAPACITY (kW)	EAT (°F)	LAT (°F)	TYPE	MERV RATING	MCA	MOP	VOLTS/HZ/PH		
MAU 2501A	VORTEX GRIT TANKS	GREENHECK	MSX	2,905	2,905	0.4	1.41	1.50	70.0	-10	65.9	THROWAWAY	8	91.1	100	460/60/3	(1) (2) (3) (4) (5) (6) (7)	

NOTES:
 (1) PROVIDE HORIZONTAL ARRANGEMENT AND HORIZONTAL DISCHARGE
 (2) EXTERNAL STATIC PRESSURE INCLUDES FILTERS, DUCTWORK, AND ALL COILS NOT IN MAU CASING
 (3) PROVIDE SCR CONTROL FOR ELECTRIC HEATING COIL
 (4) PROVIDE WEATHERHOOD WITH BIRDSCREEN
 (5) PROVIDE INTAKE DAMPER
 (6) PROVIDE DIRTY FILTER SWITCH
 (7) PROVIDE FREEZESTAT SWITCH

GAS FIRED HOT WATER HEATER (HWH) SCHEDULE									
PLAN DESIGNATION	LOCATION	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	HEATING CAPACITY INPUT (MBH)	50 F TEMP RISE (GPM)	MINIMUM INLET GAS PRESSURE (W.C.)	VOLTS/HZ/PHASE	FLUE CONNECTION SIZE (IN. OD)	NOTES
WH 6701A	SODIUM HYPOCHLORITE	A.O. SMITH	AT10-910-AN	380	12	5	120/60/1	5	(1) (2) (3)

NOTES:
 (1) PROVIDE 5 YEAR WARRANTY
 (2) PROVIDE FULL SIZE RELIEF VALVE
 (3) PROVIDE DIRECT VENT CONVERSION KIT

PENTHOUSE (PH) SCHEDULE															
PLAN DESIGNATION	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	LOCATION	SERVICE	TYPE	NUMBER OF TIERS	AIRFLOW (CFM)	MAXIMUM PRESSURE DROP (in. w.c.)	NECK DIMENSIONS			HOOD SIZE			NOTES
									LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	
PH 9201A	RUSKIN	PH811(S)	SLUDGE PROCESSING FACILITY	OFFICE	LOUVERED	2	300	0.05	18	18	28	28	10	(1) (2)	

NOTES:
 (1) PROVIDE BIRD SCREEN
 (2) PROVIDE ROOF CURB WITH FLASHING SUITABLE FOR ROOF CONSTRUCTION SHOWN ON DRAWINGS

EXPANSION TANK (ET) SCHEDULE											
PLAN DESIGNATION	LOCATION	SERVICE	TYPE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	TANK RATED PRESSURE (PSIG)	SET PRESSURE (PSIG)	NOTES	
ET-8531A	DIGESTER BUILDING	DIGESTER BUILDING	ASME	WESSELS	NLA 300	79	79	125	12	(1) (2)	

NOTES:
 (1) CONSTRUCTED IN ACCORDANCE WITH ASME SECTION VIII DIVISION 1
 (2) PROVIDE FLOOR MOUNTED TANK

AIR HANDLING UNIT (AHU) SCHEDULE																
PLAN DESIGNATION	LOCATION	SERVICE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	SUPPLY FAN					FILTER			ELECTRICAL			NOTES
					FLOW RATE (CFM)	MINIMUM OUTDOOR AIR (CFM)	EXTERNAL STATIC PRESSURE (in. w.g.)	RPM	BRAKE POWER (Hp)	MOTOR POWER (Hp)	TYPE	MERV RATING	MCA	MOP	V/Hz/PHASE	
AHU 9201A	SLUDGE PROCESSING FACILITY	BELT FILTER PRESS ROOM	TRANE	CSAA	8,405	8,405	1.00	960	6.26	7.50	PLEATED MEDIA	8.0	13.8	25	460/60/3	(1) (2) (3) (4)

NOTES:
 (1) SEE DRAWINGS FOR ARRANGEMENT
 (2) EXTERNAL STATIC PRESSURE INCLUDES FILTERS, DUCTWORK, AND COILS NOT IN AHU CASING
 (3) SEE HEATING WATER HEATING COIL SCHEDULE FOR HEATING COIL PERFORMANCE
 (4) PROVIDE UNIT MOUNTED DISCONNECT AND MOTOR STARTER

PACKAGED GAS HEATING ROOFTOP MAKEUP AIR UNIT (MAU) SCHEDULE																			
PLAN DESIGNATION	LOCATION	SERVICE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	SUPPLY FAN					GAS HEATING COIL			FILTER SECTION			ELECTRICAL DATA			NOTES
					FLOW RATE (CFM)	MINIMUM OUTDOOR AIR (CFM)	EXTERNAL STATIC PRESSURE (in. w.g.)	RPM	BRAKE POWER (Hp)	MOTOR POWER (Hp)	CAPACITY (MBH)	EAT (°F)	LAT (°F)	TYPE	MERV RATING	MCA	MOP	VOLTS/HZ/PH	
MAU 1301A	INFLUENT PUMP STATION	WET WELL	TRANE	GRCA	8,450	8,450	0.25	8.03	10.00	700	-10	51.0	PLEATED MEDIA	8	13.3	20	460/60/3	(1) (2) (3)	
MAU 1302A	INFLUENT PUMP STATION	WET WELL	TRANE	GRCA	8,450	8,450	0.30	8.42	10.00	700	-10	51.0	PLEATED MEDIA	8	13.3	20	460/60/3	(1) (2) (3)	
MAU 1303A	INFLUENT PUMP STATION	UPPER/LOWER SCREEN ROOM	TRANE	GRCA	11,700	11,700	0.30	13.83	15.00	1200	-10	65.6	PLEATED MEDIA	8	20.3	25	460/60/3	(1) (2) (3)	
MAU 6701A	SODIUM HYPOCHLORITE	TANK ROOM	TRANE	GRCA	1,250	750	0.05	0.31	0.50	150	-10	101.0	PLEATED MEDIA	8	9	15	115/60/1	(1) (2) (3)	
MAU 9001A	SLUDGE PROCESSING FACILITY	ROTARY DRUM THICKENER ROOM	TRANE	GRCA	3,900	3,900	0.75	2.09	3.00	350	-10	72.5	PLEATED MEDIA	8	4.8	15	460/60/3	(1) (2) (3)	

NOTES:
 (1) DOWN FLOW UNIT ARRANGEMENT
 (2) EXTERNAL STATIC PRESSURE INCLUDES FILTERS, DUCTWORK, AND ALL COILS NOT IN MAU CASING
 (3) PROVIDE UNIT MOUNTED DISCONNECT AND STARTER

THERMOSTATIC MIXING VALVE SCHEDULE (TMV)												
PLAN DESIGNATION	LOCATION	SERVICE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	DESIGN FLOW RATE (gpm)	DESIGN PRESSURE LOSS - MAX. (psi.)	INLET SIZE (in.)	OUTLET SIZE (in.)	OUTLET TEMPERATURE (°F)	COLD INLET TEMPERATURE (°F)	HOT INLET TEMPERATURE (°F)	NOTES
TMV-1	SODIUM HYPOCHLORITE	EEWS	BRADLEY CORPORATION	S19-2200	20	10	1	1.25	70	40	140	(1) (2) (3)
TMV-2	SLUDGE PROCESSING FACILITY	EEWS	BRADLEY CORPORATION	S19-2200	20	10	1	1.25	70	40	140	(1) (2) (3)

NOTES:
 (1) PROVIDE CHROME PLATED FINISH
 (2) PROVIDE BOTTOM INLETS AND TOP OUTLET
 (3) PROVIDE WALL-MOUNTED STAINLESS STEEL CABINET

1	ISSUED FOR CONSTRUCTION	JLL	JJB	JJB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



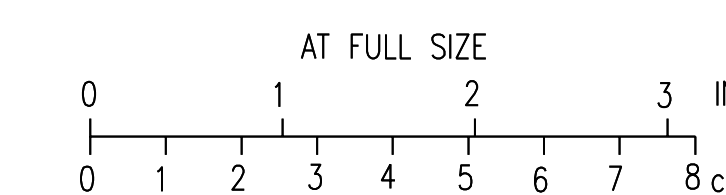
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**MECHANICAL TYPICAL DETAILS-SCHEDULES
PLUMBING & HVAC - TYPICAL DETAILS
SHEET 4**

DESIGNED: J.L. LEE	SCALE: AS NOTED
DRAWN: D.WILGES	NO. 22800
CHECKED: J.J. BOVENKAMP	REV.
APPROVED: J.J. BOVENKAMP	M6
APPROVED: _____	1
DATE: DECEMBER 2, 2011	



CADD: D1-144

WIRING DEVICE SCHEDULE

SYMBOL	DESCRIPTION	REMARKS
\$	<p>DEVICE: SINGLE POLE TOGGLE SWITCH</p> <p>CONFIG: SINGLE POLE RATING: 120-277V, 20A PLATE: STAINLESS STEEL OTHER: SPECIFICATION GRADE, QUIET OPERATION, SIDE AND BACK WIRED COLOR: BLACK VENDOR(S): HUBBELL 1221-1, BRYANT 4901-1, LEVITON 1221-1 CODE: PASS & SEYMOUR 20AC1-1, GENERAL ELECTRIC 5951-2G SSS001/SW1</p>	MOUNT BOTTOM OF SWITCH BOX AT 3'-4" AFF
\$ ₃	<p>DEVICE: THREE WAY TOGGLE SWITCH</p> <p>CONFIG: THREE WAY RATING: 120-277V, 20A PLATE: AISI 430 STAINLESS STEEL [IVORY] [GALVANIZED STEEL] OTHER: SPECIFICATION GRADE, QUIET OPERATION, SIDE AND BACK WIRED COLOR: BLACK VENDOR(S): HUBBELL 1223-1, BRYANT 4903-1, LEVITON 1223-1 CODE: PASS & SEYMOUR 20AC3-1, GENERAL ELECTRIC 5953-2G SSS003/SW3</p>	MOUNT BOTTOM OF SWITCH AT 3'-4" AFF
OS	<p>DEVICE: DUEL TECHNOLOGY OCCUPANCY SENSOR SWITCH</p> <p>CONFIG: 120V OR 277V, 20A RATING: INTEGRAL FOR CEILING MOUNTING PLATE: OTHER: COLOR: IVORY VENDOR(S): WAIT-STOPPER W-2000A FOR OPEN AREAS CODE: WAIT-STOPPER W-2000H FOR CORRIDORS</p>	PROVIDE POWER SUPPLY AND SLAVE RELAY AS REQUIRED FOR INSTALLATION
\$ _D	<p>DEVICE: SLIDER TYPE DIMMER SWITCH</p> <p>CONFIG: SINGLE POLE RATING: 277V PLATE: INTEGRAL WITH VERTICAL SLIDER, STAINLESS STEEL. OTHER: SPECIFICATION GRADE, RFI PROTECTED, SUITABLE FOR ADVANCE MARK VII BALLAST COLOR: IVORY VENDOR(S): PRESCOLITE PA-7 OR EQUAL CODE: /SW1</p>	MOUNT BOTTOM OF SWITCH BOX AT 3'-4" AFF
\$ _M	<p>DEVICE: TOGGLE TYPE FRACTIONAL HP MOTOR STARTER W/ PILOT LIGHT</p> <p>CONFIG: SINGLE POLE NONREVERSING RATING: 120-277V, 16A ENCLOSURE: SURFACE MOUNT, STANDARD NEMA 1 ENCLOSURE WITH HANDLE OTHER: GUARD/LOCK-OFF PROVIDE PILOT LT., HEATER ELEMENT SIZED AS REQUIRED FOR LOAD NAMEPLATE RATING COLOR: NA VENDOR(S): SQUARE D CLASS 2510 FG1P-FL1, GENERAL ELECTRIC CR101Y11-CR101X3 WITH CR101X4, ALLEN BRADLEY 600-TAX109 CODE: SSS013/SW1</p>	MOUNT BOTTOM OF SWITCH AT 3'-4" AFF
\$ _{M1}	<p>DEVICE: TOGGLE TYPE FRACTIONAL HP MOTOR STARTER W/ INTEGRAL SWITCH HAND-OFF-AUTO SWITCH</p> <p>CONFIG: SINGLE POLE NONREVERSING RATING: 120-277V, 16A ENCLOSURE: SURFACE MOUNT, STANDARD NEMA 1 ENCLOSURE WITH HANDLE OTHER: GUARD/LOCK-OFF PROVIDE PILOT LT., HEATER ELEMENT SIZED AS REQUIRED FOR LOAD NAMEPLATE RATING COLOR: NA VENDOR(S): SQUARE D CLASS 2510 FG1P-FL1, GENERAL ELECTRIC CR101Y11-CR101X3 WITH CR101X4, ALLEN BRADLEY 600-TAX109 CODE: SSS013/SW1</p>	MOUNT BOTTOM OF SWITCH AT 3'-4" AFF
\$ _{XP}	<p>DEVICE: EXPLOSION PROOF SINGLE POLE TOGGLE SWITCH</p> <p>CONFIG: SINGLE POLE RATING: 120-277V, 20A PLATE: CLASS I GROUPS C,D, CLASS II GROUPS E,F,G; 3/4" DEAD-END HUB OTHER: SPECIFICATION GRADE, QUIET OPERATION, SIDE AND BACK WIRED COLOR: BLACK DEVICE: HUBBELL 1221-1 SWITCH, PASS AND SEYMOUR 20AC1-1, VENDOR(S): GENERAL ELECTRIC 5951-2G, LEVITON 1221-1 PLATE: OTHER: COLOR: BLACK VENDOR(S): APPLETON EDS175-F1, KILLARK FXS-21C, CROUSE HINDS DSD933 CODE: SSS019/SW1</p>	MOUNT BOTTOM OF SWITCH AT 3'-4" AFF
\$ _{3XP}	<p>DEVICE: EXPLOSION PROOF THREE WAY TOGGLE SWITCH</p> <p>CONFIG: THREE WAY RATING: 120-277V, 20A PLATE: CLASS I GROUPS C,D, CLASS II GROUPS E,F,G; 3/4" DEAD-END HUB OTHER: SPECIFICATION GRADE, QUIET OPERATION, SIDE AND BACK WIRED COLOR: BLACK DEVICE: HUBBELL 1223-1 SWITCH, PASS AND SEYMOUR 20AC3-1, VENDOR(S): GENERAL ELECTRIC 5953-2G, LEVITON 1223-1 PLATE: OTHER: COLOR: BLACK VENDOR(S): APPLETON EDS175-F1, KILLARK FXS-21C, CROUSE HINDS DSD933 CODE: SSS020/SW3</p>	MOUNT BOTTOM OF SWITCH AT 3'-4" AFF

SEE RFI #6 SHEET E1-A

WIRING DEVICE SCHEDULE

SYMBOL	DESCRIPTION	REMARKS
△	<p>DEVICE: TRIPLEX VOICE/DATA JACK</p> <p>CONFIG: 1-RJ45 FOR VOICE, 2-RJ45 KEYED FOR DATA RATING: PLATE: TO MATCH VENDOR OTHER: PROVIDE DOUBLE GANG BACKBOX WITH A" CONDUIT ABOVE CEILING CAVITY, FOR WIRING COLOR: WHITE FOR VOICE / ORANGE FOR DATA VENDOR(S): LUCENT TECHNOLOGIES LATEST MODULAR GIGASPEED JACKS. CODE:</p>	<p>18" AFF IN FINISHED AREAS 48" AFF IN UNFINISHED AREAS</p> <p>PROVIDE 3-4 PAIR CAT 5E PLENUM RATED GIGASPEED CABLE IN A 1" EMT CONDUIT FROM EACH JACK LOCATION TO MDF LOCATION. IF SYMBOL IS IN A PROCESS OR SERVICE AREA ONLY PROVIDE 2-4 PAIR CABLE.</p>
Ⓟ	<p>DEVICE: DUPLEX CONVENIENCE RECEPTACLE</p> <p>CONFIG: NEMA 5-20R, 2 POLE, 3 WIRE RATING: 20A, 125V PLATE: AISI 430 STAINLESS STEEL OTHER: GROUNDING TYPE, STRAIGHT BLADE, SPECIFICATION GRADE COLOR: BLACK VENDOR(S): HUBBELL 5362-1, BRYANT 5362-1, LEVITON 5362-1 CODE: PASS AND SEYMOUR 5362-1 RRR007/RCPT1</p>	<p>MOUNT AT 1'-6" AFF</p> <p>RECEPTACLES ON UPS CIRCUITS TO BE ORANGE IN COLOR</p>
Ⓟ _{GFI}	<p>DEVICE: GFI DUPLEX CONVENIENCE RECEPTACLE</p> <p>CONFIG: NEMA 5-20R, 2 POLE, 3 WIRE RATING: 20A, 125V PLATE: AISI 430 STAINLESS STEEL OTHER: SPECIFICATION GRADE, STRAIGHT BLADE, 5mA SENSITIVITY, FEED THROUGH TYPE COLOR: BLACK VENDOR(S): HUBBELL GF5362-1, PASS AND SEYMOUR 2091-1-FHG VITON 6398-HGI CODE: RRR007/RCPT1</p>	MOUNT AT 1'-6" AFF
Ⓟ _{WP GFI}	<p>DEVICE: WEATHERPROOF GFI DUPLEX CONVENIENCE RECEPTACLE</p> <p>CONFIG: NEMA 5-20R, 2 POLE, 3 WIRE RATING: 20A, 125V PLATE: CAST ALUMINUM FOR A FLUSH MOUNTED FS BOX, SPRING LOADED COVER. OTHER: SPECIFICATION GRADE, FEED THROUGH TYPE, 5mA SENSITIVITY STRAIGHT BLADE COLOR: BLACK DEVICE: HUBBELL GF-5362-1, PASS AND SEYMOUR 2091-1-FHG, VENDOR(S): LEVITON 6398-HGI COVER PLATE TO BE A APPLETON FSK-WRD OR EQUAL CODE: RRR020/RCPT1</p>	<p>MOUNT AT 1'-6" AFF SEE MOUNTING DETAIL ON DWG E4</p>
Ⓟ _{1XP}	<p>DEVICE: EXPLOSION PROOF RECEPTACLE</p> <p>CONFIG: NEMA 5-20R, 2POLE, 3 WIRE RATING: 20A, 125V, CLASS 1-C,D PLATE: NA OTHER: COPPER FREE CAST ALUMINUM HOUSING, SPRING LOADED COVER 316 STAINLESS STEEL EXTERNAL HARDWARE, PROVIDE PLUG WITH KELLEMS GRIP, SINGLE GANG FEED THROUGH BOX COLOR: NA VENDOR(S): KILLARK UGR5-20231 (RECEP & BOX), UGP-20231-UGMG (PLUG), CROUSE HINDS ARK-GARD 2 SERIES, APPLETON U-LINE CODE: RRR055</p>	

SEE ITC #38 & ITC #39 SHEET E1-A

ELECTRICAL GENERAL NOTES:

- PROVIDE FIRE STOPPING AROUND ALL RACEWAYS PENETRATING FIRE RATED WALLS FLOORS OR CEILINGS. UTILIZE UL LISTED FIRESTOP SYSTEMS, THOMAS AND BETTS OR EQUAL.
- VERIFICATION OF DIMENSIONS IN THE FIELD SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR DEVIATIONS DURING CONSTRUCTION.
- SEE PHASING PLANS ON DRAWINGS G14-G29 AND COORDINATE EFFORT OF ELECTRICAL INSTALLATIONS WITH PHASING OF CONSTRUCTION. IF A GENERATOR IS REQUIRED TO PROVIDE CONTINUOUS POWER TO ALLOW INSTALLATION OF NEW TRANSFORMERS, SERVICES TO MOTOR CONTROL CENTERS OR PANELS TO BE INSTALLED, OR TO PUMPS FOR SEAL WATER OR PROCESS, CONTRACTOR TO PROVIDE AS PART OF THEIR SERVICES.
- ELECTRICAL LAYOUT DRAWINGS ARE PARTIALLY DIAGRAMMATIC. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL AND HVAC DRAWINGS FOR GUIDANCE ON DIMENSIONS, CEILING HEIGHTS, DOOR SWINGS, ROOM FINISHES, STRUCTURAL AND ARCHITECTURAL DETAILS. LOCATIONS OF DUCTS, PIPES AND STRUCTURAL STEEL, INSTALL THE ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH DUCTS, PIPES, STRUCTURAL STEEL OR OTHER SYSTEMS, LOCATE LIGHTING FIXTURES SYMMETRICALLY IN PROPER RELATION TO FINISHED AREAS EXCEPT WHERE DIMENSIONED ON THE DRAWINGS OR LOCATED ON REFLECTED CEILING PLANS.
- PROVIDE ADDITIONAL SUPPORTS FOR SWITCHES, STARTERS, RACEWAYS AND OTHER ELECTRICAL EQUIPMENT WHEREVER THE BUILDING STRUCTURE IS NOT SUITABLE FOR DIRECT MOUNTING.
- ON WIRING PLANS A NUMERAL BESIDE A BRANCH CIRCUIT OUTLET INDICATES PANELBOARD BRANCH CIRCUIT CONNECTION.
- CONNECT BRANCH CIRCUITS TO RECEPTACLES BY MEANS OF A SHORT PIGTAILS PERMANENTLY SPLICED TO THE CIRCUIT CONDUCTORS.
- MOUNT GROUPED DEVICES IN A SINGLE CONTINUOUS GANG BOX. USE PARTITIONS WHERE VOLTAGE BETWEEN EXPOSED LIVE PARTS OF ADJACENT SWITCHES MAY EXCEED 300 VOLTS.
- WHERE CONDUIT AND WIRING HAS NOT BEEN SHOWN ON THE DRAWINGS THE ARRANGEMENT AND ROUTING OF LIGHTING AND RECEPTACLE BRANCH CIRCUIT WILL BE AT THE CONTRACTOR'S DISCRETION IN ACCORDANCE WITH GENERALLY ACCEPTED GOOD PRACTICE. N.E.C. REQUIREMENTS.
- COORDINATE FLOOR PENETRATIONS AND ROUTINGS FOR CONDUITS BETWEEN EQUIPMENT WITH EQUIPMENT PROVIDED.
- ALL HVAC CONTROLS AND ASSOCIATED WIRING REQUIREMENTS SHALL BE PROVIDED AND INSTALLED BY DIVISION 15000 AND IN METALLIC CONDUIT.
- PROVIDE 1" PVC SLEEVE IN FLOOR FOR ALL EQUIPMENT GROUNDING RISERS. PROVIDE 5'-0" OF EXCESS CABLE AFTER PENETRATION FOR TERMINATION TO EQUIPMENT PROVIDED. COORDINATE CONDUIT SLEEVE PLACEMENT WITH EQUIPMENT PROVIDED. ATTACH VERTICAL GROUND RISER BETWEEN FLOORS TO WALL.

3A

ELECTRICAL GENERAL NOTES CONTINUED:

- FOR GROUNDING RISER PENETRATION DETAIL SEE DWG E4.
- FOR GROUND ROD DETAIL SEE DWG E4.
- PROVIDE A 4" HOUSEKEEPING PAD UNDER MCC'S AND PLC.
- ALL SUBMERSIBLE PUMPS ARE TO BE SUPPLIED WITH POWER AND CONTROL CABLE REQUIREMENTS. TERMINATE THE ABOVE CABLES AT TERMINAL BOXES SHOWN ON OUTDOOR ELECTRICAL EQUIPMENT MOUNTING DETAIL ON DWG E4. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER AND CONTROL WIRING REQUIREMENTS AS SHOWN ON ONE-LINE DRAWINGS FROM TERMINAL BOXES TO APPLICABLE MOTOR CONTROL CENTERS AND/OR CONTROL PANELS. PROVIDE PVC COATED RGS CONDUIT FOR ALL DIRECT BURIED CONTROL AND POWER CIRCUITS AT A MINIMUM OF 18" BELOW GRADE FROM EQUIPMENT TO ASSOCIATED MOTOR CONTROL CENTER AND/OR CONTROL PANEL.
- PROVIDE SEALED FITTINGS FOR ALL CONDUITS ENTERING AND LEAVING HAZARDOUS CLASSIFIED AREAS. FITTINGS SHALL BE PLACED JUST BEFORE ENTERING AND/OR JUST AFTER LEAVING CLASSIFIED AREAS.
- PLANT SHALL REMAIN IN OPERATION DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF WORK PHASING WITH THE OWNER PRIOR TO ANY START OF CONSTRUCTION.
- ALL DISCONNECT SWITCHES PROVIDED FOR MOTORS OPERATED BY ASD'S SHALL INCLUDE AUXILIARY CONTACTS FOR DISCONNECT "CLOSED" STATUS TO ALLOW ASD TO OPERATE. PROVIDE 2/C#12 FROM CONTACT TO ASD TO VERIFY DISCONNECT POSITION SO ASD WILL NOT OPERATE UNLESS DISCONNECT IS CLOSED.
- WHERE CONDUIT AND WIRING HAS NOT BEEN SHOWN ON THE DRAWINGS THE ARRANGEMENT AND ROUTING OF LIGHTING AND RECEPTACLE BRANCH CIRCUITS WILL BE AT THE CONTRACTORS DISCRETION IN ACCORDANCE WITH GENERALLY ACCEPTED GOOD PRACTICES, NEC REQUIREMENTS AND THE FOLLOWING LIMITATIONS:
 - EXCEPT WHERE NOTED OTHERWISE, SIZE BRANCH CIRCUITS CONDUCTORS WITHIN THE FOLLOWING MAXIMUM LENGTH LIMITS: (MEASURE TO THE CENTER OF THE LOAD FOR LIGHTING CIRCUITS AND THE MOST REMOTE OUTLET FOR RECEPTACLE CIRCUITS)

	#12	#10	#8	#6
120V, 20A	65'	110'	165'	270'
 - PROVIDE #12 AWG MINIMUM FOR ALL 120 VAC CIRCUITS. PROVIDE ADDITIONAL DERATING PER NEC TABLES 310-16 THROUGH 310-31 NOTE 8 FOR ALL HOME RUNS WITH MORE THAN 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY.
 - ALL LIGHTING AND RECEPTACLE CIRCUITS SHALL BE 3-#12 AWG, 1°C UNLESS NOTED OTHERWISE ON DRAWINGS OR IF PREVIOUSLY STATED CONDITIONS APPLY.
- ALL EXTERIOR CONDUITS RUN ABOVE GRADE SHALL BE PVC COATED RGS.
- ALL EXTERIOR BOXES SHALL BE STAINLESS STEEL AND EXPLOSION PROOF WHERE LOCATED IN HAZARDOUS AREA AS DEFINED BY CODE.
- REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF THERMOSTATS.
- CONTRACTOR SHALL PROVIDE CONTROL WIRING AS REQUIRED BY SCHEMATICS AND P&ID DRAWINGS IN METALLIC CONDUIT.
- ALL EXTERIOR UNISTRUT SHALL BE PVC COATED.
- ALL ASD CIRCUITS TO BE IN DEDICATED METALLIC CONDUITS.
- WHERE STARTERS ARE REUSED IN MOTOR CONTROL CENTERS, OR COMBINATION TYPE, PROVIDE NEW OVERLOADS TO HP OF MOTOR.
- HAZARDOUS LOCATIONS TABLE FOR THE PLANT ARE SHOWN ON DRAWING M4. ALL ELECTRICAL EQUIPMENT AND INSTALLATIONS SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE NATIONAL ELECTRIC CODE.
- AS PART OF THIS CONTRACT THE INSTRUMENTATION/CONTROL SYSTEM INTEGRATOR IS RESPONSIBLE FOR INSTALLING THE POWER SUPPLIES AS REQUIRED, OVERCURRENT PROTECTION, WIRING REQUIREMENTS, AND TERMINATIONS TO ALL FIELD DEVICES SHOWN IN SPECIFICATIONS AND ON ALL "P" AND "I" DRAWINGS. 480V AND 120V PANEL LOCATIONS ONLY ARE SHOWN ON THE "E" DRAWINGS FOR REFERENCE FOR SOURCES OF ELECTRICAL POWER FOR THE INTEGRATOR. INTEGRATOR SHALL CONFIRM AND COORDINATE ALL SOURCES WITH THE ELECTRICAL CONTRACTOR AND OWNER BEFORE CONSTRUCTION BEGINS.
- PROVIDE 3 - #8 IN A 1" PVC RGS CONDUIT TO ALL OUTDOOR RECEPTACLE CIRCUITS. PROVIDE 120V FROM PANEL SERVING AREA. MOUNT RECEPTACLES NEAR MOTOR DISCONNECTS OR PANELS AS SHOWN ON TYPICAL OUTDOOR ELECTRICAL EQUIPMENT MOUNTING DETAIL.
- 480V VALVE ACTUATORS TO BE PROVIDED WITH FUSIBLE DISCONNECTS. LOCATE DISCONNECTS AS REQUIRED PER CODE AND FUSE AS STATED IN SPECIFICATION 40 23 36.

CHANGE ELECTRICAL GENERAL NOTE 16 TO READ:

- SUBMERSIBLE PUMPS SHALL BE SUPPLIED WITH POWER AND CONTROL CABLE REQUIREMENTS. TERMINATE ABOVE CABLES AT TERMINAL BOXES SHOWN ON OUTDOOR ELECTRICAL EQUIPMENT MOUNTING DETAIL ON DWG E4. PROVIDE POWER AND CONTROL WIRING REQUIREMENTS AS SHOWN ON ONE-LINE DRAWINGS FROM TERMINAL BOXES TO APPLICABLE MOTOR CONTROL CENTERS AND/OR CONTROL PANELS. PROVIDE PVC-COATED RGS CONDUIT FOR DIRECT-BURIED CONTROL AND POWER CIRCUITS AT MINIMUM OF 36" BELOW GRADE FROM EQUIPMENT TO ASSOCIATED MOTOR CONTROL CENTER AND/OR CONTROL PANEL.

ADD NOTE 32. TO READ:

- NEW PAD-MOUNTED TRANSFORMERS SHALL BE FACTORY PAINTED GREEN TO MATCH EXISTING. COLOR SHALL BE APPROVED BY OWNER.

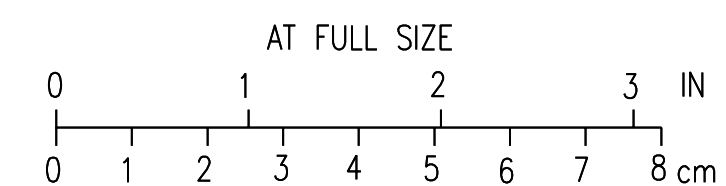
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3	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
2	ADDED NOTES	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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 225 Iowa Avenue, Muscatine, Iowa 52761-3764
 www.stanleyconsultants.com

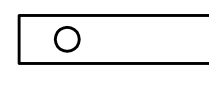
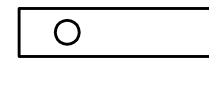
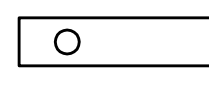
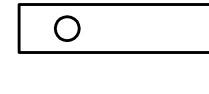
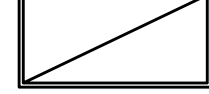
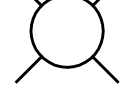
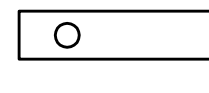
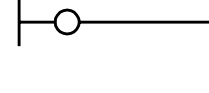
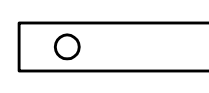
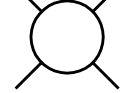

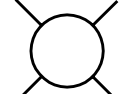
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL TYPICAL DETAILS-SCHEDULES
TYPICAL NOTES
AND WIRING DEVICE SCHEDULE**



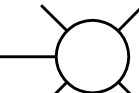
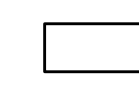
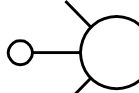

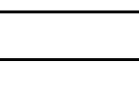
DESIGNED DL MORITZ	SCALE: AS NOTED
DRAWN B.M. GOODNIGHT	NO. 22800
CHECKED DL MORITZ	REV.
APPROVED JD COOHN	E1
APPROVED	4
DATE DECEMBER 2, 2011	



LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER AND CAT. NO.	VOLTAGE	LAMPS	REMARKS
	TYPE: FLUOR.INDIRECT FIXTURE WITH ONE PIECE EXTRUDED ALUMINUM BODY. 8" X 3" TUBE WITH ADJUSTABLE AIRCRAFT CABLE HANGERS AND TRUE GRID HANGING HARDWARE COLOR: WHITE LENGTH: IN LENGTHS AS SHOWN ON DRAWING BALLAST: SOLID STATE DIFFUSER: NONE CODE: F132/2XF	LEDALITE FLEXA	120V	3-32W/4' 4100K,75CRI F3218	18" SUSPENSION LENGTH
	TYPE: FLUOR.INDIRECT FIXTURE WITH ONE PIECE EXTRUDED ALUMINUM BODY. 8" X 3" TUBE WITH ADJUSTABLE AIRCRAFT CABLE HANGERS AND TRUE GRID HANGING HARDWARE COLOR: WHITE LENGTH: IN LENGTHS AS SHOWN ON DRAWING BALLAST: SOLID STATE DIFFUSER: NONE CODE: F132/2XF	LEDALITE FLEXA	120V	2-32W/4' 4100K,75CRI F3218	18" SUSPENSION LENGTH
	TYPE: FLUOR.PERIMETER TROUGH SYSTEM FIXTURE WITH TELESCOPING FEATURE FOR WALL TO WALL MOUNT BALLAST: SOLID STATE DIFFUSER: SILVER PARABOLIC LOUVERS CODE: F127/WSF	LIGHTOLIER PTS SERIES PRUDENTIAL PS-80 SERIES	120V	2-32W/4' 4100K,75CRI F3218	EXTEND FIXTURE CONTINUOUSLY TO WALL WITH EXTENSION UNITS
	TYPE: FLUOR.CENTER TROUGH SYSTEM FIXTURE BALLAST: SOLID STATE DIFFUSER: SILVER PARABOLIC LOUVERS CODE: F127/WSF	LIGHTOLIER CTS SERIES PRUDENTIAL	120V	2-32W/4' 4100K,75CRI F3218	
	TYPE: FLUOR.SPEC.2 X 4 GRID STATIC TROFFER BALLAST: SOLID STATE DIFFUSER: HOLOPHANE 6244 DOOR: REGRESSED STEEL, WHITE IN COLOR CODE: F101/2X4F	DAYBRITE DESIGNER METALUX GM LITHONIA ACME	120V	3-32W 4100K,75CRI F3218	
	TYPE: FLUOR.8"DIA.RECESSED OPEN DOWNLIGHT HORIZONTAL LAMPS BALLAST: HPF REFLECTOR: CLEAR ALZAK TRIM: CHROME CODE: F151/LIGHT	STAFF OMEGA LIGHTOLIER	120V	2-18W 4100K,75CRI 18W BIAx	
	TYPE: FLUOR.INDUSTRIAL FIXTURE WITH 10% UPLIGHT PORCELAIN REFLECTOR. BALLAST: SOLID STATE DIFFUSER: NONE MOUNTING: 3/8" ROD HANGERS CODE: F123/2XF	DAYBRITE FL LITHONIA EJ METALUX IA,DI	120V	2-32W 4100K,75CRI F3218	
	TYPE: FLUOR. UNDERCOUNTER LIGHT FIXTURE, STARTER ONLY FOR REMOTE SWITCHING, WHITE IN COLOR. BALLAST: HPF REFLECTOR: PRISMATIC ACRYLIC LENS TRIM: NONE CODE: F179/SSF	ALKCO LINGS 100 SERIES	120V	1-15-13W	PROVIDE FOR LENGTH SHOWN.
	TYPE: FLUOR.4' EXPLOSION-PROOF FIXTURE, STEEL HOUSING. FIXTURE SHALL BE SUITABLE FOR OPERATION IN CLASS 1 DIV 2 AREAS. SUITABLE FOR WET LOCATIONS BALLAST: SOLID STATE DIFFUSER: 1/4" CLEAR TEMPERED GLASS LENS, 16 GAUGE DOOR CODE: F168/2XF	APPLETON [VRS][DRS] CROUSE HINDS FVN KILLARK HFM	120V	2-32W 4100K,75CRI F3218	
	TYPE: HIGH PRES.SODIUM ENCLOSED LOW BAY DIE CAST ALUMINUM BALLAST HOUSING SUITABLE FOR DAMP LOCATIONS, 55 DEGREE C OPERATION, ADJUSTABLE SOCKET HOLDER, INTERNALLY FUSED BALLAST: CONSTANT WATTAGE, MULTI-VOLT TYPE REFLECTOR: ALUMINUM, DIAMETER DEPENDANT ON WATTAGE MOUNTING: HOOK WITH 3'CORD AND PLUG DIFFUSER: HEAT AND IMPACT RESISTANT ACRYLIC LENS IN A ALUMINUM DOOR FRAME. CODE: HID129/LIGHT	HOLOPHANE #PETL15AHP12545PD-EF	120V	150W HPS	
	TYPE: HIGH PRES.SODIUM ENCLOSED LOW BAY DIE CAST ALUMINUM BALLAST HOUSING SUITABLE FOR DAMP LOCATIONS, 55 DEGREE C OPERATION, ADJUSTABLE SOCKET HOLDER, QUARTZ STANDBY, INTERNALLY FUSED BALLAST: CONSTANT WATTAGE, MULTI-VOLT TYPE REFLECTOR: ALUMINUM, DIAMETER DEPENDANT ON WATTAGE MOUNTING: HOOK WITH 3'CORD AND PLUG DIFFUSER: HEAT AND IMPACT RESISTANT ACRYLIC LENS IN A ALUMINUM DOOR FRAME. CODE: HID129/LIGHT	HOLOPHANE #PETL15AHP12545PD-EF	120V	150W HPS	
	TYPE: HIGH PRES.SODIUM HIGH BAY EXPLOSION PROOF, DIE CAST COPPER FREE ALUMINUM HOUSING AND GUARD. FIXTURE SHALL BE SUITABLE FOR OPERATION IN CLASS 1, DIVISION 1, GROUP D AREAS BALLAST: CONSTANT WATTAGE, MULTI-VOLT TYPE REFLECTOR: ALUMINUM, DIAMETER DEPENDANT ON WATTAGE MOUNTING: PENDANT DIFFUSER: HEAT AND IMPACT RESISTANT GLASS LENS IN A ALUMINUM DOOR FRAME. CODE: HID121/LIGHT	APPLETON CODE MASTER 2 SERIES CLP1575-MT-CGU4-CMR-4HB CROUSE HINDS KILLARK	120V	150W HPS	

LIGHTING FIXTURE SCHEDULE

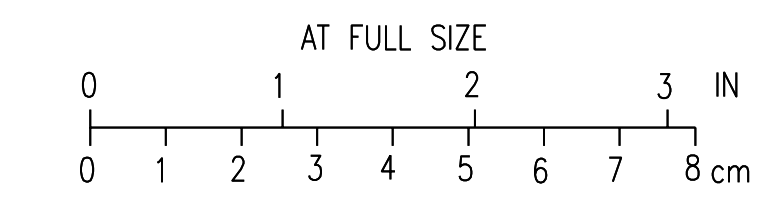
SYMBOL	DESCRIPTION	MANUFACTURER AND CAT. NO.	VOLTAGE	LAMPS	REMARKS
	TYPE: HIGH PRES.SODIUM HIGH BAY EXPLOSION PROOF, DIE CAST COPPER FREE ALUMINUM HOUSING AND GUARD. FIXTURE SHALL BE SUITABLE FOR OPERATION IN CLASS 1, DIVISION 2, GROUP D AREAS BALLAST: CONSTANT WATTAGE, MULTI-VOLT TYPE REFLECTOR: ALUMINUM, DIAMETER DEPENDANT ON WATTAGE MOUNTING: PENDANT DIFFUSER: HEAT AND IMPACT RESISTANT GLASS LENS IN A ALUMINUM DOOR FRAME. CODE: HID121/LIGHT	APPLETON CODE MASTER 2 SERIES CLP1575-MT-CGU4-CMR-4HB CROUSE HINDS KILLARK	120V	150W HPS	
	TYPE: HIGH PRES.SODIUM HIGH BAY EXPLOSION PROOF, DIE CAST COPPER FREE ALUMINUM HOUSING AND GUARD. FIXTURE SHALL BE SUITABLE FOR OPERATION IN CLASS 1, DIVISION 1, GROUP D AREAS BALLAST: CONSTANT WATTAGE, MULTI-VOLT TYPE REFLECTOR: ALUMINUM, DIAMETER DEPENDANT ON WATTAGE MOUNTING: PENDANT DIFFUSER: HEAT AND IMPACT RESISTANT GLASS LENS IN A ALUMINUM DOOR FRAME. CODE: HID121/LIGHT	APPLETON CODE MASTER 2 SERIES CLP2575-MT-CGU4-CMR-4HB CROUSE HINDS KILLARK	120V	250W HPS	
	TYPE: HIGH PRES.SODIUM ENCLOSED WALL-LIGHT DIE CAST ALUMINUM HOUSING BRONZE IN COLOR.SUITABLE FOR WET LOCATIONS, TYPE III DISTRIBUTION, VANDAL RESISTANT HARDWARE,INTERNALLY FUSED BALLAST: CONSTANT WATTAGE, MULTI-VOLT TYPE REFLECTOR: SPECULAR ANODIZED,NO LIGHT ABOVE 90 DEGREES MOUNTING: WALL MOUNT DIFFUSER: HEAT AND IMPACT RESISTANT POLYCARBONATE LENS CODE: HID133/HPSWM	KIM WALL DIRECTOR #WD14D3/150HPS120/DB-P/5DS14	120V	1-150W CLEAR UNIV. BURN 150W MOG BASE ANSI #S55SC-150	
	TYPE: FLUOR.2' EXPLOSION-PROOF FIXTURE, 20 GAUGE COLD ROLLED STEEL HOUSING. FIXTURE SHALL BE SUITABLE FOR OPERATION IN CLASS 1 DIV 2 AREAS. SUITABLE FOR WET LOCATIONS BALLAST: SOLID STATE DIFFUSER: EXPLOSION-PROOF GLASS TUBES OVER LAMPS CODE: F167/1X2F	GUTH STEELTITE APPLETON APL SERIES CROUSE HINDS KILLARK	120V	2-40W 4100K,75CRI F40WBIAx	
	TYPE: HIGH PRES.SODIUM SHOEBOX TYPE EXTERIOR LIGHT FIXTURE WITH POLE.DIE CAST ALUMINUM HOUSING, WITH A EXTRUDED SILICONE GASKET IN THE DOOR FRAME. CORROSION RESISTANT FASTENERS INDIVIDUALLY FUSED, [DARK BRONZE] COLOR WET LOCATION LISTED POLE: 4" NON-TAPERED STEEL WALL THICKNESS BALLAST: CONSTANT WATTAGE, MULTI-VOLT TYPE REFLECTOR: ANODIZED ALUMINUM WITH A TYPE (3) DISTRIBUTION MOUNTING: 25' MOUNTING HEIGHT, ANCHOR BOLTS IN CONCRETE TO MATCH POLE BASE PLATE REQUIREMENT. DIFFUSER: TEMPERED FLAT GLASS CODE: HID147/PLIGHT	KIM EKG SERIES GARDCO EH/H	208V	250W HPS	
	TYPE: HALOGEN 4" DIA.RECESSED OPEN DOWNLIGHT VERTICAL LAMP REFLECTOR: ELLIPSOIDAL REFLECTOR/REDUCED APERATURE TRIM: BLACK MILLIGROOVE PAINT TO MATCH CODE: IH103/LIGHT	LITHONIA OMEGA LIGHTOLIER	120V	1-60W HALOGEN PAR 20 H/IR	
	TYPE: FLUOR.INDIRECT COVE LIGHT FIXTURE WITH DIRECTIONAL REFLECTOR.2-1/2"DEPTH X 7-1/2" WIDTH. COLOR: WHITE LENGTH: AS SHOWN ON DRAWINGS BALLAST: SOLID STATE DIFFUSER: F141/SSF	LEDALITE PEERLESS	120V	1-32W/4' SECTION 4100K,82CRI F3218	

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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 225 Iowa Avenue, Muscatine, Iowa 52761-3764
 www.stanleyconsultants.com



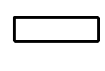


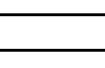
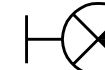

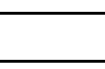



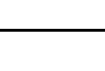
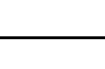
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
ELECTRICAL TYPICAL DETAILS-SCHEDULES
LIGHTING FIXTURE SCHEDULE
SHEET 1

DESIGNED DL MORITZ	SCALE: AS NOTED
DRAWN B.M. GOODNIGHT	NO. 22800
CHECKED DL MORITZ	REV. 2
APPROVED JD COGAN	
APPROVED	
DATE DECEMBER 2, 2011	

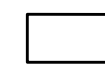


CADD: D1-R4

LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER AND CAT. NO.	VOLTAGE	LAMPS	REMARKS
S 	TYPE: HIGH PRESSURE SODIUM HAZARDOUS AREA LIGHT WITH GLOBE UL 844, UL 1598, UL 595 MARINE, SUITABLE FOR WET LOCATIONS CLASS I, DIV. 2, GROUPS A, B, C, D1 CLASS II, DIV. 1 & 2, GROUPS E, F, G; CLASS III ENCLOSED AND GASKETED NEMA 4X, IP66 MOUNTING: HANDRAIL WITH STANCHION AS SHOWN ON DRAWING E406 DETAIL DIFFUSER: TEMPERED GLASS GLOBE AND POLYMERIC GUARD AT 30 DEGREE ANGLE	APPLETON MERCMASTER III LOW PROFILES HPS CROUSE HINDS KILLARK MBL-151-GGD4	120V	1-150W HPS	1.25 INCH HUB STANCHION MOUNTING
T 	TYPE: HALOGEN 8" DIA RECESSED OPEN DOWNLIGHT WITH VERTICAL LAMP REFLECTOR: CLEAR ALZAK TRIM: WHITE CODE: IH103/LIGHT	LITHONIA #A7AR OMEGA LIGHTOLIER	120V	1-60W HALOGEN PAR H/IR WITH 29 DEGREE BEAM SPREAD	
U 	TYPE: FLUOR WALL SCONCE, FACTORY PAINTED TO MATCH . WALL SURFACES MOUNTING: SURFACE DIFFUSER: UP AND DOWN LIGHT WITH TEMPERED GLASS TOP AND BOTTOM LENS. CODE: IH135/LIGHT	VISA CB3146	120V	2-40W 4100K,75CRI F40BIAX	MOUNT AT LOCATIONS SHOWN AT 7' AFF. LOCATE REMOTE BALLAST ABOVE CEILING BY JUNCTION BOX DIRECTLY ABOVE FIXTURE.
V 	TYPE: HIGH PRES.SODIUM ENCLOSED LOW BAY DIE CAST ALUMINIUM BALLAST HOUSING SUITABLE FOR DAMP LOCATIONS, 55 DEGREE C OPERATION, ADJUSTABLE SOCKET HOLDER, INTERNALLY FUSED BALLAST: CONSTANT WATTAGE, MULTI-VOLT TYPE REFLECTOR: ALUMINUM, DIAMETER DEPENDANT ON WATTAGE MOUNTING: HOOK WITH 3'CORD AND PLUG DIFFUSER: HEAT AND IMPACT RESISTANT CODE: ACRYLIC LENS IN A ALUMINIUM DOOR FRAME. HID129/LIGHT	DAYBRITE LB/LC SERIES G.E. UNIMOUNT SERIES HOLOPHANE	208V	250W MOG BASE HPS	
V1 	TYPE: HIGH PRES.SODIUM ENCLOSED LOW BAY DIE CAST ALUMINIUM BALLAST HOUSING SUITABLE FOR DAMP LOCATIONS, 55 DEGREE C OPERATION, ADJUSTABLE SOCKET HOLDER, QUARTZ STANDBY, INTERNALLY FUSED BALLAST: CONSTANT WATTAGE, MULTI-VOLT TYPE REFLECTOR: ALUMINUM, DIAMETER DEPENDANT ON WATTAGE MOUNTING: HOOK WITH 3'CORD AND PLUG DIFFUSER: HEAT AND IMPACT RESISTANT CODE: ACRYLIC LENS IN A ALUMINIUM DOOR FRAME. HID129/LIGHT	DAYBRITE LB/LC SERIES G.E. UNIMOUNT SERIES HOLOPHANE	120V	250W MOG BASE HPS	PROVIDE STANDBY QUARTZ LAMP AS REQUIRED BY FIXTURE
W 	TYPE: FLUOR.4' SURFACE MOUNTED GASKETED INDUSTRIAL FIXTURE WITH ONE PIECE FIBERGLASS REINFORCED POLYESTER HOUSING, UL LISTED FOR WET LOCATIONS BALLAST: SOLID STATE DIFFUSER: ACRYLIC LENS MOUNTING: SURFACE CODE: F123/2XF	GUTH DURACLAMP LIGHTOLIER SEALTRON	120V	2-32W 4100K,82CRI F32T8	
X 	TYPE: LED EXIT LIGHT WITH ALUMINIUM HOUSING 3.1MM THICKNESS,RED LEXAN PANEL, 150MM HIGH LETTERING,SHORT CIRCUIT PROTECTION, SELF CONTAINED BATTERY,MAX CONSUMPTION 4 WATTS DUAL VOLTAGE SELF DIAGNOSTICS MATE BLACK WITH BRUSHED ALUMINIUM FACE	MCPHILBEN 55 LINE ALKCO PRESCOLITE	120V	LED	PROVIDE SINGLE OR DOUBLE FACE AS SHOWN ON DRAWINGS PROVIDE MOUNTING CANOPY AS REQUIRED FOR LOCATION
XP 	TYPE: EXIT LIGHT, SELF POWERED WITH TRITIUM GAS FILLED TUBES, NON-ELECTRIC, APPROVED FOR HAZARDOUS AREAS, 6" HIGH LETTERING WITH 3/4" BRUSHSTROKE, RED LETTERS ON WHITE BACKGROUND BALLAST: NONE CODE: F178/EXITCM or EXITWM	SPL 700MS-15-GAR	120V		
Y 	TYPE: FLUOR.8' SURFACE MOUNTED GASKETED INDUSTRIAL FIXTURE WITH ONE PIECE FIBERGLASS REINFORCED POLYESTER HOUSING, UL LISTED FOR WET LOCATIONS BALLAST: SOLID STATE DIFFUSER: ACRYLIC LENS MOUNTING: SURFACE CODE: F123/2XF	GUTH DURACLAMP LIGHTOLIER SEALTRON	120V	2-32W/4'SECTION 4100K,82CRI F32T8	
Z 	TYPE: HALOGEN 8" DIA RECESSED LENSED DOWNLIGHT WITH VERTICAL LAMP REFLECTOR: WET LOCATION LISTED, RECESSED LENS TRIM: WHITE CODE: IH103/LIGHT	LITHONIA #A7AR OMEGA LIGHTOLIER	120V	1-60W HALOGEN PAR H/IR WITH 29 DEGREE BEAM SPREAD	
AA 	TYPE: FLUOR.SPEC. 2' X 2' GRID AIR HANDLING TROFFER BALLAST: SOLID STATE DIFFUSER: 1 1/2" X 1 1/2" X 3/4" ANODIZED ALUMINIUM LOUVERS DOOR: WITH CONCEALED FRAME AND 1MM ACRYLIC OVERLAY CODE: FLOATING DOOR APPEARANCE F109/2X4f	DAYBRITE VDT ULTRA METALUX PARALUX LITHONIA OPTIMAX	120V	3-40W 4100K,75CRI F40BIAX	
BB 	TYPE: INCANDESCENT EXPLOSION PROOF FIXTURE LISTED FOR CLASS 1, DIV 2 LOCATIONS. REFLECTOR: DROPPED GLASS GLOBE WITH GUARD MOUNTING: WALL MOUNTED.	CROUSE HINDS #VXHB15GP	120V	1-150 W MAX. INCAND A-21 TYPE	
DD 	TYPE: FLUOR.4' SURFACE MOUNTED GASKETED INDUSTRIAL FIXTURE WITH 45 DEGREE STAINLESS STEEL BODY UL LISTED FOR WET LOCATIONS BALLAST: SOLID STATE DIFFUSER: ACRYLIC LENS MOUNTING: WALL MOUNTED. CODE: F123/2XF	GUTH #TAK6281	120V	2-32W 4100K,82CRI F32T8	MOUNT AT 36" ABOVE WORK BENCH AT LOCATIONS SHOWN.
FF 	TYPE: FLUOR. INDIRECT FIXTURE WITH ONE PIECE EXTRUDED ALUMINIUM BODY. 8'x 3" TUBE WITH WALL MOUNTED. COLOR: WHITE LENGTH: 18' BALLAST: SOLID STATE DIFFUSER: NONE	LEDALITE FLEXA	120V	2-32W/4' 4100K,82CRI F32T8	

LIGHTING FIXTURE SCHEDULE

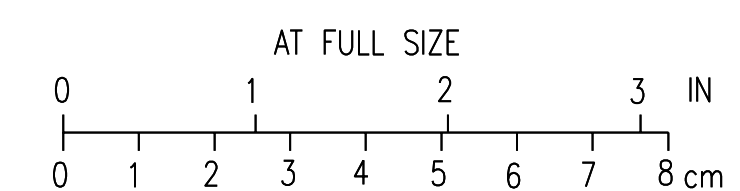
SYMBOL	DESCRIPTION	MANUFACTURER AND CAT. NO.	VOLTAGE	LAMPS	REMARKS
GG 	TYPE: FLOOR INDUSTRIAL HIGH BAY FIXTURE WITH UPLIGHT, RATED FOR 55 C, WITH ADJUSTABLE AIRCRAFT CABLE HANGERS BALLAST: PROGRAMMED START SOLID STATE EXTRA EFFICIENT WITH .77 BALLAST REFLECTOR: FACTOR MINIMUM. DISTRIBUTION: SPECULAR REFLECTOR WIDE WITH UPLIGHT	LITHONIA 1B OR EQUAL	120V	4-F32T8 5000K, 85CRI SUPER T8	

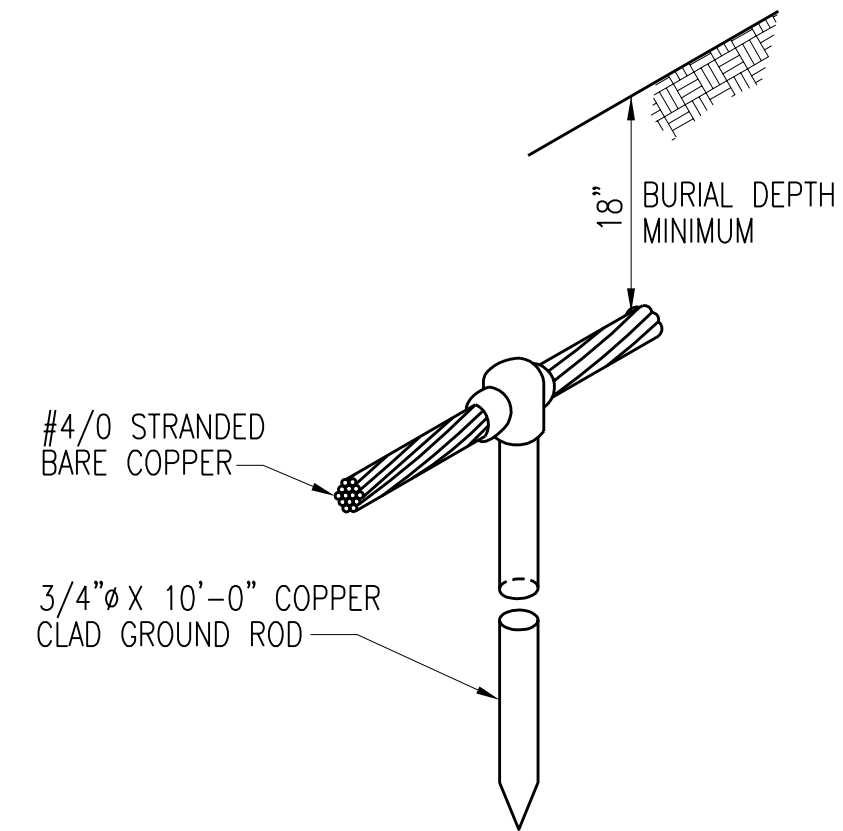
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1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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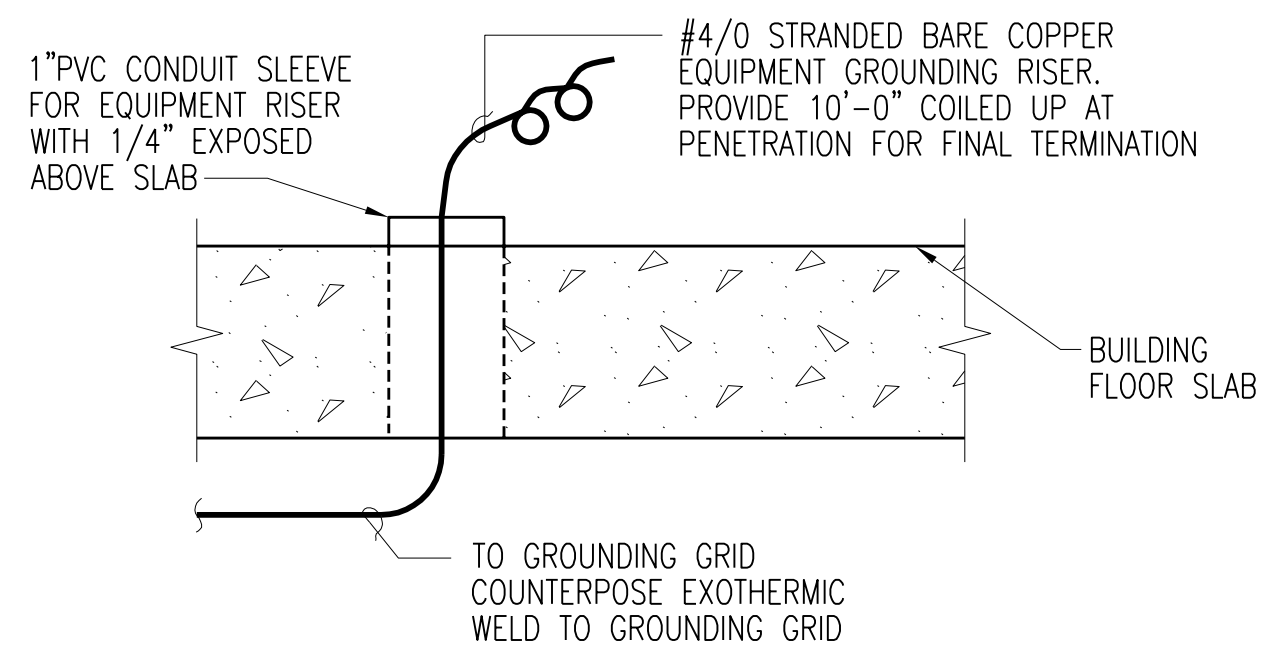
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
ELECTRICAL TYPICAL DETAILS-SCHEDULES
LIGHTING FIXTURE SCHEDULE
SHEET 2

DESIGNED DL MORITZ	SCALE: AS NOTED
DRAWN B.M. GOODNIGHT	NO. 22800
CHECKED DL MORITZ	REV.
APPROVED JD COGAN	E3
APPROVED	2
DATE DECEMBER 2, 2011	

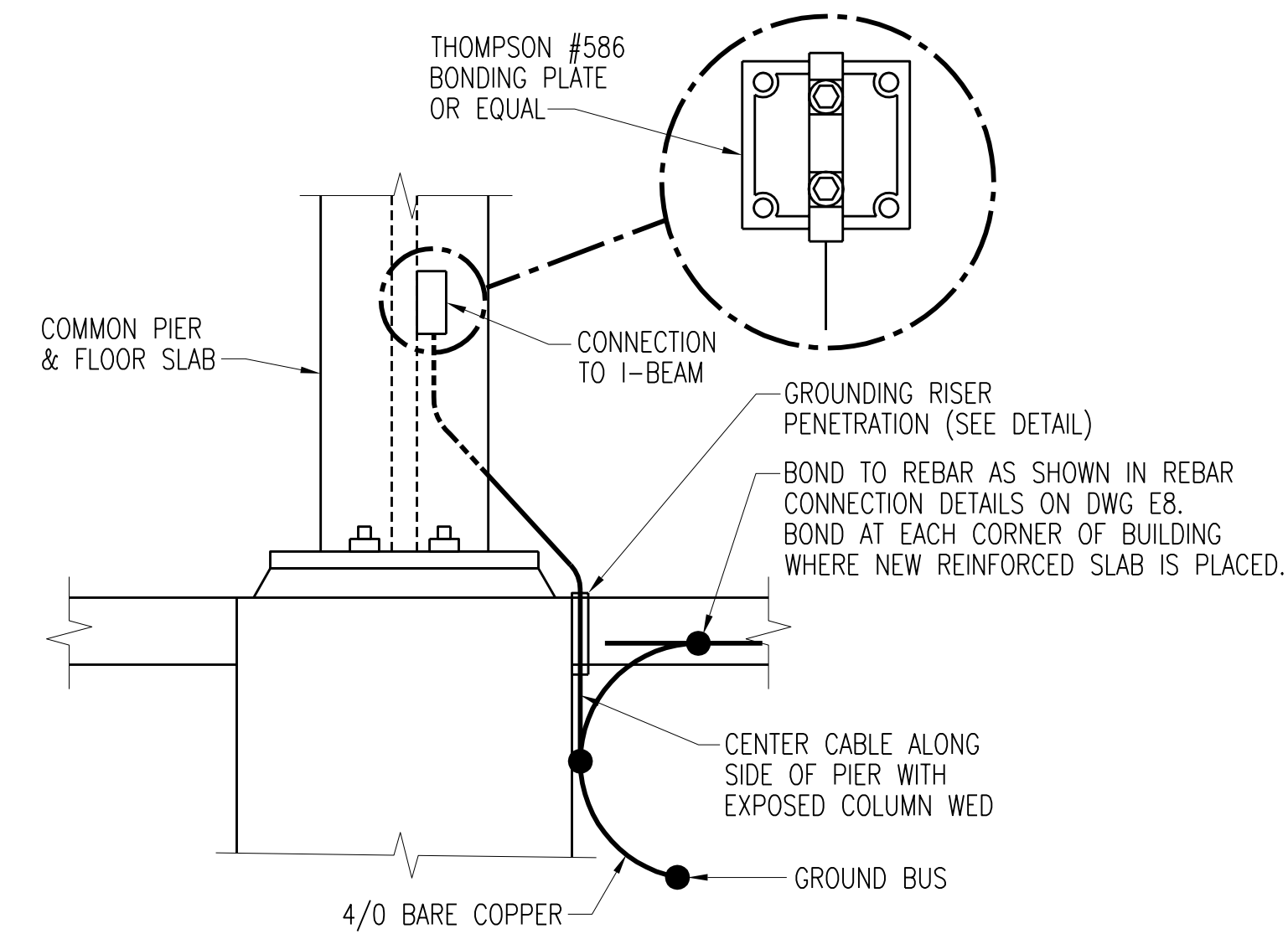




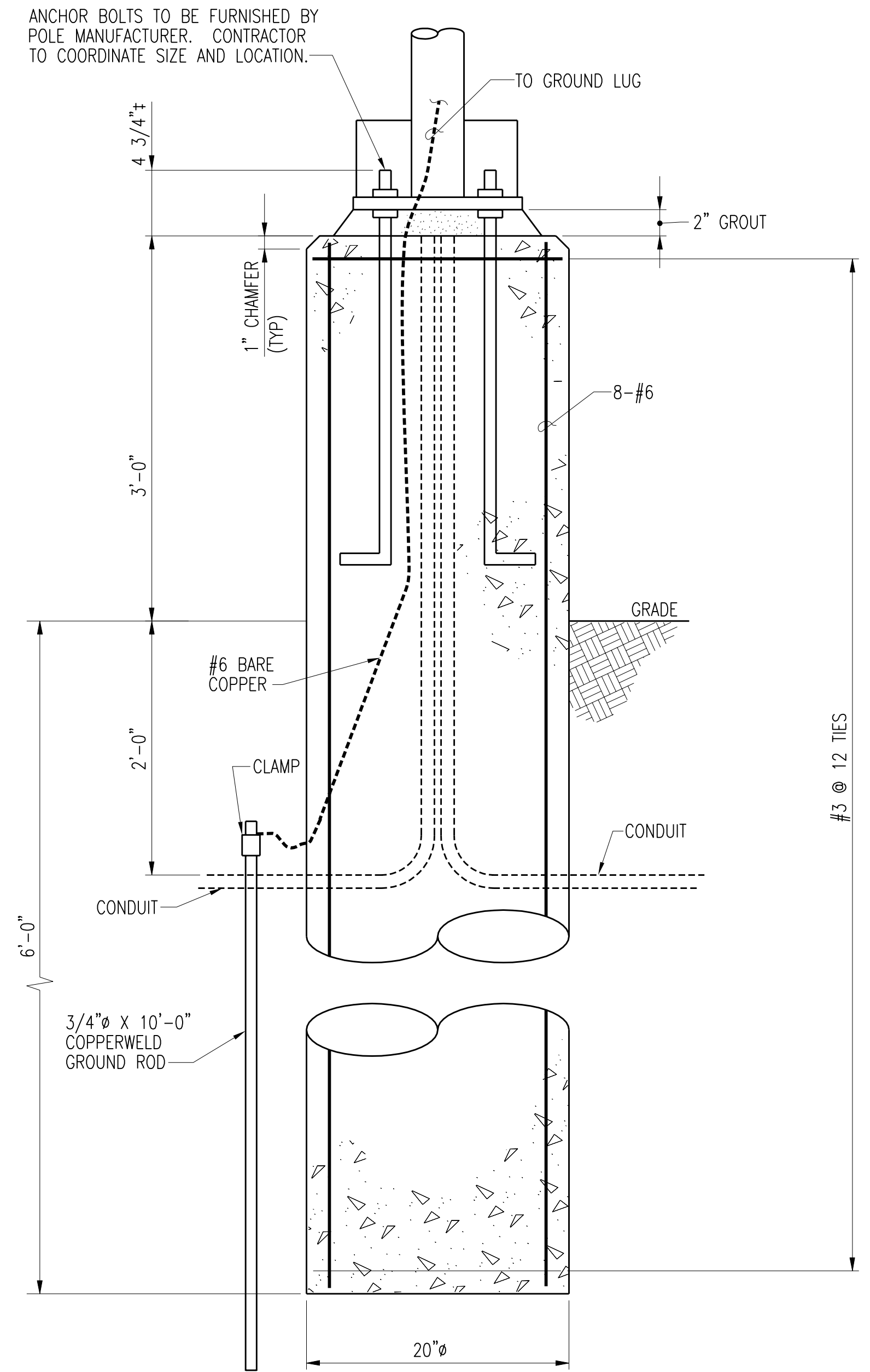
GROUND ROD DETAIL
SCALE: NONE



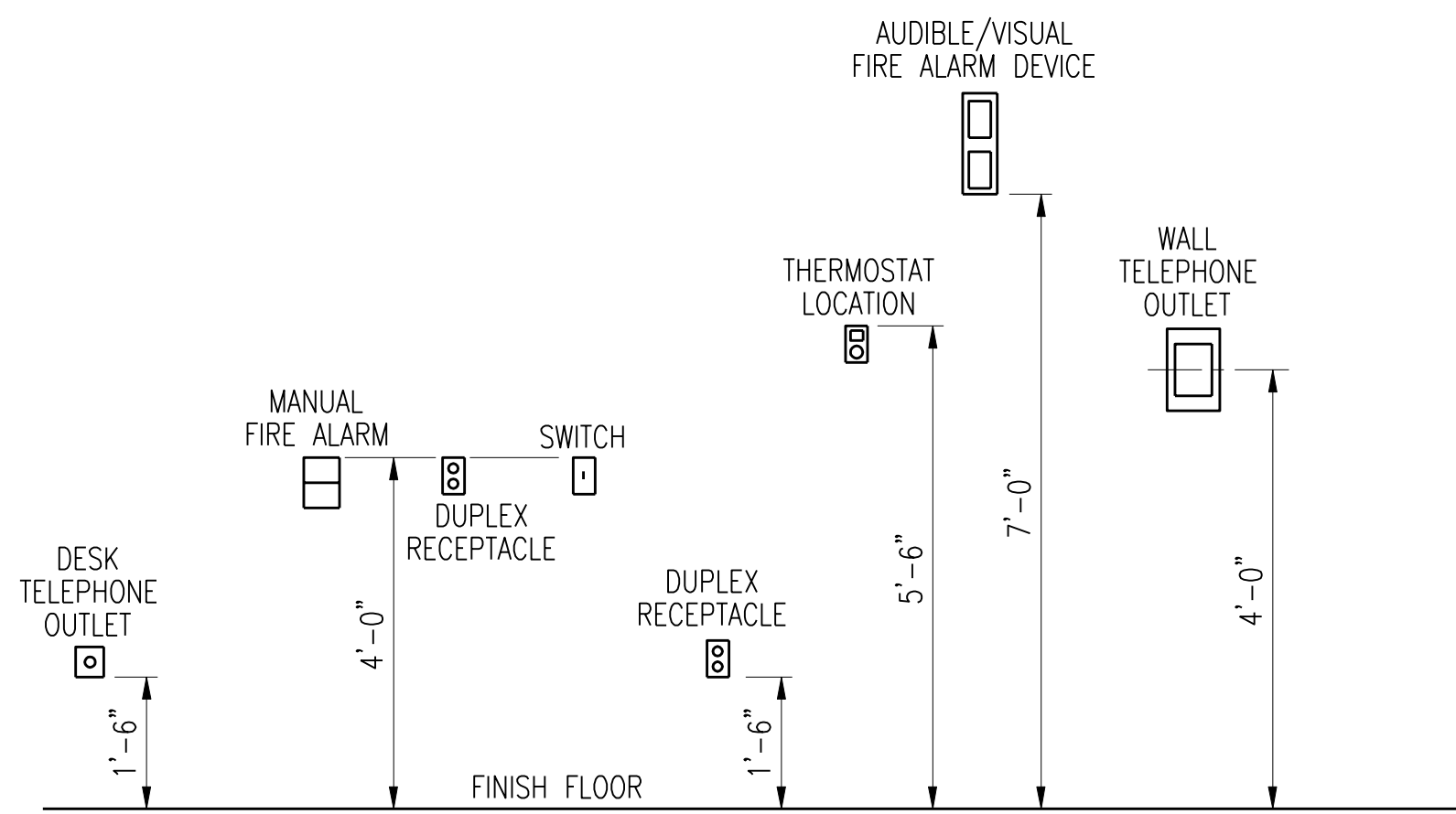
GROUNDING RISER PENETRATION DETAIL
SCALE: NONE



COLUMN GROUND BUS TAP DETAIL
SCALE: NONE

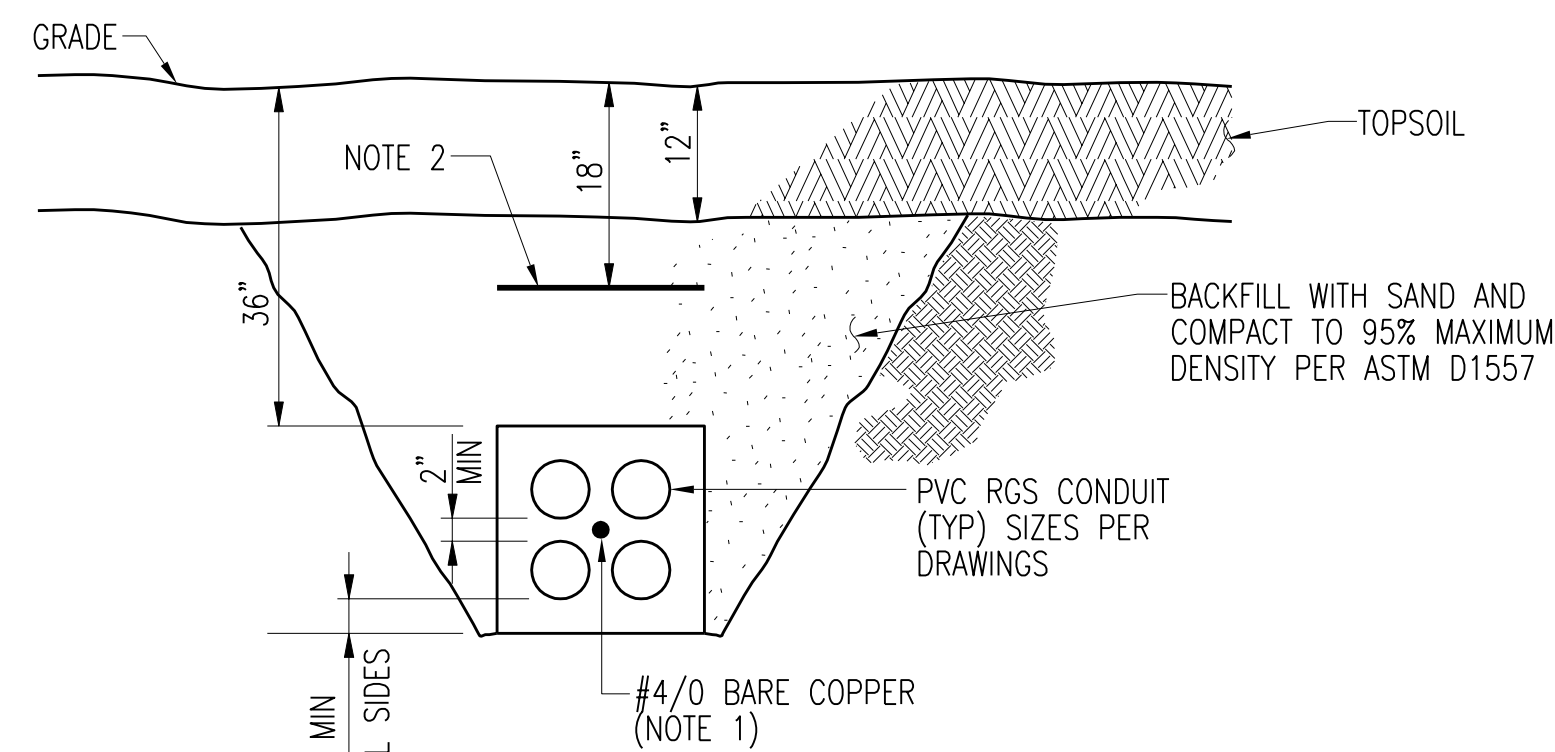


EXTERIOR AREA LIGHT FOUNDATION DETAIL
SCALE: NONE



TYPICAL MOUNTING HEIGHTS
SCALE: NONE

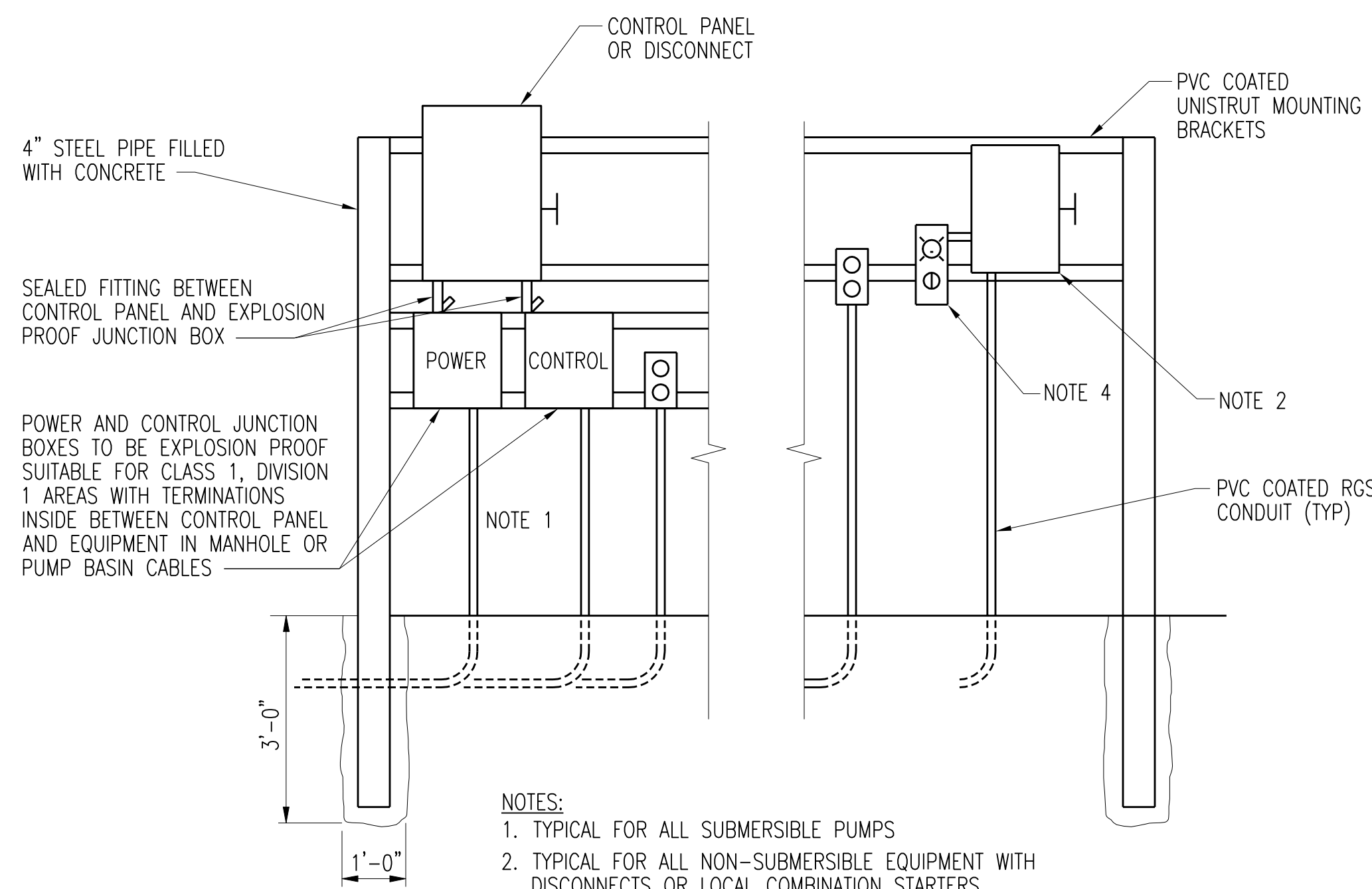
- NOTES:**
1. HEIGHTS SHOWN DO NOT NECESSARILY SHOW ALL THE DEVICES THAT ARE LOCATED ON THE WALLS.
 2. THE OBJECT OF THESE ELEVATIONS IS TO ESTABLISH GUIDELINES FOR THE LOCATION OF WALL MOUNTED DEVICES.



TYPICAL DUCTBANK DETAIL
SCALE: NONE

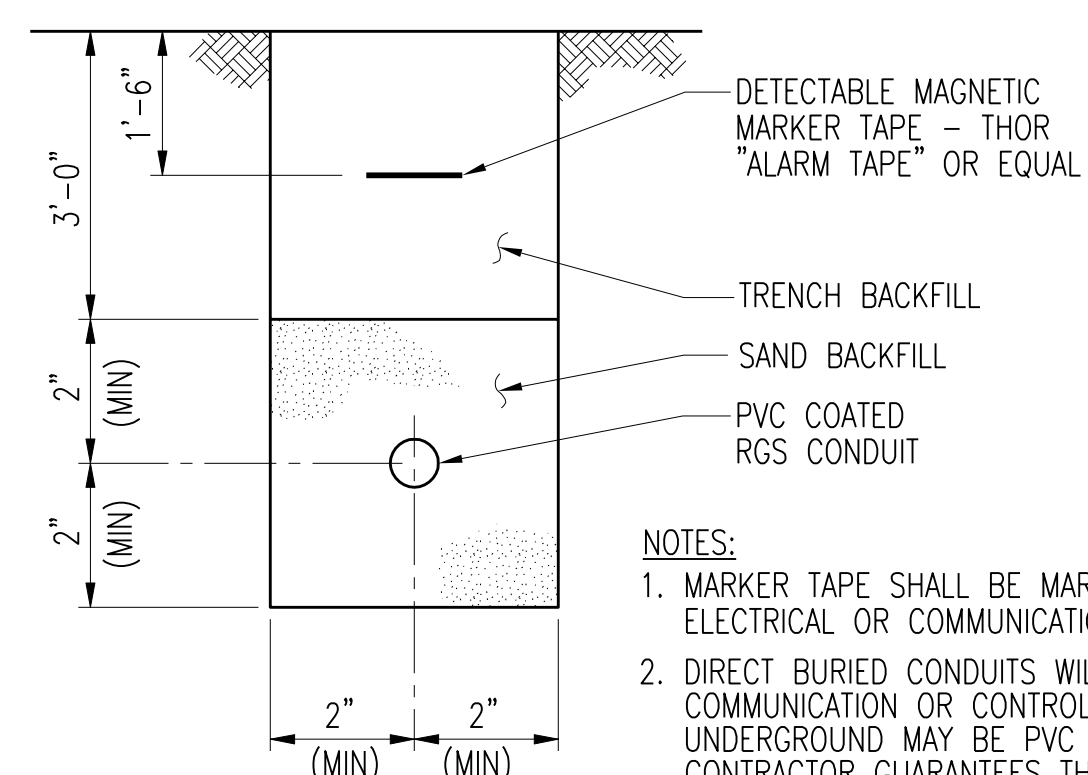
SEE RFI #58 & RFI #24
SHEET E4-A

- NOTES:**
1. CONNECT #4/0 GROUND TO MANHOLE GROUND BUS
 2. PROVIDE DETECTABLE MAGNETIC MARKER TAPE, WITH "CAUTION ELECTRICAL OR COMMUNICATION LINE BELOW" PRINTED ON IT. BASIS OF DESIGN IS THOR "ALARM TAPE".
 3. CONDUIT UNDERGROUND IN DUCT BANK INSTALLATIONS MAY BE PVC TYPE EB.
 4. CONDUIT SIZES SHOWN ARE AS EXAMPLES ONLY. PROVIDE CONDUIT SIZES AS SHOWN ON DRAWINGS.
 5. CONCRETE DUCTBANKS TO BE USED WHERE STATED ON SITE ELECTRICAL DRAWINGS E51 TO E64 AND FOR ALL ROADWAY CROSSINGS, AND ELECTRICAL PRIMARY EQUIPMENT SHOWN ON DRAWING E11.



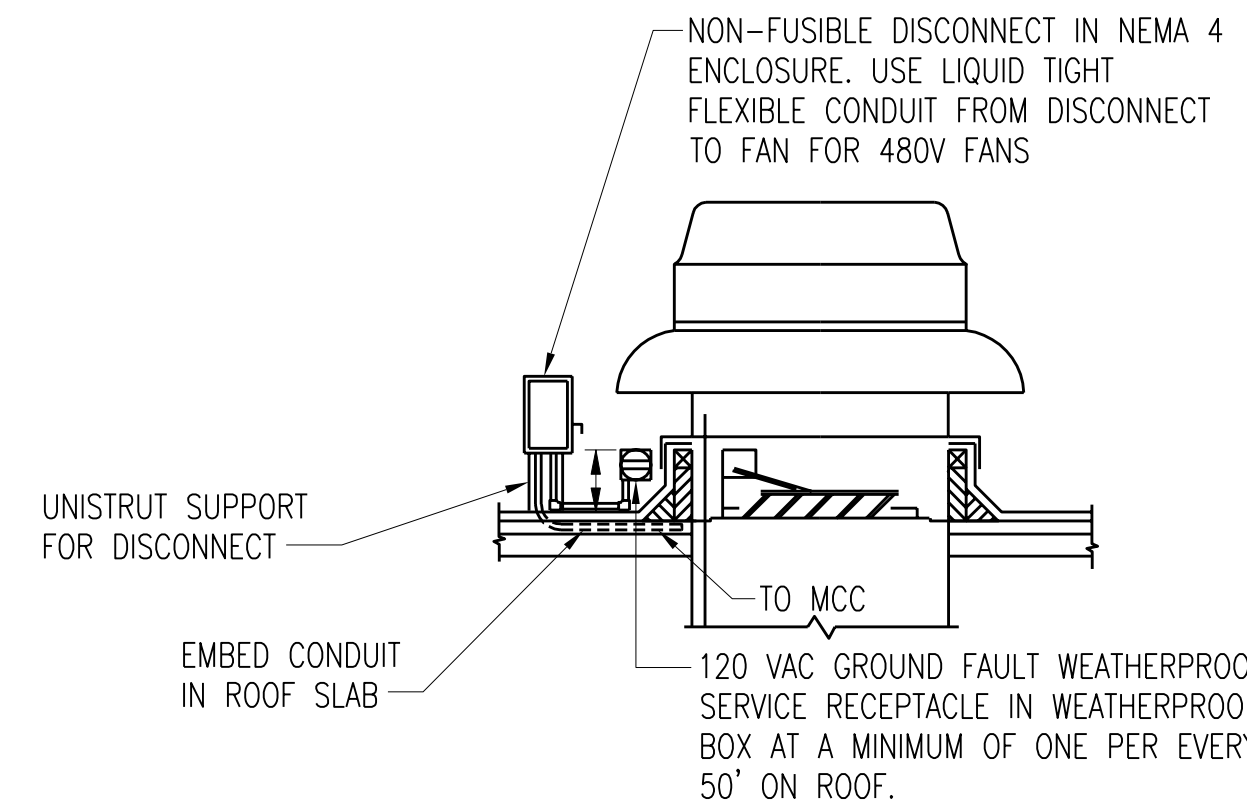
TYPICAL OUTDOOR ELECTRICAL EQUIPMENT DETAIL
SCALE: NONE

- NOTES:**
1. TYPICAL FOR ALL SUBMERSIBLE PUMPS
 2. TYPICAL FOR ALL NON-SUBMERSIBLE EQUIPMENT WITH DISCONNECTS OR LOCAL COMBINATION STARTERS.
 3. ALL EQUIPMENT SHALL BE RATED NEMA 4X. ALL BOXES SHALL BE STAINLESS STEEL.
 4. PROVIDE LOCAL CONTROL STATION WHERE APPLICABLE.



TYPICAL DIRECT BURIED CONDUIT DETAIL
SCALE: NONE

- NOTES:**
1. MARKER TAPE SHALL BE MARKED WITH "CAUTION ELECTRICAL OR COMMUNICATION LINE BELOW"
 2. DIRECT BURIED CONDUITS WILL BE PVC RGS. COMMUNICATION OR CONTROL CONDUITS BURIED UNDERGROUND MAY BE PVC TYPE DB AS LONG AS CONTRACTOR GUARANTEES THE PERFORMANCE STANDARDS OF THE CABLING INTERIOR TO THE CONDUITS WILL NOT BE JEOPARDIZED. IF CABLE PERFORMANCE IS DEGRADED, CONTRACTOR SHALL USE SHIELDED CONDUCTORS OR REPLACE CONDUIT WITH GROUNDED PVC RGS TYPE PER SPECIFICATIONS.
 3. DIRECT BURIED CONDUITS TO BE USED FROM HANDHOLES TO DEVICES OR PANELS.



ROOF VENTILATOR DETAIL
SCALE: NONE

- NOTES:**
1. SEE DRAWING E8 FOR ADDITIONAL GROUNDING DETAILS.

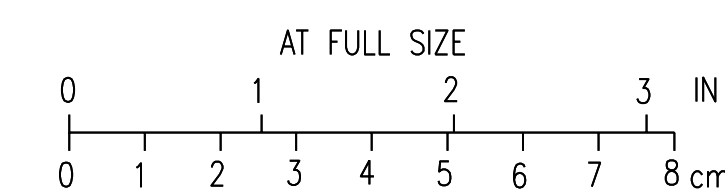
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2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

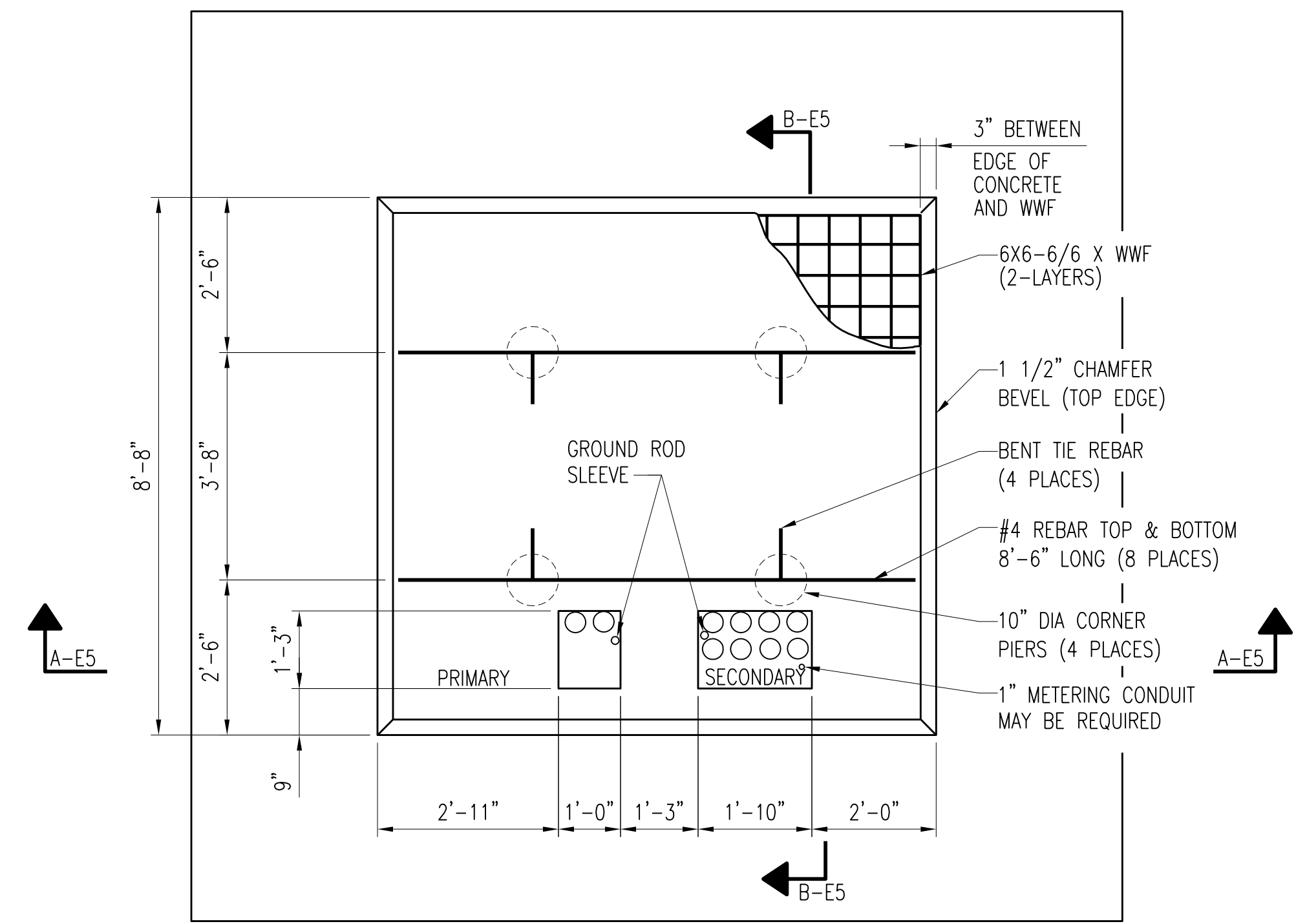
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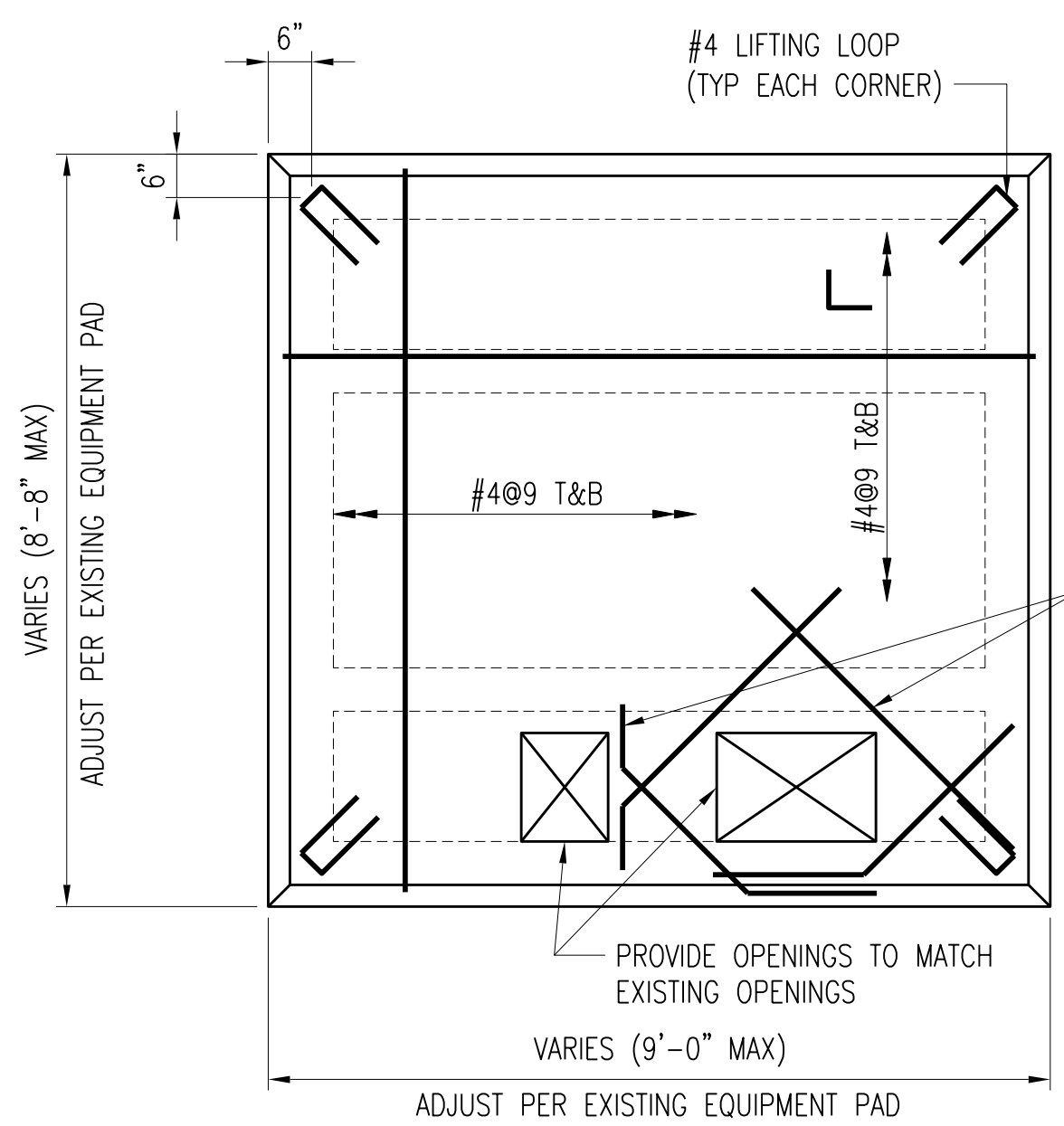
ELECTRICAL TYPICAL DETAILS-SCHEDULES
TYPICAL DETAILS
SHEET 1

DESIGNED	DL MORITZ	SCALE: AS NOTED	
DRAWN	B.M. GOODNIGHT	NO. 22800	REV.
CHECKED	DL MORITZ		
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		

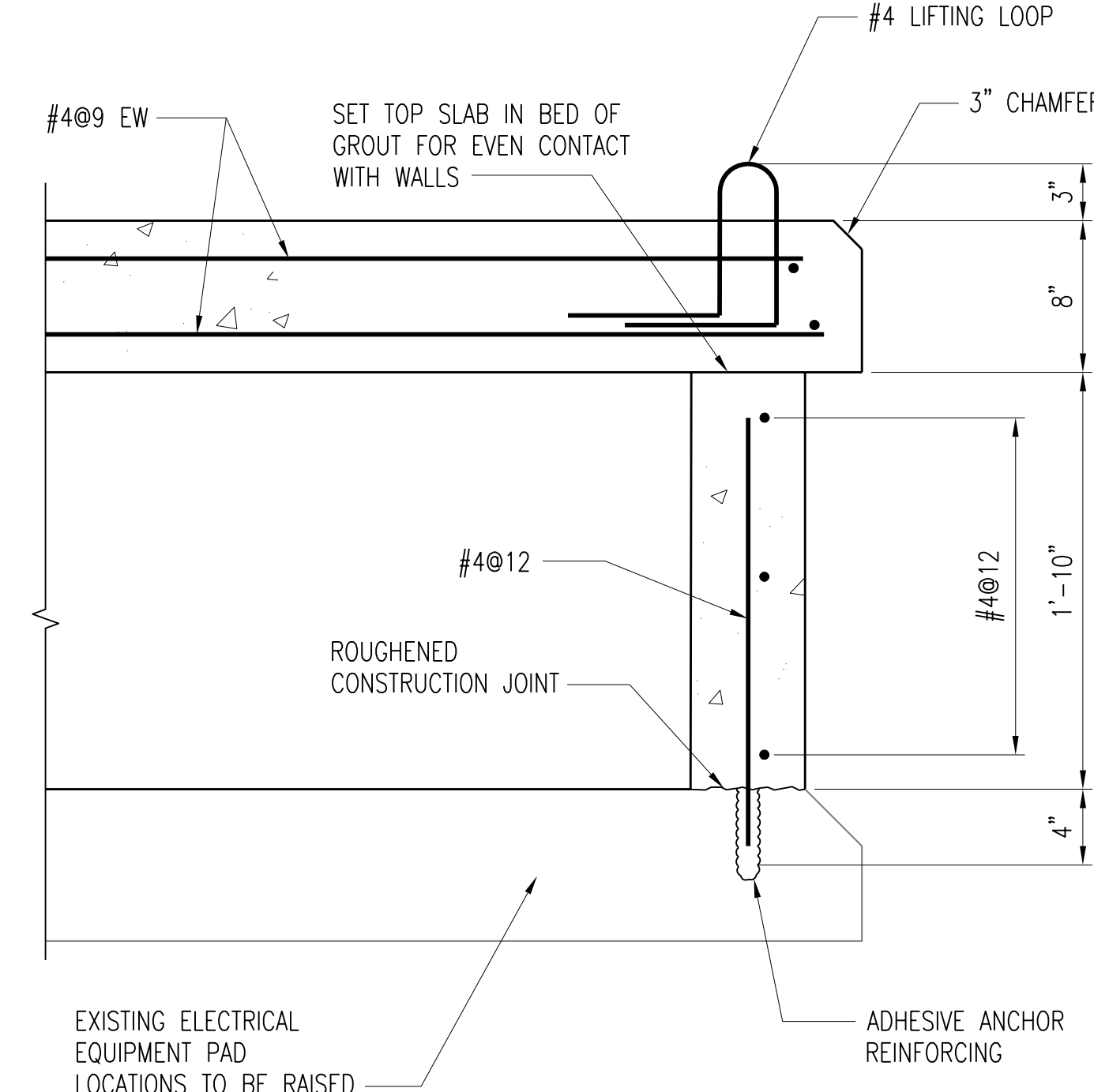




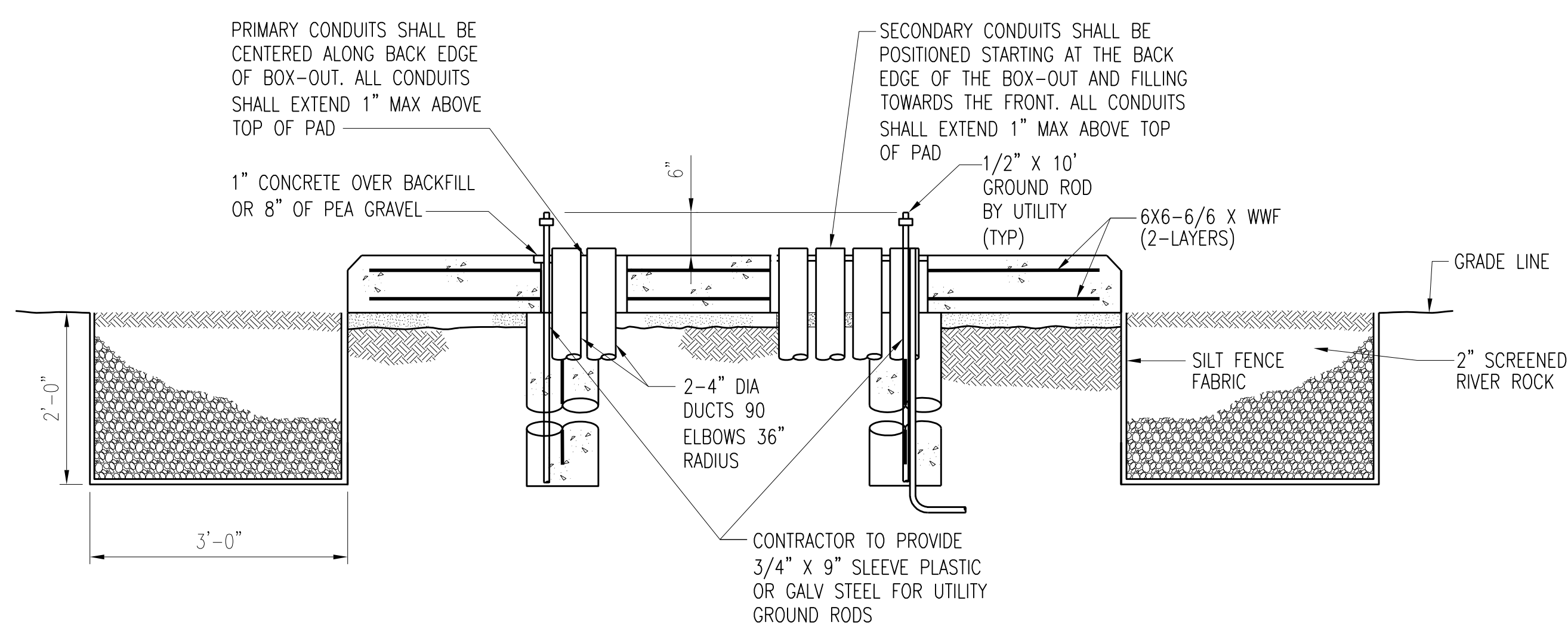
THREE PHASE PAD MOUNTED TRANSFORMER DETAIL
SCALE: 1/2"=1'-0"



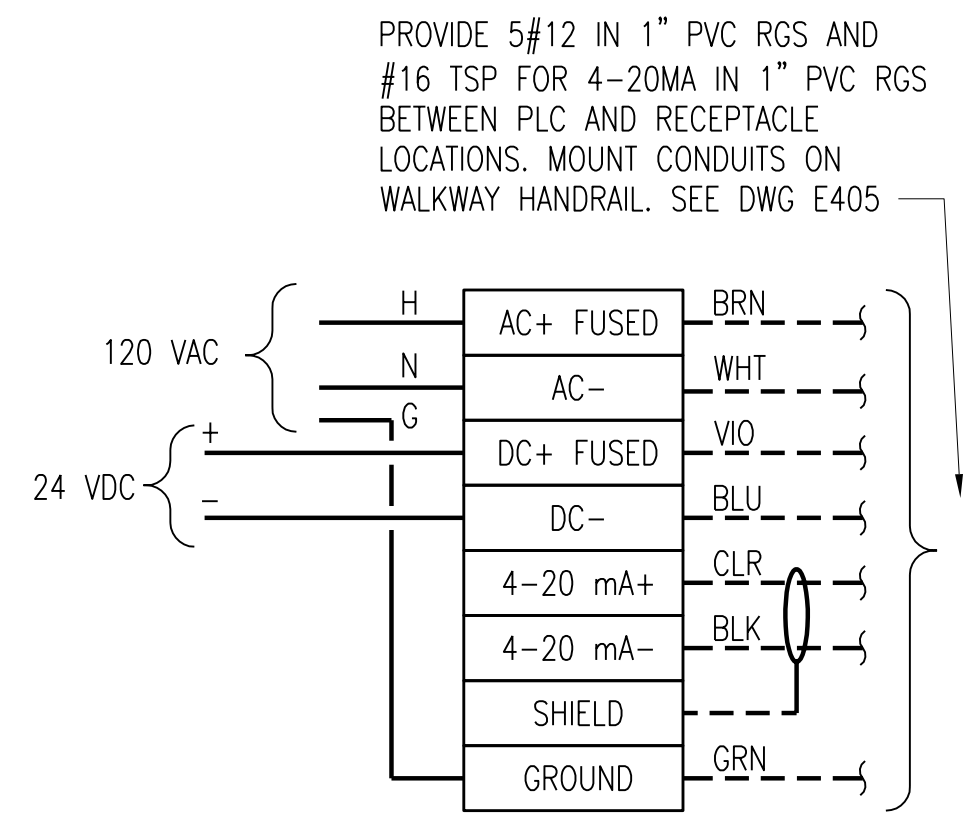
ELECTRICAL PAD EXTENSION PLAN
SCALE: 1/2"=1'-0"



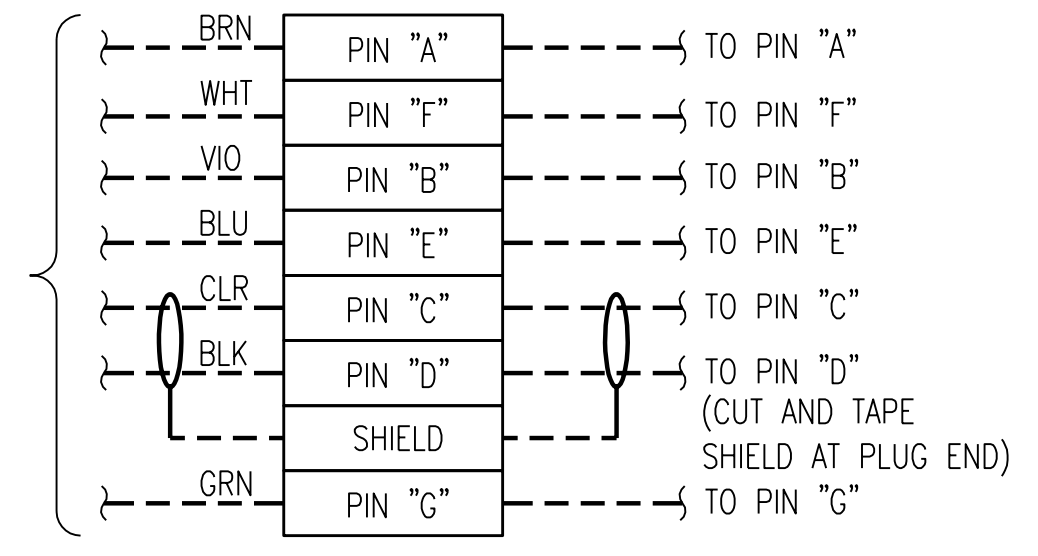
SECTION C-E5
SCALE: 1 1/2"=1'-0"



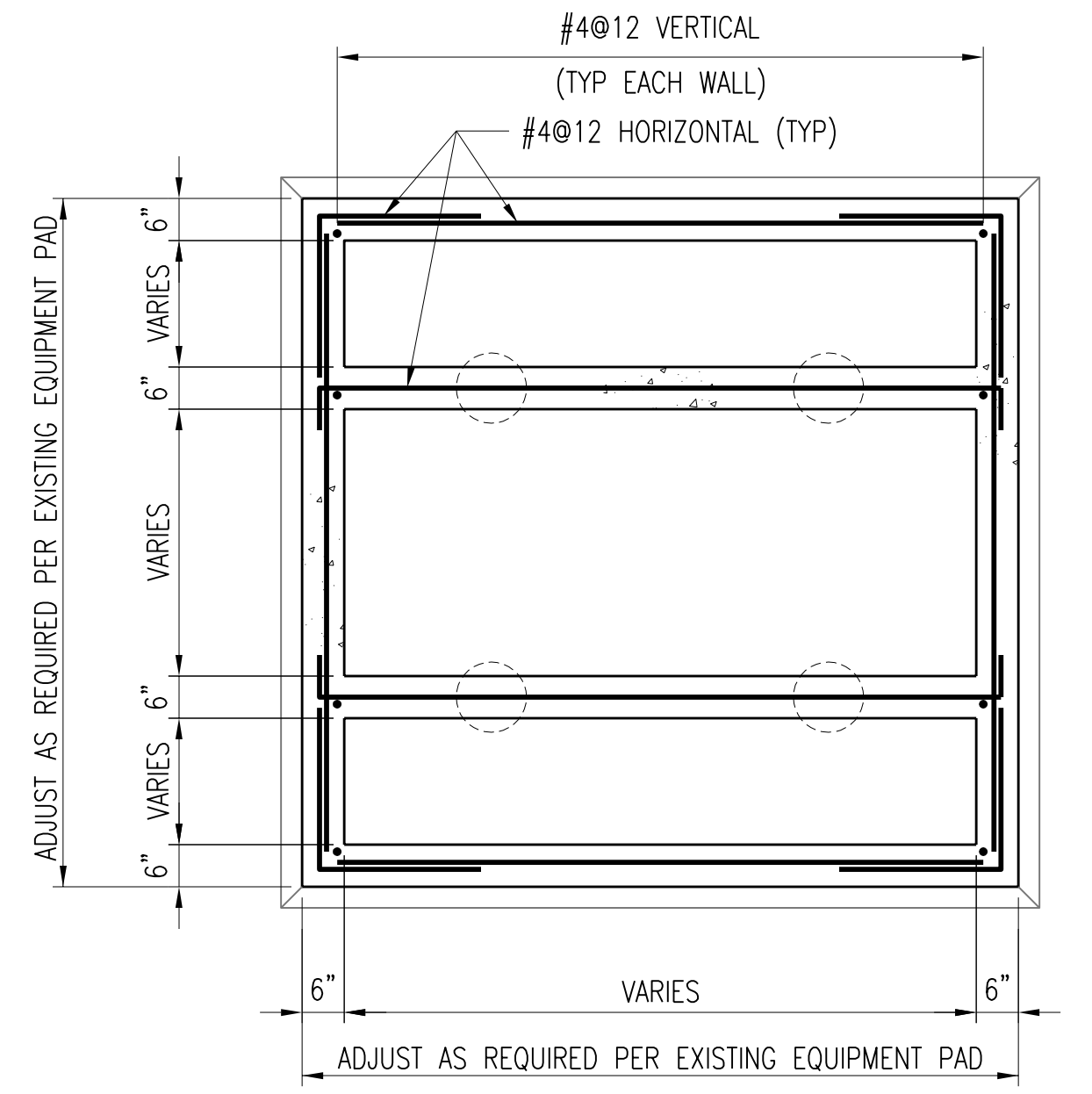
SECTION A-E5
SCALE: 3/4" = 1'-0"



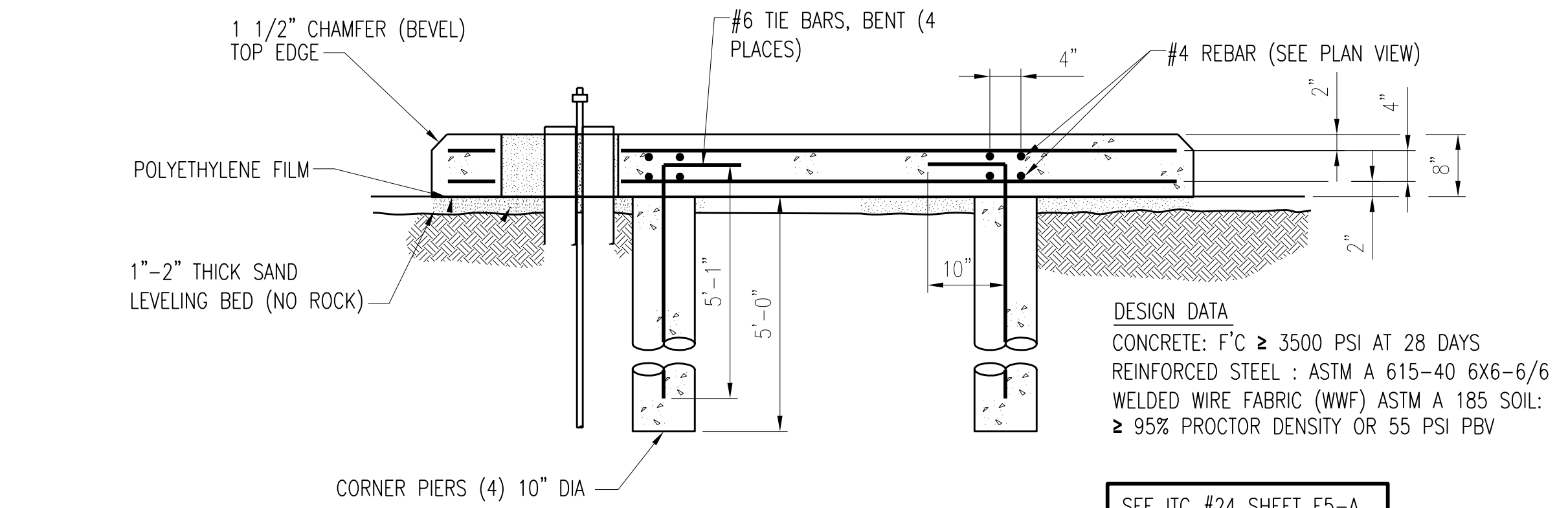
PLC CONTROL PANEL MOUNTED TERMINAL STRIP



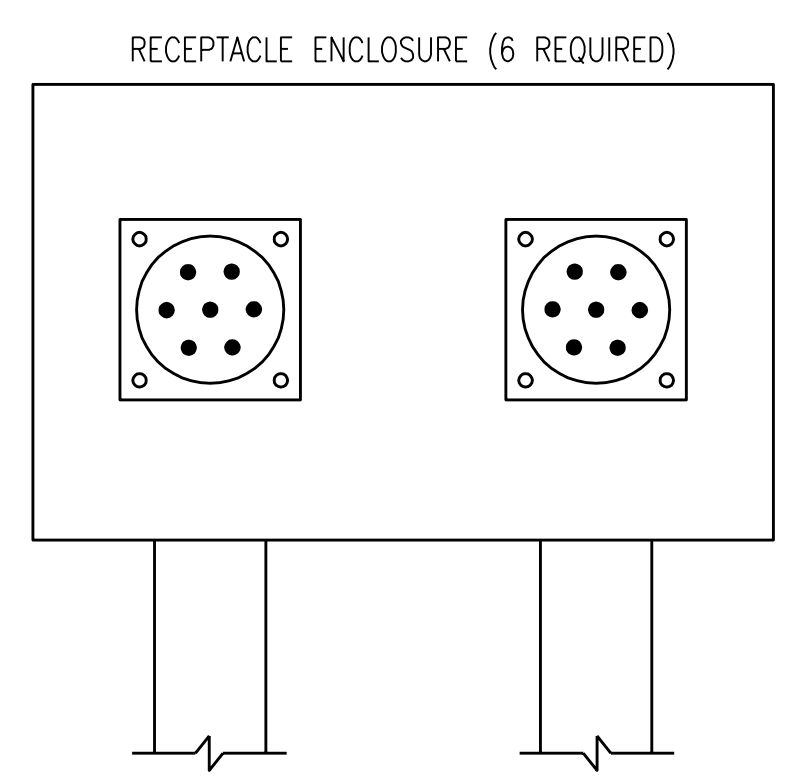
RECEPTACLE BOX MOUNTED TERMINAL STRIP
(2 TERMINAL BLOCK STRIPS PER ENCLOSURE)



SECTION D-E5
SCALE: 1/2"=1'-0"



SECTION B-E5
SCALE: 3/4" = 1'-0"



7-PIN PLUG/RECEPTACLE WIRING SCHEMATIC

SPECIFICATIONS:
ENCLOSURE:
SIZE: 175 x 125 mm WITH 148 x 98 mm SUBPANEL
MATERIAL: POLYCARBONATE AND ABS TYPE 4X ENCLOSURE
MANF./MODEL: HOFFMAN ENGINEERING Q-1813PCE
w/0-1813PE SUBPANEL
TERMINAL BLOCKS:
TYPE: TUBULAR CLAMP w/ PRESSURE PLATE
QTY: 8 PER STRIP; 2 STRIPS PER BOX
MANF./MODEL: ALLEN BRADLEY 1492-F1 PROVIDE END BARRIERS, ANCHORS, AND MOUNTING RAILS.
CONNECTORS:
TYPE: ITT CANNON 7-PIN BAYONET ENVIRONMENTALLY SEALED.
PLUG - CA3106E16S-1PB
RECEPTACLE - CA3102E16S-1PB05
CAP - CA121004-4
PROVIDE GASKETS AND ACCESSORIES AS REQUIRED FOR SEALING.
MANF./STOCK NO: NEWARK ELECTRONICS
PLUG - 66F9361
RECEPTACLE - 66F9341

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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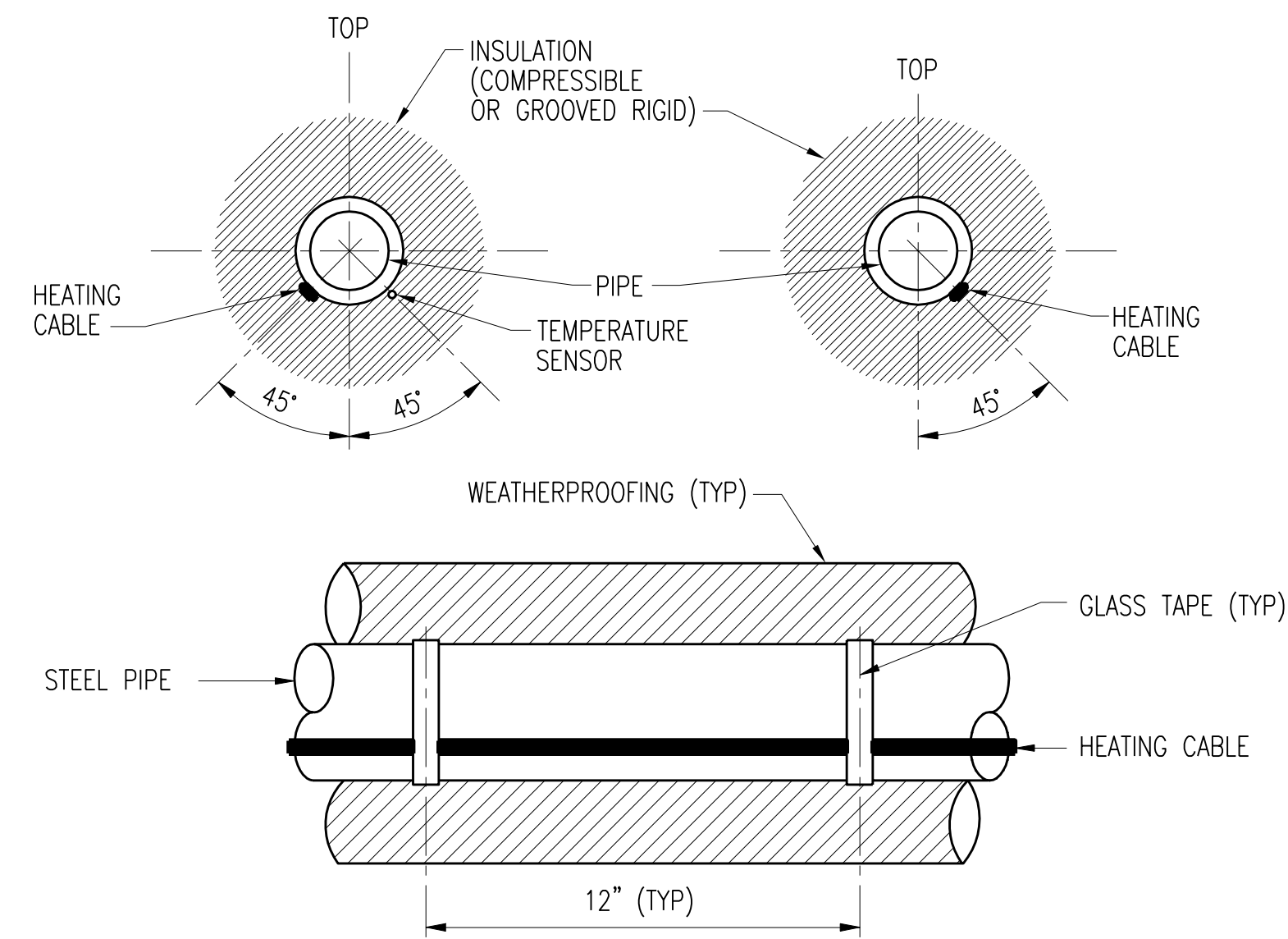
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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL TYPICAL DETAILS-SCHEDULES
TYPICAL DETAILS
SHEET 2**

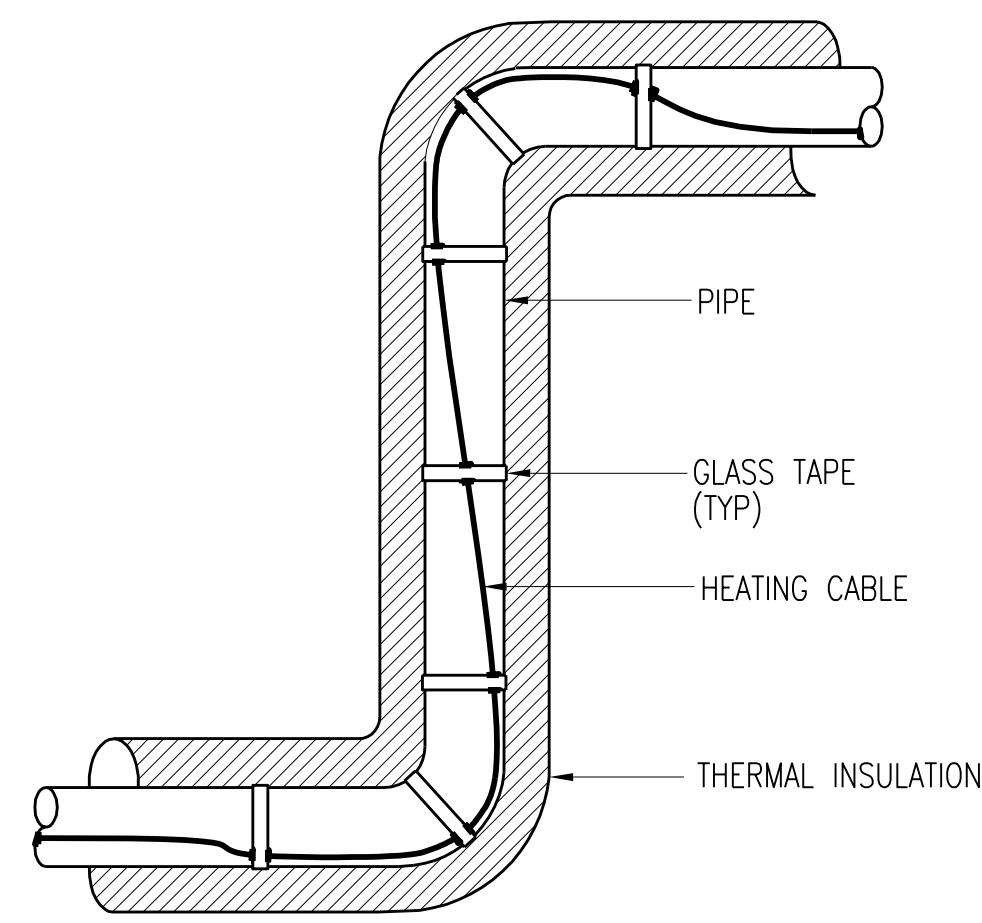
DESIGNED	DL MORITZ	SCALE: AS NOTED	
DRAWN	B.M. GOODNIGHT	NO. 22800	REV.
CHECKED	DL MORITZ		
APPROVED	JD COGAN		
DATE	DECEMBER 2, 2011		



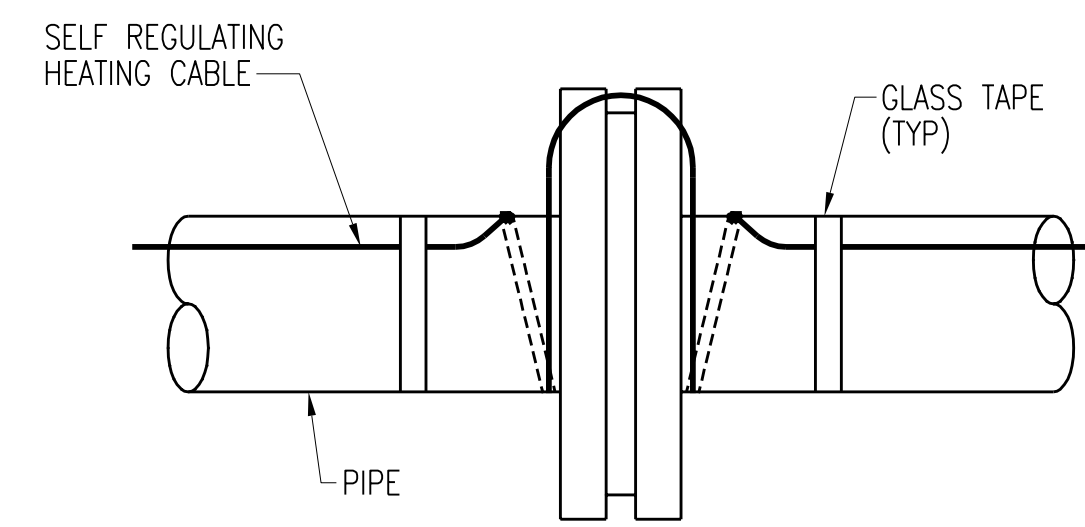
CADD: D1-R4



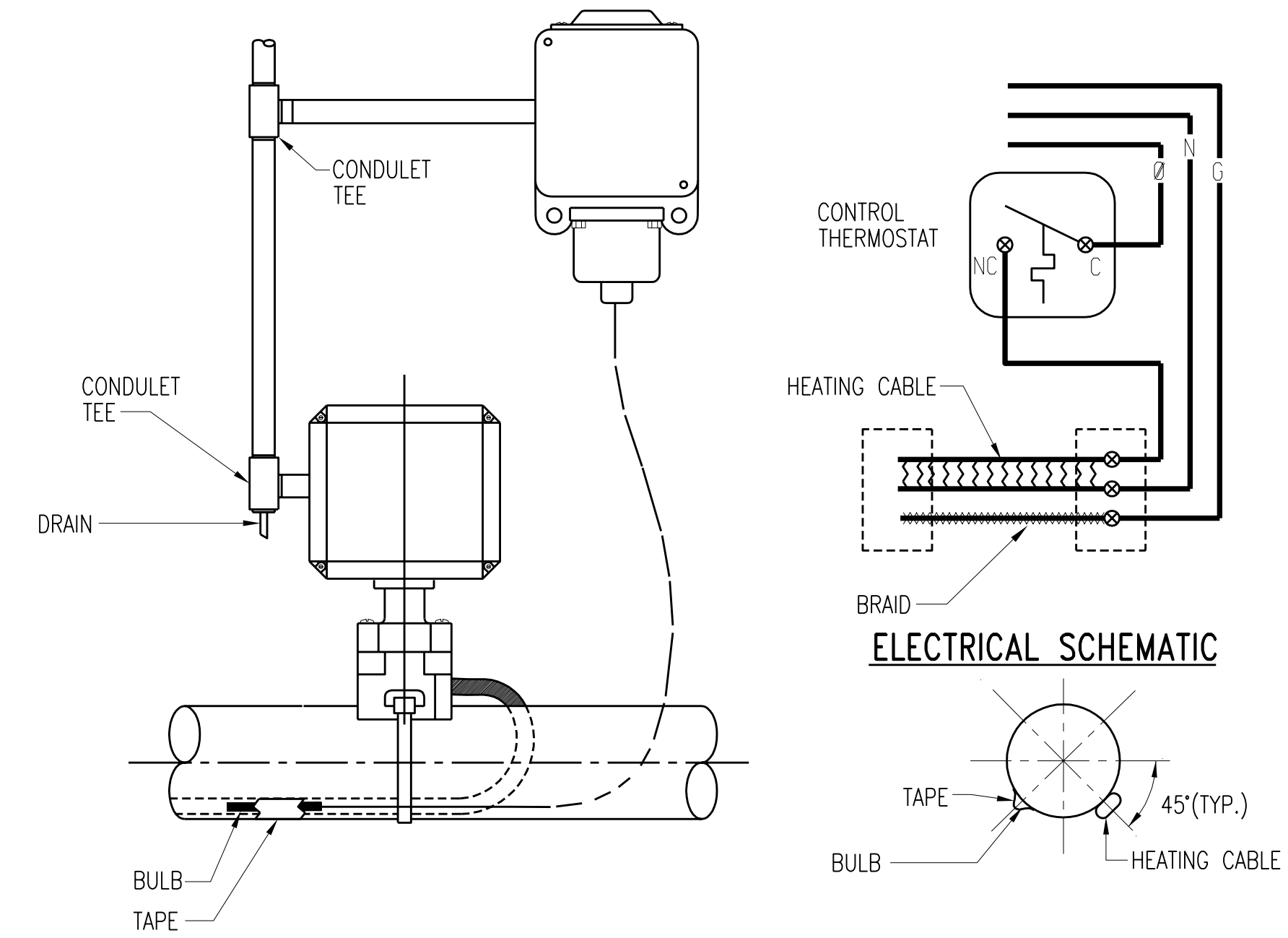
TYPICAL PLACEMENT OF HEATING CABLE AND TEMPERATURE SENSOR WITH COMPRESSIBLE OR GROOVED RIGID INSULATION



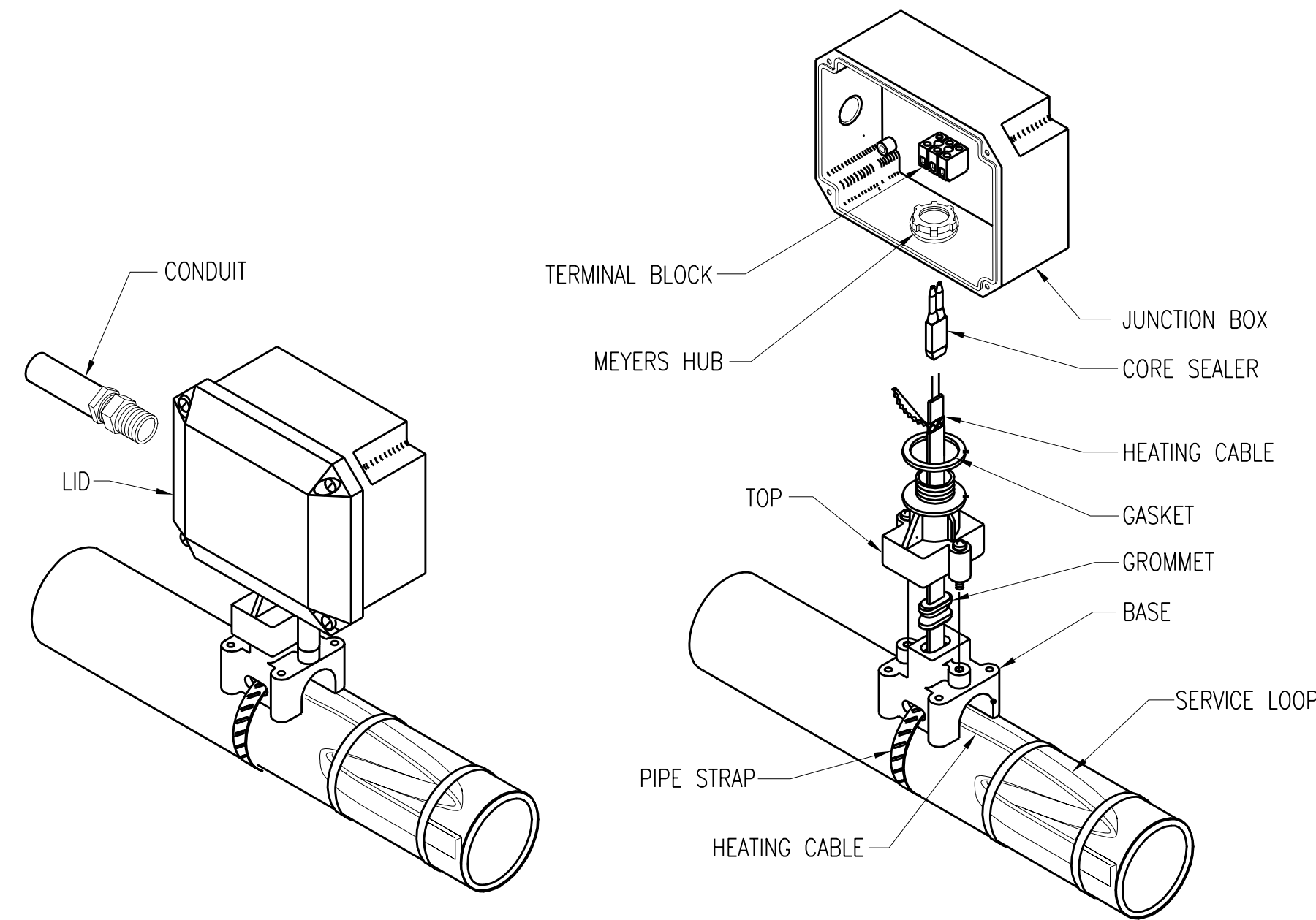
TYPICAL ELBOW INSTALLATION



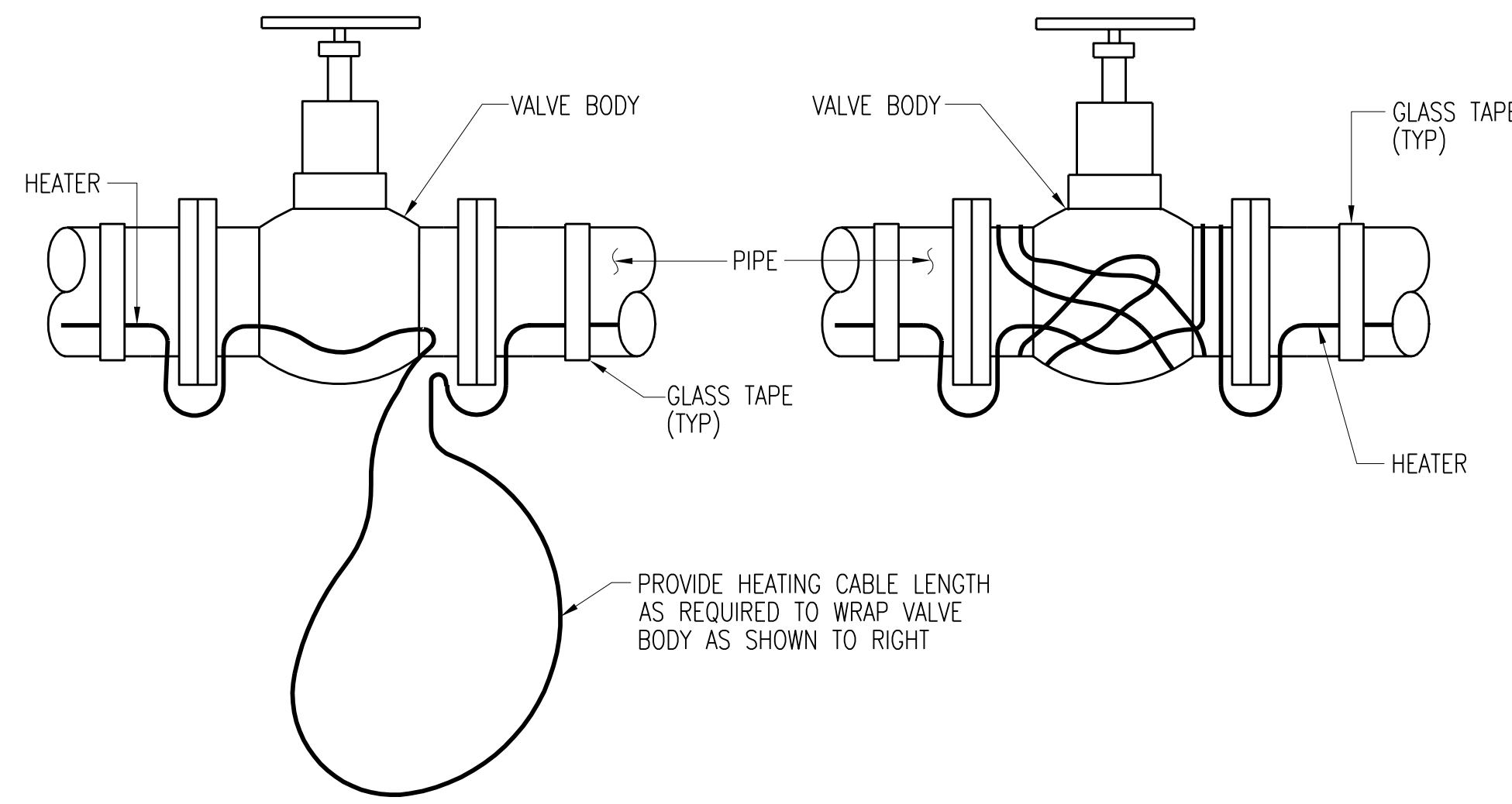
TYPICAL HEATING CABLE ON FLANGE



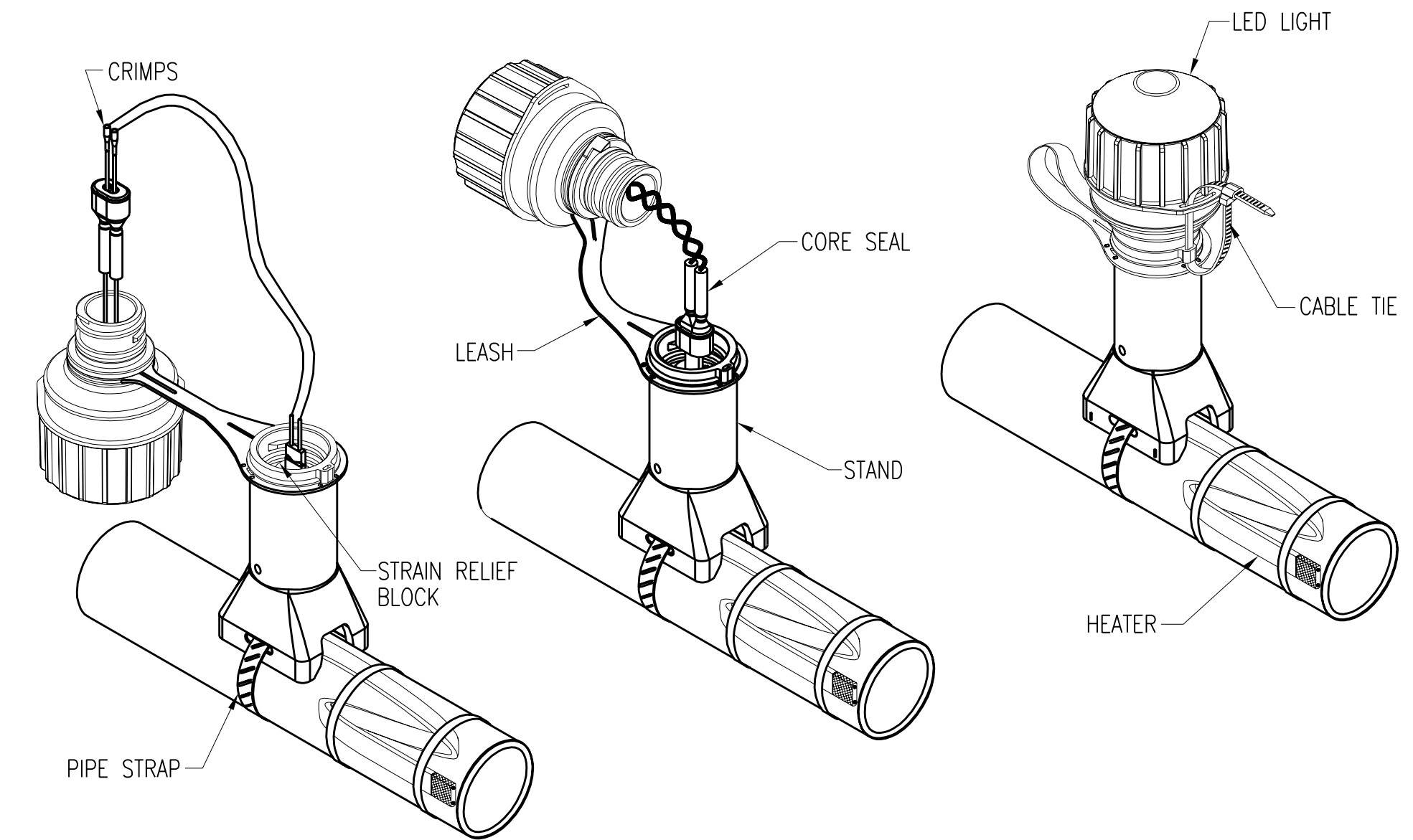
THERMOSTAT INSTALLATION DETAIL



POWER CONNECTION KIT



TYPICAL VALVE INSTALLATION



LIGHTED END SEAL

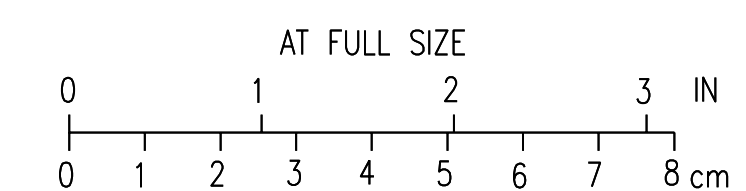
NOTE:
THE DETAILS SHOW GENERAL
INSTALLATION METHODS. DETAILED
INSTALLATION INSTRUCTIONS TO BE
PROVIDED BY MANUFACTURER.

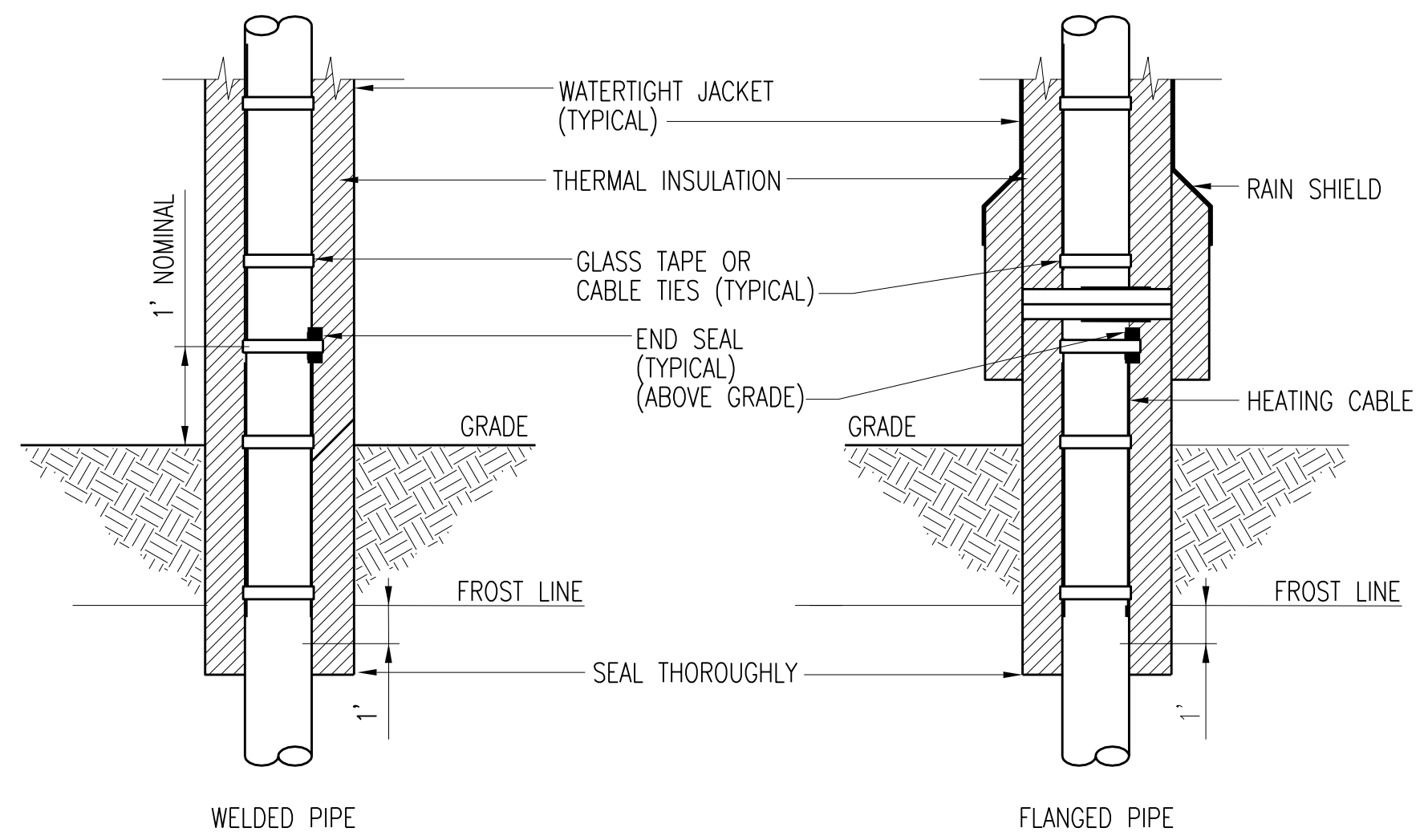
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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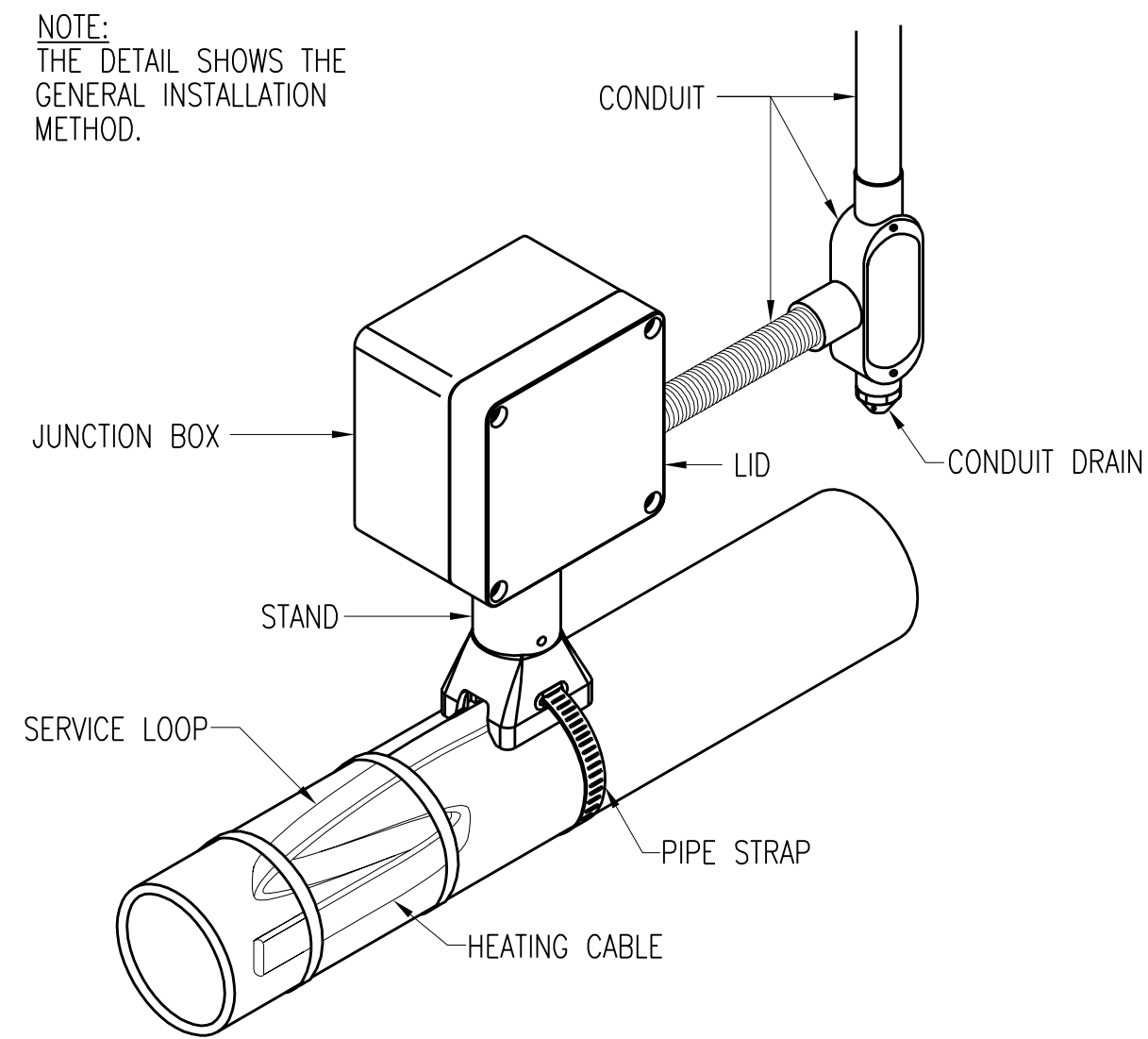
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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
**ELECTRICAL TYPICAL DETAILS-SCHEDULES
TYPICAL DETAILS
SHEET 3**

DESIGNED	DL MORITZ	SCALE:	AS NOTED
DRAWN	B.M. GOODNIGHT	NO.	22800
CHECKED	DL MORITZ	REV.	2
APPROVED	JDC COGAN	DATE	DECEMBER 2, 2011
DATE	DECEMBER 2, 2011		

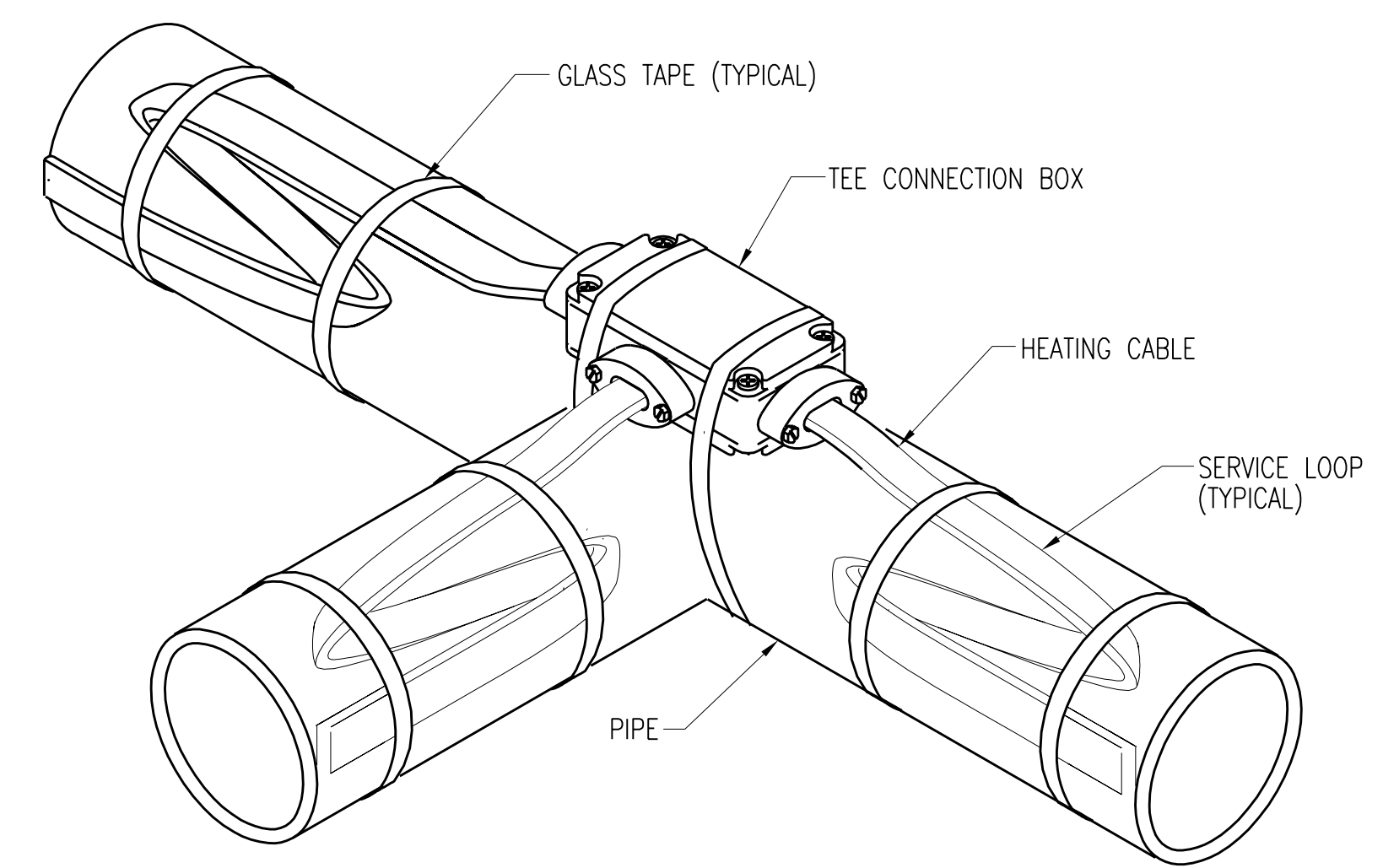




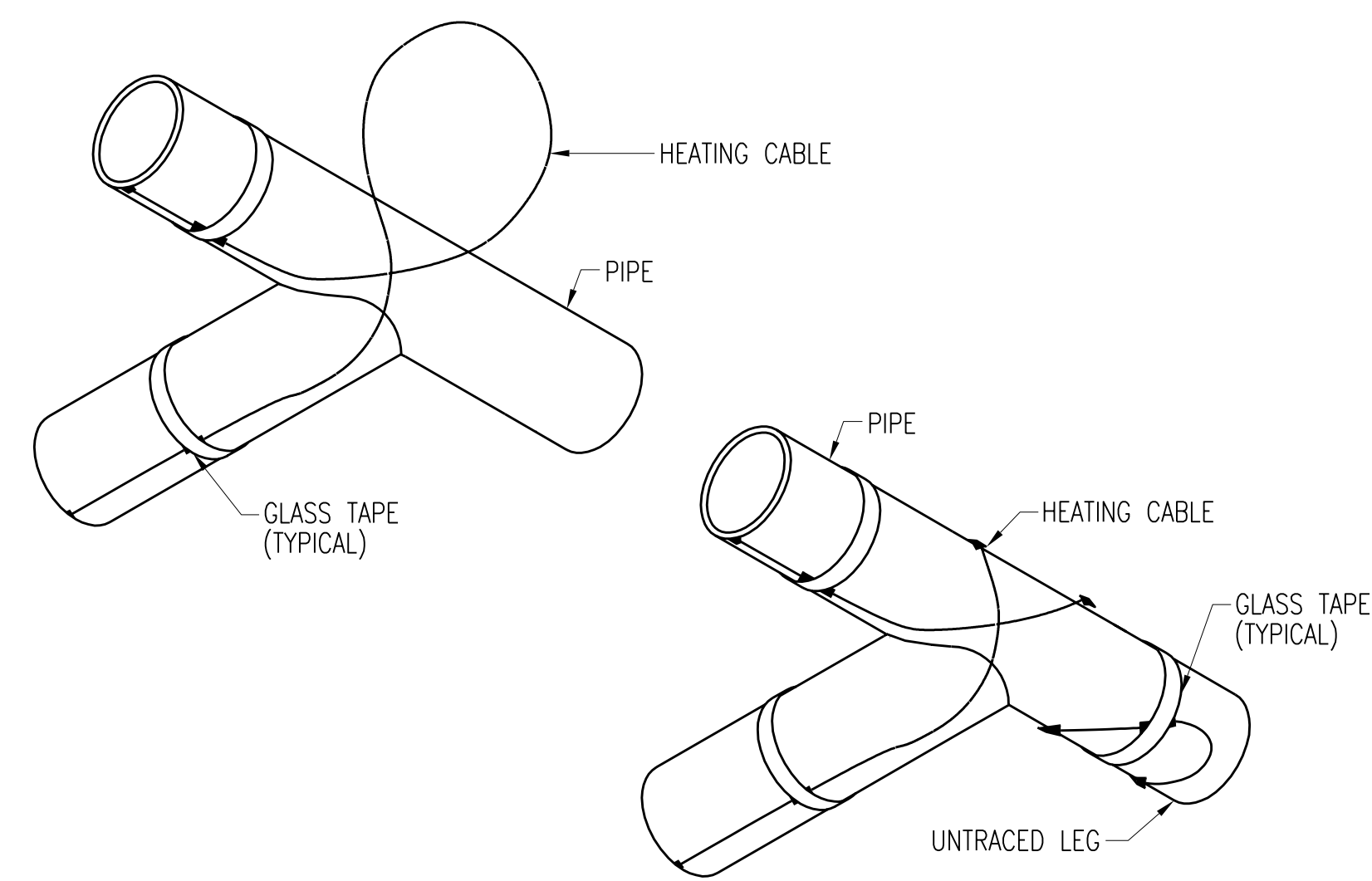
TYPICAL GRADE PENETRATION



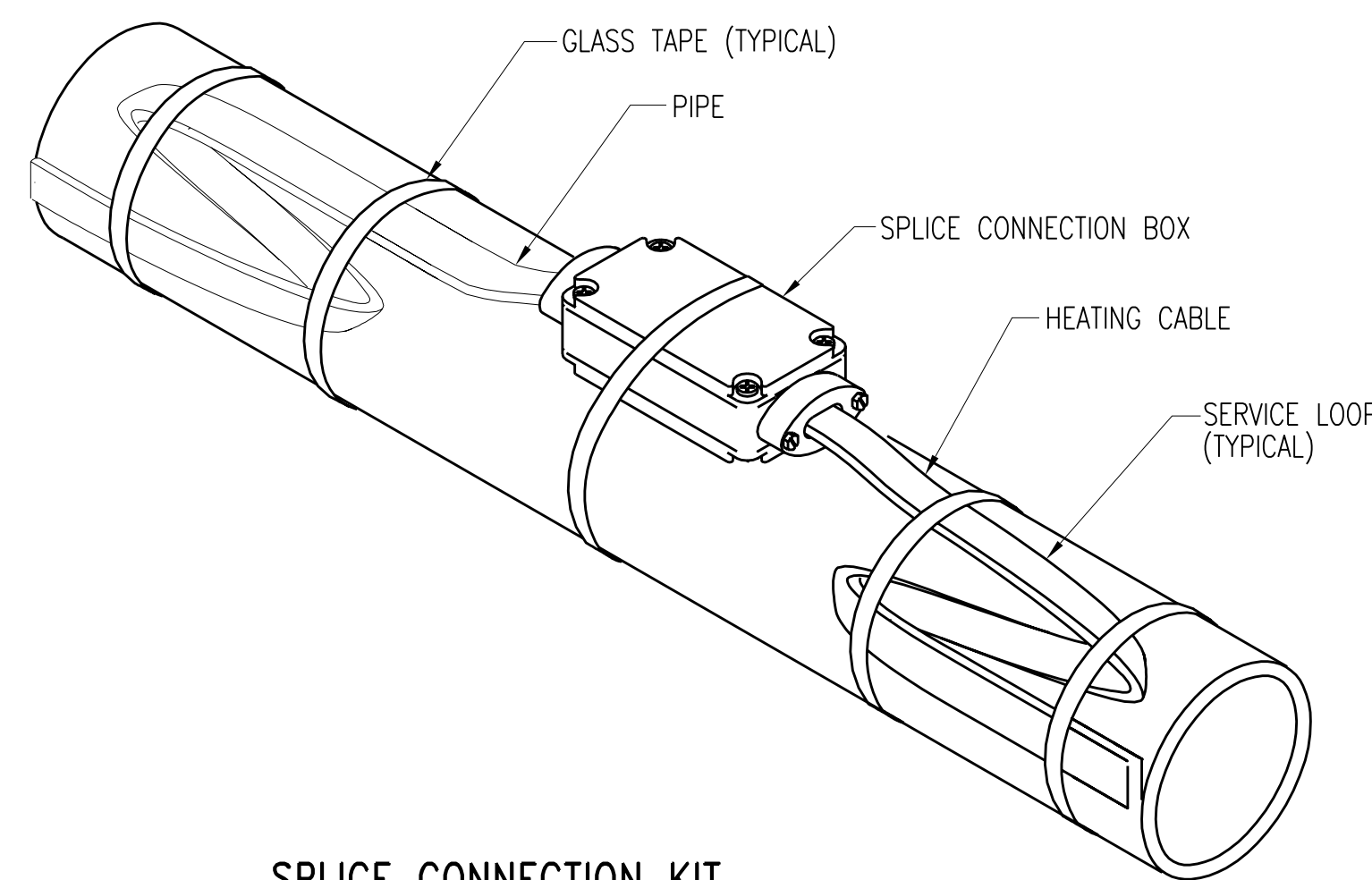
POWER CONNECTION KIT



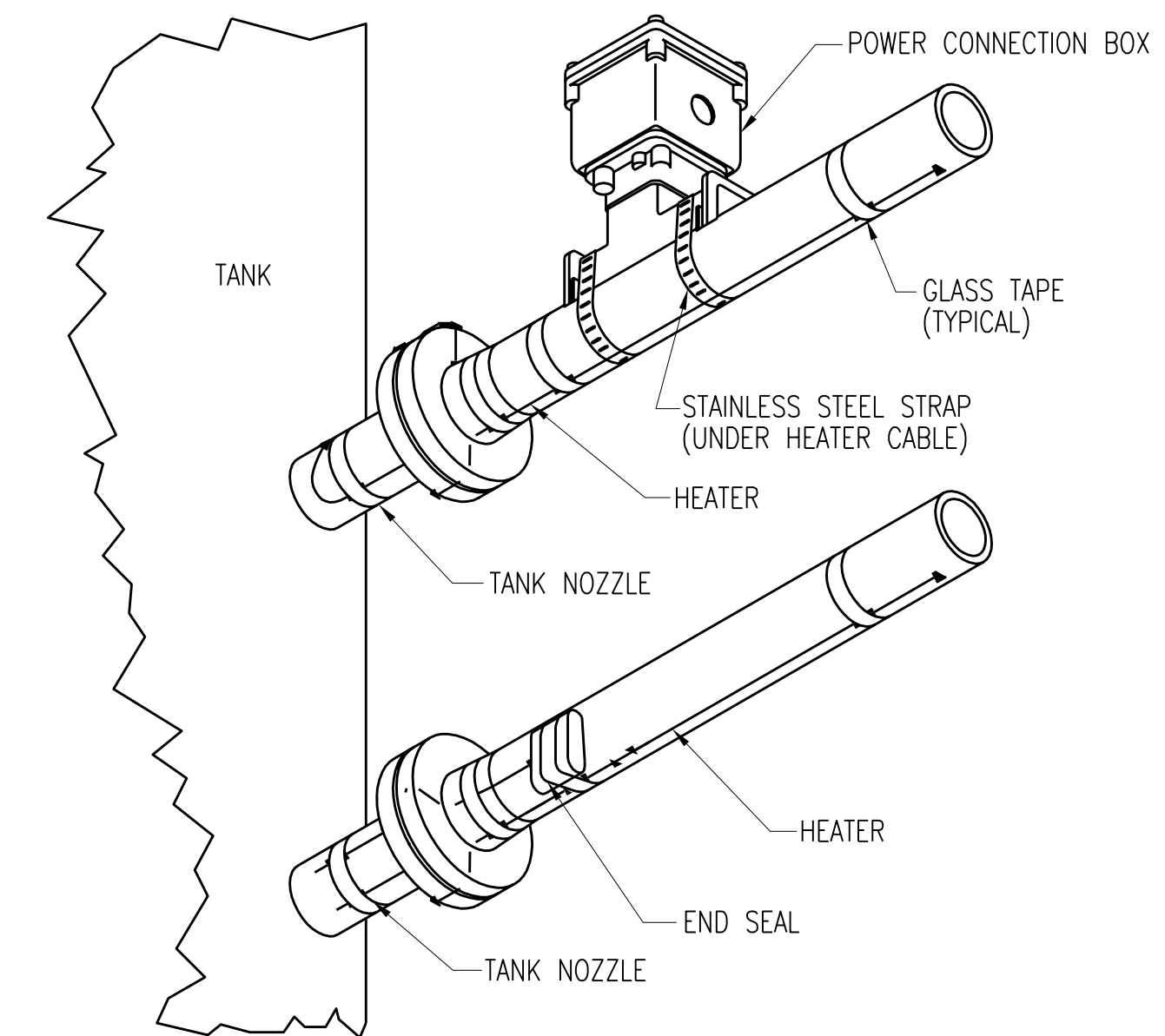
TEE KIT



TYPICAL PIPE DEAD LEG TEE INSTALLATION



SPLICE CONNECTION KIT



TYPICAL PLACEMENT OF HEAT TRACE ON TANK NOZZLES

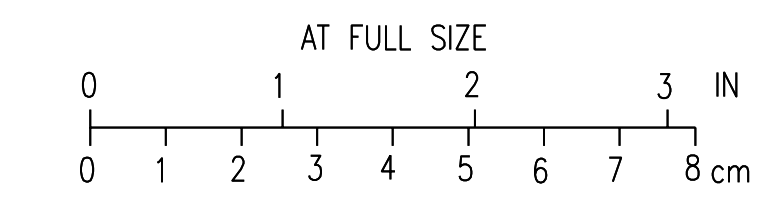
NOTE:
THE DETAILS SHOW GENERAL
INSTALLATION METHODS. DETAILED
INSTALLATION INSTRUCTIONS TO BE
PROVIDED BY MANUFACTURER.

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED NOTE	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

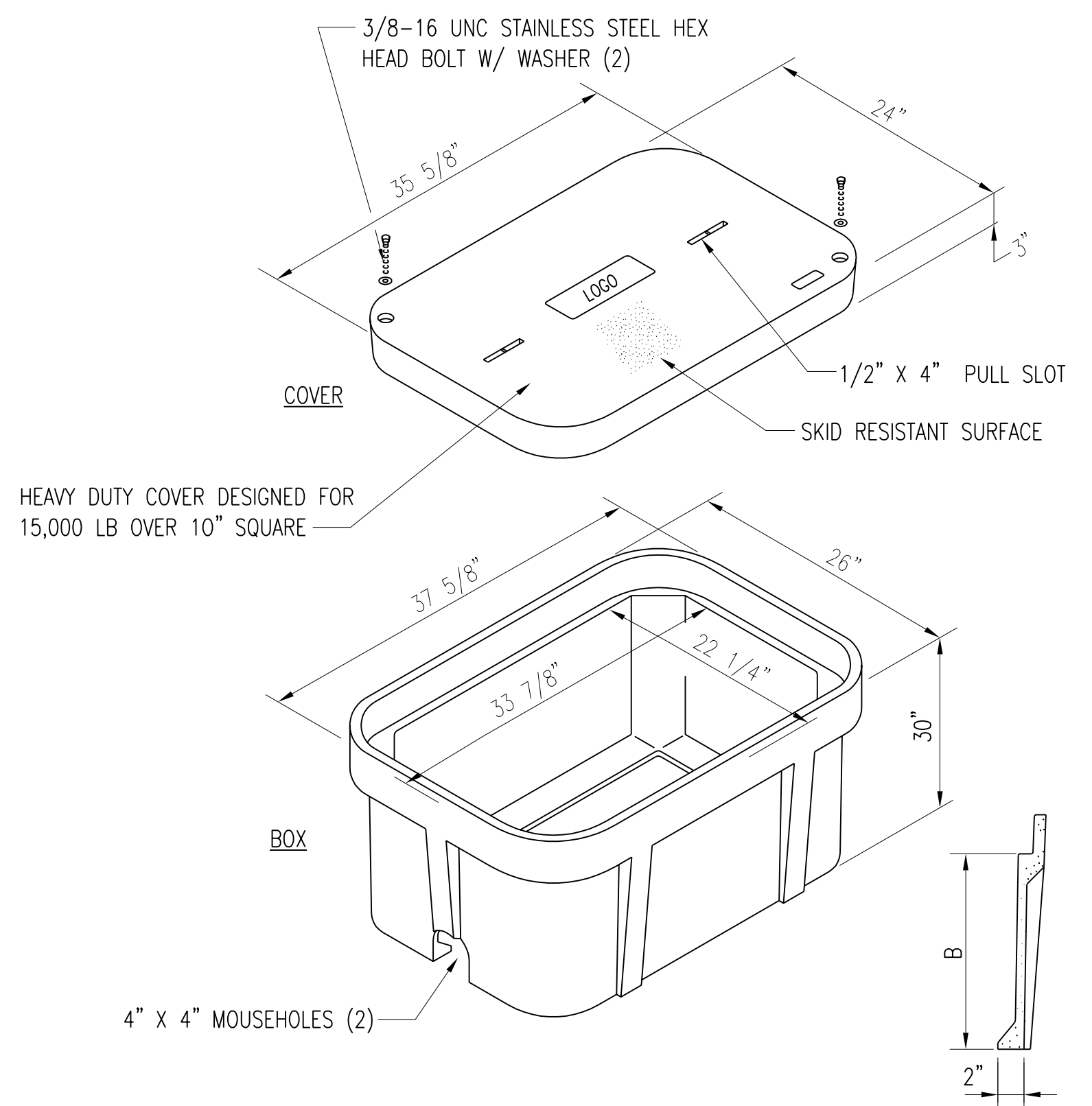
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**ELECTRICAL TYPICAL DETAILS-SCHEDULES
TYPICAL DETAILS
SHEET 4**

DESIGNED	DL MORITZ	SCALE:	AS NOTED
DRAWN	B.M. GOODNIGHT	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4

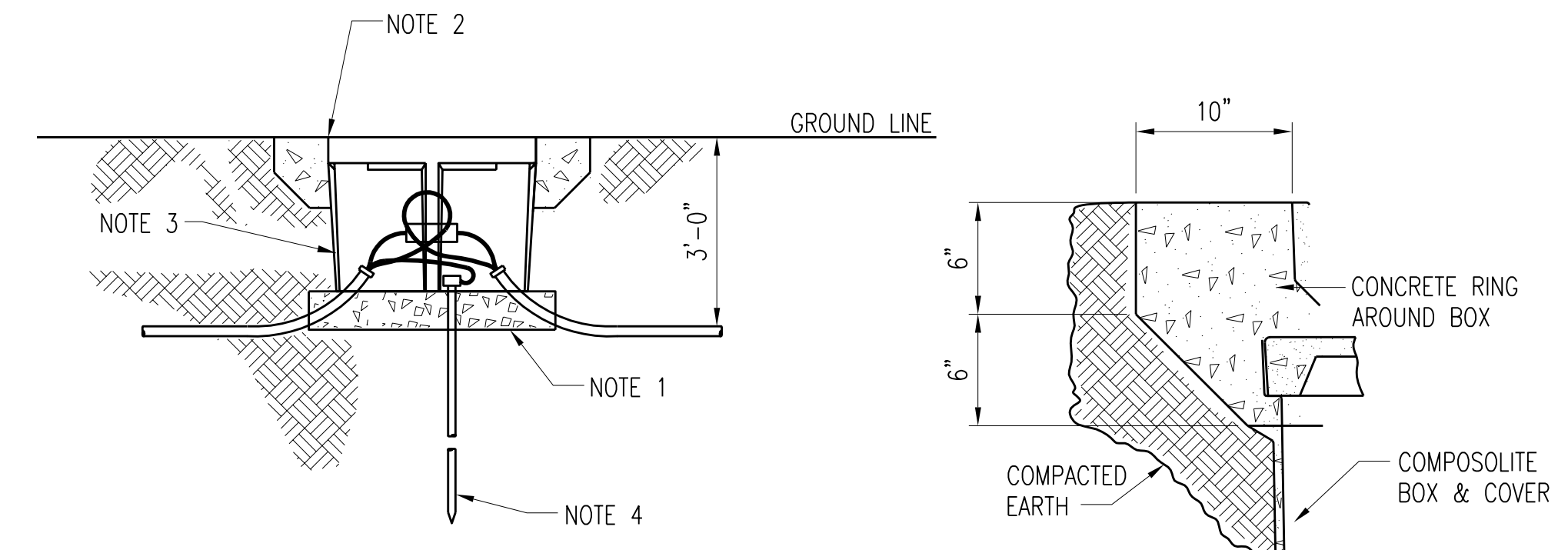


- PROVIDE:
- SPECIFIC "ELECTRICAL" OR "COMMUNICATIONS" LOGO.
 - QUAZITE COLOR-GRAY.
 - 1" X 4" BELL PULL SLOT.

COVERS		BOX	
DESCRIPTION		DESCRIPTION	
HEAVY DUTY		W/ NO BASE,	
W/ 2 BOLTS		(2) MOUSEHOLES	

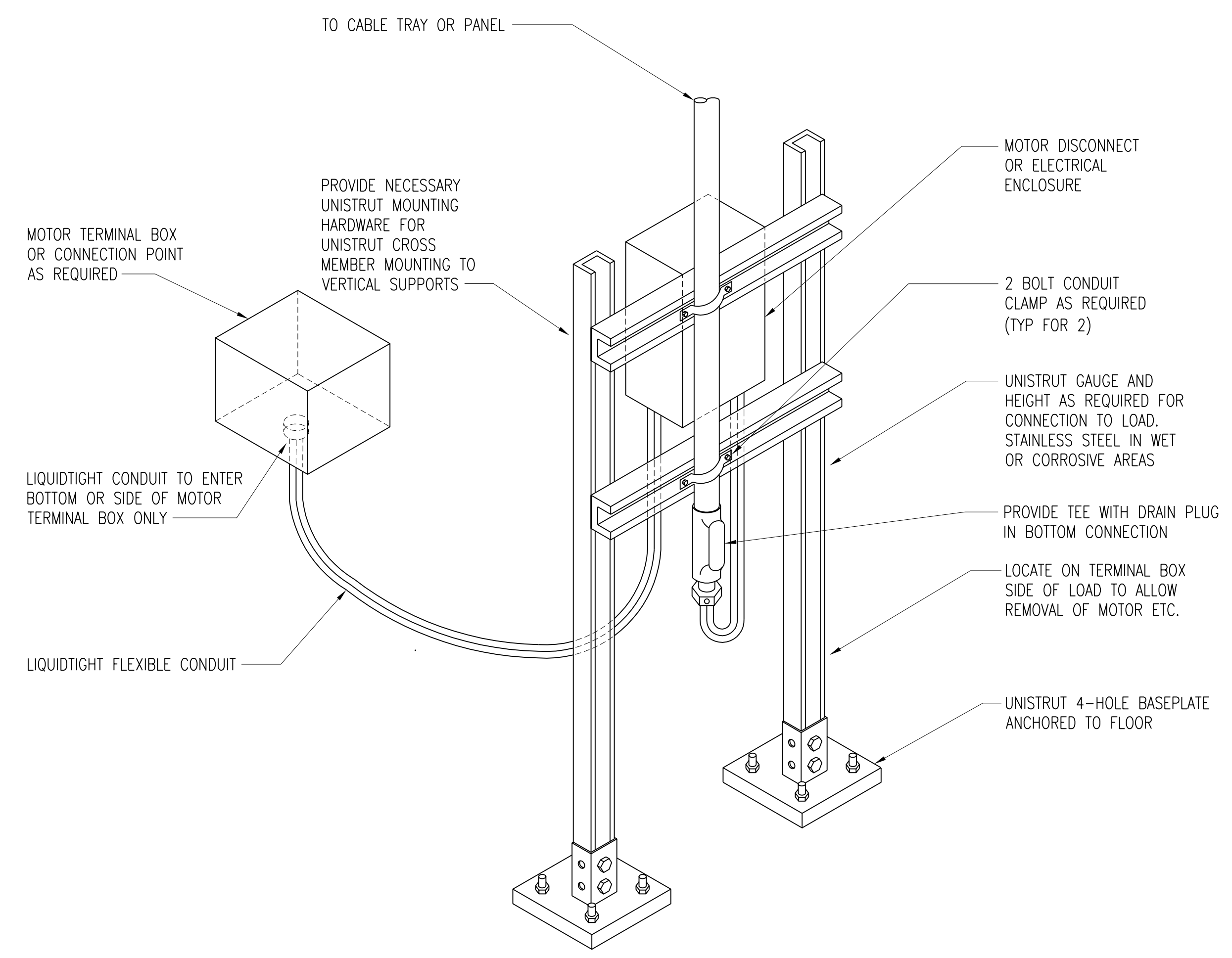
24"X36" QUAZITE LIGHTING HANDHOLE
SCALE: NONE
11"X18" SAME CONSTRUCTION DIFFERENT DIMENSIONS

SEE RFI #58 & RFI #24 SHEET E8-A

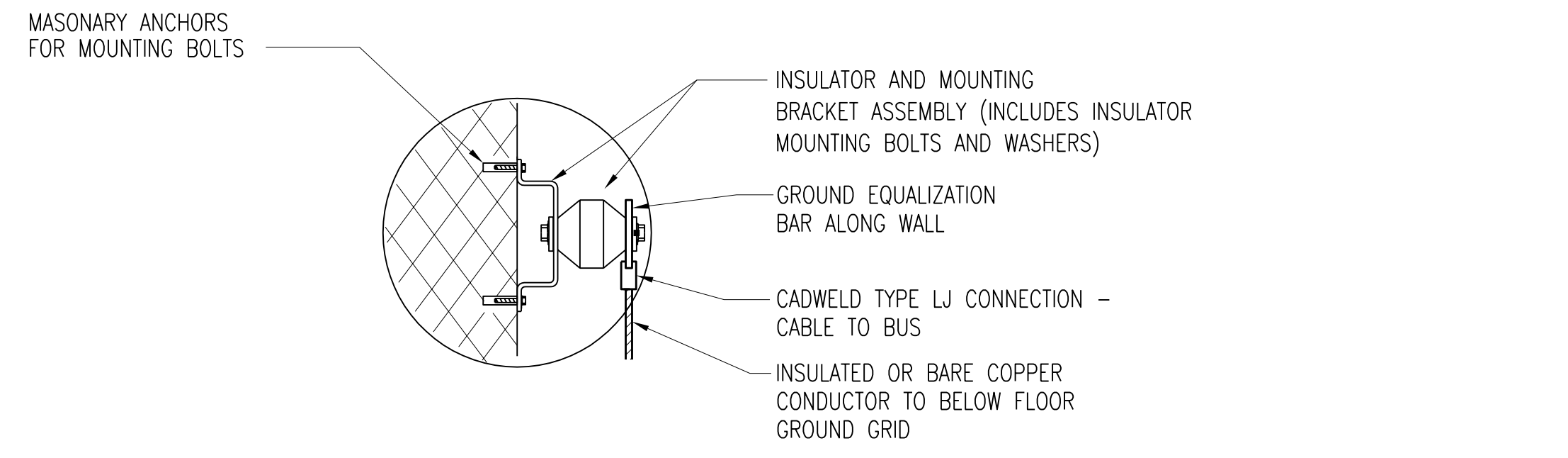


- NOTES:
- PREPARE THE EXCAVATION APPROXIMATELY 6 INCHES DEEPER THAN THE DEPTH OF THE BOX, THEN ADD 6 TO 8 INCHES OF GRAVEL OR CRUSHED ROCK FOR DRAINAGE.
 - PLACE BOX IN HOLE WITH TOP AT GRADE LEVEL.
 - FILL AND COMPACT SOIL TO GRADE LEVEL WITH COVER IN BOX.
 - 3/4"X10'-0" COPPER CLAD GROUND ROD. LEAVE 3" OF ROD ABOVE BASE OF HANDHOLE FOR EXOTHERMIC WELDING GROUNDS TO.

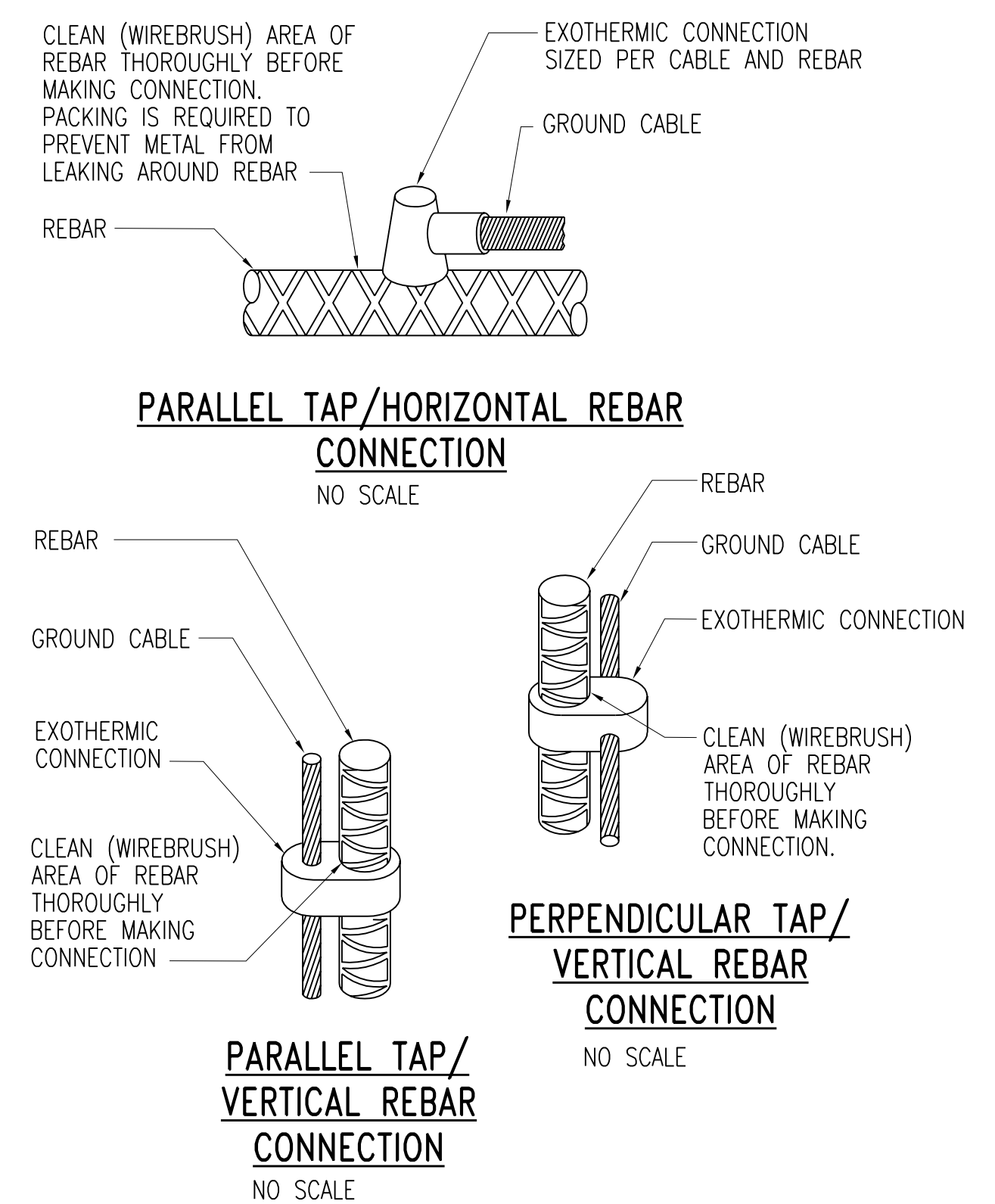
TYPICAL HANDHOLE INSTALLATION ELEVATION
SCALE: NONE



CONDUIT MOUNTING STANCHION
SCALE: NONE



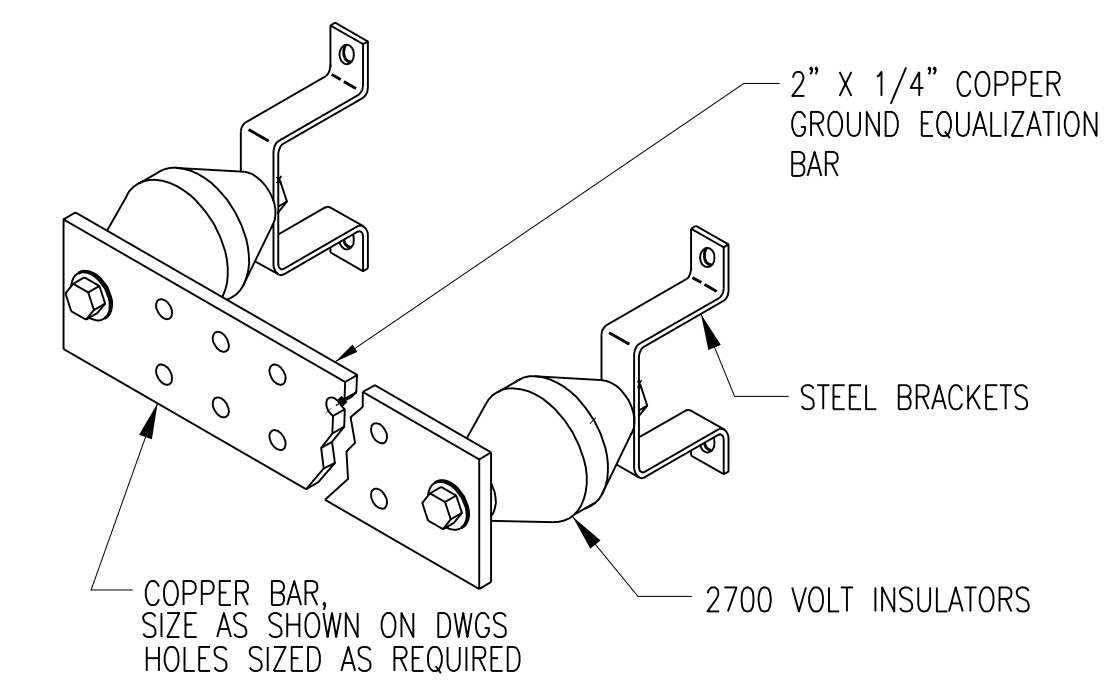
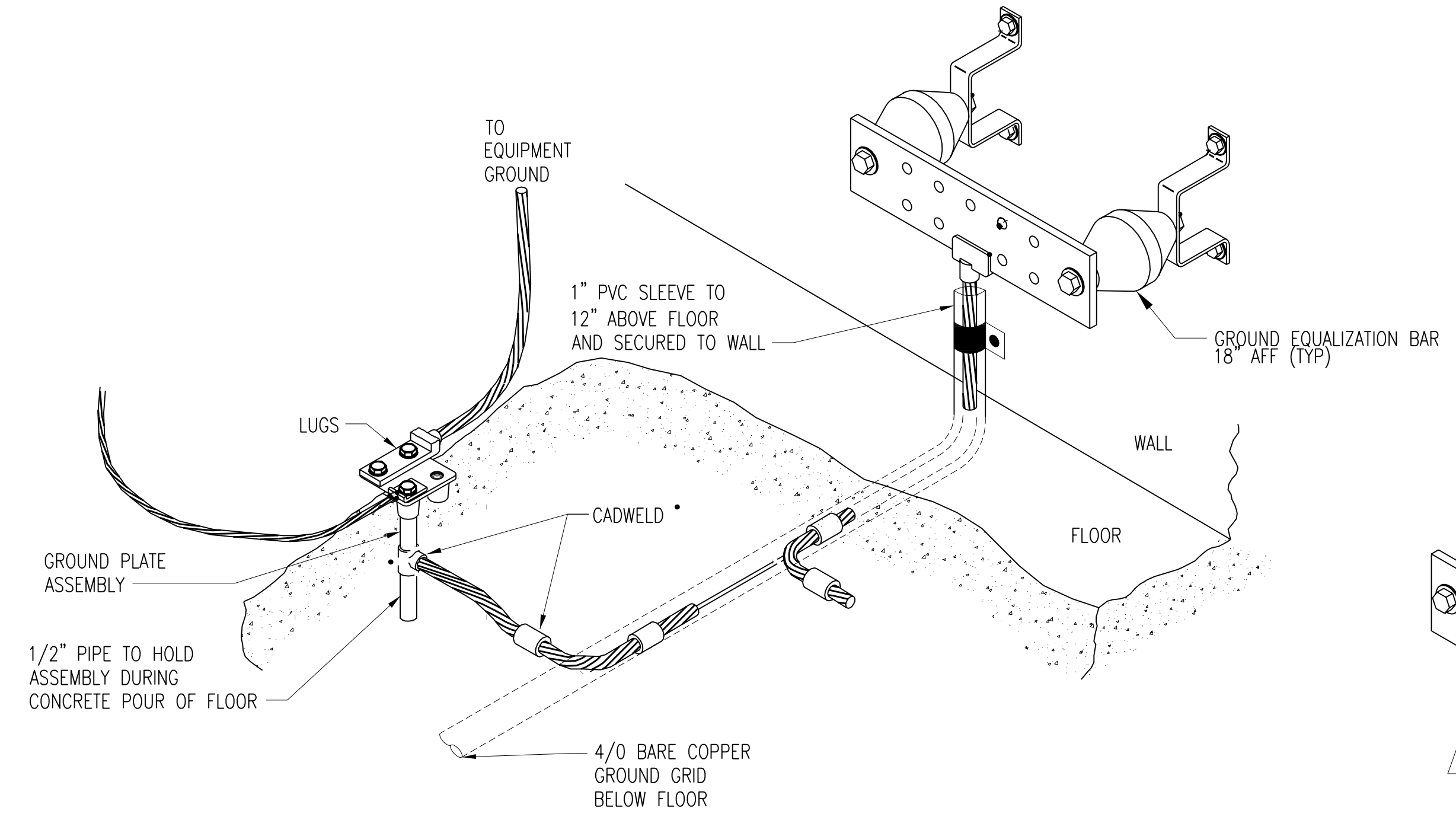
TYPICAL GROUNDING INSTALLATIONS



PARALLEL TAP/HORIZONTAL REBAR CONNECTION
NO SCALE

PARALLEL TAP/VERTICAL REBAR CONNECTION
NO SCALE

PERPENDICULAR TAP/VERTICAL REBAR CONNECTION
NO SCALE



GROUND EQUALIZATION BAR WITH NYLON INSULATORS



3	RECORD DRAWING	JBL	JBL	JBL	21-31-2014
2	ADDED DETAIL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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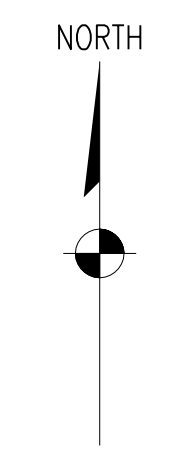
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL TYPICAL DETAILS-SCHEDULES
TYPICAL DETAILS
SHEET 5

DESIGNED	DL MORITZ	SCALE:	AS NOTED	
DRAWN	D.WILGES	NO.	22800	REV.
CHECKED	DL MORITZ			
APPROVED	JD COGAN			
APPROVED				
DATE	DECEMBER 2, 2011			

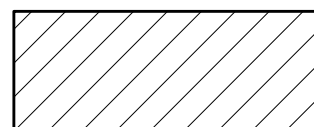
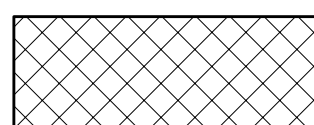
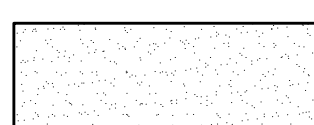
E8 **3**

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



- NOTES:**
1. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT EXISTING GRADES. FOR SITE PIPING PLANS SEE DRAWINGS C31 THRU C42.
 2. REMOVE MATERIAL FROM TOP OF BERM, INCLUDING ASPHALT, AGGREGATE, BENTONITE AND FILL AS NEEDED TO INCREASE HEIGHT TO THE DESIGN ELEVATION.
 3. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE NOTED.

LEGEND:

-  ASPHALT DEMOLITION
-  PCC DEMOLITION
-  ASPHALT MILLING 1" 2

3 A DEPTH OF MILLING REQUIRED IS 1". EXISTING ASPHALT TO REMAIN SHALL BE MILLED AND RESURFACED. CORRECT SCALE IS 1:40.

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
2	REVISED PER ADDENDUM NO. 2	AMM	DET	BDR	03-06-2012
1	ISSUED FOR CONSTRUCTION	AMR	AMR	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

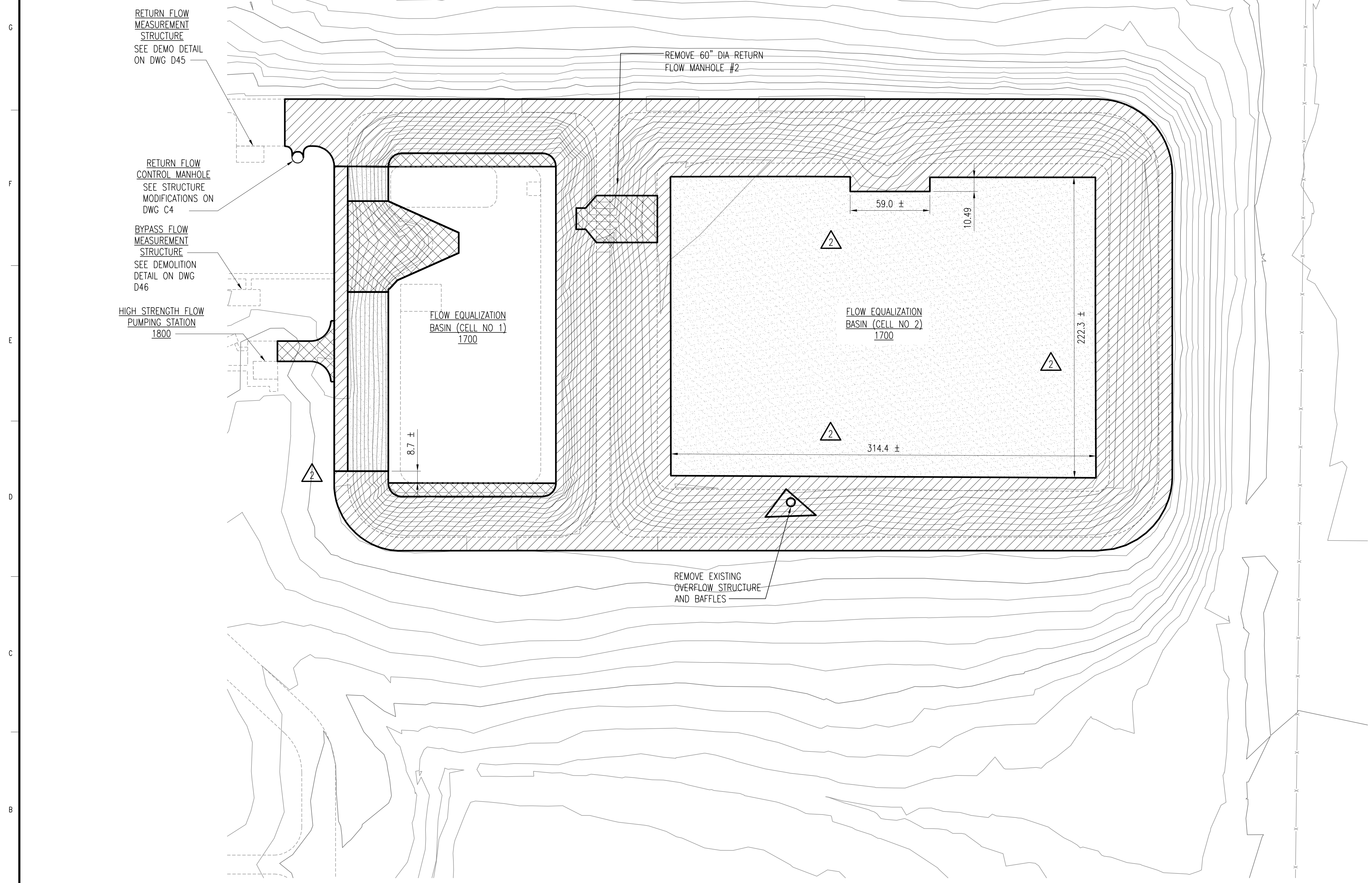
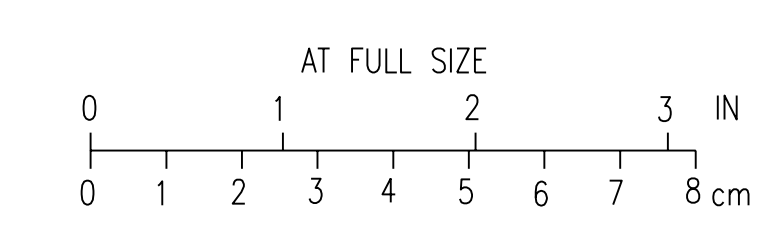


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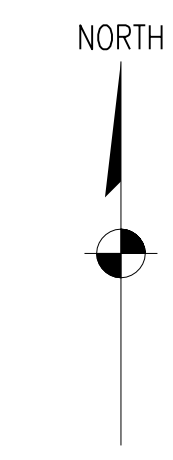
**SITE DEMOLITION
FLOW EQUALIZATION BASIN**

DESIGNED	AM ROMERO	SCALE: 1" = 20'	NO. 22800	REV.
DRAWN	CA GOOS			
CHECKED	AM ROMERO			
APPROVED	BD REISCHAUER			
APPROVED				
DATE	DECEMBER 2, 2011	D41		4



CADD: D1-1-R4

**BOLD ITEMS ARE TO BE REMOVED
UNLESS NOTED OTHERWISE**



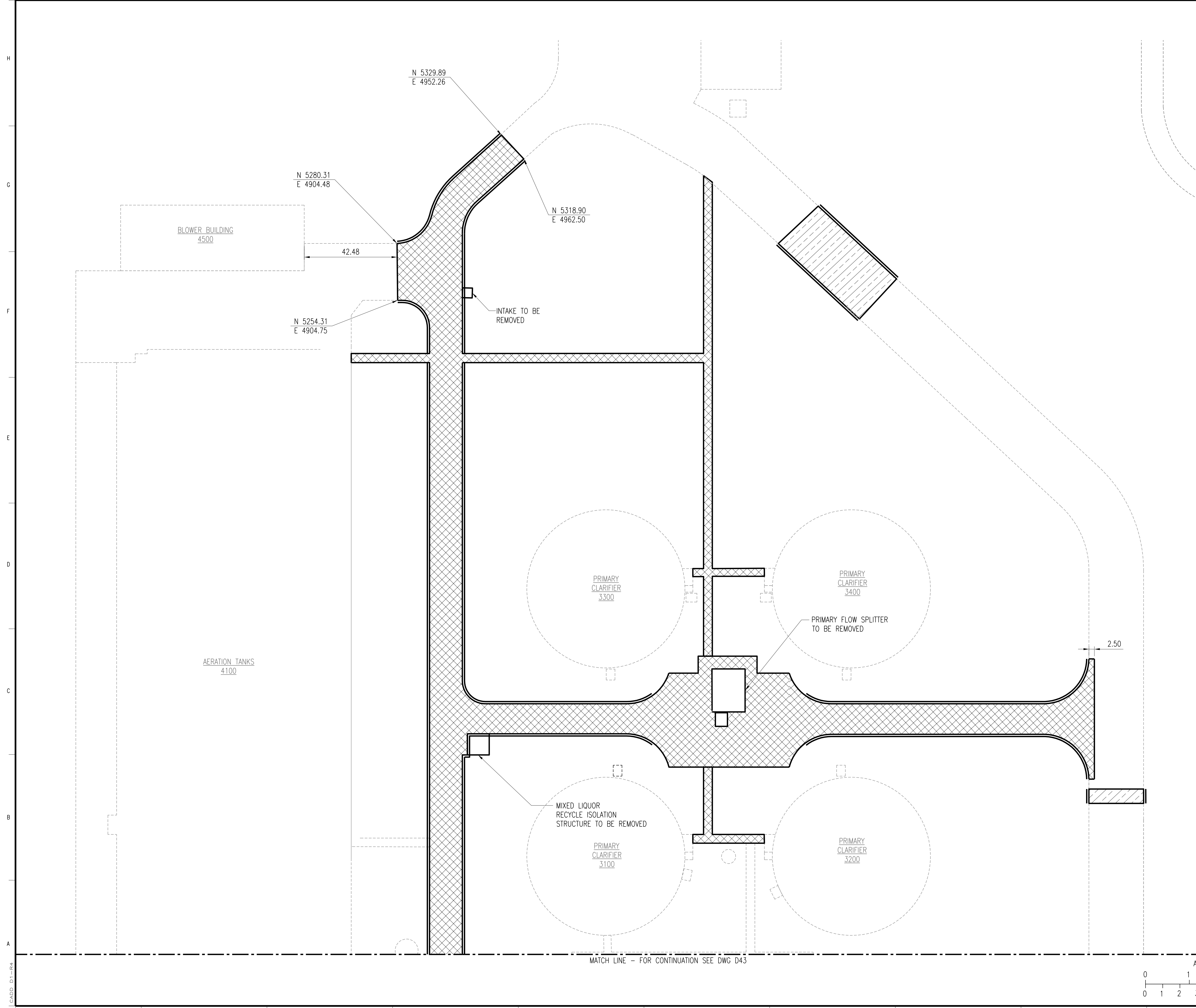
NOTES:

1. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT EXISTING GRADES. FOR SITE PIPING PLANS SEE DRAWINGS C31 THRU C42.
2. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
3. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.

LEGEND:

- ASPHALT DEMOLITION
- PCC DEMOLITION
- PCC DEMOLITION AS NECESSARY SEE NOTE 1
- ASPHALT MILLING
- 6" CURB DEMOLITION

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.



4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ADDENDUM NO.2 ADDED CURB REMOVAL	AMM	DET	BDR	03-06-2012
2	GENERAL	AMM	DET	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

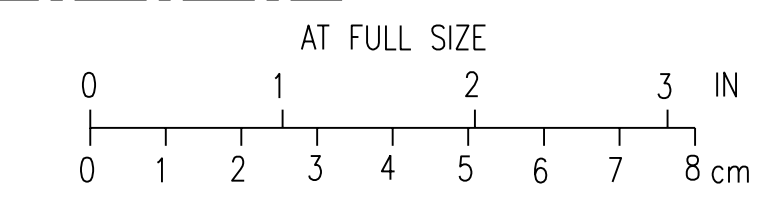
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE DEMOLITION
PAVING - SHEET 1**

DESIGNED AM MURILLO
DRAWN NS JOHNSON
CHECKED DE TRIPP
APPROVED BO REISCHAUER
DATE DECEMBER 2, 2011

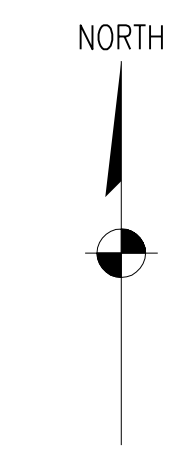
SCALE: 1" = 20'
NO. 22800
REV. **4**
D42



MATCH LINE - FOR CONTINUATION SEE DWG D43

CADD: D1-PR4


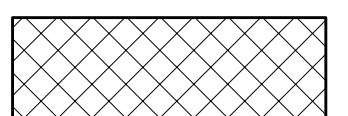
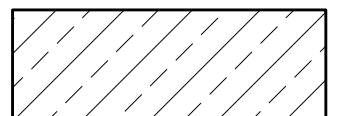
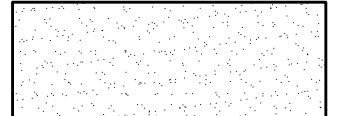

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



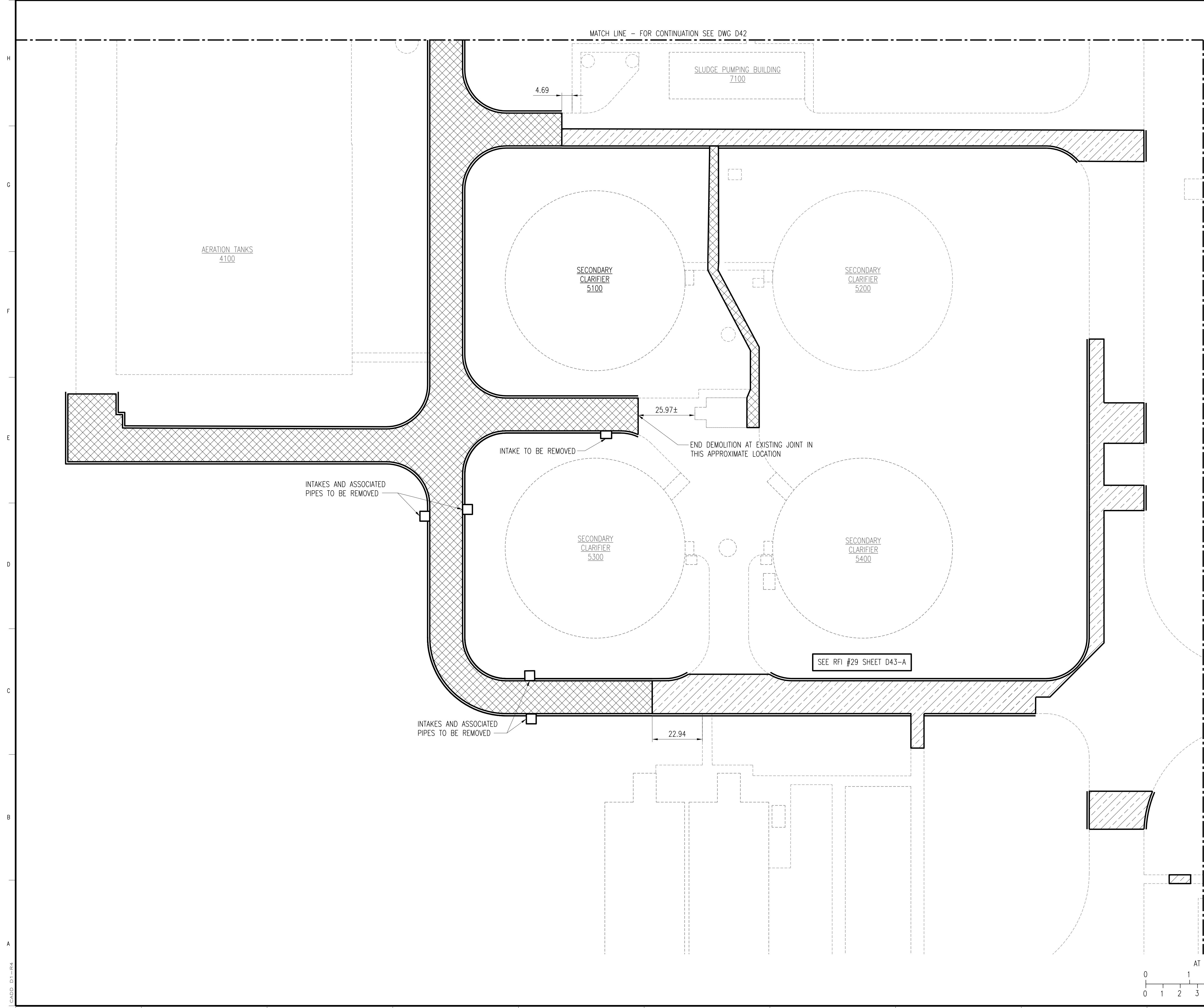
NOTES:

1. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT EXISTING GRADES. FOR SITE PIPING PLANS SEE DRAWINGS C31 THRU C42.
2. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
3. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.

LEGEND:

-  ASPHALT DEMOLITION
-  PCC DEMOLITION
-  PCC DEMOLITION AS NECESSARY SEE NOTE 1
-  ASPHALT MILLING
-  6" CURB DEMOLITION

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED PER ADDENDUM NO.2 ADDED CURB AND PIPE REMOVAL	AMM	DET	BDP	03-06-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDP	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

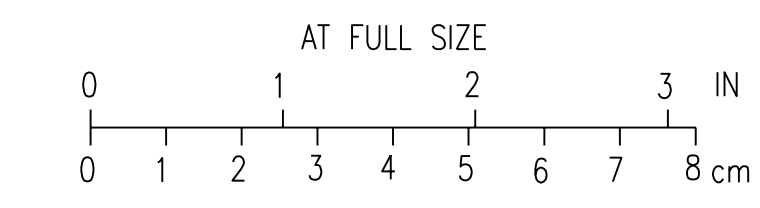


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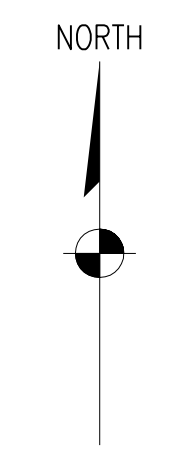
**SITE DEMOLITION
PAVING - SHEET 2**

DESIGNED	AM MURILLO	SCALE:	1" = 20'
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BD REISCHAUER		
APPROVED		D43	3
DATE	DECEMBER 2, 2011		



CADD: D1-PR4

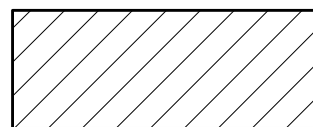
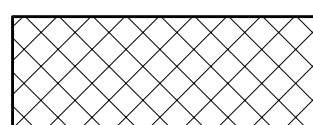
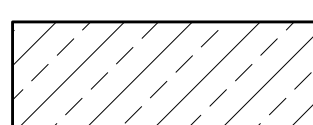
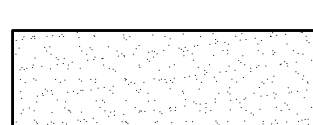

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



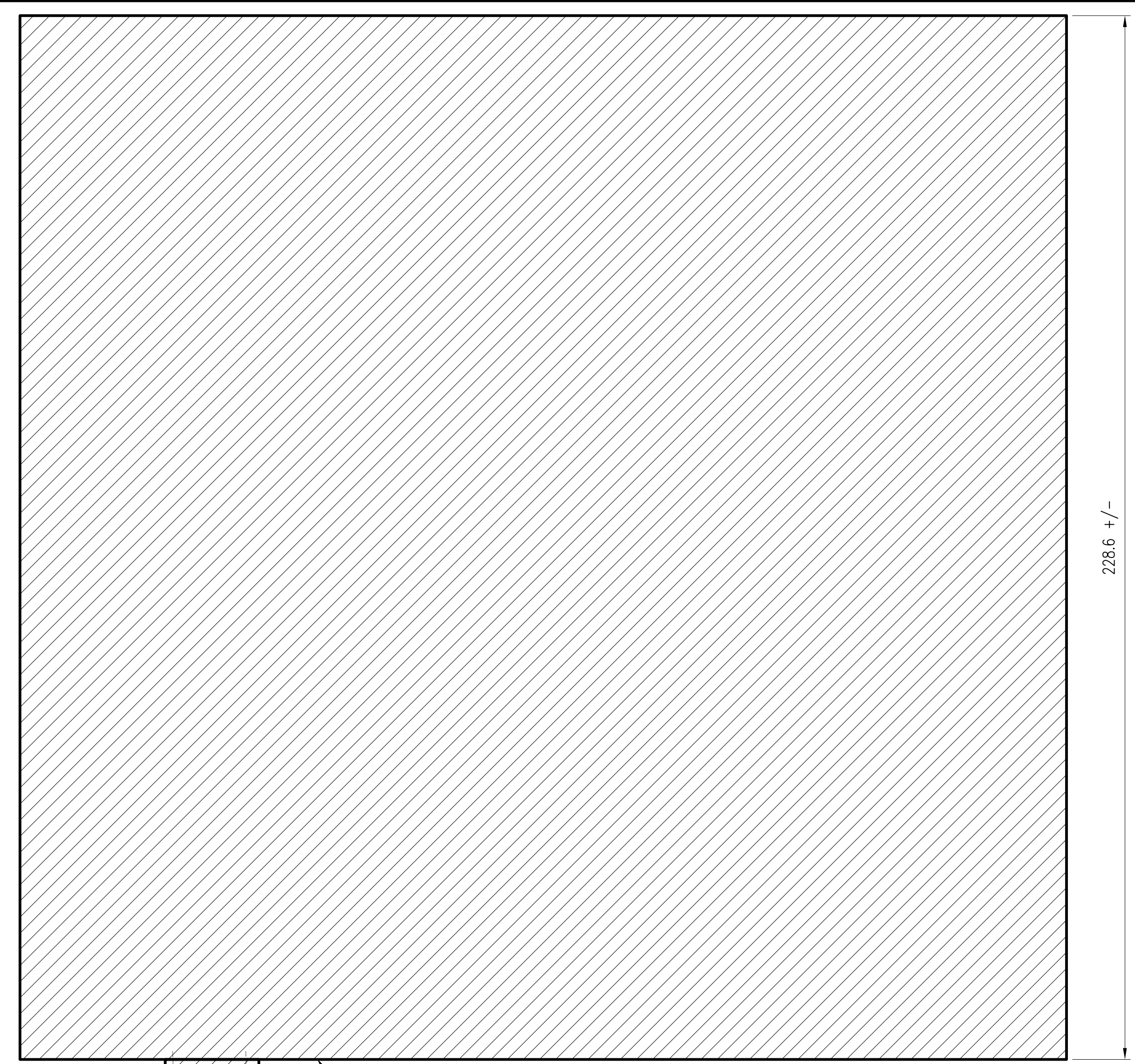
NOTES:

1. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT EXISTING GRADES. FOR SITE PIPING PLANS SEE DRAWINGS C31 THRU C42.
2. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
3. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.

LEGEND:

-  ASPHALT DEMOLITION
-  PCC DEMOLITION
-  PCC DEMOLITION AS NECESSARY SEE NOTE 1
-  ASPHALT MILLING
-  6" CURB DEMOLITION

MATCH LINE - FOR CONTINUATION SEE DWG D43



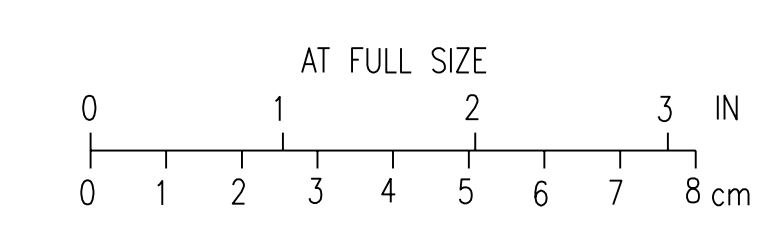
REMOVE EXISTING SLUDGE PAD AND ACCESS DRIVE

INTAKE & PIPE TO BE REMOVED

MESOPHILIC/
THERMOPHILIC
DIGESTER
8201

THERMOPHILIC
DIGESTER
TANK
8101

DIGESTER
BUILDING
8500



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED PER ADDENDUM NO. 2 ADDED CURB REMOVAL	AMM	DET	BDR	03-06-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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**SITE DEMOLITION
PAVING - SHEET 3**

DESIGNED AM MURILLO
DRAWN NS JOHNSON
CHECKED DE TRIPP
APPROVED BO REISCHAUER
APPROVED
DATE DECEMBER 2, 2011

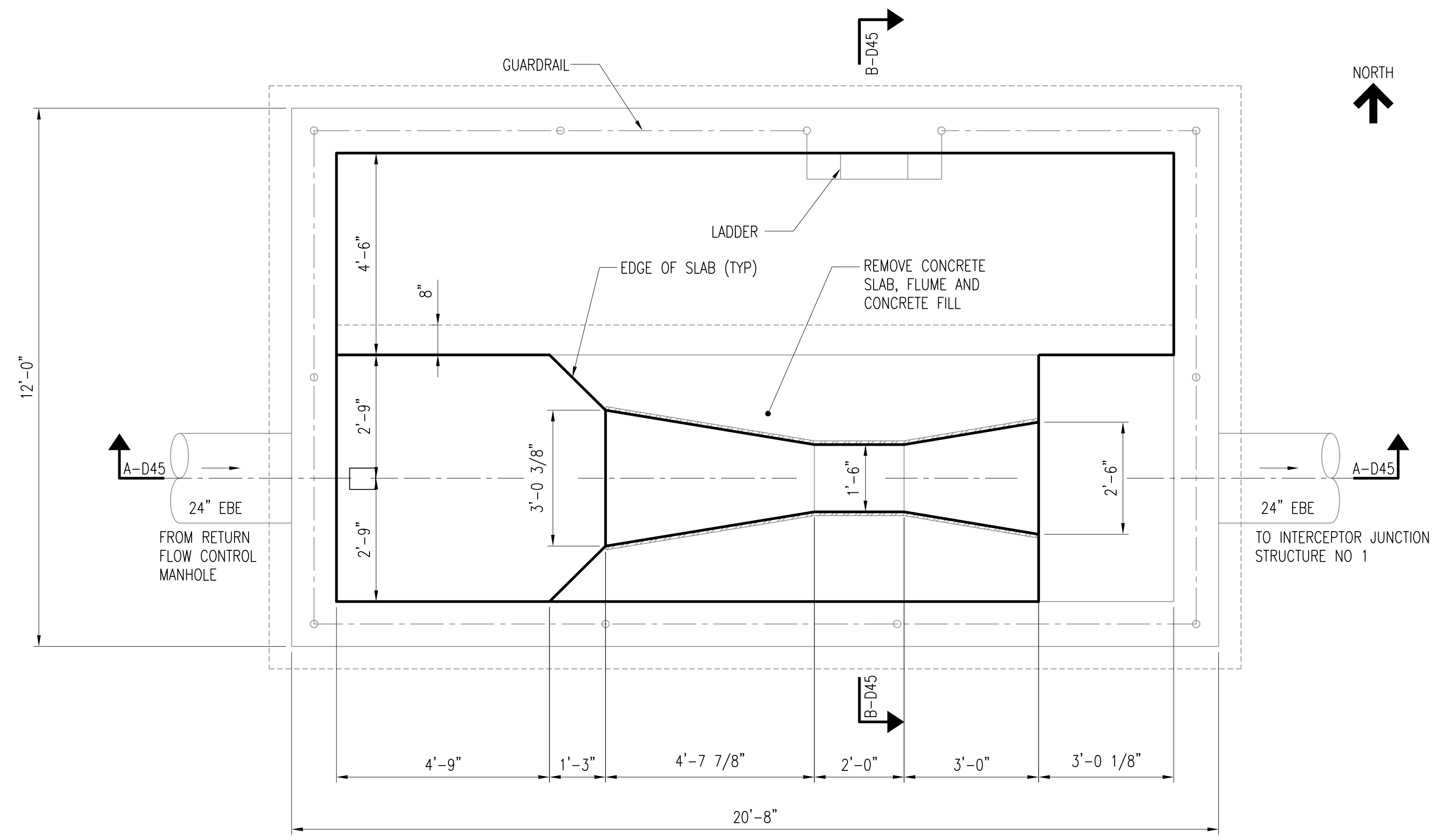
SCALE: 1" = 20'
NO. 22800
REV. 3
D44

H
G
F
E
D
C
B
A

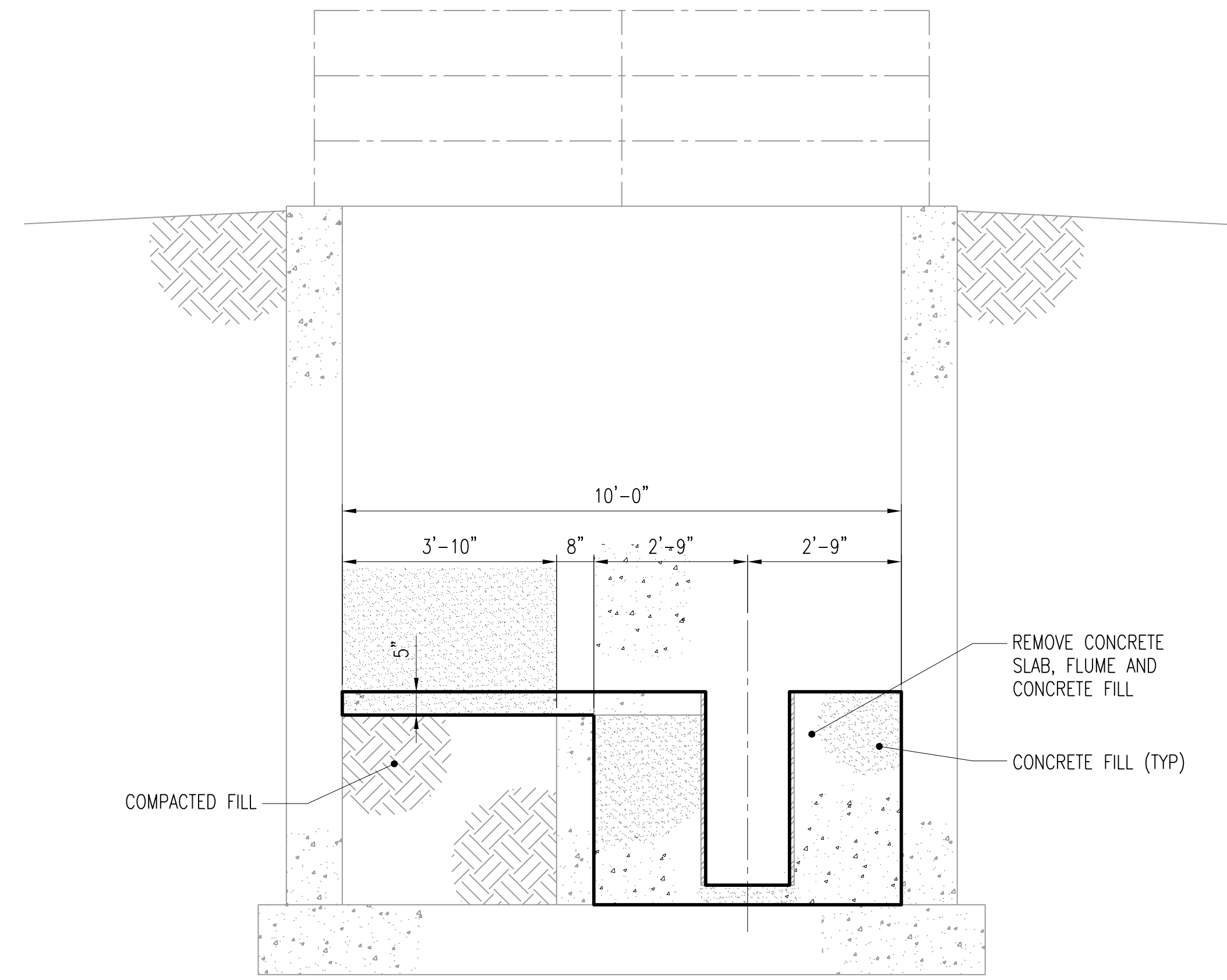
1 2 3 4 5 6 7 8 9 10 11 12

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE

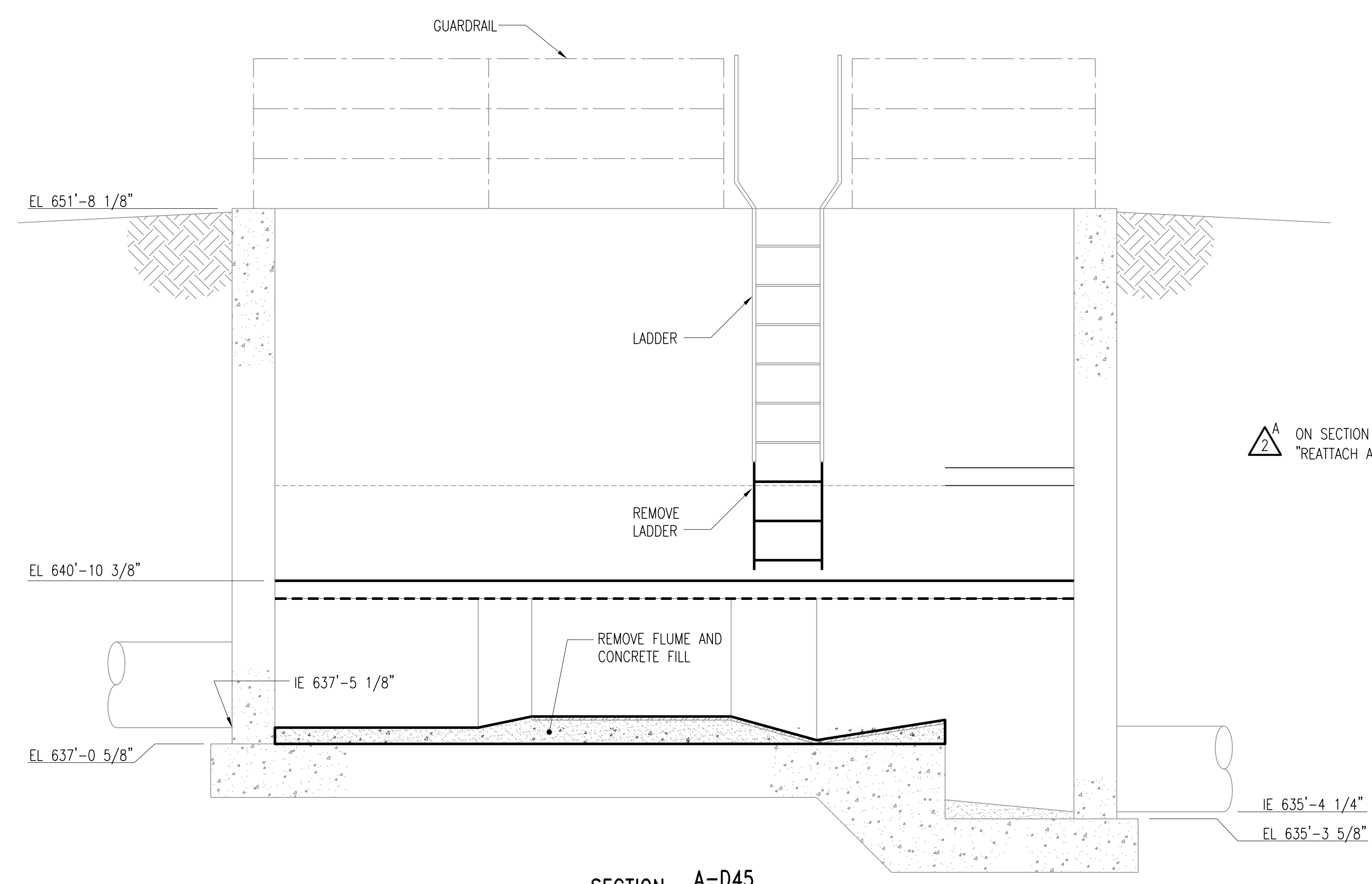
- NOTES:**
- FOR STRUCTURE LOCATION SEE DRAWING C12.
 - SEE DRAWING C32 FOR CONTINUATION OF SITE PIPING.



RETURN FLOW MEASUREMENT STRUCTURE PLAN
SCALE: 1/2" = 1'-0"

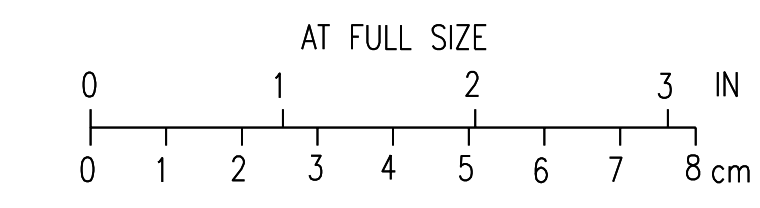


SECTION B-D45
SCALE: 1/2" = 1'-0"




SECTION A-D45
SCALE: 1/2" = 1'-0"

ON SECTION A-D45, ADD FOLLOWING NOTE NEXT TO LADDER TO READ:
"REATTACH AND STABILIZE REMAINING LADDER."



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
1	ISSUED FOR CONSTRUCTION	AMR	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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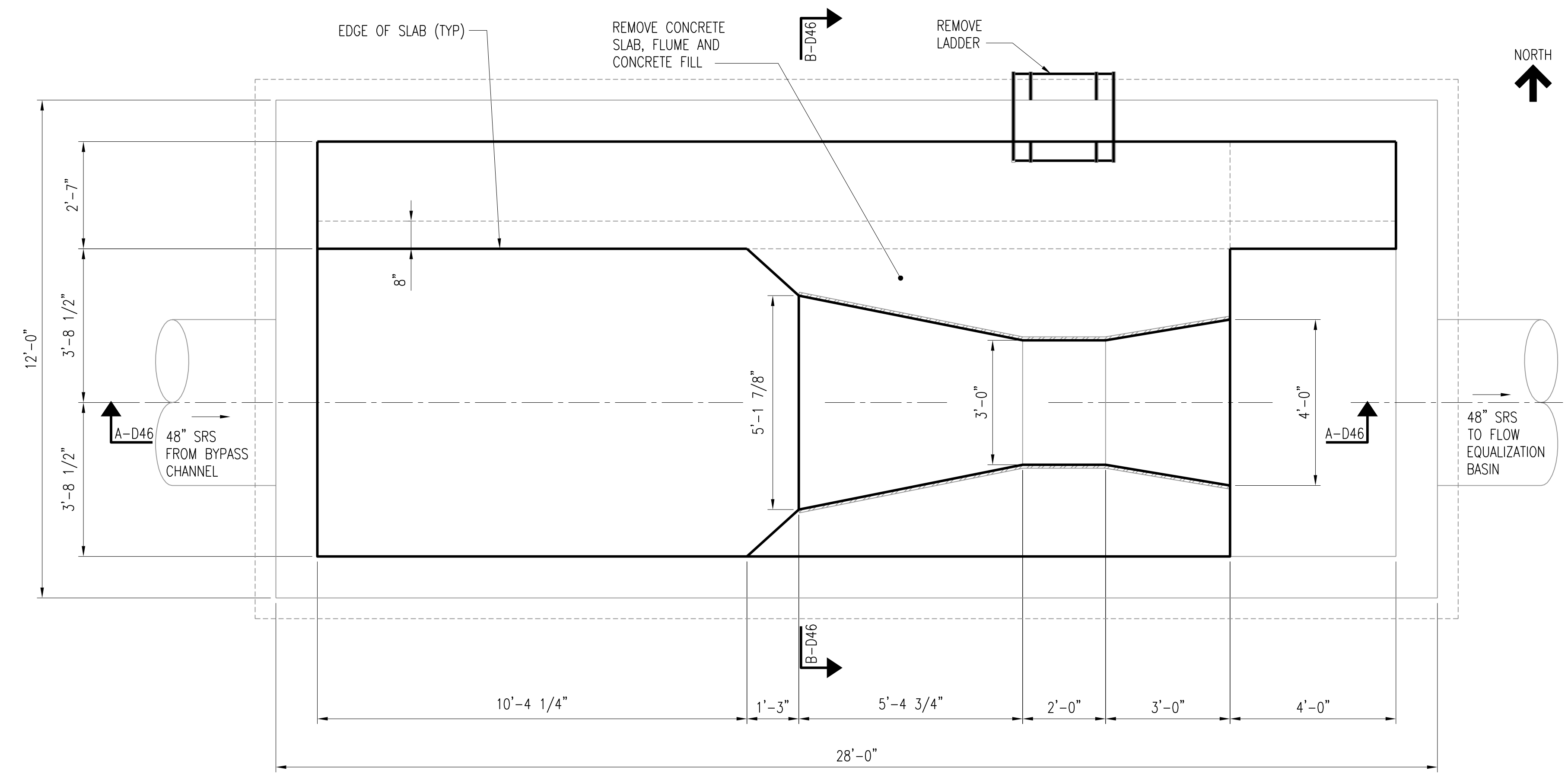
**SITE DEMOLITION
RETURN FLOW MEASUREMENT STRUCTURE
DEMOLITION DETAILS**

DESIGNED AM ROMERO	SCALE: AS NOTED
DRAWN GA GOOS	NO. 22800
CHECKED CL BARK	REV.
APPROVED BD REISCHAUER	D45
APPROVED	3
DATE DECEMBER 2, 2011	

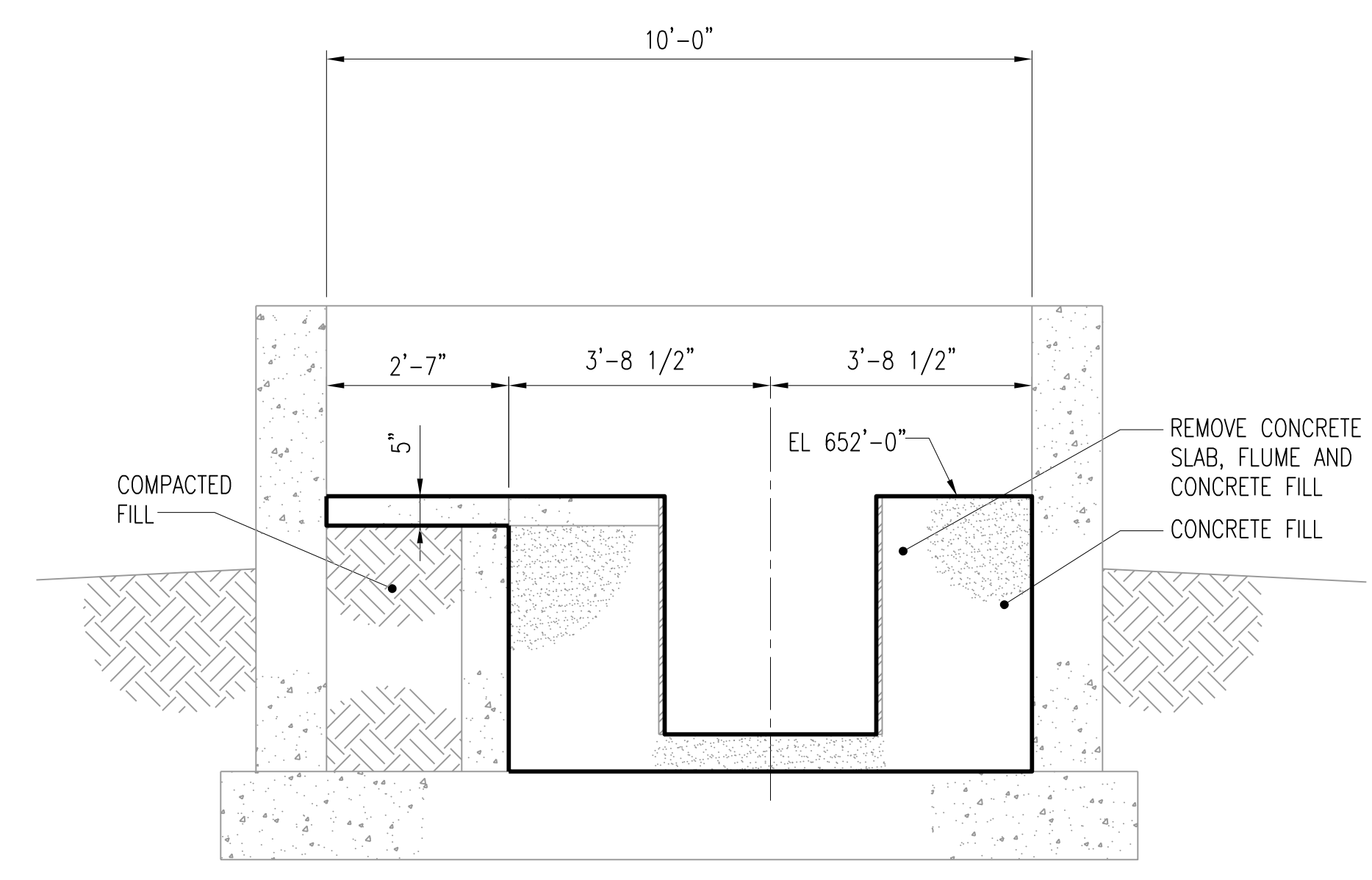
CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE

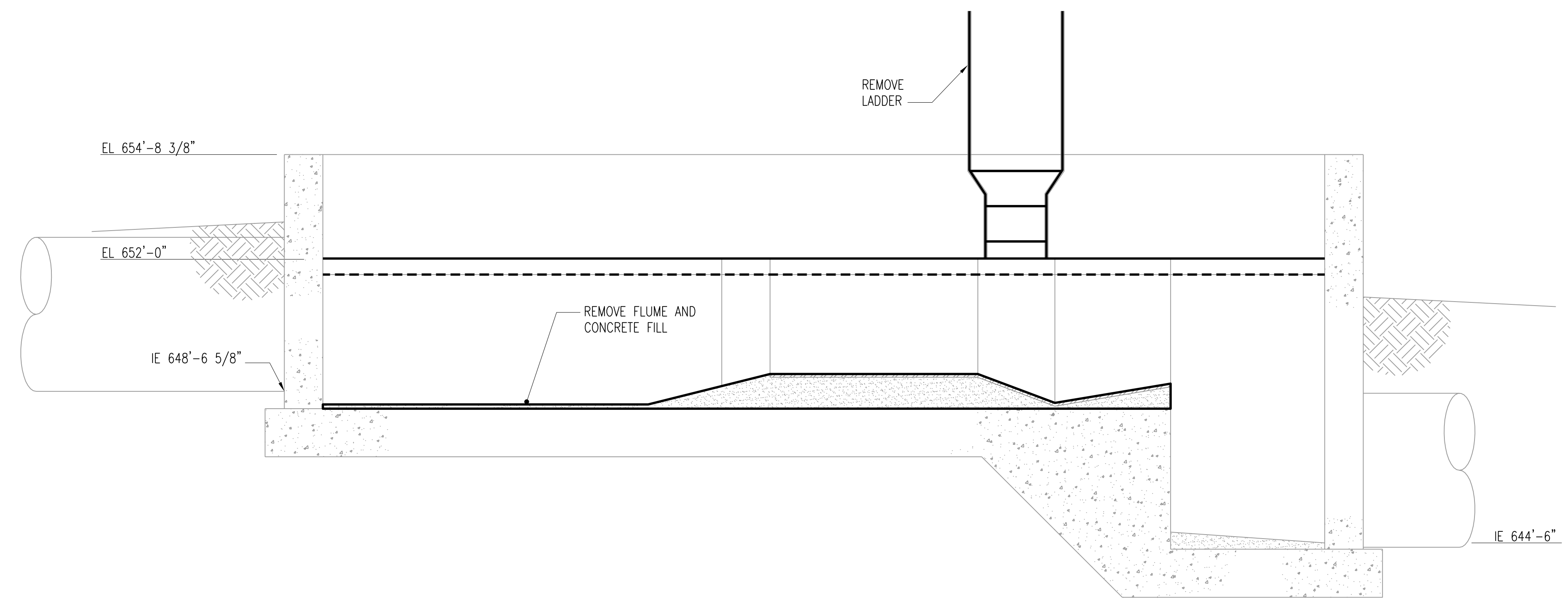
- NOTES:**
1. FOR STRUCTURE LOCATION SEE DRAWING C12.
 2. SEE DRAWING C32 FOR CONTINUATION OF SITE PIPING.
 3. EXISTING GRADE ELEVATION VARIES AROUND STRUCTURE.



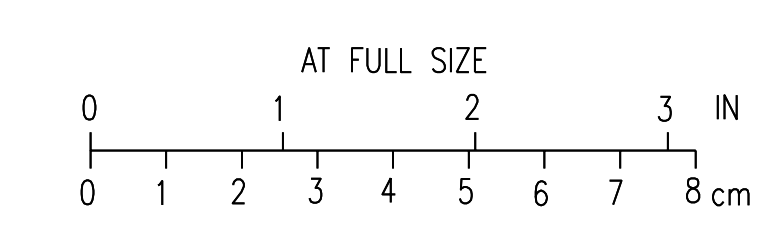
BYPASS FLOW MEASUREMENT STRUCTURE PLAN
SCALE: 1/2" = 1'-0"



SECTION B-D46
SCALE: 1/2" = 1'-0"



SECTION A-D46
SCALE: 1/2" = 1'-0"



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	AMR	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

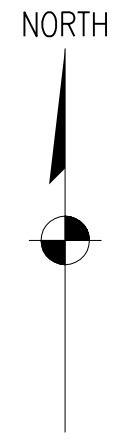
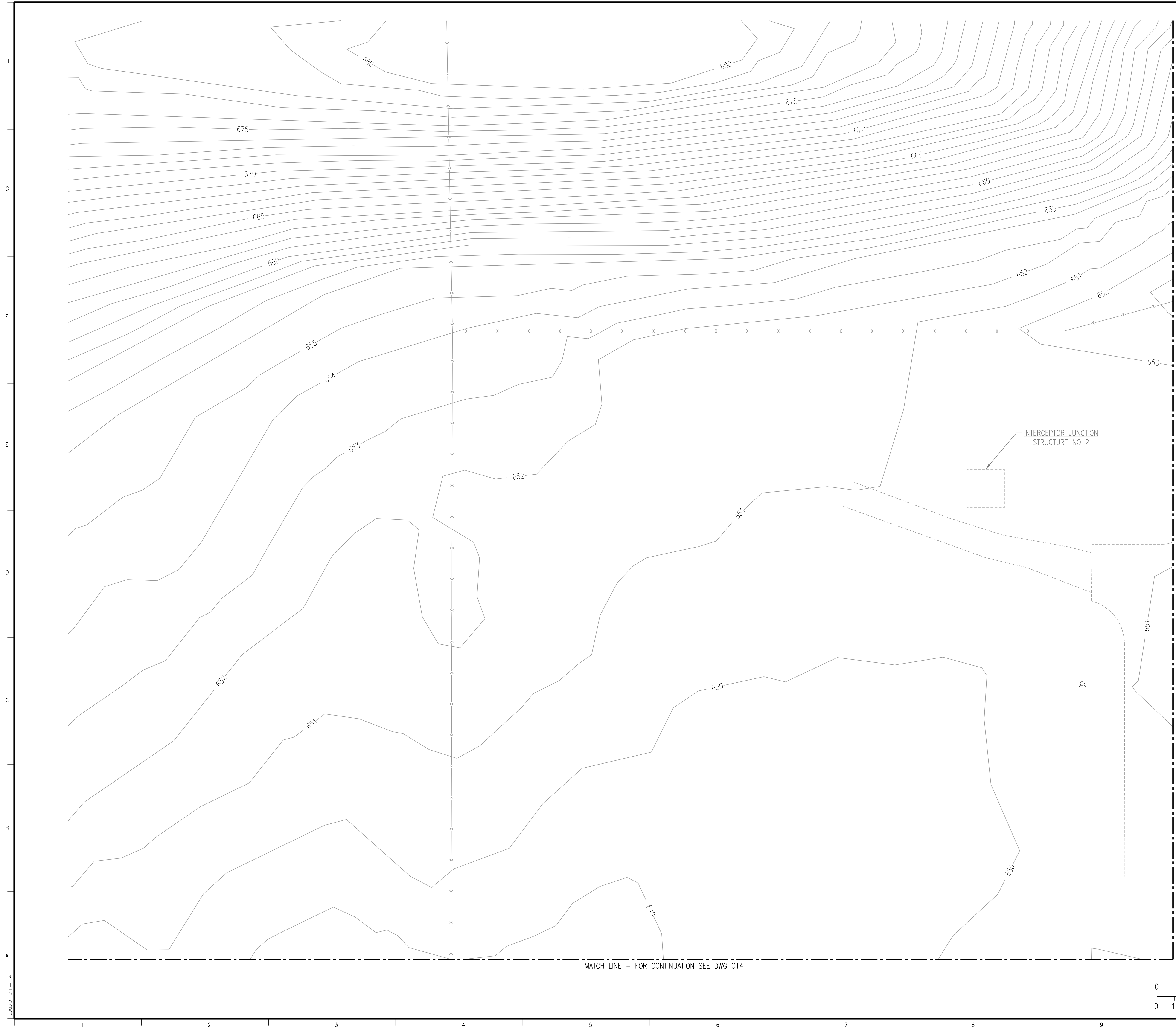
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**SITE DEMOLITION
BYPASS FLOW MEASUREMENT STRUCTURE
DEMOLITION DETAILS**

DESIGNED	AM ROMERO	SCALE:	AS NOTED
DRAWN	GA GOOS	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER	D46	2
APPROVED			
DATE	DECEMBER 2, 2011		

CADD: D1-R4



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
2. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
3. ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
4. ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
5. CONSTRUCT 2' WIDE MOWING STRIP ADJACENT TO ALL NEW STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 6" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DWG C3.
6. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
7. MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
8. CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.

NOTE:
 THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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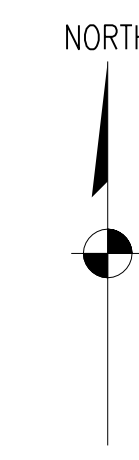
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE
 GRADING AND DIMENSION PLAN
 SHEET 1**

DESIGNED	AM MURILLO	SCALE:	1" = 20'
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
2. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
3. ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
4. ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
5. CONSTRUCT 2' WIDE MOWING STRIP ADJACENT TO ALL NEW STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 6" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DWG C3.
6. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
7. MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
8. CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.
9. SEE DWG D41 FOR FLOW EQUALIZATION BASIN DEMOLITION PLAN.
10. SEE DWG C26 FOR FLOW EQUALIZATION BASIN PAVING DETAILS.

SEE RFI #68 SHEET C12-A

SEE RFI #67 SHEET C12-A

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED PER ADDENDUM NO. 2	AMM	DET	BDR	03-06-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

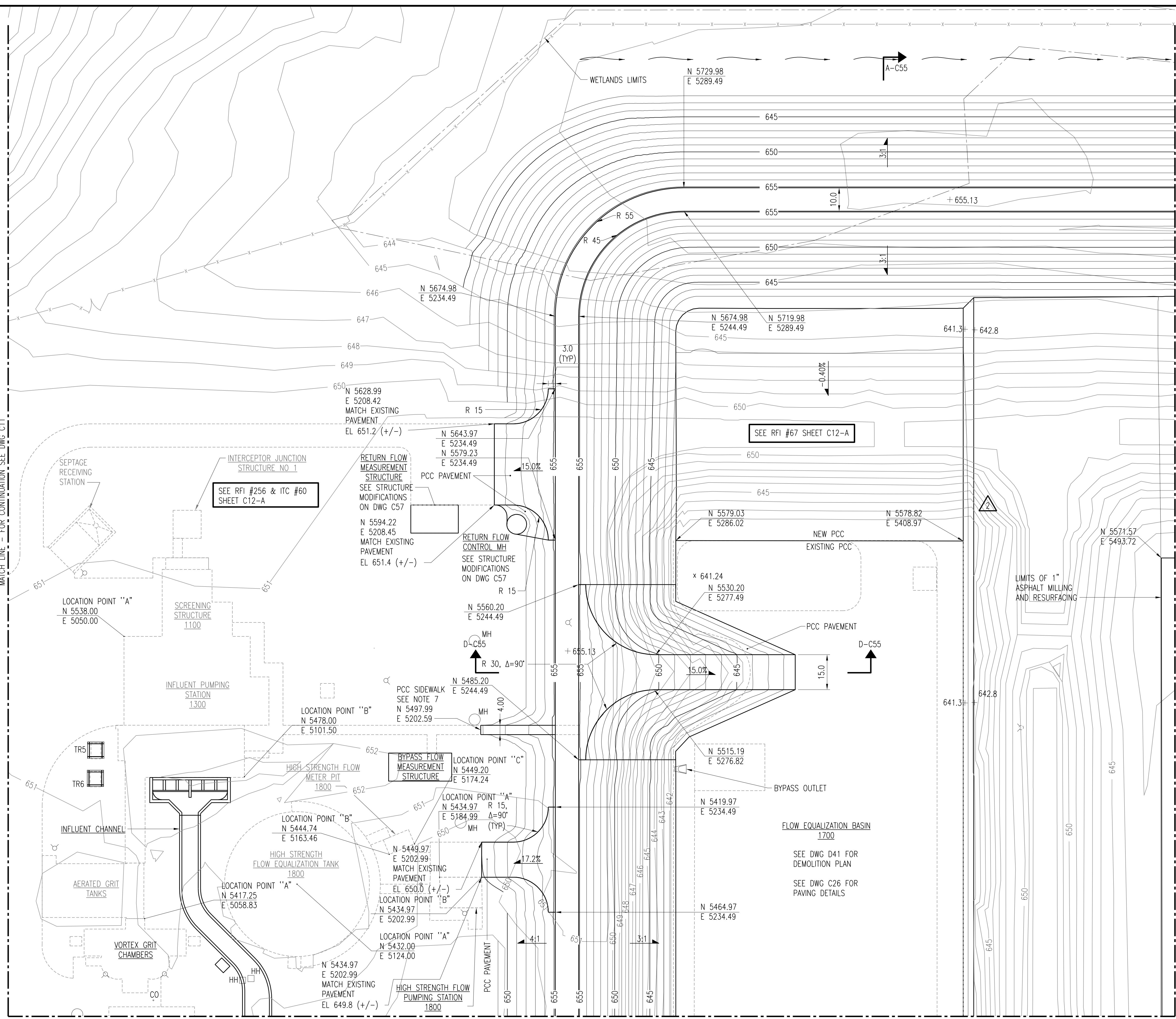


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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE GRADING AND DIMENSION PLAN
SHEET 2**

DESIGNED	AM MURILLO	SCALE:	1" = 20'
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BD REISCHAUER		
DATE	DECEMBER 2, 2011		



MATCH LINE - FOR CONTINUATION SEE DWG C11

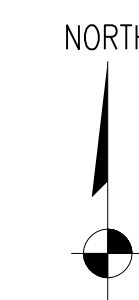
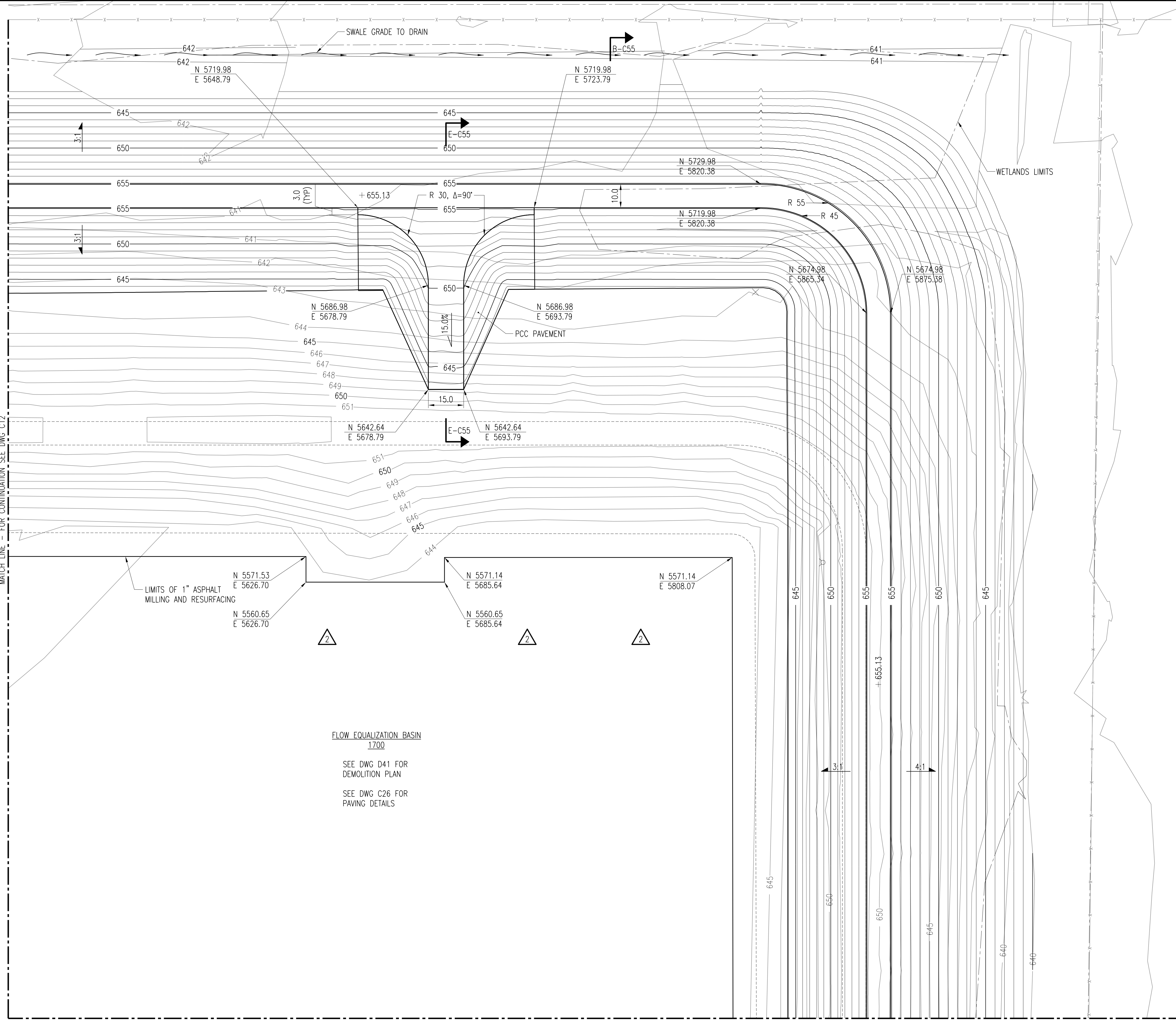
MATCH LINE - FOR CONTINUATION SEE DWG C13

MATCH LINE - FOR CONTINUATION SEE DWG C15

A-C55

CADD: D1-1R4

1 2 3 4 5 6 7 8 9 10 11 12



- NOTES:**
1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
 2. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
 3. ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
 4. ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
 5. CONSTRUCT 2' WIDE MOWING STRIP ADJACENT TO ALL NEW STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 6" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DWG C3.
 6. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
 7. MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
 8. CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.
 9. SEE DRAWING D41 FOR FLOW EQUALIZATION BASIN DEMOLITION PLAN.
 10. SEE DRAWING C26 FOR FLOW EQUALIZATION BASIN PAVING DETAILS.

SEE RFI #68 SHEET C13-A

△ 3 BOTTOM OF BASIN SHALL SLOPE DOWN AT 0.25% TO THE WEST.

NOTE:
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FLOW EQUALIZATION BASIN
1700
SEE DWG D41 FOR
DEMOLITION PLAN
SEE DWG C26 FOR
PAVING DETAILS

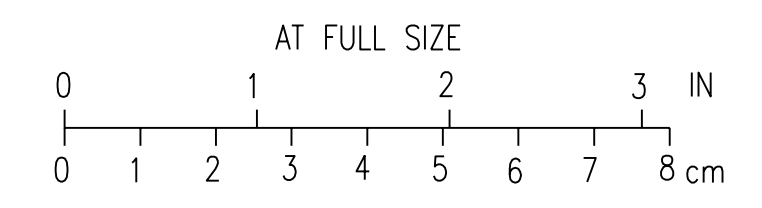
4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	REVISED PER ADDENDUM NO. 2	AMM	DET	BDR	03-06-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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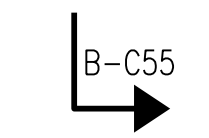
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE
SITE GRADING AND DIMENSION PLAN
SHEET 3**

DESIGNED	AM MURILLO	SCALE: 1" = 20'
DRAWN	NS JOHNSON	NO. 22800
CHECKED	DE TRIPP	REV.
APPROVED	BD REISCHAUER	C13
APPROVED		4
DATE	DECEMBER 2, 2011	



MATCH LINE - FOR CONTINUATION SEE DWG C16



MATCH LINE - FOR CONTINUATION SEE DWG C12

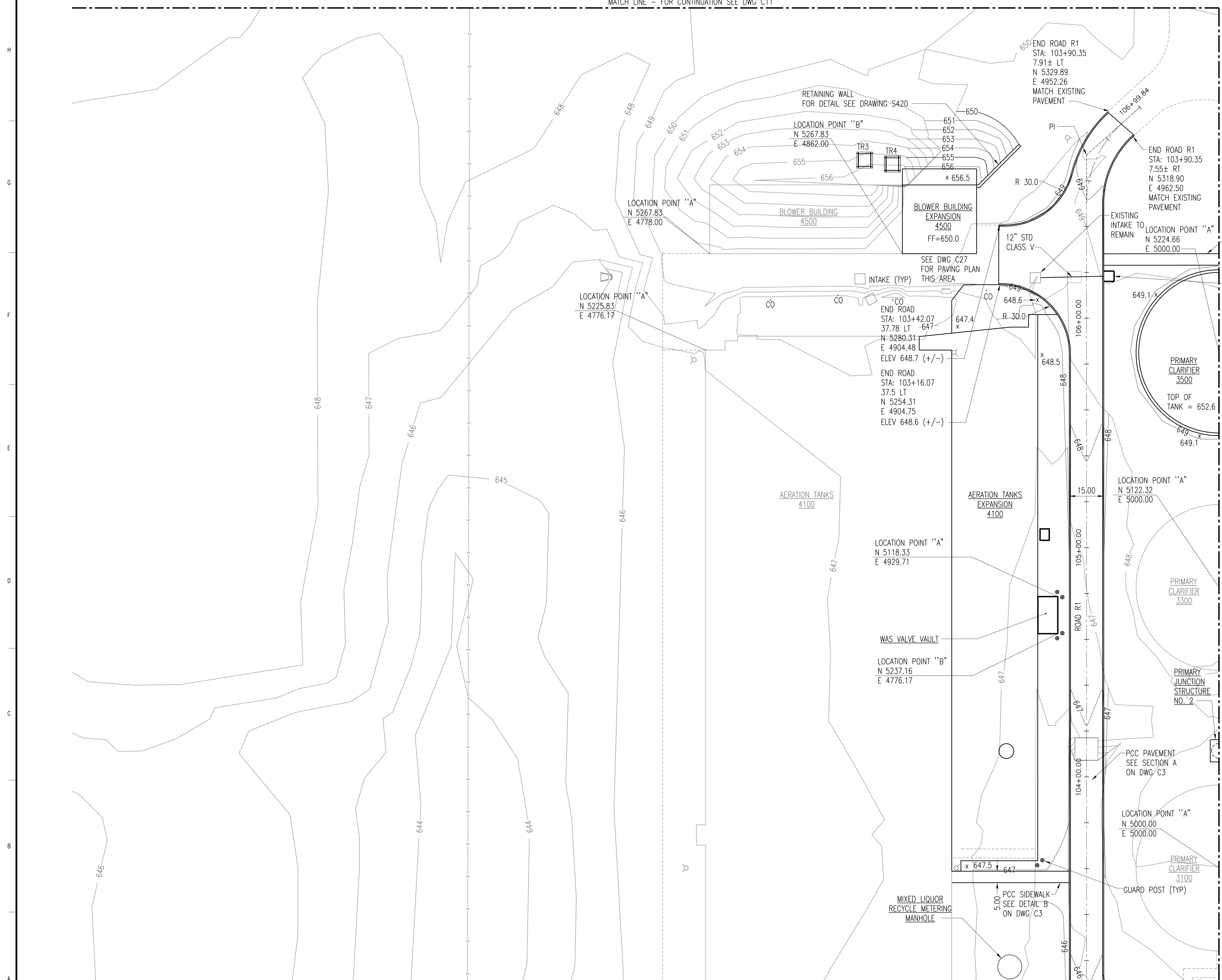
CADD: D1-1-R4

MATCH LINE - FOR CONTINUATION SEE DWG C11

NORTH

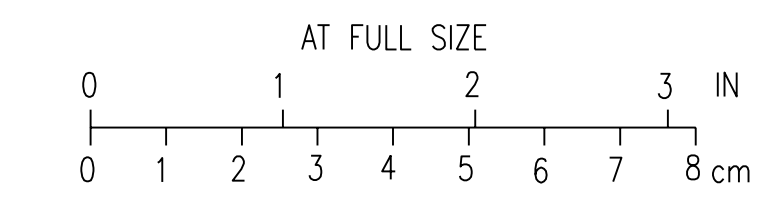
NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
2. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
3. ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
4. ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
5. CONSTRUCT 2' WIDE MOWING STRIP ADJACENT TO ALL NEW STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 6" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DWG C3.
6. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
7. MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
8. CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.



MATCH LINE - FOR CONTINUATION SEE DWG C17

NOTE:
 THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	AMM	DET	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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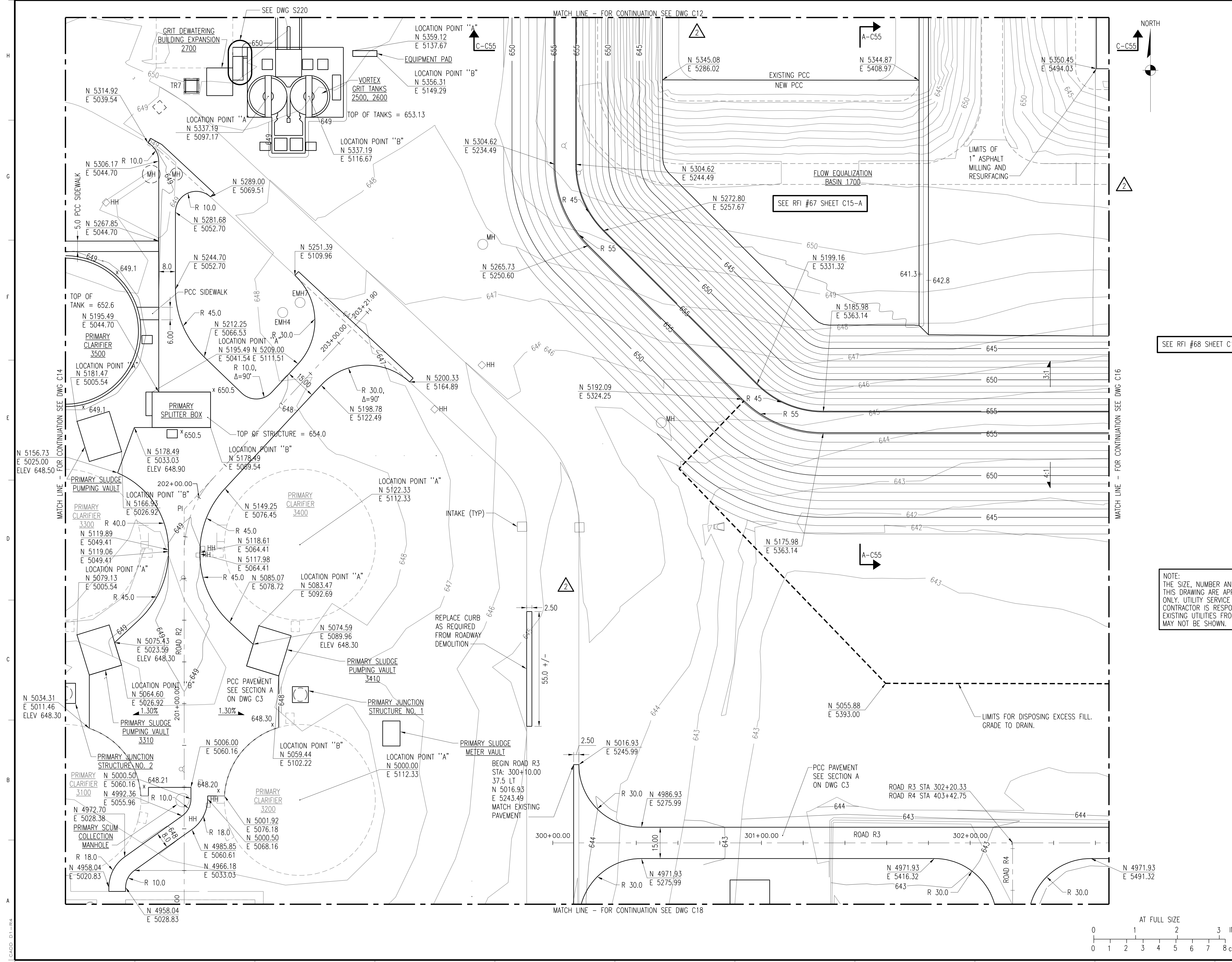
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE GRADING AND DIMENSION PLAN
 SHEET 4**

DESIGNED	AM MURILLO	SCALE:	1" = 20'
DRAWN	NS JOHNSON	NO.	
CHECKED	DE TRIPP	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		

C14 3

CADD: D1-PR4



- NOTES:**
1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
 2. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
 3. ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
 4. ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
 5. CONSTRUCT 2' WIDE MOWING STRIP ADJACENT TO ALL NEW STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 6" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DWG C3.
 6. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
 7. MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
 8. CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.
 9. SEE DWG D41 FOR FLOW EQUALIZATION BASIN DEMOLITION PLAN.
 10. SEE DWG D26 FOR FLOW EQUALIZATION BASIN PAVING DETAILS.
 11. SEE DWG C27 FOR ROAD R2 PAVING DETAILS.
 12. SEE DWG C28 FOR ROAD R3 PAVING DETAILS.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ADDENDUM NO. 2	AMM	DET	BDR	03-06-2012
2	GENERAL	AMM	DET	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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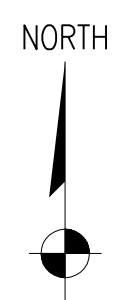
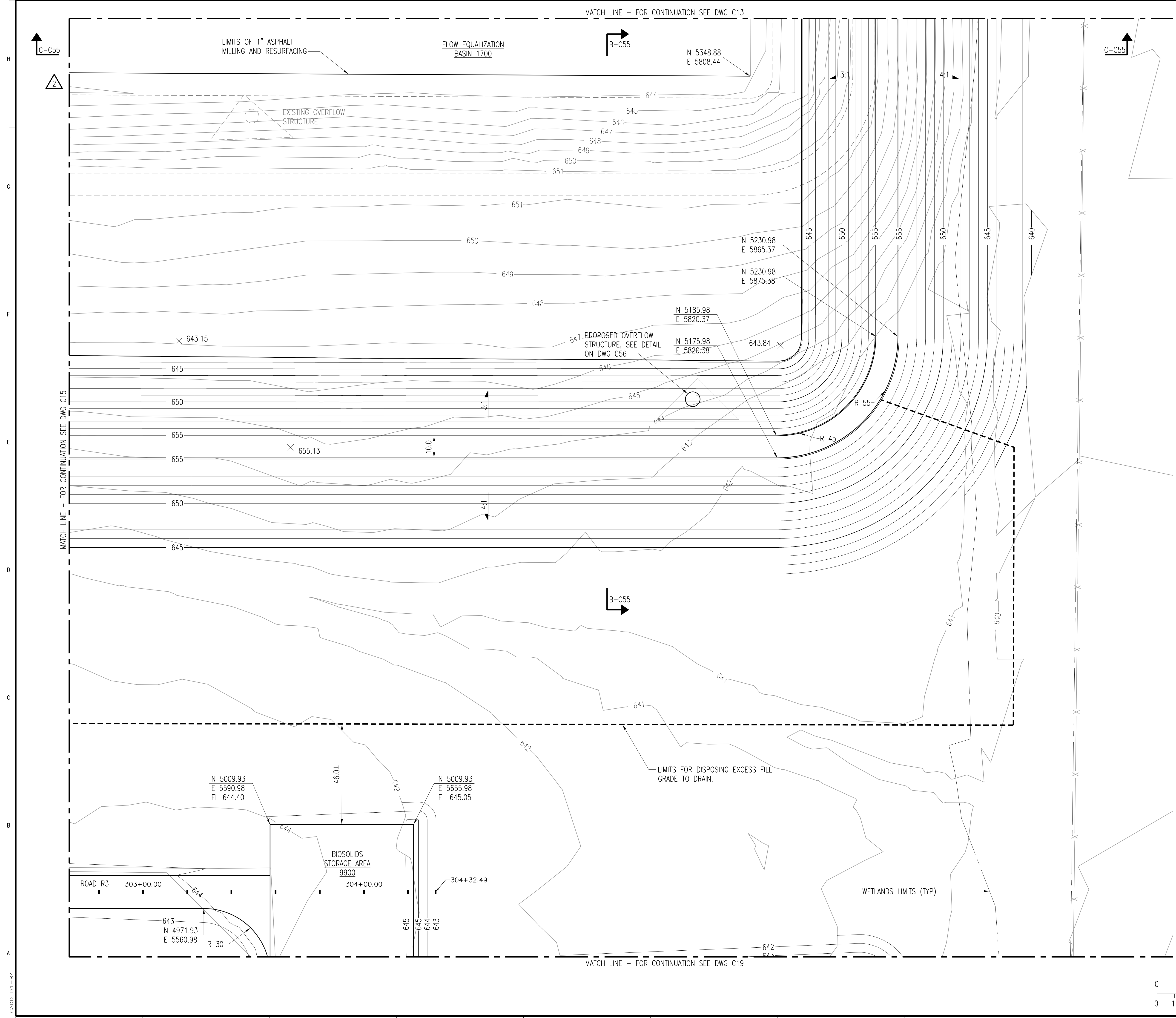
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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

SITE GRADING AND DIMENSION PLAN
SHEET 5

DESIGNED	AM MURILLO	SCALE:	1" = 20'
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BD REISCHAUER		
DATE	DECEMBER 2, 2011	C15	4



- NOTES:**
1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
 2. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
 3. ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
 4. ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
 5. STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 6" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DWG C3.
 6. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
 7. MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
 8. CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.
 9. SEE DWG D41 FOR FLOW EQUALIZATION BASIN DEMOLITION PLAN.
 10. SEE DWG C26 FOR FLOW EQUALIZATION BASIN PAVING DETAILS.
 11. SEE DWG C28 FOR ROAD R3 AND BIOSOLIDS STORAGE AREA PAVING DETAILS.

SEE RFI #68 SHEET C16-A

3 BOTTOM OF BASIN SHALL SLOPE DOWN AT 0.25% TO THE WEST.

NOTE:
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4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	REVISED PER ADDENDUM NO. 2	AMM	DET	BDR	03-06-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DGSN	CHKD	APVD	DATE

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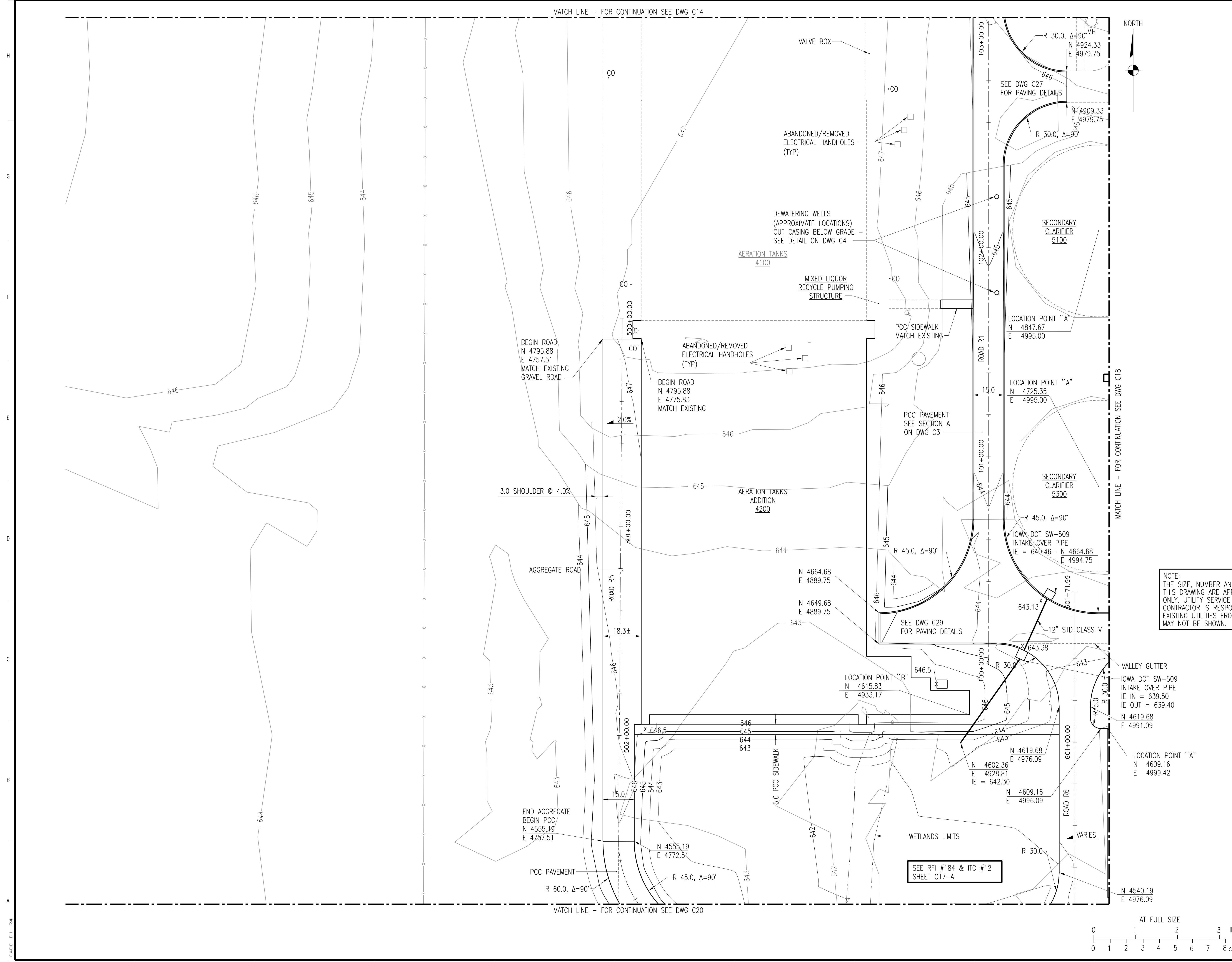
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE GRADING AND DIMENSION PLAN
SHEET 6**

DESIGNED	AM MURILLO	SCALE:	1" = 20'
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4



- NOTES:**
1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
 2. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
 3. ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
 4. ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
 5. CONSTRUCT 2' WIDE MOWING STRIP ADJACENT TO ALL NEW STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 6" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DRAWING C3.
 6. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
 7. MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
 8. CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.

NOTE:
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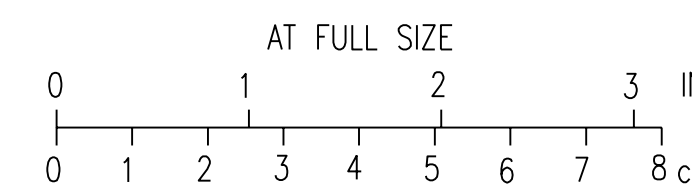
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	AMM	DET	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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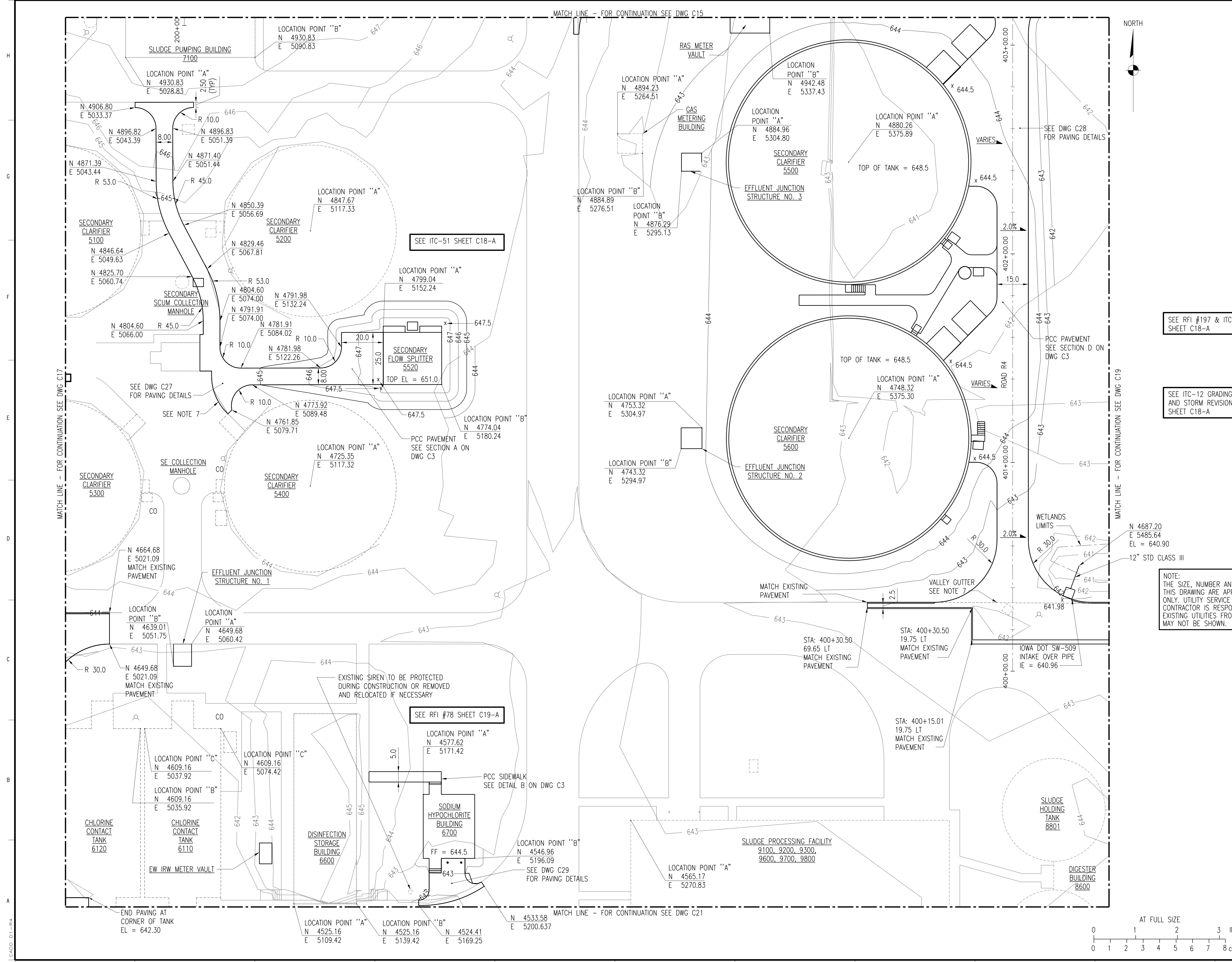
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE GRADING AND DIMENSION PLAN
 SHEET 7**

DESIGNED	AM MURILLO	SCALE:	1" = 20'
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BO REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4



- NOTES:**
- ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
 - ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
 - ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
 - ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
 - CONSTRUCT 2' WIDE MOWING STRIP ADJACENT TO ALL NEW STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 5" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DRAWING C3.
 - REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
 - MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
 - CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.

SEE RFI #197 & ITC-50 SHEET C18-A

SEE ITC-12 GRADING AND STORM REVISIONS SHEET C18-A

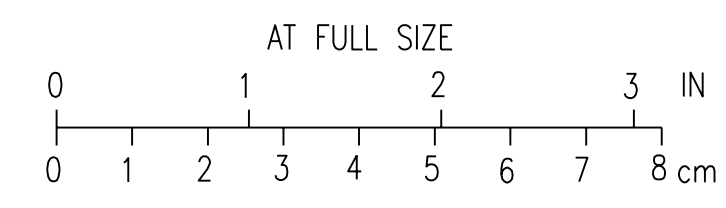
NOTE:
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3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	AMM	DET	BDP	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDP	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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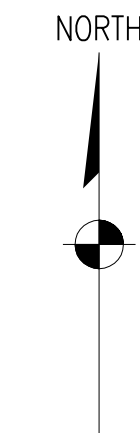
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
SITE GRADING AND DIMENSION PLAN
SHEET 8

DESIGNED	AM MURILLO	SCALE:	1" = 20'
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-104

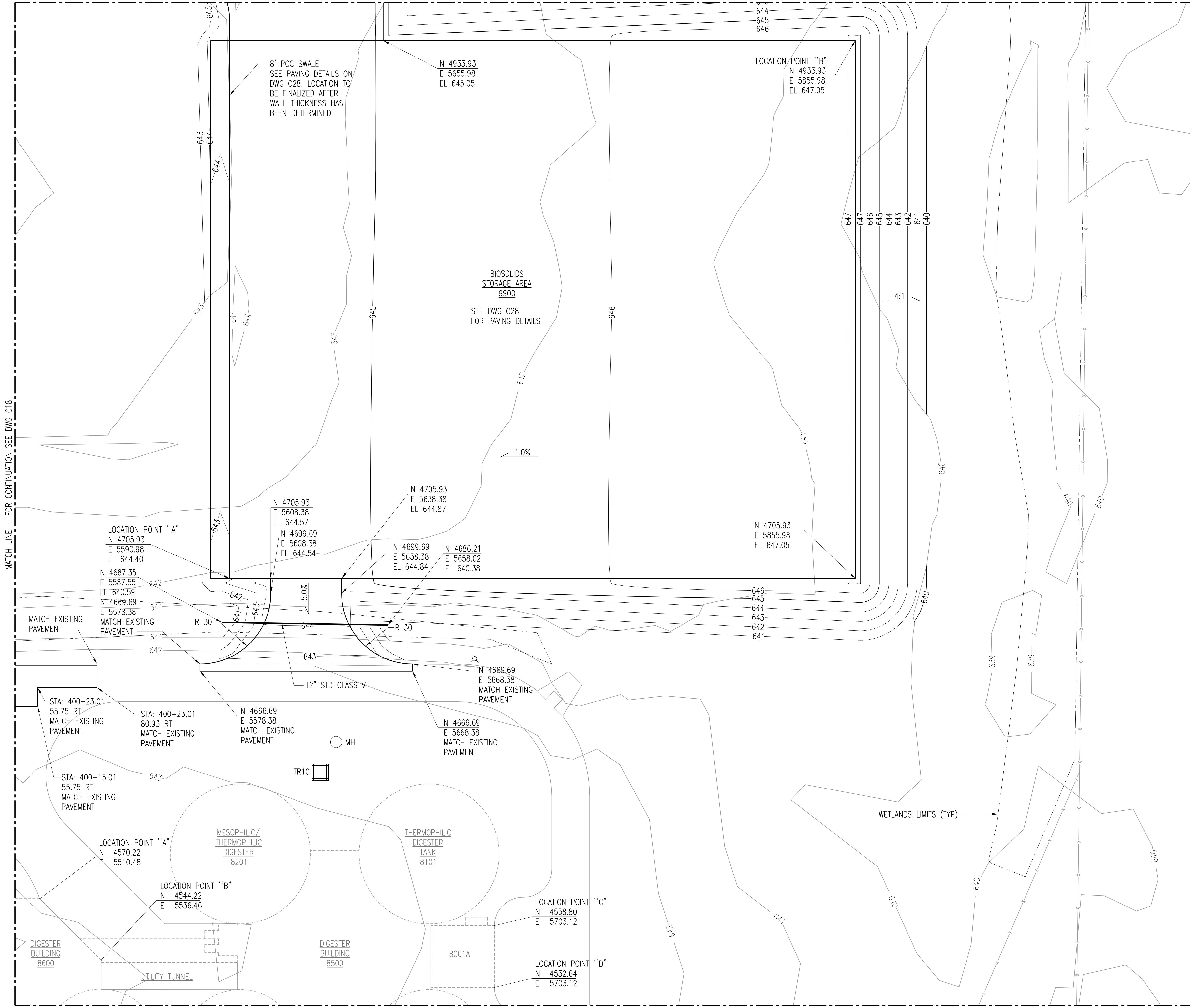
MATCH LINE - FOR CONTINUATION SEE DWG C16



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
2. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
3. ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
4. ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
5. CONSTRUCT 2' WIDE MOWING STRIP ADJACENT TO ALL NEW STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 5" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DRAWING C3.
6. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
7. MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
8. CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.

MATCH LINE - FOR CONTINUATION SEE DWG C18



NOTE:
 THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

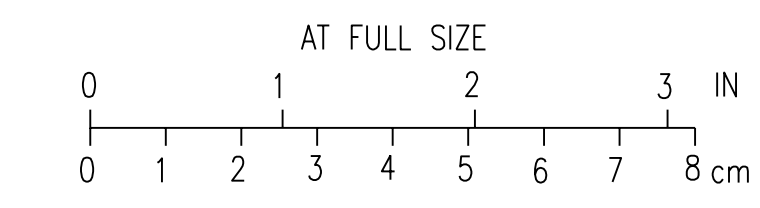
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1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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 www.stanleyconsultants.com

CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

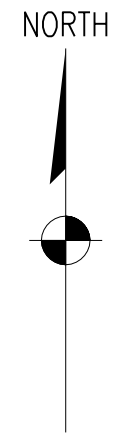
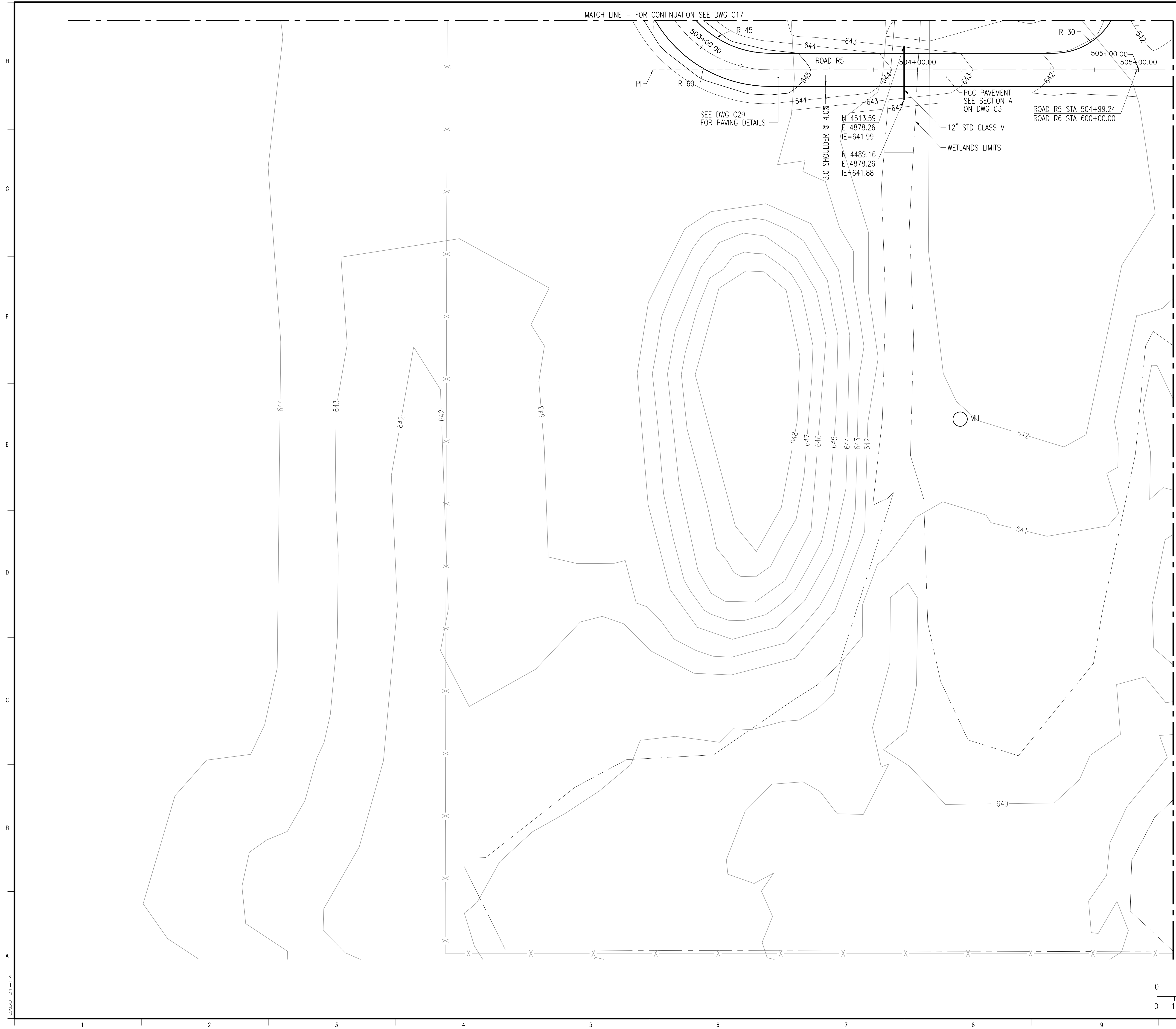
**SITE
 GRADING AND DIMENSION PLAN
 SHEET 9**

DESIGNED	AM MURILLO	SCALE: 1" = 20'
DRAWN	NS JOHNSON	NO. 22800
CHECKED	DE TRIPP	REV.
APPROVED	BD REISCHAUER	C19
APPROVED		2
DATE	DECEMBER 2, 2011	



MATCH LINE - FOR CONTINUATION SEE DWG C22

CADD: D1-R4



- NOTES:**
1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
 2. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
 3. ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
 4. ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
 5. CONSTRUCT 2' WIDE MOWING STRIP ADJACENT TO ALL NEW STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 5" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DRAWING C3.
 6. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
 7. MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
 8. CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.

SEE RFI #184 SHEET C20-A

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	AMM	DET	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

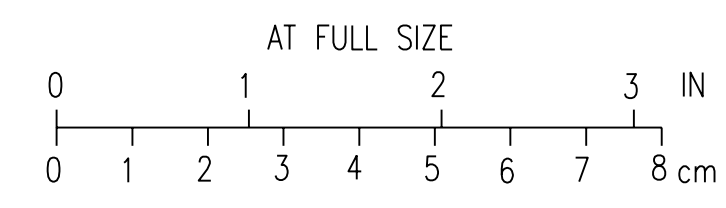


CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

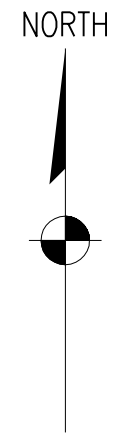
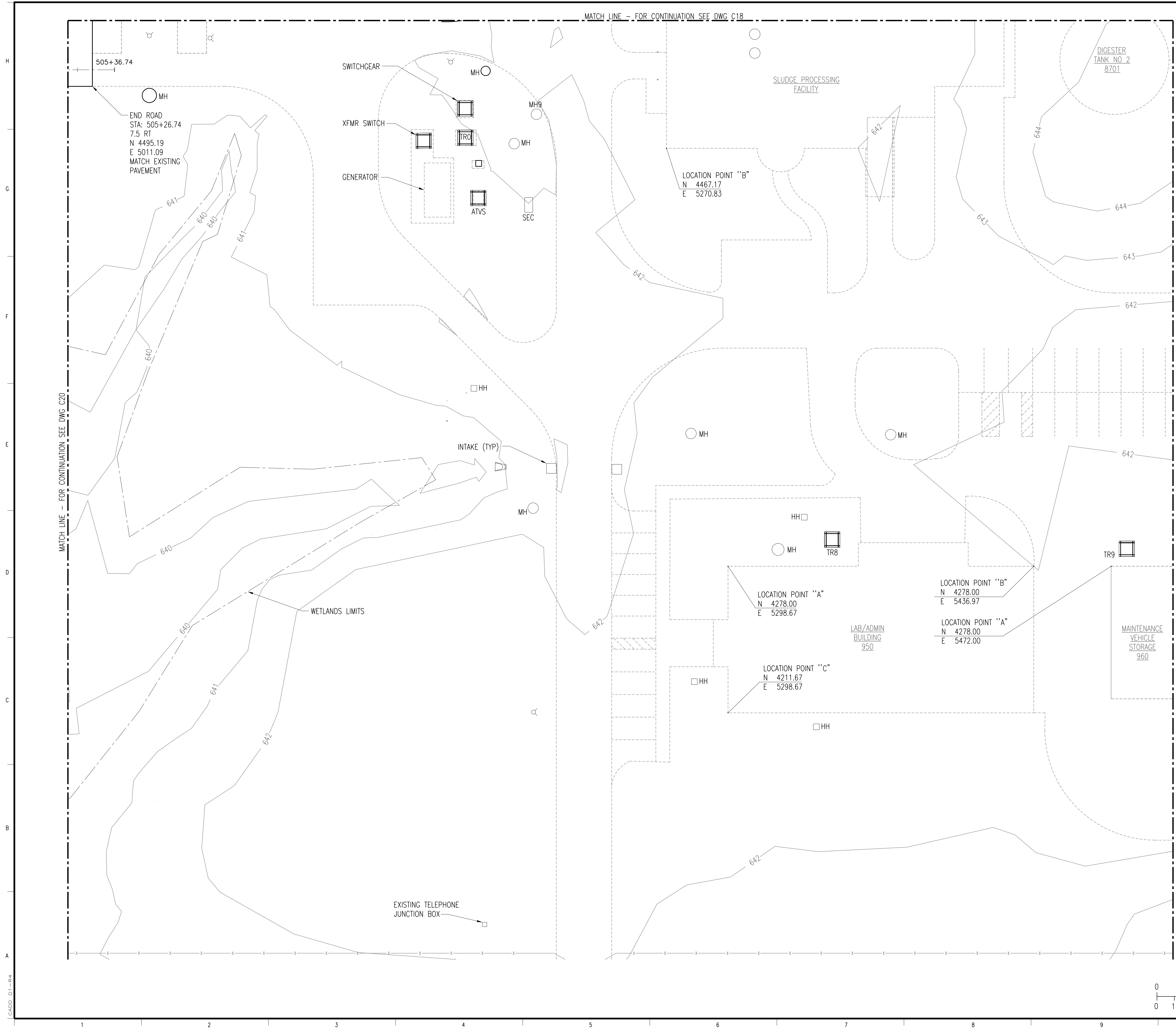
**SITE
SITE GRADING AND DIMENSION PLAN
SHEET 10**

DESIGNED AM MURILLO
DRAWN NS JOHNSON
CHECKED DE TRIPP
APPROVED BO REISCHAUER
DATE DECEMBER 2, 2011

SCALE: 1" = 20'
NO. C20
REV. 3



CADD: D1-184



- NOTES:**
1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
 2. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
 3. ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
 4. ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
 5. CONSTRUCT 2' WIDE MOWING STRIP ADJACENT TO ALL NEW STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 5" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DRAWING C3.
 6. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
 7. MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
 8. CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.

NOTE:
 THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

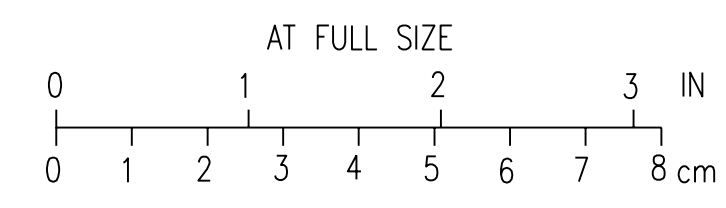
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1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

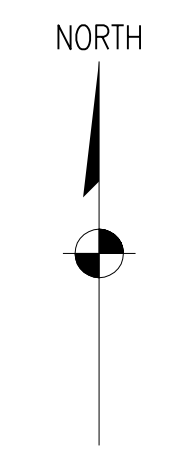
**SITE
 GRADING AND DIMENSION PLAN
 SHEET 11**

DESIGNED	AM MURILLO	SCALE:	1" = 20'
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-P4

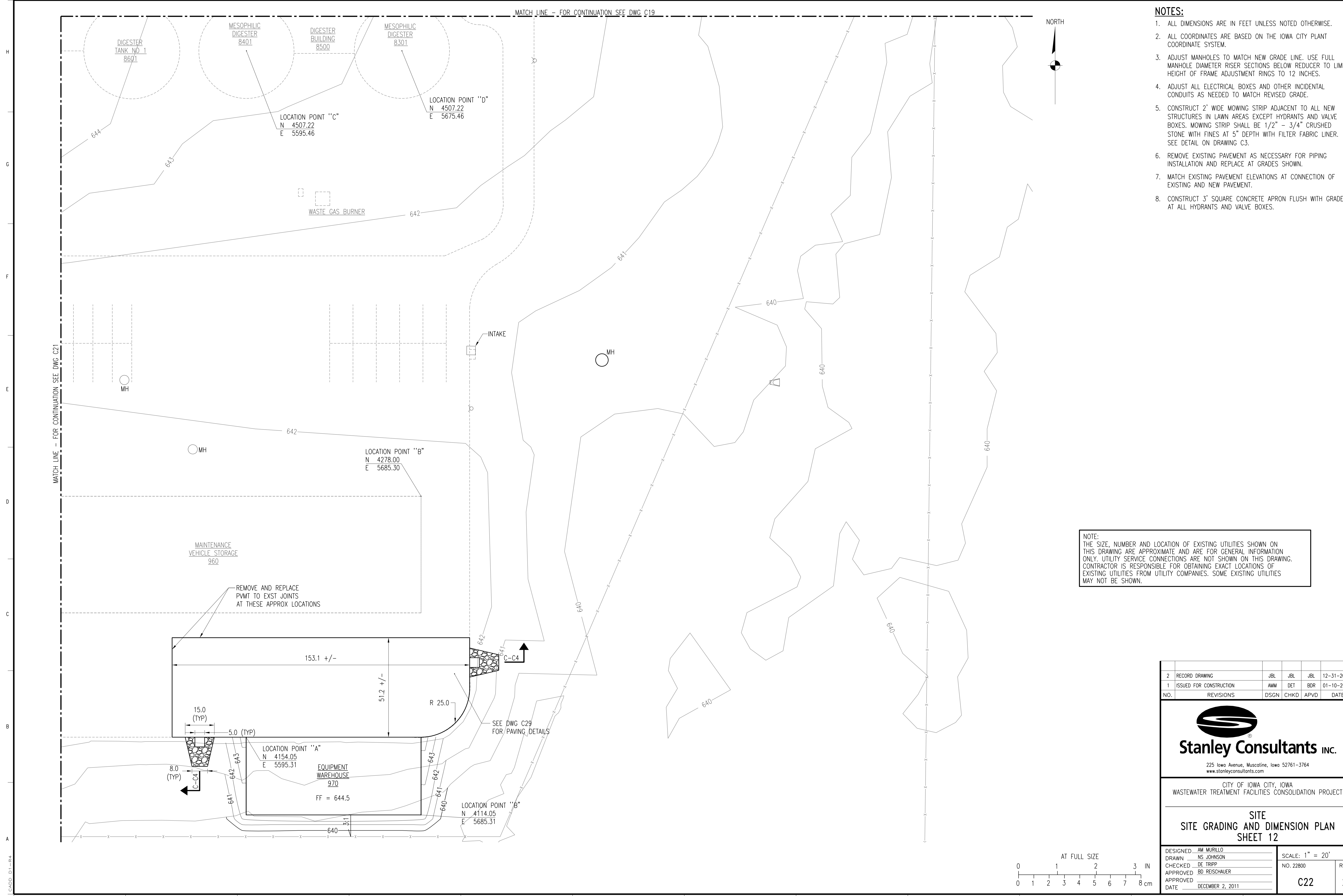
MATCH LINE - FOR CONTINUATION SEE DWG C19



NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.
2. ALL COORDINATES ARE BASED ON THE IOWA CITY PLANT COORDINATE SYSTEM.
3. ADJUST MANHOLES TO MATCH NEW GRADE LINE. USE FULL MANHOLE DIAMETER RISER SECTIONS BELOW REDUCER TO LIMIT HEIGHT OF FRAME ADJUSTMENT RINGS TO 12 INCHES.
4. ADJUST ALL ELECTRICAL BOXES AND OTHER INCIDENTAL CONDUITS AS NEEDED TO MATCH REVISED GRADE.
5. CONSTRUCT 2' WIDE MOWING STRIP ADJACENT TO ALL NEW STRUCTURES IN LAWN AREAS EXCEPT HYDRANTS AND VALVE BOXES. MOWING STRIP SHALL BE 1/2" - 3/4" CRUSHED STONE WITH FINES AT 5" DEPTH WITH FILTER FABRIC LINER. SEE DETAIL ON DRAWING C3.
6. REMOVE EXISTING PAVEMENT AS NECESSARY FOR PIPING INSTALLATION AND REPLACE AT GRADES SHOWN.
7. MATCH EXISTING PAVEMENT ELEVATIONS AT CONNECTION OF EXISTING AND NEW PAVEMENT.
8. CONSTRUCT 3' SQUARE CONCRETE APRON FLUSH WITH GRADE AT ALL HYDRANTS AND VALVE BOXES.

MATCH LINE - FOR CONTINUATION SEE DWG C21



NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

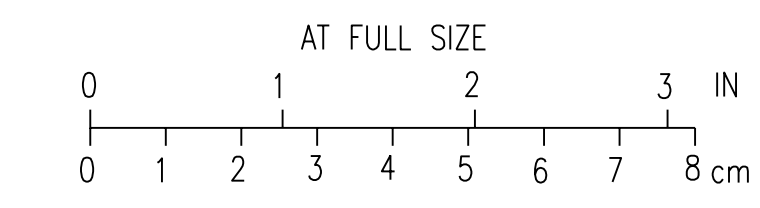
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1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE GRADING AND DIMENSION PLAN
SHEET 12**

DESIGNED	AM MURILLO	SCALE:	1" = 20'
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BD REISCHAUER		
APPROVED		C22	2
DATE	DECEMBER 2, 2011		



CADD: D1-R4

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.

ROAD R1

TYPE	NORTHING	EASTING	STATION	DELTA	R	T	L	E
POT	4639.68	4942.25	100+00.00					
PC	5289.63	4942.25	106+49.95					
PI	5310.84	4942.25	106+71.16	48°07'15" R	47.50	21.21	39.89	4.52
PT	5325.00	4958.04	106+89.84					
POT	5331.67	4965.49	106+99.84					

ROAD R2

TYPE	NORTHING	EASTING	STATION	DELTA	R	T	L	E
POT	4946.16	5056.91	200+00.00					
PC	5118.61	5056.91	201+72.45					
PI	5139.25	5056.91	201+93.08	42°54'42" R	52.50	20.63	39.32	3.91
PT	5154.36	5070.95	202+11.77					
POT	5235.02	5145.94	203+21.90					

ROAD R3

TYPE	NORTHING	EASTING	STATION	DELTA	R	T	L	E
POT	4979.43	5233.49	300+00.00					
POT	4979.43	5665.98	304+32.49					

ROAD R4

TYPE	NORTHING	EASTING	STATION	DELTA	R	T	L	E
POT	4636.68	5453.82	400+00.00					
POT	4979.43	5453.82	403+42.75					

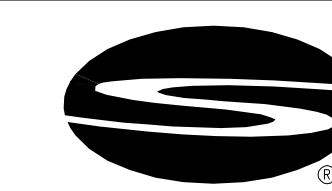
ROAD R5

TYPE	NORTHING	EASTING	STATION	DELTA	R	T	L	E
POT	4805.88	4766.75	500+00.00					
PC	4555.19	4765.01	502+50.70					
PI	4502.69	4764.65	503+03.20	90°00'00" L	52.50	52.50	82.47	22.00
PT	4502.69	4817.51	503+33.16					
POT	4502.69	5021.09	505+36.74					

ROAD R6

TYPE	NORTHING	EASTING	STATION	DELTA	R	T	L	E
POT	4502.69	4983.59	600+00.00					
POT	4674.68	4983.59	601+71.99					

1	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
0	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



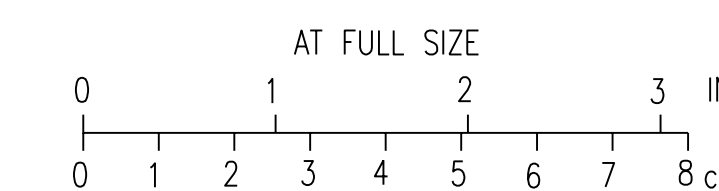
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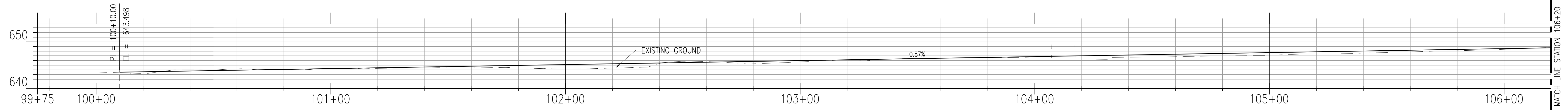
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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE
ROAD ALIGNMENT TABLES**

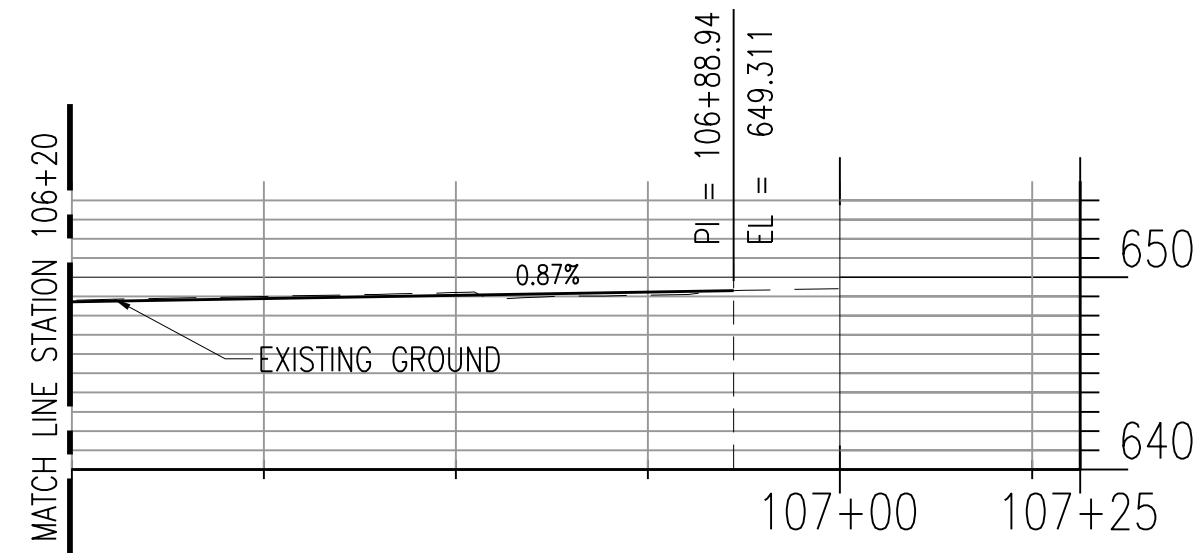
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DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BO REISCHAUER	C23	1
APPROVED			
DATE	JANUARY 10, 2012		





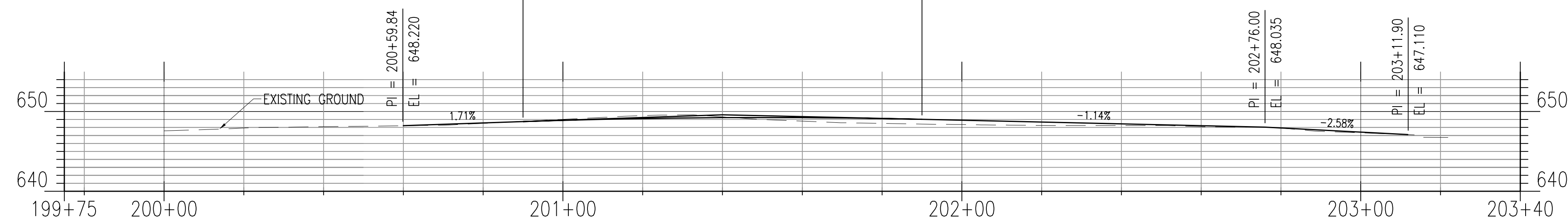
ROAD R1 PROFILE

NOTES:
1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.



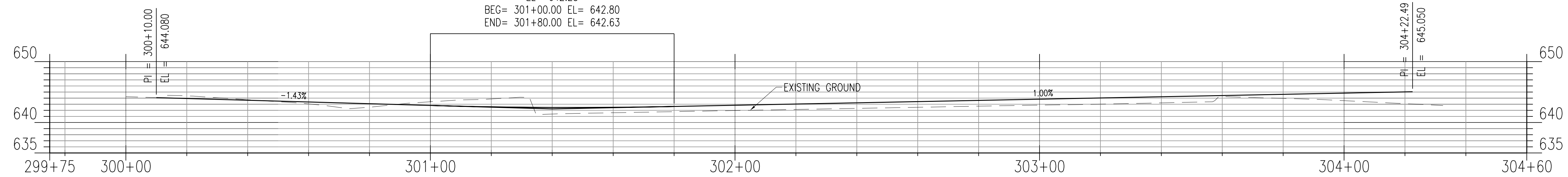
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PVI = 201+40.00
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EL = 649.59
BEG = 200+90.00 EL = 648.74
END = 201+90.00 EL = 649.02



ROAD R2 PROFILE

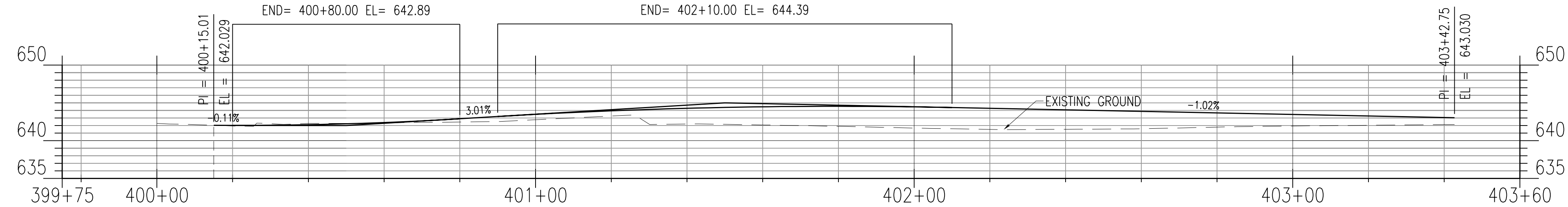
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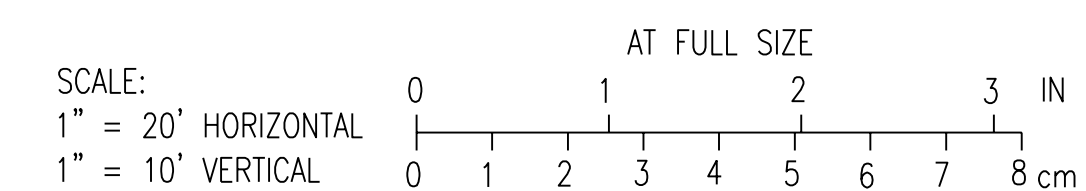
ROAD R3 PROFILE

L = 60.00
PVI = 400+50.00
K = 19.26
EL = 641.99
BEG = 400+20.00 EL = 642.02
END = 400+80.00 EL = 642.89

L = 120.00
PVI = 401+50.00
K = 29.77
EL = 645.00
BEG = 400+90.00 EL = 643.19
END = 402+10.00 EL = 644.39



ROAD R4 PROFILE



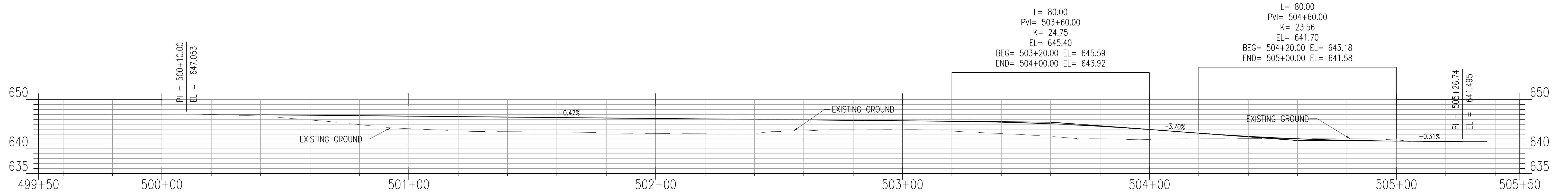
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0	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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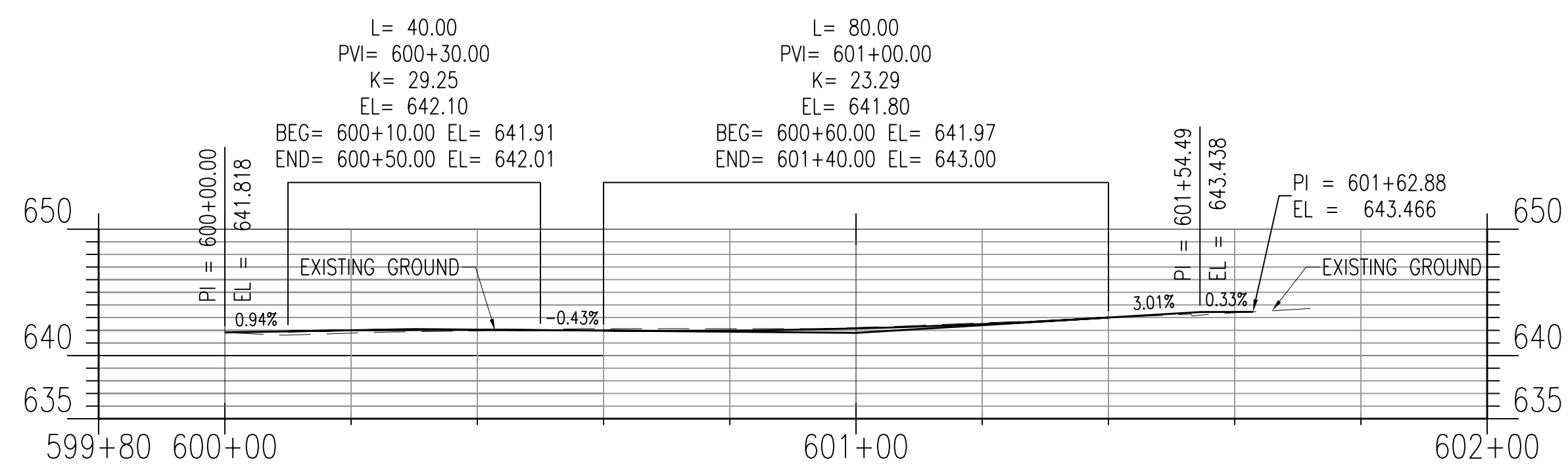
SITE
ROAD PROFILES - SHEET 1

DESIGNED	AM MURILLO	SCALE:	AS NOTED
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BO REISCHAUER	C24	1
DATE	JANUARY 10, 2012		

CADD: D1-R4



ROAD R5 PROFILE

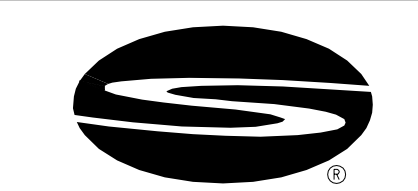


ROAD R6 PROFILE

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.

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0	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

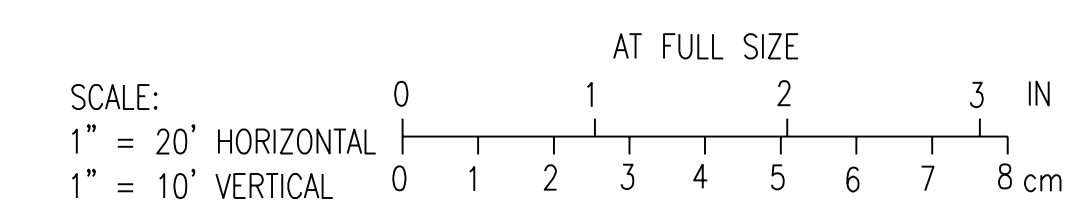


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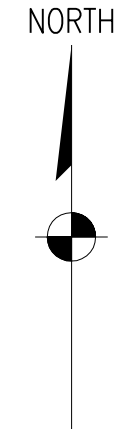
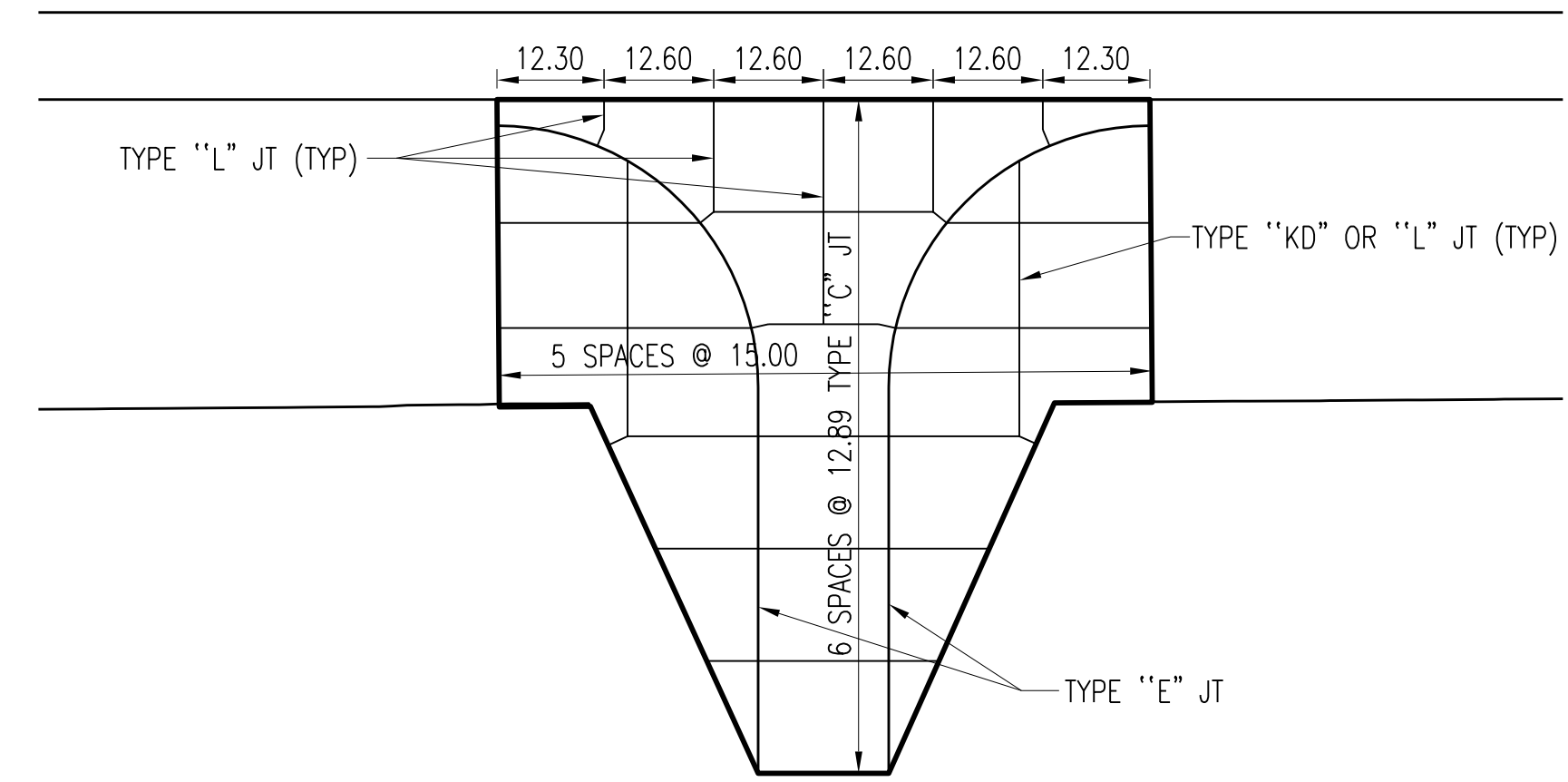
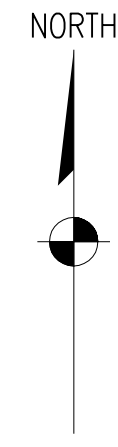
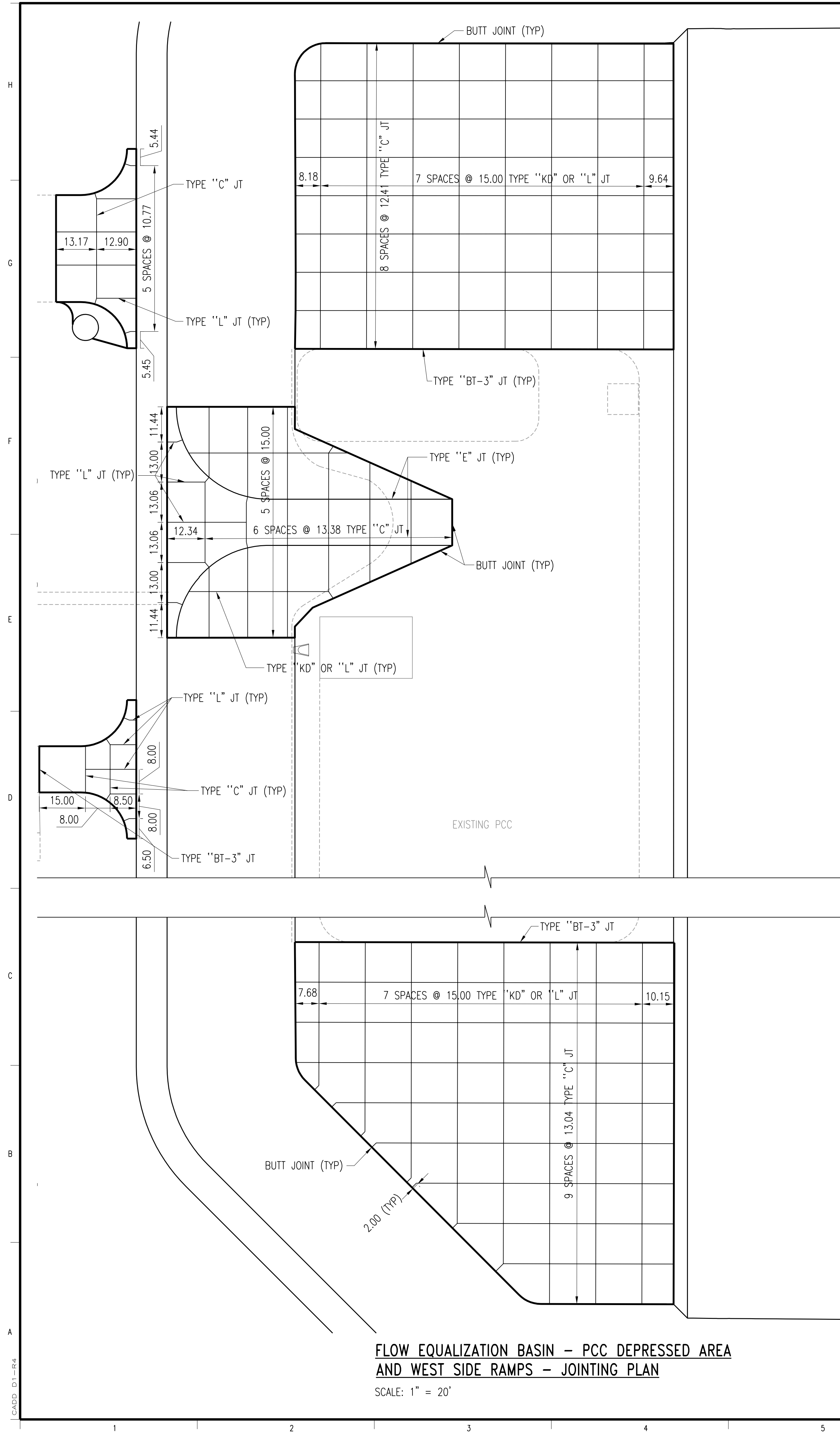
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE
ROAD PROFILES - SHEET 2**

DESIGNED	AM MURILLO	SCALE:	AS NOTED
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BO REISCHAUER	C25	1
APPROVED			
DATE	JANUARY 10, 2012		



CADD: D1-PR4



2	RECORD DRAWING	JBL	JBL	JBL	20-31-2014
1	GENERAL	AMM	DET	BDR	01-25-2012
0	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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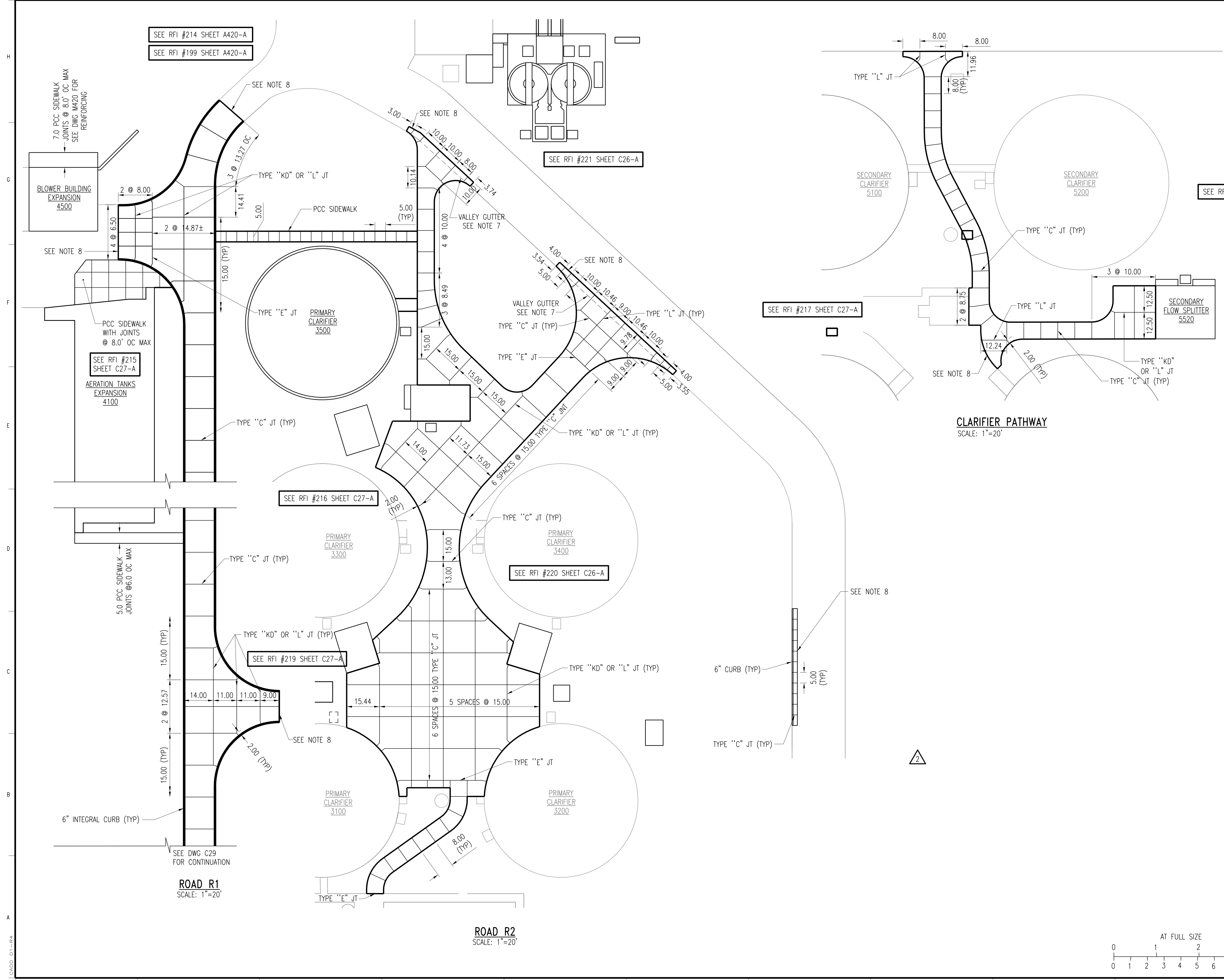
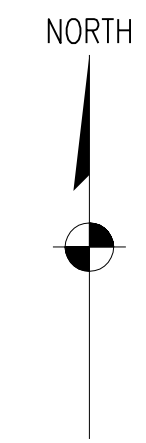
**SITE
PAVING DETAILS - SHEET 1**

DESIGNED	AM MURILLO
DRAWN	NS JOHNSON
CHECKED	DE TRIPP
APPROVED	BD REISCHAUER
APPROVED	
DATE	JANUARY 10, 2012

SCALE: 1" = 20'	NO. 22800	REV.
	C26	2



CADD: D1-1-R4



NOTES:

1. MAXIMUM JOINT SPACING: 15' (8" PAVEMENT).
2. LENGTH OF CONCRETE PANEL SHALL NOT EXCEED WIDTH BY MORE THAN 25%.
3. AVOID ACUTE ANGLES IN PANEL CORNERS (NOT LESS THAN 75°).
4. PROVIDE ISOLATION JOINT WHERE NEW CONCRETE ABUTS EXISTING CONCRETE, STRUCTURES, PIPES, POSTS, PIERS OR HYDRANTS; EXCEPT AT SAWCUTS (SEE NOTE 8).
5. SEE DWG C3 FOR DETAILS OF JOINT TYPES.
6. SAW CUT EXISTING PAVEMENT 2'-6" OUT FROM BACK OF CURB OR AT REMOVAL LOCATIONS SHOWN ON PLANS AND CAREFULLY REMOVE CONCRETE. NEW CURB SECTIONS TO MATCH EXISTING.
7. INSTALL VALLEY GUTTER TO CONTINUE DRAINAGE ALONG CURB LINE EXTENDED. SEE DETAIL DWG C.3.
8. PROVIDE TYPE BT-3 JOINTS FULL LENGTH OF SAWCUT.
9. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.

CLARIFIER PATHWAY
SCALE: 1"=20'

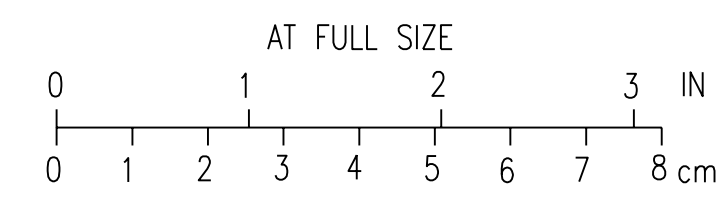
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2	GENERAL	AMM	DET	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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SITE PAVING DETAILS - SHEET 2

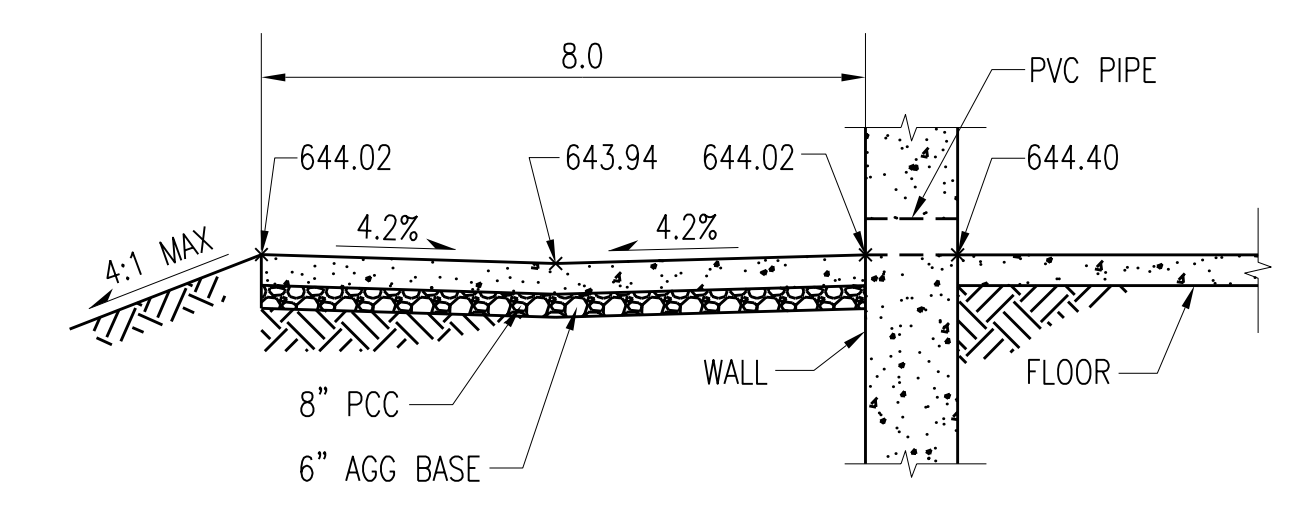
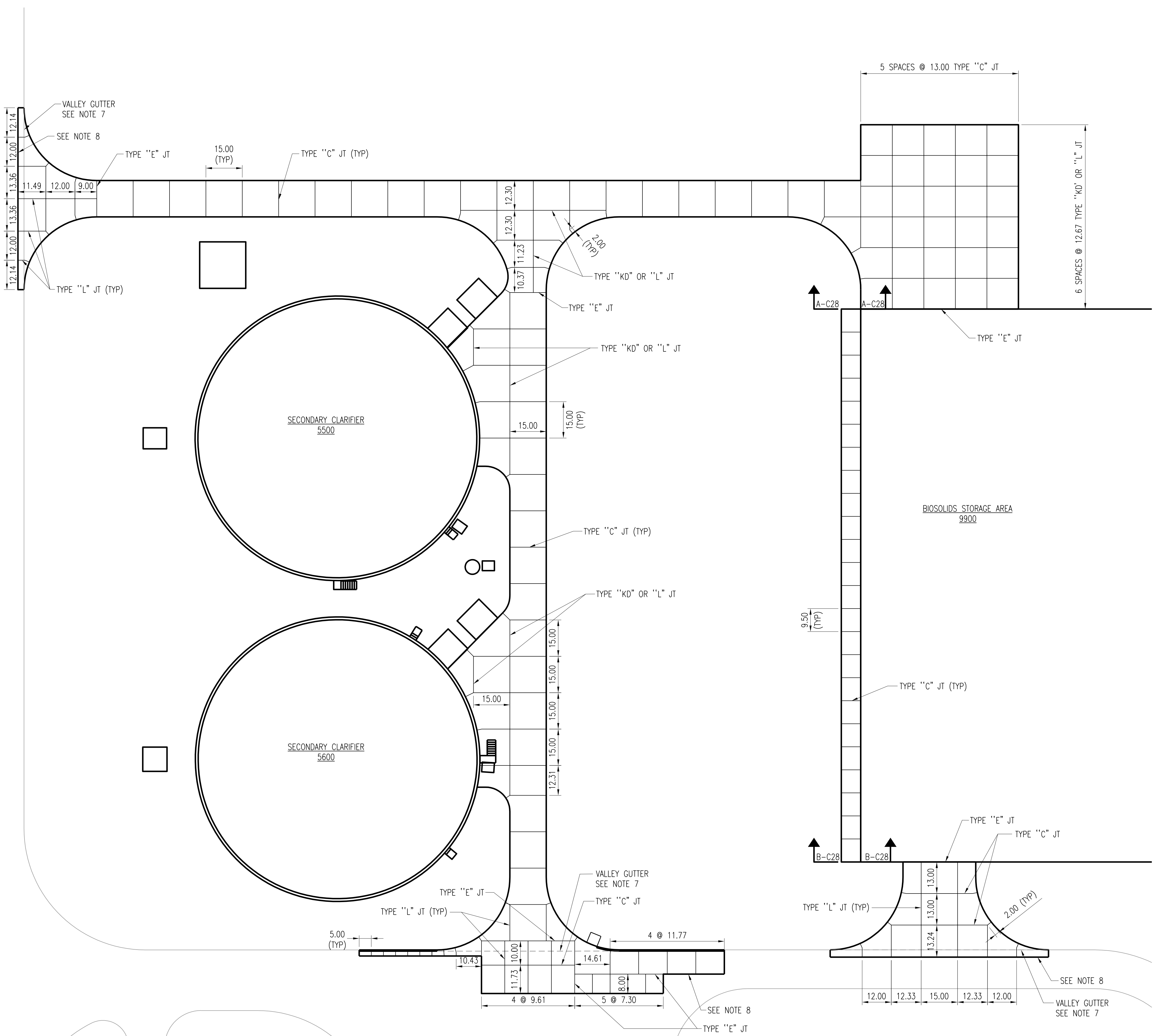
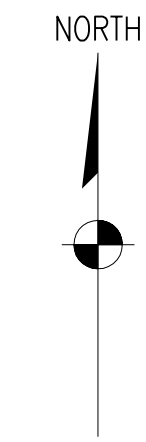
DESIGNED	AM MURILLO	SCALE: AS NOTED	NO. 22800	REV. 4
DRAWN	NS JOHNSON			
CHECKED	DE TRIPP			
APPROVED	BD REISCHAUER			
APPROVED				
DATE	DECEMBER 2, 2011			



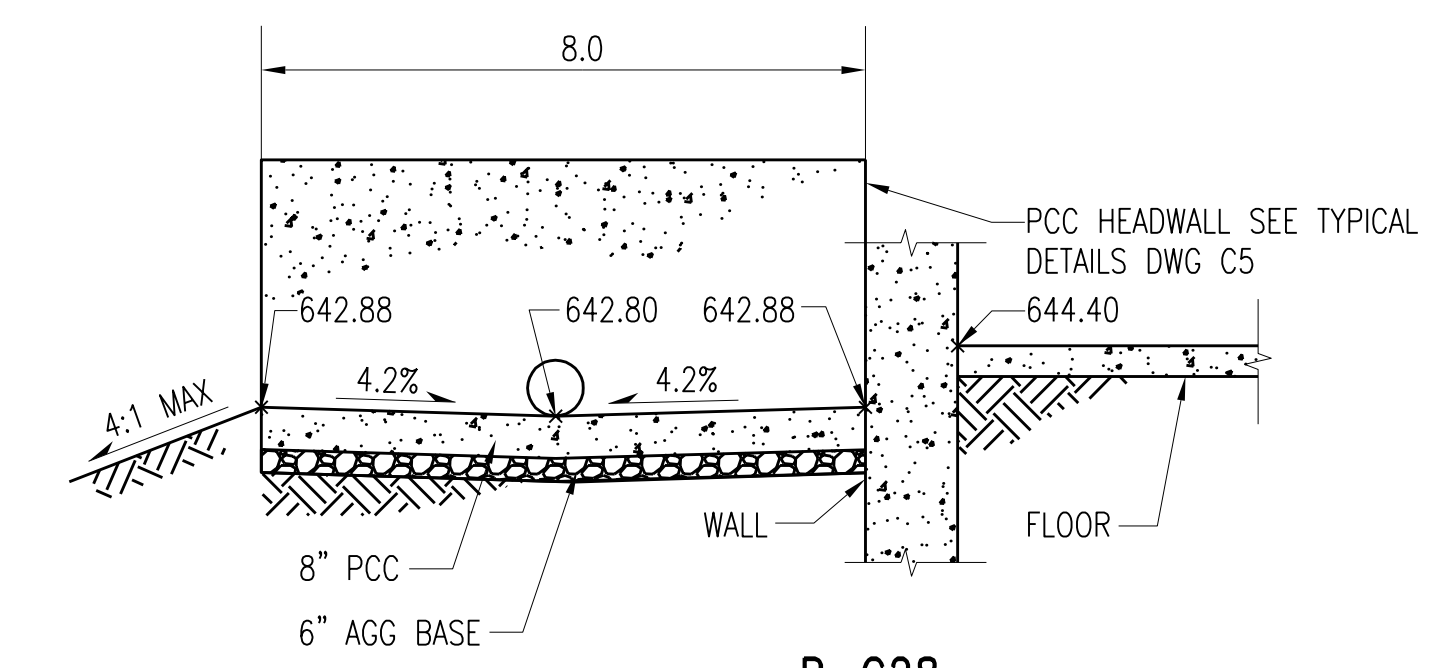
CADD: D1-1-R4

NOTES:

1. MAXIMUM JOINT SPACING: 15' (8" PAVEMENT).
2. LENGTH OF CONCRETE PANEL SHALL NOT EXCEED WIDTH BY MORE THAN 25%.
3. AVOID ACUTE ANGLES IN PANEL CORNERS (NOT LESS THAN 75°).
4. PROVIDE ISOLATION JOINT WHERE NEW CONCRETE ABUTS EXISTING CONCRETE, STRUCTURES, PIPES, POSTS, PIERS OR HYDRANTS; EXCEPT AT SAWCUTS (SEE NOTE 8).
5. SEE DWG C3 FOR DETAILS OF JOINT TYPES.
6. SAW CUT EXISTING PAVEMENT 2'-6" OUT FROM BACK OF CURB OR AT REMOVAL LOCATIONS SHOWN ON PLANS AND CAREFULLY REMOVE CONCRETE. NEW CURB SECTIONS TO MATCH EXISTING.
7. INSTALL VALLEY GUTTER TO CONTINUE DRAINAGE ALONG CURB LINE EXTENDED. SEE DETAIL DWG C3.
8. PROVIDE TYPE BT-3 JOINTS FULL LENGTH OF SAWCUT.
9. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.



SECTION A-C28
C28
SCALE: NONE
SEE DWG S993 FOR STRUCTURAL DETAILS



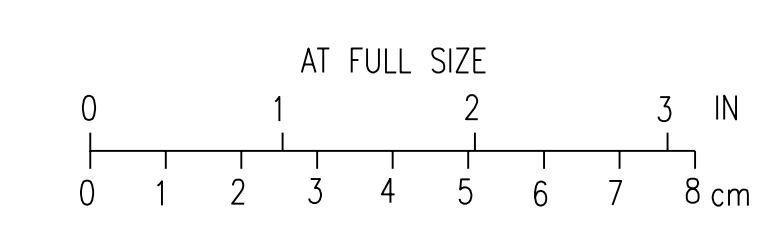
SECTION B-C28
C28
SCALE: NONE
SEE DWG S993 FOR STRUCTURAL DETAILS

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

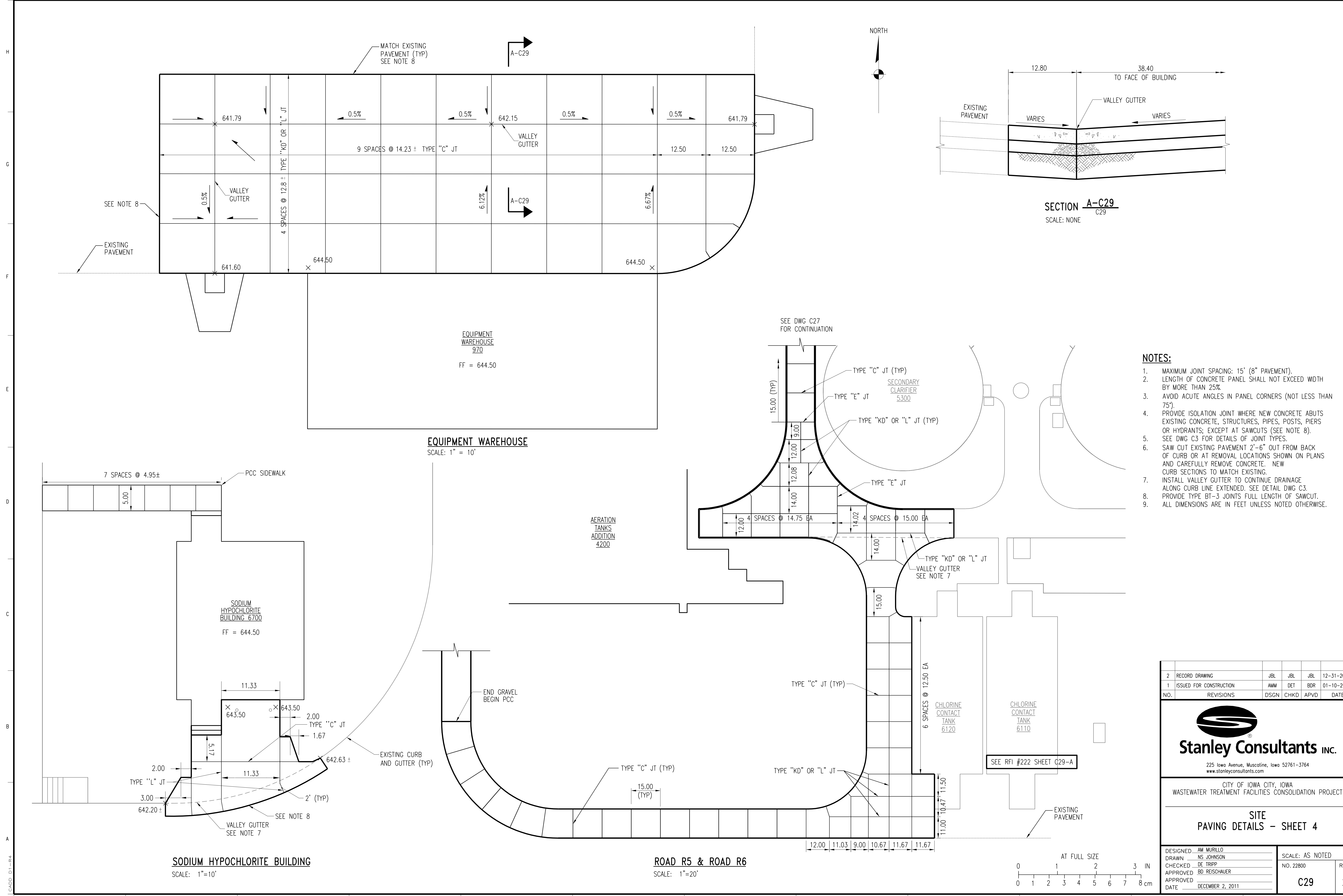
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

SITE PAVING DETAILS - SHEET 3

DESIGNED	AM MURILLO	SCALE:	AS NOTED
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BD REISCHAUER	C28	2
APPROVED		DATE	DECEMBER 2, 2011



CADD: D1-R4



- NOTES:**
1. MAXIMUM JOINT SPACING: 15' (8" PAVEMENT).
 2. LENGTH OF CONCRETE PANEL SHALL NOT EXCEED WIDTH BY MORE THAN 25%.
 3. AVOID ACUTE ANGLES IN PANEL CORNERS (NOT LESS THAN 75').
 4. PROVIDE ISOLATION JOINT WHERE NEW CONCRETE ABUTS EXISTING CONCRETE, STRUCTURES, PIPES, POSTS, PIERS OR HYDRANTS; EXCEPT AT SAWCUTS (SEE NOTE 8).
 5. SEE DWG C3 FOR DETAILS OF JOINT TYPES.
 6. SAW CUT EXISTING PAVEMENT 2'-6" OUT FROM BACK OF CURB OR AT REMOVAL LOCATIONS SHOWN ON PLANS AND CAREFULLY REMOVE CONCRETE. NEW CURB SECTIONS TO MATCH EXISTING.
 7. INSTALL VALLEY GUTTER TO CONTINUE DRAINAGE ALONG CURB LINE EXTENDED. SEE DETAIL DWG C.3.
 8. PROVIDE TYPE BT-3 JOINTS FULL LENGTH OF SAWCUT.
 9. ALL DIMENSIONS ARE IN FEET UNLESS NOTED OTHERWISE.

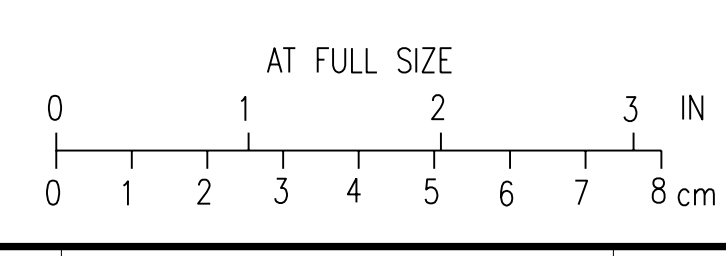
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1	ISSUED FOR CONSTRUCTION	AMM	DET	BDP	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

SITE PAVING DETAILS - SHEET 4

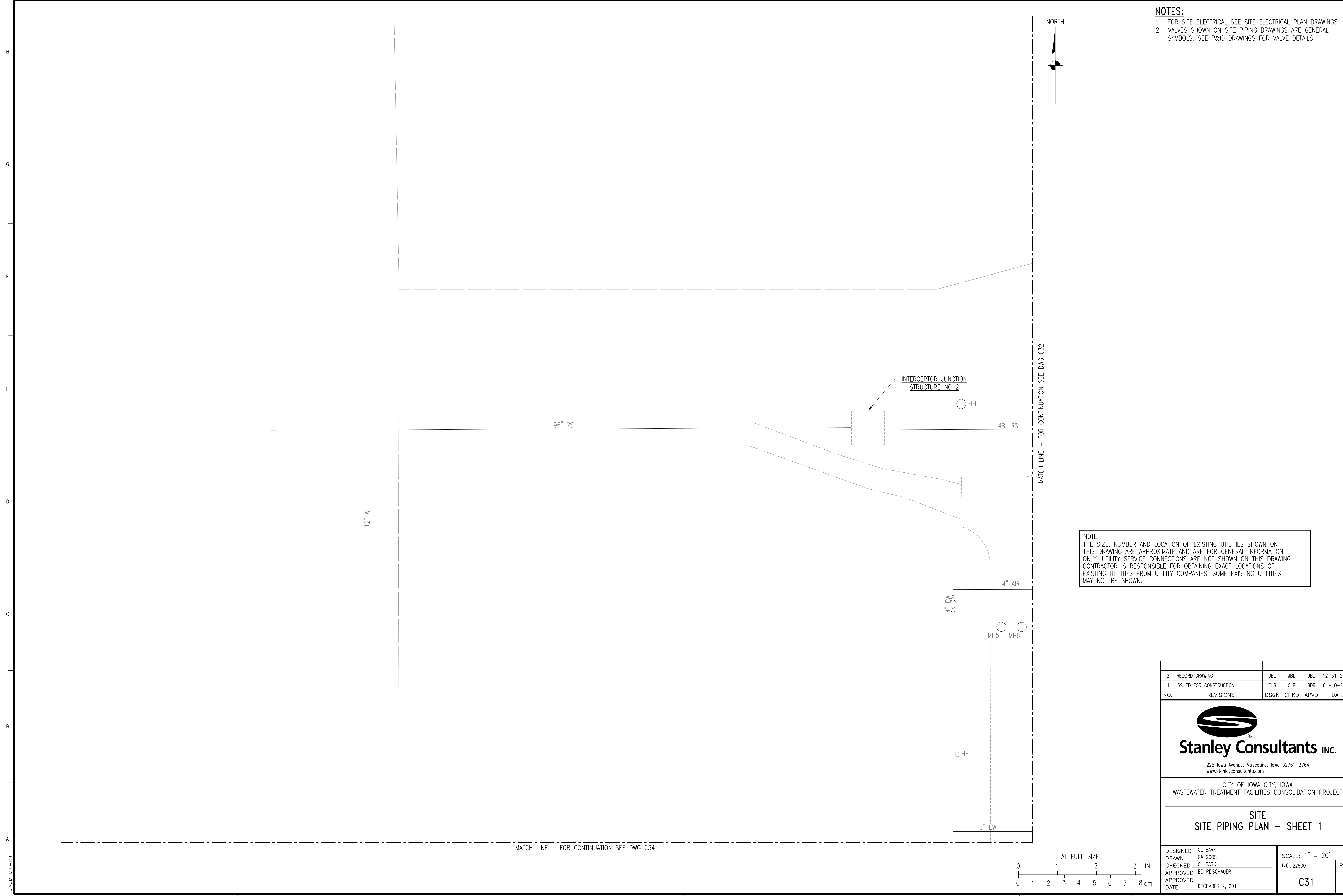
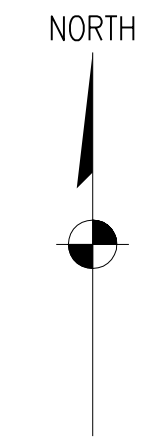
DESIGNED	AM MURILLO	SCALE:	AS NOTED
DRAWN	NS JOHNSON	NO.	22800
CHECKED	DE TRIPP	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-104

NOTES:

1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.



MATCH LINE - FOR CONTINUATION SEE DWG C32

NOTE:
 THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

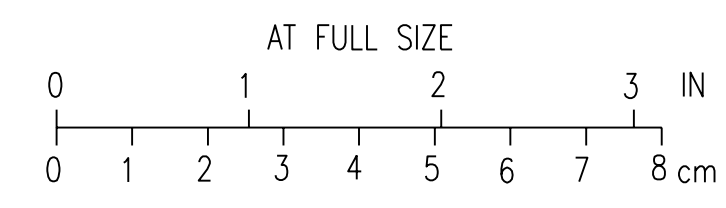
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE
 SITE PIPING PLAN - SHEET 1**

DESIGNED	CL BARK	SCALE: 1" = 20'	NO. 22800	REV. 2
DRAWN	GA GOOS			
CHECKED	CL BARK			
APPROVED	BD REISCHAUER			
DATE	DECEMBER 2, 2011			



MATCH LINE - FOR CONTINUATION SEE DWG C34

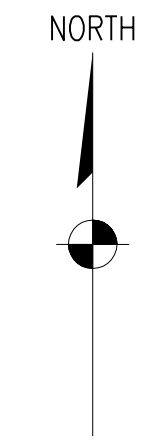
CADD: D1-PR4

KEYNOTES:

1. KEEP 6" EW LINE IN SERVICE.

NOTES:

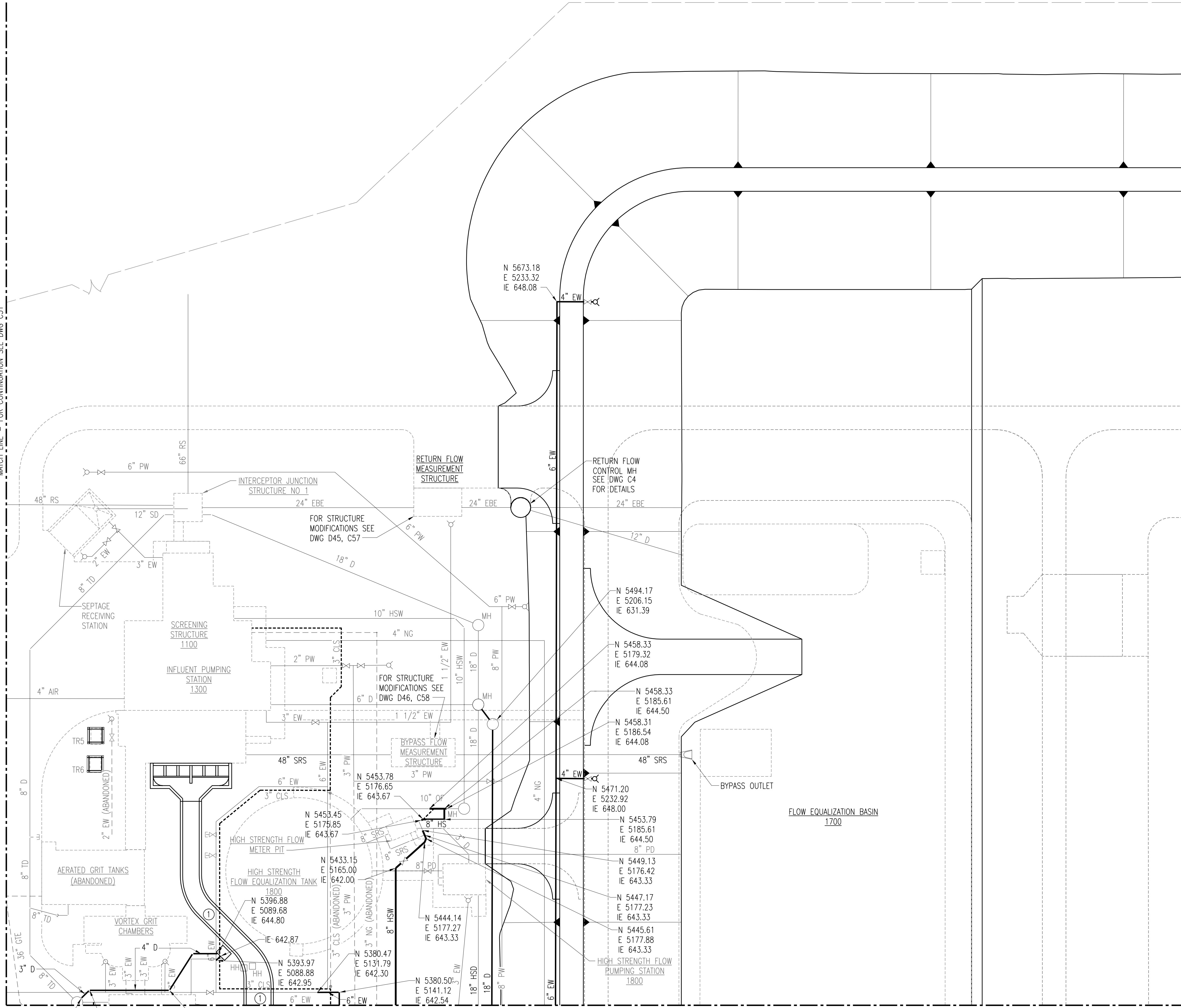
1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.



MATCH LINE - FOR CONTINUATION SEE DWG C31

MATCH LINE - FOR CONTINUATION SEE DWG C33

NOTE:
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N 5377.97
E 5031.73
IE 644.14

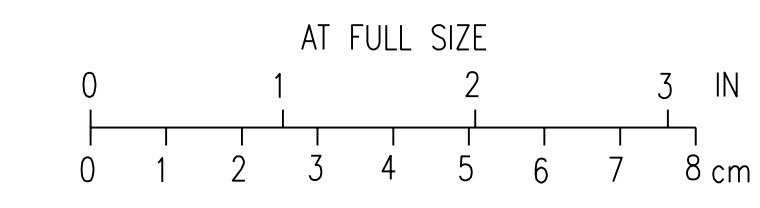
N 5381.36
E 5035.19
IE 644.19

N 5381.36
E 5069.14
IE 644.58

ADD ISOLATION VALVE ON 6" EW LINE AT GRID LOCATION A-3.

SEE RFI #225 SHEET C32-A

MATCH LINE - FOR CONTINUATION SEE DWG C35



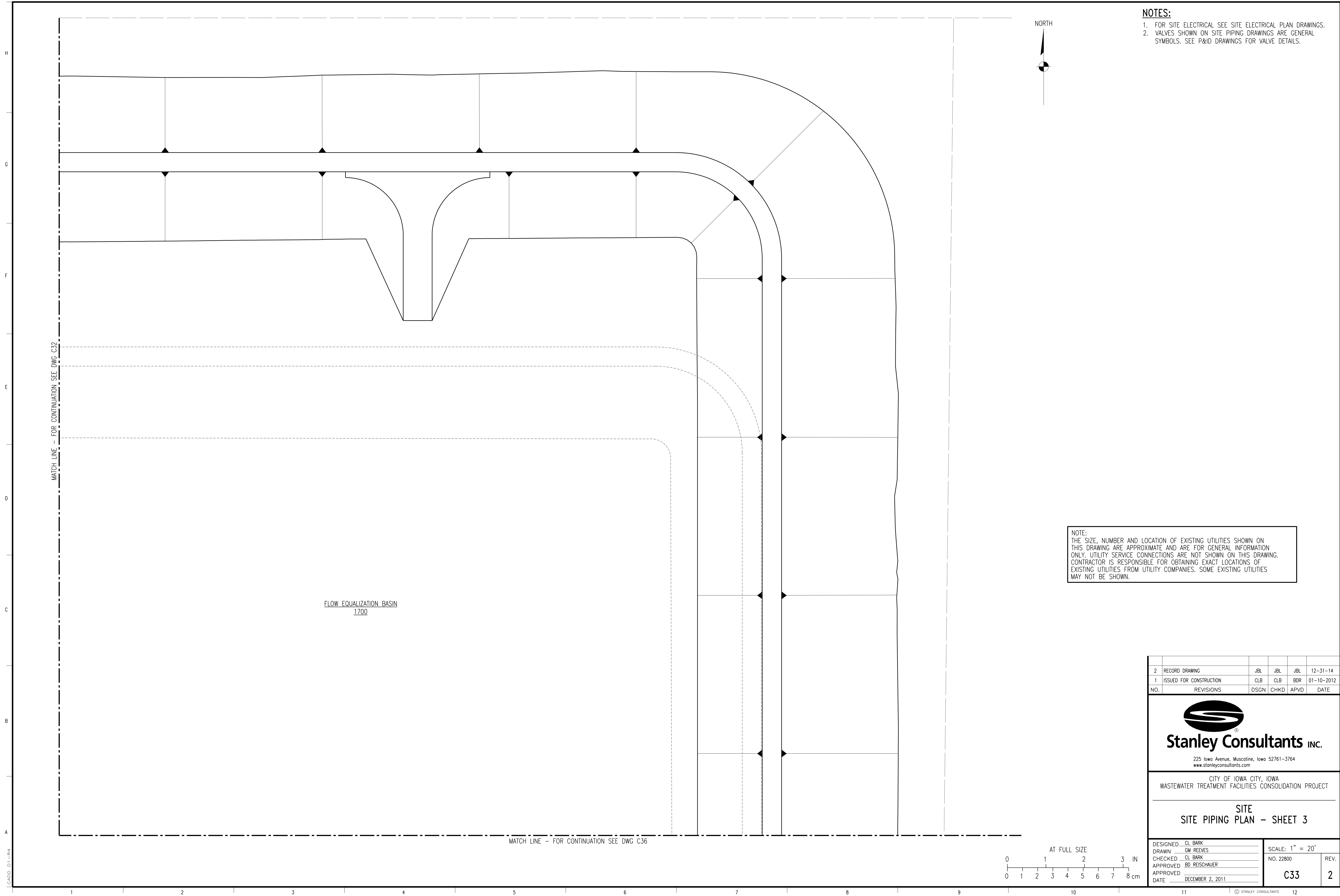
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2	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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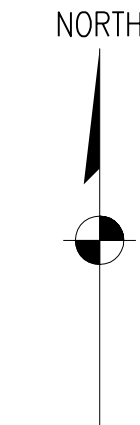
SITE PIPING PLAN - SHEET 2

DESIGNED	CL BARK	SCALE:	1" = 20'
DRAWN	GM REEVES	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BO REISCHAUER	C32	
DATE	DECEMBER 2, 2011		



NOTES:

1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

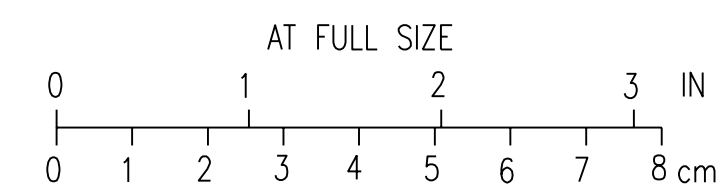


MATCH LINE - FOR CONTINUATION SEE DWG C32

FLOW EQUALIZATION BASIN
1700

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

MATCH LINE - FOR CONTINUATION SEE DWG C36



2	RECORD DRAWING	JBL	JBL	JBL	12-31-14
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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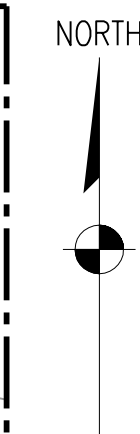
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE
SITE PIPING PLAN - SHEET 3**

DESIGNED	CL BARK	SCALE: 1" = 20'	NO. 22800	REV. 2
DRAWN	GM REEVES			
CHECKED	CL BARK			
APPROVED	BO REISCHAUER			
APPROVED				
DATE	DECEMBER 2, 2011	C33		

CADD: D1-PR4

MATCH LINE - FOR CONTINUATION SEE DWG C31



KEYNOTES:

1. FOR PROCESS PIPING SEE DRAWINGS M301, M302 & M303.
2. FOR PROCESS PIPING SEE DRAWING S341.
3. FOR PROCESS PIPING, SEE DRAWING M402.
4. PROPOSED DEWATERING WELL AT TANK 3500 NOT SHOWN FOR CLARITY. SEE DRAWING M305 AND SITE CIVIL DRAWINGS.
5. STA 10+00, SEE DRAWING C51 FOR 24" RAS PROFILE.
6. STA 200+00, SEE DRAWING C53 FOR 6" WAS PROFILE.
7. REMOVE AND REUSE EXISTING VALVE AND HYDRANT. RELOCATE AS SHOWN ON DRAWING.
8. SCUM SPRAY VALVE VAULT, SEE DRAWING M1 [PRV 4401A]
9. FOR PROCESS PIPING, SEE DRAWING M401.

NOTES:

1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

SEE RFI #203, SHEET 35A

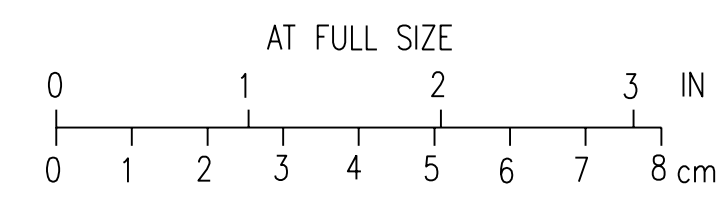
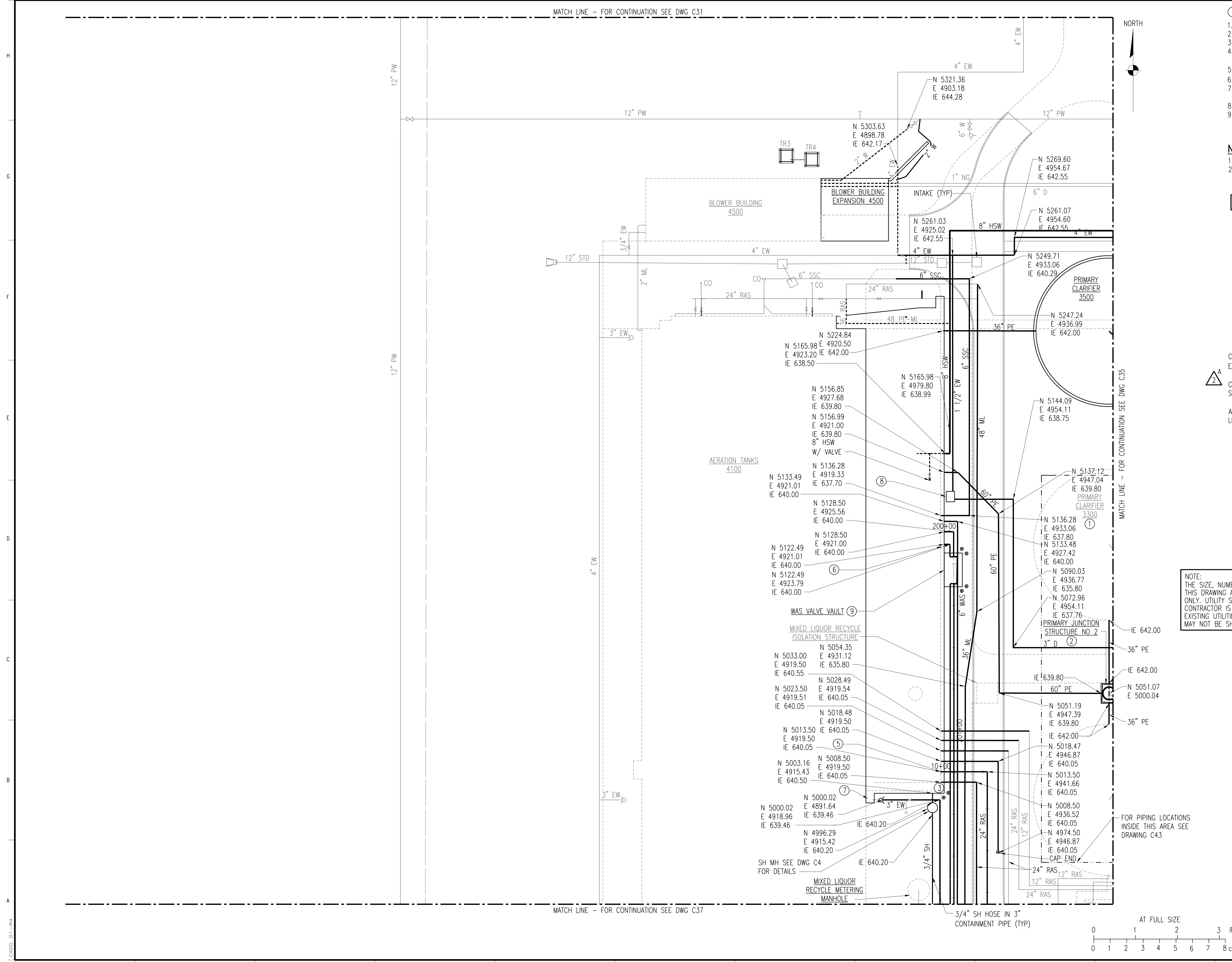
CHANGE MIXED LIQUOR (ML) PIPE RUNNING NORTH/SOUTH ON THE EAST SIDE OF AERATION TANK 4100 FROM 48" TO READ:36".



CONNECT 6" SSC LINE SHOWN ON C34 INTO WAS PUMP VAULT SHOWN ON DRAWING M401.

ADD ISOLATION VALVES ON NORTH 4" EW LINE AND EAST 4" EW LINE AT GRID LOCATION F-8

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

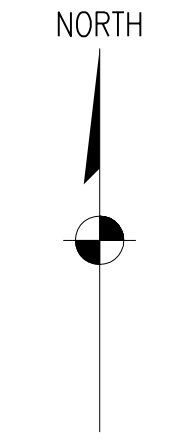
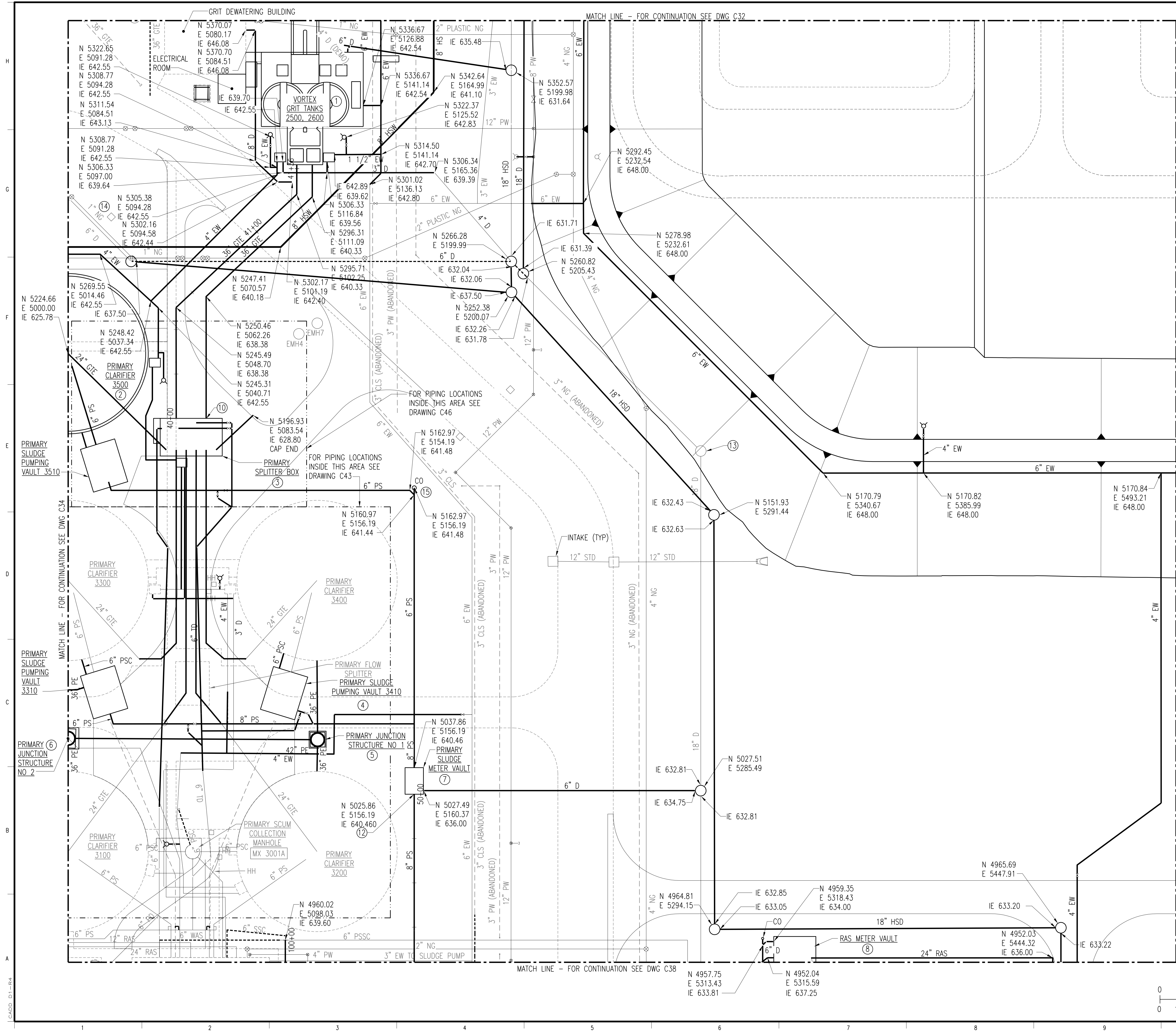
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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

SITE PIPING PLAN - SHEET 4

DESIGNED	CL BARK	SCALE: 1" = 20'
DRAWN	GM REEVES	NO. 22800
CHECKED	CL BARK	REV.
APPROVED	BO REISCHAUER	C34
APPROVED		3
DATE	DECEMBER 2, 2011	

CADD: D1-R4



- KEYNOTES:**
- FOR PROCESS PIPING SEE DRAWINGS M211 & M212.
 - FOR PROCESS PIPING SEE DRAWING M301, M302 & M303.
 - FOR PROCESS PIPING SEE DRAWING M320.
 - FOR PROCESS PIPING SEE DRAWING M330 & M331.
 - FOR PROCESS PIPING SEE DRAWING S340.
 - FOR PROCESS PIPING SEE DRAWING S341.
 - FOR PROCESS PIPING SEE DRAWING M350.
 - FOR PROCESS PIPING SEE DRAWING M550.
 - FOR PS AND ASSOCIATED DRAIN PIPELINES, MAKE BENDS USING COMBINATIONS OF WYES AND ELBOWS WITH DEFLECTIONS OF 45° OR LESS.
 - STA 40+00, SEE DRAWING C51 FOR 36" GTE PROFILE.
 - PROPOSED DEWATERING WELL AT TANK 3500 NOT SHOWN FOR CLARITY. SEE DRAWING M305 AND SITE CIVIL DRAWINGS.
 - STA 100+00, SEE DRAWING C52 FOR 8" PS PROFILE.
 - RAISE MANHOLE TO PROPOSED GRADE.
 - RELOCATE 1" NATURAL GAS LINE AROUND PROPOSED MANHOLE.
 - 6" PS/8" PS PRESSURE PIPE CLEANOUT (TYP). SEE DRAWING C1.

- NOTES:**
- FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
 - VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

- KEYNOTES:**
- ADD ISOLATION VALVE ON 4" EW LINE AT GRID LOCATION E-9/10.
 - ADD ISOLATION VALVE ON 6" EW LINE AT GRID LOCATION G-5.

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

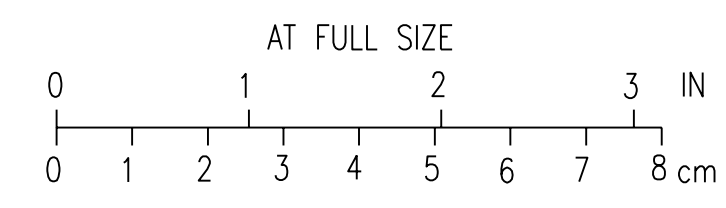
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3	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
2	RELOCATE TD	CLB	CLB	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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SITE PIPING PLAN - SHEET 5

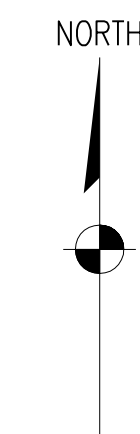
DESIGNED	CL BARK	SCALE:	1" = 20'
DRAWN	GM REEVES	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BO REISCHAUER		
DATE	DECEMBER 2, 2011	C35	4



CADD: D1-PR4

MATCH LINE - FOR CONTINUATION SEE DWG C33

FLOW EQUALIZATION BASIN
1700



NOTES:

1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

MATCH LINE - FOR CONTINUATION SEE DWG C35

OVERFLOW STRUCTURE,
SEE DETAIL ON DWG C56

N 5202.57
E 5711.06
IE 637.71

4" EW

6" EW

N 5170.94
E 5820.28
IE 648.00

60" EBE

N 5117.55
E 5711.06
IE 633.75

60" EBE

N 5017.65
E 5882.91
IE 633.76

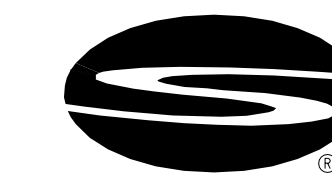
CONNECT TO EXISTING
60" EBE. PLUG
EXISTING 60" EBE TO
NORTH W/CONCRETE
PLUG

ADD NOTE 3. TO READ:

- A**
3. NEW 60" PIPE SHALL BE CONNECTED TO EXISTING 60" PIPE WHERE SHOWN ON DRAWING AND REMAINING EXISTING 60"/48" TO NORTH SHALL BE EITHER PLUGGED OR REMOVED.

NOTE:
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3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



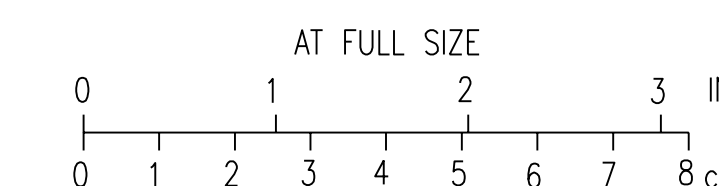
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CITY OF IOWA CITY, IOWA
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**SITE
SITE PIPING PLAN - SHEET 6**

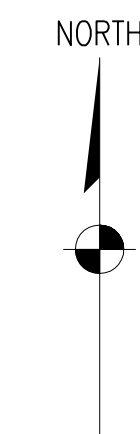
DESIGNED	CL BARK	SCALE: 1" = 20'	NO. 22800	REV. 2
DRAWN	GA GOOS			
CHECKED	CL BARK			
APPROVED	BD REISCHAUER			
APPROVED		C36		
DATE	DECEMBER 2, 2011			



MATCH LINE - FOR CONTINUATION SEE DWG C39

CADD: D1-PR4

MATCH LINE - FOR CONTINUATION SEE DWG C34



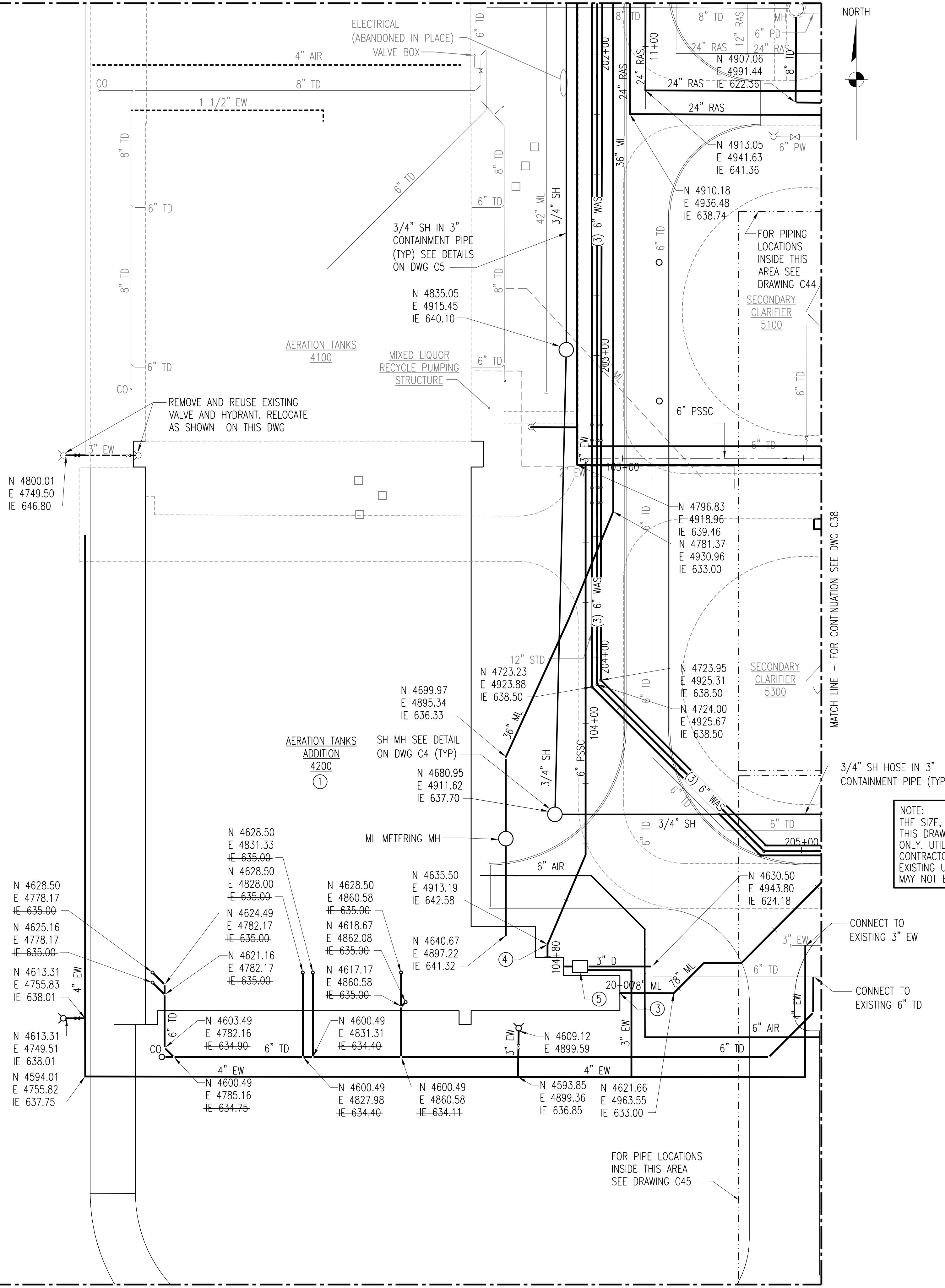
KEYNOTES:

1. FOR PROCESS PIPING SEE DRAWINGS M403 & M404.
2. DEWATERING WELL AT TANKS 5100 AND 5200 NOT SHOWN FOR CLARITY.
3. STA 20+00, SEE DRAWING C51 FOR 78" ML PROFILE.
4. STA 104+82, SEE DRAWING C52 FOR 6" PSSC PROFILE.
5. PROPOSED DEWATERING WELL FOR AERATION TANKS ADDITION NOT SHOWN FOR CLARITY. SEE DRAWING M408 & M409 AND SITE CIVIL DRAWINGS.
6. SCUM SPRAY VALVE VAULT [PRV 4440], SEE DRAWING M1.

NOTES:

1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

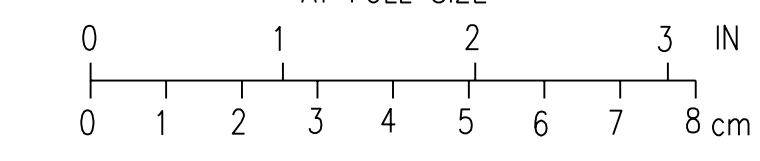
NOTE:
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MATCH LINE - FOR CONTINUATION SEE DWG C38

MATCH LINE - FOR CONTINUATION SEE DWG C40

AT FULL SIZE



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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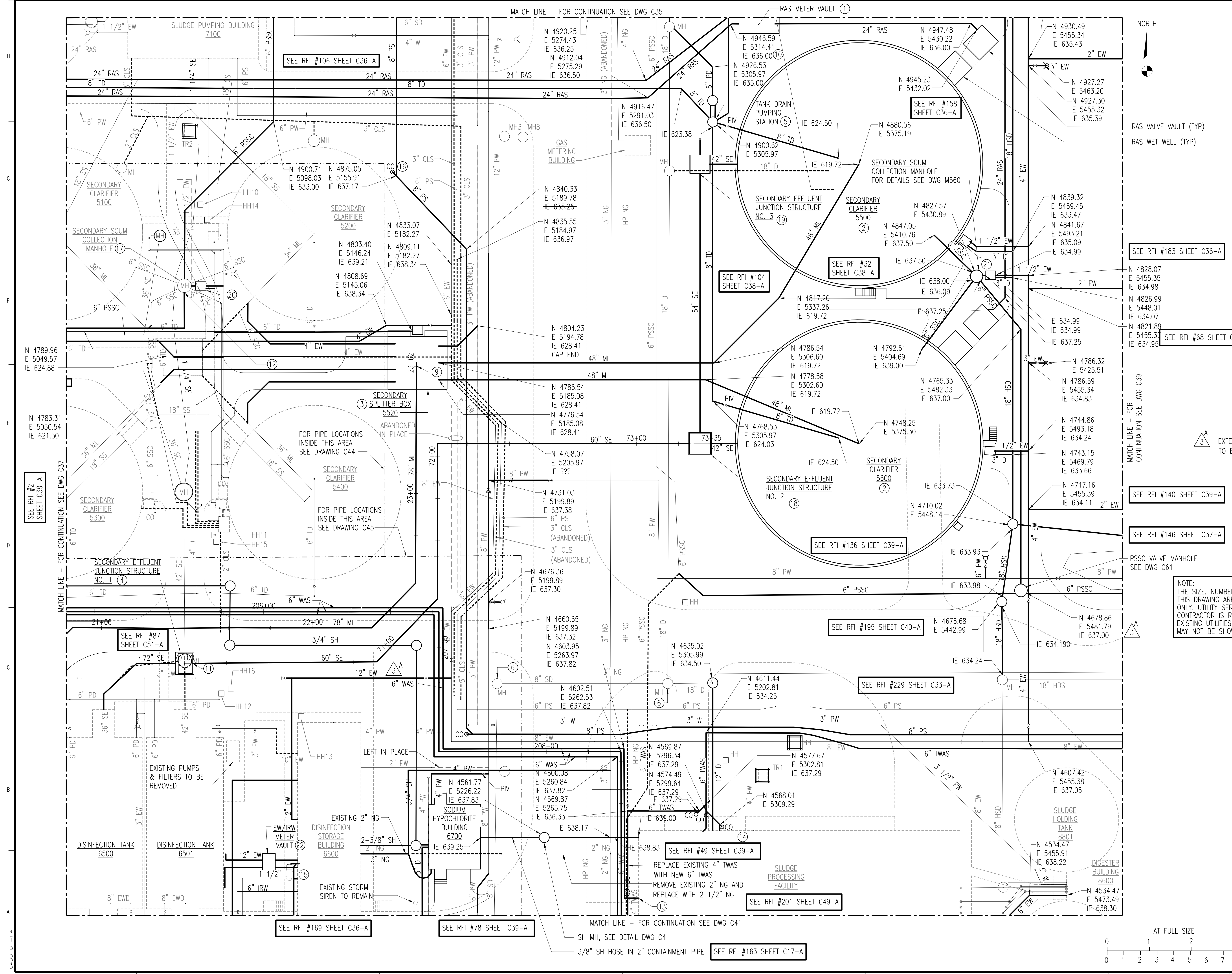
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

SITE PIPING PLAN - SHEET 7

DESIGNED	CL BARK	SCALE:	1" = 20'
DRAWN	GA GOOS	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		

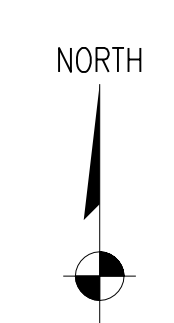
C37 **2**

CADD: D1-PR4



- KEYNOTES:**
- FOR PROCESS PIPING SEE DRAWINGS M50.
 - FOR PROCESS PIPING SEE DRAWINGS M505, M506 & M507.
 - FOR PROCESS PIPING SEE DRAWINGS M520.
 - FOR PROCESS PIPING SEE DRAWINGS S540.
 - FOR PROCESS PIPING SEE DRAWING C61.
 - REPLACE EXISTING MH FRAME AND COVER WITH WATERTIGHT FRAME AND COVER.
 - DEWATERING WELL AT TANKS 5100 AND 5200 NOT SHOWN FOR CLARITY. SEE SITE CIVIL DRAWINGS.
 - PROPOSED DEWATERING WELLS AT TANK 5500 AND 5600 NOT SHOWN FOR CLARITY. SEE DWG M507 AND SITE CIVIL DRAWINGS.
 - STA 23+61, SEE DRAWING C51 FOR 78" ML PROFILE.
 - STA 15+15, SEE DRAWING C51 FOR 24" RAS PROFILE.
 - STA 70+00, SEE DRAWING C51 FOR 60" SE PROFILE.
 - STA 102+43, SEE DRAWING C52 FOR 6" PSSC PROFILE.
 - STA 209+33, SEE DRAWING C53 FOR 6" WAS PROFILE.
 - FOR PROCESS PIPING SEE DRAWINGS M901.
 - FOR PROCESS PIPING SEE DRAWINGS M620.
 - 8" PS PRESSURE PIPE CLEANOUT (TYP). SEE DETAIL ON DRAWING C1.
 - REMOVE MIXER CONTROL PANEL [MX 5001A] AND ASSOCIATED EQUIPMENT.
 - FOR PROCESS PIPING SEE DRAWING S541.
 - FOR PROCESS PIPING SEE DRAWING S542.
 - SCUM SPRAY VALVE VAULT, SEE DRAWING M1 [PRV 5001A]
 - SCUM SPRAY VALVE VAULT, SEE DRAWING M1 [PRV 5002A]
 - FOR PROCESS PIPING SEE DRAWING M604.

- NOTES:**
- FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
 - VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.



RAS VALVE VAULT (TYP)
RAS WET WELL (TYP)

MATCH LINE - FOR CONTINUATION SEE DWG C39

SEE RFI #140 SHEET C39-A

SEE RFI #146 SHEET C37-A

PSSC VALVE MANHOLE
SEE DWG C61

NOTE:
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EXTEND 4" EW LINE SOUTH, INCLUDE ISOLATION VALVE AND CONNECT TO EXISTING 8" EW LINE AS SHOWN ON ATTACHED SKETCH 1.

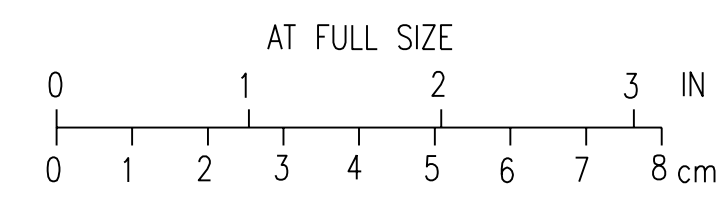
4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM SKETCH INFO	LJO	JBL	JBL	05-11-2012
2	ADDED SH LINE & MH	AMR	AMR	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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SITE PIPING PLAN - SHEET 8

DESIGNED	CL BARK	SCALE:	1" = 20'
DRAWN	GM REEVES	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
DATE	DECEMBER 2, 2011	C38	4



CADD: D1-1-14

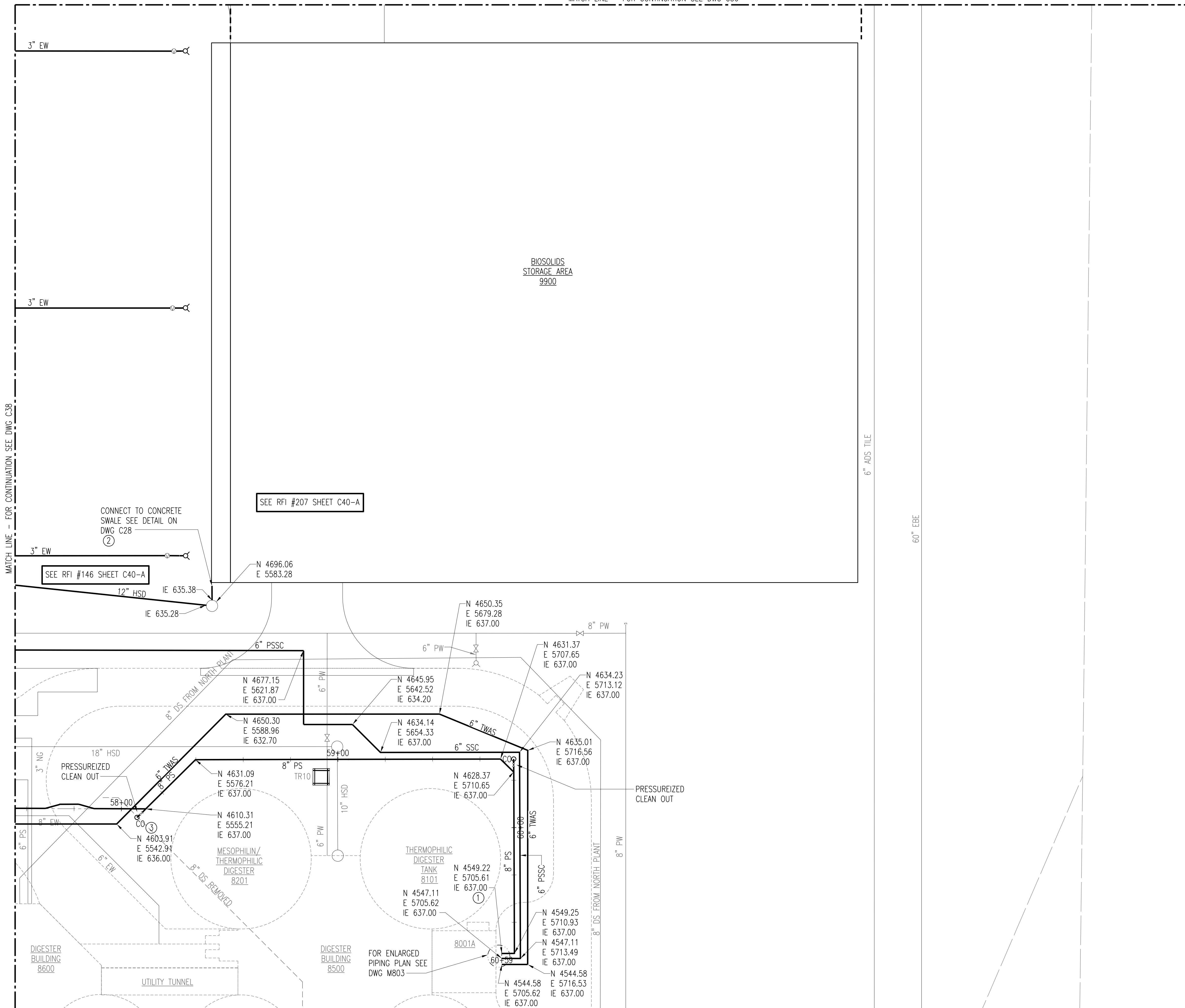
NORTH

KEYNOTES:

1. STA 60+63 SEE DRAWING C52 FOR PROFILE OF 8" PS.
2. ADJUST MANHOLE LOCATION ACCORDINGLY IF CONCRETE SWALE LOCATION IS ADJUSTED.
3. 8" PS PRESSURE PIPE CLEANOUT (TYP). SEE DETAIL ON DRAWING C1.

NOTES:

1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.



SEE RFI #207 SHEET C40-A

SEE RFI #146 SHEET C40-A

CONNECT TO CONCRETE SWALE SEE DETAIL ON DWG C28

NOTE:
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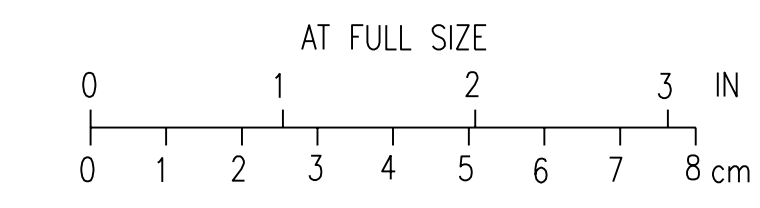
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDP	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

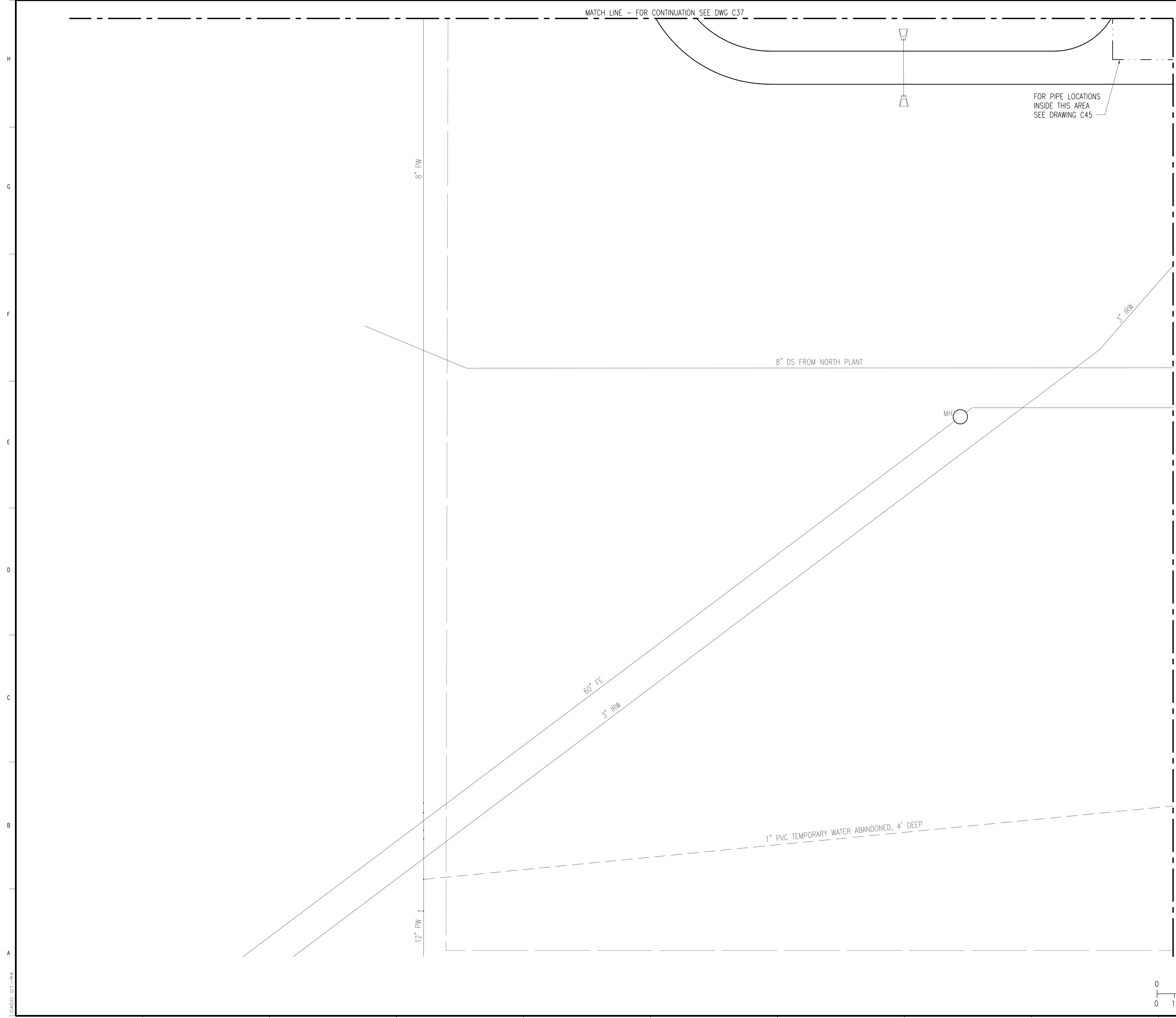
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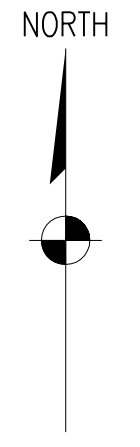
SITE PIPING PLAN - SHEET 9

DESIGNED	CL BARK	SCALE: 1" = 20'
DRAWN	GM REEVES	NO. 22800
CHECKED	CL BARK	REV.
APPROVED	BD REISCHAUER	C39
APPROVED		2
DATE	DECEMBER 2, 2011	





MATCH LINE - FOR CONTINUATION SEE DWG C37



FOR PIPE LOCATIONS
INSIDE THIS AREA
SEE DRAWING C45

8" PW

8" DS FROM NORTH PLANT

3" RW

MH

MATCH LINE - FOR CONTINUATION SEE DWG C41

60' FE

3" RW

1" PVC TEMPORARY WATER ABANDONED, 4' DEEP

12" PW

NOTES:

1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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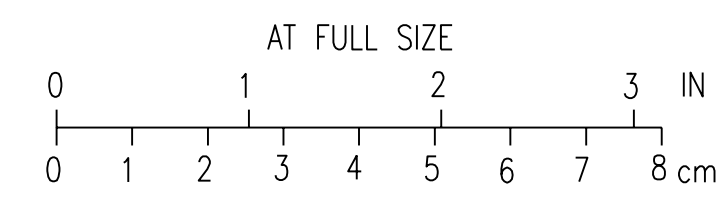
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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

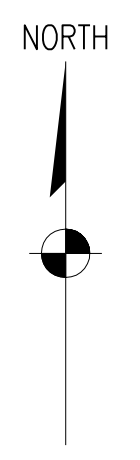
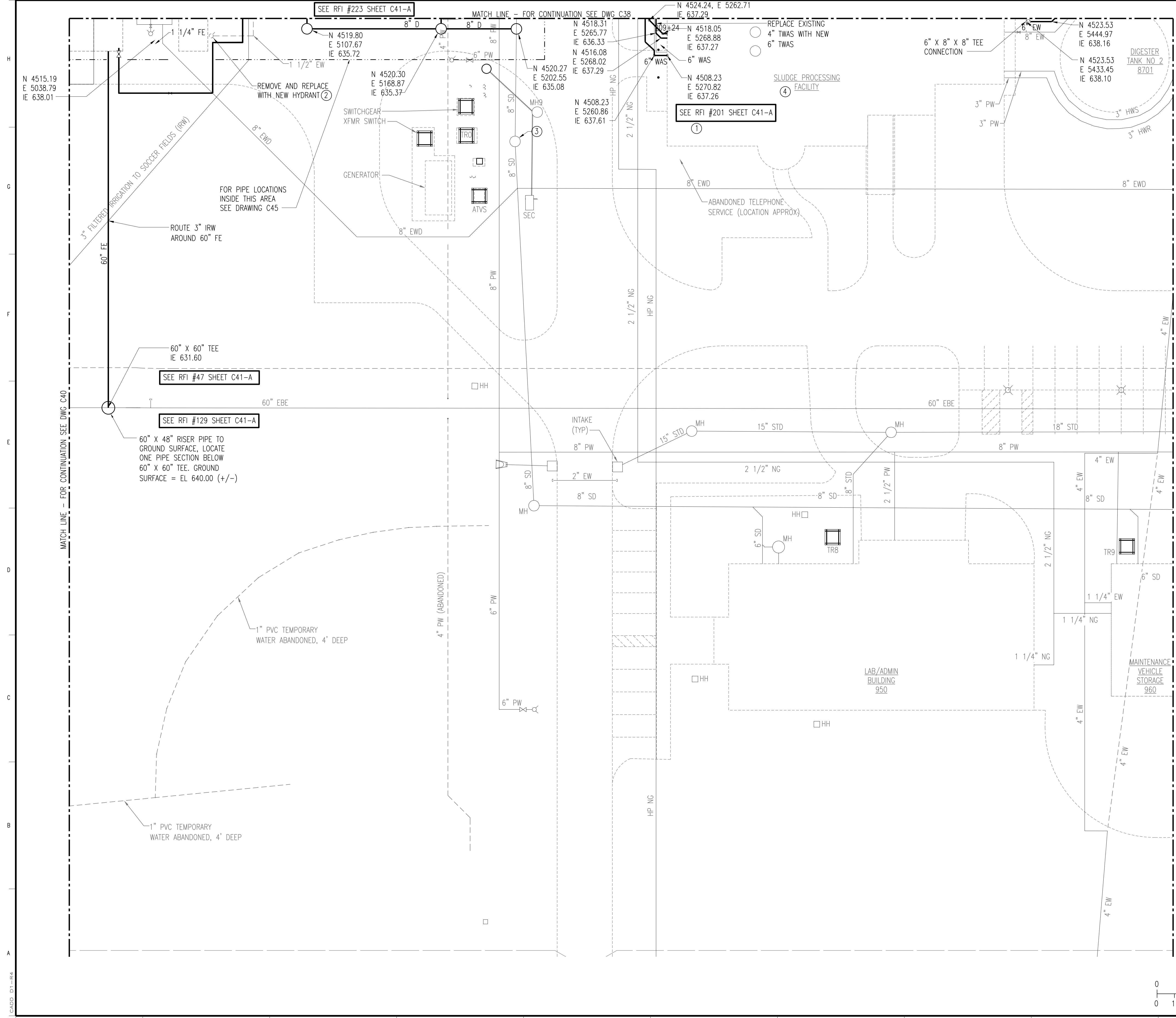
SITE PIPING PLAN - SHEET 10

DESIGNED CL BARK
DRAWN GA GOOS
CHECKED CL BARK
APPROVED BO REISCHAUER
DATE DECEMBER 2, 2011

SCALE: 1" = 20'
NO. 22800
REV. 2
C40



CADD: D1-PR4



- KEYNOTES:**
1. STA 209+33, SEE DRAWING C53 FOR 6" WAS PROFILE.
 2. REMOVE EXISTING DRAINAGE ROCK FROM UNDER HYDRANT AND REPLACE WITH CLEAN DRAINAGE ROCK.
 3. REPLACE EXISTING MH FRAME AND COVER WITH WATER TIGHT FRAME AND COVER.
 4. FOR PROCESS PIPING SEE DRAWING M901.
 5. REMOVE EXISTING FINAL EFFLUENT SAMPLE PUMP P 6101A FOR FUTURE USE.

- NOTES:**
1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
 2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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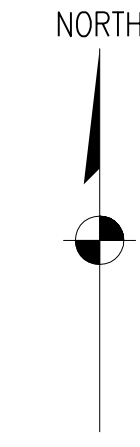
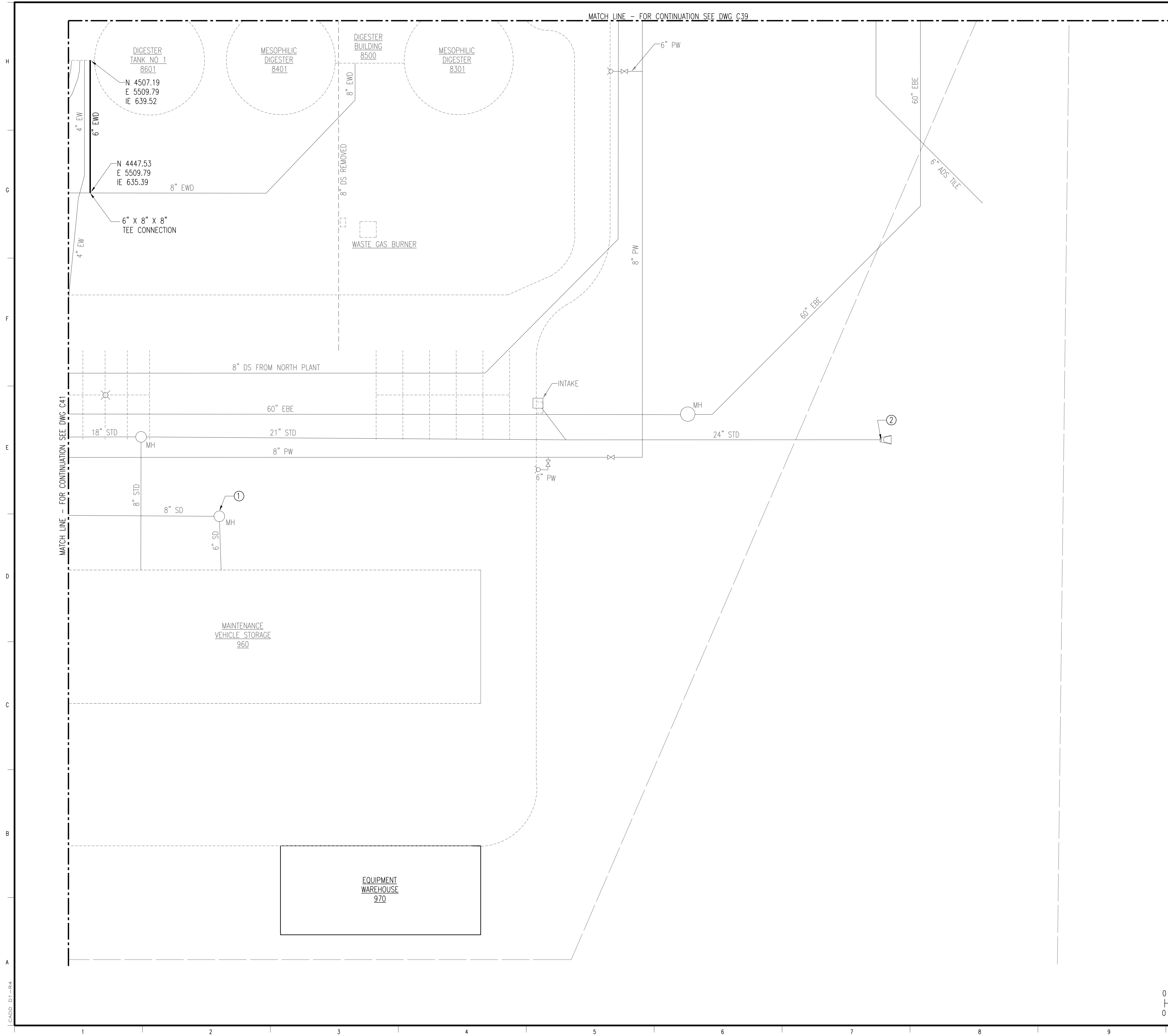
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

SITE PIPING PLAN - SHEET 11

DESIGNED	CL BARK	SCALE:	1" = 20'
DRAWN	GA GOOS	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
APPROVED		C41	2
DATE	DECEMBER 2, 2011		




CADD: D1-R4



- KEYNOTES:**
1. REPLACE EXISTING MH FRAME AND COVER WATERTIGHT FRAME AND COVER.
 2. INSTALL IN-LINE ELASTOMERIC CHECK VALVE IN 24" STD. CHECK VALVE SHALL BE ONE-PIECE UNIBODY, ALL RUBBER CONSTRUCTION WITH SLIP-IN CUFF CONNECTION INSTALLED WITH A SET OF STAINLESS STEEL EXPANSION CLAMPS ON THE DOWNSTREAM SIDE. VALVE SHALL BE TIDEFLEX CHECKMATE, OR EQUAL.
- NOTES:**
1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
 2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

NOTE:
 THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDITIONAL NOTES	CLB	CLB	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



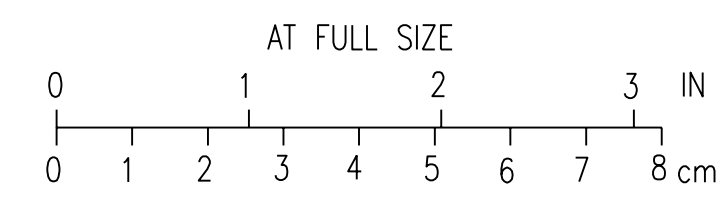
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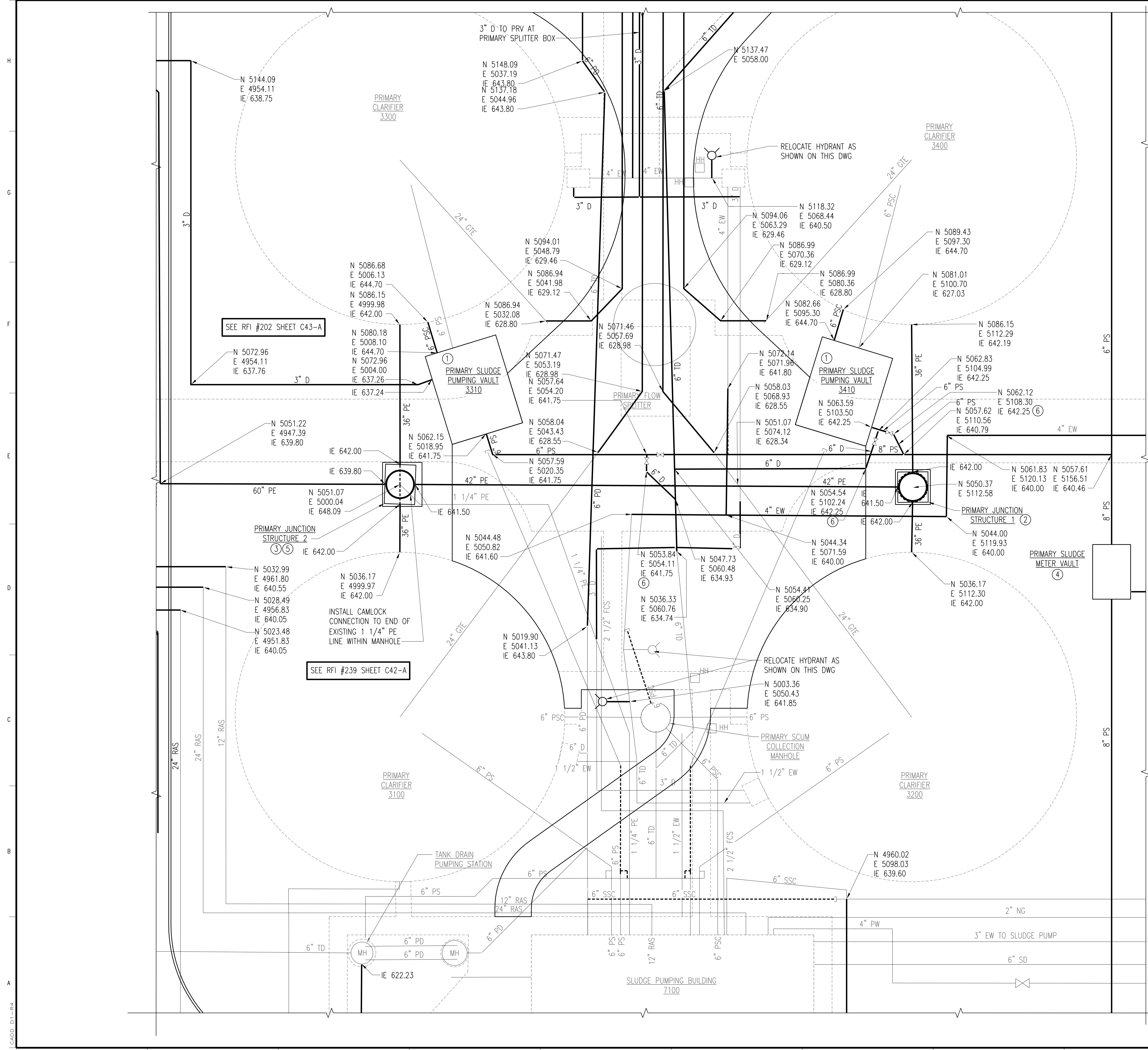
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 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

SITE PIPING PLAN - SHEET 12

DESIGNED CL BARK DRAWN GM REEVES CHECKED CL BARK APPROVED BO REISCHAUER DATE DECEMBER 2, 2011	SCALE: 1" = 20' NO. 22800 REV. 2 C42
---	--



CADD: D1-PR4



- KEYNOTES:**
- FOR PROCESS PIPING SEE DRAWINGS M330 & M331.
 - FOR PROCESS PIPING SEE DRAWING S340.
 - FOR PROCESS PIPING SEE DRAWING S341.
 - FOR PROCESS PIPING SEE DRAWING M350.
 - REINSTALL EXISTING PRIMARY EFFLUENT SAMPLE PUMP [P 3042A] IN PRIMARY JUNCTION STRUCTURE
 - INSTALL 45° BEND ON 6" PIPE AND ROTATE DOWNWARD INTO DIAGONAL 6"x6" WYE DOWNSTREAM.

- NOTES:**
- FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
 - VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

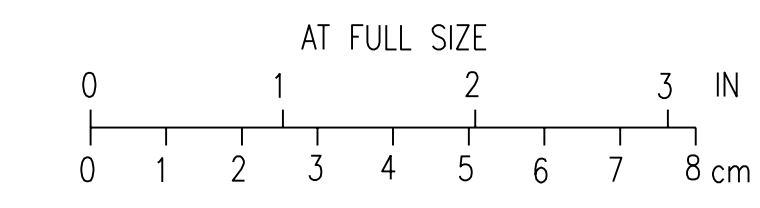
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	EDIT KEYNOTE	CLB	CLB	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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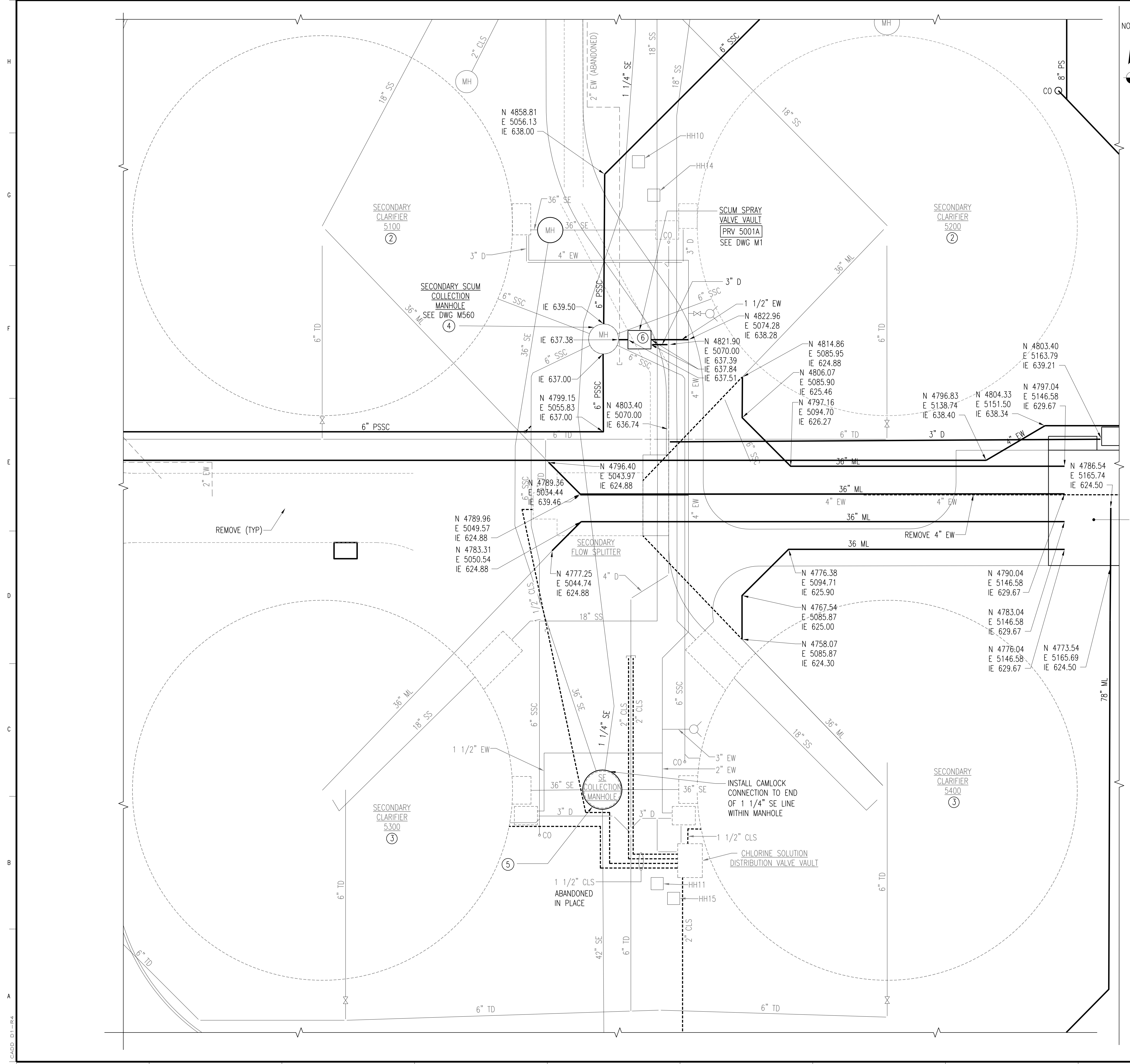
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE
 ENLARGED SITE PIPING PLAN - SHEET 1**

DESIGNED	CL BARK	SCALE:	1" = 10'
DRAWN	NS JOHNSON	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-144



- KEYNOTES:**
1. FOR PROCESS PIPING SEE DRAWINGS M520.
 2. FOR PROCESS PIPING SEE DRAWINGS M501.
 3. FOR PROCESS PIPING SEE DRAWINGS M502 & M503.
 4. REMOVE SECONDARY SCUM MIXER [MX 5001A] AND ASSOCIATED EQUIPMENT.
 5. CITY WILL INSTALL SECONDARY EFFLUENT SAMPLE PUMP [P 5042A] IN SE COLLECTION MANHOLE.
 6. SCUM SPRAY VALVE VAULT, SEE DRAWING M1 [PRV 5001A]

- NOTES:**
1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
 2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

NOTE:
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2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDP	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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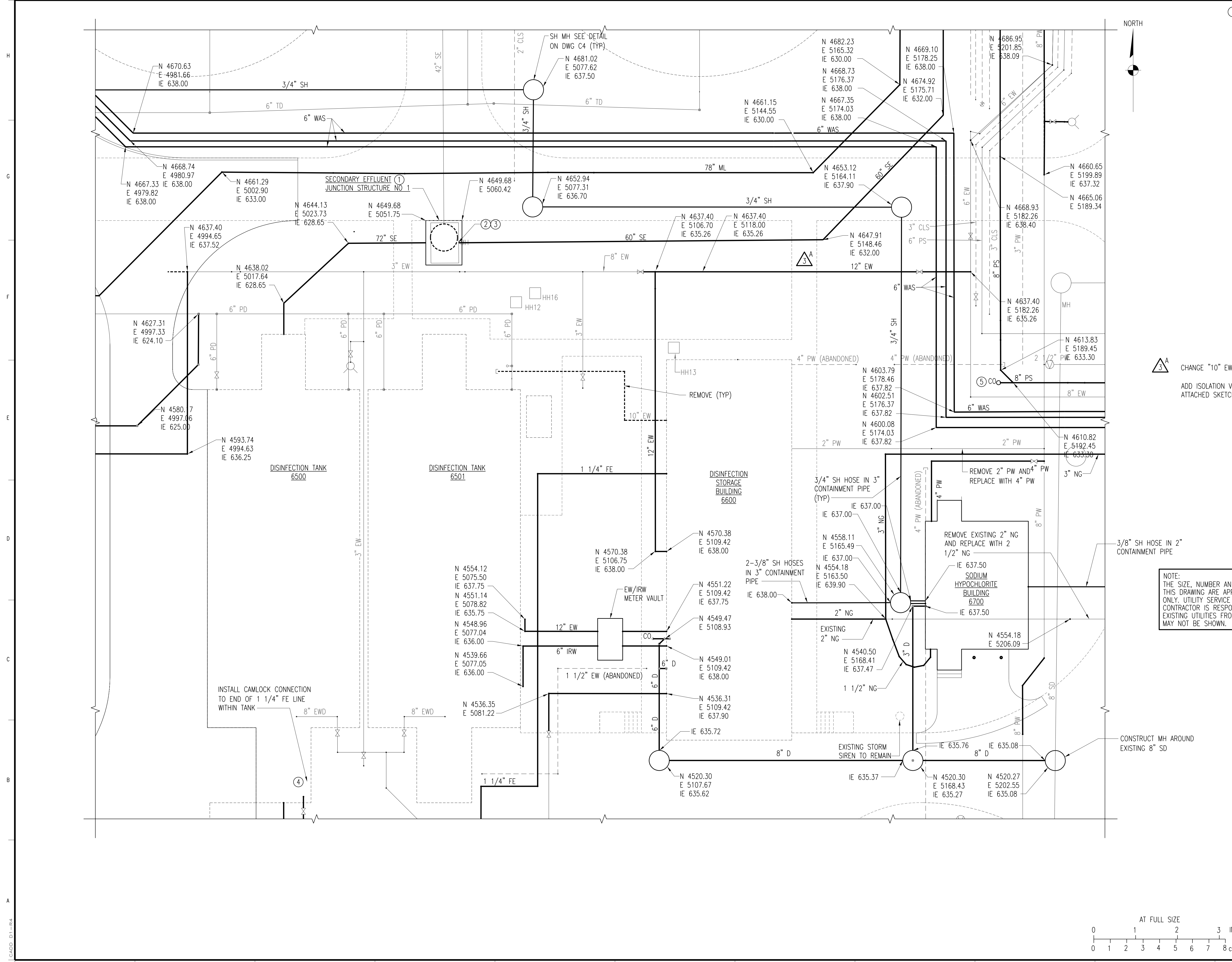
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE
 ENLARGED SITE PIPING PLAN - SHEET 2**

DESIGNED	CL BARK	SCALE:	1" = 10'
DRAWN	GA GOOS	NO.	22800
CHECKED	CL BARK	APPROVED	BD REISCHAUER
APPROVED	BD REISCHAUER	DATE	DECEMBER 2, 2011
		C44	1



CADD: D1-PR4




- KEYNOTES:**
- FOR PROCESS PIPING SEE DRAWINGS S540.
 - FIELD VERIFY ELEVATION OF ELECTRICAL DUCT BANKS. RAISE DUCT BANKS IF CONFLICTS OCCUR WITH 60" SE.
 - STA 70+04 SEE DRAWING C51 FOR PROFILE OF 60" SE.
 - REINSTALL EXISTING FINAL EFFLUENT SAMPLE PUMP [P610TA] IN DISINFECTION TANK.
 - 6" PS/8" PS PRESSURE PIPE CLEANOUT (TYP). SEE DETAIL DRAWING C1.

- NOTES:**
- FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS
 - VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

3 A CHANGE "10" EW LINE" TO READ:"12" EW LINE."
 ADD ISOLATION VALVES ON 8" EW LINE AND 12" EW LINE AS SHOWN ON ATTACHED SKETCH 2.

NOTE:
 THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM SKETCH INFO	LJO	JBL	JBL	05-11-2012
2	EDIT KEYNOTE	CLB	CLB	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



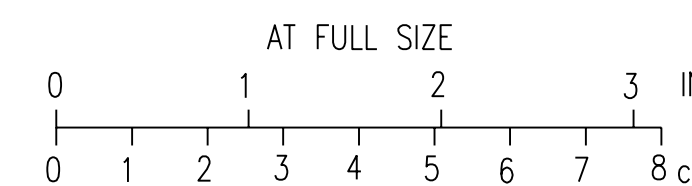
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**SITE
 ENLARGED SITE PIPING PLAN - SHEET 3**

DESIGNED CL BARK	SCALE: 1" = 10'
DRAWN GA GOOS	NO. 22800
CHECKED CL BARK	REV.
APPROVED BD REISCHAUER	C45
APPROVED	3
DATE DECEMBER 2, 2011	



CADD: D1-164

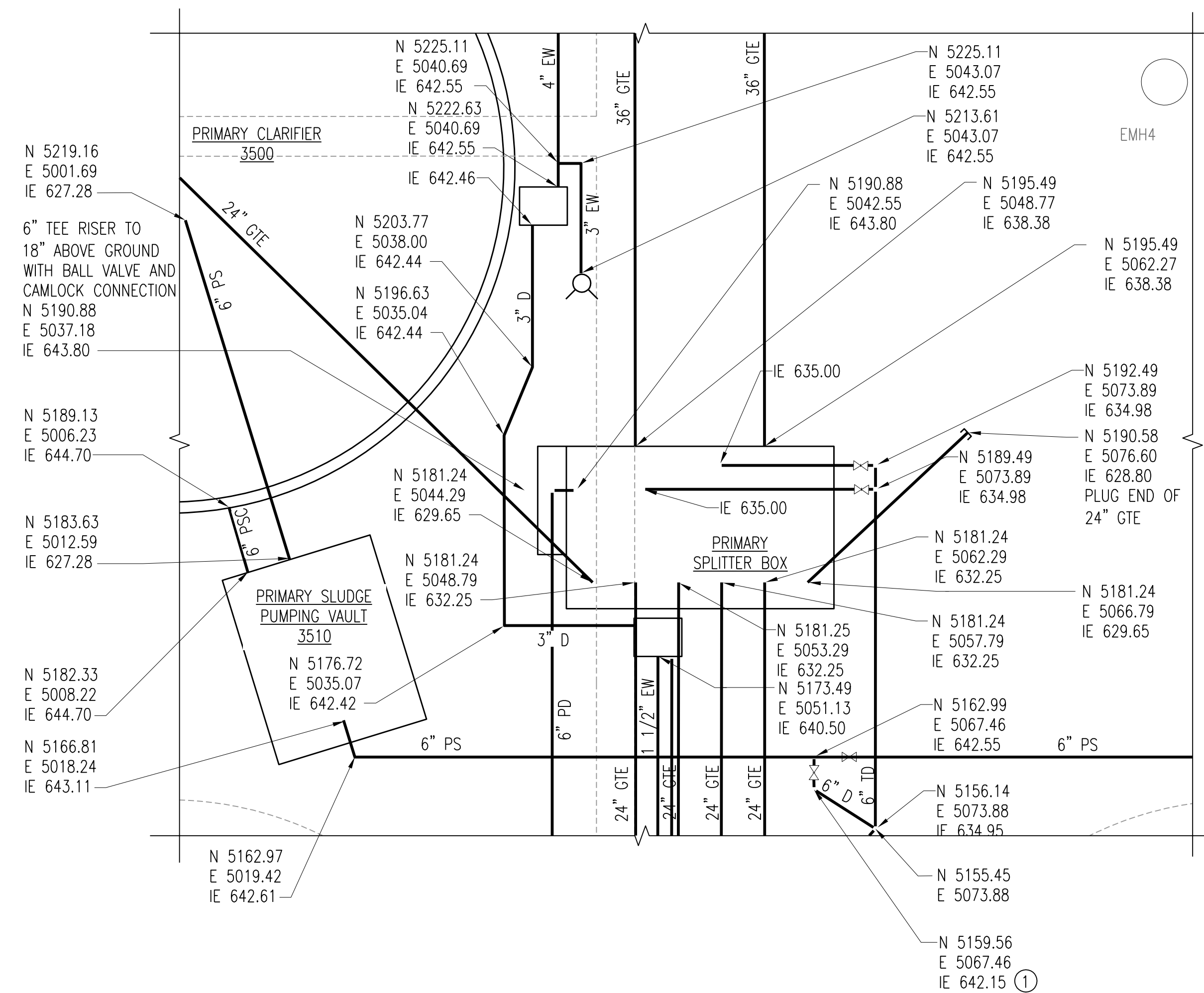
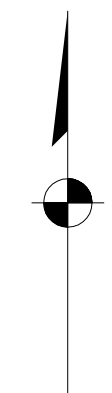
KEYNOTES:

1. INSTALL 45° BEND ON 6" PIPE AND ROTATE DOWNWARD INTO DIAGONAL 6"x6" WYE DOWNSTREAM.

NOTES:

1. FOR SITE ELECTRICAL SEE SITE ELECTRICAL PLAN DRAWINGS.
2. VALVES SHOWN ON SITE PIPING DRAWINGS ARE GENERAL SYMBOLS. SEE P&ID DRAWINGS FOR VALVE DETAILS.

NORTH



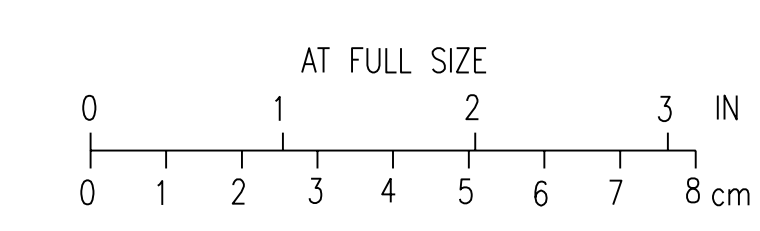
NOTE:
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3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	RELOCATED TD	CLB	CLB	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

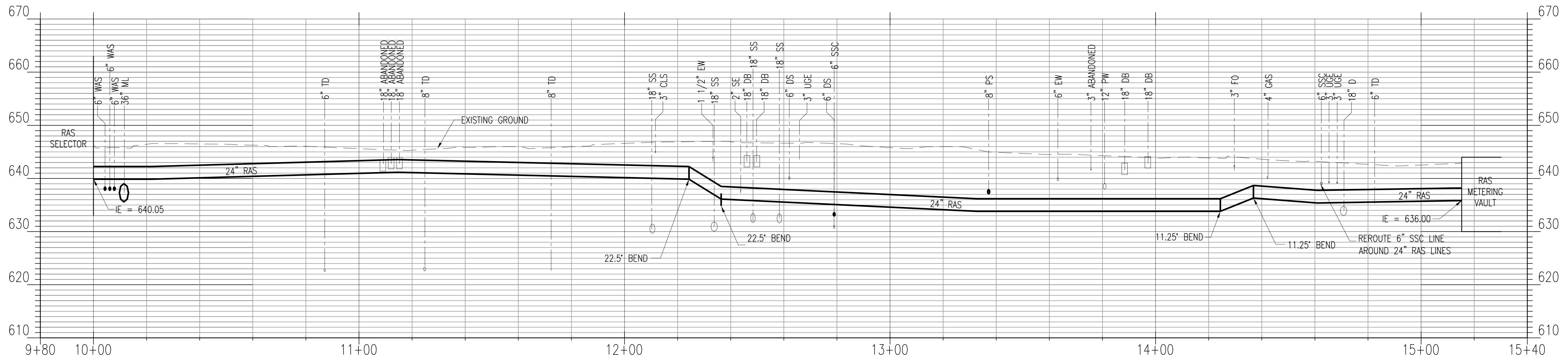

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 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
**SITE
 ENLARGED SITE PIPING PLAN - SHEET 4**

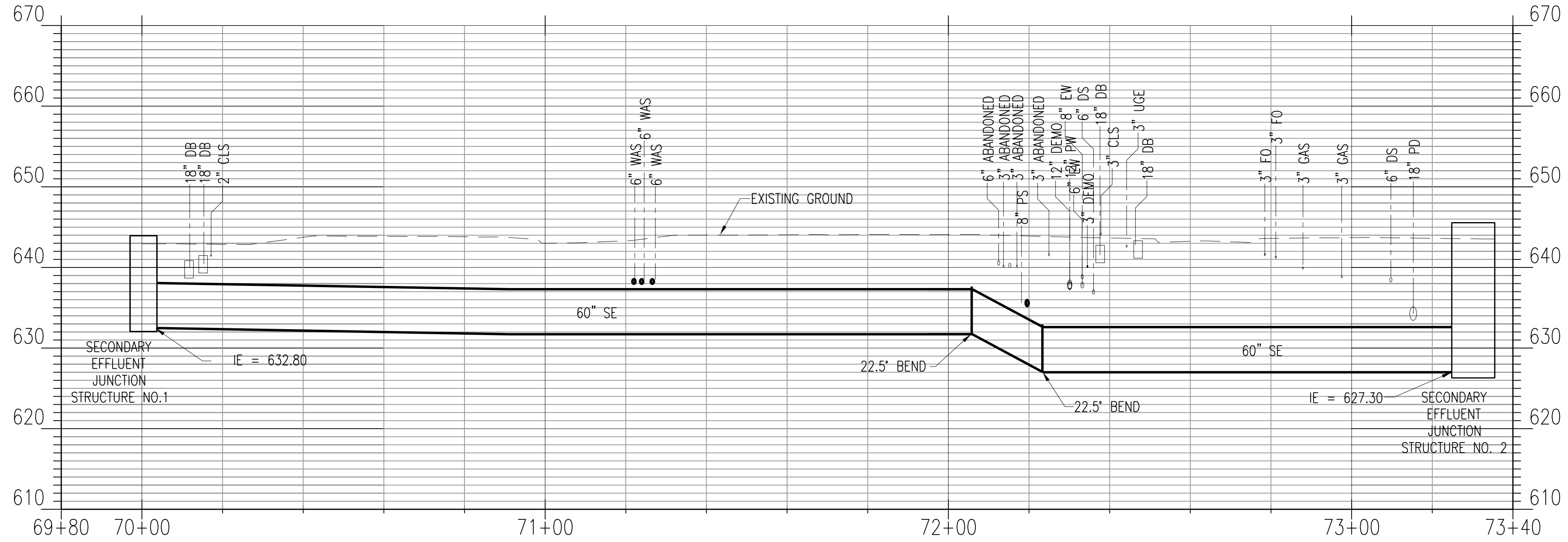
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DRAWN	GM REEVES	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
DATE	DECEMBER 2, 2011	C46	2



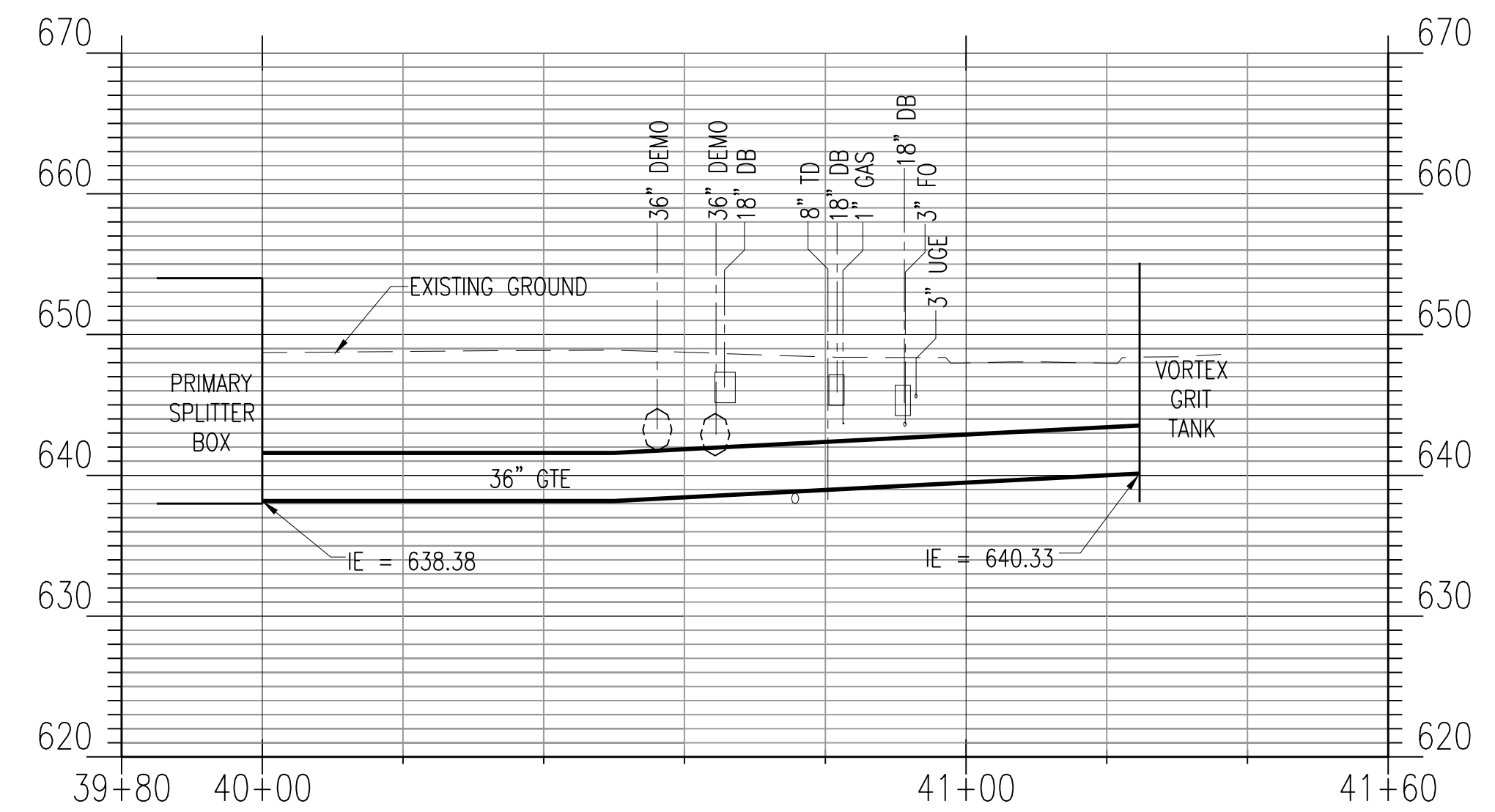
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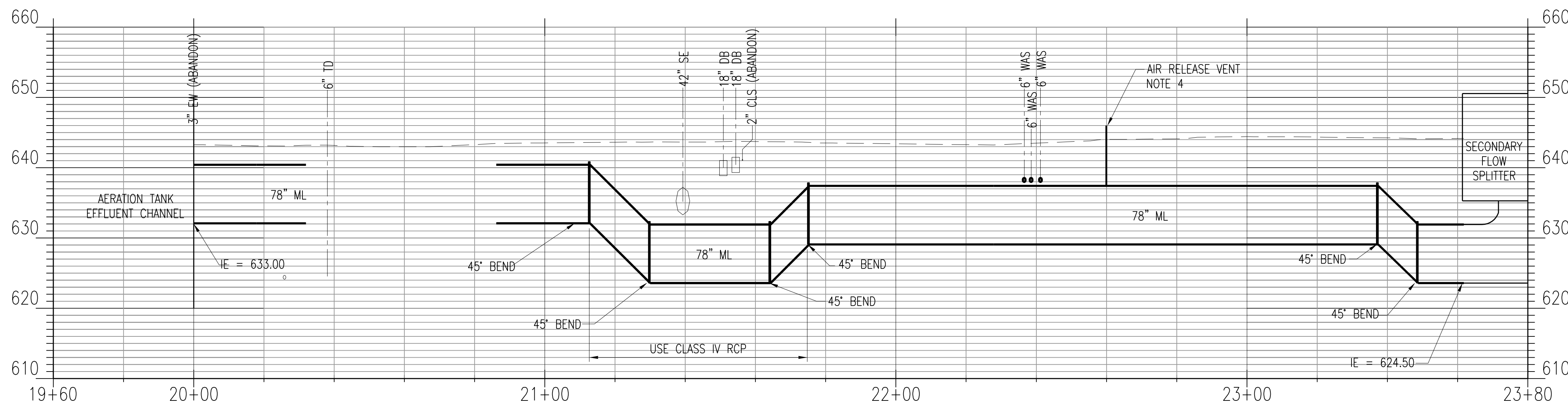
PROPOSED 24" RAS PROFILE
SEE DRAWINGS C34, C37, C38



PROPOSED 60" SE PROFILE
SEE DRAWINGS C38



PROPOSED 36" GTE PROFILE
SEE DRAWINGS C35



PROPOSED 78" ML PROFILE
SEE DRAWINGS C37, C38

NOTES:

1. RELOCATE PW LINES AS NEEDED TO MAINTAIN 1'-6" MINIMUM VERTICAL AND 10' MINIMUM HORIZONTAL SEPARATION FROM OTHER PIPING.
2. RELOCATE PROCESS LINES AS NEEDED TO MAINTAIN 1'-0" MINIMUM VERTICAL SEPARATION FROM OTHER PROCESS PIPING.
3. ALL PIPE LENGTHS SHOWN ARE HORIZONTAL LENGTHS BETWEEN CENTERLINE OF FITTINGS.
4. SEE DRAWING C4 FOR DETAIL.

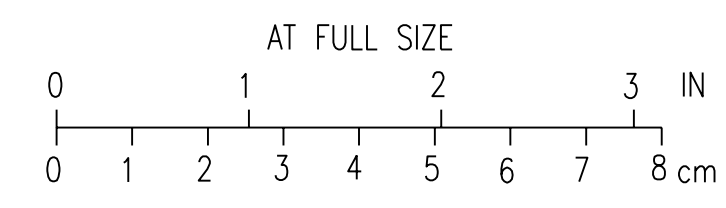
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1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

SITE PIPING PROFILES - SHEET 1

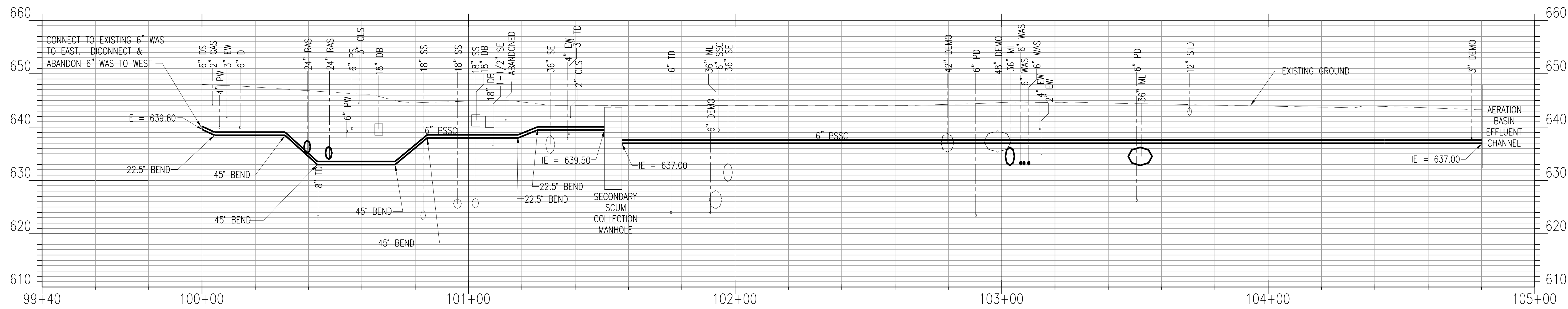
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DRAWN	GM REEVES	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		



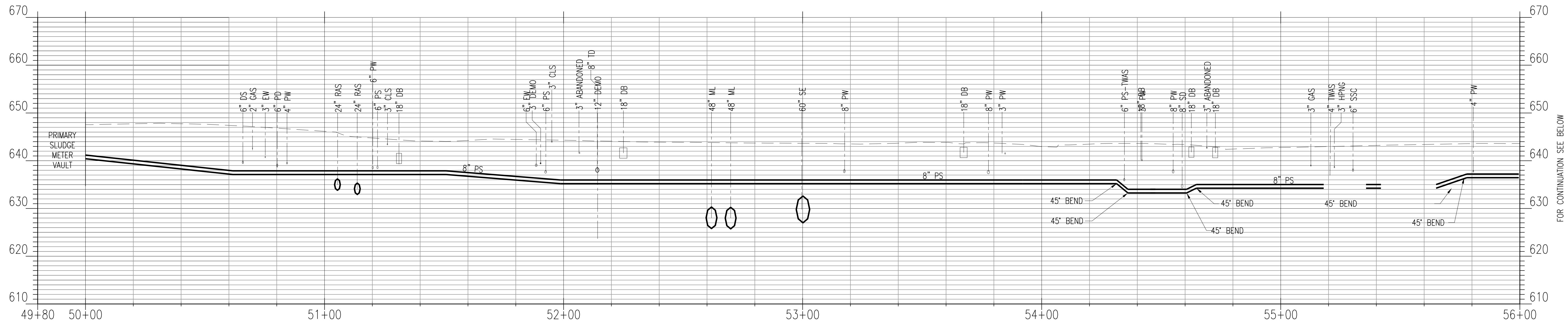
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NOTES:

1. RELOCATE PW LINES AS NEEDED TO MAINTAIN 1'-6" MINIMUM VERTICAL AND 10' MINIMUM HORIZONTAL SEPARATION FROM OTHER PIPING.
2. RELOCATE PROCESS LINES AS NEEDED TO MAINTAIN 1'-0" MINIMUM VERTICAL SEPARATION FROM OTHER PROCESS PIPING.
3. ALL PIPE LENGTHS SHOWN ARE HORIZONTAL LENGTHS BETWEEN CENTERLINE OF FITTINGS.



PROPOSED 6" PSSC PROFILE
SEE DRAWINGS C35, C37, C38



PROPOSED 8" PS PROFILE
SEE DRAWINGS C35, C38, C39

NOTE:
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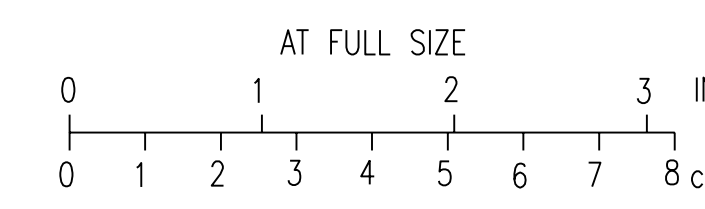
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1	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

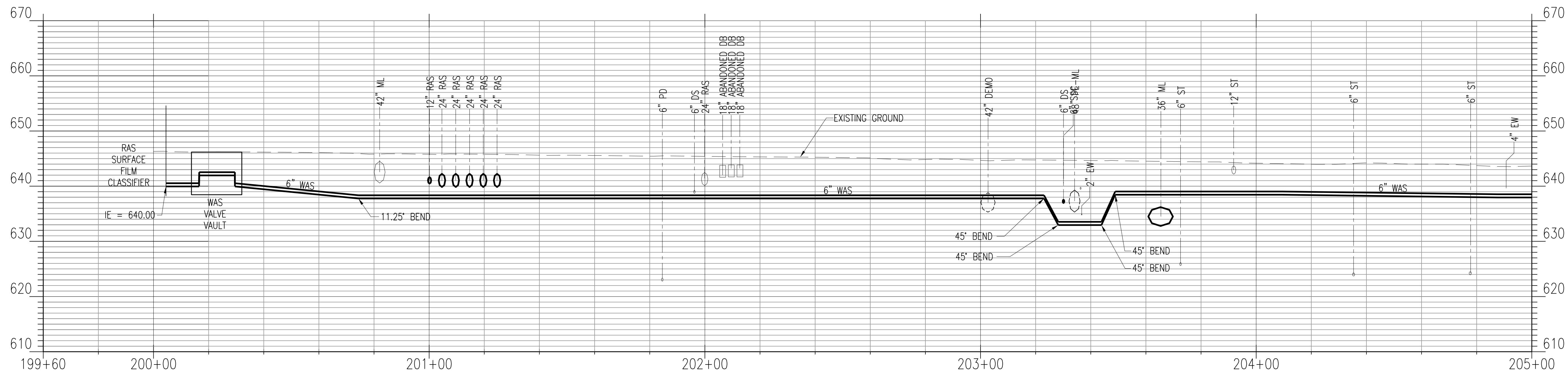
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SITE PIPING PROFILES - SHEET 2

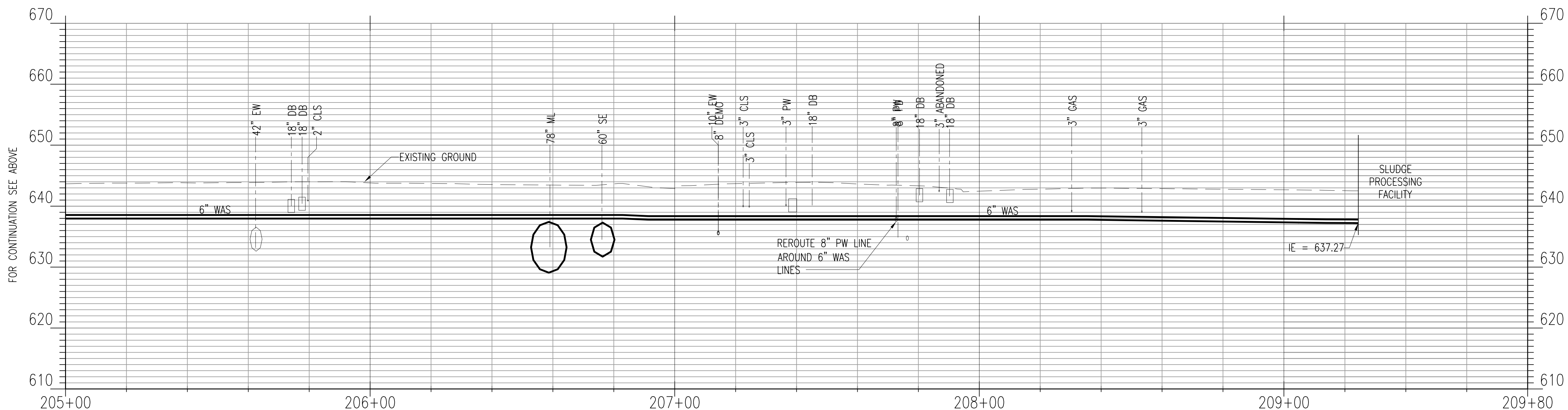
DESIGNED	CL BARK	SCALE:	1:20	REV.	
DRAWN	GM REEVES		NO. 22800		
CHECKED	CL BARK				
APPROVED	BO REISCHAUER				
APPROVED					
DATE	DECEMBER 2, 2011				



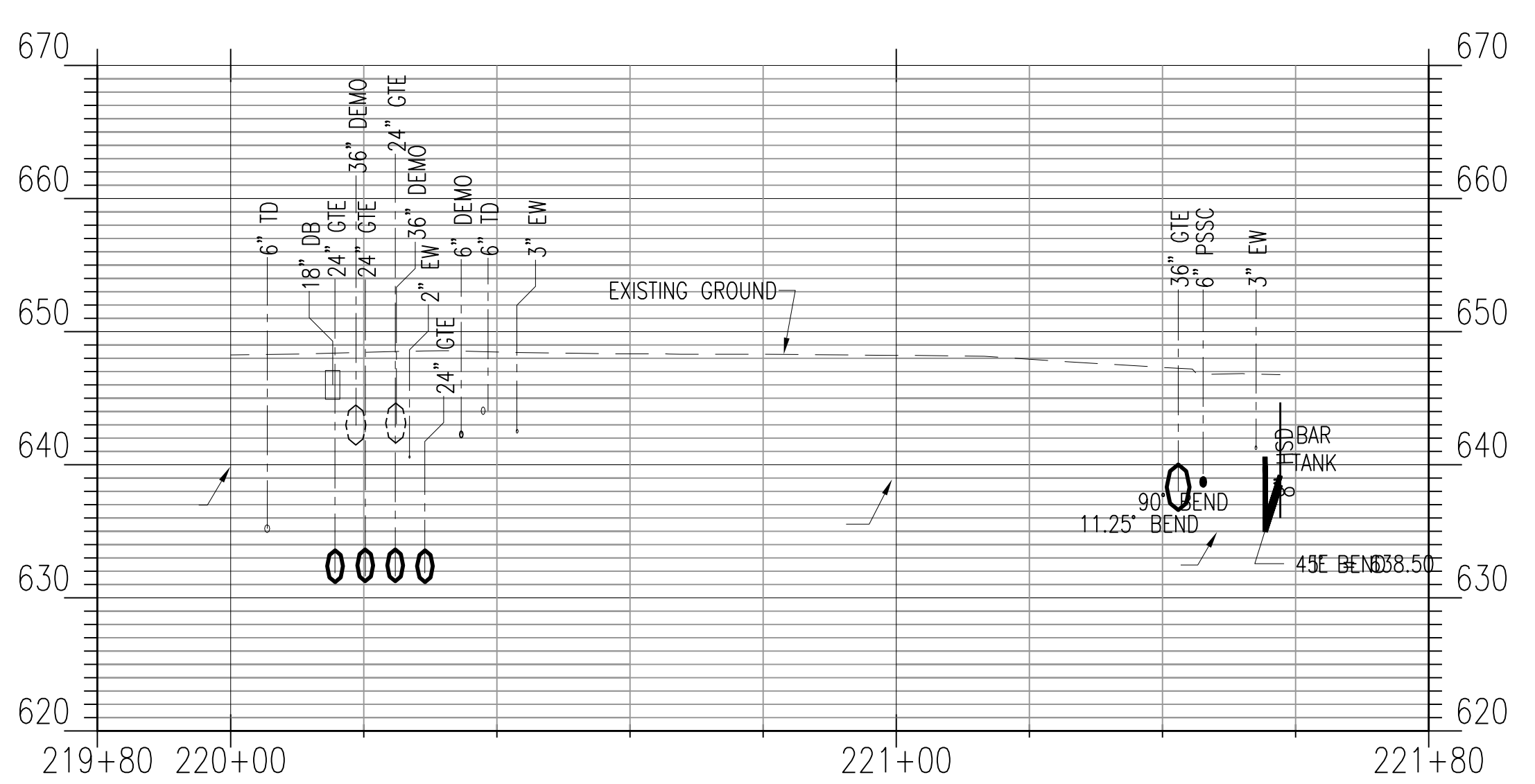


- NOTES:**
1. RELOCATE PW LINES AS NEEDED TO MAINTAIN 1'-6" MINIMUM VERTICAL AND 10' MINIMUM HORIZONTAL SEPARATION FROM OTHER PIPING.
 2. RELOCATE PROCESS LINES AS NEEDED TO MAINTAIN 1'-0" MINIMUM VERTICAL SEPARATION FROM OTHER PROCESS PIPING.
 3. ALL PIPE LENGTHS SHOWN ARE HORIZONTAL LENGTHS BETWEEN CENTERLINE OF FITTINGS.

FOR CONTINUATION SEE BELOW



PROPOSED 6" WAS PROFILE
SEE DRAWINGS C34, C37, C38, C41



PROPOSED 8" HSD PROFILE
SEE DRAWINGS C34, C35

NOTE:
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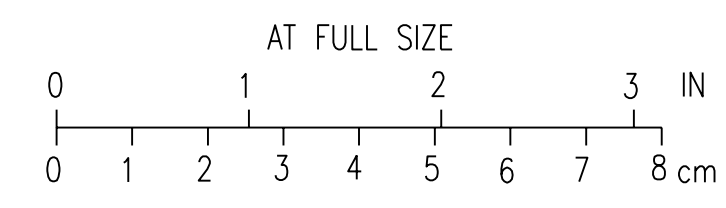
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2	ISSUED FOR CONSTRUCTION	CLB	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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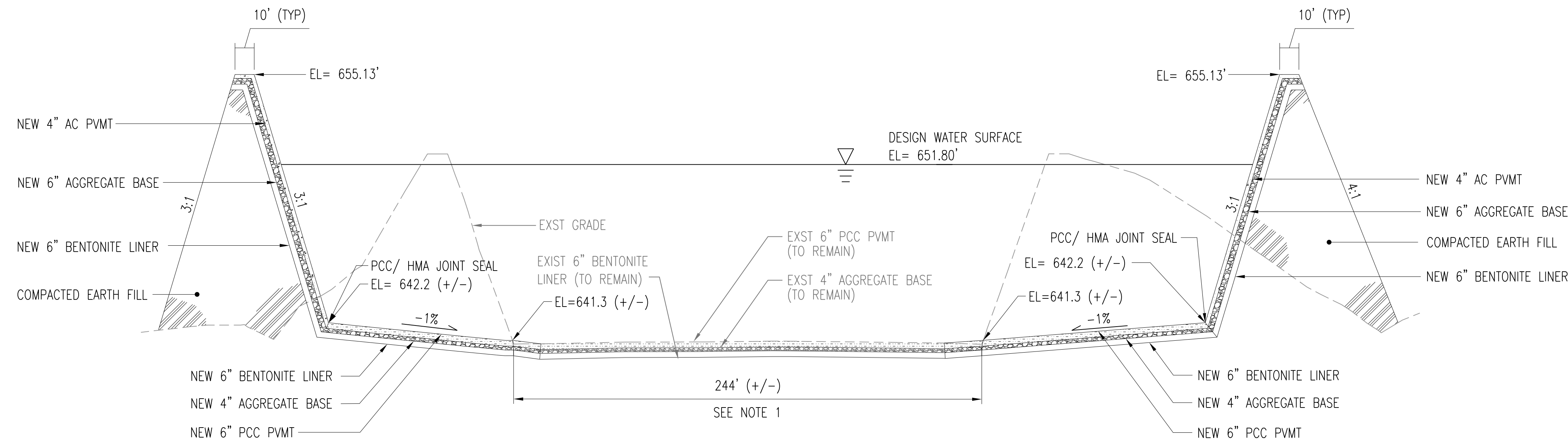
SITE PIPING PROFILES - SHEET 3

DESIGNED	CL BARK	SCALE:	1:20
DRAWN	GM REEVES	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		

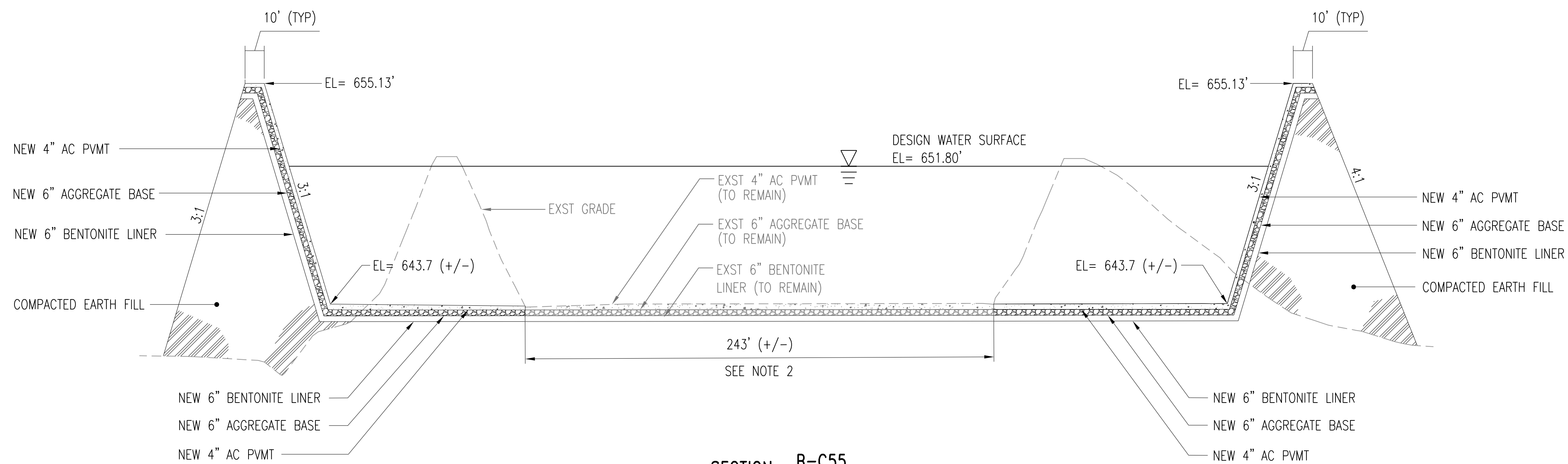


C53 1

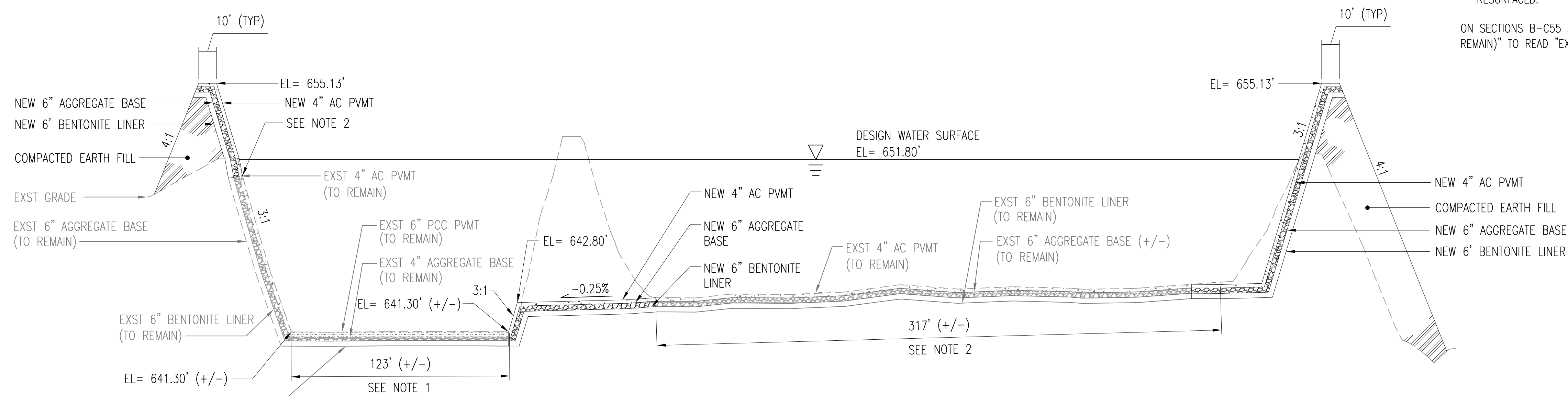
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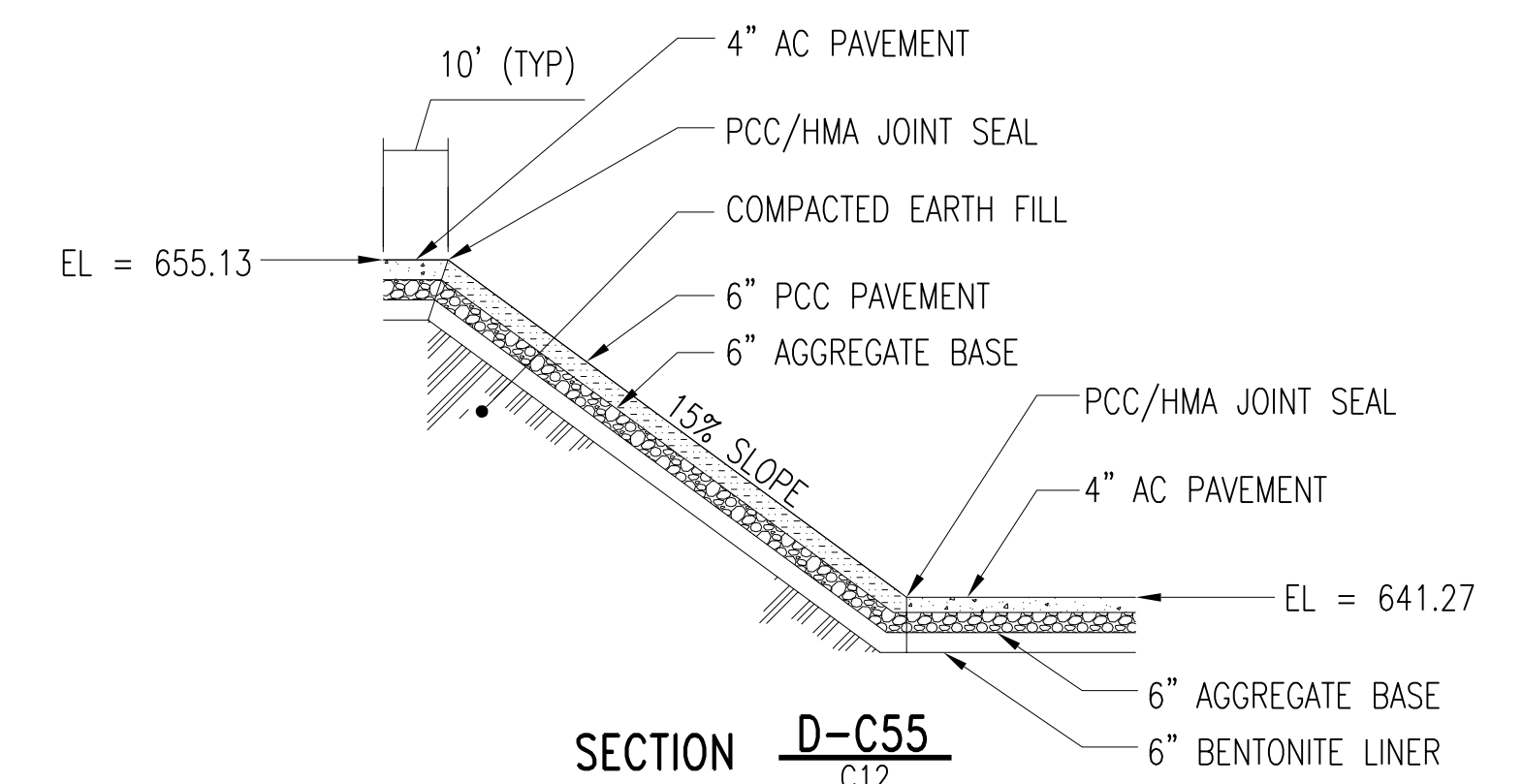
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C12,C15
SCALE: NONE



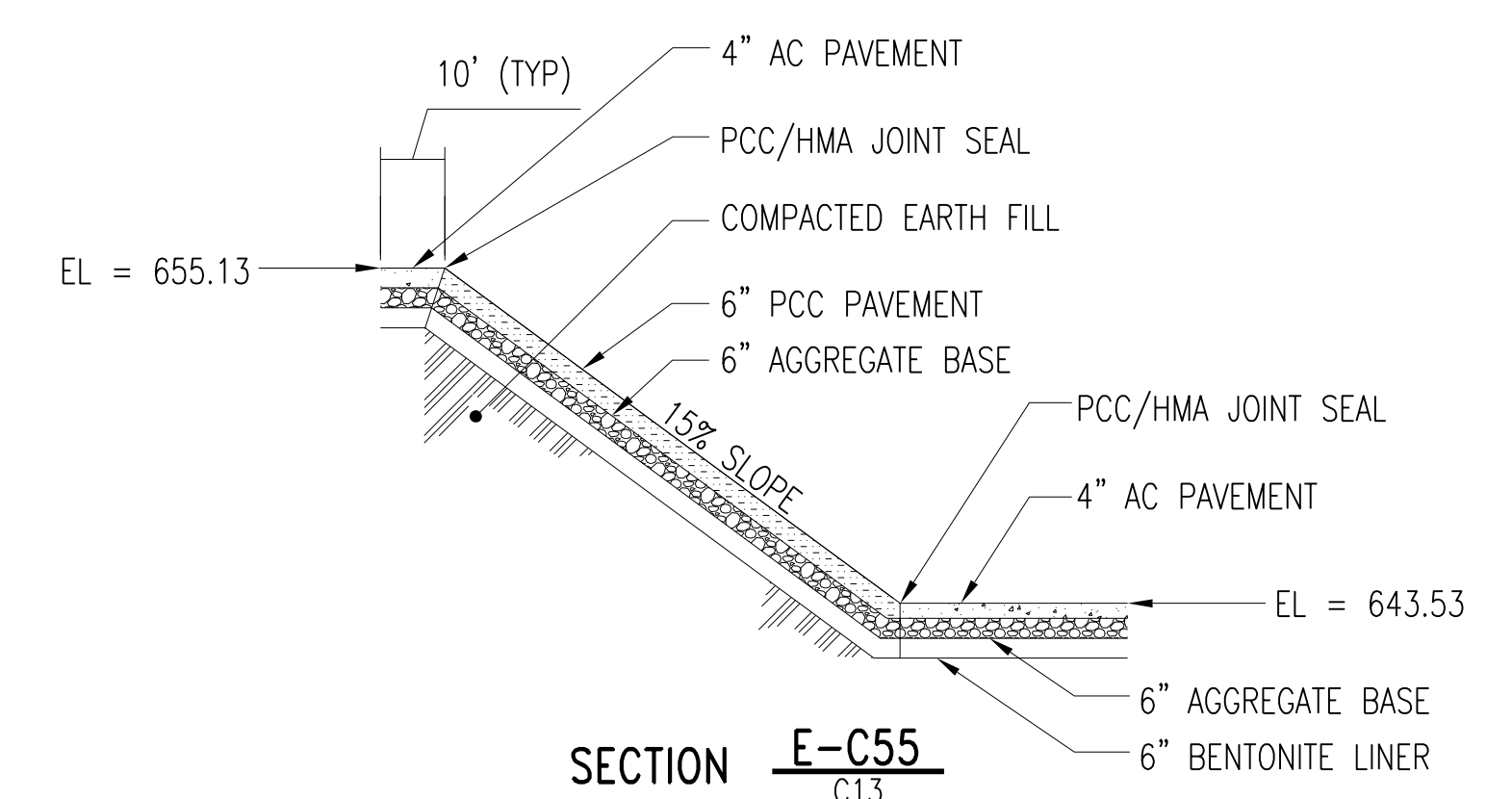
SECTION B-C55
C13,C16
SCALE: NONE



SECTION C-C55
C15,C16
SCALE: NONE



SECTION D-C55
C12
SCALE: NONE



SECTION E-C55
C13
SCALE: NONE

NOTES:

- EXISTING AGGREGATE BASE, BENTONITE LINER, AND PCC PAVEMENT TO REMAIN. REMOVE EXISTING PAVEMENT AT EDGES AS REQUIRED FOR SMOOTH TRANSITION.
- EXISTING AGGREGATE BASE, BENTONITE LINER, AND AC PAVEMENT TO REMAIN. SAWCUT AND REMOVE EXISTING PAVEMENT AT EDGES AS REQUIRED FOR SMOOTH TRANSITION.
- SEE DWG C26 FOR PAVING DETAILS.

ADD NOTE 4. TO READ:

Δ ^A₂ 4. EXISTING ASPHALT TO REMAIN SHALL BE MILLED TO A DEPTH OF 1" AND RESURFACED.

ON SECTIONS B-C55 AND C-C55 CHANGE NOTES "EXST 4" AC PVMT (TO REMAIN)" TO READ "EXST 4" AC PVMT, TO BE MILLED AND RESURFACED."

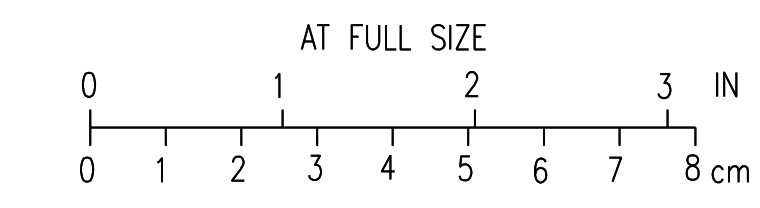
4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
1	GENERAL	AMM	DET	BDR	01-25-2012
0	ISSUED FOR CONSTRUCTION	AMM	DET	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE
FLOW EQUALIZATION BASIN SECTIONS**

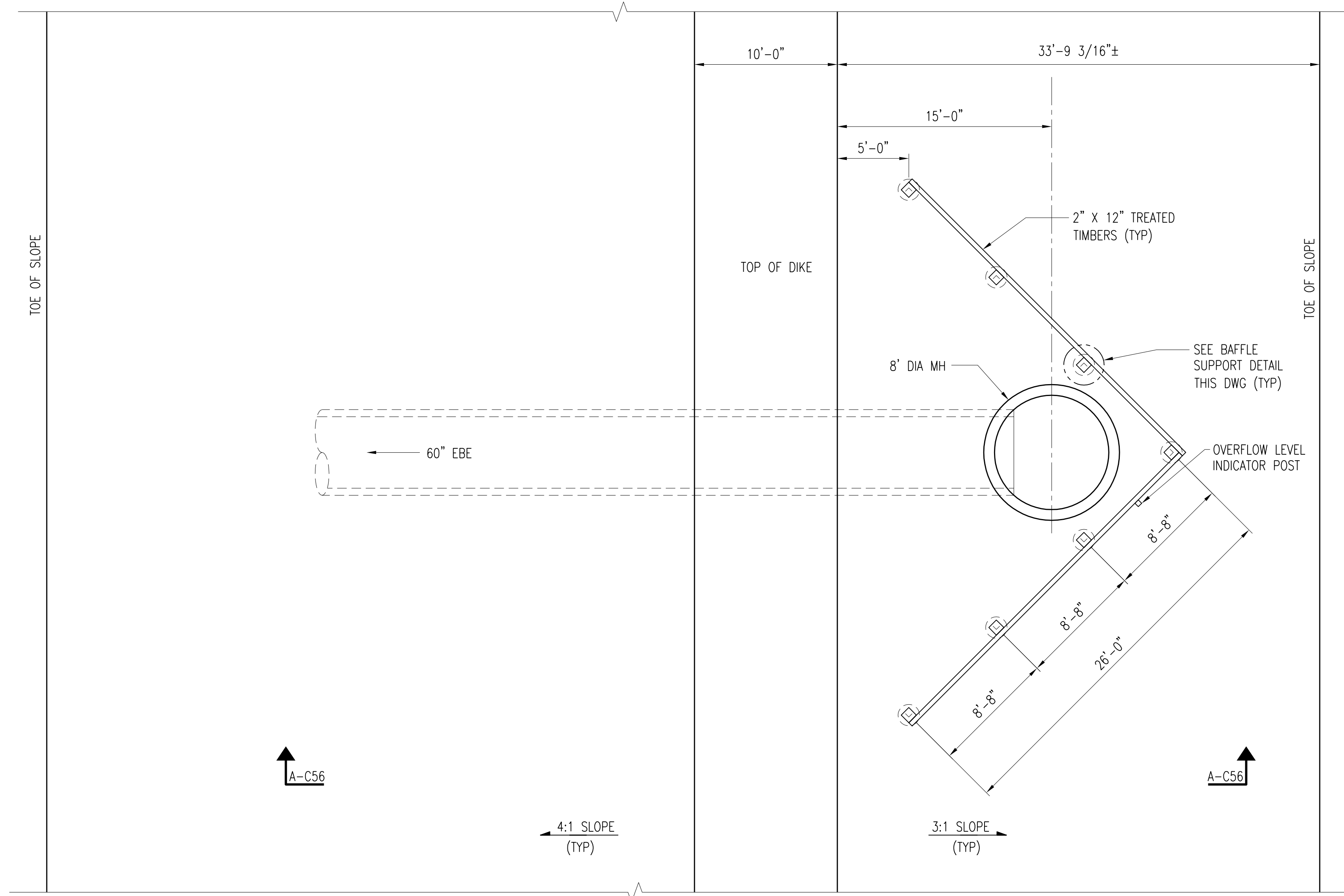
DESIGNED	AM ROMERO	SCALE: AS NOTED
DRAWN	NS JOHNSON	NO. 22800
CHECKED	AM ROMERO	REV.
APPROVED	BD REISCHAUER	C55
APPROVED		2
DATE	JANUARY 10, 2012	



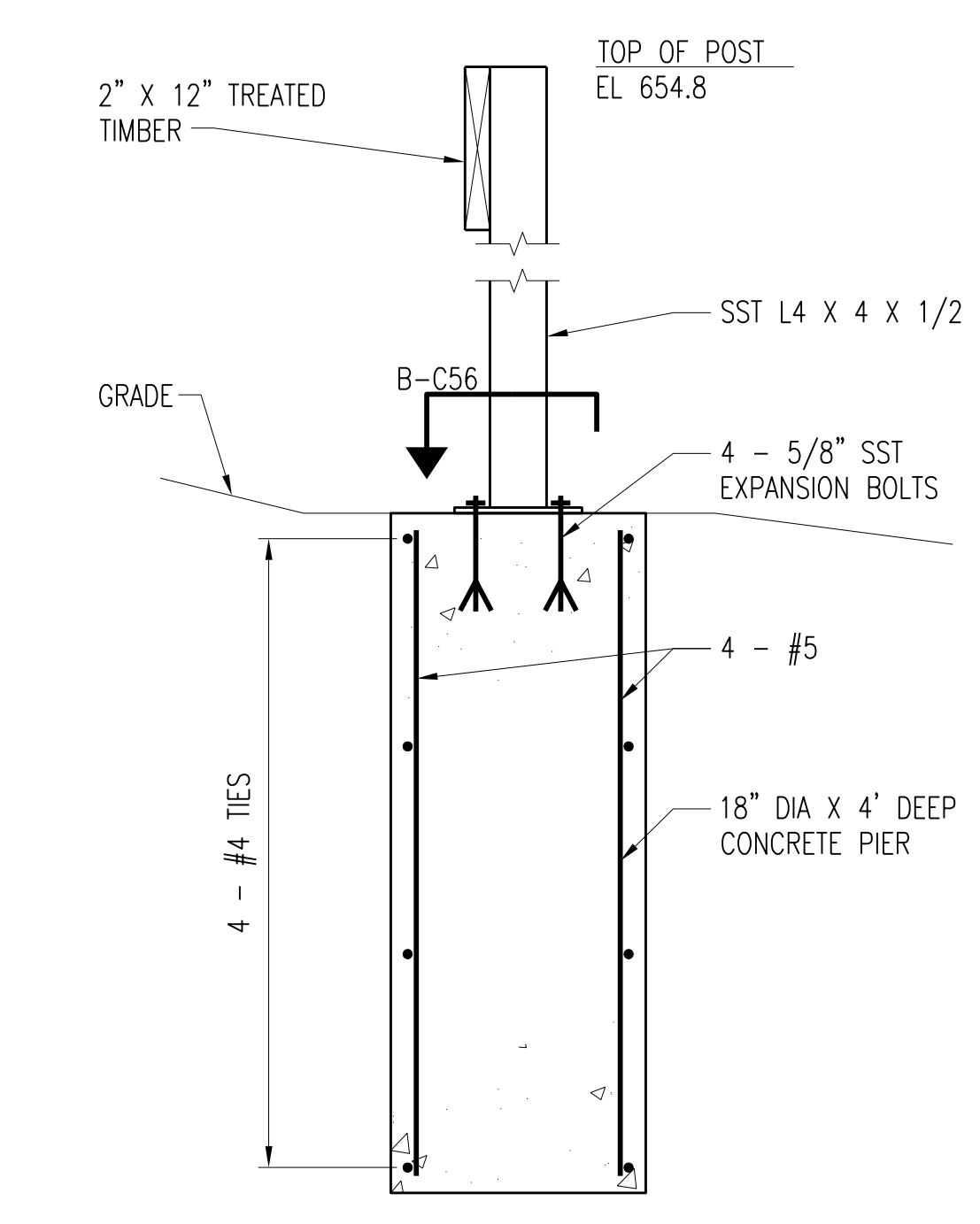
CADD: D1-R4

NOTES:

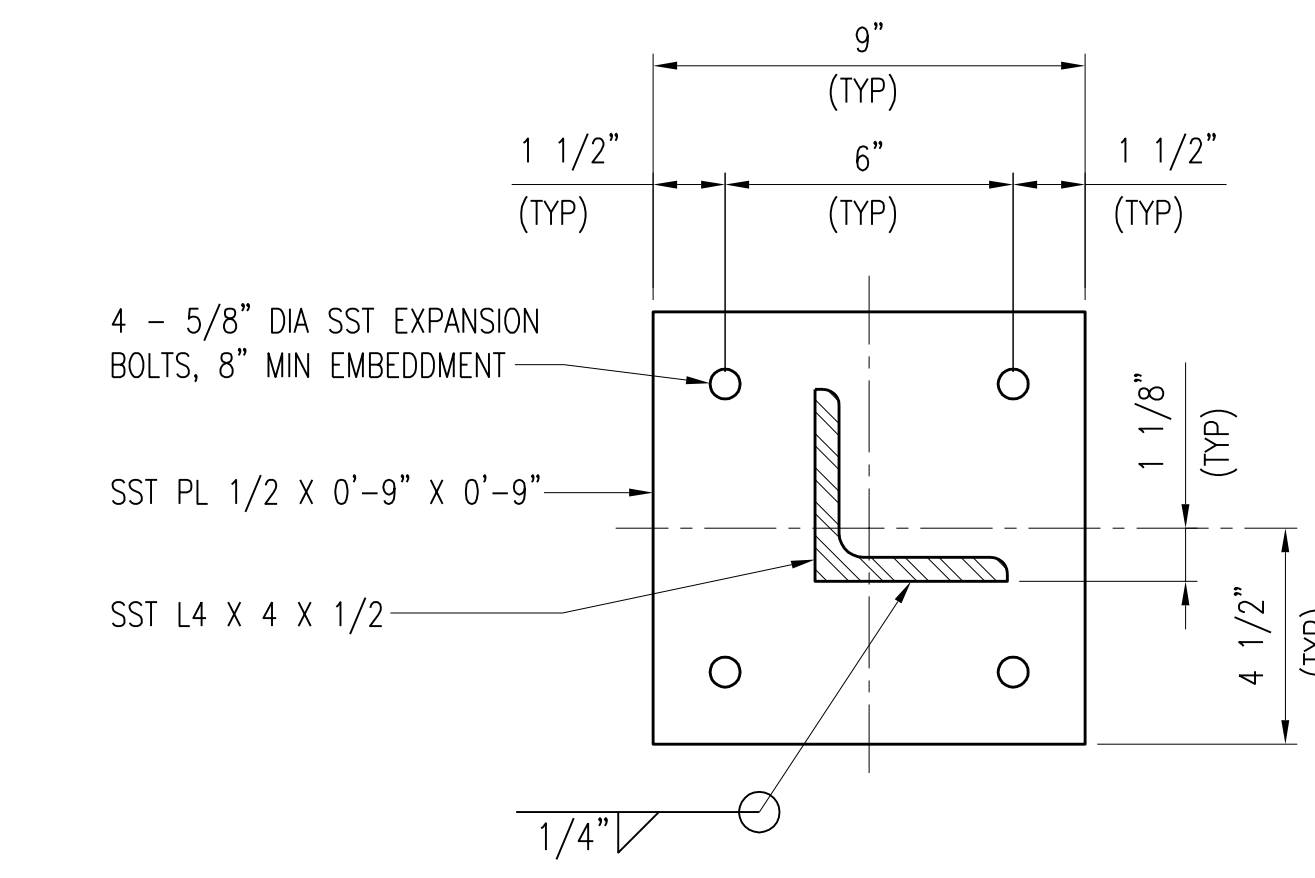
1. SEE DRAWING C16 FOR STRUCTURE LOCATION.
2. SEE DRAWING C36 FOR CONTINUATION OF SITE PIPING.
3. ATTACH SST LEVEL INDICATOR POST TO TIMBERS. POST TO BE PAINTED TO INDICATE LEVEL ABOVE OVERFLOW RIM IN 0.1 FOOT INCREMENTS.



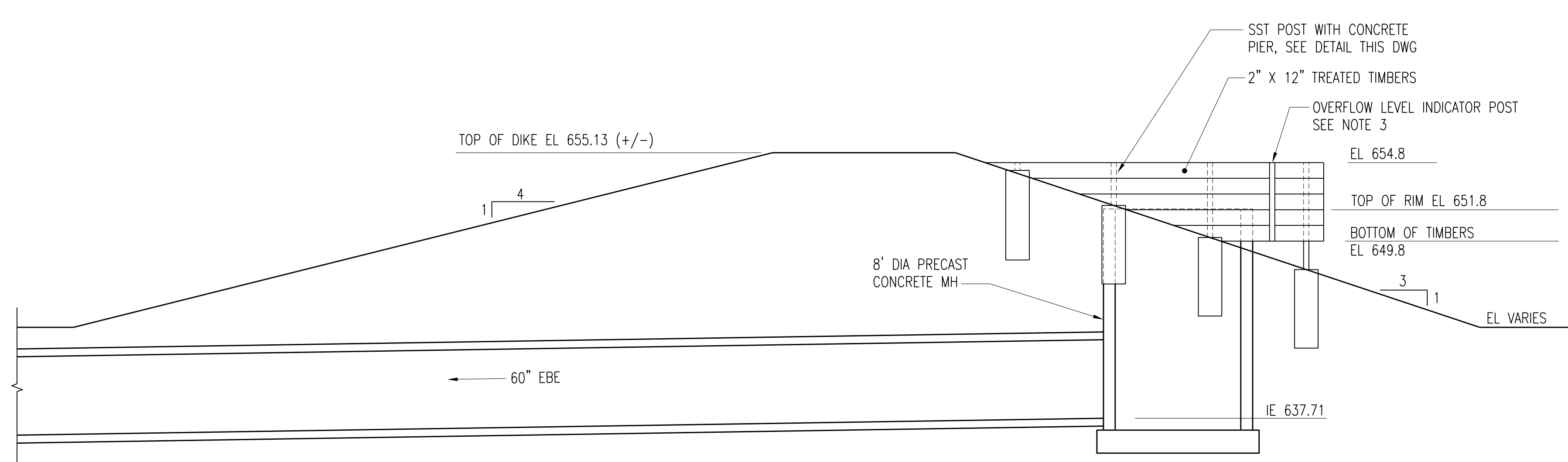
OVERFLOW STRUCTURE - PLAN VIEW
SCALE: 3/16" = 1'-0"



BAFFLE SUPPORT DETAIL
SCALE: 1" = 1'-0"



SECTION B-C56
SCALE: 3" = 1'-0"



SECTION A-C56
SCALE: 3/16" = 1'-0"

NOTE:
EACH 2" X 12" TIMBER SHALL BE BOLTED TO THE SST POST USING 2-1/2" SST CARRIAGE BOLTS @ EACH JOINT.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	AMR	AMR	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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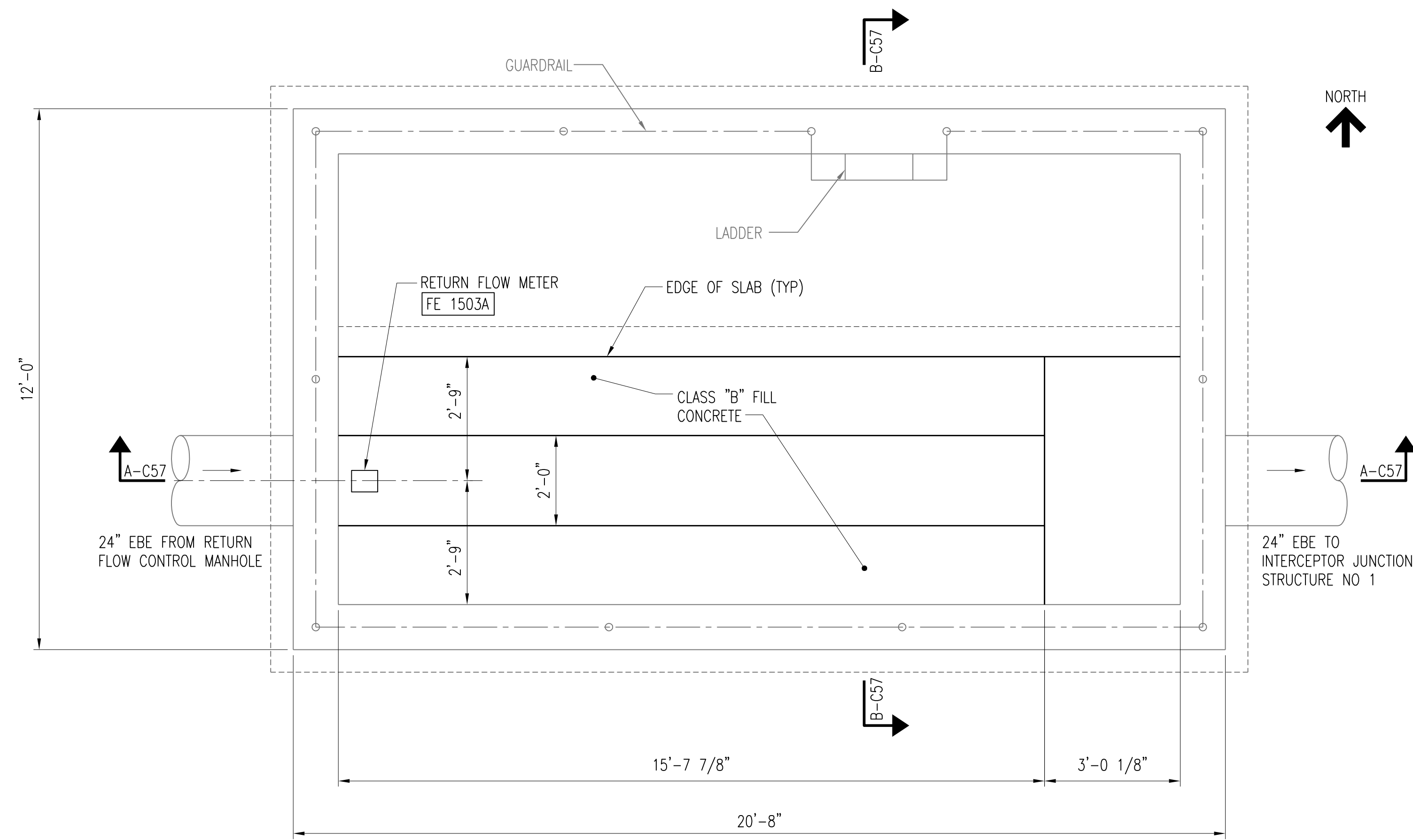
SITE FLOW EQUALIZATION BASIN DETAILS

DESIGNED	AM ROMERO	SCALE:	AS NOTED
DRAWN	CA GOOS	NO.	22800
CHECKED	AM ROMERO	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		

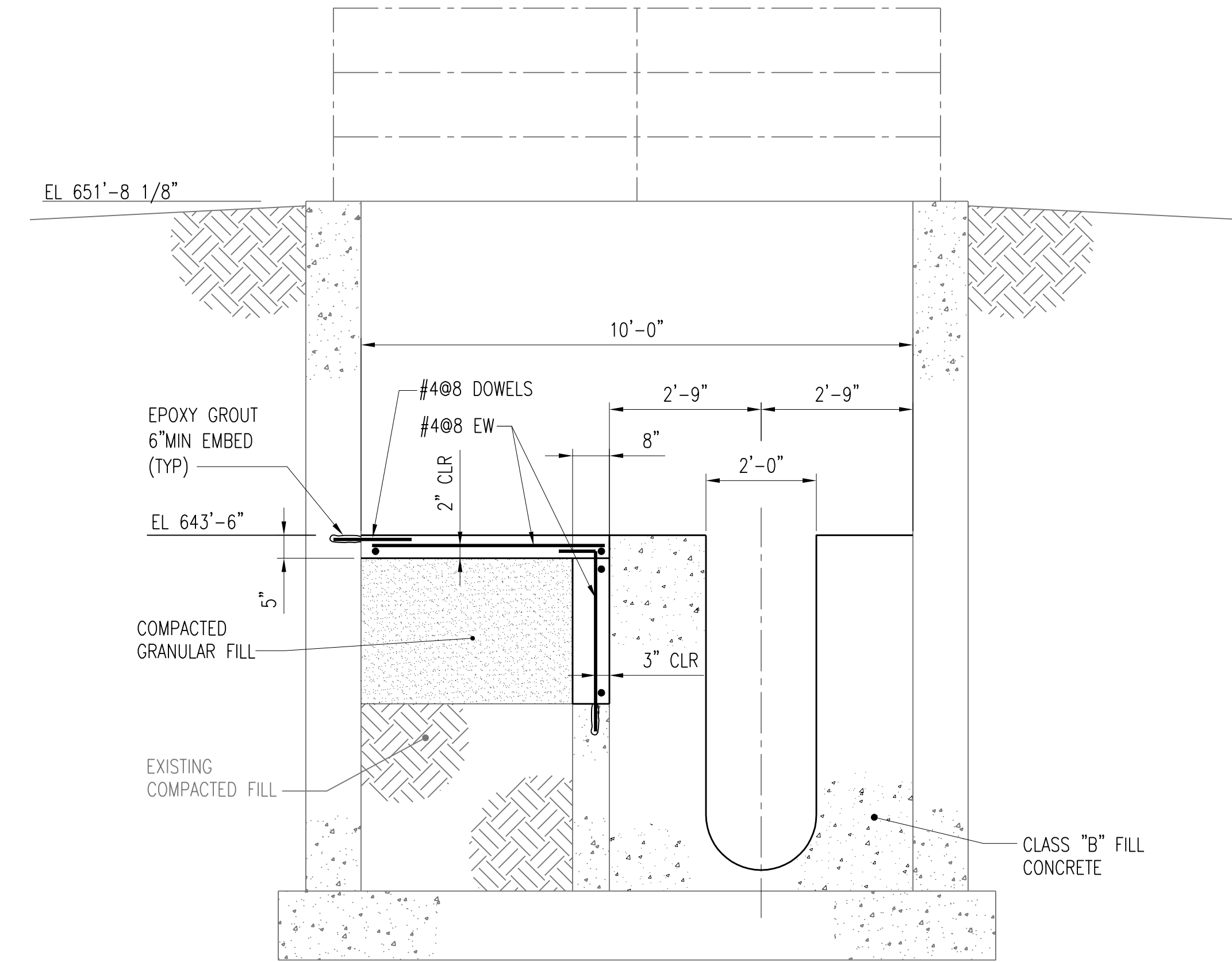


CADD: D1-PR4

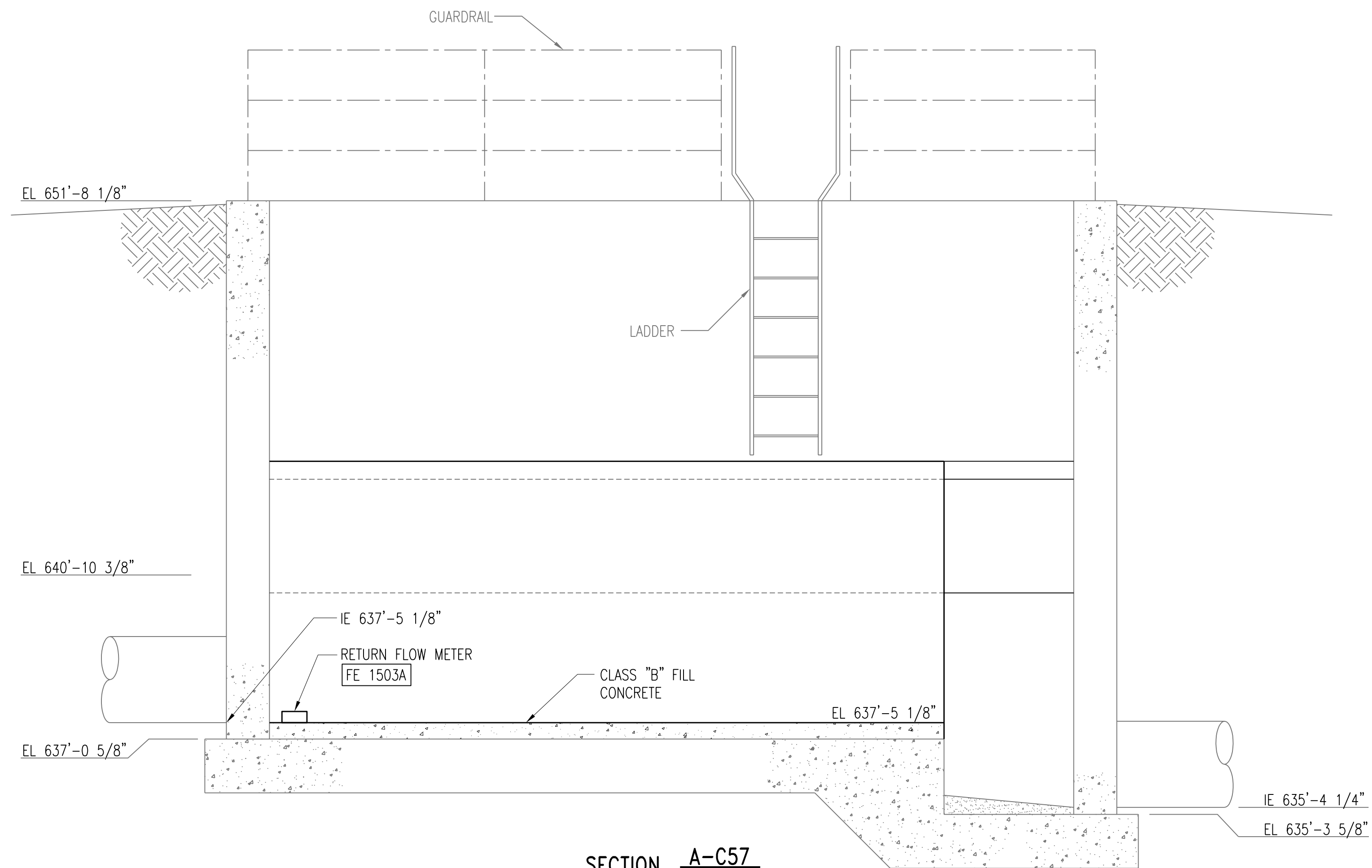
- NOTES:**
 1. FOR STRUCTURE LOCATION SEE DRAWING C12.
 2. SEE DRAWING C32 FOR CONTINUATION OF SITE PIPING.



RETURN FLOW MEASUREMENT STRUCTURE PLAN
 SCALE: 1/2" = 1'-0"



SECTION B-C57
 SCALE: 1/2" = 1'-0"



SECTION A-C57
 SCALE: 1/2" = 1'-0"

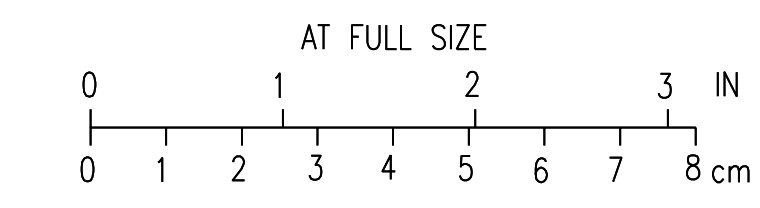
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED AND REISSUED	AMR	CLB	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMR	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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**SITE
 RETURN FLOW MEASUREMENT STRUCTURE
 MODIFICATIONS**

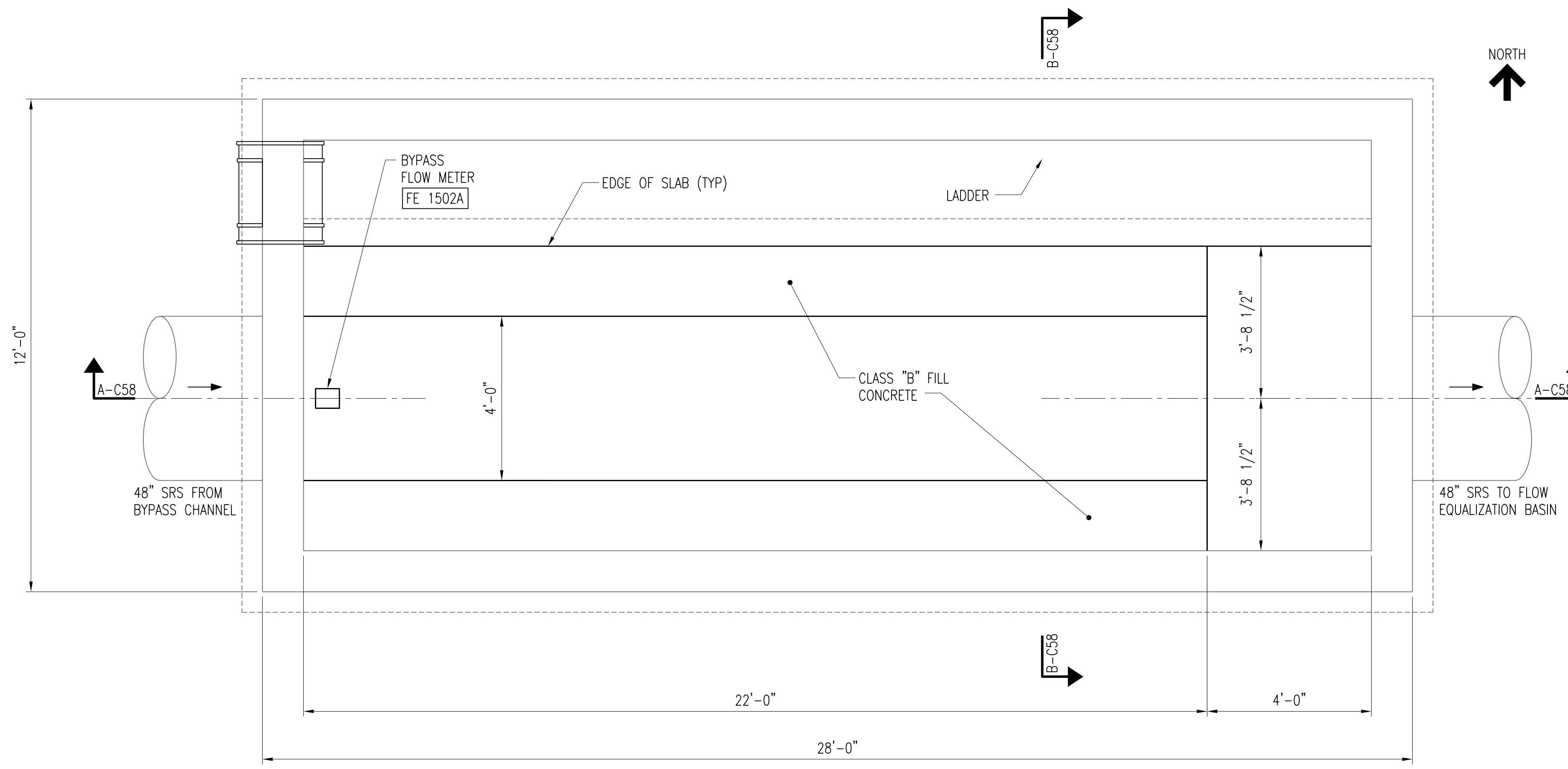
DESIGNED	AM ROMERO	SCALE:	AS NOTED
DRAWN	GA GOOS	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
APPROVED			
DATE	DECEMBER 2, 2011		



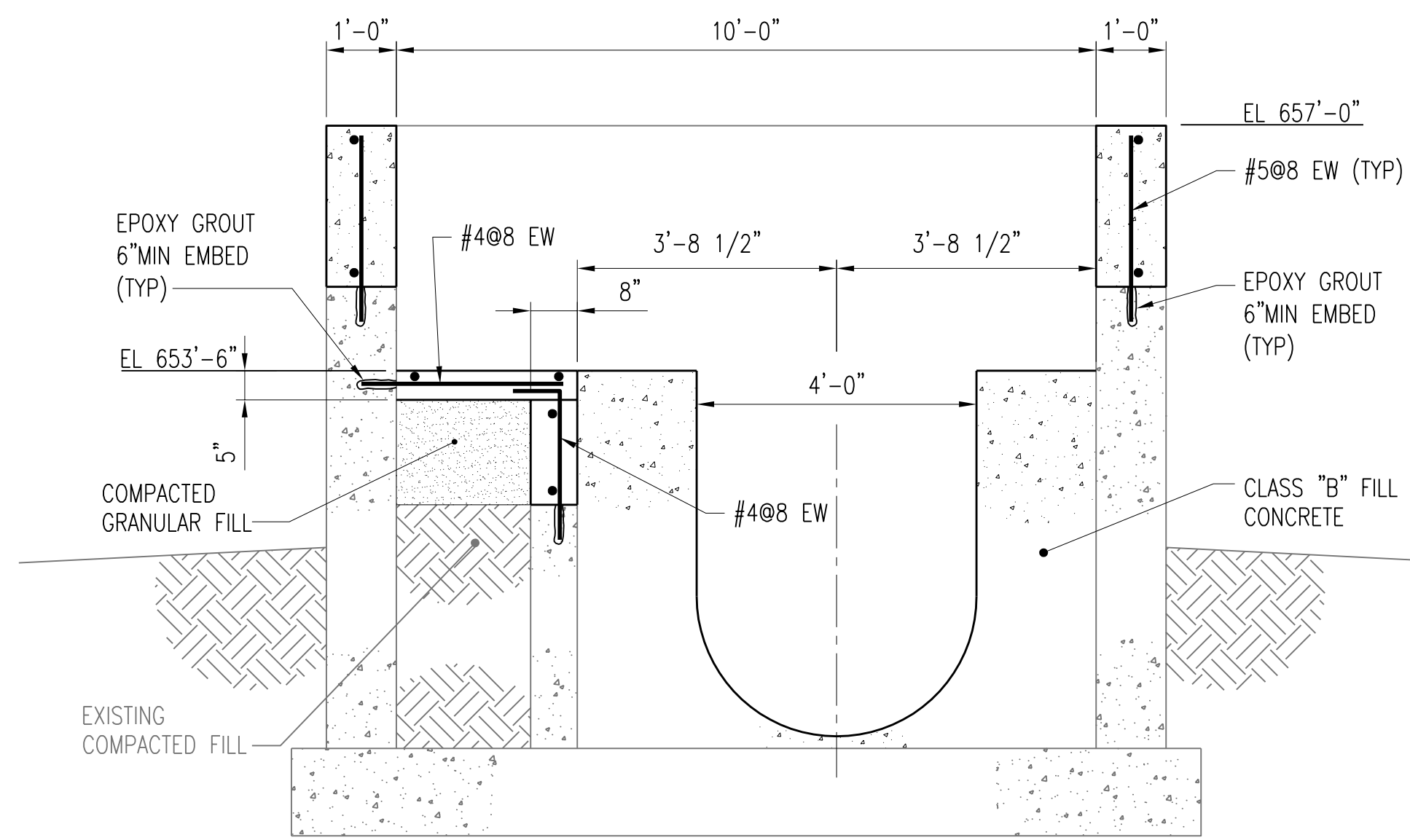
C57
3

CADD: D1-R4

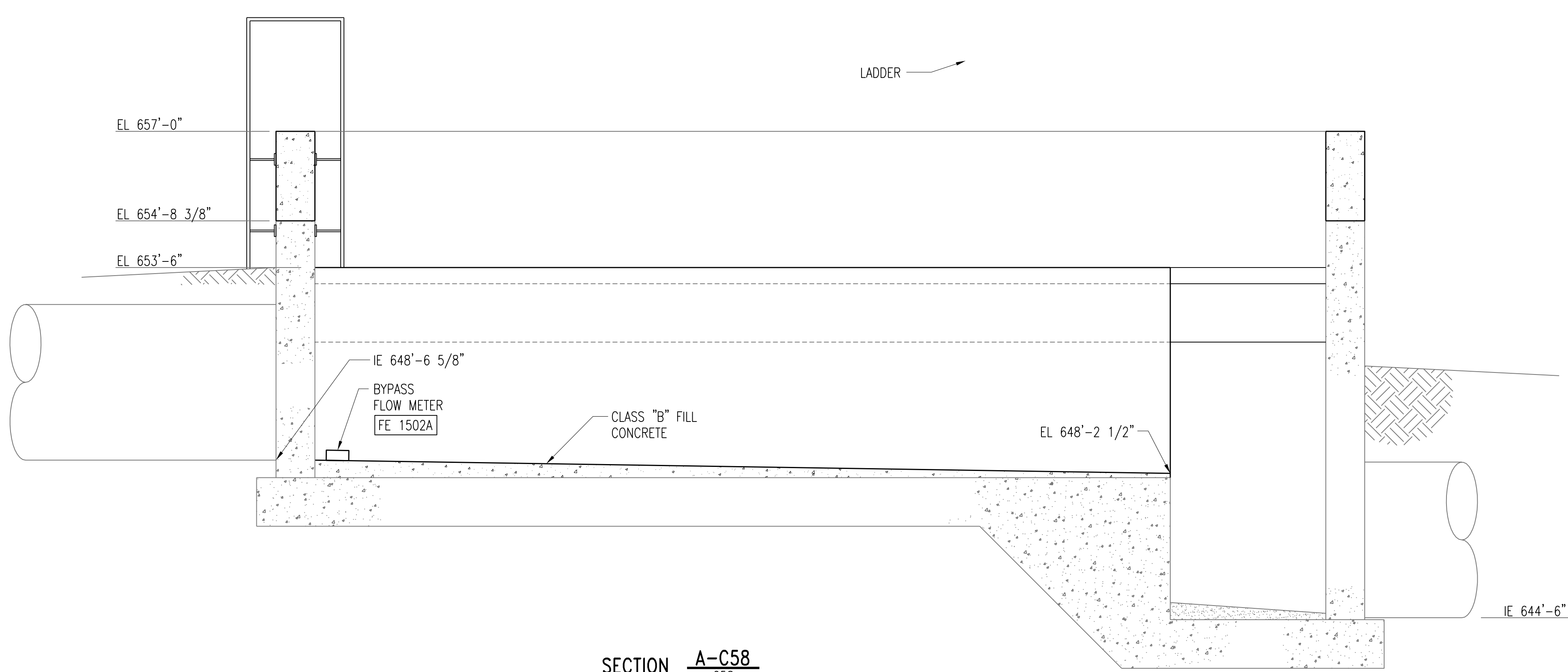
- NOTES:**
1. FOR STRUCTURE LOCATION SEE DRAWING C12.
 2. SEE DRAWING C32 FOR CONTINUATION OF SITE PIPING.



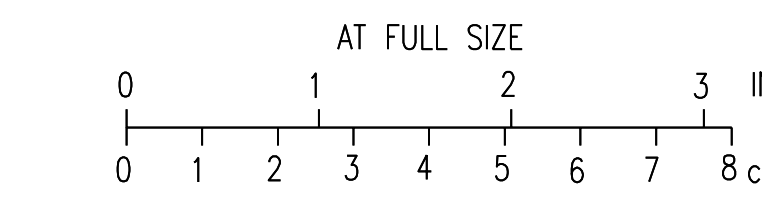
BYPASS FLOW MEASUREMENT STRUCTURE PLAN
SCALE: 1/2" = 1'-0"



SECTION B-C58
SCALE: 1/2" = 1'-0"



SECTION A-C58
SCALE: 1/2" = 1'-0"



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED AND REISSUED	AMR	CLB	BDR	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMR	CLB	BDR	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

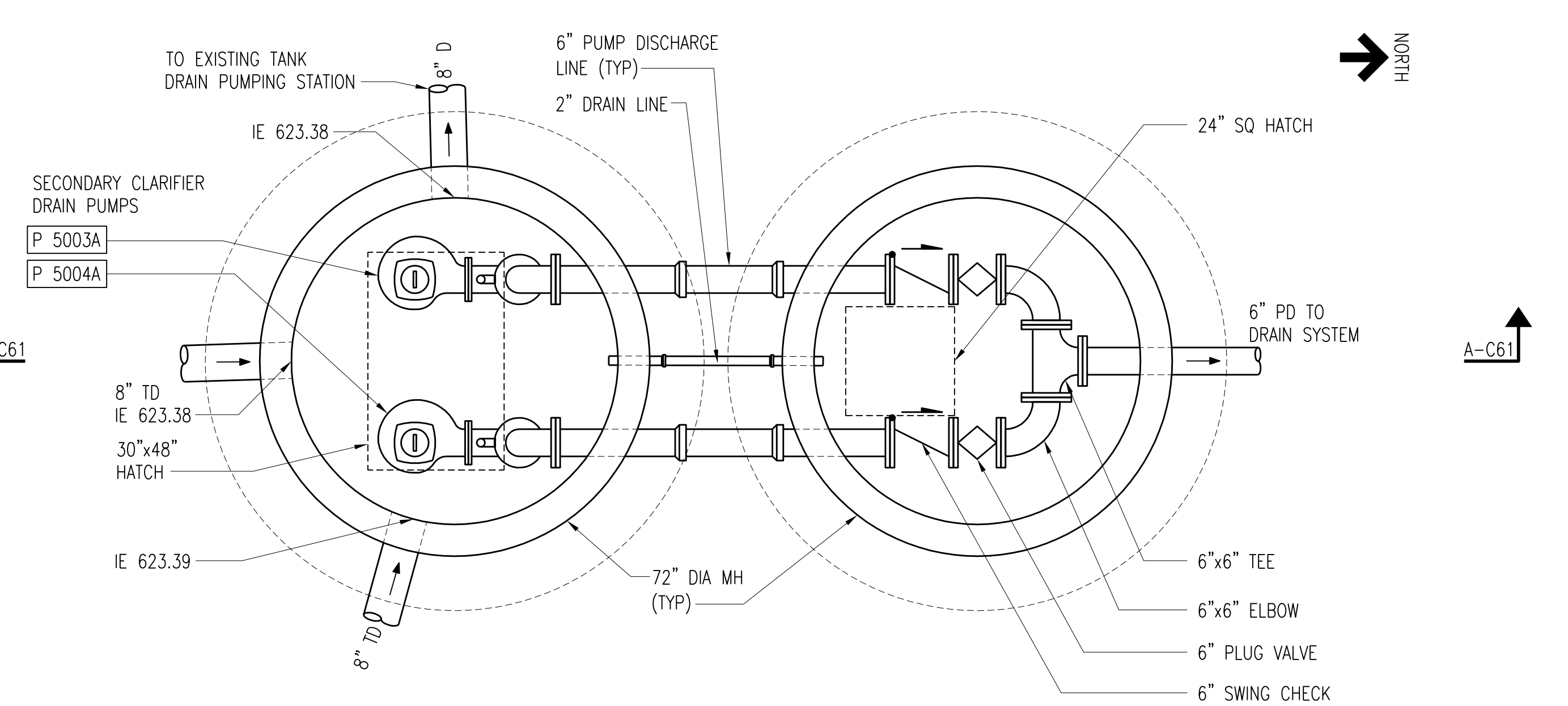

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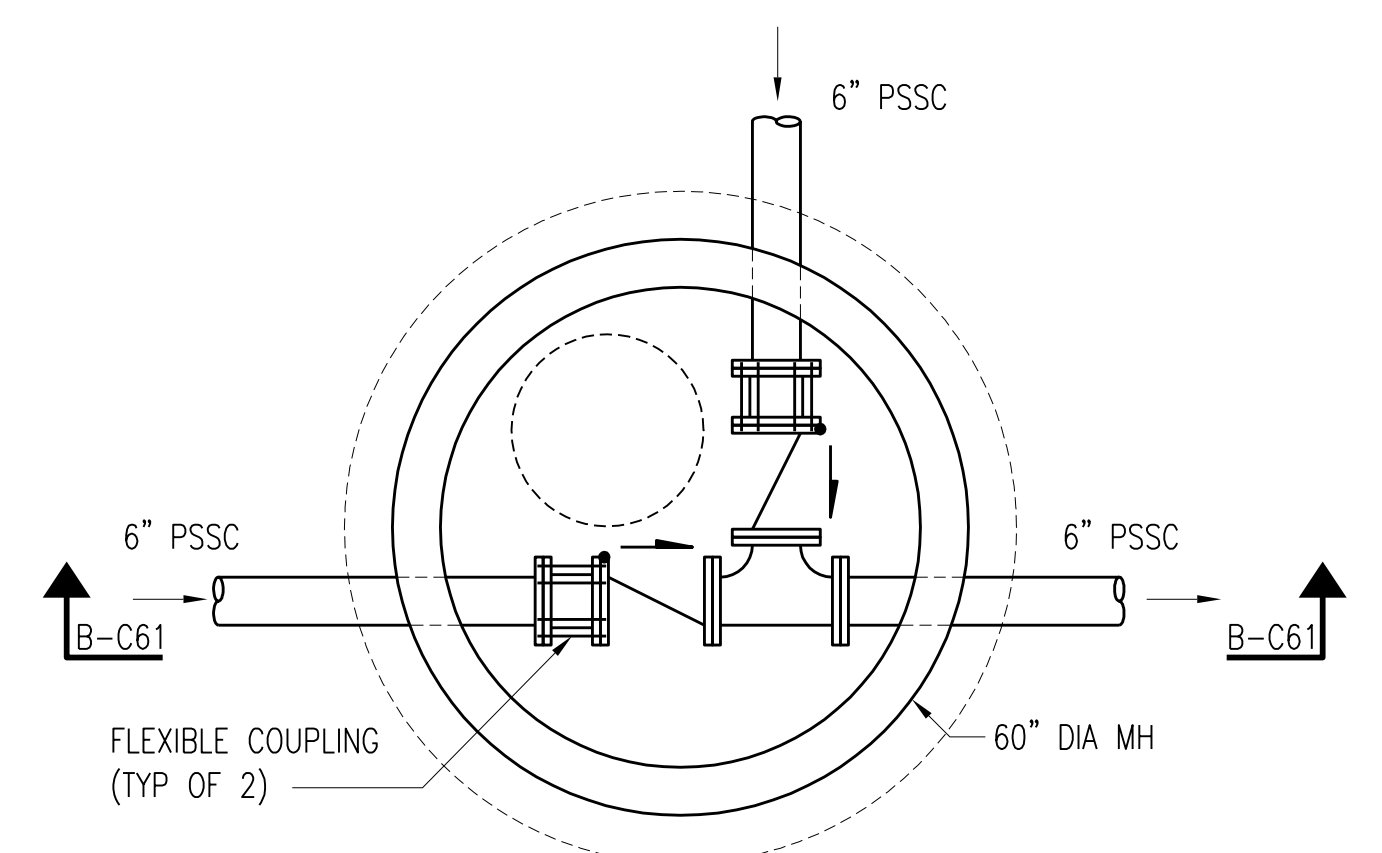
**SITE
BYPASS FLOW MEASUREMENT STRUCTURE
MODIFICATIONS**

DESIGNED	AM ROMERO	SCALE:	AS NOTED
DRAWN	GA GOOS	NO.	22800
CHECKED	CL BARK	REV.	
APPROVED	BD REISCHAUER		
DATE	DECEMBER 2, 2011	C58	3

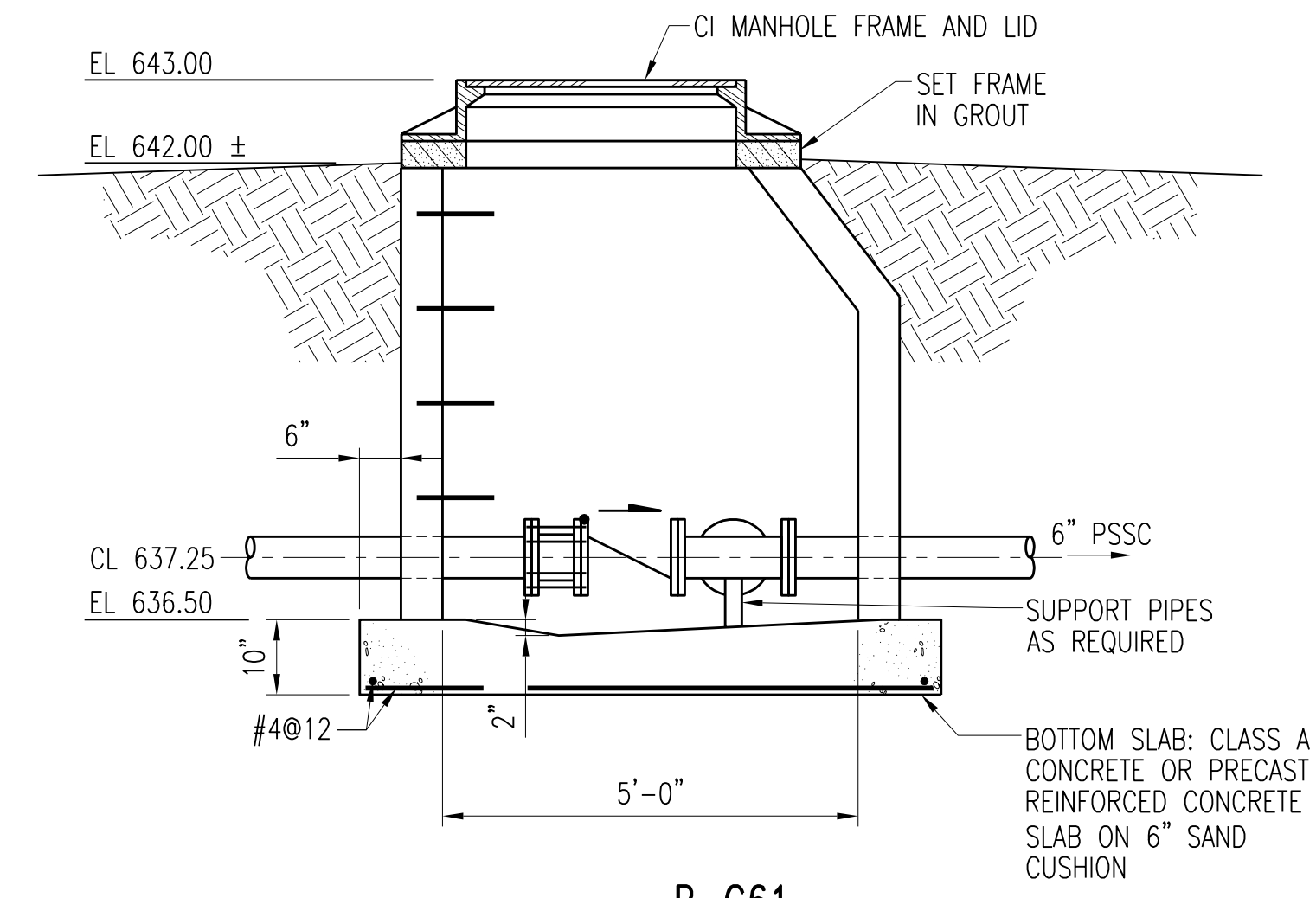
CADD: D1-R4



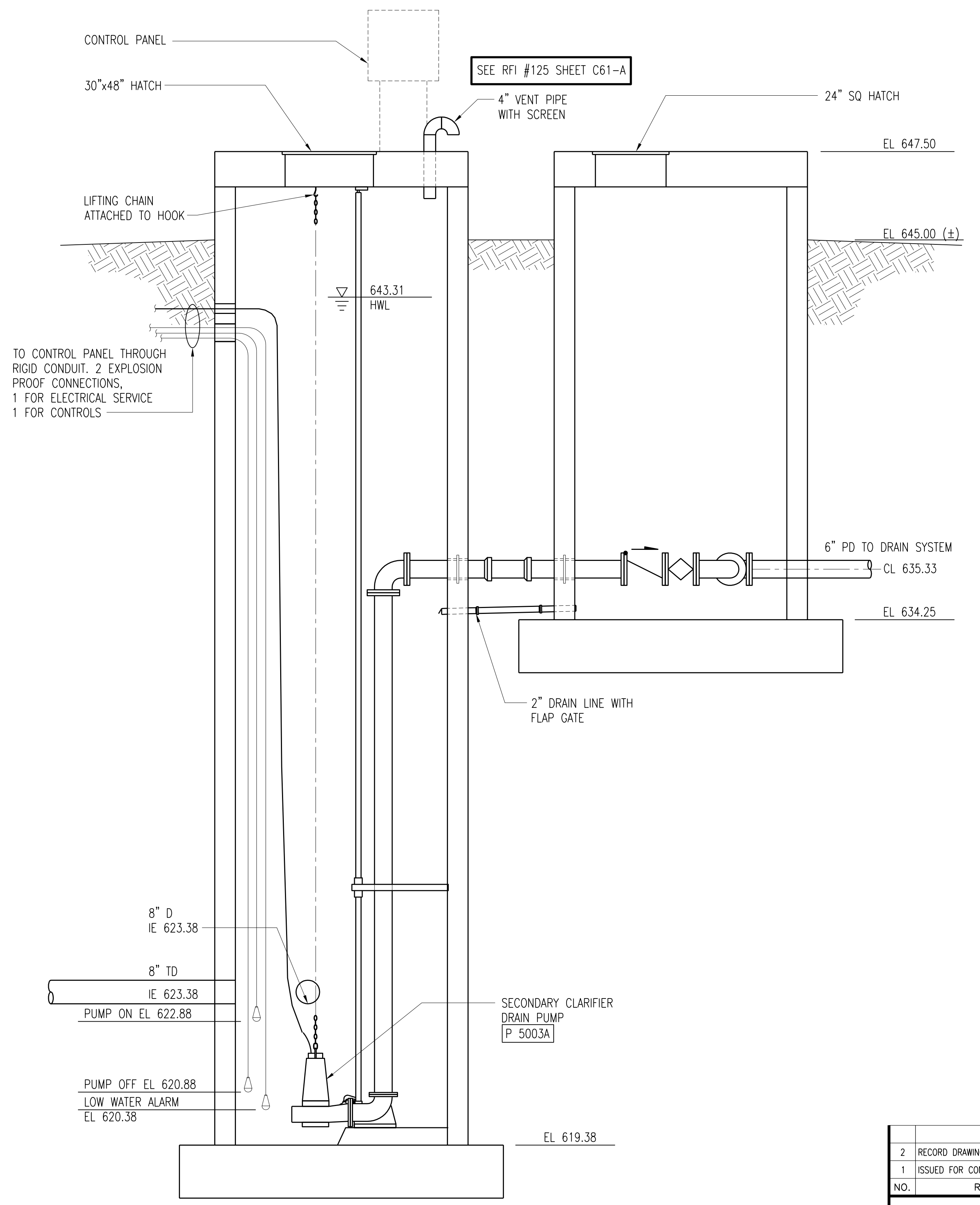
TANK DRAIN PUMPING STATION PLAN
SCALE: 1/2" = 1'-0"



PSSC VALVE MANHOLE PLAN
SCALE: 1/2" = 1'-0"



SECTION B-C61
SCALE: 1/2" = 1'-0"



SECTION A-C61
SCALE: 1/2" = 1'-0"



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	AMR	AMR	JMB	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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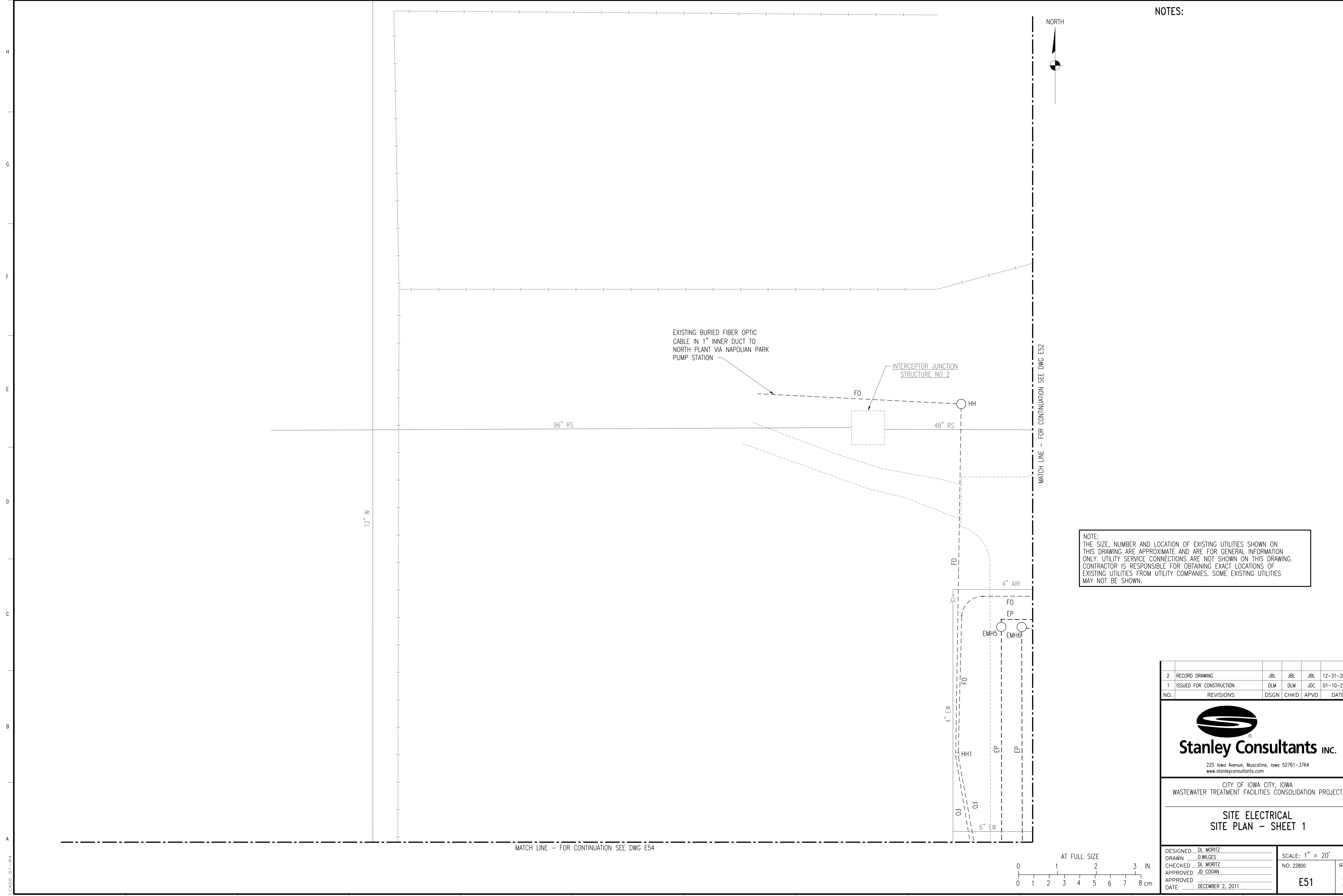
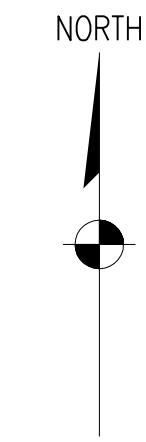
**SITE
TANK DRAIN PUMPING STATION
PLAN AND SECTION**

DESIGNED	AM ROMERO	SCALE:	AS NOTED
DRAWN	DA SCHMIDT	NO.	22800
CHECKED	AM ROMERO	REV.	
APPROVED	JM BRADY		
APPROVED			
DATE	DECEMBER 2, 2011		

C61 **2**

CADD: D1-104

NOTES:



NOTE:
 THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

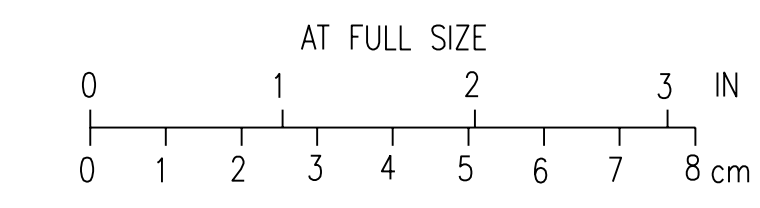
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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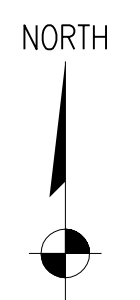
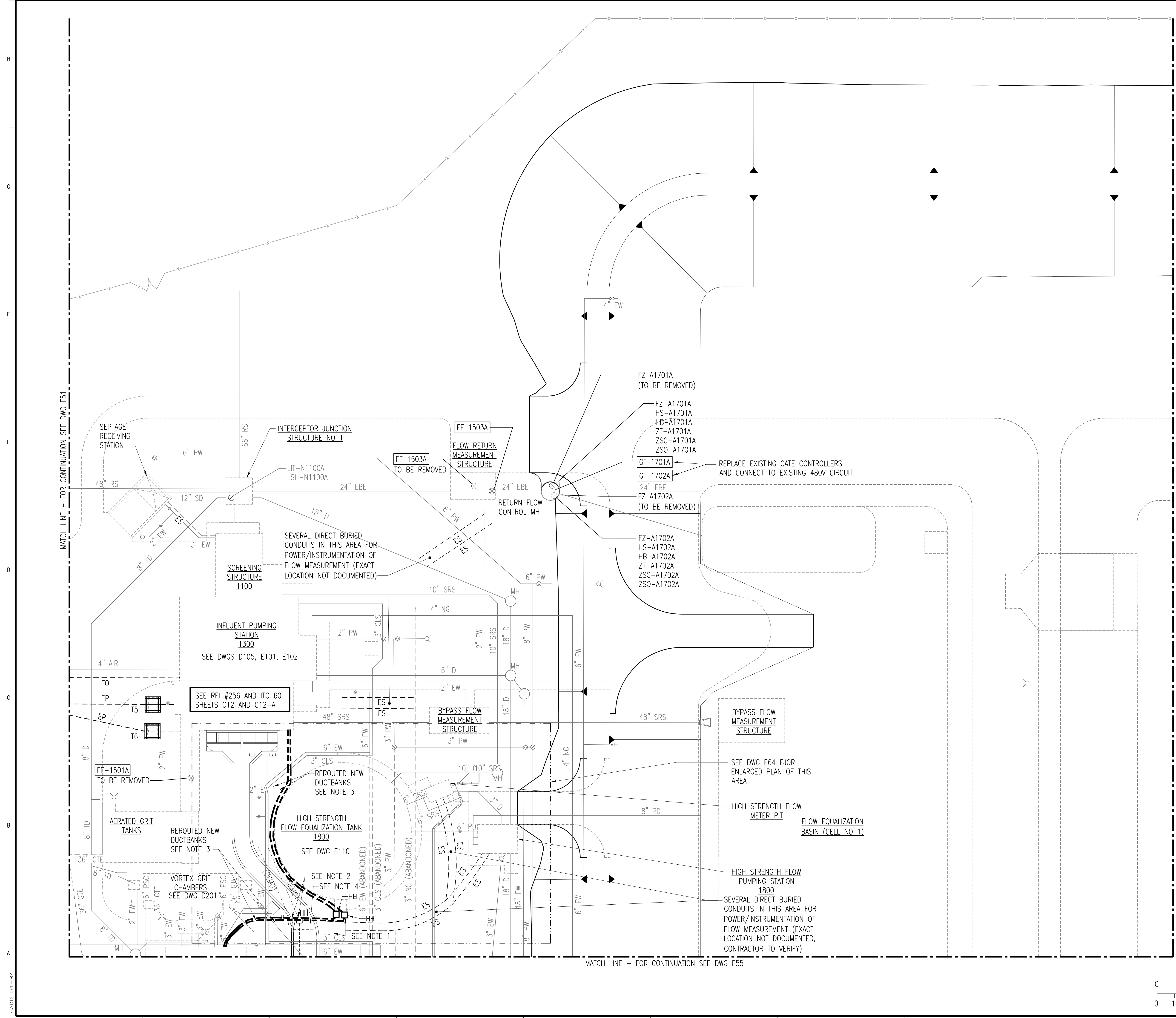
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE ELECTRICAL
 SITE PLAN - SHEET 1**

DESIGNED	DL MORITZ	SCALE: 1" = 20'
DRAWN	D. WILGES	NO. 22800
CHECKED	DL MORITZ	REV.
APPROVED	JD COGAN	E51
APPROVED		2
DATE	DECEMBER 2, 2011	



CADD: D1-R4



- NOTES:**
1. PROVIDE 2 NEW 24 X 36 INCH QUARTZITE HANDHOLES WITH EXTENSIONS AS REQUIRED TO INTERCEPT EXISTING CONTROL AND COMMUNICATION DUCTBANKS AT LOCATIONS SHOWN TO BE ABLE TO REROUTE EXISTING CONTROL AND MONITORING CIRCUITS FROM GRIT DEWATERING BUILDING TO EXISTING HIGH STRENGTH FLOW PUMPING STATION, HIGH STRENGTH FLOW METER PIT, HIGH STRENGTH FLOW EQUALIZATION TANK, AND WETWELL. SEE EXISTING AND NEW REQUIREMENTS SHOWN ON DRAWING P110 AND P201.
 2. REMOVE EXISTING DUCTBANK AND HANDHOLES SHOWN DASHED THAT CURRENTLY RESIDE UNDER NEW CHANNEL TO VORTEX GRIT CHAMBERS AFTER NEW REROUTED DUCTBANK SHOWN IS INSTALLED AND BEFORE CHANNELS ARE CONSTRUCTED.
 3. PROVIDE A NEW 2 - 4 INCH CELL CONCRETE ENCASED COMMUNICATION DUCTBANK FROM NEW HANDHOLES SHOWN IN NOTE 1 TO WETWELL AT INFLUENT PUMP STATION AND EXTEND TO WHERE REMOVED CONDUITS EXIST. ALSO ROUTE A NEW 4 - 4 INCH CELL DUCTBANK SECTIONS FOR REROUTING OF CONTROL AND COMM DUCT BANKS TO GRIT DEWATERING BUILDING FROM EACH NEW HANDHOLE IN NOTE 1. SEE DRAWING E55 FOR TIE IN POINT OF EXISTING CONDUITS AT NEW HANDHOLES AT EAST SIDE OF GRIT DEWATERING BUILDING. SEE NOTE 5 ON DRAWING E55.
 4. WHERE DUCTBANK IS SHOWN ROUTING UNDER NEW CHANNEL STRUCTURE, POUR CONCRETE AND ENCASE IN FOOTING WALLS OF CHANNEL AND COORDINATE WITH STRUCTURAL DRAWINGS.
 5. ELECTRICAL CONTRACTOR TO WORK WITH SYSTEMS INTEGRATOR TO PROVIDE NEW AND REPLACEMENT WIRING REQUIREMENTS AS SHOWN ON DRAWINGS P110 AND P201 TO AREAS SHOWN IN NOTE 1 ALONG WITH ANY NEW REQUIREMENTS PER P&IDS.
 6. NOT ALL WIRING REQUIREMENTS AND CONDUITS ARE SHOWN ON THE SITE ELECTRICAL DRAWINGS. SEE ONE LINE DIAGRAMS, PANEL SCHEDULES FOR ELECTRICAL POWER REQUIREMENTS AND SPECIFICATION SECTIONS 40 91 00, 40 91 00-13, AND 40 91 00 -14 FOR INSTRUMENT INDEX. CIRCUITS MAY BE CONDENSED DOWN TO CONDUITS CONTAINING SAME TYPE OF CIRCUITS AS LONG AS DERATED AND OF SAME TYPE. POWER AND COMMUNICATION/ANALOG CABLING MUST BE SEPARATED AND NOT COMBINED IN A COMMON CONDUIT. PROVIDE AS-BUILT DRAWINGS PROVIDED BY CONTRACTOR TO SHOW CONDUITS AND CIRCUITS CONTAINED THEREIN. COORDINATE WITH ESCO, THE SITE SYSTEM INTEGRATOR, FOR EXACT WIRING AND CONDUIT REQUIREMENTS FOR FIELD DEVICES AND ADDITIONAL UNDERGROUND CONDUITS NOT SHOWN ON DRAWINGS. TYPICAL FOR ALL SITE DRAWINGS.

NOTE:
 THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

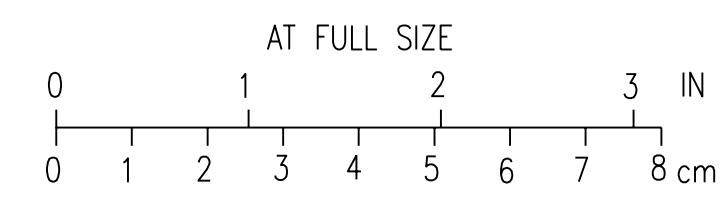
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REMOVE CIRCUIT; ADD NOTE	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE ELECTRICAL
 SITE PLAN - SHEET 2**

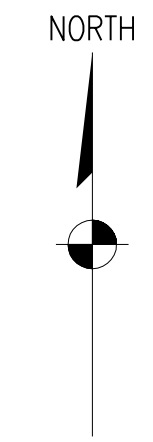
DESIGNED	DL MORITZ	SCALE:	1" = 20'
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-1-R4

11

NOTES:

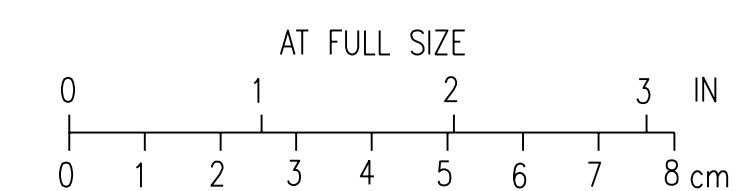


MATCH LINE - FOR CONTINUATION SEE DWG E52

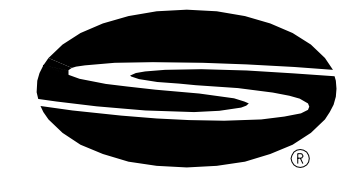
FLOW EQUALIZATION
BASIN (CELL NO 2)

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

MATCH LINE - FOR CONTINUATION SEE DWG E56



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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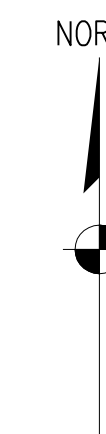
**SITE ELECTRICAL
SITE PLAN - SHEET 3**

DESIGNED DL MORITZ
DRAWN D. WILGES
CHECKED DL MORITZ
APPROVED JD COGAN
DATE DECEMBER 2, 2011

SCALE: 1" = 20'
NO. 22800
REV. 2
E53

MATCH LINE - FOR CONTINUATION SEE DWG E51

NOTES:



SEE DWG E11 FOR CONNECTION OF NEW TRANSFORMER T4A TO PRIMARY ELECTRICAL CABLING AT EXISTING TRANSFORMER T3 & T4. CONTRACTOR TO PROVIDE REQUIRED SPLICES AND ELBOWS TO MATCH EXISTING AND CABLING AS SHOWN ON DWG E11.

CONTRACTOR TO USE CAUTION TO EXCAVATE AND SHORE EXISTING TRANSFORMERS T3 & T4 WHILE CONSTRUCTING BLOWER BUILDING EXPANSION

PROVIDE GROUND CONDUCTOR TO NEW TRANSFORMER T4A AND BOND INTO BLOWER BUILDING GROUND GRID. SEE DWG E420.

SEE DWG E422 FOR AERATION BASIN UNDERGROUND ELECTRICAL AND INSTRUMENTATION CONDUIT ROUTINGS IN THIS AREA

BLOWER BUILDING
4500
SEE DWGS E420,
E421, E422

BLOWER BUILDING
EXPANSION
4500

AERATION TANKS
4100

SEE DWGS E401, E402,
E403, E404, E405

PRIMARY
CLARIFIER
3500

HBR-C3301A
QLR-C3301A

PRIMARY
CLARIFIER
3300

HBR-C3101A
QLR-C3101A

PRIMARY
CLARIFIER
3100

MIXED LIQUOR
RECYCLE METERING
MANHOLE

REMOVE
FE F4101A

FE F4101A
REMOVE FLOW
METER SYSTEM

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED NOTES	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

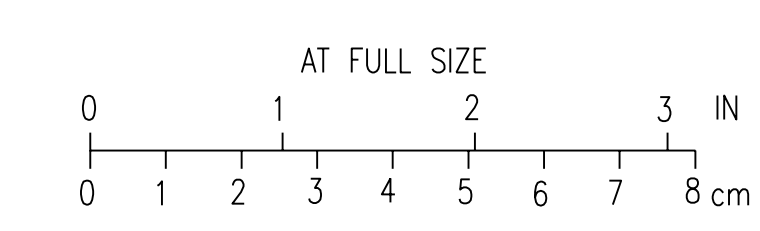


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**SITE ELECTRICAL
SITE PLAN - SHEET 4**

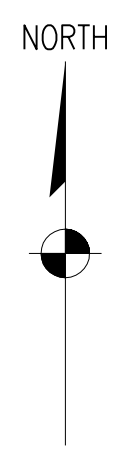
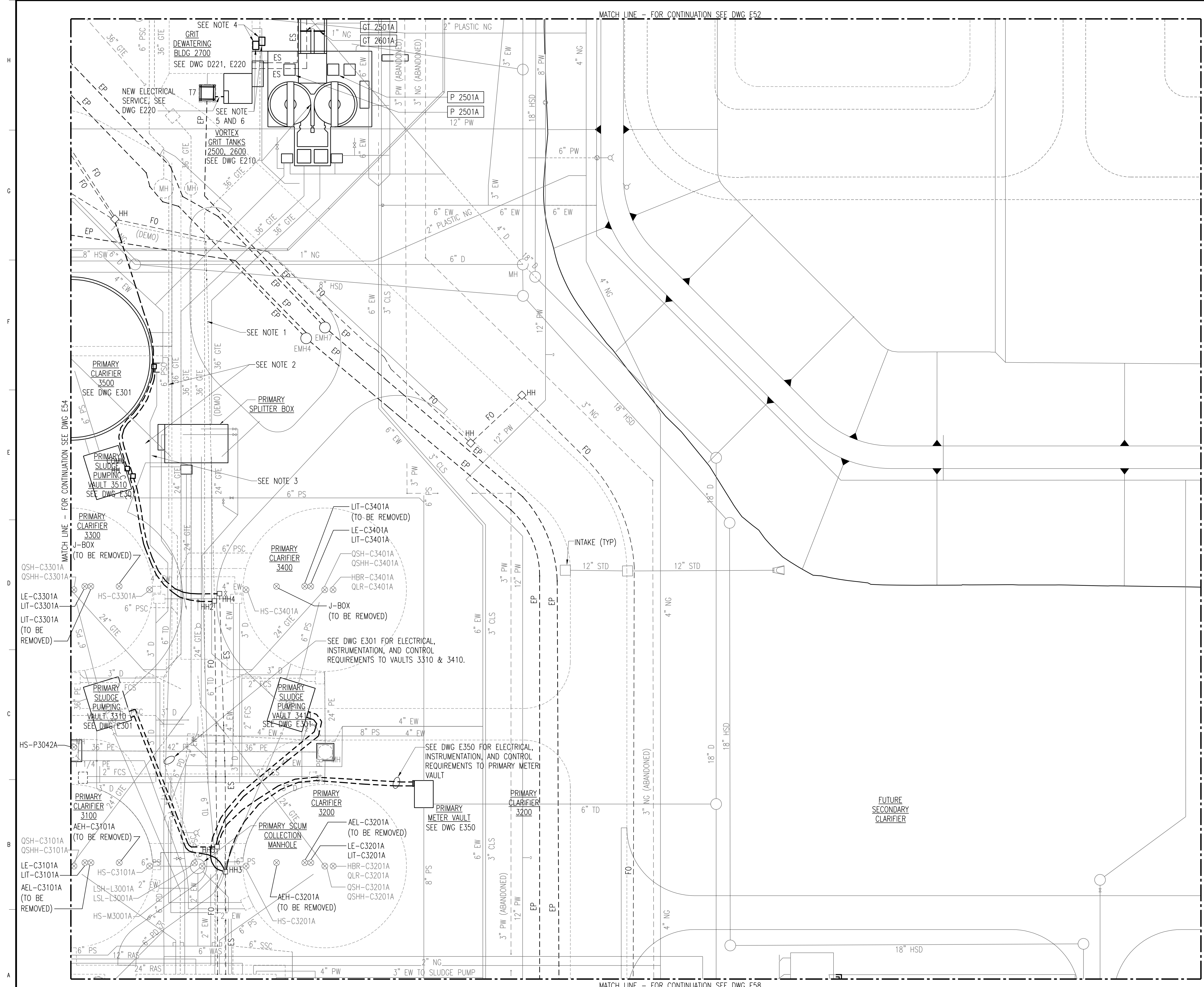
DESIGNED	DL MORITZ	SCALE: 1" = 20'
DRAWN	D. WILGES	NO. 22800
CHECKED	DL MORITZ	REV.
APPROVED	JD COGAN	E54
APPROVED		3
DATE	DECEMBER 2, 2011	



CADD: D1-R4

MATCH LINE - FOR CONTINUATION SEE DWG E57

MATCH LINE - FOR CONTINUATION SEE DWG E55



- NOTES:**
- REMOVE EXISTING DUCTBANK FROM HANDHOLE HH2 ROUTED TO NORTH AND THEN WEST TO EXISTING HANDHOLE. EXISTING DUCTBANK HAS A 24 STRAND SINGLE MODE ARMORED LOOSE TUBE FIBER OPTIC CABLE FROM THE SLUDGE PROCESSING FACILITY TO THE NORTH PLANT, A 24 STRAND SINGLE MODE ARMORED LOOSE TUBE FIBER OPTIC CABLE FROM THE SLUDGE PROCESSING FACILITY TO THE BLOWER BUILDING PLC, A 24 STRAND SINGLE MODE ARMORED LOOSE TUBE FIBER OPTIC CABLE FROM THE SLUDGE PROCESSING FACILITY TO THE INFLUENT PUMP STATION PLC, A 24 STRAND 62.5 MULTI MODE ARMORED LOOSE TUBE FIBER OPTIC CABLE FROM THE INFLUENT PUMP STATION PLC TO THE BLOWER BUILDING PLC, AND A 24 STRAND 62.5 MULTI MODE ARMORED LOOSE TUBE FIBER OPTIC CABLE FROM THE BLOWER BUILDING PLC TO THE SLUDGE PUMPING STATION BUILDING PLC. FIBER OPTIC CABLE WILL NEED TO BE REPLACED AS STATED IN NOTE 2 BELOW. IF CONTRACTOR CAN PROVE EXISTING CABLES DO NOT HAVE EXCESSIVE EXISTING SPLICE, CONNECTOR, AND CABLE LOSSES THAT EXCEED ACCEPTABLE DB LOSS ATTENUATION FOR TYPE OF FIBER SHOWN, THE CABLE MAY BE REUSED AND NEW MATCHING CABLE AS REQUIRED FOR REROUTING WITH FUSION SPLICES PROVIDED. THE FIBER OPTIC CABLE TO THE NORTH PLANT MAY BE PULLED BACK AND SPLICED AS LONG AS DB LOSS DOES NOT EXCEED 0.3 DB FOR SPLICE LOSS AND 0.75 DB LOSS FOR CONNECTOR LOSS. IF EXISTING FIBER OPTIC CABLE WILL BE REUSED AND REROUTED IT WILL NEED TO BE TESTED WITH AN OTR METER FOR CURRENT PERFORMANCE OF CABLE. REROUTED FIBER OPTIC CABLES SHALL BE RETESTED AFTER REROUTED AND TEST RESULTS PROVIDED TO OWNER.
 - PROVIDE A NEW 2 - 4 INCH CELL CONCRETE ENCASED COMMUNICATION DUCTBANK FROM EXISTING HANDHOLE HH2, ROUTED AS SHOWN TO EXISTING HANDHOLE TO THE NORTH. COMMUNICATION DUCTBANK SHALL BE PVC COATED RGS CONDUITS. HANDHOLES BY NEW CLARIFIER 3500 WILL ALSO BE USED FOR CONTROL AND MONITORING REQUIREMENTS SHOWN ON P&ID DRAWINGS, AND FIBER OPTICS CABLE FOR PLANT CONTROL SYSTEMS.
 - PROVIDE A NEW 2 - 4 INCH CELL CONCRETE ENCASED ELECTRICAL DUCTBANK FROM EXISTING HANDHOLE HH4, ROUTED AS SHOWN TO SOUTHEAST CORNER OF PRIMARY CLARIFIER 3500 FOR POWER REQUIREMENTS TO COLLECTOR AND RECEPTACLES AS SHOWN ON DRAWING E301.
 - EXISTING CONTROL AND COMMUNICATION DUCTBANKS WILL NEED TO BE RELOCATED AS SHOWN IN NOTE 5. EXISTING WIRING TO BE RELOCATED FROM RELOCATED DUCTBANK IS SHOWN ON DRAWING P110 AND P201 FROM GRIT DEWATERING BUILDING TO EXISTING HIGH STRENGTH FLOW PUMPING STATION, HIGH STRENGTH FLOW METER PIT, HIGH STRENGTH FLOW EQUALIZATION TANK, AND WETWELL. CONTRACTOR TO INSTALL NEW DUCTBANK ROUTE SHOWN IN NOTE 5 AND PULL NEW WIRING TO REPLACE EXISTING OF SAME TYPE AND SIZE. HAVE NEW DUCTBANK INSTALLED BEFORE REMOVAL OF EXISTING WIRING TO MINIMIZE ANY DOWN TIME OF PROCESS.
 - PROVIDE 2 NEW 24 X 36 INCH QUAZITE HANDHOLES WITH EXTENSIONS AS REQUIRED TO FOR CONTROL AND COMMUNICATION DUCTBANKS AS SHOWN IN NOTE 4 AT APPROXIMATE LOCATIONS SHOWN. FROM EACH NEW HANDHOLE ROUTE A NEW 4 - 4 INCH CELL CONCRETE ENCASED DUCTBANKS TO NORTH AND ROUTE UNDER NEW PIPE CHASE TO AS SHOWN ON DRAWING E52 AND ROUTE TO EAST TO NEW HANDHOLES CONTRACTOR IS TO PLACE ON TOP OF EXISTING DUCTBANK TO INTERCEPT. ROUTE TOP OF DUCTBANK AT MINIMUM OF 36 INCHES BELOW GRADE. WHERE DUCTBANK IS SHOWN ROUTING UNDER NEW CHANNEL STRUCTURE, POUR CONCRETE AND ENCASE IN FOOTING WALLS OF CHANNEL AND COORDINATE WITH STRUCTURAL DRAWINGS.
 - ELECTRICAL CONTRACTOR TO WORK WITH SYSTEMS INTEGRATOR TO PROVIDE NEW AND REPLACEMENT WIRING REQUIREMENTS AS SHOWN ON DRAWINGS P110 AND P201 TO AREAS SHOWN IN NOTE 4 ALONG WITH ANY NEW REQUIREMENTS PER P&IDS.

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

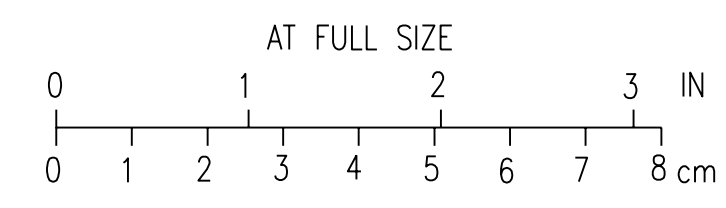
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED CURCUIITS, REVISED NOTES	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE ELECTRICAL
SITE PLAN - SHEET 5**

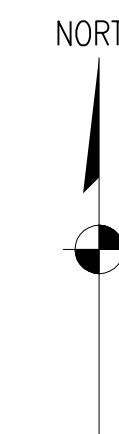
DESIGNED	DL MORITZ	SCALE:	1" = 20'
DRAWN	D.MILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4

MATCH LINE - FOR CONTINUATION SEE DWG E53

NOTES:



FLOW EQUALIZATION
BASIN (CELL NO 2)

EXISTING OVERFLOW
STRUCTURE

α

6" EW

6" EW

60" EBE

60" EBE

NOTE:
THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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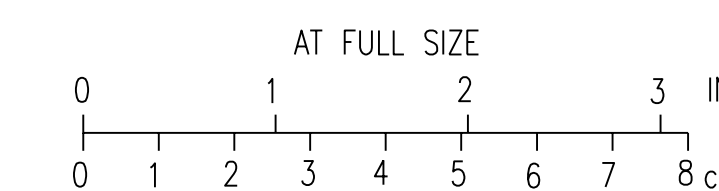
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE ELECTRICAL
SITE PLAN - SHEET 6**

DESIGNED	DL MORITZ	SCALE: 1" = 20'	
DRAWN	D. WILGES	NO. 22800	REV.
CHECKED	DL MORITZ		
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		

E56 **2**



MATCH LINE - FOR CONTINUATION SEE DWG E59

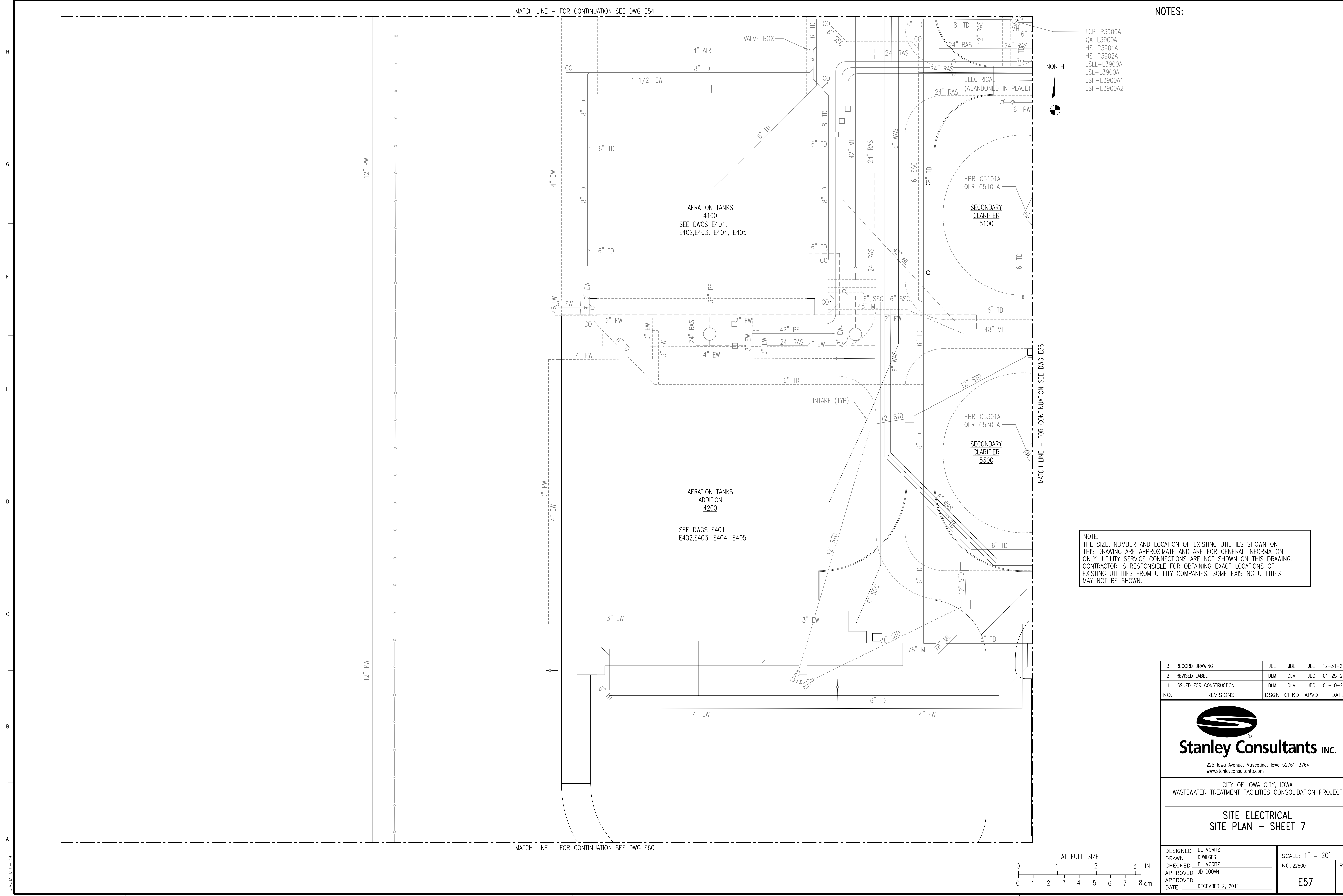
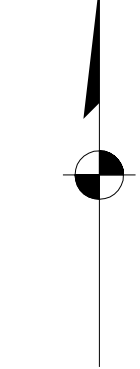
CADD: D1-R4

MATCH LINE - FOR CONTINUATION SEE DWG E54

NOTES:

- LCP-P3900A
- QA-L3900A
- HS-P3901A
- HS-P3902A
- L3900A
- LSH-L3900A1
- LSH-L3900A2

NORTH



MATCH LINE - FOR CONTINUATION SEE DWG E58

NOTE:
 THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED LABEL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

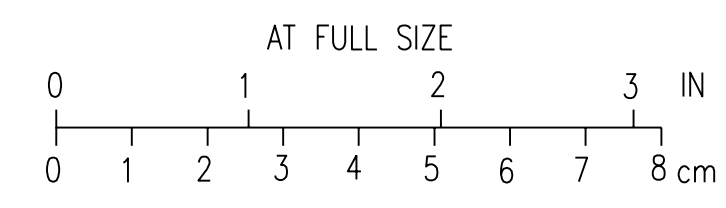
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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE ELECTRICAL
 SITE PLAN - SHEET 7**

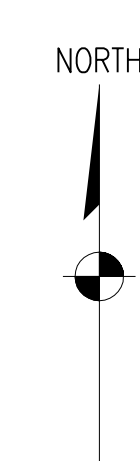
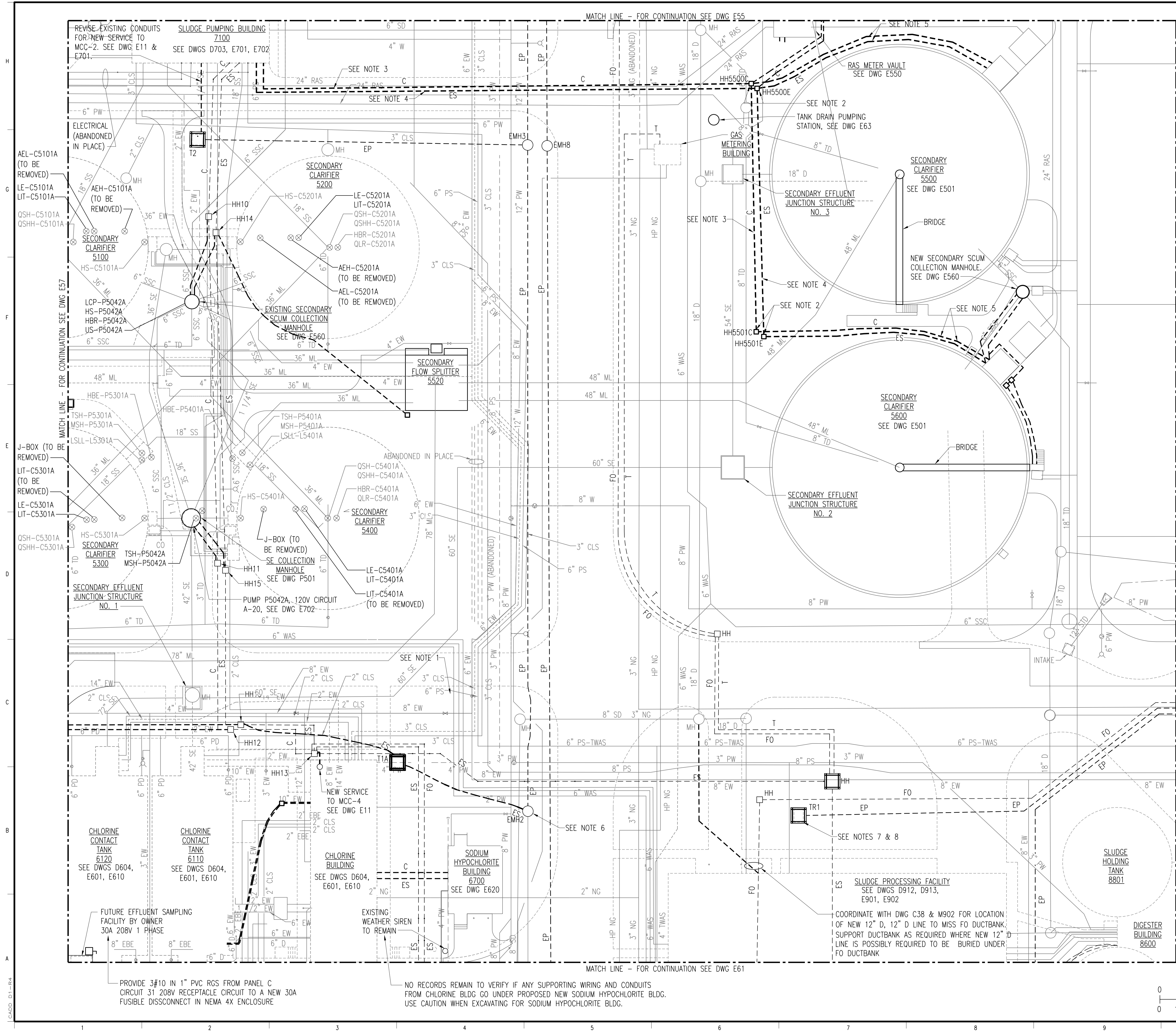
DESIGNED DL MORITZ
 DRAWN D. WILGES
 CHECKED DL MORITZ
 APPROVED JD COGAN
 DATE DECEMBER 2, 2011

SCALE: 1" = 20'
 NO. 22800
 REV. 3
E57



MATCH LINE - FOR CONTINUATION SEE DWG E60

CADD: D1-R4



NOTES:

- WHERE TRANSFORMER T1A IS SHOWN PROVIDE TOP OF NEW TRANSFORMER PAD AT ELEVATION 644.50. WHERE CONDUITS ENTER PAD COMPARTMENT PLACE THEM 3 INCHES ABOVE TOP OF PAD INSIDE TRANSFORMER COMPARTMENT.
- PROVIDE 2 NEW 24 X 36 INCH QUARTZITE HANDHOLES WITH EXTENSIONS AS REQUIRED FOR NEW DUCTBANK SERVICE TO NEW SECONDARY CLARIFIERS 5500 AND 5600. LOGO ON TOP OF COVER SHALL REPRESENT "ELECTRICAL" OR "COMMUNICATION" AS REQUIRED.
- PROVIDE A NEW 2 - 4 INCH CELL CONCRETE ENCASED COMMUNICATION DUCTBANK FROM INTERIOR OF BASEMENT IN SLUDGE PUMPING BUILDING SHOWN ON DRAWING E701. PROVIDE 4-1 INCH INNERDUCTS IN ONE OF THE CONDUITS BETWEEN ALL SECTIONS.
- PROVIDE A NEW 2 - 4 INCH CELL CONCRETE ENCASED ELECTRICAL DUCTBANK FROM INTERIOR OF BASEMENT IN SLUDGE PUMPING BUILDING SHOWN ON DRAWING E701.
- PROVIDE NEW CONDUIT REQUIREMENTS PER ASSOCIATED P&ID DRAWINGS, ONE LINE DIAGRAMS, AND PLAN DRAWINGS FROM HANDHOLES SHOWN IN 2 - 4 INCH PVC COATED RGS CONDUITS AS REQUIRED TO ELECTRICAL EQUIPMENT RACK SHOWN AT EACH CLARIFIER LOCATION. ONE CONDUIT TO BE USED FOR CONTROL AND ONE FOR POWER.
- PROVIDE REQUIRED 15KV WEATHER PROOF SPLICES IN MANHOLE EMH2 FOR NEW PRIMARY SERVICE TO NEW TRANSFORMER. MAINTAIN SERVICE TO EXISTING SITE BY OPENING SECTIONS OF PRIMARY LOOP AT TRANSFORMERS T1 AND T2 AS SHOWN ON DRAWING E11. CONFIRM IN FIELD AT TIME OF INSTALLATION. PROVIDE NEW PRIMARY CONDUITING PER DWG E11 ALONG WITH LOAD BREAK ELBOWS, SECONDARY CONDUITING, AND GROUNDING AS SHOWN IN DETAILS. SEE SPECIFICATION FOR PAD MOUNT TRANSFORMER REQUIREMENTS.
- SEE SITE ONE LINE DIAGRAM FOR PRIMARY SERVICE TO TRANSFORMER T1. CONTRACTOR HAS TO RAISE EXISTING TRANSFORMER PER DETAIL ON DRAWING E5 2.5 FEET ABOVE EXISTING CONCRETE PAD. PROVIDE REQUIRED 15KV WEATHER PROOF SPLICES FOR THE EXISTING 15KV 4/0 ALUMINUM PRIMARY CONDUCTORS AND ADDITIONAL 15KV PRIMARY CABLING TO MATCH EXISTING TO EXTEND PRIMARY CABLING TO RAISED TRANSFORMER. PROVIDE NEW LOAD BREAK ELBOWS. USE OF 2 SPLICES IN EACH PHASE CONDUCTOR WILL NOT BE ALLOWED. PROVIDE SAME REQUIREMENTS FOR EXISTING 600V SECONDARY SERVICE CONDUCTORS, AND GROUND CONDUCTOR TO RAISE THE TRANSFORMER. PROVIDE REQUIRED CONDUIT SLEEVES AND ADDITIONAL CONDUIT WHERE CONDUITS ENTER PAD COMPARTMENT TO PLACE THEM 3 INCHES ABOVE TOP OF PAD INSIDE TRANSFORMER COMPARTMENT.
- MAINTAIN SERVICE TO EXISTING SITE BY OPENING SECTIONS OF PRIMARY LOOP AT TRANSFORMERS T1 AND T2 AS SHOWN ON DRAWING E11. CONFIRM IN FIELD AT TIME OF INSTALLATION.
- SEE DRAWING E4 FOR TYPICAL DUCTBANK AND DIRECT BURIED INSTALLATION DETAILS.

NOTE:
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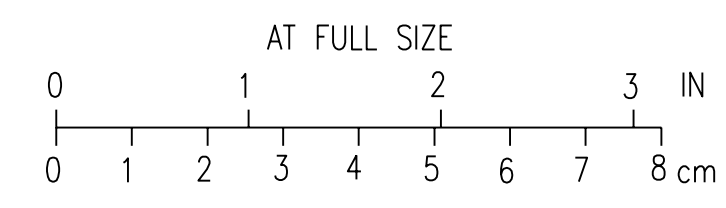
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED CIRCUIT, NOTES	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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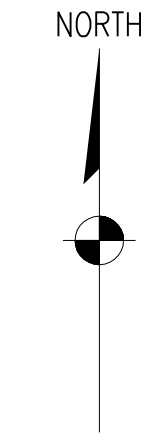
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE ELECTRICAL
SITE PLAN - SHEET 8**

DESIGNED	DL MORITZ	SCALE:	1" = 20'
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COOAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-144



NOTES:

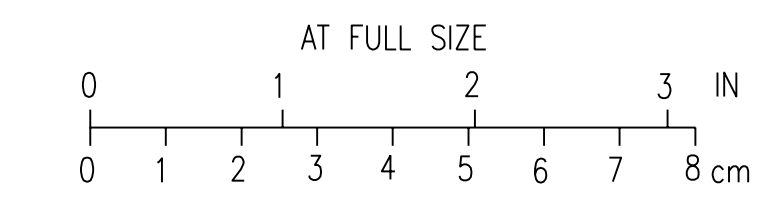
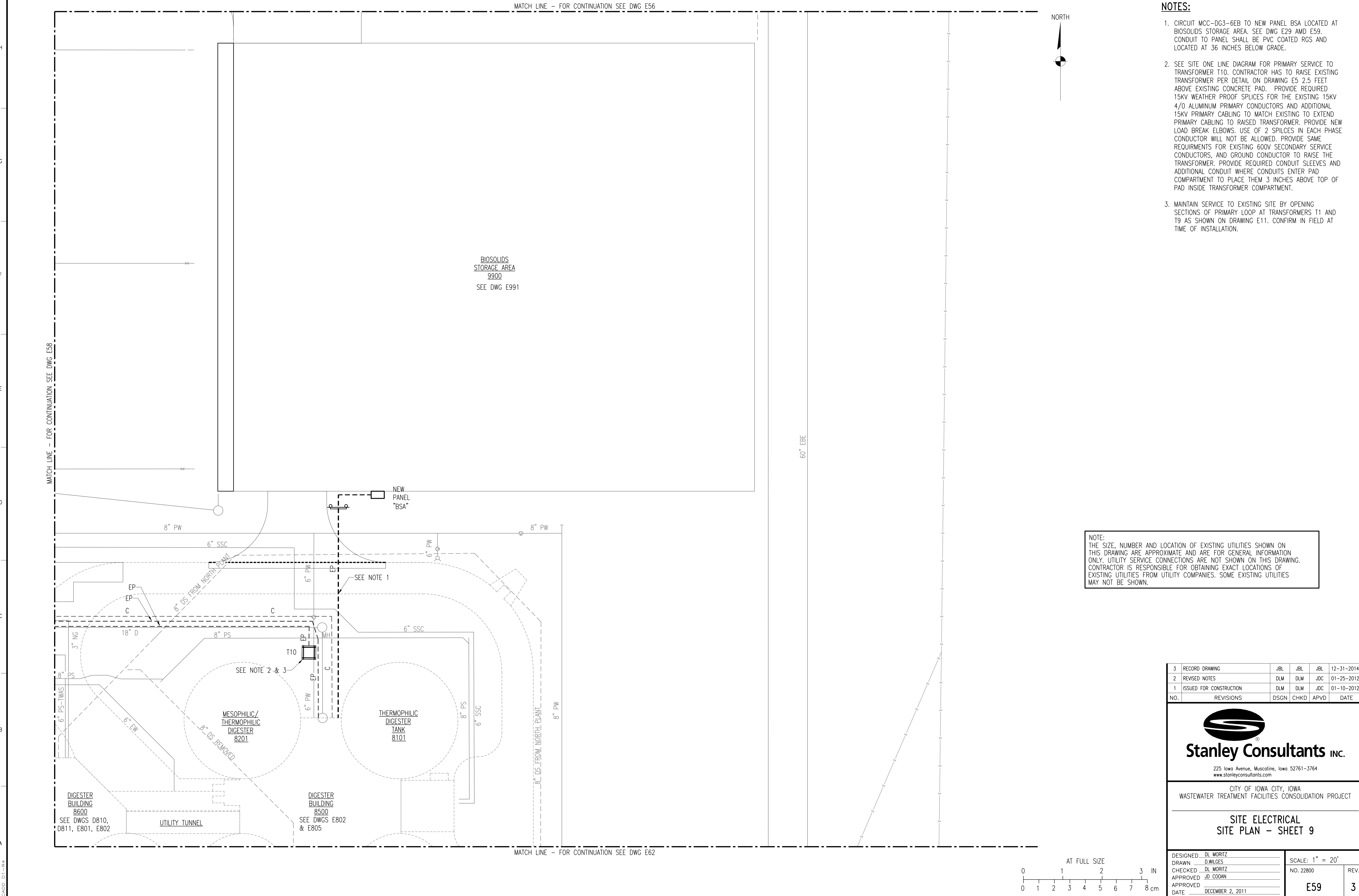
1. CIRCUIT MCC-DG3-6EB TO NEW PANEL BSA LOCATED AT BIOSOLIDS STORAGE AREA. SEE DWG E29 AND E59. CONDUIT TO PANEL SHALL BE PVC COATED RGS AND LOCATED AT 36 INCHES BELOW GRADE.
2. SEE SITE ONE LINE DIAGRAM FOR PRIMARY SERVICE TO TRANSFORMER T10. CONTRACTOR HAS TO RAISE EXISTING TRANSFORMER PER DETAIL ON DRAWING E5 2.5 FEET ABOVE EXISTING CONCRETE PAD. PROVIDE REQUIRED 15KV WEATHER PROOF SPLICES FOR THE EXISTING 15KV 4/0 ALUMINUM PRIMARY CONDUCTORS AND ADDITIONAL 15KV PRIMARY CABLING TO MATCH EXISTING TO EXTEND PRIMARY CABLING TO RAISED TRANSFORMER. PROVIDE NEW LOAD BREAK ELBOWS. USE OF 2 SPLICES IN EACH PHASE CONDUCTOR WILL NOT BE ALLOWED. PROVIDE SAME REQUIREMENTS FOR EXISTING 600V SECONDARY SERVICE CONDUCTORS, AND GROUND CONDUCTOR TO RAISE THE TRANSFORMER. PROVIDE REQUIRED CONDUIT SLEEVES AND ADDITIONAL CONDUIT WHERE CONDUITS ENTER PAD COMPARTMENT TO PLACE THEM 3 INCHES ABOVE TOP OF PAD INSIDE TRANSFORMER COMPARTMENT.
3. MAINTAIN SERVICE TO EXISTING SITE BY OPENING SECTIONS OF PRIMARY LOOP AT TRANSFORMERS T1 AND T9 AS SHOWN ON DRAWING E11. CONFIRM IN FIELD AT TIME OF INSTALLATION.

BIOSOLIDS
STORAGE AREA
9900
SEE DWG E991

MATCH LINE - FOR CONTINUATION SEE DWG E58

60" EBE

NOTE:
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3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED NOTES	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

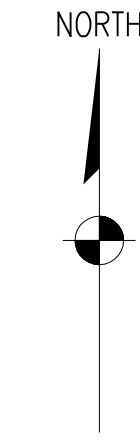
**SITE ELECTRICAL
SITE PLAN - SHEET 9**

DESIGNED DL MORITZ
DRAWN DL MILGES
CHECKED DL MORITZ
APPROVED JD COGAN
APPROVED
DATE DECEMBER 2, 2011

SCALE: 1" = 20'
NO. 22800
REV. 3
E59

CADD: D1-R4

MATCH LINE - FOR CONTINUATION SEE DWG E57



NOTES:

12" PW

12" PW

8" DS FROM NORTH PLANT

MH

3" EW

60" EBE

3" EW

1" PVC TEMPORARY WATER ABANDONED, 4' DEEP

MATCH LINE - FOR CONTINUATION SEE DWG E61

NOTE:
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2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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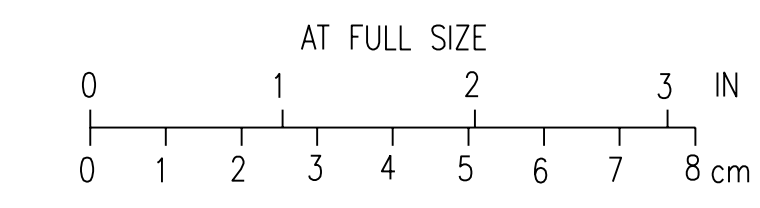
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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

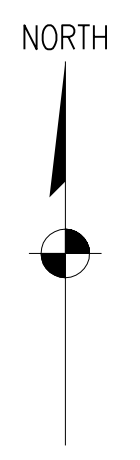
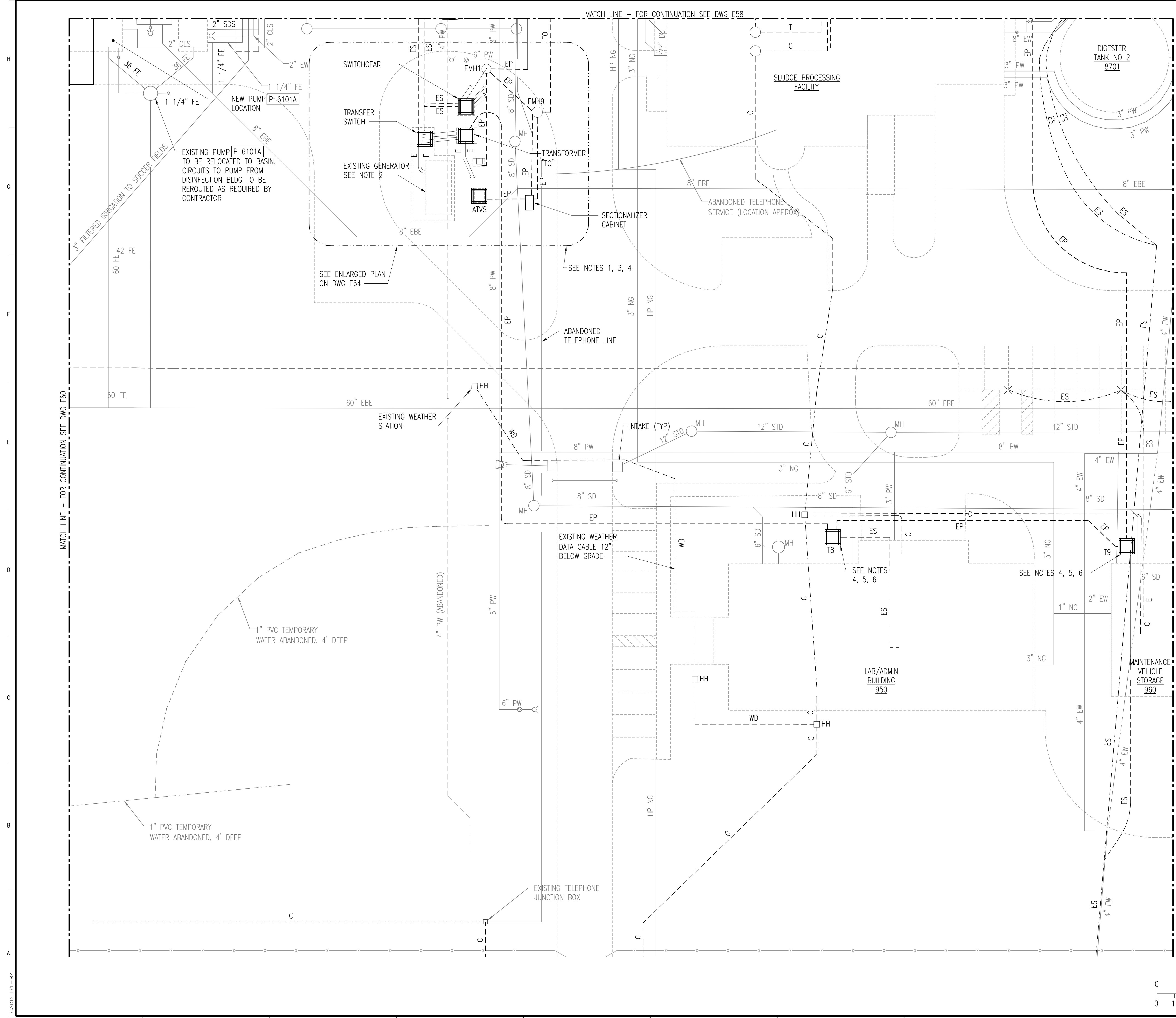
**SITE ELECTRICAL
SITE PLAN - SHEET 10**

DESIGNED DL MORITZ
 DRAWN D. WILGES
 CHECKED DL MORITZ
 APPROVED JD COGAN
 DATE DECEMBER 2, 2011

SCALE: 1" = 20'
 NO. 22800
 REV. 2
 E60



CADD: D1-R4



NOTES:

1. THE FOLLOWING EXISTING EQUIPMENT IN THIS AREA NEEDS TO BE RAISED 2.5 FEET.
 - A.) TRANSFORMER TO
 - B.) TRANSFER SWITCH
 - C.) SWITCHGEAR
 - D.) SECTIONALIZER CABINET.
 - E.) GENERATOR TRANSFORMERS FOR AUXILIARIES
 - F.) ATVS
2. GENERATOR BASE HAS AN EXISTING SUB BASE FUEL TANK AND WILL REMAIN AS INSTALLED.
3. FOR ALL ITEMS LISTED ABOVE EXCEPT THE GENERATOR PROVIDE THE FOLLOWING.
 - A.) REQUIRED 15KV WEATHER PROOF SPLICES FOR THE EXISTING 15KV 4/0 ALUMINUM PRIMARY CONDUCTORS
 - B.) ADDITIONAL 15KV PRIMARY CABLING TO MATCH EXISTING TO EXTEND PRIMARY CABLING TO RAISED EQUIPMENT.
 - C.) PROVIDE NEW LOAD BREAK ELBOWS.
 - D.) 600V SECONDARY SERVICE CONDUCTORS AND SPLICES WITH 3M 8440 SERIES OR EQUAL.
 - E.) GROUND CONDUCTOR EXTENSIONS
 - F.) PROVIDE CONDUIT SLEEVES AND ADDITIONAL CONDUIT WHERE CONDUITS ENTER PAD COMPARTMENTS TO PLACE THEM 3 INCHES ABOVE TOP OF PAD INSIDE EQUIPMENT.
4. SEE SITE ONE LINE DIAGRAM ON DWG E11 FOR PRIMARY SERVICE ONE LINE DIAGRAM.
5. CONTRACTOR HAS TO RAISE EXISTING TRANSFORMERS T8 AND T9 PER DETAIL ON DRAWING E5 2.5 FEET ABOVE EXISTING CONCRETE PAD. PROVIDE REQUIRED 15KV WEATHER PROOF SPLICES FOR THE EXISTING 15KV 4/0 ALUMINUM PRIMARY CONDUCTORS AND ADDITIONAL 15KV PRIMARY CABLING TO MATCH EXISTING TO EXTEND PRIMARY CABLING TO RAISED TRANSFORMER. PROVIDE NEW LOAD BREAK ELBOWS. USE OF 2 SPLICES IN EACH PHASE CONDUCTOR WILL NOT BE ALLOWED. PROVIDE SAME REQUIREMENTS FOR EXISTING 600V SECONDARY SERVICE CONDUCTORS, AND GROUND CONDUCTOR TO RAISE THE TRANSFORMERS. PROVIDE REQUIRED CONDUIT SLEEVES AND ADDITIONAL CONDUIT WHERE CONDUITS ENTER PAD COMPARTMENT TO PLACE THEM 3 INCHES ABOVE TOP OF PAD INSIDE TRANSFORMER COMPARTMENT.
6. MAINTAIN SERVICE TO EXISTING SITE BY OPENING SECTIONS OF PRIMARY LOOP AT TRANSFORMERS ADJACENT TO T8 AND T9 AS SHOWN ON DRAWING E11. CONFIRM IN FIELD AT TIME OF INSTALLATION.
7. MAINTAIN SERVICE TO EXISTING SITE BY OPENING SECTIONS OF PRIMARY LOOP AT TRANSFORMERS T1 AND T2 AS SHOWN ON DRAWING E11. CONFIRM IN FIELD AT TIME OF INSTALLATION.
8. SEE DRAWING E4 FOR TYPICAL DUCTBANK AND DIRECT BURIED INSTALLATION DETAILS.

NOTE:
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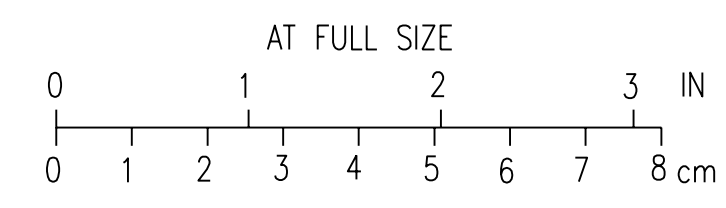
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED NOTES	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

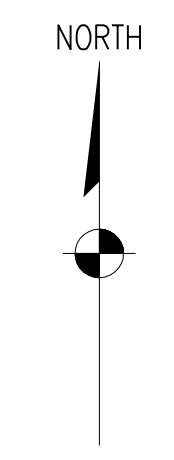
**SITE ELECTRICAL
 SITE PLAN - SHEET 11**

DESIGNED	DL MORITZ	SCALE:	1" = 20'
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



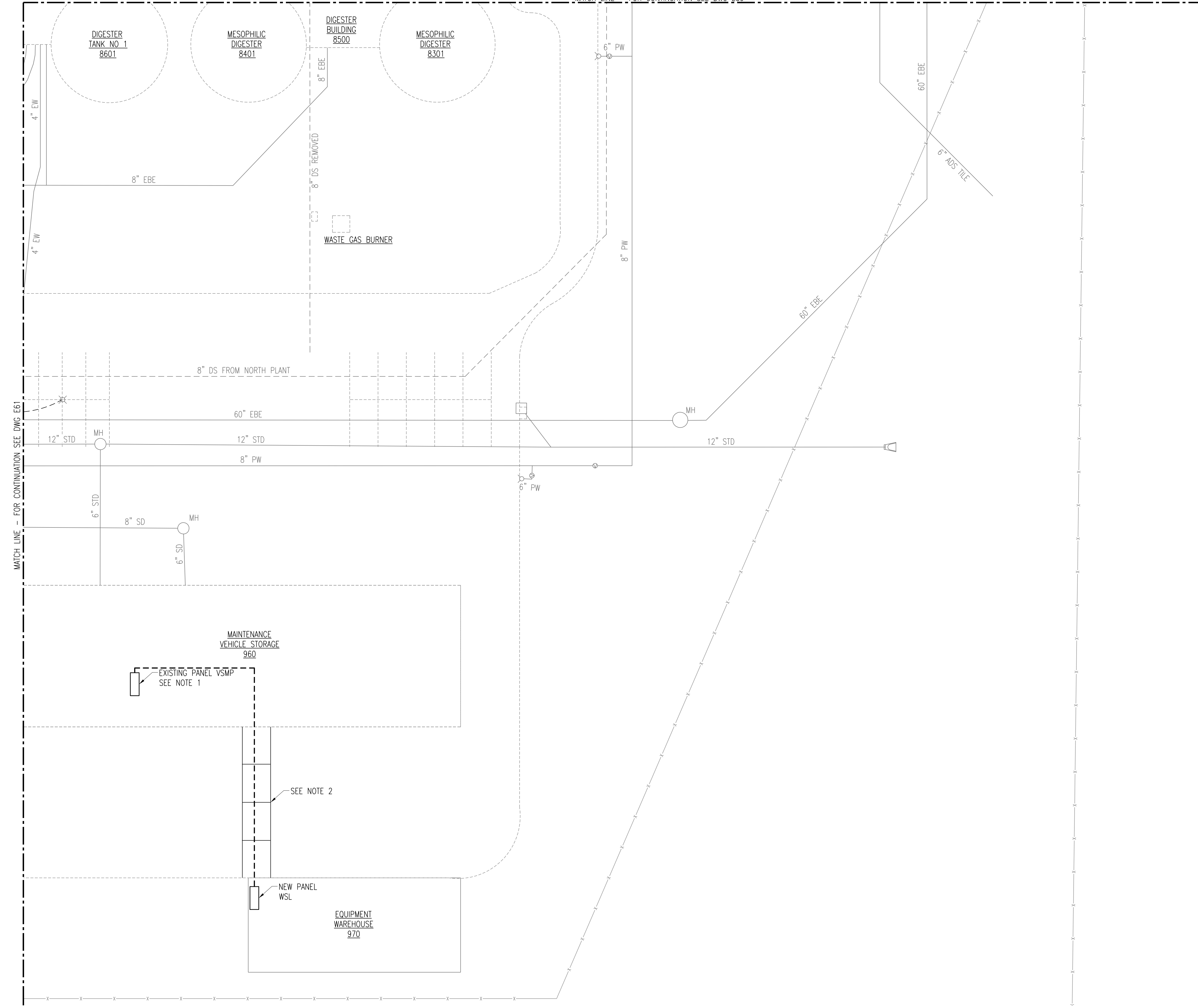
CADD: D1-P4

MATCH LINE - FOR CONTINUATION SEE DWG E59



NOTES:

1. SERVICE FROM PANEL VSMP TO NEW EQUIPMENT WAREHOUSE IS SHOWN ON DRAWING E960. ROUTE CONDUIT FROM PANEL VSMP INTERIOR TO MAINTENANCE VEHICLE STORAGE BUILDING ABOVE OVERHEAD DOORS AND THEN CORE DRILL THROUGH WALL ABOVE OVERHEAD DOOR LEVEL AND ROUTE DOWN EXTERIOR OF FACILITY TO BELOW GRADE.
2. REMOVE EXISTING CONCRETE SECTIONS SHOWN AT EXPANSION JOINTS TO ROUTE NEW SERVICE TO PANEL WSL. REPLACE WITH SAME AND PIN INTO EXISTING CONCRETE SLAB.
3. ROUTE SERVICE INTO THE NEW WAREHOUSE FACILITY UNDERFLOOR TO PANEL WSL. SEE DRAWING E971.
4. PROVIDE A SECOND 2 INCH PVC CONDUIT 12 INCHES APART FROM THE ELECTRICAL SERVICE CONDUIT FROM ABOVE GRADE AT MVS BUILDING AND CAP TO PANEL WSL LOCATION AND CAP 4 INCHES ABOVE FLOOR AT PANEL WSL AS A SPARE.



NOTE:
 THE SIZE, NUMBER AND LOCATION OF EXISTING UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE FOR GENERAL INFORMATION ONLY. UTILITY SERVICE CONNECTIONS ARE NOT SHOWN ON THIS DRAWING. CONTRACTOR IS RESPONSIBLE FOR OBTAINING EXACT LOCATIONS OF EXISTING UTILITIES FROM UTILITY COMPANIES. SOME EXISTING UTILITIES MAY NOT BE SHOWN.

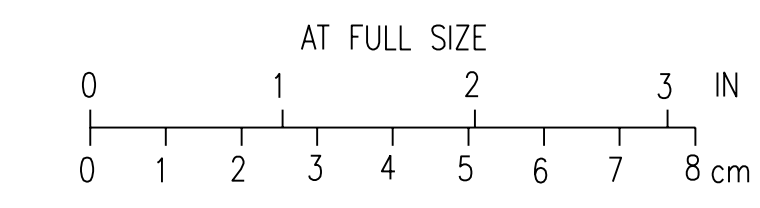
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE ELECTRICAL
 SITE PLAN - SHEET 12**

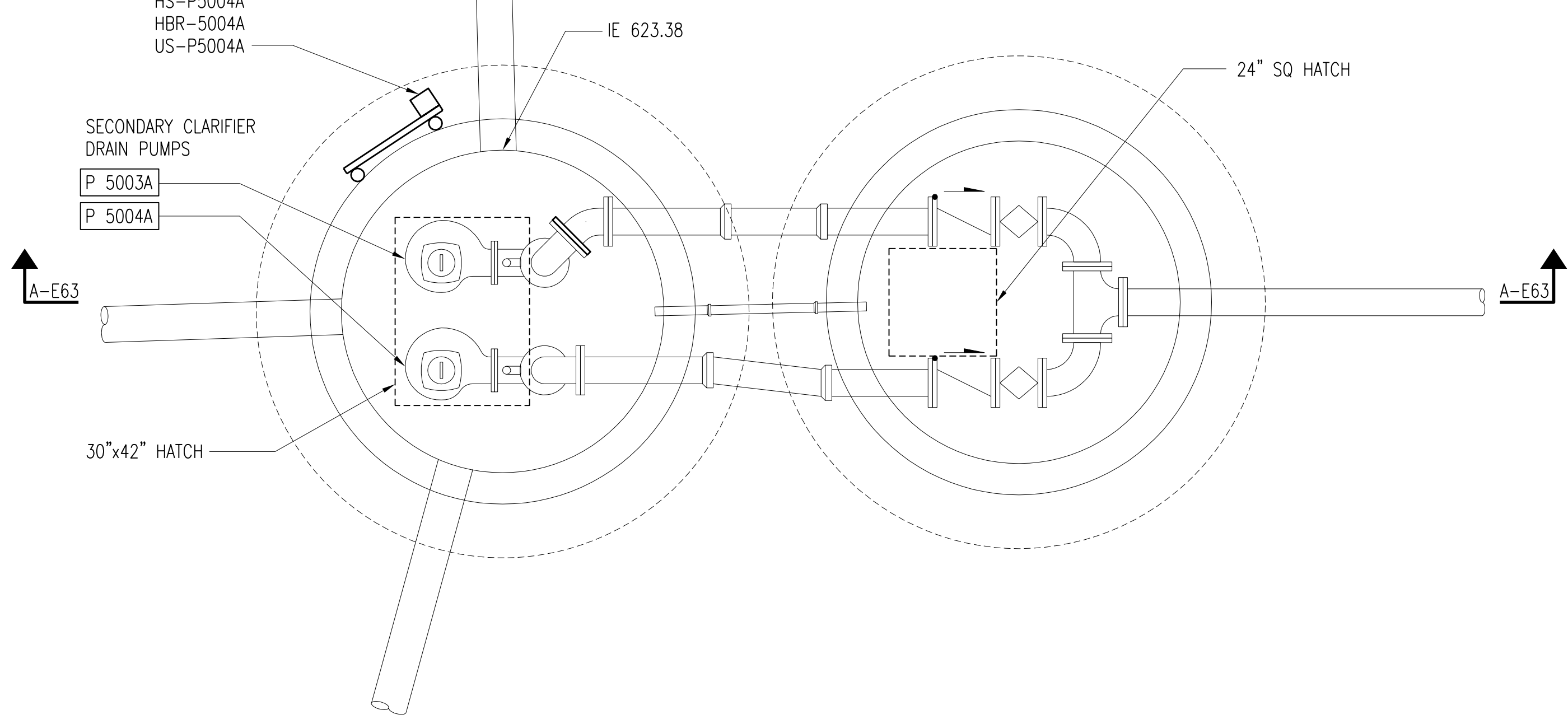
DESIGNED DL MORITZ	SCALE: 1" = 20'
DRAWN D. WILGES	NO. 22800
CHECKED DL MORITZ	REV.
APPROVED JD COGAN	E62
APPROVED	2
DATE DECEMBER 2, 2011	



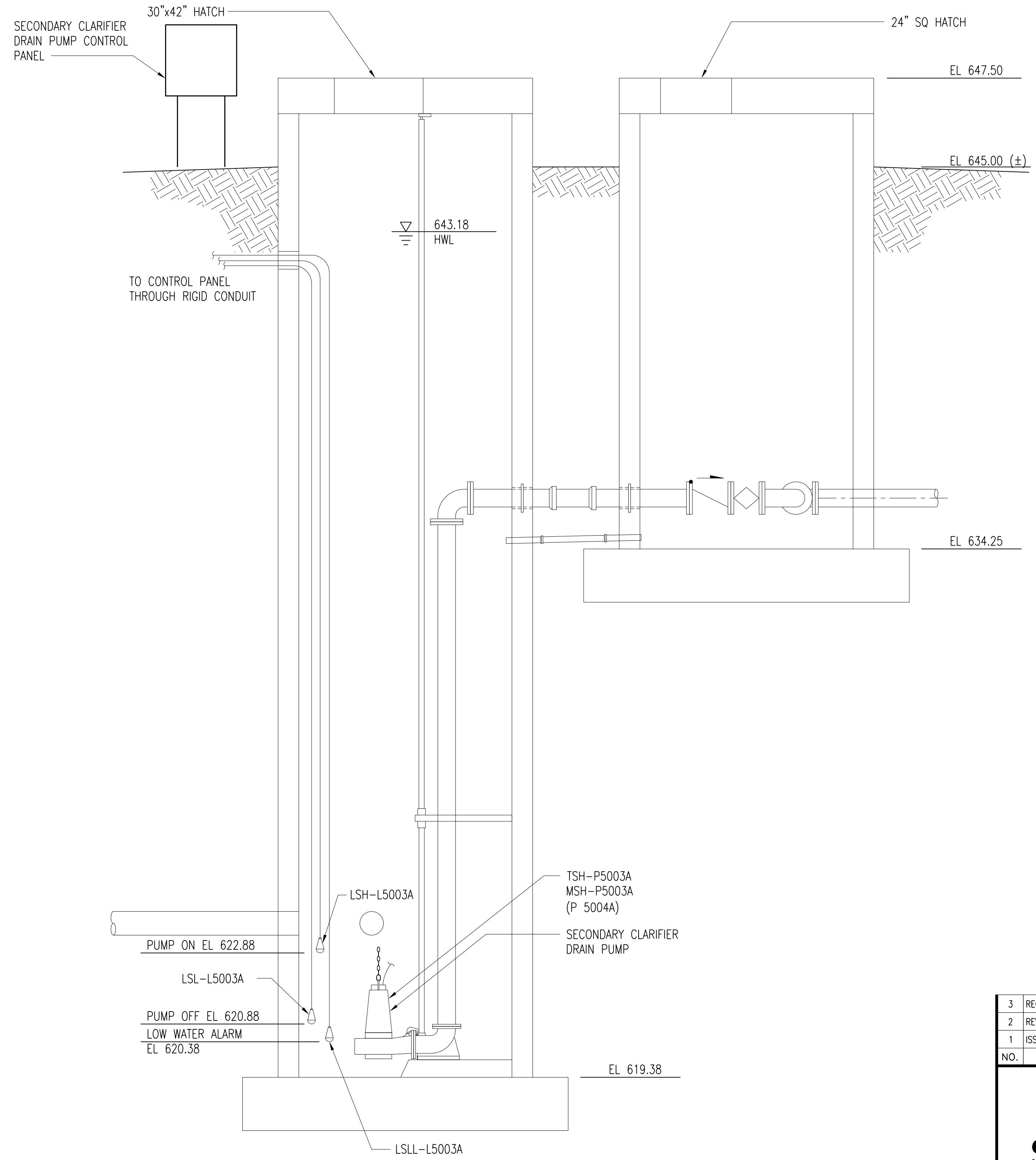
CADD: D1-PR4

LCP-P5003A
 CIRCUIT MCC-2-6C
 HS-P5003A
 HBR-P5003A
 US-P5003A
 HS-P5004A
 HBR-5004A
 US-P5004A

→
 NORTH



SECONDARY CLARIFIER DRAIN PUMP PLAN
 SCALE: 1/2" = 1'-0"



SECTION A-E63
 SCALE: 1/2" = 1'-0"

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED CALLOUTS	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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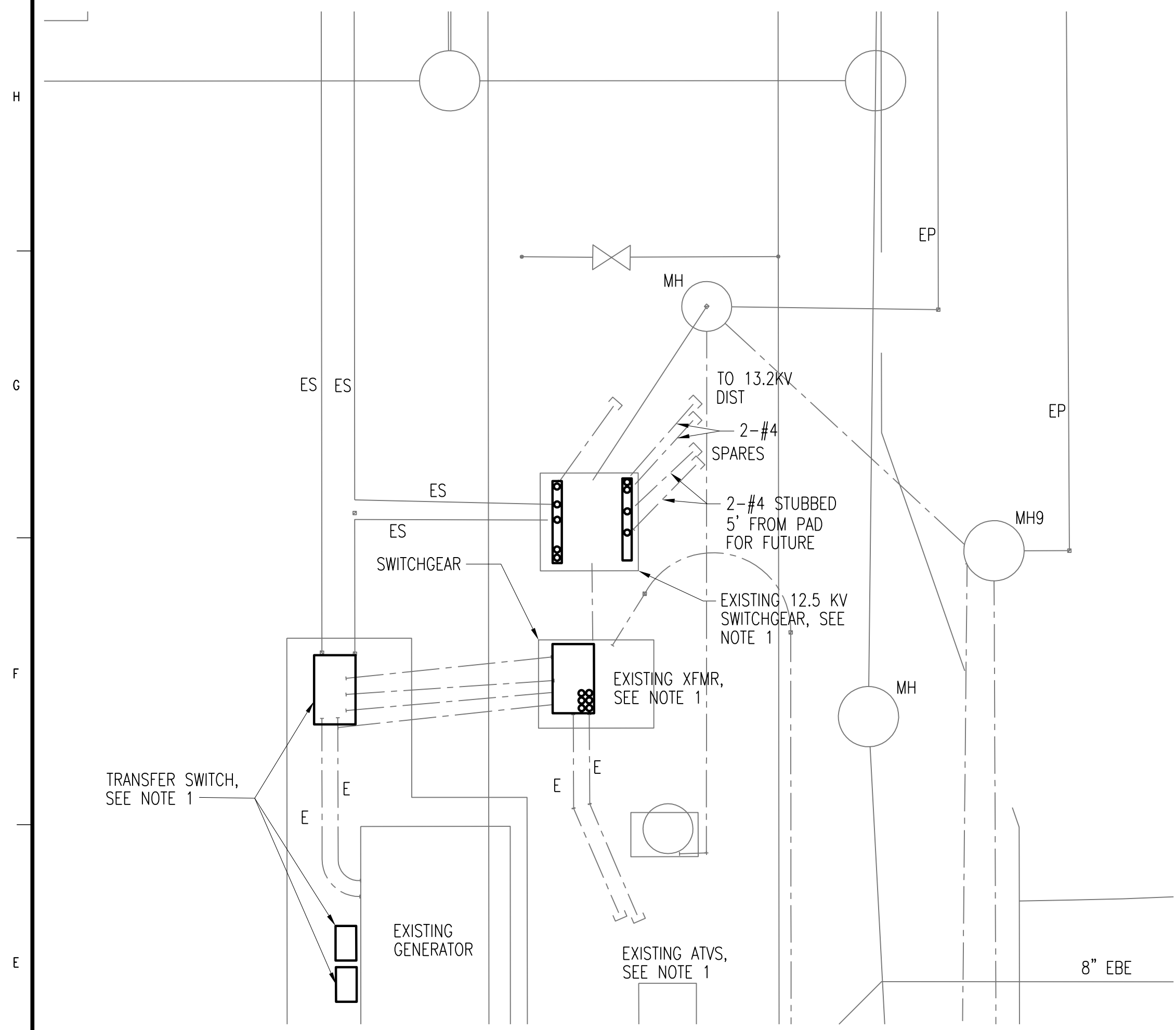
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**SITE
 TANK DRAIN PUMPING STATION
 PLAN AND SECTION**

DESIGNED	DL MORITZ	SCALE:	AS NOTED
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED		E63	3
DATE	DECEMBER 2, 2011		

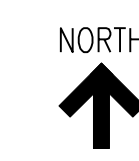
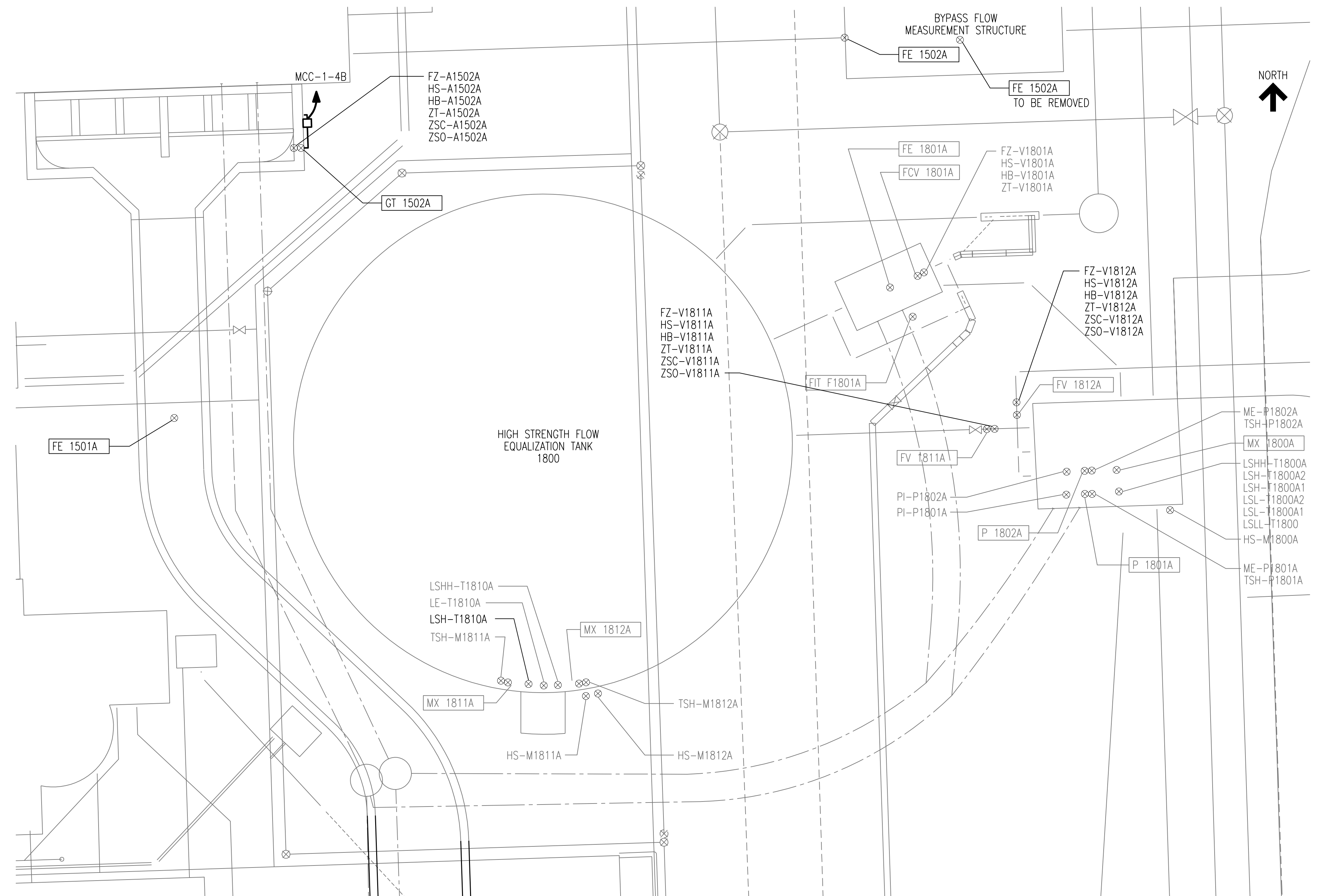


CADD: D1-1-R4



NOTE:
1. DEVICES TO BE RAISED PER DETAILS ON DWG E5

ENLARGED SITE PLAN
SCALE: 1/8"=1'-0"



DETAIL A-E64
E-52
SCALE: 1/8"=1'-0"

NOTE:
DEVICES SHOWN BOLD ON THIS DETAIL ARE NEW, SCREENED DEVICES ARE EXISTING. ALL DEVICES NEED NEW WIRING REQUIREMENTS PER DRAWING P110, P201, CONTROL DESCRIPTIONS AND INSTRUMENT INDEX.

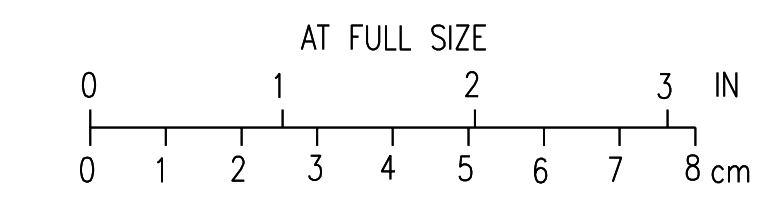
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED NOTES	DLM	DLM	LDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

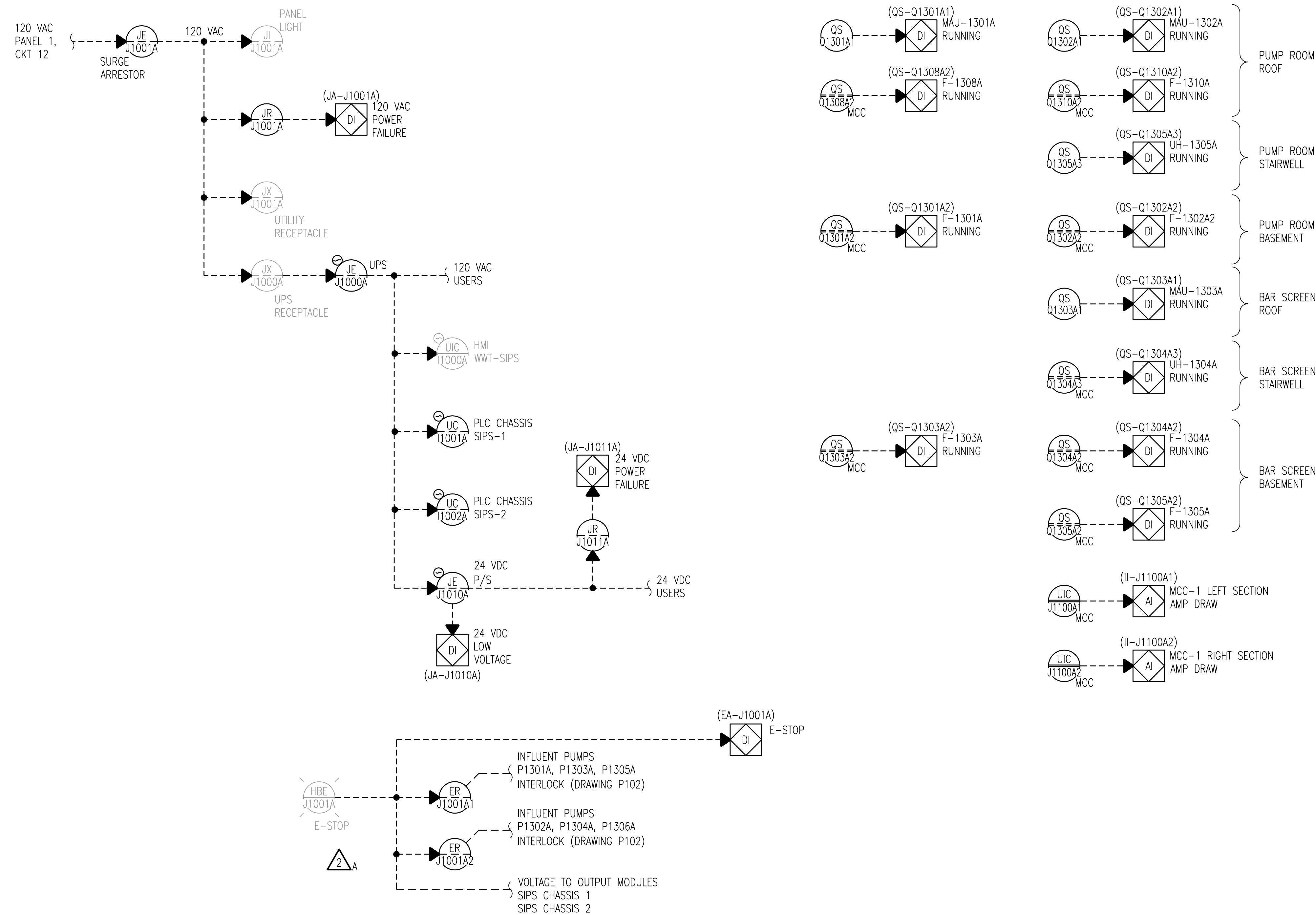
**SITE ELECTRICAL
SITE DETAILS - SHEET 1**

DESIGNED	DL MORITZ	SCALE: AS NOTED	NO. 22800	REV. E64 3
DRAWN	D. WILGES			
CHECKED	DL MORITZ			
APPROVED	JD COGAN			
DATE	DECEMBER 2, 2011			



CADD: D1-R4

NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SIPS PLC.



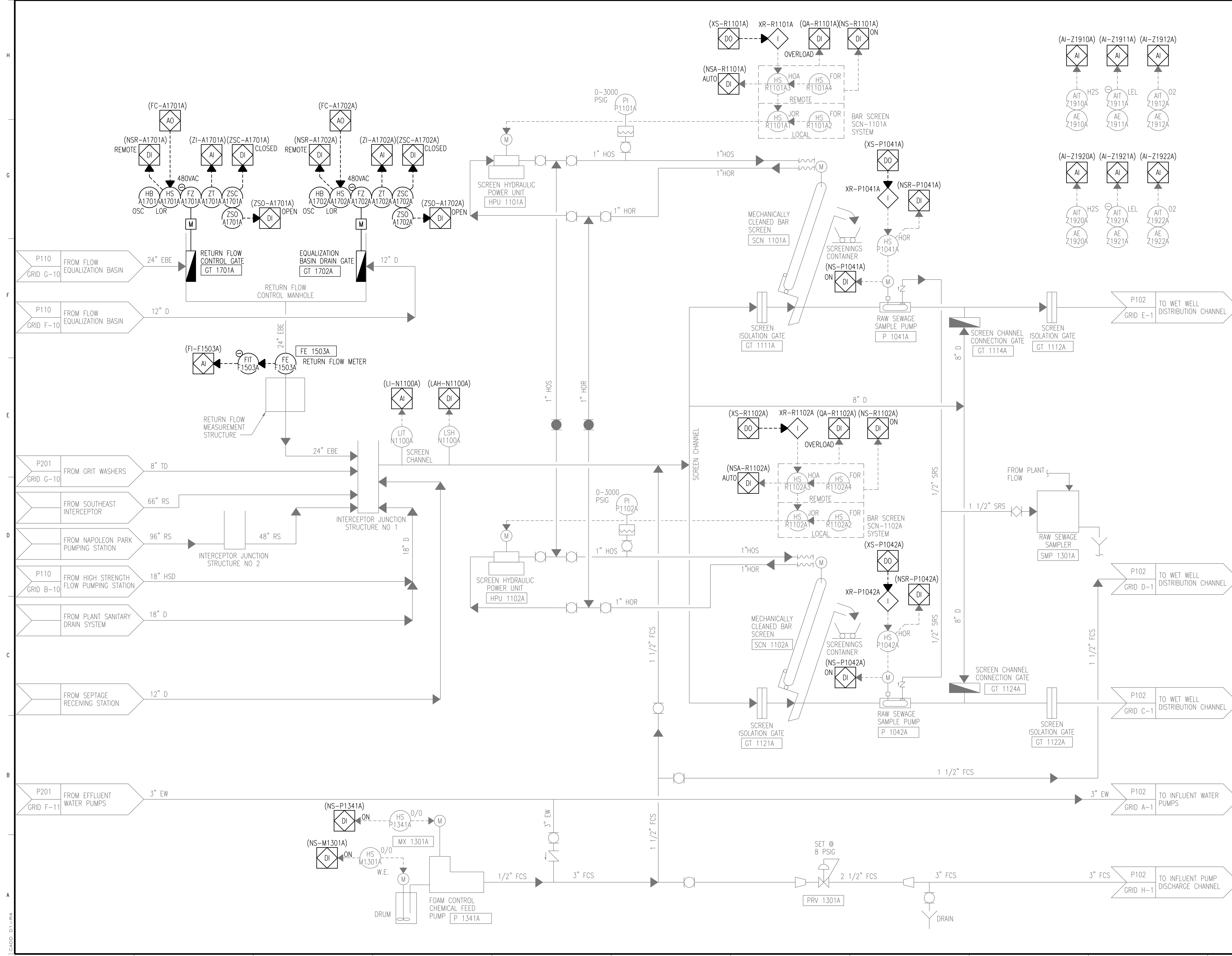
3 CHANGE PLC CONTROL PANEL E-STOP PUSHBUTTON ACTIVATION OF PLC INPPUT EA-J1001A INPUT FROM "ER INTERPOSING RELAY" TO " DIRECTLY FROM HBE-J1001A

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
PIPING AND INSTRUMENTATION DIAGRAMS
INFLUENT PUMP STATION
PLC CONTROL POWER

DESIGNED SA TRIPMACKER	SCALE: NONE	REV. 4
DRAWN JW STODOLL	NO. 22800	
CHECKED SA TRIPMACKER		
APPROVED TJ MERGEN		
APPROVED DATE DECEMBER 2, 2011		



NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SOUTH INFLUENT PUMPING STATION SIPS-1 OR SIPS-2 PLC.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	AMR	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

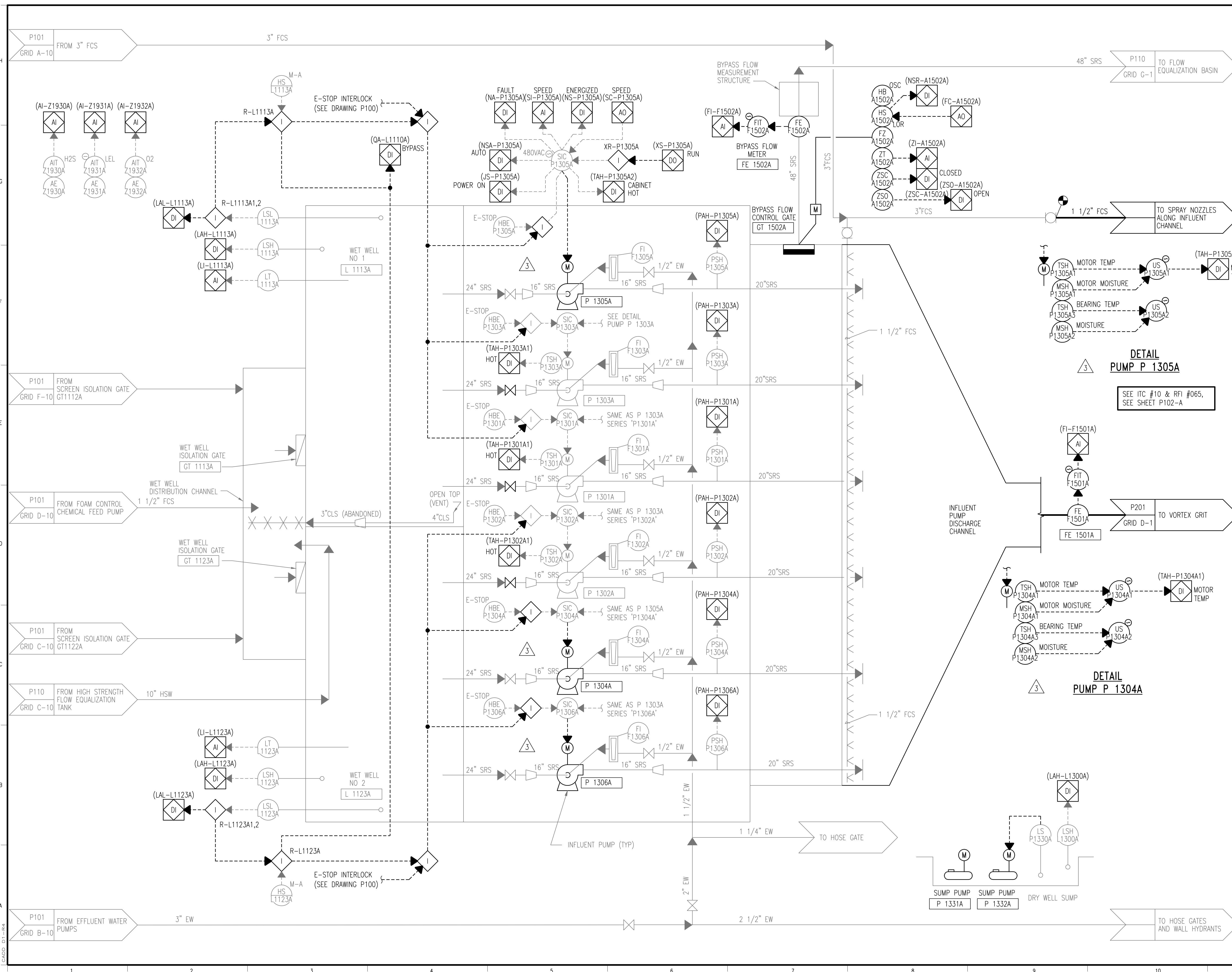

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CITY OF IOWA CITY, IOWA
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**PIPING AND INSTRUMENTATION DIAGRAMS
 INFLUENT PUMP STATION
 SCREENING**

DESIGNED	AM ROMERO / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STOGDILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ Mergen		
APPROVED			
DATE	DECEMBER 2, 2011		

P101 **2**

CADD: D1-R4



NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SOUTH INFLUENT PUMPING STATION SIPS-1 OR SIPS-2 PLC.

DETAIL PUMP P 1305A

SEE ITC #10 & RFI #065, SEE SHEET P102-A

DETAIL PUMP P 1303A

PUMP P 1301A TACS: P1301A
 PUMP P 1302A TACS: P1302A
 PUMP P 1306A TACS: P1306A

DETAIL PUMP P 1304A

DETAIL PUMP P 1306A

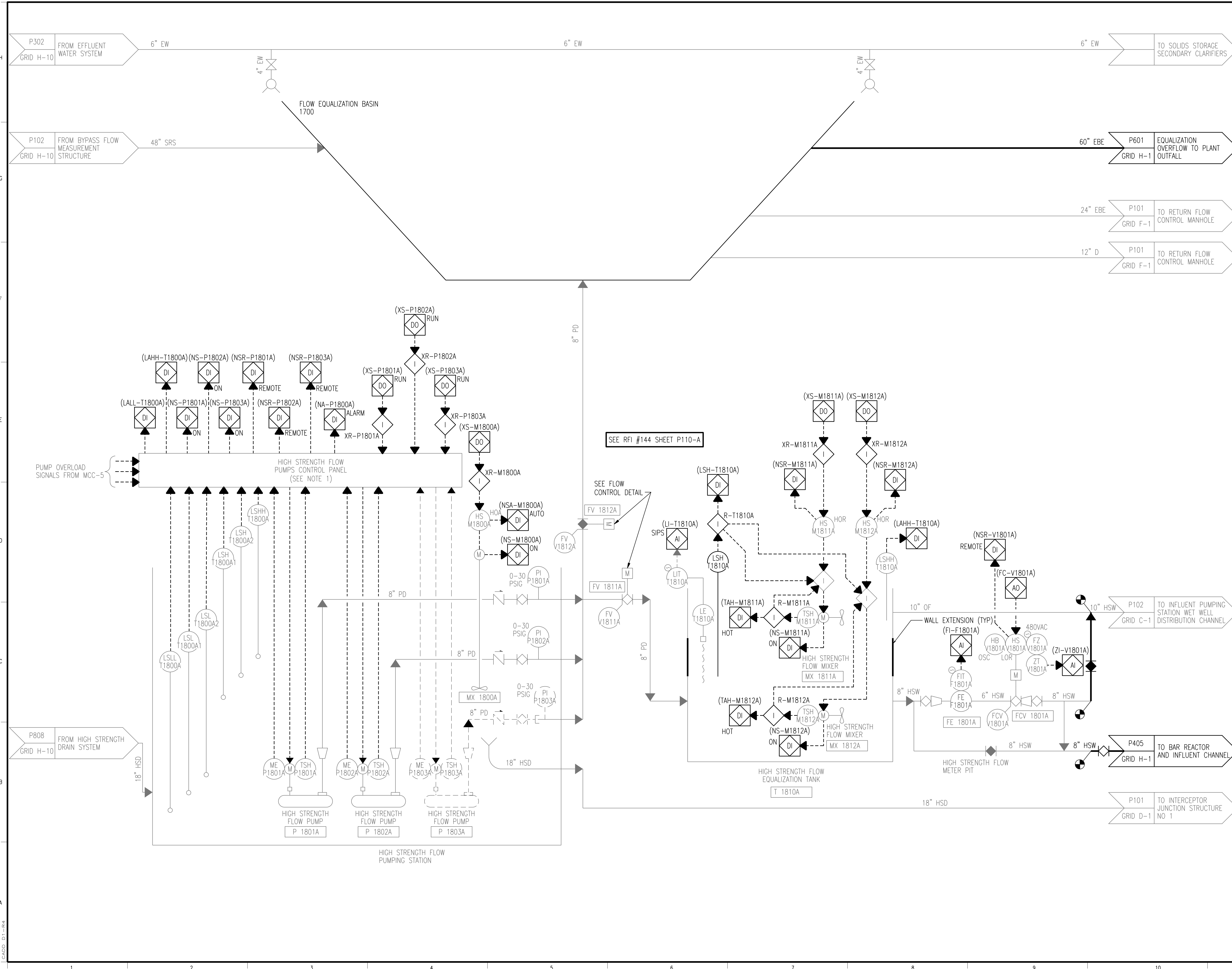
4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ITC #10	SAT	SAT	TJM	08-28-2012
2	EXISTING LEVEL SWITCH	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMR	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
 INFLUENT PUMP STATION
 PUMPING, FLOW MEASUREMENT**

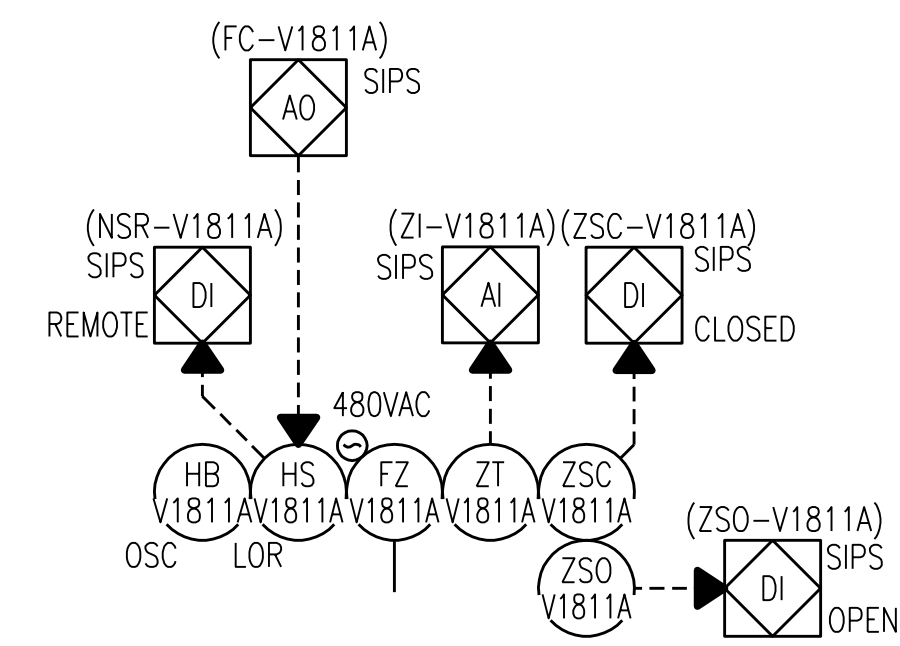
DESIGNED	AM ROMERO / SA TRIPMACKER	SCALE:	AS NOTED
DRAWN	JW STODOLL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ Mergen		
APPROVED			
DATE	DECEMBER 2, 2011		



- NOTES:**
1. MOISTURE SWITCHES MSH-P1801A, MSH-P1802A AND MSH-P1803A ARE LOCATED IN HIGH STRENGTH FLOW PUMPS CONTROL PANEL.
 2. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SOUTH INFLUENT PUMPING STATION SIPS-3 PLC, UNLESS NOTED OTHERWISE.

SEE RFI #144 SHEET P110-A

SEE FLOW CONTROL DETAIL



FLOW CONTROL DETAIL
TAGS: V1811A AND V1812A

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMR	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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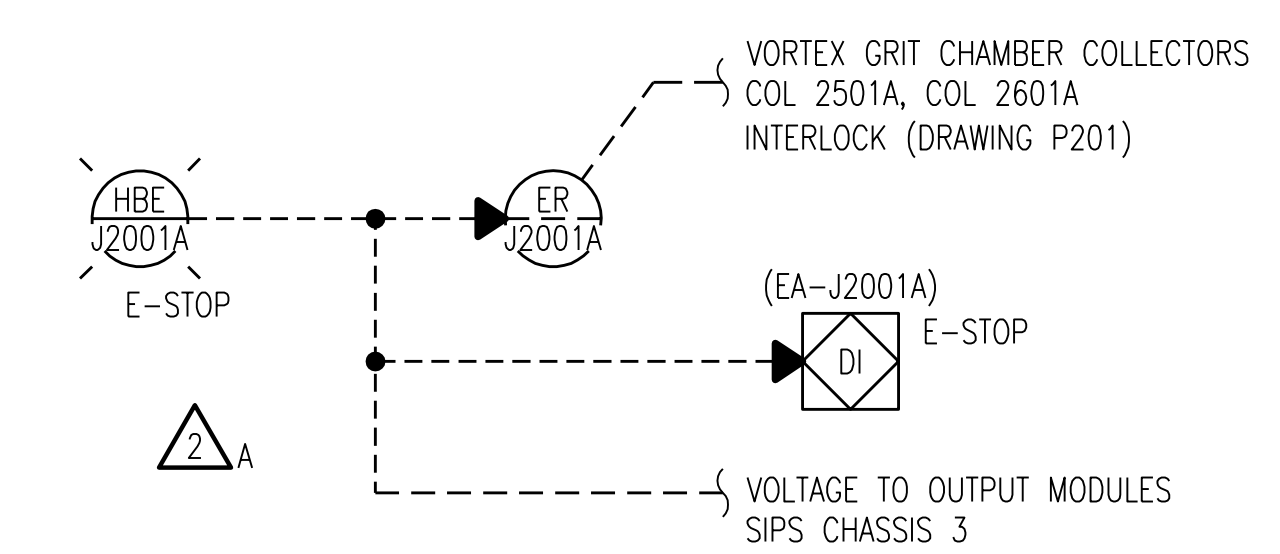
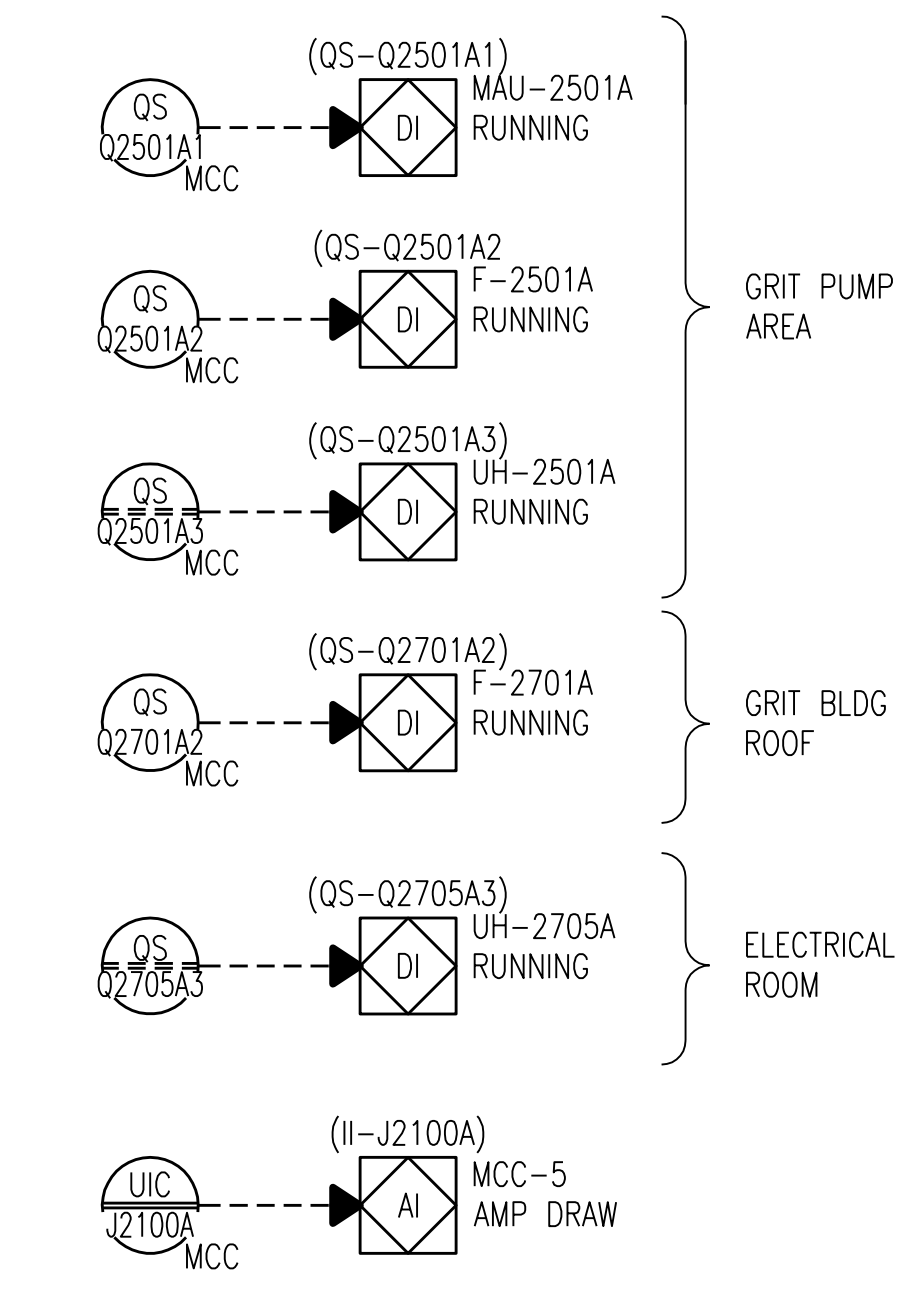
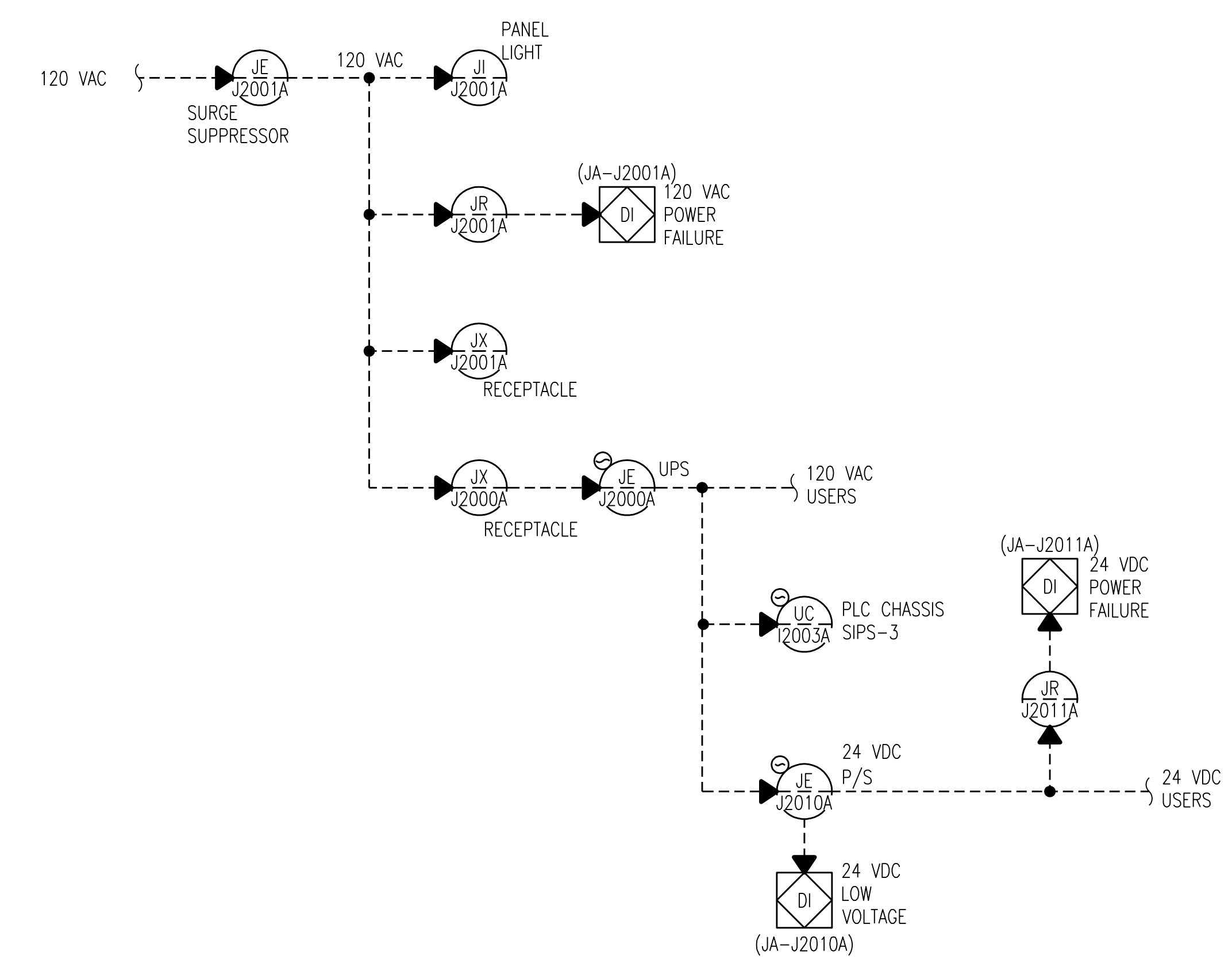
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
FLOW EQUALIZATION AND
HIGH STRENGTH FLOW CONTROL**

DESIGNED	AM ROMERO / SA TRIMPACER	SCALE:	NONE	REV. P110 3
DRAWN	JW STOGDILL	CHECKED	NO. 22800	
CHECKED	SA TRIMPACER	APPROVED		
APPROVED	TJ MERGEN	DATE	DECEMBER 2, 2011	
DATE	DECEMBER 2, 2011			

CADD: D1-P4

NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SIPS-3 PLC.



2 CHANGE PLC CONTROL PANEL E-STOP PUSHBUTTON ACTIVATION OF PLC INPUT EA-J2001A INPUT FROM "ER INTERPOSING RELAY" TO "DIRECTLY FROM HBE-J2001A."

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

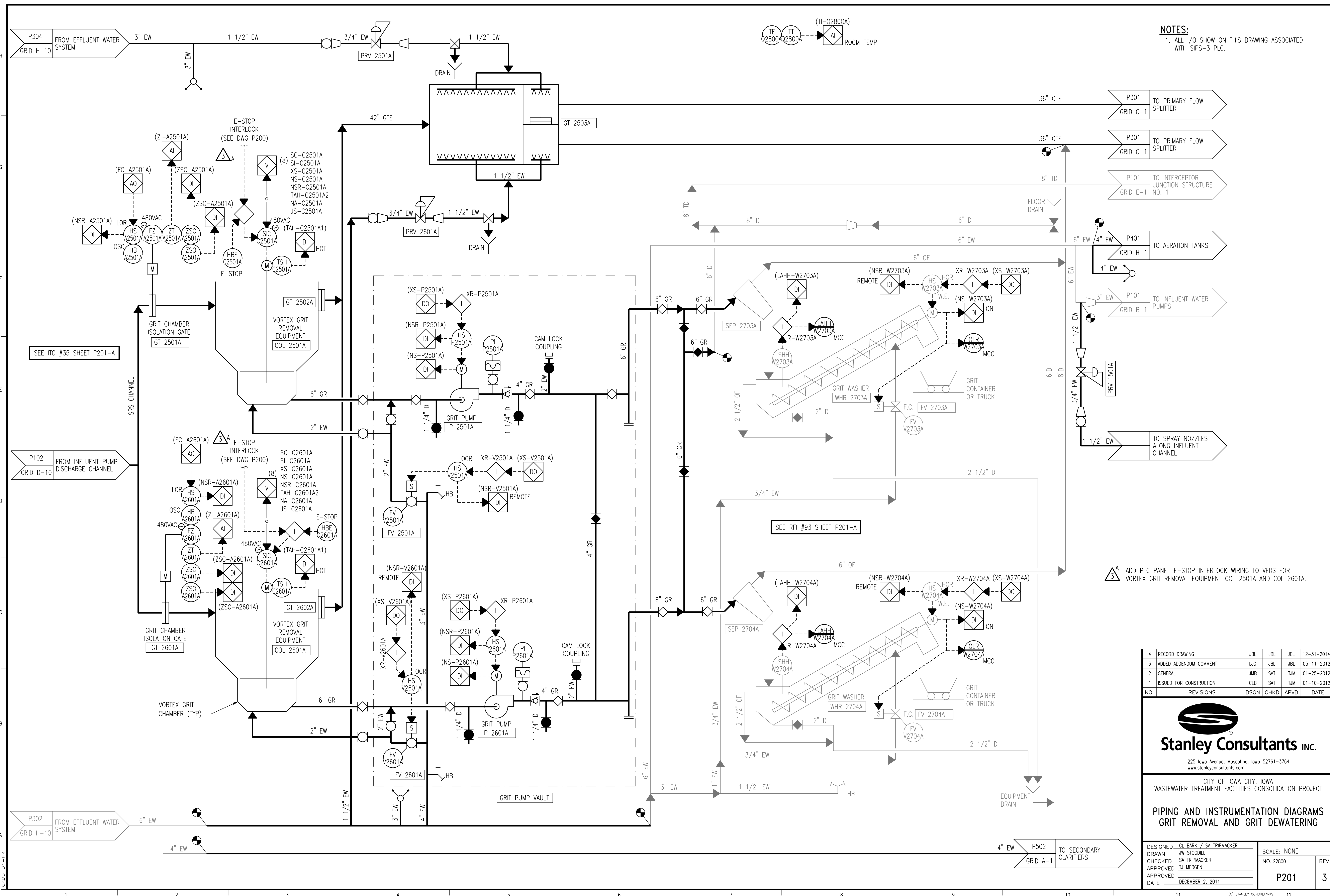
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**PIPING AND INSTRUMENTATION DIAGRAMS
 INFLUENT GRIT AREA
 PLC CONTROL POWER**

DESIGNED SA TRIPMACKER	SCALE: NONE	REV. 3
DRAWN JW STODOLL	NO. 22800	
CHECKED SA TRIPMACKER		
APPROVED TJ MERGEN		
APPROVED DATE DECEMBER 2, 2011	P200	

CADD: D1-PR4



NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SIPS-3 PLC.

△ ADD PLC PANEL E-STOP INTERLOCK WIRING TO VFDS FOR VORTEX GRIT REMOVAL EQUIPMENT COL 2501A AND COL 2601A.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	JMB	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

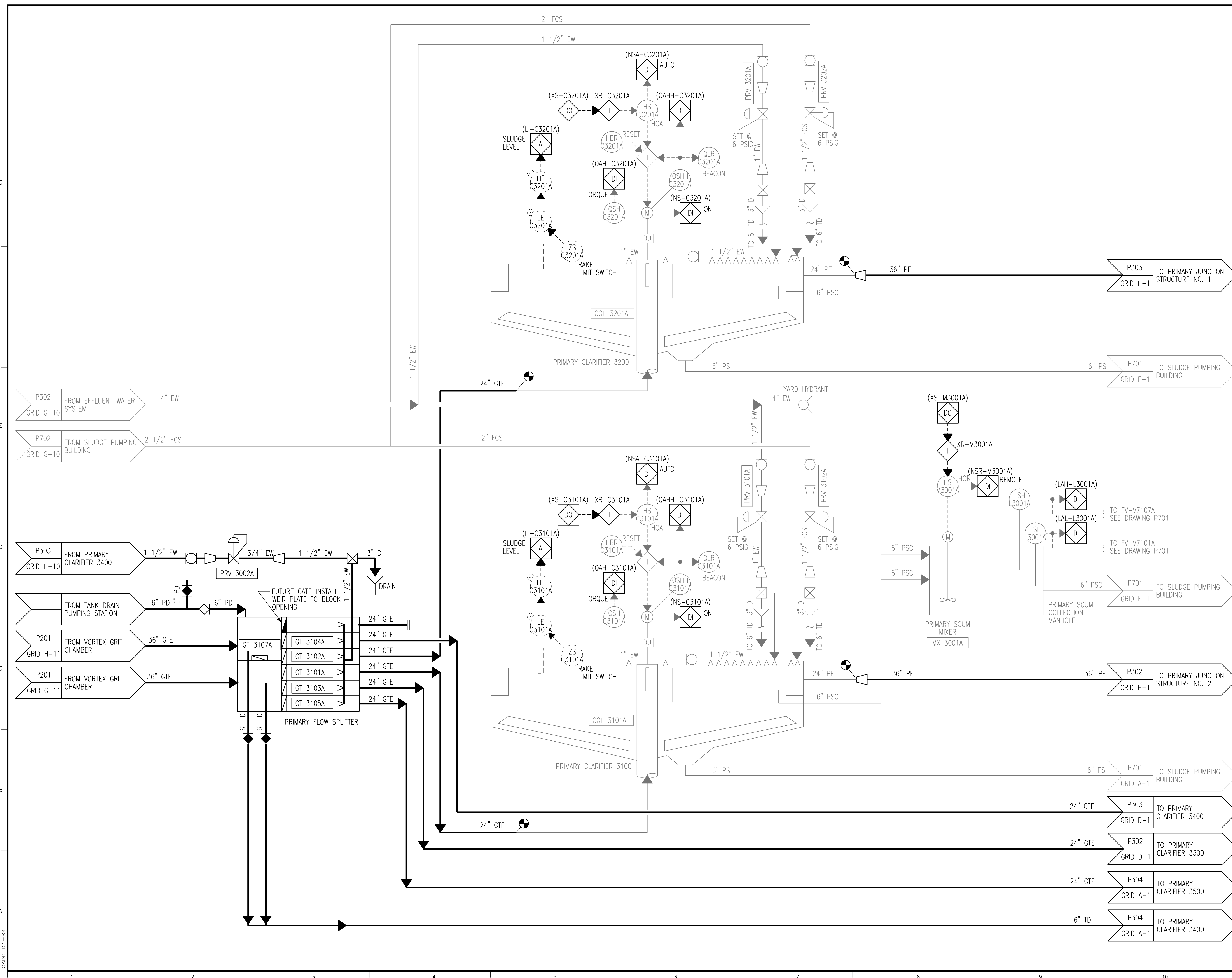

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
PIPING AND INSTRUMENTATION DIAGRAMS
GRIT REMOVAL AND GRIT DEWATERING

DESIGNED	CL BARK / SA TRIPMACKER	SCALE:	NONE	REV.
DRAWN	JW STODOLL	NO.	22800	
CHECKED	SA TRIPMACKER			
APPROVED	TJ Mergen			
APPROVED				
DATE	DECEMBER 2, 2011			
			P201	3

CADD D1-1-14

NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPUS PLC.



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED FLOW SPLITTER	JMB	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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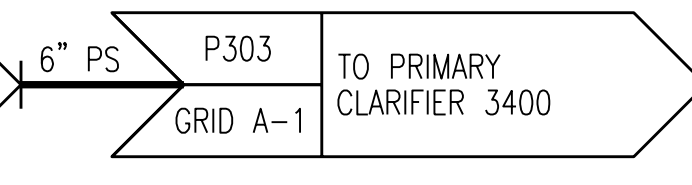
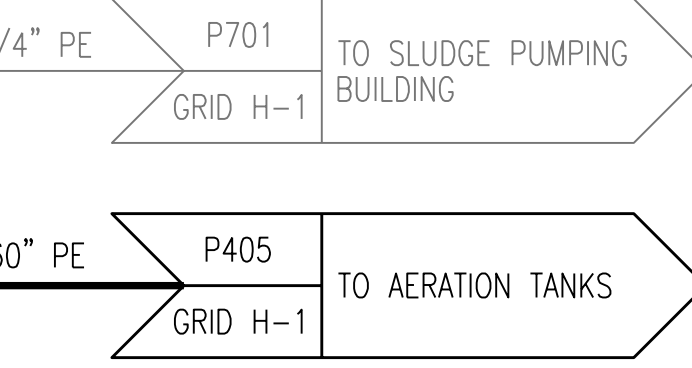
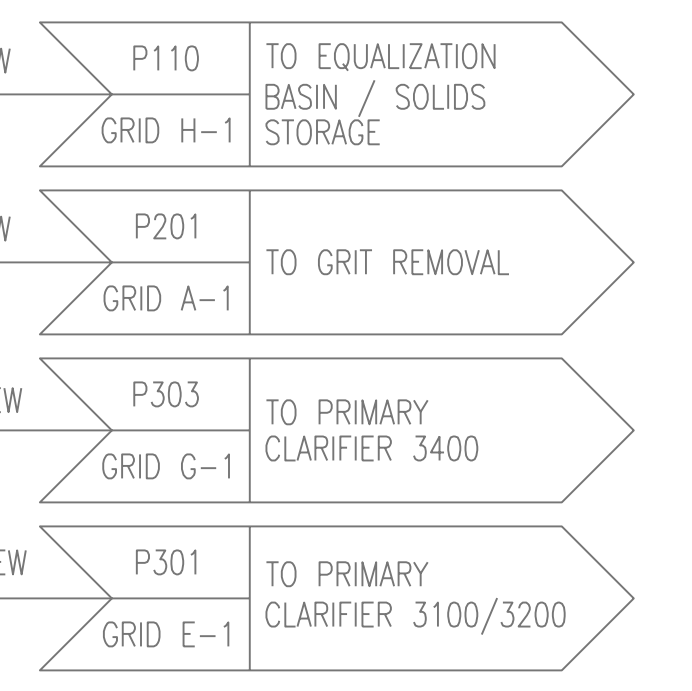
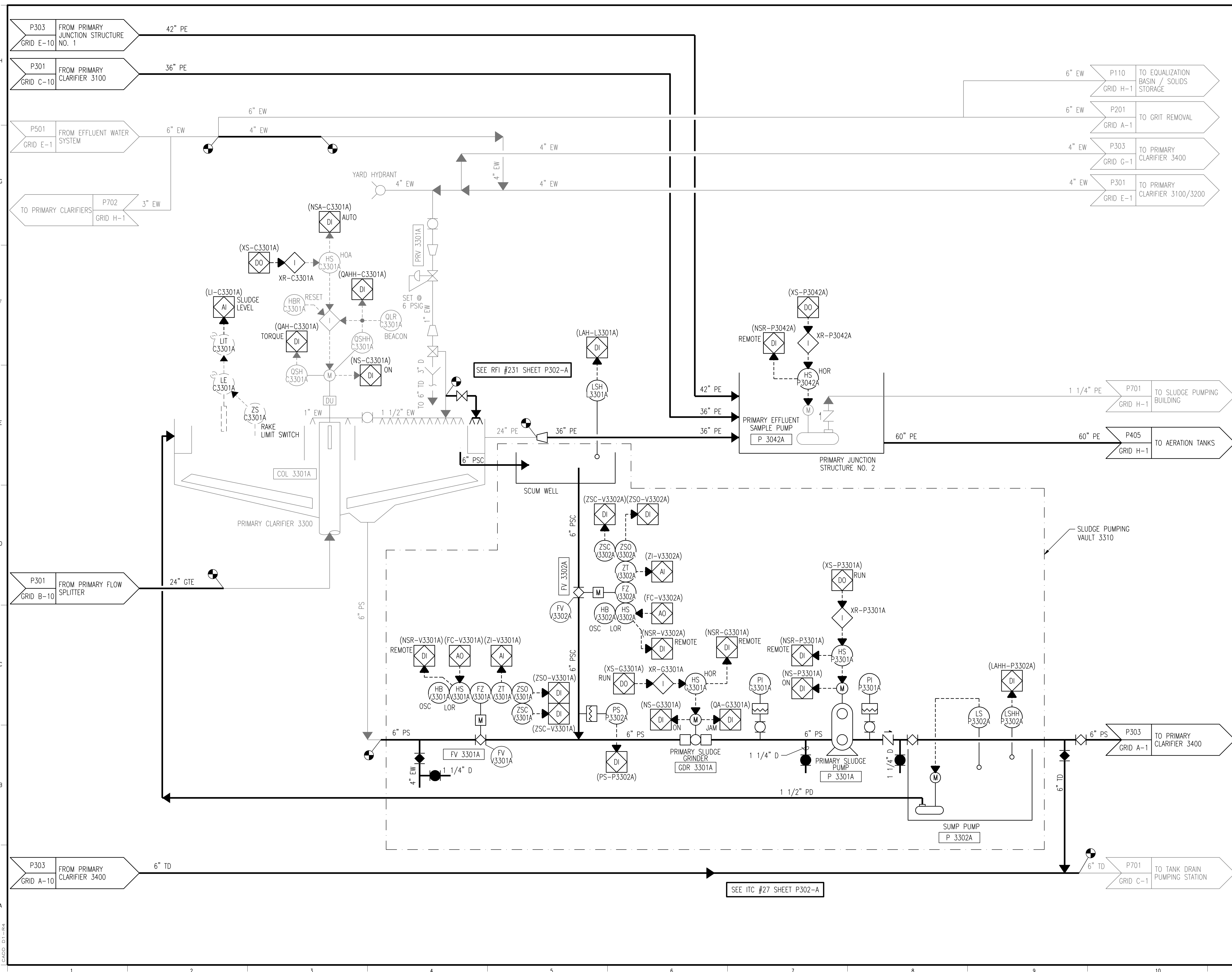
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
 PRIMARY CLARIFIER 3100 & 3200**

DESIGNED	CL BARK / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STODOLL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ Mergen		
APPROVED			
DATE	DECEMBER 2, 2011	P301	3

CADD: D1-R4

NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPUS PLC.



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	JMB	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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PIPING AND INSTRUMENTATION DIAGRAMS
PRIMARY CLARIFIER 3300

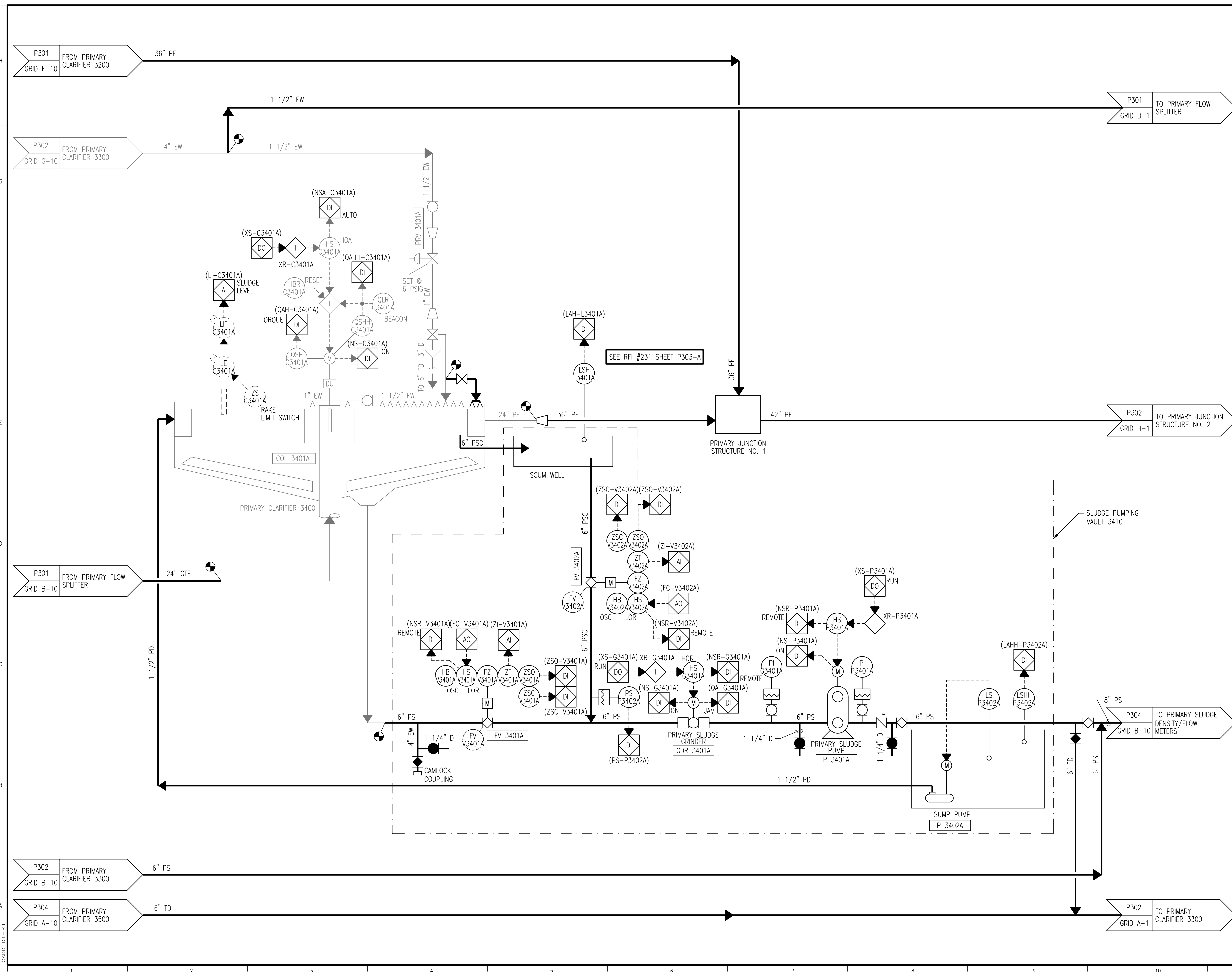
DESIGNED	CL BARK / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STOGDILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011	P302	3

CADD: D1-P4

SEE ITC #27 SHEET P302-A

SEE RFI #231 SHEET P302-A

NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPUS PLC.



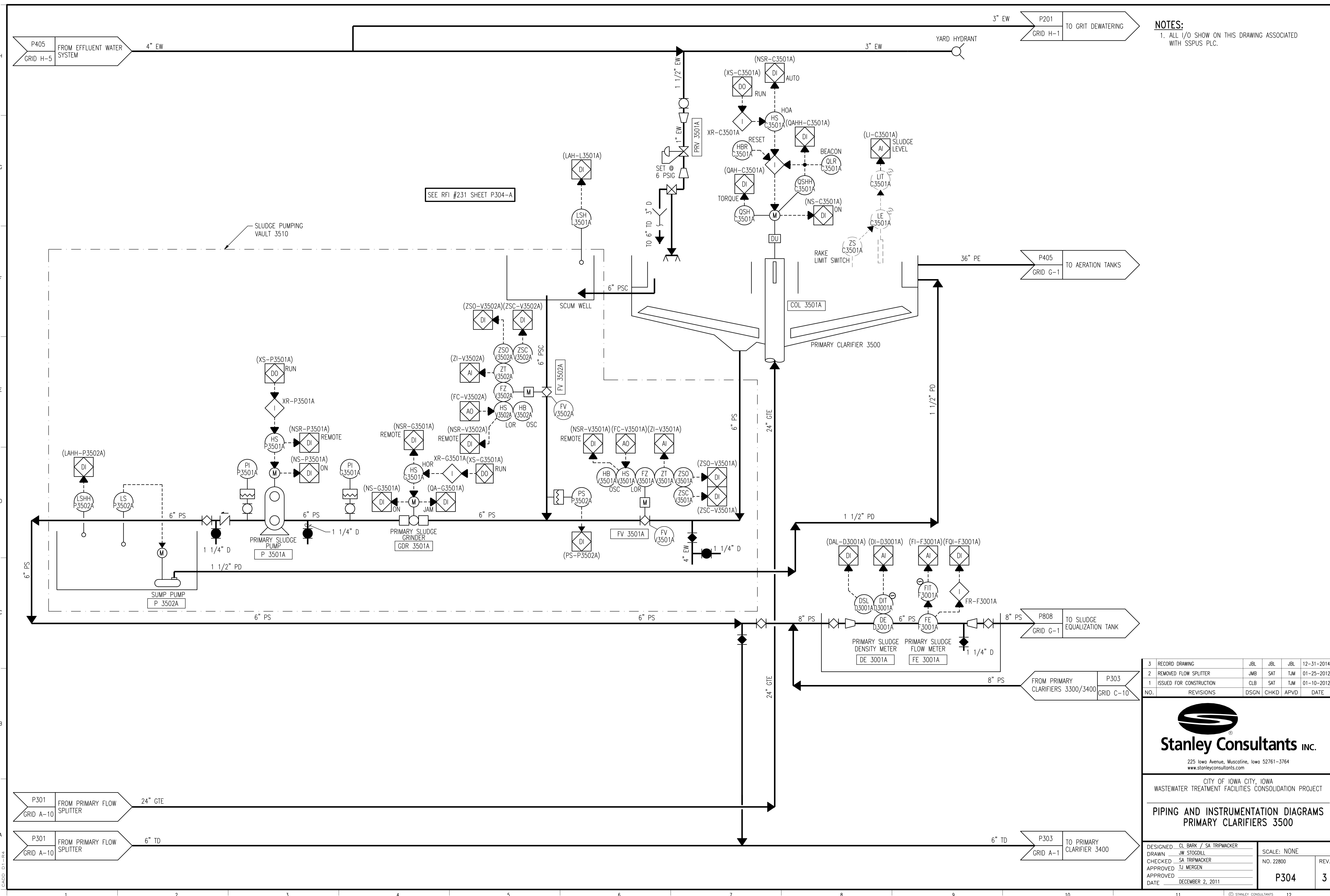
3	RECORD DRAWING	JBL	JLB	JLB	12-31-2014
2	GENERAL	JMB	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
PIPING AND INSTRUMENTATION DIAGRAMS
PRIMARY CLARIFIER 3400

DESIGNED	CL BARK / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STOGDILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011	P303	3

CADD: D1-P4



NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPUS PLC.

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REMOVED FLOW SPLITTER	JMB	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

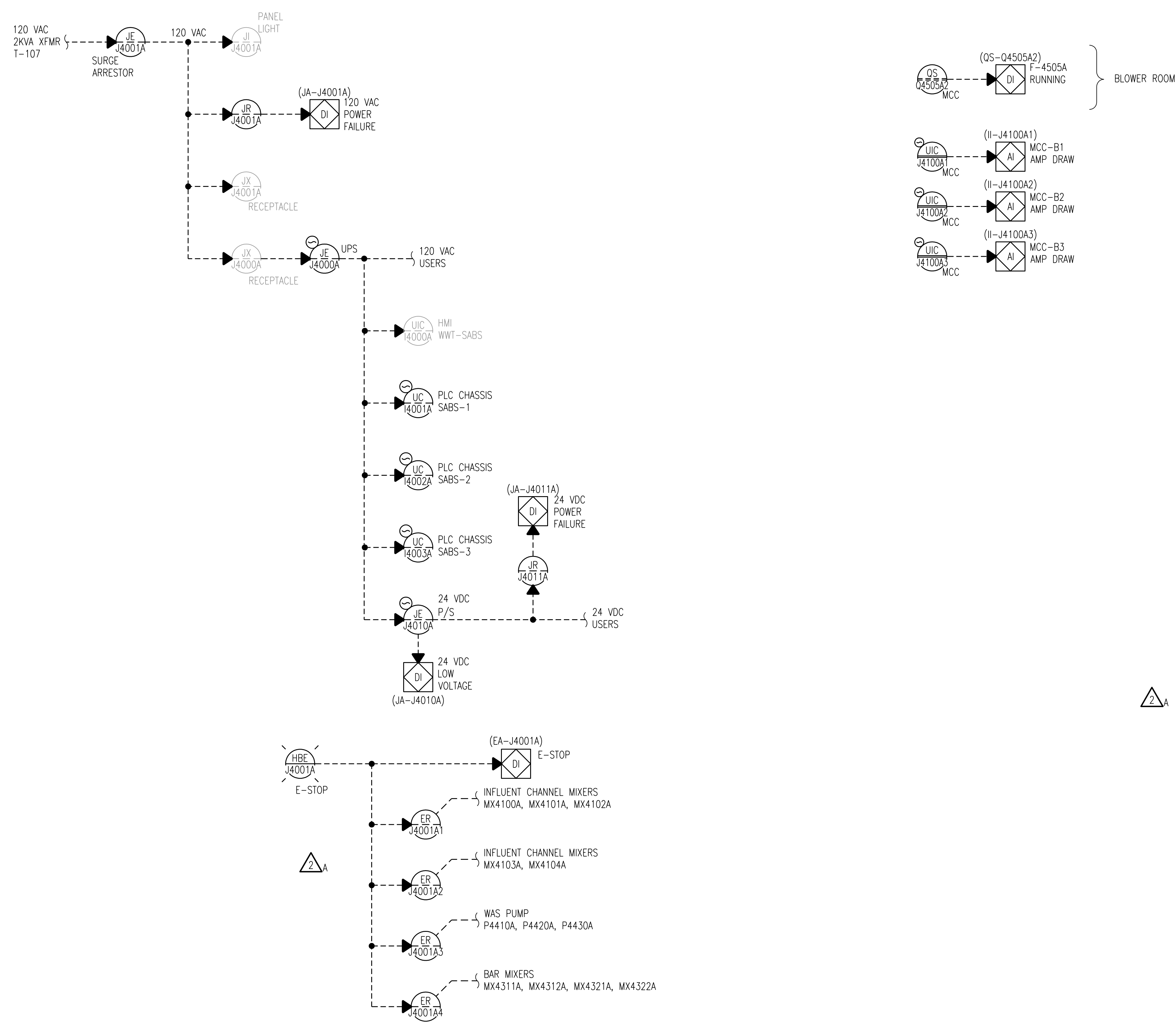


CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
**PIPING AND INSTRUMENTATION DIAGRAMS
 PRIMARY CLARIFIERS 3500**

DESIGNED	CL BARK / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STODGILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ Mergen		
APPROVED			
DATE	DECEMBER 2, 2011	P304	3

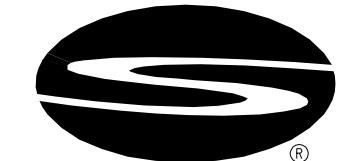
CADD: D1-P4

NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SABS PLC.



2 ADD HBE-J4001A E-STOP PUSHBUTTON, PLC INPUT EA-J4001A, AND FOUR S-STOP CONTROL RELAYS ER-J4001A1, ER-J4001A2, ER-J4001A3, AND ER-J4001A4.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

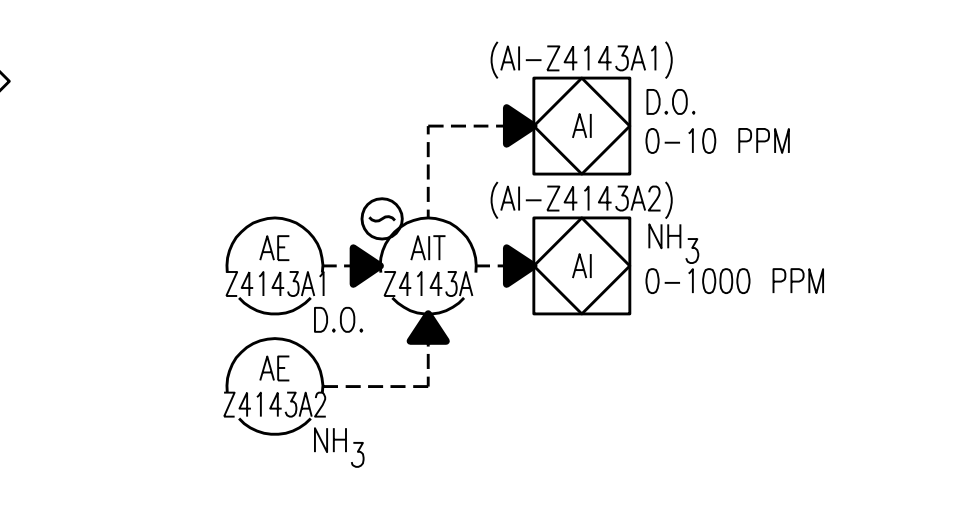
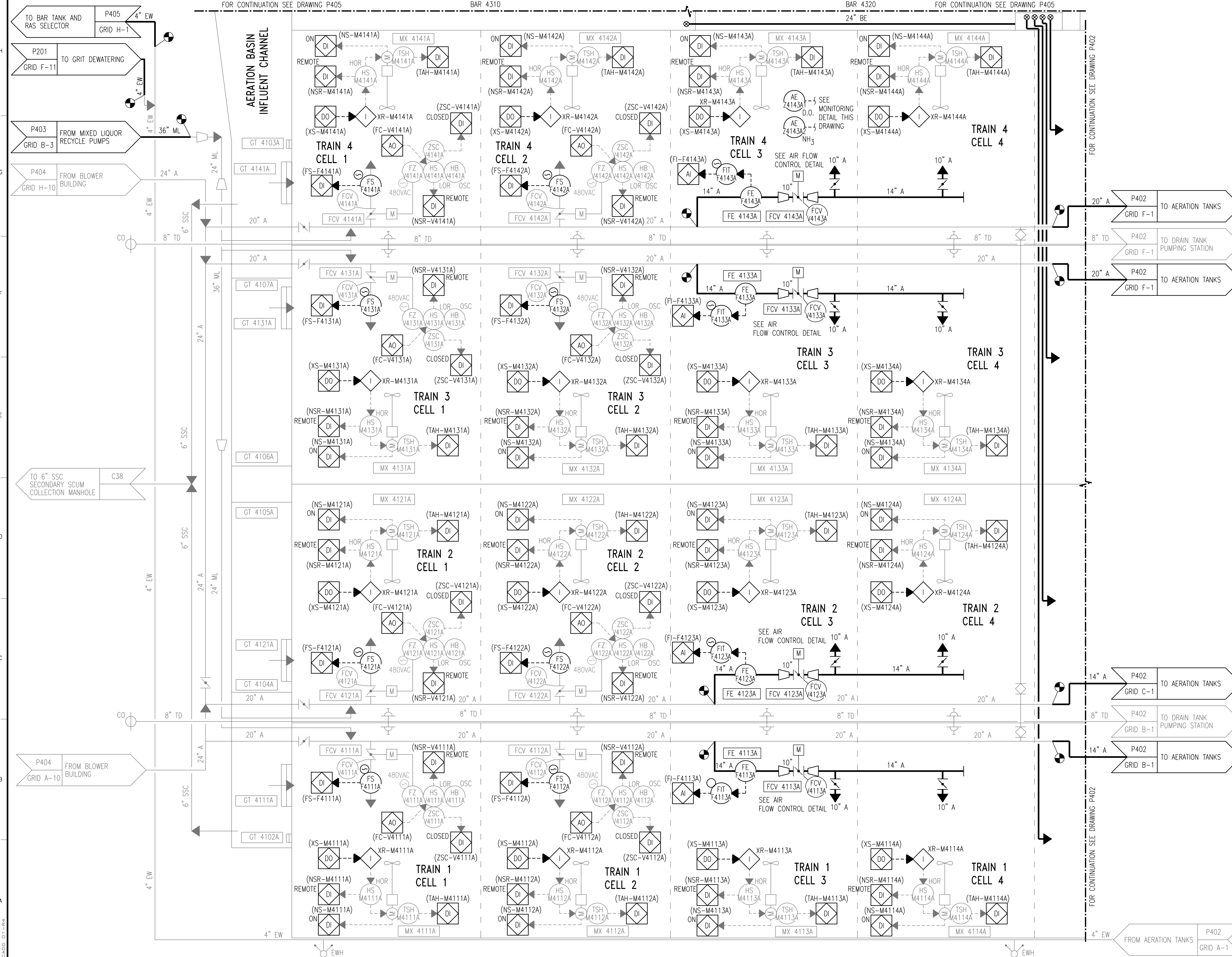
**PIPING AND INSTRUMENTATION DIAGRAMS
 AERATION BUILDING
 PLC CONTROL POWER**

DESIGNED SA TRIPMACKER	SCALE: NONE	P400	4
DRAWN JW STODOLL	NO. 22800		
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
DATE DECEMBER 2, 2011			

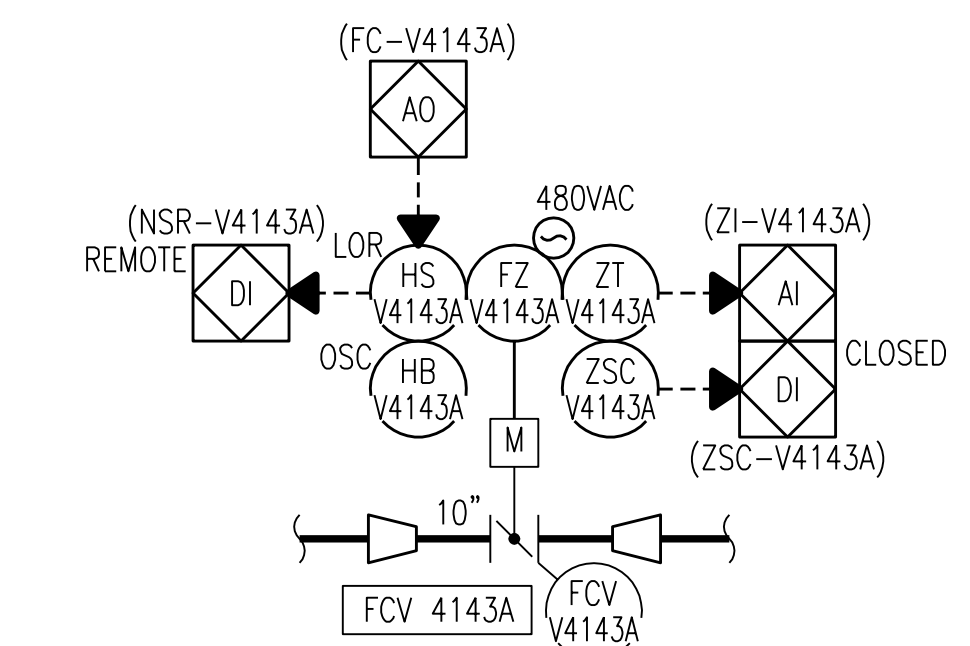
CADD: D1-PR4

NOTES:

1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SABS PLC.



DO, AMMONIA MONITORING
TRAIN 4 CELL 3: TAGS SHOWN



AIR FLOW CONTROL DETAIL
TRAIN 1 TAGS: 4113A
TRAIN 2 TAGS: 4123A
TRAIN 3 TAGS: 4133A
TRAIN 4 TAGS: SHOWN

3	RECORD DRAWING	JBL	JLB	JLB	12-31-2014
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	JBL	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

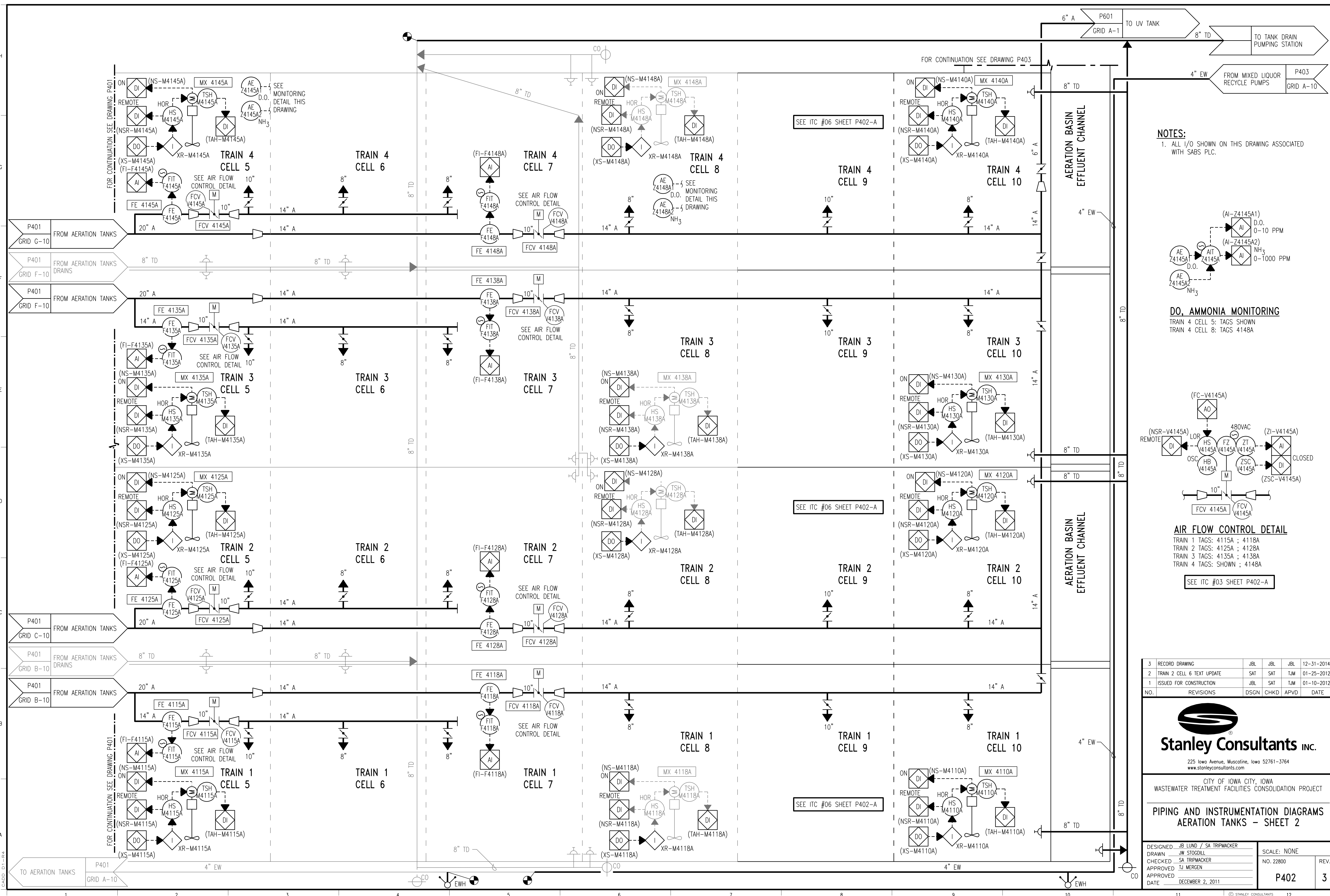
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
AERATION TANKS - SHEET 1**

DESIGNED: JB LUND / SA TRIPMACKER	SCALE: NONE	REV.
DRAWN: JIM STODOLLA	NO. 22800	
CHECKED: SA TRIPMACKER		
APPROVED: TJ Mergen		
APPROVED:		
DATE: DECEMBER 2, 2011	P401	3

CADD: D1-P4



NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SABS PLC.

DO, AMMONIA MONITORING
 TRAIN 4 CELL 5: TAGS SHOWN
 TRAIN 4 CELL 8: TAGS 4148A

AIR FLOW CONTROL DETAIL
 TRAIN 1 TAGS: 4115A; 4118A
 TRAIN 2 TAGS: 4125A; 4128A
 TRAIN 3 TAGS: 4135A; 4138A
 TRAIN 4 TAGS: SHOWN; 4148A

SEE ITC #03 SHEET P402-A

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	TRAIN 2 CELL 6 TEXT UPDATE	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	JBL	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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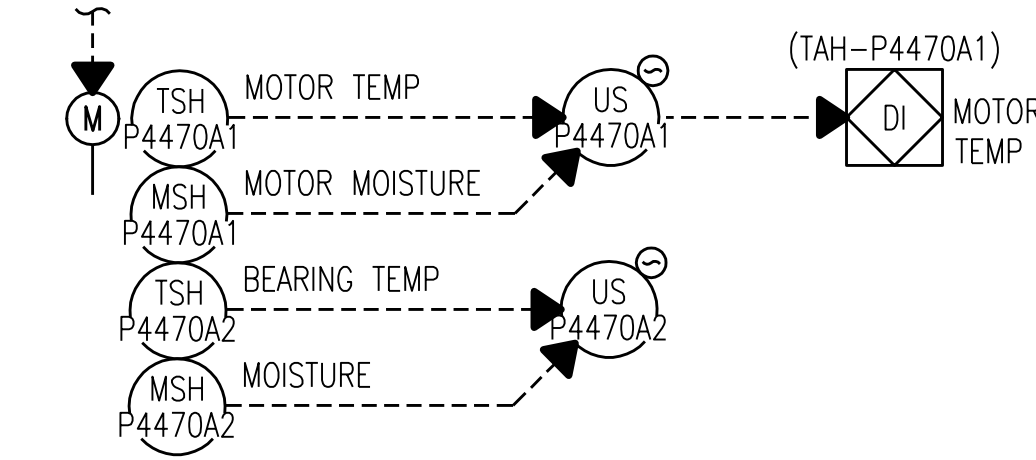
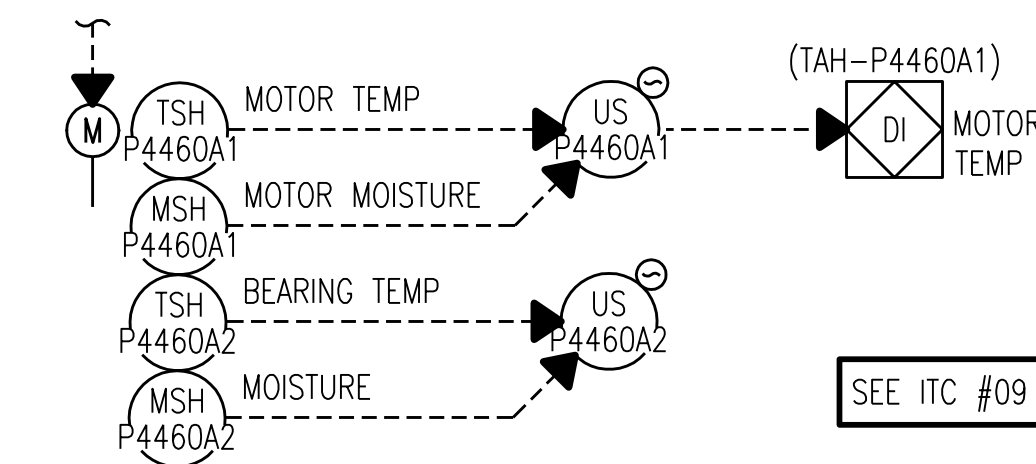
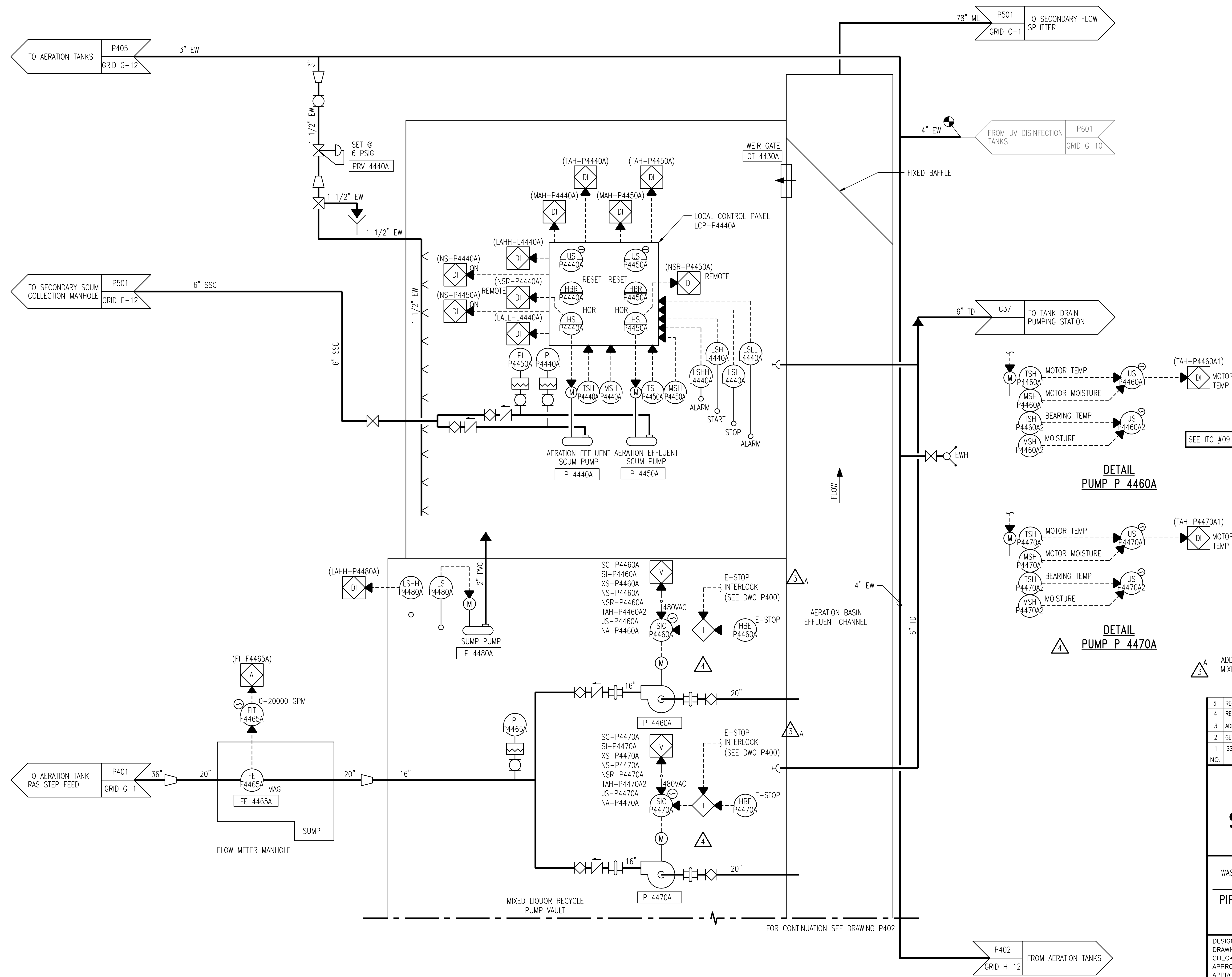
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
 AERATION TANKS - SHEET 2**

DESIGNED	JBL LUND / SA TRIPACKER	SCALE:	NONE
DRAWN	JWM STODOLLA	NO.	22800
CHECKED	SA TRIPACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011	P402	3

CADD: D1-P4

NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SDSB PLC.



3 ADD PLC PANEL E-STOP INTERLOCK WIRING TO VFDS FOR MIXED LIQUOR RECYCLE PUMPS P 4460A AND P 4470A.

5	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
4	REVISED PER ITC #9	SAT	SAT	JBL	08-28-2012
3	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	JBL	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
PIPING AND INSTRUMENTATION DIAGRAMS
MIXED LIQUOR RECYCLE PUMPS

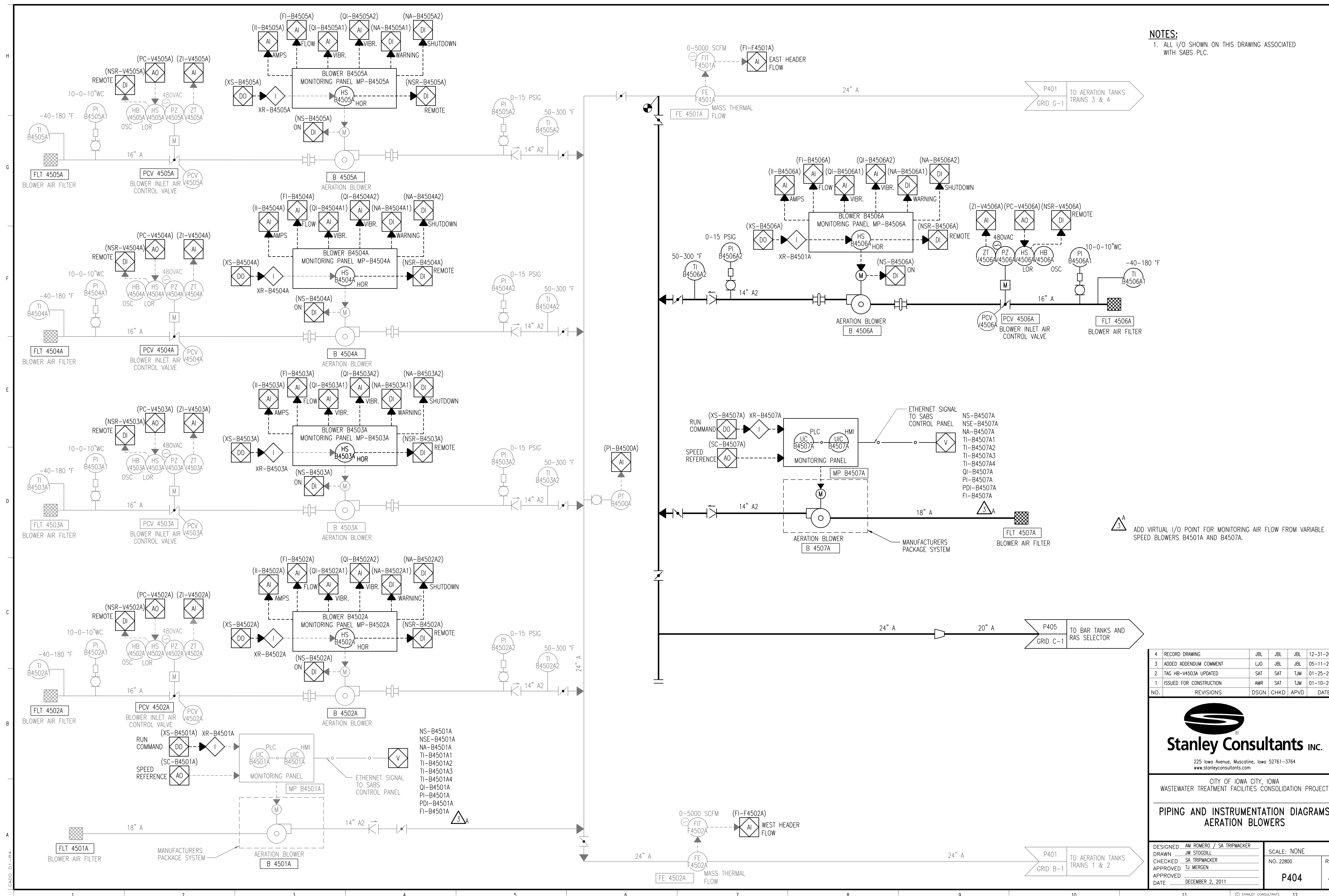
DESIGNED	JBL LUND / SA TRIPMACKER	SCALE:	
DRAWN	JW STOGDILL	NO. 22800	REV.
CHECKED	SA TRIPMACKER		
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011		

P403 **5**

FOR CONTINUATION SEE DRAWING P402

H
G
F
E
D
C
B
A
 CADD: D1-P4

NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SABS PLC.



NS-B4501A
 NSE-B4501A
 NA-B4501A
 TI-B4501A1
 TI-B4501A2
 TI-B4501A3
 TI-B4501A4
 QI-B4501A
 PI-B4501A
 PDI-B4501A
 FI-B4501A

PLC
 HMI
 UC B4507A
 UIC B4507A
 MONITORING PANEL
 MP B4507A
 MANUFACTURERS PACKAGE SYSTEM

ADD VIRTUAL I/O POINT FOR MONITORING AIR FLOW FROM VARIABLE SPEED BLOWERS B4501A AND B4507A.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	TAG HB-V4503A UPDATED	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMR	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

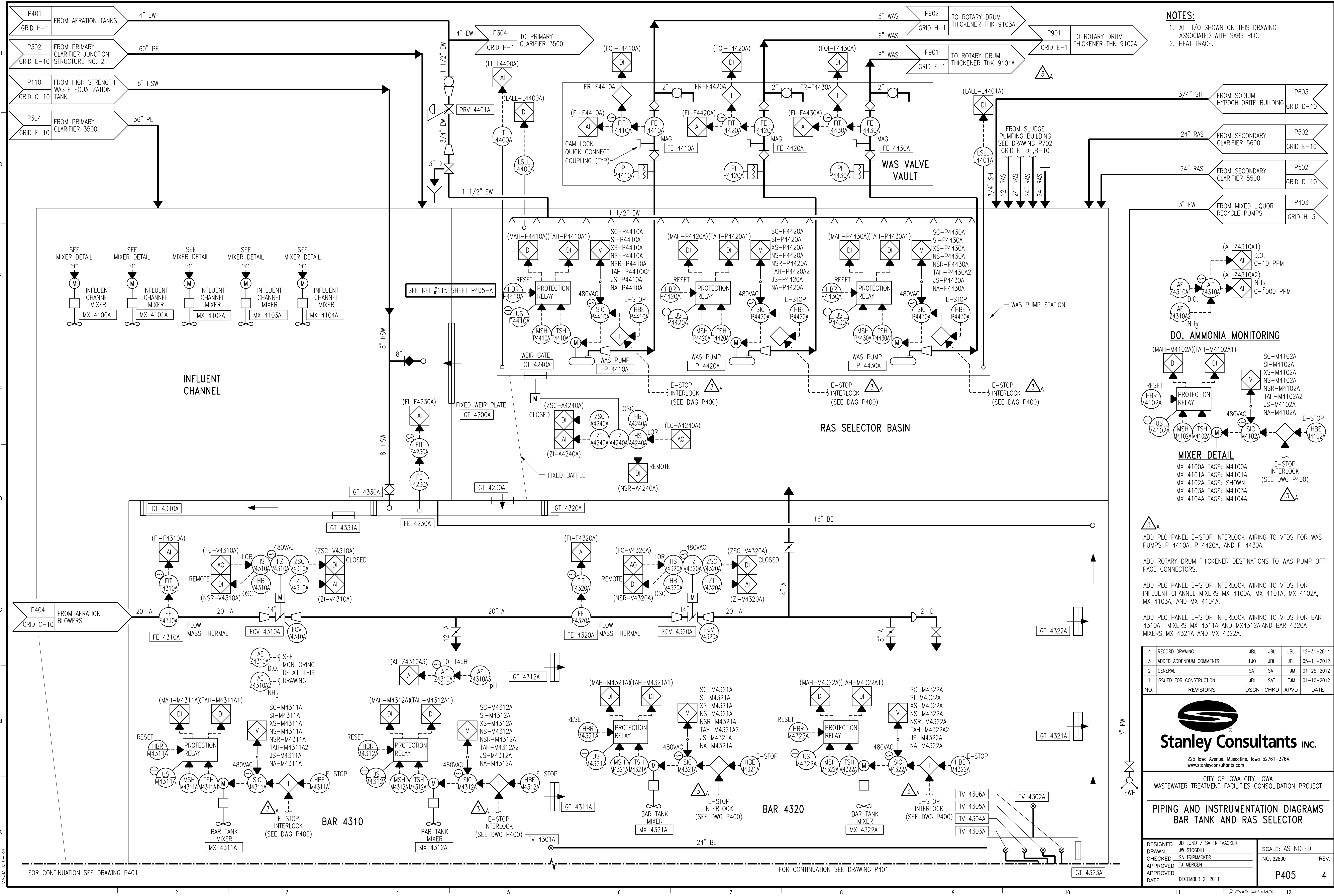


CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
 AERATION BLOWERS**

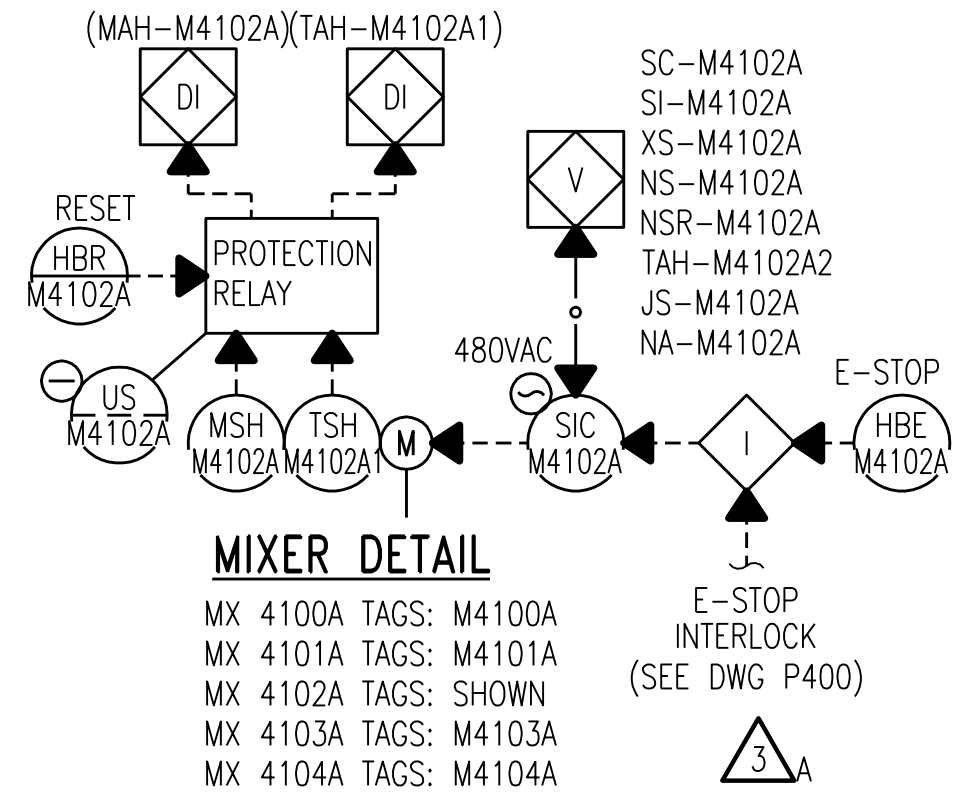
DESIGNED	AM ROMERO / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STOGDILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011		

P404
4



NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SABS PLC.
 2. HEAT TRACE.

DO, AMMONIA MONITORING



MIXER DETAIL

MX 4100A TAGS: M4100A
 MX 4101A TAGS: M4101A
 MX 4102A TAGS: M4102A
 MX 4103A TAGS: M4103A
 MX 4104A TAGS: M4104A

ADD PLC PANEL E-STOP INTERLOCK WIRING TO VFDS FOR WAS PUMPS P 4410A, P 4420A, AND P 4430A.

ADD ROTARY DRUM THICKENER DESTINATIONS TO WAS PUMP OFF PAGE CONNECTORS.

ADD PLC PANEL E-STOP INTERLOCK WIRING TO VFDS FOR INFLUENT CHANNEL MIXERS MX 4100A, MX 4101A, MX 4102A, MX 4103A, AND MX 4104A.

ADD PLC PANEL E-STOP INTERLOCK WIRING TO VFDS FOR BAR 4310A MIXERS MX 4311A AND MX 4312A, AND BAR 4320A MIXERS MX 4321A AND MX 4322A.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED APPENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	JBL	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
 BAR TANK AND RAS SELECTOR**

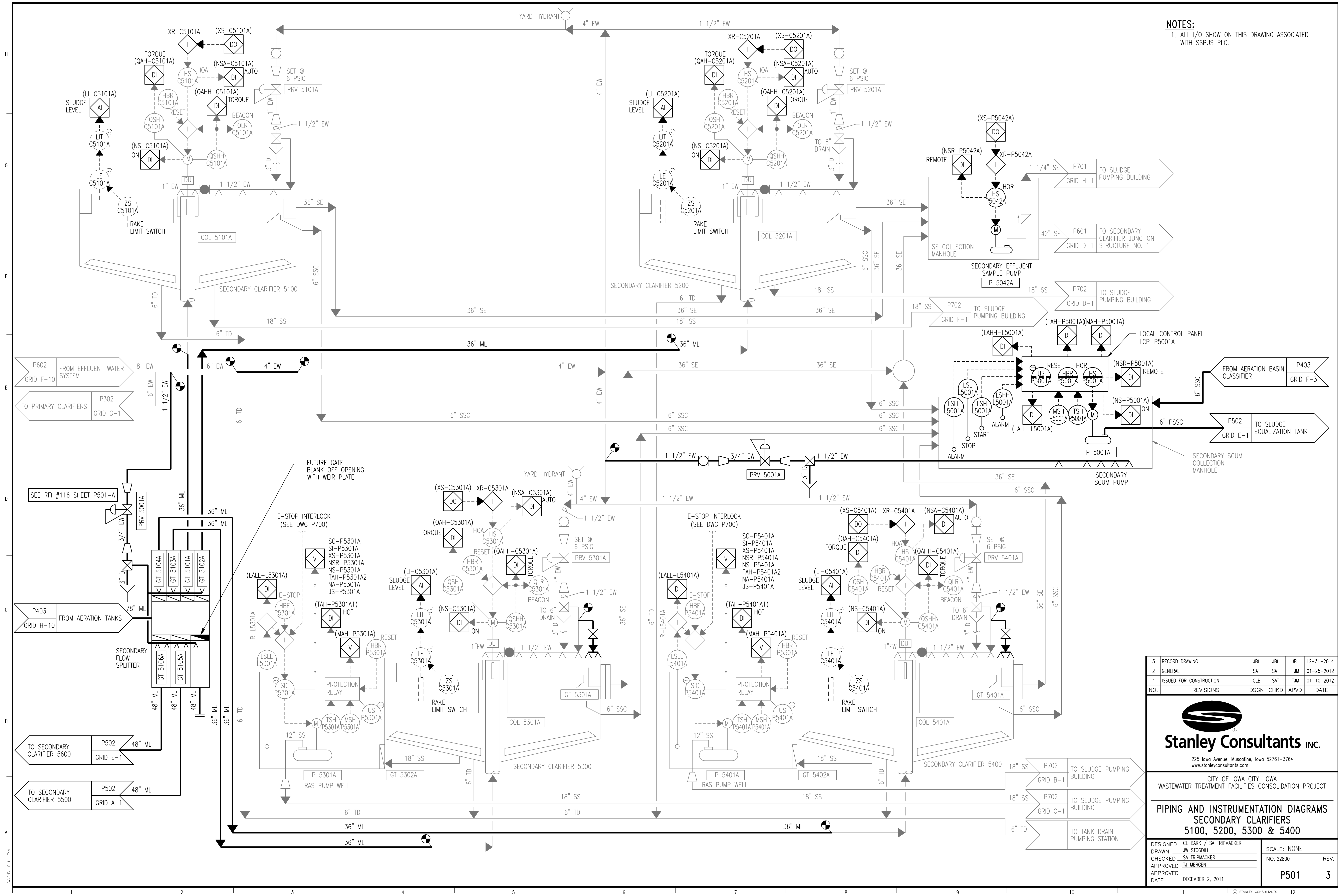
DESIGNED	JBL LUND / SA TRIMPACKER	SCALE:	AS NOTED
DRAWN	JW STODOLL	NO.	22800
CHECKED	SA TRIMPACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011	P405	4

FOR CONTINUATION SEE DRAWING P401

FOR CONTINUATION SEE DRAWING P401

CADD: D1-144

NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPUS PLC.



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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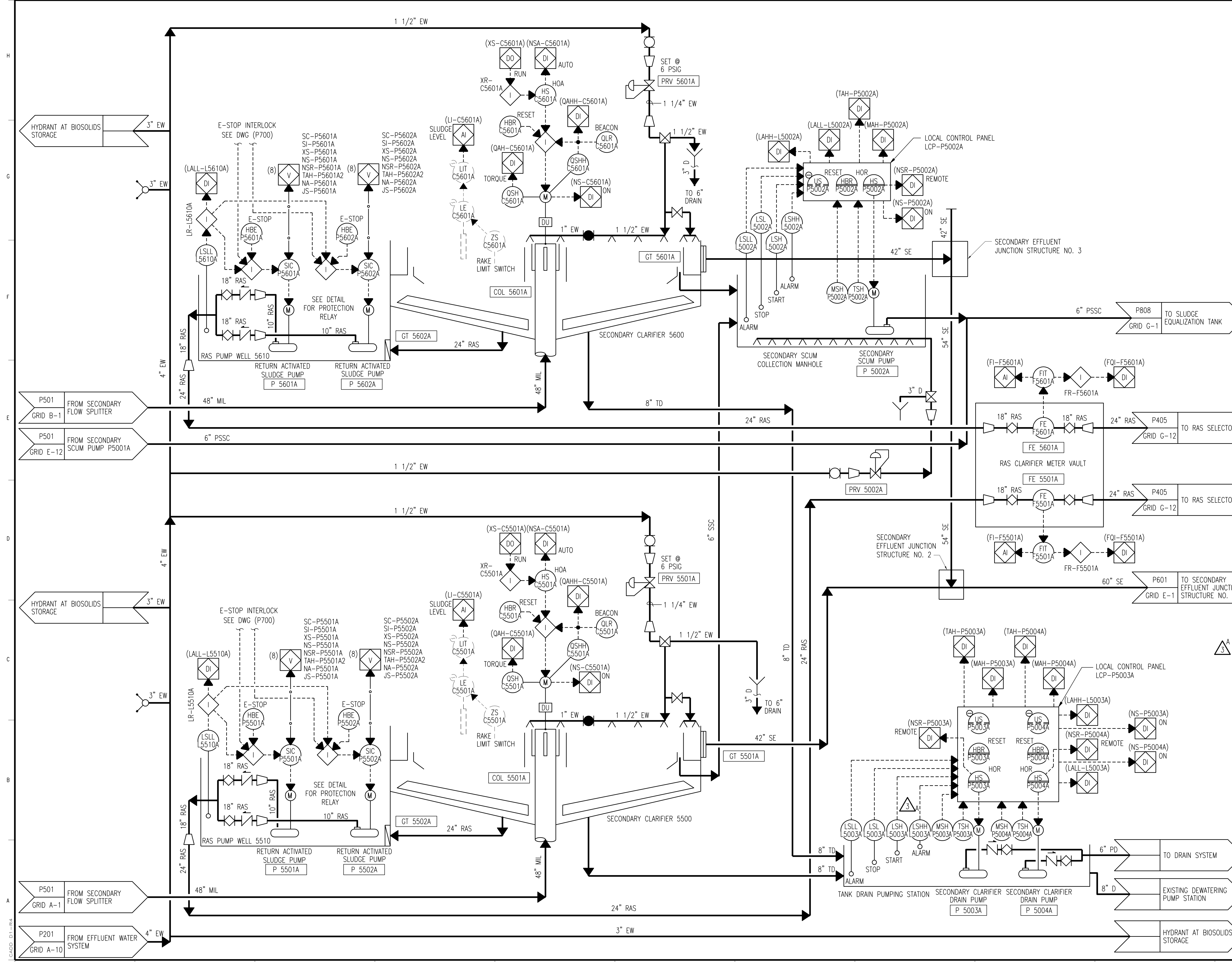
**PIPING AND INSTRUMENTATION DIAGRAMS
 SECONDARY CLARIFIERS
 5100, 5200, 5300 & 5400**

DESIGNED	CL BARK / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STOGDILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ MERGEN		
DATE	DECEMBER 2, 2011		

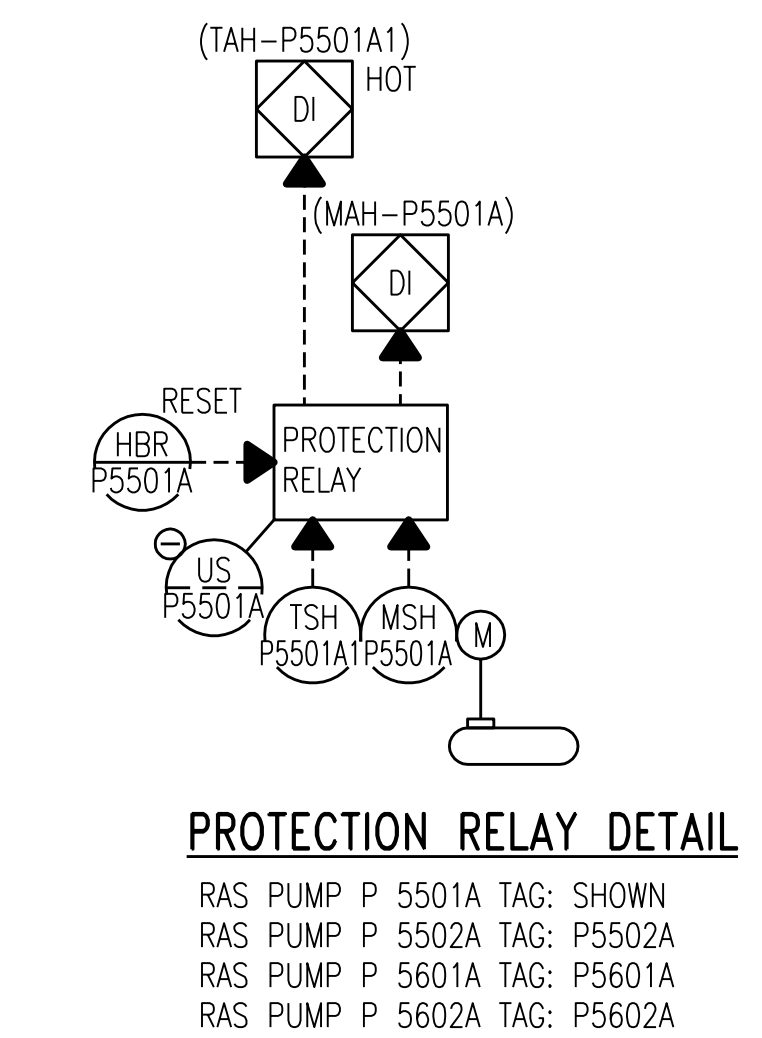
P501

3

CADD: D1-1-R4



NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPUS PLC.



ADD LSHH-L5003A FLOAT SWITCH AND PLC INPUT LAHH-L5003A HIGH-HIGH LEVEL ALARM FOR TANK DRAIN PUMPING STATION.

NO.	REVISIONS	DSGN	CHKD	APVD	DATE
4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	SAT	TJM	01-10-2012

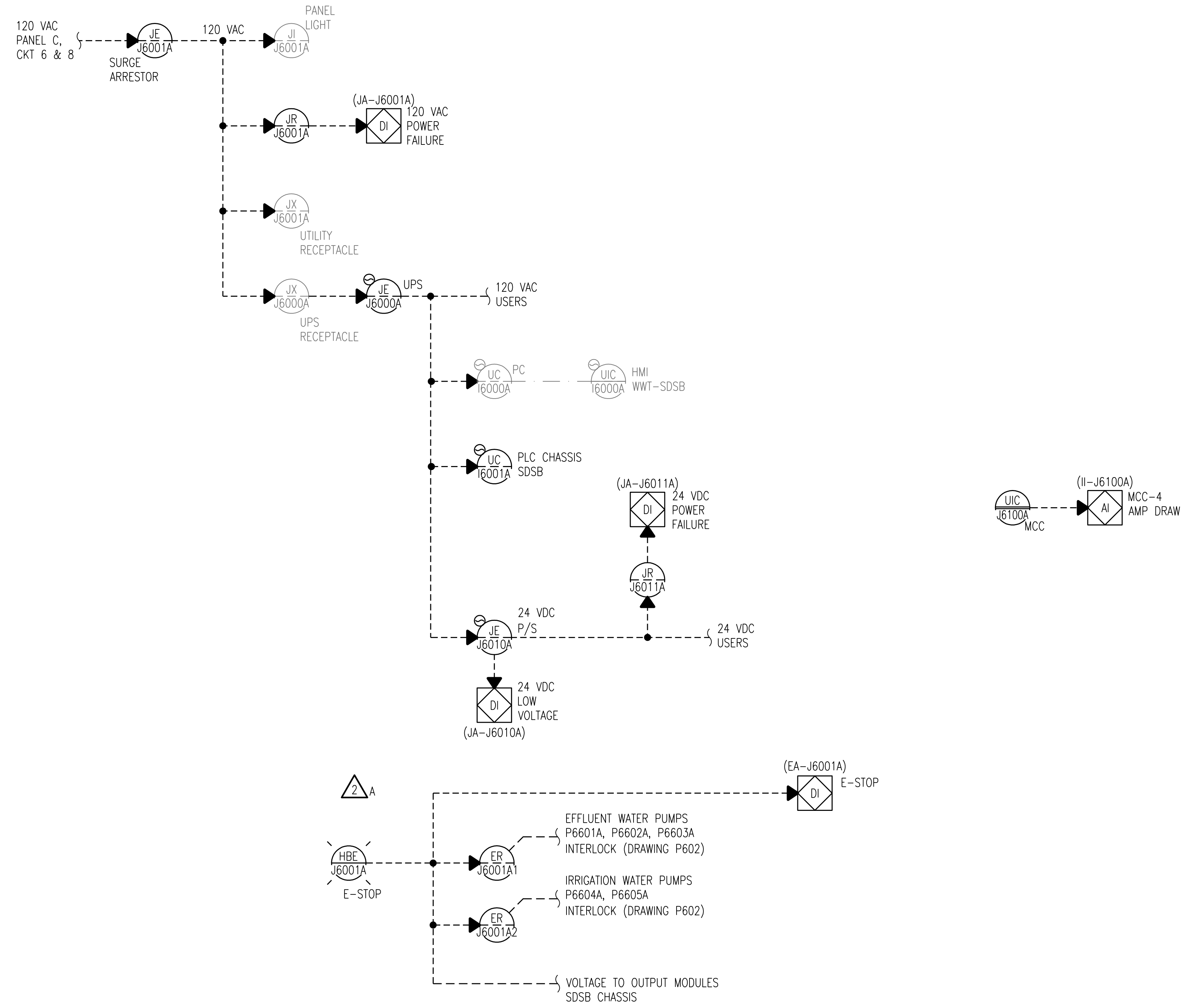


CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

PIPING AND INSTRUMENTATION DIAGRAMS
SECONDARY CLARIFIERS
5500 & 5600

DESIGNED	CL BARK / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STOGDILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ Mergen		
APPROVED			
DATE	DECEMBER 2, 2011		

NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SDSB PLC.



⚠️ CHANGE PLC CONTROL PANEL E-STOP PUSHBUTTON ACTIVATION OF PLC INPUT EA-J6001A INPUT FROM "ER INTERPOSING RELAY" TO "DIRECTLY FROM HBE-J6001A."

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
1	ADDED UC-18000A	SAT	SAT	TJM	01-25-2012
0	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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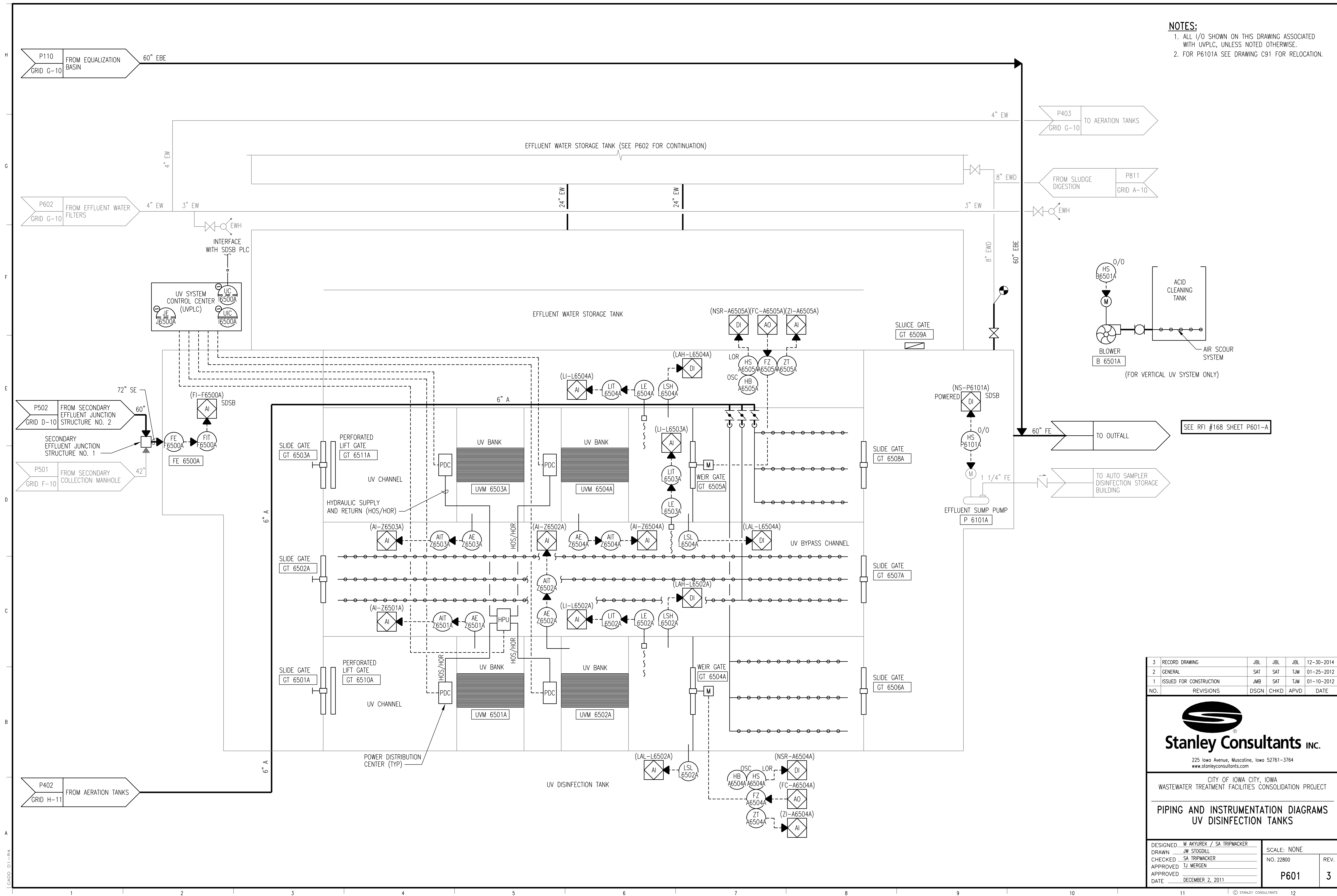
**PIPING AND INSTRUMENTATION DIAGRAMS
 DISINFECTION STORAGE BUILDING
 PLC CONTROL POWER**

DESIGNED SA TRIPMACKER	SCALE: NONE	REV. 3
DRAWN JW STOGDILL	NO. 22800	
CHECKED SA TRIPMACKER		
APPROVED TJ MERGEN		
DATE JANUARY 10, 2012		

SEE ITC #09 SHEET P600-A

CADD: D1-PR4

- NOTES:**
1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH UVPLC, UNLESS NOTED OTHERWISE.
 2. FOR P6101A SEE DRAWING C91 FOR RELOCATION.



3	RECORD DRAWING	JBL	JBL	JBL	12-30-2014
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	JMB	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

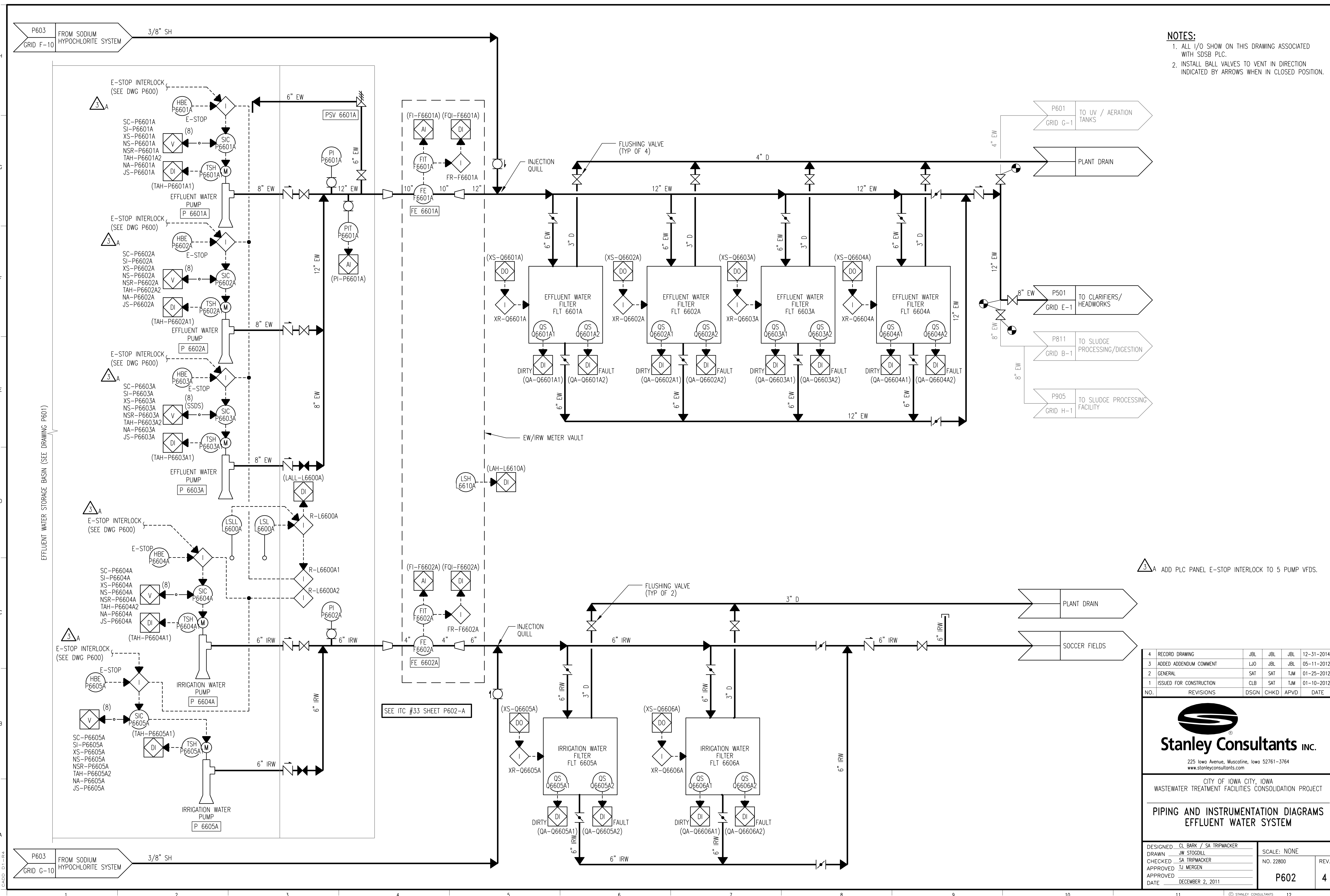

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CITY OF IOWA CITY, IOWA
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**PIPING AND INSTRUMENTATION DIAGRAMS
 UV DISINFECTION TANKS**

DESIGNED	M. AKYUREK / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW. STODOLLA	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ. MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011	P601	3

CADD: D1-LR4

- NOTES:**
1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SDSB PLC.
 2. INSTALL BALL VALVES TO VENT IN DIRECTION INDICATED BY ARROWS WHEN IN CLOSED POSITION.



3A ADD PLC PANEL E-STOP INTERLOCK TO 5 PUMP VFDS.

SEE ITC #33 SHEET P602-A

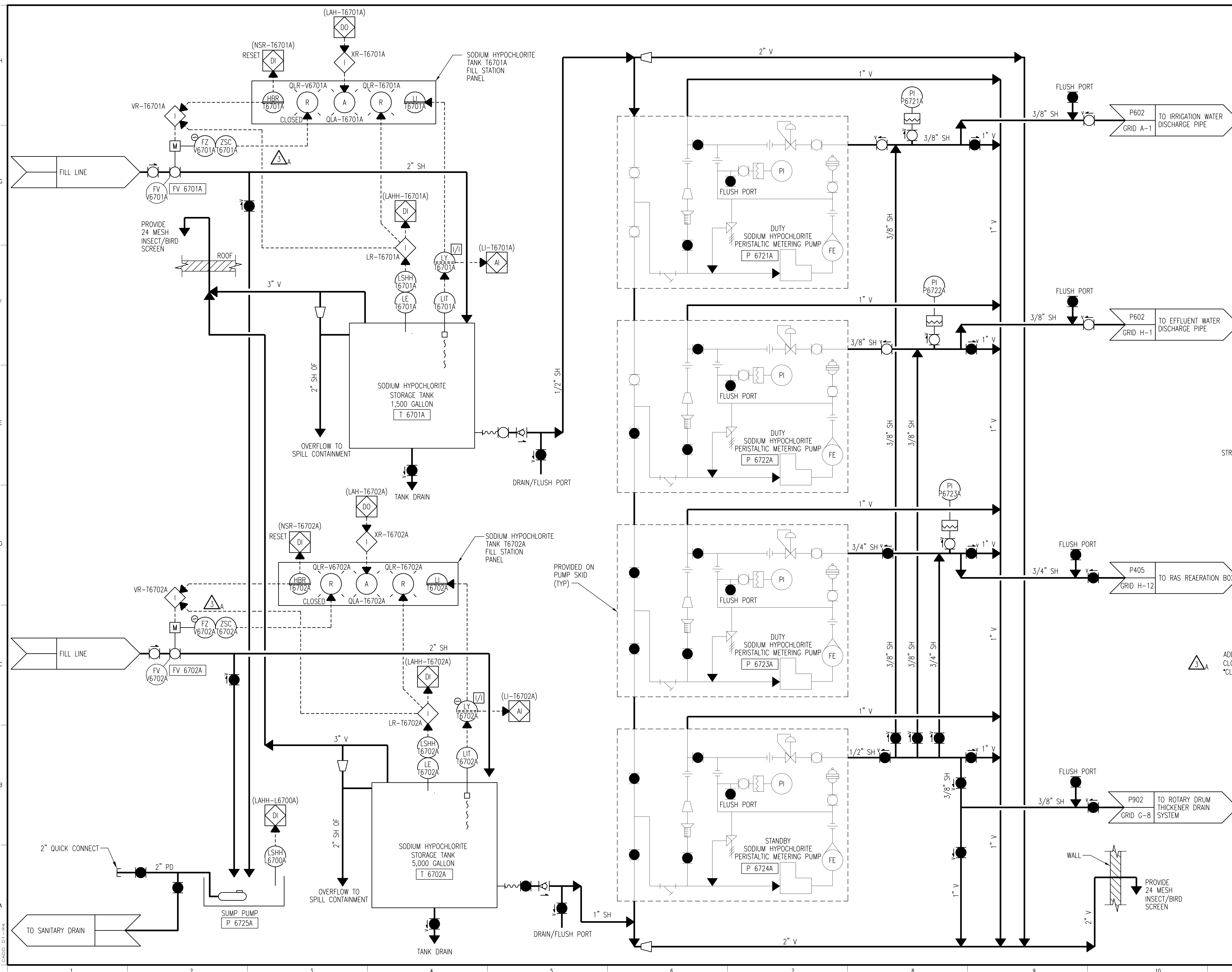
4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	SAT	TJM	01-10-2012
NO.	REVISIONS	DGNS	CHKD	APVD	DATE

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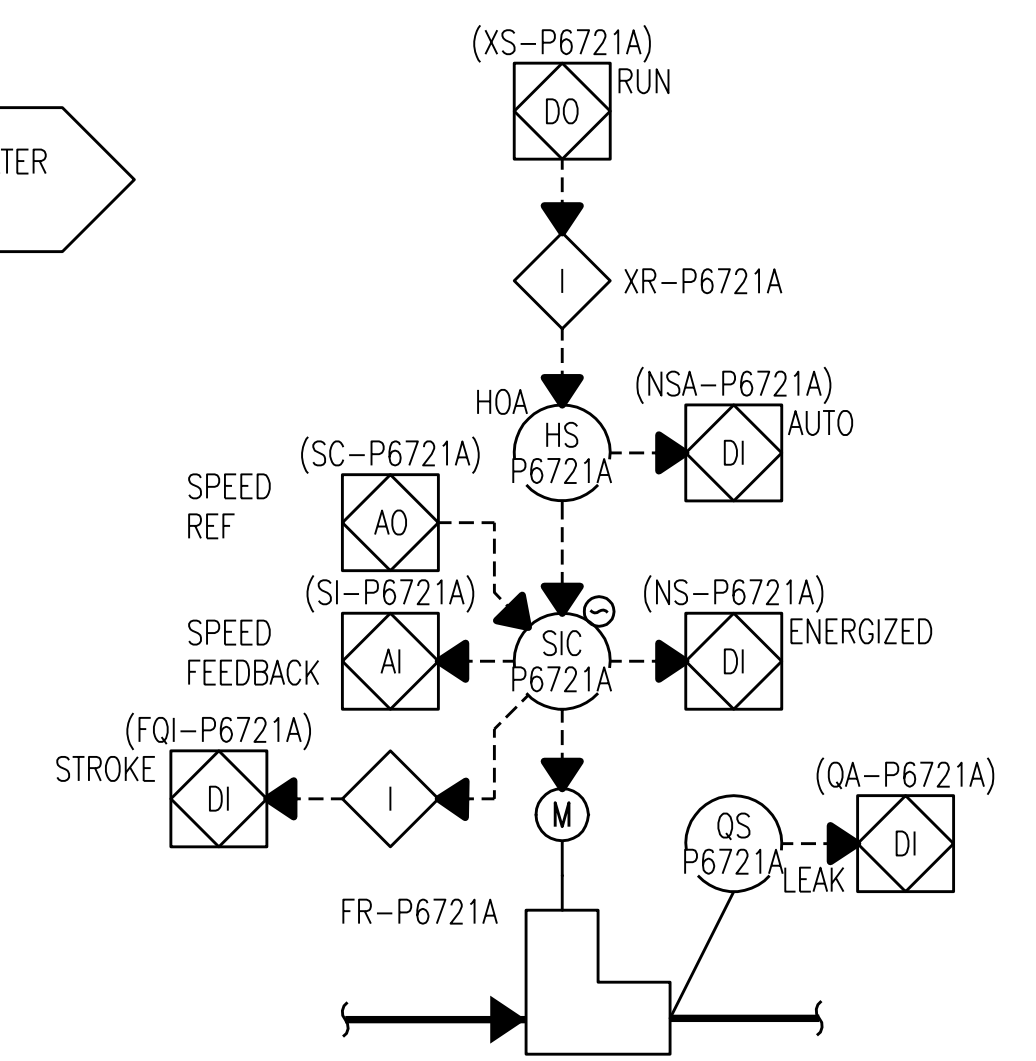
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
 EFFLUENT WATER SYSTEM**

DESIGNED	CL BARK / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STOGDILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ Mergen		
APPROVED			
DATE	DECEMBER 2, 2011	P602	4




- NOTES:**
1. INSTALL BALL VALVES TO VENT IN DIRECTION INDICATED BY ARROWS WHEN IN CLOSED POSITION.
 2. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SOUTH DISINFECTION STORAGE BUILDING SDSB PLC..



METERING PUMP DETAIL
 METERING PUMP P6721A TAGS: SHOWN
 METERING PUMP P6722A TAGS: P6722A
 METERING PUMP P6723A TAGS: P6723A
 METERING PUMP P6724A TAGS: P6724A

ADD SODIUM HYPOCHLORITE FILL VALVE ACTUATORS AND FULLY CLOSED LIMIT SWITCHES TO VALVES AND CORRESPONDING "CLOSED" PILOT LIGHTS TO FILL STATION PANELS.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	AMR	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	AMR	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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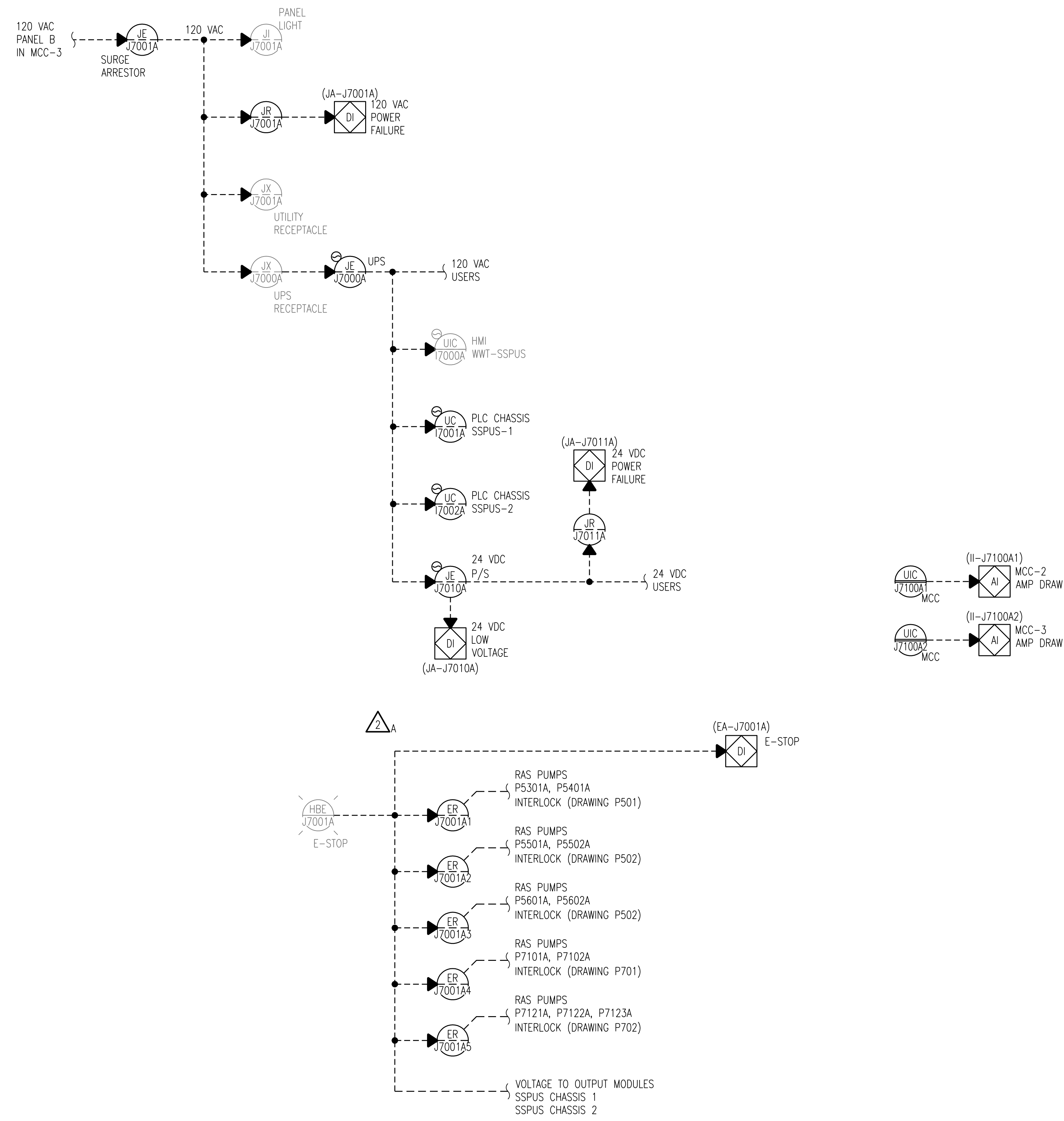
**PIPING AND INSTRUMENTATION DIAGRAMS
 SODIUM HYPOCHLORITE SYSTEM**

DESIGNED AM ROMERO / SA TRIPMACKER	SCALE: NONE
DRAWN JIM STODGILL	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ Mergen	P603
APPROVED	4
DATE DECEMBER 2, 2011	

CADD: D1-1-R4

NOTES:

1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SSPUS PLC.



2A CHANGE PLC CONTROL PANEL E-STOP PUSHBUTTON ACTIVATION OF PLC INPUT EA-J7001A INPUT FROM "ER INTERPOSING RELAY" TO "DIRECTLY FROM HBE-J7001A."

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
1	GENERAL	SAT	SAT	TJM	01-25-2012
0	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

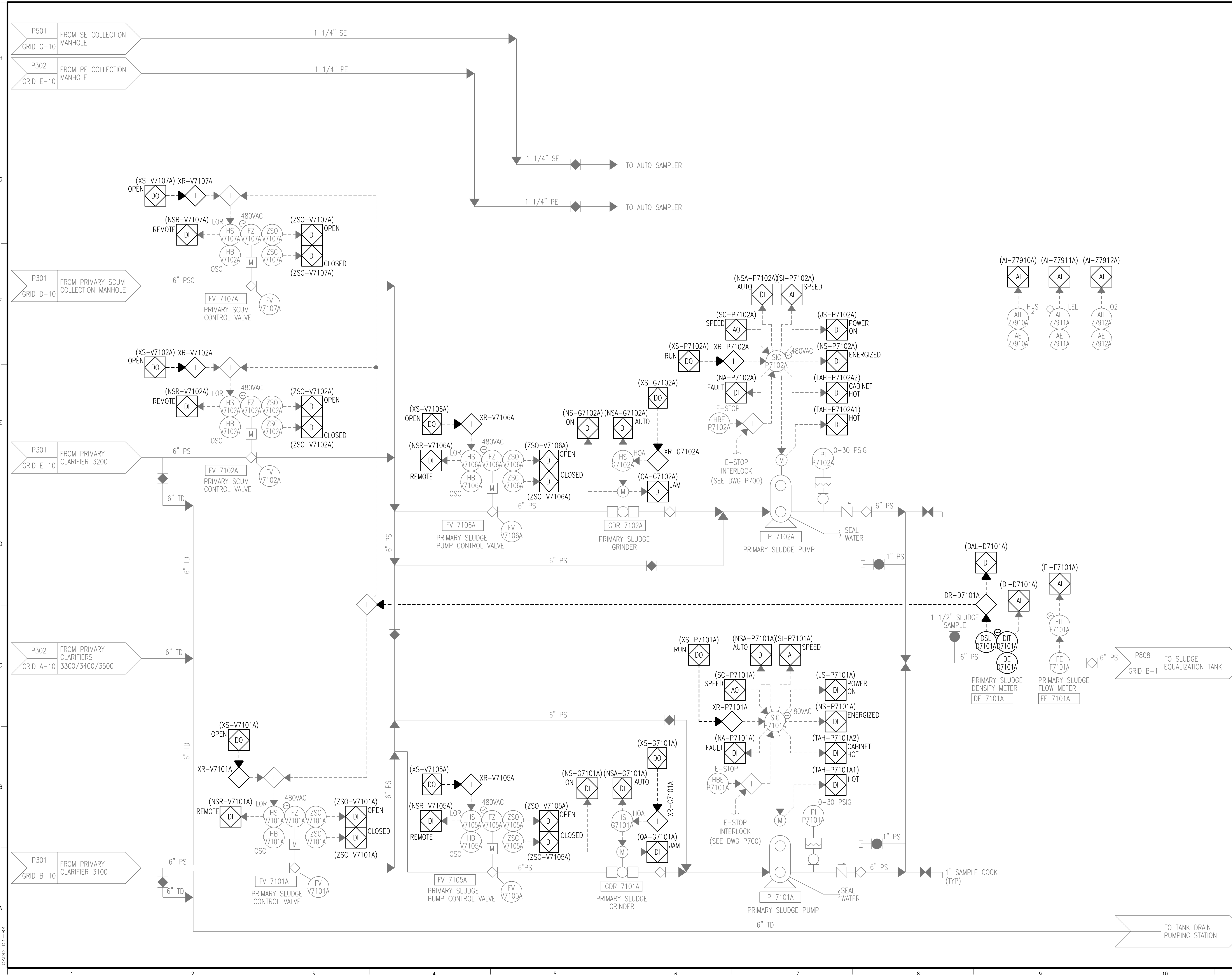

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
PIPING AND INSTRUMENTATION DIAGRAMS
SLUDGE PUMPING STATION
PLC CONTROL POWER

DESIGNED	SA TRIPMACKER	SCALE:	NONE	REV.	
DRAWN	JW STODGILL	NO.	22800		
CHECKED	SA TRIPMACKER				
APPROVED	TJ MERGEN				
APPROVED					
DATE	JANUARY 10, 2012				

P700 **3**

NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPUS PLC.



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	CONNECTIONS TO P301	JMB	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
PIPING AND INSTRUMENTATION DIAGRAMS
PRIMARY SLUDGE PUMPING MODIFICATIONS

DESIGNED	CL BARK / SA TRIPMACKER	SCALE:	NONE	REV. P701 3
DRAWN	JW STOGDILL	NO.	22800	
CHECKED	SA TRIPMACKER			
APPROVED	TJ MERGEN			
DATE	DECEMBER 2, 2011			

CADD: D1-144

NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPUS PLC.



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	CONNECTION TO P301	JMB	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	CLB	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

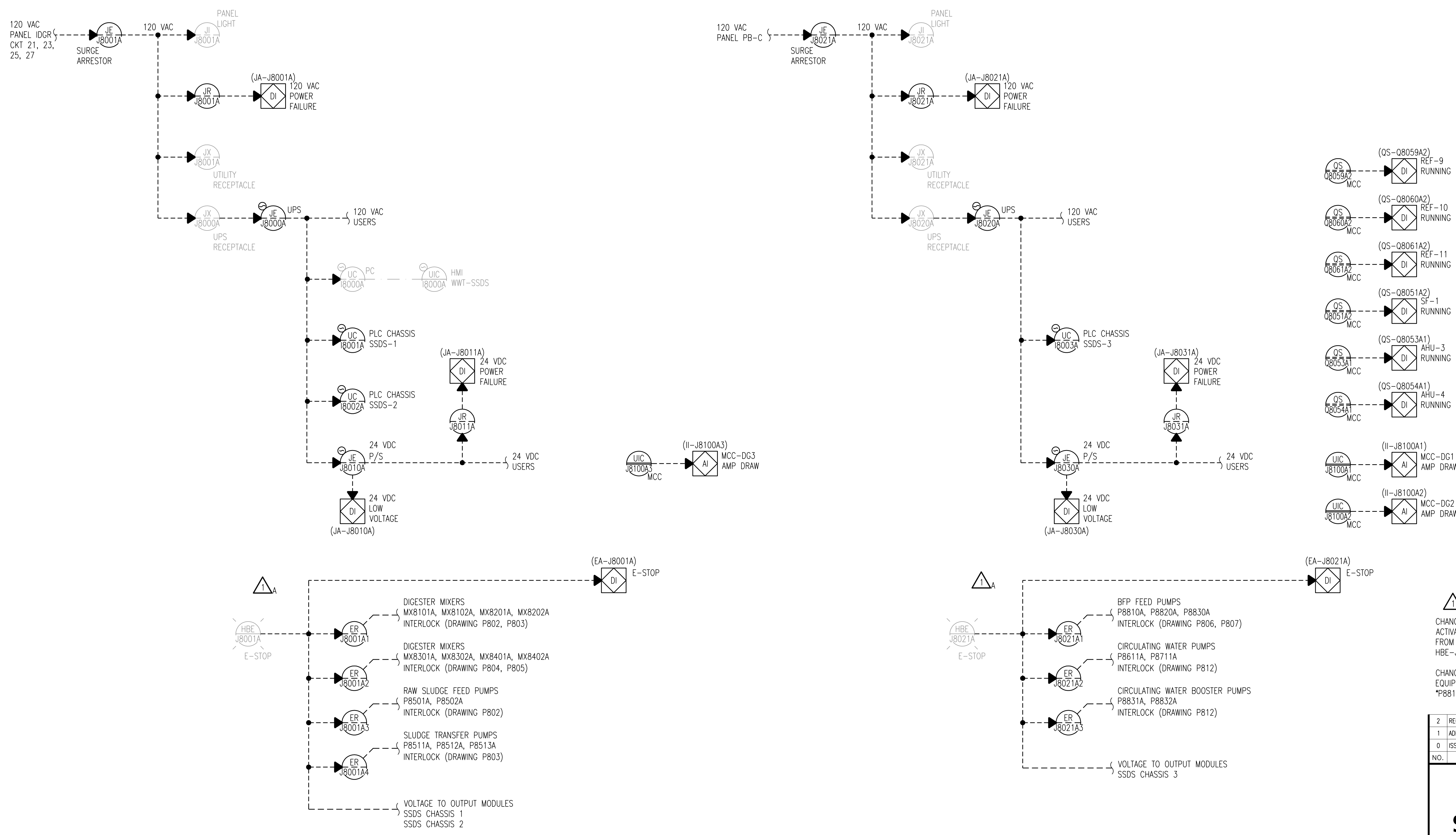

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**PIPING AND INSTRUMENTATION DIAGRAMS
 RETURN ACTIVATED
 SLUDGE PUMPING MODIFICATIONS**

DESIGNED	CL BARK / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STOGDILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ Mergen		
APPROVED			
DATE	DECEMBER 2, 2011	P702	3

CADD: D1-R4

- NOTES:**
1. ALL I/O SHOWN ON THIS SECTION ASSOCIATED WITH SSDS PLC.
 2. ALL I/O SHOWN ON THIS SECTION ASSOCIATED WITH SSDS-3 PLC CHASSIS.



MAIN PLC ENCLOSURE
(NOTE 1)

REMOTE I/O ENCLOSURE
(NOTE 2)

△A
CHANGE PLC CONTROL PANEL E-STOP PUSHBUTTON ACTIVATION OF PLC INPUTS EA-J8001A AND EA-J8021A INPUT FROM "ER INTERPOSING RELAYS" TO "DIRECTLY FROM HBE-J8001A AND HBE-J8021A, RESPECTIVELY."

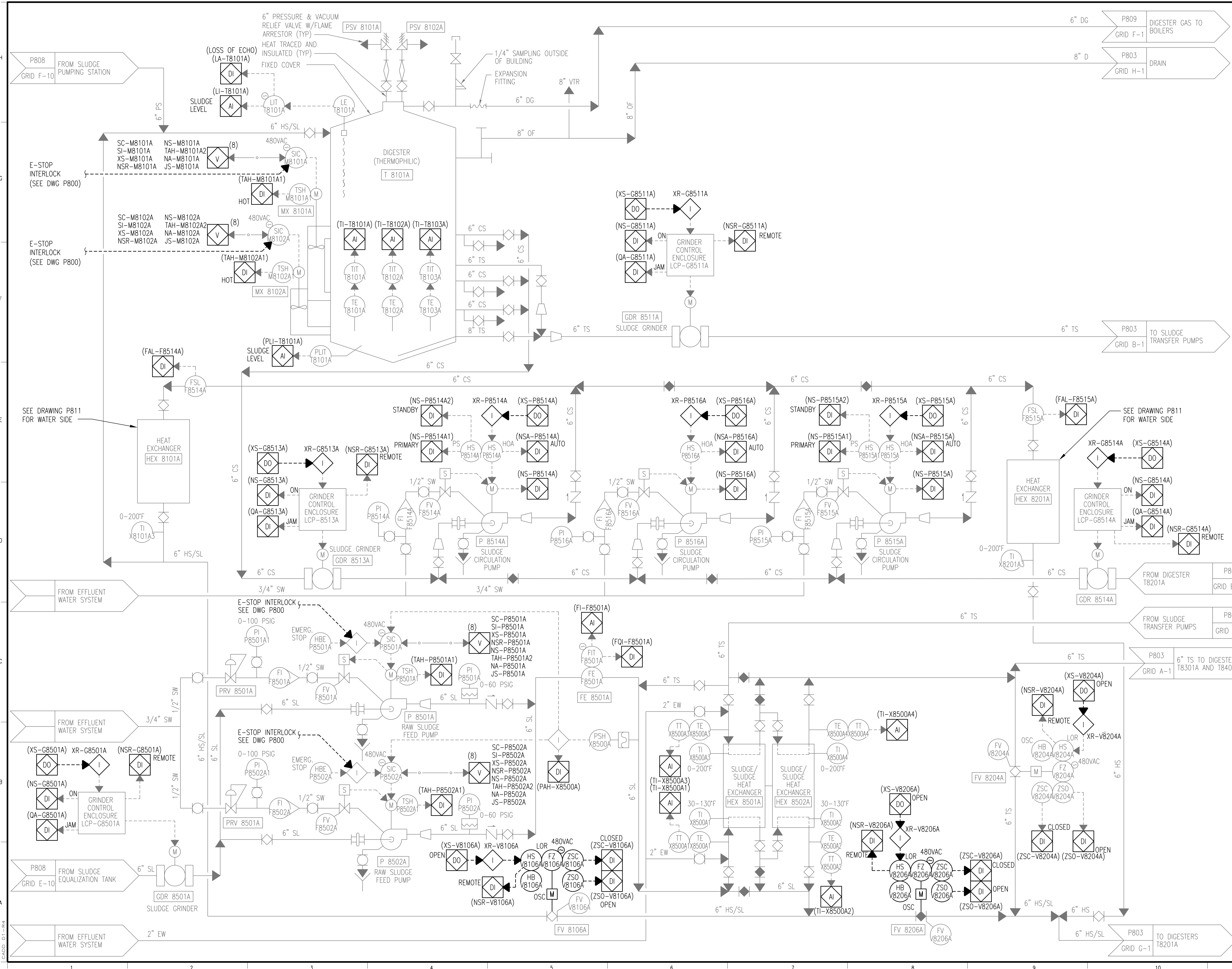
CHANGE ER INTERPOSING RELAY ER-J8021A1 BFP FEED PUMP EQUIPMENT NO. FROM "P8541A, P8542A, AND P8543A" TO "P8810A, P8820A, AND P8830A."

NO.	REVISIONS	DSGN	CHKD	APVD	DATE
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
0	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-25-2012


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 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
PIPING AND INSTRUMENTATION DIAGRAMS
SLUDGE DIGESTION STATION
PLC CONTROL POWER

DESIGNED SA TRIPMACKER	SCALE: NONE	REV. 2
DRAWN JIM STODGILL	NO. 22800	
CHECKED SA TRIPMACKER		
APPROVED TJ MERGEN		
APPROVED		
DATE JANUARY 25, 2012	P800	

CADD: D1-LR4



NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SDDS PLC.

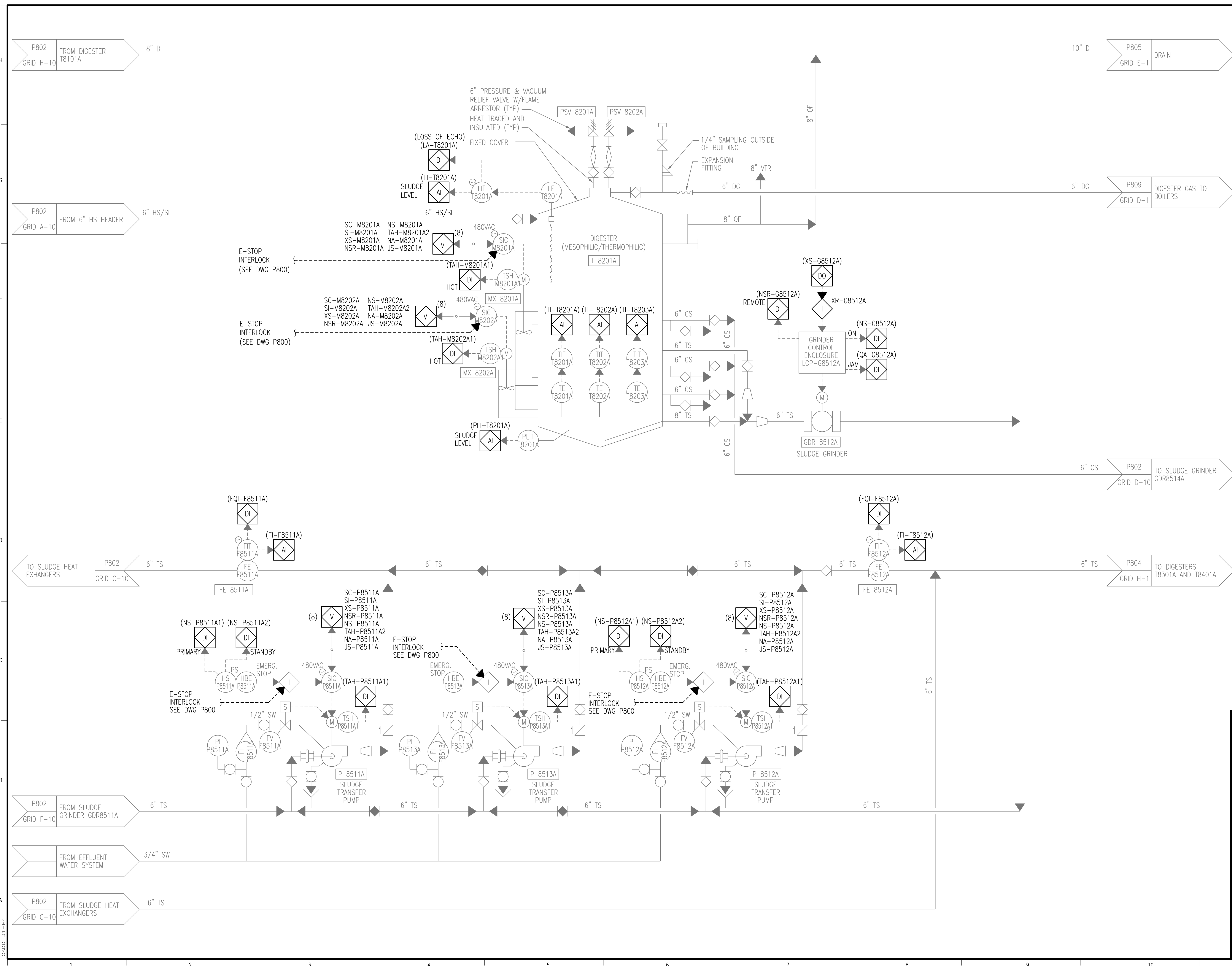
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	TJH	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
PIPING AND INSTRUMENTATION DIAGRAMS
SLUDGE DIGESTION
SLUDGE PIPING SCHEMATIC - SHEET 1

DESIGNED	TJ HICKEY / SA TRIPMACKER	SCALE:	NONE	REV.	
DRAWN	JW STOGDILL	CHECKED	SA TRIPMACKER	NO.	22800
APPROVED	TJ MERGEN	DATE	DECEMBER 2, 2011		
				P802	3

NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SS05 PLC.



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	TJH	SAT	TJM	01-10-2012
NO.	REVISIONS	DGNS	CHKD	APVD	DATE

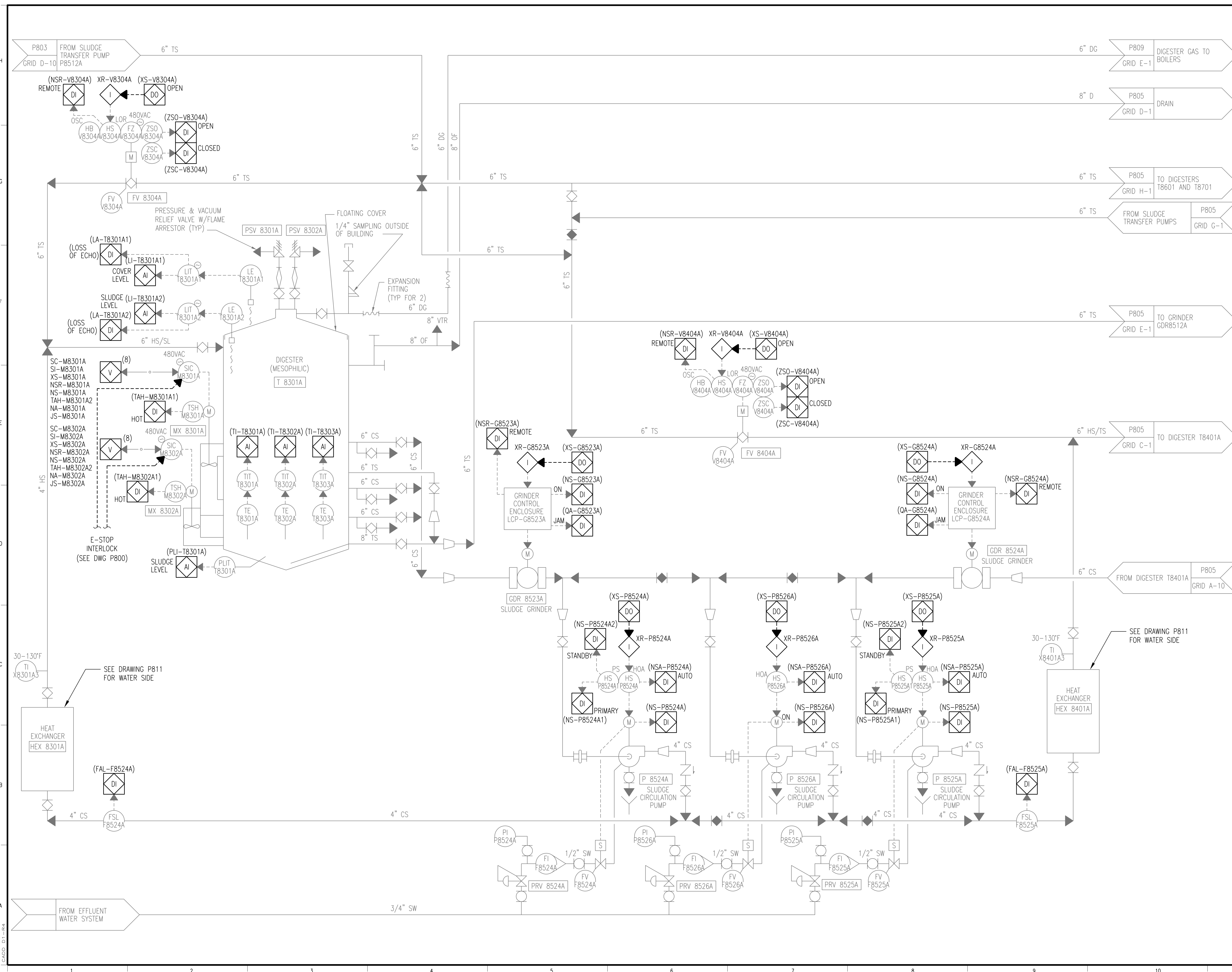

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PIPING AND INSTRUMENTATION DIAGRAMS
SLUDGE DIGESTION
SLUDGE PIPING SCHEMATIC - SHEET 2

DESIGNED	TJ HICKEY / SA TRIPMACKER	SCALE:	NONE	REV. 3
DRAWN	JW STOGDILL	NO.	22800	
CHECKED	SA TRIPMACKER			
APPROVED	TJ MERGEN			
DATE	DECEMBER 2, 2011			

CADD: D1-144

NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSSS PLC.



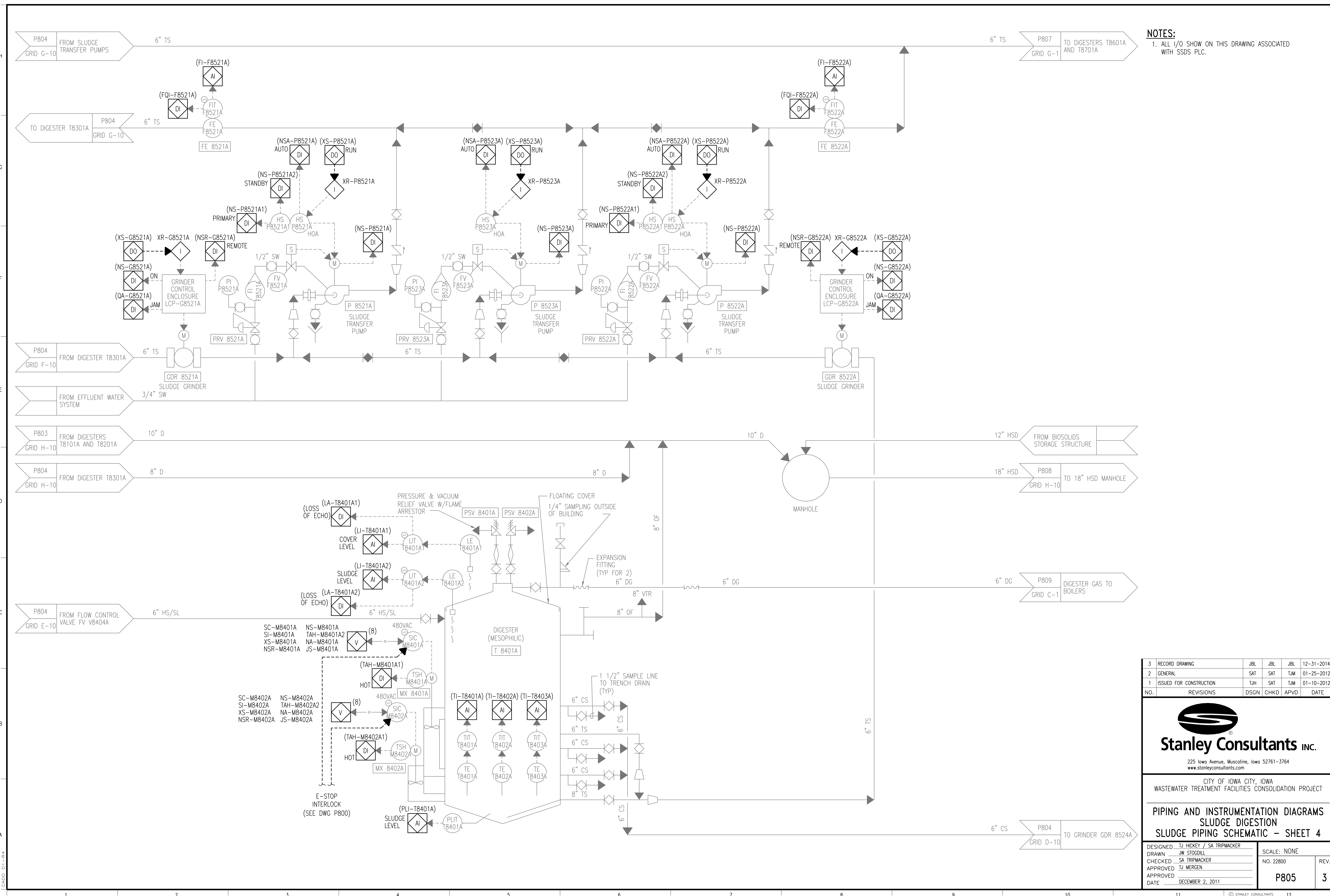
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	TJH	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
PIPING AND INSTRUMENTATION DIAGRAMS
SLUDGE DIGESTION
SLUDGE PIPING SCHEMATIC - SHEET 3


DESIGNED	TJ HICKEY / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STODOLLA	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011		

P804 **3**



NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSDS PLC.

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	TJH	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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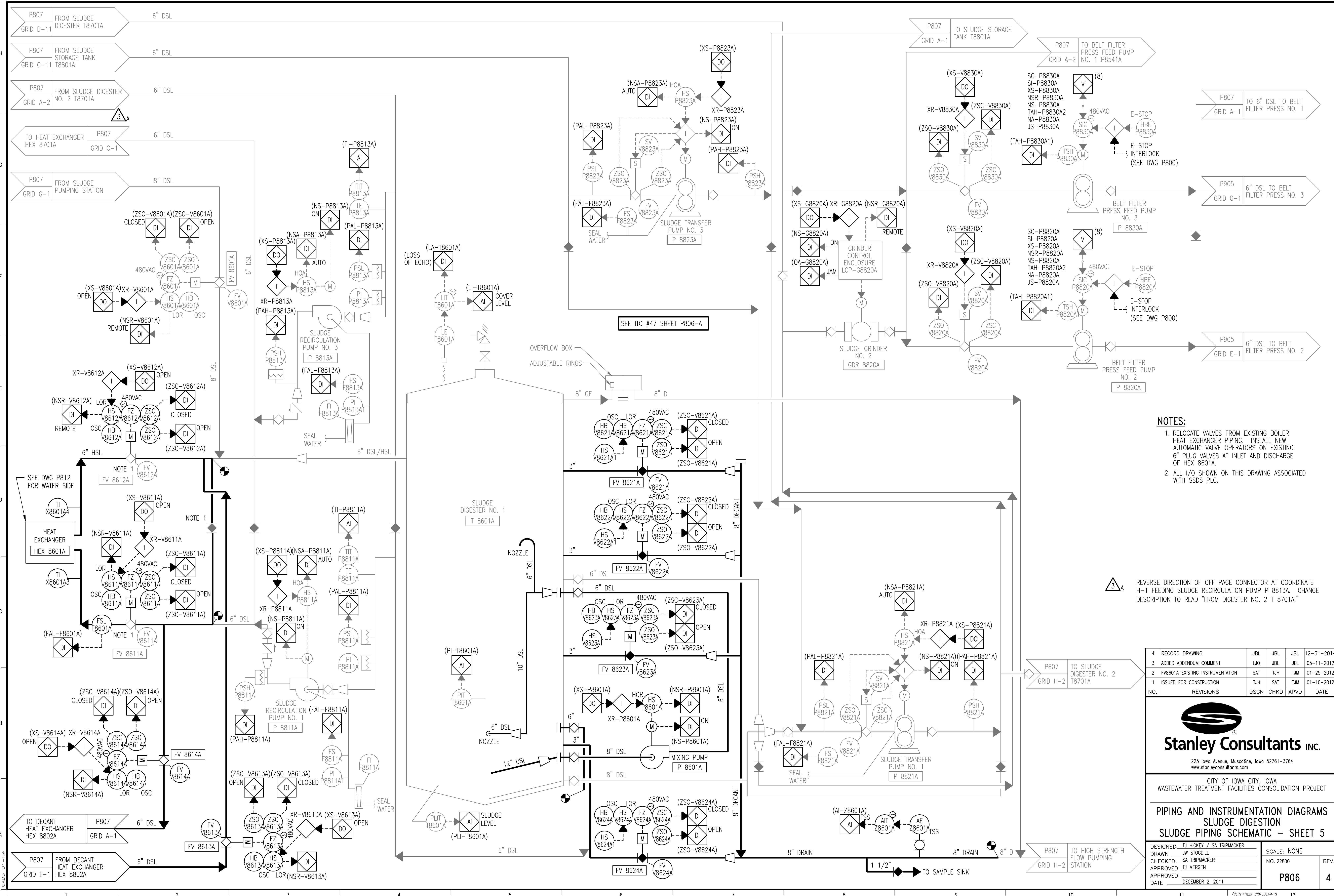
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**PIPING AND INSTRUMENTATION DIAGRAMS
 SLUDGE DIGESTION
 SLUDGE PIPING SCHEMATIC - SHEET 4**

DESIGNED TJ HICKEY / SA TRIPMACKER	SCALE: NONE
DRAWN JIM STOGDILL	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ MERGEN	
APPROVED	
DATE DECEMBER 2, 2011	P805

CADD: D1-PR4



SEE ITC #47 SHEET P806-A

- NOTES:**
1. RELOCATE VALVES FROM EXISTING BOILER HEAT EXCHANGER PIPING. INSTALL NEW AUTOMATIC VALVE OPERATORS ON EXISTING 6" PLUG VALVES AT INLET AND DISCHARGE OF HEX 8601A.
 2. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SSS'S PLC.

REVERSE DIRECTION OF OFF PAGE CONNECTOR AT COORDINATE H-1 FEEDING SLUDGE RECIRCULATION PUMP P 8813A. CHANGE DESCRIPTION TO READ "FROM DIGESTER NO. 2 T 8701A."

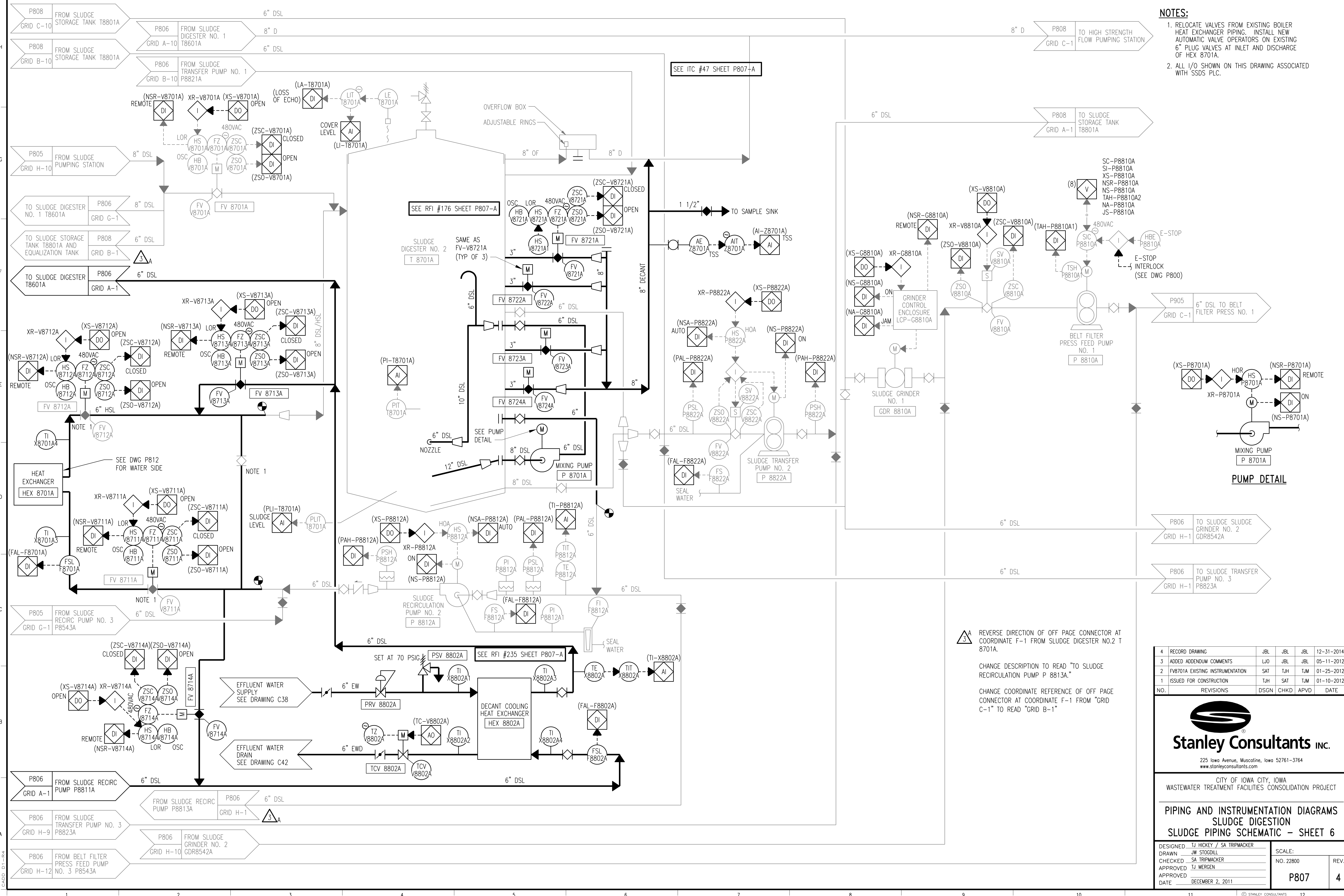
NO.	REVISIONS	DSGN	CHKD	APVD	DATE
4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	FV8601A EXISTING INSTRUMENTATION	SAT	TJH	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	TJH	SAT	TJM	01-10-2012


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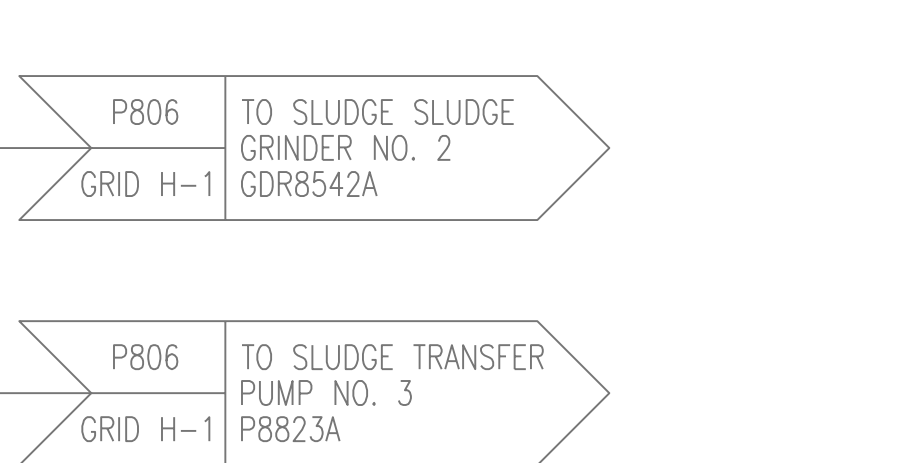
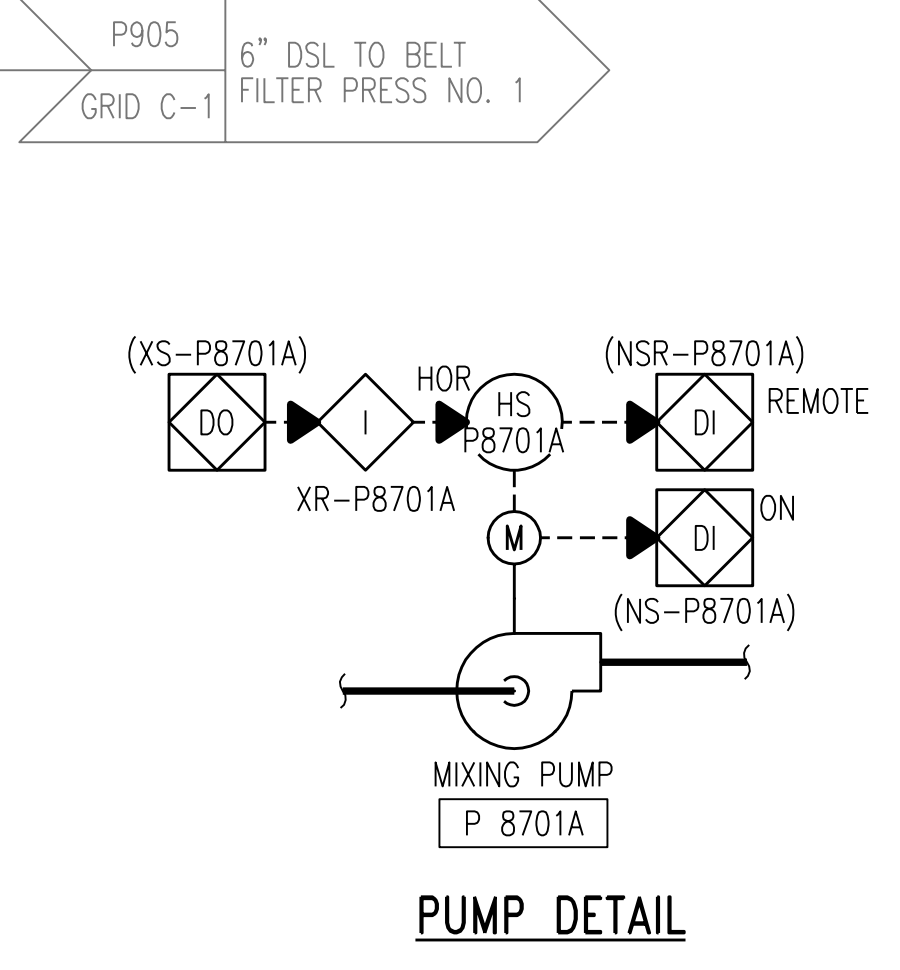
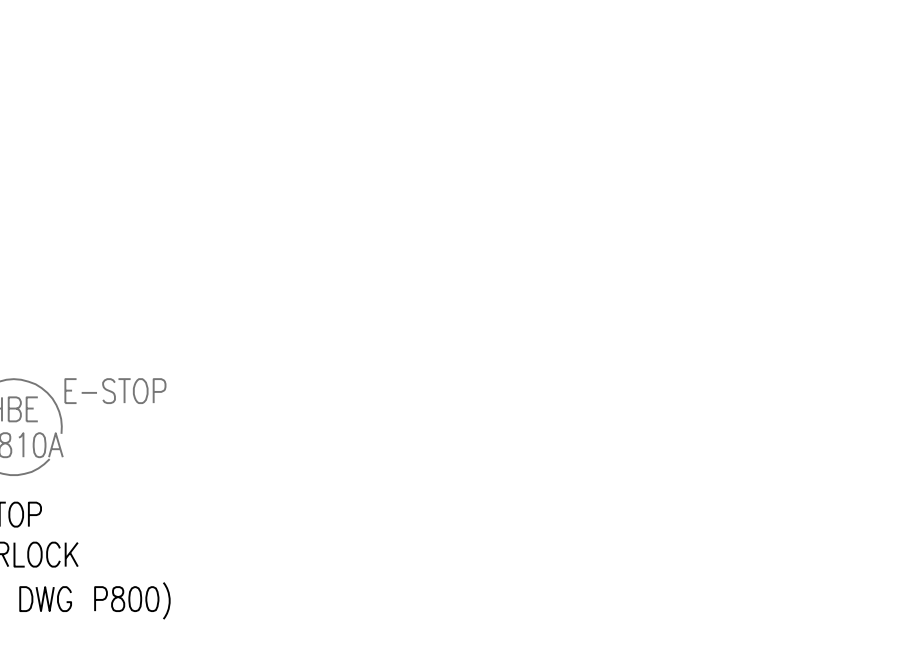
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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
SLUDGE DIGESTION
SLUDGE PIPING SCHEMATIC - SHEET 5**

DESIGNED TJ HICKEY / SA TRIPMACKER	SCALE: NONE	REV.
DRAWN JIM STODOLLA	NO. 22800	
CHECKED SA TRIPMACKER		
APPROVED TJ Mergen		
APPROVED	P806	4
DATE DECEMBER 2, 2011		



- NOTES:**
1. RELOCATE VALVES FROM EXISTING BOILER HEAT EXCHANGER PIPING. INSTALL NEW AUTOMATIC VALVE OPERATORS ON EXISTING 6" PLUG VALVES AT INLET AND DISCHARGE OF HEX 8701A.
 2. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SSSS PLC.



REVERSE DIRECTION OF OFF PAGE CONNECTOR AT COORDINATE F-1 FROM SLUDGE DIGESTER NO.2 T 8701A.

CHANGE DESCRIPTION TO READ "TO SLUDGE RECIRCULATION PUMP P 8813A."

CHANGE COORDINATE REFERENCE OF OFF PAGE CONNECTOR AT COORDINATE F-1 FROM "GRID C-1" TO READ "GRID B-1"

NO.	REVISIONS	DSGN	CHKD	APVD	DATE
4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
2	FV8701A EXISTING INSTRUMENTATION	SAT	TJH	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	TJH	SAT	TJM	01-10-2012

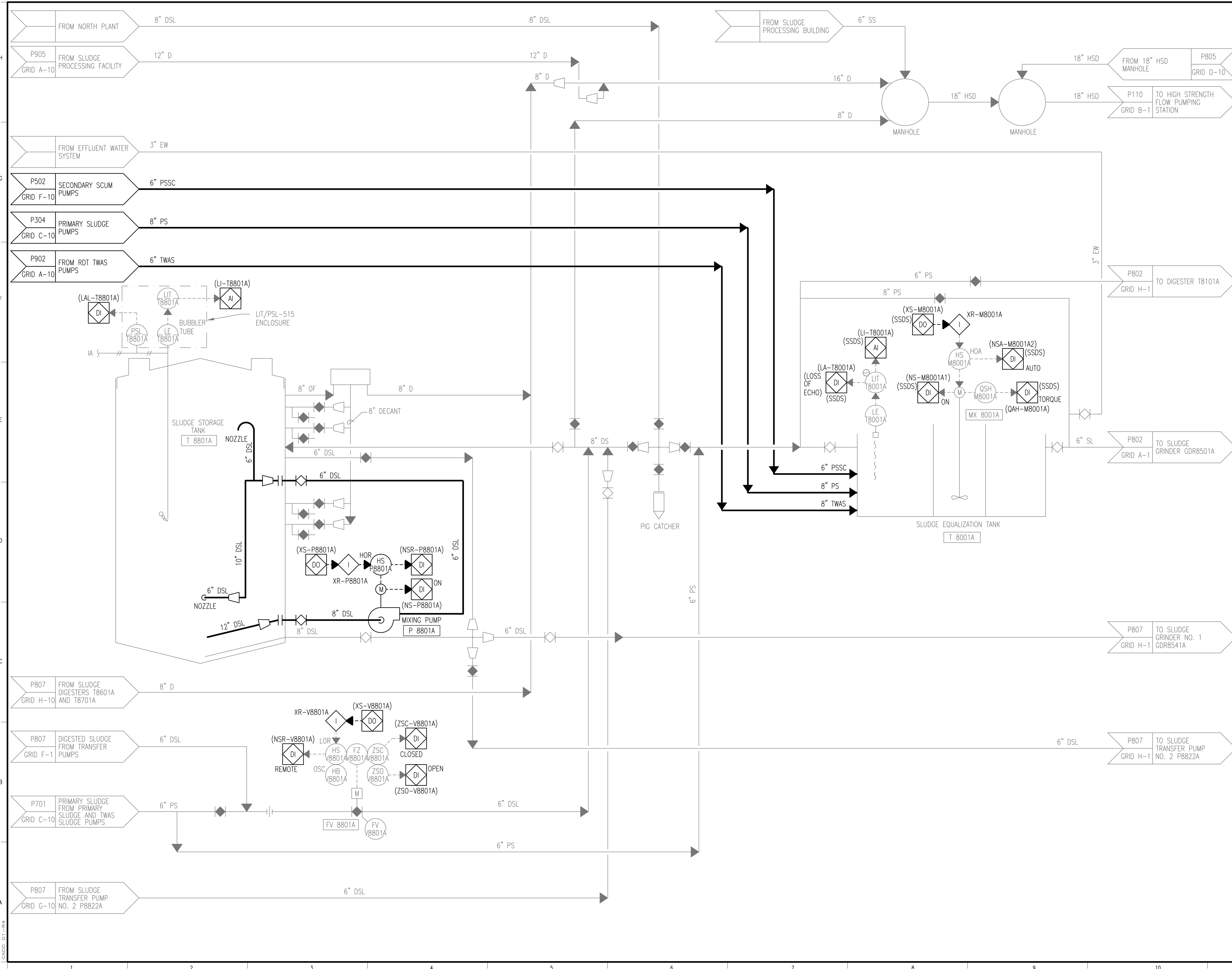
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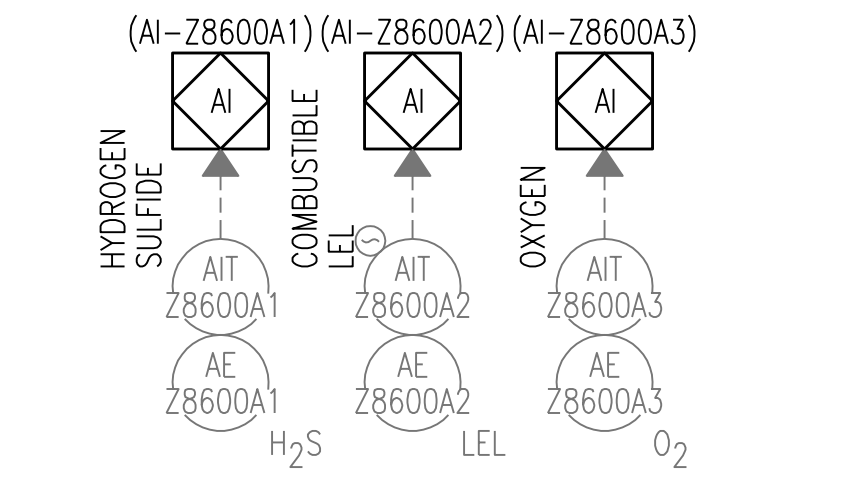
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**PIPING AND INSTRUMENTATION DIAGRAMS
SLUDGE DIGESTION
SLUDGE PIPING SCHEMATIC - SHEET 6**

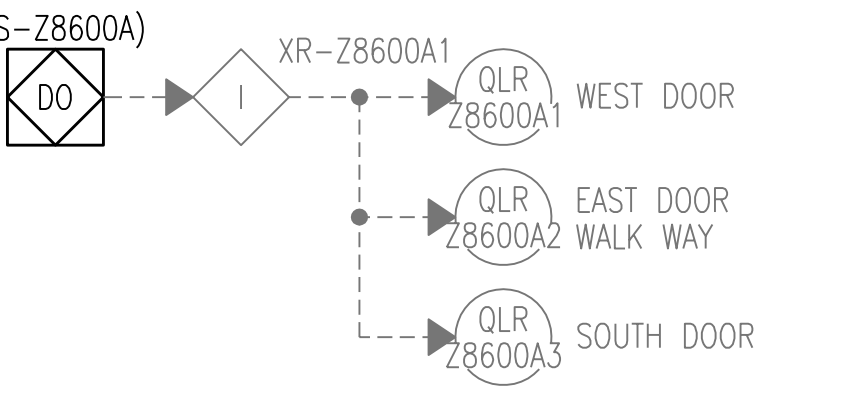
DESIGNED TJ HICKEY / SA TRIPMACKER	SCALE:	REV.
DRAWN JIM STOGDILL	NO. 22800	
CHECKED SA TRIPMACKER		
APPROVED TJ Mergen		
DATE DECEMBER 2, 2011	P807	4



NOTES:
 1. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SDDS-3 PLC UNLESS NOTED OTHERWISE.



GAS DETECTOR DETAIL



GAS DETECTOR ALARM DETAIL

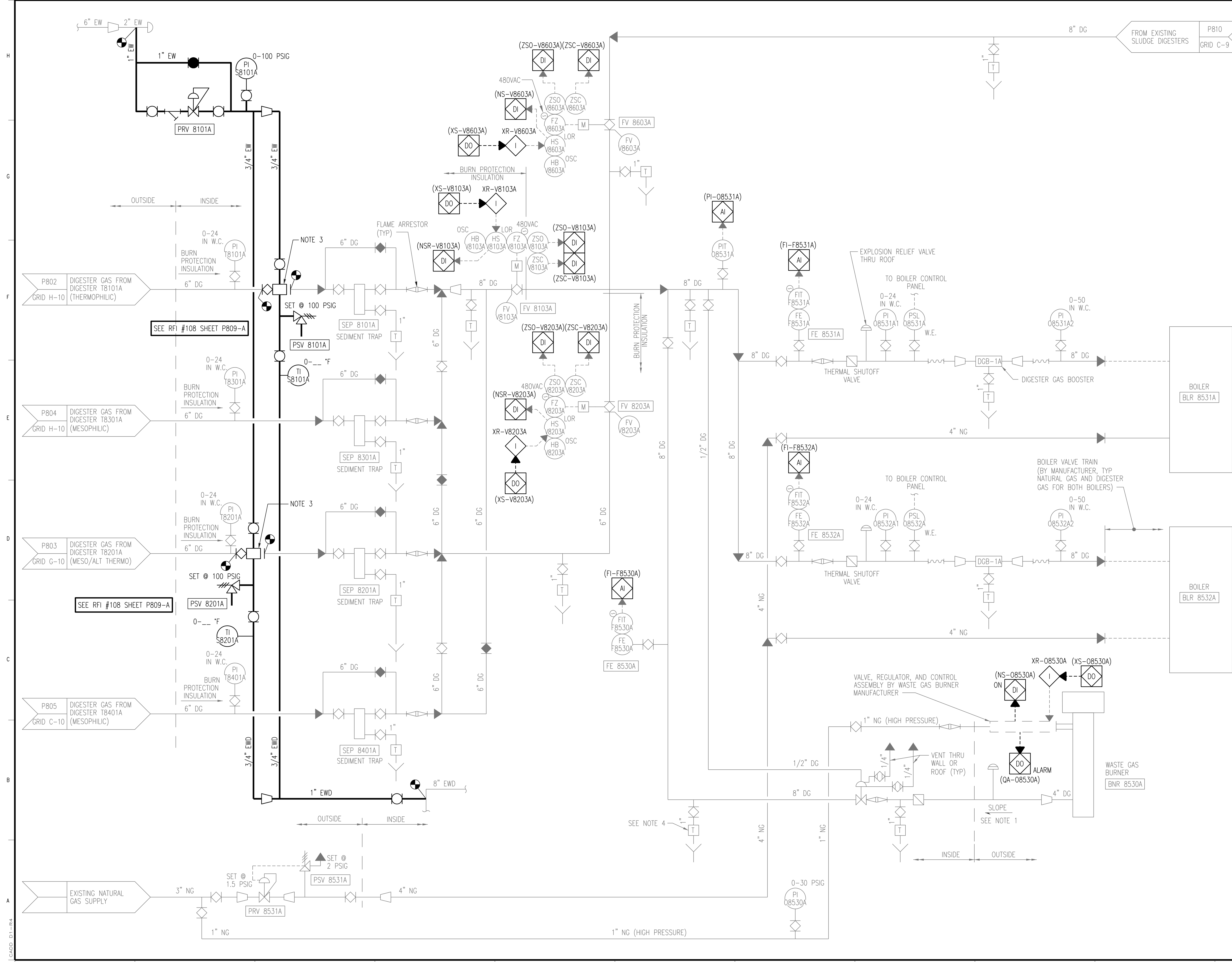
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	TJH	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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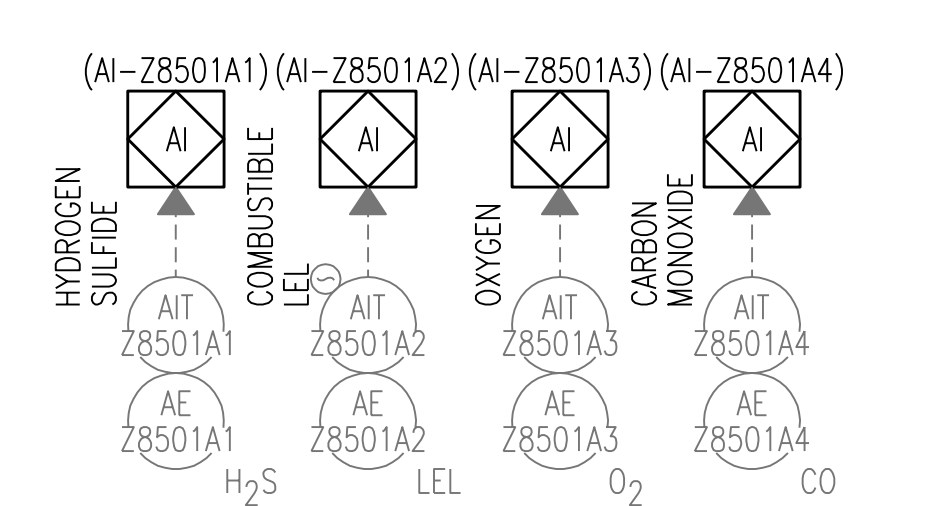
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 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
PIPING AND INSTRUMENTATION DIAGRAMS
SLUDGE DIGESTION
SLUDGE PIPING SCHEMATIC - SHEET 7

DESIGNED	TJ HICKEY / SA TRIPMACKER	SCALE:	NONE	REV. 3
DRAWN	JW STOGDILL	NO.	22800	
CHECKED	SA TRIPMACKER			
APPROVED	TJ MERGEN			
DATE	DECEMBER 2, 2011			

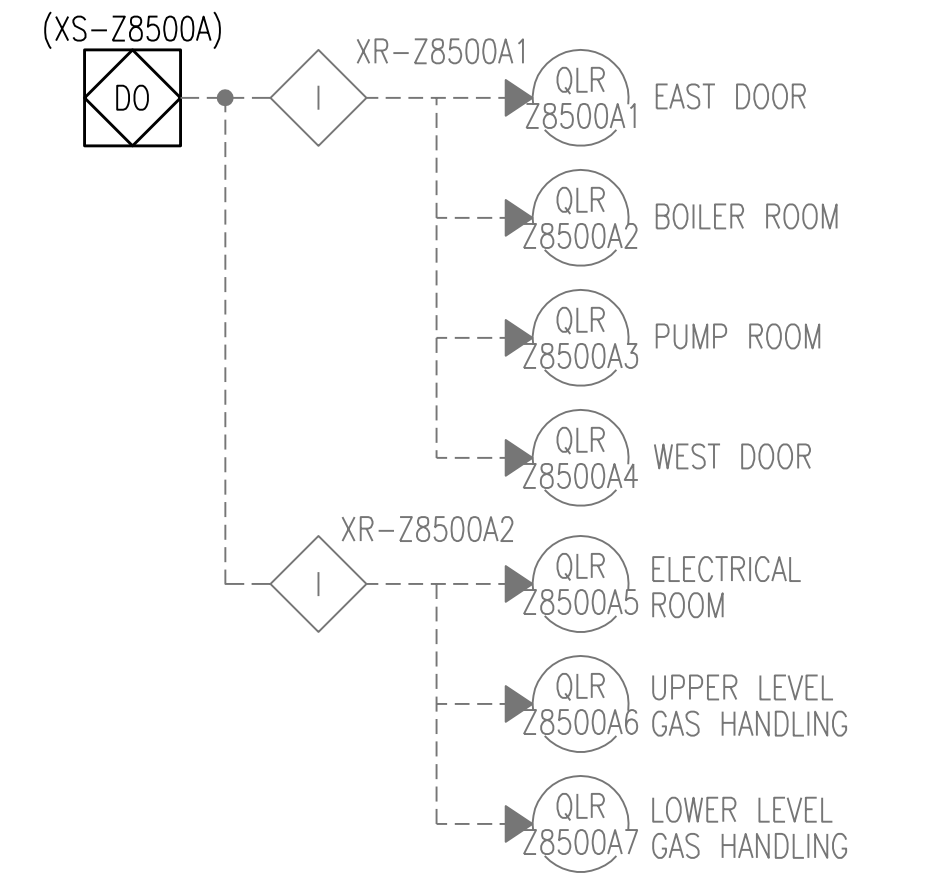
CADD: D1-P4



- NOTES:**
1. TYPICAL OF 4, SERIES Z8501A (GAS HANDLING SYSTEM BASEMENT), Z8502A (GAS HANDLING SYSTEM GROUND FLOOR), Z8503A (BOILER ROOM), Z8504A (PUMP ROOM).
 2. ALL I/O SHOWN ON THIS DRAWING ASSOCIATED WITH SSDS PLC.
 3. INSTALL 6" PLUG VALVE AND DIGESTER GAS COOLER IN BUILDING 8500 BASEMENT. SEE DRAWING M803. INSTALL BURN PROTECTION INSULATION. ACCESS SHALL BE MAINTAINED FOR PERIODIC MAINTENANCE OF DG COOLER INTERNALS.



GAS DETECTOR DETAIL
SEE NOTE 1



GAS DETECTOR ALARM DETAIL
SEE DRAWING E802 AND E803 FOR BEACON LOCATIONS

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	TJH	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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**PIPING AND INSTRUMENTATION DIAGRAMS
SLUDGE DIGESTION GAS
SHEET 1**

DESIGNED	TJ HICKEY / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STOGDILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011		

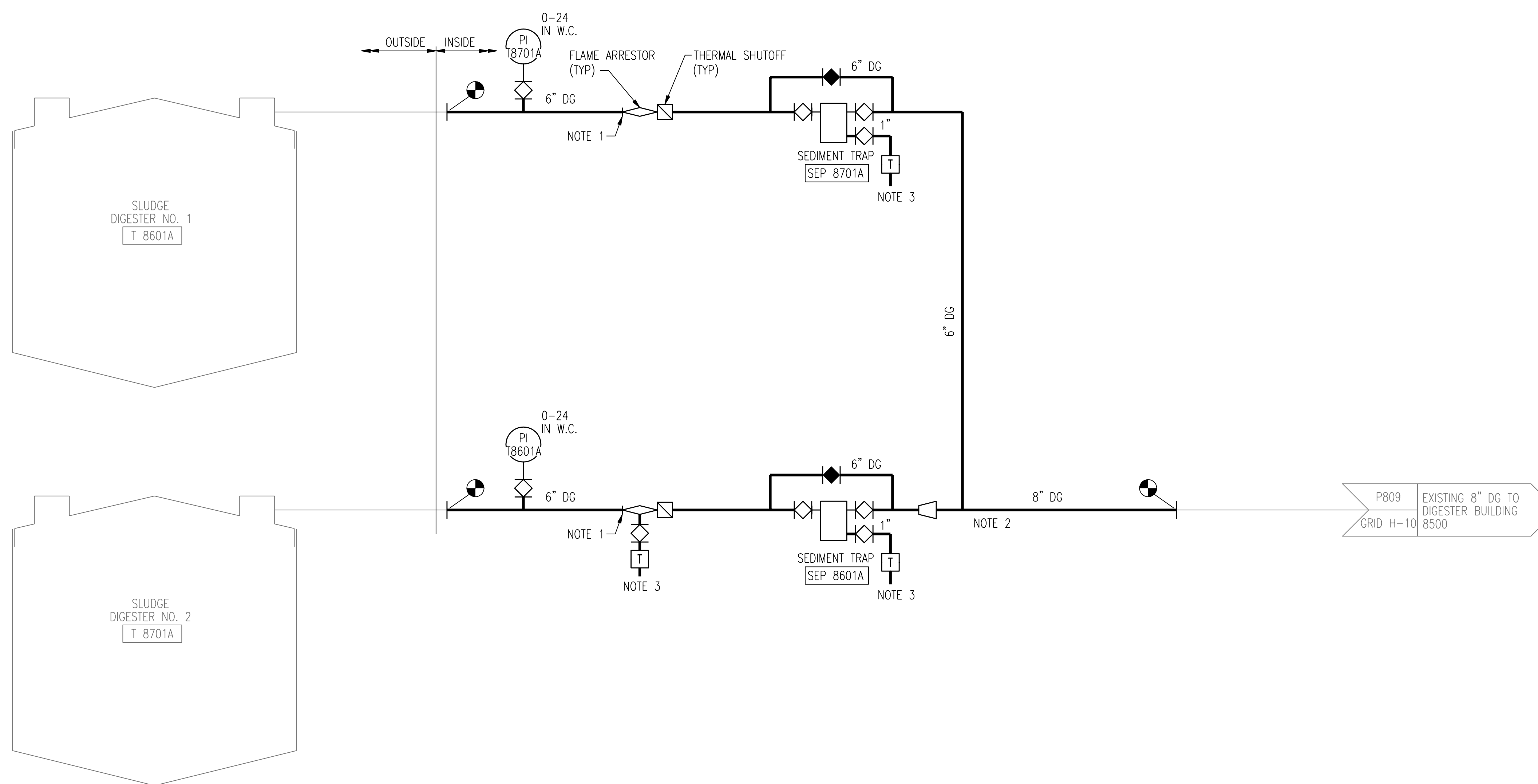
P809

3

CADD: D1-184

NOTES:

1. RELOCATE AND REINSTALL EXISTING FLAME ARRESTOR AND THERMAL SHUTOFF ASSEMBLY IN GAS CONTROL ROOM.
2. DG PIPING TO SLOPE TO LOW POINT AT SEDIMENT TRAPS.
3. PIPE DRAIN TO TRENCH AROUND DIG 8601A BASE.
4. INSTALL SIGHT GLASSES WITH SHUTOFF PETCOCKS ON SEDIMENT TRAPS. INSTALL CAPS ON UNUSED SEDIMENT TRAP CONNECTIONS.
5. SEE SPECIFICATIONS FOR FLAME ARRESTING PROVISIONS FOR MANOMETERS.



REPLACE PRESSURE INDICATORS PI 8601A AND PI 8701A WITH MANOMETERS AS SPECIFIED IN SECTION 46 73 79.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	TJH	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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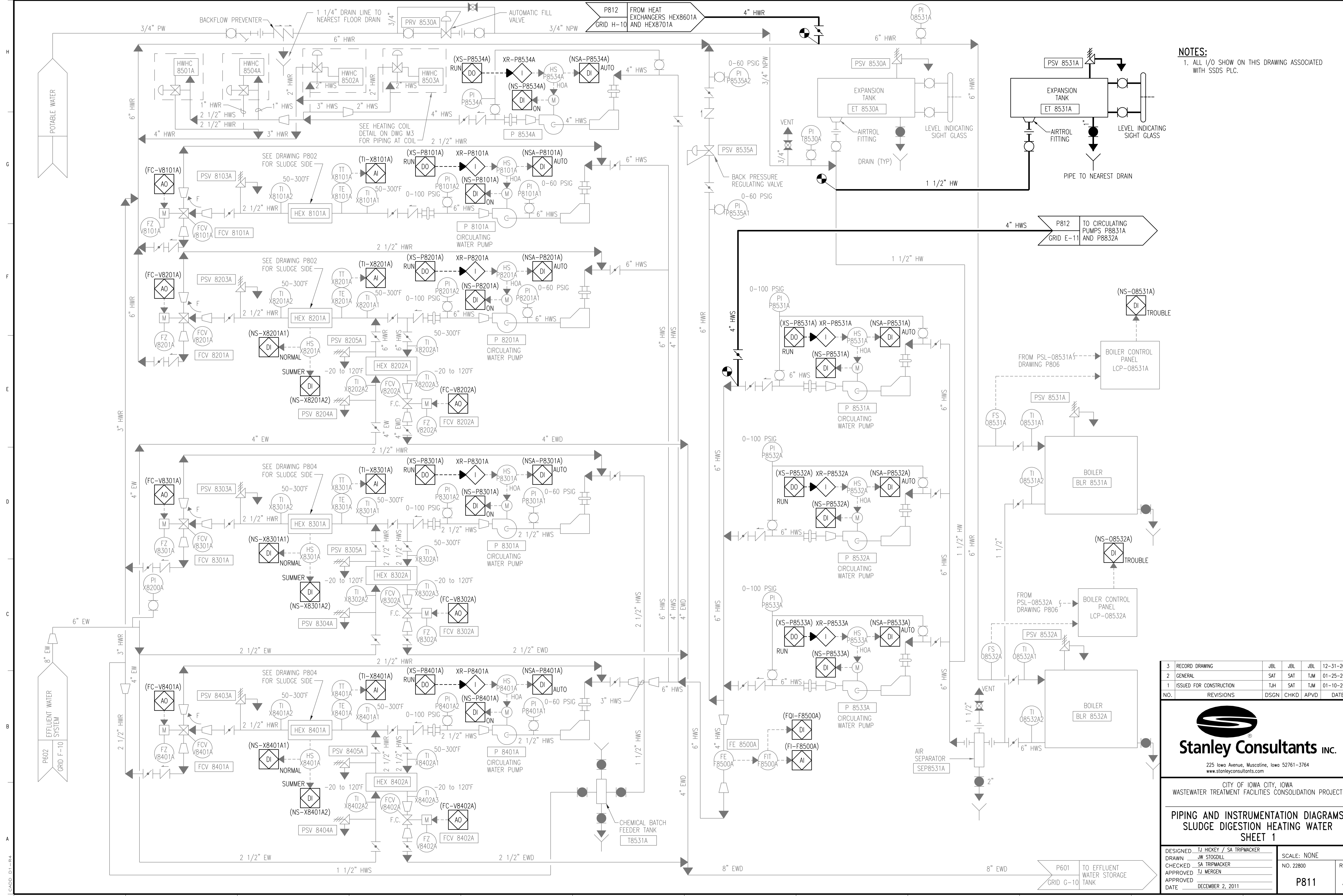
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**PIPING AND INSTRUMENTATION DIAGRAMS
SLUDGE DIGESTION GAS
SHEET 2**

DESIGNED	TJ HICKEY / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STOGDILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011		

P810 **4**



NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSDS PLC.

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	TJH	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



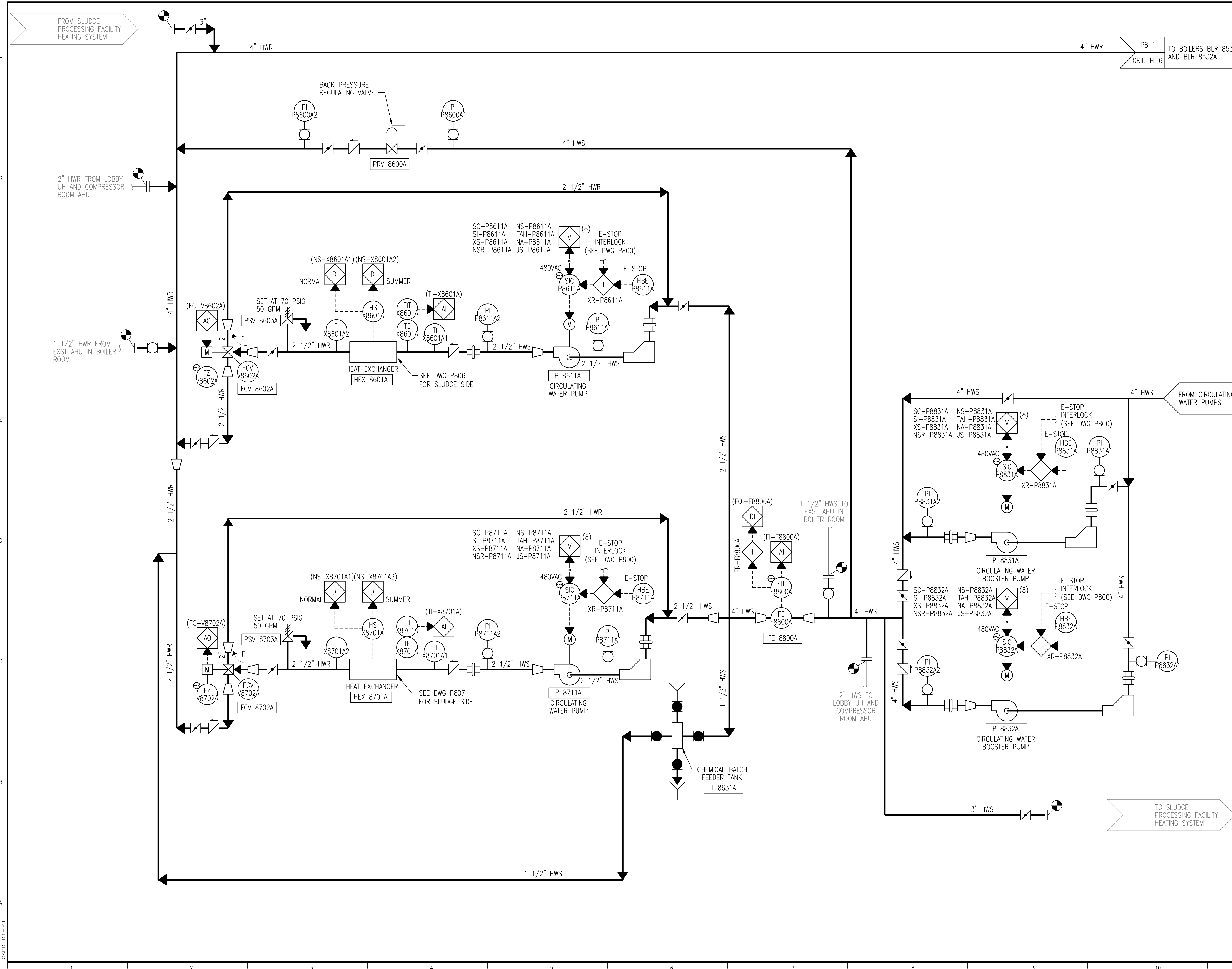
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
 SLUDGE DIGESTION HEATING WATER
 SHEET 1**

DESIGNED	TJ HICKEY / SA TRIPMACKER	SCALE:	NONE	REV.	
DRAWN	JW STOGDILL	CHECKED	SA TRIPMACKER	NO.	22800
APPROVED	TJ MERGEN				
APPROVED					
DATE	DECEMBER 2, 2011				

P811

3



NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSDS PLC.

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	TAG UPDATES V8602A, V8702A	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	TJH	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



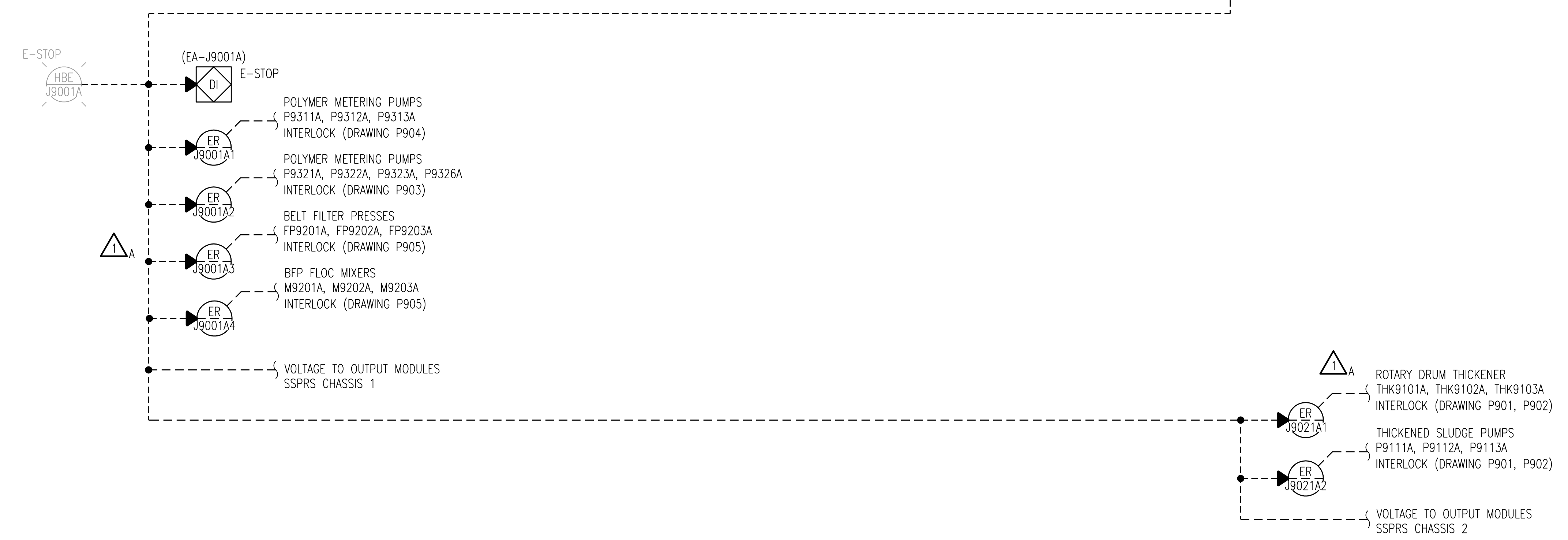
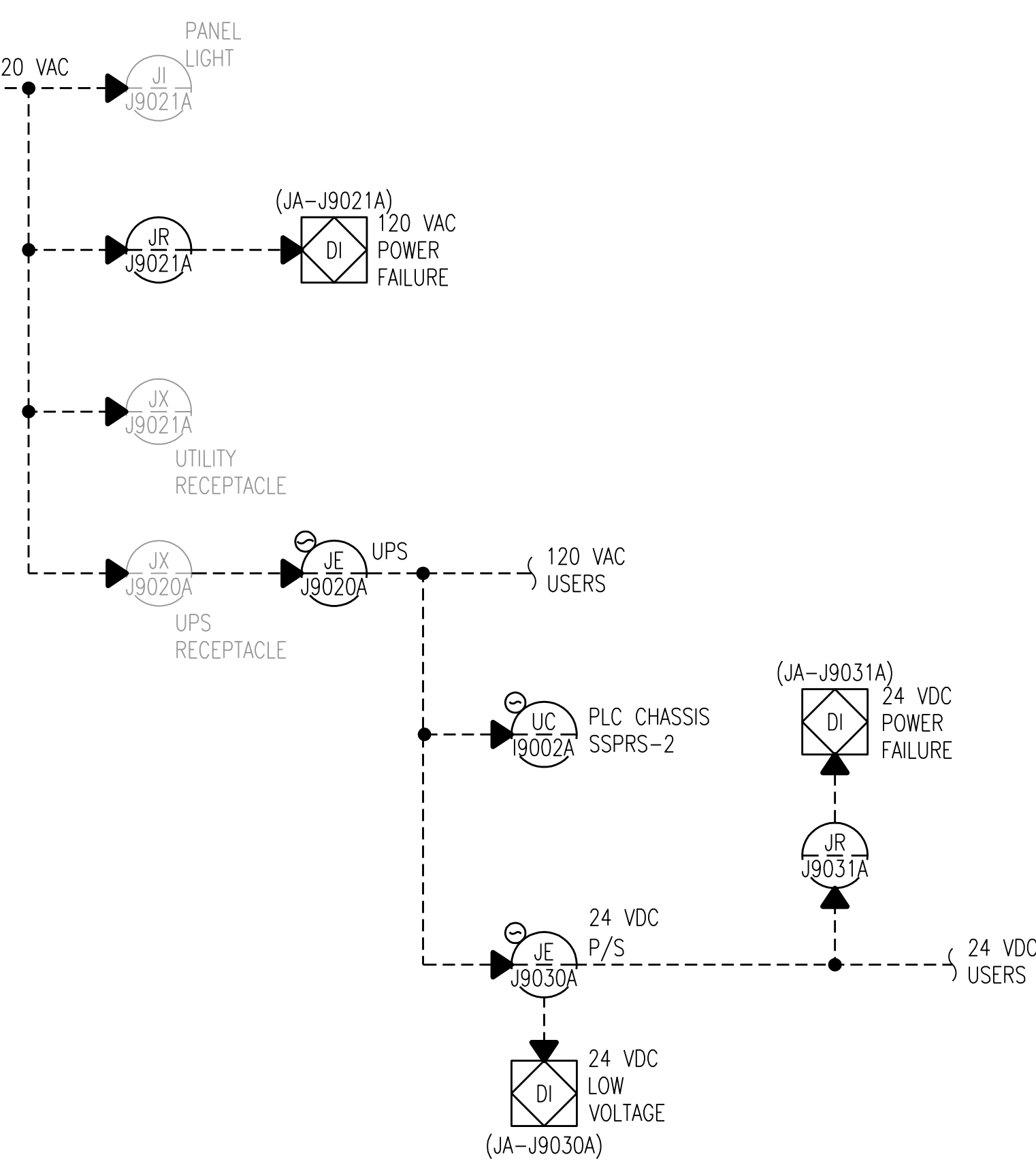
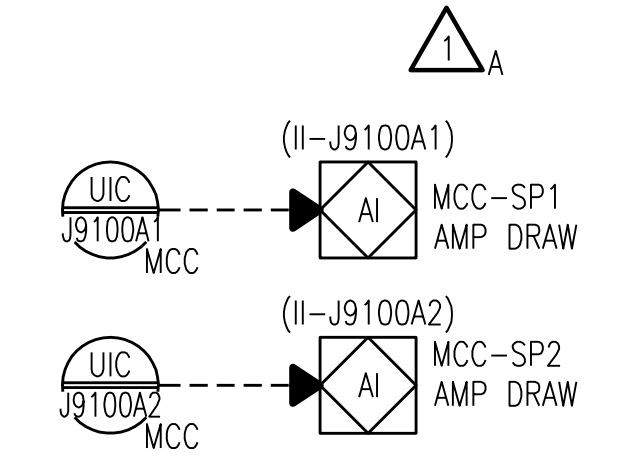
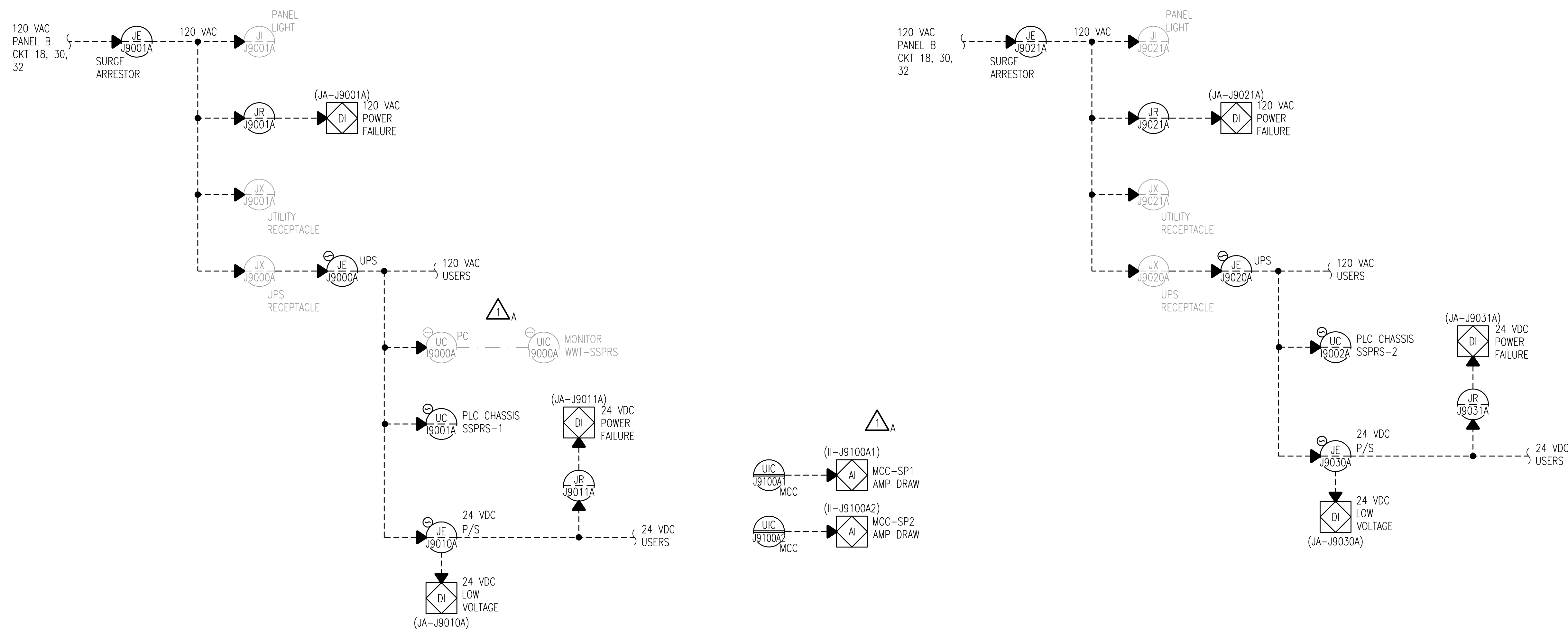
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
 SLUDGE DIGESTION HEATING WATER
 SHEET 2**

DESIGNED	TJ HICKEY / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STODGILL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011		

P812 **3**

- NOTES:**
1. ALL I/O SHOWN ON THIS SECTION ASSOCIATED WITH SSPRS PLC.
 2. ALL I/O SHOWN ON THIS SECTION ASSOCIATED WITH SSPRS-2 PLC CHASSIS.



MAIN PLC ENCLOSURE
(NOTE 1)

REMOTE I/O ENCLOSURE
(NOTE 2)

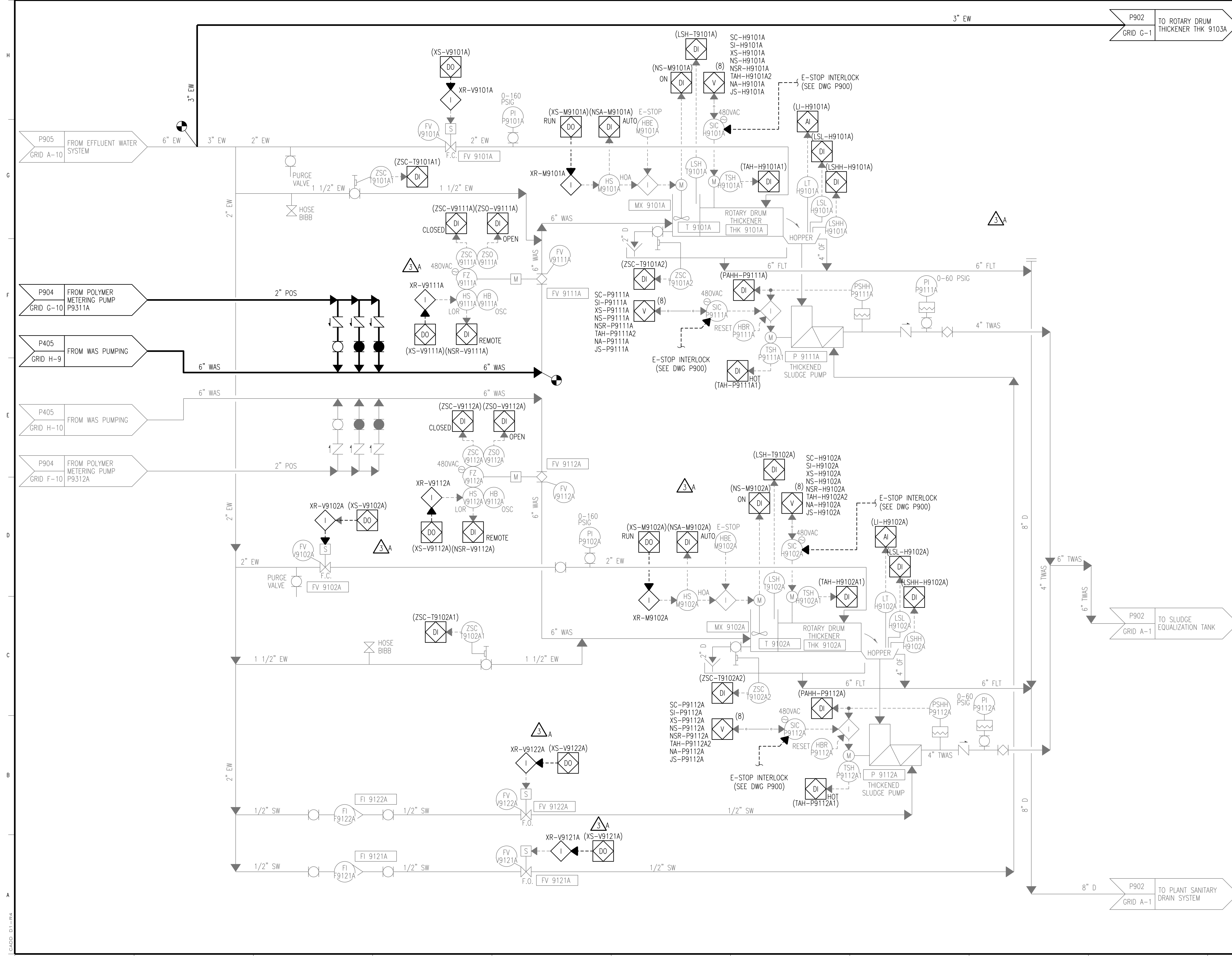
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
0	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-25-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

PIPING AND INSTRUMENTATION DIAGRAMS
SLUDGE PROCESSING STATION
PLC CONTROL POWER

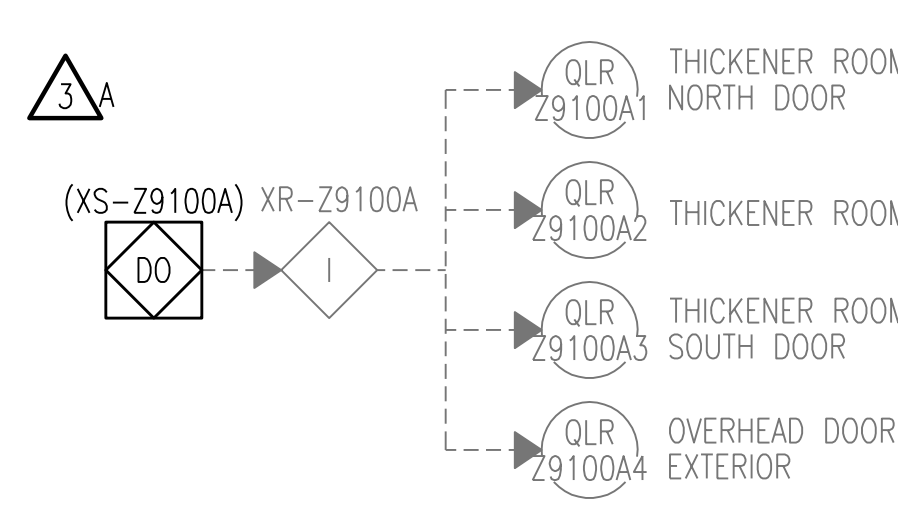
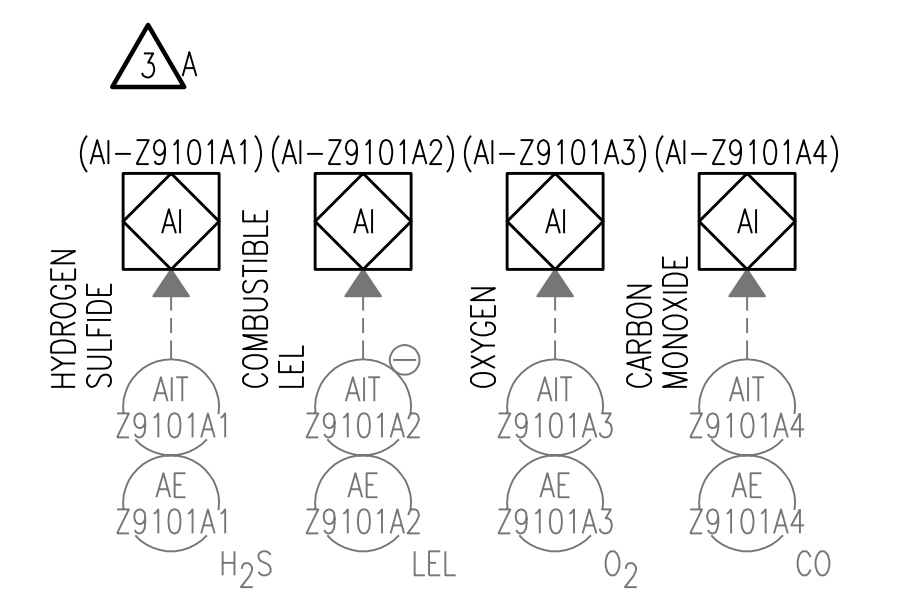
DESIGNED SA TRIPMACKER	SCALE: NONE	REV. 2
DRAWN JW STODOLL	NO. 22800	
CHECKED SA TRIPMACKER		
APPROVED TJ Mergen		
DATE JANUARY 25, 2012	P900	

CADD: D1-1-R4



P902 TO ROTARY DRUM THICKENER THK 9103A
GRID G-1

NOTES:
1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPRS-2 PLC.



4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	MA	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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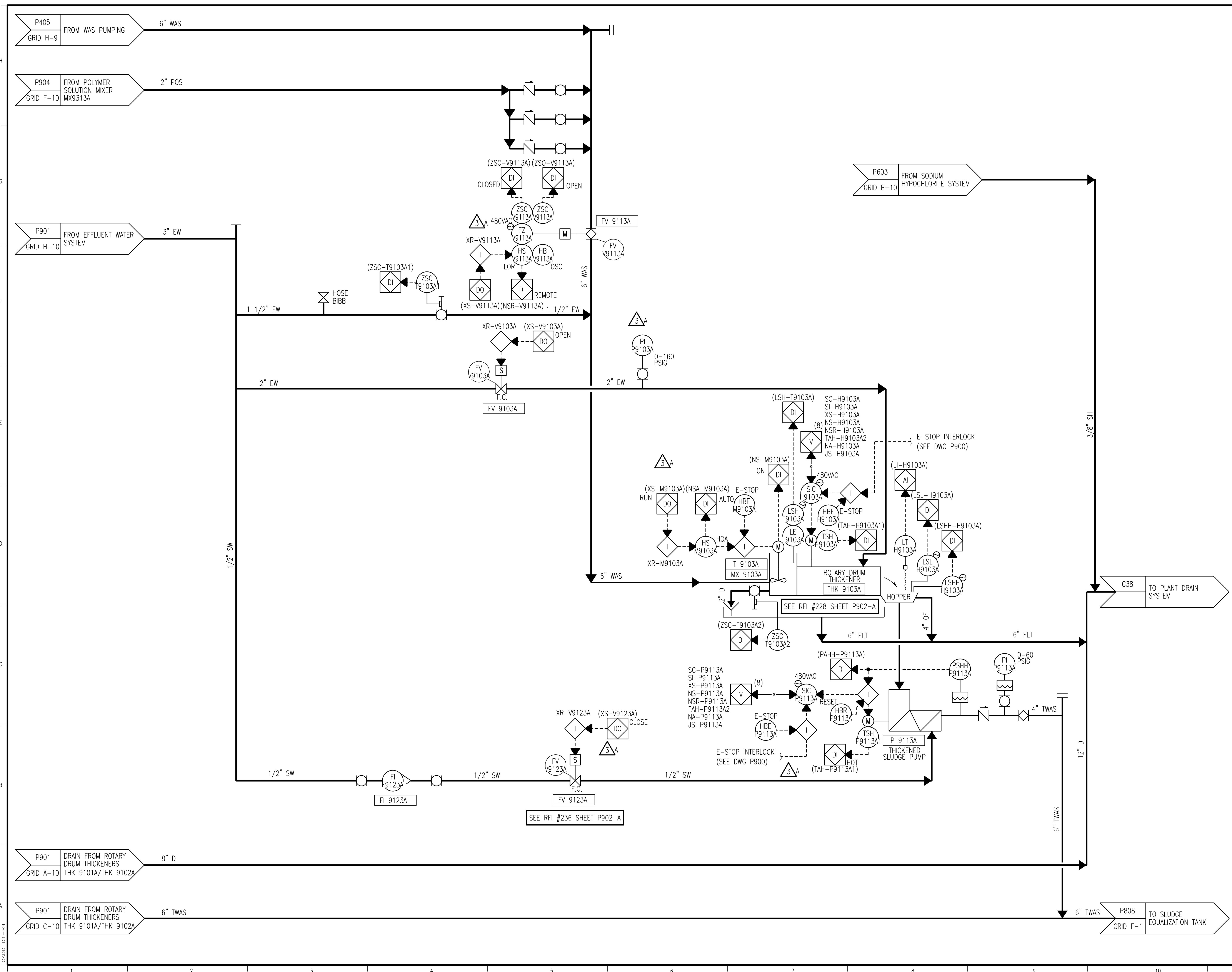
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
WASTE ACTIVATED SLUDGE THICKENING**

DESIGNED	M. AKYUREK / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STODOLL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011	P901	4

CADD: D1-1-R4

NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPRS PLC, UNLESS OTHERWISE NOTED.



4 A
 ADD LOCAL INDICATION FLOWMETER ON 2" EW TO ROTARY DRUM THICKENER.

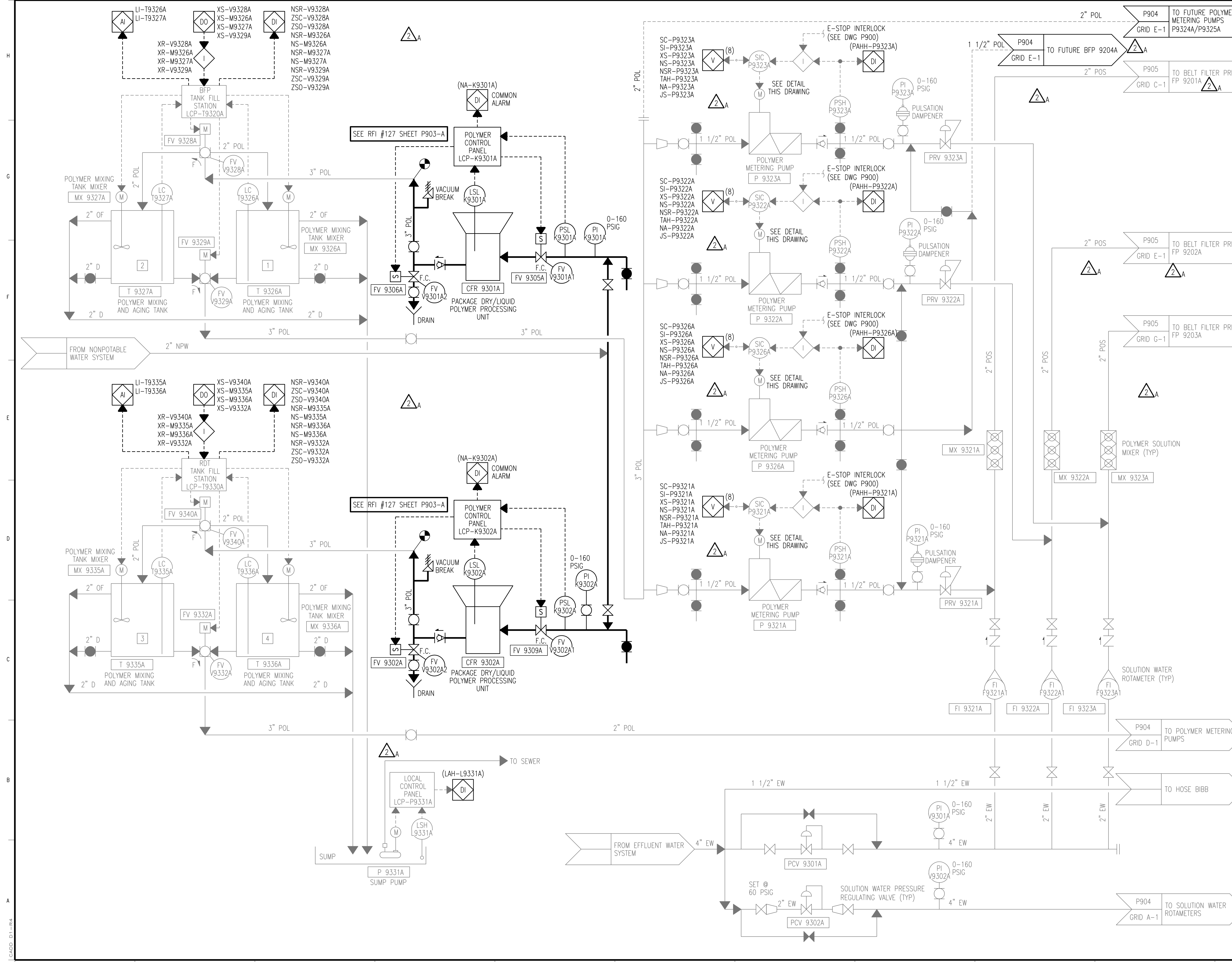
5	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
4	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
3	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	MA	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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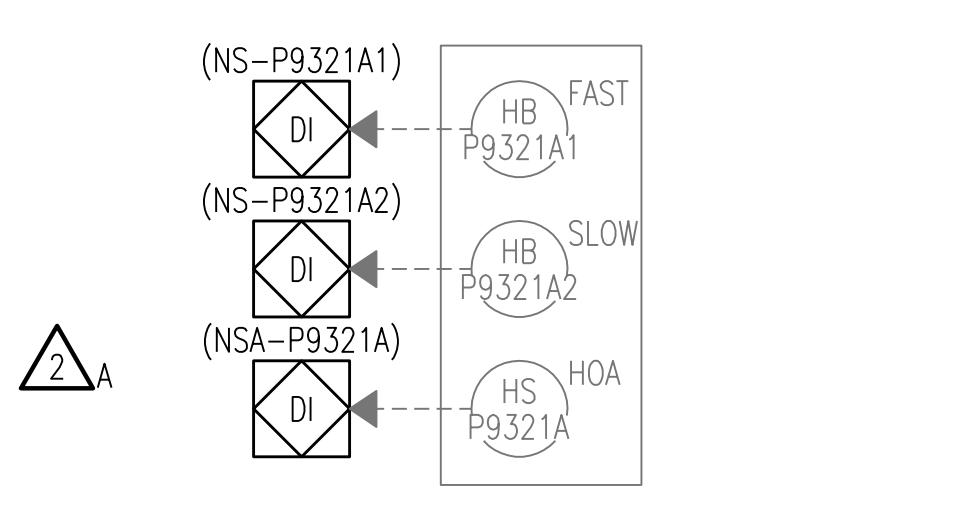
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
**PIPING AND INSTRUMENTATION DIAGRAMS
 ROTARY DRUM THICKENER**

DESIGNED	M. AKYUREK / SA TRIPMACKER	SCALE:	
DRAWN	JW STODOLL	NO. 22800	REV.
CHECKED	SA TRIPMACKER		
APPROVED	TJ MERGEN		
APPROVED			
DATE	DECEMBER 2, 2011	P902	5

CADD: D1-P44



NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPRS PLC, UNLESS OTHERWISE NOTED.



POLYMER METERING PUMP CONTROL DETAIL
 POLYMER METERING PUMP P 9321A TAG: SHOWN
 POLYMER METERING PUMP P 9326A TAG: P9326A
 POLYMER METERING PUMP P 9322A TAG: P9322A
 POLYMER METERING PUMP P 9323A TAG: P9323A

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
1	ISSUED FOR CONSTRUCTION	MA	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

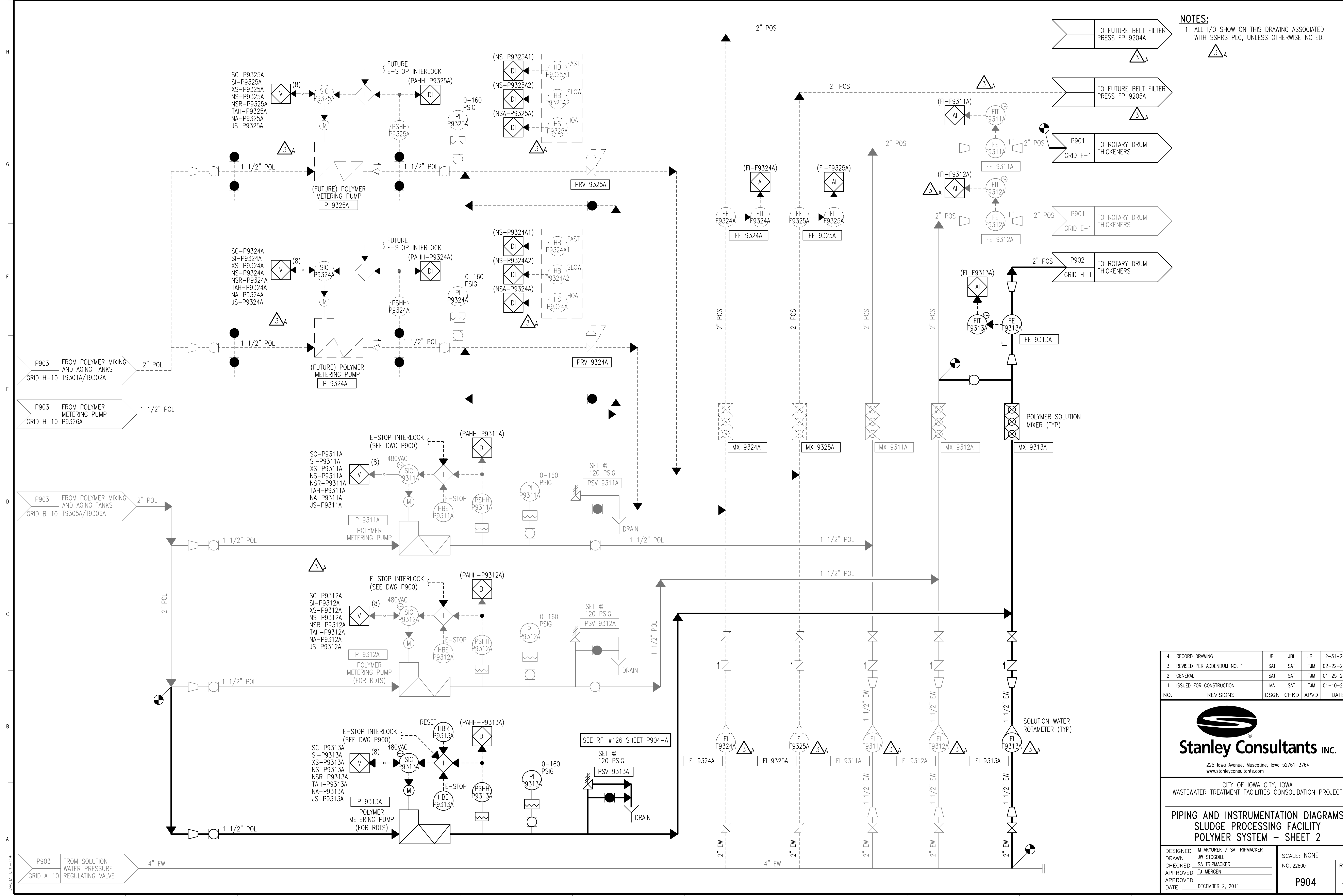
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**PIPING AND INSTRUMENTATION DIAGRAMS
 SLUDGE PROCESSING FACILITY
 POLYMER SYSTEM - SHEET 1**

DESIGNED	M. AKYUREK / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW. STODOLL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ. MERGEN		
DATE	DECEMBER 2, 2011		

P903 **3**



NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPRS PLC, UNLESS OTHERWISE NOTED.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	MA	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



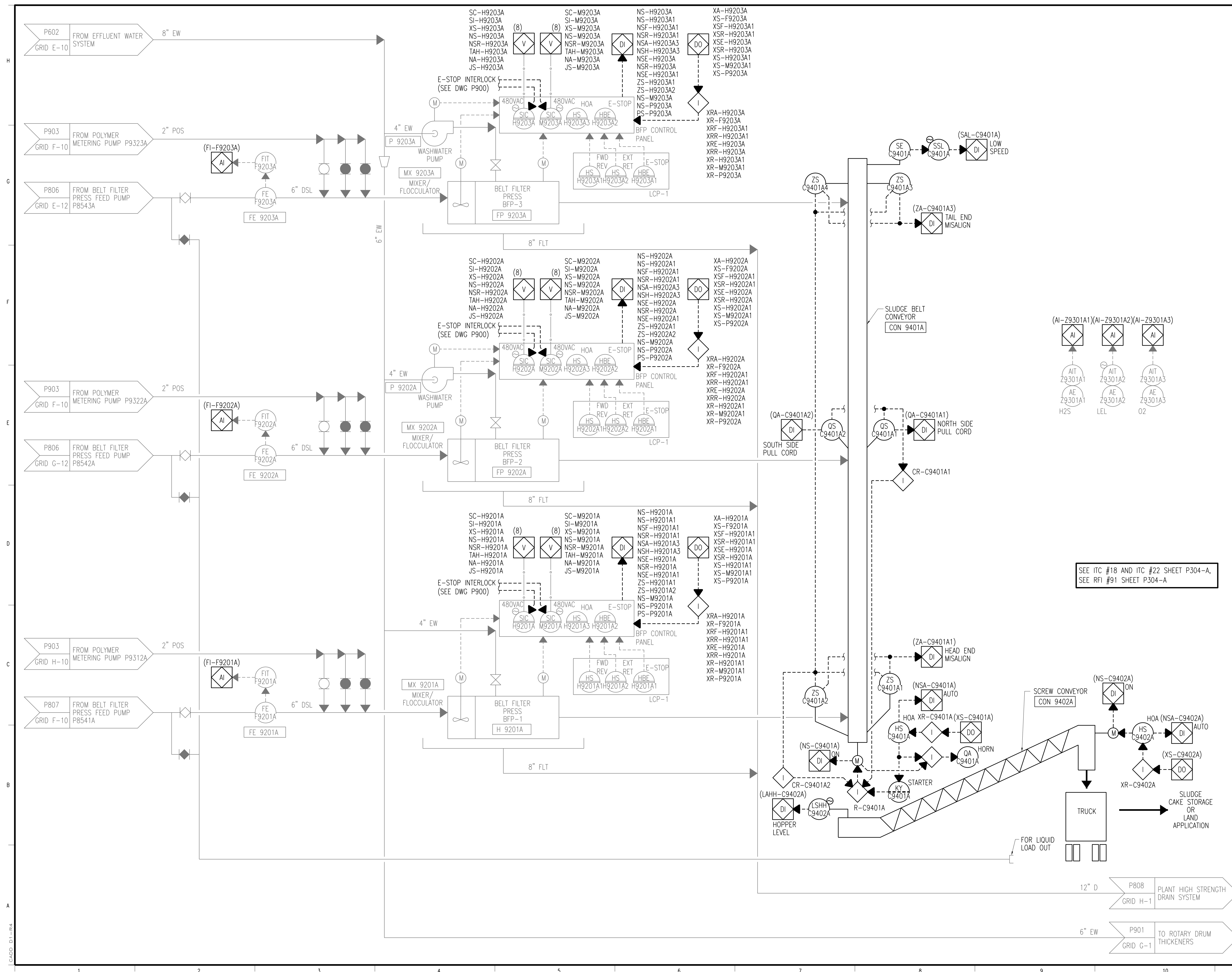
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 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**PIPING AND INSTRUMENTATION DIAGRAMS
 SLUDGE PROCESSING FACILITY
 POLYMER SYSTEM - SHEET 2**

DESIGNED	M. AKYUREK / SA TRIPMACKER	SCALE:	NONE	REV.	
DRAWN	JW. STODOLL	NO.	22800		
CHECKED	SA TRIPMACKER				
APPROVED	TJ. MERGEN				
DATE	DECEMBER 2, 2011				

P904 4

NOTES:
 1. ALL I/O SHOW ON THIS DRAWING ASSOCIATED WITH SSPRS PLC, UNLESS OTHERWISE NOTED.



SEE ITC #18 AND ITC #22 SHEET P304-A,
 SEE RFI #91 SHEET P304-A

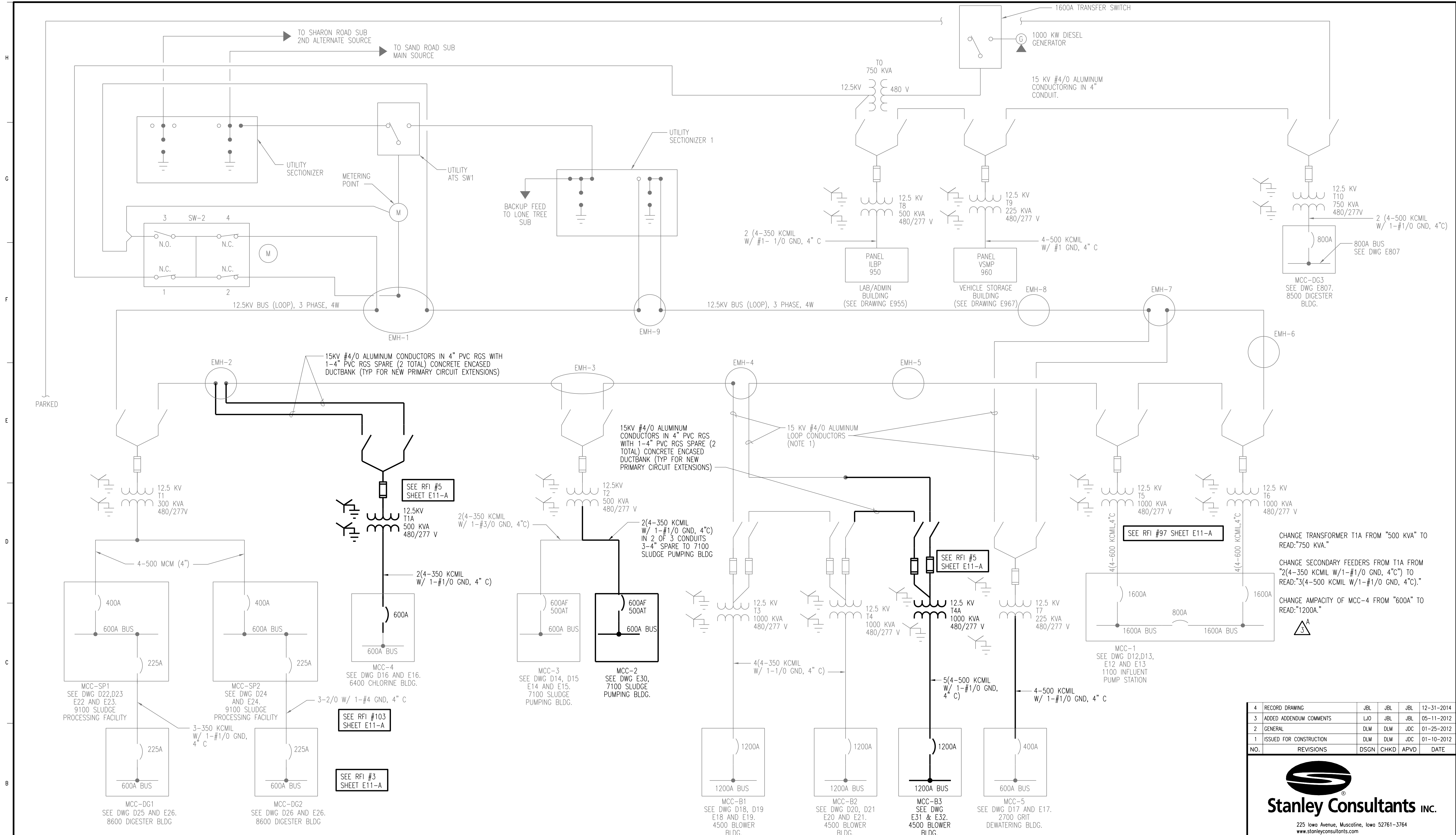
4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	JMB	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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PIPING AND INSTRUMENTATION DIAGRAMS
BELT FILTER PRESS

DESIGNED	JM BRADY / SA TRIPMACKER	SCALE:	NONE
DRAWN	JW STODOLLA	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ Mergen		
APPROVED			
DATE	DECEMBER 2, 2011	P905	4

CADD: D1-144



EXISTING SITE DISTRIBUTION ELECTRICAL ONE-LINE DIAGRAM

SEE ITC #32 AND RFI #102 SHEET E11-A

NOTES:
1. PRIMARY VOLTAGE LOOP OPERATES AT 13.2 KV.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

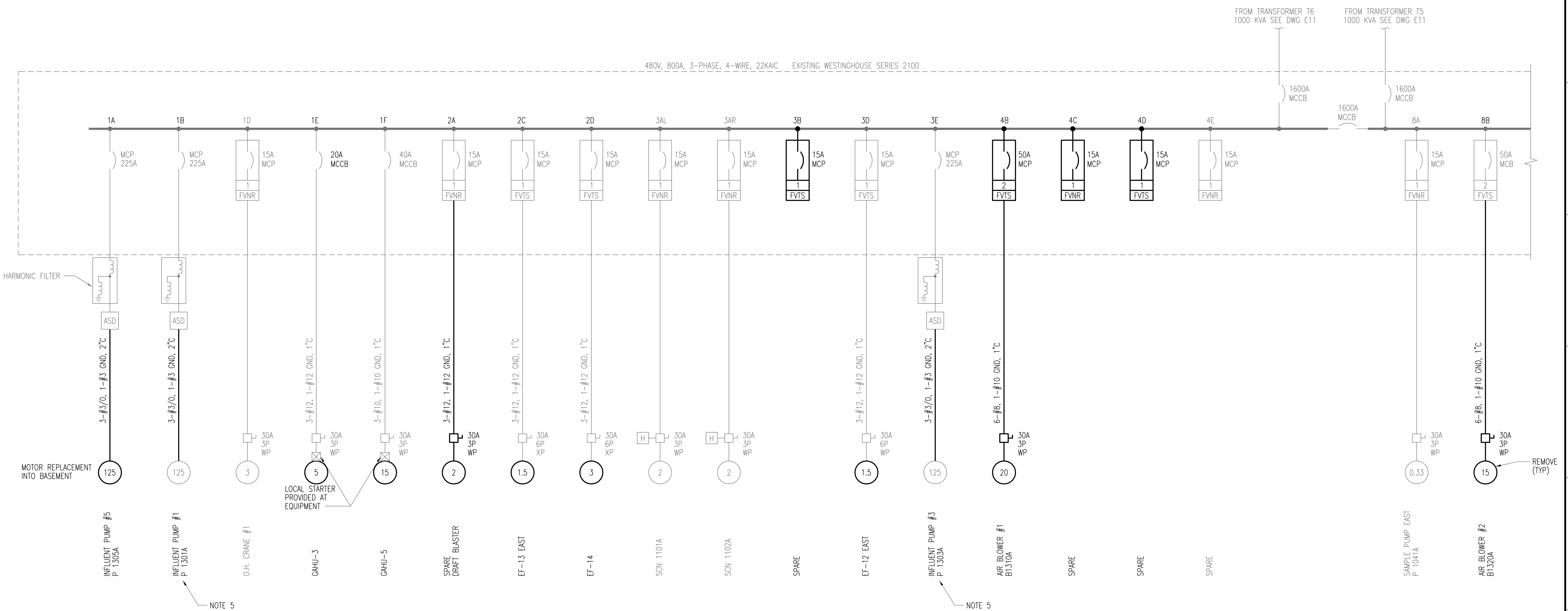
**ELECTRICAL ONE-LINE DIAGRAMS
SITE DISTRIBUTION**

DESIGNED	DL MORITZ	SCALE:	NONE
DRAWN	B.M. GOODNIGHT	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
DATE	DECEMBER 2, 2011		



CADD D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



MCC-1 ELECTRICAL ONE-LINE DIAGRAM

NOTES:

- SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAMS.
- ALL MOTOR CONTROL CENTER MCCB, MCP, AND STARTERS SHOWN TO BE REMOVED, TO BE RETURNED TO OWNER IF NOT REUSED.
- ALL BOLD ITEMS TO BE REMOVED. SEE ONE-LINE DIAGRAM REQUIREMENTS ON DRAWINGS E12 AND E13.
- MCC-1 IS LOCATED IN THE INFLUENT PUMP STATION AS SHOWN ON DRAWING E101 AND E102.
- REMOVE EXISTING WIRING FROM ASD TO PUMPS P1301A, P1302A, AND P1303A. COORDINATE TO KEEP 3 PUMPS AVAILABLE AT ALL TIMES. REROUTE NEW WIRING TO PUMPS ALONG WALL. SEE DRAWINGS E12 AND E101.

	1	2	3	4	5	6	7	8	9	10	11	12	13
A	INFLUENT PUMP #5 P1305A	DRAFT BLASTER	SCN 1101A	SCN 1102A	RTU RELAYS	ELECTRICALLY OPERATED MAIN - 1600A CIRCUIT BREAKER T6	ELECTRICALLY OPERATED TIE - 800A CIRCUIT BREAKER	ELECTRICALLY OPERATED MAIN - 1600A CIRCUIT BREAKER T5	SAMPLE PUMP EAST P 1041A	SAMPLE PUMP WEST P 1042A	EF-9	SPACE	INFLUENT PUMP #2 P1302A
B	INFLUENT PUMP #1 P1301A	POWER MONITOR	SPACE	SPACE	AIR BLOWER #1	SPACE	SPACE	SPACE	AIR BLOWER #2	EF-13 WEST	SPACE	SPACE	INFLUENT PUMP #4 P1304A
C		EF-13 EAST			SPACE				SPACE	SPACE	45 KVA XFMR	PANEL "A" 225A	INFLUENT PUMP #6 P1306A
D	O.H. CRANE #1				SPACE				SPACE	SPACE	EQUALIZATION GATES		
E	GAHU-3	EF-14			EF-12 EAST				GAHU-4	SPACE			
F	GAHU-5	SPACE			INFLUENT PUMP #3 P1303A	SPACE, 15A			CLAM SHELL CRANE #1	EF-12 WEST		PANEL A MAIN CIRCUIT BREAKER	SPACE

MCC-1 ELEVATION

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

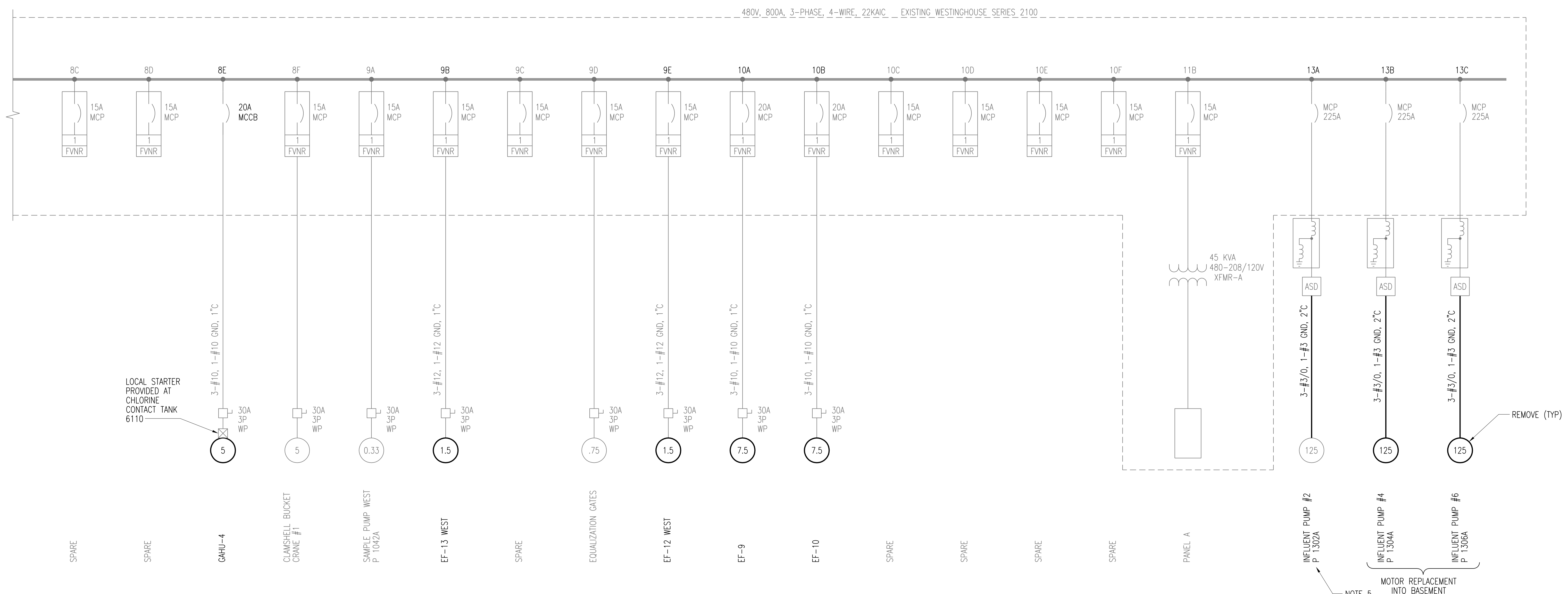
ELECTRICAL ONE-LINE DIAGRAMS
MCC-1 DEMOLITION
INFLUENT PUMPING STATION - SHEET 1

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D.WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
DATE	DECEMBER 2, 2011		



CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



MCC-1 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	6	7	8	9	10	11	12	13
A	INFLUENT PUMP #5 P1305A	DRAFT BLASTER	SCN 1101A	SCN 1102A	RTU RELAYS	ELECTRICALLY OPERATED MAIN - 1600A CIRCUIT BREAKER T6	ELECTRICALLY OPERATED MAIN - 800A CIRCUIT BREAKER	ELECTRICALLY OPERATED MAIN - 1600A CIRCUIT BREAKER T5	SAMPLE PUMP EAST P 1041A	SAMPLE PUMP WEST P 1042A	EF-9	SPACE	INFLUENT PUMP #2 P1302A
B	INFLUENT PUMP #1 P1301A	POWER MONITOR	SPACE	AIR BLOWER #1	SPACE	SPACE	SPACE	AIR BLOWER #2	EF-13 WEST	EF-10	45 kVA XFMR	INFLUENT PUMP #4 P1304A	
C	O.H. CRANE #1	EF-13 EAST	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE	PANEL "A" 225A	INFLUENT PUMP #6 P1306A	
D	GAHU-3	EF-14	EF-12 EAST	SPACE	SPACE	SPACE	SPACE	SPACE	EQUALIZATION GATES	SPACE	SPACE	SPACE	
E	GAHU-5	SPACE	INFLUENT PUMP #3 P1303A	SPACE, 15A	SPACE	SPACE	SPACE	GAHU-4	SPACE	SPACE	SPACE	SPACE	
F	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE	CLAM SHELL CRANE #1	EF-12 WEST	SPACE	PANEL A MAIN CIRCUIT BREAKER	SPACE	

MCC-1 ELEVATION



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

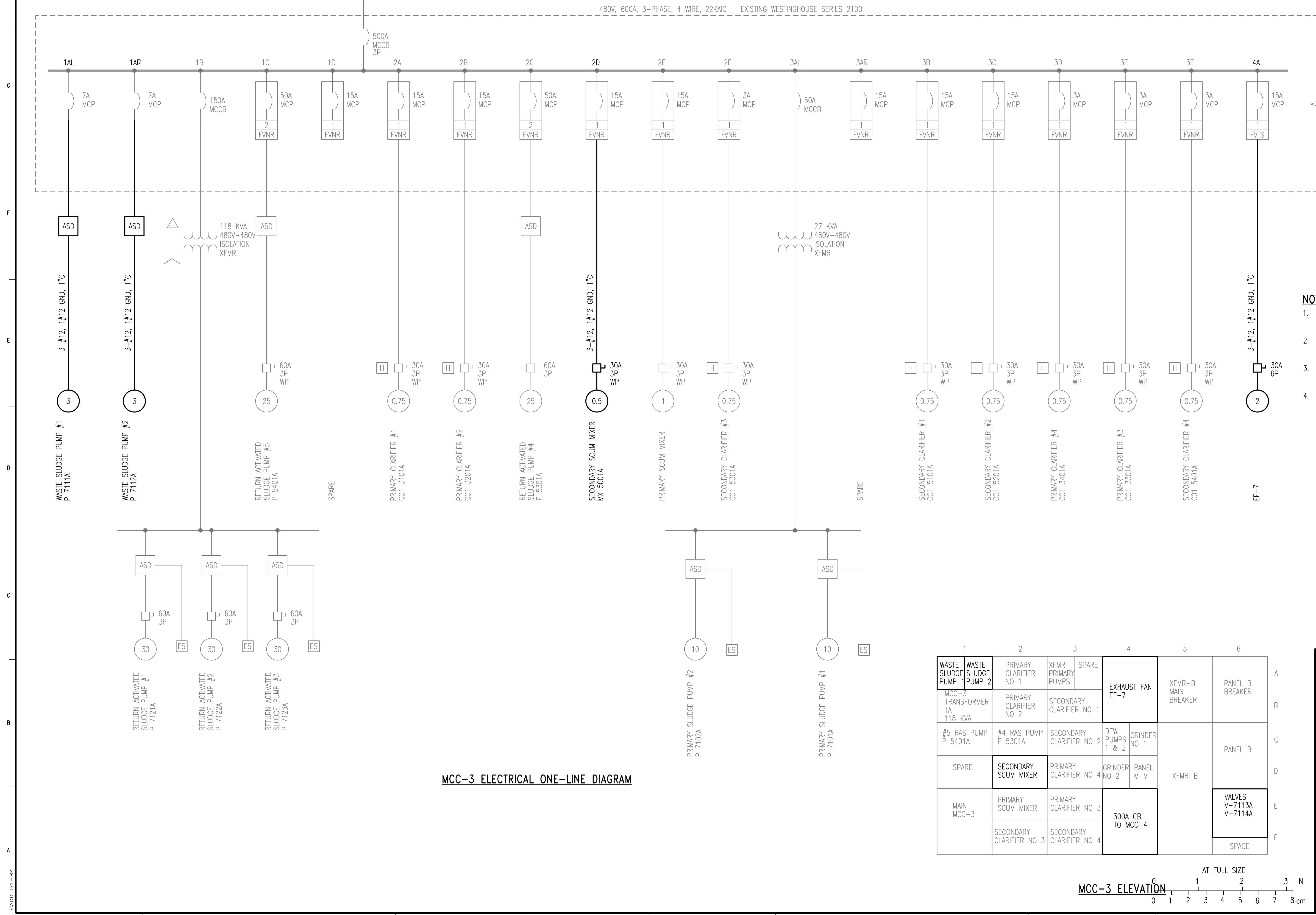
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-1 DEMOLITION
INFLUENT PUMPING STATION SHEET 2

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D.WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	3
APPROVED	JD COGAN		
DATE			

CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



480V, 600A, 3-PHASE, 4 WIRE, 22KAIC EXISTING WESTINGHOUSE SERIES 2100

FROM TRANSFORMER T2
500 KVA SEE DWG E11

500A
MCCB
3P

118 KVA
480V-480V
ISOLATION
XFMR

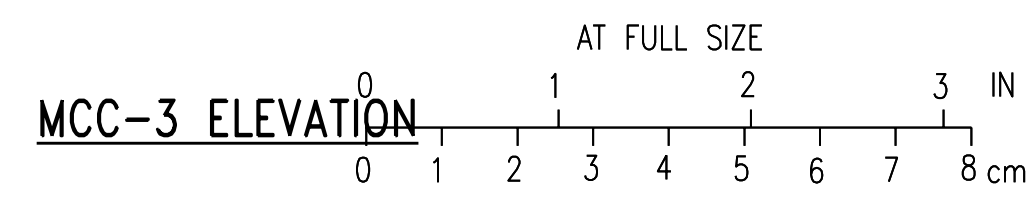
27 KVA
480V-480V
ISOLATION
XFMR

NOTES:

1. SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
2. ALL MOTOR CONTROL CENTER MCCB, MCP, AND STARTERS TO BE REMOVED, TO BE RETURNED TO OWNER IF NOT REUSED.
3. ALL BOLD ITEMS TO BE REMOVED.SEE ONE- LINE DIAGRAM REQUIREMENTS ON DRAWING E14 AND E15.
4. MCC-3 IS LOCATED IN THE SLUDGE PUMPING BUILDING AS SHOWN ON DRAWING E701 AND E702.

MCC-3 ELECTRICAL ONE-LINE DIAGRAM

1	2	3	4	5	6
WASTE SLUDGE PUMP #1 P 7111A	WASTE SLUDGE PUMP #2 P 7112A	PRIMARY CLARIFIER NO 1 COT 3101A	XFMR PRIMARY PUMPS	SPARE	EXHAUST FAN EF-7
MCC-3 TRANSFORMER 1A 118 KVA	PRIMARY CLARIFIER NO 2 COT 3201A	SECONDARY CLARIFIER NO 1 COT 5101A	DEW PUMPS 1 & 2 GRINDER NO 1	XFMR-B MAIN BREAKER	PANEL B BREAKER
#5 RAS PUMP P 5401A	#4 RAS PUMP P 5301A	SECONDARY CLARIFIER NO 2 COT 5201A	GRINDER NO 2	XFMR-B	PANEL B
SPARE	SECONDARY SCUM MIXER MX 5001A	PRIMARY CLARIFIER NO 4 COT 3401A	PANEL M-V		VALVES V-7113A V-7114A
MAIN MCC-3	PRIMARY SCUM MIXER MX 5001A	PRIMARY CLARIFIER NO 3 COT 5301A	300A CB TO MCC-4		SPACE
	SECONDARY CLARIFIER NO 3 COT 5301A	SECONDARY CLARIFIER NO 4 COT 5401A			



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

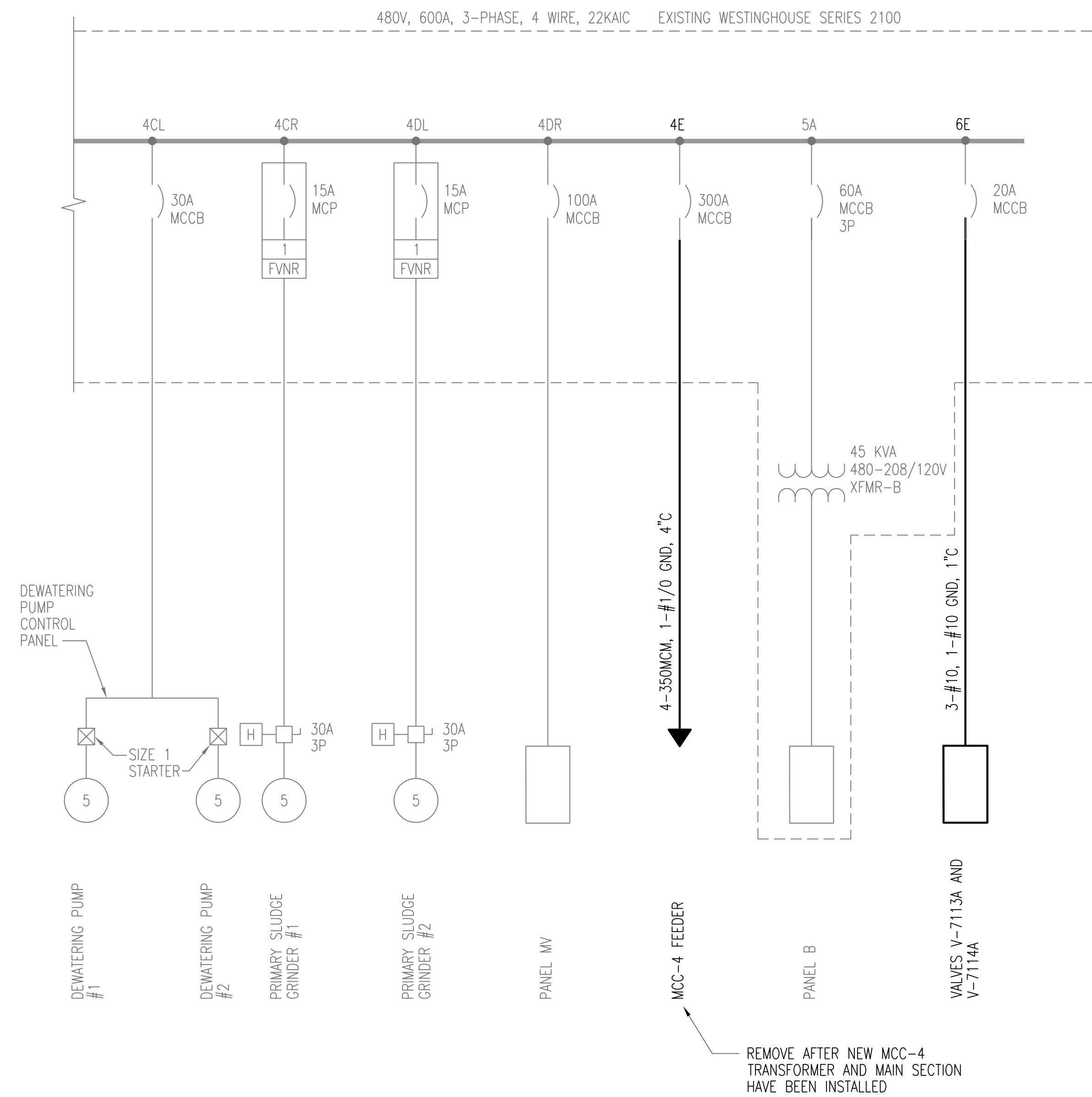
ELECTRICAL ONE-LINE DIAGRAMS
MCC-3 DEMOLITION
SLUDGE PUMPING BUILDING - SHEET 1

DESIGNED	MB SCHULZ	SCALE:	NONE	REV.	
DRAWN	D.WILGES	NO.	22800		
CHECKED	DL MORITZ				
APPROVED	JD COGAN				
DATE	DECEMBER 2, 2011				

D14

3

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



MCC-3 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	6		
	WASTE SLUDGE PUMP #1	WASTE SLUDGE PUMP #2	PRIMARY CLARIFIER NO 1	XFMR PRIMARY PUMPS	SPARE	EXHAUST FAN EF-7	XFMR-B MAIN BREAKER	PANEL B BREAKER
	MCC-3 TRANSFORMER 1A 118 KVA	PRIMARY CLARIFIER NO 2	SECONDARY CLARIFIER NO 1	EXHAUST FAN EF-7	XFMR-B MAIN BREAKER	PANEL B BREAKER		
	#5 RAS PUMP P 5401A	#4 RAS PUMP P 5301A	SECONDARY CLARIFIER NO 2	DEW PUMPS 1 & 2	GRINDER NO 1	PANEL B		
	SPARE	SECONDARY SCUM MIXER	PRIMARY CLARIFIER NO 4	GRINDER NO 2	PANEL M-V	XFMR-B		
	MAIN MCC-3	PRIMARY SCUM MIXER	PRIMARY CLARIFIER NO 3	300A CB TO MCC-4		VALVES V-7113A V-7114A		
		SECONDARY CLARIFIER NO 3	SECONDARY CLARIFIER NO 4			SPACE		

MCC-3 ELEVATION

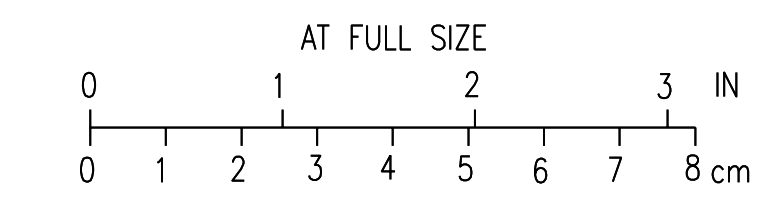
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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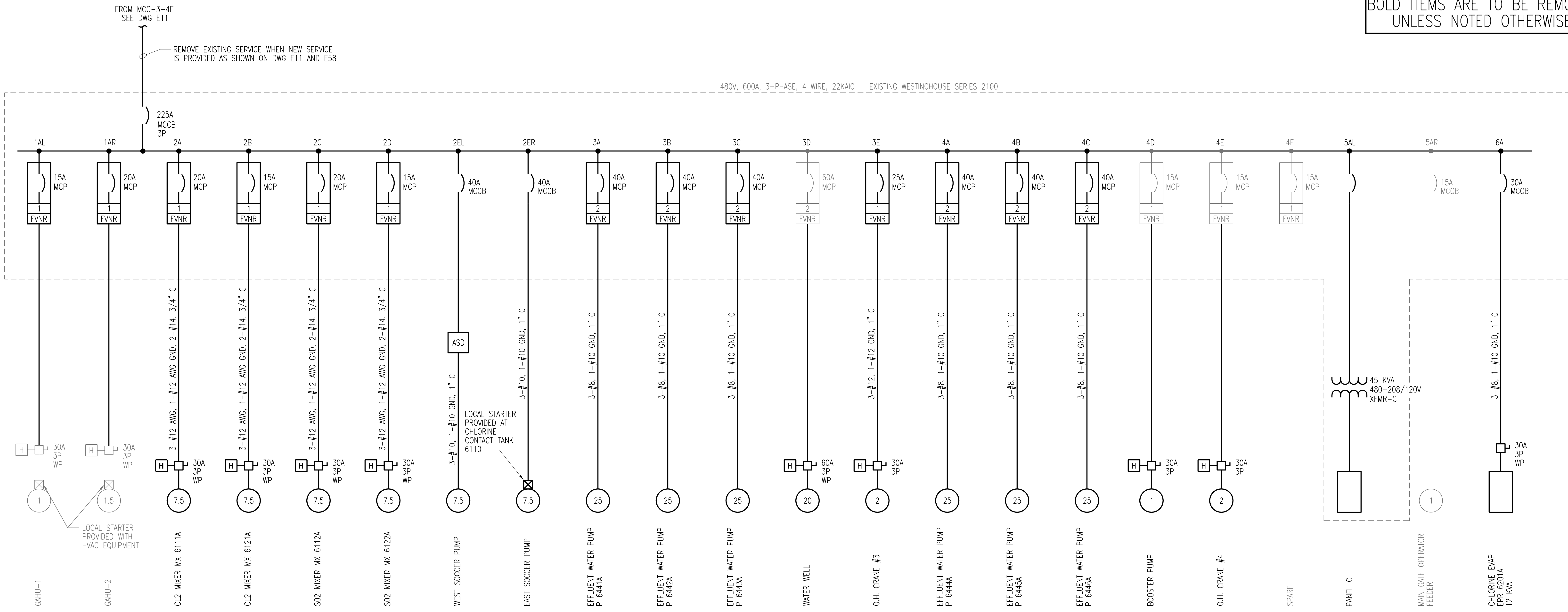
**ELECTRICAL ONE-LINE DIAGRAMS
MCC-3 DEMOLITION
SLUDGE PUMPING BUILDING - SHEET 2**

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



MCC-4 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	6		
	GAHU-1	GAHU-2	CL2 MIXER MX 6111A	EFFLUENT WATER PUMP #1	EFFLUENT WATER PUMP #4	SPACE	CHLORINE EVAPORATOR EPR 6201A	A
	RTU RELAY	CL2 MIXER MX 6121A	EFFLUENT WATER PUMP #2	EFFLUENT WATER PUMP #5	SPACE	SPACE	SPACE	B
	INCOMING SERVICE AND MAIN CIRCUIT BREAKER	SO2 MIXER MX 6112A	EFFLUENT WATER PUMP #3	EFFLUENT WATER PUMP #6	45 KVA XFMR-C	PANEL C	PANEL C	C
		SO2 MIXER MX 6122A	WATER WELL PUMP	BOOSTER PUMP				D
		WEST SOCCER PUMP	EAST SOCCER PUMP	O.H. CRANE #3				O.H. CRANE #4
		SPACE	SPACE	SPACE			PANEL C MCB	F

MCC-4 ELEVATION

- NOTES:**
- SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
 - ALL MOTOR CONTROL CENTER MCCB, MCP, AND STARTERS TO BE REMOVED, TO BE RETURNED TO OWNER IF NOT REUSED.
 - ALL BOLD ITEMS TO BE REMOVED. SEE ONE-LINE DIAGRAM REQUIREMENTS ON DRAWING E16.
 - MCC-4 IS LOCATED IN THE DISINFECTION STORAGE BUILDING AS SHOWN ON DRAWING E610.
 - EXISTING MOTOR CONTROL CENTER IS A WESTINGHOUSE MODEL 2100 SERIES.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

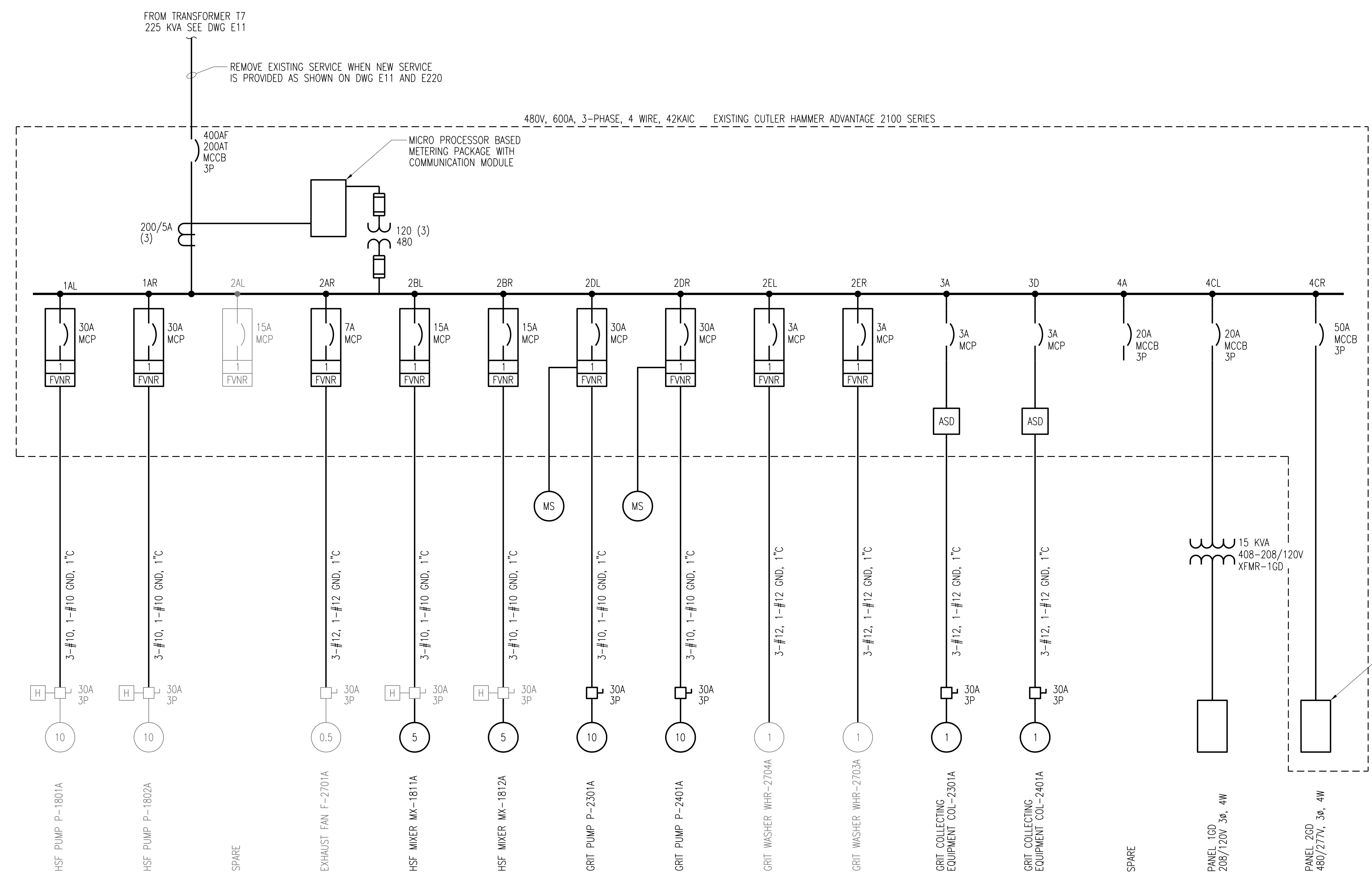
**ELECTRICAL ONE-LINE DIAGRAMS
MCC-4 DEMOLITION
DISINFECTION STORAGE BUILDING**

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	M. GRAVES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



MCC-5 ELECTRICAL ONE-LINE DIAGRAM

1	2	3	4
HSF PUMP P-1801A	HSF PUMP F-2802A	FUTURE P-1803A	EXHAUST FAN F-2701A
METERING	HSF MIXER P-1811A	HSF MIXER F-2812A	GRIT COLLECTING EQUIPMENT COL-2301A
SPACE	GRIT PUMP P-2301A	GRIT PUMP F-2401A	ASD
MAIN CB	GRIT WASHER WHR-2704A	GRIT WASHER WHR-2703A	GRIT COLLECTING EQUIPMENT COL-2401A
			SPACE
			XFMR-1GD MAIN CB
			MAIN CB PANEL 2GD
			PANEL 2GD

MCC-5 ELEVATION

OWNER TO CONFIRM REMOVAL OF BOLD LOADS PRIOR TO BEGINNING WORK

NOTES:

- SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
- MOTOR CONTROL CENTER MCC5 IS TO BE REMOVED AND RETURNED TO OWNER.
- SEE ONE-LINE DIAGRAM REQUIREMENTS ON DRAWING E17 FOR NEW MCC-5 REQUIREMENTS.
- MCC-5 IS LOCATED IN THE GRIT DEWATERING BUILDING AS SHOWN ON DRAWING E220.

CHANGE SECTION 4A ON MCC-5 TO SHOW AN EXISTING NEMA SIZE 1 STARTER, FEEDER, AND 5 HP HIGH-STRENGTH MIXER M1800A TO BE REMOVED.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-5 DEMOLITION
GRIT DEWATERING**

DESIGNED: MB SCHULZ
DRAWN: M. GRAVES
CHECKED: DL MORITZ
APPROVED: JD COGAN
DATE: DECEMBER 2, 2011

SCALE: NONE
NO. 22800

REV. 4

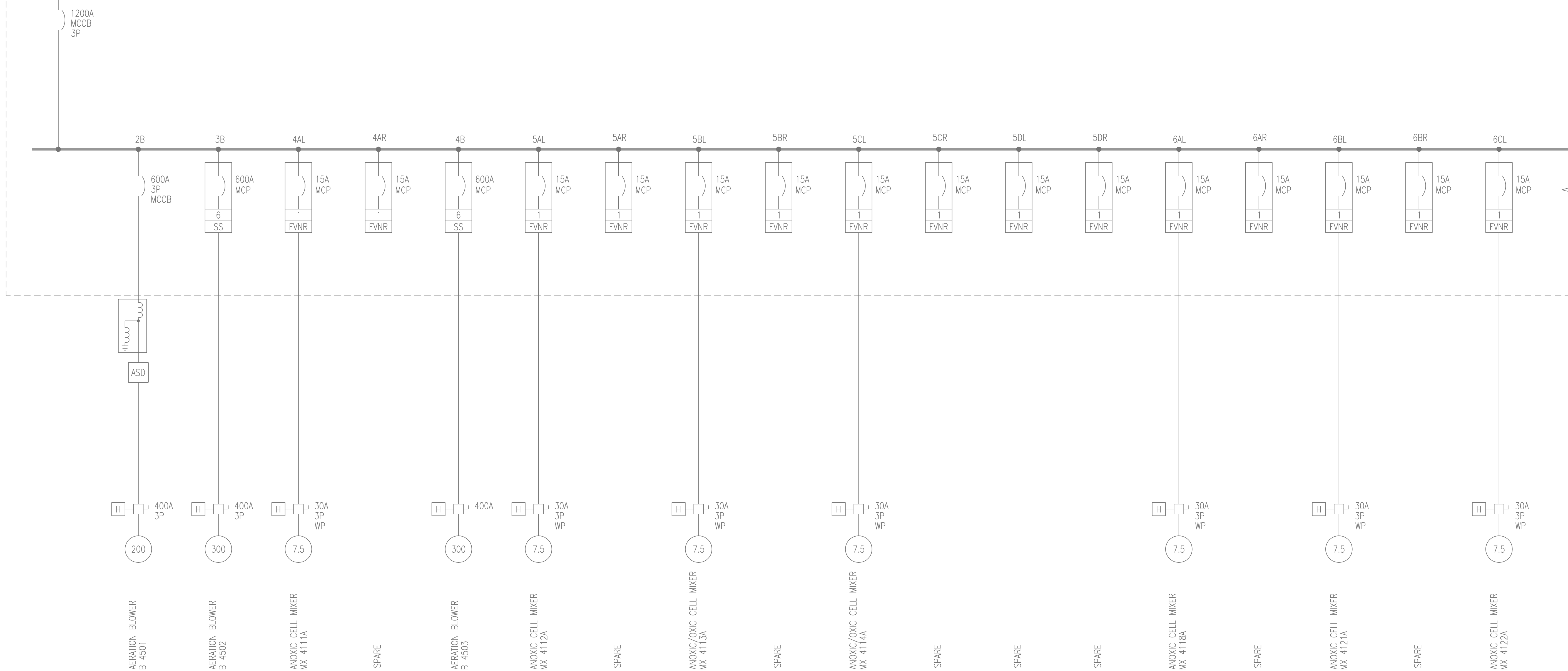


CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE

FROM TRANSFORMER T3
1000 KVA SEE DWG E11

480V, 1200A, 3-PHASE, 4-WIRE, 42KAIC EXISTING CUTLER HAMMER ADVANTAGE 2100 SERIES



MCC-B1 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	6	7				
	INCOMING SERVICE & MAIN CIRCUIT BREAKER	METERING	SPACE	MX 4111A	SPARE	MX 4112A	SPARE	MX 4118A	SPARE	MX 4124A	SPARE
		AERATION BLOWER B 4501A	AERATION BLOWER B 4502A	AERATION BLOWER B 4503A	MX 4113A	SPARE	MX 4121A	SPARE	SPARE	SPARE	SPARE
					MX 4114A	SPARE	MX 4122A	SPARE	MX 4128A	SPARE	
					SPARE	SPARE	SPARE	MX 4123A			

MCC-B1 ELEVATION

ANOXIC CELL MIXER (TYP)
CAPACITORS FOR B 4501A AND B 4502A
CAPACITOR FOR B 4503A

NOTES:

1. SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
2. ALL MOTOR CONTROL CENTER MCCB, MCP, AND STARTERS TO BE REMOVED, TO BE RETURNED TO OWNER IF NOT REUSED.
3. ALL BOLD ITEMS TO BE REMOVED. SEE ONE-LINE DIAGRAM REQUIREMENTS ON DRAWING E18 AND E19.
4. MCC-B1 IS LOCATED IN THE BLOWER BUILDING AS SHOWN ON DRAWING E420.

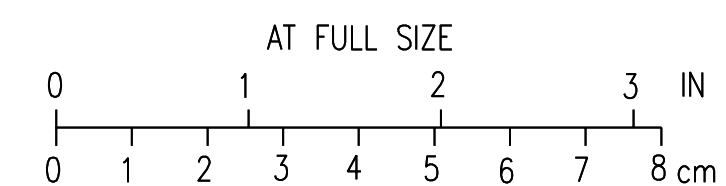
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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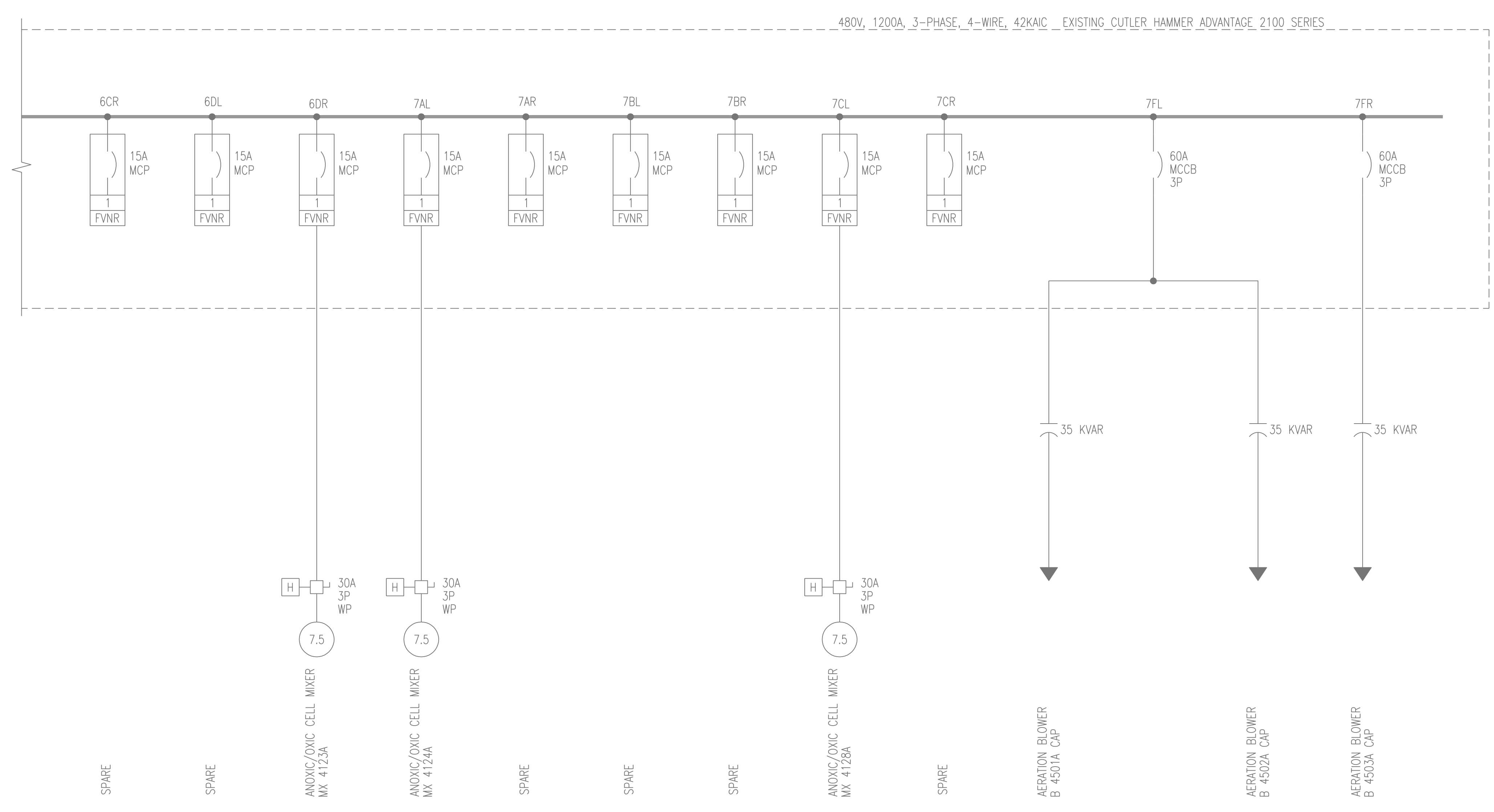
ELECTRICAL ONE-LINE DIAGRAMS
MCC-B1 DEMOLITION
BLOWER BUILDING - SHEET 1

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED
UNLESS NOTED OTHERWISE

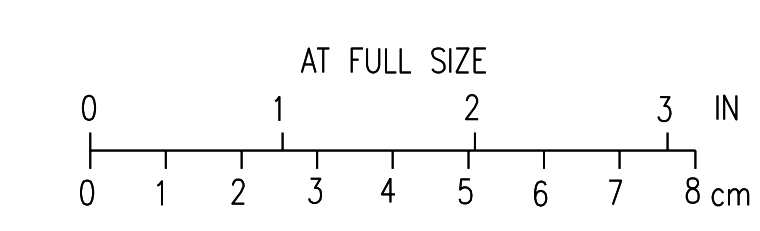


MCC-B1 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	6	7	
	INCOMING SERVICE & MAIN CIRCUIT BREAKER	METERING	SPACE	MX 4111A SPARE	MX 4112A SPARE	MX 4118A SPARE	MX 4124A SPARE	A
		AERATION BLOWER B 4501A	AERATION BLOWER B 4502A	AERATION BLOWER B 4503A	MX 4113A SPARE	MX 4121A SPARE	SPARE	B
					MX 4114A SPARE	MX 4122A SPARE	MX 4128A SPARE	C
					SPARE	SPARE	MX 4123A	D
								E
								F

MCC-B1 ELEVATION

ANOXIC CELL MIXER (TYP)
CAPACITORS FOR B 4501A AND B 4502A
CAPACITOR FOR B 4503A



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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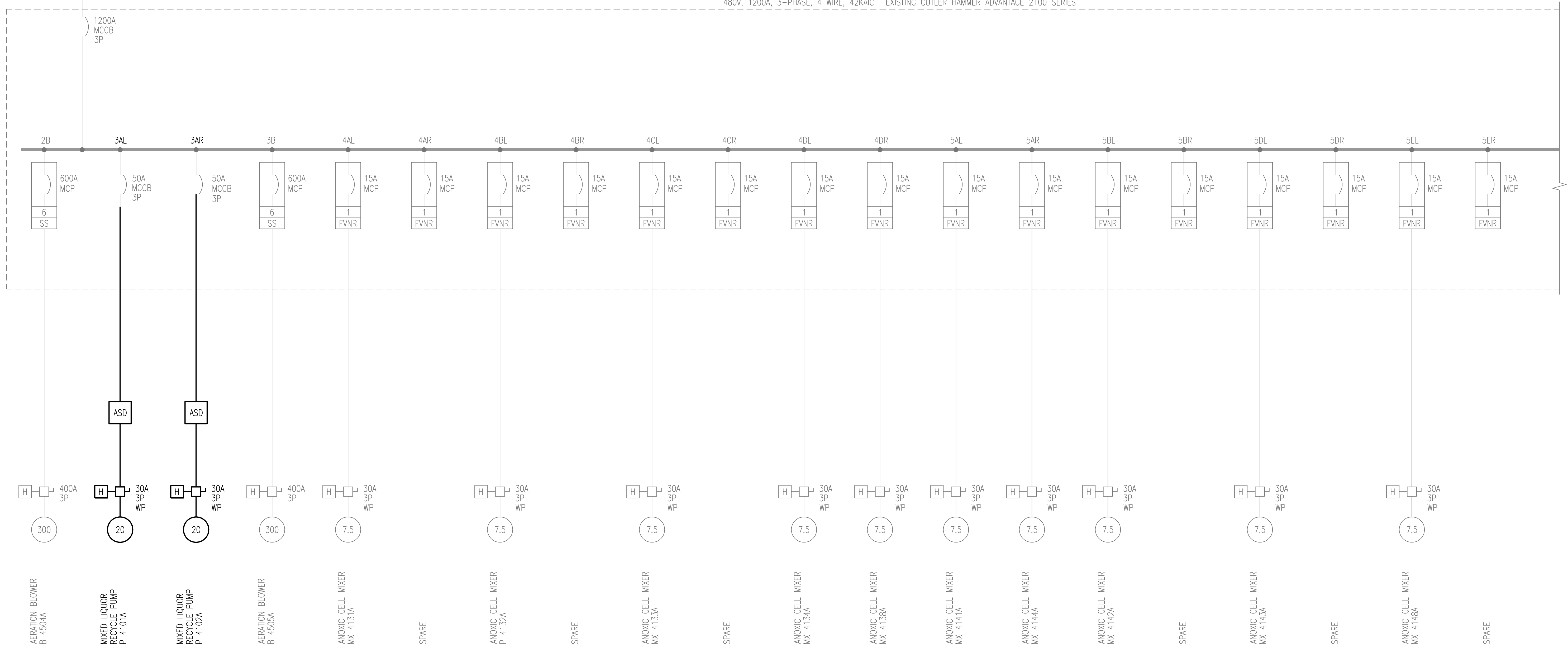
**ELECTRICAL ONE-LINE DIAGRAMS
MCC-B1 DEMOLITION
BLOWER BUILDING - SHEET 2**

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	2
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		

CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED
UNLESS NOTED OTHERWISE

480V, 1200A, 3-PHASE, 4 WIRE, 42KAIC EXISTING CUTLER HAMMER ADVANTAGE 2100 SERIES



MCC-B2 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	6	7		
INCOMING SERVICE & MAIN CIRCUIT BREAKER	METERING	ML RECYCLE PUMP P-4101A	ML RECYCLE PUMP P-4101A	MIXER P-4131A	SPARE	MIXER MX4141A	MIXER MX4144A	AERATION BASIN 480V PANEL	SPACE
		AERATION BLOWER B 4504A	AERATION BLOWER B 4505A	MIXER MX4132A	SPARE	MIXER MX4142A	SPARE	SPACE	SPACE
				MIXER MX4133A	SPARE	MIXER MX4143A	SPARE	PANEL IL	SPACE
				MIXER MX4134A	MIXER MX4138A	MIXER MX4148A	SPARE	SPACE	SPACE

MCC-B2 ELEVATION

- NOTES:**
- SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
 - ALL MOTOR CONTROL CENTER MCCB, MCP, AND STARTERS TO BE REMOVED, TO BE RETURNED TO OWNER IF NOT REUSED.
 - ALL BOLD ITEMS TO BE REMOVED. SEE ONE-LINE DIAGRAM REQUIREMENTS ON DRAWING E20 AND E21.
 - MCC-B2 IS LOCATED IN THE BLOWER BUILDING AS SHOWN ON DRAWING E420.

CAP FOR BLOWER B 4504A AND B 4505A

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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225 Iowa Avenue, Muscatine, Iowa 52761-3764
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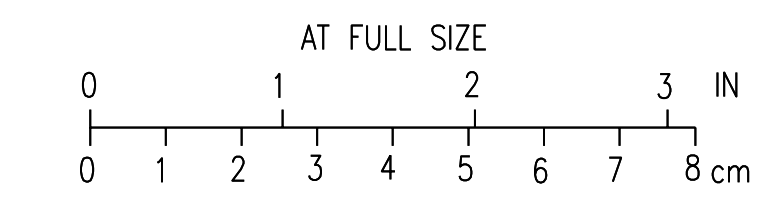
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-B2 DEMOLITION
BLOWER BUILDING - SHEET 1**

DESIGNED MB SCHULZ
DRAWN M. GRAVES
CHECKED DL MORITZ
APPROVED JD COGAN
DATE DECEMBER 2, 2011

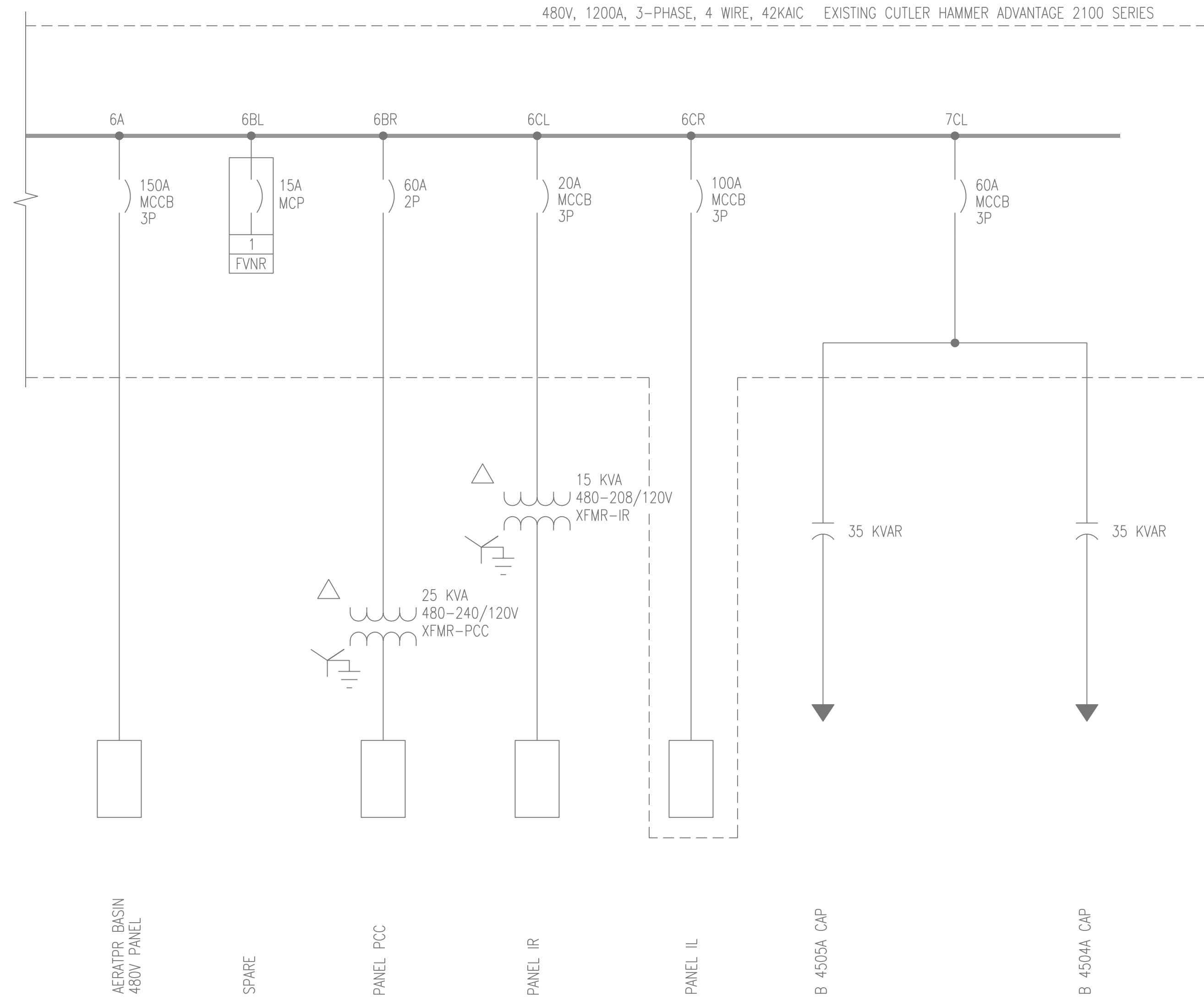
SCALE: NONE
NO. 22800

REV. 2

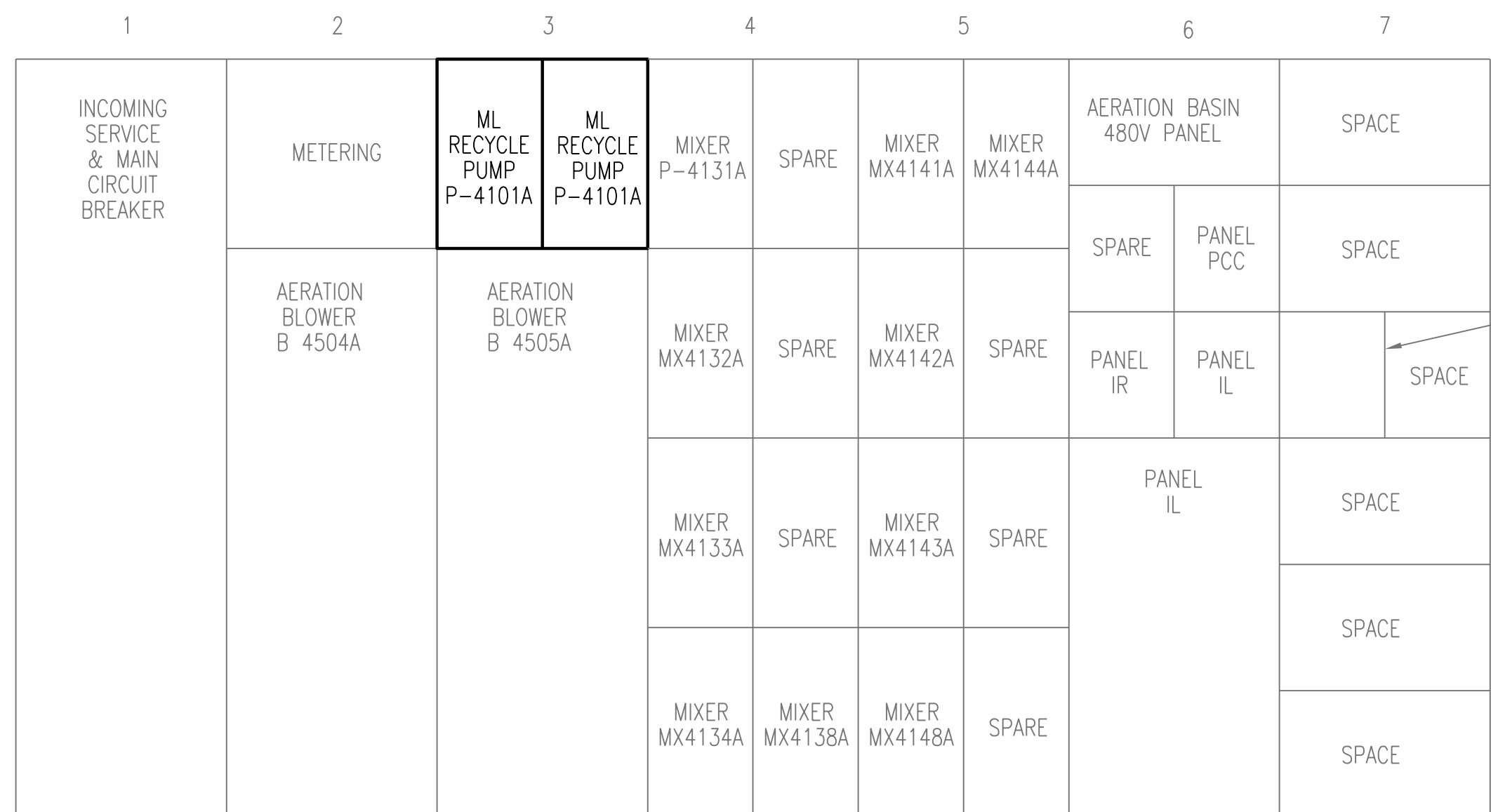


CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED
UNLESS NOTED OTHERWISE

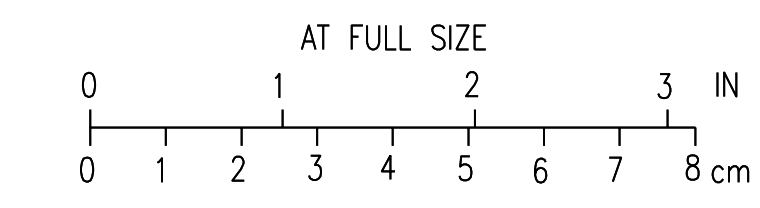


MCC-B2 ELECTRICAL ONE-LINE DIAGRAM



CAP FOR BLOWER B 4504A AND B 4505A

MCC-B2 ELEVATION



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

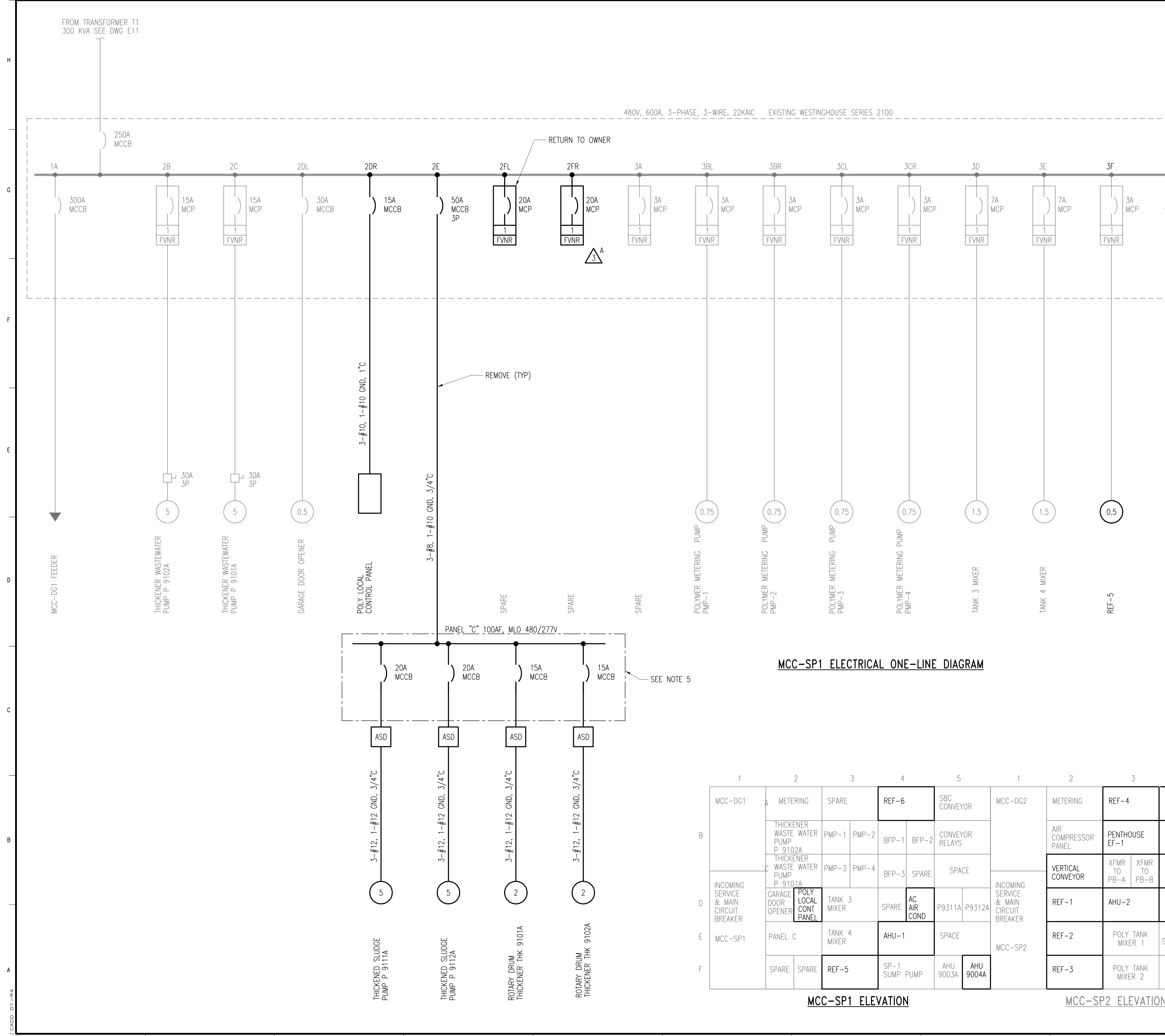
ELECTRICAL ONE-LINE DIAGRAMS
 MCC-B2 DEMOLITION
 BLOWER BUILDING - SHEET 2

DESIGNED	MB SCHULZ	SCALE:	NONE	REV.
DRAWN	M. GRAVES	NO.	22800	
CHECKED	DL MORITZ			
APPROVED	JD COGAN			
APPROVED				
DATE	DECEMBER 2, 2011			

D21 2

CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



NOTES:

1. SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
2. ALL MOTOR CONTROL CENTER MCCB, MCP, AND STARTERS TO BE REMOVED, TO BE RETURNED TO OWNER IF NOT REUSED.
3. ALL BOLD ITEMS TO BE REMOVED. SEE ONE-LINE DIAGRAM REQUIREMENTS ON DRAWING E22 AND E23.
4. MCC-SP1 IS LOCATED IN THE SLUDGE PROCESSING FACILITY AS SHOWN ON DRAWING E901.
5. REMOVE PANEL C AND ASSOCIATED ASD'S. RELOCATE ASD'S AND PROVIDE NEW PANEL "C" IN NEW ELECTRICAL ROOM. SEE DRAWING E901.

3^A DELETE SPARE STARTER IN SPACE 2FR ON MCC-SP1.

	1	2	3	4	5	1	2	3	4
MCC-DG1	METERING	SPARE	REF-6	SBC CONVEYOR		MCC-DG2	METERING	REF-4	SPARE
	THICKENER WASTE WATER PUMP P 9102A	PMP-1	PMP-2	BFP-1	BFP-2	CONVEYOR RELAYS	AIR COMPRESSOR PANEL	PENTHOUSE EF-1	SPARE
	THICKENER WASTE WATER PUMP P 9101A	PMP-3	PMP-4	BFP-3	SPARE	SPACE	VERTICAL CONVEYOR	XFMR TO PB-A	XFMR TO PB-B
INCOMING SERVICE & MAIN CIRCUIT BREAKER	GARAGE DOOR OPENER	POLY LOCAL CONT PANEL	TANK 3 MIXER	SPARE	AC AIR COND	P9311A	P9312A	MAU 9001A	F 9207A
MCC-SP1	PANEL C	TANK 4 MIXER	AHU-1	SPACE				REF-1	AHU-2
	SPARE	SPARE	REF-5	SP-1 SUMP PUMP	AHU 9003A	AHU 9004A		REF-2	POLY TANK MIXER 1
								REF-3	POLY TANK MIXER 2
									SPACE

MCC-SP1 ELEVATION

MCC-SP2 ELEVATION



4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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ELECTRICAL ONE-LINE DIAGRAMS
MCC-SP1 DEMOLITION
SLUDGE PROCESSING - SHEET 1

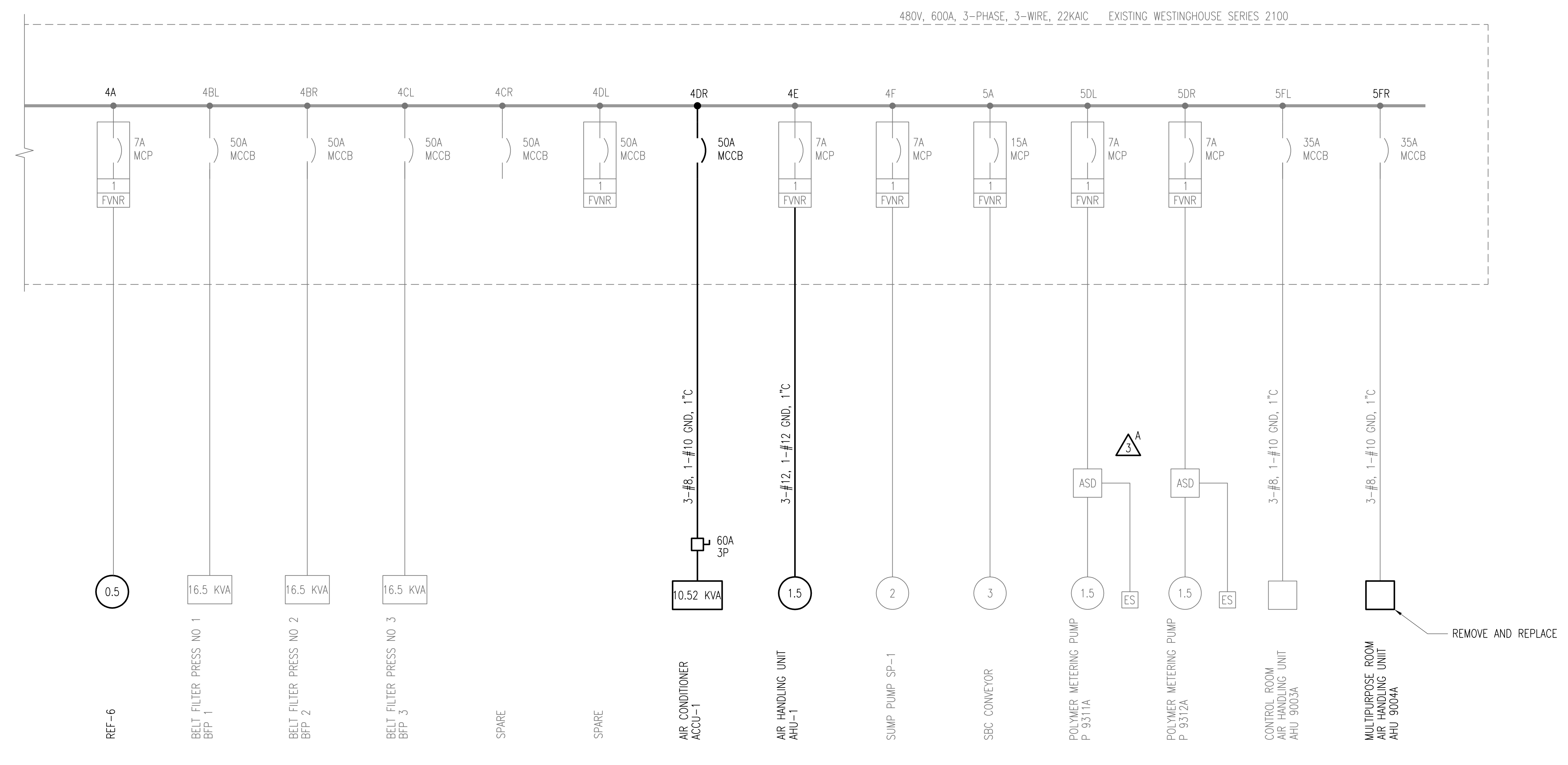
DESIGNED MB SCHULZ	SCALE: NONE
DRAWN D.WILGES	NO. 22800
CHECKED DL MORITZ	REV.
APPROVED JD COGAN	
APPROVED	
DATE DECEMBER 2, 2011	

D22 4

CADD: D1-R4

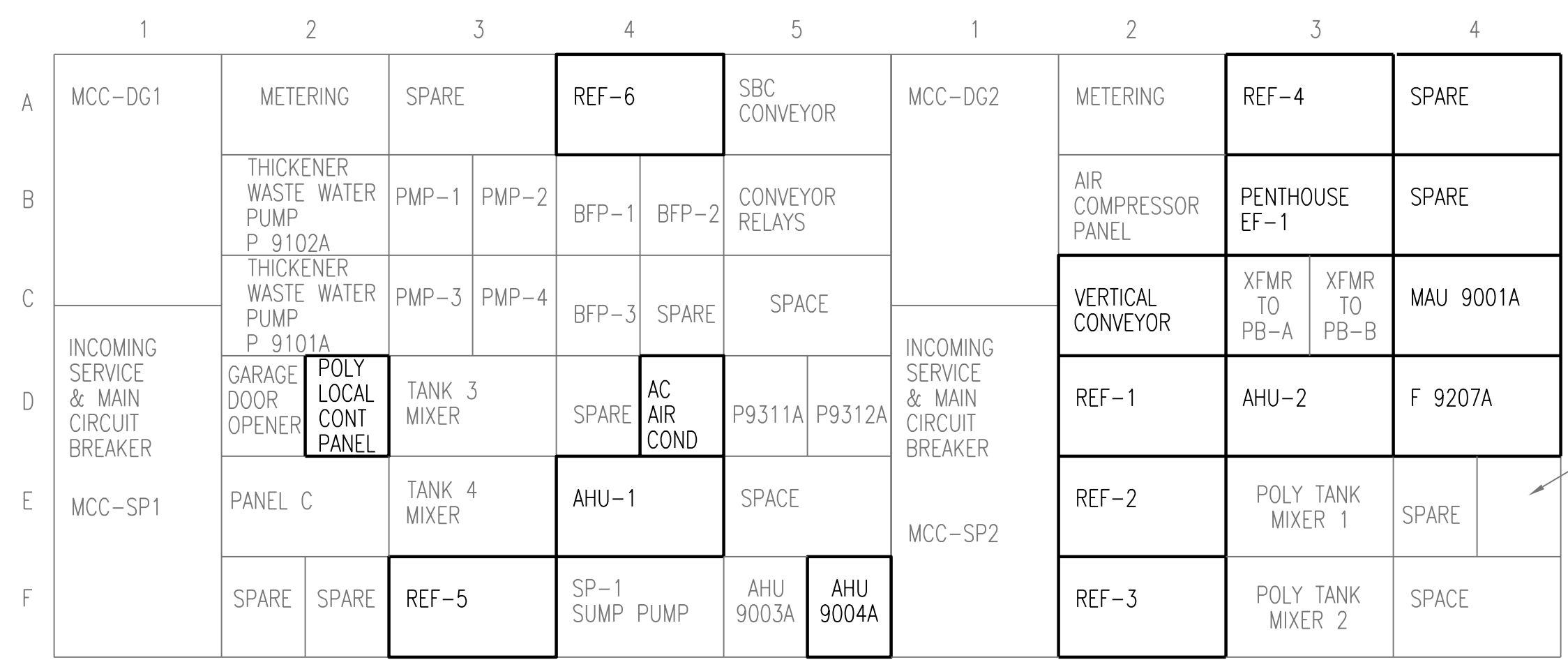
BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE

480V, 600A, 3-PHASE, 3-WIRE, 22KAIC EXISTING WESTINGHOUSE SERIES 2100



MCC-SP1 ELECTRICAL ONE-LINE DIAGRAM

3^A ADD AN EXISTING E-STOP TO EXISTING POLYMER METERING PUMPS P9311A AND P9312A.



MCC-SP1 ELEVATION

MCC-SP2 ELEVATION

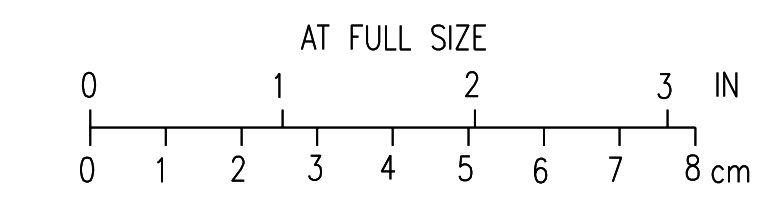
4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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**ELECTRICAL ONE-LINE DIAGRAMS
 MCC-SP1 DEMOLITION
 SLUDGE PROCESSING - SHEET 2**

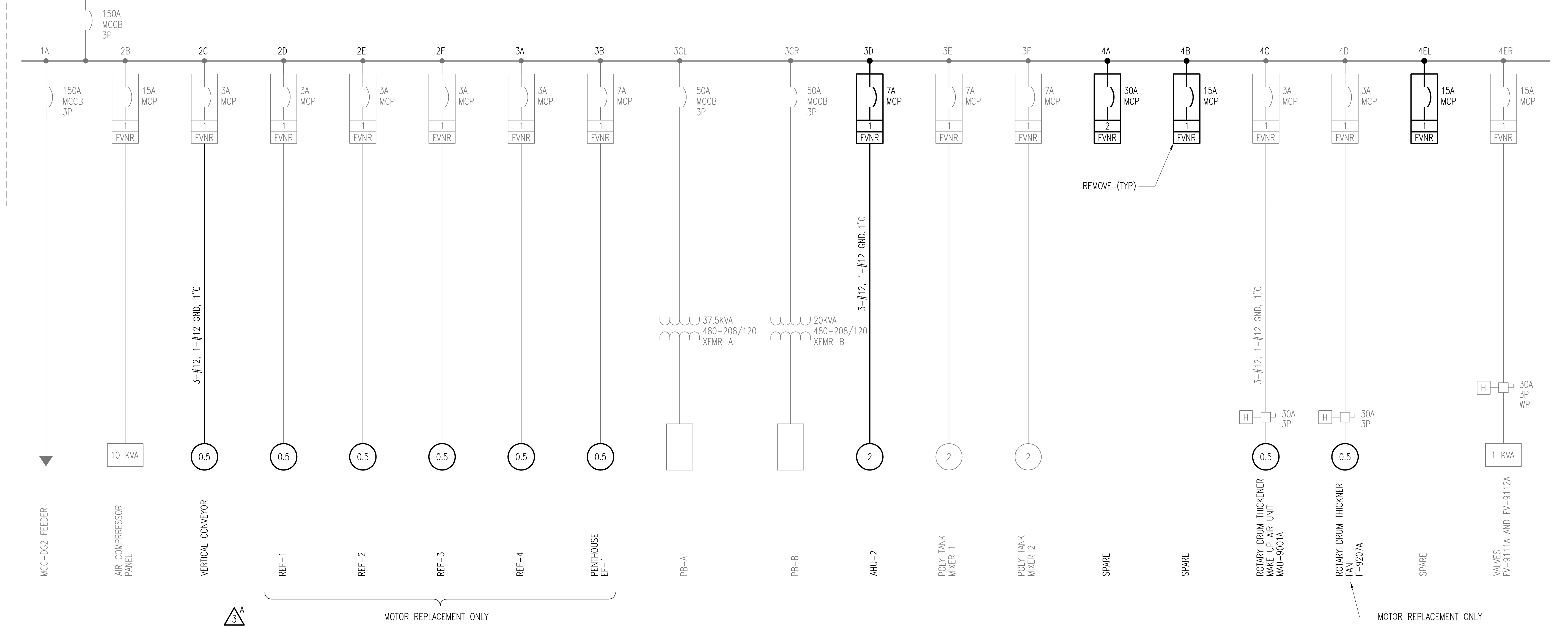
DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE

480V, 600A, 3-PHASE, 3-WIRE, 22KAIC EXISTING WESTINGHOUSE SERIES 2100



MCC-SP2 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	1	2	3	4	
A	MCC-DG1	METERING	SPARE	REF-6	SBC CONVEYOR	MCC-DG2	METERING	REF-4	SPARE	A
B		THICKENER WASTE WATER PUMP P. 9102A	PMP-1 PMP-2	BFP-1 BFP-2	CONVEYOR RELAYS		AIR COMPRESSOR PANEL	PENTHOUSE EF-1	SPARE	B
C		THICKENER WASTE WATER PUMP P. 9101A	PMP-3 PMP-4	BFP-3 SPARE	SPACE		VERTICAL CONVEYOR	XFMR TO PB-A XFMR TO PB-B	MAU 9001A	C
D	INCOMING SERVICE & MAIN CIRCUIT BREAKER	GARAGE DOOR OPENER	POLY LOCAL CONT PANEL	TANK 3 MIXER	SPARE	AC AIR COND	REF-1	AHU-2	F 9207A	D
E	MCC-SP1	PANEL C	TANK 4 MIXER	AHU-1	SPACE		REF-2	POLY TANK MIXER 1	SPARE	E
F		SPARE	SPARE	REF-5	SP-1 SUMP PUMP	AHU 9003A AHU 9004A	REF-3	POLY TANK MIXER 2	SPACE	F

MCC-SP1 ELEVATION

MCC-SP2 ELEVATION

NOTES:

1. SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
2. ALL MOTOR CONTROL CENTER MCCB, MCP, AND STARTERS TO BE REMOVED, TO BE RETURNED TO OWNER IF NOT REUSED.
3. ALL BOLD ITEMS TO BE REMOVED. SEE ONE-LINE DIAGRAM REQUIREMENTS ON DRAWING E24.
4. MCC-SP2 IS LOCATED IN THE SLUDGE PROCESSING FACILITY AS SHOWN ON DRAWING E901.

3 DELETE BRACKET FOR MOTOR REPLACEMENT ONLY AT MCC-SP2 SECTION 2C. STOP BRACKET AT SECTION 2D.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-SP2 DEMOLITION
SLUDGE PROCESSING FACILITY

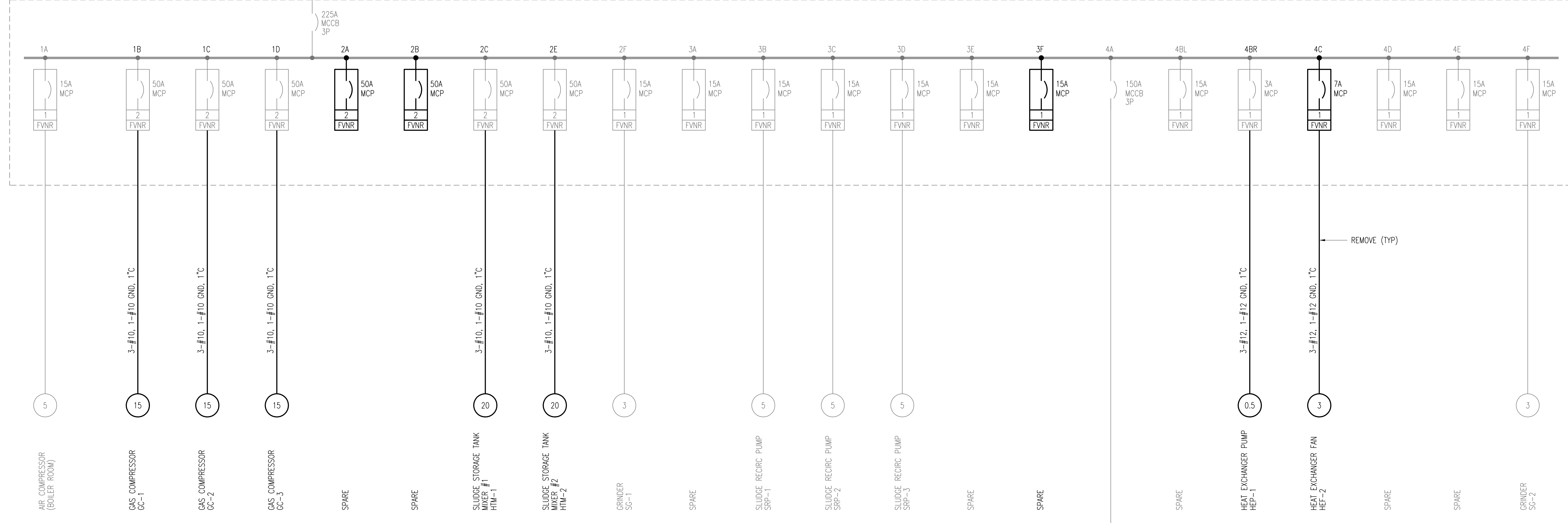
DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	M. GRAVES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4

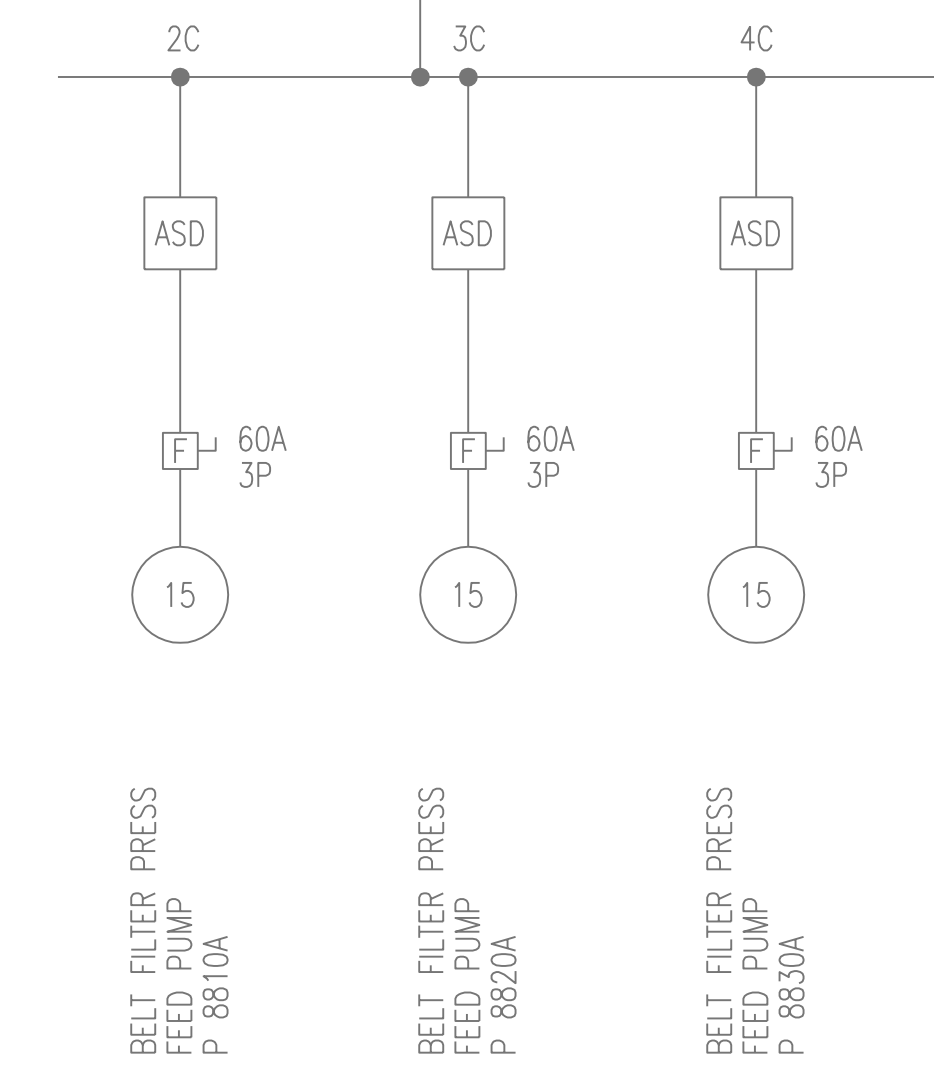
BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE

480V, 600A, 3-PHASE, 3-WIRE, 22KAIC EXISTING WESTINGHOUSE SERIES 2100

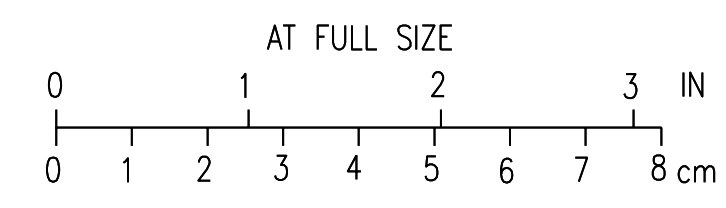


MCC-DG1 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4
A	AIR COMPRESSOR (BOILER ROOM)	FUTURE GAS COMPRESSOR GC-4	SPARE	MCC-DG VFD'S FOR FEED PUMPS
B	GAS COMPRESSOR GC-1	FUTURE GAS COMPRESSOR GC-5	SLUDGE RECIRC PUMP SRP-1	SPARE HEAT EXCH HEP-1
C	GAS COMPRESSOR GC-2	SLUDGE STORAGE TANK MIXER HTM-1	SLUDGE RECIRC PUMP SRP-2	HEAT EXCHANGER FAN HEF-2
D	GAS COMPRESSOR GC-3	BLANK	SLUDGE RECIRC PUMP SRP-3	SPARE SIZE 1 FVNR
E	MAIN BREAKER DG-1	SLUDGE STORAGE TANK MIXER HTM-2	FUTURE SLUDGE RECIRC PUMP SRP-4	SPARE SIZE 1 FVNR
F		SLUDGE GRINDER SG-1	SPARE	SLUDGE GRINDER SG-2



- NOTES:**
- SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
 - ALL MOTOR CONTROL CENTER MCCB, MCP, AND STARTERS TO BE REMOVED, TO BE RETURNED TO OWNER IF NOT REUSED.
 - ALL BOLD ITEMS TO BE REMOVED. SEE ONE-LINE DIAGRAM REQUIREMENTS ON DRAWING E25.
 - MCC-DG1 IS LOCATED IN THE DIGESTER BUILDING AS SHOWN ON DRAWING E802.



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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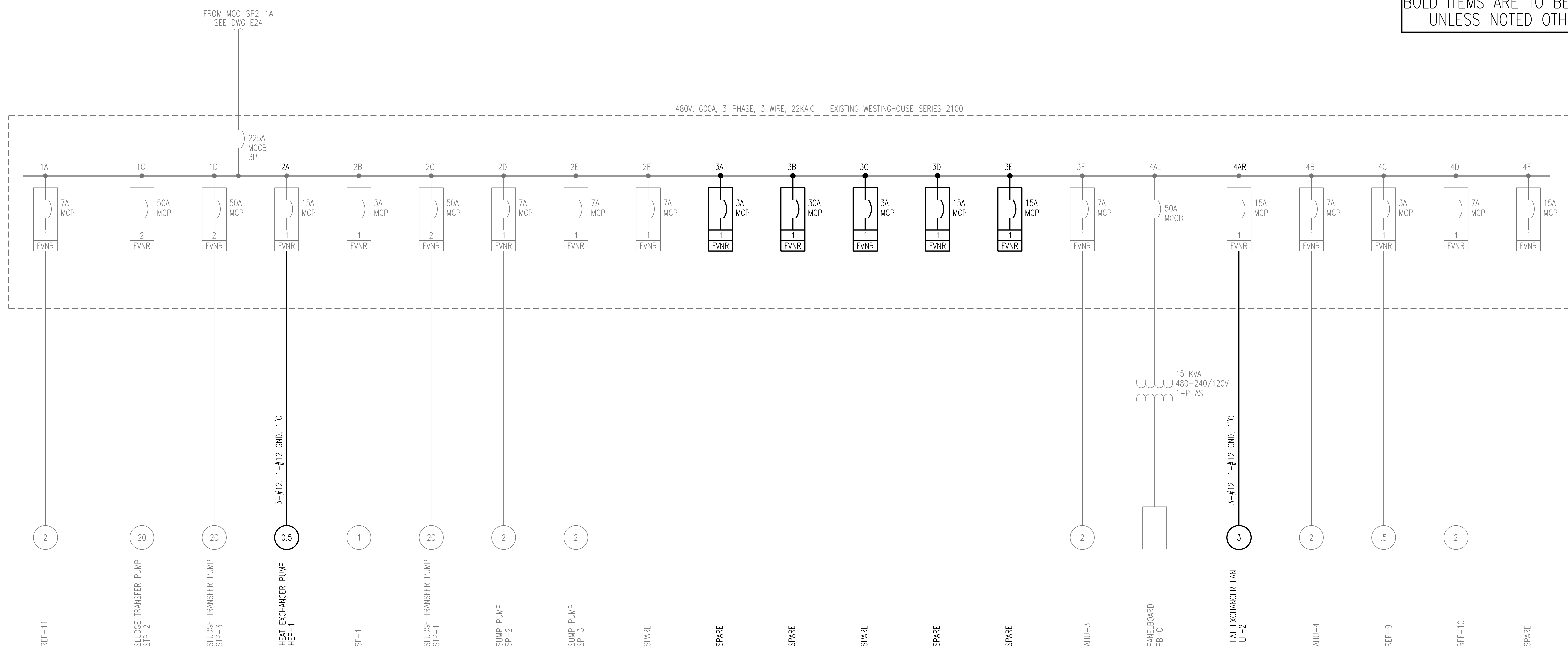
**ELECTRICAL ONE-LINE DIAGRAMS
MCC-DG1 DEMOLITION
DIGESTER BUILDING**

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		

D25 3

CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



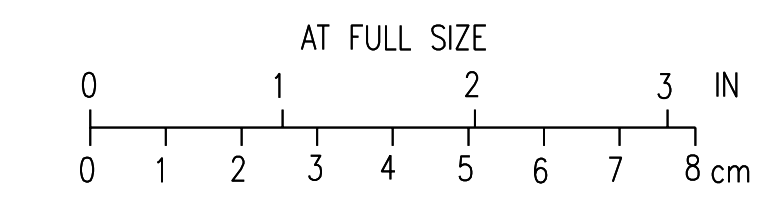
MCC-DG2 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	
BLANK	HEAT EXCHANGER PUMP HEP-1	SPARE SIZE 1 FVNR 3 AMP	TRANSF T-C/PANEL PB-C	HEAT EXCH HEP-2	A
ROOF EXHAUST FAN REF-11	SUPPLY FAN SF-1	SPARE SIZE 1 FVNR 30 AMP	AIR HANDLING UNIT AHU-4		B
SLUDGE TRANSFER PUMP STP-2	SLUDGE TRANSFER PUMP STP-1	SPARE SIZE 1 FVNR 3 AMP	ROOF EXHAUST FAN REF-9		C
SLUDGE TRANSFER PUMP STP-3	SUMP PUMP SP-2	SPARE	ROOF EXHAUST FAN REF-10		D
MAIN BREAKER DG-2	SUMP PUMP SP-3	SPARE			E
	SPARE SIZE 1 FVNR 7 AMP	AIR HANDLING UNIT AHU-3	SPARE SIZE 1 FVNR		F

MCC-DG2 ELEVATION

NOTES:

1. SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
2. ALL MOTOR CONTROL CENTER MCCB, MCP, AND STARTERS TO BE REMOVED, TO BE RETURNED TO OWNER IF NOT REUSED.
3. ALL BOLD ITEMS TO BE REMOVED. SEE ONE-LINE DIAGRAM REQUIREMENTS ON DRAWING E26.
4. MCC-DG2 IS LOCATED IN THE DIGESTER BUILDING AS SHOWN ON DRAWING E802.



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-DG2 DEMOLITION
DIGESTER BUILDING**

DESIGNED MB SCHULZ
DRAWN D.WILGES
CHECKED DL MORITZ
APPROVED JD COGAN
DATE DECEMBER 2, 2011

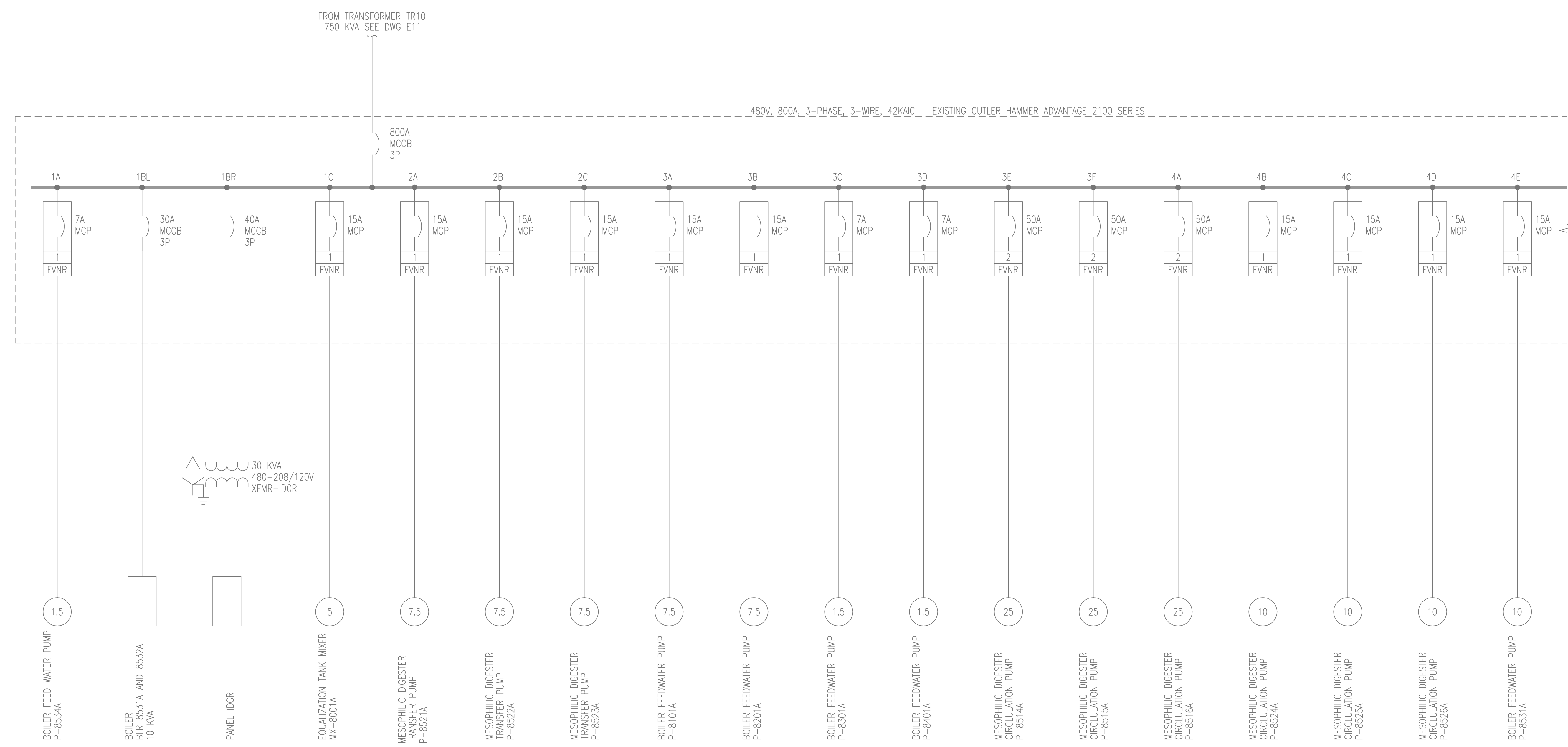
SCALE: NONE
NO. 22800

D26

REV. 2

CADD D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE



MCC-DG3 ELECTRICAL ONE-LINE DIAGRAM

- NOTES:**
- SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
 - ALL MOTOR CONTROL CENTER MCCB, MCP, AND STARTERS TO BE REMOVED, TO BE RETURNED TO OWNER IF NOT REUSED.
 - ALL BOLD ITEMS TO BE REMOVED. SEE ONE-LINE DIAGRAM REQUIREMENTS ON DRAWING E28.
 - MCC-DG3 IS LOCATED IN THE DIGESTER BUILDING AS SHOWN ON DRAWING E802.

	1	2	3	4	5	6	7	8	
	BOILER FEEDWATER PUMP P-8534A	MESOPHILIC DIGESTER TRANSFER PUMP P-8521A	BOILER FEEDWATER PUMP P-8101A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8516A	BOILER FEEDWATER PUMP P-8533A	DIGESTER FEEDPUMP P-8501A	DIGESTER FEEDPUMP P-8502A	BREAKER PANEL IDGP	SPACE
	BOILER BLR-8531A BOILER BLR-8532A	PANEL IDGR	MESOPHILIC DIGESTER TRANSFER PUMP P-8522A	BOILER FEEDWATER PUMP P-8201A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8524A	SLUDGE GRINDER GDR-8501A	SLUDGE GRINDER GDR-8511A	MESOPHILIC DIGESTER TRANSFER PUMP P-8512A	SPACE
	EQUALIZATION TANK MIXER MX-8001A	MESOPHILIC DIGESTER TRANSFER PUMP P-8523A	BOILER FEEDWATER PUMP P-8301A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8525A	SLUDGE GRINDER GDR-8512A	SLUDGE GRINDER GDR-8513A	THERMOPHILIC DIGESTER TRANSFER PUMP P-8513A	MESOPHILIC DIGESTER MIXER MX-8302A	SPACE
	SPACE	SPACE	BOILER FEEDWATER PUMP P-8401A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8526A	SLUDGE GRINDER GDR-8514A	SLUDGE GRINDER GDR-8521A	MESOPHILIC DIGESTER MIXER MX-8401A	MESOPHILIC DIGESTER MIXER MX-8402A	DIGESTER BOILER FAN BOOSTER B-8532A
	MAIN BREAKER	SPACE	MESOPHILIC DIGESTER CIRCULATION PUMP P-8514A	BOILER FEEDWATER PUMP P-8531A	SLUDGE GRINDER GDR-8522A	SLUDGE GRINDER GDR-8523A	SPARE	THERMOPHILIC DIGESTER MIXER MX-8101A	DIGESTER BOILER FAN BOOSTER B-8531A
		SPACE	MESOPHILIC DIGESTER CIRCULATION PUMP P-8515A	BOILER FEEDWATER PUMP P-8532A	SLUDGE GRINDER GDR-8524A	SPARE	SPARE	SPACE	SPACE

MCC-DG3 ELEVATION



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

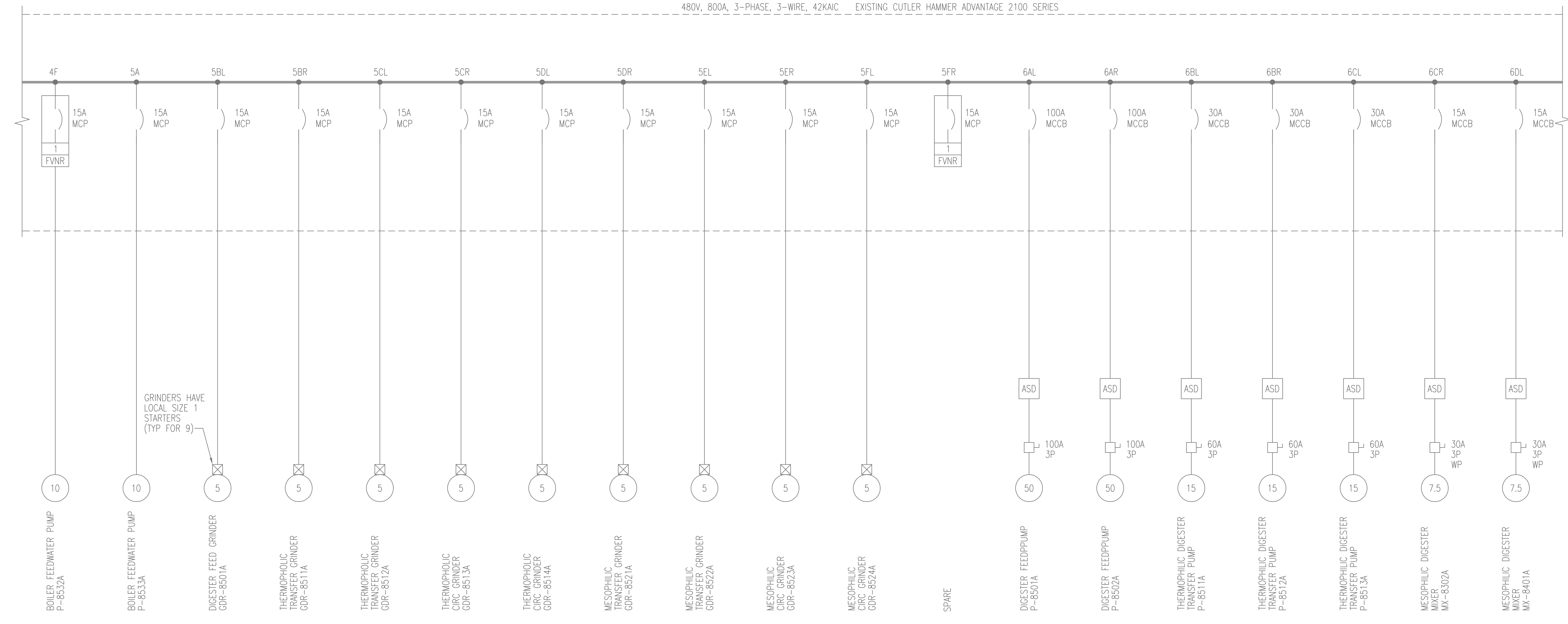
**ELECTRICAL ONE-LINE DIAGRAMS
MCC-DG3 DEMOLITION
DIGESTER BUILDING - SHEET 1**

DESIGNED DL MORITZ	SCALE: NONE	
DRAWN D. WILGES	NO. 22800	REV.
CHECKED DL MORITZ		
APPROVED JD COGAN		
APPROVED	D27	2
DATE DECEMBER 2, 2011		

CADD: D1-R4

BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE

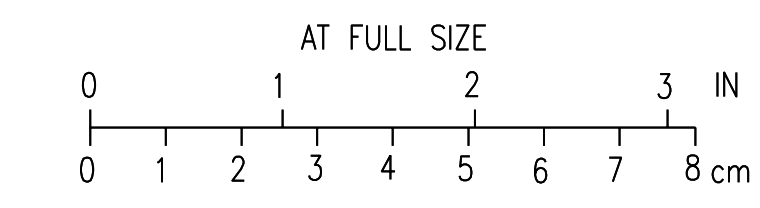
480V, 800A, 3-PHASE, 3-WIRE, 42KAIC EXISTING CUTLER HAMMER ADVANTAGE 2100 SERIES



MCC-DG3 ELECTRICAL ONE-LINE DIAGRAM

1	2	3	4	5	6	7	8
BOILER FEEDWATER PUMP P-8534A	MESOPHILIC DIGESTER TRANSFER PUMP P-8521A	BOILER FEEDWATER PUMP P-8101A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8516A	BOILER FEEDWATER PUMP P-8533A	DIGESTER FEEDPUMP P-8501A	DIGESTER FEEDPUMP P-8502A	BREAKER PANEL IDGP
BOILER BLR-8531A BOILER BLR-8532A	MESOPHILIC DIGESTER TRANSFER PUMP P-8522A	BOILER FEEDWATER PUMP P-8201A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8524A	SLUDGE GRINDER GDR-8501A SLUDGE GRINDER GDR-8511A	SLUDGE GRINDER GDR-8512A SLUDGE GRINDER GDR-8513A	SLUDGE GRINDER GDR-8514A SLUDGE GRINDER GDR-8521A	SLUDGE GRINDER GDR-8522A SLUDGE GRINDER GDR-8523A
EQUALIZATION TANK MIXER MX-8001A	MESOPHILIC DIGESTER TRANSFER PUMP P-8523A	BOILER FEEDWATER PUMP P-8301A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8525A	SLUDGE GRINDER GDR-8514A SLUDGE GRINDER GDR-8521A	SLUDGE GRINDER GDR-8512A SLUDGE GRINDER GDR-8513A	SLUDGE GRINDER GDR-8514A SLUDGE GRINDER GDR-8521A	SLUDGE GRINDER GDR-8522A SLUDGE GRINDER GDR-8523A
SPACE	SPACE	BOILER FEEDWATER PUMP P-8401A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8526A	SLUDGE GRINDER GDR-8514A SLUDGE GRINDER GDR-8521A	SLUDGE GRINDER GDR-8512A SLUDGE GRINDER GDR-8513A	SLUDGE GRINDER GDR-8514A SLUDGE GRINDER GDR-8521A	SLUDGE GRINDER GDR-8522A SLUDGE GRINDER GDR-8523A
MAIN BREAKER	SPACE	MESOPHILIC DIGESTER CIRCULATION PUMP P-8514A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8515A	SLUDGE GRINDER GDR-8514A SLUDGE GRINDER GDR-8521A	SLUDGE GRINDER GDR-8512A SLUDGE GRINDER GDR-8513A	SLUDGE GRINDER GDR-8514A SLUDGE GRINDER GDR-8521A	SLUDGE GRINDER GDR-8522A SLUDGE GRINDER GDR-8523A
	SPACE	MESOPHILIC DIGESTER CIRCULATION PUMP P-8515A	BOILER FEEDWATER PUMP P-8532A	SLUDGE GRINDER GDR-8514A SLUDGE GRINDER GDR-8521A	SLUDGE GRINDER GDR-8512A SLUDGE GRINDER GDR-8513A	SLUDGE GRINDER GDR-8514A SLUDGE GRINDER GDR-8521A	SLUDGE GRINDER GDR-8522A SLUDGE GRINDER GDR-8523A

MCC-DG3 ELEVATION



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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**ELECTRICAL ONE-LINE DIAGRAMS
MCC-DG3 DEMOLITION
DIGESTER BUILDING - SHEET 2**

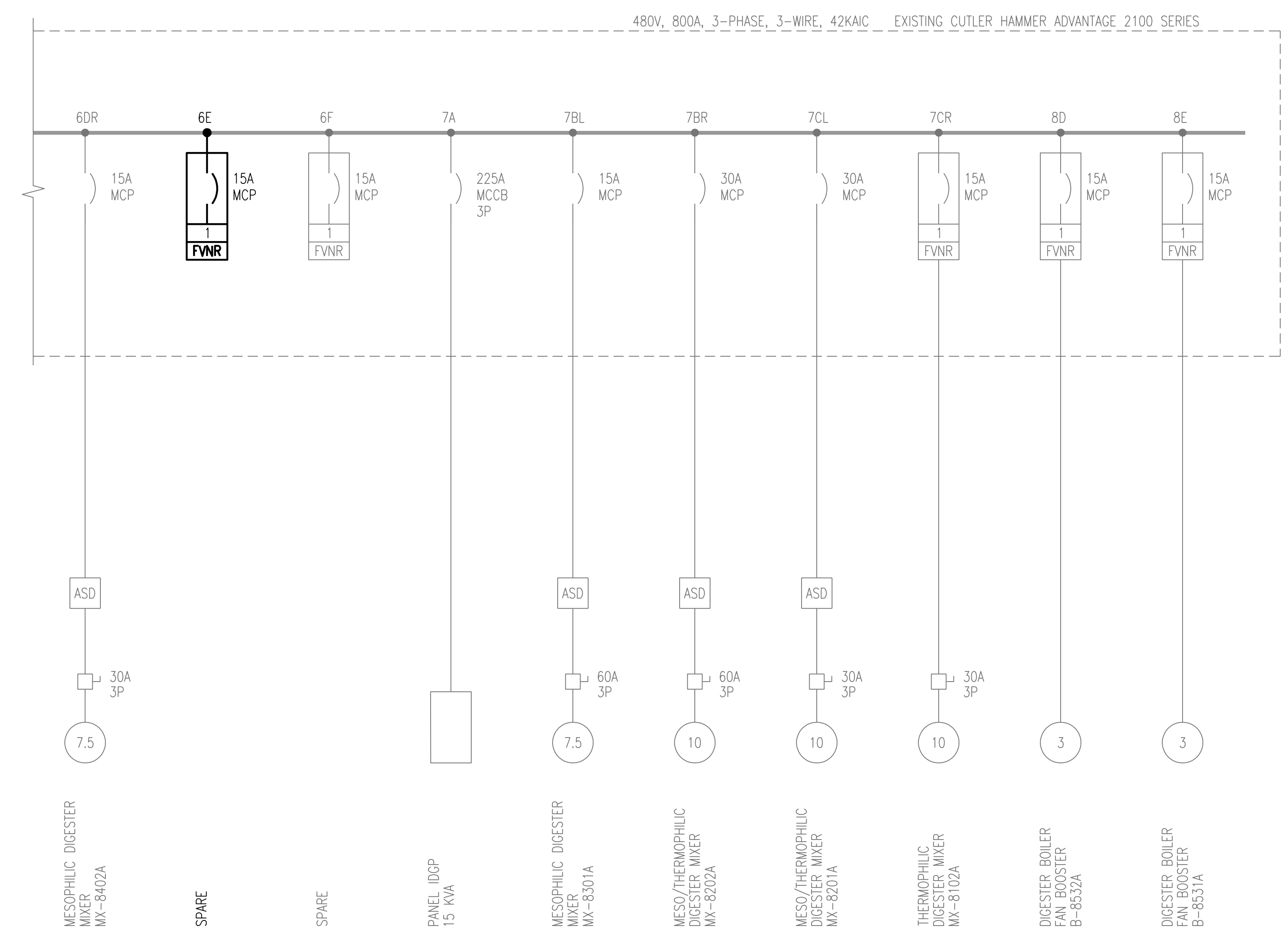
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DRAWN D.WILGES	NO. 22800
CHECKED DL MORITZ	REV.
APPROVED JD COGAN	D28
APPROVED	2
DATE DECEMBER 2, 2011	

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CADD: D1-R4

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BOLD ITEMS ARE TO BE REMOVED UNLESS NOTED OTHERWISE

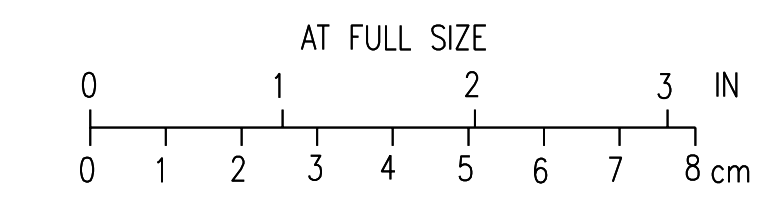
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MCC-DG3 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	6	7	8	
	BOILER FEEDWATER PUMP P-8534A	MESOPHILIC DIGESTER TRANSFER PUMP P-8521A	BOILER FEEDWATER PUMP P-8101A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8516A	BOILER FEEDWATER PUMP P-8533A	DIGESTER FEEDPUMP P-8501A	DIGESTER FEEDPUMP P-8502A	BREAKER PANEL IDGP	SPACE
	BOILER BLR-8531A BOILER BLR-8532A	PANEL IDGR MESOPHILIC DIGESTER TRANSFER PUMP P-8522A	BOILER FEEDWATER PUMP P-8201A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8524A	SLUDGE GRINDER GDR-8501A SLUDGE GRINDER GDR-8511A	THERMOPHILIC DIGESTER TRANSFER PUMP P-8511A THERMOPHILIC DIGESTER TRANSFER PUMP P-8512A	THERMOPHILIC DIGESTER TRANSFER PUMP P-8513A MESOPHILIC DIGESTER MIXER MX-8302A	MESOPHILIC DIGESTER MIXER MX-8301A MESO/THERMOPHILIC DIGESTER MIXER MX-8201A MESOPHILIC DIGESTER MIXER MX-8102A	SPACE
	EQUALIZATION TANK MIXER MX-8001A	MESOPHILIC DIGESTER TRANSFER PUMP P-8523A	BOILER FEEDWATER PUMP P-8301A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8525A	SLUDGE GRINDER GDR-8512A SLUDGE GRINDER GDR-8513A	THERMOPHILIC DIGESTER TRANSFER PUMP P-8513A MESOPHILIC DIGESTER MIXER MX-8401A	MESOPHILIC DIGESTER MIXER MX-8402A	DIGESTER BOILER FAN BOOSTER B-8532A	
	SPACE	SPACE	BOILER FEEDWATER PUMP P-8401A	MESOPHILIC DIGESTER CIRCULATION PUMP P-8526A	SLUDGE GRINDER GDR-8514A SLUDGE GRINDER GDR-8521A	MESOPHILIC DIGESTER MIXER MX-8501A MESOPHILIC DIGESTER MIXER MX-8402A	THERMOPHILIC DIGESTER MIXER MX-8101A	DIGESTER BOILER FAN BOOSTER B-8531A	
	MAIN BREAKER	SPACE	MESOPHILIC DIGESTER CIRCULATION PUMP P-8514A	BOILER FEEDWATER PUMP P-8531A	SLUDGE GRINDER GDR-8522A SLUDGE GRINDER GDR-8523A	SPARE	SPACE	SPACE	
		SPACE	MESOPHILIC DIGESTER CIRCULATION PUMP P-8515A	BOILER FEEDWATER PUMP P-8532A	SLUDGE GRINDER GDR-8524A	SPARE	SPACE	SPACE	

MCC-DG3 ELEVATION



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-DG3 DEMOLITION
DIGESTER BUILDING - SHEET 3**

DESIGNED DL MORITZ	SCALE: NONE	REV. 3
DRAWN D. WILGES	NO. 22800	
CHECKED DL MORITZ		
APPROVED JD COGAN		
APPROVED		
DATE DECEMBER 2, 2011		

SEE ITC #14 SHEET E12-A

SEE ITC #10 SHEET E12-A

480V, 800A, 3-PHASE, 4-WIRE, 22KAIC EXISTING WESTINGHOUSE, SERIES 2100

FROM TRANSFORMER T6 1000 KVA SEE DWG E11
FROM TRANSFORMER T5 1000 KVA SEE DWG E11

MICRO PROCESSOR BASED METERING PACKAGE WITH COMMUNICATION MODULE (PROVIDE IN ALL EXST AND NEW MCC'S IN MAIN INCOMING DEPARTMENT WITH READOUT ON COVER AND 4-20MA TO PLC)

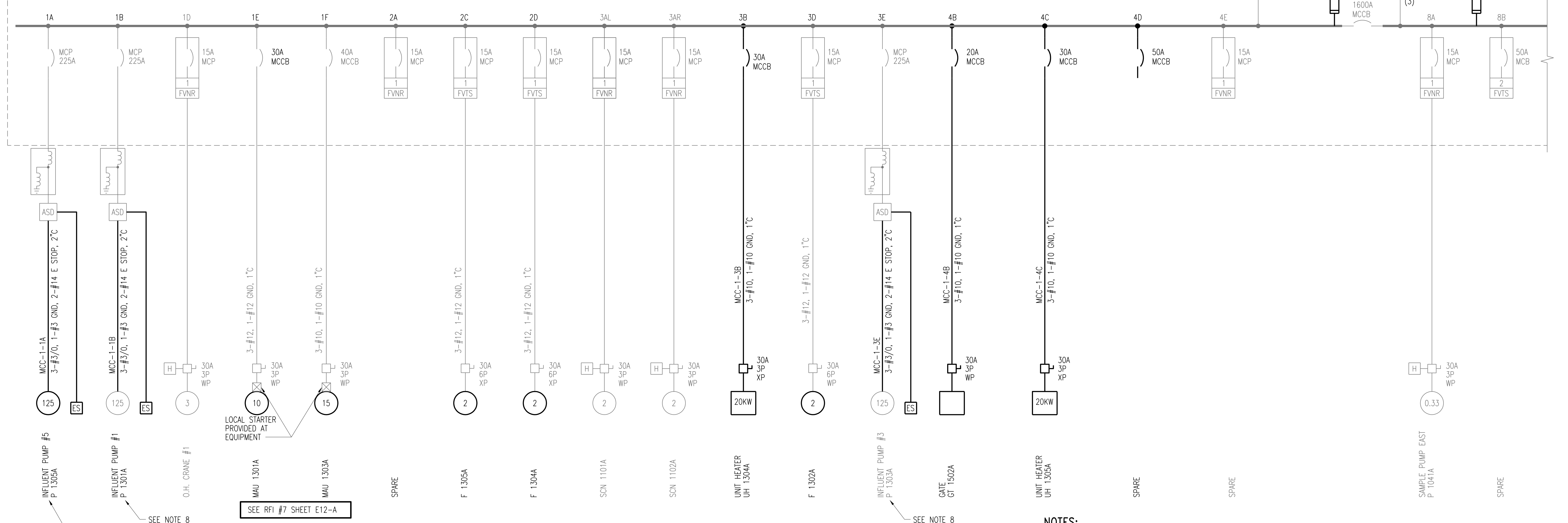
MICRO PROCESSOR BASED METERING PACKAGE WITH COMMUNICATION MODULE (PROVIDE IN ALL EXST AND NEW MCC'S IN MAIN INCOMING DEPARTMENT WITH READOUT ON COVER AND 4-20MA TO PLC)

1600A MCCB

4-20mA CURRENT SIGNAL TO SIPS PLC (0-1600 AMP)

1600A MCCB

4-20mA CURRENT SIGNAL TO SIPS PLC (0-1600 AMP)



SEE RFI #7 SHEET E12-A

SEE NOTE 8

MOTOR REPLACEMENT. PROVIDE NEW TERMINATIONS AS REQUIRED

NOTES:

- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
- SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
- CONFIRM ALL SCREENED MCCB, MCP, AND STARTERS THAT REMAINED FROM DEMOLITION FROM ASSOCIATED D SERIES OF DRAWINGS TO BE REUSED FOR NEW LOADS SHOWN AT SAME MCC BUCKET LOCATION.
- ALL BOLD ITEMS SHOWN ARE NEW LOADS. WHERE ONLY A MOTOR IS BOLD IT REPRESENTS A NEW MOTOR TO BE REPLACED IN THE SAME LOCATION. CONTRACTOR TO CONFIRM EXISTING CONDUCTING LENGTH IS ADEQUATE FOR TERMINATIONS TO NEW MOTOR.
- WHERE BOLD ITEMS ARE SHOWN AND THE LINE IS BOLD BACK TO THE MCC CONTROL DEVICE, PROVIDE NEW CONDUCTING AND RACEWAY AS SHOWN. WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL TO THE LOAD AT A DISCONNECT PROVIDE 3 #12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
- MCC-1 IS LOCATED IN THE INFLUENT PUMP STATION AS SHOWN ON DRAWING E101 AND E102.
- ALL CONDUITS FOR MCC-1 CIRCUITS TO BE IN PVC COATED RGS CONDUIT.
- IPS PUMP P1301A, P1302A, AND P1303A PROVIDE NEW WIRING REQUIREMENTS FROM ASD TO PUMP. REROUTE ALONG WALLS TO PUMPS.
- E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

MCC-1 ELECTRICAL ONE-LINE DIAGRAM

1	2	3	4	5	6	7	8	9	10	11	12	13
INFLUENT PUMP #5 P1305A	SPARE	SCN 1101A	SCN 1102A	RTU RELAYS	ELECTRICALLY OPERATED MAIN - 1600A CIRCUIT BREAKER T6	ELECTRICALLY OPERATED TIE - 800A CIRCUIT BREAKER	ELECTRICALLY OPERATED MAIN - 1600A CIRCUIT BREAKER T5	SAMPLE PUMP EAST P 1041A	SAMPLE PUMP WEST P 1042A	F 1310A	SPACE (SEE NOTE 1) (TYP)	INFLUENT PUMP #2 P1302A
INFLUENT PUMP #1 P1301A	POWER MONITOR	UH 1304A	GATE GT 1502A	UH 1305A	QS-J1100A1	QS-J1100A2	SPARE	F 1303A	QS-Q1303A2	F 1308A	45 KVA XFMR	INFLUENT PUMP #4 P1304A
O.H. CRANE #1	QS-Q1305A2	F 1302A	SPARE	QS-Q1302A2	MAU 1302A	EQUALIZATION GATES	JIB CRANE	SPARE	SPARE	SPARE	SPARE	INFLUENT PUMP #6 P1306A
MAU 1301A	QS-Q1304A2	INFLUENT PUMP #3 P1303A	SPARE	SPARE	CLAM SHELL CRANE #1	F 1301A	SPARE	SPARE	SPARE	PANEL A MAIN CIRCUIT BREAKER	SPARE	SPARE
MAU 1303A	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE

MCC-1 ELEVATION



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAM
MCC-1 DIAGRAM AND ELEVATION
INFLUENT PUMPING STATION - SHEET 1**

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D.WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		

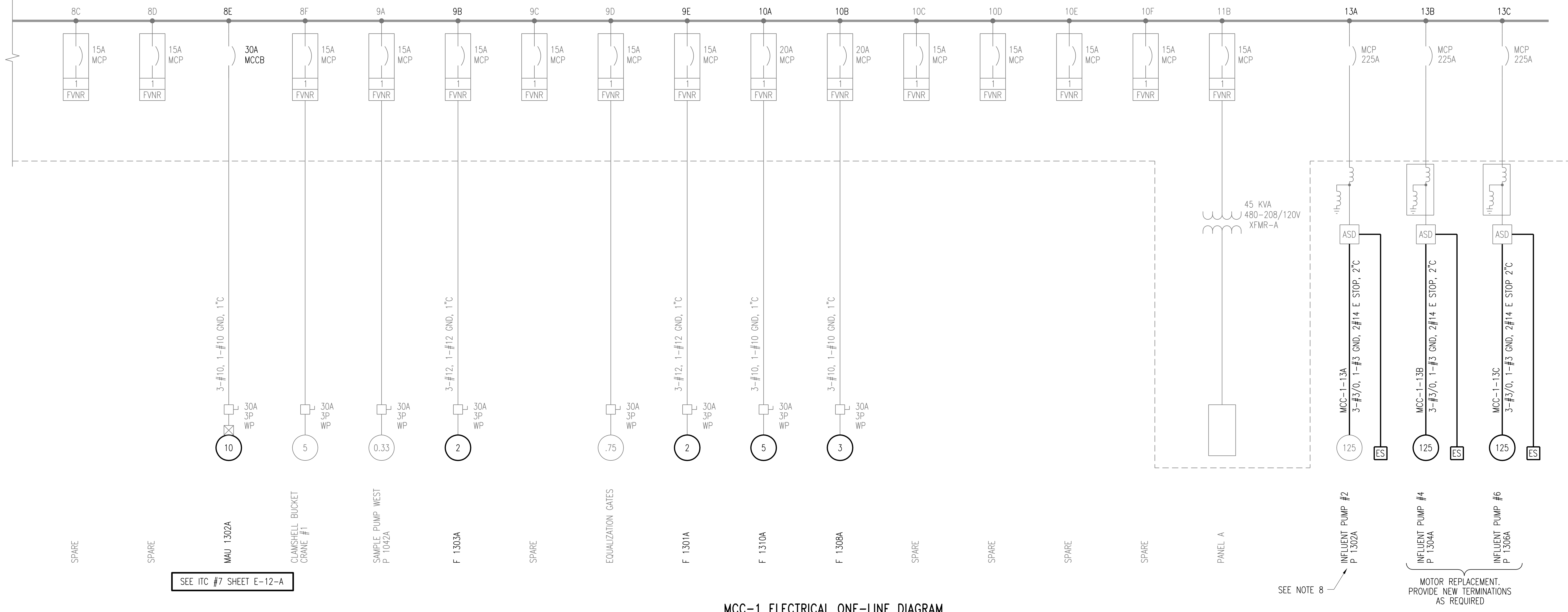
E12 3

CADD: D1-144

SEE ITC #14 SHEET E-12-A

SEE ITC #10

480V, 800A, 3-PHASE, 4-WIRE, 22KAIC EXISTING WESTINGHOUSE SERIES 2100



MCC-1 ELECTRICAL ONE-LINE DIAGRAM

SEE ITC #7 SHEET E-12-A

	1	2	3	4	5	6	7	8	9	10	11	12	13	
A	INFLUENT PUMP #5 P1305A	SPARE	SCN 1101A	SCN 1102A	RTU RELAYS	ELECTRICALLY OPERATED MAIN - 1600A CIRCUIT BREAKER T6	ELECTRICALLY OPERATED TIE - 800A CIRCUIT BREAKER	ELECTRICALLY OPERATED MAIN - 1600A CIRCUIT BREAKER T5	SAMPLE PUMP EAST P. 1041A	SAMPLE PUMP WEST P. 1042A	F 1310A	SPACE	SPACE (SEE NOTE 1) (TYP)	INFLUENT PUMP #2 P1302A
B	INFLUENT PUMP #1 P1301A	POWER MONITOR	UH 1304A	GATE GT 1502A	UH 1305A	QS-J1100A1	QS-J1100A2	SPARE	F 1303A	F 1308A	45 KVA XFMR	PANEL "A" 225A	INFLUENT PUMP #4 P1304A	
C	O.H. CRANE #1	QS-Q1305A2	F 1302A	SPARE	QS-Q1100A1	QS-J1100A2	SPARE	SPARE	QS-Q1303A2	QS-Q1308A2	SPARE	SPARE	INFLUENT PUMP #6 P1306A	
D	MAU 1301A	F 1304A	QS-Q1302A2	SPARE	MAU 1302A	EQUALIZATION GATES	SPARE	SPARE	MAU 1302A	SPARE	SPARE	PANEL A MAIN CIRCUIT BREAKER	SPACE	
E	MAU 1303A	SPACE	INFLUENT PUMP #3 P1303A	SPARE	CLAM SHELL CRANE #1	F 1301A	SPARE	SPARE	SPARE	SPARE	SPARE	SPACE	SPACE	

MCC-1 ELEVATION

SEE NOTE 8

MOTOR REPLACEMENT. PROVIDE NEW TERMINATIONS AS REQUIRED

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISE ELEVATION	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

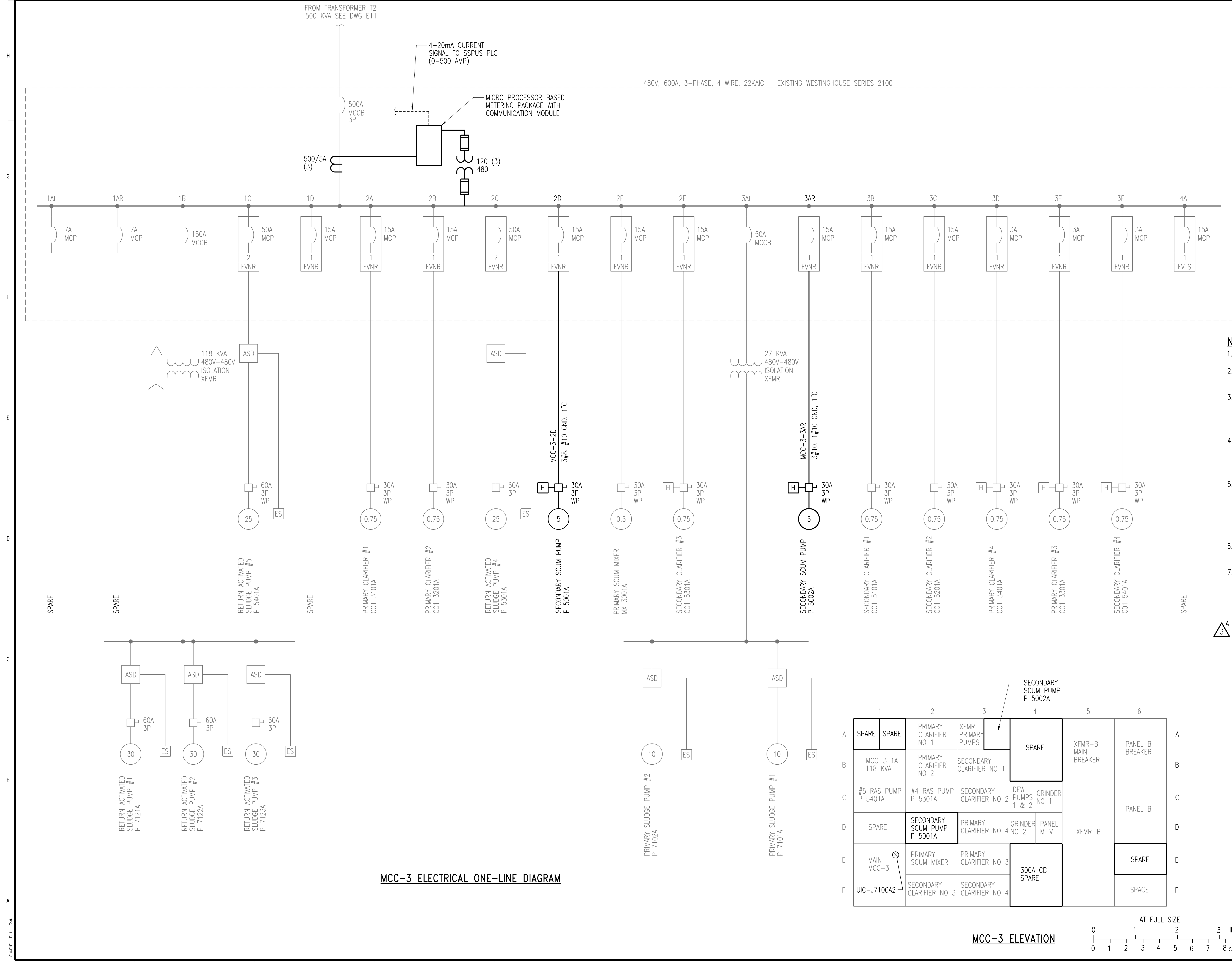
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-1 DIAGRAM AND ELEVATIONS
INFLUENT PUMPING STATION - SHEET 2

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	3
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4



MCC-3 ELECTRICAL ONE-LINE DIAGRAM

- NOTES:**
- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
 - SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
 - CONFIRM ALL SCREENED MCCB, MCP, AND STARTERS THAT REMAINED FROM DEMOLITION FROM ASSOCIATED D SERIES OF DRAWINGS TO BE REUSED FOR NEW LOADS SHOWN AT SAME MCC BUCKET LOCATION.
 - ALL BOLD ITEMS SHOWN ARE NEW LOADS. WHERE ONLY A MOTOR IS BOLD IT REPRESENTS A NEW MOTOR TO BE REPLACED IN THE SAME LOCATION. CONTRACTOR TO CONFIRM EXISTING CONDUCTORING LENGTH IS ADEQUATE FOR TERMINATIONS TO NEW MOTOR.
 - WHERE BOLD ITEMS ARE SHOWN AND THE LINE IS BOLD BACK TO THE MCC CONTROL DEVICE, PROVIDE NEW CONDUCTORING AND RACEWAY AS SHOWN. WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL TO THE LOAD AT A DISCONNECT PROVIDE 3 #12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
 - MCC-3 IS LOCATED IN THE SLUDGE PUMPING BUILDING AS SHOWN ON DRAWING E701 AND E702.
 - E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

3 DELETE MCC-3 SECTIONS 2D AND 3AR WIRING AND LOADS P5001A AND P5002A, TO BECOME SPARES.

	1	2	3	4	5	6
A	SPARE	SPARE	XFMR PRIMARY PUMPS	SPARE	XFMR-B MAIN BREAKER	PANEL B BREAKER
B	MCC-3 1A 118 KVA	PRIMARY CLARIFIER NO 2	SECONDARY CLARIFIER NO 1			
C	#5 RAS PUMP P 5401A	#4 RAS PUMP P 5301A	SECONDARY CLARIFIER NO 2	DEW PUMPS 1 & 2 GRINDER NO 1		
D	SPARE	SECONDARY SCUM PUMP P 5001A	PRIMARY CLARIFIER NO 4	GRINDER NO 2	PANEL M-V	PANEL B
E	MAIN MCC-3	PRIMARY SCUM MIXER	PRIMARY CLARIFIER NO 3	300A CB SPARE		SPARE
F	UIC-J7100A2	SECONDARY CLARIFIER NO 3	SECONDARY CLARIFIER NO 4			SPACE

MCC-3 ELEVATION



4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

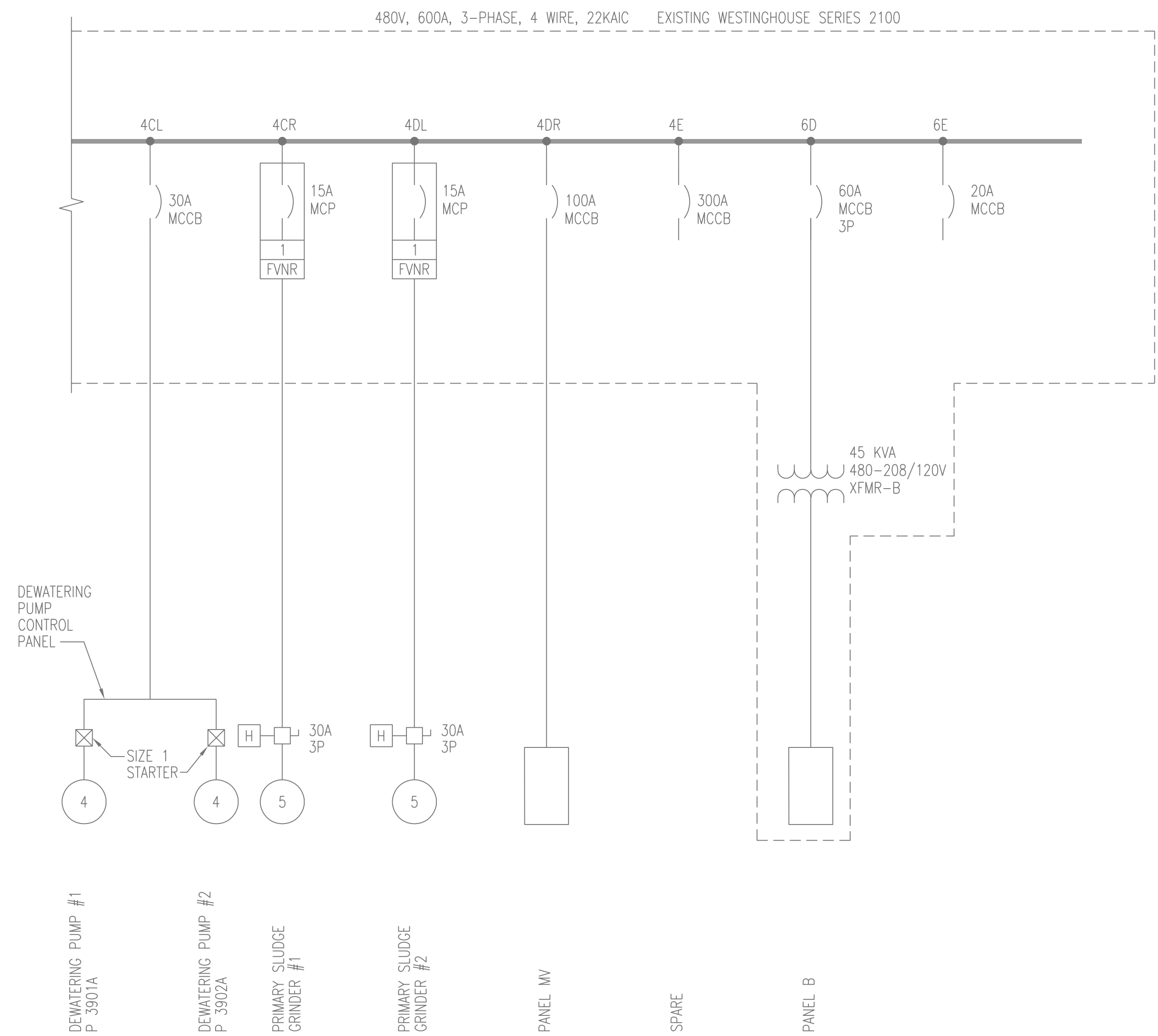
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-3 DIAGRAM AND ELEVATION
SLUDGE PUMPING BUILDING - SHEET 1**

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D.WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		

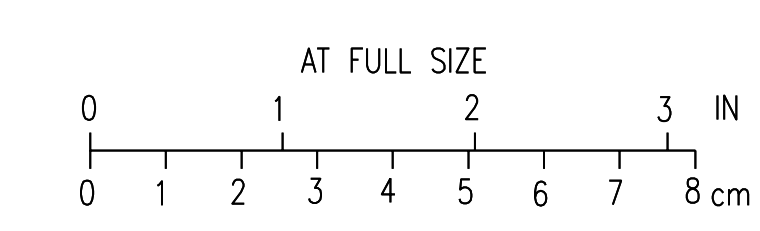
E14 4



MCC-3 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	6	
A	SPARE	SPARE	PRIMARY CLARIFIER NO 1	XFMR PRIMARY PUMPS	SPARE	EXHAUST FAN EF-7	
B	MCC-3 1A 118 KVA	PRIMARY CLARIFIER NO 2	SECONDARY CLARIFIER NO 1		XFMR-B MAIN BREAKER	PANEL B BREAKER	
C	#5 RAS PUMP P 5401A	#4 RAS PUMP P 5301A	SECONDARY CLARIFIER NO 2	DEW PUMPS NO 1 & 2	GRINDER NO 1		
D	SPARE	SECONDARY SCUM PUMP P 5001A	PRIMARY CLARIFIER NO 4	GRINDER NO 2	PANEL M-V	PANEL B	
E	MAIN MCC-3	PRIMARY SCUM MIXER	PRIMARY CLARIFIER NO 3		XFMR-B	V7113A/V7114A	
F		SECONDARY CLARIFIER NO 3	SECONDARY CLARIFIER NO 4	300A CB SPARE		SPACE	

MCC-3 ELEVATION



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

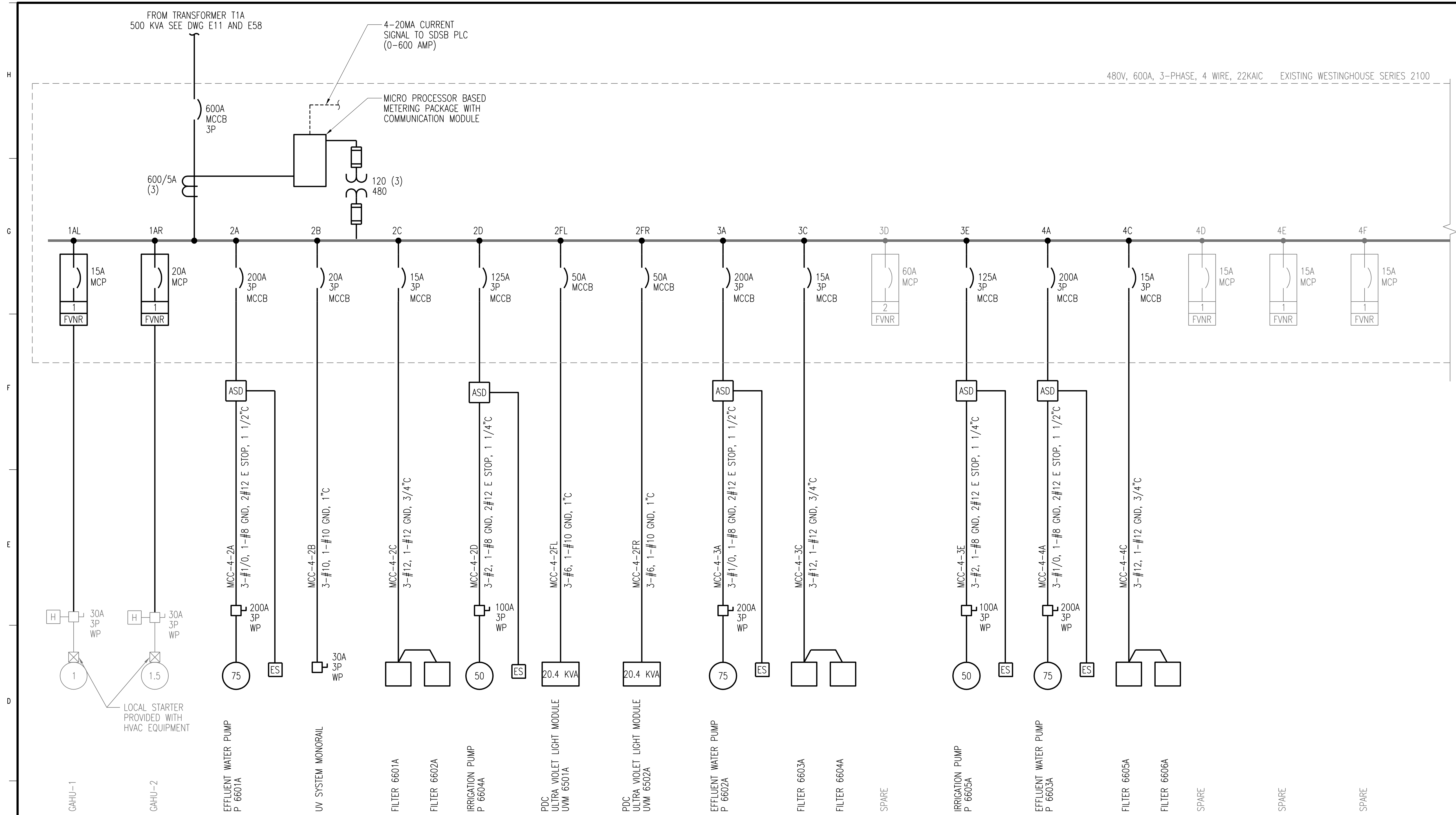
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 www.stanleyconsultants.com

CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-3 DIAGRAM AND ELEVATION
SLUDGE PUMPING BUILDING - SHEET 2

DESIGNED MB SCHULZ	SCALE: NONE
DRAWN D. WILGES	NO. 22800
CHECKED DL MORITZ	REV.
APPROVED JD COGAN	E15
APPROVED	2
DATE DECEMBER 2, 2011	

CADD: D1-R4



- NOTES:**
- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
 - SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
 - CONFIRM ALL SCREENED MCCB, MCP, AND STARTERS THAT REMAINED FROM DEMOLITION FROM ASSOCIATED D SERIES OF DRAWINGS TO BE REUSED FOR NEW LOADS SHOWN AT SAME MCC BUCKET LOCATION.
 - ALL BOLD ITEMS SHOWN ARE NEW LOADS. WHERE ONLY A MOTOR IS BOLD IT REPRESENTS A NEW MOTOR TO BE REPLACED IN THE SAME LOCATION. CONTRACTOR TO CONFIRM EXISTING CONDUCTING LENGTH IS ADEQUATE FOR TERMINATIONS TO NEW MOTOR.
 - WHERE BOLD ITEMS ARE SHOWN AND THE LINE IS BOLD BACK TO THE MCC CONTROL DEVICE, PROVIDE NEW CONDUCTING AND RACEWAY AS SHOWN. WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL TO THE LOAD AT A DISCONNECT PROVIDE 3 #12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
 - MCC-4 IS LOCATED IN THE CHLORINATION/DISINFECTION BUILDING AS SHOWN ON DRAWING E601 AND E610.
 - E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

MCC-4 ELECTRICAL ONE-LINE DIAGRAM

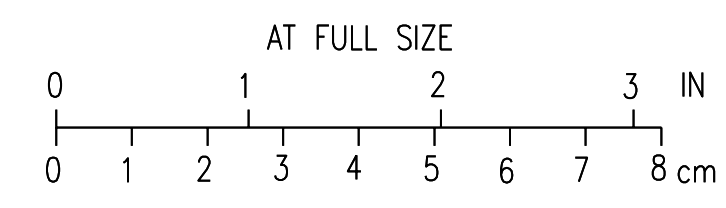
Δ CHANGE MAIN BREAKER SIZE AND BUS SIZE ON MCC-4 FROM "600A" TO READ:"1200A."

CHANGE CT SIZE FROM "600/5A" TO READ:"1200/5A."

CHANGE "4-20MA CURRENT SIGNAL TO SDSB PLC (0-600A)" TO READ:"4-20MA CURRENT SIGNAL TO SDSB PLC (0-1200A)."

	1	2	3	4	5	6	
	GAHU-1	GAHU-2	EFFLUENT WATER PUMP P 6601A	EFFLUENT WATER PUMP P 6602A	EFFLUENT WATER PUMP P 6603A	SPACE	UVM 6503A
							UVM 6504A
	RTU RELAY	UV MONORAIL	SPACE	SPACE	SPACE	MAIN GATE OPER	UVM HYDRAULIC CENTER
	INCOMING SERVICE AND MAIN CIRCUIT BREAKER	FILTERS FLT 6601A FLT 6602A	FILTERS FLT 6603A FLT 6604A	FILTERS FLT 6605A FLT 6606A	SPACE	SPACE	MIXED LIQUOR PUMP P 4460A
		SPACE	SPACE	SPACE	P 4440A P 4450A	SPACE	MIXED LIQUOR PUMP P 4470A
	UIC-J6100A	IRRIGATION PUMP P 6604A	IRRIGATION PUMP P 6605A	SPACE	GATES GT6504A GT6505A	SPACE	MB TO XFMR PANEL C
		UVM 6501A	UVM 6502A	SPACE	SPACE	SPACE	MB TO XFMR PANEL SH

MCC-4 ELEVATION



4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENTS	LJO	JLB	JLB	05-11-2012
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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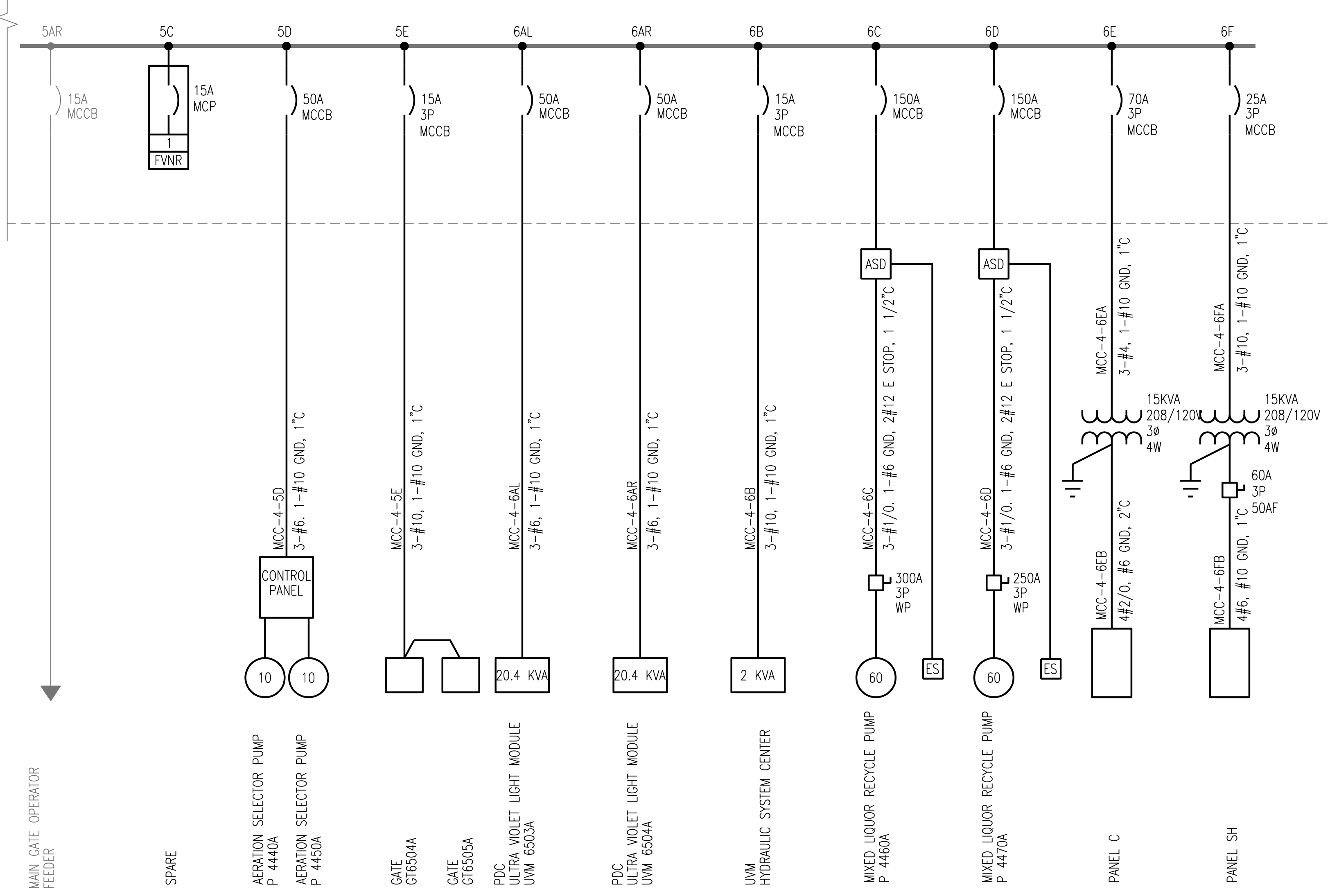
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-4 DIAGRAM AND ELEVATION OPTION A
DISINFECTION STORAGE BUILDING - SHEET 1

DESIGNED MB SCHULZ	SCALE: NONE	REV.
DRAWN M. GRAVES	NO. 22800	
CHECKED DL MORITZ		
APPROVED JD COGAN		
DATE DECEMBER 2, 2011	E16	4

CADD: D1-R4

480V, 600A, 3-PHASE, 4 WIRE, 22KAIC EXISTING WESTINGHOUSE SERIES 2100



NOTES:
 1. E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

2. CHANGE DISCONNECT SIZES ON MCC-4 SECTION 6C AT LOAD FROM "300A" TO READ:"100A."
 CHANGE DISCONNECT SIZES ON MCC-4 SECTION 6D AT LOAD FROM "250A" TO READ:"100A."

MCC-4 ELECTRICAL ONE-LINE DIAGRAM

SEE RFI #245 SHEET E16-A
 SEE ITC #09 SHEET P403-A, P600-A, E16C-A, I611-A, E404-A

GAHU-1	GAHU-2	EFFLUENT WATER PUMP P 6601A	EFFLUENT WATER PUMP P 6602A	EFFLUENT WATER PUMP P 6603A	SPACE	UVM 6503A	UVM 6504A
RTU RELAY	UV MONORAIL	SPACE	SPACE	SPACE	MAIN GATE OPER	UVM HYDRAULIC CENTER	
INCOMING SERVICE AND MAIN CIRCUIT BREAKER	FILTERS FLT 6601A FLT 6602A	FILTERS FLT 6603A FLT 6604A	FILTERS FLT 6605A FLT 6606A	SPACE	SPACE	MIXED LIQUOR PUMP P 4460A	
	SPACE	SPACE	SPACE	P 4440A P 4450A	SPACE	MIXED LIQUOR PUMP P 4470A	
	IRRIGATION PUMP P 6604A	IRRIGATION PUMP P 6605A	SPACE	GATES GT6504A GT6505A	SPACE	MB TO XFMR PANEL C	
	UVM 6501A	UVM 6502A	SPACE	SPACE	SPACE	MB TO XFMR PANEL SH	

MCC-4 ELEVATION



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

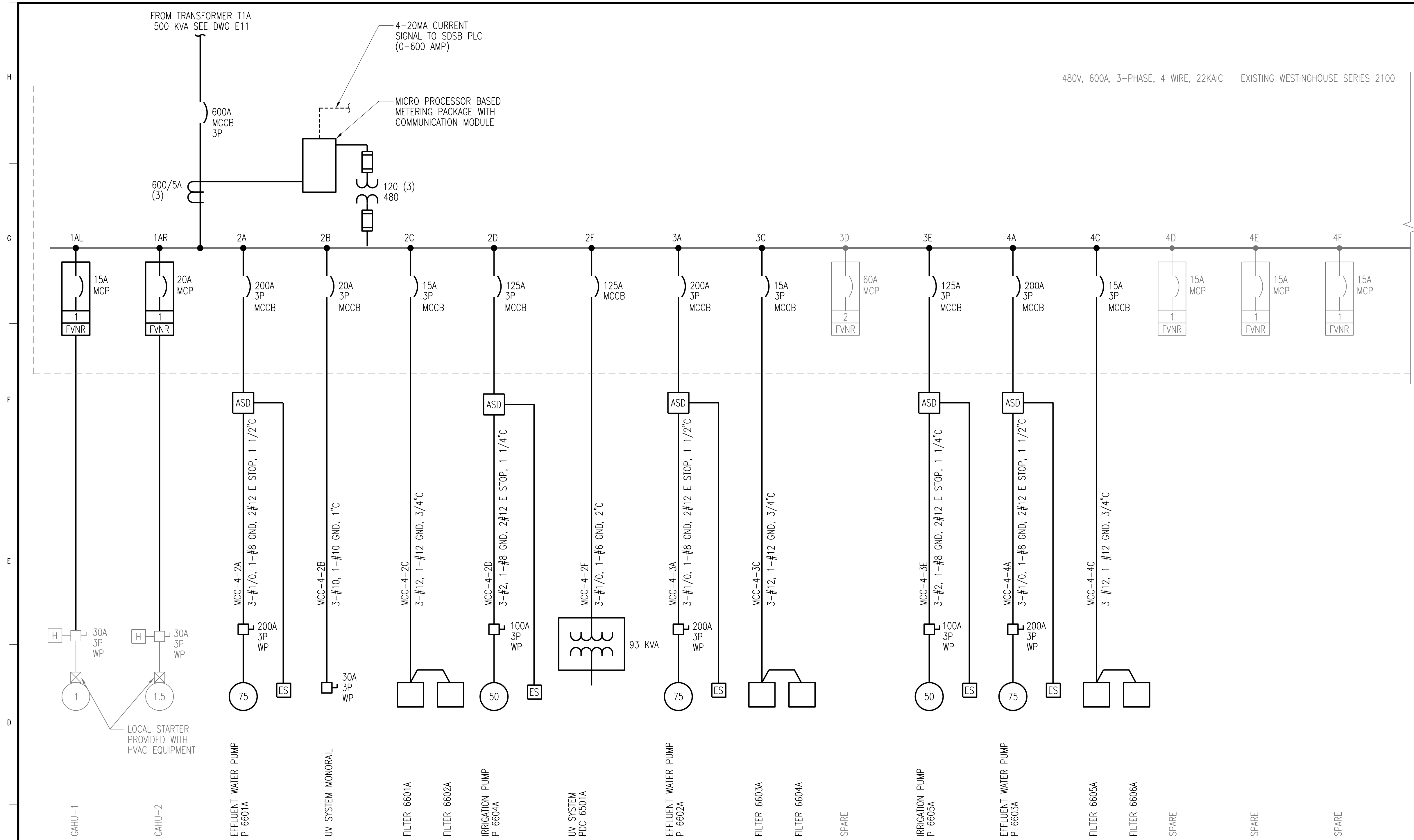


CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-4 DIAGRAM AND ELEVATION OPTION A
DISINFECTION STORAGE BUILDING - SHEET 2

DESIGNED MB SCHULZ	SCALE: NONE	REV. 3
DRAWN M. GRAVES	NO. 22800	
CHECKED DL MORITZ		
APPROVED JD COGAN		
DATE DECEMBER 2, 2011		

CADD: D1-R4



- NOTES:**
- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
 - SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
 - CONFIRM ALL SCREENED MCCB, MCP, AND STARTERS THAT REMAINED FROM DEMOLITION FROM ASSOCIATED D SERIES OF DRAWINGS TO BE REUSED FOR NEW LOADS SHOWN AT SAME MCC BUCKET LOCATION.
 - ALL BOLD ITEMS SHOWN ARE NEW LOADS. WHERE ONLY A MOTOR IS BOLD IT REPRESENTS A NEW MOTOR TO BE REPLACED IN THE SAME LOCATION. CONTRACTOR TO CONFIRM EXISTING CONDUCTORING LENGTH IS ADEQUATE FOR TERMINATIONS TO NEW MOTOR.
 - WHERE BOLD ITEMS ARE SHOWN AND THE LINE IS BOLD BACK TO THE MCC CONTROL DEVICE, PROVIDE NEW CONDUCTORING AND RACEWAY AS SHOWN. WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL AT A DISCONNECT PROVIDE 3 #12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
 - MCC-4 IS LOCATED IN THE CHLORINATION/DISINFECTION BUILDING AS SHOWN ON DRAWING E601 AND E610.
 - E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

3 CHANGE MAIN BREAKER SIZE AND BUS SIZE ON MCC-4 FROM "600A" TO READ: "1200A."

CHANGE CT SIZE FROM "600/5A" TO READ: "1200/5A."

CHANGE "4-20MA CURRENT SIGNAL TO SDSB PLC (0-600A)" TO READ: "4-20MA CURRENT SIGNAL TO SDSB PLC (0-1200A)."

MCC-4 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	6	
	GAHU-1	GAHU-2	EFFLUENT WATER PUMP P 6601A	EFFLUENT WATER PUMP P 6602A	EFFLUENT WATER PUMP P 6603A	SPACE	PDC 6502A
						SPACE	UVM HYDRAULIC CENTER
RTU RELAY		UV MONORAIL	SPACE	SPACE		SPACE	
INCOMING SERVICE AND MAIN CIRCUIT BREAKER		FILTERS FLT 6601A FLT 6602A	FILTERS FLT 6603A FLT 6604A	FILTERS FLT 6605A FLT 6606A	UV CLEAN TANK BLOWER B 6501A		MIXED LIQUOR PUMP P 4460A
		SPACE	SPARE	SPARE	P 4440A P 4450A		MIXED LIQUOR PUMP P 4470A
		IRRIGATION PUMP P 6604A	IRRIGATION PUMP P 6605A	SPARE	GATES GT6504A GT6505A		MB TO XFMR PANEL C
		PDC 6501A	SPACE	SPACE	SPACE		MB TO XFMR PANEL SH

MCC-4 ELEVATION



4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-4 DIAGRAM AND ELEVATION OPTION B
DISINFECTION STORAGE BUILDING - SHEET 1

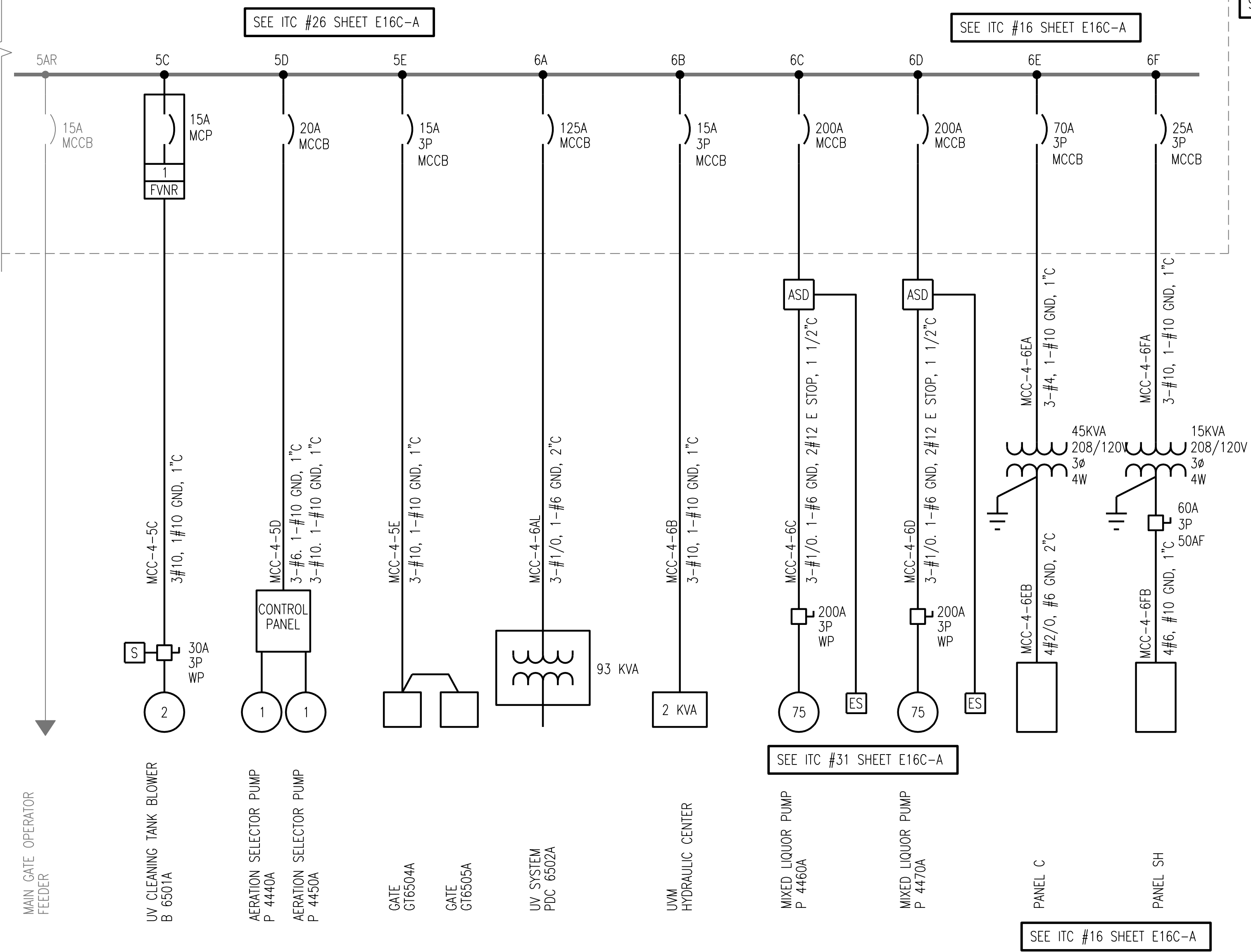
DESIGNED DL MORITZ
DRAWN D.WILGES
CHECKED DL MORITZ
APPROVED JD COGAN
DATE DECEMBER 2, 2011

SCALE: NONE
NO. 22800

REV. 4
E16B

CADD: D1-R4

480V, 600A, 3-PHASE, 4 WIRE, 22KAIC EXISTING WESTINGHOUSE SERIES 2100



SEE ITC #26 SHEET E16C-A

SEE ITC #16 SHEET E16C-A

SEE ITC #09 SHEET E16C-A

SEE ITC #31 SHEET E16C-A

SEE ITC #16 SHEET E16C-A

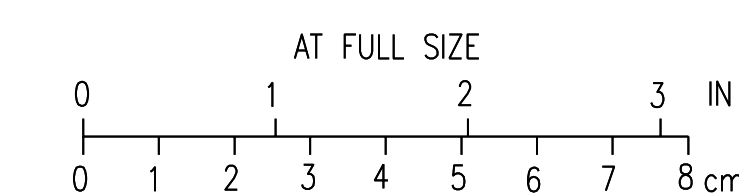
MCC-4 ELECTRICAL ONE-LINE DIAGRAM

NOTES:

1. E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

GAHU-1	GAHU-2	EFFLUENT WATER PUMP P 6601A	EFFLUENT WATER PUMP P 6602A	EFFLUENT WATER PUMP P 6603A	SPACE	SPACE	PDC 6502A
RTU RELAY	UV MONORAIL	SPACE	SPACE	SPACE	SPACE	MAIN GATE OPER	UMV HYDRAULIC CENTER
INCOMING SERVICE AND MAIN CIRCUIT BREAKER	FILTERS FLT 6601A FLT 6602A	FILTERS FLT 6603A FLT 6604A	FILTERS FLT 6605A FLT 6606A	UV CLEAN TANK BLOWER B 6501A	P 4440A P 4450A	MIXED LIQUOR PUMP P 4460A	MIXED LIQUOR PUMP P 4470A
	SPACE	SPACE	SPACE	SPACE	GATES GT6504A GT6505A	MB TO XFMR PANEL C	MB TO XFMR PANEL SH
	IRRIGATION PUMP P 6604A	IRRIGATION PUMP P 6605A	SPACE	SPACE	SPACE	SPACE	SPACE
	PDC 6501A	SPACE	SPACE	SPACE	SPACE	SPACE	SPACE

MCC-4 ELEVATION



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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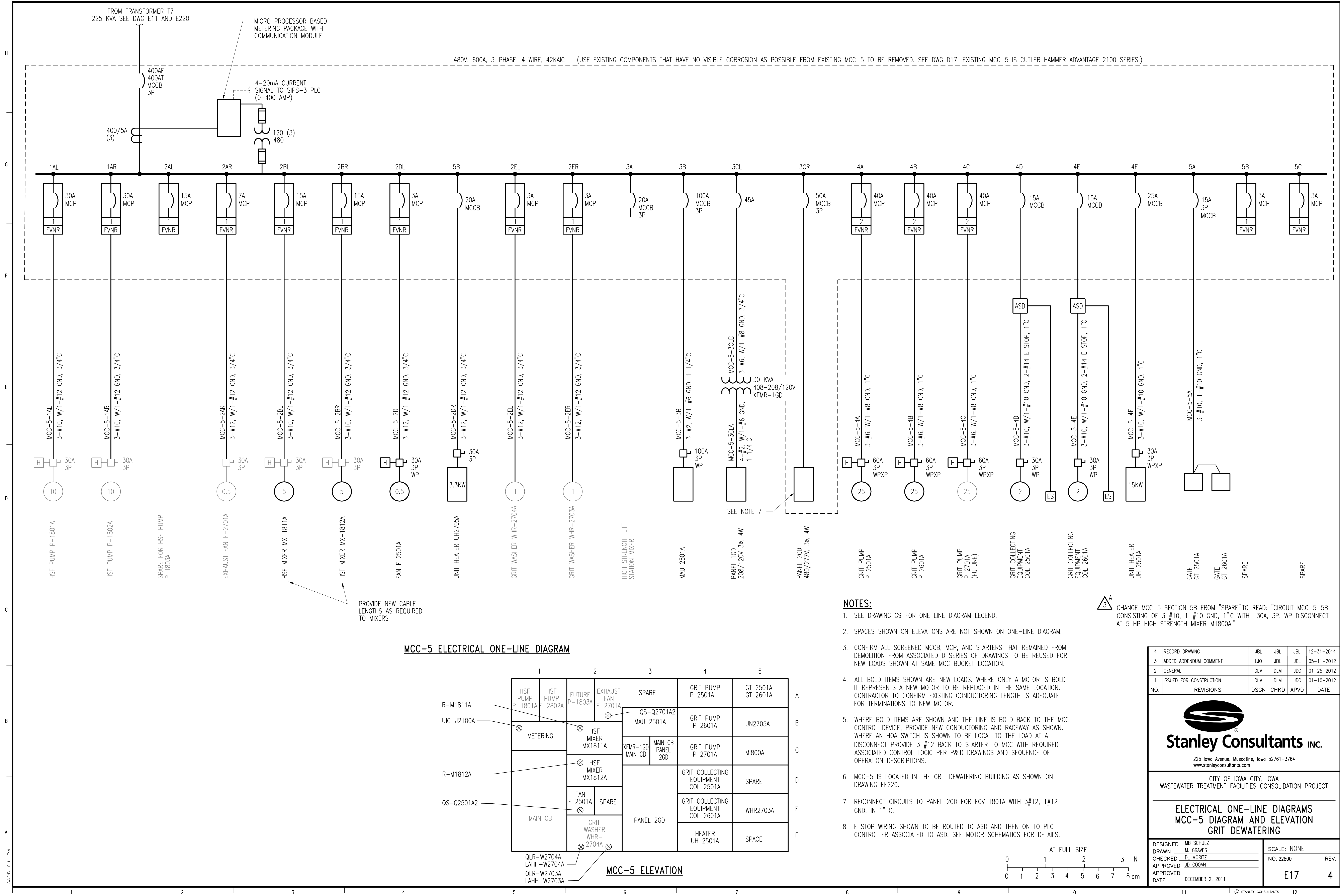
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-4 DIAGRAM AND ELEVATION OPTION B
DISINFECTION STORAGE BUILDING - SHEET 2

DESIGNED DL MORITZ	SCALE: NONE	REV.
DRAWN D. WILGES	NO. 22800	
CHECKED DL MORITZ		
APPROVED JD COGAN		
APPROVED		
DATE DECEMBER 2, 2011		

E16C 3

CADD: D1-R4

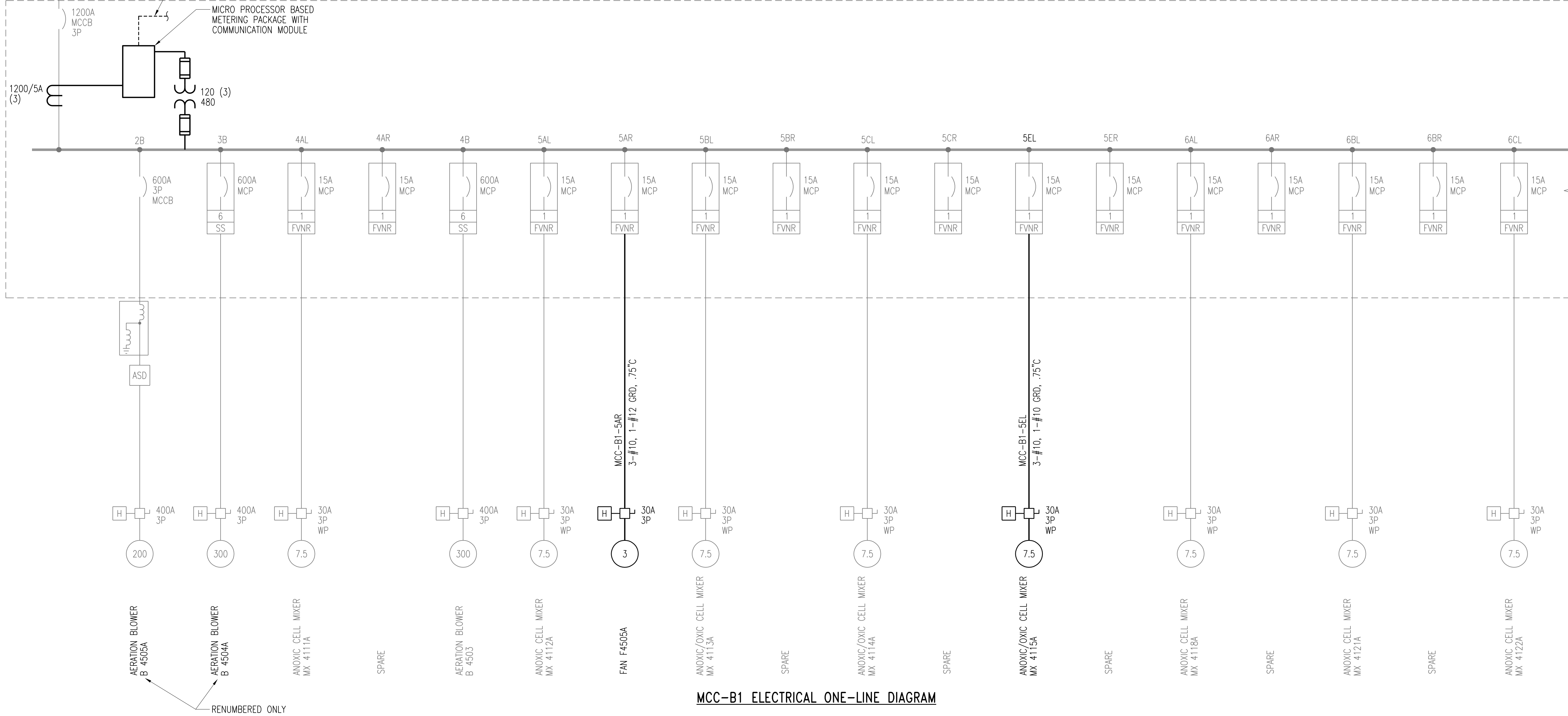


FROM TRANSFORMER T3
1000 KVA SEE DWG E11

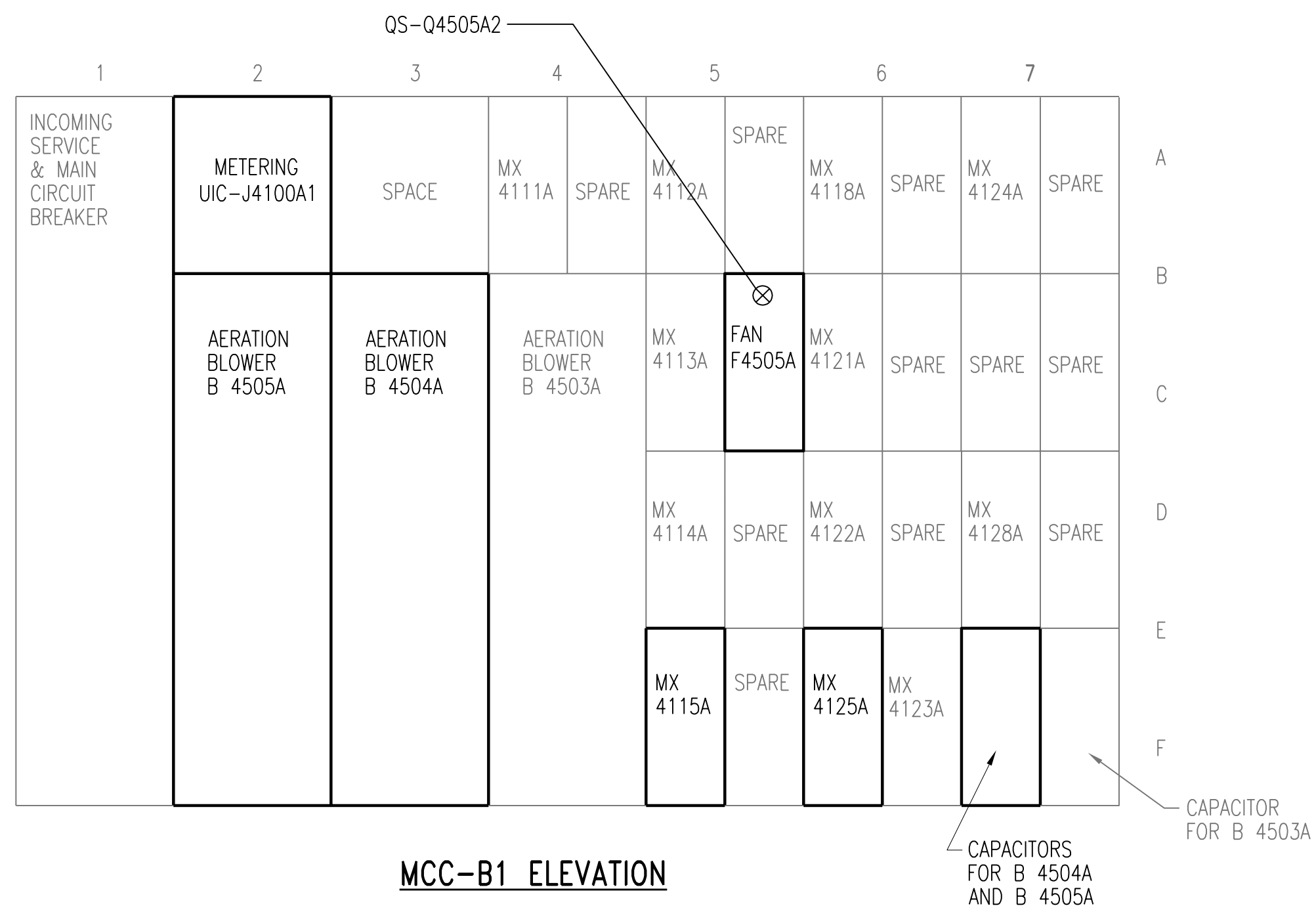
4-20MA CURRENT
SIGNAL TO SABS PLC
(0-1200 AMP)

MICRO PROCESSOR BASED
METERING PACKAGE WITH
COMMUNICATION MODULE

480V, 1200A, 3-PHASE, 4-WIRE, 42KAIC EXISTING CUTLER HAMMER ADVANTAGE 2100 SERIES



MCC-B1 ELECTRICAL ONE-LINE DIAGRAM



MCC-B1 ELEVATION

NOTES:

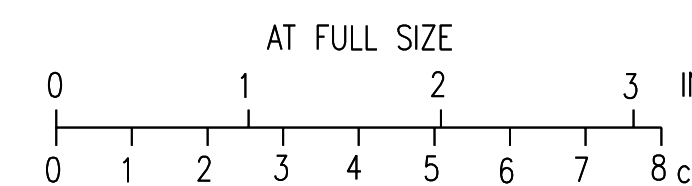
- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
- SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
- CONFIRM ALL SCREENED MCCB, MCP, AND STARTERS THAT REMAINED FROM DEMOLITION FROM ASSOCIATED D SERIES OF DRAWINGS TO BE REUSED FOR NEW LOADS SHOWN AT SAME MCC BUCKET LOCATION.
- ALL BOLD ITEMS SHOWN ARE NEW LOADS. WHERE ONLY A MOTOR IS BOLD IT REPRESENTS A NEW MOTOR TO BE REPLACED IN THE SAME LOCATION. CONTRACTOR TO CONFIRM EXISTING CONDUCTORING LENGTH IS ADEQUATE FOR TERMINATIONS TO NEW MOTOR.
- WHERE BOLD ITEMS ARE SHOWN AND THE LINE IS BOLD BACK TO THE MCC CONTROL DEVICE, PROVIDE NEW CONDUCTORING AND RACEWAY AS SHOWN. WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL TO THE LOAD AT A DISCONNECT PROVIDE 3 #12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
- MCC-B1 IS LOCATED IN THE BLOWER BUILDING AS SHOWN ON DRAWING E420.
- E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

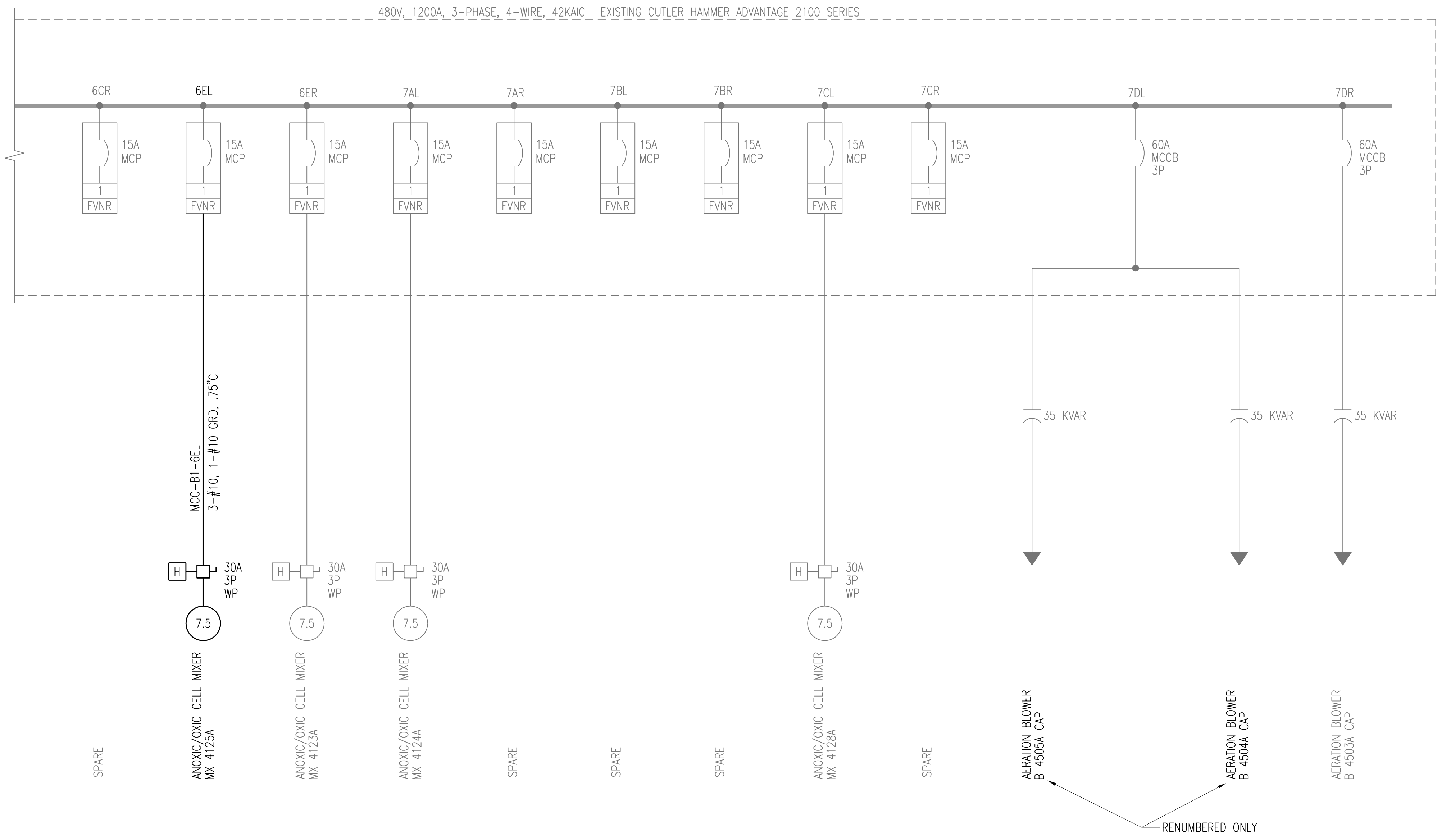

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ELECTRICAL ONE-LINE DIAGRAMS
MCC-B1 DIAGRAM AND ELEVATION
BLOWER BUILDING - SHEET 1

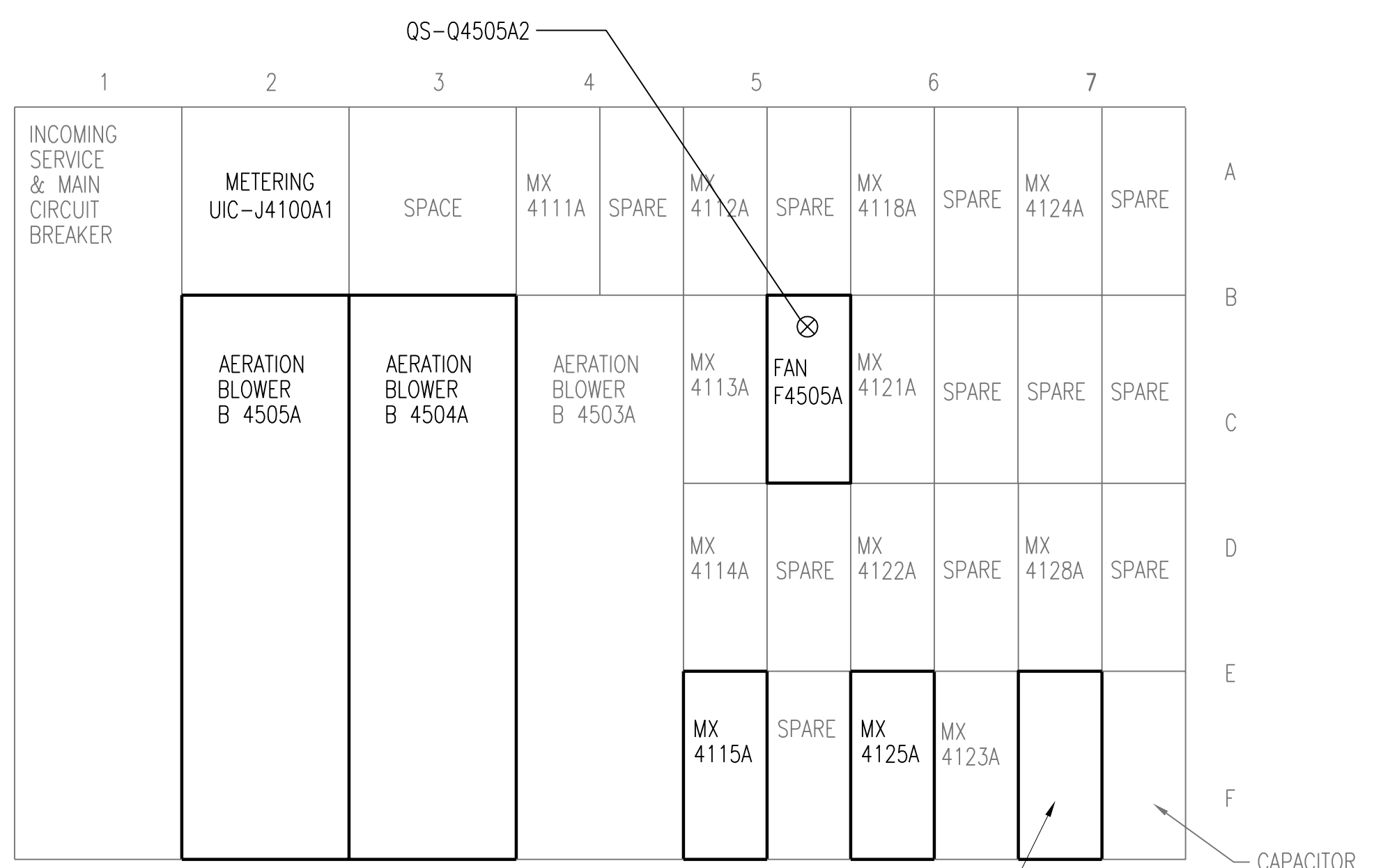
DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D.WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4




MCC-B1 ELECTRICAL ONE-LINE DIAGRAM



MCC-B1 ELEVATION

- NOTES:**
- E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

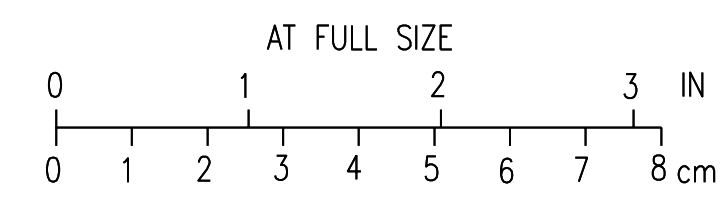
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-B1 DIAGRAM AND ELEVATION
BLOWER BUILDING - SHEET 2

DESIGNED MB SCHULZ	SCALE: NONE
DRAWN D. WILGES	NO. 22800
CHECKED DL MORITZ	REV. 2
APPROVED JD COGAN	
APPROVED	
DATE DECEMBER 2, 2011	



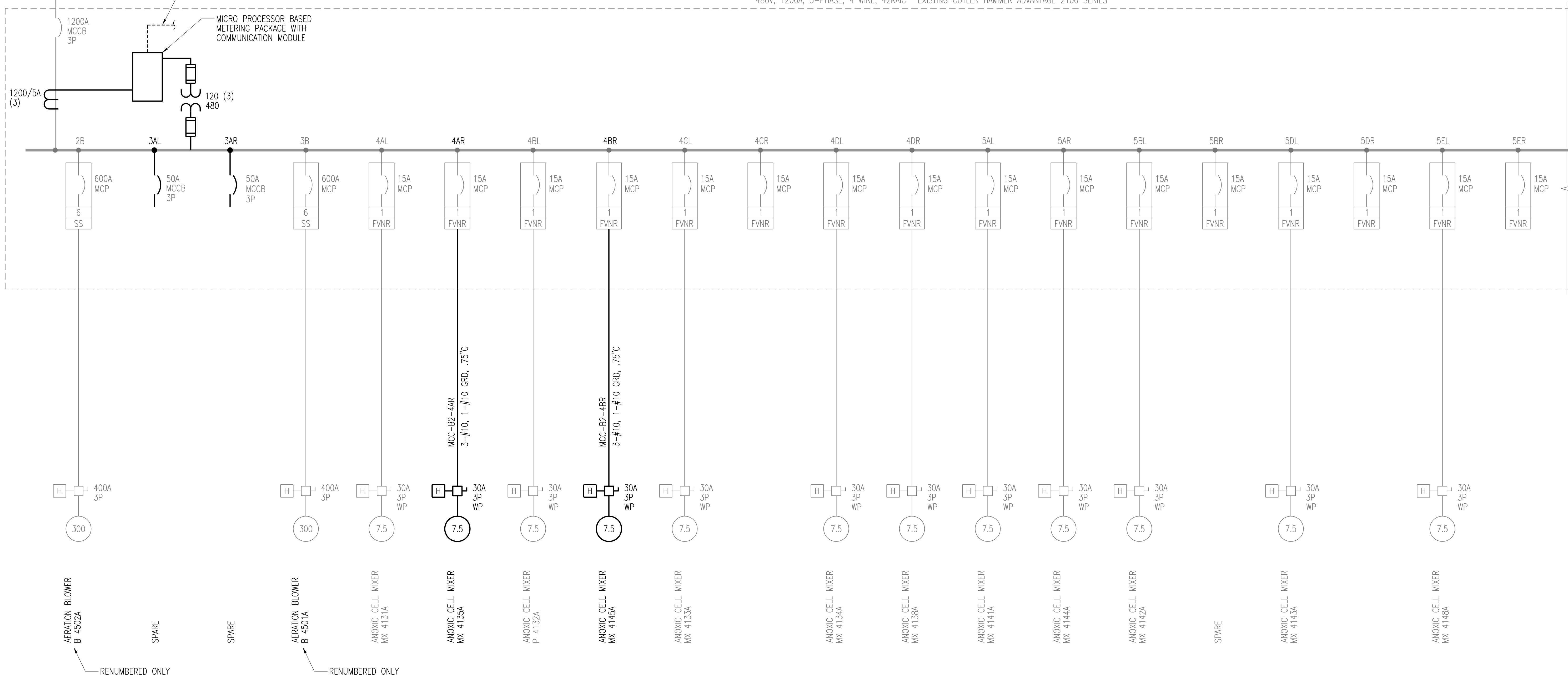
CADD: D1-R4

FROM TRANSFORMER T4
1000 KVA SEE DWG E11

4-20MA CURRENT
SIGNAL TO SABS PLC
(0-1200 AMP)

MICRO PROCESSOR BASED
METERING PACKAGE WITH
COMMUNICATION MODULE

480V, 1200A, 3-PHASE, 4 WIRE, 42KAIC EXISTING CUTLER HAMMER ADVANTAGE 2100 SERIES

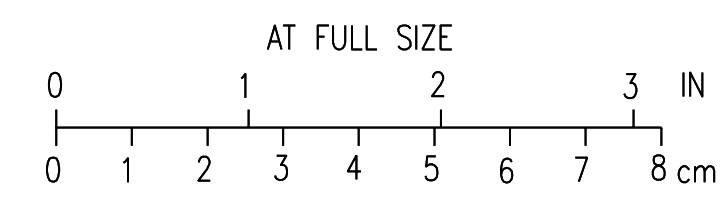


MCC-B2 ELECTRICAL ONE-LINE DIAGRAM

1	2	3	4	5	6	7		
INCOMING SERVICE & MAIN CIRCUIT BREAKER	METERING UIC-J4100A2	SPARE	SPARE	MIXER P-4131A	MIXER MX4135A	MIXER MX4141A	MIXER MX4144A	AERATION BASIN 480V PANEL
	AERATION BLOWER B 4502A	AERATION BLOWER B 4501A	MIXER MX4132A	MIXER MX4145A	MIXER MX4142A	SPARE	SPARE	SPARE
			MIXER MX4133A	SPARE	MIXER MX4143A	SPARE	PANEL IL	PANEL IR
			MIXER MX4134A	MIXER MX4138A	MIXER MX4148A	SPARE		PANEL PCC
								CAP FOR BLOWER B 4501A AND B 4502A

MCC-B2 ELEVATION

- NOTES:**
- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
 - SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
 - CONFIRM ALL SCREENED MCCB, MCP, AND STARTERS THAT REMAINED FROM DEMOLITION FROM ASSOCIATED D SERIES OF DRAWINGS TO BE REUSED FOR NEW LOADS SHOWN AT SAME MCC BUCKET LOCATION.
 - ALL BOLD ITEMS SHOWN ARE NEW LOADS. WHERE ONLY A MOTOR IS BOLD IT REPRESENTS A NEW MOTOR TO BE REPLACED IN THE SAME LOCATION. CONTRACTOR TO CONFIRM EXISTING CONDUCTING LENGTH IS ADEQUATE FOR TERMINATIONS TO NEW MOTOR.
 - WHERE BOLD ITEMS ARE SHOWN AND THE LINE IS BOLD BACK TO THE MCC CONTROL DEVICE, PROVIDE NEW CONDUCTING AND RACEWAY AS SHOWN. WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL TO THE LOAD AT A DISCONNECT PROVIDE 3 #12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
 - MCC-B2 IS LOCATED IN THE BLOWER BUILDING AS SHOWN ON DRAWING E420.
 - E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.



2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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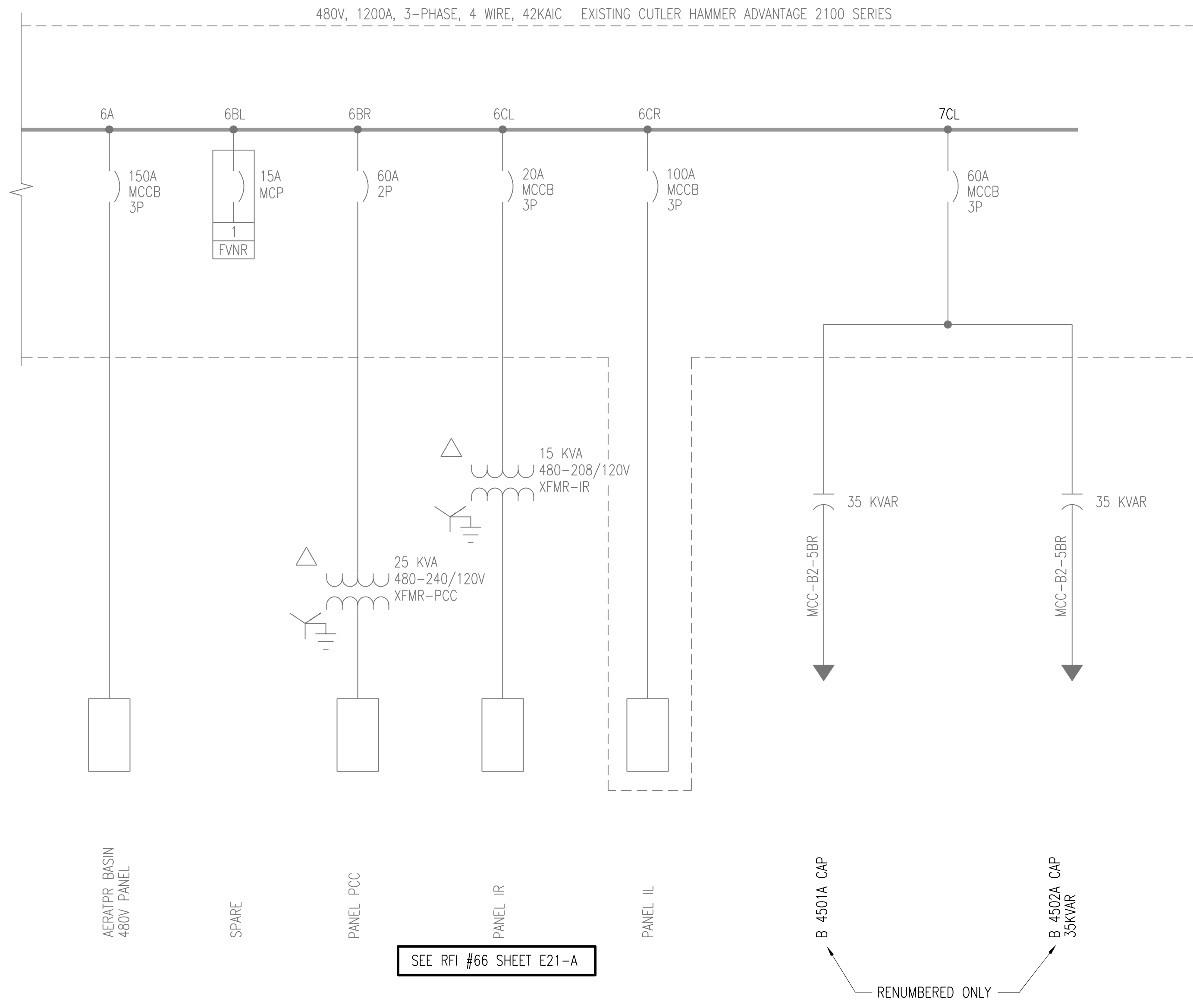
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-B2 DIAGRAM AND ELEVATION
BLOWER BUILDING - SHEET 1

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	M. GRAVES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		

E20 2

CADD: D1-R4



MCC-B2 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	6	7		
	INCOMING SERVICE & MAIN CIRCUIT BREAKER	METERING UIC-J4100A2	SPARE	SPARE	MIXER P-4131A	MIXER MX4135A	MIXER MX4141A	MIXER MX4144A	AERATION BASIN 480V PANEL
		AERATION BLOWER B 4502A	AERATION BLOWER B 4501A		MIXER MX4132A	MIXER MX4145A	MIXER MX4142A	SPARE	SPARE
					MIXER MX4133A	SPARE	MIXER MX4143A	SPARE	PANEL PCC
					MIXER MX4134A	MIXER MX4138A	MIXER MX4148A	SPARE	PANEL IR
									PANEL IL
									CAP FOR BLOWER B 4501A AND B 4502A

MCC-B2 ELEVATION

NOTES:
 1. E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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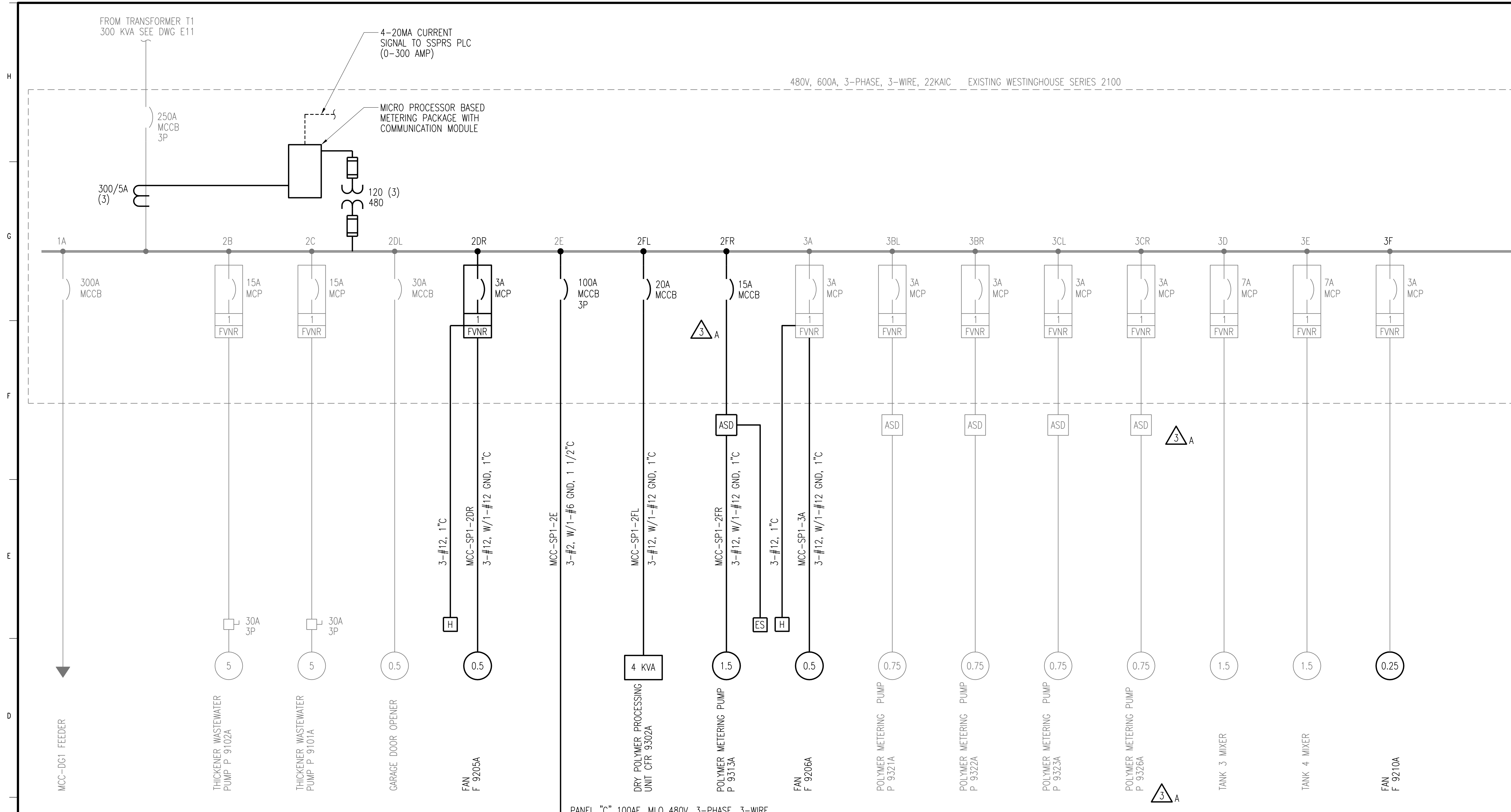
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-B2 DIAGRAM AND ELEVATION
BLOWER BUILDING - SHEET 2

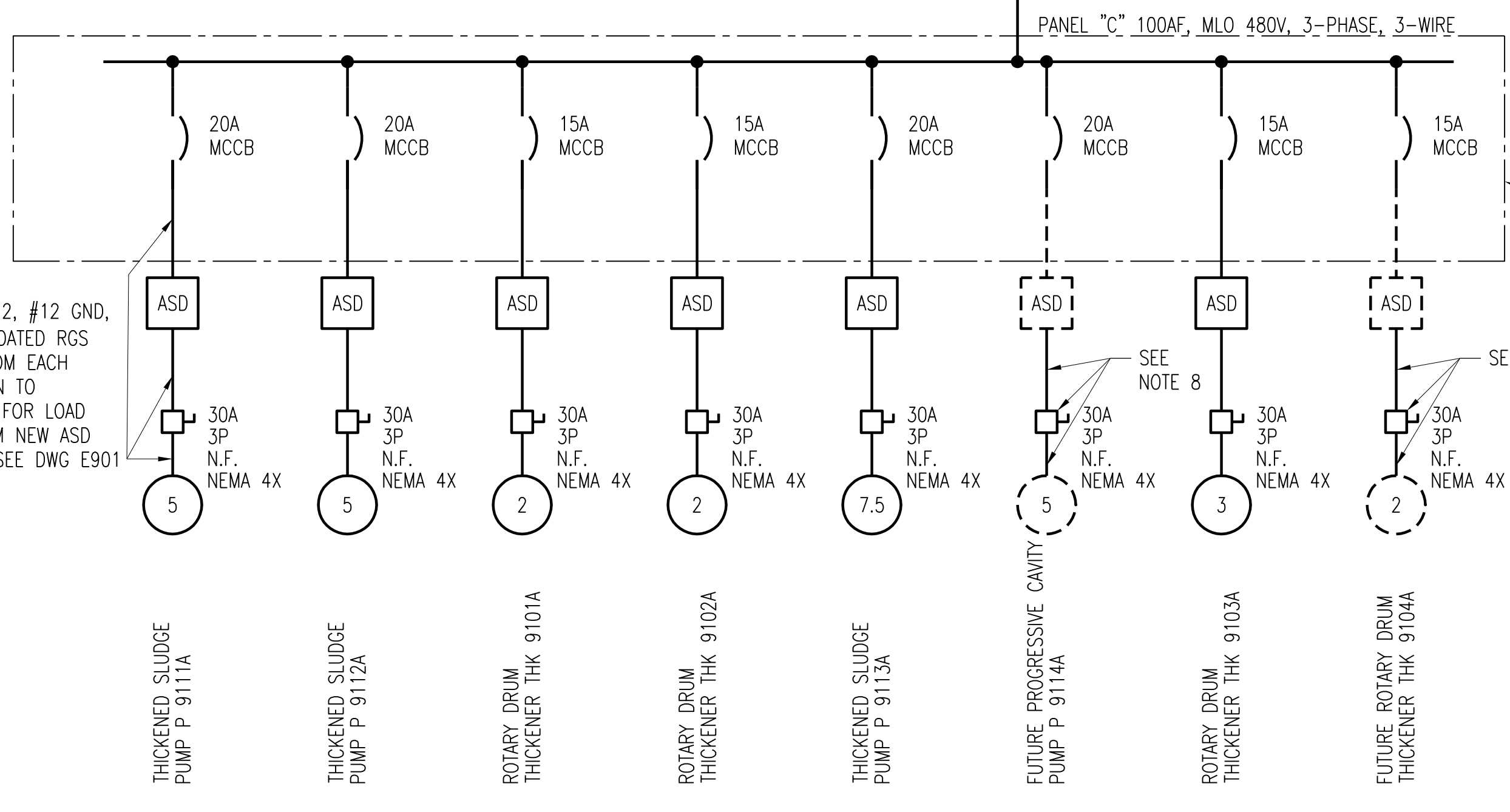
DESIGNED MB SCHULZ	SCALE: NONE
DRAWN M. GRAVES	NO. 22800
CHECKED DL MORITZ	REV.
APPROVED JD COGAN	E21
APPROVED	2
DATE DECEMBER 2, 2011	



CADD: D1-R4



- NOTES:**
- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
 - SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
 - CONFIRM ALL SCREENED MCCB, MCP, AND STARTERS THAT REMAINED FROM DEMOLITION FROM ASSOCIATED D SERIES OF DRAWINGS TO BE REUSED FOR NEW LOADS SHOWN AT SAME MCC BUCKET LOCATION.
 - ALL BOLD ITEMS SHOWN ARE NEW LOADS. WHERE ONLY A MOTOR IS BOLD IT REPRESENTS A NEW MOTOR TO BE REPLACED IN THE SAME LOCATION. CONTRACTOR TO CONFIRM EXISTING CONDUCTORING LENGTH IS ADEQUATE FOR TERMINATIONS TO NEW MOTOR.
 - WHERE BOLD ITEMS ARE SHOWN AND THE LINE IS BOLD BACK TO THE MCC CONTROL DEVICE, PROVIDE NEW CONDUCTING AND RACEWAY AS SHOWN. WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL TO THE LOAD AT A DISCONNECT PROVIDE 3 #12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
 - MCC-SP1 IS LOCATED IN THE SLUDGE PROCESSING FACILITY AS SHOWN ON DRAWING E901.
 - ALL CONDUIT SHOWN IN SLUDGE PROCESSING FACILITY SHALL BE PVC COATED RGS.
 - PROVIDE 3/4" PVC COATED AGS CONDUIT FROM FUTURE ASD LOCATIONS SHOWN ON DWG E901. FROM DISCONNECTS ROUTE CONDUIT UNDERFLOOR TO NEW PUMP P 9114A AND THK 9104A LOCATION. FLUSH MOUNT COUPLER IN FLOOR AND THREADED CAP.
 - SEE MECHANICAL DRAWINGS FOR CONTROL REQUIREMENTS OF HVAC EQUIPMENT.
 - E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.
- △ A** DELETE STARTER IN SPACE 2FR ON MCC-SP1. ADD 15A, MCCB TO SERVE NEW ASD WITH E-STOP FOR POLYMER METERING PUMP P9313A.
- ADD EXISTING ASD ON CIRCUITS 3BL, 3BR, 3CL, 3CR. ADD LABELS FOR SAME CIRCUITS LOADS FOR PUMPS IN SUCCESSION AS P9321A, P9322A, P9323A AND P9324A.
- ADD NEW METER UIC-J9100A1 CALLOUT ON MCC-SP1 ELEVATION SECTION 1D AND UIC-J9100A2 ON MCC-SP2 ELEVATION SECTION 1D.

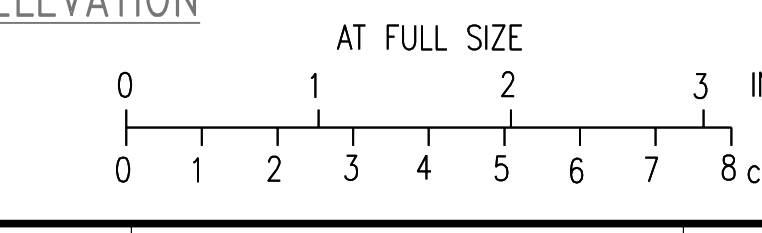


MCC-SP1 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	1	2	3	4
A	MCC-DG1	METERING	FAN F 9206A	FAN F 9211A	SBC CONVEYOR	MCC-DG2	METERING	FAN F 9204A	WH 9201A
B		THICKENER WASTE WATER PUMP P 9102A	PMP-1	PMP-2	BFP-1	BFP-2	CONVEYOR RELAYS	FAN F 9212A	AHU 9005A
C		THICKENER WASTE WATER PUMP P 9101A	PMP-3	PMP-4	BFP-3	SPARE	SPACE	XFMR TO PB-A	XFMR TO PB-B
D		GARAGE DOOR OPENER	FV9113	TANK 3 MIXER	SPARE	CONVEYOR 9401A	CONVEYOR 9402A	MAU 9001A	MAU 9001A
E	MCC-SP1	F9205A	TANK 4 MIXER	LAB FAN F 9213A	SPACE	MCC-SP2	FAN F 9201A	AHU 9201A	FAN F 9207A
F		CFR 9302A	PANEL C	F 9210A	SPARE	SP-1 SUMP PUMP	FAN F 9202A	POLY TANK MIXER 1	FAN F 9203A

MCC-SP1 ELEVATION

MCC-SP2 ELEVATION



4	RECORD DRAWING	JBL	JBL	JBL	12-31-2012
3	ADDED ADDENDUM COMMENTS	LJO	JBL	JBL	05-11-2012
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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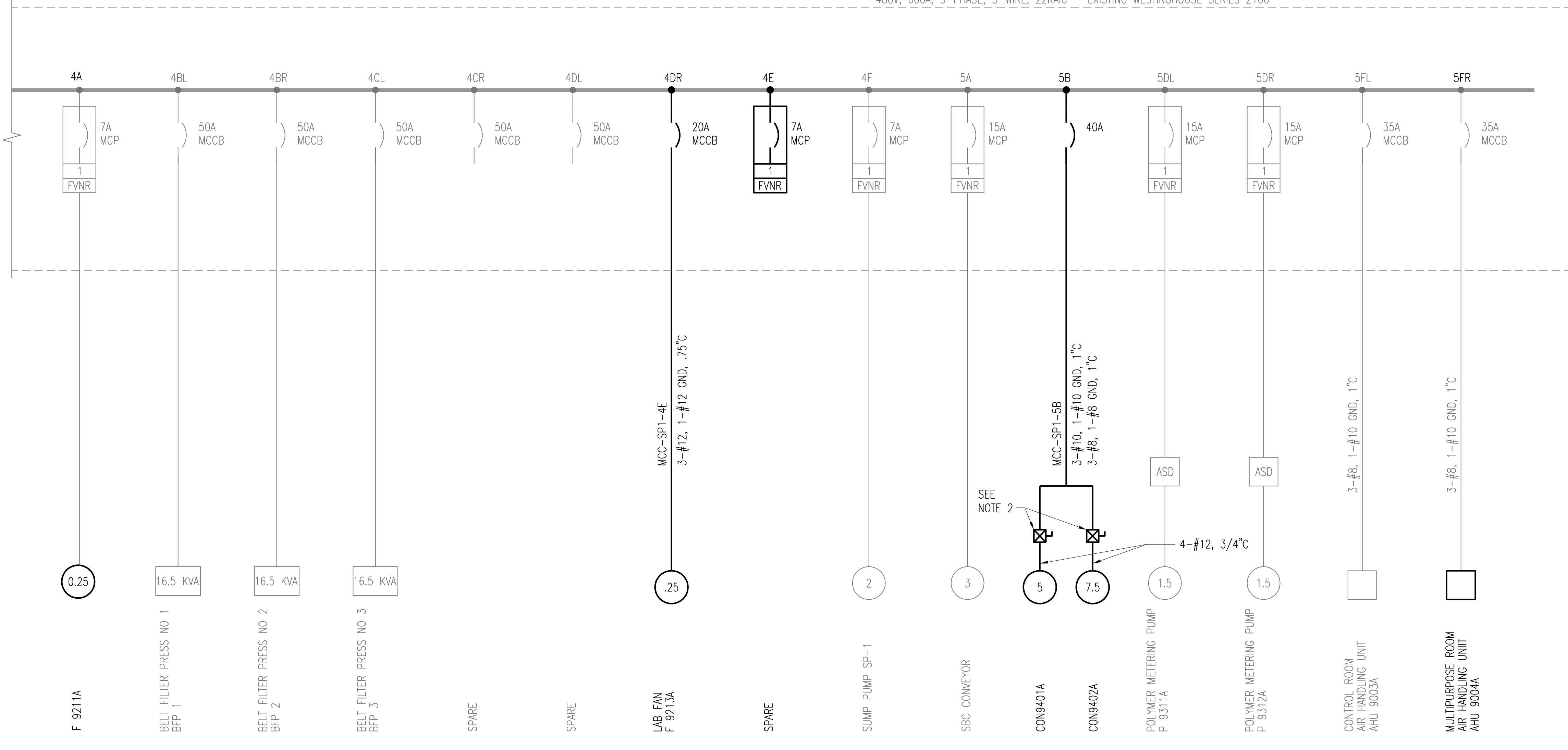
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-SP1 DIAGRAM AND ELEVATION
SLUDGE PROCESSING - SHEET 1

DESIGNED MB SCHULZ	SCALE: NONE	REV. 4
DRAWN D. MILGES	NO. 22800	
CHECKED DL MORITZ		
APPROVED JD COGAN		
DATE DECEMBER 2, 2011	E22	

SEE ITC #28 SHEET E23-A

480V, 600A, 3-PHASE, 3-WIRE, 22KAIC EXISTING WESTINGHOUSE SERIES 2100



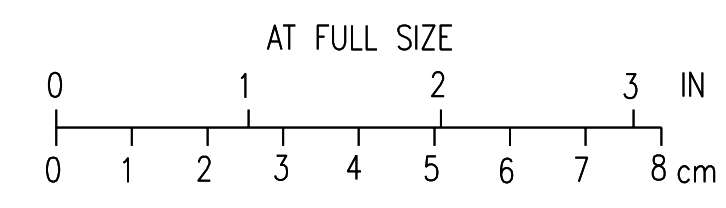
MCC-SP1 ELECTRICAL ONE-LINE DIAGRAM

- NOTES:**
- E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.
 - NEMA SIZE 1 FUSIBLE COMBINATION STARTERS WITH HAND-OFF-AUTO SWITCHES ON COVER AND RED AND GREEN INDICATING LIGHTS. SEE DRAWING E901 FOR LOCATION AND P&ID DRAWINGS FOR REQUIRED CONTROL INTERFACES.

	1	2	3	4	5	1	2	3	4			
A	MCC-DG1	METERING	FAN F 9206A	FAN F 9211A	SBC CONVEYOR	MCC-DG2	METERING	FAN F 9204A	WH 9201A	A		
B		THICKENER WASTE WATER PUMP P 9102A	PMP-1	PMP-2	BFP-1	BFP-2	CONVEYOR CON9401A & CON9402A	AIR COMPRESSOR PANEL	FAN F 9212A	SPARE	B	
C		THICKENER WASTE WATER PUMP P 9101A	PMP-3	PMP-4	BFP-3	SPARE	SPACE	SPARE	XFMR TO PB-A	XFMR TO PB-B	MAU 9001A	C
D	INCOMING SERVICE & MAIN CIRCUIT BREAKER	GARAGE DOOR OPENER	FAN F9205A	TANK 3 MIXER	SPARE	SPARE	P9311A	P9312A	FAN F 9201A	AHU 9201A	FAN F 9207A	D
E	MCC-SP1	PANEL C	TANK 4 MIXER	LAB FAN F 9213A	SPACE	MCC-SP2	FAN F 9202A	POLY TANK MIXER 1				E
F		CFR 9302A	P 9313A	F 9210A	SPARE	SP-1 SUMP PUMP	AHU 9003A	AHU 9004A	FAN F 9203A	POLY TANK MIXER 2	SPACE	F

MCC-SP1 ELEVATION

MCC-SP2 ELEVATION



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	DLM	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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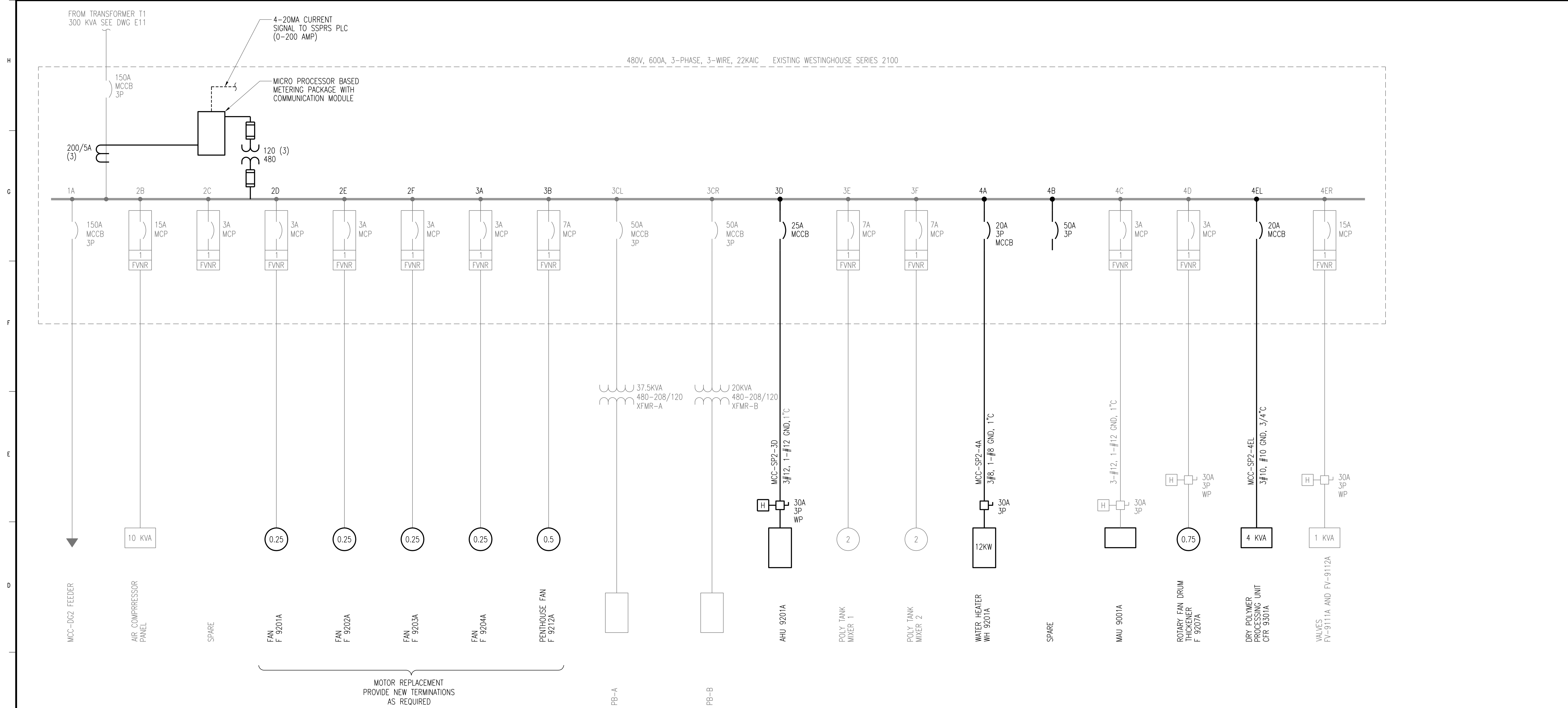
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-SP1 DIAGRAM AND ELEVATION
SLUDGE PROCESSING - SHEET 2**

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D.WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		

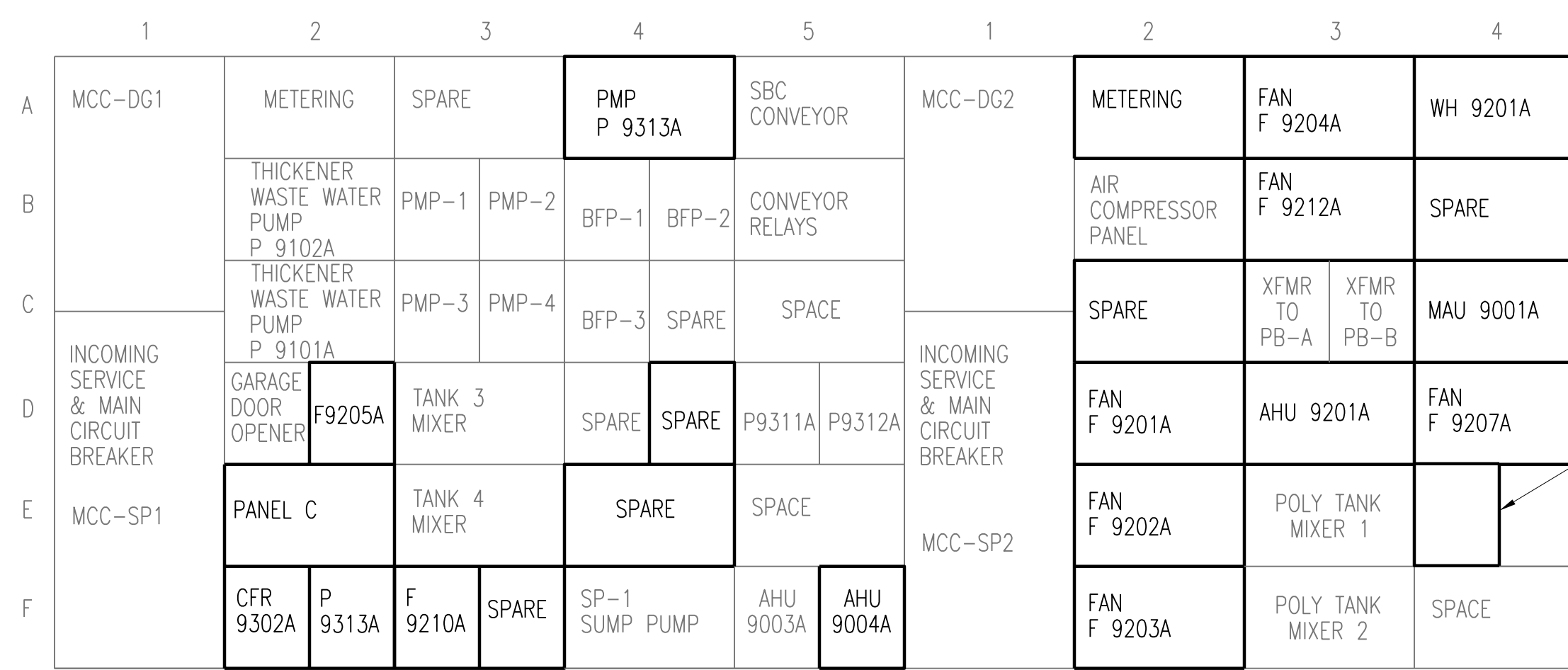
E23 3

CADD: D1-R4



MCC-SP2 ELECTRICAL ONE-LINE DIAGRAM

MOTOR REPLACEMENT
PROVIDE NEW TERMINATIONS
AS REQUIRED



MCC-SP1 ELEVATION

MCC-SP2 ELEVATION

NOTES:

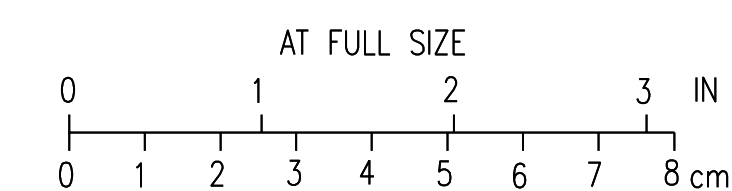
- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
- SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
- CONFIRM ALL SCREENED MCCB, MCP, AND STARTERS THAT REMAINED FROM DEMOLITION FROM ASSOCIATED D SERIES OF DRAWINGS TO BE REUSED FOR NEW LOADS SHOWN AT SAME MCC BUCKET LOCATION.
- ALL BOLD ITEMS SHOWN ARE NEW LOADS. WHERE ONLY A MOTOR IS BOLD IT REPRESENTS A NEW MOTOR TO BE REPLACED IN THE SAME LOCATION. CONTRACTOR TO CONFIRM EXISTING CONDUCTORING LENGTH IS ADEQUATE FOR TERMINATIONS TO NEW MOTOR.
- WHERE BOLD ITEMS ARE SHOWN AND THE LINE IS BOLD BACK TO THE MCC CONTROL DEVICE, PROVIDE NEW CONDUCTORING AND RACEWAY AS SHOWN. WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL TO THE LOAD AT A DISCONNECT PROVIDE 3 #12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
- MCC-SP2 IS LOCATED IN THE SLUDGE PROCESSING FACILITY AS SHOWN ON DRAWING E901.
- E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	MBS	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

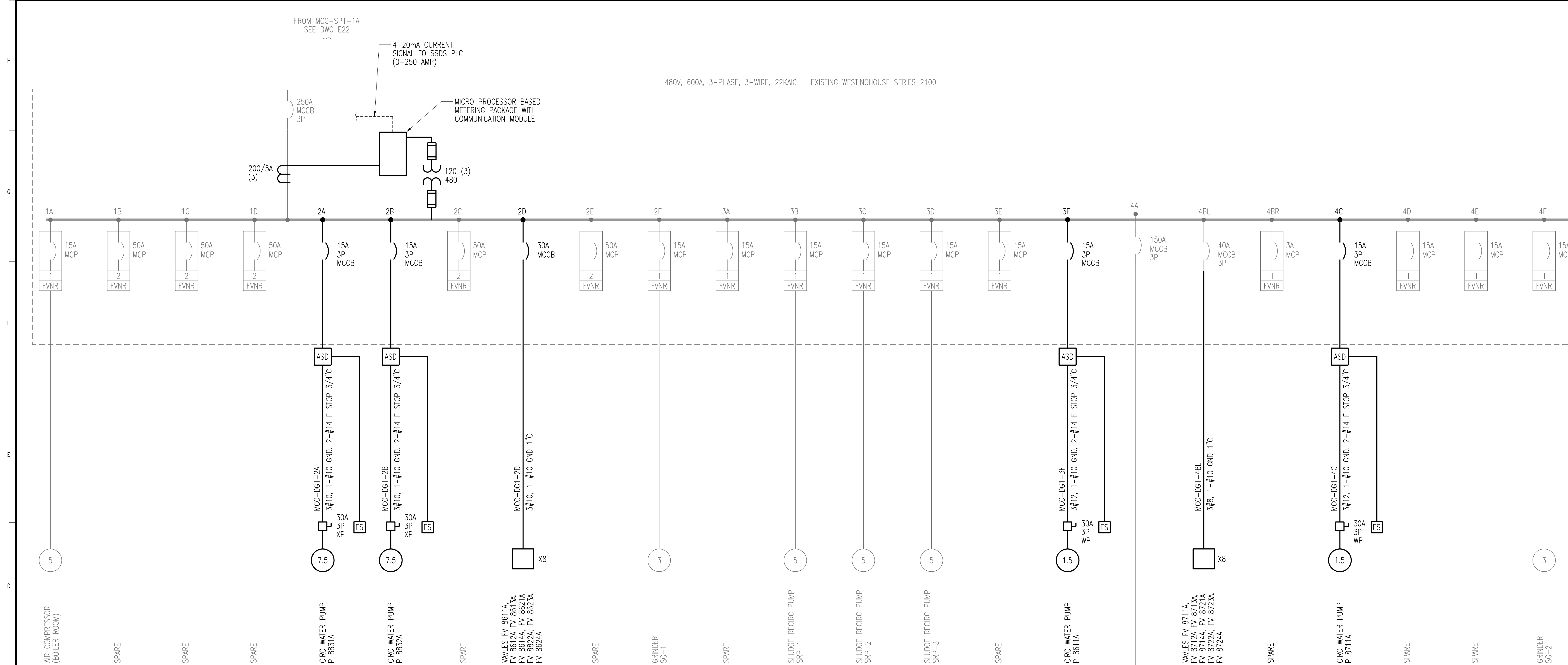
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-SP2 DIAGRAM AND ELEVATION
SLUDGE PROCESSING FACILITY**

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	M. GRAVES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4

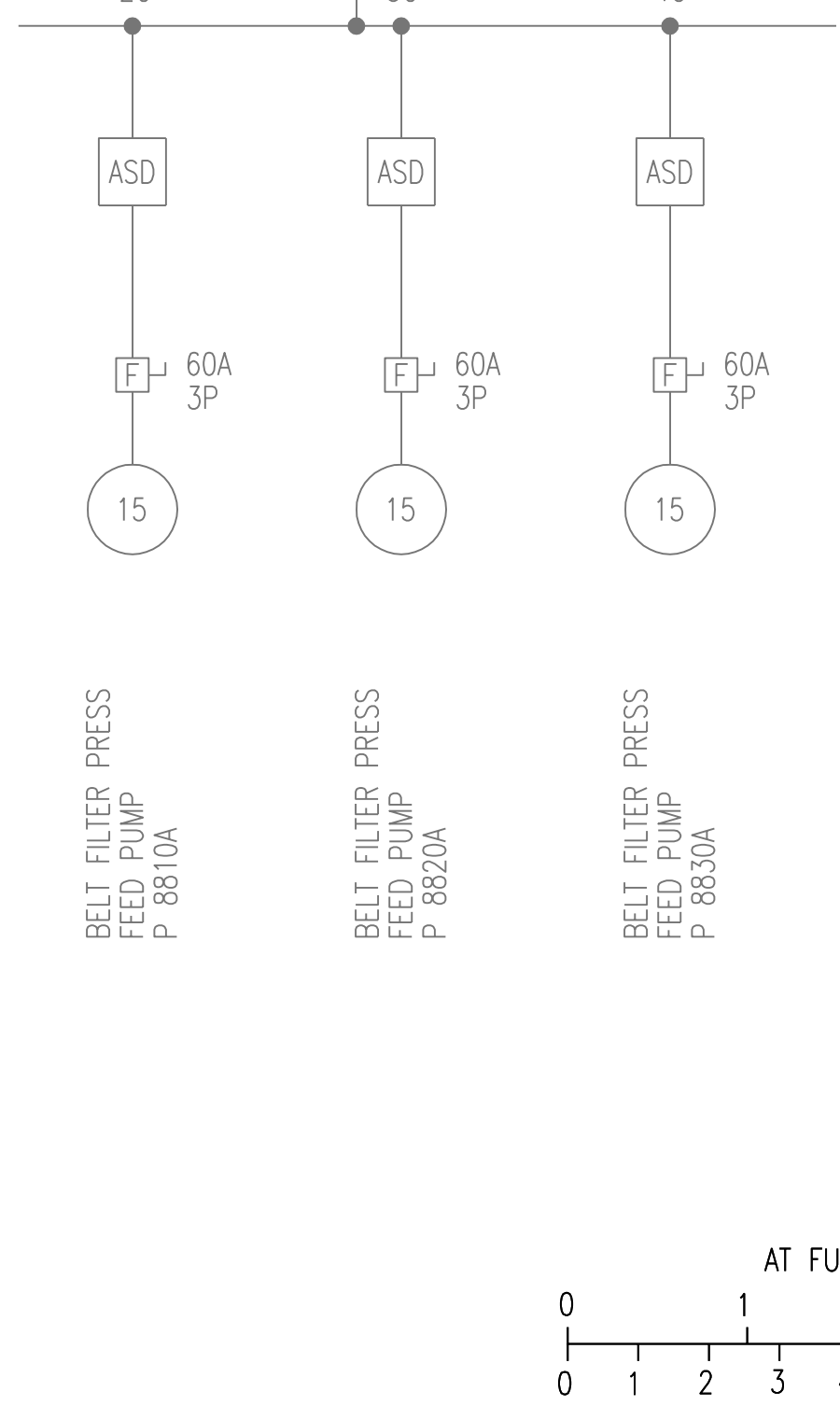


CADD: D1-R4

MCC-DG1 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4
A	AIR COMPRESSOR (BOILER ROOM)	CIRC WATER PUMP P 8831A	FUTURE SLUDGE GRINDER SC-3	SPARE
B	SPARE	CIRC WATER PUMP P 8832A	SLUDGE RECIRC PUMP SRP-1	VALVES FV8700 SERIES HEAT EXCHANGER HEP-1
C	SPARE	SPARE	SLUDGE RECIRC PUMP SRP-2	CIRC WATER PUMP P 8711A
D	SPARE	SPACE	SLUDGE RECIRC PUMP SRP-3	SPARE SIZE 1 FVNR
E	MAIN BREAKER DG-1	VALVES FV8600 SERIES	FUTURE SLUDGE RECIRC PUMP SRP-4	SPARE SIZE 1 FVNR
F	UIC-J8100A1	SLUDGE GRINDER SG-1	CIRC WATER PUMP P 8611A	SLUDGE GRINDER SG-2

- NOTES:**
- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
 - SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
 - CONFIRM ALL SCREENED MCCB, MCP, AND STARTERS THAT REMAINED FROM DEMOLITION FROM ASSOCIATED D SERIES OF DRAWINGS TO BE REUSED FOR NEW LOADS SHOWN AT SAME MCC BUCKET LOCATION.
 - ALL BOLD ITEMS SHOWN ARE NEW LOADS, WHERE ONLY A MOTOR IS BOLD IT REPRESENTS A NEW MOTOR TO BE REPLACED IN THE SAME LOCATION. CONTRACTOR TO CONFIRM EXISTING CONDUCTORING LENGTH IS ADEQUATE FOR TERMINATIONS TO NEW MOTOR.
 - WHERE BOLD ITEMS ARE SHOWN AND THE LINE IS BOLD BACK TO THE MCC CONTROL DEVICE, PROVIDE NEW CONDUCTORING AND RACEWAY AS SHOWN, WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL TO THE LOAD AT A DISCONNECT PROVIDE 3 #12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
 - MCC-DG1 IS LOCATED IN THE DIGESTER BUILDING AS SHOWN ON DRAWING E802.
 - E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	MBS	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

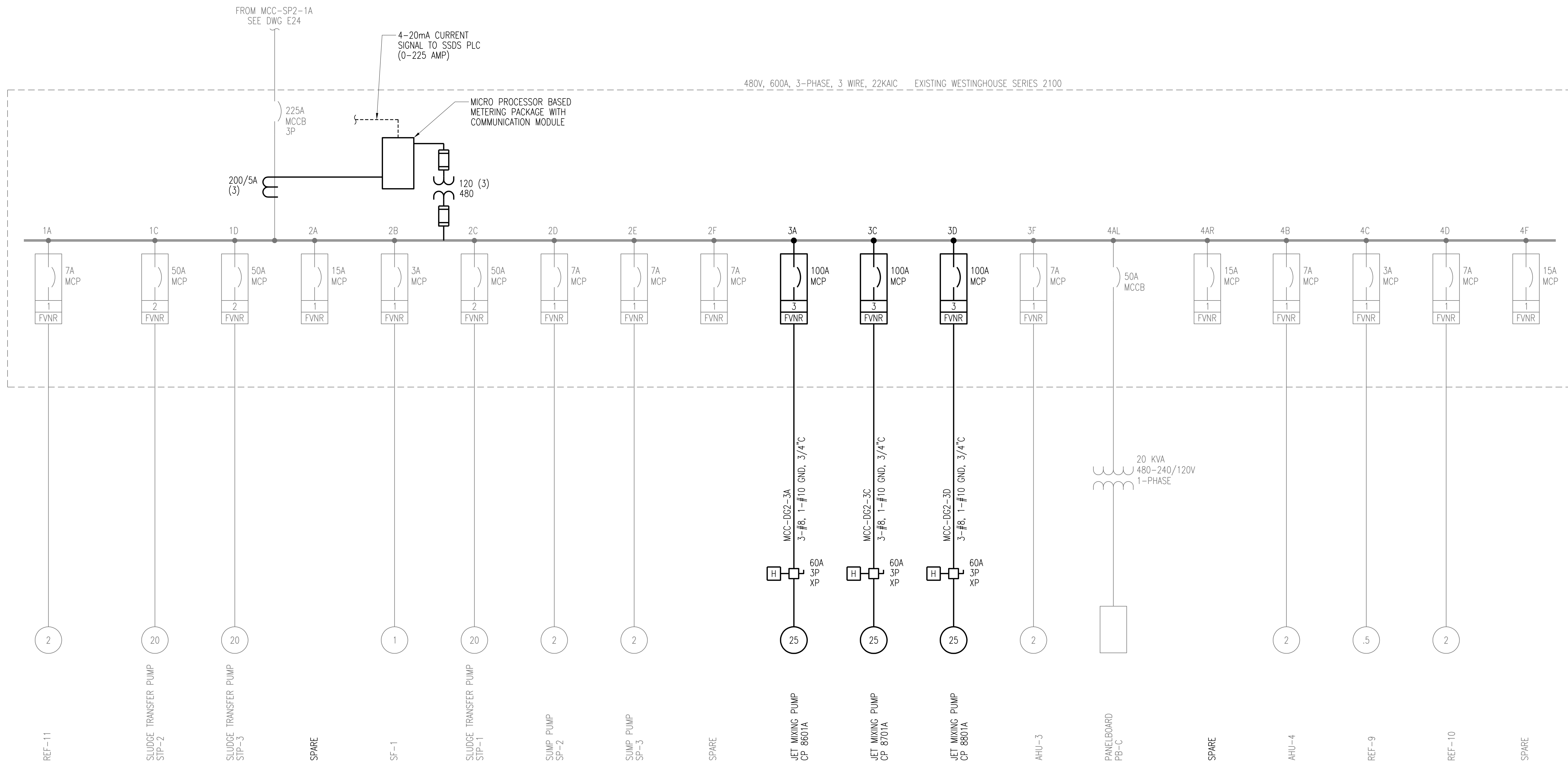
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www.stanleyconsultants.com

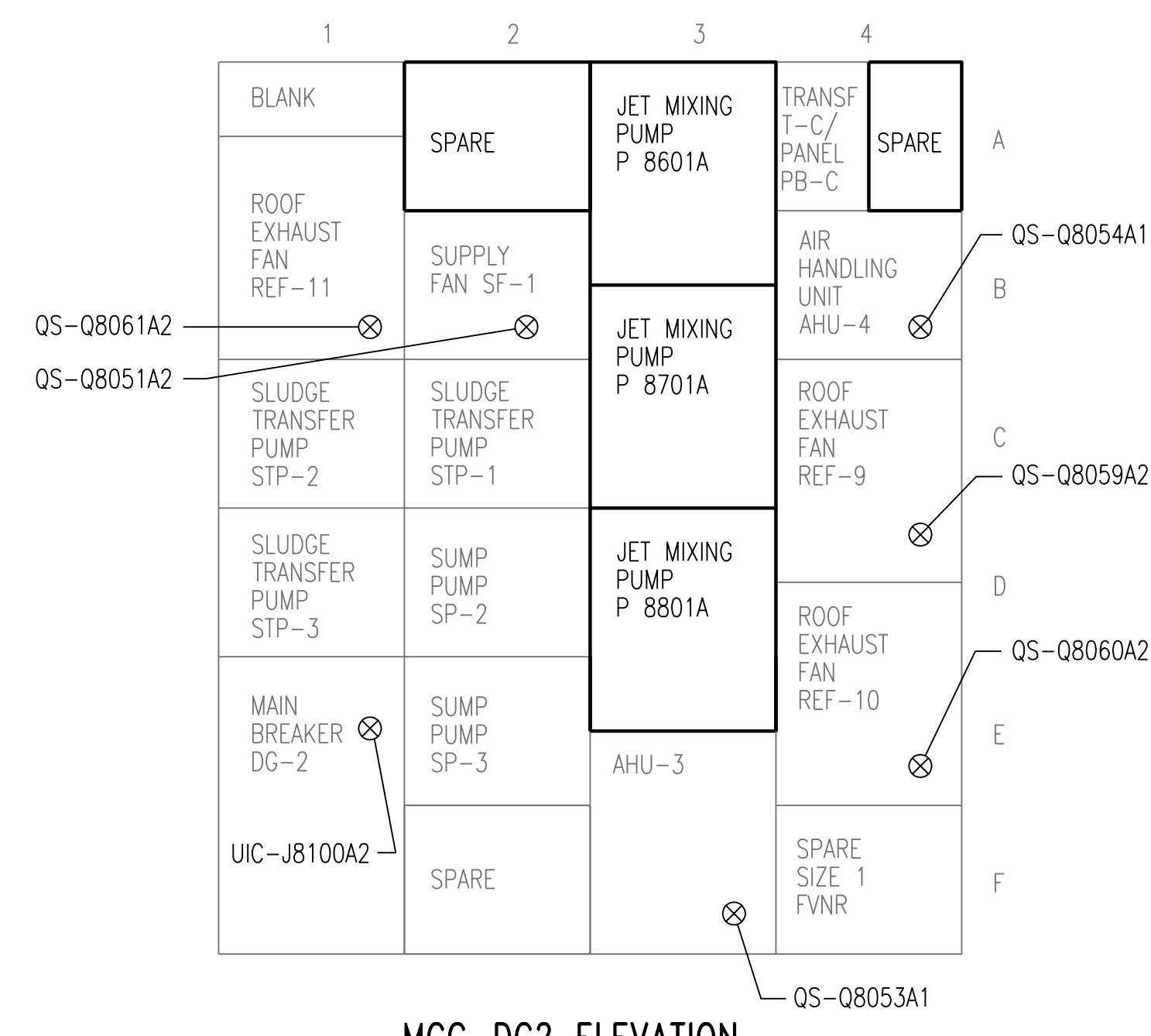
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-DG1 DIAGRAM AND ELEVATION
DIGESTER BUILDING**

DESIGNED MB SCHULZ	SCALE: NONE
DRAWN D. WILGES	NO. 22800
CHECKED DL MORITZ	REV. 3
APPROVED JD COGAN	E25
APPROVED	DECEMBER 2, 2011
DATE	



MCC-DG2 ELECTRICAL ONE-LINE DIAGRAM



- NOTES:**
- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
 - SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
 - CONFIRM ALL SCREENED MCCB, MCP, AND STARTERS THAT REMAINED FROM DEMOLITION FROM ASSOCIATED D SERIES OF DRAWINGS TO BE REUSED FOR NEW LOADS SHOWN AT SAME MCC BUCKET LOCATION.
 - ALL BOLD ITEMS SHOWN ARE NEW LOADS. WHERE ONLY A MOTOR IS BOLD IT REPRESENTS A NEW MOTOR TO BE REPLACED IN THE SAME LOCATION. CONTRACTOR TO CONFIRM EXISTING CONDUCTORING LENGTH IS ADEQUATE FOR TERMINATIONS TO NEW MOTOR.
 - WHERE BOLD ITEMS ARE SHOWN AND THE LINE IS BOLD BACK TO THE MCC CONTROL DEVICE, PROVIDE NEW CONDUCTORING AND RACEWAY AS SHOWN. WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL TO THE LOAD AT A DISCONNECT PROVIDE 3 #12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
 - MCC-DG2 IS LOCATED IN THE DIGESTER BUILDING AS SHOWN ON DRAWING E802.
 - E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

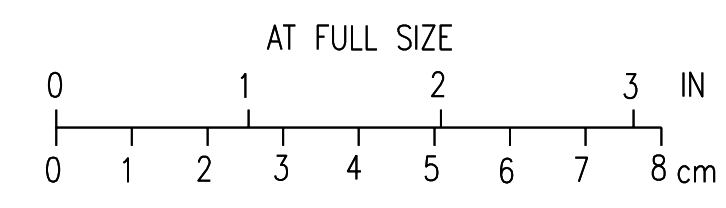
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	MBS	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



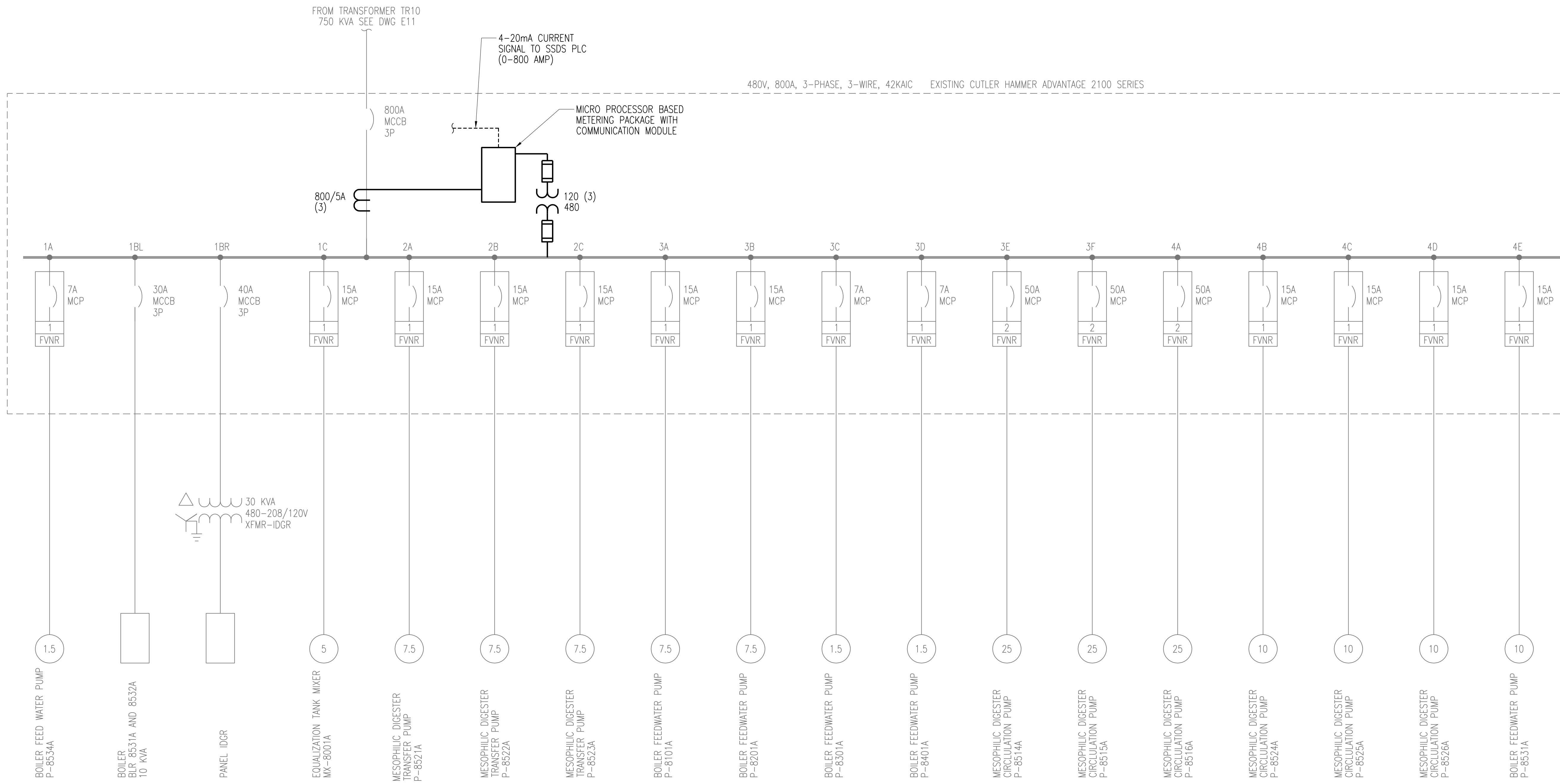
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-DG2 DIAGRAM AND ELEVATION
DIGESTER BUILDING**

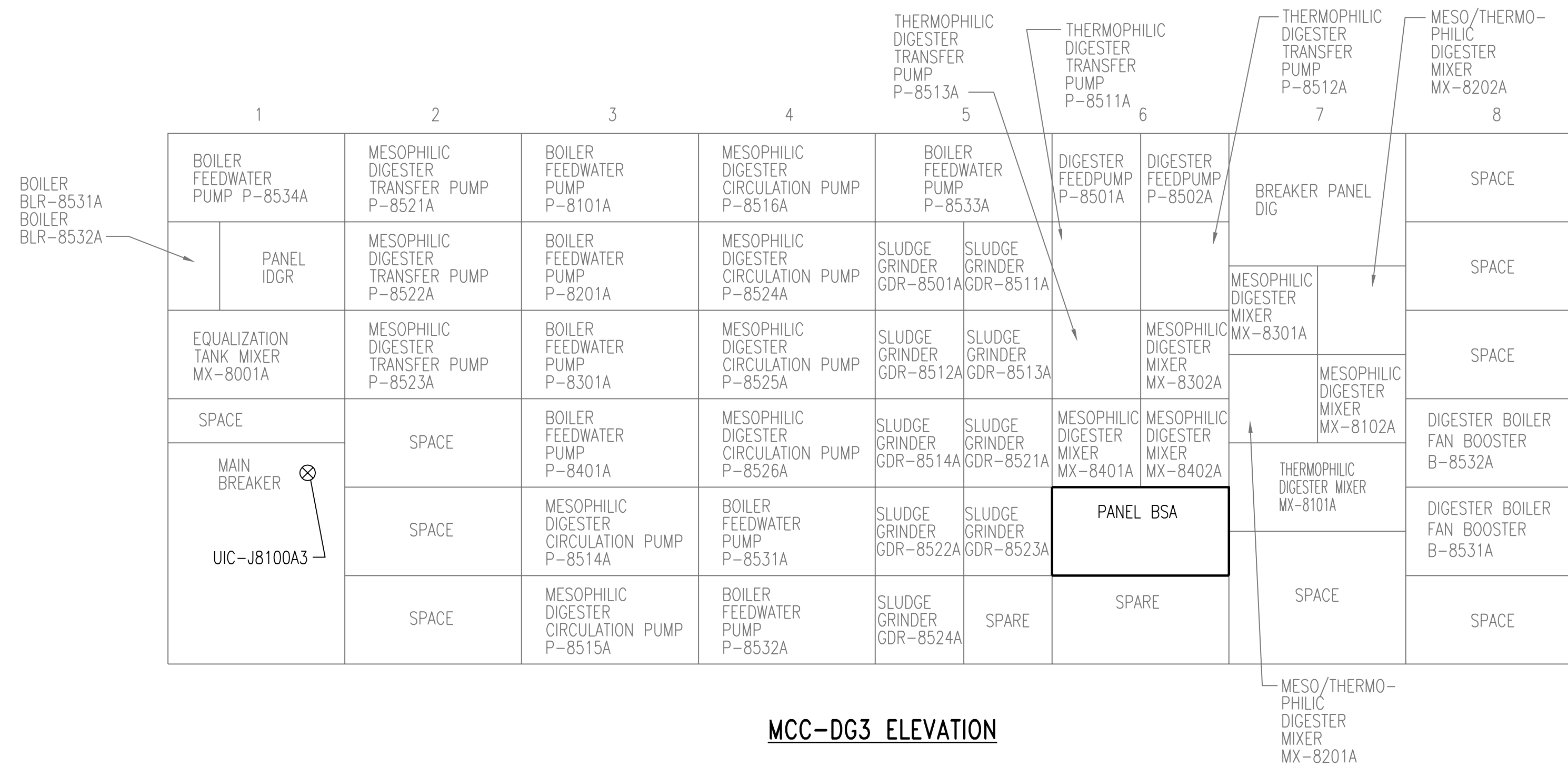
DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD D1-R4



MCC-DG3 ELECTRICAL ONE-LINE DIAGRAM



MCC-DG3 ELEVATION

NOTES:

- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
- SPACES SHOWN ON ELEVATIONS ARE NOT SHOWN ON ONE-LINE DIAGRAM.
- CONFIRM ALL SCREENED MCCB, MCP, AND STARTERS THAT REMAINED FROM DEMOLITION FROM ASSOCIATED D SERIES OF DRAWINGS TO BE REUSED FOR NEW LOADS SHOWN AT SAME MCC BUCKET LOCATION.
- ALL BOLD ITEMS SHOWN ARE NEW LOADS. WHERE ONLY A MOTOR IS BOLD IT REPRESENTS A NEW MOTOR TO BE REPLACED IN THE SAME LOCATION. CONTRACTOR TO CONFIRM EXISTING CONDUCTORING LENGTH IS ADEQUATE FOR TERMINATIONS TO NEW MOTOR.
- WHERE BOLD ITEMS ARE SHOWN AND THE LINE IS BOLD BACK TO THE MCC CONTROL DEVICE, PROVIDE NEW CONDUCTORING AND RACEWAY AS SHOWN. WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL TO THE LOAD AT A DISCONNECT PROVIDE 3 #12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
- MCC-DG3 IS LOCATED IN THE DIGESTER BUILDING AS SHOWN ON DRAWING E802.
- E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

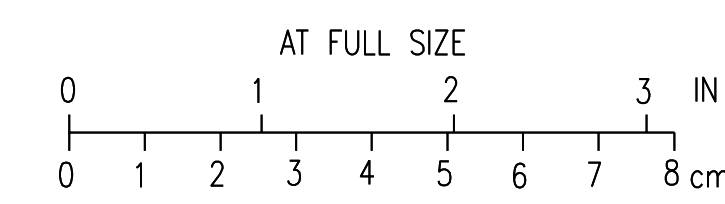
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	MBS	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



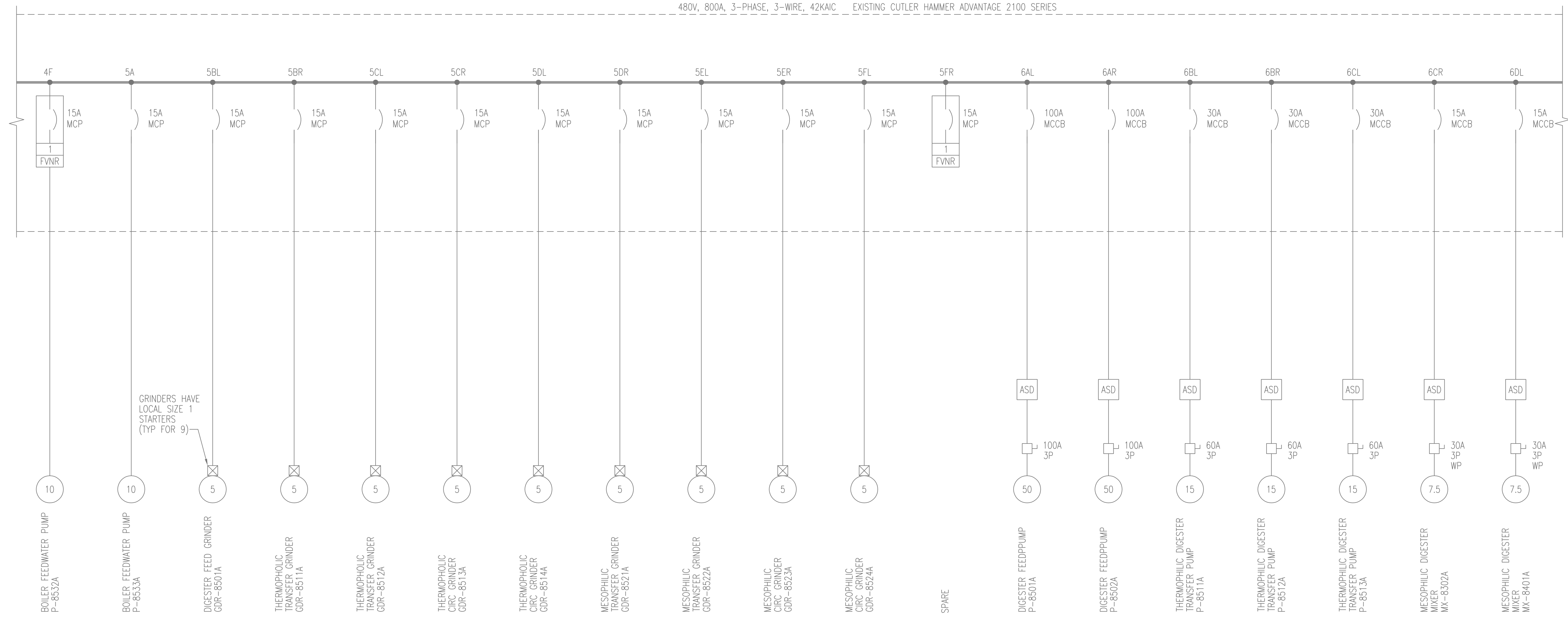
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-DG3 DIAGRAM AND ELEVATION
DIGESTER BUILDING - SHEET 1**

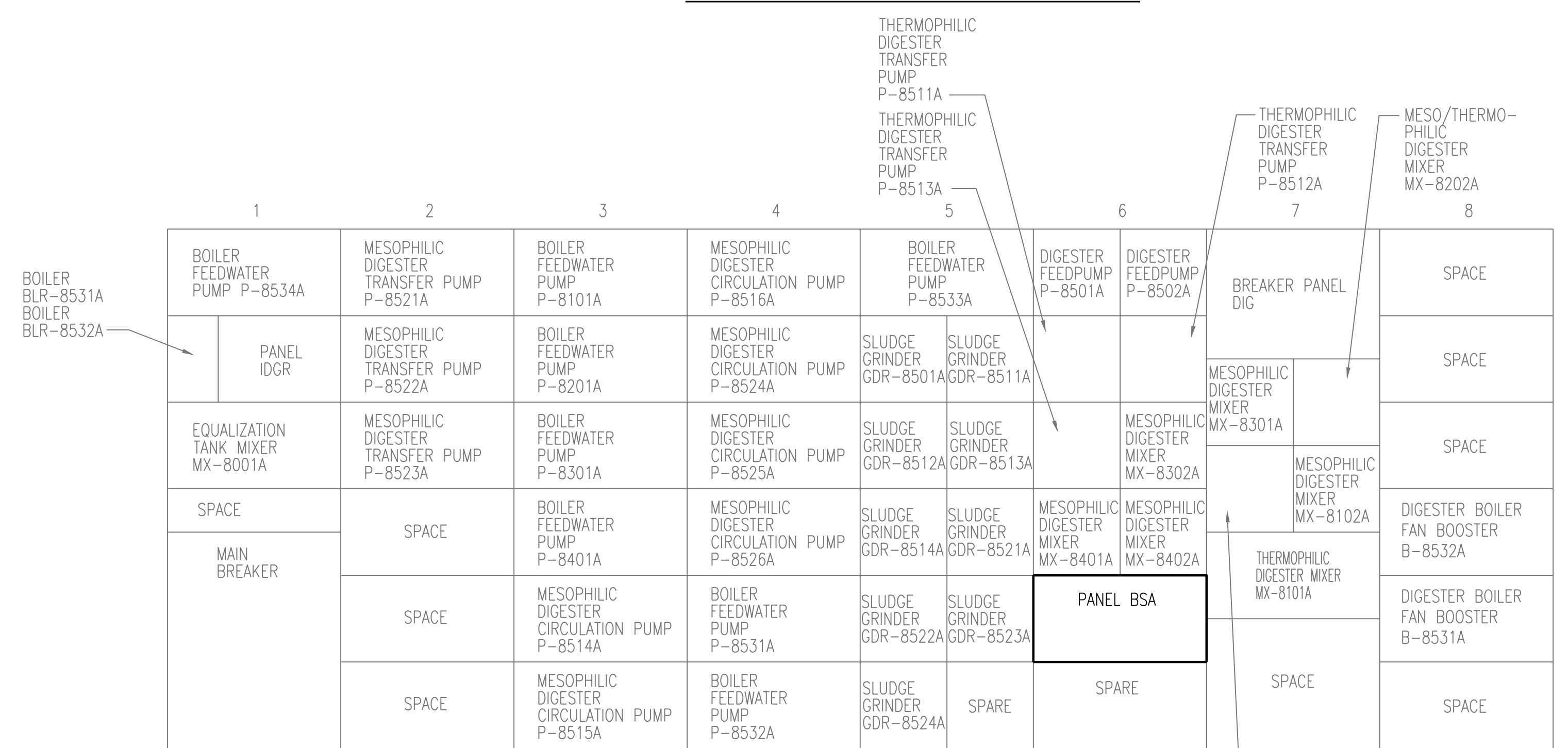
DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	MK GRAVES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



480V, 800A, 3-PHASE, 3-WIRE, 42KAIC EXISTING CUTLER HAMMER ADVANTAGE 2100 SERIES



MCC-DG3 ELECTRICAL ONE-LINE DIAGRAM

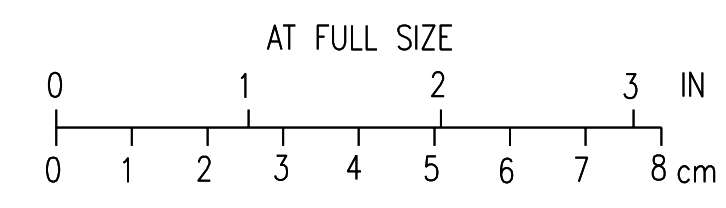


MCC-DG3 ELEVATION

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REMOVE NOTE	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	MBS	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

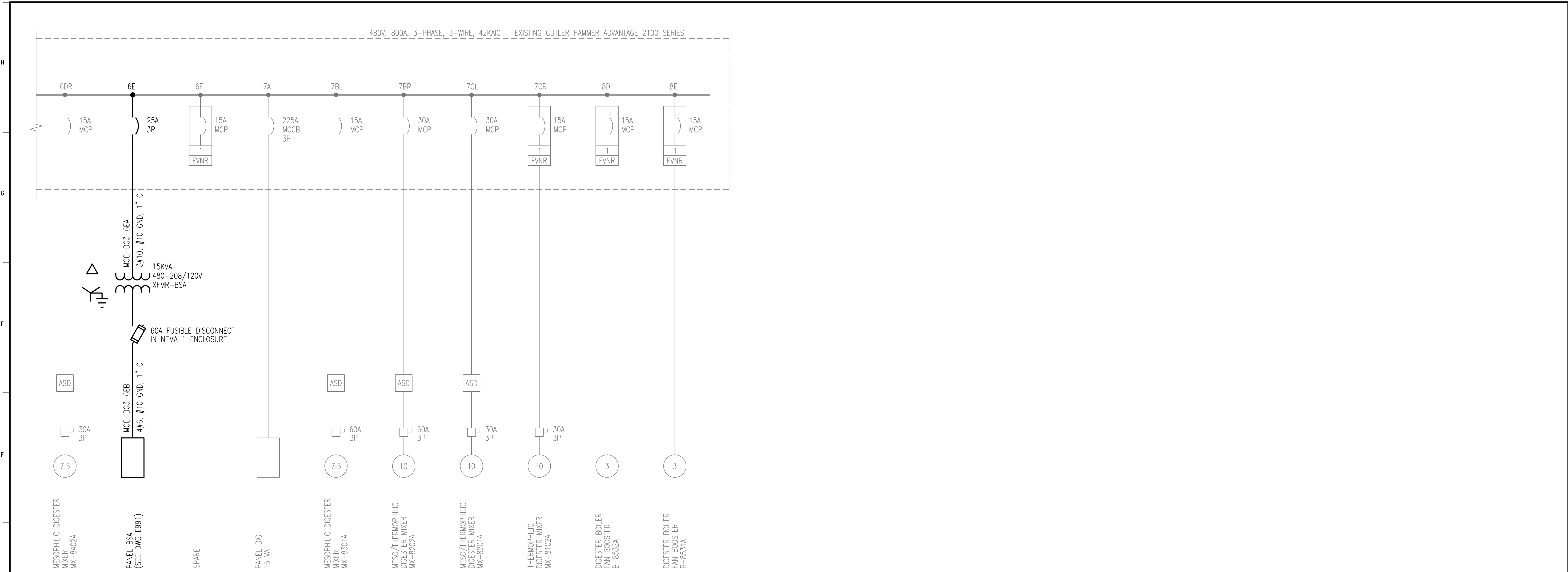

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 www.stanleyconsultants.com
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 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
ELECTRICAL ONE-LINE DIAGRAMS
MCC-DG3 DIAGRAM AND ELEVATION
DIGESTER BUILDING - SHEET 2

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	M. GRAVES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		

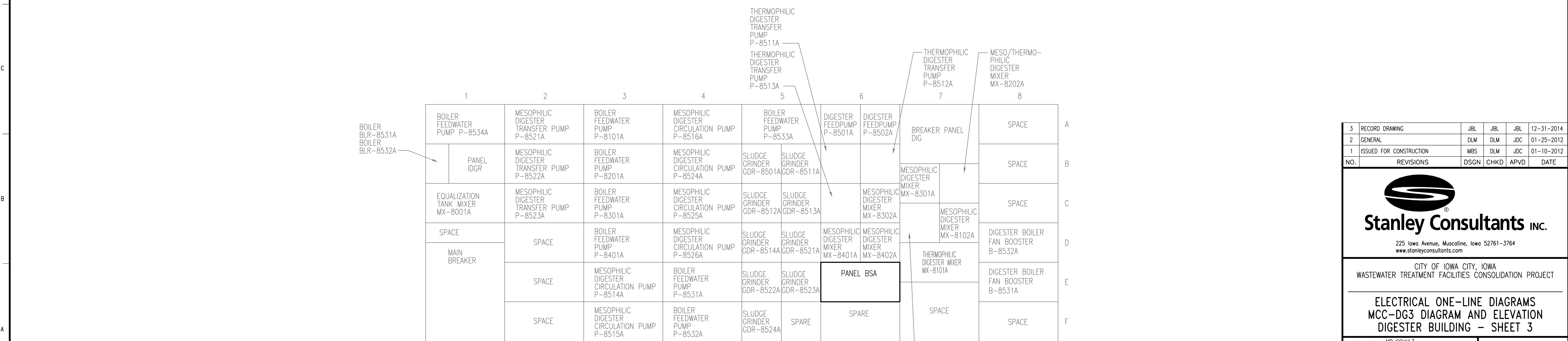


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CADD: D1-R4

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MCC-DG3 ELECTRICAL ONE-LINE DIAGRAM



MCC-DG3 ELEVATION

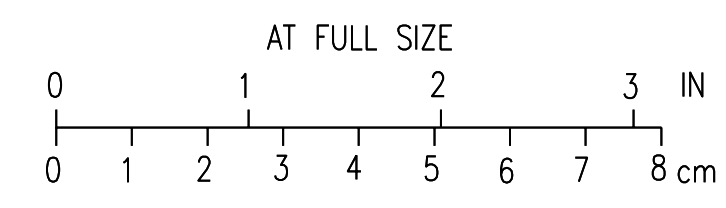
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	MBS	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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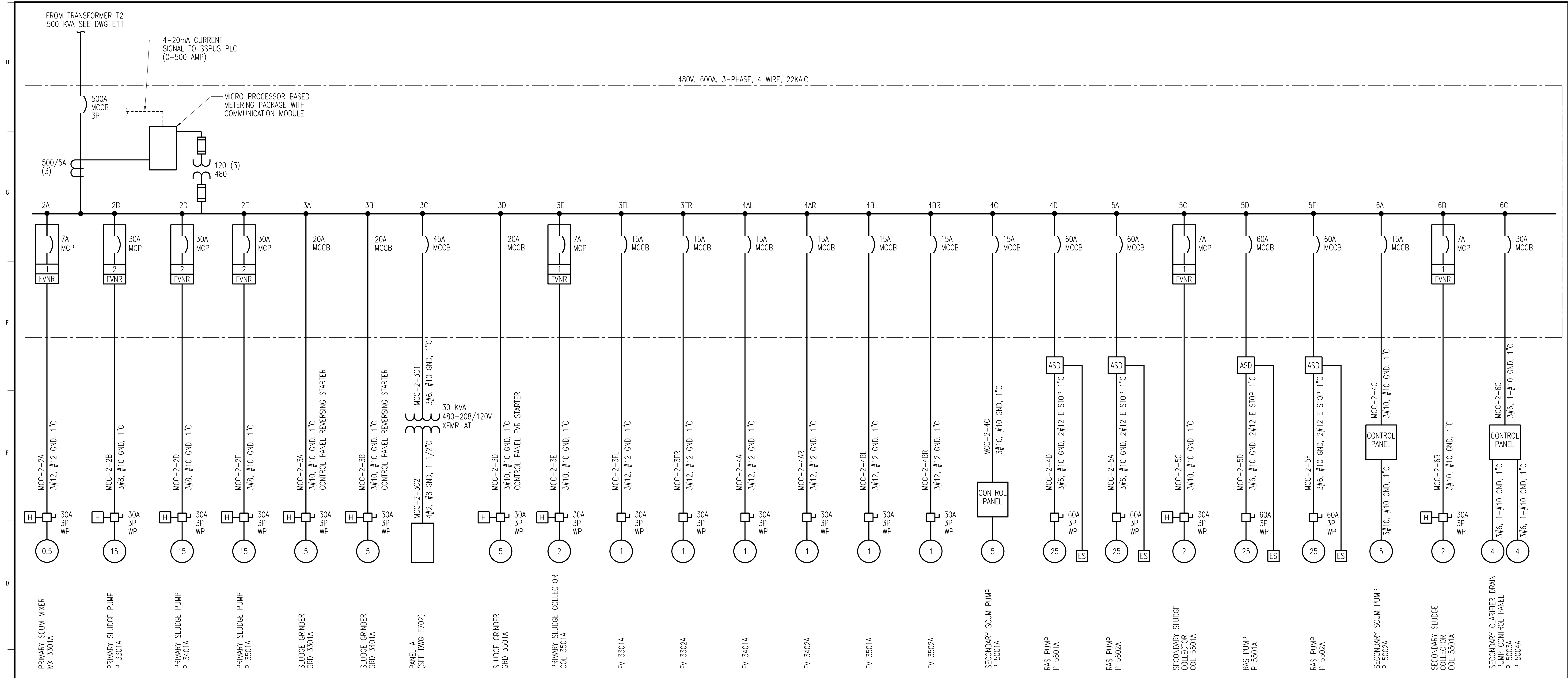
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

ELECTRICAL ONE-LINE DIAGRAMS
MCC-DG3 DIAGRAM AND ELEVATION
DIGESTER BUILDING - SHEET 3

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	MK GRAVES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
APPROVED			
DATE	DECEMBER 2, 2011		



CADD: D1-R4



MCC-2 ELECTRICAL ONE-LINE DIAGRAM

SEE ITC #27 SHEET E30-A

SEE ITC #26 SHEET E30-A

NOTES:

- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
- MCC-2 IS A NEW MCC AND ALL REQUIREMENTS SHOWN ARE A NEW INSTALLATION AS PART OF THIS CONTRACT.
- MCC-2 IS LOCATED IN THE SLUDGE PUMPING BUILDING AS SHOWN ON DRAWING E701 AND E702.
- WHERE AN HOA SWITCH IS SHOWN TO BE LOCAL TO THE LOAD AT A DISCONNECT PROVIDE 3#12 BACK TO STARTER TO MCC WITH REQUIRED ASSOCIATED CONTROL LOGIC PER P&ID DRAWINGS AND SEQUENCE OF OPERATION DESCRIPTIONS.
- E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

	1	2	3	4	5	6	
A	METERING	PRIMARY SCUM MIXER MX 3301A	SLUDGE GRINDER GRD 3301A	FV 3401A	FV 3402A	RAS PUMP P 5602A	SECONDARY SCUM PUMP P 5002A
B	SPACE	PRIMARY SLUDGE PUMP P 3301A	SLUDGE GRINDER GRD 3401A	FV 3501A	FV 3502A	SPARE	SECONDARY SLUDGE COLLECTOR COL 5501A
C	SPACE	PRIMARY SLUDGE PUMP P 3401A	XFMR PANEL A	SPARE	SECONDARY SLUDGE COLLECTOR COL 5601A	P 5003A P 5004A	
D	INCOMING SERVICE & MAIN CIRCUIT BREAKER	PRIMARY SLUDGE PUMP P 3501A	SLUDGE GRINDER GRD 3501A	RAS PUMP P 5601A	RAS PUMP P 5501A	SPACE	
E		PRIMARY SLUDGE PUMP P 3501A	PRIMARY SLUDGE COLLECTOR COL 3501A	SPACE	SPACE	SPACE	
F	SPACE		FV 3301A FV 3302A	SPACE	RAS PUMP P 5502A	SPACE	

MCC-2 ELEVATION



3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	MBS	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-2 DIAGRAM AND ELEVATION
SLUDGE PUMPING BUILDING**

DESIGNED	MB SCHULZ	SCALE:	NONE
DRAWN	D. WILGES	NO.	22800
CHECKED	DL MORITZ	REV.	
APPROVED	JD COGAN		
DATE	DECEMBER 2, 2011		

E30 3

CADD: D1-R4

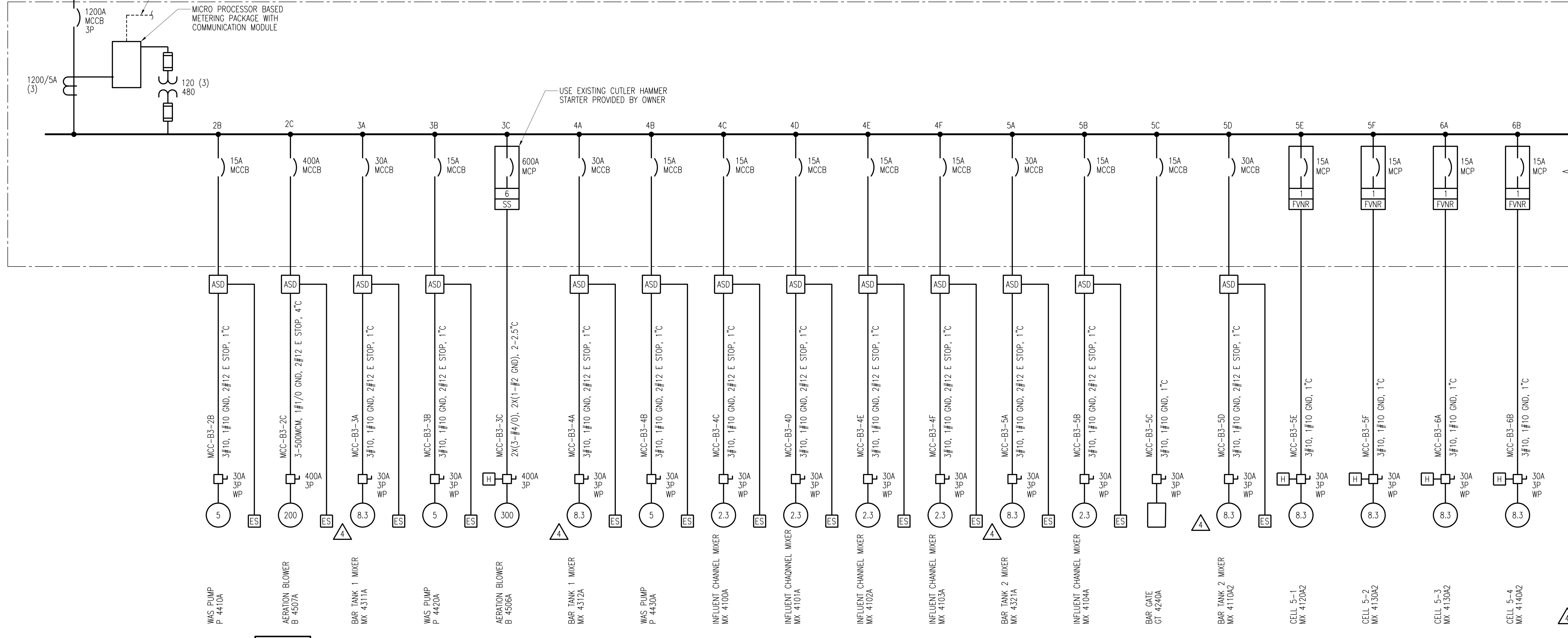
FROM TRANSFORMER T4A
1000 KVA SEE DWG E11

4-20MA CURRENT
SIGNAL TO SABS PLC
(0-1200 AMP)

MICRO PROCESSOR BASED
METERING PACKAGE WITH
COMMUNICATION MODULE

480V, 1200A, 3-PHASE, 4 WIRE, 42KAIC (PROVIDE CUTLER HAMMER ADVANTAGE 2100 SERIES TO BE ABLE TO USE EXISTING SOFT STARTER FOR BLOWER B4506A)

USE EXISTING CUTLER HAMMER
STARTER PROVIDED BY OWNER



SEE RFI #57

MCC-B3 ELECTRICAL ONE-LINE DIAGRAM

	1	2	3	4	5	6	
INCOMING SERVICE & MAIN CIRCUIT BREAKER	METERING UIC-J4100A3	BAR TANK 1 MIXER MX 4311A	BAR TANK 1 MIXER MX 4312A	BAR TANK 2 MIXER MX 4321A	CELL 5-3 MX 4130A2		A
	WAS PUMP P 4410A	WAS PUMP P 4420A	WAS PUMP P 4430A	INFLUENT CHANNEL MIXER MX 4104A	CELL 5-4 MX 4140A2		B
	AERATION BLOWER B 4507A	AERATION BLOWER B 4506A	INFLUENT CHANNEL MIXER MX 4100A	SPARE	CELL 10-1 MX 4110A1		C
			INFLUENT CHANNEL MIXER MX 4101A	BAR TANK 2 MIXER MX 4322A	CELL 10-2 MX 4120A1		D
INFLUENT CHANNEL MIXER MX 4102A			CELL 5-1 MX 4110A2	CELL 10-3 MX 4130A1		E	
		INFLUENT CHANNEL MIXER MX 4103A	CELL 5-2 MX 4120A2	CELL 10-4 MX 4140A1		F	

MCC-B3 ELEVATION

- NOTES:**
- SEE DRAWING G9 FOR ONE LINE DIAGRAM LEGEND.
 - MCC-B3 IS A NEW MCC AND ALL REQUIREMENTS SHOWN ARE A NEW INSTALLATION AS PART OF THIS CONTRACT.
 - MCC-B3 IS LOCATED IN THE BLOWER BUILDING AS SHOWN ON DRAWING E420.
 - E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.
 - SEE ITC #03 SHEET E31-A
6. ITC #05 SHEET E31-A

Δ DELETE SECTIONS 5E, 5F, 6A, AND 6B CELL MIXERS 5-1, 5-2, 5-3, AND 5-4 AND SHOW AS SPARE STARTERS.

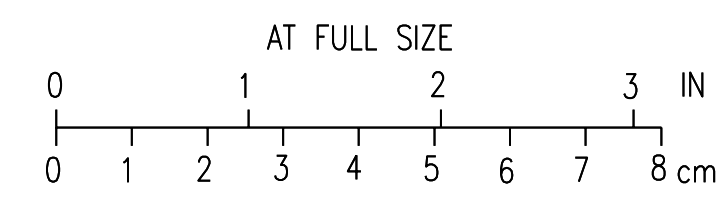
NO.	REVISIONS	DSGN	CHKD	APVD	DATE
5	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
4	REVISED PER RFI #12	DLM	JBL	JBL	08-01-2012
3	ADDED ADDENDUM COMMENT	LJO	JBL	JBL	05-11-2012
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	MBS	DLM	JDC	01-10-2012

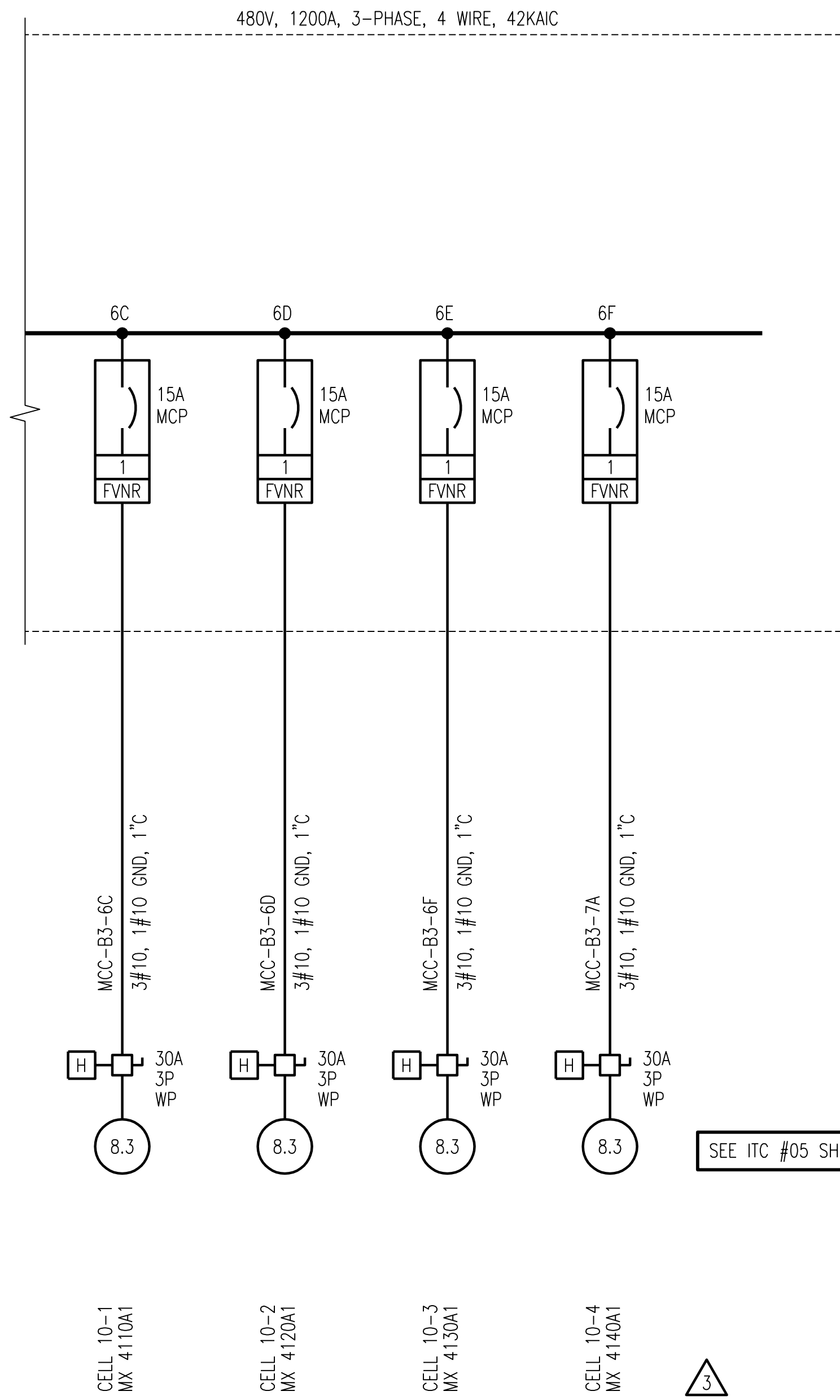
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WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-B3 DIAGRAM AND ELEVATION
AERATION TANKS - SHEET 1**

DESIGNED MB SCHULZ	SCALE: NONE
DRAWN D.WILGUS	NO. 22800
CHECKED DL MORITZ	REV. 5
APPROVED JD COGAN	
DATE DECEMBER 2, 2011	





SEE ITC #03 SHEET E32-A

SEE ITC #05 SHEET E32-A

MCC-B3 ELECTRICAL ONE-LINE DIAGRAM

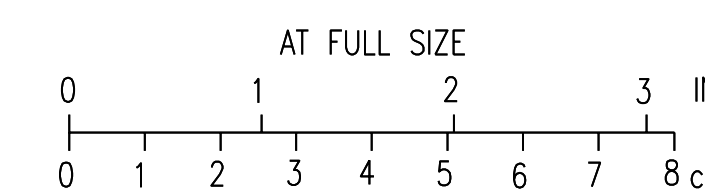
- NOTES:**
1. E STOP WIRING SHOWN TO BE ROUTED TO ASD AND THEN ON TO PLC CONTROLLER ASSOCIATED TO ASD. SEE MOTOR SCHEMATICS FOR DETAILS.

	1	2	3	4	5	6	
INCOMING SERVICE & MAIN CIRCUIT BREAKER	METERING UIC-J4100A3	BAR TANK 1 MIXER MX 4311A	BAR TANK 1 MIXER MX 4312A	BAR TANK 2 MIXER MX 4321A	CELL 5-3 MX 4130A2		A
	WAS PUMP P 4410A	WAS PUMP P 4420A	WAS PUMP P 4430A	INFLUENT CHANNEL MIXER MX 4104A	CELL 5-4 MX 4140A2		B
	AERATION BLOWER B 4507A	AERATION BLOWER B 4506A	INFLUENT CHANNEL MIXER MX 4100A	SPARE	CELL 10-1 MX 4110A1		C
			INFLUENT CHANNEL MIXER MX 4101A	BAR TANK 2 MIXER MX 4322A	CELL 10-2 MX 4120A1		D
INFLUENT CHANNEL MIXER MX 4102A			CELL 5-1 MX 4110A2	CELL 10-3 MX 4130A1		E	
		INFLUENT CHANNEL MIXER MX 4103A	CELL 5-2 MX 4120A2	CELL 10-4 MX 4140A1		F	

SEE ITC #05 SHEET E32-A

3

MCC-B3 ELEVATION



4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER RFI #12	DLM	JLB	JLB	08-01-2012
2	GENERAL	DLM	DLM	JDC	01-25-2012
1	ISSUED FOR CONSTRUCTION	MBS	DLM	JDC	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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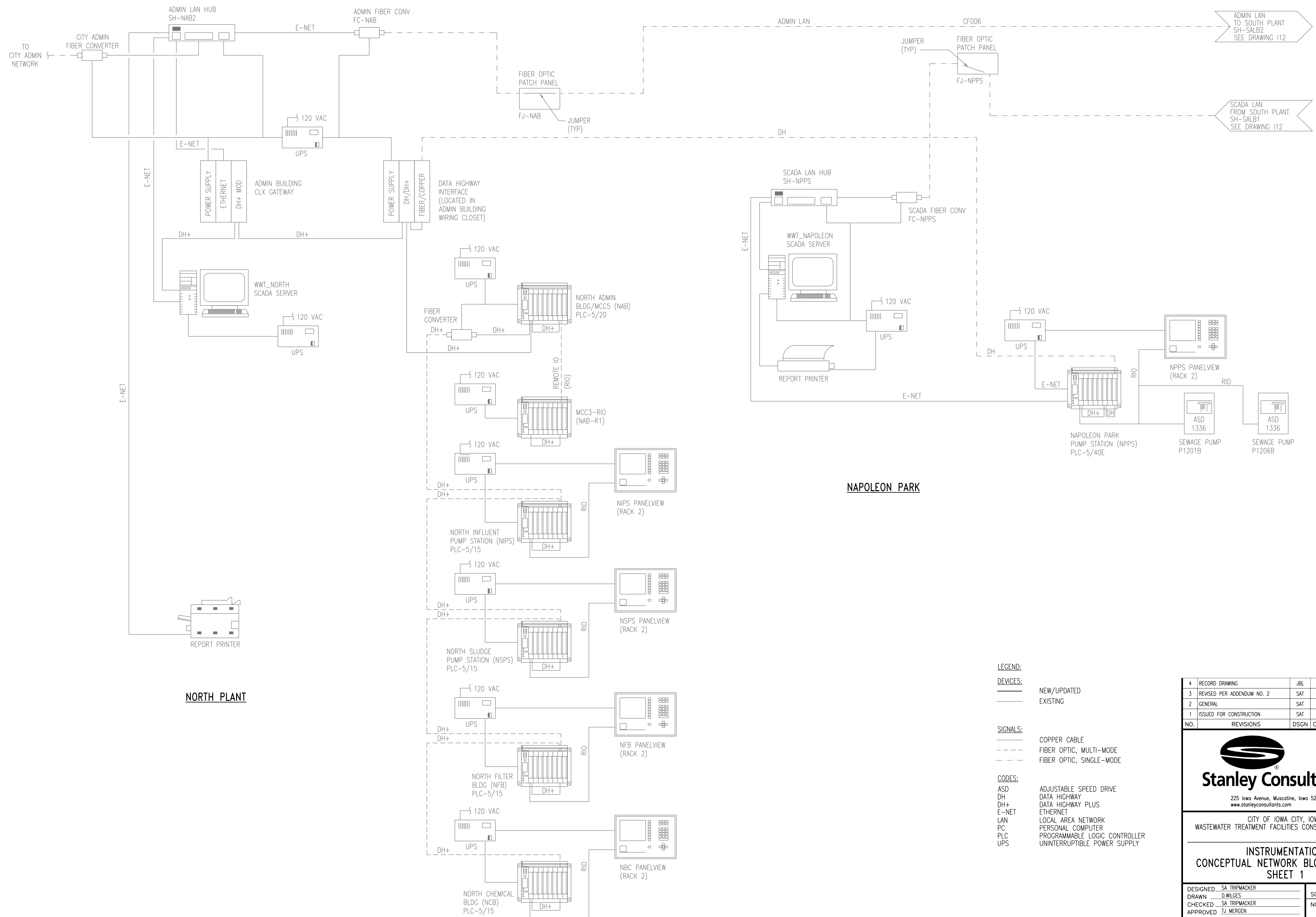
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**ELECTRICAL ONE-LINE DIAGRAMS
MCC-B3 DIAGRAM AND ELEVATION
AERATION TANK - SHEET 2**

DESIGNED MB SCHULZ	SCALE: NONE	REV. 4
DRAWN D. WILGES	NO. 22800	
CHECKED DL MORITZ		
APPROVED JD COGAN		
APPROVED		
DATE DECEMBER 2, 2011		

CADD: D1-R4




NAPOLEON PARK

NORTH PLANT

- LEGEND:**
- DEVICES:**
- NEW/UPDATED
 - - - EXISTING
- SIGNALS:**
- COPPER CABLE
 - - - FIBER OPTIC, MULTI-MODE
 - · - FIBER OPTIC, SINGLE-MODE
- CODES:**
- ASD ADJUSTABLE SPEED DRIVE
 - DH DATA HIGHWAY
 - DH+ DATA HIGHWAY PLUS
 - E-NET ETHERNET
 - LAN LOCAL AREA NETWORK
 - PC PERSONAL COMPUTER
 - PLC PROGRAMMABLE LOGIC CONTROLLER
 - UPS UNINTERRUPTIBLE POWER SUPPLY

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
2	GENERAL	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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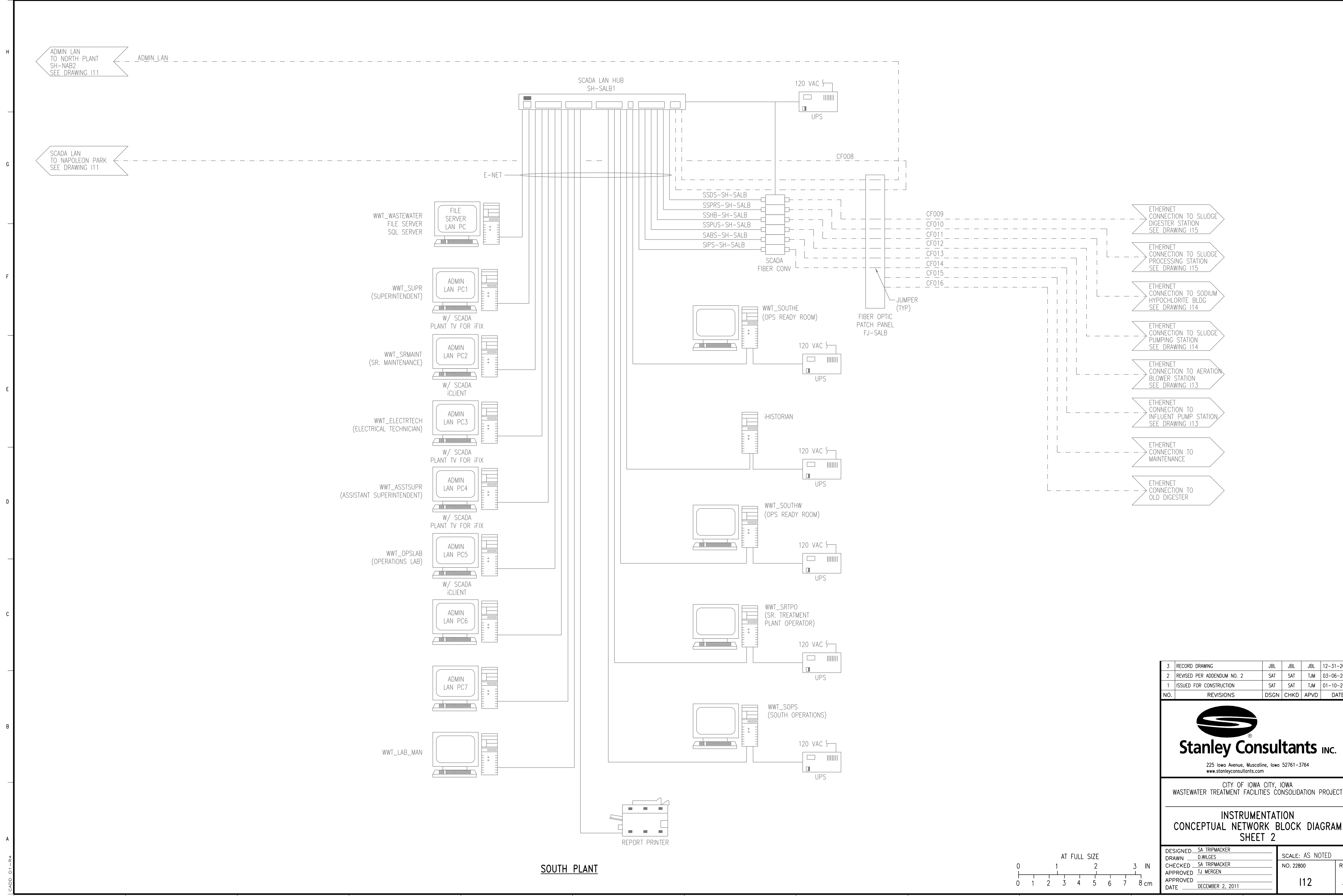
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**INSTRUMENTATION
CONCEPTUAL NETWORK BLOCK DIAGRAM
SHEET 1**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED
DRAWN D.WILGES	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ MERGEN	111
APPROVED	4
DATE DECEMBER 2, 2011	

CADD: D1-R4



SOUTH PLANT

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

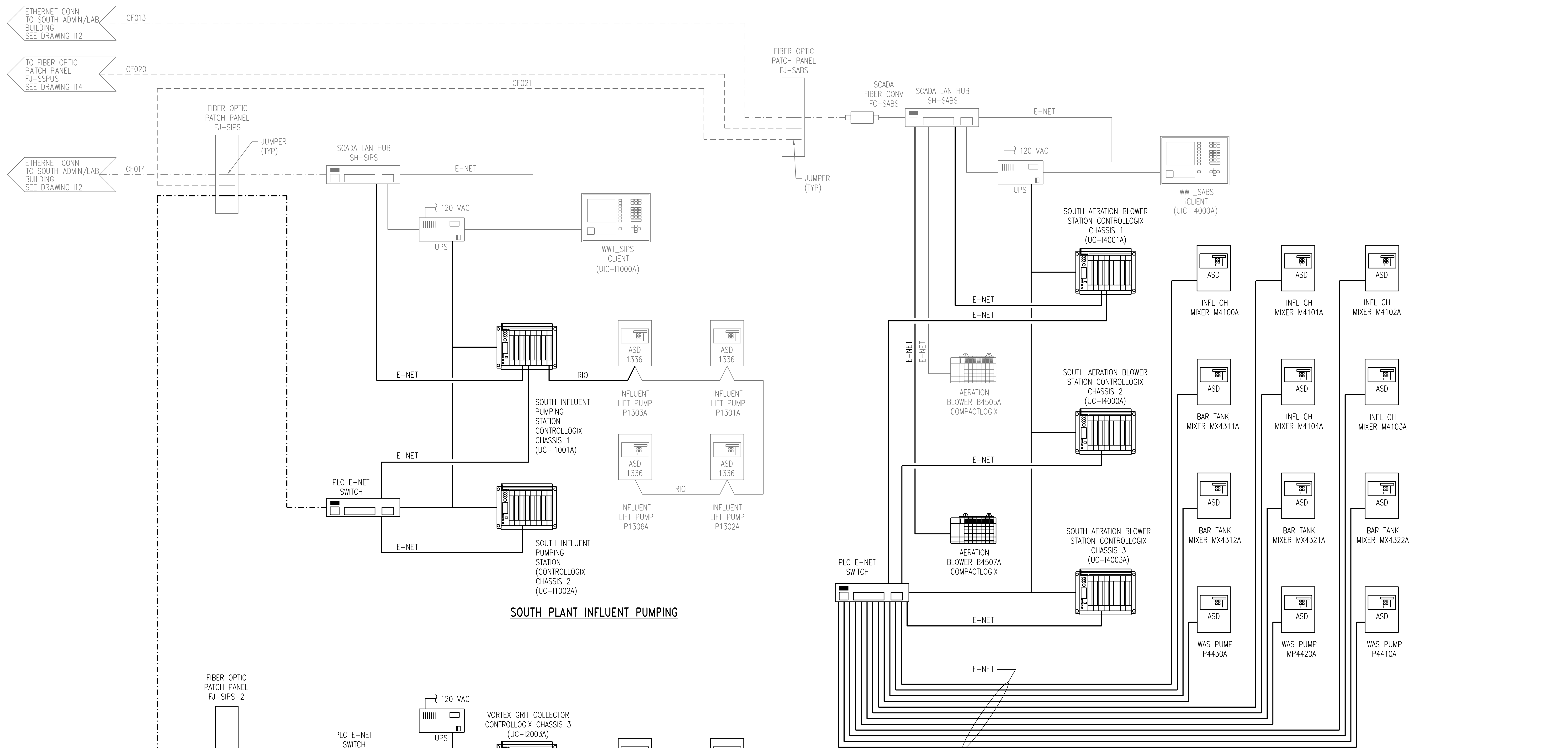

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
INSTRUMENTATION
CONCEPTUAL NETWORK BLOCK DIAGRAM
SHEET 2

DESIGNED	SA TRIPMACKER	SCALE:	AS NOTED
DRAWN	D.WILGES	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED		112	3
DATE	DECEMBER 2, 2011		



CADD: D1-R4



SOUTH PLANT INFLUENT PUMPING

SOUTH VORTEX GRIT COLLECTOR

SOUTH PLANT AERATION BLOWER

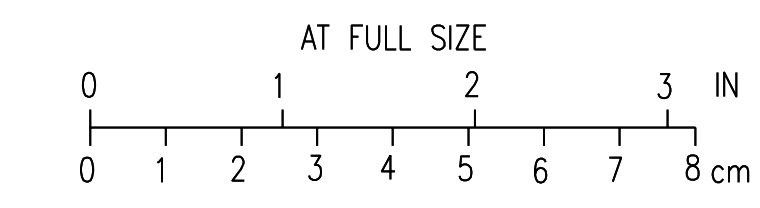
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3	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
2	NEW UPS	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**INSTRUMENTATION
 CONCEPTUAL NETWORK BLOCK DIAGRAM
 SHEET 3**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 4
DRAWN D. WILGES			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
APPROVED	113		
DATE DECEMBER 2, 2011			



CADD: D1-R4

ETHERNET CONN TO SOUTH ADMIN/LAB BUILDING SEE DRAWING 112
CF011

TO FIBER OPTIC PATCH PANEL FJ-SSPRS SEE DRAWING 113
CF018

ETHERNET CONN TO SOUTH ADMIN/LAB BUILDING SEE DRAWING 112
CF012

TO FIBER OPTIC PATCH PANEL FJ-SABS SEE DRAWING 115
CF020

FIBER OPTIC PATCH PANEL FJ-SSPUS

JUMPER (TYP)

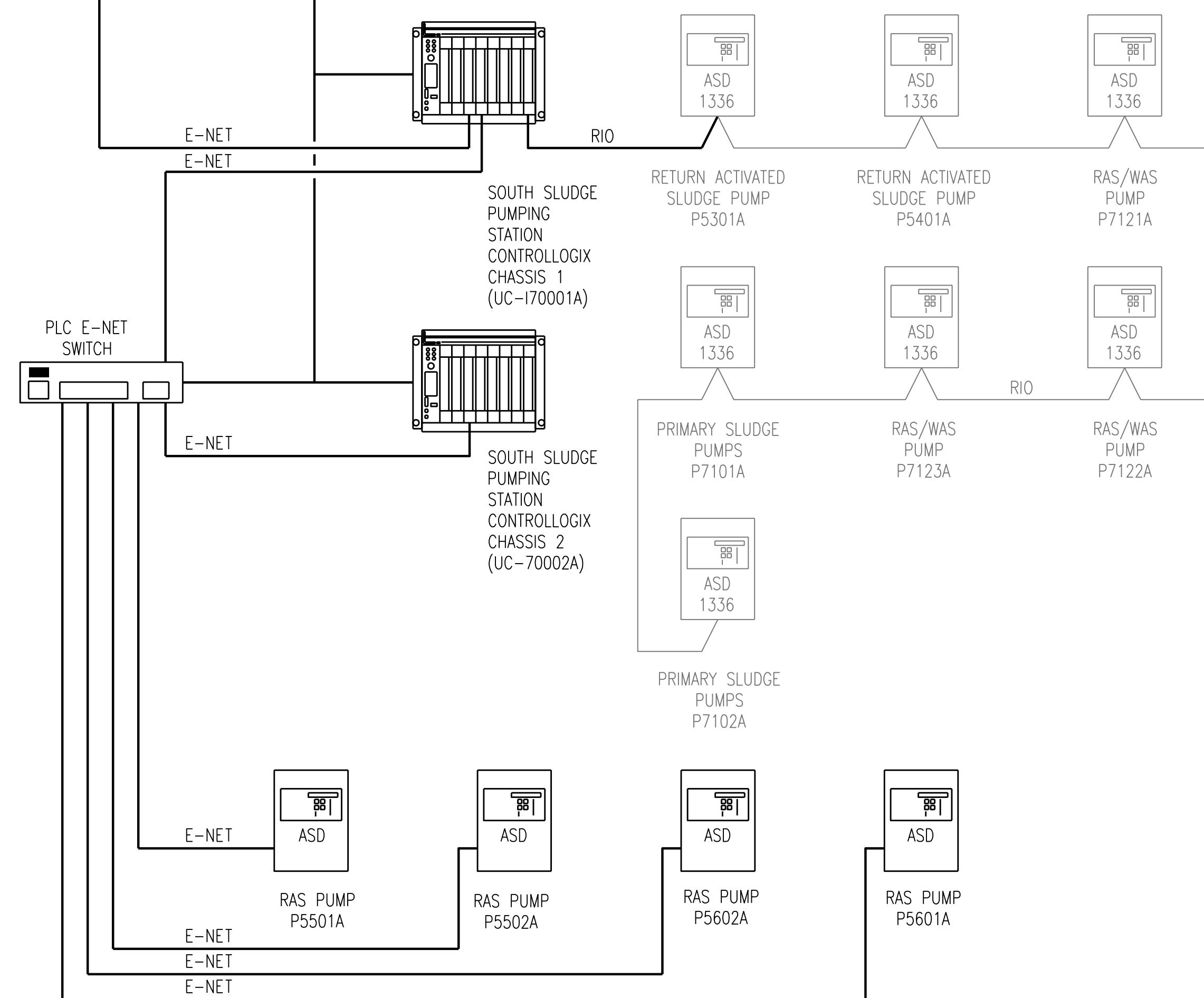
SCADA LAN HUB SH-SSPUS

E-NET

UPS 120 VAC

WWT_SSPUS iCLIENT (UIC-17000A)

PLC E-NET SWITCH



SOUTH PLANT SLUDGE PUMPING

FIBER OPTIC PATCH PANEL FJ-SSHB

JUMPER (TYP)

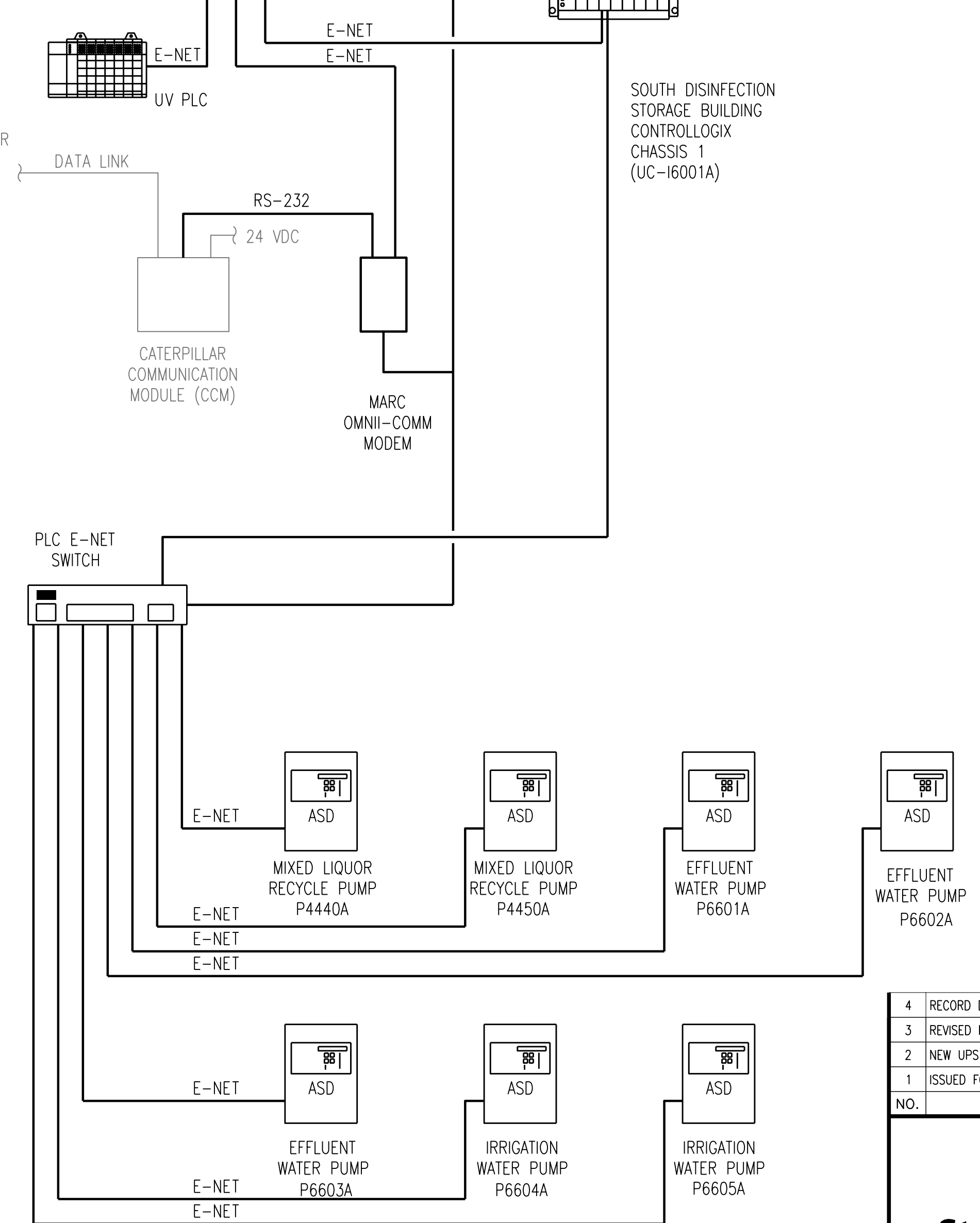
SCADA LAN HUB SH-SSHB

E-NET

UPS 120 VAC

(UC-16000A) (UIC-16000A)

WWT_SDSB (iCLIENT)



SOUTH PLANT DISINFECTION STORAGE

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
2	NEW UPS	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

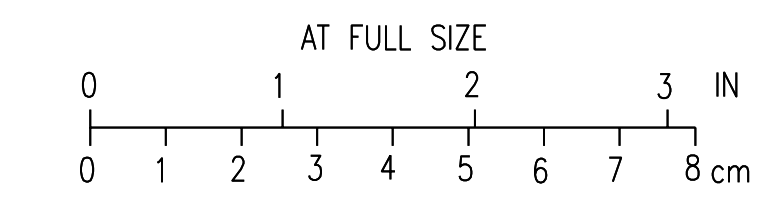
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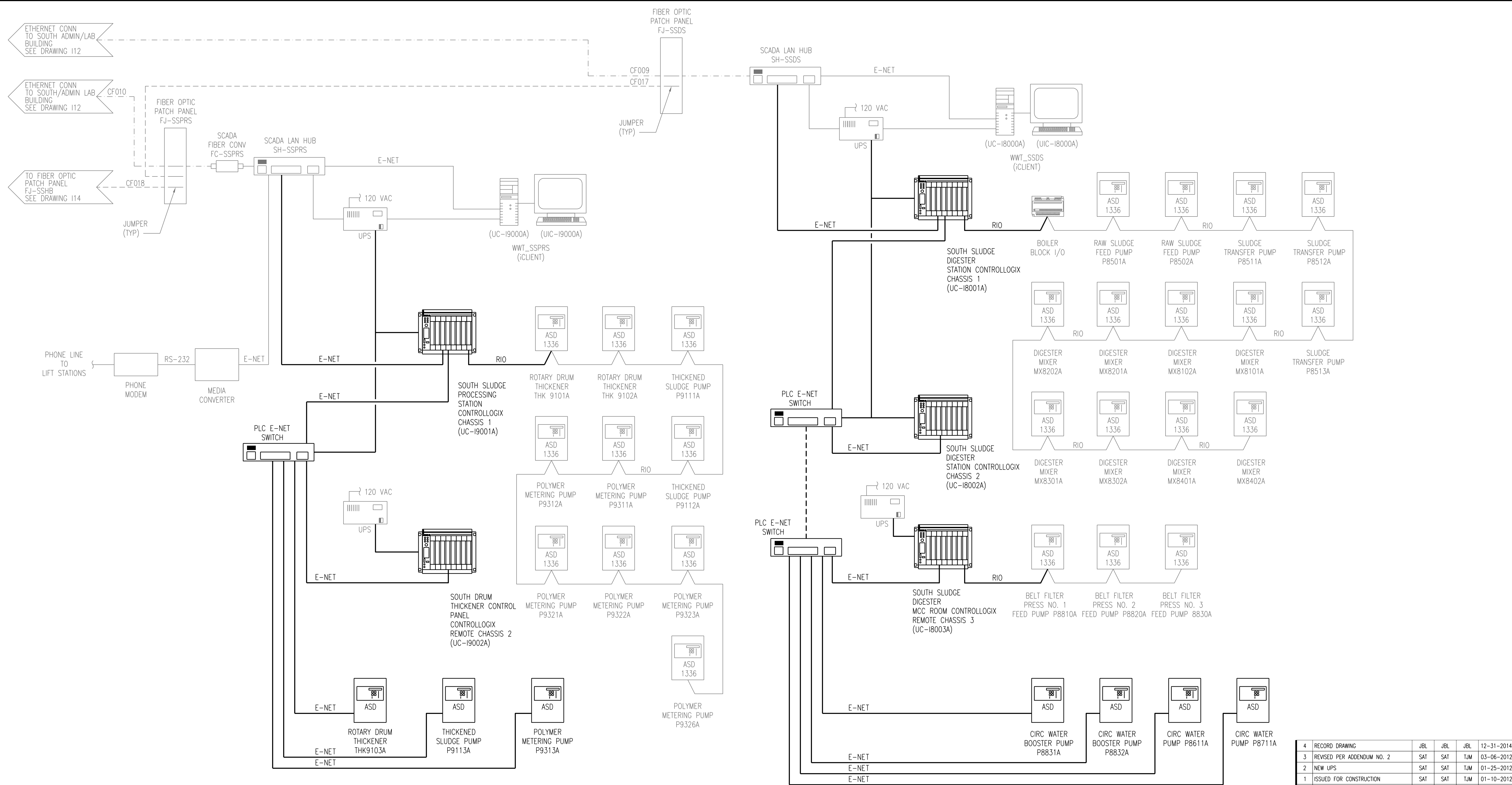
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**INSTRUMENTATION
CONCEPTUAL NETWORK BLOCK DIAGRAM
SHEET 4**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 4
DRAWN D. WILGES			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
DATE DECEMBER 2, 2011			



CADD: D1-R4



SOUTH PLANT SLUDGE PROCESSING

SOUTH PLANT SLUDGE DIGESTERS

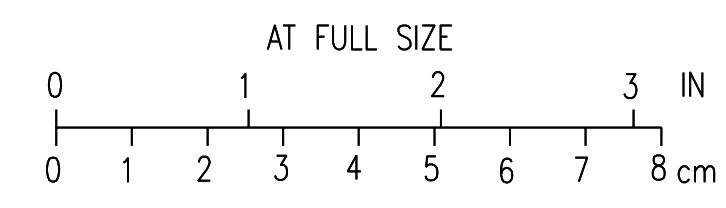
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3	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
2	NEW UPS	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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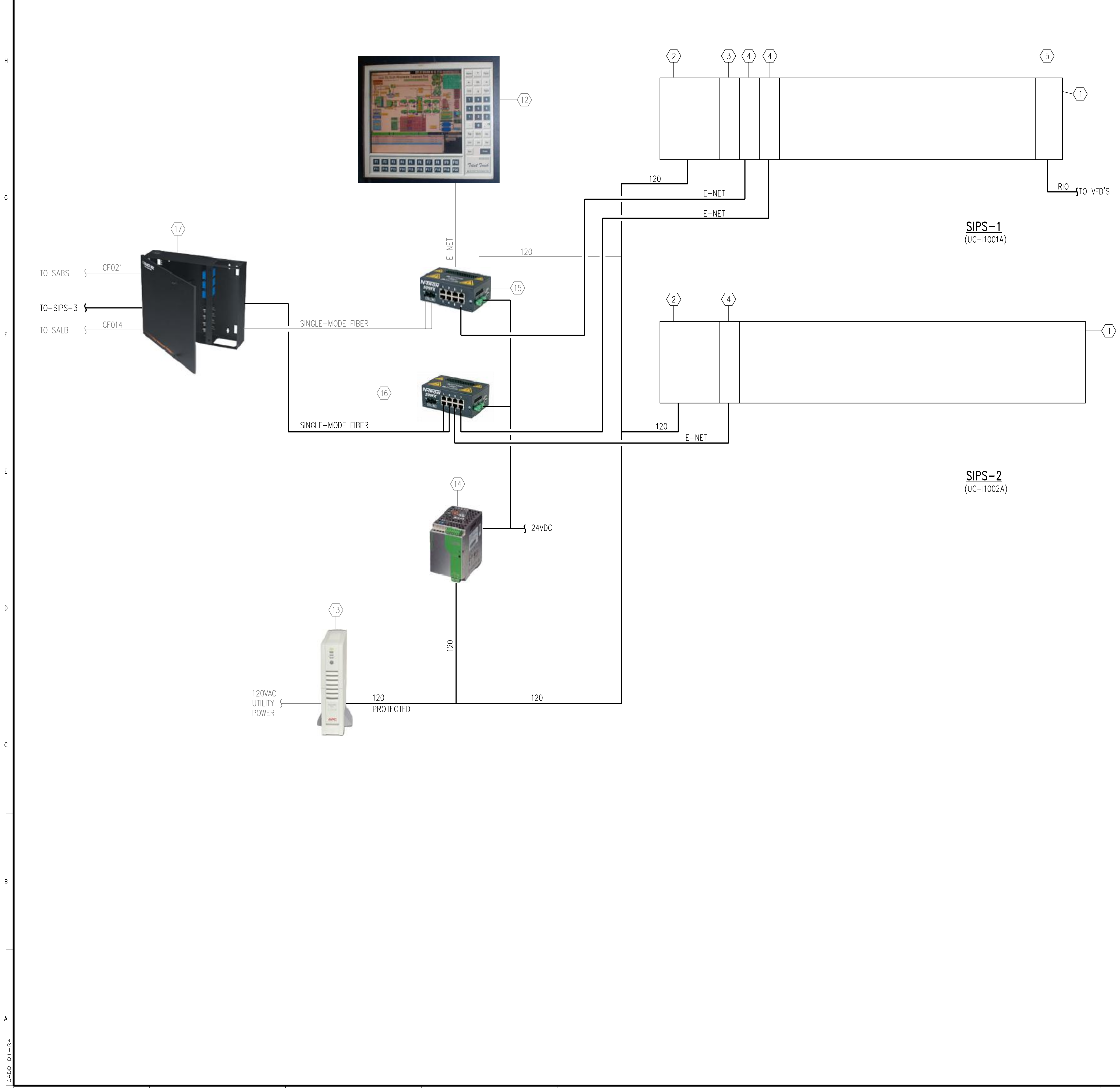
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

INSTRUMENTATION
CONCEPTUAL NETWORK BLOCK DIAGRAM
SHEET 5

DESIGNED SA TRIPMACKER	SCALE: AS NOTED
DRAWN D. WILGES	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ MERGEN	115
APPROVED	4
DATE DECEMBER 2, 2011	



CADD: D1-R4



SOUTH INFLUENT PUMPING STATION (SIPS-1 & 2)				
PAC SYSTEM BILL OF MATERIAL				
ITEM #	STATUS	MANUFACTURER	MODEL	DESCRIPTION
1	NEW	ALLEN BRADLEY	1756-A17	1756 CHASSIS 17 SLOTS
2	NEW	ALLEN BRADLEY	1756-PA75	85-265 VAC POWER SUPPLY (5V @ 13 AMP)
3	NEW	ALLEN BRADLEY	1756-L73	LOGIX5673 PROCESSOR WITH 8 MBYTES MEMORY
4	NEW	ALLEN BRADLEY	1756-EN2T	ETHERNET 10-100M BRIDGE MODULE
5	NEW	ALLEN BRADLEY	1756-RIO	CONTROLLOGIX REMOTE I/O MODULE
6	NEW	ALLEN BRADLEY	1756-IF16	ANALOG INPUT - CURRENT/VOLTAGE 16 PTS (36 PIN)
7	NEW	ALLEN BRADLEY	1756-OF6CI	ANALOG OUTPUT - CURRENT/VOLTAGE 6 PTS (20 PIN)
8	NEW	ALLEN BRADLEY	1756-TBCH	36 PIN SCREW CLAMP BLOCK WITH STANDARD HOUSING
9	NEW	ALLEN BRADLEY	1756-IA16	79-132 VAC INPUT 16 PTS (20 PIN)
10	NEW	ALLEN BRADLEY	1756-OA16	74-265 VAC OUTPUT 16 PTS (20 PIN)
11	NEW	ALLEN BRADLEY	1756-TBNH	20 POSITION NEMA SCREW CLAMP BLOCK
12	NEW	ANN ARBOR TECH	INX9C633-STFT	INDUSTRIAL COMPUTER
13	EXISTING	APC		UNINTERRUPTIBLE POWER SUPPLY
14	EXISTING	SOLA	SDN 4-24-100LP	3.8 AMP 24VDC POWER SUPPLY
15	EXISTING	N-TRON	405FX	INDUSTRIAL ETHERNET SWITCH AND MEDIA CONVERTER
16	NEW	N-TRON	509FXE-SC	INDUSTRIAL ETHERNET SWITCH AND MEDIA CONVERTER
17	EXISTING	SIECOR	WIC-024	FIBER OPTIC CABLE PATCH PANEL

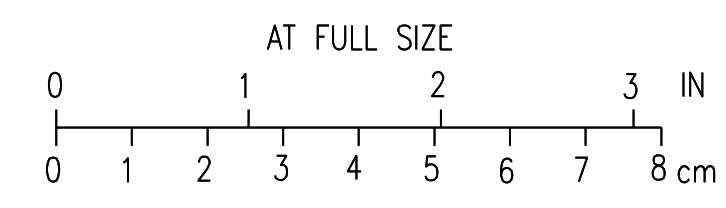
NOTES:
 1. NEW I/O DISTRIBUTED AS REQUIRED TO SUPPORT EXISTING PLC-5 WIRING ARMS.

NO.	REVISIONS	DSGN	CHKD	APVD	DATE
4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
2	BILL OF MATERIALS	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012

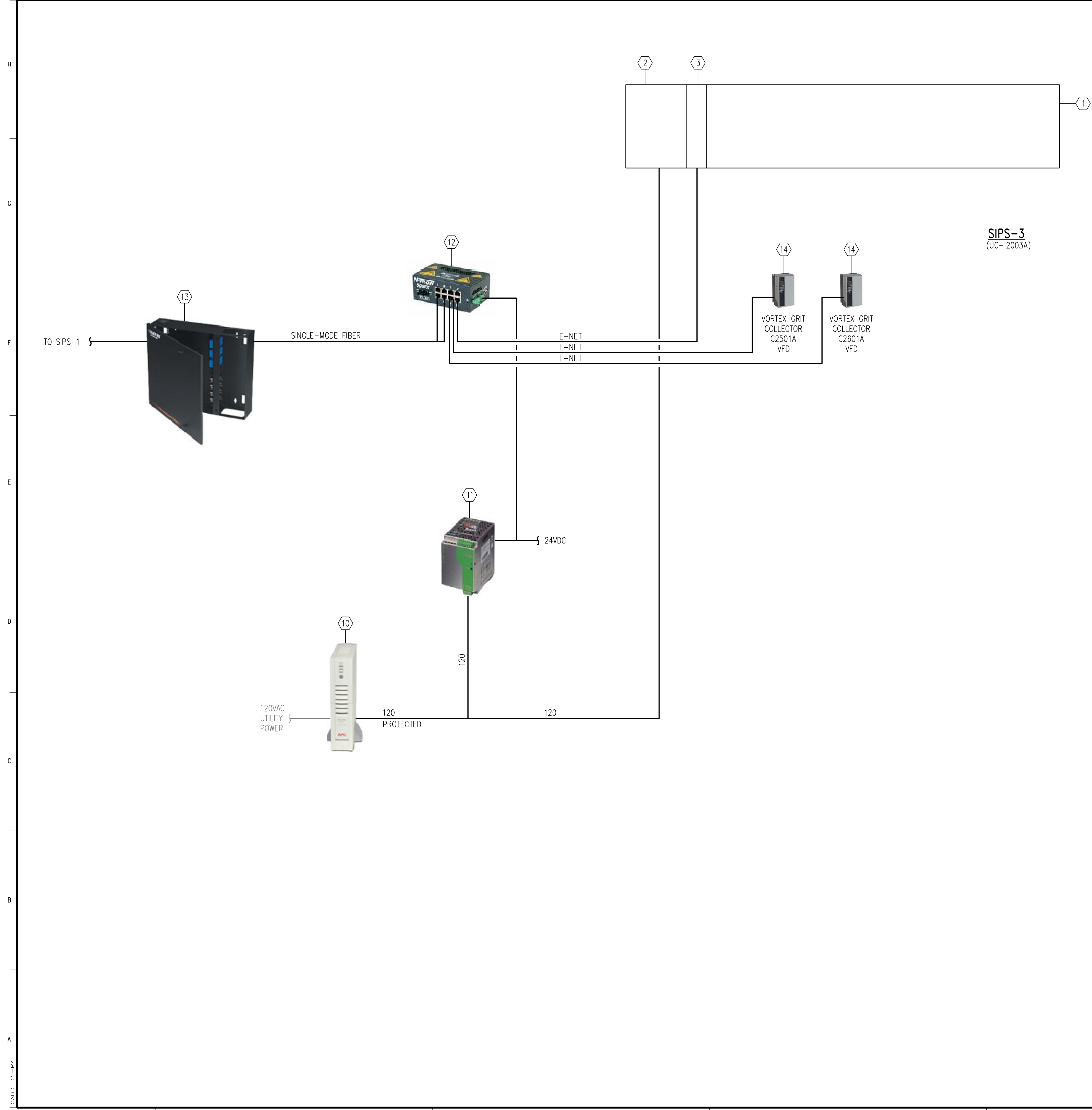

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
INSTRUMENTATION
SOUTH INFLUENT PUMPING STATION
PAC SYSTEM CONCEPTUAL LAYOUT

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 4
DRAWN D. WILGES			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
APPROVED DATE DECEMBER 2, 2011			



CADD: D1-R4



SOUTH VORTEX GRIT COLLECTOR (SIPS-3) PAC SYSTEM BILL OF MATERIAL				
ITEM #	STATUS	MANUFACTURER	MODEL	DESCRIPTION
1	NEW	ALLEN BRADLEY	1756-A17	1756 CHASSIS 17 SLOTS
2	NEW	ALLEN BRADLEY	1756-PA75	85-265 VAC POWER SUPPLY (5V @ 13 AMP)
3	NEW	ALLEN BRADLEY	1756-EN2T	ETHERNET 10-100M BRIDGE MODULE
4	NEW	ALLEN BRADLEY	1756-IF16	ANALOG INPUT - CURRENT/VOLTAGE 16 PTS (36 PIN)
5	NEW	ALLEN BRADLEY	1756-OF6CI	ANALOG OUTPUT - CURRENT/VOLTAGE 6 PTS (20 PIN)
6	NEW	ALLEN BRADLEY	1756-TBCH	36 PIN SCREW CLAMP BLOCK WITH STANDARD HOUSING
7	NEW	ALLEN BRADLEY	1756-IA16	79-132 VAC INPUT 16 PTS (20 PIN)
8	NEW	ALLEN BRADLEY	1756-OA16	74-265 VAC OUTPUT 16 PTS (20 PIN)
9	NEW	ALLEN BRADLEY	1756-TBNH	20 POSITION NEMA SCREW CLAMP BLOCK
10	NEW	APC	BY OWNER	UNINTERRUPTIBLE POWER SUPPLY
11	NEW	SOLA	SDN2.5-24-100P	2.5 AMP 24VDC POWER SUPPLY
12	NEW	N-TRON	509FXE-SC	INDUSTRIAL ETHERNET SWITCH AND MEDIA CONVERTER
13	NEW	SIECOR	WIC-024	FIBER OPTIC CABLE PATCH PANEL
14	NEW	PER SPECIFICATION SECTION 26 29 23		VARIABLE FREQUENCY DRIVE

NOTES:
1. NEW I/O DISTRIBUTION TO BE DETERMINED BY SYSTEM INTEGRATOR.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
2	BILL OF MATERIALS	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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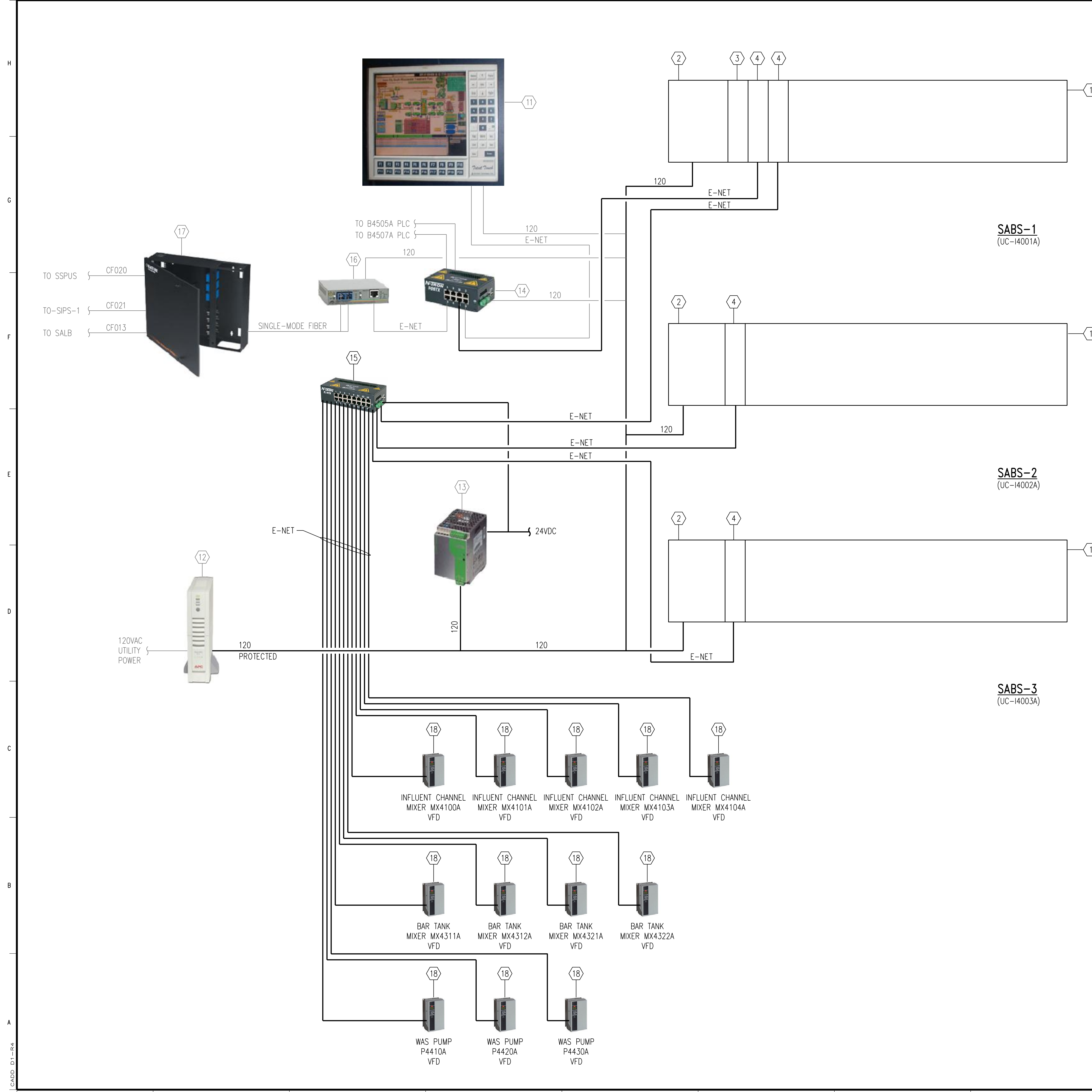
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

INSTRUMENTATION
SOUTH VORTEX GRIT COLLECTOR
PAC SYSTEM CONCEPTUAL LAYOUT

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 4
DRAWN D. WILGES			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
APPROVED DATE DECEMBER 2, 2011			



CADD: D1-R4



SOUTH AERATION BLOWER STATION (SABS) PAC SYSTEM BILL OF MATERIAL				
ITEM #	STATUS	MANUFACTURER	MODEL	DESCRIPTION
1	NEW	ALLEN BRADLEY	1756-A17	1756 CHASSIS 17 SLOTS
2	NEW	ALLEN BRADLEY	1756-PA75	85-265 VAC POWER SUPPLY (5V @ 13 AMP)
3	NEW	ALLEN BRADLEY	1756-L73	LOGIX5673 PROCESSOR WITH 8 MBYTES MEMORY
4	NEW	ALLEN BRADLEY	1756-EN2T	ETHERNET 10-100M BRIDGE MODULE
5	NEW	ALLEN BRADLEY	1756-IF16	ANALOG INPUT - CURRENT/VOLTAGE 16 PTS (36 PIN)
6	NEW	ALLEN BRADLEY	1756-OF6CI	ANALOG OUTPUT - CURRENT/VOLTAGE 6 PTS (20 PIN)
7	NEW	ALLEN BRADLEY	1756-TBCH	36 PIN SCREW CLAMP BLOCK WITH STANDARD HOUSING
8	NEW	ALLEN BRADLEY	1756-IA16	79-132 VAC INPUT 16 PTS (20 PIN)
9	NEW	ALLEN BRADLEY	1756-OA16	74-265 VAC OUTPUT 16 PTS (20 PIN)
10	NEW	ALLEN BRADLEY	1756-TBNH	20 POSITION NEMA SCREW CLAMP BLOCK
11	EXISTING	ANN ARBOR TECH	INX9TPII650-STFT	INDUSTRIAL COMPUTER
12	EXISTING	APC		UNINTERRUPTIBLE POWER SUPPLY
13	EXISTING	PHOENIX CONTACT	CM125-PS-120-230AC/24VDC/5/F	5 AMP 24VDC POWER SUPPLY
14	EXISTING	3-COM		INDUSTRIAL ETHERNET SWITCH
15	NEW	N-TRON	516TX	INDUSTRIAL ETHERNET SWITCH
16	EXISTING	ALLIED TELESYN	AT-MC103XL	ETHERNET FIBER OPTIC CONVERTER
17	EXISTING	SIECOR	WIC-024	FIBER OPTIC CABLE PATCH PANEL
18	NEW	PER SPECIFICATION SECTION 26 29 23		VARIABLE FREQUENCY DRIVE

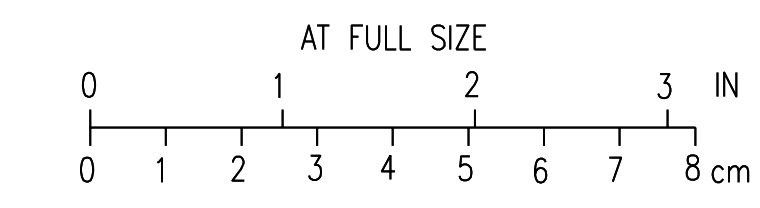
NOTES:
 1. NEW I/O DISTRIBUTED AS REQUIRED TO SUPPORT EXISTING PLC-5 WIRING ARMS.

4	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
3	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
2	BILL OF MATERIALS	SAT	SAT	TJM	01-25-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

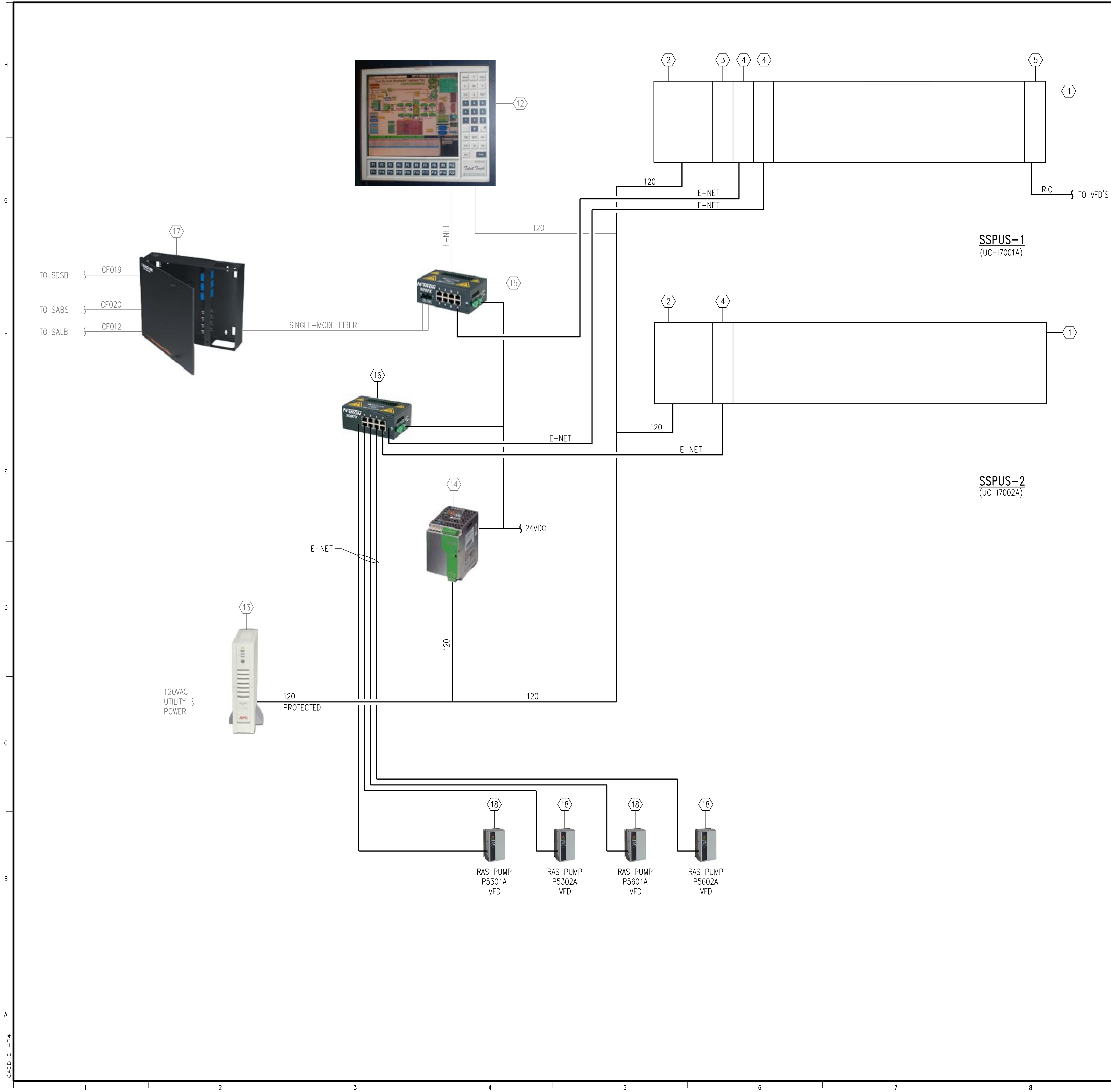

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
INSTRUMENTATION
SOUTH AERATION BLOWER STATION
PAC SYSTEM CONCEPTUAL LAYOUT

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 4
DRAWN D. WILGES			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
DATE DECEMBER 2, 2011			



CADD: D1-R4



SOUTH SLUDGE PUMPING STATION (SSPUS)				
PAC SYSTEM BILL OF MATERIAL				
ITEM #	STATUS	MANUFACTURER	MODEL	DESCRIPTION
1	NEW	ALLEN BRADLEY	1756-A17	1756 CHASSIS 17 SLOTS
2	NEW	ALLEN BRADLEY	1756-PA75	85-265 VAC POWER SUPPLY (5V @ 13 AMP)
3	NEW	ALLEN BRADLEY	1756-L73	LOGIX5673 PROCESSOR WITH 8 MBYTES MEMORY
4	NEW	ALLEN BRADLEY	1756-EN2T	ETHERNET 10-100M BRIDGE MODULE
5	NEW	ALLEN BRADLEY	1756-RIO	CONTROLLOGIX REMOTE I/O MODULE
6	NEW	ALLEN BRADLEY	1756-IF16	ANALOG INPUT - CURRENT/VOLTAGE 16 PTS (36 PIN)
7	NEW	ALLEN BRADLEY	1756-OF6CI	ANALOG OUTPUT - CURRENT/VOLTAGE 6 PTS (20 PIN)
8	NEW	ALLEN BRADLEY	1756-TBCH	36 PIN SCREW CLAMP BLOCK WITH STANDARD HOUSING
9	NEW	ALLEN BRADLEY	1756-IA16	79-132 VAC INPUT 16 PTS (20 PIN)
10	NEW	ALLEN BRADLEY	1756-OA16	74-265 VAC OUTPUT 16 PTS (20 PIN)
11	NEW	ALLEN BRADLEY	1756-TBNH	20 POSITION NEMA SCREW CLAMP BLOCK
12	EXISTING	ANN ARBOR TECH	INX9TP11650-STFT	INDUSTRIAL COMPUTER
13	EXISTING	APC	BACK-UPS XS 1200	UNINTERRUPTIBLE POWER SUPPLY
14	EXISTING	SOLA	SDP2-24-100	2.1 AMP 24VDC POWER SUPPLY
15	EXISTING	N-TRON	405FX	INDUSTRIAL ETHERNET SWITCH AND MEDIA CONVERTER
16	NEW	N-TRON	508TX	INDUSTRIAL ETHERNET SWITCH
17	EXISTING	SIECOR	WIC-024	FIBER OPTIC CABLE PATCH PANEL
18	NEW	PER SPECIFICATION SECTION 26 29 23		VARIABLE FREQUENCY DRIVE

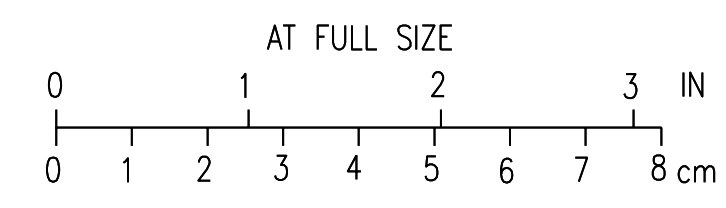
NOTES:
 1. NEW I/O DISTRIBUTED AS REQUIRED TO SUPPORT EXISTING PLC-5 WIRING ARMS.

NO.	REVISIONS	DSGN	CHKD	APVD	DATE
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012

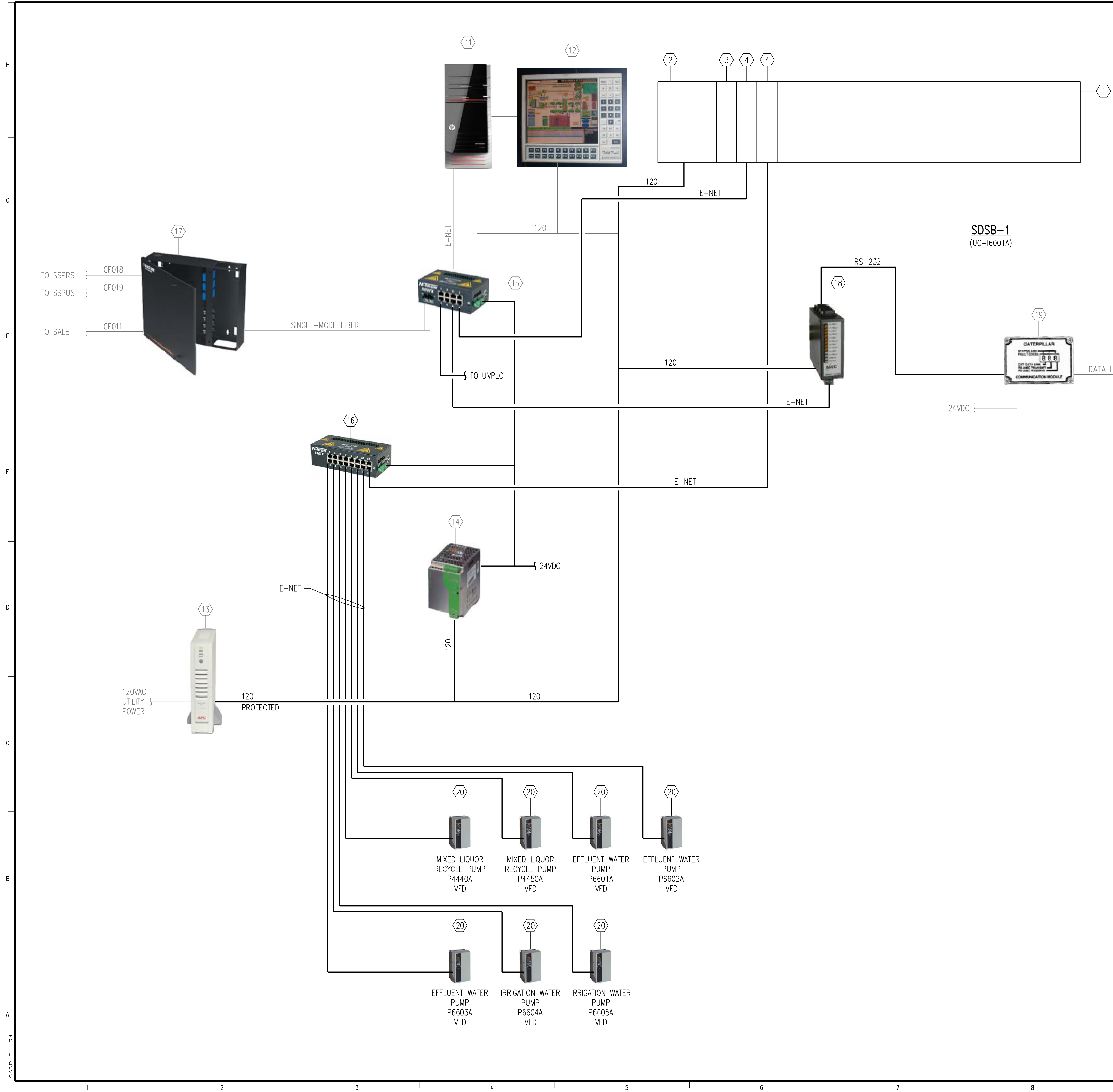

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
INSTRUMENTATION
SOUTH SLUDGE PUMPING STATION
PAC SYSTEM CONCEPTUAL LAYOUT

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 3
DRAWN D. WILGES			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
APPROVED DATE DECEMBER 2, 2011			



CADD: D1-R4



SOUTH DISINFECTION STORAGE BUILDING (SDSB) PAC SYSTEM BILL OF MATERIAL				
ITEM #	STATUS	MANUFACTURER	MODEL	DESCRIPTION
1	NEW	ALLEN BRADLEY	1756-A17	1756 CHASSIS 17 SLOTS
2	NEW	ALLEN BRADLEY	1756-PA75	85-265 VAC POWER SUPPLY (5V @ 13 AMP)
3	NEW	ALLEN BRADLEY	1756-L73	LOGIX5673 PROCESSOR WITH 8 MBYTES MEMORY
4	NEW	ALLEN BRADLEY	1756-EN2T	ETHERNET 10-100M BRIDGE MODULE
5	NEW	ALLEN BRADLEY	1756-IF16	ANALOG INPUT - CURRENT/VOLTAGE 16 PTS (36 PIN)
6	NEW	ALLEN BRADLEY	1756-OF6CI	ANALOG OUTPUT - CURRENT/VOLTAGE 6 PTS (20 PIN)
7	NEW	ALLEN BRADLEY	1756-TBCH	36 PIN SCREW CLAMP BLOCK WITH STANDARD HOUSING
8	NEW	ALLEN BRADLEY	1756-IA16	79-132 VAC INPUT 16 PTS (20 PIN)
9	NEW	ALLEN BRADLEY	1756-OA16	74-265 VAC OUTPUT 16 PTS (20 PIN)
10	NEW	ALLEN BRADLEY	1756-TBNH	20 POSITION NEMA SCREW CLAMP BLOCK
11	EXISTING	HEWLETT PACKARD		DESKTOP COMPUTER
12	EXISTING	HEWLETT PACKARD	LE2201w	COMPUTER MONITOR
13	EXISTING	APC		UNINTERRUPTIBLE POWER SUPPLY
14	EXISTING	SOLA	SDN2.5-24-100	2.5 AMP 24VDC POWER SUPPLY
15	EXISTING	N-TRON	405FX	INDUSTRIAL ETHERNET SWITCH AND MEDIA CONVERTER
16	NEW	N-TRON	516TX	INDUSTRIAL ETHERNET SWITCH
17	EXISTING	SIECOR	WIC-024	FIBER OPTIC CABLE PATCH PANEL
18	NEW	MARC	266-P00-XYE	OMNI-COMM PROTOCOL CONVERTER
19	EXISTING	CATERPILLAR	CCM	CUSTOMER COMMUNICATION MODEM
20	NEW	PER SPECIFICATION SECTION 26 29 23		VARIABLE FREQUENCY DRIVE

NOTES:
 1. NEW I/O DISTRIBUTED AS REQUIRED TO SUPPORT EXISTING PLC-5 WIRING ARMS.

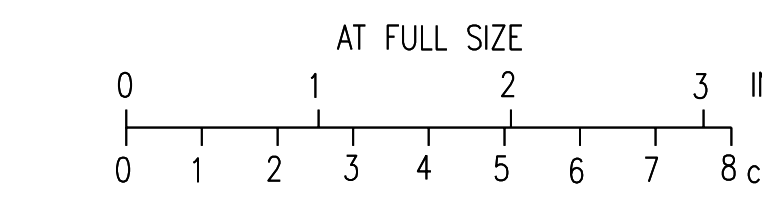
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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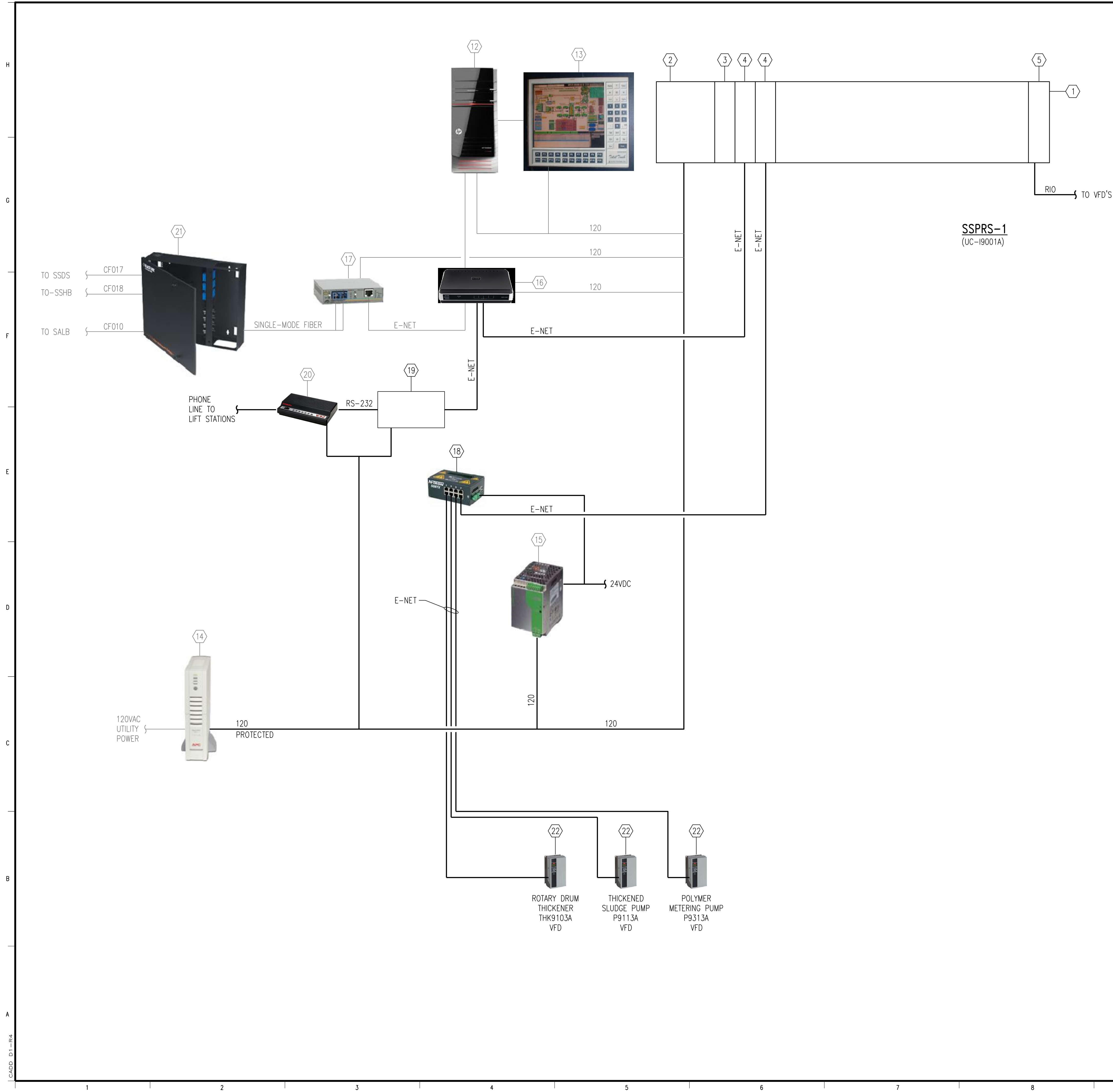
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**INSTRUMENTATION
 SOUTH DISINFECTION STORAGE BUILDING
 PAC SYSTEM CONCEPTUAL LAYOUT**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 3
DRAWN D. WILGES			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
DATE DECEMBER 2, 2011			



CADD: D1-R4



SOUTH SLUDGE PROCESSING STATION (SSPRS-1) PAC SYSTEM BILL OF MATERIAL				
ITEM #	STATUS	MANUFACTURER	MODEL	DESCRIPTION
1	NEW	ALLEN BRADLEY	1756-A17	1756 CHASSIS 17 SLOTS
2	NEW	ALLEN BRADLEY	1756-PA75	85-265 VAC POWER SUPPLY (5V @ 13 AMP)
3	NEW	ALLEN BRADLEY	1756-L73	LOGIX5673 PROCESSOR WITH 8 MBYTES MEMORY
4	NEW	ALLEN BRADLEY	1756-EN2T	ETHERNET 10-100M BRIDGE MODULE
5	NEW	ALLEN BRADLEY	1756-RIO	CONTROLLOGIX REMOTE I/O MODULE
6	NEW	ALLEN BRADLEY	1756-IF16	ANALOG INPUT - CURRENT/VOLTAGE 16 PTS (36 PIN)
7	NEW	ALLEN BRADLEY	1756-OF6CI	ANALOG OUTPUT - CURRENT/VOLTAGE 6 PTS (20 PIN)
8	NEW	ALLEN BRADLEY	1756-TBCH	36 PIN SCREW CLAMP BLOCK WITH STANDARD HOUSING
9	NEW	ALLEN BRADLEY	1756-IA16	79-132 VAC INPUT 16 PTS (20 PIN)
10	NEW	ALLEN BRADLEY	1756-OA16	74-265 VAC OUTPUT 16 PTS (20 PIN)
11	NEW	ALLEN BRADLEY	1756-TBNH	20 POSITION NEMA SCREW CLAMP BLOCK
12	EXISTING	HEWLETT PACKARD		DESKTOP COMPUTER
13	EXISTING	HEWLETT PACKARD	LE2201w	COMPUTER MONITOR
14	EXISTING	APC		UNINTERRUPTIBLE POWER SUPPLY
15	EXISTING	SOLA	SDN2.5-24-100P	2.5 AMP 24VDC POWER SUPPLY
16	EXISTING	D-LINK	DES	INDUSTRIAL ETHERNET SWITCH
17	EXISTING	ALLIED TELESYN	AT-MC103XL	ETHERNET FIBER OPTIC CONVERTER
18	NEW	N-TRON	508TX	INDUSTRIAL ETHERNET SWITCH
19	NEW			MEDIA CONVERTER, AS REQ'D
20	EXISTING	US ROBOTICS	V.92	56K DIAL-UP MODEM
21	EXISTING	SIECOR	WIC-024	FIBER OPTIC CABLE PATCH PANEL
22	NEW	PER SPECIFICATION SECTION 26 29 23		VARIABLE FREQUENCY DRIVE

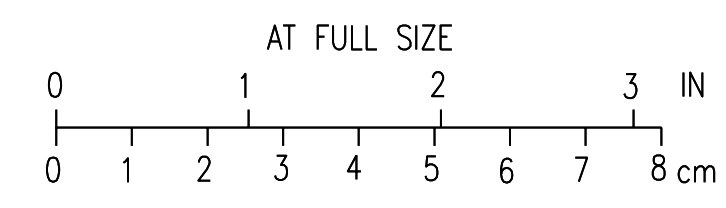
NOTES:
 1. NEW I/O DISTRIBUTED AS REQUIRED TO SUPPORT EXISTING PLC-5 WIRING ARMS.

3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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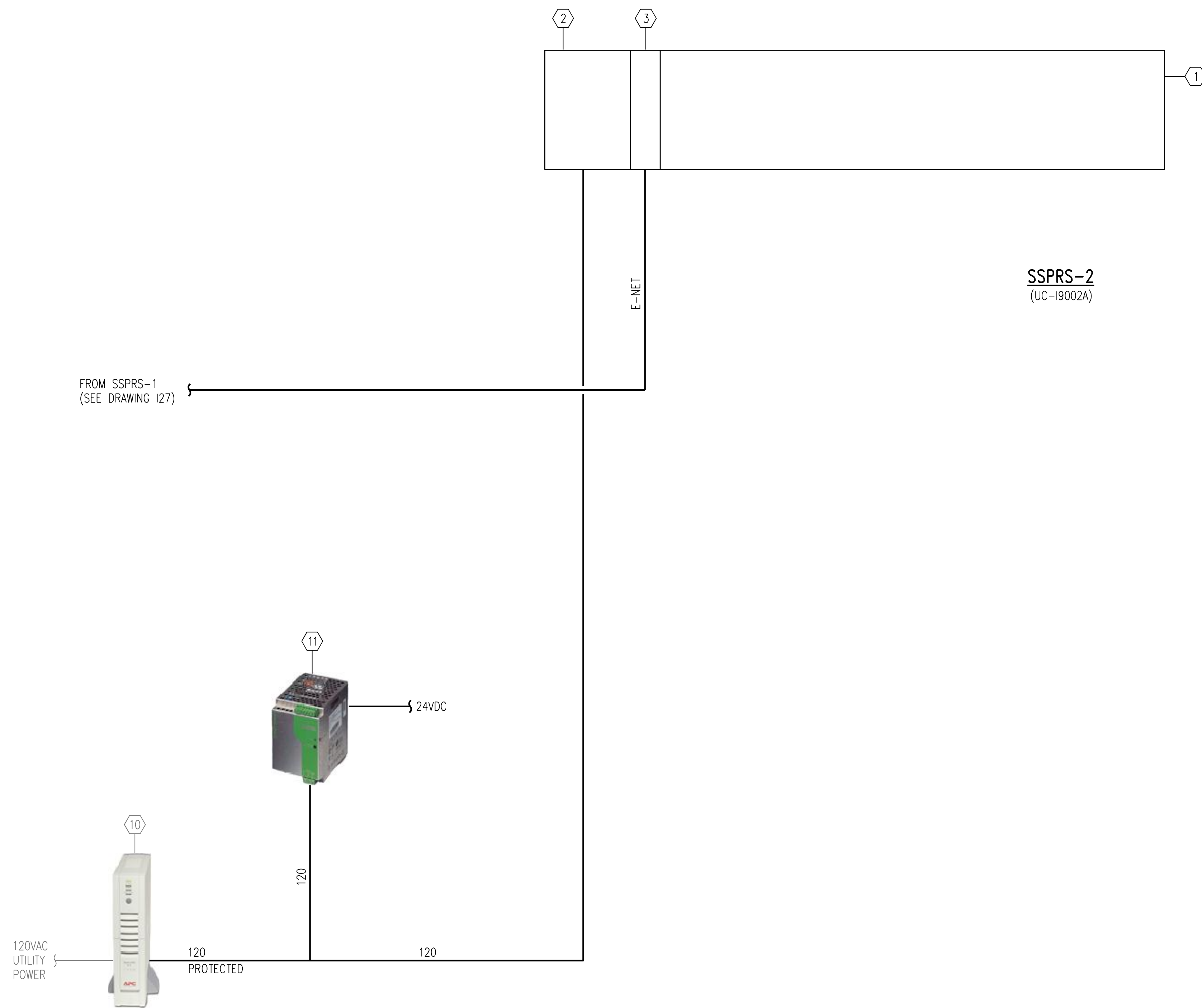
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
INSTRUMENTATION
SOUTH SLUDGE PROCESSING STATION
PAC SYSTEM CONCEPTUAL LAYOUT

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 3
DRAWN D. WILGES			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
DATE DECEMBER 2, 2011			



CADD: D1-R4

SOUTH DRUM THICKENER CONTROL PANEL (SSPRS-2)				
PAC SYSTEM BILL OF MATERIAL				
ITEM #	STATUS	MANUFACTURER	MODEL	DESCRIPTION
1	NEW	ALLEN BRADLEY	1756-A17	1756 CHASSIS 17 SLOTS
2	NEW	ALLEN BRADLEY	1756-PA75	85-265 VAC POWER SUPPLY (5V @ 13 AMP)
3	NEW	ALLEN BRADLEY	1756-EN2T	ETHERNET 10-100M BRIDGE MODULE
4	NEW	ALLEN BRADLEY	1756-IF16	ANALOG INPUT - CURRENT/VOLTAGE 16 PTS (36 PIN)
5	NEW	ALLEN BRADLEY	1756-OF6CI	ANALOG OUTPUT - CURRENT/VOLTAGE 6 PTS (20 PIN)
6	NEW	ALLEN BRADLEY	1756-TBCH	36 PIN SCREW CLAMP BLOCK WITH STANDARD HOUSING
7	NEW	ALLEN BRADLEY	1756-IA16	79-132 VAC INPUT 16 PTS (20 PIN)
8	NEW	ALLEN BRADLEY	1756-OA16	74-265 VAC OUTPUT 16 PTS (20 PIN)
9	NEW	ALLEN BRADLEY	1756-TBNH	20 POSITION NEMA SCREW CLAMP BLOCK
10	EXISTING	APC		UNINTERRUPTIBLE POWER SUPPLY
11	NEW	SOLA	SDN2.5-24-100P	2.5 AMP 24VDC POWER SUPPLY



SSPRS-2
(UC-19002A)

NOTES:

1. NEW I/O DISTRIBUTED AS REQUIRED TO SUPPORT EXISTING PLC-5 WIRING ARMS.

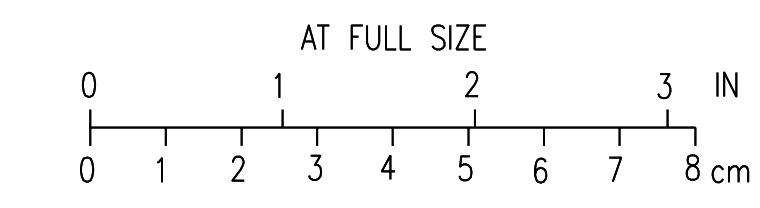
NO.	REVISIONS	DSGN	CHKD	APVD	DATE
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012

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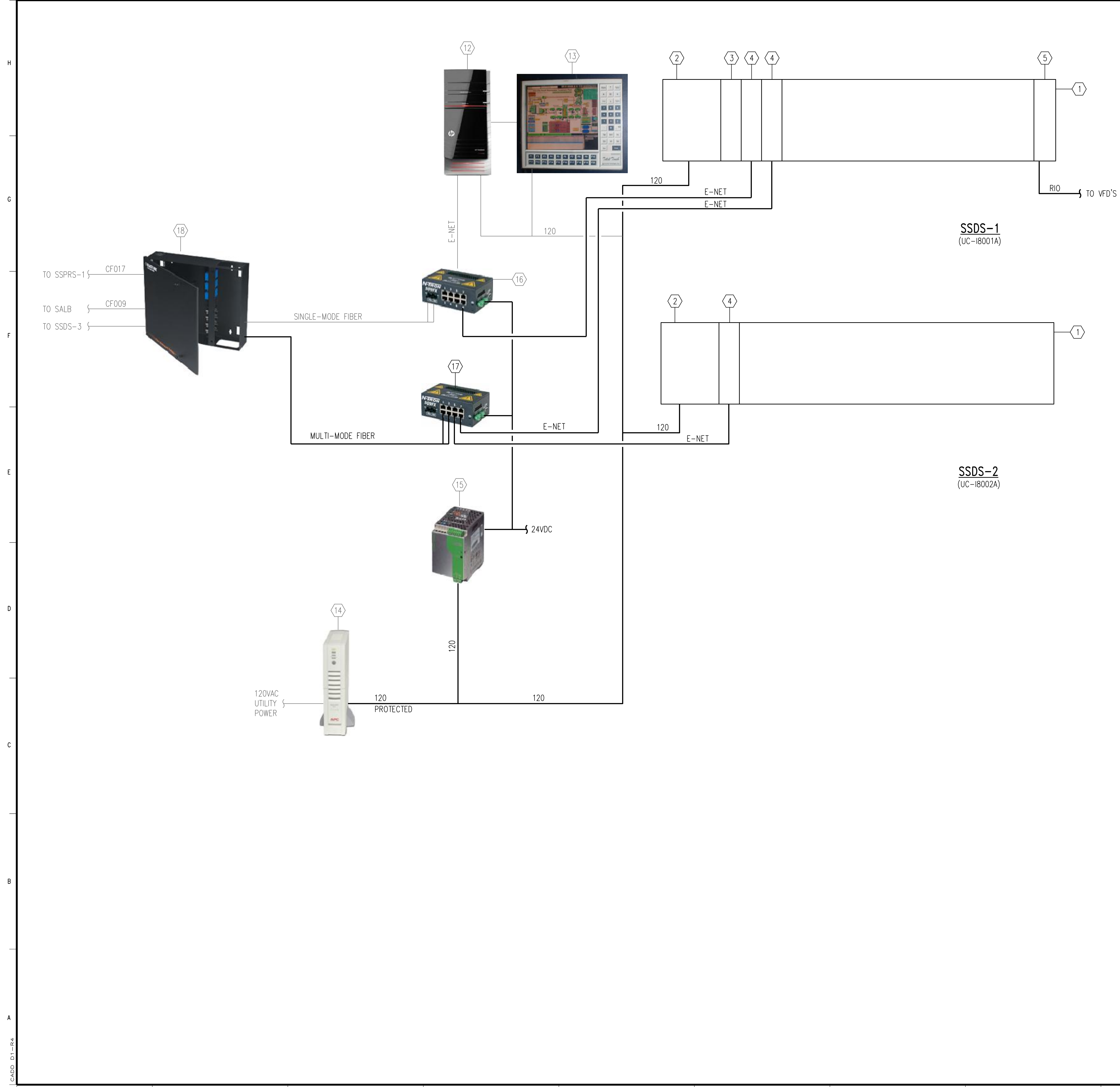
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

INSTRUMENTATION
SOUTH DRUM THICKENER CONTROL PANEL
PAC SYSTEM CONCEPTUAL LAYOUT

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 3
DRAWN D. WILGES			
CHECKED SA TRIPMACKER			
APPROVED TJ Mergen			
APPROVED DATE DECEMBER 2, 2011			



CADD: D1-R4



SOUTH SLUDGE DIGESTER STATION (SSDS-1 & 2)				
PAC SYSTEM BILL OF MATERIAL				
ITEM #	STATUS	MANUFACTURER	MODEL	DESCRIPTION
1	NEW	ALLEN BRADLEY	1756-A17	1756 CHASSIS 17 SLOTS
2	NEW	ALLEN BRADLEY	1756-PA75	85-265 VAC POWER SUPPLY (5V @ 13 AMP)
3	NEW	ALLEN BRADLEY	1756-L73	LOGIX5673 PROCESSOR WITH 8 MBYTES MEMORY
4	NEW	ALLEN BRADLEY	1756-EN2T	ETHERNET 10-100M BRIDGE MODULE
5	NEW	ALLEN BRADLEY	1756-RIO	CONTROLLOGIX REMOTE I/O MODULE
6	NEW	ALLEN BRADLEY	1756-IF16	ANALOG INPUT - CURRENT/VOLTAGE 16 PTS (36 PIN)
7	NEW	ALLEN BRADLEY	1756-OF6CI	ANALOG OUTPUT - CURRENT/VOLTAGE 6 PTS (20 PIN)
8	NEW	ALLEN BRADLEY	1756-TBCH	36 PIN SCREW CLAMP BLOCK WITH STANDARD HOUSING
9	NEW	ALLEN BRADLEY	1756-IA16	79-132 VAC INPUT 16 PTS (20 PIN)
10	NEW	ALLEN BRADLEY	1756-OA16	74-265 VAC OUTPUT 16 PTS (20 PIN)
11	NEW	ALLEN BRADLEY	1756-TBNH	20 POSITION NEMA SCREW CLAMP BLOCK
12	EXISTING	HEWLETT PACKARD		DESKTOP COMPUTER
13	EXISTING	HEWLETT PACKARD	LE2201w	COMPUTER MONITOR
14	EXISTING	APC		UNINTERRUPTIBLE POWER SUPPLY
15	EXISTING	SOLA	SDN2.5-24-100	2.5 AMP 24VDC POWER SUPPLY
16	EXISTING	N-TRON	405FX	INDUSTRIAL ETHERNET SWITCH AND MEDIA CONVERTER
17	NEW	N-TRON	509FX	INDUSTRIAL ETHERNET SWITCH AND MEDIA CONVERTER
18	EXISTING	SIECOR	WIC-024	FIBER OPTIC CABLE PATCH PANEL

NOTES:
 1. NEW I/O DISTRIBUTED AS REQUIRED TO SUPPORT EXISTING PLC-5 WIRING ARMS.

NO.	REVISIONS	DSGN	CHKD	APVD	DATE
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012

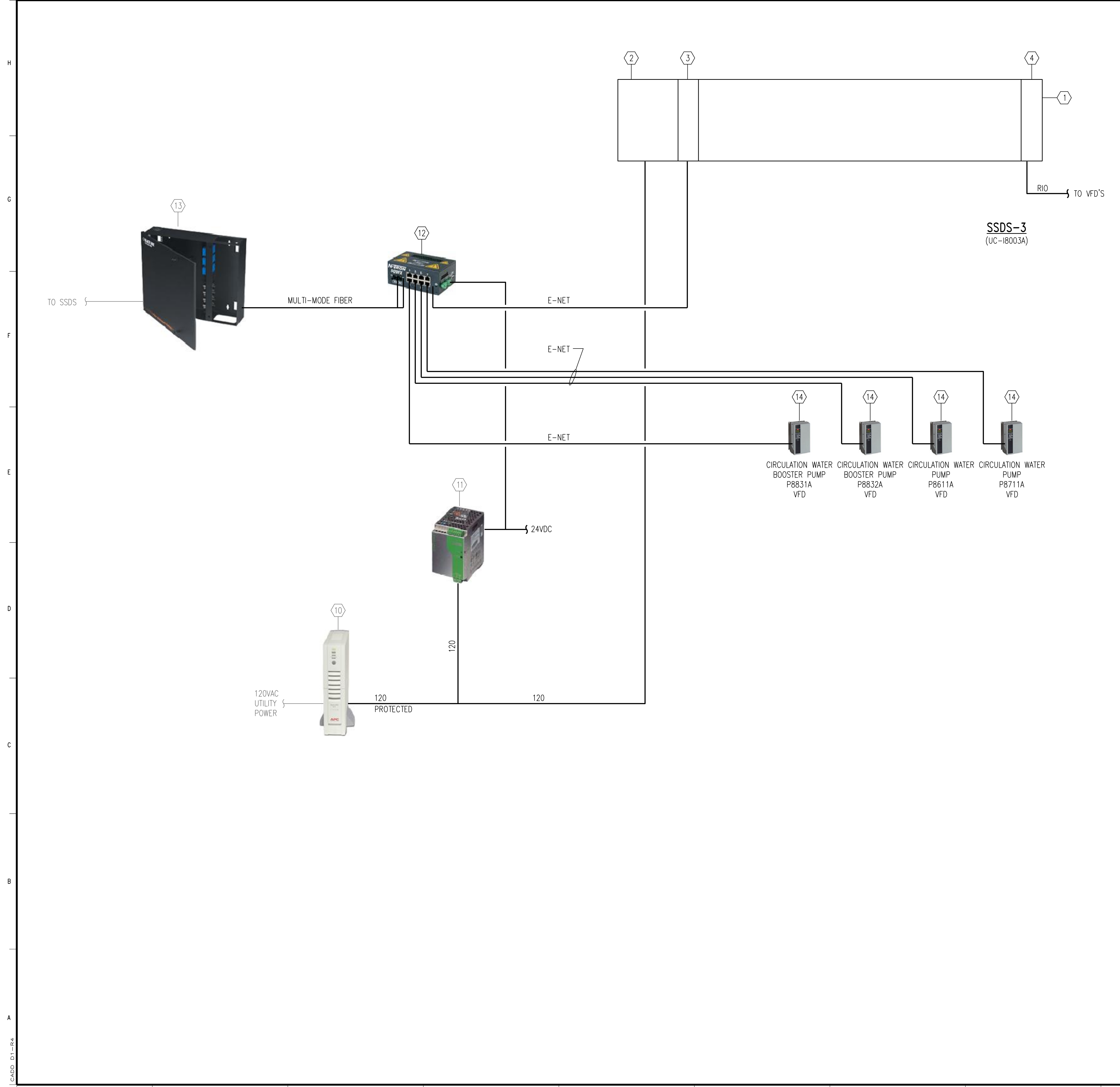

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 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
INSTRUMENTATION
SOUTH SLUDGE DIGESTER STATION
PAC SYSTEM CONCEPTUAL LAYOUT

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 3
DRAWN D. WILGES			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
APPROVED DATE DECEMBER 2, 2011			



CADD: D1-R4



SOUTH SLUDGE DIGESTER MCC ROOM (SSDS-3)				
PAC SYSTEM BILL OF MATERIAL				
ITEM#	STATUS	MANUFACTURER	MODEL	DESCRIPTION
1	NEW	ALLEN BRADLEY	1756-A17	1756 CHASSIS 17 SLOTS
2	NEW	ALLEN BRADLEY	1756-PA75	85-265 VAC POWER SUPPLY (5V @ 13 AMP)
3	NEW	ALLEN BRADLEY	1756-EN2T	ETHERNET 10-100M BRIDGE MODULE
4	NEW	ALLEN BRADLEY	1756-RIO	CONTROLLOGIX REMOTE I/O MODULE
5	NEW	ALLEN BRADLEY	1756-IF16	ANALOG INPUT - CURRENT/VOLTAGE 16 PTS (36 PIN)
6	NEW	ALLEN BRADLEY	1756-TBCH	36 PIN SCREW CLAMP BLOCK WITH STANDARD HOUSING
7	NEW	ALLEN BRADLEY	1756-IA16	79-132 VAC INPUT 16 PTS (20 PIN)
8	NEW	ALLEN BRADLEY	1756-OA16	74-265 VAC OUTPUT 16 PTS (20 PIN)
9	NEW	ALLEN BRADLEY	1756-TBNH	20 POSITION NEMA SCREW CLAMP BLOCK
10	EXISTING	APC		UNINTERRUPTIBLE POWER SUPPLY
11	EXISTING	SOLA	SDN2.5-24-100	2.5 AMP 24VDC POWER SUPPLY
12	NEW	N-TRON	509FX	INDUSTRIAL ETHERNET SWITCH AND MEDIA CONVERTER
13	EXISTING	SIECOR	WIC-024	FIBER OPTIC CABLE PATCH PANEL
14	NEW	PER SPECIFICATION SECTION 26 29 23		VARIABLE FREQUENCY DRIVE

NOTES:
 1. NEW I/O DISTRIBUTED AS REQUIRED TO SUPPORT EXISTING PLC-5 WIRING ARMS.

NO.	REVISIONS	DSGN	CHKD	APVD	DATE
3	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
2	REVISED PER ADDENDUM NO. 2	SAT	SAT	TJM	03-06-2012
1	ISSUED FOR CONSTRUCTION	SAT	SAT	TJM	01-10-2012

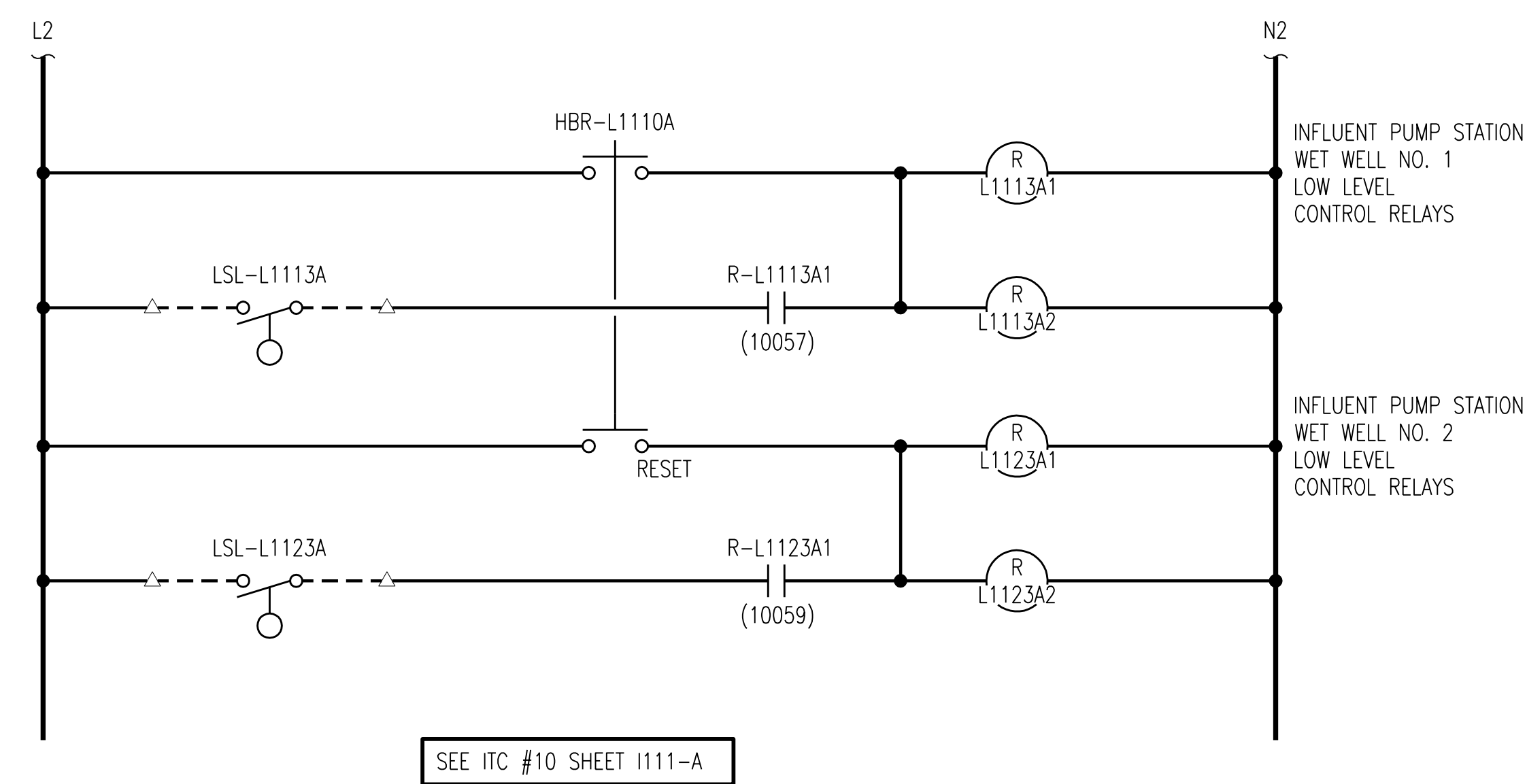
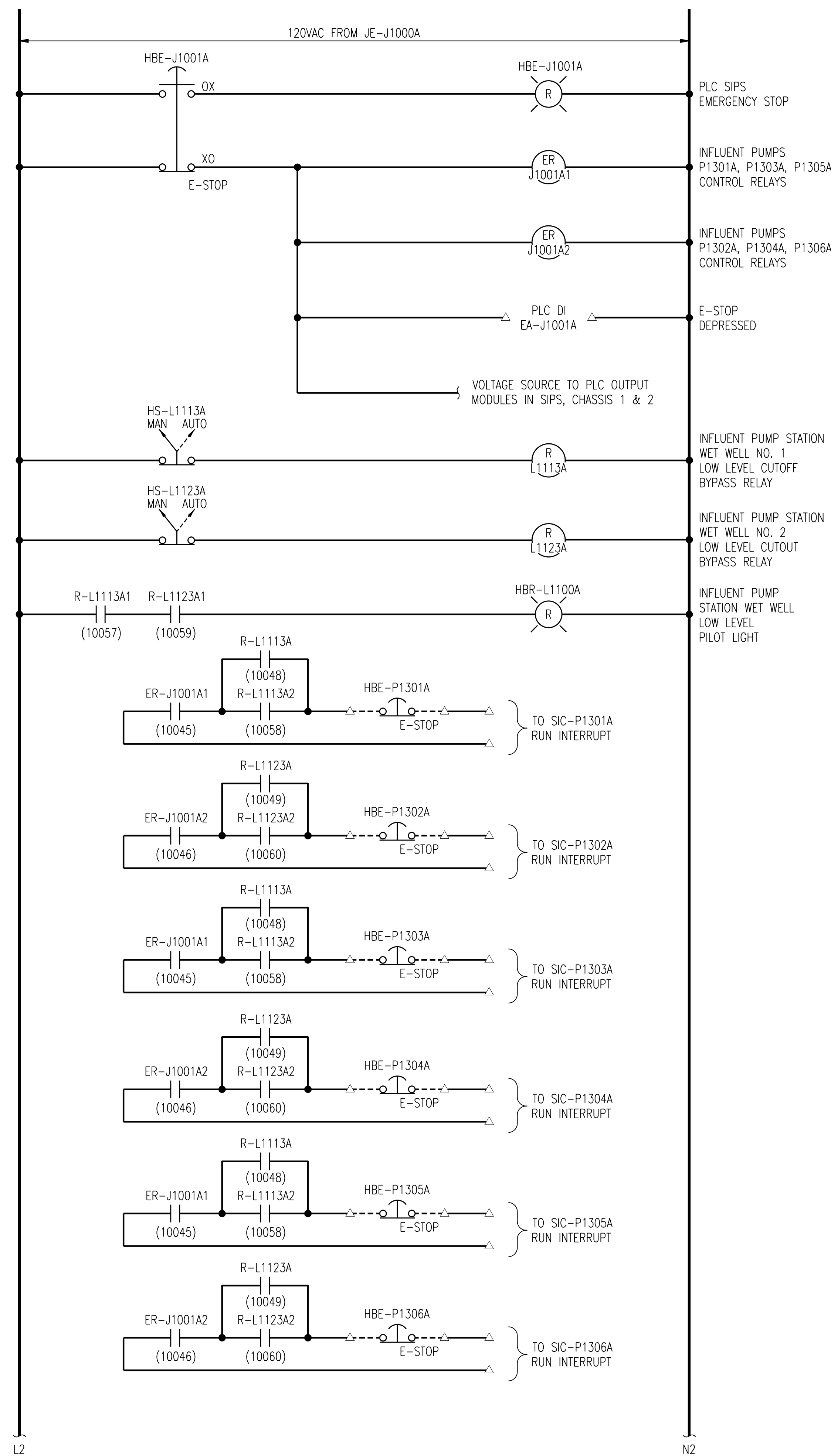

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 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
INSTRUMENTATION
SOUTH SLUDGE DIGESTER MCC ROOM
PAC SYSTEM CONCEPTUAL LAYOUT

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 3
DRAWN D. WILGES			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
DATE DECEMBER 2, 2011			



CADD: D1-R4



NOTES:

1. SCHEMATICS ARE NOT PROVIDED FOR ALL CONTROL PANEL WIRING APPLICATIONS. SELECTED MODIFIED WIRING INTERFACE WITH NEW INSTRUMENTATION OR EQUIPMENT IS SHOWN.
2. CONTRACTOR RESPONSIBLE FOR WIRING OF ALL CONTROL PANEL INSTRUMENTATION AND NEW PLC MODULE MODIFICATIONS TO PROVIDE COMPLETE OPERATIONAL FUNCTIONALITY.
3. CONTRACTOR TO VERIFY EXISTING WIRING WHICH MAY DEVIATE FROM WIRING SHOWN.
4. INFLUENT PUMP STATION LEVEL CONTROL AT WET WELL LEVEL NOT SHOWN. UNABLE TO IDENTIFY CONTROL INTERFACE.

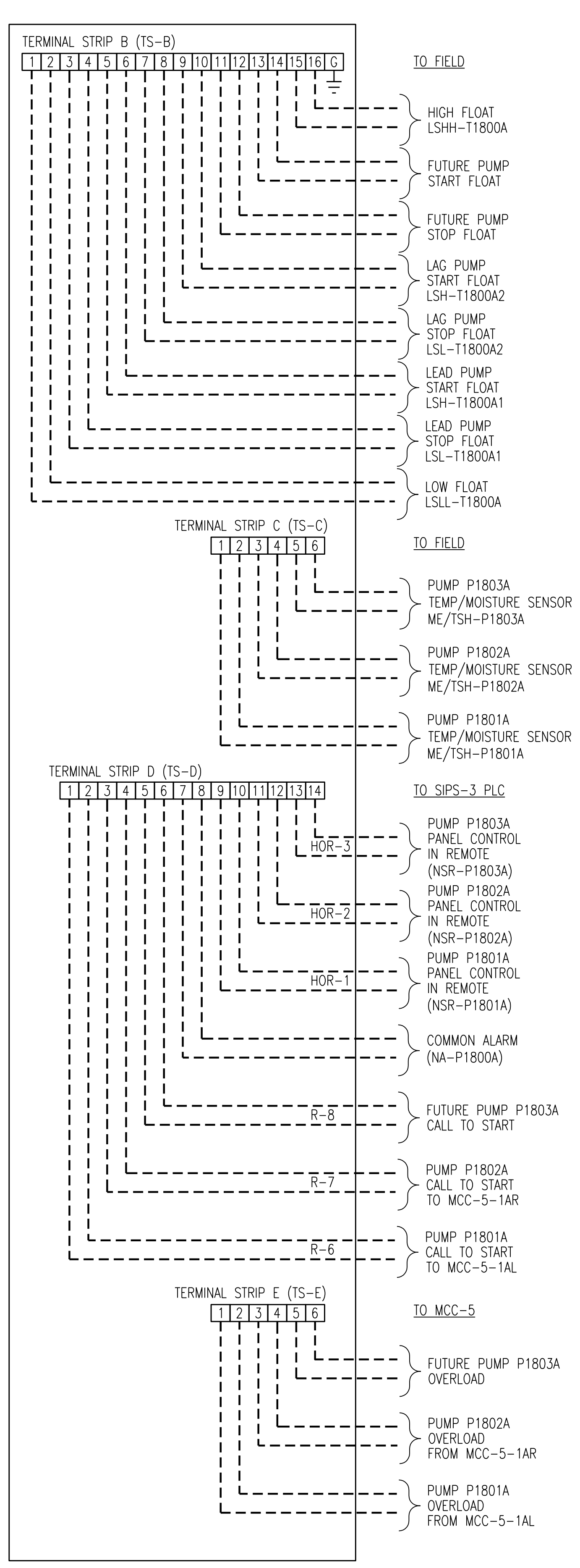
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1	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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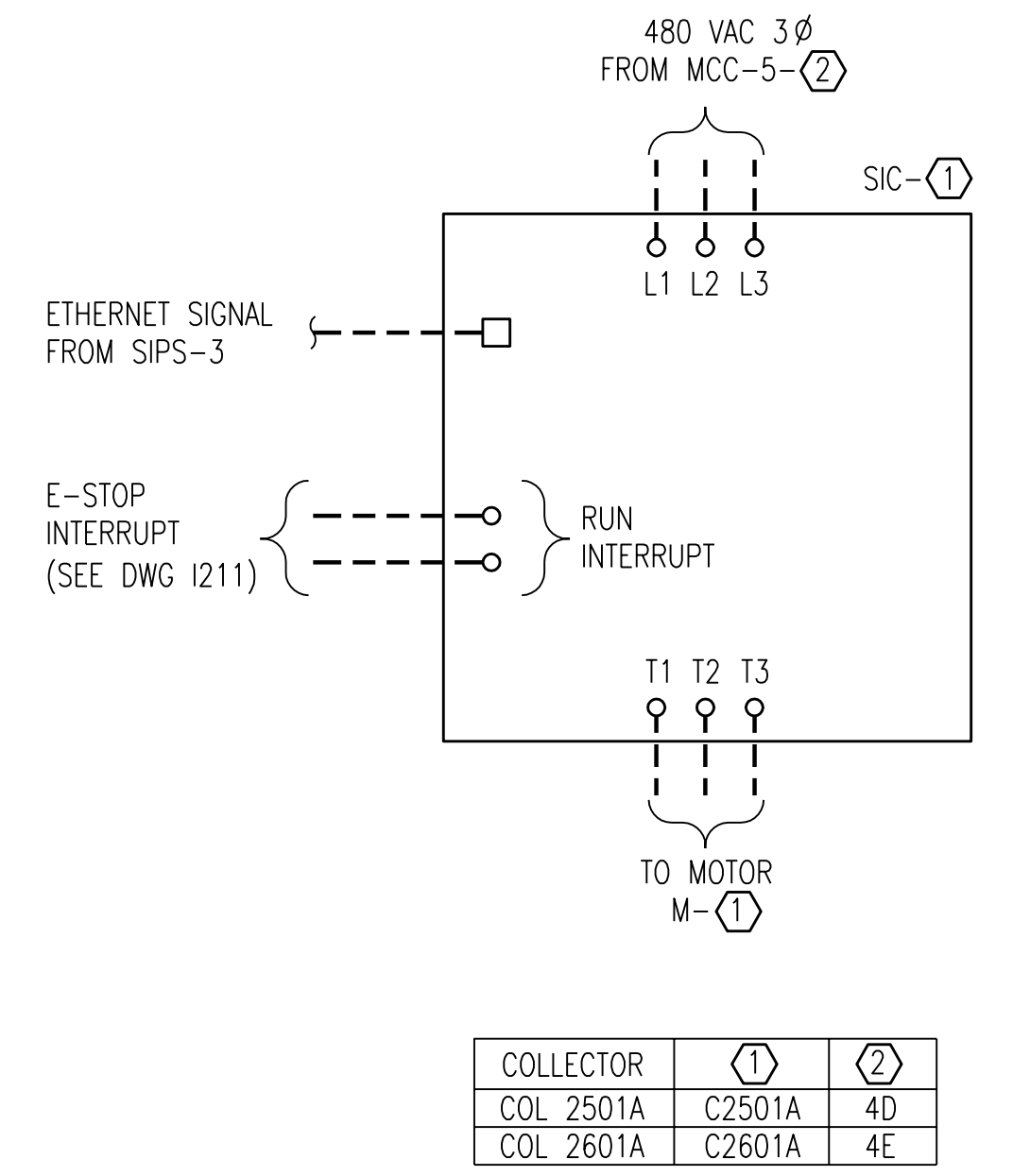
CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
INSTRUMENTATION & WIRING DIAGRAMS
SIPS PANEL
E-STOP INTERFACE WIRING

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 2
DRAWN JW STODOLL			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
APPROVED DATE DECEMBER 2, 2011	1111		

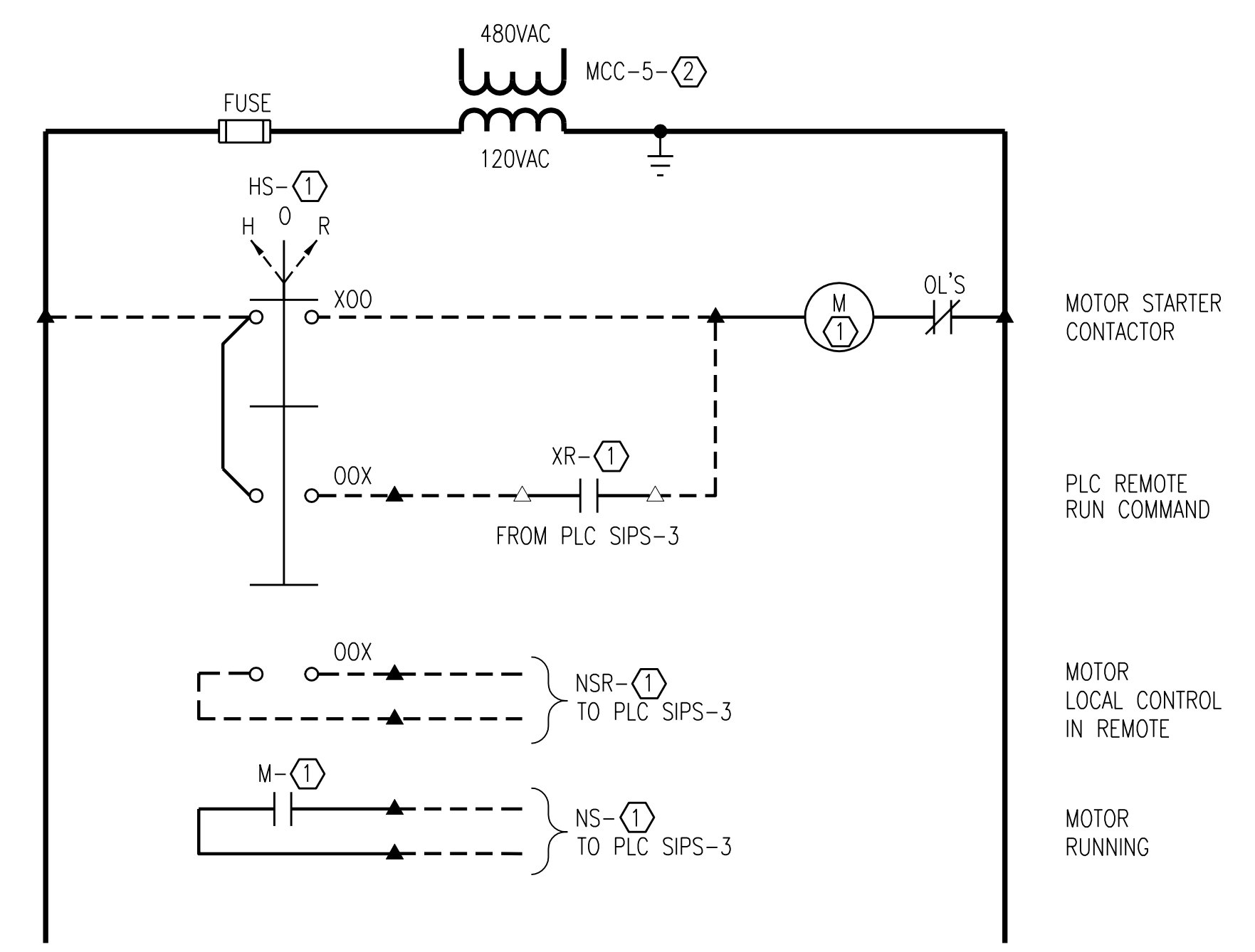
CADD: D1-R4



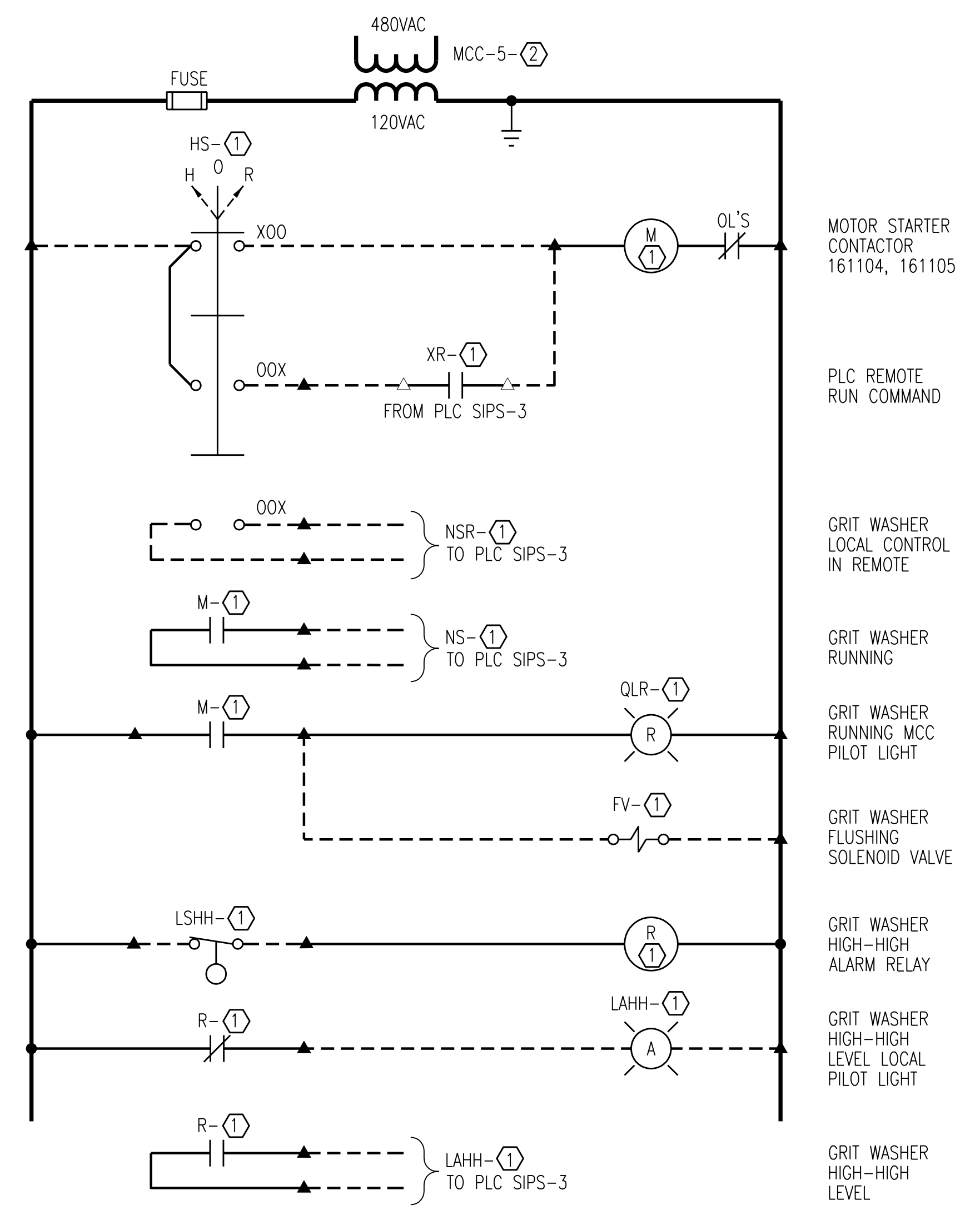
HIGH STRENGTH FLOW PUMPS CONTROL PANEL



VORTEX GRIT REMOVAL EQUIPMENT ADJUSTABLE SPEED DRIVE CONTROL SCHEMATIC



GRIT PUMP CONTROL SCHEMATIC



GRIT WASHER CONTROL SCHEMATIC

- NOTES:**
- CONTROL SCHEMATIC PROVIDED FOR SELECTED APPLICATIONS BECAUSE NEW WIRING FROM FIELD DEVICES IS REQUIRED.
 - CONTRACTOR RESPONSIBLE FOR INTERFACE WIRING TO PLC PANEL FOR MONITORING AND CONTROL DEFINED IN SPECIFICATIONS.
 - CONTRACTOR TO VERIFY EXISTING WIRING WHICH MAY DEVIATE FROM WIRING SHOWN.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

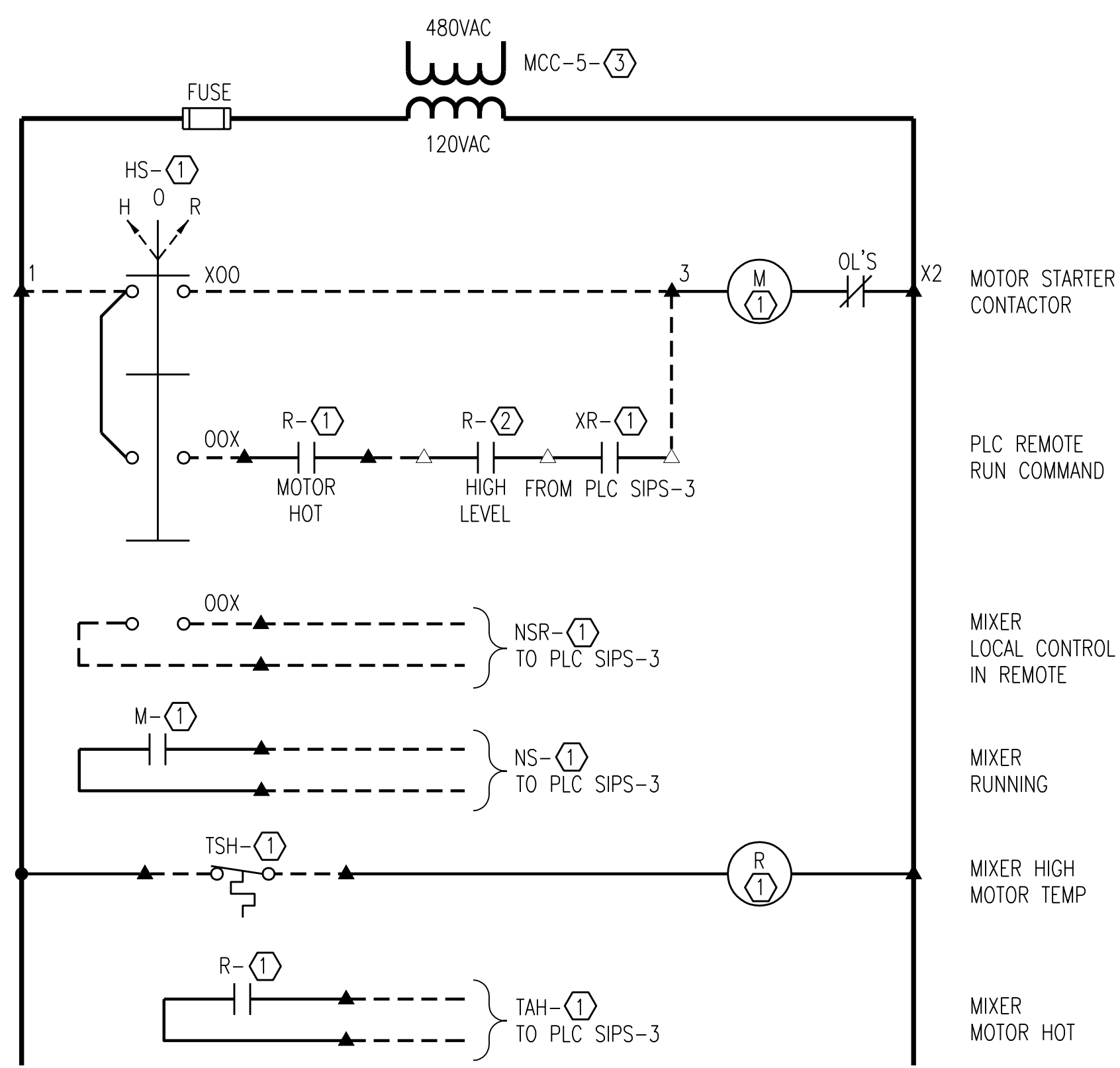
**INSTRUMENTATION & WIRING DIAGRAMS
HIGH STRENGTH AND GRIT DEWATERING
CONTROL SCHEMATICS - SHEET 1**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED
DRAWN JW STODOLL	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ MERGEN	1201
APPROVED	2
DATE DECEMBER 2, 2011	

CADD: D1-R4

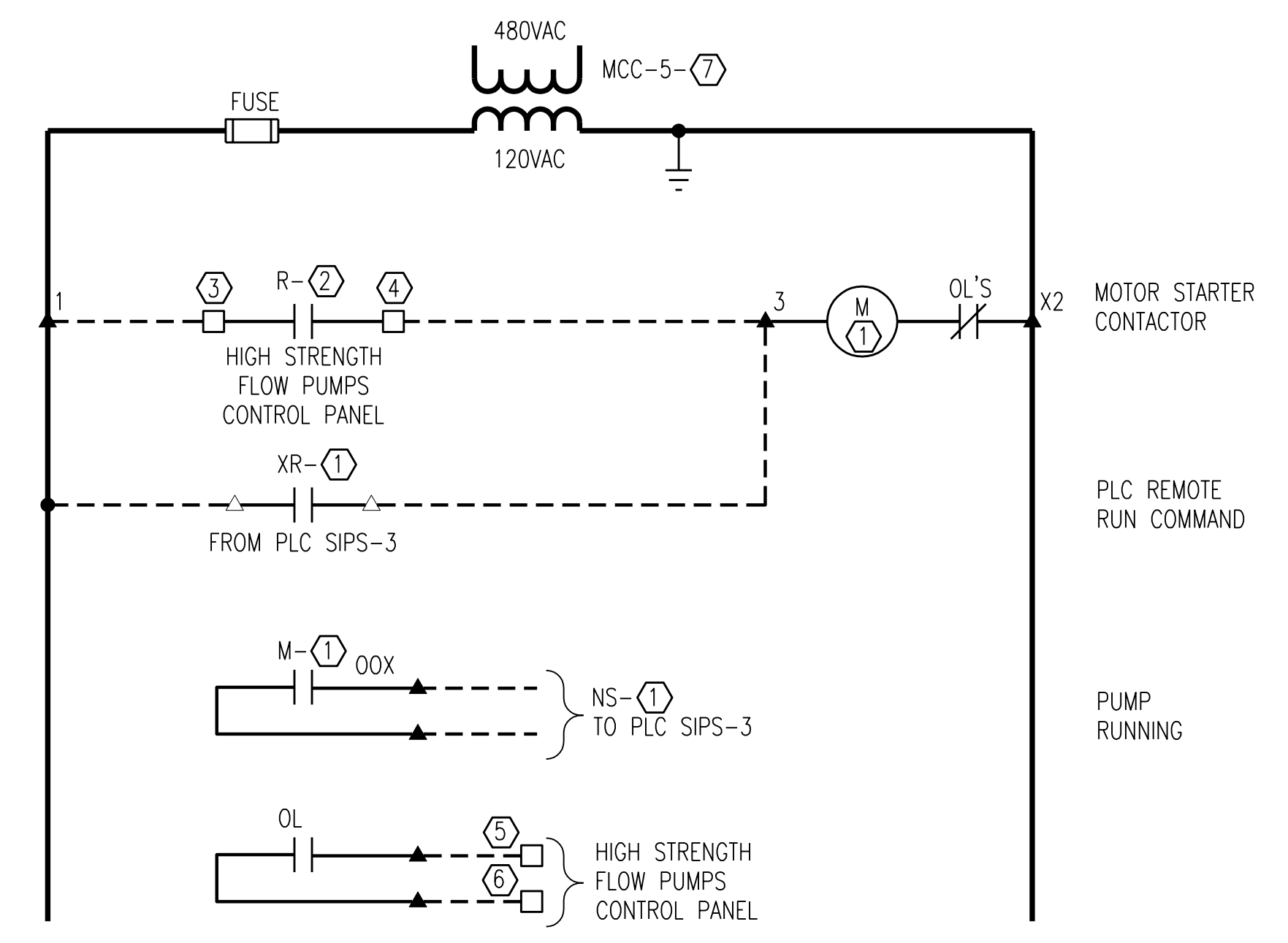
NOTES:

1. CONTROL SCHEMATIC PROVIDED FOR SELECTED APPLICATIONS BECAUSE NEW WIRING FROM FIELD DEVICES IS REQUIRED.
2. CONTRACTOR RESPONSIBLE FOR INTERFACE WIRING TO PLC PANEL FOR MONITORING AND CONTROL DEFINED IN SPECIFICATIONS.
3. CONTRACTOR TO VERIFY EXISTING WIRING WHICH MAY DEVIATE FROM WIRING SHOWN.



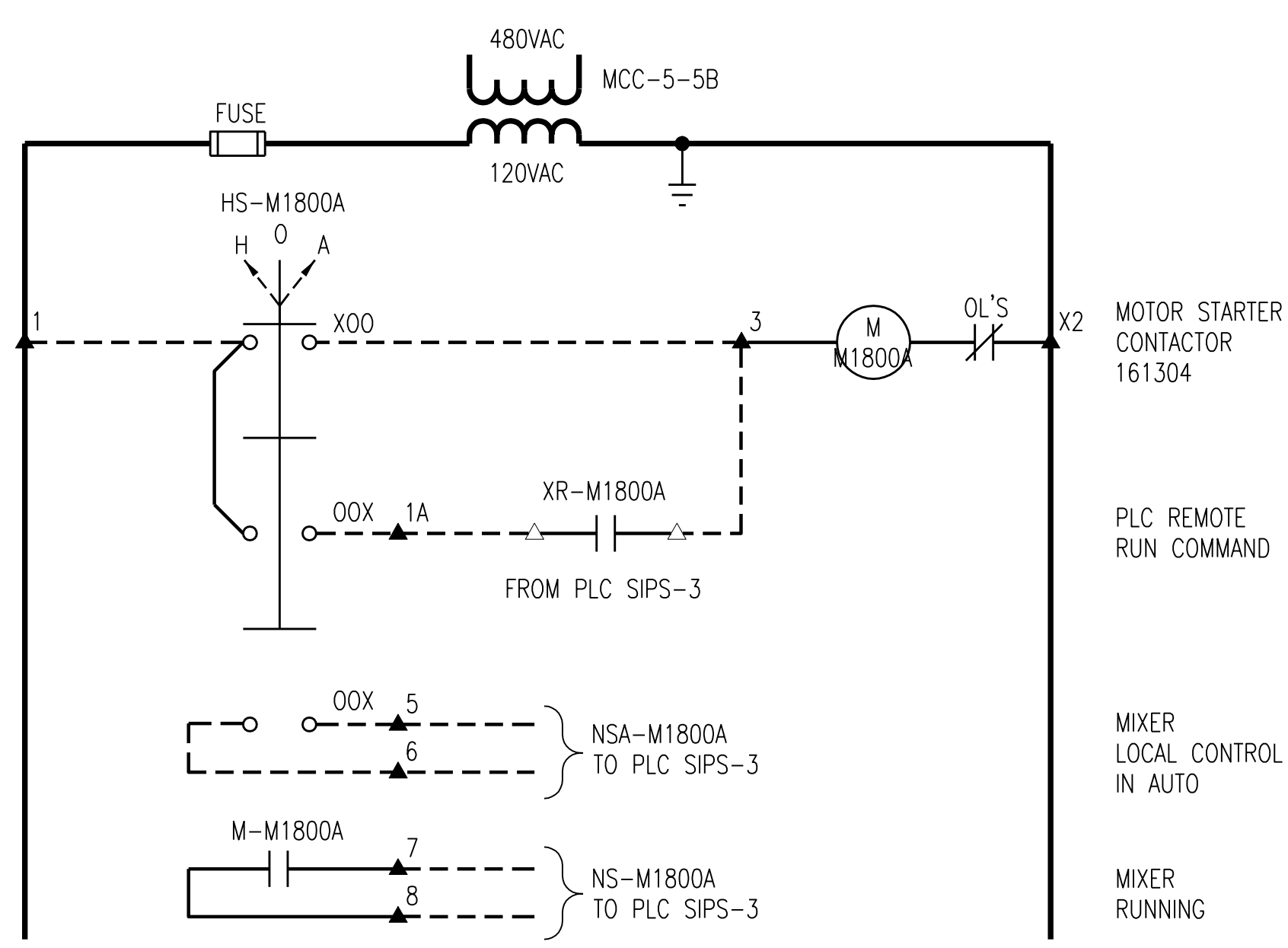
MIXER	①	②	③
MX 1811A	M1811A	T1810A	2BL
MX 1812A	M1812A	T1810A	2BR

HIGH STRENGTH EQUALIZATION TANK MIXER CONTROL SCHEMATIC



PUMP	①	②	③	④	⑤	⑥	⑦
P 1801A	P1801A	6	D1	D2	E1	E2	1AL
P 1802A	P1802A	7	D3	D4	E3	E4	1AR
P 1803A	P1803A	8	D5	D6	E5	E6	2AL

HIGH STRENGTH FLOW PUMP CONTROL SCHEMATIC



HIGH STRENGTH FLOW PUMPING STATION MIXER CONTROL SCHEMATIC

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

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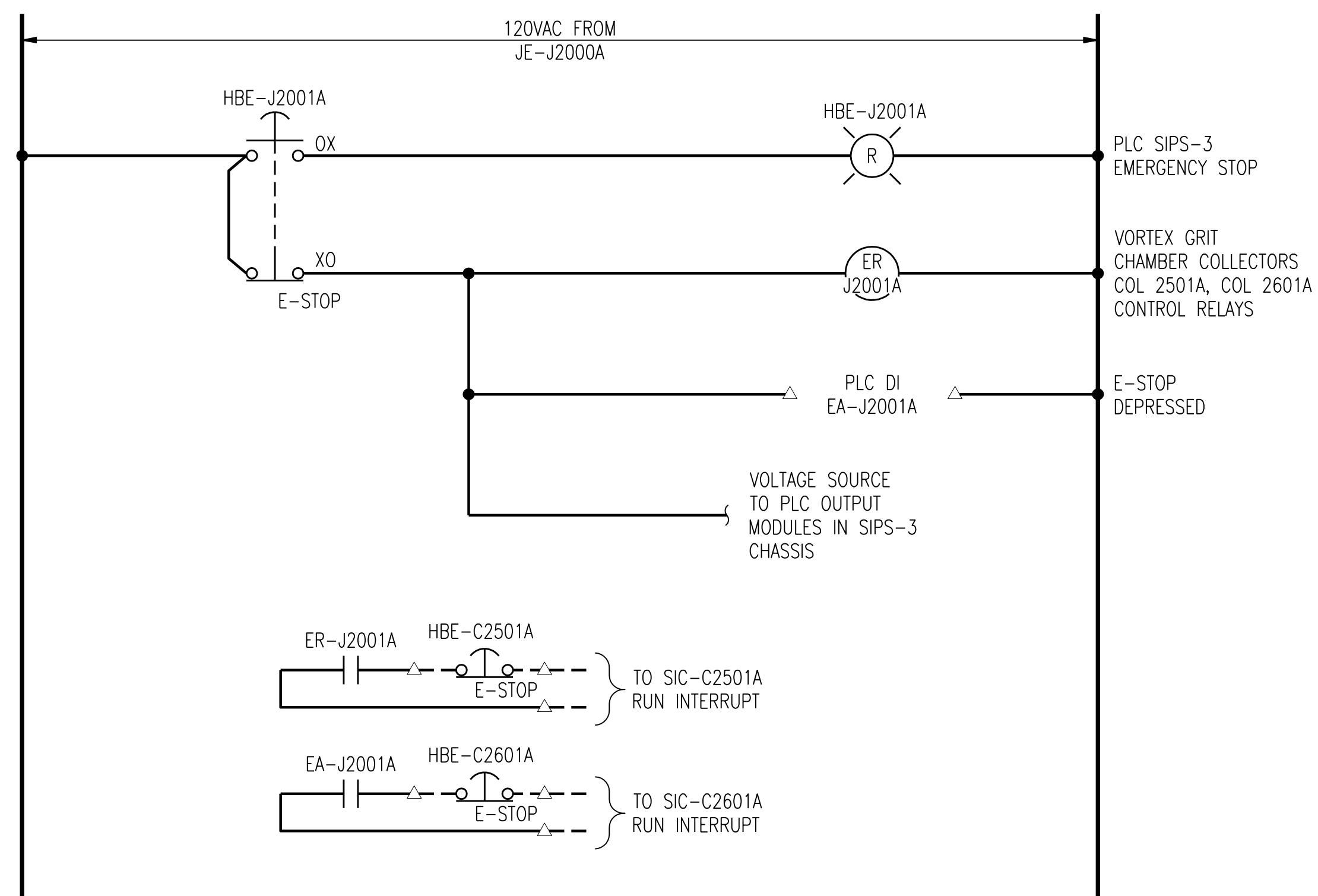
**INSTRUMENTATION & WIRING DIAGRAMS
 HIGH STRENGTH AND GRIT DEWATERING
 CONTROL SCHEMATICS - SHEET 2**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED
DRAWN JW STODOLL	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ MERGEN	1202
APPROVED	2
DATE DECEMBER 2, 2011	

CADD: D1-R4

NOTES:

1. ALL DEVICES SHOWN LOCAL, WIRED IN SIPS-3 PANEL.
2. SCHEMATICS ARE NOT PROVIDED FOR ALL CONTROL PANEL WIRING APPLICATIONS. SELECTED MODIFIED WIRING INTERFACE WITH NEW INSTRUMENTATION OR EQUIPMENT IS SHOWN.
3. CONTRACTOR RESPONSIBLE FOR WIRING OF ALL CONTROL PANEL INSTRUMENTATION AND NEW PLC MODULE MODIFICATIONS TO PROVIDE COMPLETE OPERATIONAL FUNCTIONALITY.



SIPS-3 CONTROL PANEL E-STOP INTERLOCK

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



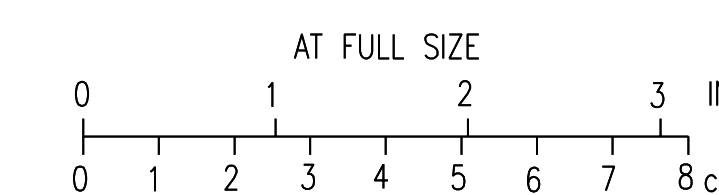
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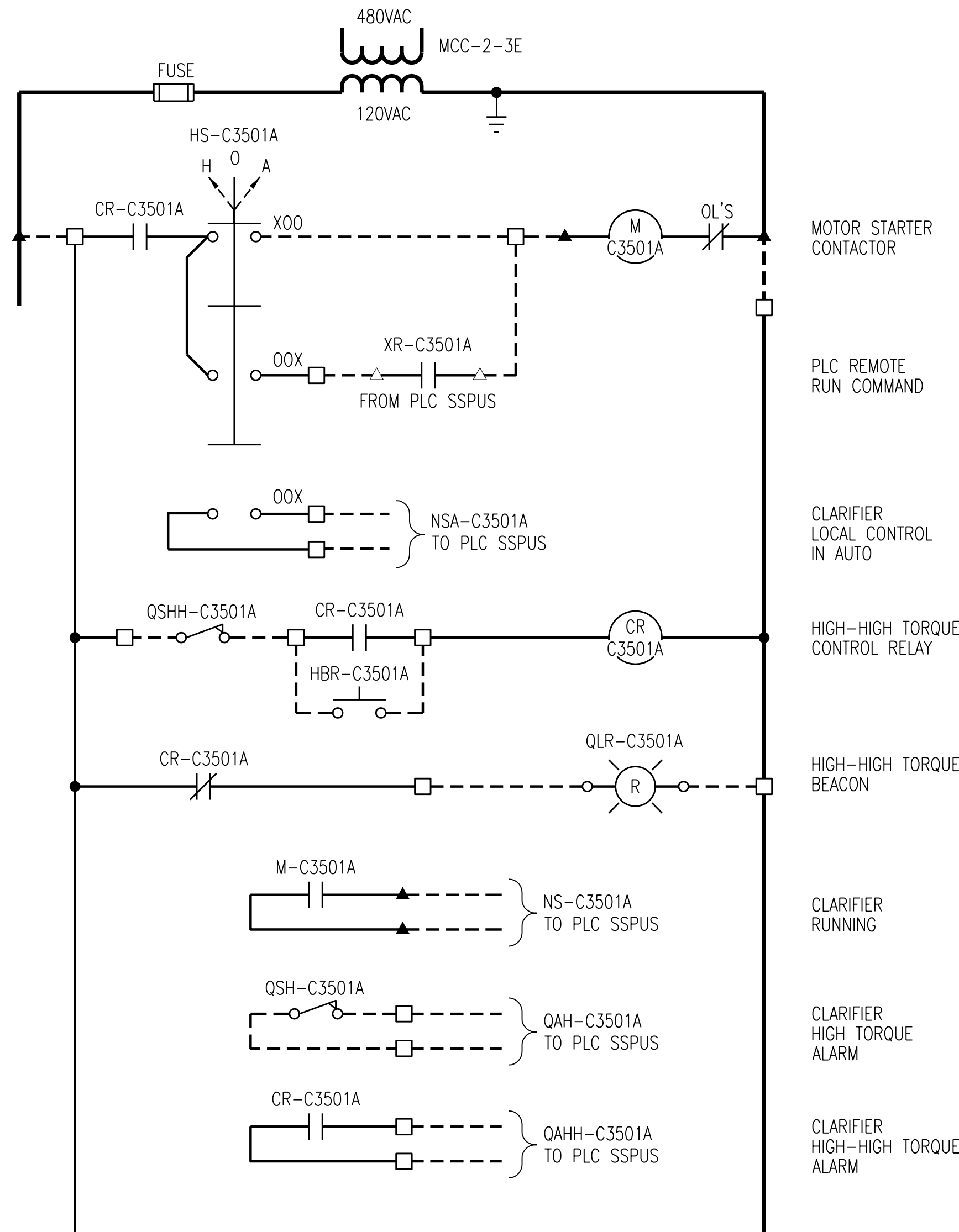
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

INSTRUMENTATION & WIRING DIAGRAMS
SIPS-3 PANEL
E-STOP INTERFACE WIRING

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	
DRAWN JW STOGDILL	NO. 22800	REV.
CHECKED SA TRIPMACKER		
APPROVED TJ Mergen	1211	2
DATE DECEMBER 2, 2011		



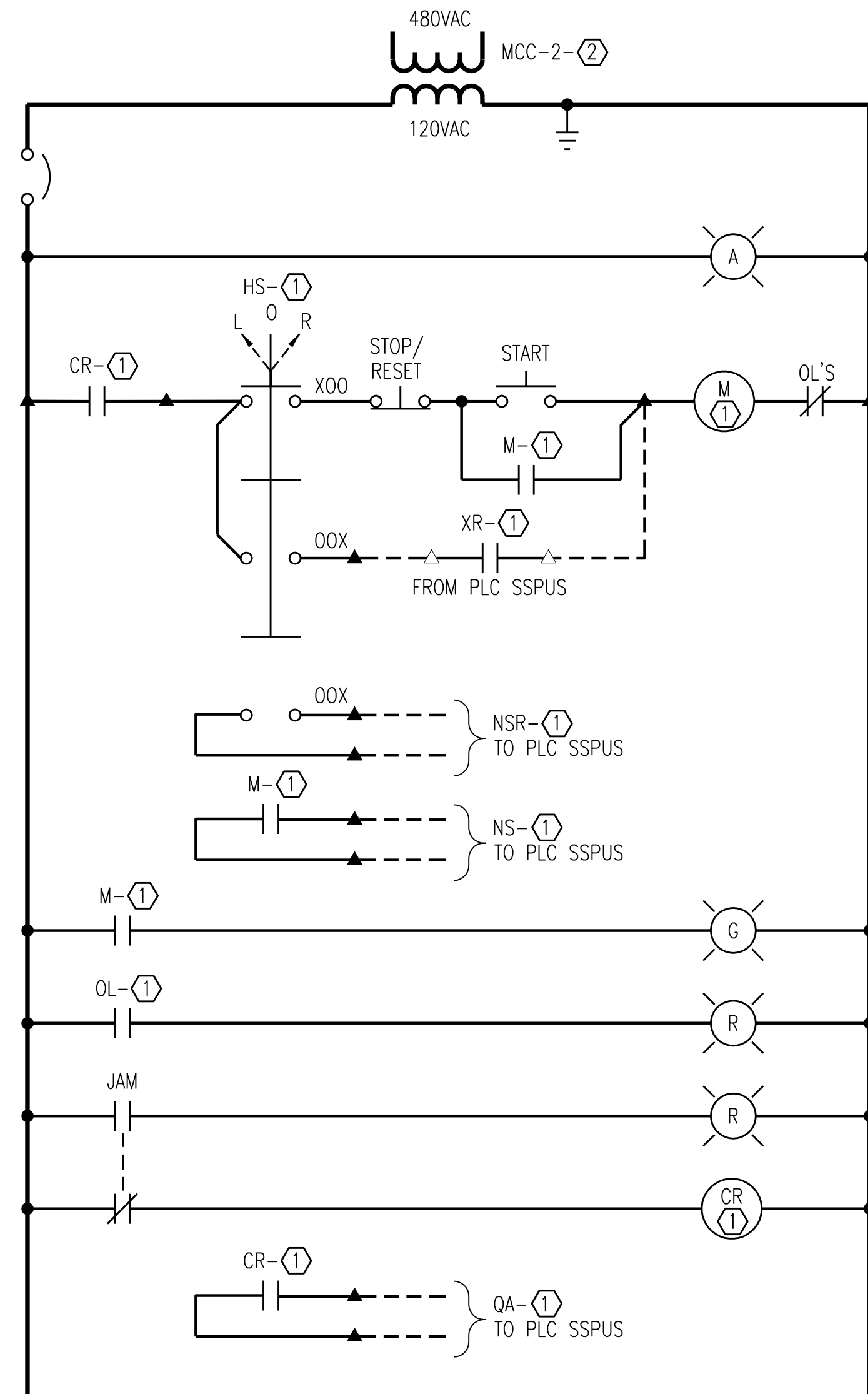


MOTOR STARTER CONTACTOR
PLC REMOTE RUN COMMAND
CLARIFIER LOCAL CONTROL IN AUTO
HIGH-HIGH TORQUE CONTROL RELAY
HIGH-HIGH TORQUE BEACON
CLARIFIER RUNNING
CLARIFIER HIGH TORQUE ALARM
CLARIFIER HIGH-HIGH TORQUE ALARM

- NOTES:**
1. ALL PANEL DEVICES LOCATED IN CLARIFIER LOCAL CONTROL PANEL LCP-C3501A.
 2. CONTRACTOR TO VERIFY WIRING OF VENDOR PACKAGE SYSTEM WHICH MAY DEVIATE FROM WIRING SHOWN.

PRIMARY SLUDGE COLLECTOR COL 3501A CONTROL SCHEMATIC

SEE ITC #27 SHEET I301-A

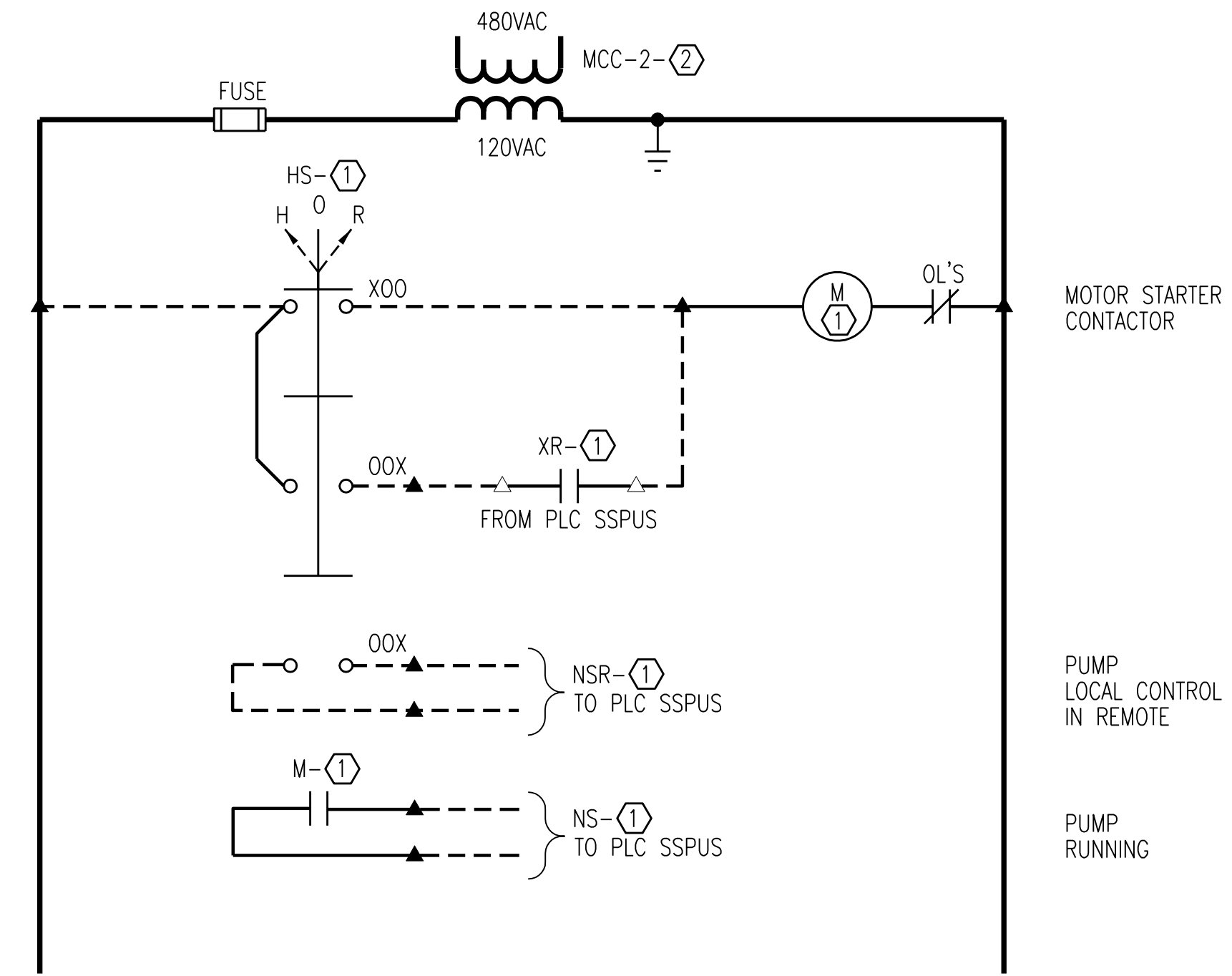


POWER ON PILOT LIGHT
MOTOR STARTER CONTACTOR
GRINDER LOCAL CONTROL IN REMOTE
GRINDER RUNNING
GRINDER RUNNING PILOT LIGHT
MOTOR OVERLOAD PILOT LIGHT
GRINDER OVERLOAD PILOT LIGHT
GRINDER OVERLOAD CONTROL RELAY
GRINDER JAMMED

LOCAL PANEL	GRINDER	①	②
LCP-G3301A	GDR 3301A	G3301A	3A
LCP-G3401A	GDR 3401A	G3401A	3B
LCP-G3501A	GDR 3501A	G3501A	3D

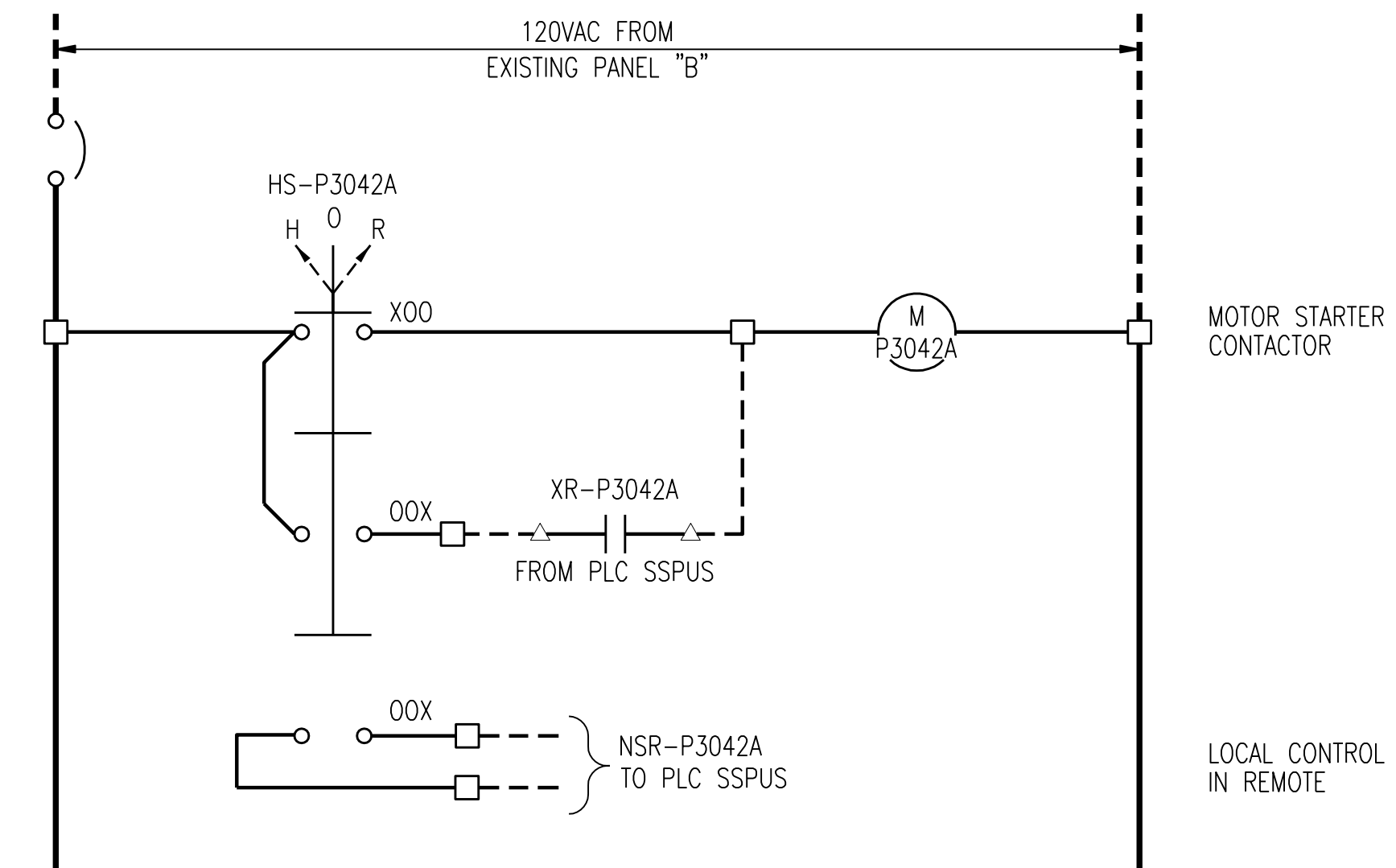
- NOTES:**
1. ALL DEVICES LOCATED IN GRINDER LOCAL CONTROL PANEL AS INDICATED ABOVE.
 2. CONTRACTOR TO VERIFY WIRING OF VENDOR PACKAGE SYSTEM WHICH MAY DEVIATE FROM WIRING SHOWN.

PRIMARY SLUDGE GRINDER CONTROL SCHEMATIC



PUMP	①	②
P 3301A	P3301A	2A
P 3401A	P3401A	2B
P 3501A	P3501A	2D

PRIMARY SLUDGE PUMP CONTROL SCHEMATIC



PRIMARY EFFLUENT SAMPLE PUMP P 3042A CONTROL SCHEMATIC

NOTES:

1. CONTROL SCHEMATIC PROVIDED FOR NEW MOTOR APPLICATIONS ONLY.
2. CONTRACTOR RESPONSIBLE FOR INTERFACE WIRING TO PLC PANEL FOR MONITORING AND CONTROL DEFINED IN SPECIFICATIONS.

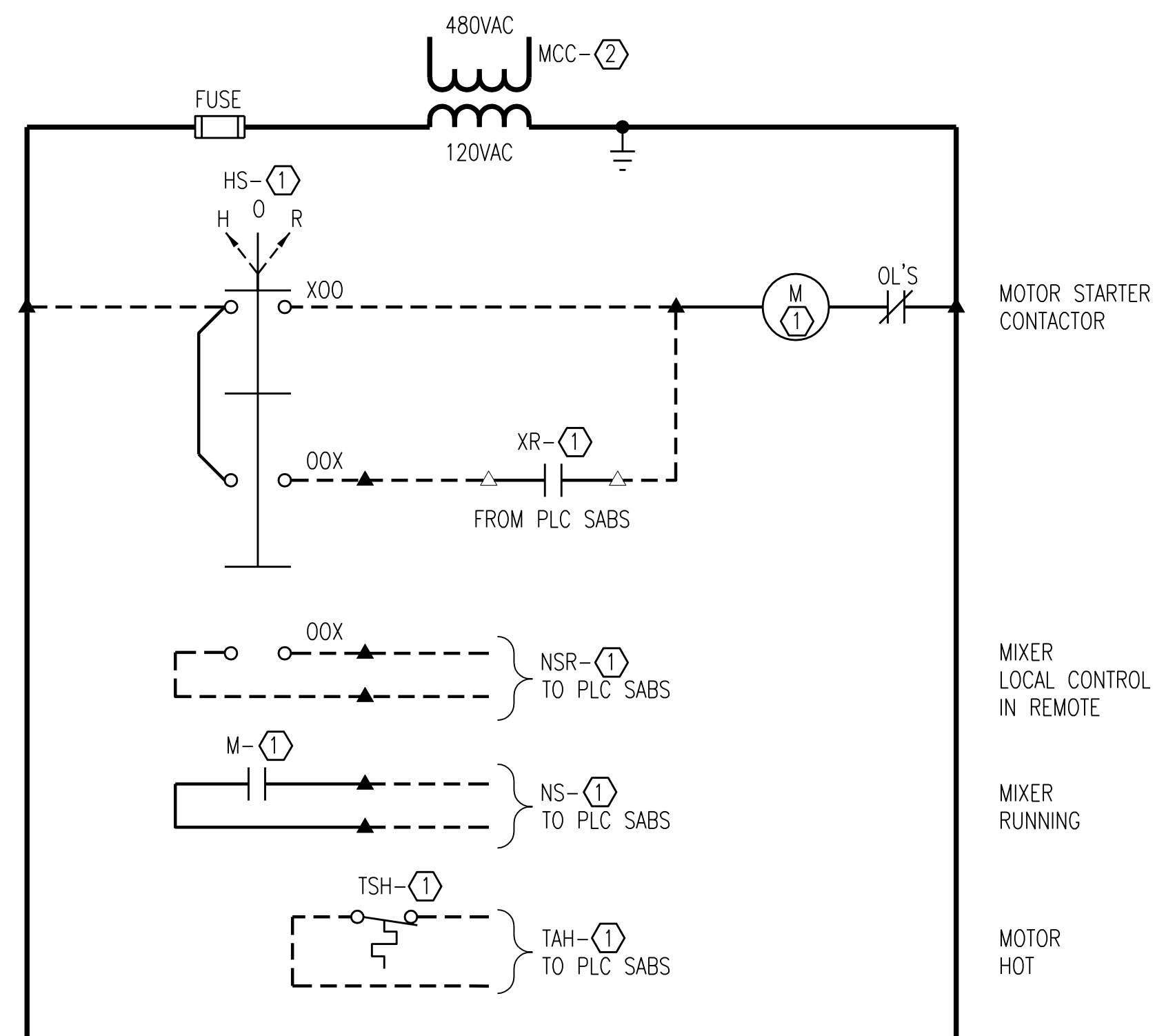
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0	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**INSTRUMENTATION & WIRING DIAGRAMS
PRIMARY CLARIFIERS
CONTROL SCHEMATICS**

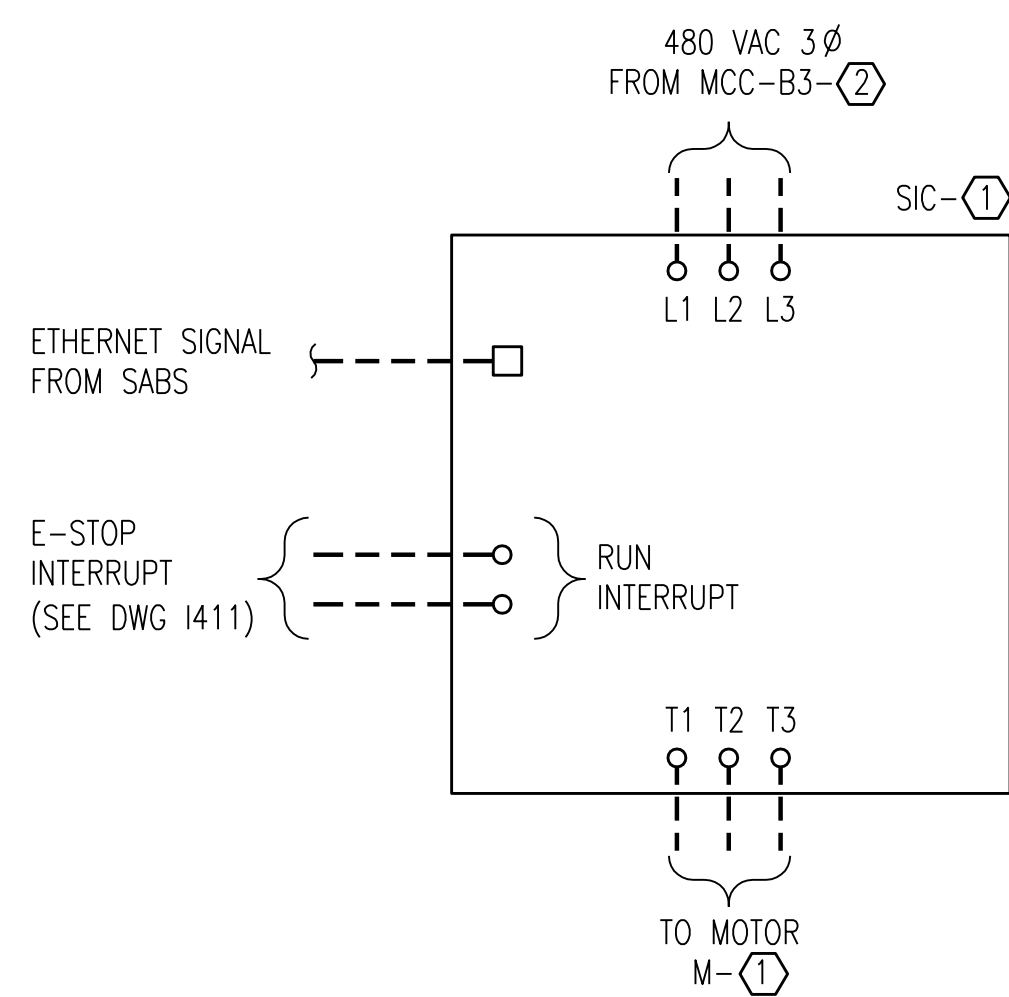
DESIGNED SA TRIPMACKER	SCALE: AS NOTED	REV.
DRAWN JW STODOLL	NO. 22800	
CHECKED SA TRIPMACKER		
APPROVED TJ Mergen		
DATE FEBRUARY 22, 2012	1301	1



MIXER	①	②
MX 4115A	M4115A	B1-5EL
MX 4110A	M4110A	B3-6C
MX 4125A	M4125A	B1-6EL
MX 4120A	M4120A	B3-6D
MX 4135A	M4135A	B2-4AR
MX 4130A	M4130A	B3-6E
MX 4145A	M4145A	B2-4BR
MX 4140A	M4140A	B3-6F

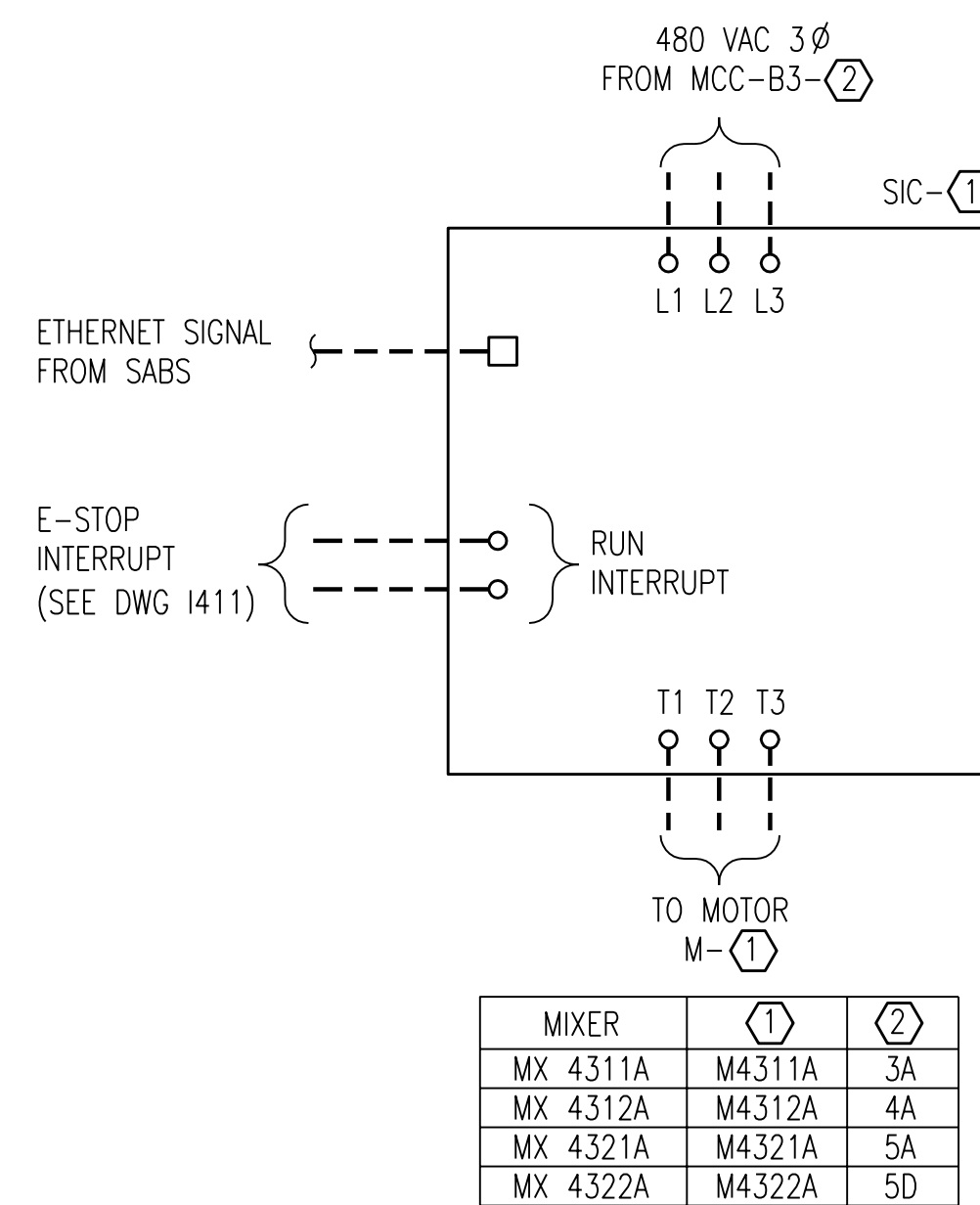
**AERATION BASIN MIXERS
CONTROL SCHEMATIC**

SEE ITC #06 SHEET I401-A

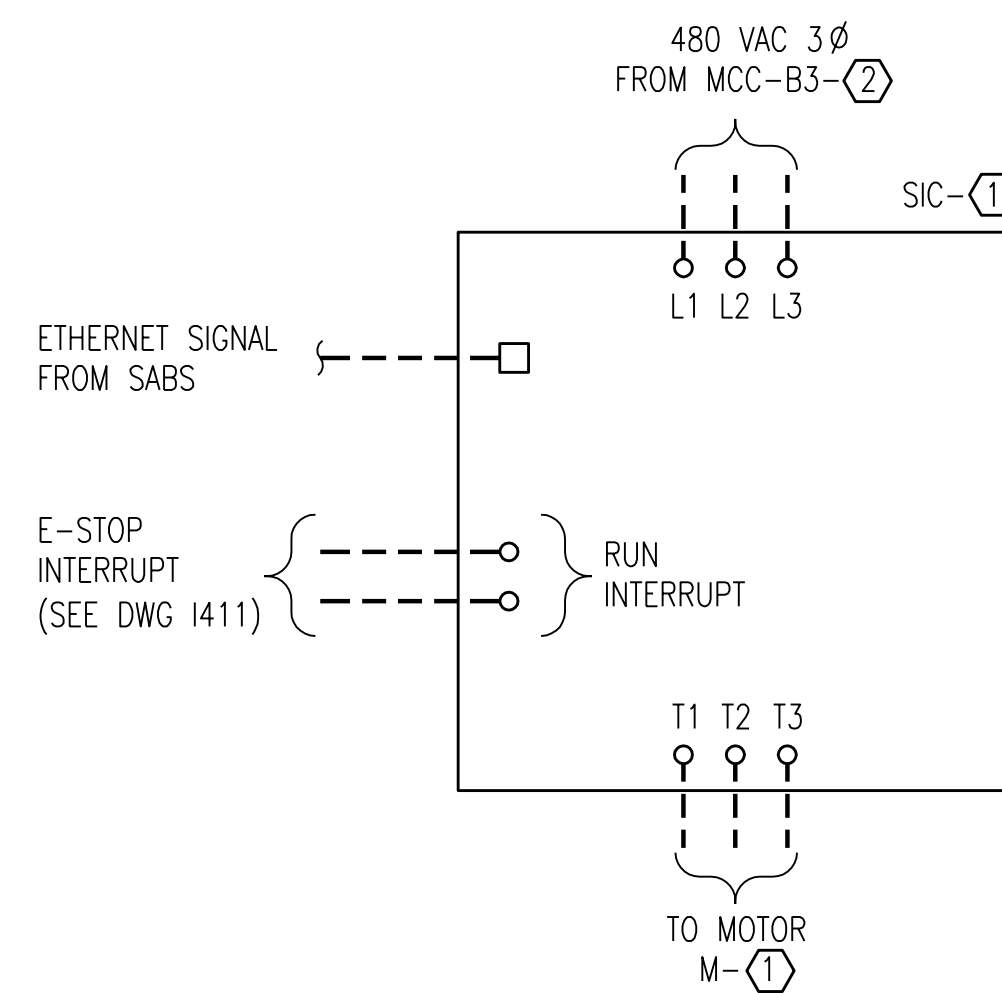


MIXER	①	②
MX 4100A	M4100A	4C
MX 4101A	M4101A	4D
MX 4102A	M4102A	4E
MX 4103A	M4103A	4F
MX 4104A	M4104A	5B

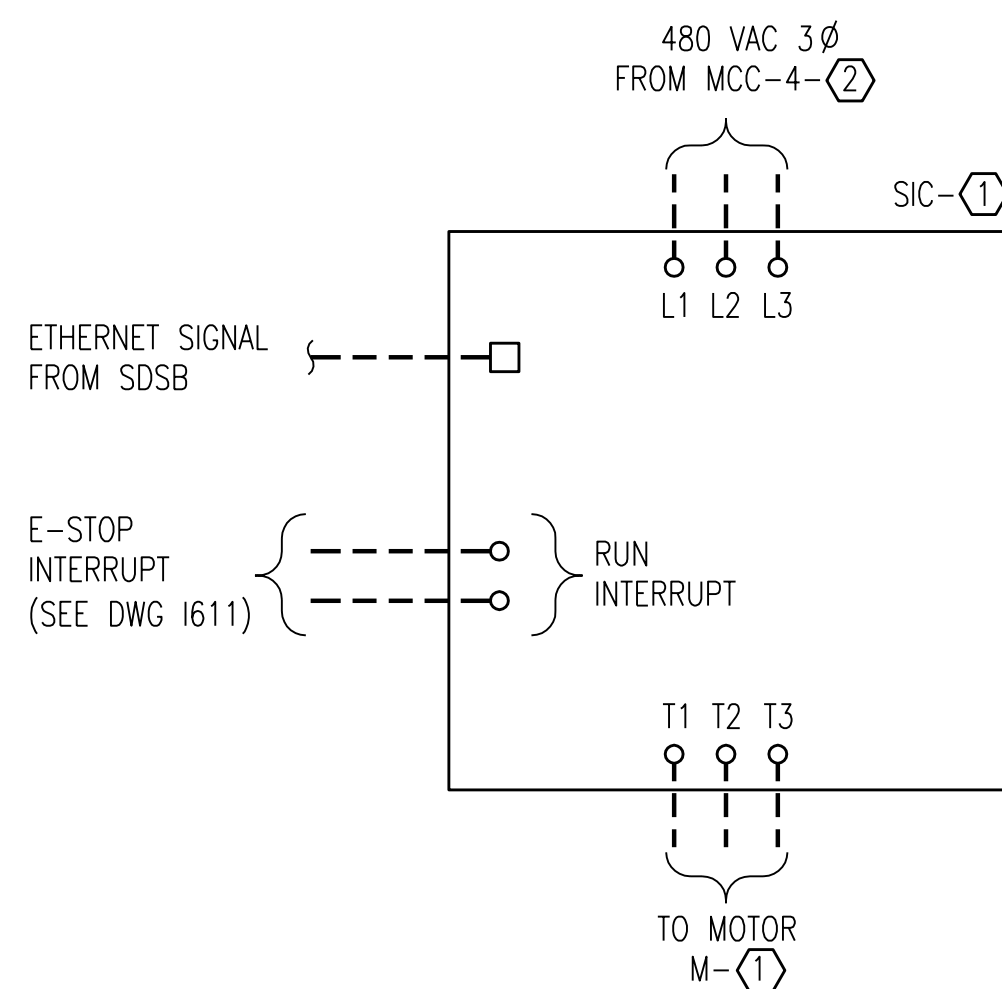
**INFLUENT CHANNEL MIXER
ADJUSTABLE SPEED DRIVE
CONTROL SCHEMATIC**



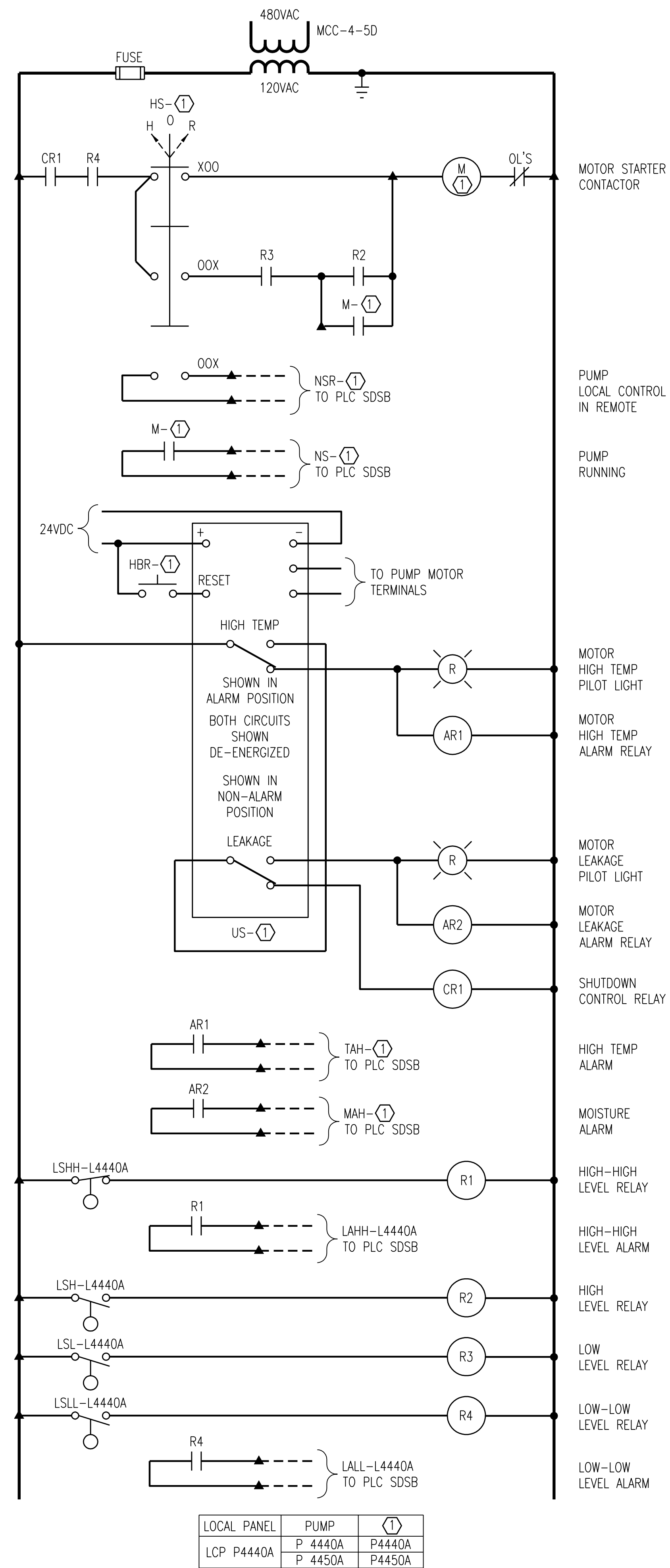
**BAR TANK MIXERS
ADJUSTABLE SPEED DRIVE
CONTROL SCHEMATIC**



**WAS PUMP
ADJUSTABLE SPEED DRIVE
CONTROL SCHEMATIC**



**MIXED LIQUOR RECYCLE PUMPS
ADJUSTABLE SPEED DRIVE
CONTROL SCHEMATIC**



NOTES:

- ALL DEVICES LOCATED IN SUMP PUMP LOCAL CONTROL PANEL AS INDICATED ABOVE.
- CONTRACTOR TO VERIFY WIRING OF VENDOR PACKAGE SYSTEM WHICH MAY DEVIATE FROM WIRING SHOWN.

**AERATION EFFLUENT SUMP PUMPS
CONTROL SCHEMATIC**

NOTES:

- CONTROL SCHEMATIC PROVIDED FOR NEW APPLICATIONS ONLY.
- CONTRACTOR RESPONSIBLE FOR INTERFACE WIRING TO PLC PANEL FOR MONITORING AND CONTROL DEFINED IN SPECIFICATIONS.

SEE ITC #03 SHEET I401-A

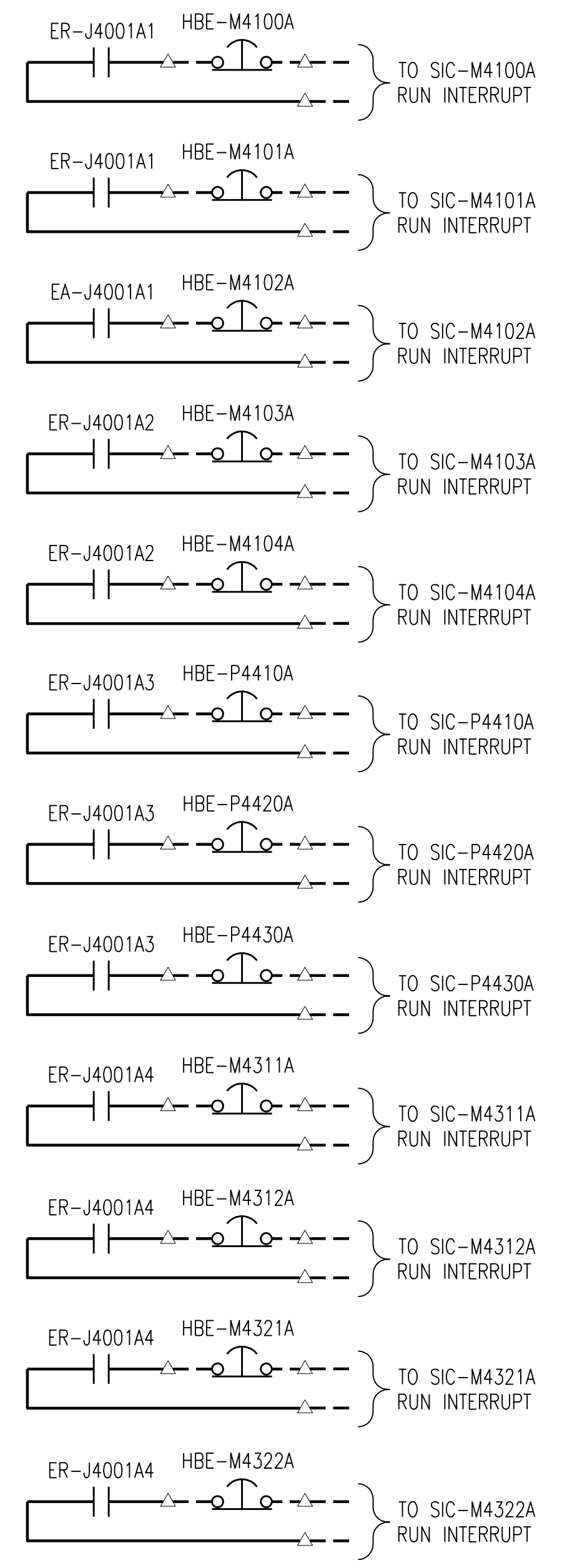
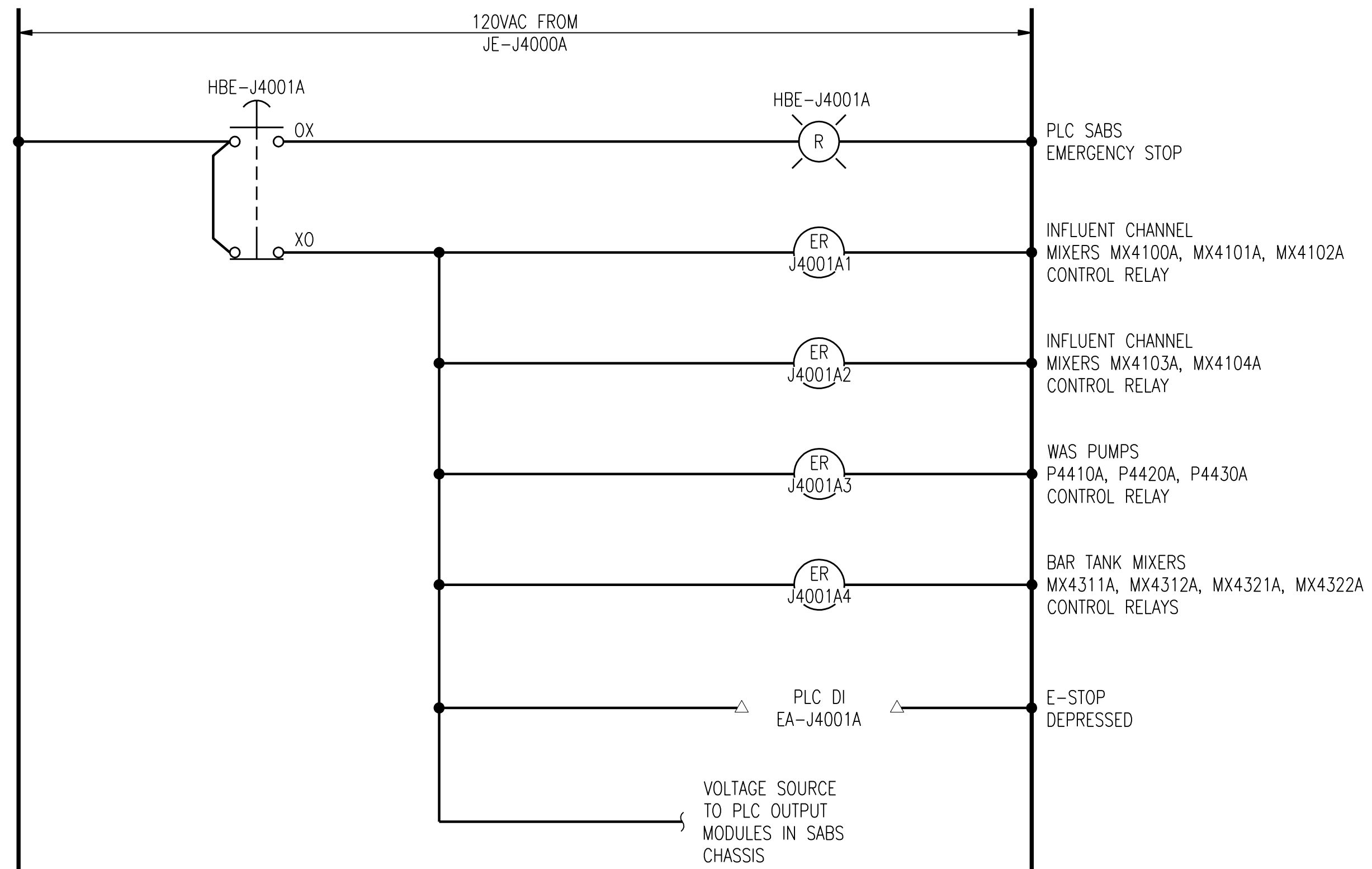
NO.	REVISIONS	DSGN	CHKD	APVD	DATE
2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012

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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**INSTRUMENTATION & WIRING DIAGRAMS
BLOWER BUILDING
CONTROL SCHEMATICS**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	
DRAWN JW STODOLL	NO. 22800	REV.
CHECKED SA TRIPMACKER		
APPROVED TJ MERGEN		
APPROVED		
DATE DECEMBER 2, 2011	1401	2



**SABS CONTROL PANEL
E-STOP INTERRUPTS**

NOTES:

1. ALL DEVICES SHOWN LOCAL, WIRED IN SABS PLC PANEL.
2. SCHEMATICS ARE NOT PROVIDED FOR ALL CONTROL PANEL WIRING APPLICATIONS. SELECTED MODIFIED WIRING INTERFACE WITH NEW INSTRUMENTATION OR EQUIPMENT IS SHOWN.
3. CONTRACTOR RESPONSIBLE FOR WIRING OF ALL CONTROL PANEL INSTRUMENTATION AND NEW PLC MODULE MODIFICATIONS TO PROVIDE COMPLETE OPERATIONAL FUNCTIONALITY.

2	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
1	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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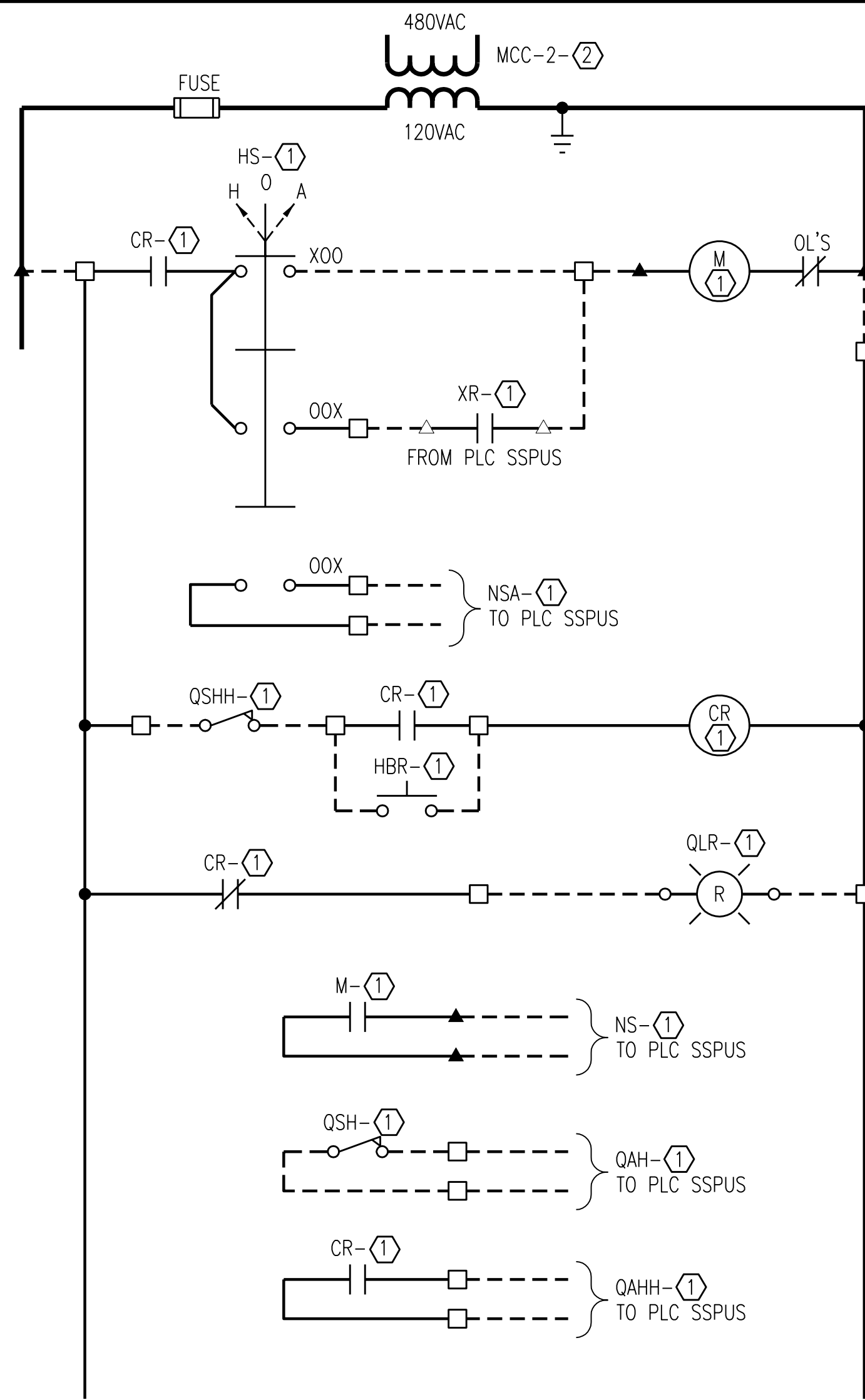
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www.stanleyconsultants.com

CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**INSTRUMENTATION & WIRING DIAGRAMS
SABS PANEL
E-STOP INTERFACE WIRING**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED
DRAWN JW STOGDILL	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ MERGEN	1411
APPROVED	2
DATE DECEMBER 2, 2011	

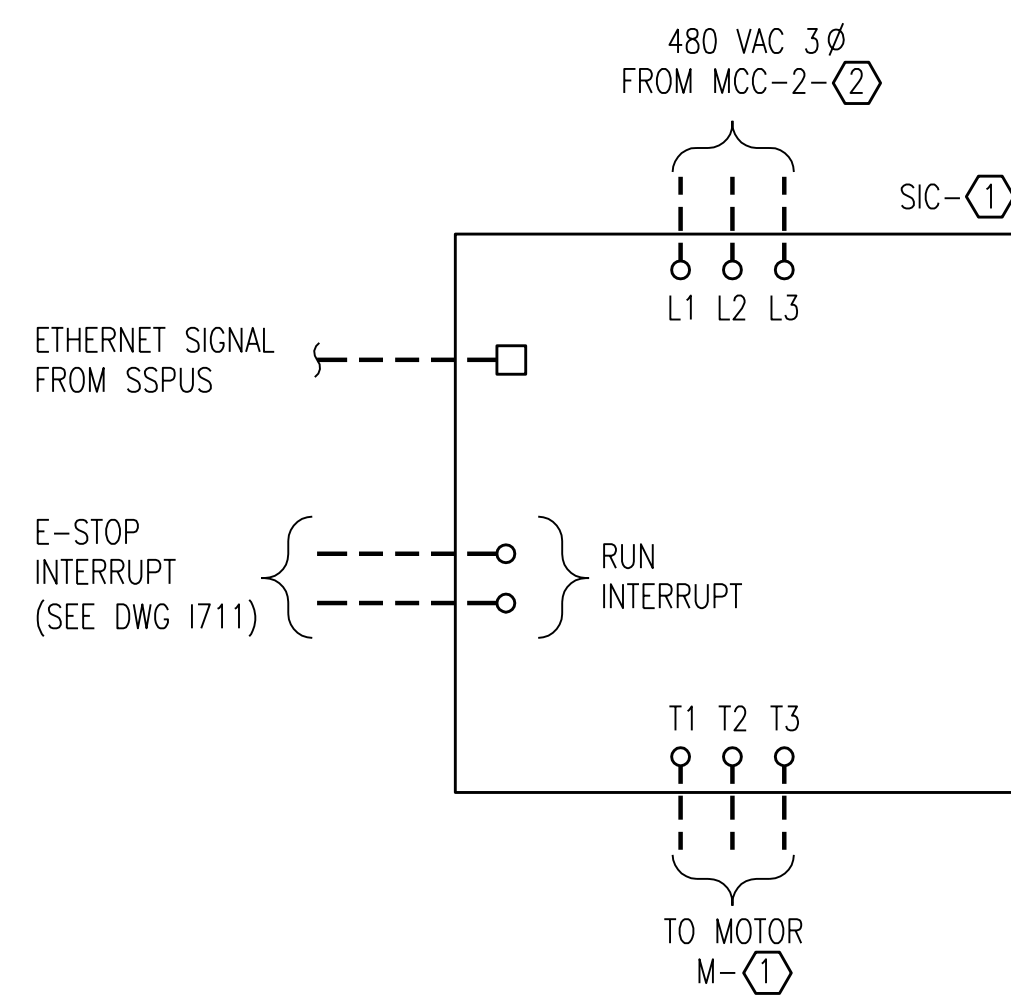
CADD: D1-R4



LOCAL PANEL	CLARIFIER	(1)	(2)
LCP-C5501A	COL 5501A	C5501A	6B
LCP-C5601A	COL 5601A	C5601A	5C

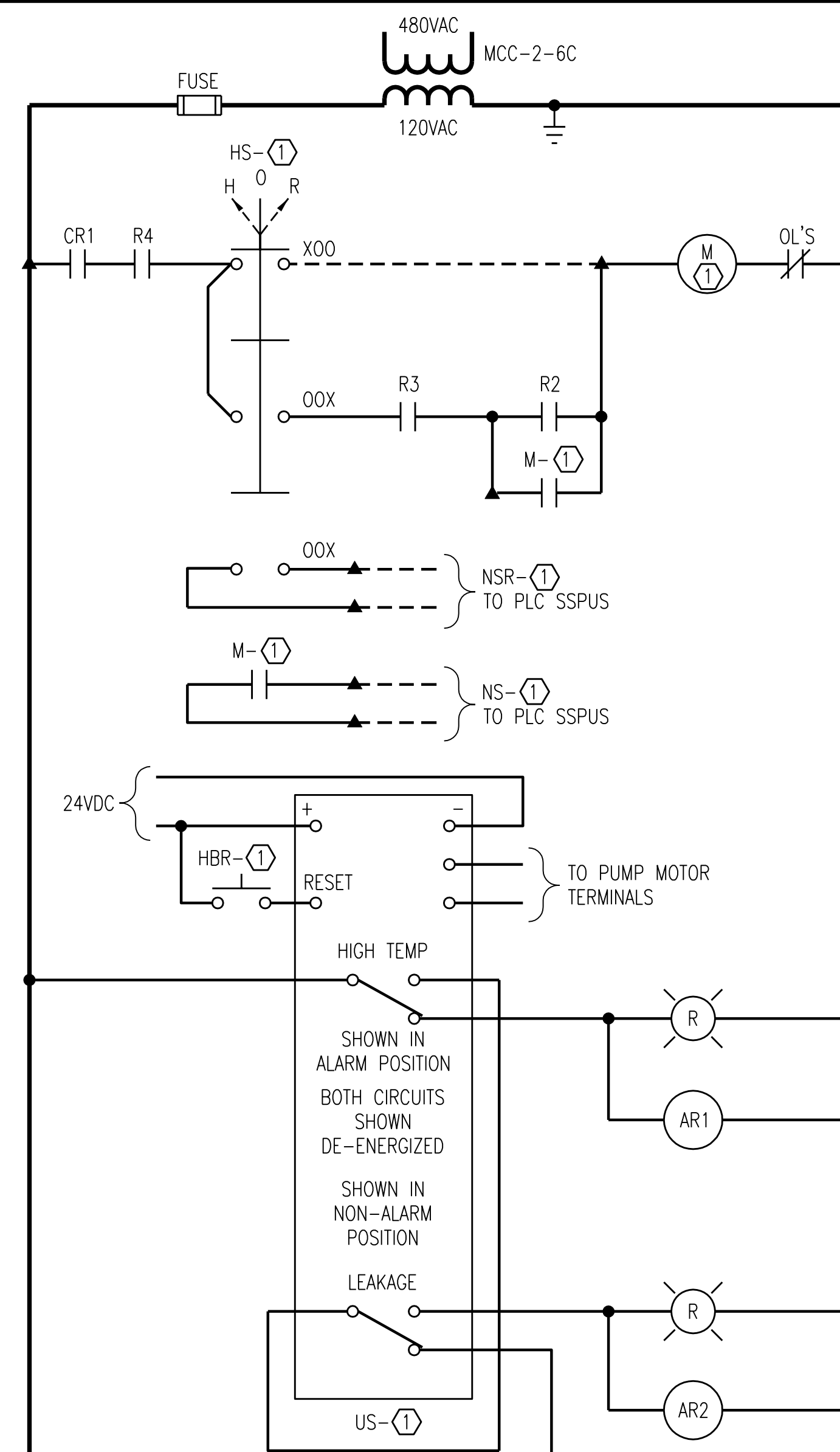
- NOTES:
1. ALL PANEL DEVICES LOCATED IN CLARIFIER LOCAL CONTROL PANEL AS INDICATED ABOVE.
 2. CONTRACTOR TO VERIFY WIRING OF VENDOR PACKAGE SYSTEM WHICH MAY DEVIATE FROM WIRING SHOWN.

SECONDARY SLUDGE COLLECTOR CONTROL SCHEMATIC



PUMP	(1)	(2)
P 5501A	P5501A	5D
P 5502A	P5502A	5F
P 5601A	P5601A	4D
P 5602A	P5602A	5A

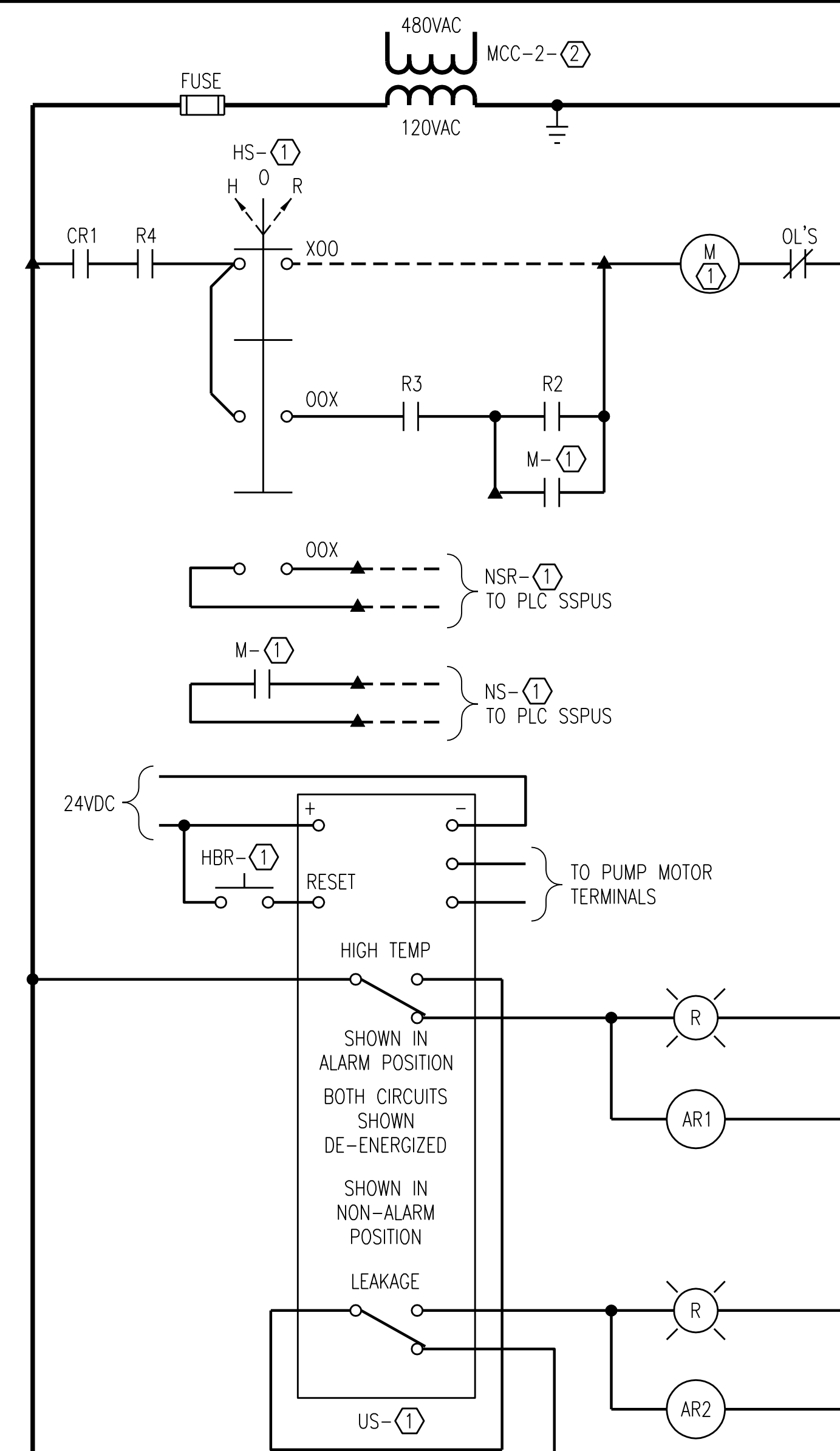
RAS PUMP ADJUSTABLE SPEED DRIVE CONTROL SCHEMATIC



LOCAL PANEL	PUMP	(1)
LCP P5003A	P 5003A P 5004A	P5003A P5004A

- NOTES:
1. ALL DEVICES LOCATED IN SUMP PUMP LOCAL CONTROL PANEL AS INDICATED ABOVE.
 2. CONTRACTOR TO VERIFY WIRING OF VENDOR PACKAGE SYSTEM WHICH MAY DEVIATE FROM WIRING SHOWN.

TANK DRAIN PUMPING STATION CONTROL SCHEMATIC



LOCAL PANEL	PUMP	(1)	(2)
LCP P5001A	P 5001A	P5001A	4C
LCP P5002A	P 5002A	P5002A	6A

- NOTES:
1. ALL DEVICES LOCATED IN SUMP PUMP LOCAL CONTROL PANEL AS INDICATED ABOVE.
 2. CONTRACTOR TO VERIFY WIRING OF VENDOR PACKAGE SYSTEM WHICH MAY DEVIATE FROM WIRING SHOWN.

SECONDARY SCUM PUMP CONTROL SCHEMATIC

NOTES:

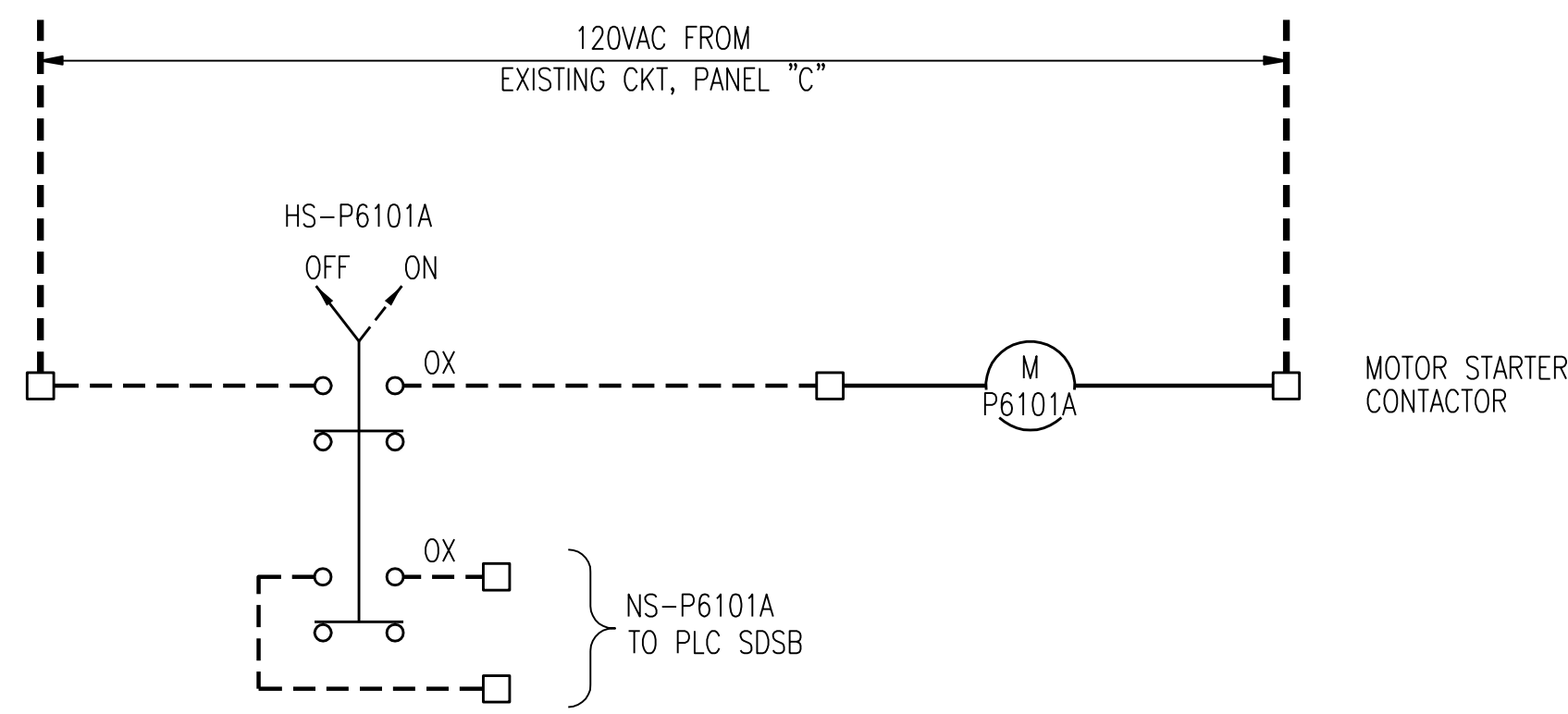
1. CONTROL SCHEMATIC PROVIDED FOR NEW MOTOR APPLICATIONS ONLY.
2. CONTRACTOR RESPONSIBLE FOR INTERFACE WIRING TO PLC PANEL FOR MONITORING AND CONTROL DEFINED IN SPECIFICATIONS.

1	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
0	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

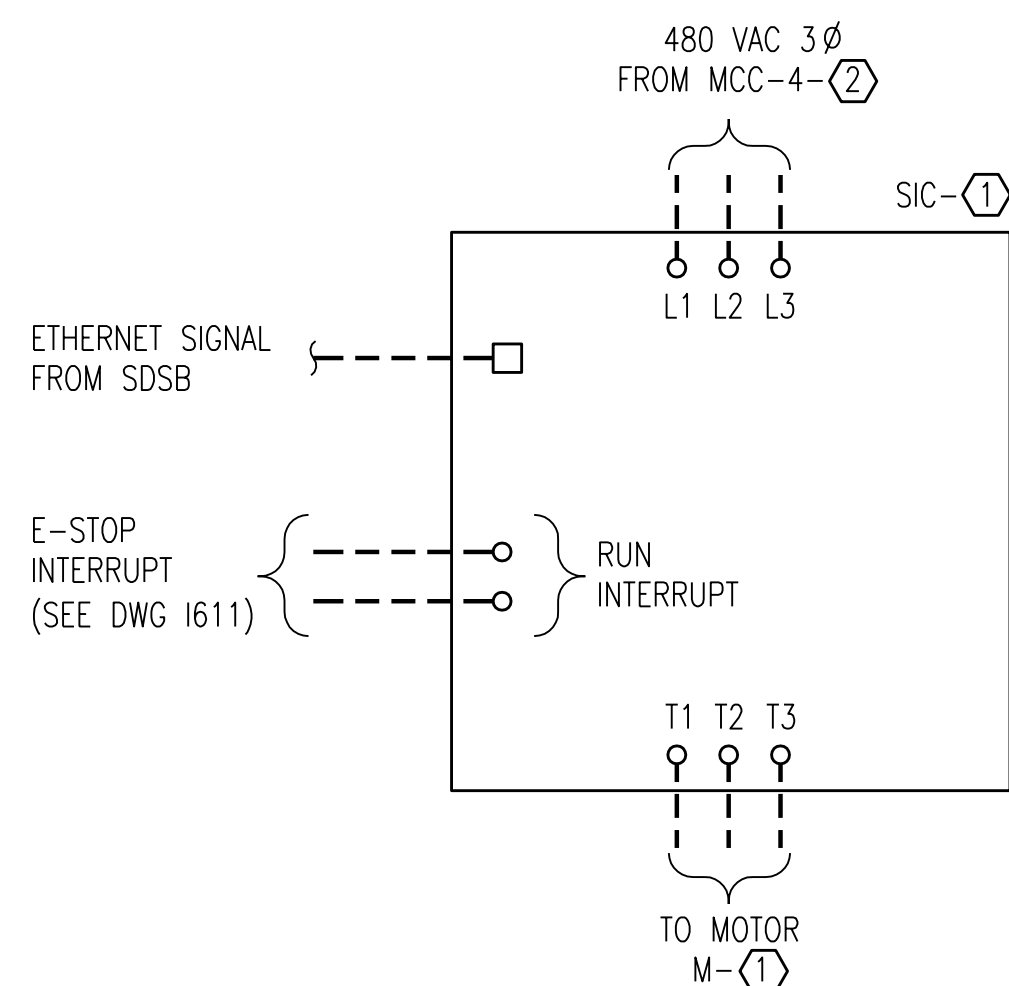
**INSTRUMENTATION & WIRING DIAGRAMS
SECONDARY CLARIFIERS
CONTROL SCHEMATICS**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV.
DRAWN JW STOGDILL			
CHECKED SA TRIPMACKER			
APPROVED TJ Mergen			
APPROVED		1501	1
DATE FEBRUARY 22, 2012			



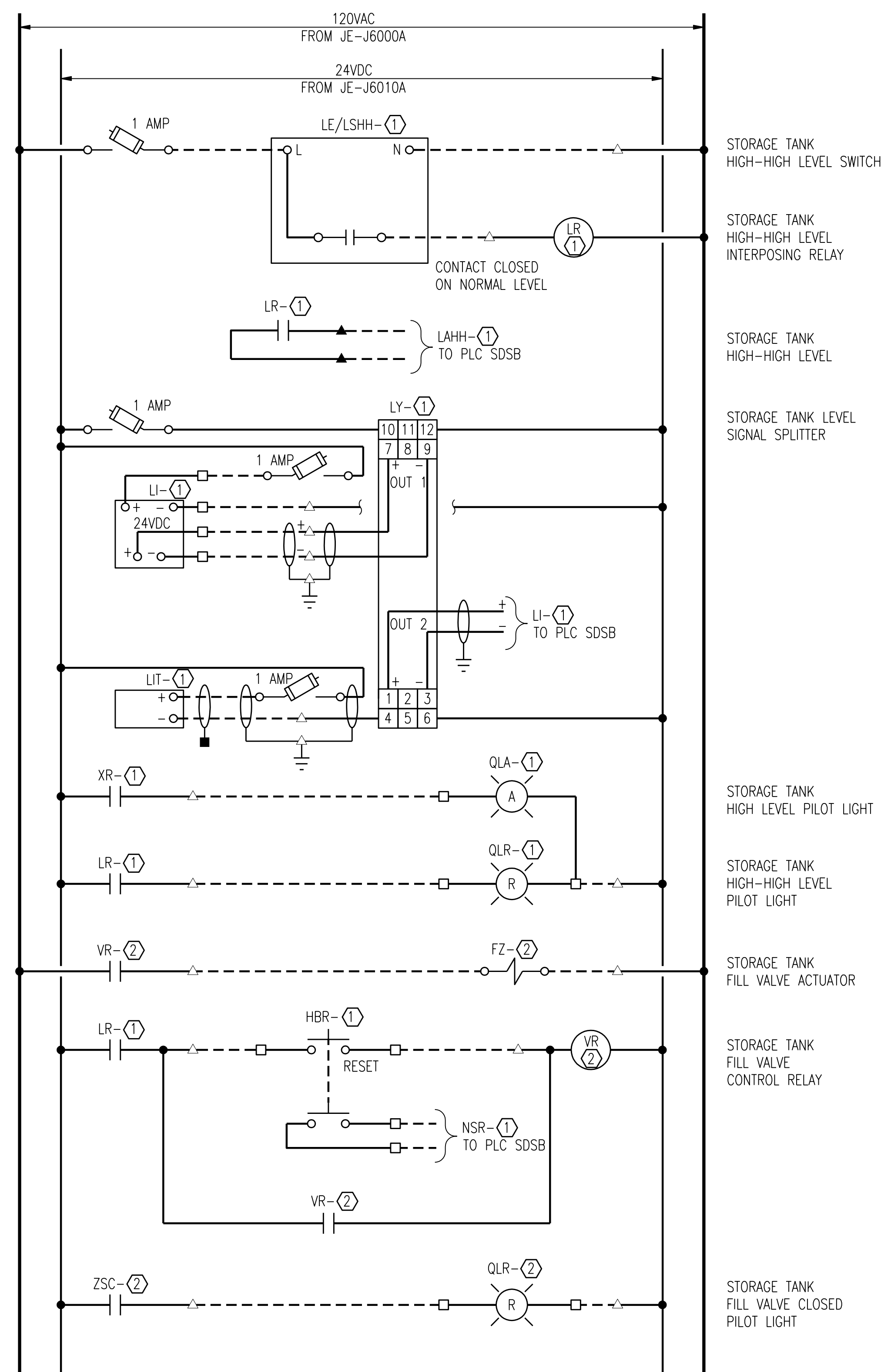
NOTES:
1. HS-P6101A WIRED INTO EXISTING CIRCUITRY.

EFFLUENT SUMP PUMP CONTROL SCHEMATIC



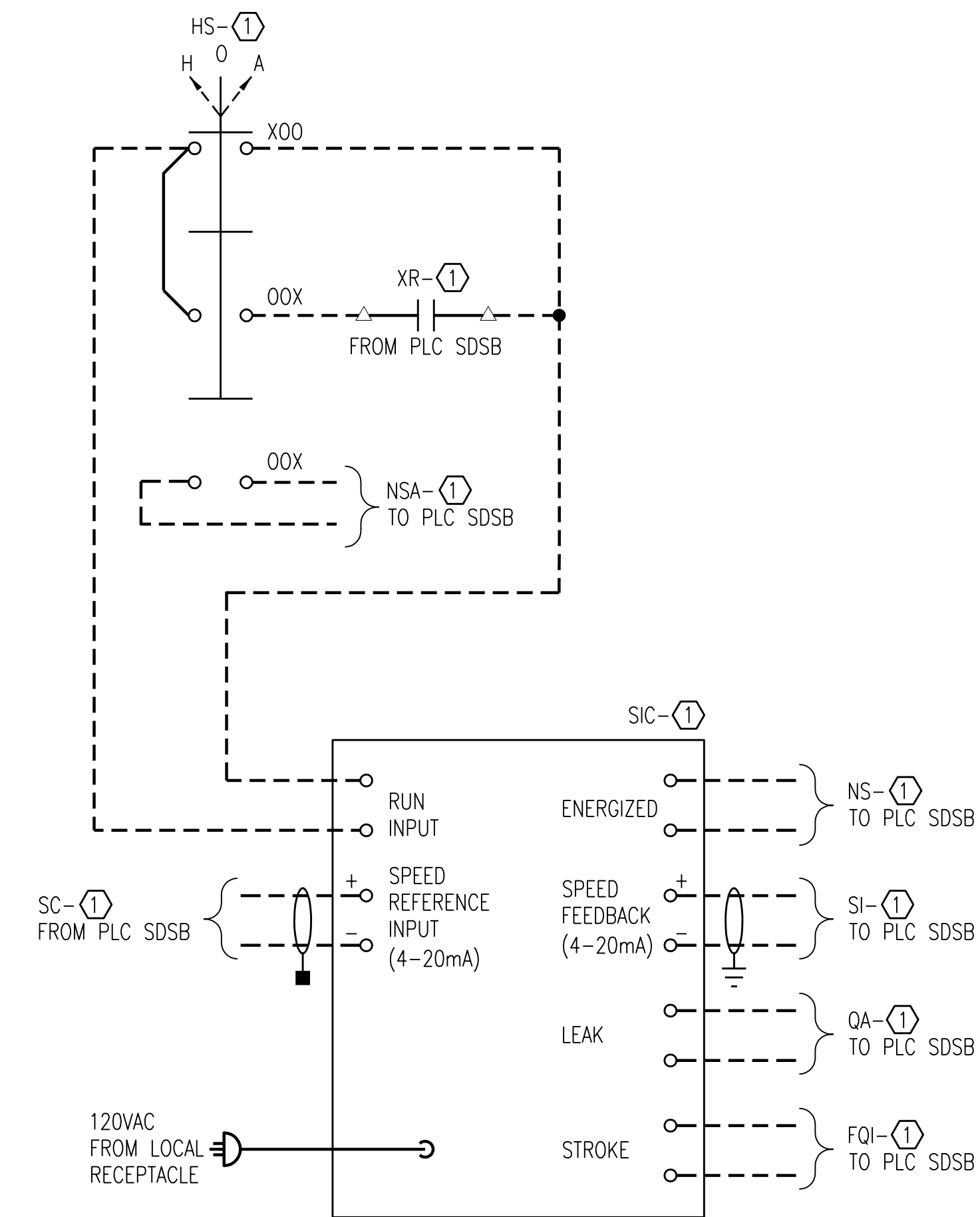
PUMP	(1)	(2)
P 6601A	P6601A	2A
P 6602A	P6602A	3A
P 6603A	P6603A	4A
P 6604A	P6604A	2D
P 6605A	P6605A	3E

EFFLUENT WATER STORAGE BASIN PUMP ADJUSTABLE SPEED DRIVE CONTROL SCHEMATIC



LOCAL PANEL	TANK	(1)	(2)
SHFS-T6701A	T6701A	T6701A	V6701A
SHFS-T6702A	T6702A	T6702A	V6702A

SODIUM HYPOCHLORITE STORAGE TANK FILL STATION CONTROL PANEL CONTROL SCHEMATIC



NOTES:
1. CONTRACTOR TO VERIFY WIRING OF VENDOR PACKAGE SYSTEM WHICH MAY DEVIATE FROM WIRING SHOWN.

SODIUM HYPOCHLORITE METERING PUMP ADJUSTABLE SPEED DRIVE CONTROL SCHEMATIC

PUMP	(1)
P 6721A	P6721A
P 6722A	P6722A
P 6723A	P6723A
P 6724A	P6724A

NOTES:

- CONTROL SCHEMATIC PROVIDED FOR NEW MOTOR APPLICATIONS ONLY.
- CONTRACTOR RESPONSIBLE FOR INTERFACE WIRING TO PLC PANEL FOR MONITORING AND CONTROL DEFINED IN SPECIFICATIONS.

1	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
0	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



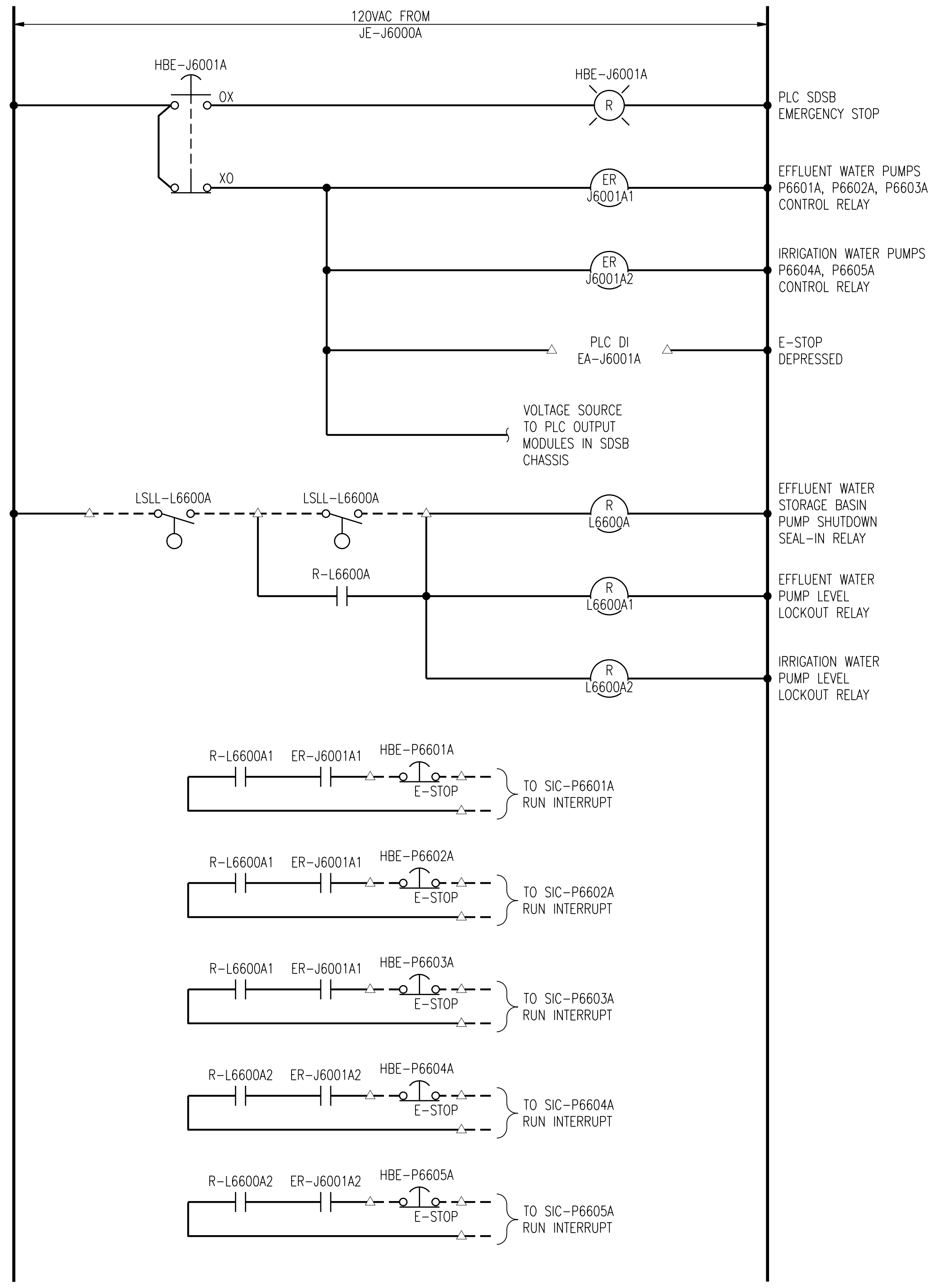
CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**INSTRUMENTATION & WIRING DIAGRAMS
EFFLUENT WATER & SODIUM HYPOCHLORITE
CONTROL SCHEMATICS**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED
DRAWN JW STODOLL	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ MERGEN	1601
APPROVED	1
DATE FEBRUARY 22, 2012	

CADD: D1-R4

SEE ITC #09 SHEET I611-A



**SDSB CONTROL PANEL
E-STOP INTERLOCK**

NOTES:

1. ALL DEVICES SHOWN LOCAL, WIRED IN SDSB PLC PANEL.
2. SCHEMATICS ARE NOT PROVIDED FOR ALL CONTROL PANEL WIRING APPLICATIONS. SELECTED MODIFIED WIRING INTERFACE WITH NEW INSTRUMENTATION OR EQUIPMENT IS SHOWN.
3. CONTRACTOR RESPONSIBLE FOR WIRING OF ALL CONTROL PANEL INSTRUMENTATION AND NEW PLC MODULE MODIFICATIONS TO PROVIDE COMPLETE OPERATIONAL FUNCTIONALITY.

1	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
0	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



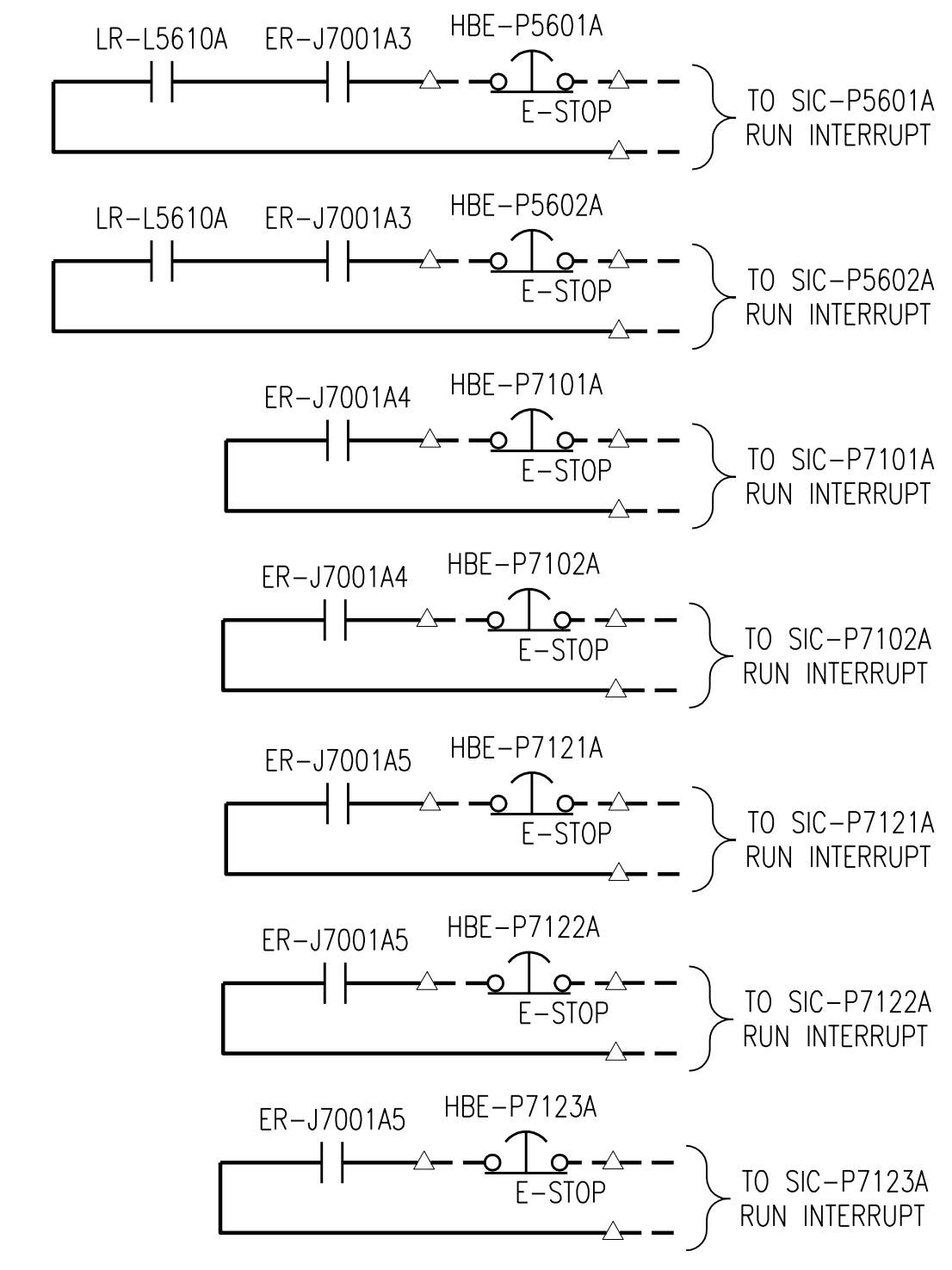
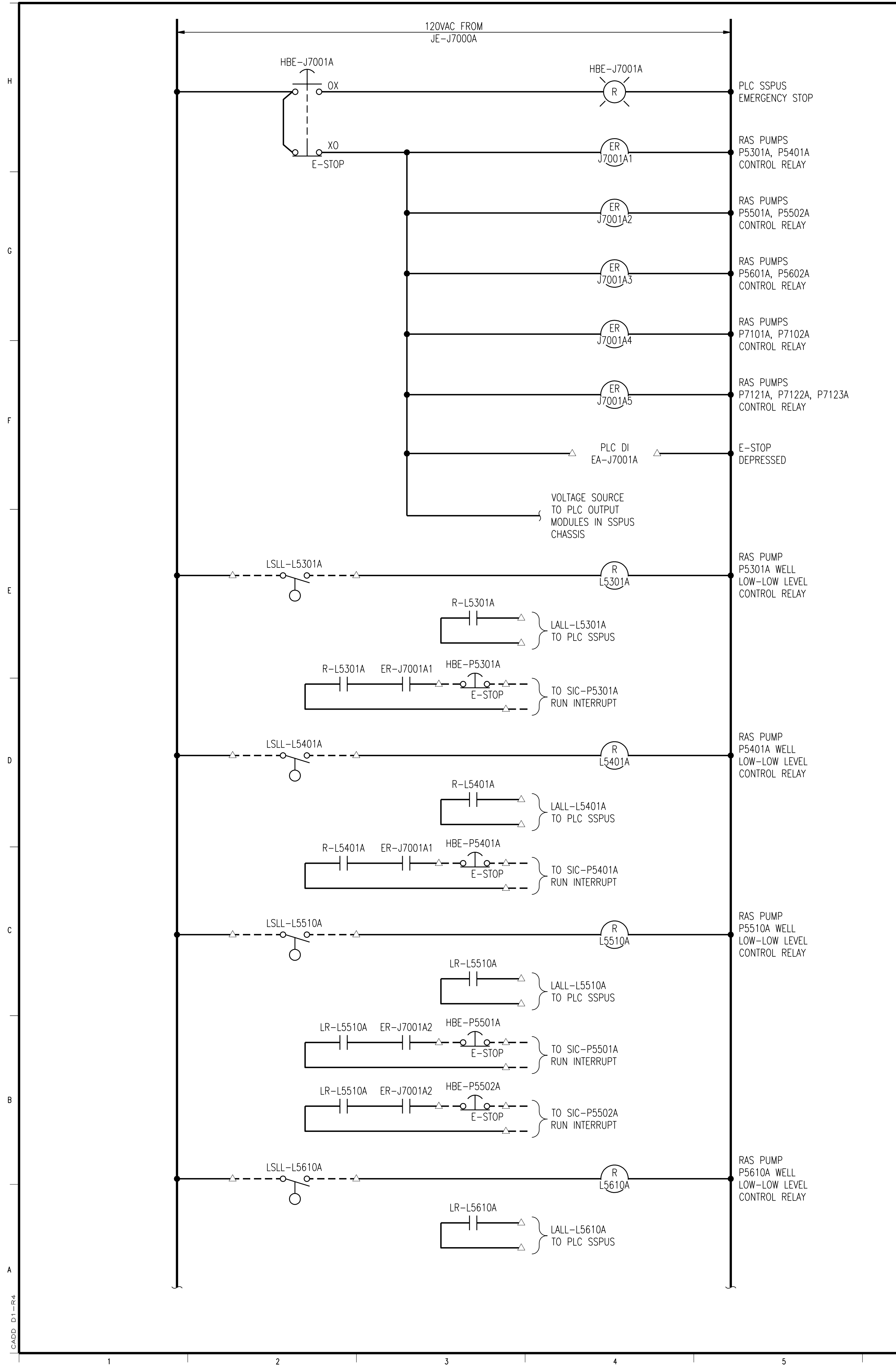
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**INSTRUMENTATION & WIRING DIAGRAMS
SDSB PANEL
E-STOP INTERFACE WIRING**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED
DRAWN JW STODOLL	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ Mergen	1611
APPROVED	1
DATE FEBRUARY 22, 2012	

CADD: D1-R4




**SSPUS CONTROL PANEL
E-STOP INTERLOCK**

NOTES:

1. ALL DEVICES SHOWN LOCAL, WIRED IN SSPUS PLC PANEL.
2. SCHEMATICS ARE NOT PROVIDED FOR ALL CONTROL PANEL WIRING APPLICATIONS. SELECTED MODIFIED WIRING INTERFACE WITH NEW INSTRUMENTATION OR EQUIPMENT IS SHOWN.
3. CONTRACTOR RESPONSIBLE FOR WIRING OF ALL CONTROL PANEL INSTRUMENTATION AND NEW PLC MODULE MODIFICATIONS TO PROVIDE COMPLETE OPERATIONAL FUNCTIONALITY.

1	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
0	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

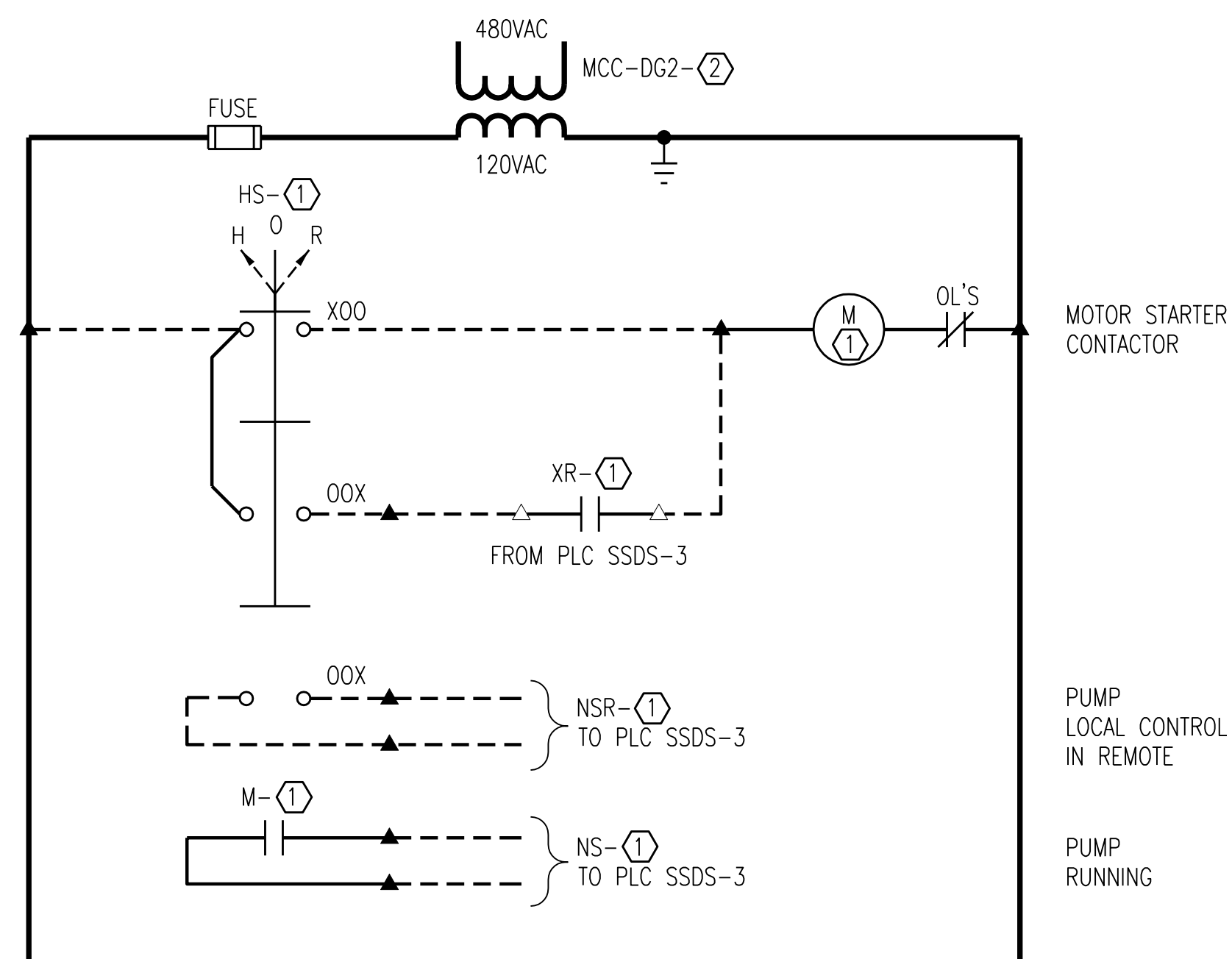
INSTRUMENTATION & WIRING DIAGRAMS
SSPUS PANEL
E-STOP INTERFACE WIRING

DESIGNED SA TRIPMACKER	SCALE: AS NOTED
DRAWN JW STODOLL	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ MERGEN	1711
APPROVED	1
DATE FEBRUARY 22, 2012	

CADD: D1-R4

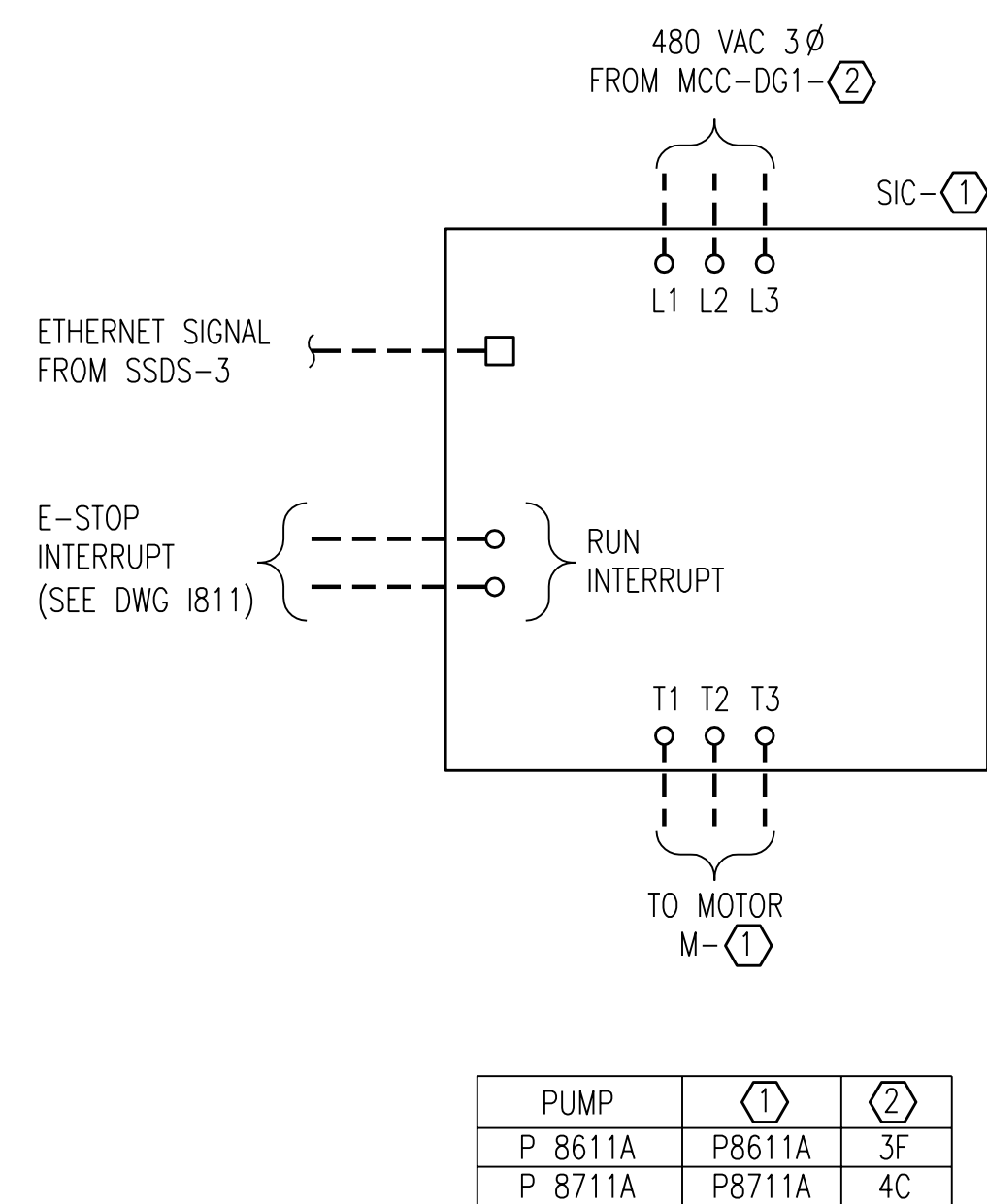
NOTES:

1. CONTROL SCHEMATIC PROVIDED FOR NEW APPLICATIONS ONLY.
2. CONTRACTOR RESPONSIBLE FOR INTERFACE WIRING TO PLC PANEL FOR MONITORING AND CONTROL DEFINED IN SPECIFICATIONS.

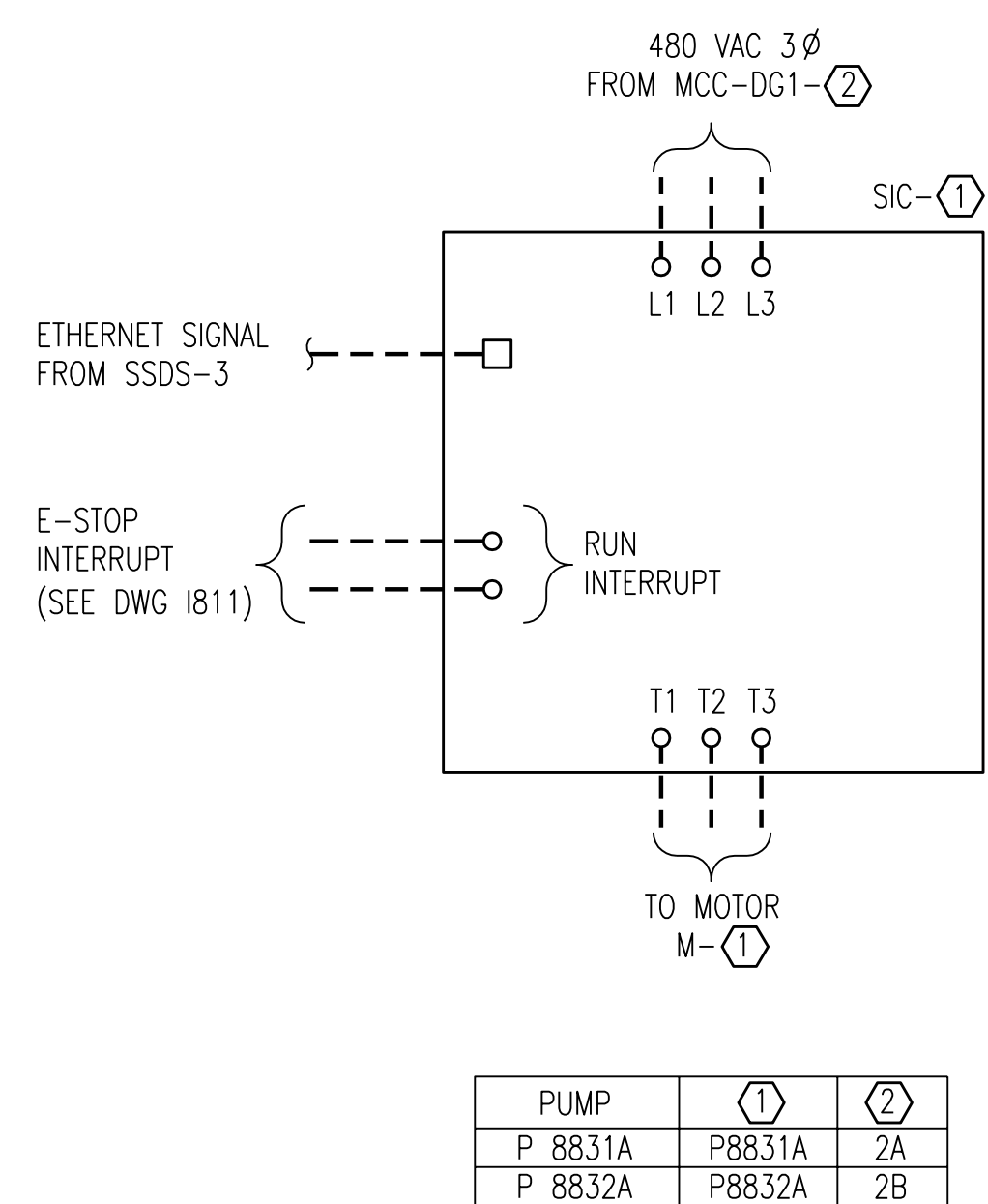


PUMP	①	②
P 8601A	P8601A	3A
P 8701A	P8701A	3C
P 8801A	P8801A	3D

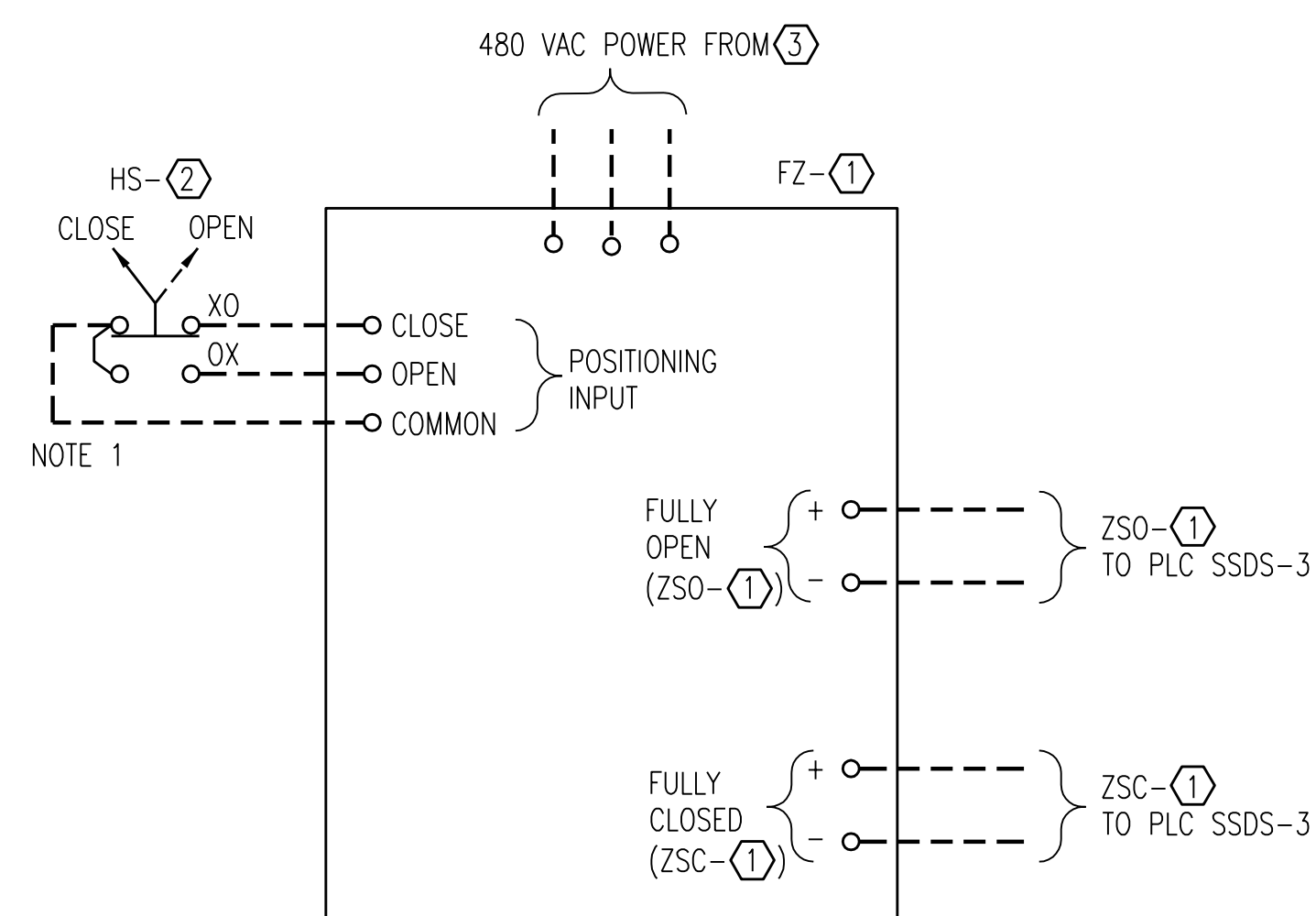
**JET MIXING PUMP
CONTROL SCHEMATIC**



**CIRCULATING WATER PUMP
ADJUSTABLE SPEED DRIVE
CONTROL SCHEMATIC**



**CIRCULATING WATER BOOSTER PUMP
ADJUSTABLE SPEED DRIVE
CONTROL SCHEMATIC**



VALVE	①	②	③
FV V8621A	V8621A	V8621A1	MCC-DG1-2D
FV V8622A	V8622A	V8622A1	MCC-DG1-2D
FV V8623A	V8623A	V8623A1	MCC-DG1-2D
FV V8624A	V8624A	V8624A1	MCC-DG1-2D
FV V8721A	V8721A	V8721A1	MCC-DG1-4BL
FV V8722A	V8722A	V8722A1	MCC-DG1-4BL
FV V8723A	V8723A	V8723A1	MCC-DG1-4BL
FV V8724A	V8724A	V8724A1	MCC-DG1-4BL

NOTE:
1. ALL CLOSE-OPEN SELECTOR SWITCHES LOCATED IN COMMON ENCLOSURE NEAR SAMPLE SINK.

**DIGESTER DECANT VALVES
ELECTRIC ACTUATOR
CONTROL SCHEMATIC**

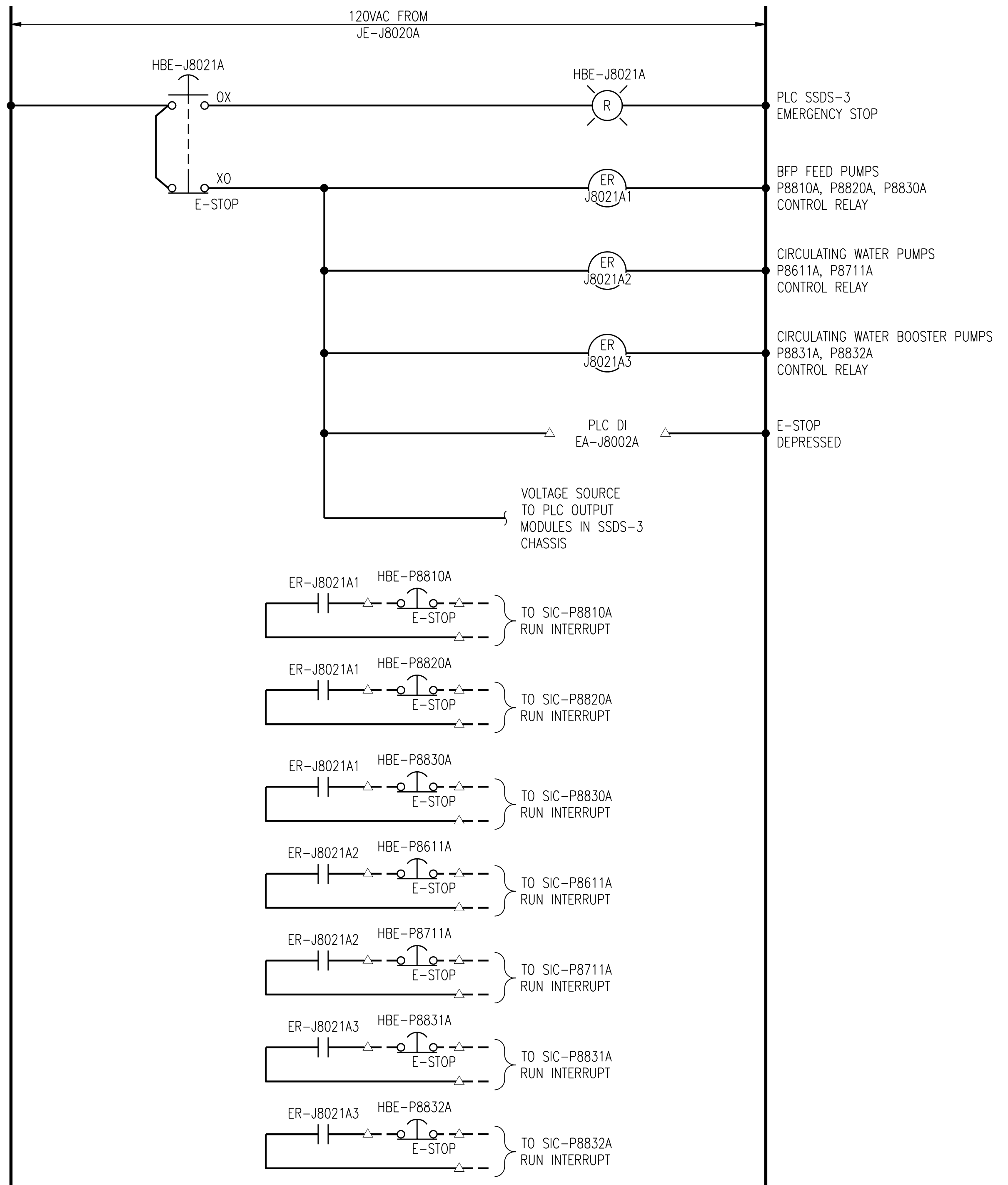
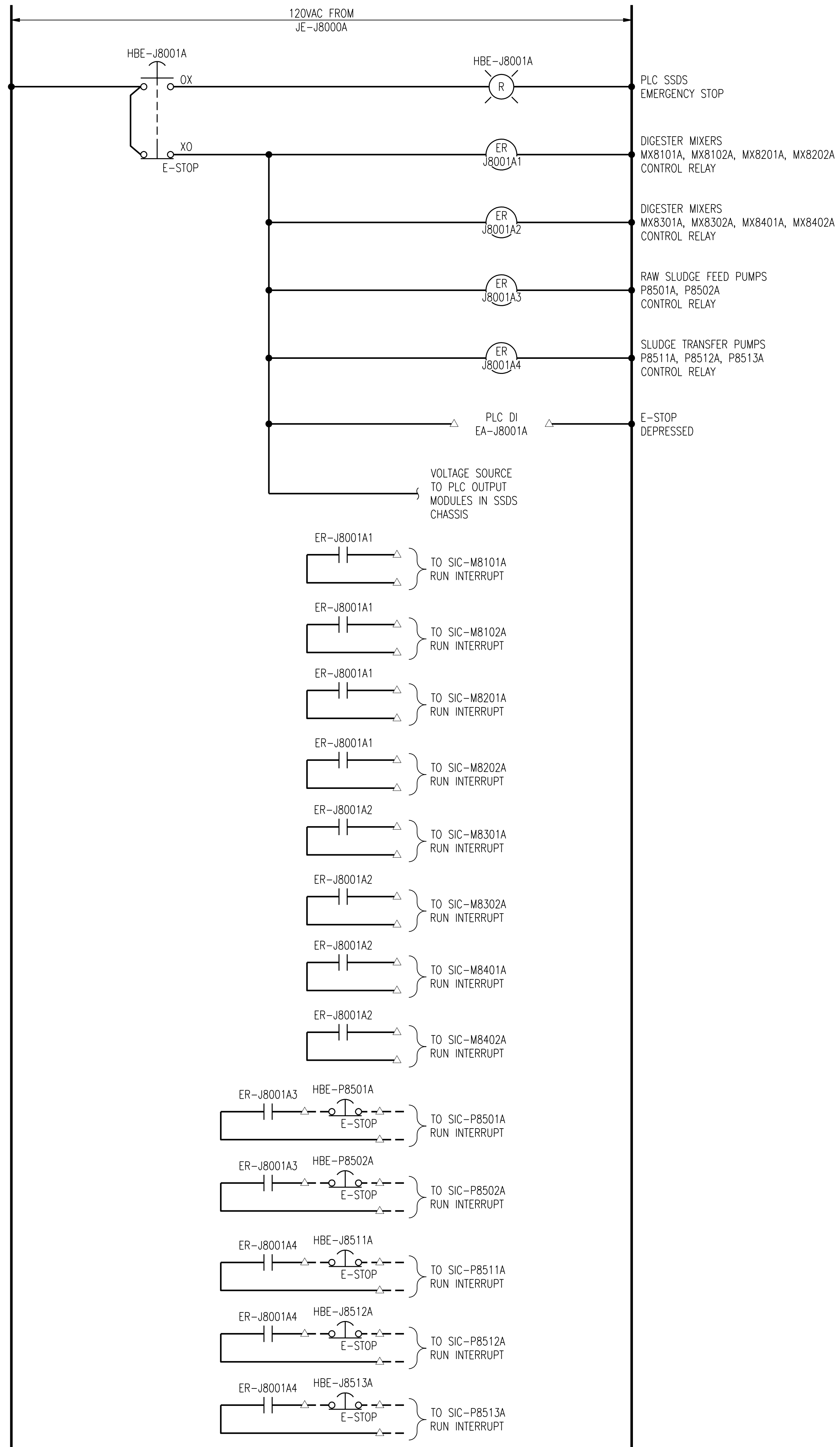
NO.	REVISIONS	DSGN	CHKD	APVD	DATE
1	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
0	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012


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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**INSTRUMENTATION & WIRING DIAGRAMS
MIXING & CIRCULATING WATER PUMPS
CONTROL SCHEMATIC**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED	NO. 22800	REV. 1
DRAWN JW STOGDILL			
CHECKED SA TRIPMACKER			
APPROVED TJ MERGEN			
APPROVED	1801		
DATE FEBRUARY 22, 2012			



NOTES:

1. ALL DEVICES SHOWN LOCAL, WIRED IN SSDS AND SSDS-3 PLC PANEL.
2. SCHEMATICS ARE NOT PROVIDED FOR ALL CONTROL PANEL WIRING APPLICATIONS. SELECTED MODIFIED WIRING INTERFACE WITH NEW INSTRUMENTATION OR EQUIPMENT IS SHOWN.
3. CONTRACTOR RESPONSIBLE FOR WIRING OF ALL CONTROL PANEL INSTRUMENTATION AND NEW PLC MODULE MODIFICATIONS TO PROVIDE COMPLETE OPERATIONAL FUNCTIONALITY.

1	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
0	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE



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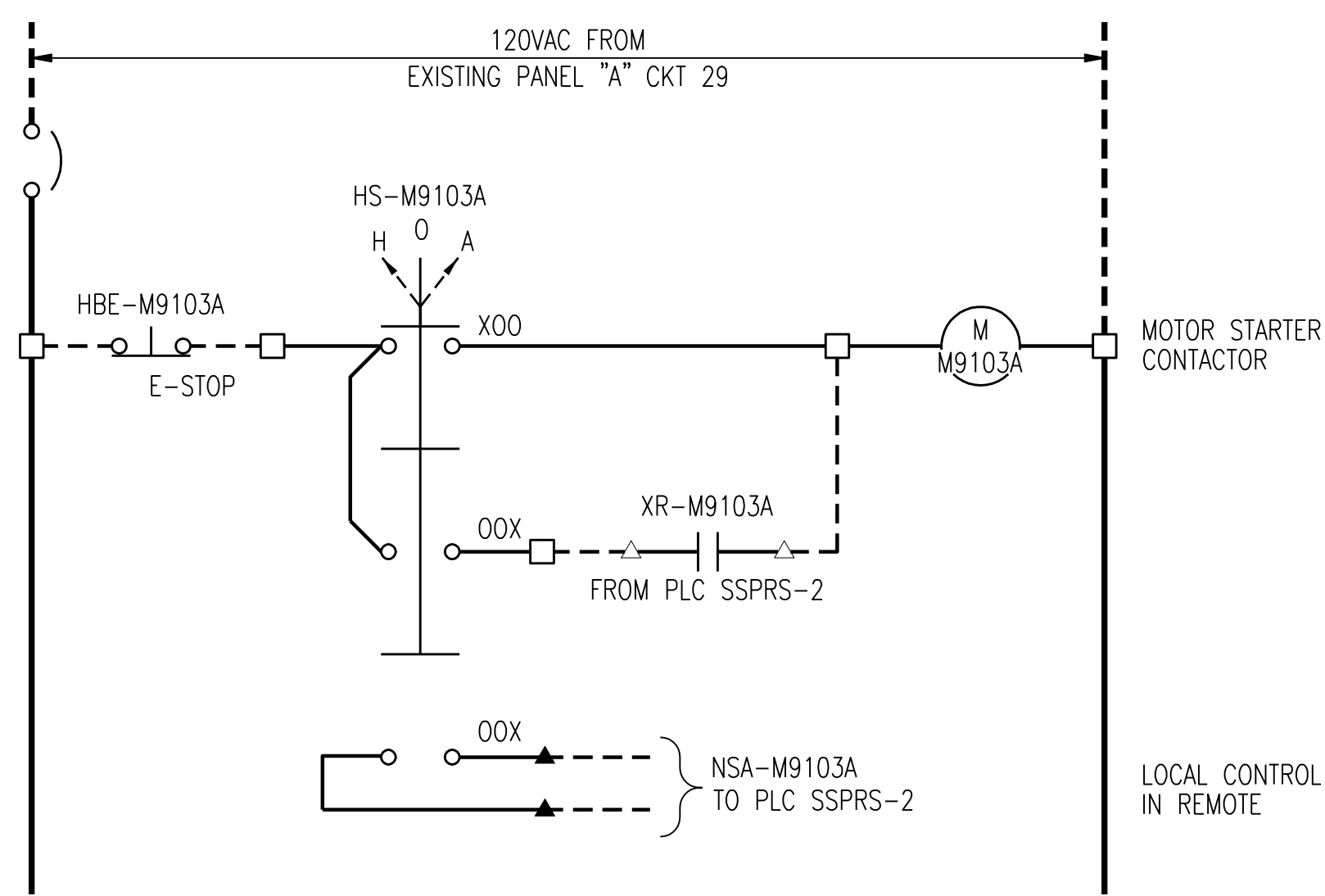
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CITY OF IOWA CITY, IOWA
WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

INSTRUMENTATION & WIRING DIAGRAMS
SSDS PANEL
E-STOP INTERFACE WIRING

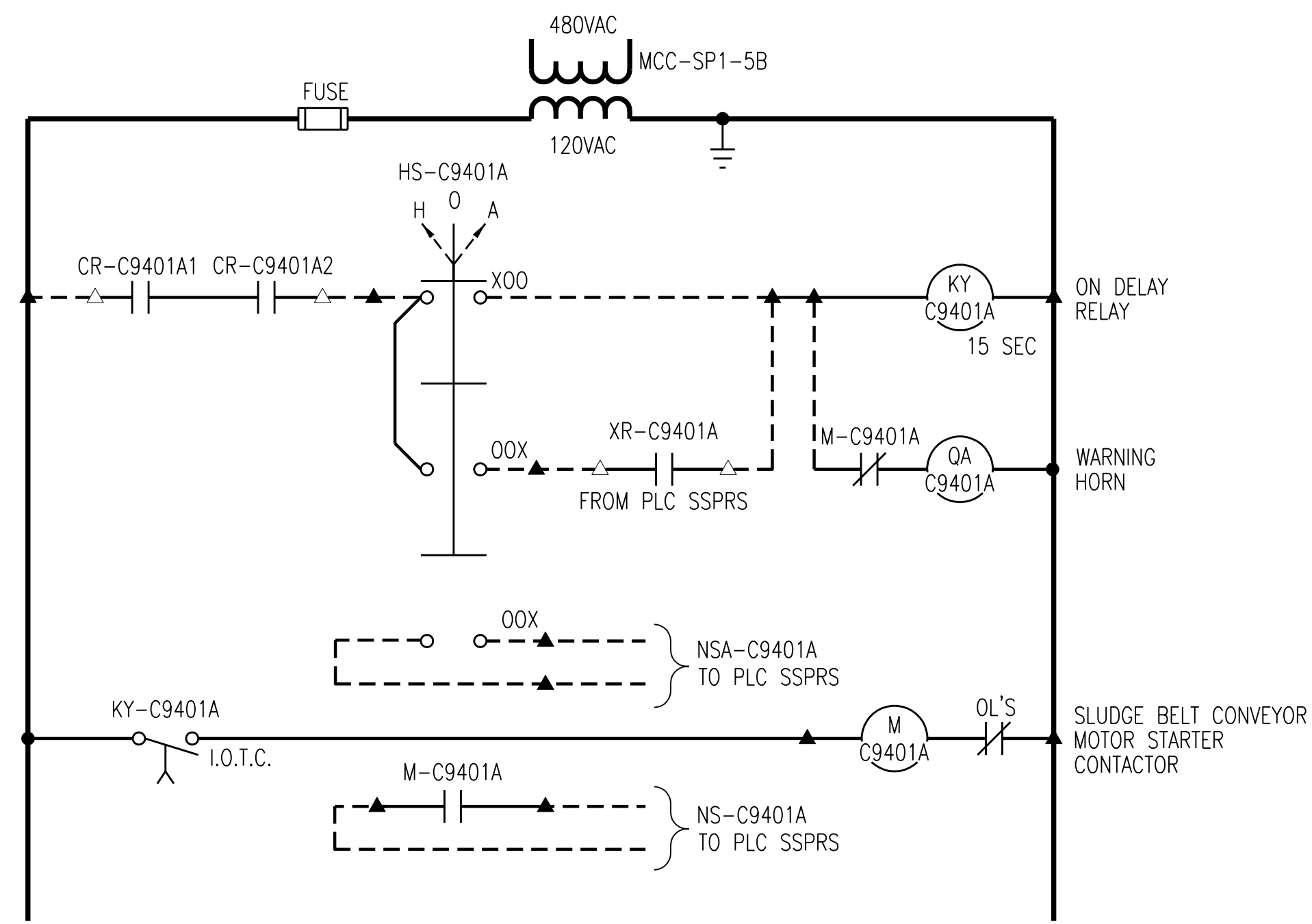
DESIGNED SA TRIPMACKER	SCALE: AS NOTED
DRAWN JW STODOLL	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ MERGEN	1811
APPROVED	1
DATE FEBRUARY 22, 2012	

CADD: D1-1-R4

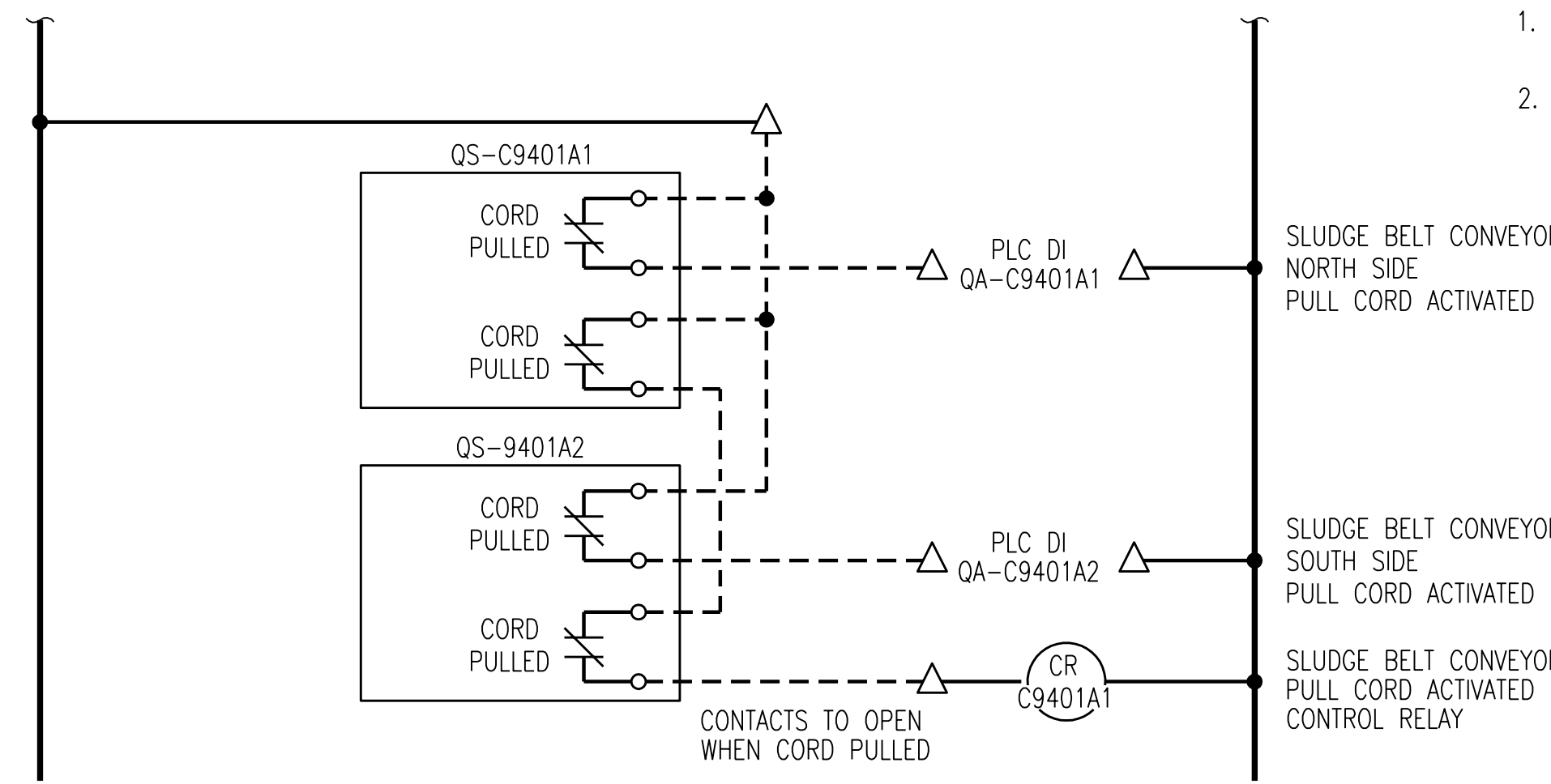


NOTE:
1. ALL PANEL DEVICES LOCATED IN LOCAL STARTER ENCLOSURE.

**ROTARY DRUM THICKENER THK 9103A
MIXER MX9103A
CONTROL SCHEMATIC**

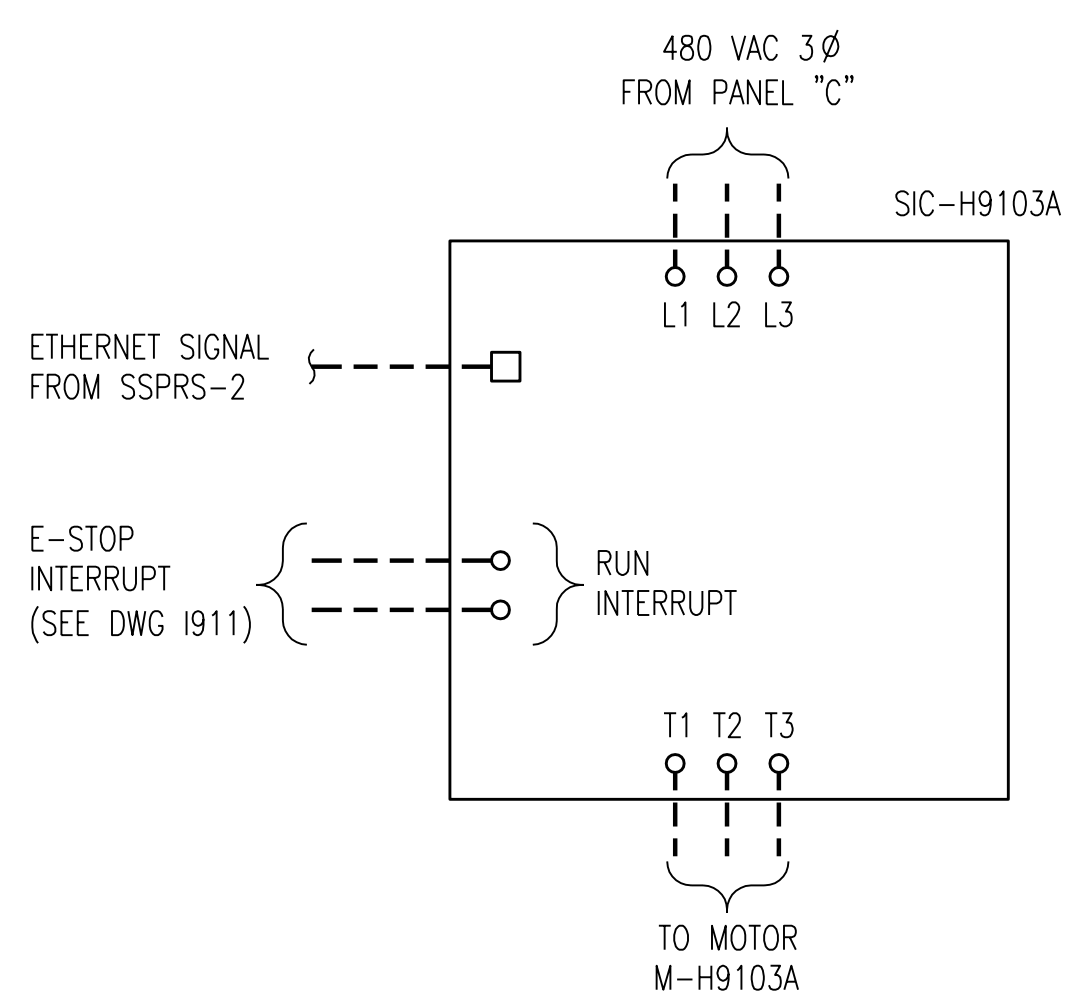


**SLUDGE BELT CONVEYOR CON 9401A
CONTROL SCHEMATIC**

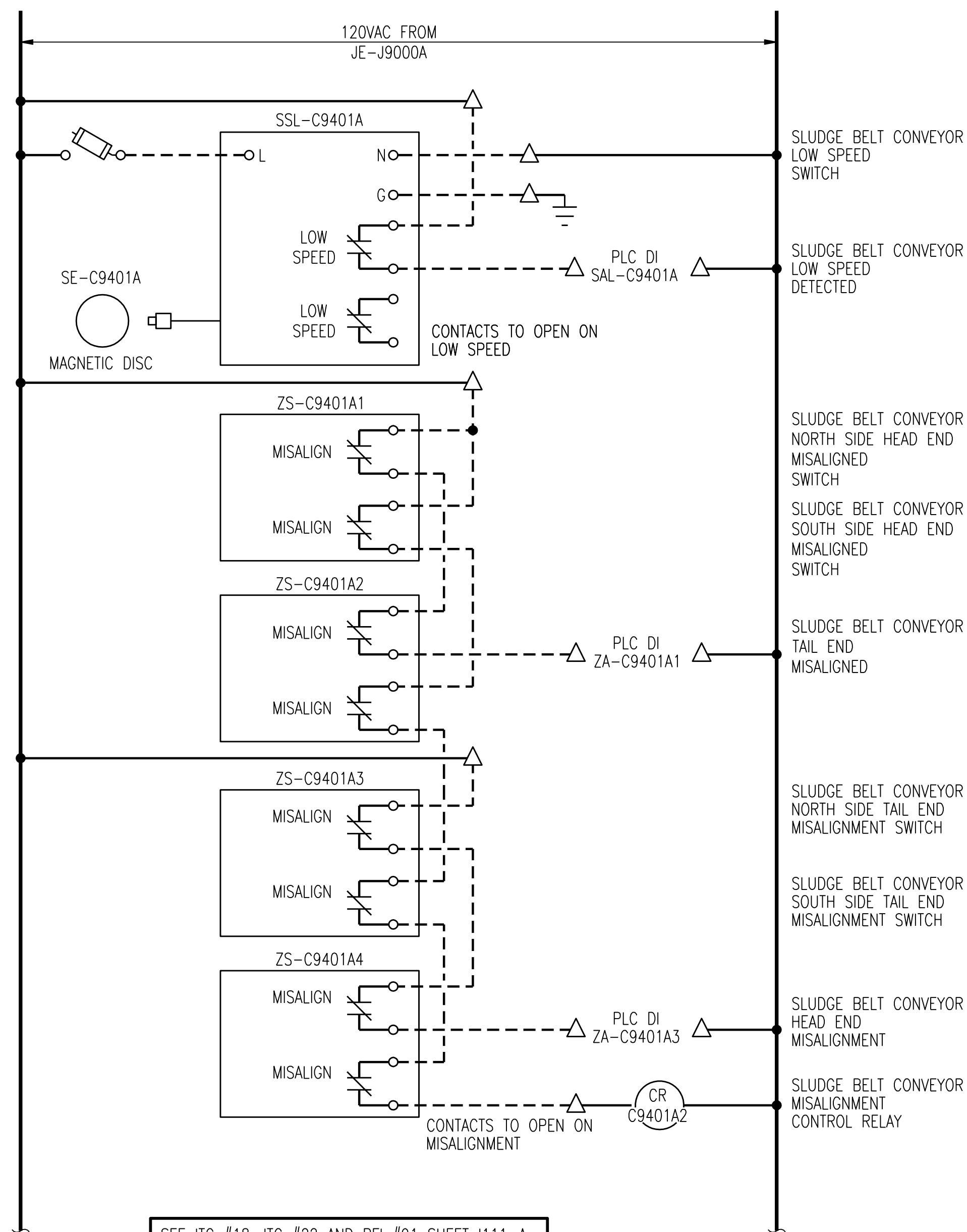


**SLUDGE BELT CONVEYOR CON 9401A
CONTROL SCHEMATIC**

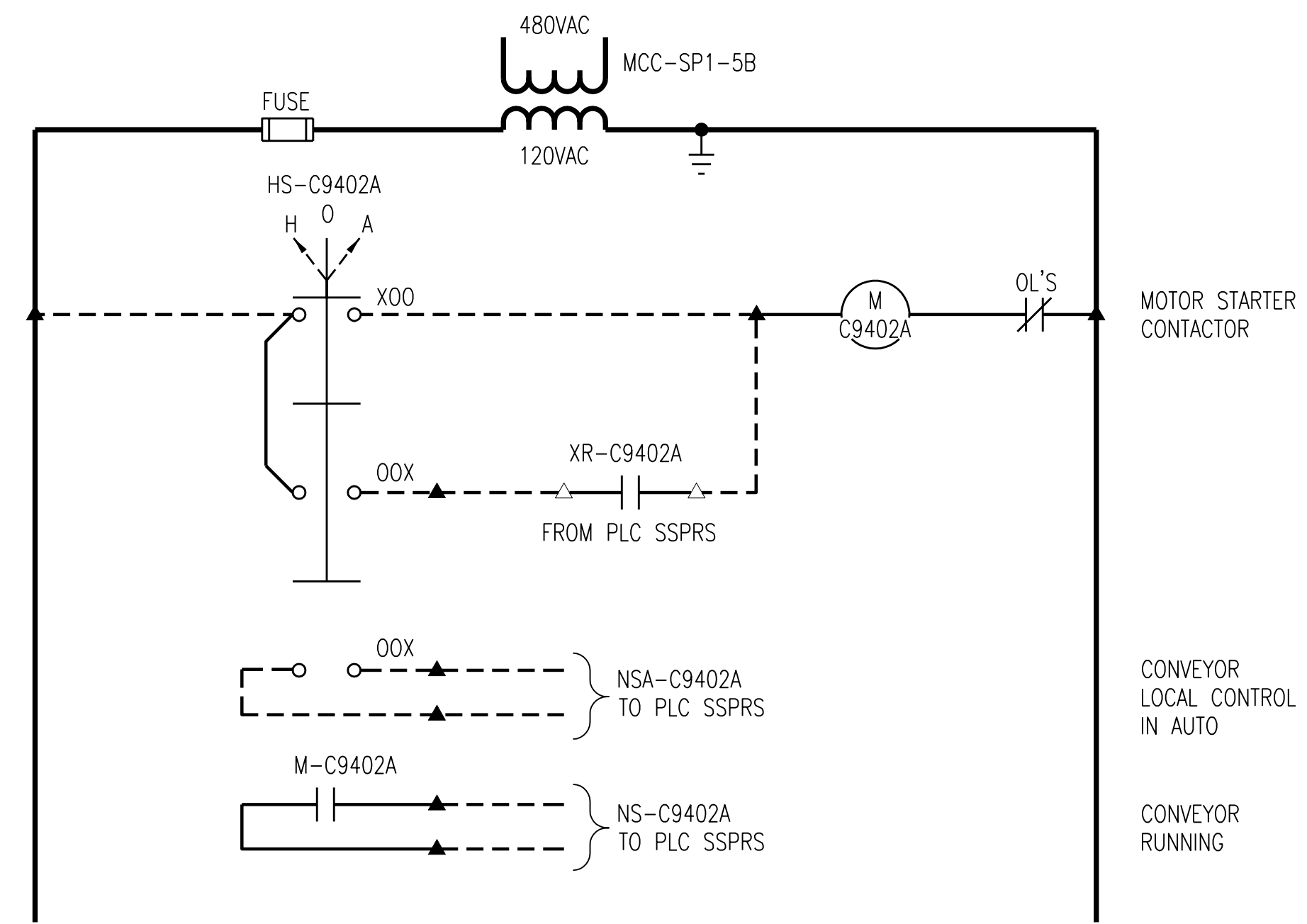
NOTES:
1. CONTROL SCHEMATIC PROVIDED FOR NEW MOTOR APPLICATIONS ONLY.
2. CONTRACTOR RESPONSIBLE FOR INTERFACE WIRING TO PLC PANEL FOR MONITORING AND CONTROL DEFINED IN SPECIFICATIONS.



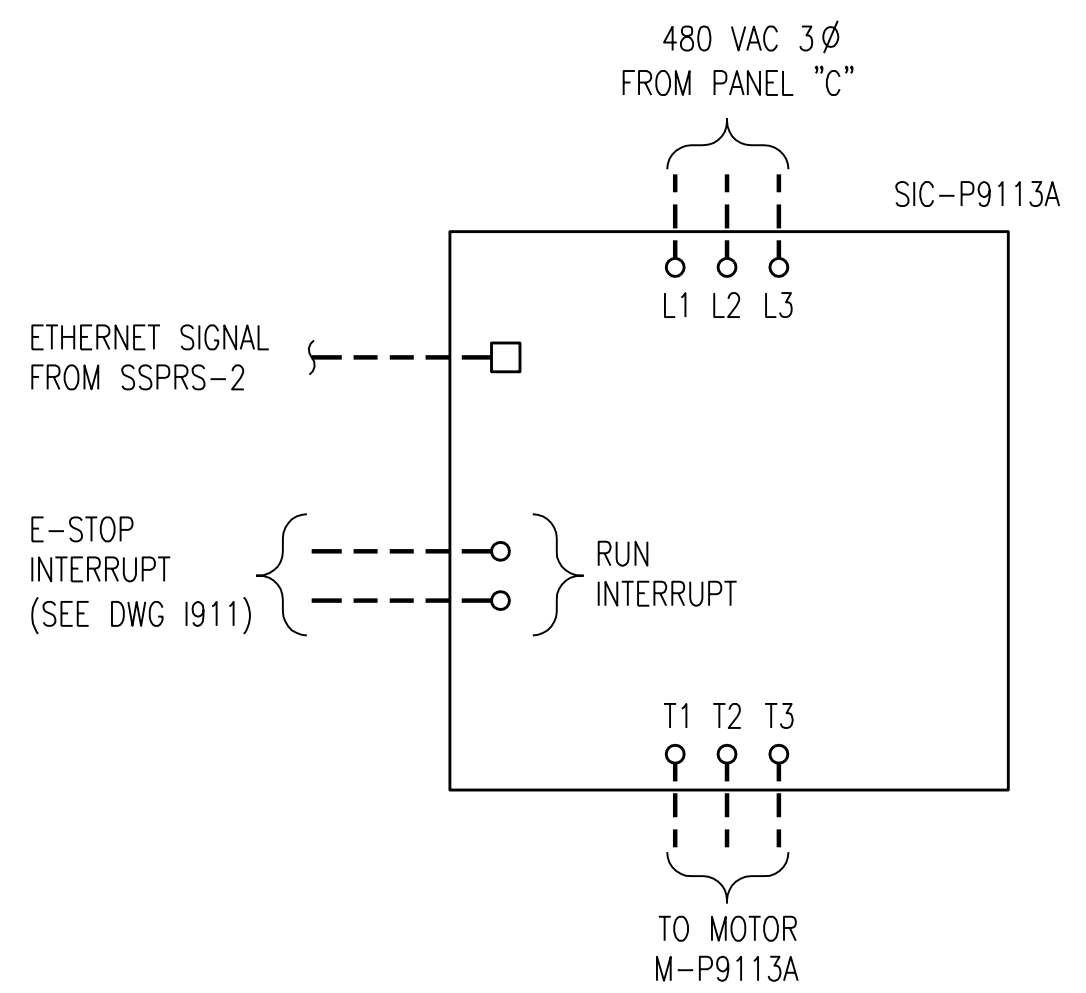
**ROTARY DRUM THICKENER THK 9103A
ADJUSTABLE SPEED DRIVE
CONTROL SCHEMATIC**



SEE ITC #18, ITC #22 AND RFI #91 SHEET I111-A



**SCREW CONVEYOR CON 9402A
CONTROL SCHEMATIC**



**THICKENED SLUDGE PUMP P 9113A
ADJUSTABLE SPEED DRIVE
CONTROL SCHEMATIC**

1	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
0	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE

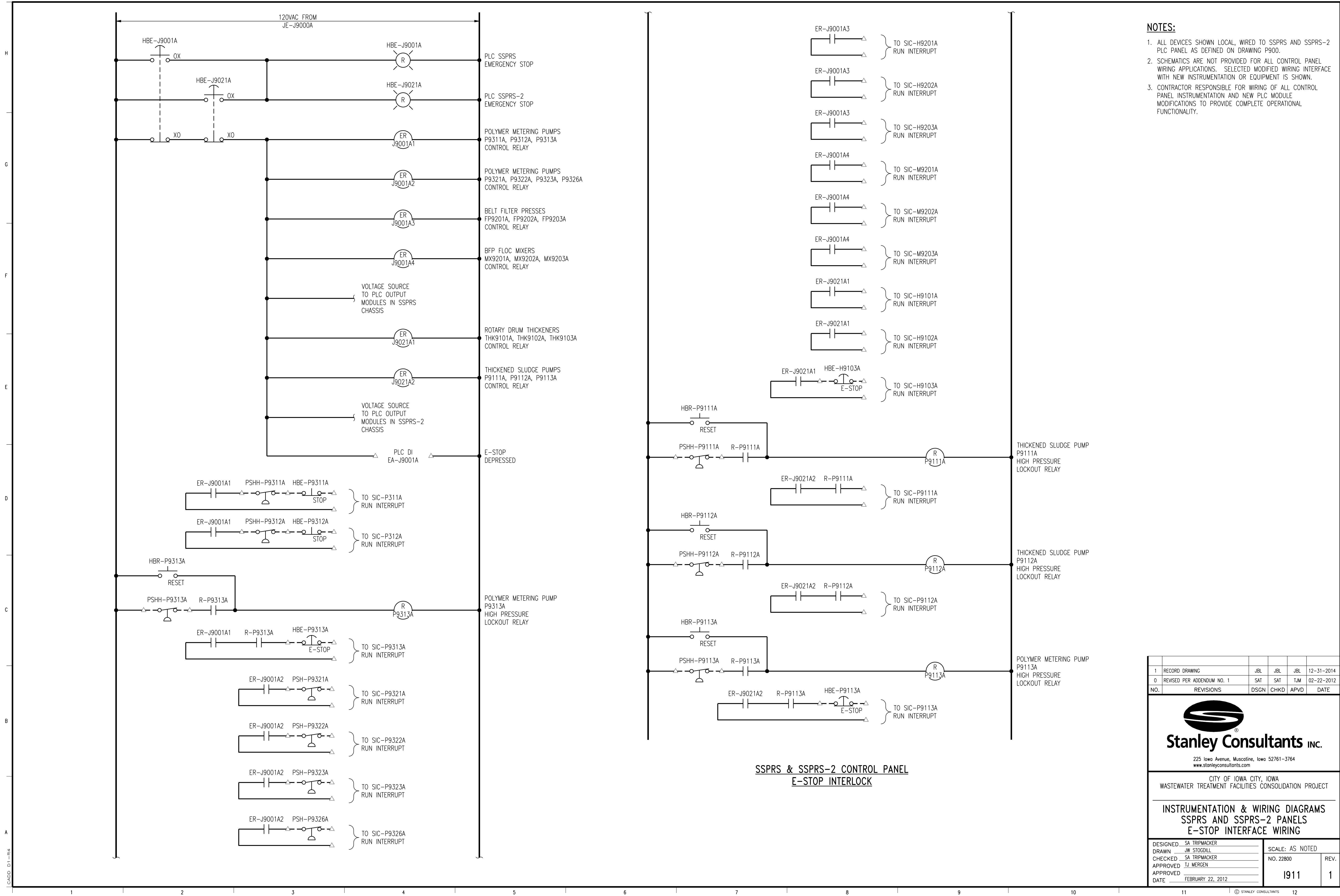

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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT
**INSTRUMENTATION & WIRING DIAGRAMS
 SLUDGE PROCESSING AREA
 CONTROL SCHEMATICS**

DESIGNED	SA TRIPMACKER	SCALE:	AS NOTED
DRAWN	JW STODOLL	NO.	22800
CHECKED	SA TRIPMACKER	REV.	
APPROVED	TJ MERGEN		
APPROVED			
DATE	FEBRUARY 22, 2012		

1901 1


CADD: D1-1-R4



- NOTES:**
1. ALL DEVICES SHOWN LOCAL, WIRED TO SSPRS AND SSPRS-2 PLC PANEL AS DEFINED ON DRAWING P900.
 2. SCHEMATICS ARE NOT PROVIDED FOR ALL CONTROL PANEL WIRING APPLICATIONS. SELECTED MODIFIED WIRING INTERFACE WITH NEW INSTRUMENTATION OR EQUIPMENT IS SHOWN.
 3. CONTRACTOR RESPONSIBLE FOR WIRING OF ALL CONTROL PANEL INSTRUMENTATION AND NEW PLC MODULE MODIFICATIONS TO PROVIDE COMPLETE OPERATIONAL FUNCTIONALITY.

**SSPRS & SSPRS-2 CONTROL PANEL
E-STOP INTERLOCK**

1	RECORD DRAWING	JBL	JBL	JBL	12-31-2014
0	REVISED PER ADDENDUM NO. 1	SAT	SAT	TJM	02-22-2012
NO.	REVISIONS	DSGN	CHKD	APVD	DATE


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CITY OF IOWA CITY, IOWA
 WASTEWATER TREATMENT FACILITIES CONSOLIDATION PROJECT

**INSTRUMENTATION & WIRING DIAGRAMS
 SSPRS AND SSPRS-2 PANELS
 E-STOP INTERFACE WIRING**

DESIGNED SA TRIPMACKER	SCALE: AS NOTED
DRAWN JW STODOLL	NO. 22800
CHECKED SA TRIPMACKER	REV.
APPROVED TJ MERGEN	1911
APPROVED	1
DATE FEBRUARY 22, 2012	

CADD: D1-R4