

LOCATION PLAN
SCALE: 1"=2,000'

CITY OF NEWBURYPORT, MASSACHUSETTS DEPARTMENT OF PUBLIC SERVICES, SEWER DIVISION

WASTEWATER TREATMENT FACILITY IMPROVEMENTS PROJECT

**CONTRACT 1
CWSRF NO. 3266
GREEN INFRASTRUCTURE CWSRF NO. 3313**

HONORABLE DONNA D. HOLADAY, MAYOR

NEWBURYPORT SEWER COMMISSION

DAVID HANLON, CHAIRMAN

ROBERT COOK

JOHN TOMASZ

ANTHONY J. FURNARI, DIRECTOR OF PUBLIC SERVICES

OCTOBER 2009

**CONTRACT 1
VOLUME 2 OF 2**

Weston&Sampson®

Five Centennial Drive, Peabody, Massachusetts 01960

RECORD DRAWING

RECORD DRAWINGS BASED ON AS-BUILT
INFORMATION PROVIDED BY THE CONTRACTOR.
DIMENSIONS AND ELEVATIONS HAVE NOT BEEN
VERIFIED BY WESTON & SAMPSON

G.C., E.C., PLUMBING, HVAC

WATERLINE INDUSTRIES
7 LONDON LANE
SEABROOK, NH 03874

MASONRY

FERNANDES MASONRY, INC.
1031 PHILLIPS ROAD
NEW BEDFORD, MA 02745

WATERPROOFING/DAMPPROOFING

PJ SPILLANE COMPANY, INC.
97 TILESTON STREET
EVERETT, MA 02149

FIRE PROTECTION

EBACHER PLUMBING
40 PORTSMOUTH ROAD
AMESBURY, MA 01913

HVAC

MERRIMACK VALLEY CORP.
15 AEGEAN DRIVE #3
METHUEN, MA 01844

MISCELLANEOUS METALS

QUINN BROTHERS IRON WORKS
239 WESTERN AVENUE
ESSEX, MA 01929

WINDOWS

A&A WINDOW PRODUCTS
15 JOSEPH STREET
MALDEN, MA 02148

I & C

AEC ENGINEERING
172 LOWER MAIN STREET
FREEPORT, ME 04032

CONTRACT 1 – RECORD DRAWINGS

VOLUME II OF II

APPENDICES

APPENDIX A – ARCHITECTURAL

SECTION 1 – ADDENDA & POST DESIGN REVISION SKETCHES

SECTION 2 – AS-BUILT SKETCHES PROVIDED BY GENERAL CONTRACTOR

APPENDIX B – HEATING & VENTILATION

SECTION 1 – ADDENDA & POST DESIGN REVISION SKETCHES

SECTION 2 – AS-BUILT SKETCHES PROVIDED BY GENERAL CONTRACTOR & SUBCONTRACTOR

APPENDIX C – PLUMBING

SECTION 1 – ADDENDA & POST DESIGN REVISION SKETCHES

SECTION 2 – AS-BUILT SKETCHES PROVIDED BY THE GENERAL CONTRACTOR & SUBCONTRACTOR

APPENDIX D – INSTRUMENTATION & CONTROLS ADDENDA SKETCHES

APPENDIX E – ELECTRICAL

SECTION 1 – ADDENDA & POST DESIGN REVISION SKETCHES

SECTION 2 – ROOM LAYOUTS & WIRING DIAGRAMS PROVIDED BY THE GENERAL CONTRACTOR & SUBCONTRACTOR

APPENDIX F – FIRE PROTECTION AS-BUILT SKETCH PROVIDED BY SUBCONTRACTOR

APPENDIX G – MISCELLANEOUS

SECTION 1 – CIVIL POST DESIGN REVISION SKETCHES

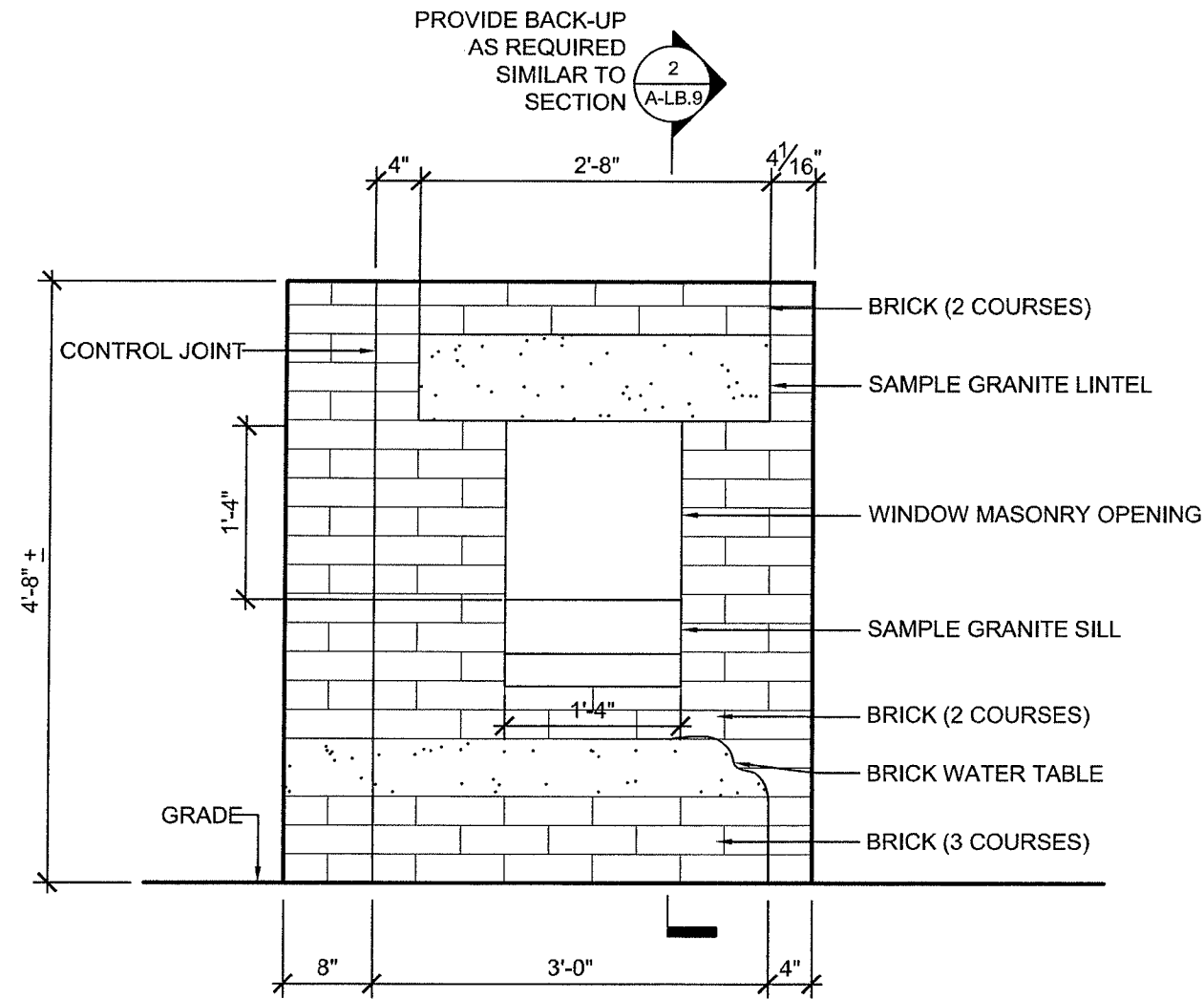
SECTION 2 – AS-BUILT SKETCHES PROVIDED BY GENERAL CONTRACTOR

APPENDIX A – ARCHITECTURAL

SECTION 1

ADDENDA & POST DESIGN REVISION SKETCHES

RESPONSE: RFI #8

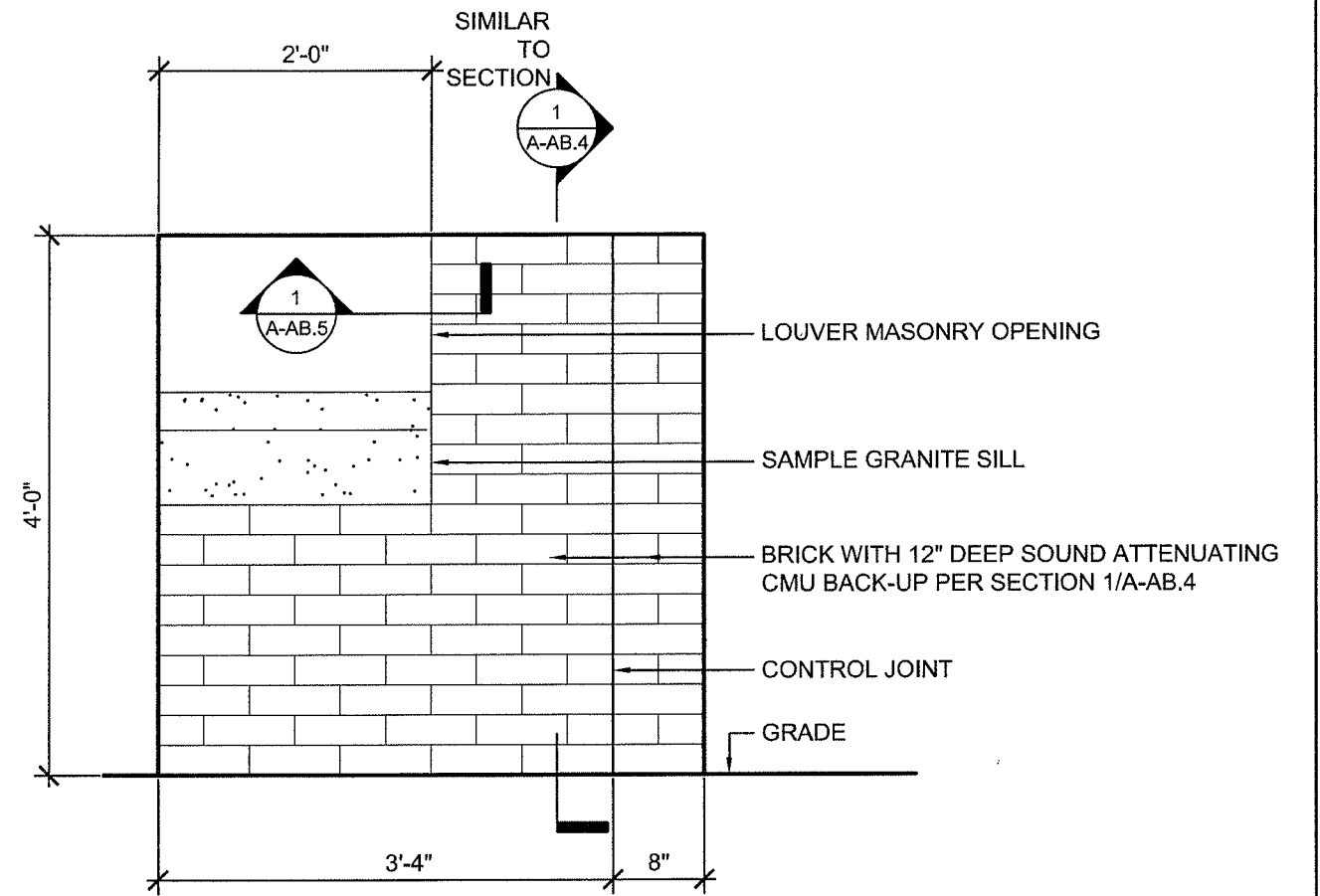


SKETCH FOR MASONRY MOCKUP @
OPERATIONS CONTROL & LAB BUILDING

1

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

RESPONSE: RFI #8



SKETCH FOR MASONRY MOCKUP
@ AERATION BUILDING

2

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

NEWBURYPORT WWTF IMPROVEMENTS
CONTRACT 1

DATE: 04/27/10
SCALE: AS NOTED
DESIGNED BY: MIW
DRAWN BY: PLH
CHECKED BY: MIW

DiMarinisi & Wolfe
ARCHITECTS • URBAN DESIGNERS
BOSTON, MASSACHUSETTS

REVISIONS		
NO.	DESCRIPTION	DATE

SK-1

MOCKUP MASONRY PANEL
OPERATIONS CONTROL & LAB BUILDING

NEWBURYPORT WWTF IMPROVEMENTS
CONTRACT 1

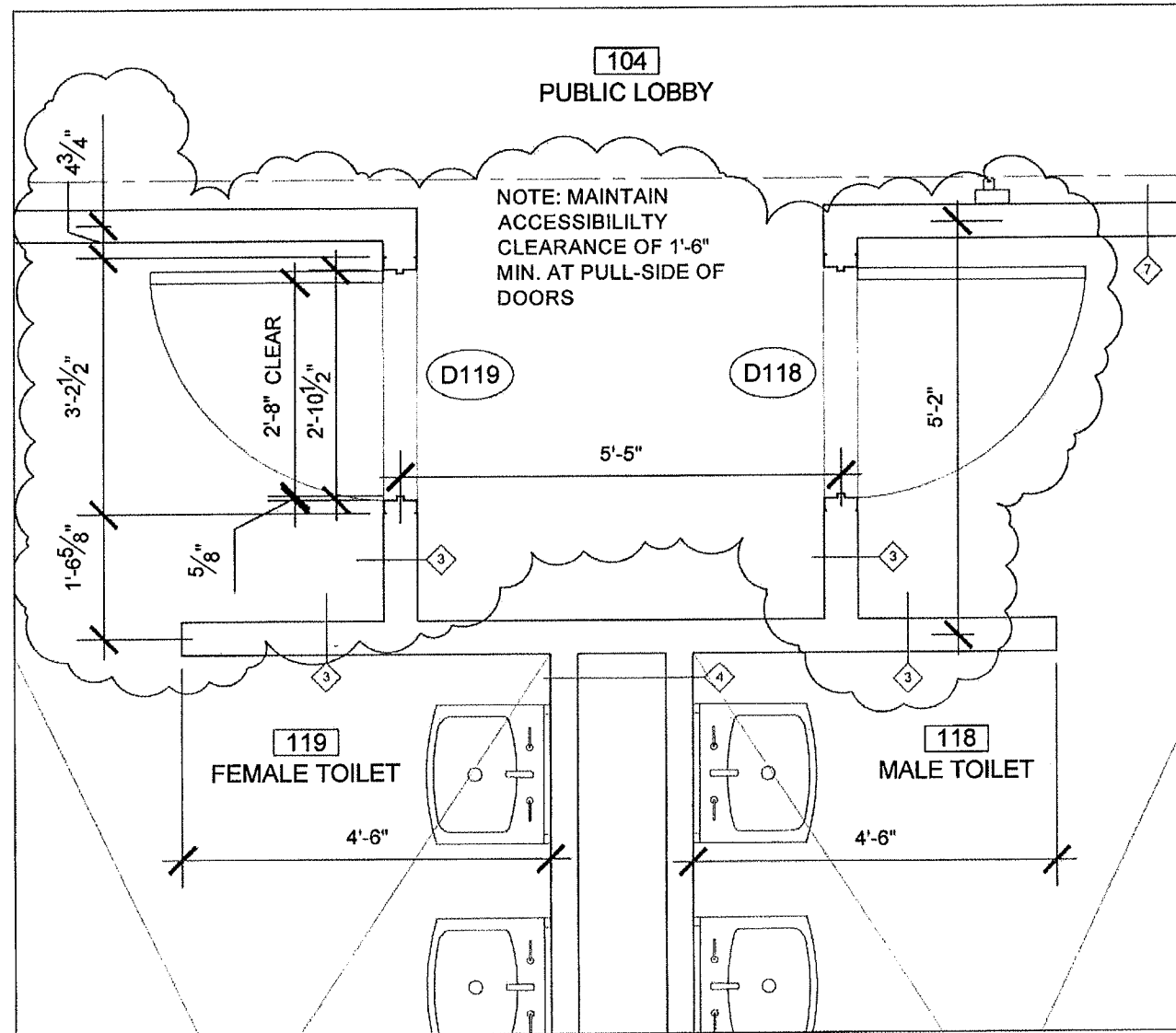
DATE: 04/27/10
SCALE: AS NOTED
DESIGNED BY: MIW
DRAWN BY: PLH
CHECKED BY: MIW

DiMarinisi & Wolfe
ARCHITECTS • URBAN DESIGNERS
BOSTON, MASSACHUSETTS

REVISIONS		
NO.	DESCRIPTION	DATE

SK-2

MOCKUP MASONRY PANEL
AERATION BUILDING



104
PUBLIC LOBBY

NOTE: MAINTAIN
ACCESSIBILITY
CLEARANCE OF 1'-6"
MIN. AT PULL-SIDE OF
DOORS

119
FEMALE TOILET

118
MALE TOILET

D119

D118

1 REVISION FOR TOILET ROOM DOORS D118 & D119

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

COORDINATE WITH:

- SPEC SECTION 08111 (STEEL DOORS & FRAMES)
- SPEC SECTION 08211 (FLUSH WOOD DOORS)

SEE DRAWING A-LB.1 FOR REFERENCE

NEWBURYPORT WWTF IMPROVEMENTS
CONTRACT 1

REVISION FOR DOORS D118 & D119
OPERATIONS CONTROL & LAB BUILDING

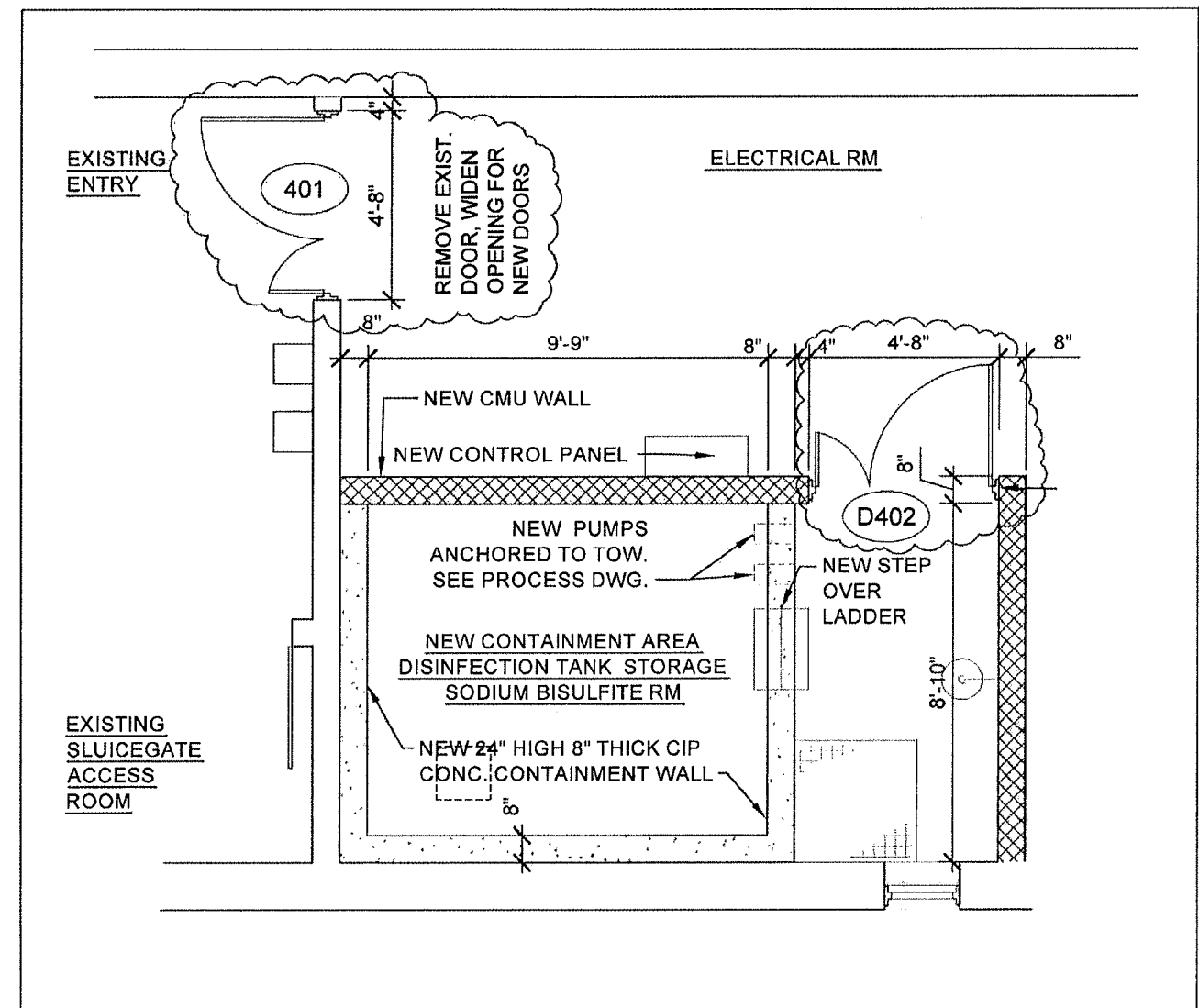
DATE: 04/27/10
SCALE: AS NOTED
DESIGNED BY: MIW
DRAWN BY: PLH
CHECKED BY: MIW

DiMarinisi & Wolfe
ARCHITECTS • URBAN DESIGNERS
BOSTON, MASSACHUSETTS

REVISIONS

NO.	DESCRIPTION	DATE

SK-3



EXISTING
ENTRY

ELECTRICAL RM

401

REMOVE EXIST.
DOOR, WIDEN
OPENING FOR
NEW DOORS

NEW CMU WALL

NEW CONTROL PANEL

NEW PUMPS
ANCHORED TO TOW.
SEE PROCESS DWG.

NEW CONTAINMENT AREA
DISINFECTION TANK STORAGE
SODIUM BISULFITE RM

NEW 24" HIGH 8" THICK CIP
CONC. CONTAINMENT WALL

D402

NEW STEP
OVER
LADDER

EXISTING
SLUICEGATE
ACCESS
ROOM

1 REVISION FOR DOORS D401 & D402

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

COORDINATE WITH:

- SPEC SECTION 08111 (STEEL DOORS & FRAMES)

SEE DRAWING A-DI.2 FOR REFERENCE

NEWBURYPORT WWTF IMPROVEMENTS
CONTRACT 1

REVISION: DOORS D401 & D402
DISINFECTION & EFFLUENT PUMPING

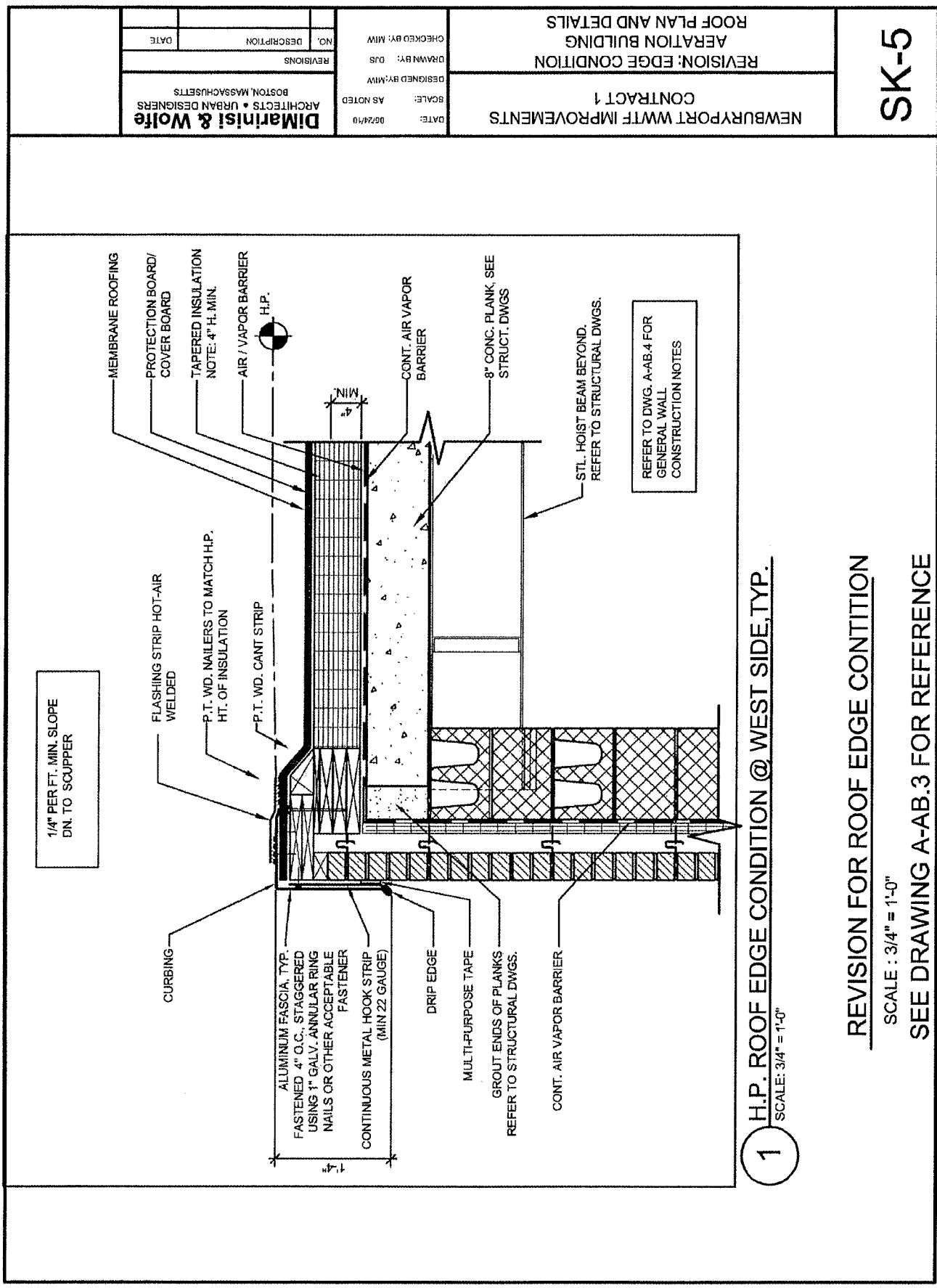
DATE: 04/27/10
SCALE: AS NOTED
DESIGNED BY: MIW
DRAWN BY: PLH
CHECKED BY: MIW

DiMarinisi & Wolfe
ARCHITECTS • URBAN DESIGNERS
BOSTON, MASSACHUSETTS

REVISIONS

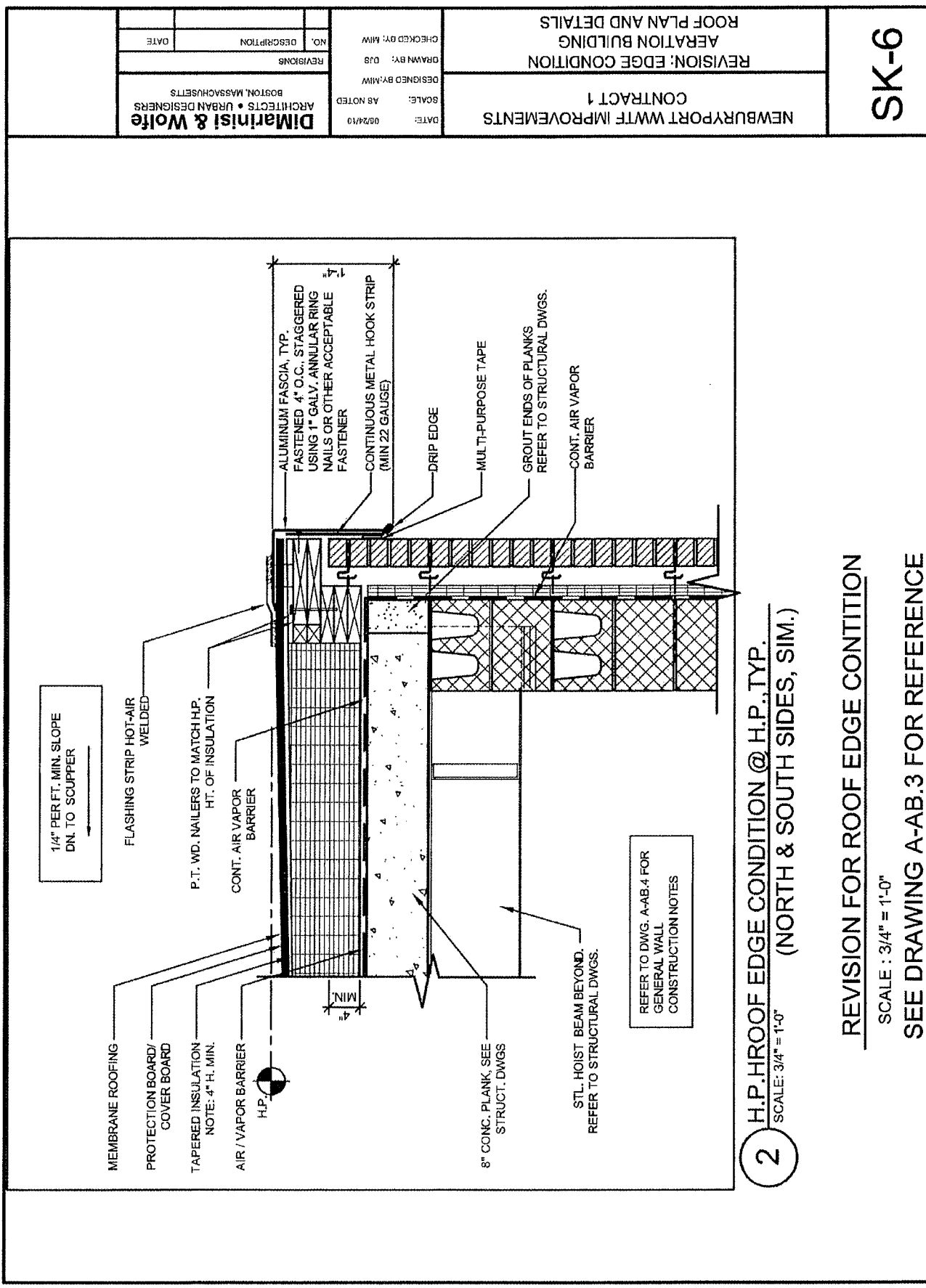
NO.	DESCRIPTION	DATE

SK-4



1 H.P. ROOF EDGE CONDITION @ WEST SIDE, TYP.
SCALE: 3/4" = 1'-0"

REVISION FOR ROOF EDGE CONTITION
SCALE : 3/4" = 1'-0"
SEE DRAWING A-AB.3 FOR REFERENCE



2 H.P. HROOF EDGE CONDITION @ H.P., TYP.
(NORTH & SOUTH SIDES, SIM.)
SCALE: 3/4" = 1'-0"

REVISION FOR ROOF EDGE CONTITION
SCALE : 3/4" = 1'-0"
SEE DRAWING A-AB.3 FOR REFERENCE

SK-7	REVISION: EDGE CONDITION AERATION BUILDING	NEWBURYPORT WWTF IMPROVEMENTS CONTRACT 1
	ROOF PLAN AND DETAILS	DATE: 05/21/10 SCALE: AS NOTED DESIGNED BY: MW DRAWN BY: DJS CHECKED BY: MW

3 L.P. ROOF EDGE @ SCUPPER, TYP.
SCALE: 3/4" = 1'-0"

4 AAB.3

LINE OF ROOFING BEYOND

MEMBRANE ROOFING

PROTECTION BOARD/COVER BOARD

TAPERED INSULATION NOTE: 4\"/>

ALUMINUM SIDED EDGE BEYOND

ALUMINUM SCUPPER

H.P.

ALUMINUM LEADER BOX

CONTINUOUS METAL HOOK STRIP (MIN 22 GAUGE)

P.T. WD. NAILERS TO MATCH HT. OF INSULATION

ALUMINUM 4\"/>

FLASHING STRIP HOT-AIR WELDED

8\"/>

1/4\"/>

REFER TO DWG. 5/A-AB.4

REFER TO DWG. A-AB.4 FOR GENERAL WALL CONSTRUCTION NOTES

REVISION FOR ROOF EDGE CONTITION

SEE DRAWING A-AB.3 FOR REFERENCE

3 WINDOW HEAD DETAIL
SCALE: 1\"/>

ENGINEERED LUMBER BLOCKING FOR PV ARRAY
REFER TO 1/A-LB.3

CONTINUOUS AIR VAPOR BARRIER

STANDING SEAM METAL ROOF

BAR TYPE

SNOW GUARD

UNDERLAYMENT

SHEATHING

INSULATION MECHANICALLY FASTENED TO SHEATHING

ALUMINUM GUTTER STYLE K "OGEE"

METAL STUDS SUPPORTING SHEATHING

FASCIA BOARDS PTD.

SOFFIT PTD. FRIEZE BOARD AND MOULDING

1'-2"

4 1/2"

CONT. PT. BLOCKING SECURED TO BRICK

MORTAR NET

AIR VAPOR BARRIER ON EXT. OF SHEATHING

THRU WALL FLASHING DOWN OVER LINTEL

STONE HEADER

LINTEL FASTENED BACK TO BOX HEADER

CELLULAR WEEP BEYOND AT END DAM SEE 9/A-LB.15

LINTEL, REFER TO STRUCTURAL DWGS.

SEALANT

ALUM. CLOSURE TUBE TO MATCH WINDOW SYSTEM

BRICK MOULD

WINDOW SUBFRAME

INSULATION MECHANICALLY FASTENED TO SHEATHING

SHEATHING

LIGHT GAGE METAL TRUSS REFER TO STRUCTURAL DRAWINGS

3" MIN. INSULATION

ADJUST & EXTEND A/V BARRIER AS REQ'D. FOR FULL CONTINUITY AROUND TRUSS

VERTICAL STUD ON TRUSS

INFILL DECK VOIDS WITH HARDWOOD UNDERNEATH LVL LOCATIONS

AIR VAPOR BARRIER ON TOP OF SHEATHING CONTINUOUS WITH WALL BARRIER

METAL STUDS ON TRUSS TO SUPPORT EAVE SHEATHING

MASONRY TIES, 16" O.C.

CEILING

METAL BOX HEADER

GWB HEAD

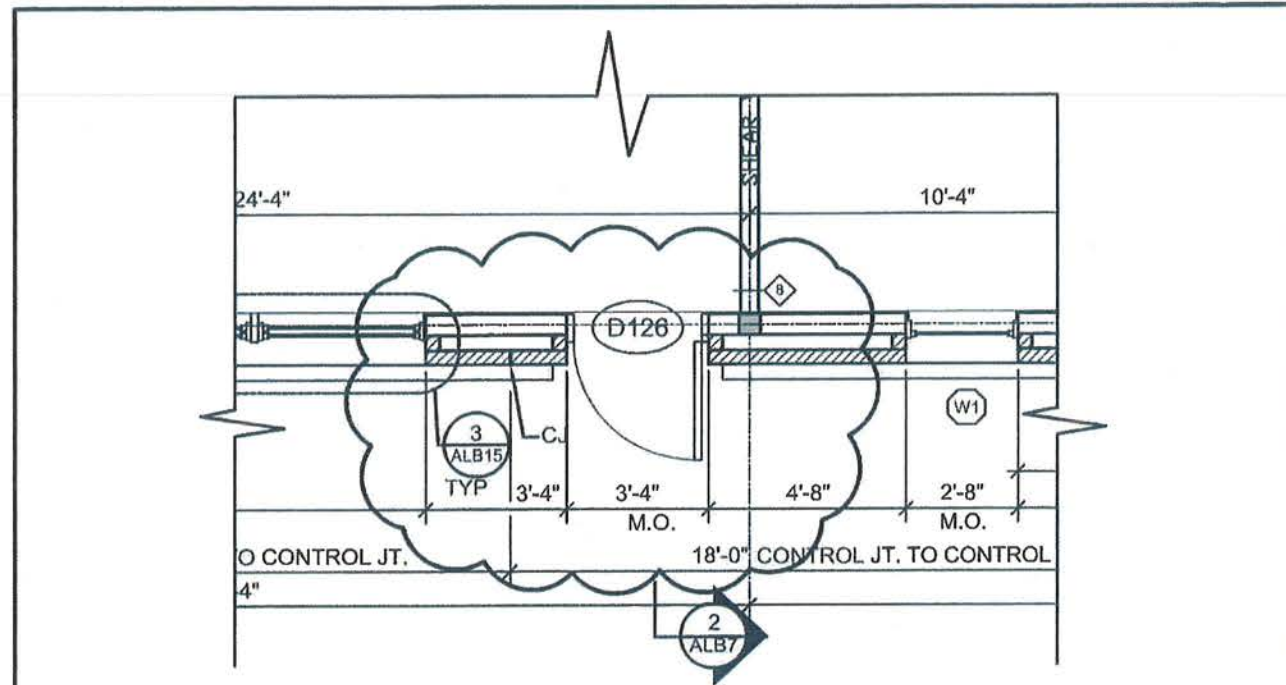
WINDOW

GWB JAMB

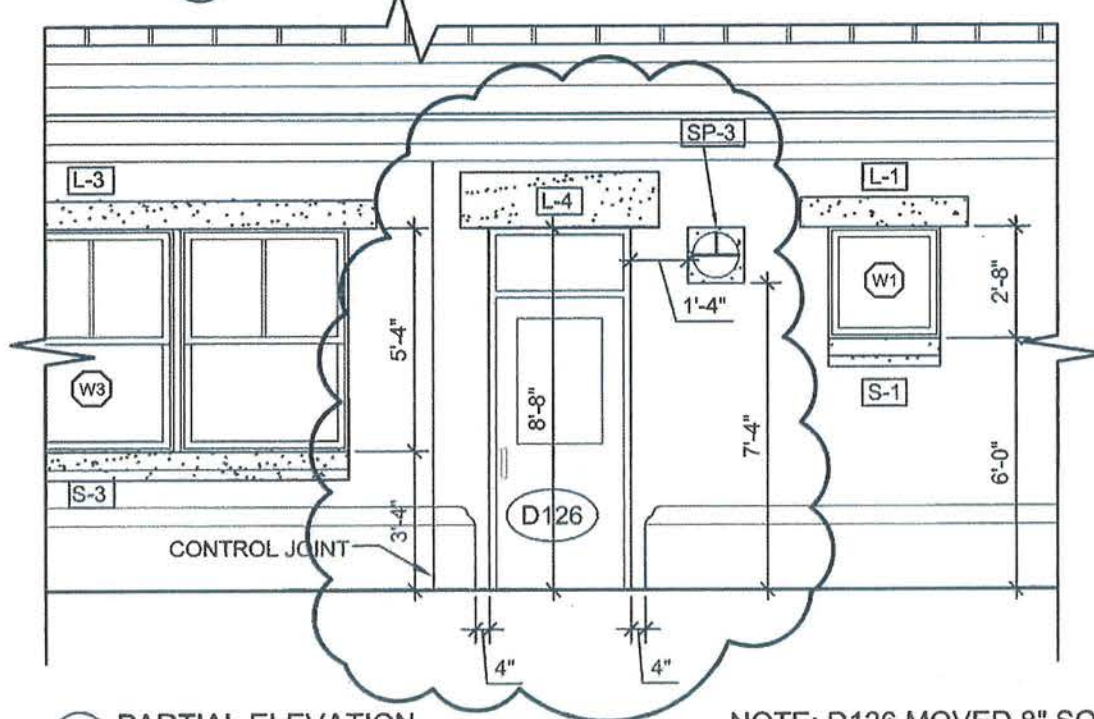
3 WINDOW HEAD DETAIL
SCALE: 1" = 1'-0"

SEE DRAWING A-LB.14

NEWBURYPORT WWTF IMPROVEMENTS CONTRACT 1	DATE: 01/18/10 SCALE: 1" = 1'-0" DESIGNED BY: MW DRAWN BY: TBC CHECKED BY: MW	DiMarinisi & Wolfe ARCHITECTS • URBAN DESIGNERS BOSTON, MASSACHUSETTS	SK-8
REVISED DETAIL @ ROOF EAVE	REVISIONS NO. DESCRIPTION DATE		



1 PARTIAL PLAN

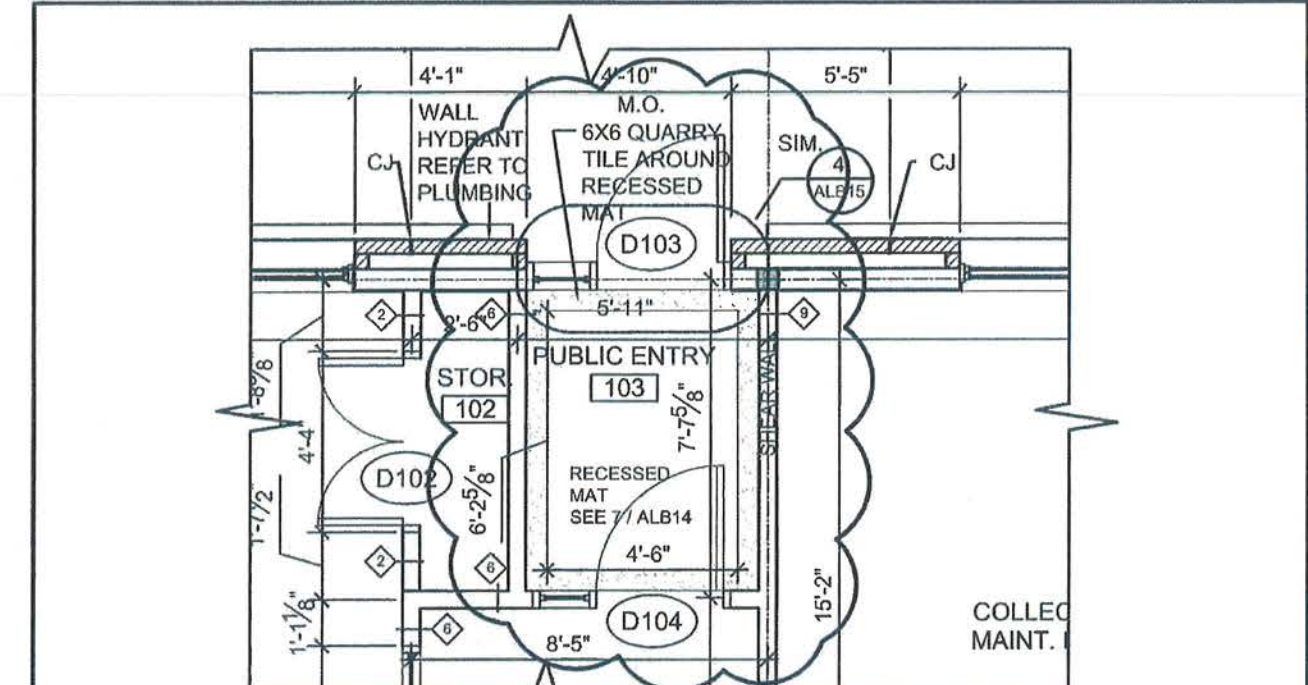


2 PARTIAL ELEVATION

NOTE: D126 MOVED 8" SOUTH, LIGHT MOUNTING PANEL MOVED TO NORTH SIDE OF DOOR

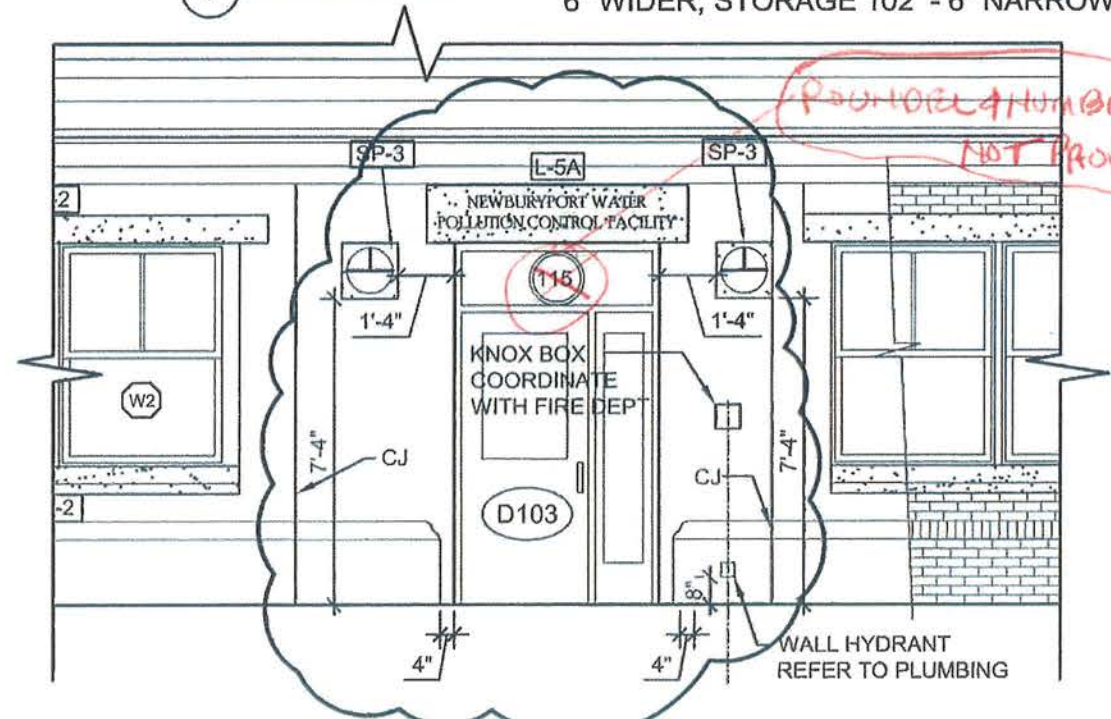
SEE DRAWING A-LB.1

NEWBURYPORT WWTF IMPROVEMENTS CONTRACT 1	DATE: 10/01/10	DiMarinisi & Wolfe ARCHITECTS • URBAN DESIGNERS BOSTON, MASSACHUSETTS	SK-9
	SCALE: 1/4" = 1'-0"		
REVISED LOCATION OF D126 PARTIAL PLAN & ELEVATION	DESIGNED BY: MIW	REVISIONS	
	DRAWN BY: TBC	NO. DESCRIPTION DATE	
	CHECKED BY: MIW		



1 PARTIAL PLAN

NOTE: PUBLIC ENTRY 103 & RECESSED MAT - 6" WIDER, STORAGE 102 - 6" NARROWER



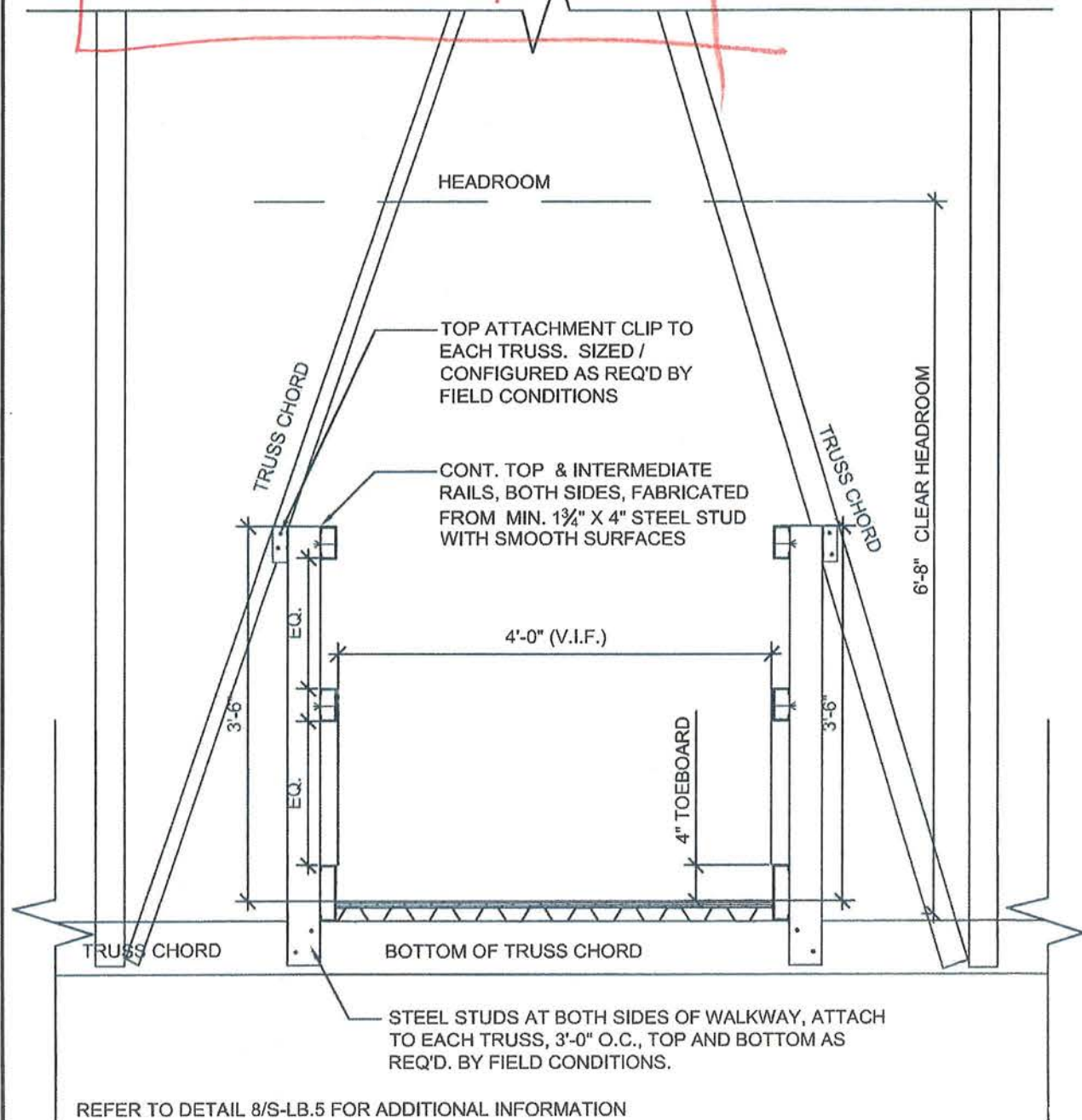
2 PARTIAL ELEVATION

NOTE: D103 & D104 AND LIGHT MOUNTING PANELS MOVED 6" SOUTH

SEE DRAWING A-LB.1

NEWBURYPORT WWTF IMPROVEMENTS CONTRACT 1	DATE: 10/05/10	DiMarinisi & Wolfe ARCHITECTS • URBAN DESIGNERS BOSTON, MASSACHUSETTS	SK-10
	SCALE: 1/4" = 1'-0"		
REVISED LOCATIONS OF D103 & D104 PARTIAL PLAN & ELEVATION	DESIGNED BY: MIW	REVISIONS	
	DRAWN BY: TBC	NO. DESCRIPTION DATE	
	CHECKED BY: MIW		

REVISED DETAIL 1/A-LB.2



REFER TO DETAIL 8/S-LB.5 FOR ADDITIONAL INFORMATION

ATTACHMENTS: MIN. 2 TEK SCREWS PER ATTACHMENT, UNLESS OTHERWISE REQ'D. TO MEET OSHA 200-LB. TOP RAIL PRESSURE

NEWBURYPORT WWTF IMPROVEMENTS
CONTRACT 1

ATTIC WALKWAY
CLARIFICATION DRAWING

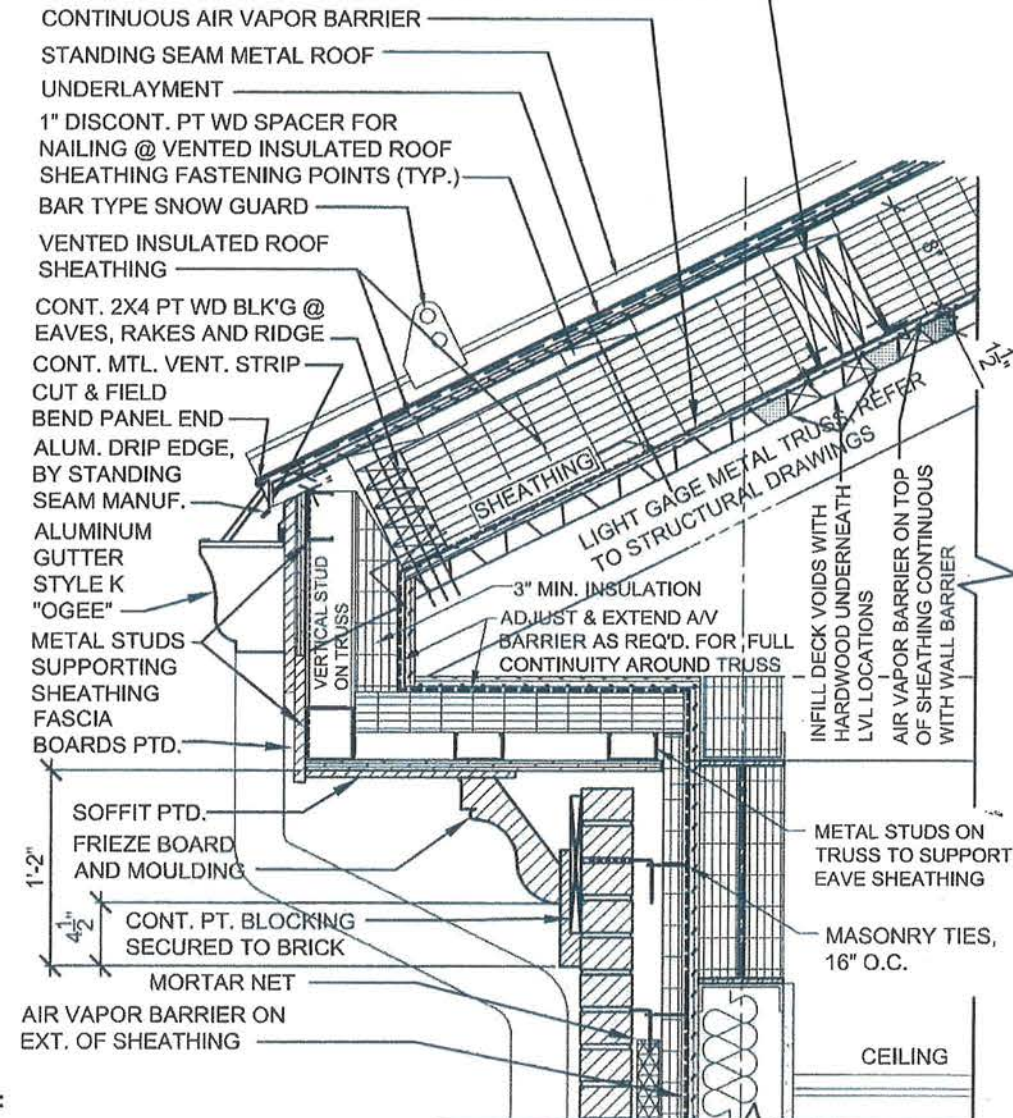
DATE: 10/21/10
SCALE: 3/4" = 1'-0"
DESIGNED BY: MIW
DRAWN BY: TBC
CHECKED BY: MIW

DiMarinisi & Wolfe
ARCHITECTS • URBAN DESIGNERS
BOSTON, MASSACHUSETTS

REVISIONS		
NO.	DESCRIPTION	DATE

SK-11

ENGINEERED LUMBER BLOCKING FOR PV ARRAY ON EAST ROOF SIDE REFER TO DETAIL 1/A-LB.3. ON WEST ROOF SIDE, INSTALL CONT. 2X6 PT WD BLK'G AT MIDDLE OF ROOF SLOPE



NOTES:

1. VENTED INSULATED ROOF SHEATHING TO BE FASTENED WITH 12" INSULATED PANEL FASTENERS FROM TOP OF SHEATHING THROUGH TO METAL DECKING.
2. VENTED INSULATED ROOF SHEATHING FASTENING, INCLUDING FASTENER TYPES AND FASTENER PATTERN, TO BE DONE IN STRICT ACCORD WITH VENTED INSULATED ROOF SHEATHING MANUFACTURER'S REQUIREMENTS AND INSTRUCTIONS TO MEET DESIGN WIND UPLIFT LOAD AT PROJECT SITE.
3. CONTINUOUS PRESSURE TREATED 2X4 WOOD BLOCKING TO BE PROVIDED AT ROOF EAVES, RAKES AND RIDGE.
4. ON EAST SIDE OF ROOF, CONTINUOUS ENGINEERED LUMBER BLOCKING FOR PV ARRAY TO SERVE AS INTERMEDIATE BLOCKING.
5. ON WEST SIDE OF ROOF, CONTINUOUS PRESSURE TREATED 2X4 WOOD BLOCKING TO BE PROVIDED AT CENTER OF ROOF SLOPE.
6. VENTED INSULATED ROOF SHEATHING TO BE FSC CERTIFIED TO MEET LEED REQUIREMENTS.

NEWBURYPORT WWTF IMPROVEMENTS
CONTRACT 1

REVISED DETAIL @ ROOF EAVE
SEE DRAWING A-LB.14

DATE: 12/08/10
SCALE: 1" = 1'-0"
DESIGNED BY: MIW
DRAWN BY: TBC
CHECKED BY: MIW

DiMarinisi & Wolfe
ARCHITECTS • URBAN DESIGNERS
BOSTON, MASSACHUSETTS

REVISIONS		
NO.	DESCRIPTION	DATE

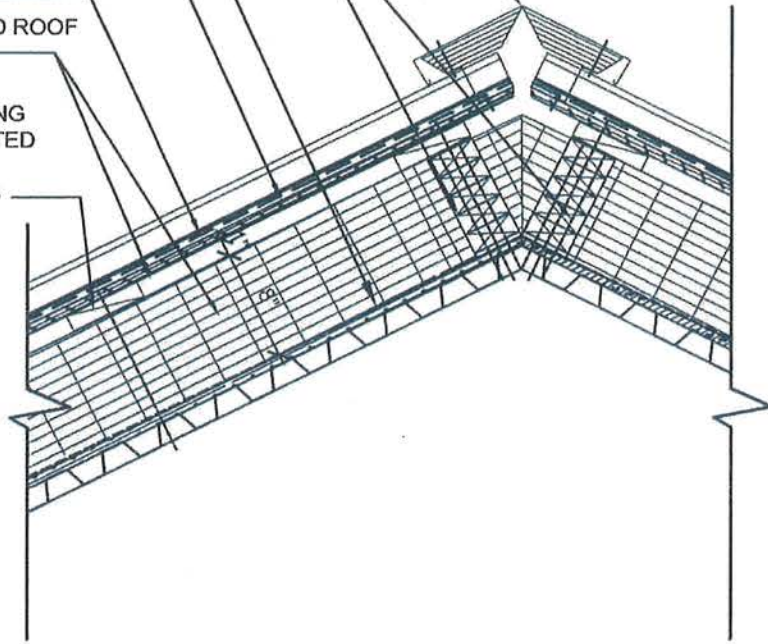
SK-12

CONT. VENTED METAL ROOF RIDGE CAP
 CONT. 2X4 PT WD BLK'G @ EAVES,
 RAKES AND RIDGE W/ 1" DISCONT. PT
 WD SPACER FOR NAILING @ VENTED
 INSULATED ROOF SHEATHING
 FASTENING POINTS (TYP.)

CONTINUOUS AIR VAPOR BARRIER
 STANDING SEAM METAL ROOF
 UNDERLAYMENT

VENTED INSULATED ROOF
 SHEATHING

1" DISCONT. PT WD
 SPACER FOR NAILING
 @ VENTED INSULATED
 ROOF SHEATHING
 FASTENING POINTS
 (TYP.)



NOTES:

1. VENTED INSULATED ROOF SHEATHING TO BE FASTENED WITH 12" INSULATED PANEL FASTENERS FROM TOP OF SHEATHING THROUGH TO METAL DECKING.
2. VENTED INSULATED ROOF SHEATHING FASTENING, INCLUDING FASTENER TYPES AND FASTENER PATTERN, TO BE DONE IN STRICT ACCORD WITH VENTED INSULATED ROOF SHEATHING MANUFACTURER'S REQUIREMENTS AND INSTRUCTIONS TO MEET DESIGN WIND UPLIFT LOAD AT PROJECT SITE.
3. CONTINUOUS PRESSURE TREATED 2X4 WOOD BLOCKING TO BE PROVIDED AT ROOF EAVES, RAKES AND RIDGE.
4. ON EAST SIDE OF ROOF, CONTINUOUS ENGINEERED LUMBER BLOCKING FOR PV ARRAY TO SERVE AS INTERMEDIATE BLOCKING.
5. ON WEST SIDE OF ROOF, CONTINUOUS PRESSURE TREATED 2X4 WOOD BLOCKING TO BE PROVIDED AT CENTER OF ROOF SLOPE.
6. VENTED INSULATED ROOF SHEATHING TO BE FSC CERTIFIED TO MEET LEED REQUIREMENTS.

SEE DRAWING A-LB.14

NEWBURYPORT WWTF IMPROVEMENTS
 CONTRACT 1

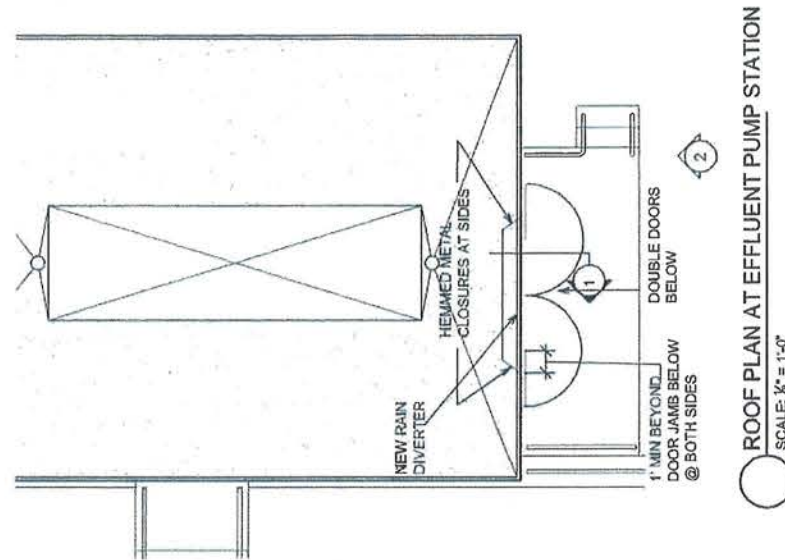
REVISED DETAIL @ ROOF RIDGE

DATE: 12/09/10
 SCALE: 1" = 1'-0"
 DESIGNED BY: M/W
 DRAWN BY: TBC
 CHECKED BY: M/W

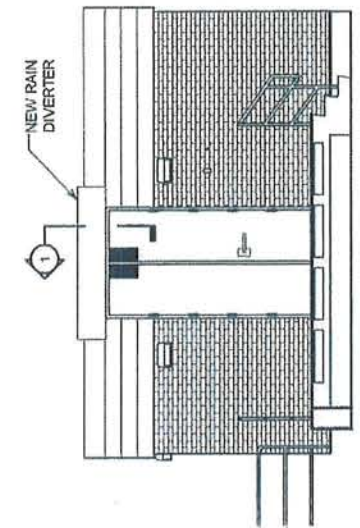
DiMarinisi & Wolfe
 ARCHITECTS • URBAN DESIGNERS
 BOSTON, MASSACHUSETTS

REVISIONS		
NO.	DESCRIPTION	DATE

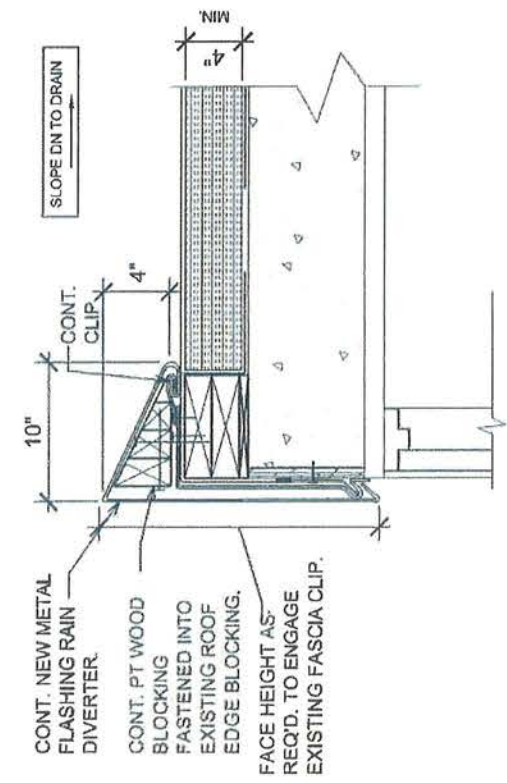
SK-13



1 ROOF PLAN AT EFFLUENT PUMP STATION
 SCALE: 1/2" = 1'-0"



2 SOUTH ELEVATION
 SCALE: 1/2" = 1'-0"



1 RAIN DIVERTER SECTION DETAIL
 SCALE: 1" = 1'-0"

DETAIL NOT EXECUTED!
 TO BE CONFIRMED,

REVISIONS		
NO.	DESCRIPTION	DATE

DiMarinisi & Wolfe
 ARCHITECTS • URBAN DESIGNERS
 BOSTON, MASSACHUSETTS

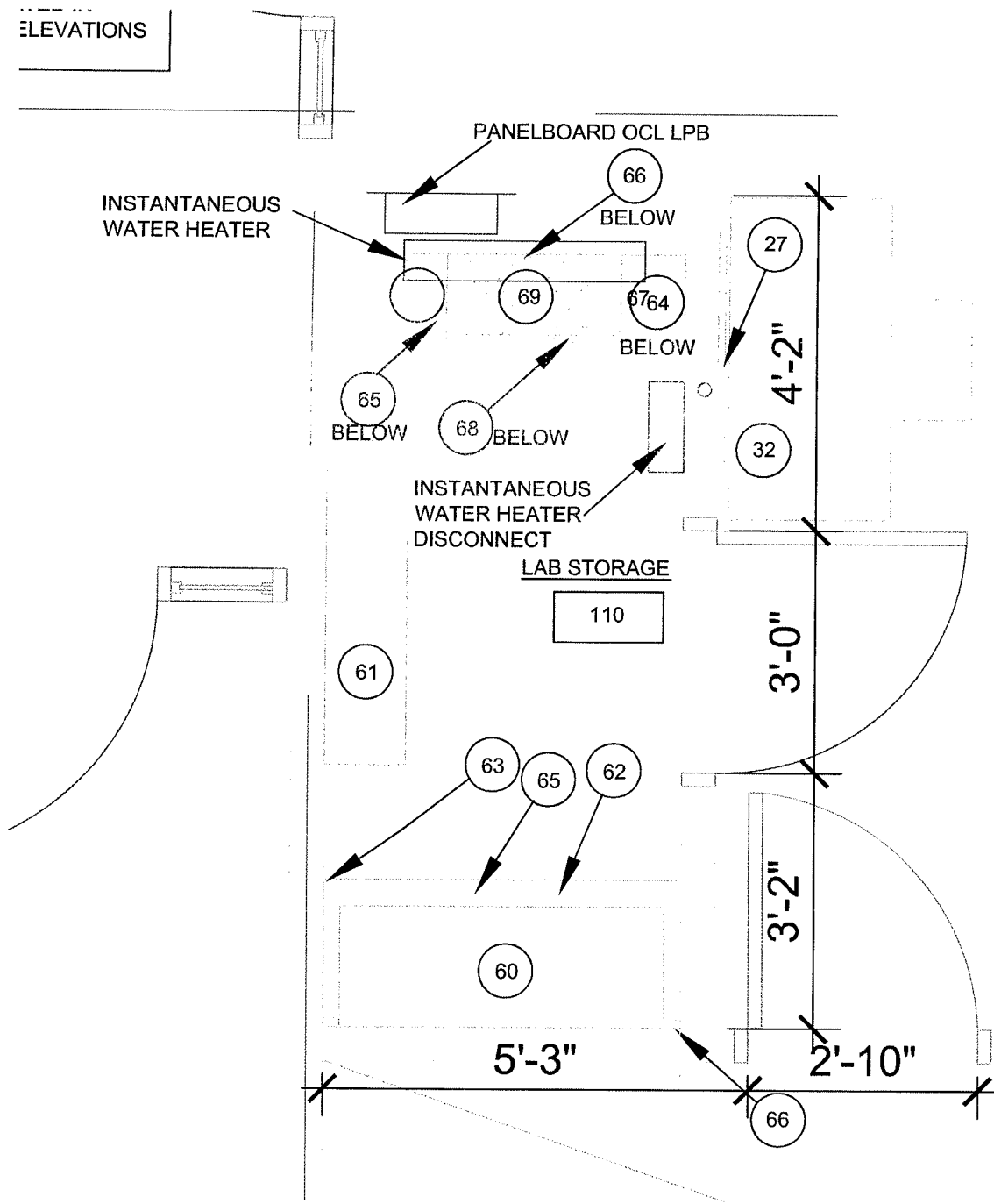
DATE: 8/9/12
 SCALE: AS NOTED
 DESIGNED BY: M/W
 DRAWN BY: M/W
 CHECKED BY: M/W

NEWBURYPORT WWTF IMPROVEMENTS
 CONTRACT 1
 NEW RAIN DIVERTER OVER DOUBLE DOORS
 EFFLUENT PUMP STATION

SK-14

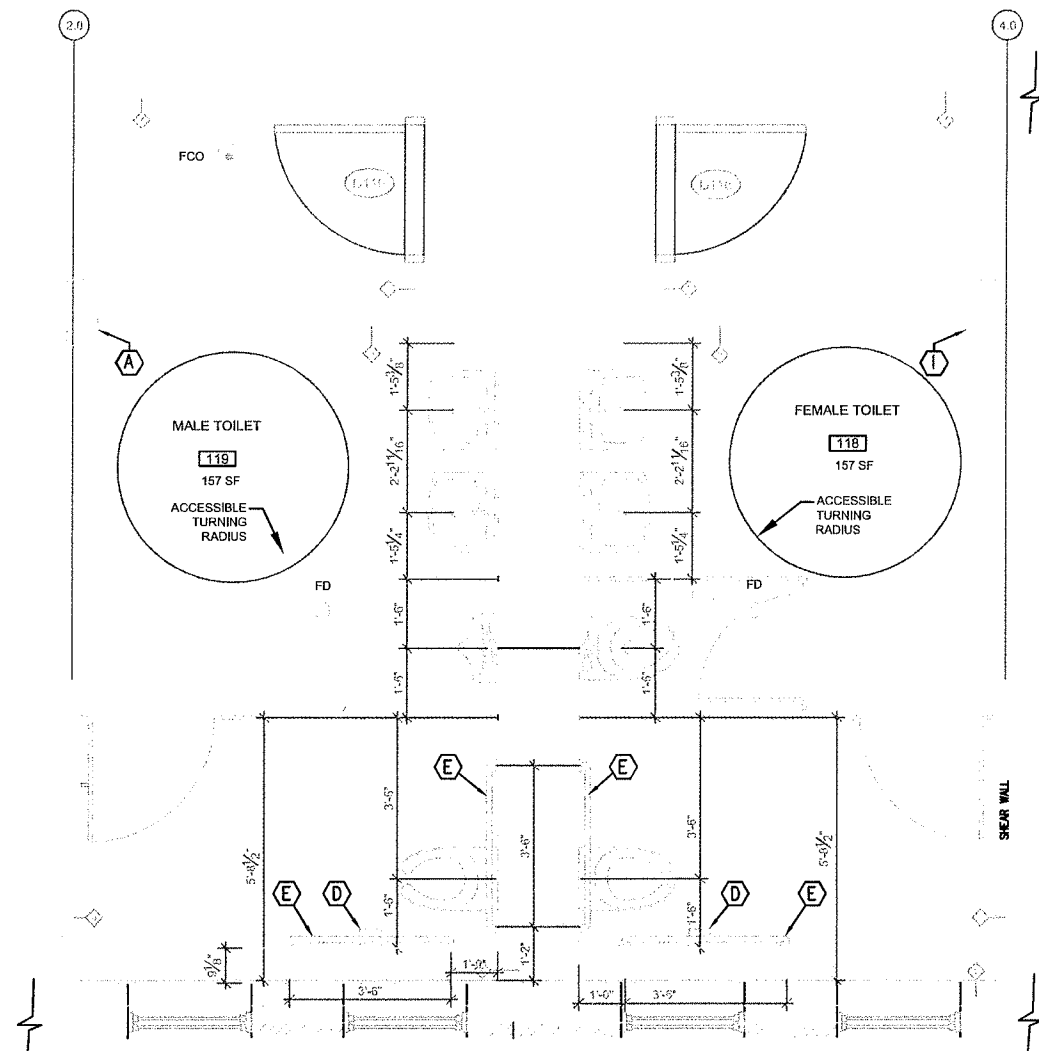
SECTION 2

AS-BUILT SKETCHES PROVIDED BY THE GENERAL CONTRACTOR



ELEVATIONS

LAB STORAGE AS-BUILT
SCALE: 1/2"=1'-0"



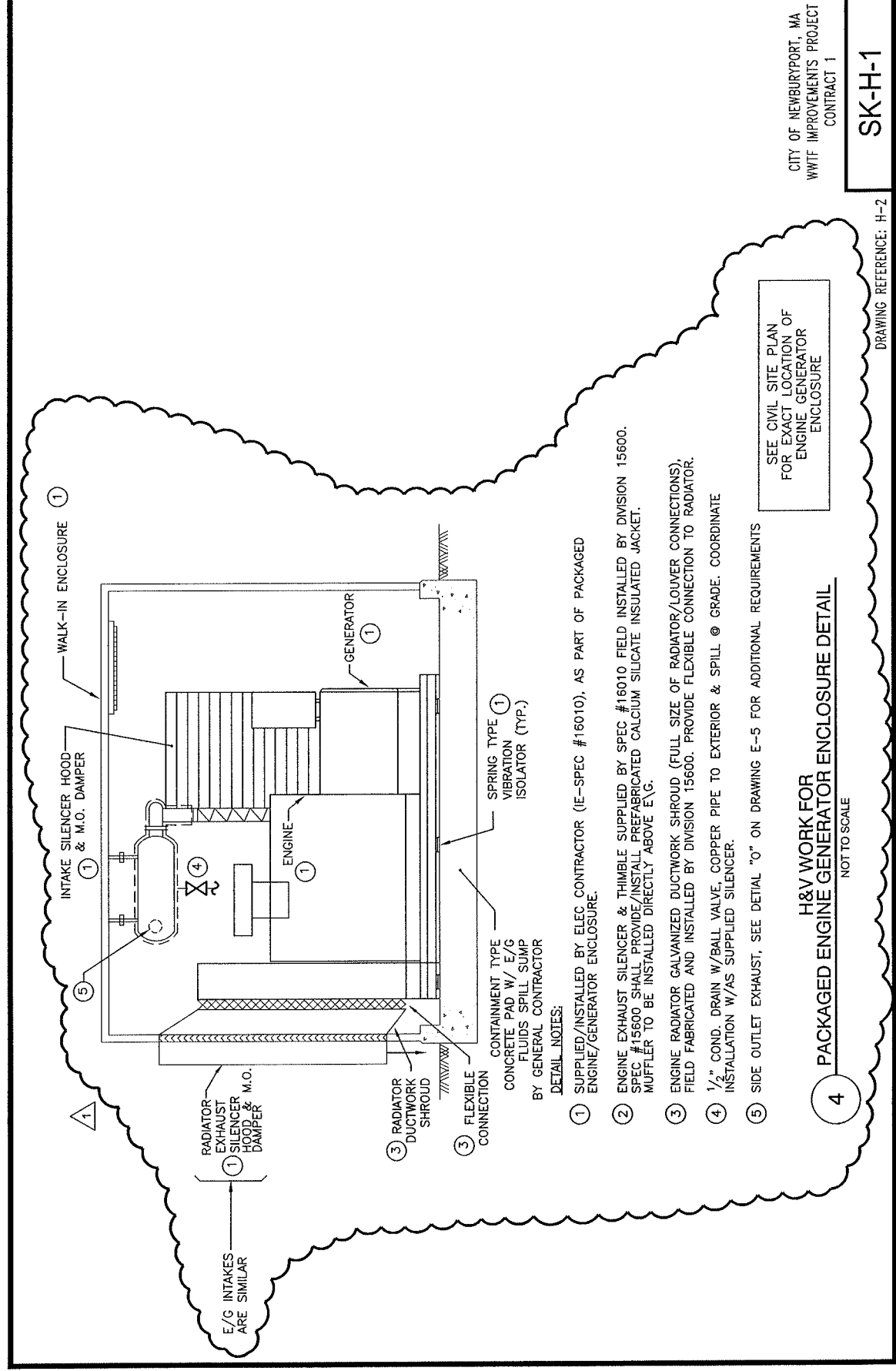
OCL BATHROOM AS-BUILT

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

APPENDIX B – HEATING & VENTILATION

SECTION 1

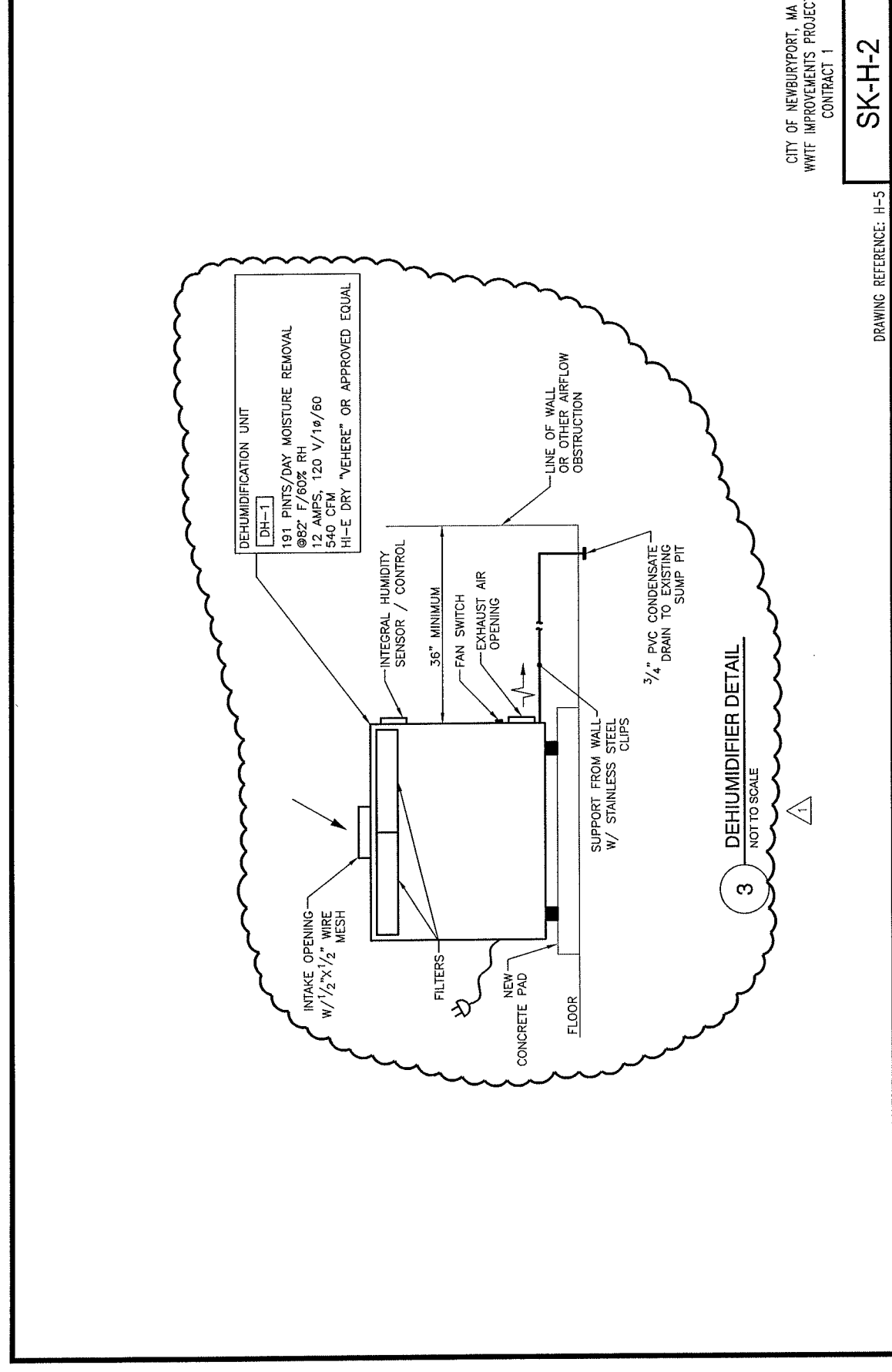
ADDENDA & POST DESIGN REVISION SKETCHES



CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-H-1

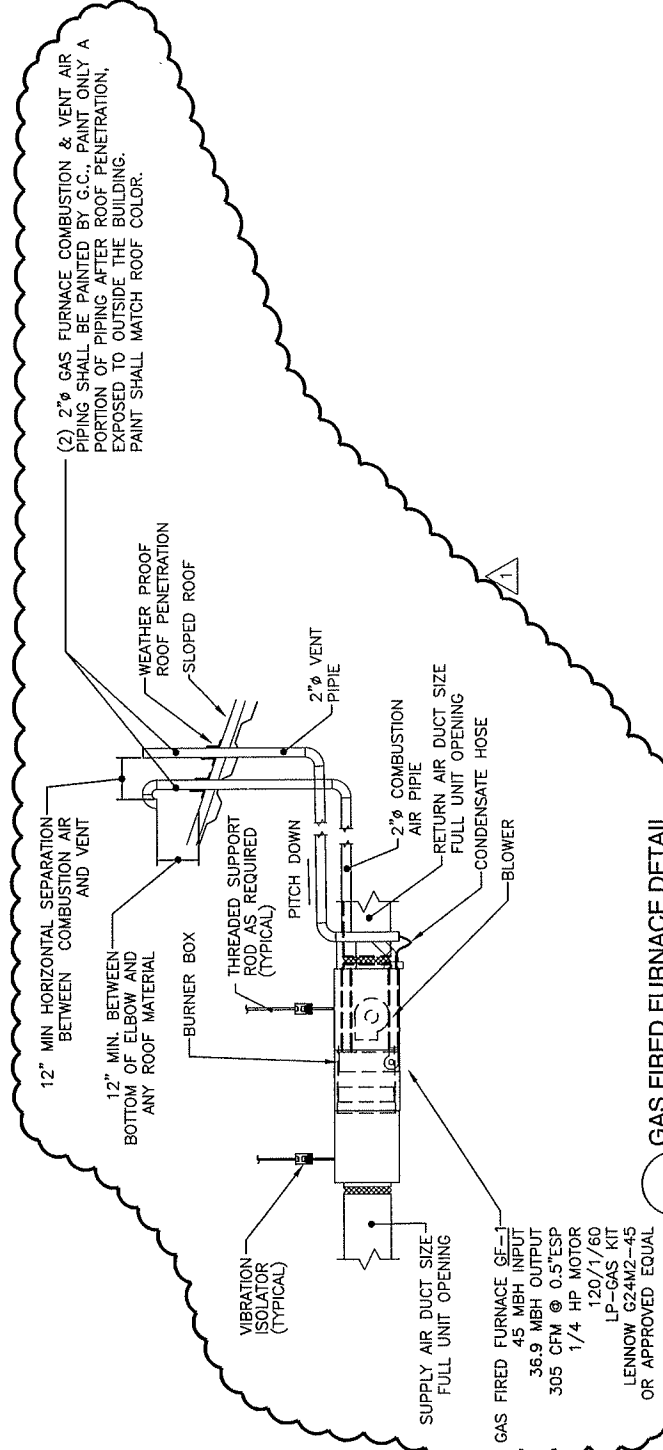
DRAWING REFERENCE: H-2



CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-H-2

DRAWING REFERENCE: H-5



4 GAS FIRED FURNACE DETAIL
NOT TO SCALE

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-H-3

DRAWING REFERENCE: H-5

HEAT PUMP UNIT (HP) SCHEDULE

TAG	TYPE	COOLING TOTAL (MBH)	HEATING TOTAL (MBH)	FAN			COND. PUMP	CONTROL	ELECTRICAL RATING	MITSUBISHI MODEL #
				CFM	ESP	MOTOR OUTPUT				
HP-1	CEILING - 4 WAY	15	17	350	NA	0.02kW	INTERNAL	PAR-21 MAA	208/230-1PH	PLY-P15NCMU-E
HP-1A	CEILING - 4 WAY	15	17	350	NA	0.02kW	INTERNAL	PAR-21 MAA	208/230-1PH	PLY-P15NCMU-E
HP-2	CEILING - 4 WAY	8	9	280	NA	0.015kW	INTERNAL	PAR-21 MAA	208/230-1PH	PMFY-P08NCMU-E
HP-3	CEILING - 1 WAY	6	6.7	230	NA	0.028kW	INTERNAL	PAR-21 MAA	208/230-1PH	PMFY-P08NCMU-E
HP-4	CEILING - 1 WAY	12	13.5	300	NA	0.028kW	INTERNAL	PAR-21 MAA	208/230-1PH	PMFY-P12NCMU-E
HP-5	CEILING - 1 WAY	12	13.5	300	NA	0.028kW	INTERNAL	PAR-21 MAA	208/230-1PH	PMFY-P12NCMU-E
HP-6	CEILING - 4 WAY	8	9	280	NA	0.015kW	INTERNAL	PAR-21 MAA	208/230-1PH	PLFY-P08NCMU-E
HP-6A	CEILING - 4 WAY	8	9	280	NA	0.015kW	INTERNAL	PAR-21 MAA	208/230-1PH	PLFY-P08NCMU-E
HP-7	CEILING - 1 WAY	6	6.7	200	NA	0.015kW	INTERNAL	PAR-21 MAA	208/230-1PH	PMFY-P06NCMU-E
HP-8	WALL	6	13.5	495	0.3	0.015kW	INTERNAL	PAR-21 MAA	208/230-1PH	PKFY-P06NCMU-E
HP-9	CONCEALED	6	6.7	210	0.2	0.096kW	INTERNAL	PAR-21 MAA	208/230-1PH	PEFY-P06NMSU-E
HP-10	CEILING - 1 WAY	6	6.7	200	NA	0.015kW	INTERNAL	PAR-21 MAA	208/230-1PH	PMFY-P06NCMU-E
HP-11	CEILING - 4 WAY	8	9	280	NA	0.015kW	INTERNAL	PAR-21 MAA	208/230-1PH	PLFY-P08NCMU-E
HP-11A	CEILING - 4 WAY	8	9	280	NA	0.015kW	INTERNAL	PAR-21 MAA	208/230-1PH	PLFY-P08NCMU-E
HP-12	CONCEALED	6	6.7	210	0.2	0.096kW	INTERNAL	PAR-21 MAA	208/230-1PH	PEFY-P06NMLU-E
HP-13	CONCEALED	6	6.7	210	0.2	0.096kW	INTERNAL	PAR-21 MAA	208/230-1PH	PEFY-P06NMLU-E
HP-14	CONCEALED	12	13.5	495	0.3	0.032kW	INTERNAL	PAR-21 MAA	208/230-1PH	PEFY-P12NMSU-E
HP-15	CONCEALED	8	9	280	0.3	0.096kW	INTERNAL	PAR-21 MAA	208/230-1PH	PEFY-P08NMSU-E
HP-16	WALL	6	13.5	495	0.3	0.015kW	INTERNAL	PAR-21 MAA	208/230-1PH	PKFY-P06NCMU-E
HP-17	CONCEALED	54	60	1100	0.2	0.40kW	INTERNAL	PAR-21 MAA	208/230-1PH	PEFY-P54NMHU-E
HP-18	CONCEALED	54	60	1100	0.2	0.40kW	INTERNAL	PAR-21 MAA	208/230-1PH	PEFY-P54NMHU-E
HP-19	CONCEALED	54	60	1100	0.2	0.40kW	INTERNAL	PAR-21 MAA	208/230-1PH	PEFY-P54NMHU-E
HP-20	CONCEALED	54	60	1100	0.2	0.40kW	INTERNAL	PAR-21 MAA	208/230-1PH	PEFY-P54NMHU-E
HP-21	CONCEALED	24	27	370	NA	0.063kW	INTERNAL	PAR-21 MAA	208/230-1PH	PFFY-P24NCMU-E
HP-22	CONCEALED	24	27	370	NA	0.063kW	INTERNAL	PAR-21 MAA	208/230-1PH	PFFY-P24NCMU-E

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-H-4

DRAWING REFERENCE: H-6

REMOTE AIR COOLED CONDENSER (RAC) SCHEDULE

TAG	SERVICE	NOMINAL CAP (TONS)	COOLING		HEATING		COMPRESSOR			CRANKCASE HEATER			CONDENSER FANS			REFRIG TYPE	EER RATING	ELECTRICAL RATING	MITSUBISHI MODEL #
			TOTAL (CFM)	AMP	TOTAL (MBH)	MBH	TYPE	QTY	POWER	HEATER	QTY	CFM	MOTOR	EA	EA				
RAC-1	BCC-1	14	168		188		SCROLL	2	6.6/5.3	57w/57w	1	14,100	36w/EA	R410a	12	480/3/60	PURY-P168TGMU-A		
RAC-2	-----	18	216		228		SCROLL	2	6.6/5.6	51w/51w	2	15,000	92w/EA	R410a	12	480/3/60	PURY-P216TSHMU-A		
RAC-3	-----	4	48		54		SCROLL	1	2.4kw	-----	2	3,530	86w/EA	R410a	12	208/230-1ph	PUMY-P48NHMU-A		

- NOTES: 1. UNIT RATING BASED ON OSA 95F/67F WB (COOLING); 47F/43F WB (HEATING).
 2. UNIT OPERATING TEMPERATURE RANGE 23-109F DB (COOLING); 5-59F WB (HEATING); 23 DB/22F WB TO 69DB/59F WB (SIMULTANEOUS)
 3. CONDENSING UNITS TO BE SAME MANUFACTURER AS ALL OTHER COMPONENTS IN THE SYSTEM.

CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-5

DRAWING REFERENCE: H-6

EXHAUST FAN SCHEDULE

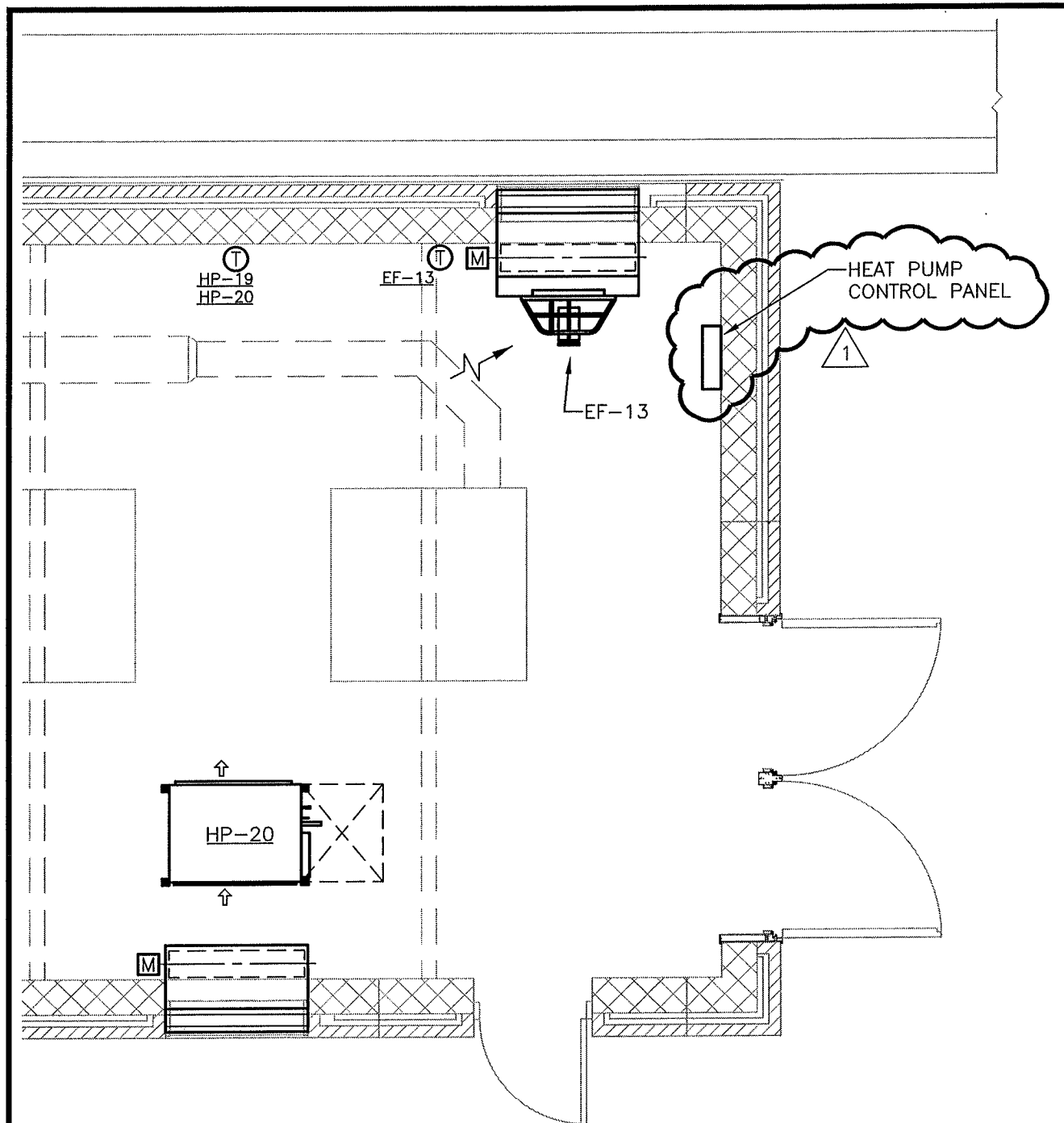
TAG	AIRFLOW (CFM)	ESP (" WC)	MOTOR HP	ELECTRICAL	MANUFACTURER	MODEL NUMBER
EF-1	520	0.25	1/4	120/1/60	KEWAUNEE	HFS-0902
EF-2	1,100	0.5	1/4	120/1/60	GREENHECK	GB-131-4
EF-3	1,200	0.625	1/2	480/3/60	GREENHECK	GB-141HP-5
EF-4	1,400	0.375	1/4	120/1/60	GREENHECK	GB-131-4
EF-5	1,100	0.375	1/4	120/1/60	GREENHECK	GB-131-4
EF-6	800	0.375	1/4	120/1/60	GREENHECK	GB-101-4
EF-7	400	0.375	1/4	120/1/60	GREENHECK	GB-091-4
EF-8	2,000	0.625	1/2	480/3/60	GREENHECK	GB-180HP-5
EF-9	1,100	0.75	1/2	480/3/60	GREENHECK	GB-141HP-5
EF-10	5,325	0.5	1	480/3/60	GREENHECK	SBE-3L24-10
EF-11	5,325	0.5	1	480/3/60	GREENHECK	SBE-3L24-10
EF-12	5,325	0.5	1	480/3/60	GREENHECK	SBE-3L24-10
EF-13	5,325	0.5	1	480/3/60	GREENHECK	SBE-3L24-10

NOTE: PROVIDE EF-2 THROUGH EF-13 WITH INVERTER DUTY, PREMIUM EFFICIENCY MOTORS

CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-6

DRAWING REFERENCE: H-6

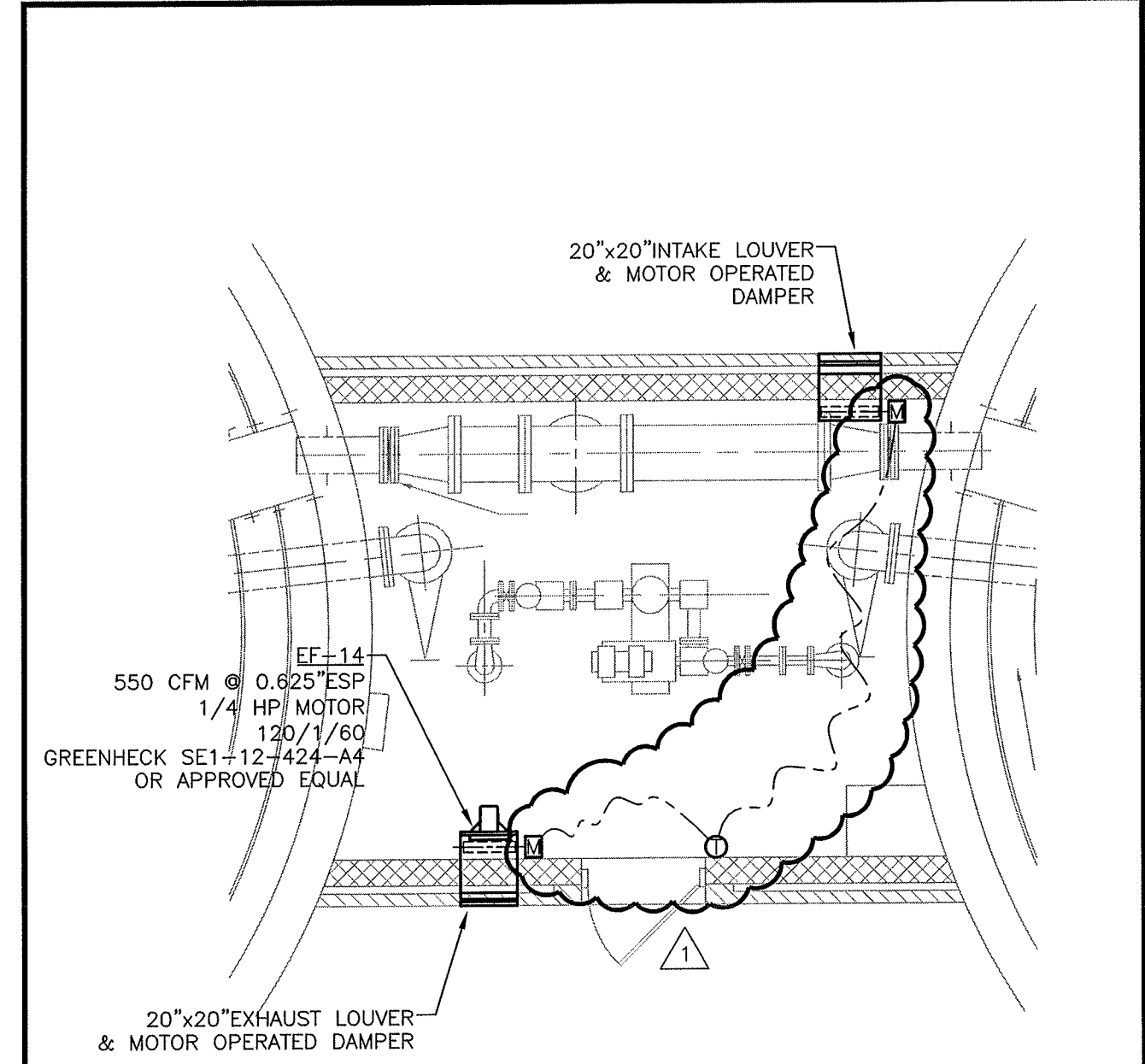


ALL EXHAUST FAN AND INTAKE LOUVER CONTROL WIRING, AC LOCKOUT RELAY AND TEMPERATURE SENSORS SHALL BE FURNISHED AND INSTALLED BY DIV 16

CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-AB.1

DRAWING REFERENCE: H-AB.1

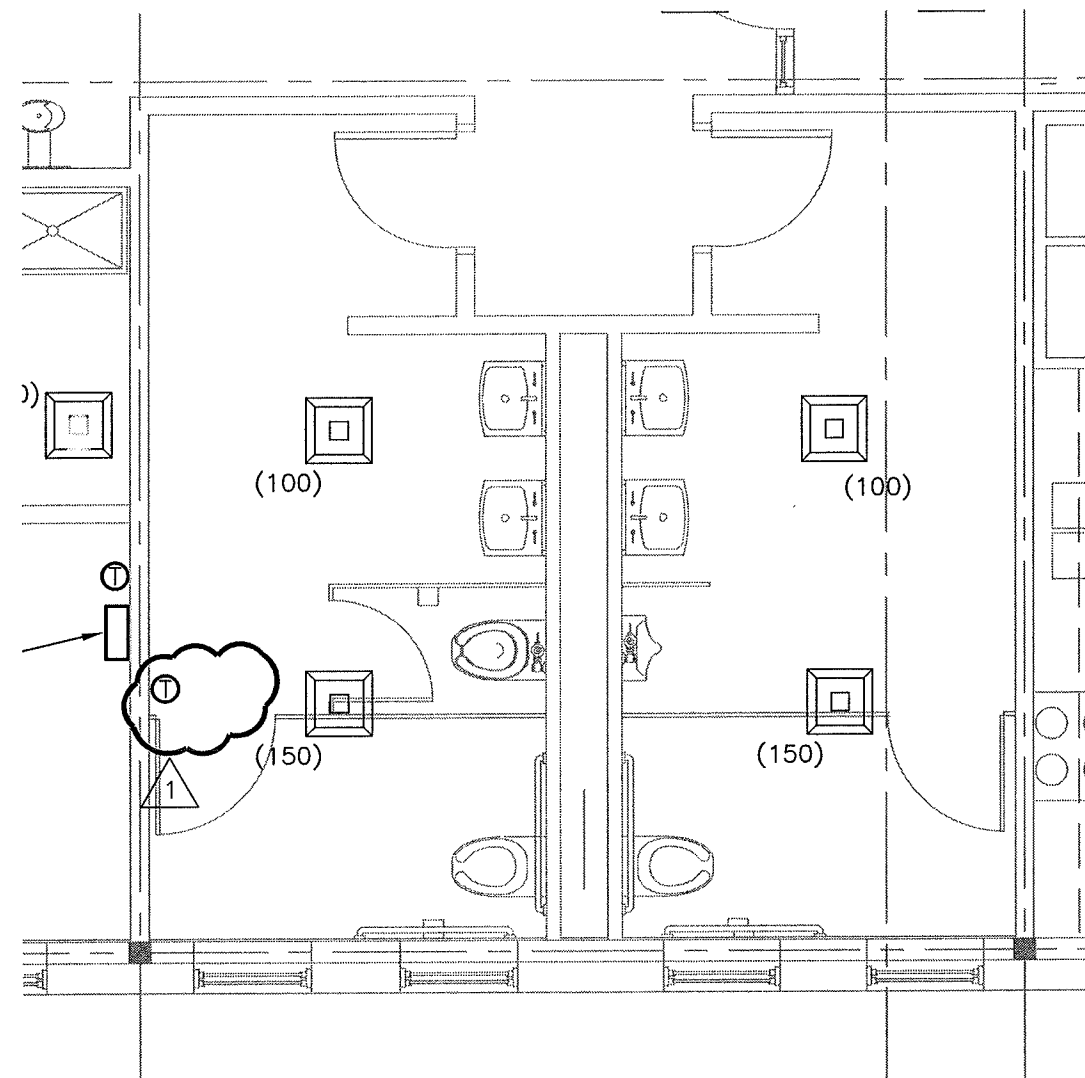


THE WORK DEPICTED ON
 THIS DRAWING IS
 PART OF BID ALTERNATE B

CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-GT.1

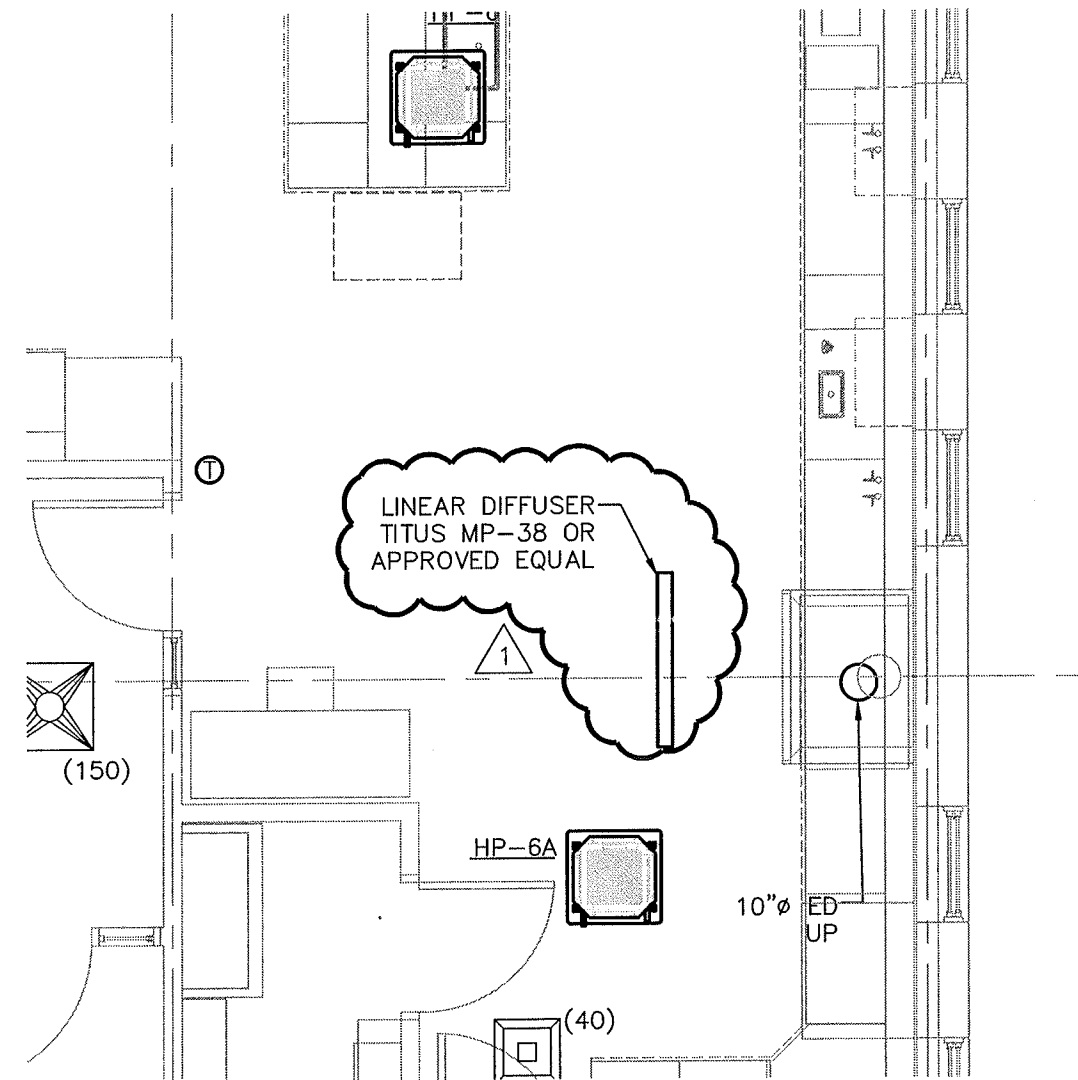
DRAWING REFERENCE: H-GT.1



CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-LB.1

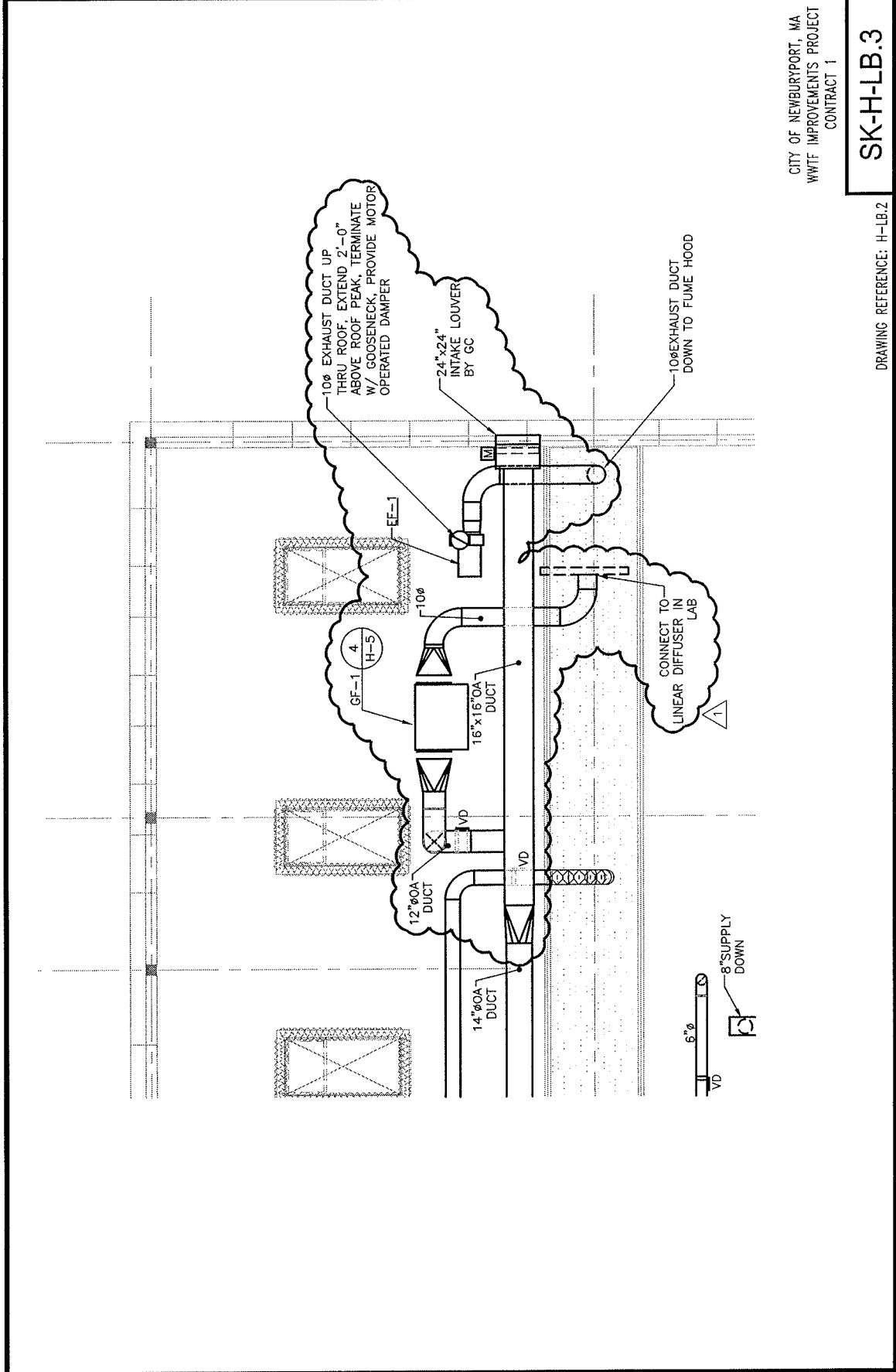
DRAWING REFERENCE: H-LB.1



CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-LB.2

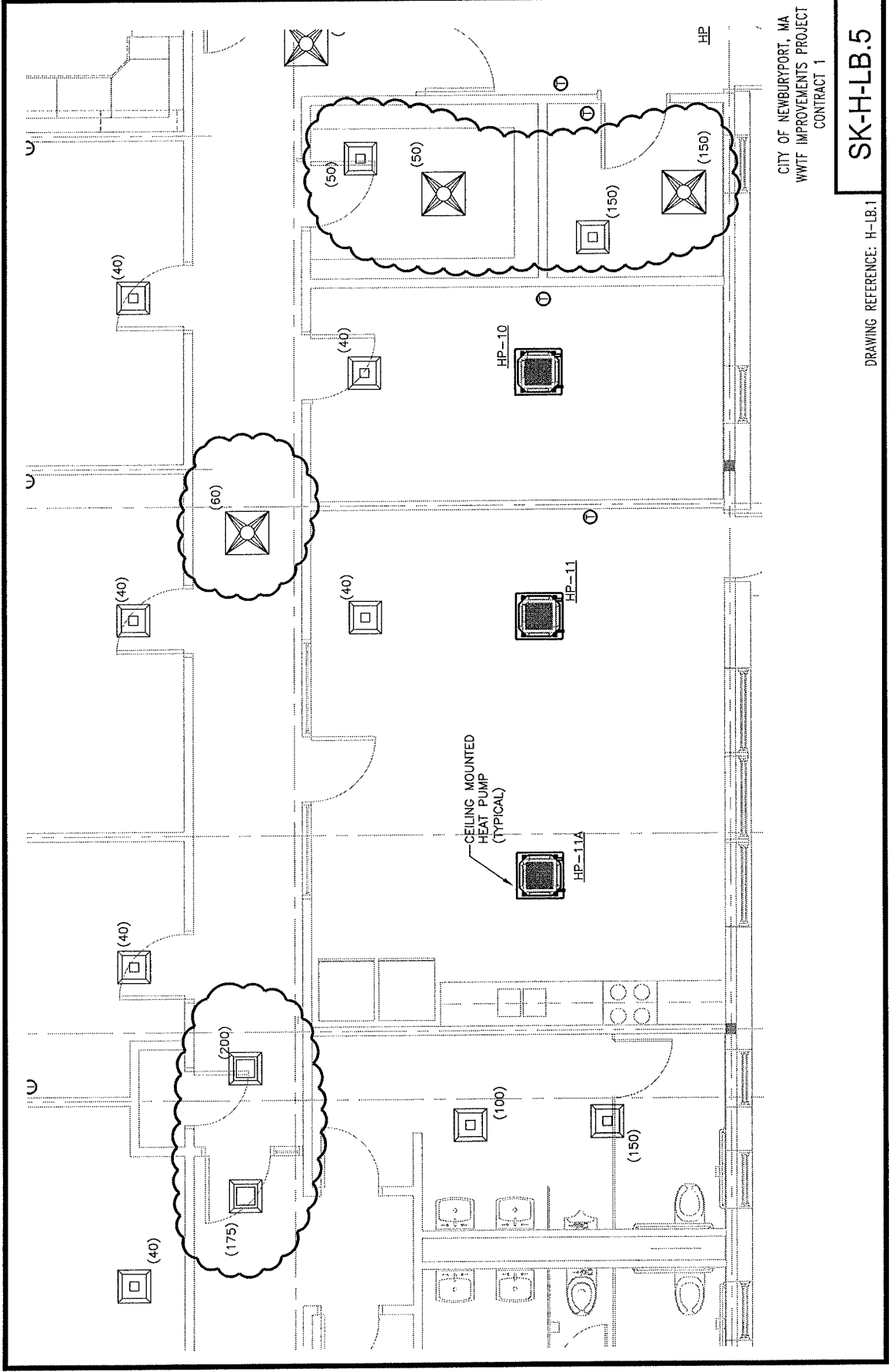
DRAWING REFERENCE: H-LB.1



CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-LB.3

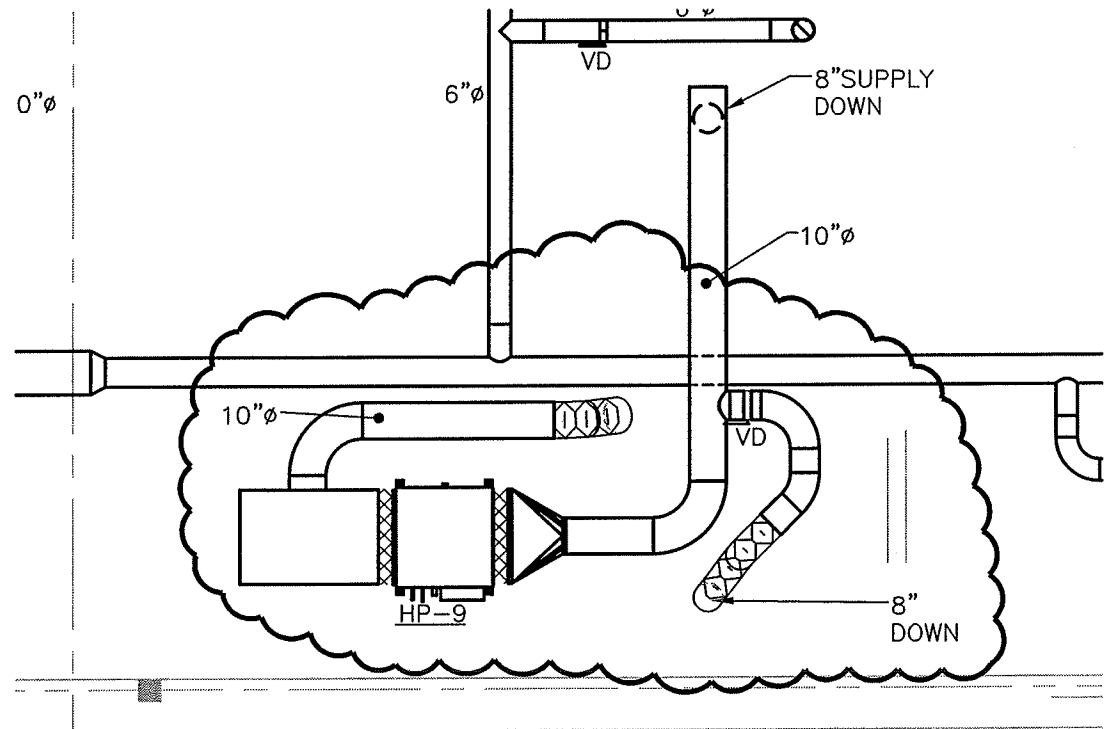
DRAWING REFERENCE: H-LB.2



CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-LB.5

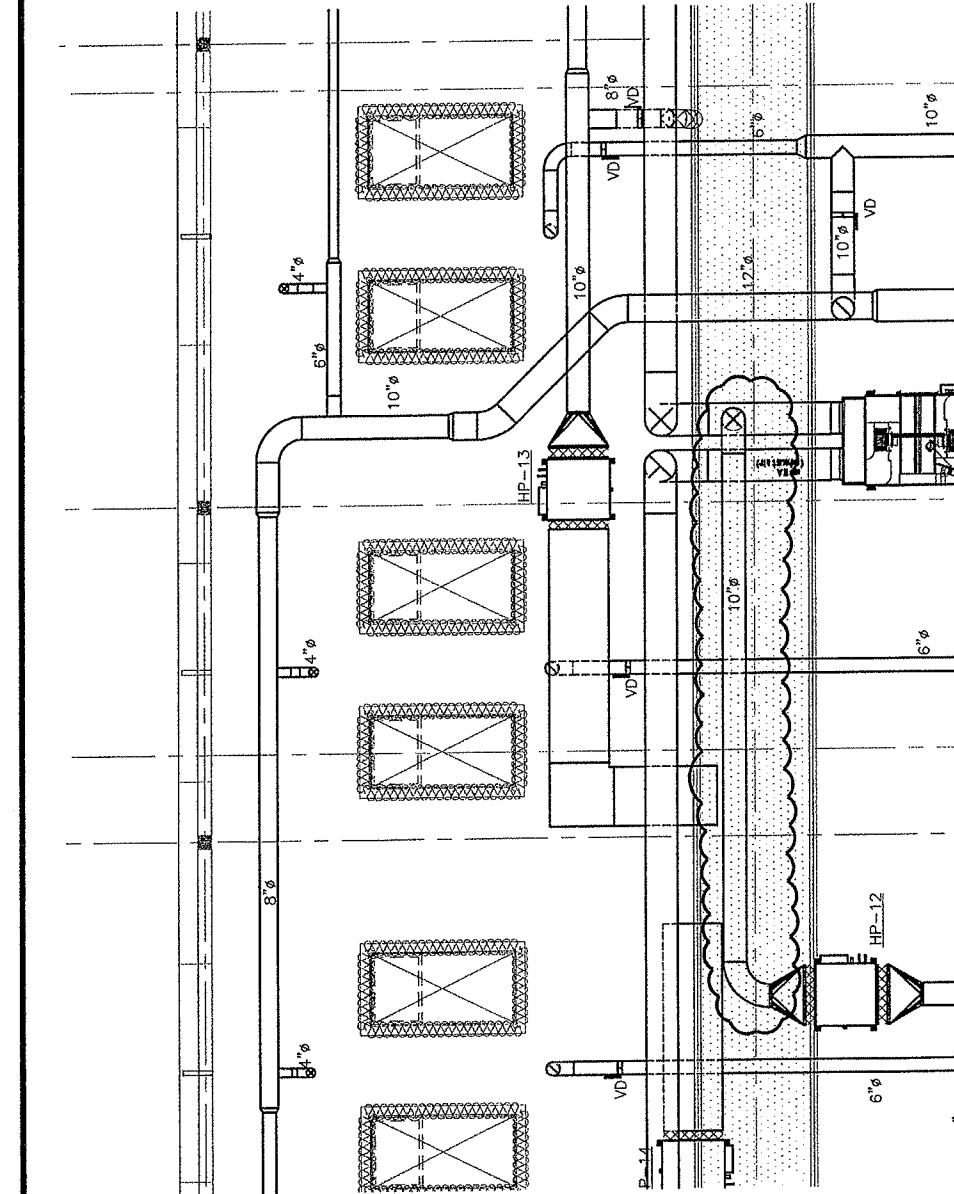
DRAWING REFERENCE: H-LB.1



CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-LB.6

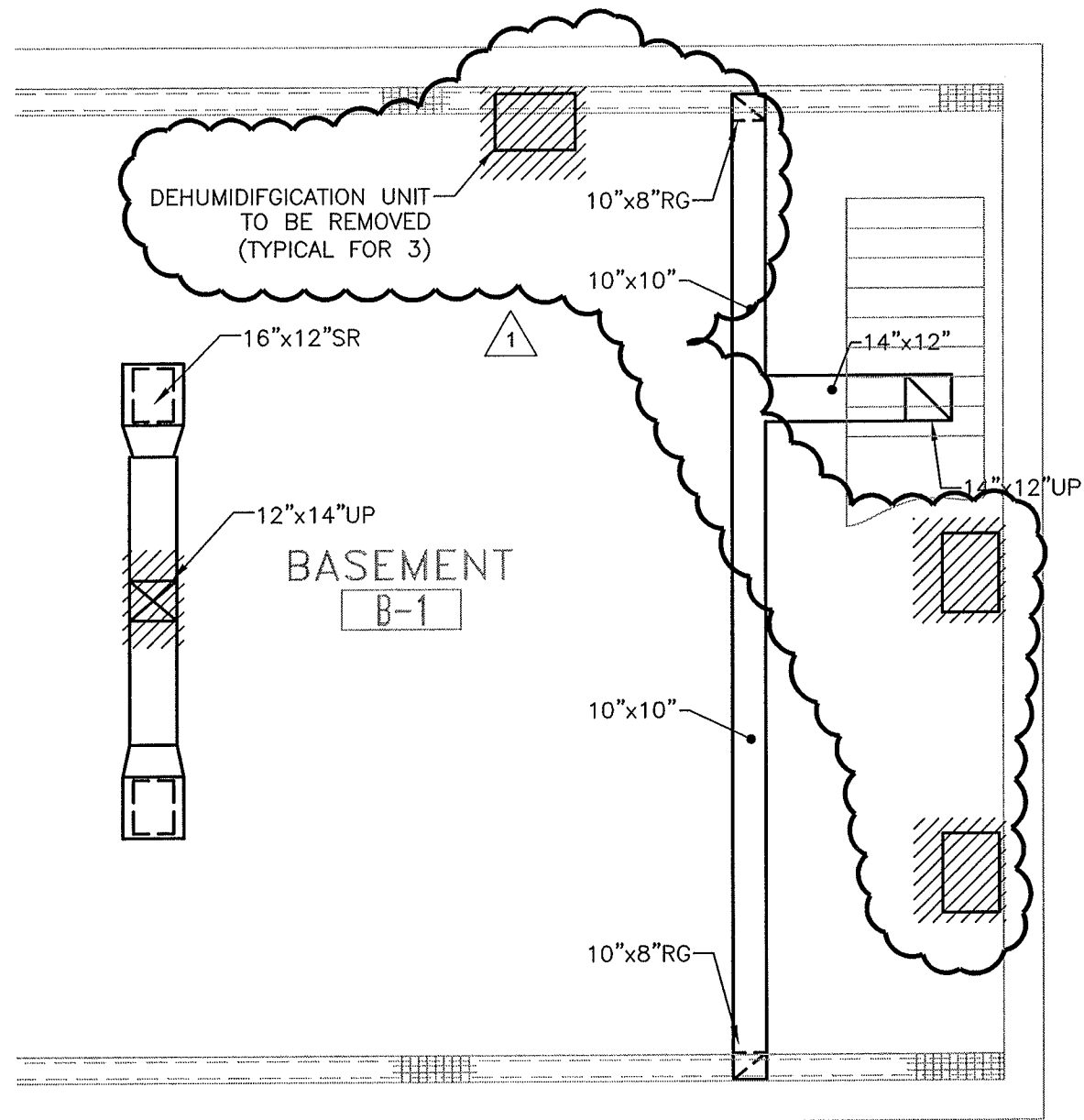
DRAWING REFERENCE: H-LB.2



CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-LB.7

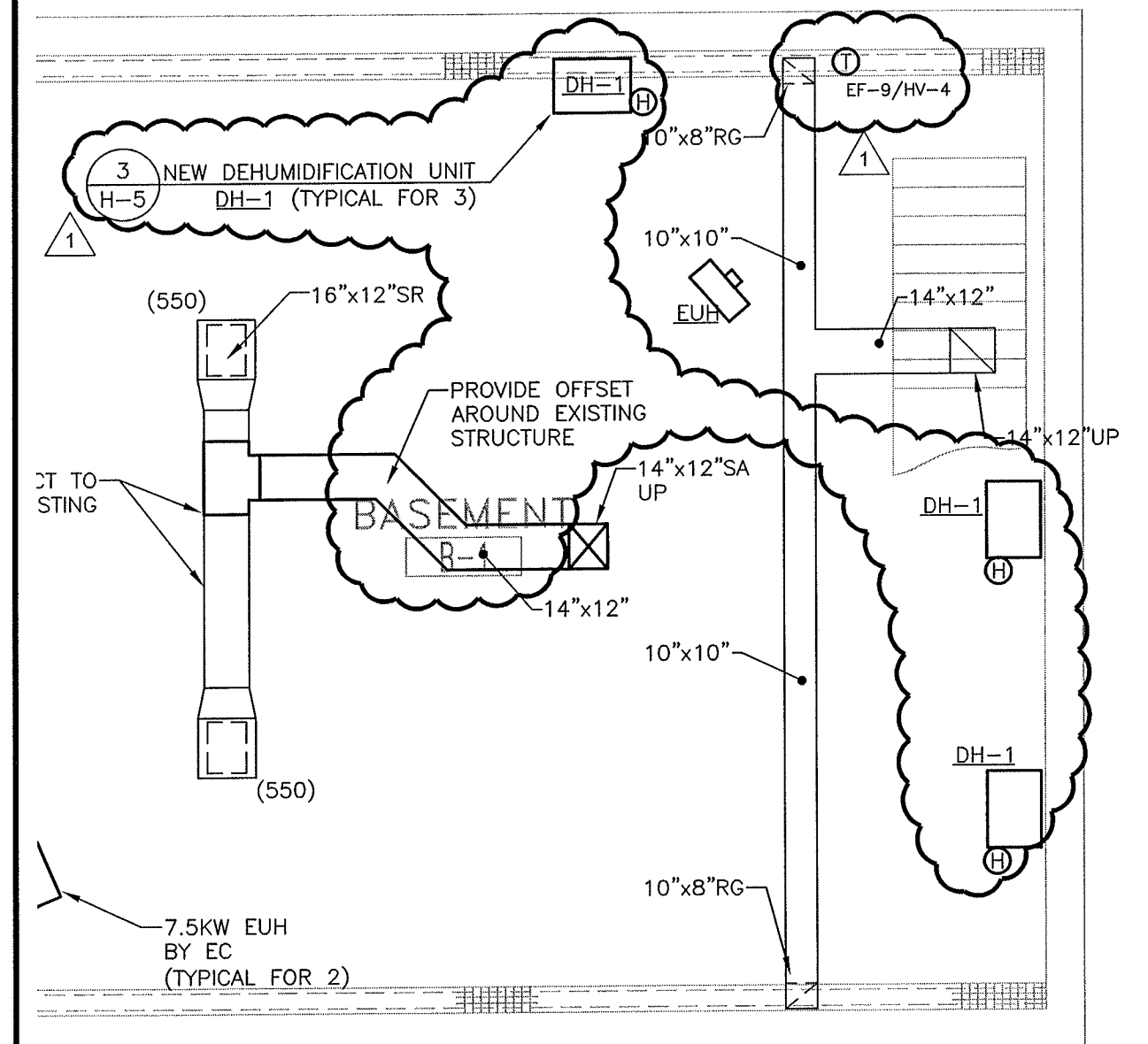
DRAWING REFERENCE: H-LB.2



CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-PP.1

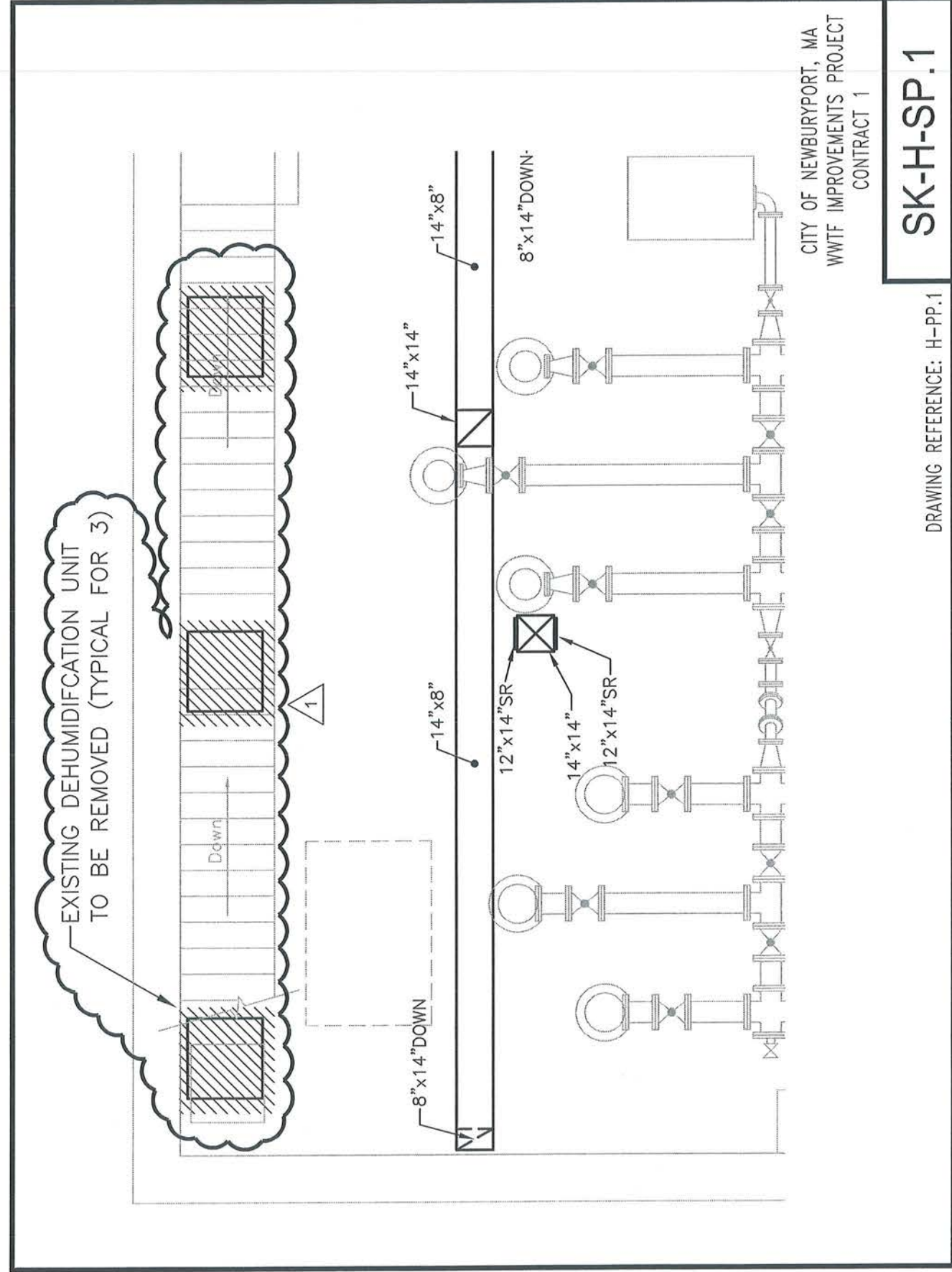
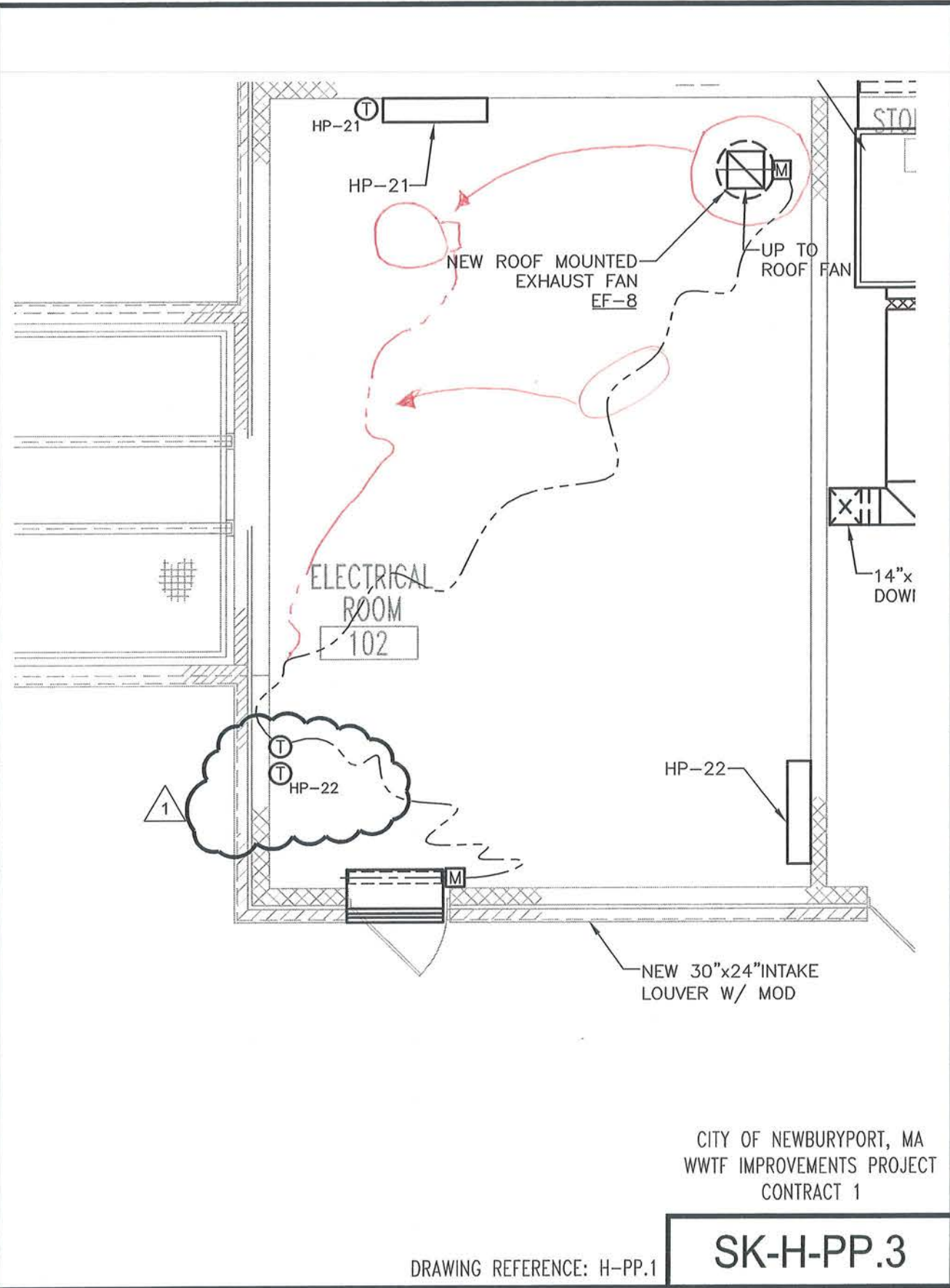
DRAWING REFERENCE: H-PP.1

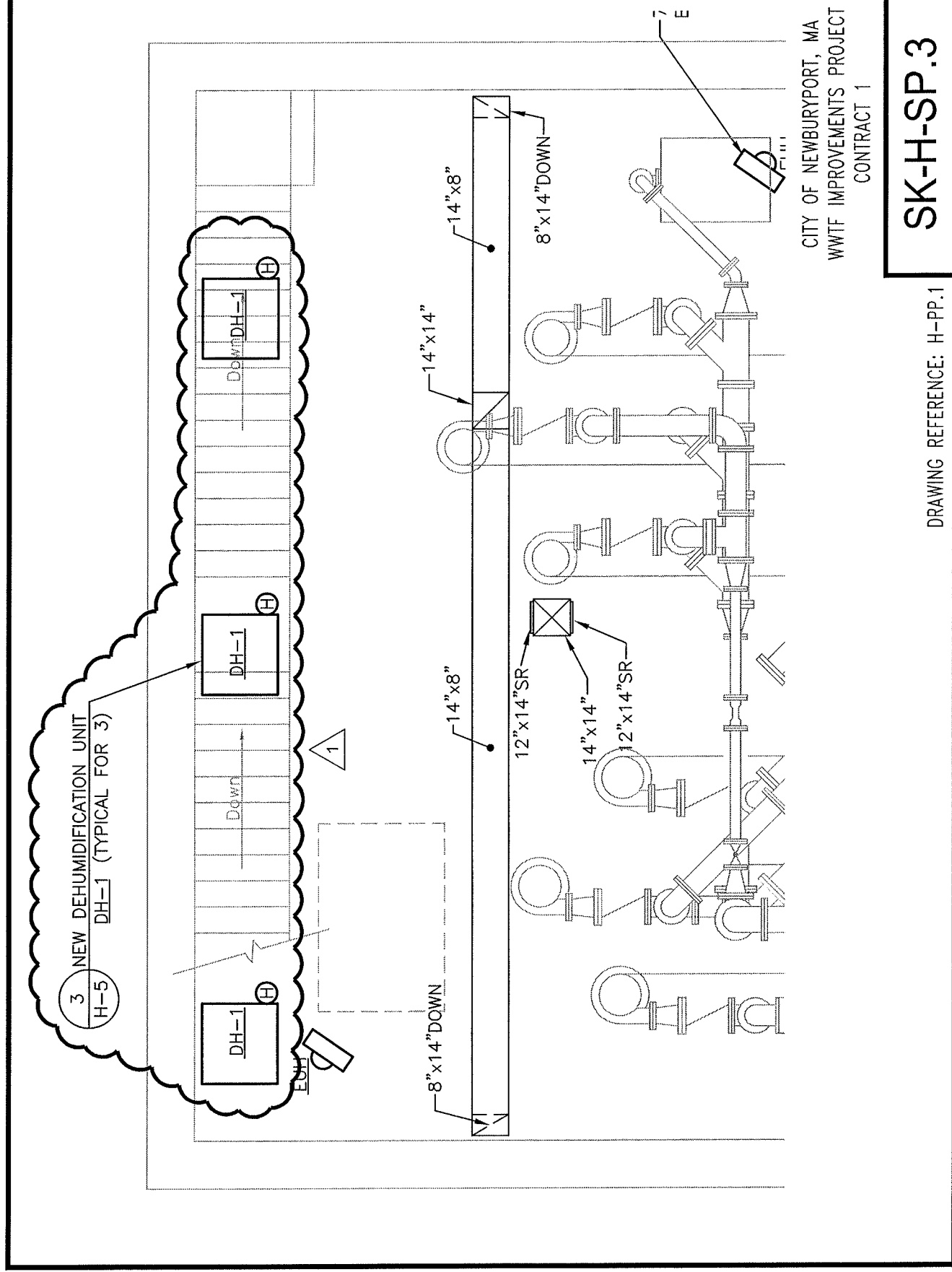
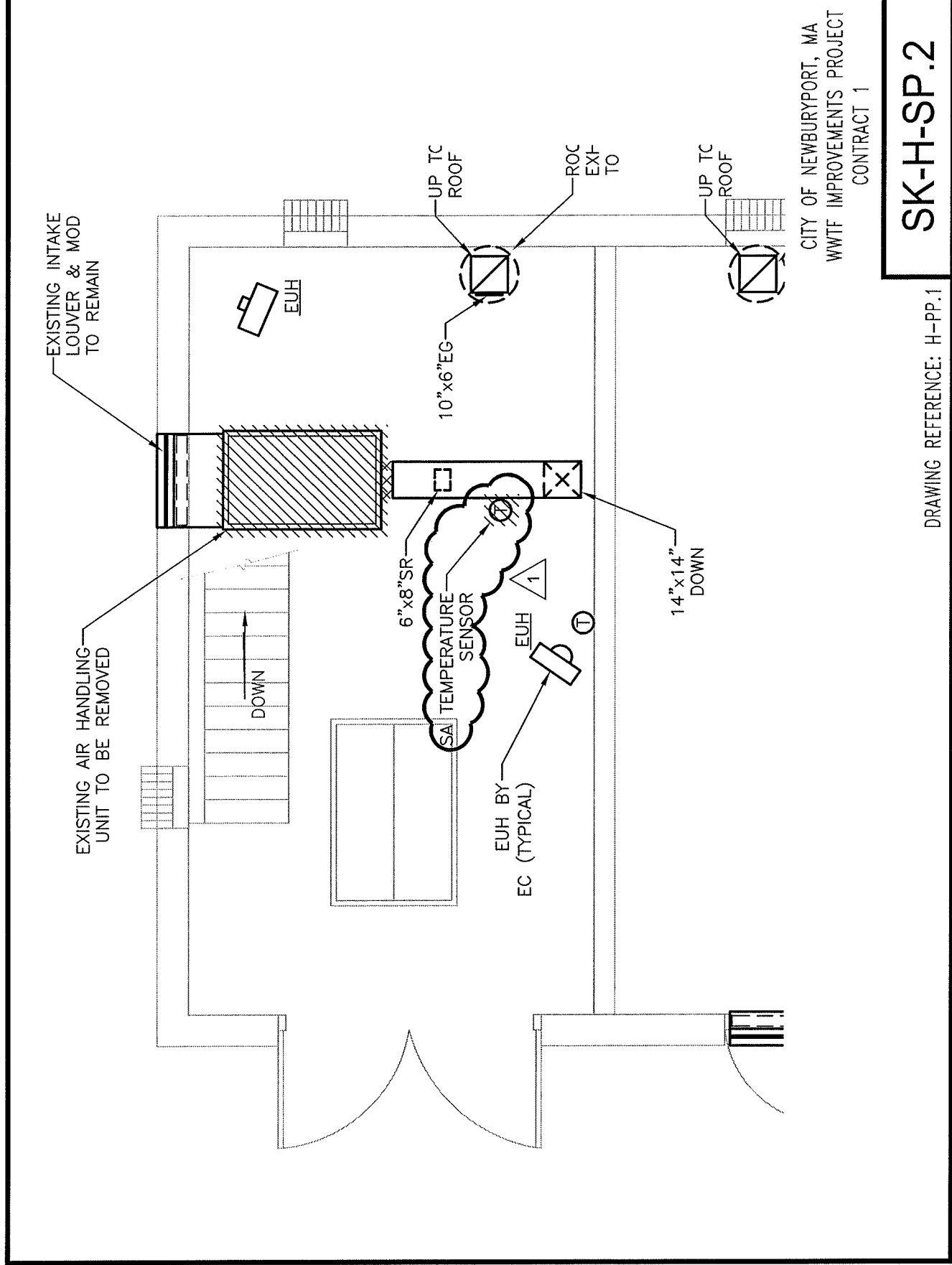


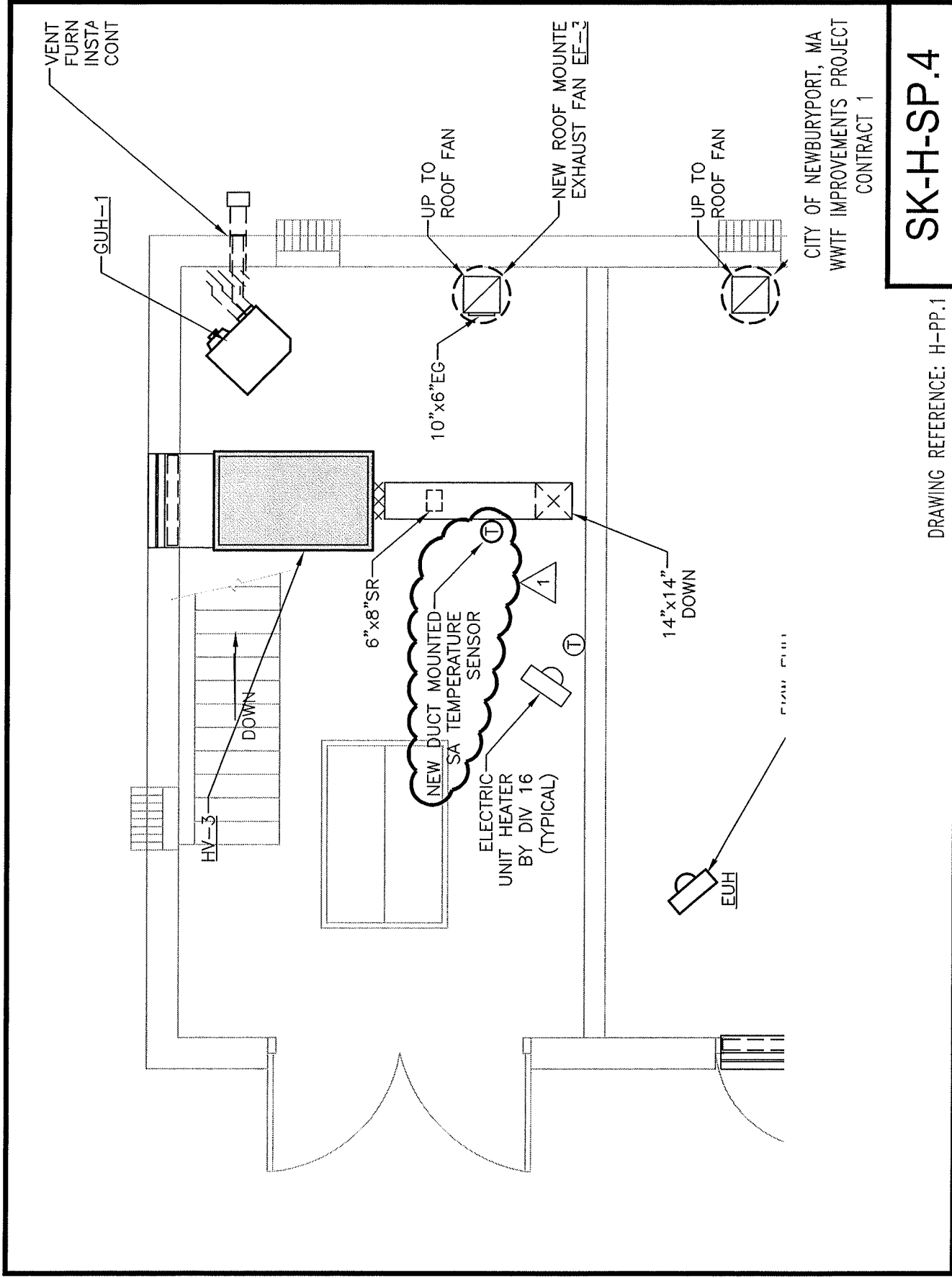
CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-H-PP.2

DRAWING REFERENCE: H-PP.1







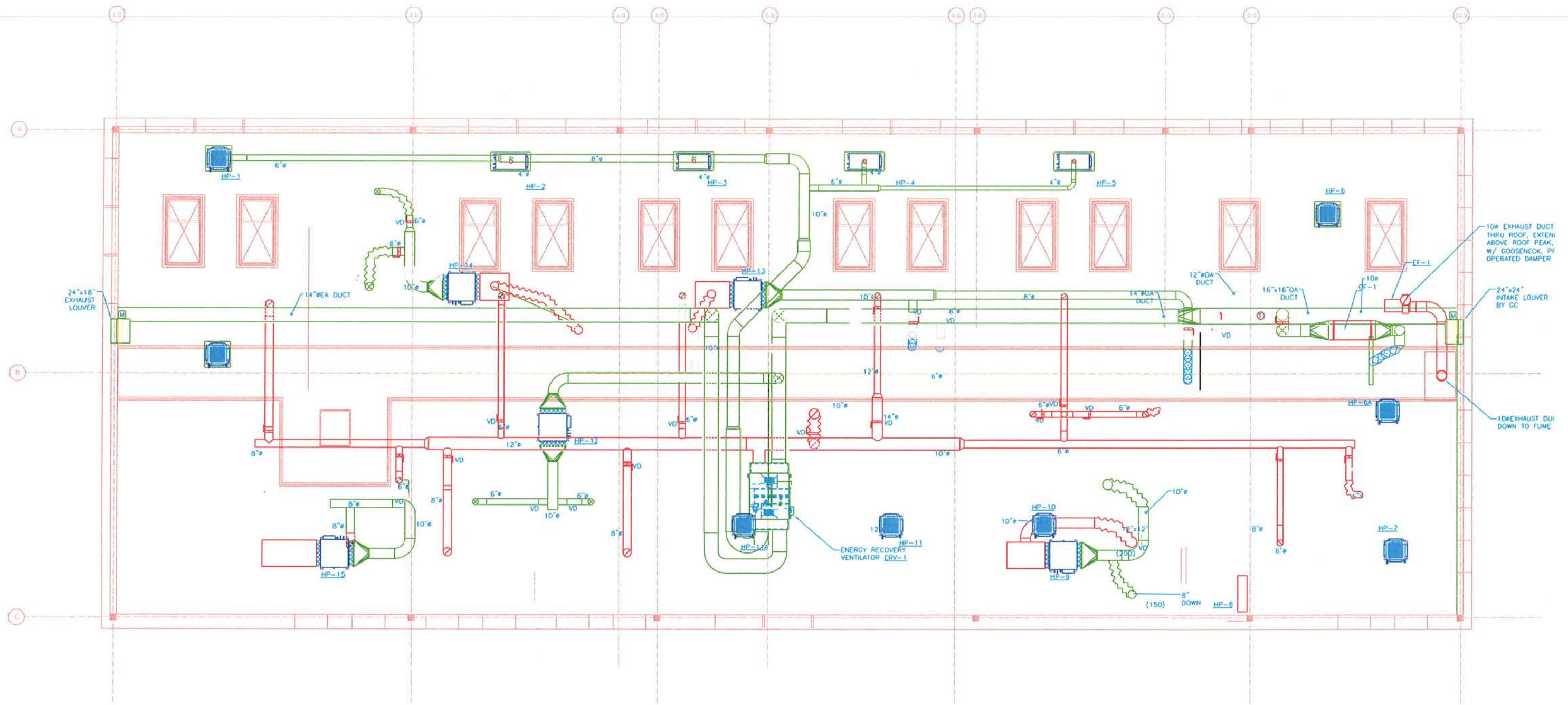
SECTION 2

AS-BUILT SKETCHES PROVIDED BY THE GENERAL CONTRACTOR & SUBCONTRACTOR



OCL BUILDING HVAC AS-BUILT

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

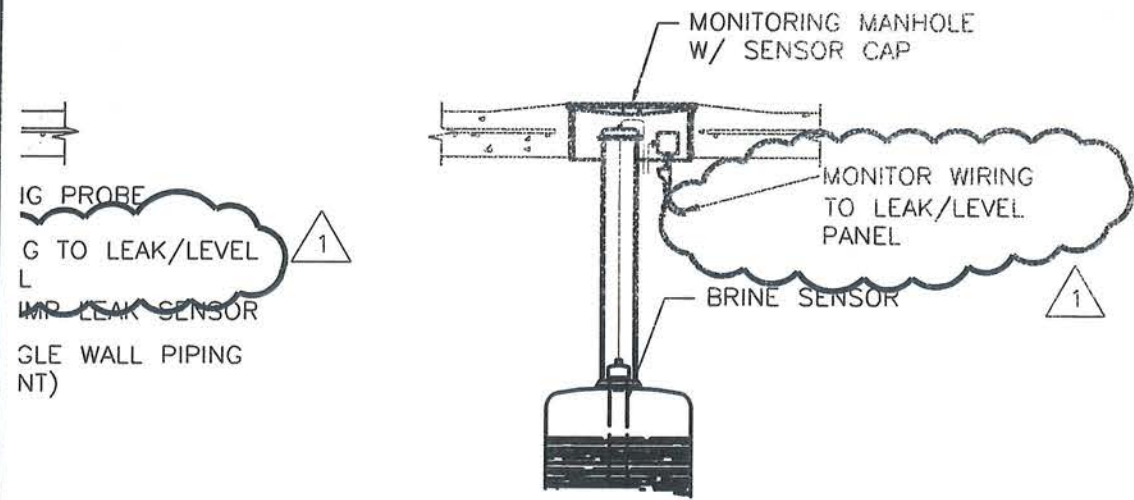


OCL BUILDING HVAC AS-BUILT
 SCALE: 1/8"=1'-0"

APPENDIX C – PLUMBING

SECTION 1

ADDENDA & POST DESIGN REVISION SKETCHES



2 HYDROSTATIC MONITORING SYSTE DETAIL
NOT TO SCALE

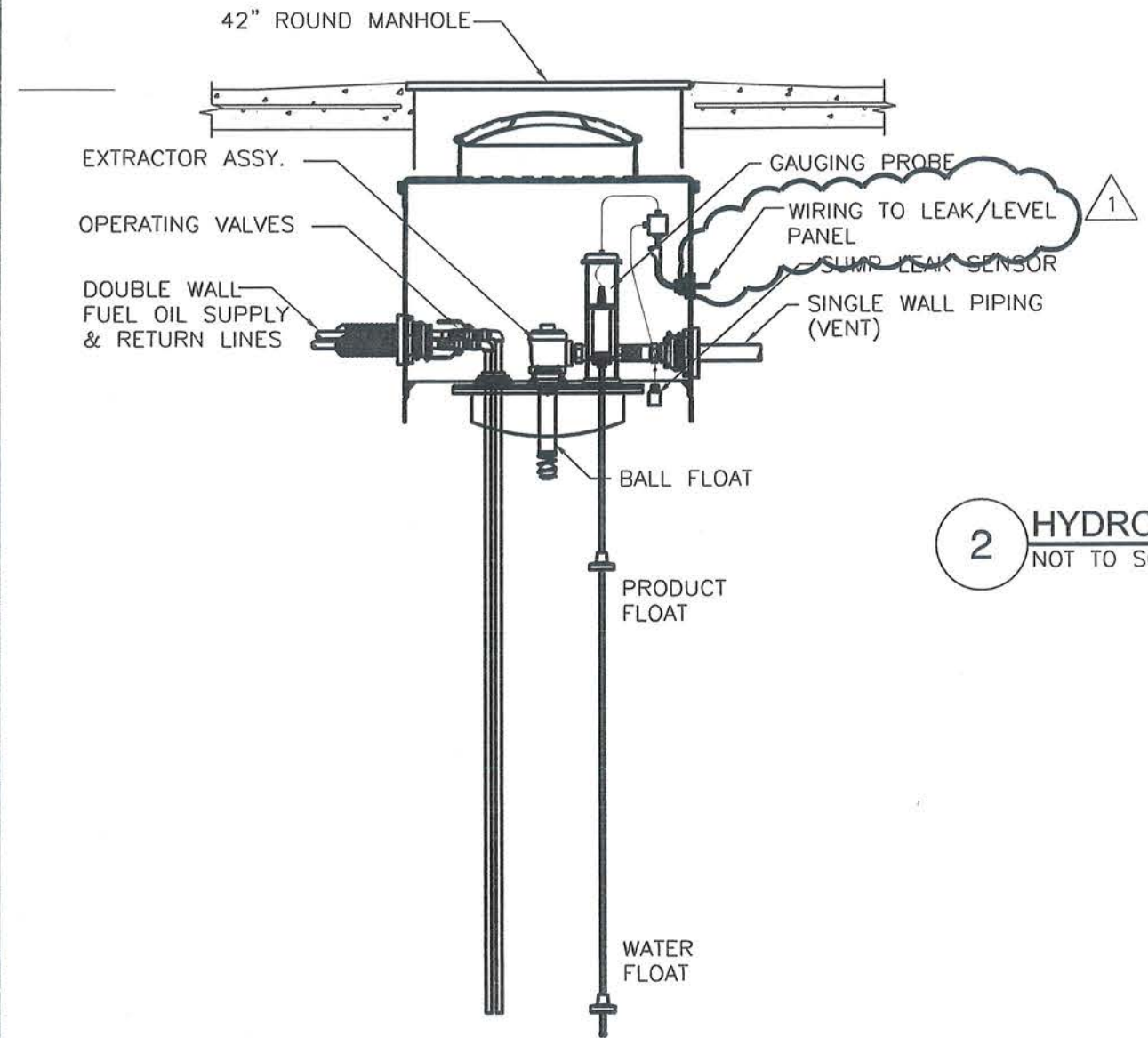
PUMP
HAND
W/
MOUNTING
(TYPIC

DRAWING P-A HAS BEEN REVISED
AND IS INCLUDED IN VOLUME I

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

DRAWING REFERENCE: P-4

SK-P-1



3 FUEL OIL TANK PIPING SUMP DETAIL
NOT TO SCALE

2 HYDROS
NOT TO SCAL

P:\2009\0905100\Drawings\0905100 P4.dwg

DRAWING P-A HAS BEEN REVISED
AND IS INCLUDED IN VOLUME I

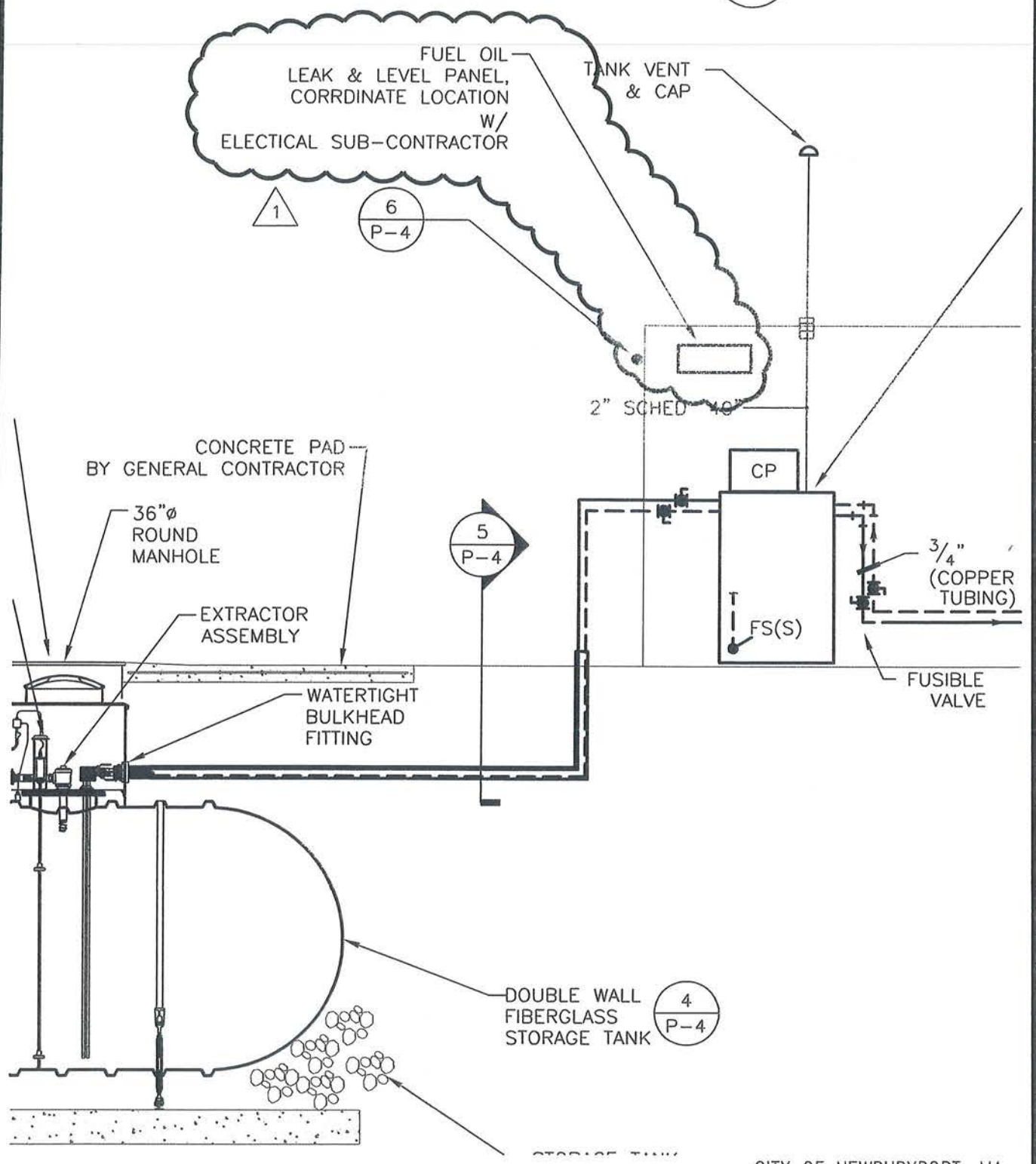
CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

DRAWING REFERENCE: P-4

SK-P-2

P:\2 905100\Drawings\0905100 P4.dwg

1 **FUEL TANK DETAIL**
NOT TO SCALE

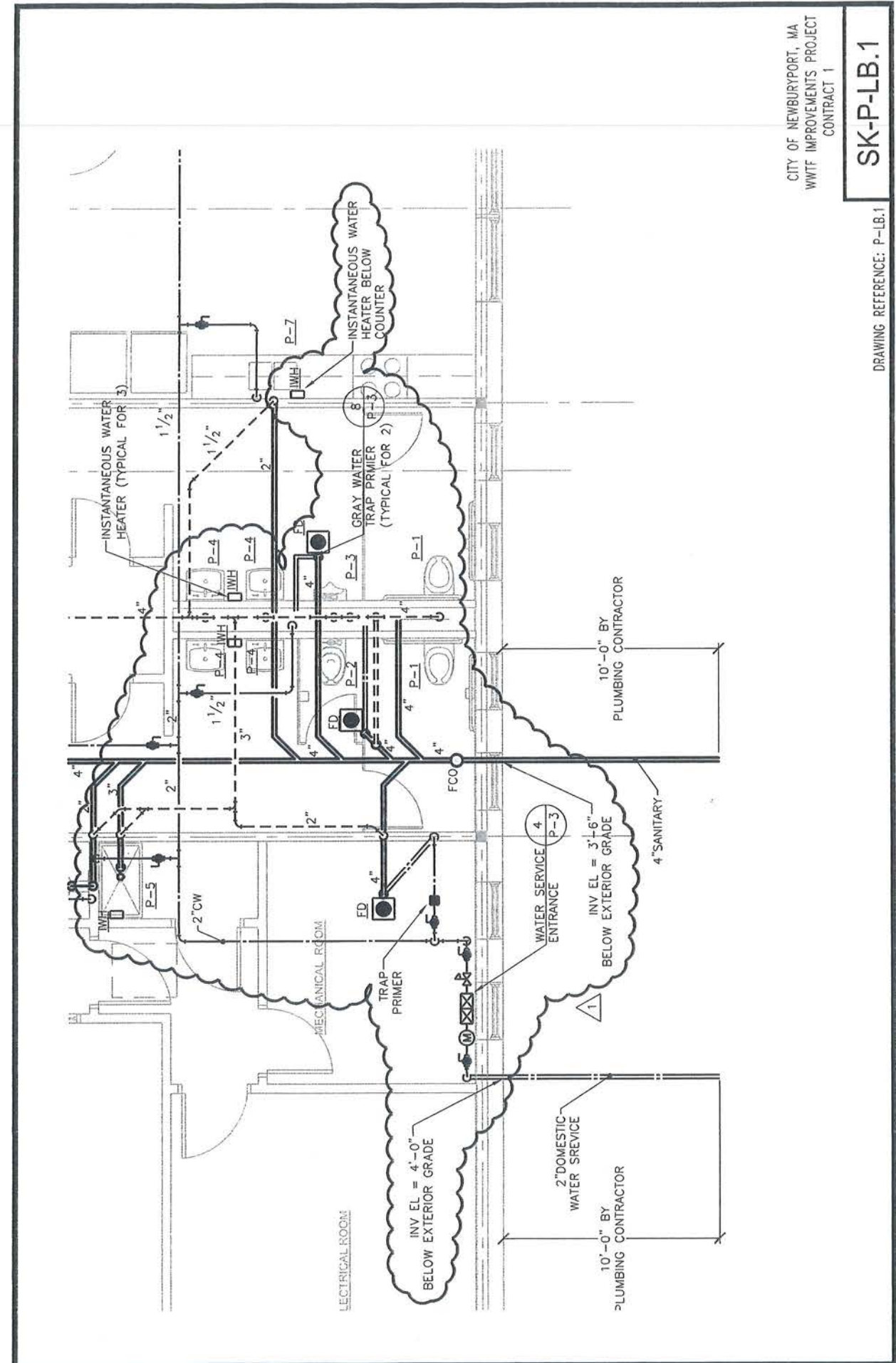


DRAWING P-4 HAS BEEN REVISED AND IS INCLUDED IN VOLUME I

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-P-3

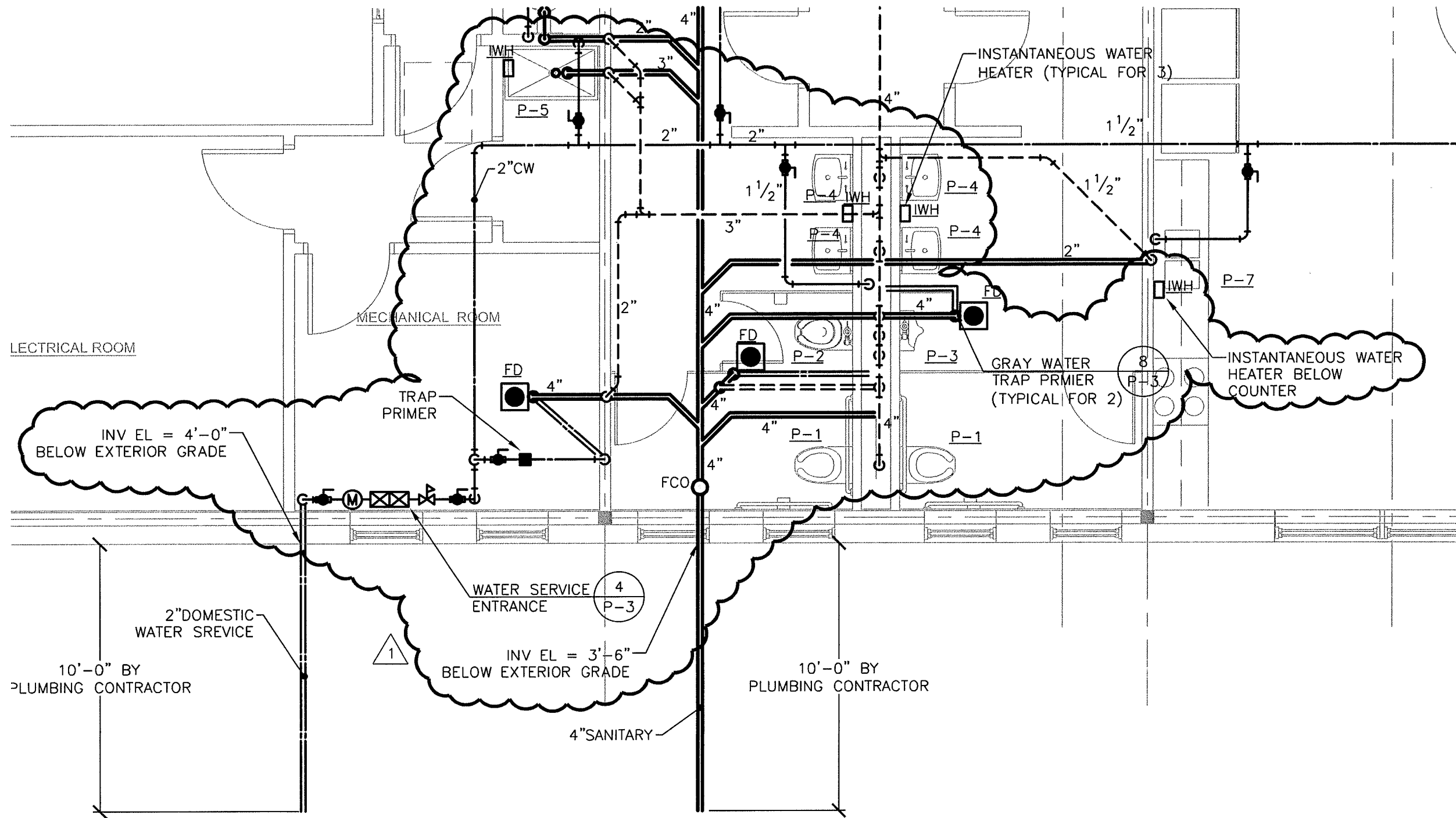
DRAWING REFERENCE: P-4



CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-P-LB.1

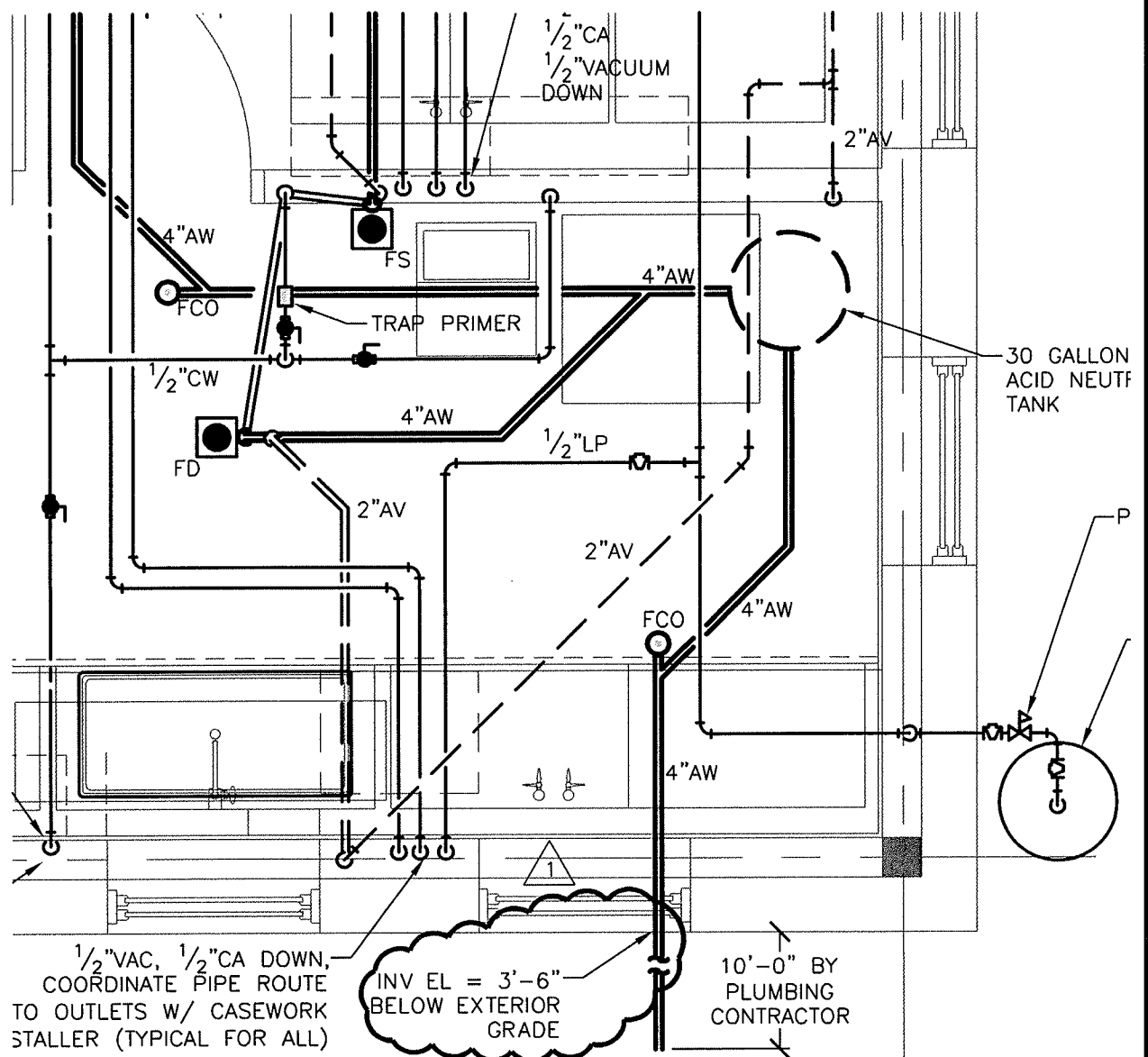
DRAWING REFERENCE: P-LB.1



CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-P-LB.1

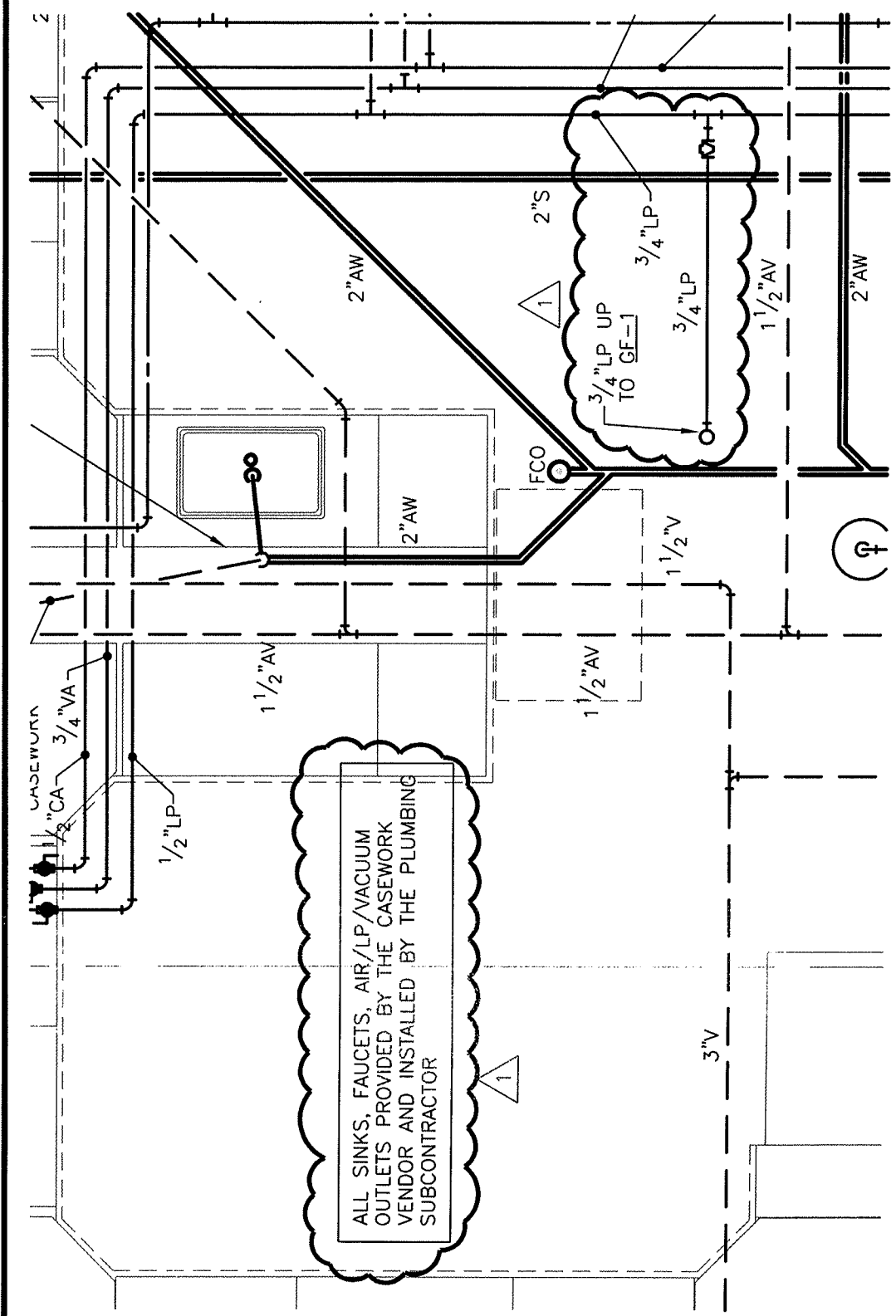
DRAWING REFERENCE: P-LB.1



CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-P-LB.2

DRAWING REFERENCE: P-LB.2



CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

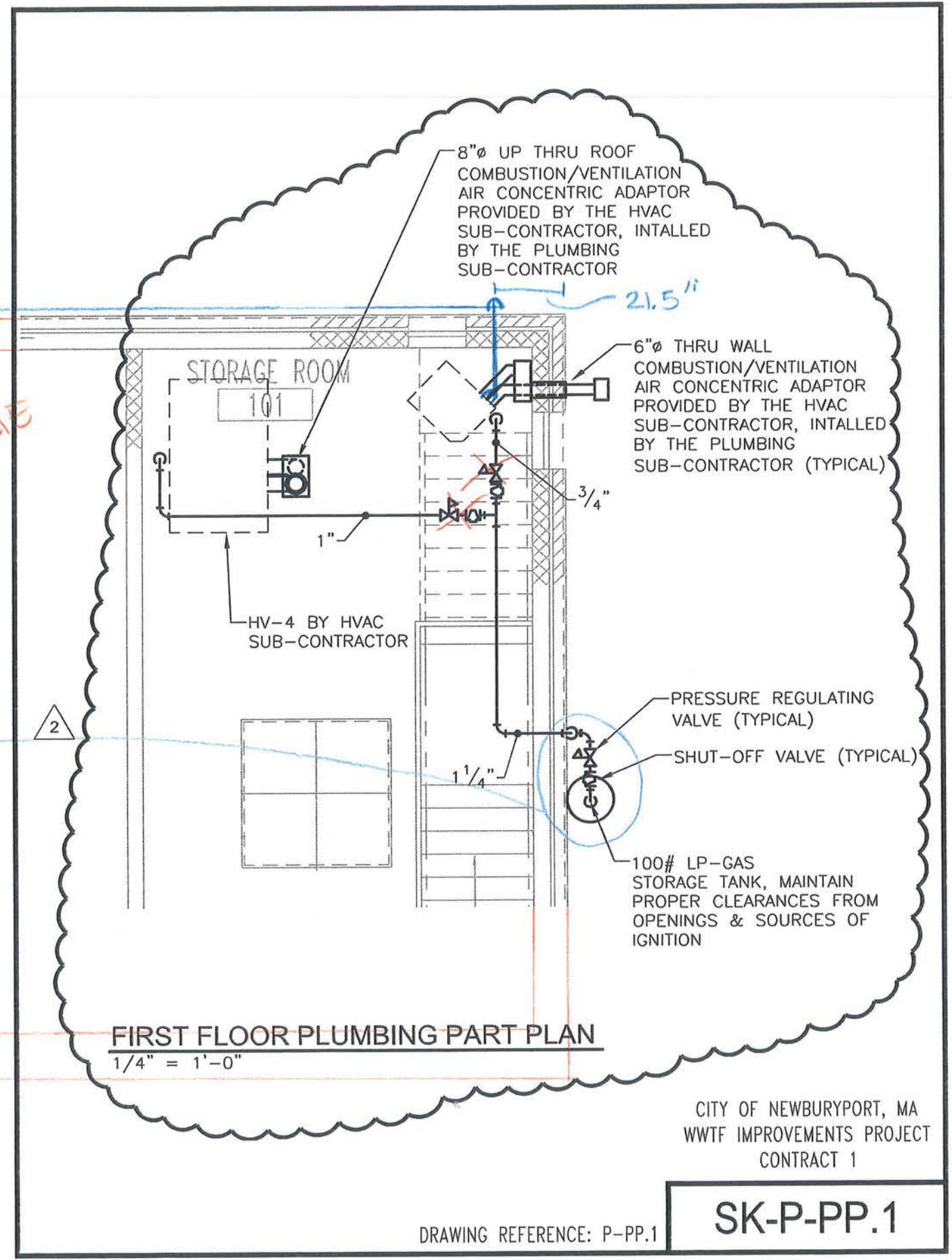
SK-P-LB.3

DRAWING REFERENCE: P-LB.2

PRESSURE REGULATOR
SHUT OFFS
& 3 120GAL LP GAS
TANKS

PRIMARY CLARIFIER
SPLITTER BOX

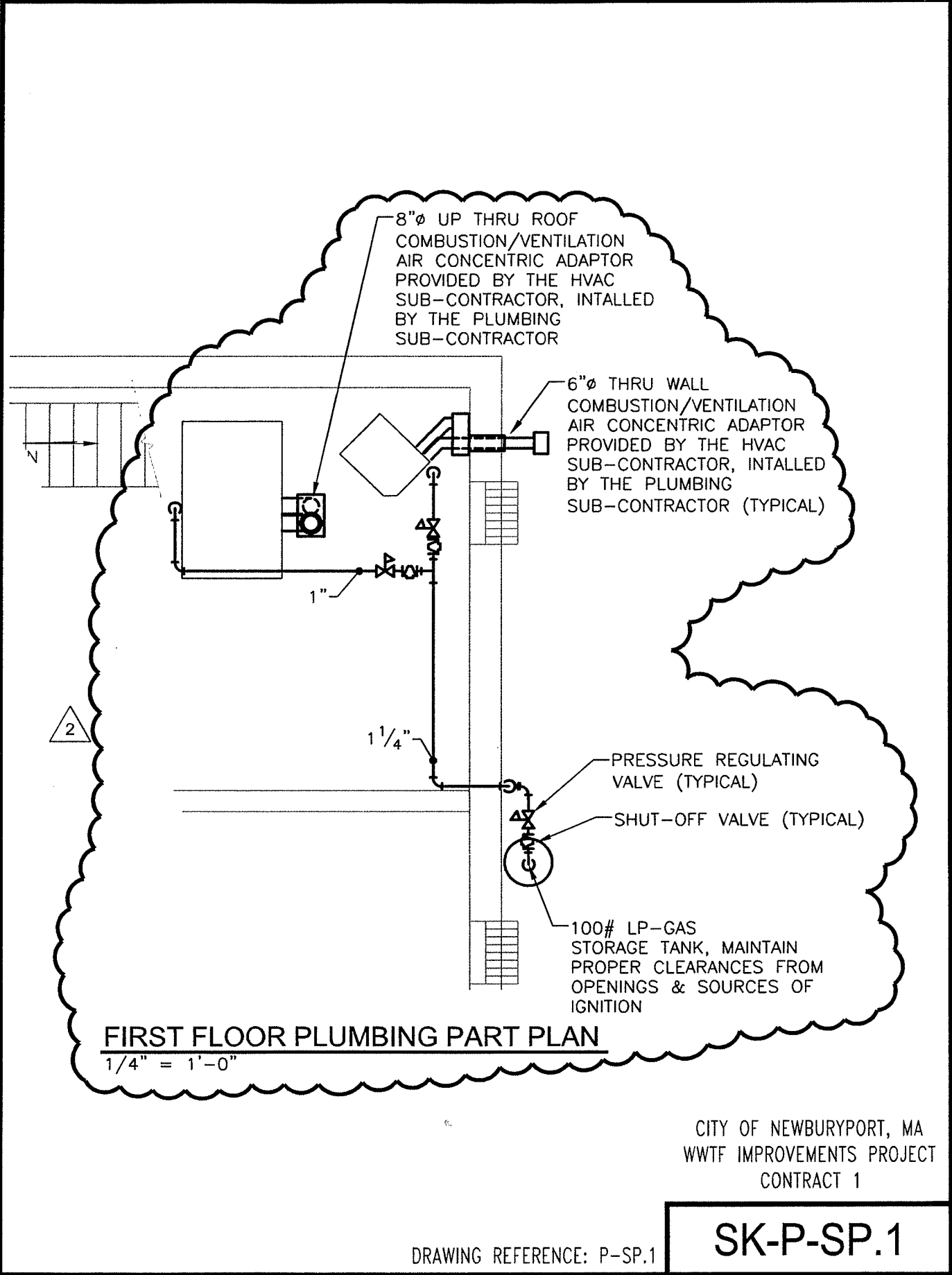
PRIMARY SLUDGE
PUMP STATION
ELECTRICAL
ROOM



CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-P-PP.1

DRAWING REFERENCE: P-PP.1



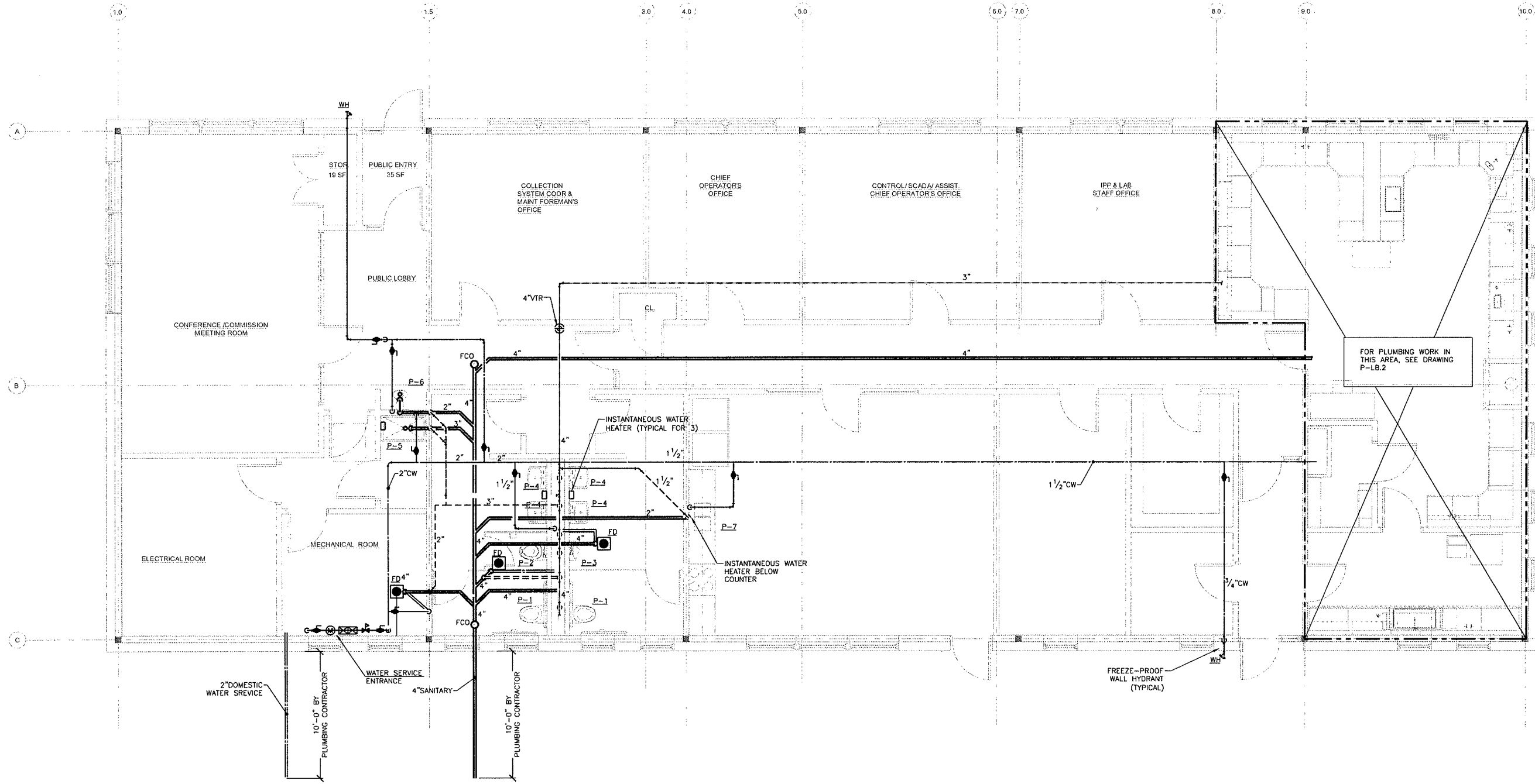
CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-P-SP.1

DRAWING REFERENCE: P-SP.1

SECTION 2

AS-BUILT SKETCHES PROVIDED BY THE GENERAL CONTRACTOR & SUBCONTRACTOR



FOR PLUMBING WORK IN THIS AREA, SEE DRAWING P-LB.2

SED ASSOCIATES CORP.
 Consulting MEP/FP and I&C Engineers
 This design, as an instrument of service, is the property of SED Associates Corp. and shall not be used for any other project or for the construction of any other project without the written consent of SED Associates Corp. This design is not to be construed as a contract and shall not be construed as a publication in derogation of the Engineer's professional liability insurance policy.
 © 2009 SED Associates Corp.

Weston & Sampson
 Five Centennial Drive, Peabody, MA 01960
 (978) 532-1800 (800) SAMPSON
 www.westonsampson.com

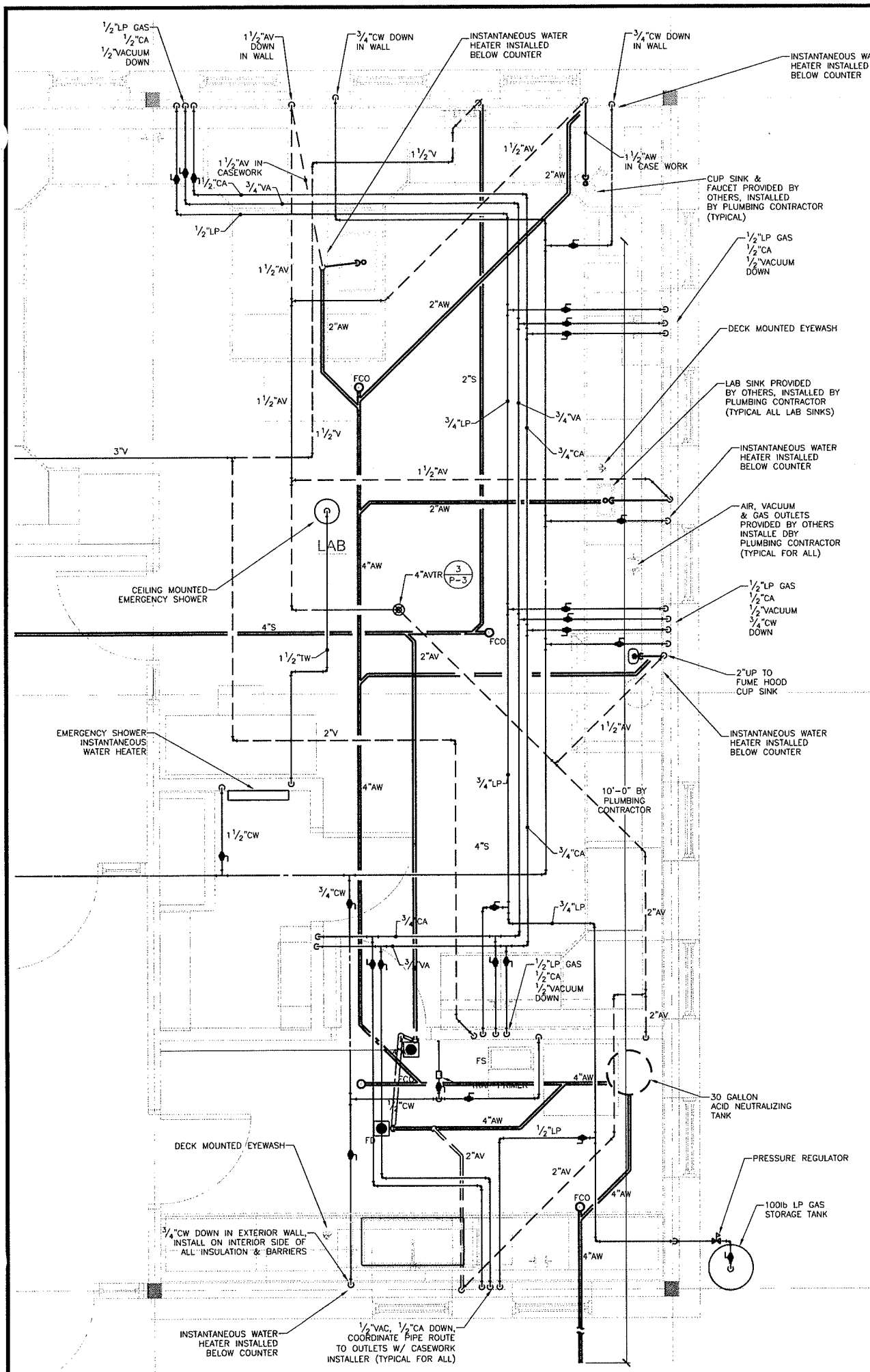
No.	Date	Dr. By	Ch. By	App. By	Description
A					
P					
R					
O					
V					
E					
D					

REGISTERED PROFESSIONAL ENGINEER _____ DATE _____

CITY OF NEWBURYPORT, MASSACHUSETTS
 DEPARTMENT OF PUBLIC SERVICES, SEWER DIVISION
 WASTEWATER TREATMENT FACILITY IMPROVEMENTS PROJECT
**OPERATIONS/CONTROL/LAB BUILDING
 PLUMBING PLAN**

FILE NO.	179-88	CADD NO.	090500FLB1	SCALE:	1/4" = 1'-0"	CONTRACT:	1	UJB NO.	09051.00	GI	DR BY	FRC	CHK BY	MRR	APP BY	I
----------	--------	----------	------------	--------	--------------	-----------	---	---------	----------	----	-------	-----	--------	-----	--------	---

P-LB.1
 SHEET 161 OF 248



SED ASSOCIATES CORP.
 Consulting MEP/FP and I&C Engineers
 1000 State Street, Suite 200
 Boston, MA 02118
 TEL: (617) 300-7245 FAX: (617) 300-0332
 This design, as an instrument of service, is the property of SED Associates Corp. and shall remain the property of SED Associates Corp. until the completion of this project by which time it shall be returned to SED Associates Corp. No part of this connection with this project shall not be construed as publication in derogation of the Engineer's © 2008 SED Associates Corp.

Weston & Sampson
 Five Centennial Drive, Peabody, MA 01960
 (978) 532-1900 (800) 5AMPSON
 www.westonandsampson.com

No.	Date	Dr. By	Chk. By	App. By	Description
		A	P	P	O
					V
					E
					D

REGISTERED PROFESSIONAL ENGINEER _____ DATE _____

CITY OF NEWBURYPORT, MASSACHUSETTS
 DEPARTMENT OF PUBLIC SERVICES, SEWER DIVISION
 WASTEWATER TREATMENT FACILITY IMPROVEMENTS PROJECT
**LABORATORY ENLARGED
 PLUMBING PLAN**

FILE NO. 179-87
 CADD NO. 0905100PLB2
 SCALE: 1/2" = 1'-0"
 JOB NO. 09051.00
 CONTRACT: 1
 DR. BY: GI
 DS. BY: FRC
 CHK. BY: MRR
 APP. BY: _____

APPENDIX D – INSTRUMENTATION & CONTROLS
ADDENDA & POST REVISION SKETCHES

I&C SYSTEM CONSTRUCTION PHASING NOTES

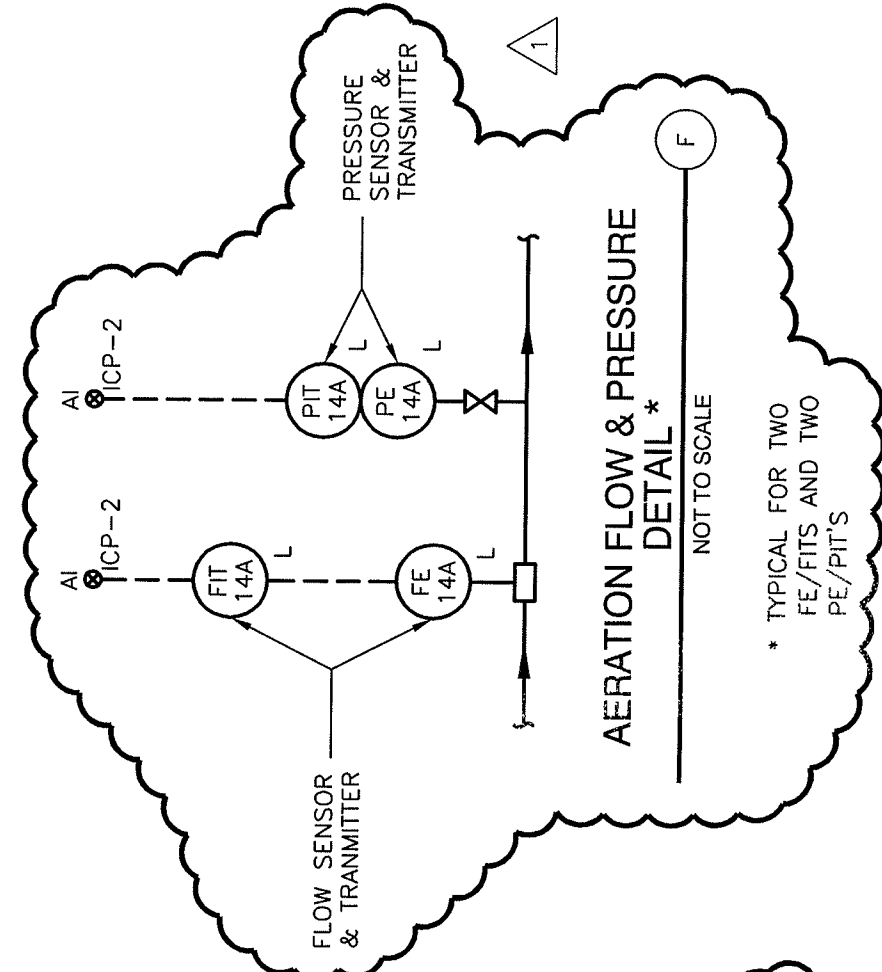
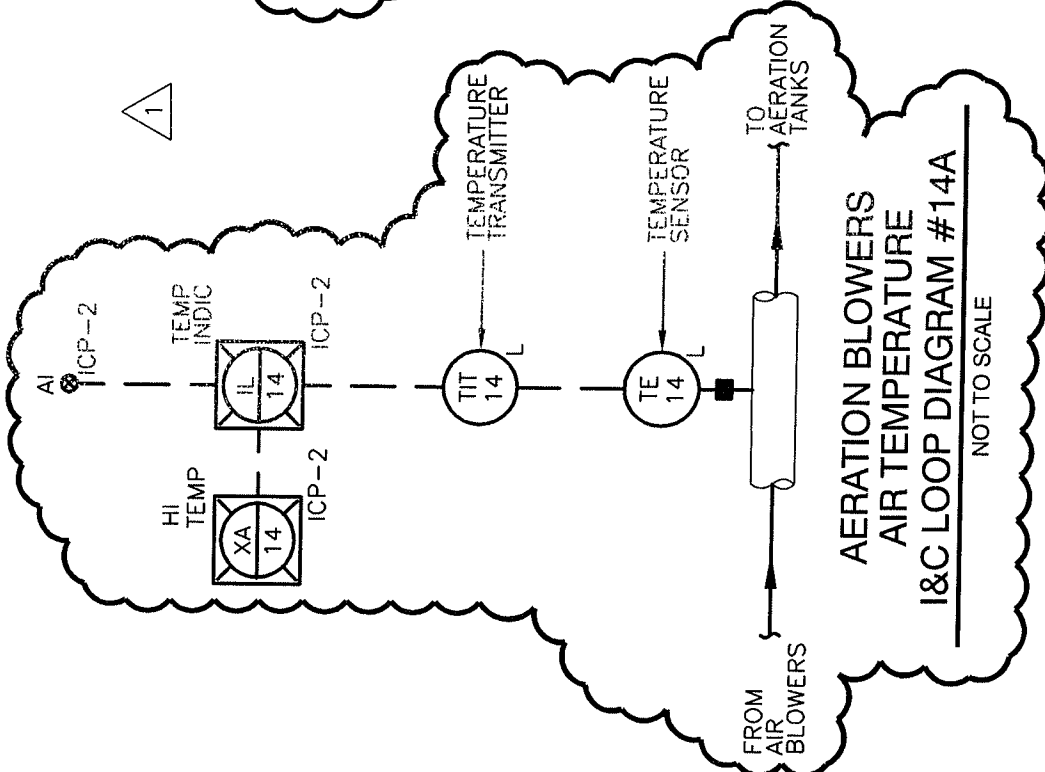
① THE I&C SYSTEM SHALL BE CONSTRUCTED IN TWO PHASES (IE, PHASES "I" & "II").

② ALL I&C IS PART OF PHASE "I" EXCEPT FOR THE PROCESS BUILDING, HEAD WORKS, AND INFLUENT PUMP STATION WHICH IS ASSOCIATED WITH "ICP-3" THAT IS INCLUDED IN PHASE "II".

CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-I-I-1

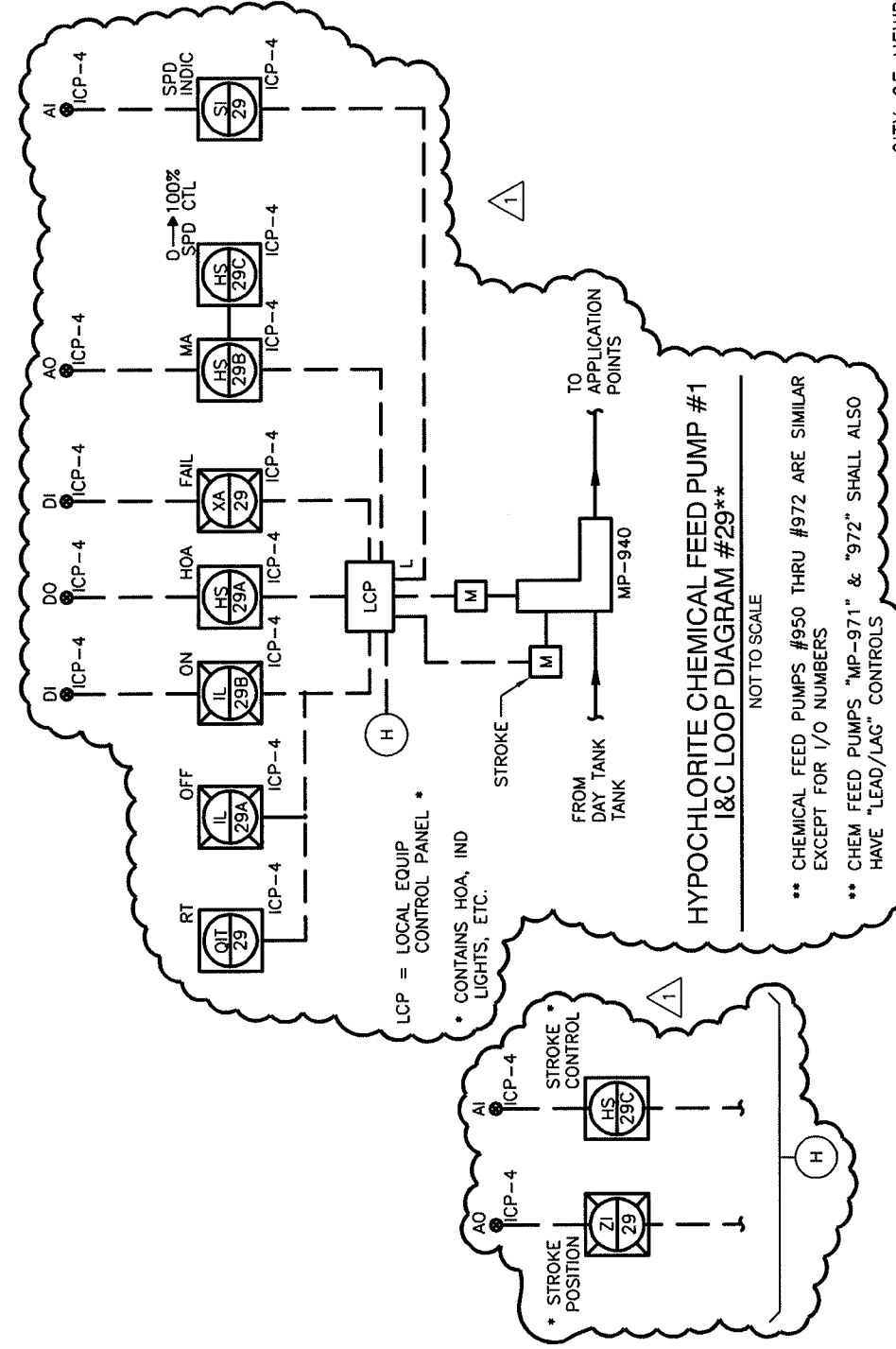
REFERENCE DRAWING: I-0



CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-I-LD.1

REFERENCE DRAWING: I-LD.1



**HYPOCHLORITE CHEMICAL FEED PUMP #1
I&C LOOP DIAGRAM #29****

NOT TO SCALE

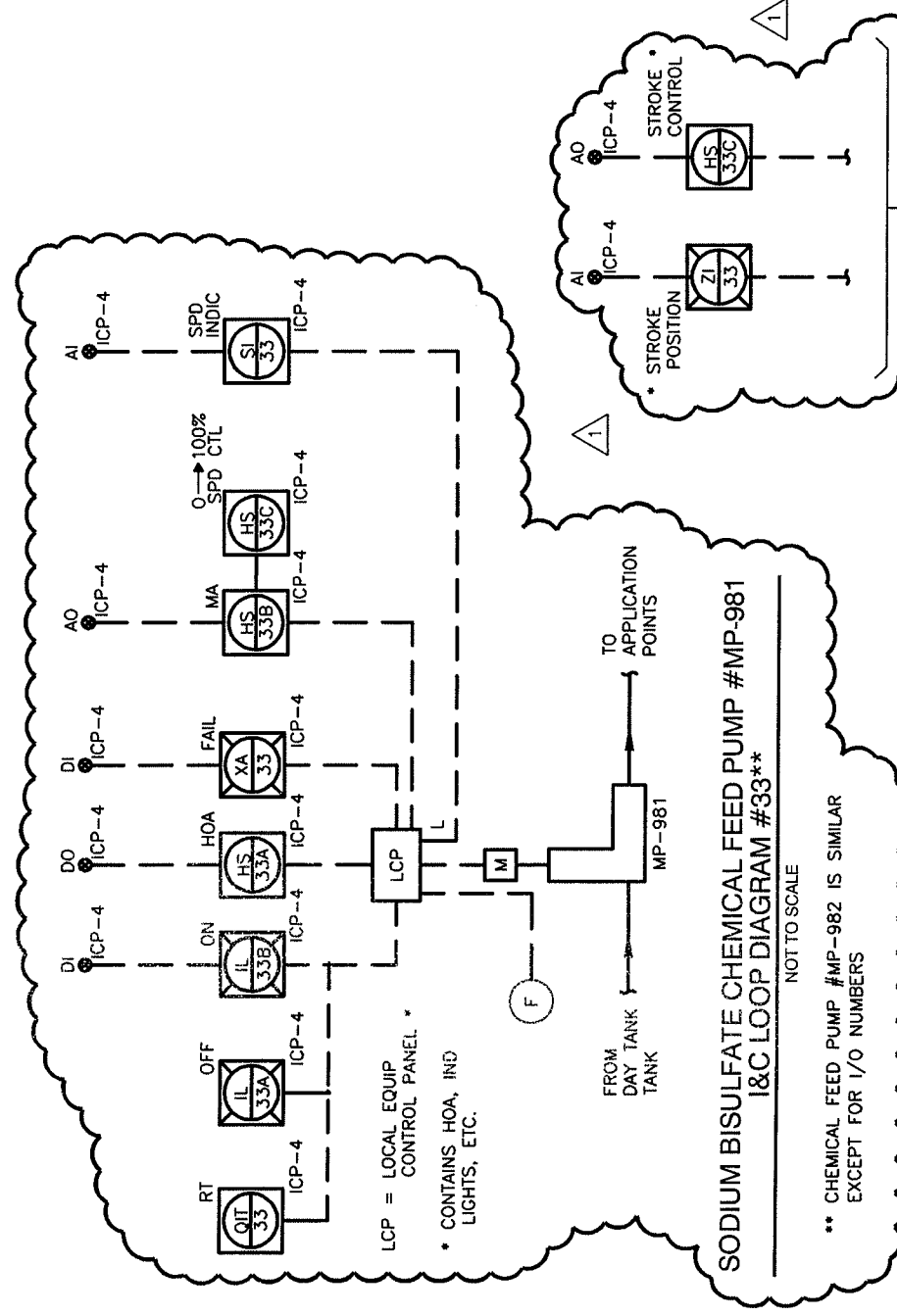
** CHEMICAL FEED PUMPS #950 THRU #972 ARE SIMILAR EXCEPT FOR I/O NUMBERS

** CHEM FEED PUMPS "MP-971" & "972" SHALL ALSO HAVE "LEAD/LAG" CONTROLS

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-I-LD.2

REFERENCE DRAWING: I-LD.2



**SODIUM BISULFATE CHEMICAL FEED PUMP #MP-981
I&C LOOP DIAGRAM #33****

NOT TO SCALE

** CHEMICAL FEED PUMP #MP-982 IS SIMILAR EXCEPT FOR I/O NUMBERS

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-I-LD.3

REFERENCE DRAWING: I-LD.3

APPENDIX E – ELECTRICAL

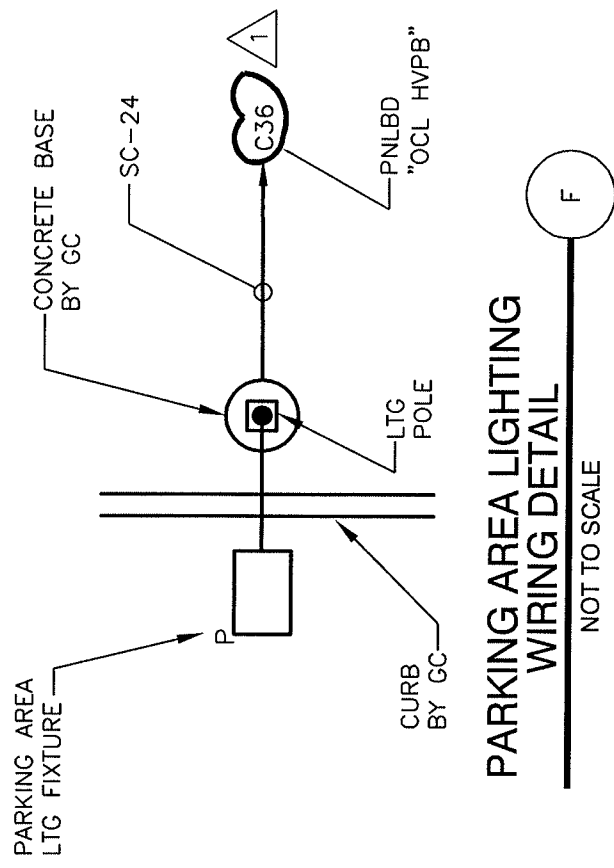
SECTION 1

ADDENDA & POST DESIGN REVISION SKETCHES

ELECTRICAL CONSTRUCTION PHASING NOTES

- ① THE CONTRACTOR MUST REFER TO THE OVERALL CONSTRUCTION PHASING SPECIFICATIONS FOR ADDITIONAL PHASING REQUIREMENTS.
- ② THE CONTRACTOR SHALL COMPLETE A FIELD SURVEY OF THE EXISTING ELECTRICAL SYSTEMS IN EACH BUILDING IN ORDER TO DEVELOP THE ELECTRICAL CONSTRUCTION PHASING.
- ③ THE CONTRACTOR AS SOON AS POSSIBLE MUST CONTACT THE POWER AND TELEPHONE UTILITY COMPANIES IN ORDER TO REVISE/REPLACE THE EXISTING POWER AND TELEPHONE UTILITIES WITH THE MINIMUM DISRUPTION OF SERVICES.
- ④ IN GENERAL THE NEW ELECTRIC SERVICES MUST BE CONSTRUCTED WHILE THE EXISTING SERVICES REMAIN IN PLACE.
- ⑤ THE CONTRACTOR MUST ALSO DESIGN/BUILD THE TEMPORARY CONSTRUCTION POWER SYSTEM FOR THE TRAILERS, SITE POWER, SITE LIGHTING, ETC.
- ⑥ THE CONTRACTOR SHALL DEVELOP A COMPLETE WRITTEN CONSTRUCTION PHASING PLAN WHICH INDICATES WORK STEPS AND TIME SCHEDULE THAT MUST BE REVIEWED/APPROVED BY THE TOWN AND ENGINEER PRIOR TO ANY CONSTRUCTION WORK.

REFERENCE DRAWING: E-0



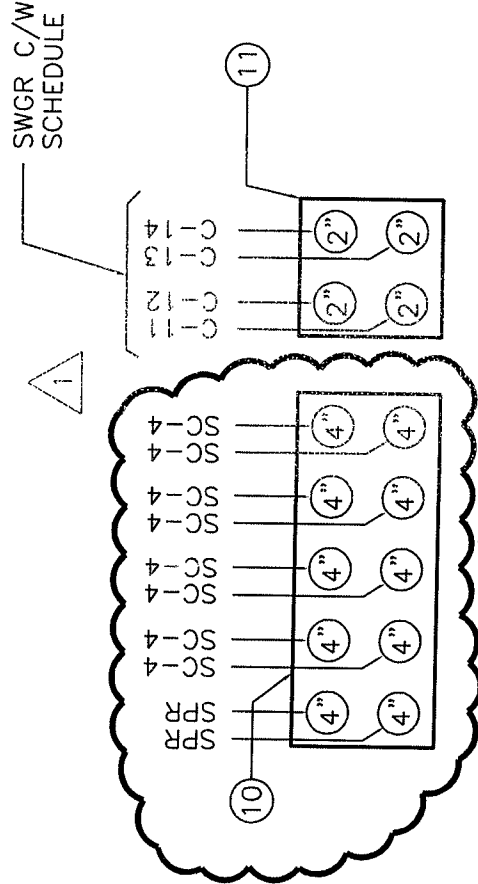
PARKING AREA LIGHTING WIRING DETAIL

NOT TO SCALE

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-1

REFERENCE DRAWING: E-1

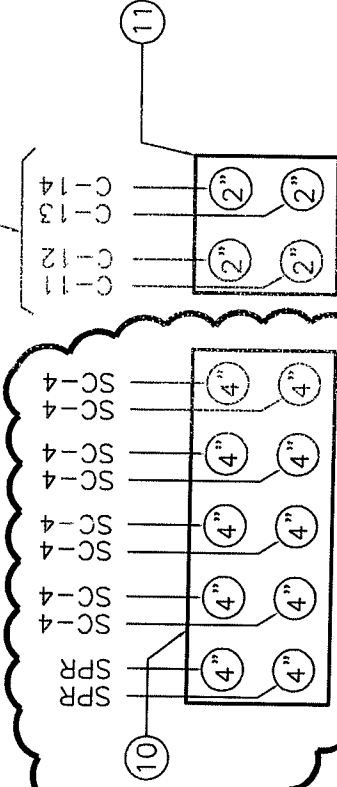


NEW

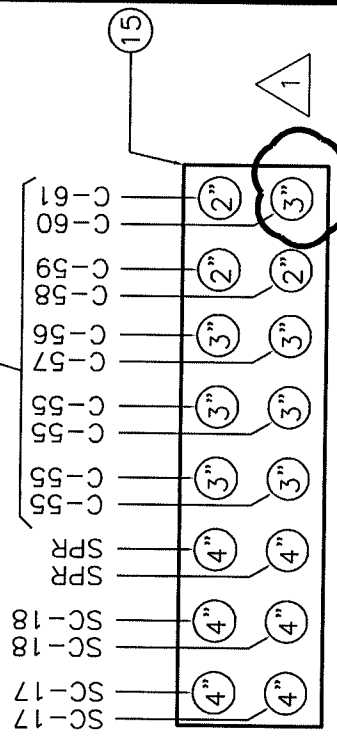
ELECTRICAL DUCTBANK SECTION

NOT TO SCALE

SWGR C/W SCHEDULE



PSLPS C/W SCHEDULE



ELECTRICAL DUCTBANK SECTION

NOT TO SCALE

ELECTRICAL DUCTBANKS GENERAL NOTES

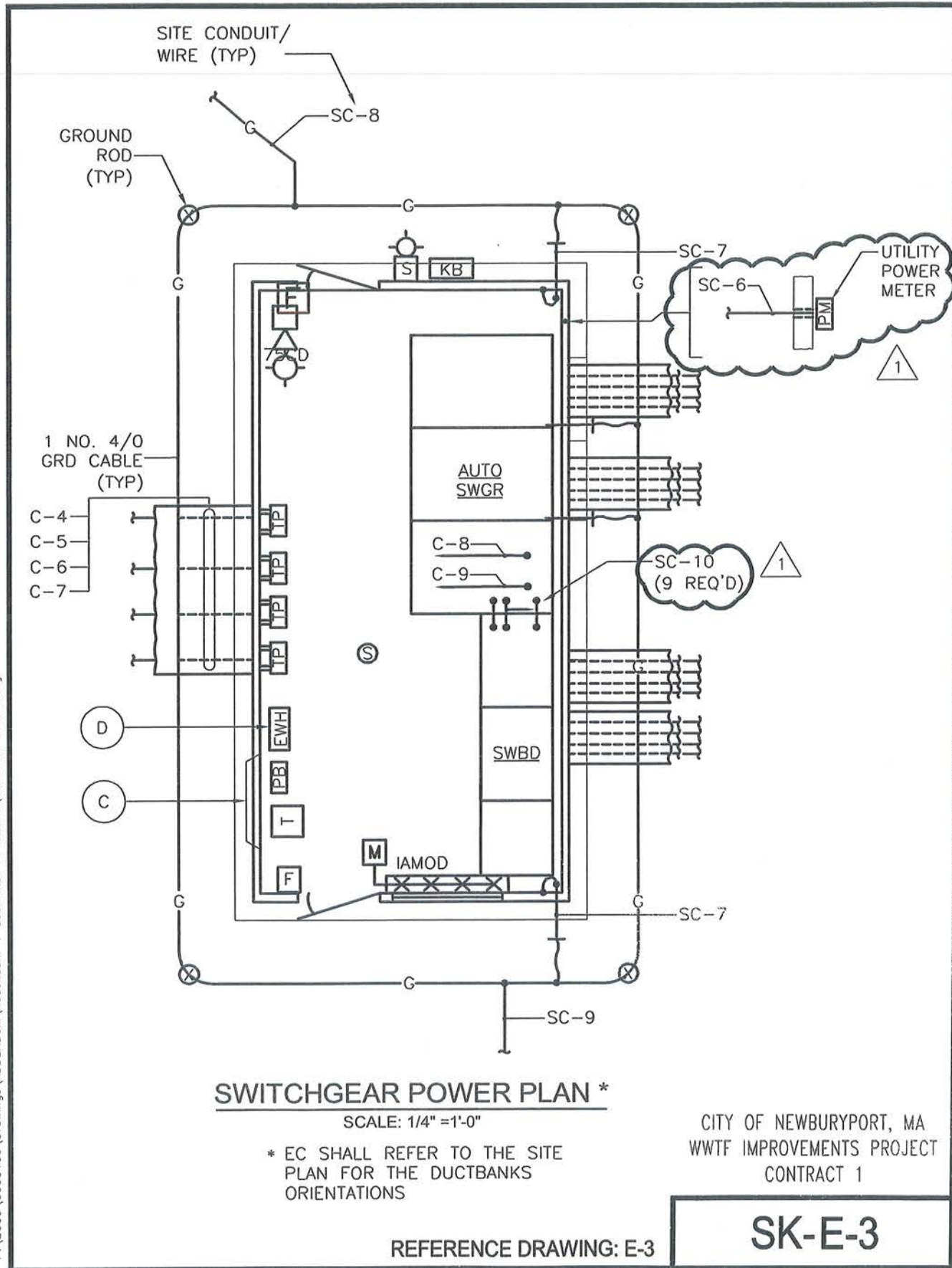
- ① ELECTRICAL CONTRACTOR SHALL FIELD SURVEY THE EXISTING DUCTBANKS AND ASSOCIATED WIRING IN ORDER TO SELECTIVELY DEMOLISH THE EXISTING CONDUCTORS AND INSTALL NEW CONDUCTORS AS INDICATED. NOTE, THE EXISTING DUCTBANK CONDUITS AND MANHOLES REMAIN "AS IS".
- ② EC'S WORK INCLUDES FURNISHING AND INSTALLING TEMPORARY OVERHEAD VIA WOODEN POLES POWER, CONTROLS, SIGNALS, ALARMS, ETC DURING THE PROJECT CONSTRUCTION IN ORDER TO KEEP THE WWTF OPERATIONAL.

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

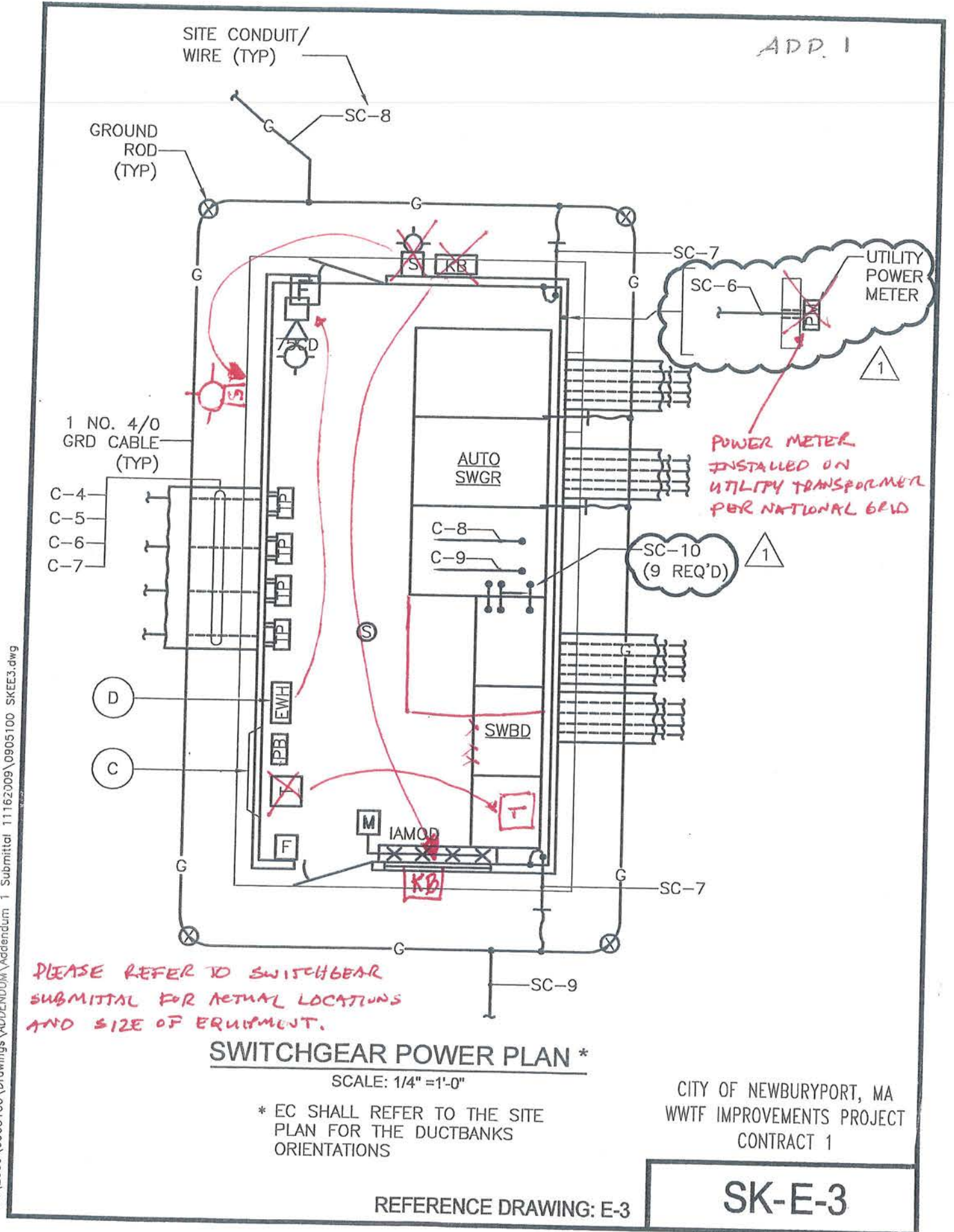
SK-E-2

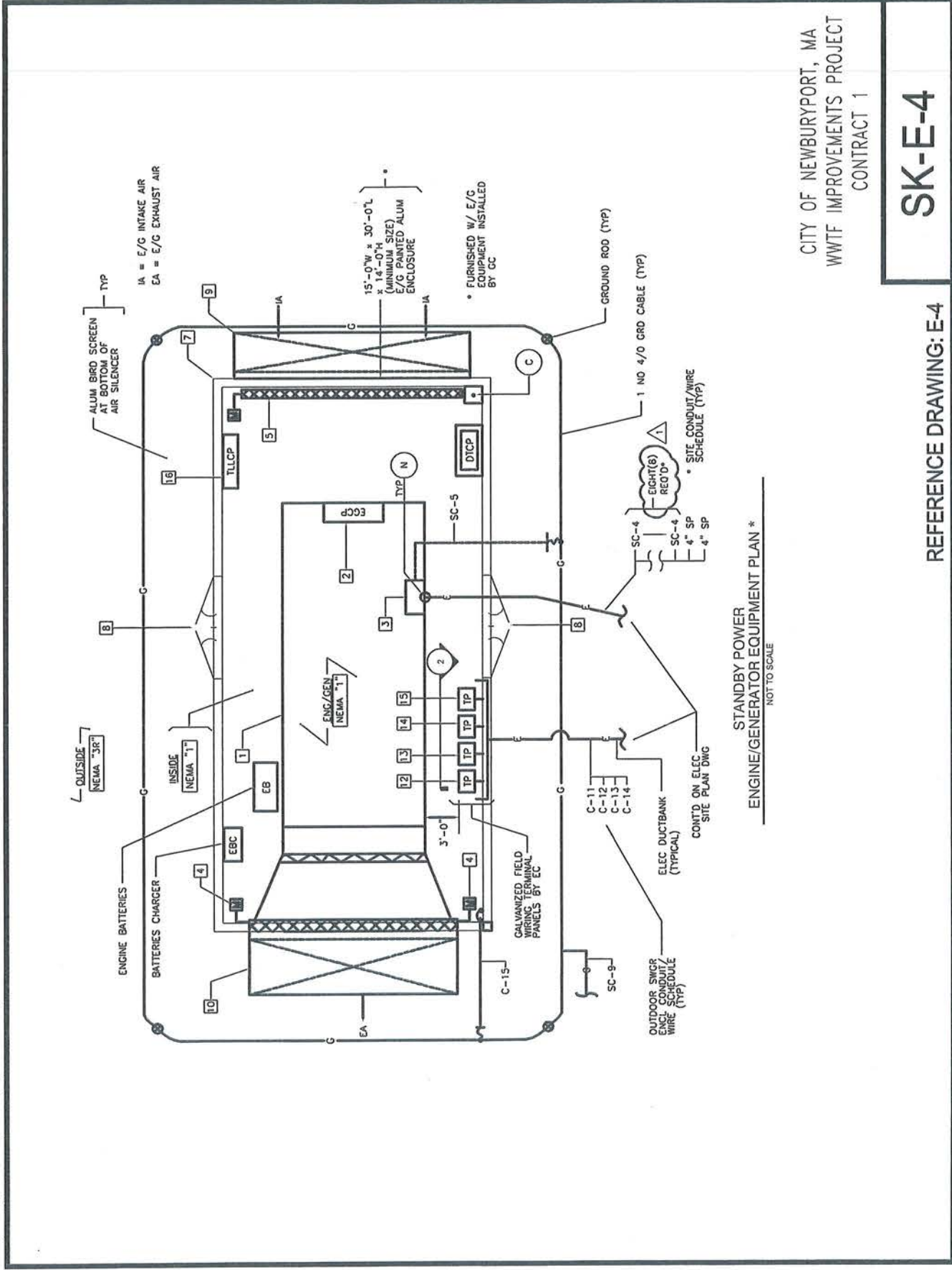
REFERENCE DRAWING: E-2

P:\2009\0905100\Drawings\ADDENDUM\Addendum 1 Submittal 11162009\0905100 SK-E-3.dwg

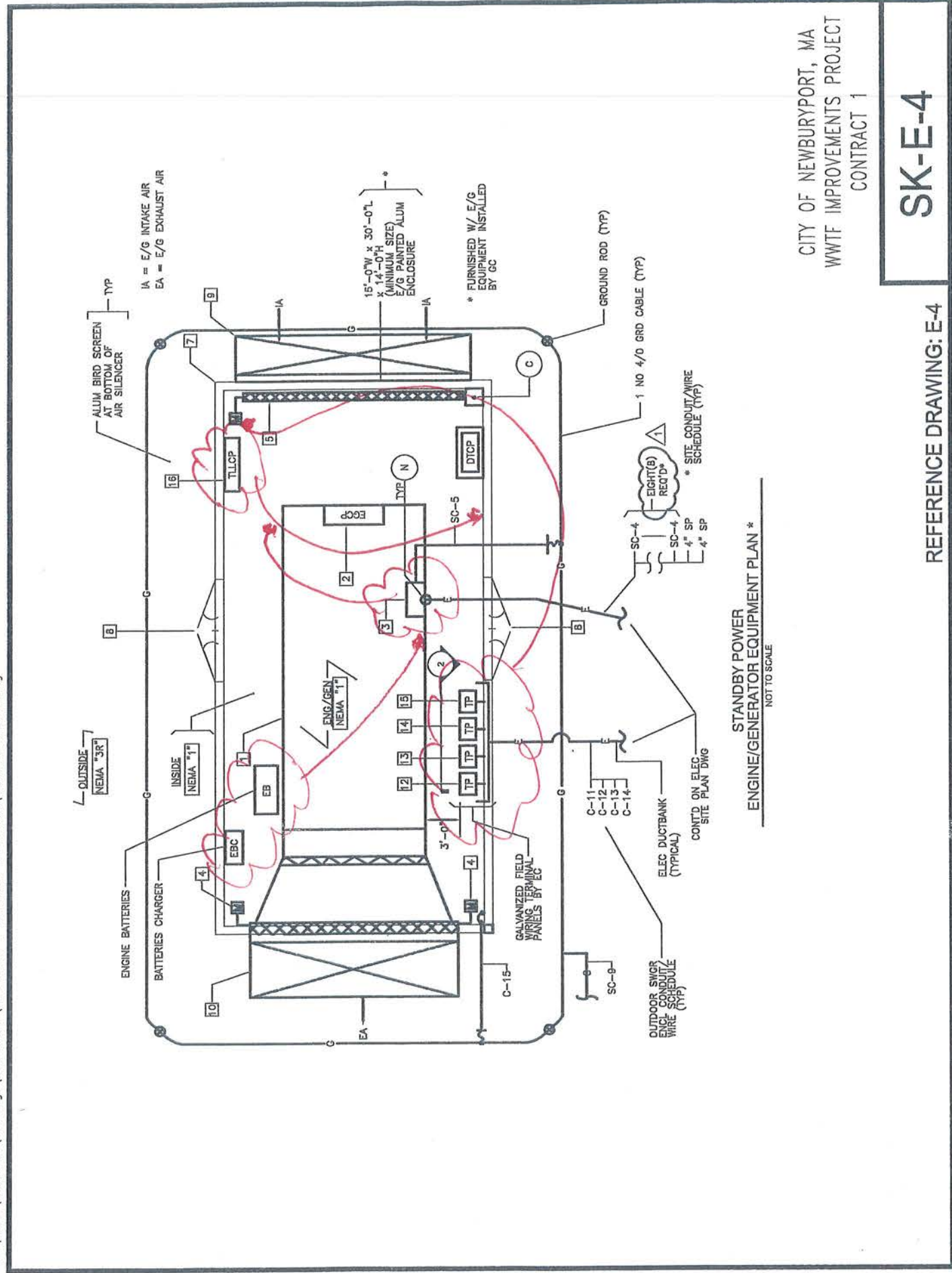


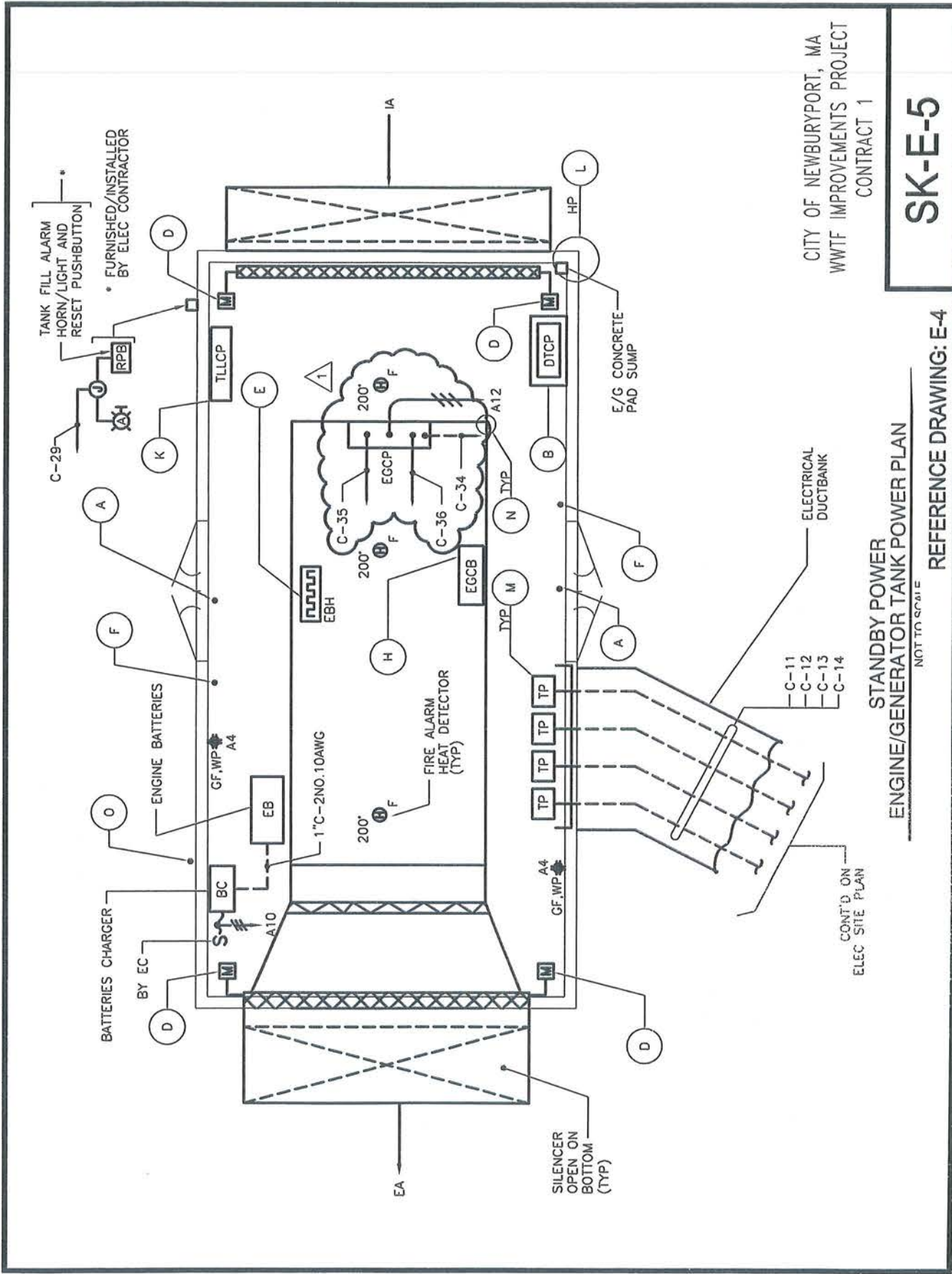
P:\2009\0905100\Drawings\ADDENDUM\Addendum 1 Submittal 11162009\0905100 SK-E-3.dwg



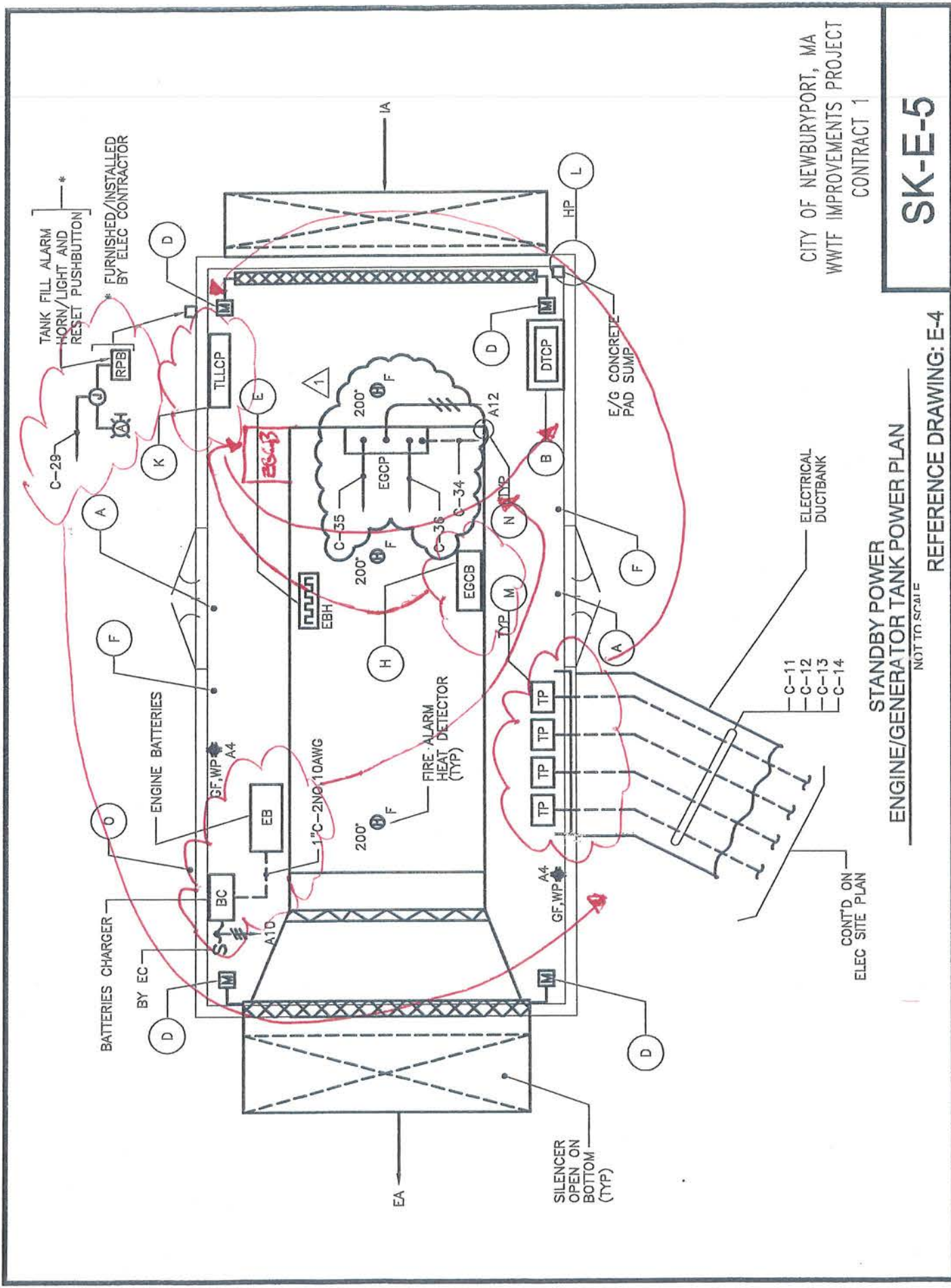


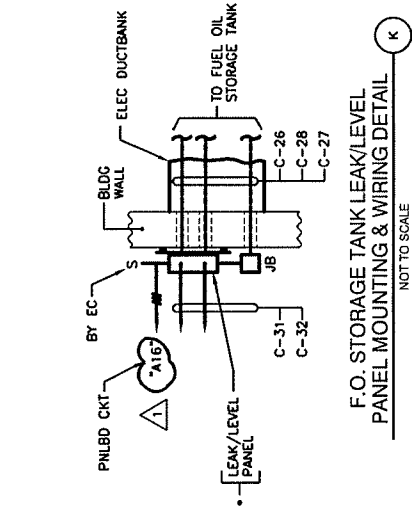
(ADD. 1)





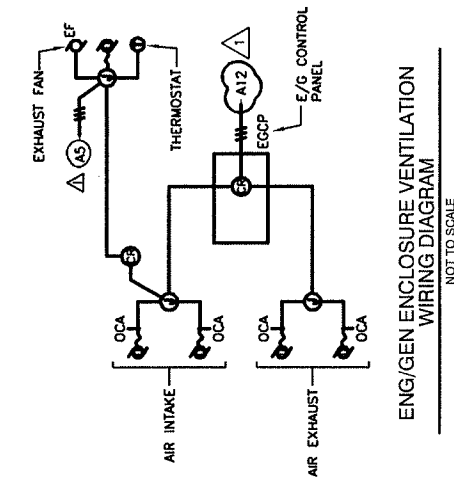
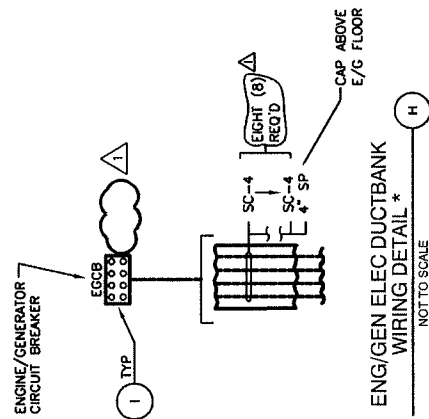
(ADD 1)



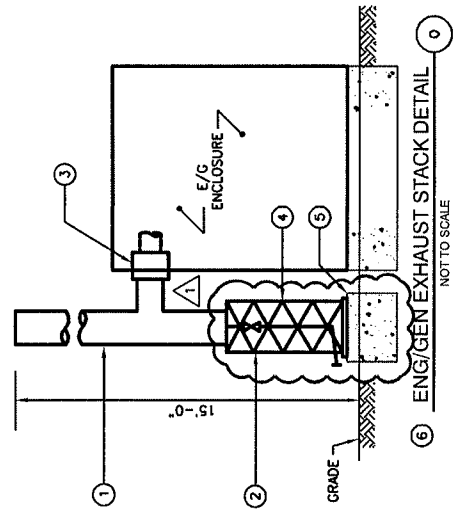


F.O. STORAGE TANK LEAK/LEVEL
PANEL MOUNTING & WIRING DETAIL
NOT TO SCALE

ENGINE/GENERATOR
CIRCUIT BREAKER



ENGINE/GENERATOR ENCLOSURE VENTILATION
WIRING DIAGRAM
NOT TO SCALE



ENGINE/GENERATOR EXHAUST STACK DETAIL
NOT TO SCALE

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-6

REFERENCE DRAWING: E-5

PV OUTDOOR ELECTRICAL ENCLOSURE
INTERIOR ELEVATION "1" NOTES

- ① 277/480 VOLT PANELBOARD "OPVS HVPB". FOR DETAILS, REFER TO THE PANELBOARD SCHEDULE.
- ② 480 TO 120/240 VOLT DRY TYPE TRANSFORMER. FOR DETAILS REFER TO THE TRANSF SCHEDULE.
- ③ 120/240 VOLT PANELBOARD "OPVS LVPB" FOR DETAILS, REFER TO THE PANELBOARD SCHEDULE.
- ④ PV MONITORING CABINET (GALV HINGED WITH HANDLE LOCK) WHICH CONTAINS THE PV RS 485 COMMUNICATION SIGNAL FIBER OPTIC CONVERTER.
- ⑤ GALV AC POWER WIRE WAY (SIZED TO SUIT BY EC).
- ⑥ PRESSURE TREATED PAINTED PLYWOOD EQUIPMENT MOUNTING BOARD.
- ⑦ PV DC FIELD WIRING PANELS (GALV HINGED WITH HANDLE LOCK) WHICH CONTAIN THE PV CELLS OVER-CURRENT FUSES AND DC POWER DIODES INCLUDING WIRING TERM STRIPS, ETC
- ⑧ CONCRETE SUPPORT FURNISHED/INSTALLED BY THE GENERAL CONTRACTOR.
- ⑨ FIELD WIRING (AS REQUIRED). FOR DETAILS, REFER TO THE PV SITE PLAN, WIRING DIAGRAMS AND WIRING DETAILS.
- ⑩ DRIVEN GROUND ROD AND CONDUIT/WIRE. FOR DETAILS, REFER TO THE PV POWER RISER DIAGRAM.
- ⑪ QUADPLAX "GF" RECEPTACLE AND WIRING
- ⑫ EC/GC SHALL COORDINATE THE ENCLOSURE WITH THE "AS SUPPLIED" SOLAR PHOTOVOLTAICS SYSTEM.

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-7

REFERENCE DRAWING: E-8

AUTOMATIC SWITCHGEAR CONDUIT AND WIRE SCHEDULE				
CONDUIT NUMBER "C--"	CONDUIT SIZE	NO. OF WIRES	WIRE SIZE	COMMENTS
C-33	0.75"	4	14	ALARM GROUND
C-34	2.0"	SEE NOTE # 7		E/G TO SWGR DATA COMM
C-35	1.0"	12	14	CONTROL, ALARM AND STATUS
C-36	1.0"	2 @ 4 PR	24 UTP CAT "5E"	E/G DATA SIGNAL
C-37	2.0"	SEE NOTE # 7		SWBO TO E/G SIGNAL

CONDUIT AND WIRE SCHEDULE	FROM	TO	COMMENTS
LO / HI TEMP ALARMS THERMOSTAT	OSG CTL/ALM TERMINAL PANEL		ALARM GROUND
ENG/GEN CONTROL PANEL	AUTO SWGR CONTROL PANEL		E/G TO SWGR DATA COMM
ENG/GEN CONTROL PANEL	E/G ENCLOSURE CTL/ALM TERM PANEL		CONTROL, ALARM AND STATUS
ENG/GEN CONTROL PANEL	E/G ENCLOSURE SIGNAL TERM PANEL		E/G DATA SIGNAL
ENG/GEN CONTROL PANEL	AUTO SYNC SWBO		SWBO TO E/G SIGNAL

CONDUIT & WIRE SCHEDULE NOTES

- 1) EC SHALL COORDINATE ALL EQUIPMENT WIRING WITH THE "AS SUPPLIED" EQUIPMENT PRIOR TO ANY ROUGH WIRING. △
- 2) EC SHALL FURNISH/INSTALL EMPTY CONDUIT WITH PULL STRING (PER UTILITY COMPANY). UTILITY COMPANY SHALL FURNISH/INSTALL THE HV CABLES.
- 3) EC SHALL FURNISH/INSTALL EMPTY (FUTURE) CONDUIT WITH NYLON PULL STRING FOR THE FUTURE PHASE "II" CONSTRUCTION WORK (ONLY).
- 4) EC SHALL FURNISH/INSTALL TELE/DATA CABLES AS INDICATED ON THE TELE/DATA SYSTEM RISER DIAGRAM.
- 5) EC SHALL FURNISH/INSTALL FIRE ALARM CABLES AS INDICATED ON THE FIRE ALARM SYSTEM RISER DIAGRAM.
- 6) EC SHALL FURNISH/INSTALL LOW VOLTAGE LEAK/LEVEL SENSOR CABLES AS RECOMMENDED BY THE TANK LEAK/LEVEL SYSTEM MANUFACTURER.
- 7) EC SHALL FURNISH/INSTALL DATA NETWORK CABLES AS RECOMMENDED BY THE E/G AND AUTO SWGR SUPPLIER. △

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-8

REFERENCE DRAWING: E-9

WWTF SITE CONDUIT AND WIRE SCHEDULE				
CONDUIT NUMBER "C--"	CONDUIT SIZE	NO. OF WIRES	WIRE SIZE	COMMENTS
SC-1	4.0"	SEE NOTE # 2		
SC-2	4.0"	4	500MCM 3/0	HV POWER
SC-3	1.0"	1	4/0	ELEC SERV GROUND
SC-4	4.0"	4	500MCM 3/0	ELEC SERV GROUND
SC-5	1.0"	1	4/0	ENG/GEN GROUND
SC-6	1.0"	12	12	POWER METER AND SOCKET
SC-7	1.0"	1	4/0	SWBD GROUND LOOP
SC-8	1.0"	1	4/0	ELEC SERV TRAFFIC GROUND LOOP
SC-9	1.0"	1	4/0	ENG/GEN GROUND LOOP
SC-10	4.0"	4	500MCM 3/0	FEEDERS SWITCHBOARD
SC-11	4.0"	4	500MCM 3/0	FEEDERS SWITCHBOARD
SC-12	4.0"	4	500MCM 3/0	FEEDERS SWITCHBOARD
SC-13	4.0"	4	500MCM 3/0	FEEDERS SWITCHBOARD
SC-14	2.0"	4	2/0	FEEDERS SWITCHBOARD
SC-15	4.0"	4	500MCM 3/0	FEEDERS SWITCHBOARD
SC-16	2.0"	4	2/0	FEEDERS SWITCHBOARD
SC-17	4.0"	4	500MCM 3/0	FEEDERS SWITCHBOARD
SC-18	4.0"	4	350MCM 3/0	FEEDERS SWITCHBOARD
SC-19	4.0"	4	600MCM 1/0	FEEDERS SWITCHBOARD
SC-20	2.0"	1	2	FEEDERS SWITCHBOARD
SC-21	4.0"	SEE NOTE # 4		TELE/DATA EQUIPMENT
SC-22	4.0"	SEE NOTE # 5		MAIN FIRE ALARM PANEL

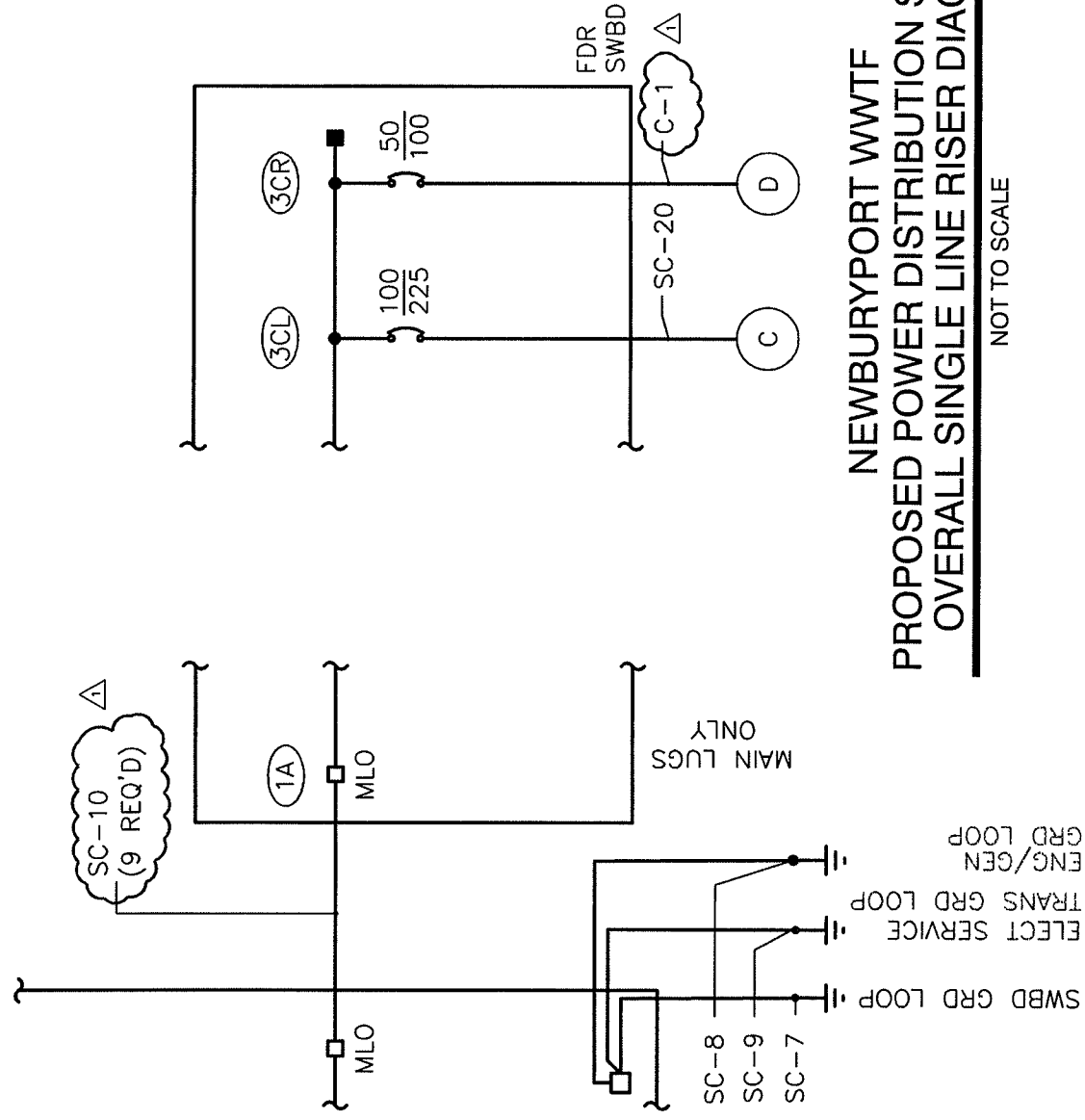
CONDUIT & WIRE SCHEDULE NOTES

- 1) EC SHALL COORDINATE ALL EQUIPMENT WIRING WITH THE "AS SUPPLIED" EQUIPMENT PRIOR TO ANY ROUGH WIRING.
- 2) EC SHALL FURNISH/INSTALL EMPTY CONDUIT WITH PULL STRING (PER UTILITY COMPANY). UTILITY COMPANY SHALL FURNISH/INSTALL THE HV CABLES.
- 3) EC SHALL FURNISH/INSTALL EMPTY (FUTURE) CONDUIT WITH NYLON PULL STRING FOR THE FUTURE PHASE "II" CONSTRUCTION WORK (ONLY).

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-9

REFERENCE DRAWING: E-10



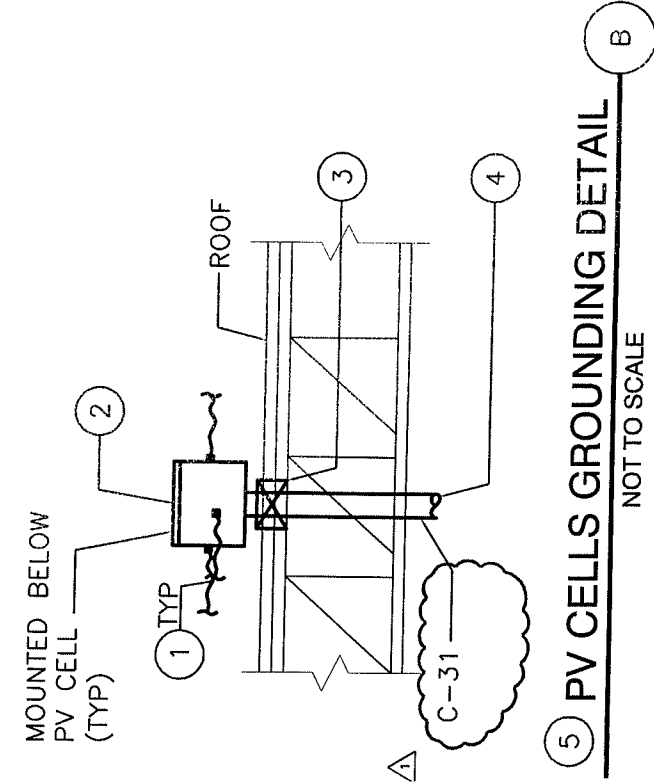
**NEWBURYPORT WWTF
PROPOSED POWER DISTRIBUTION SYSTEM
OVERALL SINGLE LINE RISER DIAGRAM**

NOT TO SCALE

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-10

REFERENCE DRAWING: E-11

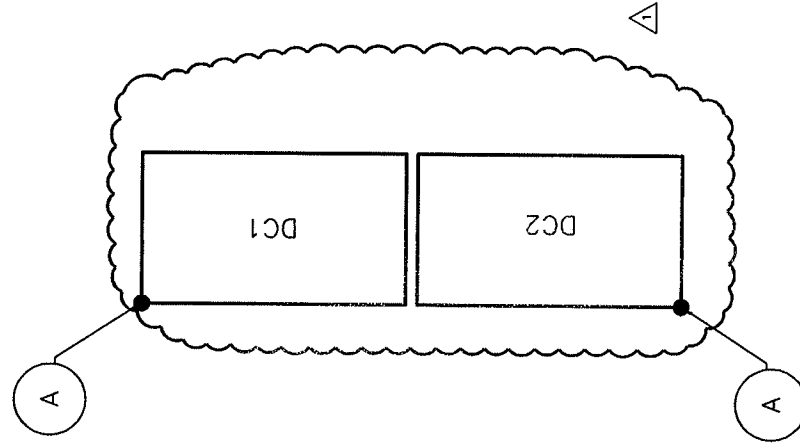


5 PV CELLS GROUNDING DETAIL

NOT TO SCALE

**AERATION BLOWER BLDG
PHOTOVOLTAIC ROOF POWER PLAN**

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



CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-AB.1

REFERENCE DRAWING: E-AB.2

AERATION BLOWERS BUILDING CONDUIT AND WIRE SCHEDULE				
CONDUIT NUMBER "C-"	CONDUIT SIZE	NO. OF WIRES	WIRE SIZE	
C - 28	1.0"	2 @ 2/C	16SH	
C - 29	0.75"	4 1	14 14	
C-30	0.75"	4 1	14 14	
C-31	1.0"	1	6	

CONDUIT NUMBER "C-"	CONDUIT SIZE	NO. OF WIRES	WIRE SIZE	FROM	TO	COMMENTS
C - 28	1.0"	2 @ 2/C	16SH	TE/TIT I&C FIELD INSTRUMENT	SIGNALS TERMINAL PANEL	TEMPERATURE SIGNAL
C - 29	0.75"	4 1	14 14	TEMP ALARM THERMOSTATS	CONTROL / ALARM TERMINAL PANEL	TEMPERATURE ALARMS
C-30	0.75"	4 1	14 14	PRESSURE SWITCH	CONTROL / ALARM TERMINAL PANEL	PRESSURE ALARM
C-31	1.0"	1	6	PHOTOVOLTAICS GROUND JUNCTION BOX	ELEC GROUNDING TERMINAL PANEL	PHOTOVOLTAICS GROUND

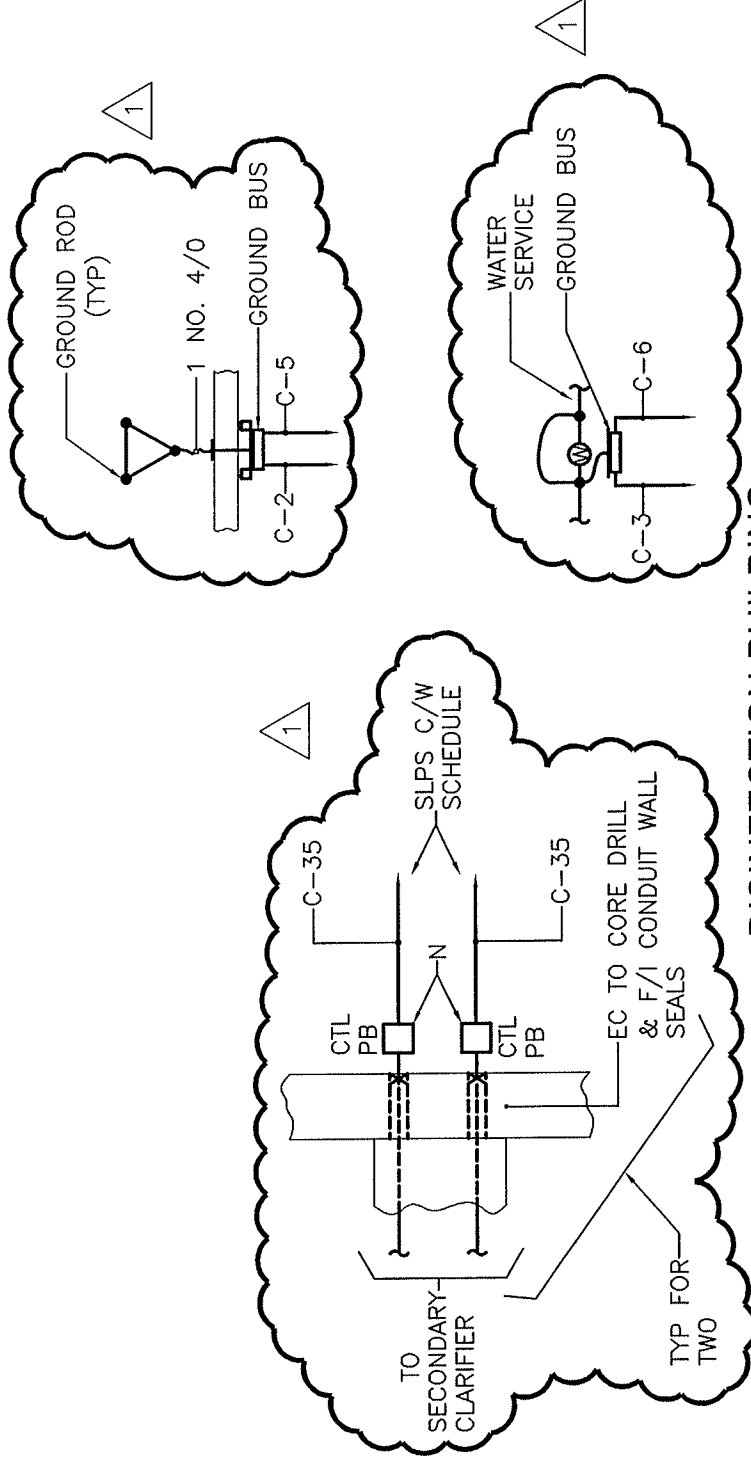
CONDUIT & WIRE SCHEDULE NOTES

- 1) EC SHALL COORDINATE ALL EQUIPMENT WIRING WITH THE "AS SUPPLIED" EQUIPMENT PRIOR TO ANY ROUGH WIRING.
- 2) EC SHALL COORDINATE THE I&C FIELD INSTRUMENTS LOW VOLTAGE CABLES WITH EACH I&C INSTRUMENT MANUFACTURER.
- 3) EC SHALL FURNISH / INSTALL FIRE ALARM WIRING AS INDICATED ON THE FIRE ALARM RISER DIAGRAM.
- 4) EC SHALL FURNISH / INSTALL EMPTY CONDUITS WITH NYLON PULL STRINGS FOR THE FUTURE AERATION BLOWER
- 5) EC FURNISH / INSTALL EMPTY CONDUITS WITH NYLON PULL STRINGS FOR THE ATC CONDUCTORS BY HVAC CONTRACTOR.

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-AB.4

REFERENCE DRAWING: E-AB.5



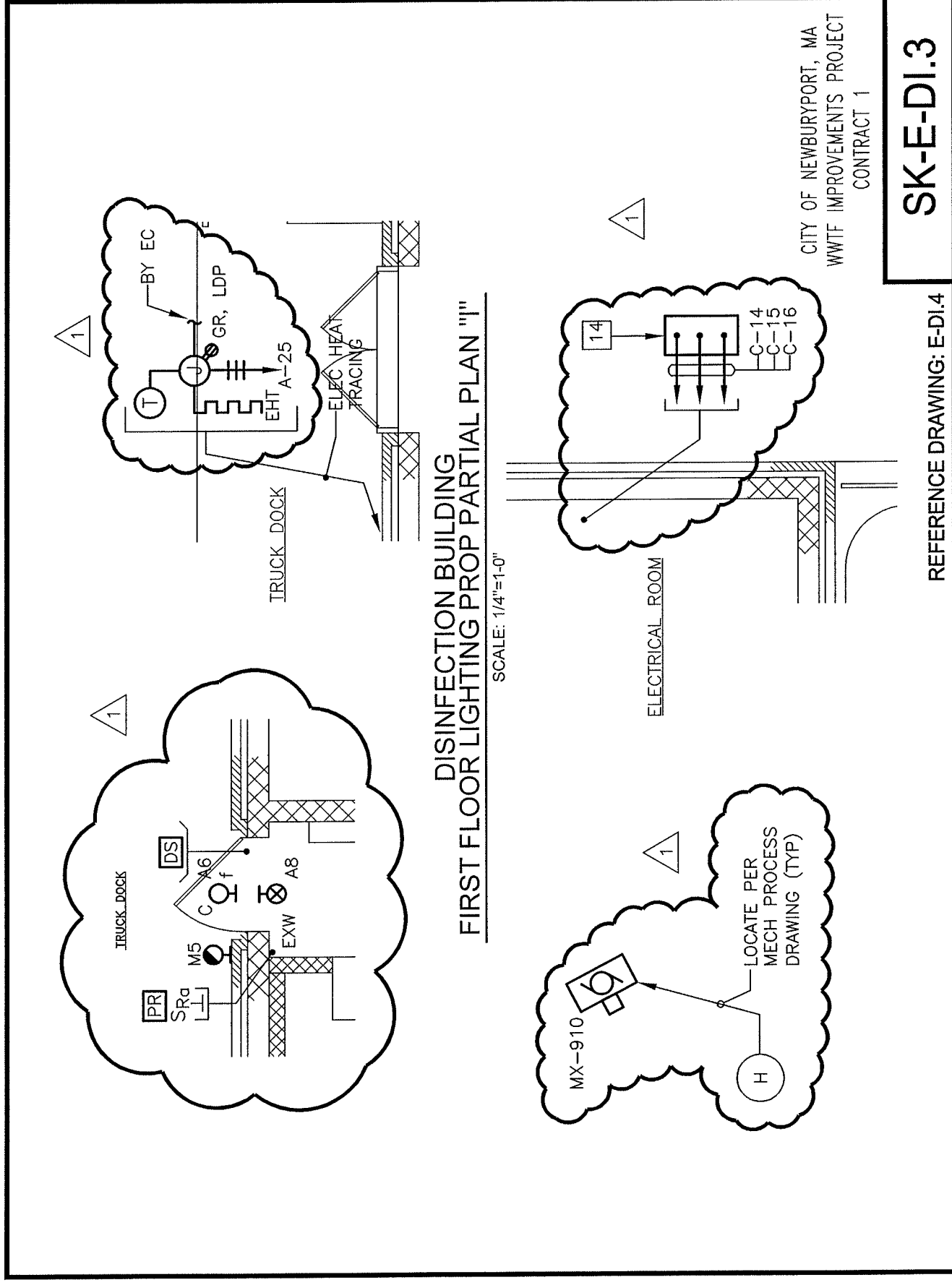
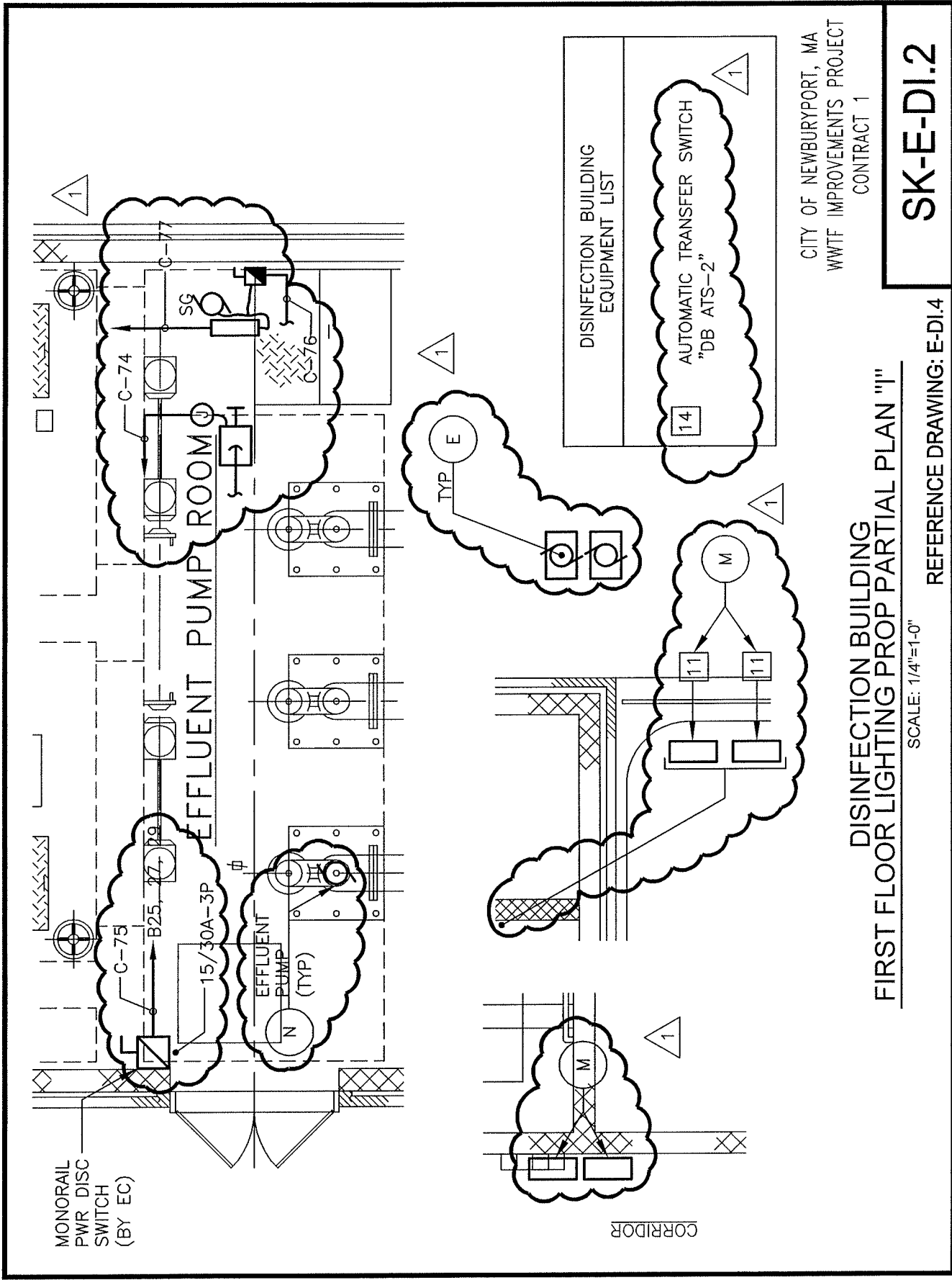
DISINFECTION BUILDING
BASEMENT LEVEL POWER PROP PARTIAL PLAN "I"

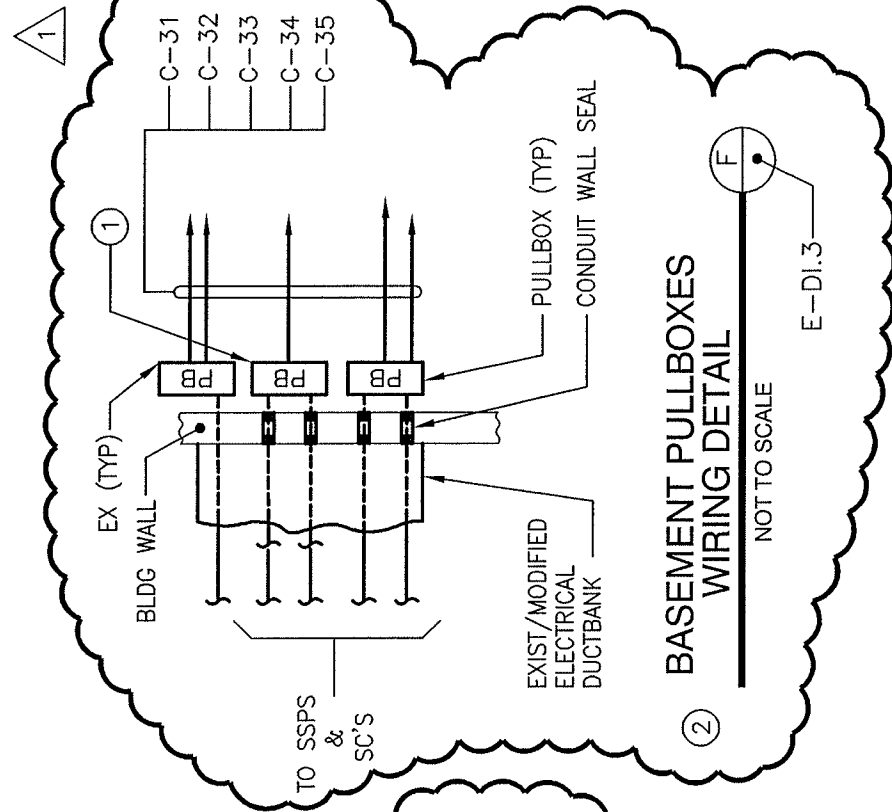
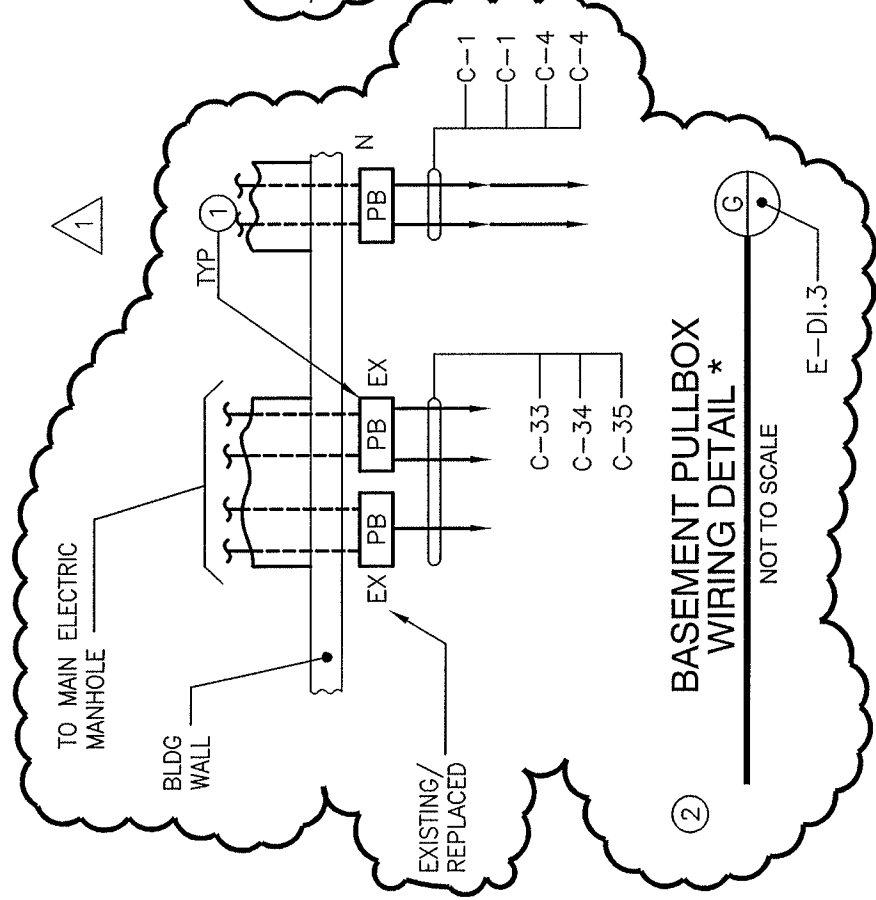
SCALE: 1/4"=1'-0"

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-DI.1

REFERENCE DRAWING: E-DI.3

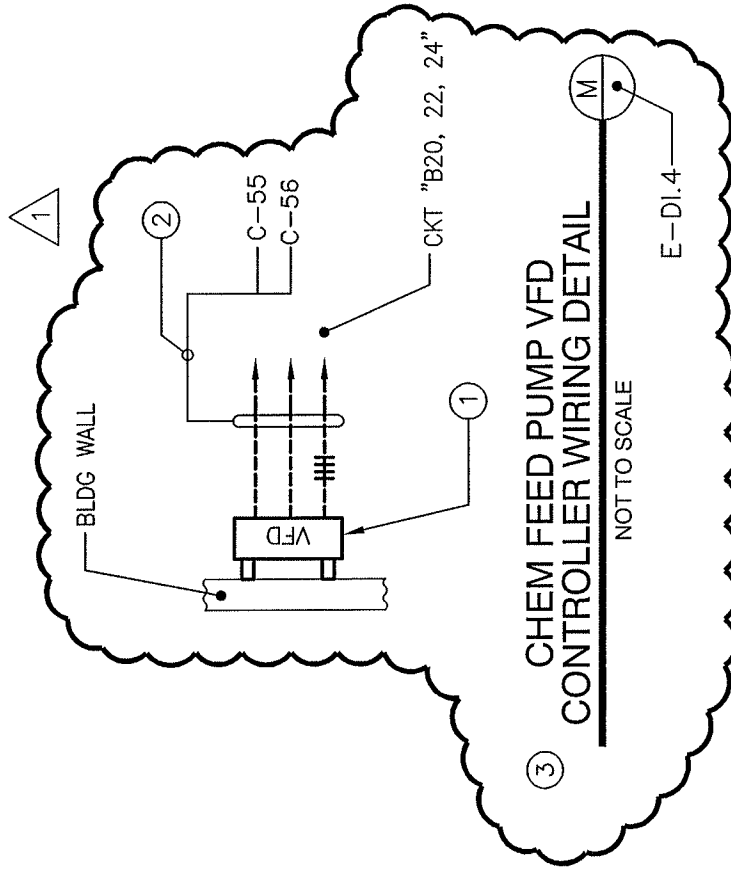




CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-E-DI.4

REFERENCE DRAWING: E-DI.5



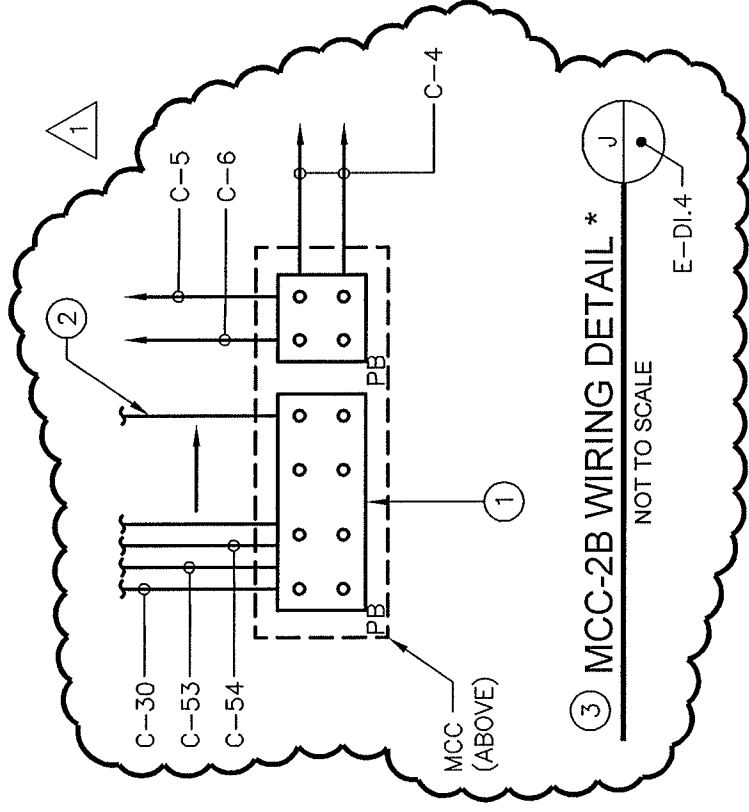
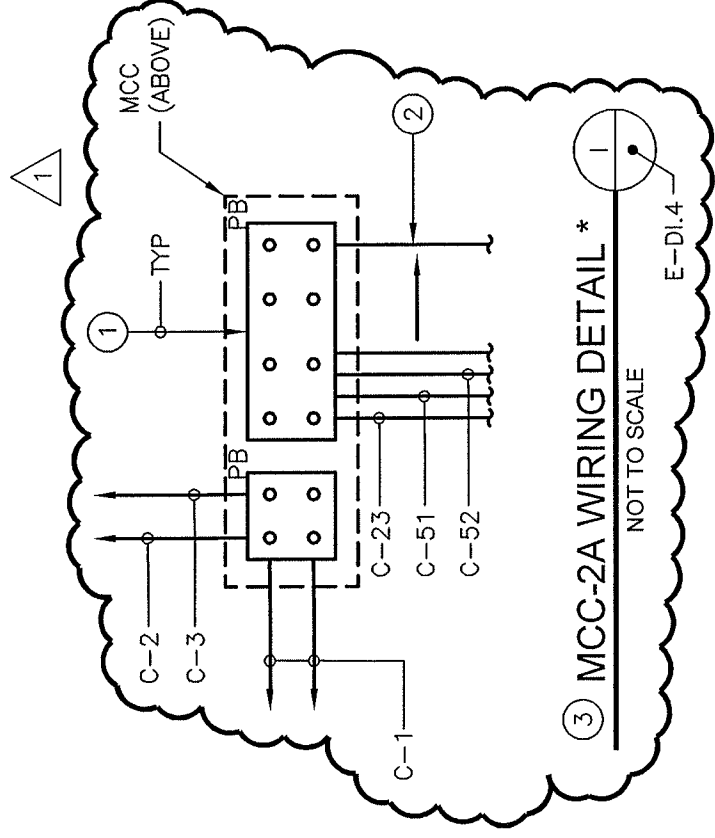
VFD_MTR_CONTROLLER_EXTERIOR_ELEV_DETAIL_NOTES

- ① PAINTED/GALVANIZED NEMA "1A" ENCLOSURE WITH HINGED FRONT COVER, LOCKING S/S HANDLE, EXH FAN, FILTERED AIR INTAKE, ETC.
- ② ENGRAVED PLASTIC NAMEPLATE PER ENGINEER.
- ③ DIGITAL LCD DISPLAY AND KEYPAD.
- ④ RED LED INDICATING LIGHTS FOR ALARMS.
- ⑤ RED AND GREEN LED INDICATING LIGHTS FOR "ON/OFF" STATUS PLUS RESET PUSHBUTTON.
- ⑥ HOA AND MA SELECTOR SWITCHES AND 0 TO 100 SPEED CONTROL POTENTIOMETER.
- ⑦ NEC ELEC SHOCK AND OSHA ARC FLASH WARNING LABELS.
- ⑧ LOCKABLE POWER DISCONNECT SWITCH HANDLE.
- ⑨ EC TO COORDINATE WITH EXIST BLDG CONDITIONS, NEW PUMPS AND NEW CONSTRUCTION PRIOR TO RELEASE AND/OR ROUGH WIRING.
- ⑩ THE NEMA "4X" VFD CONTROLLERS SHALL HAVE CONVECTION COOLING AND STAINLESS STEEL ENCLOSURE.

CITY OF NEWBURYPORT, MA
 WWTF IMPROVEMENTS PROJECT
 CONTRACT 1

SK-E-DI.5

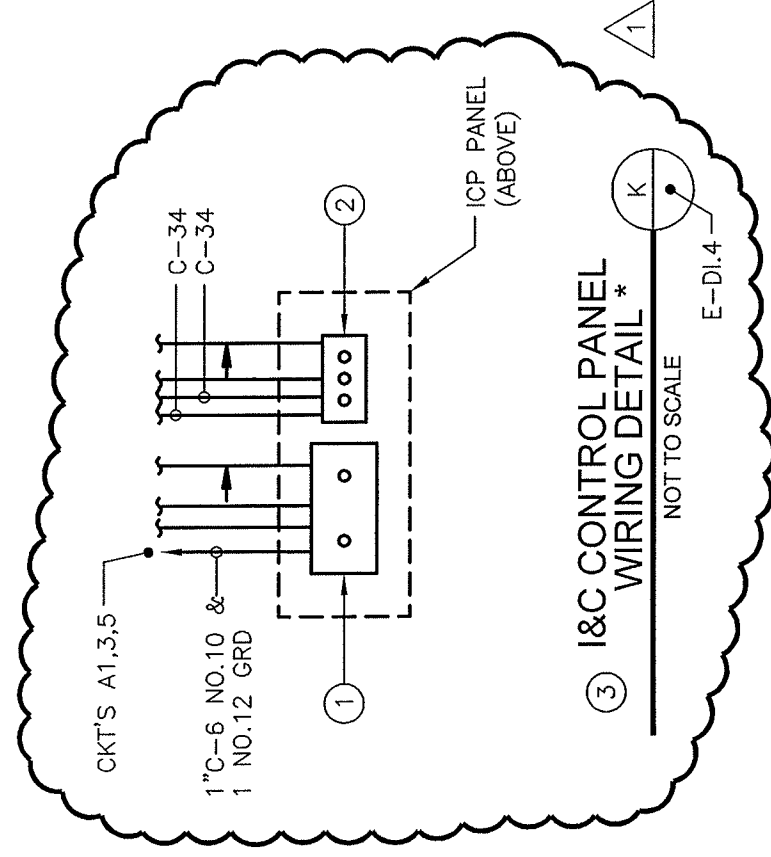
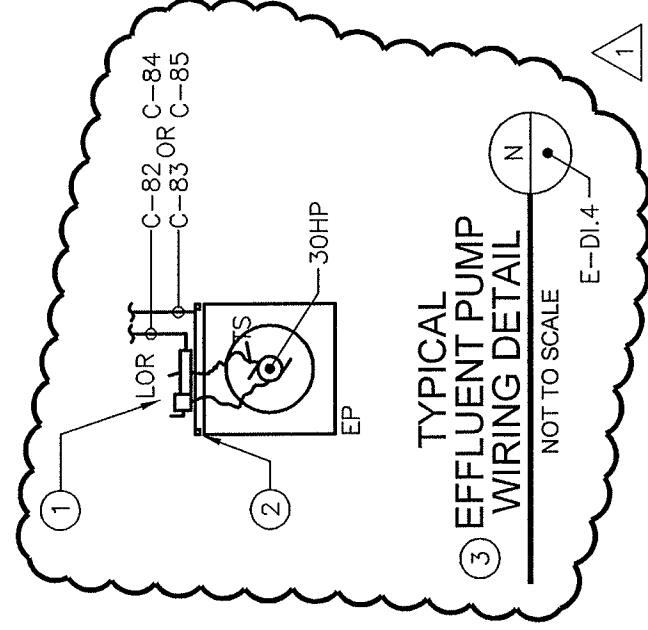
REFERENCE DRAWING: E-DI.5



CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-DI.6

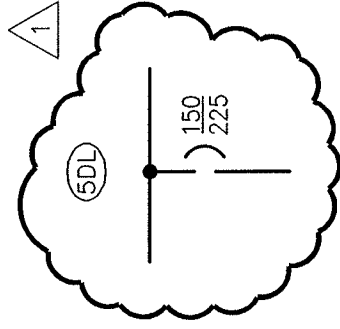
REFERENCE DRAWING: E-DI.6



CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

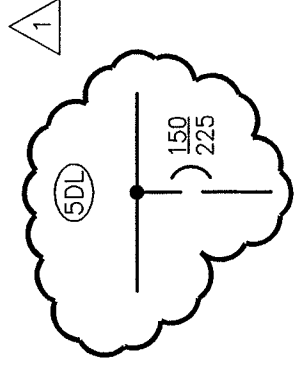
SK-E-DI.7

REFERENCE DRAWING: E-DI.6



**MCC-2A DISINFECTION BUILDING
POWER SYSTEM RISER DIAGRAM "III"**

NOT TO SCALE



**MCC-2B DISINFECTION BUILDING
POWER SYSTEM RISER DIAGRAM "IV"**

NOT TO SCALE

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-DI.8

REFERENCE DRAWING: E-DI.9

DISINFECTION BUILDING CONDUIT AND WIRE SCHEDULE						
CONDUIT NUMBER	CONDUIT SIZE	NO. OF WIRES	WIRE SIZE	FROM	TO	COMMENTS
C-63	1.0"	3	10	EXHAUST FAN MOTOR STARTER	PANELBOARD "DB HYPB"	POWER GROUND
C-64	1.0"	4	10	HVAC AIR HANDLING UNIT PWR DISC SWITCH	PANELBOARD "DB HYPB"	POWER GROUND
C-65	1.0"	4	14	PUMP WATER PRESSURE SWITCH	PUMP WATER CONTROL PANEL	POWER GROUND
C-66	1.0"	1 @ 2/C	16SH	EFFLUENT SAMPLER	I&C CONTROL PANEL "TCP-4"	FLOW CONTROL SIGNAL
C-67	1.0"	SEE NOTE # 2		CHLORINE ANALYZER SENSOR	CHLORINE ANALYZER TRANSMITTER	RESIDUAL CHLORINE SIGNAL
C-68	1.0"	1 @ 2/C	16SH	CHLORINE ANALYZER TRANSMITTER	I&C CONTROL PANEL "TCP-4"	RESIDUAL CHLORINE SIGNAL
C-69	1.0"	SEE NOTE # 2		CHEMICAL TANK LEVEL SENSOR	CHEM TANK LEVEL TRANSMITTER	TANK LEVEL SIGNAL
C-70	1.0"	1 @ 2/C	16SH	CHEMICAL TANK LEVEL TRANSMITTER	I&C CONTROL PANEL "TCP-4"	TANK LEVEL SIGNAL
C-71	2.5"	4	3/0	PLEG WATER HEATER # 1	MOTOR CONTROL CENTER "MCC-2A"	POWER GROUND
C-72	2.5"	4	3/0	PLEG WATER HEATER # 2	MOTOR CONTROL CENTER "MCC-2B"	POWER GROUND
C-73	1.0"	2 @ 2/C	16SH	AUTOMATIC SAMPLER	I&C CONTROL PANEL "TCP-4"	FLOW PACING

DISINFECTION BUILDING CONDUIT AND WIRE SCHEDULE						
CONDUIT NUMBER	CONDUIT SIZE	NO. OF WIRES	WIRE SIZE	FROM	TO	COMMENTS
C-74	0.75"	3	12	MONORAIL CABLE REEL	MONORAIL PWR DISC SWITCH	POWER GROUND
C-75	0.75"	3	12	MONORAIL PWR DISC SWITCH	PANELBOARD "DB HYPB"	POWER GROUND
C-76	0.75"	3	12	SLUICE GATE PWR DISC SWITCH	PANELBOARD "DB HYPB"	POWER GROUND
C-77	1.0"	12	14	SLUICE GATE CONTROL PANEL	I&C CONTROL PANEL "TCP-4"	CONTROL STATUS AND ALARM
C-78	1.0" 2 @ 2/C		16SH	ULTRASONIC LEVEL TRANSMITTER	I&C CONTROL PANEL "TCP-4"	LEVEL SIGNAL
C-79	0.75" 2 @ 2/C		16SH	PRESSURE LEVEL TRANSMITTER	I&C CONTROL PANEL "TCP-4"	LEVEL SIGNAL
C-80	0.75"	4	14	WET WELL FLOOD FLOAT SWITCH	I&C CONTROL PANEL "TCP-4"	FLOOD LEVEL ALARM
C-81	0.75"	4	14	TEMP ALARM THERMOSTATS	I&C CONTROL PANEL "TCP-4"	LO/HI TEMP ALARM
C-82	1.5"	3	6	EFFLUENT PUMP POWER DISC SWITCH	MOTOR CONTROL CENTER "MCC-2A"	POWER GROUND
C-83	1.0"	12	14	EFFLUENT PUMP CONTROLS	MOTOR CONTROL CENTER "MCC-2A"	CONTROL AND STATUS
C-84	1.5"	3	6	EFFLUENT PUMP POWER DISC SWITCH	MOTOR CONTROL CENTER "MCC-2B"	POWER GROUND
C-85	1.0"	12	14	EFFLUENT PUMP CONTROLS	MOTOR CONTROL CENTER "MCC-2B"	CONTROL AND STATUS

- CONDUIT & WIRE SCHEDULE NOTES:
 1) EC SHALL COORDINATE ALL EQUIPMENT WIRING WITH THE "AS SUPPLIED" EQUIPMENT PRIOR TO ANY ROUGH WIRING.
 2) EC SHALL FURNISH/INSTALL LOW VOLTAGE CABLES AS RECOMMENDED BY THE I&C INSTRUMENTS SUPPLIER.
 3) EC SHALL FURNISH/INSTALL FIRE ALARM WIRING AS INDICATED ON THE FIRE ALARM RISER DIAGRAM AND AS RECOMMENDED BY THE FIRE ALARM SUPPLIER.
 4) EC SHALL FURNISH/INSTALL I&C FIBER OPTIC CABLE AS INDICATED ON THE I&C SYSTEM FIBER OPTIC RISER DIAGRAM.
 5) EC SHALL FURNISH/INSTALL TELE CABLES AS INDICATED ON THE TELE RISER DIAGRAM DRAWING.

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK- E-DI.9

REFERENCE DRAWING: E-DI.9

PANELBOARD "DB LVPB" SCHEDULE					
120/208 V - 225 A - 3 PH - 4 W - 10K AIC - 42 P					
SURFACE MOUNTED : 110AT / 225AF MAIN CIRCUIT BREAKER					
POLE NO.	LOAD	KVA	CB NO.	LOAD	KVA CB

PANELBOARD "DB LVPB" SCHEDULE NOTES

- 1) PANELBOARD BRANCH CIRCUITS ARE NOTED AS "A"
- 2) PANELBOARD SHALL HAVE GROUND BUS, SIDE PIANO HINGE, ENGRAVED NAMEPLATE, TYPED CIRCUITS DIRECTORY AND NEC ELECTRICAL SHOCK AND OSHA ARC FLASH WARNING LABELS.
- 3) CKT "25" SHALL BE A "GFT" TYPE

1

PANELBOARD "DB HVPB" SCHEDULE					
277/480 V - 225 A - 3 PH - 4 W - 35K AIC - 42 P					
SURFACE MOUNTED : 150AT / 225AF MAIN CIRCUIT BREAKER					
POLE NO.	LOAD	KVA	CB NO.	LOAD	KVA CB

1

25	MONORAIL	1.0	20A - 3P	26	SLUICE GATE	1.0	20A - 3P
27	*	*	*	28	*	*	*
29	*	*	30	*	*	*	*
31	H&V EQUIPMENT	2.0	20A - 3P	32	SPARE	*	30A - 3P
33	*	*	34	*	*	*	*
35	*	*	36	*	*	*	*
37	SPARE	*	20A - 3P	38	SPARE	*	20A - 3P
39	*	*	40	*	*	*	*
41	*	*	42	*	*	*	*

CONNECTED LOAD "KVA" = 57.1

PANELBOARD "DB HVPB" SCHEDULE NOTES -

- 1) PANELBOARD SHALL BE SERIES RATED WITH THE MCC FEEDER CIRCUIT BREAKERS.
- 2) PANELBOARD BRANCH CIRCUITS ARE NOTED AS "B"
- 3) PANELBOARD SHALL HAVE GROUND BUS, SIDE PIANO HINGE, ENGRAVED NAMEPLATE, TYPED CIRCUITS DIRECTORY AND NEC ELECTRICAL SHOCK AND OSHA ARC FLASH WARNING LABELS.

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-DI.10

REFERENCE DRAWING: E-DI.11

PANELBOARD "DB LVPB" SCHEDULE					
120/208 V - 225 A - 3 PH - 4 W - 10K AIC - 42 P					
SURFACE MOUNTED : 110AT / 225AF MAIN CIRCUIT BREAKER					
POLE NO.	LOAD	KVA	CB NO.	LOAD	KVA CB

PANELBOARD "DB LVPB" SCHEDULE NOTES

- 1) PANELBOARD BRANCH CIRCUITS ARE NOTED AS "A"
- 2) PANELBOARD SHALL HAVE GROUND BUS, SIDE PIANO HINGE, ENGRAVED NAMEPLATE, TYPED CIRCUITS DIRECTORY AND NEC ELECTRICAL SHOCK AND OSHA ARC FLASH WARNING LABELS.
- 3) CKT "25" SHALL BE A "GFT" TYPE

1

PANELBOARD "DB HVPB" SCHEDULE					
277/480 V - 225 A - 3 PH - 4 W - 35K AIC - 42 P					
SURFACE MOUNTED : 150AT / 225AF MAIN CIRCUIT BREAKER					
POLE NO.	LOAD	KVA	CB NO.	LOAD	KVA CB

1

25	MONORAIL	1.0	20A - 3P	26	SLUICE GATE	1.0	20A - 3P
27	*	*	28	*	*	*	*
29	*	*	30	*	*	*	*
31	H&V EQUIPMENT	2.0	20A - 3P	32	SPARE	*	30A - 3P
33	*	*	34	*	*	*	*
35	*	*	36	*	*	*	*
37	SPARE	*	20A - 3P	38	SPARE	*	20A - 3P
39	*	*	40	*	*	*	*
41	*	*	42	*	*	*	*

CONNECTED LOAD "KVA" = 57.1

PANELBOARD "DB HVPB" SCHEDULE NOTES -

- 1) PANELBOARD SHALL BE SERIES RATED WITH THE MCC FEEDER CIRCUIT BREAKERS.
- 2) PANELBOARD BRANCH CIRCUITS ARE NOTED AS "B"
- 3) PANELBOARD SHALL HAVE GROUND BUS, SIDE PIANO HINGE, ENGRAVED NAMEPLATE, TYPED CIRCUITS DIRECTORY AND NEC ELECTRICAL SHOCK AND OSHA ARC FLASH WARNING LABELS.

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

REVISED

REFERENCE DRAWING: E-DI.11

SK-E-DI.10

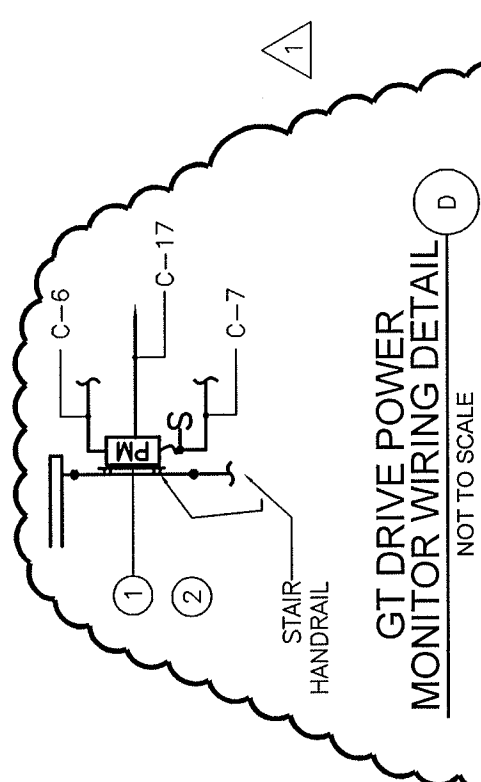
DISINFECTION BUILDING
CONDUIT AND WIRE SCHEDULE

CONDUIT NUMBER "C-"	CONDUIT SIZE	NO. OF WIRES	WIRE SIZE	FROM	TO	COMMENTS
C-13	2.5"	4	3 / 0	MOTOR CONTROL CENTER "MCC-2A"	AUTO TRANSFER SWITCH # 2	POWER GROUND
C-14	2.5"	4	3 / 0	MOTOR CONTROL CENTER "MCC-2B"	AUTO TRANSFER SWITCH # 2	POWER GROUND
C-20	0.75"	8	14	PLANT WATER PUMP	PLANT WATER SYSTEM MCC / CP	ALARMS
C-25	1.0"	3	12	PLUMBING SUMP PUMP WIREWAY	PANELBOARD "DB LVPB"	POWER GROUND
		1	12			CTLS AND ALMS
		12	14			
C-29	2.0"	4	2 / 0	BASEMENT POWER PULLBOX	MOTOR CONTROL CENTER "MCC-2A"	POWER GROUND
C-30	2.0"	4	2 / 0	BASEMENT POWER PULLBOX	MOTOR CONTROL CENTER "MCC-2B"	POWER GROUND

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-DI.11

REFERENCE DRAWING: E-DI.11



GT DRIVE POWER MONITOR WIRING DETAIL
NOT TO SCALE

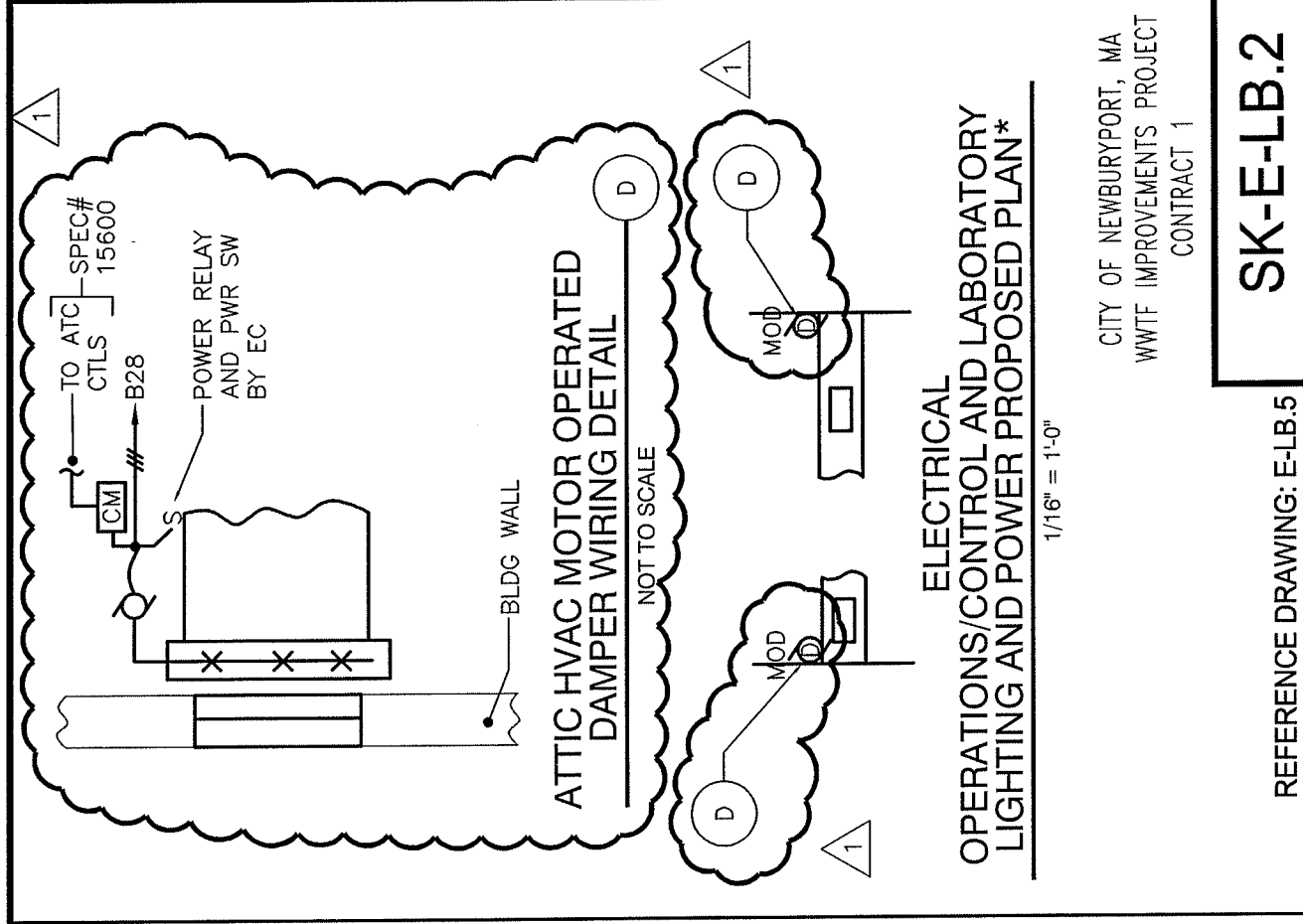
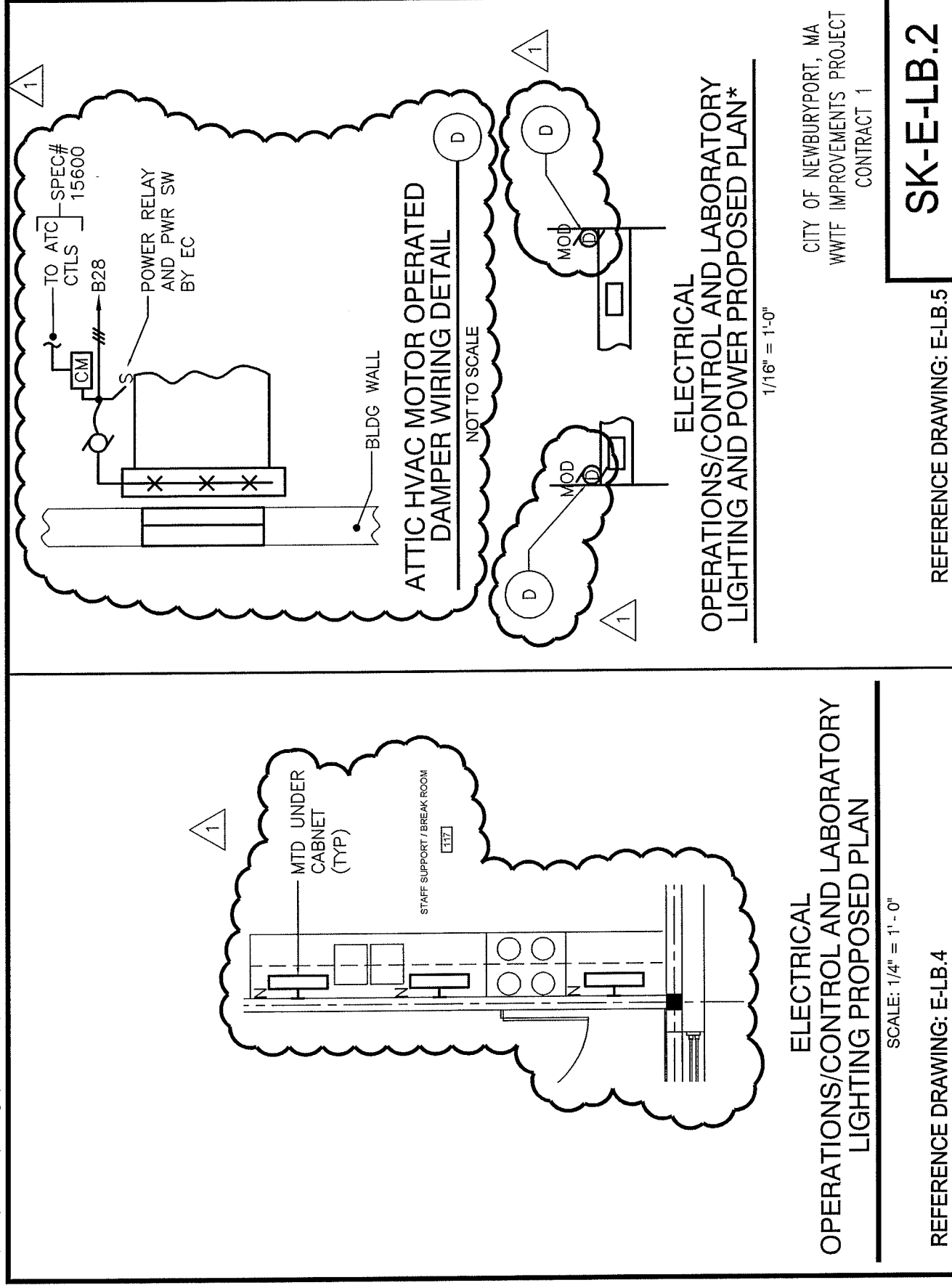
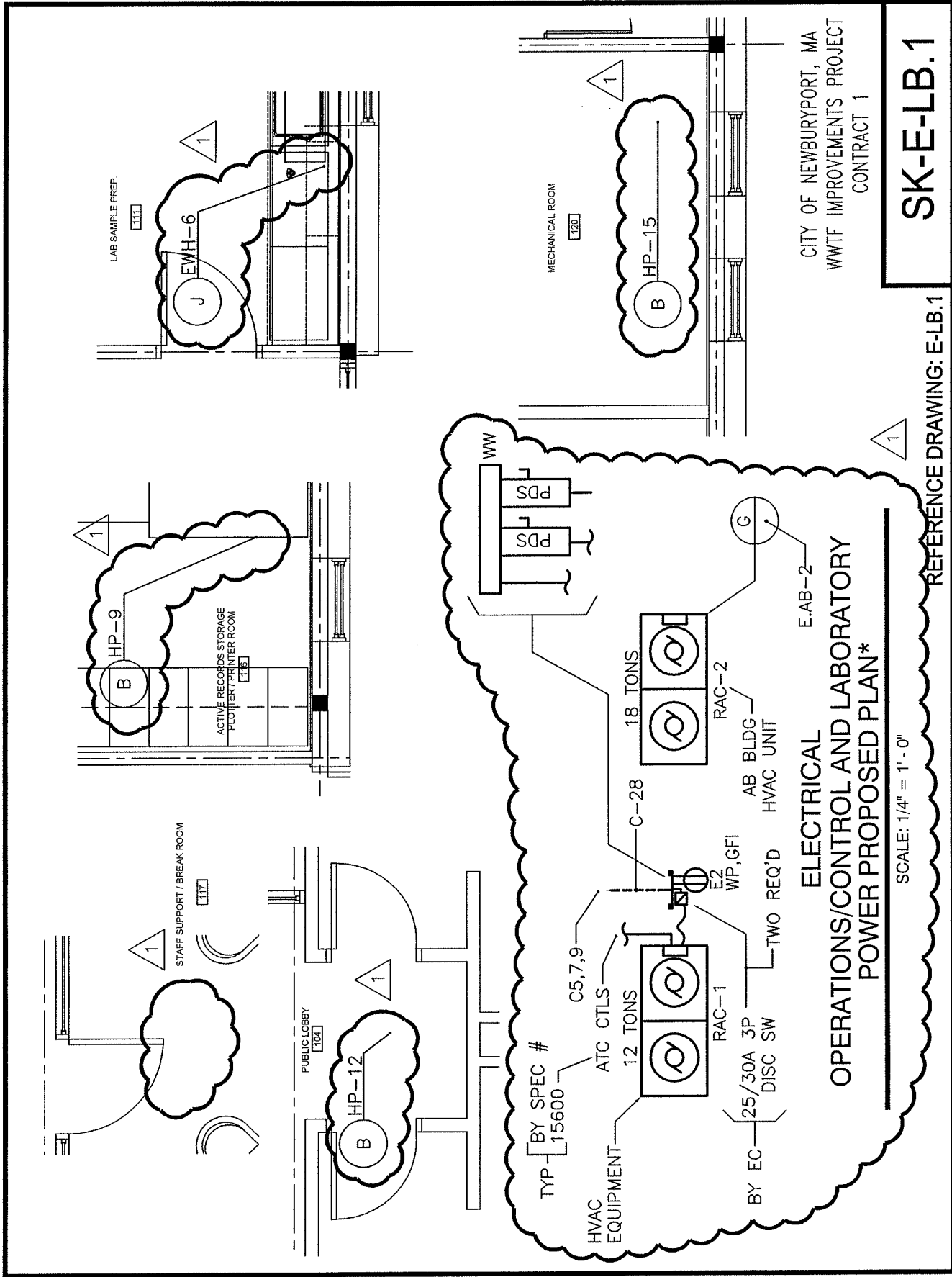
GT DRIVE POWER MONITOR WIRING DETAIL "D" NOTES

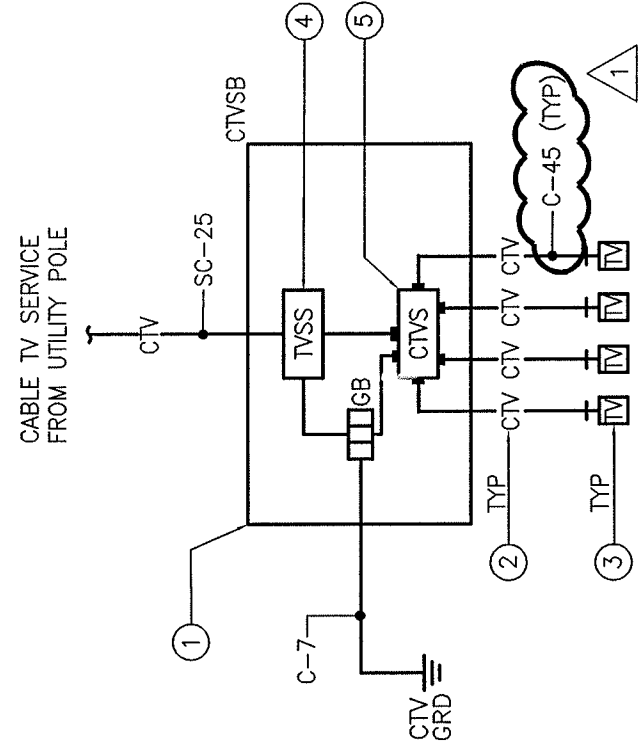
- 1 EC SHALL MOUNT AND WIRE THE POWER MONITOR WHICH IS FURNISHED WITH THE EQUIP BY THE GENERAL CONTRACTOR.
- 2 EC SHALL FURNISH/INSTALL ALUM "U" CHANNELS, MOUNTING PLATE AND S/S HARDWARE INCLUDING ASSOCIATED WIRING WHICH IS FIELD ROUTED BY ELEC CONTRACTOR.
- 3 EC SHALL MOUNT & WIRE THE PM CTS IN THE GT POWER PULLBOX.

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-GT.1

REFERENCE DRAWING: E-GT.2





⑥ OCL BUILDING
CABLE TV SYSTEM
SINGLE LINE RISER DIAGRAM
NOT TO SCALE

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-LB.3

REFERENCE DRAWING: E-LB.6

OPERATIONS CONTROL AND LABORATORY BUILDING CONDUIT AND WIRE SCHEDULE						
CONDUIT NUMBER "C-"	CONDUIT SIZE	NO. OF WIRES	WIRE SIZE	FROM	TO	COMMENTS
C-42	2.0"	4	2	PANELBOARD "OCL RPB"	PANELBOARD "OCL RPBA"	POWER GROUND
C-43	1.0"	3	12	LAB HOOD HVAC MAU UNIT	PANELBOARD "OCL HPB"	POWER GROUND
C-44	1.0"	3	12	IRRIGATION WATER TANK	IRRIG PUMP MOTOR STARTER	POWER GROUND
C-45	1.0"	8	12	SEE NOTE #6	CTV SERVICE BOARD	CONTROL & ALARM
					CABLE TV OUTLET	CTV SIGNAL

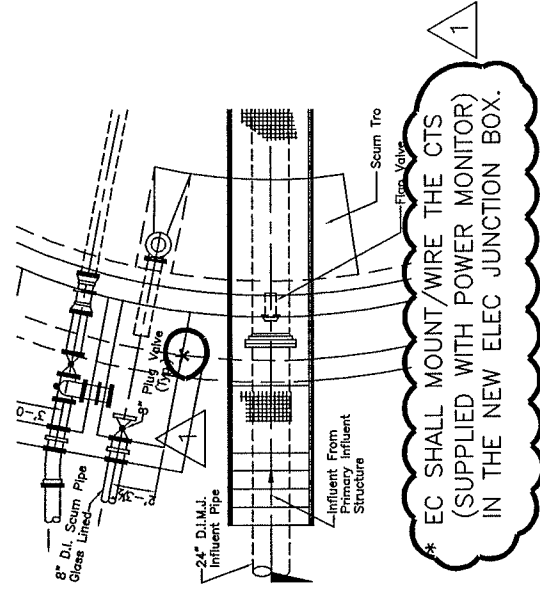
CONDUIT & WIRE SCHEDULE NOTES

- 1) EC SHALL COORDINATE ALL EQUIPMENT WIRING WITH THE "AS SUPPLIED" EQUIPMENT PRIOR TO ANY ROUGH WIRING.
- 2) EC SHALL FURNISH/INSTALL I&C FIELD INSTRUMENTS LOW VOLTAGE CABLES AS REQUIRED BY EACH I&C INSTRUMENT MANUFACTURER.
- 3) EC SHALL FURNISH/INSTALL FIRE ALARM WIRING AS RECOMMENDED BY THE FIRE ALARM SUPPLIER.
- 4) EC SHALL FURNISH/INSTALL I & C FIBER OPTIC CABLES WIRING AS RECOMMENDED BY THE I & C SYSTEM SUPPLIER.
- 5) EC SHALL FURNISH/INSTALL "RS 485" PV INVERTERS DATA CABLES AS RECOMMENDED BY THE PV INVERTER MANUFACTURER. EC SHALL NOTE THE OUTSIDE CABLES SHALL BE SUITABLE FOR WET UNDERGROUND LOCATIONS.
- 6) EC SHALL FURNISH/INSTALL CTV COAXIAL CABLES AS RECOMMENDED BY THE CTV UTILITY COMPANY.

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-LB.4

REFERENCE DRAWING: E-LB.7



* EC SHALL MOUNT/WIRE THE CTS (SUPPLIED WITH POWER MONITOR) IN THE NEW ELEC JUNCTION BOX.

**PRIMARY CLARIFIERS #1
DEMO & PROP POWER AND LIGHTING PLAN ***

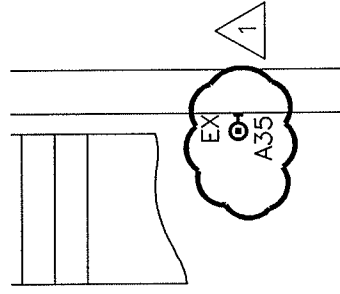
SCALE: 1/8" = 1'-0"

* CLARIFIER #2 IS SIMILAR BUT DIFFERENT ORIENTATION

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

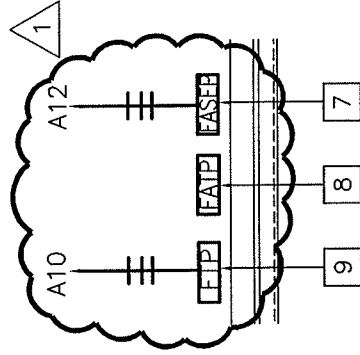
SK-E-PC.1

REFERENCE DRAWING: E-PC.1



**PRIMARY SLUDGE PUMP BUILDING BASEMENT FLOOR
LIGHTING PROPOSED PLAN***

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



**PRIMARY SLUDGE PUMP BUILDING FIRST FLOOR
POWER PROPOSED PLAN**

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

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-PS.1

REFERENCE DRAWING: E-PP.2

PRIMARY SLUDGE PUMP BUILDING CONDUIT AND WIRE SCHEDULE				
CONDUIT NUMBER	CONDUIT SIZE	NO. OF WIRES	WIRE SIZE	COMMENTS
C-7	2.5"	4	4/0	MOTOR CONTROL CENTER "MCC-3A" AUTOMATIC TRANSFER SWITCH
C-8	2.5"	4	4/0	MOTOR CONTROL CENTER "MCC-3B" AUTOMATIC TRANSFER SWITCH
C-9	2.5"	4	4/0	AUTOMATIC TRANSFER SWITCH
C-10	1.5"	1	6	PANELBOARD TRANSFORMER "HV PB"
C-11	1.0"	1	6	DRY TYPE TRANSFORMER WATER SERVICE
C-12	2.0"	4	2	DRY TYPE TRANSFORMER PANELBOARD "LV PB"
C-13	1.0"	3	12	PLUMBING SUMP PUMP PANELBOARD "LV PB"
C-14	1.0"	3	12	PLUMBING SUMP PUMP PANELBOARD "LV PB"

PRIMARY SLUDGE PUMP BUILDING ELECTRIC UNIT HEATERS SCHEDULE		
TAG	DESCRIPTION	MANUFACTURER
EUH-1	HORIZONTAL UNIT HEATER RATED 7.5 KW @ 480 VOLTS PHASE WITH METAL SHEATH HEATING ELEMENTS, BUILT-IN THERMAL OVERLOAD, INTERNAL CONTACTOR, INTERNAL 480 VOLT THERMOSTAT, REMOTE THERMOSTAT W/LOCKING COVER AND MANUAL RESET THERMAL LIMIT UNIT SHALL BE CORROSION RESISTANT PAINTED CONSTRUCTION.	MARLEY "Q" MARK # MHU-75-4 W/ SPECIFIED ACCESSORIES AND CONTROLS
EUH-2		

- ELECTRIC HEATERS SCHEDULE NOTES:-**
- ELECTRIC HEATERS SHALL BE FURNISHED AND INSTALLED BY SPECIFICATION # 16010.
 - HEATER SUPPLIER SHALL VERIFY CATALOG NUMBERS WHICH PROVIDES THE SPECIFIED OPTIONS, FEATURES, CONTROLS, ETC.
 - IF ANY ALTERNATE "OR EQUAL" HEATERS ARE PROPOSED, THE EC SHALL VERIFY THE EQUIPMENT OR EQUIPMENT MANUFACTURER HAS MET OR EXCEEDED THE DESIGN, CONSTRUCTION AND PERFORMANCE OF THE SPECIFIED UNITS.
 - ELECTRIC HEATER SHALL BE REMOTELY CONTROLLED BY THE THERMOSTATS SUPPLIED WITH THE HEATERS
 - EC SHALL MOUNT AND WIRE THE HEATERS IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - THE HEATER SHALL HAVE A CORROSION RESISTANT PAINTED FINISH WHICH IS SUITABLE FOR INSTALLATION IN A SEWAGE WASTEWATER TREATMENT FACILITY.

PRIMARY SLUDGE PUMP BUILDING CONDUIT AND WIRE SCHEDULE				
CONDUIT NUMBER	CONDUIT SIZE	NO. OF WIRES	WIRE SIZE	COMMENTS
C-51	2.0"	12 @ 2/C	16SH	TANK SIGNAL PULL BOX PSLPS SIGNAL
C-52	1.5"	2 @ 2/C	16SH	CLARIFIER POWER MONITOR PANEL PSLPS SIGNALS
C-54	1.0"	6	12	CLARIFIER POWER JUNCTION BOX PSLPS SIGNALS
C-55	0.75"	2 @ 2/C	16SH	PSLPS SIGNALS I & C CONTROL PANEL "ICP-2"
C-56	1.0"	SEE NOTE # 2		PLUMING SENSORS FROM SCUM
C-57	1.5"	12 @ 2/C	16SH	PSLPS SIGNAL PULL BOX TRANSMITTER I & C CONTROL PANEL "ICP-2"
C-58	1.5"	1 @ 12/C	FD CABLES	PSLPS SIGNAL PULL BOX I & C CONTROL PANEL "ICP-2"
C-59	1.0"	SEE NOTE # 3		FIRE ALARM PULL BOX FIRE ALARM CONTROL PANEL
C-60	1.0"	SEE NOTE # 7		TELEPHONE PULL BOX TELEPHONE SERVICE PANEL
C-61	0.75"	4	14	I&C PRESSURE SWITCH FROM I&C
C-62	1.0"	1	14	ALARM GROUND

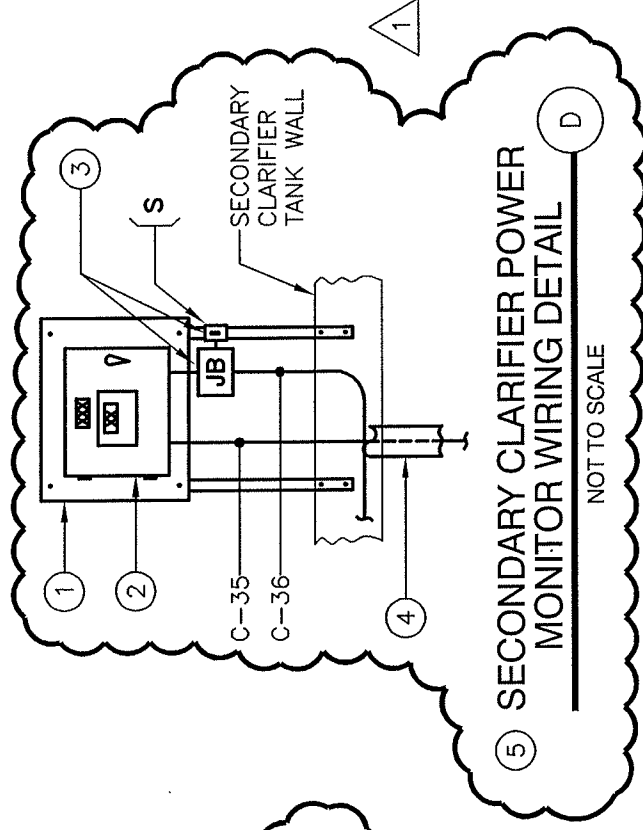
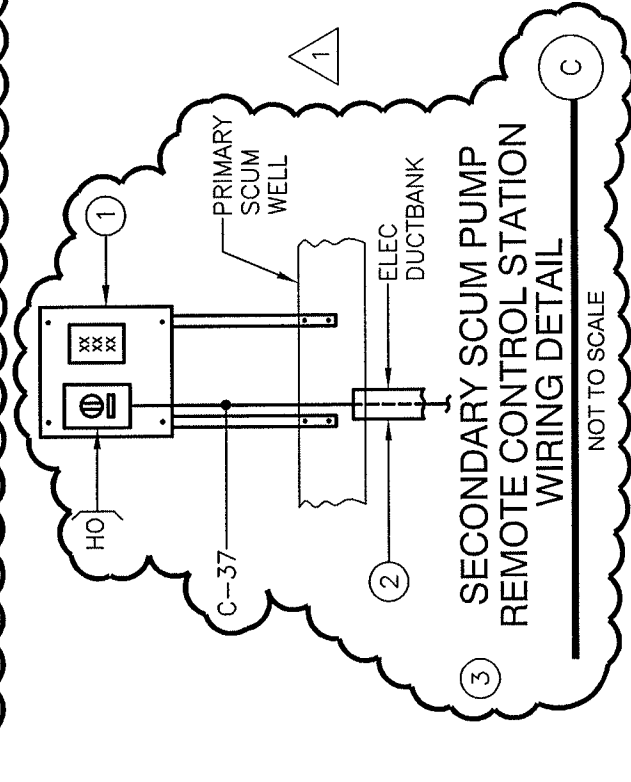
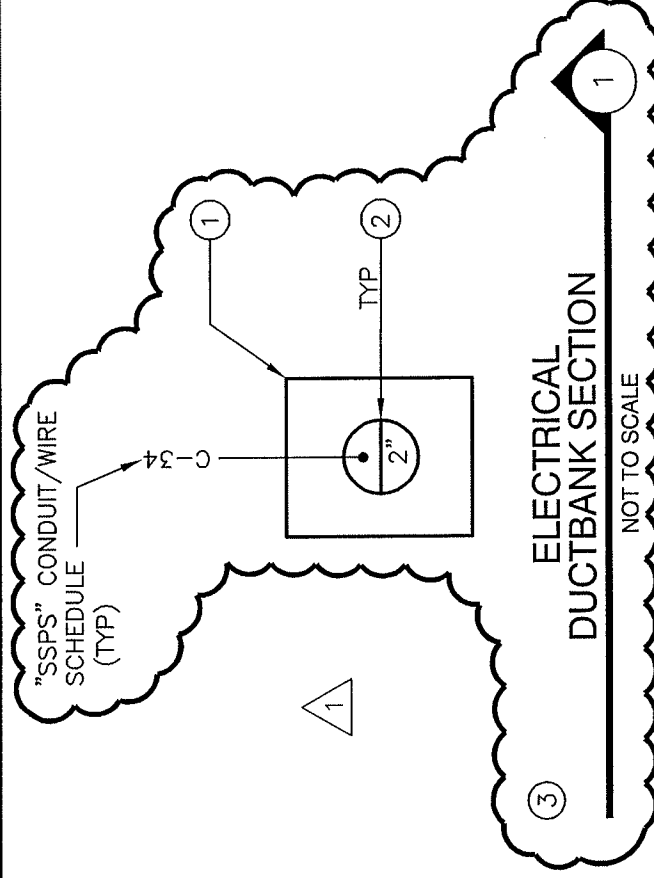
CONDUIT & WIRE SCHEDULE NOTES

- EC SHALL COORDINATE ALL EQUIPMENT WIRING WITH THE "AS SUPPLIED" EQUIPMENT PRIOR TO ANY ROUGH WIRING.
- EC SHALL FURNISH/INSTALL I&C LOW VOLTAGE CABLES AS RECOMMENDED BY EACH I&C INSTRUMENT MANUFACTURER.
- EC SHALL FURNISH/INSTALL FIRE ALARM WIRING AS RECOMMENDED BY THE FIRE ALARM SUPPLIER.
- EC SHALL FURNISH/INSTALL FIBER OPTIC CABLES AS RECOMMENDED BY THE I&C SYSTEM P&C EQUIPMENT SUPPLIER.
- EC SHALL FURNISH/INSTALL POWER AND SIGNAL WIRES AS RECOMMENDED BY THE MOV VALVE MANUFACTURER.
- EC SHALL FURNISH/INSTALL BURY CONDUIT WITH NYLON PULL STRING FOR THE FUTURE GENERATION POWER RISER SYSTEM.
- EC SHALL FURNISH/INSTALL TELEPHONIC CABLES PER THE TELE SYSTEM RISER DIAGRAM.

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-PS.2

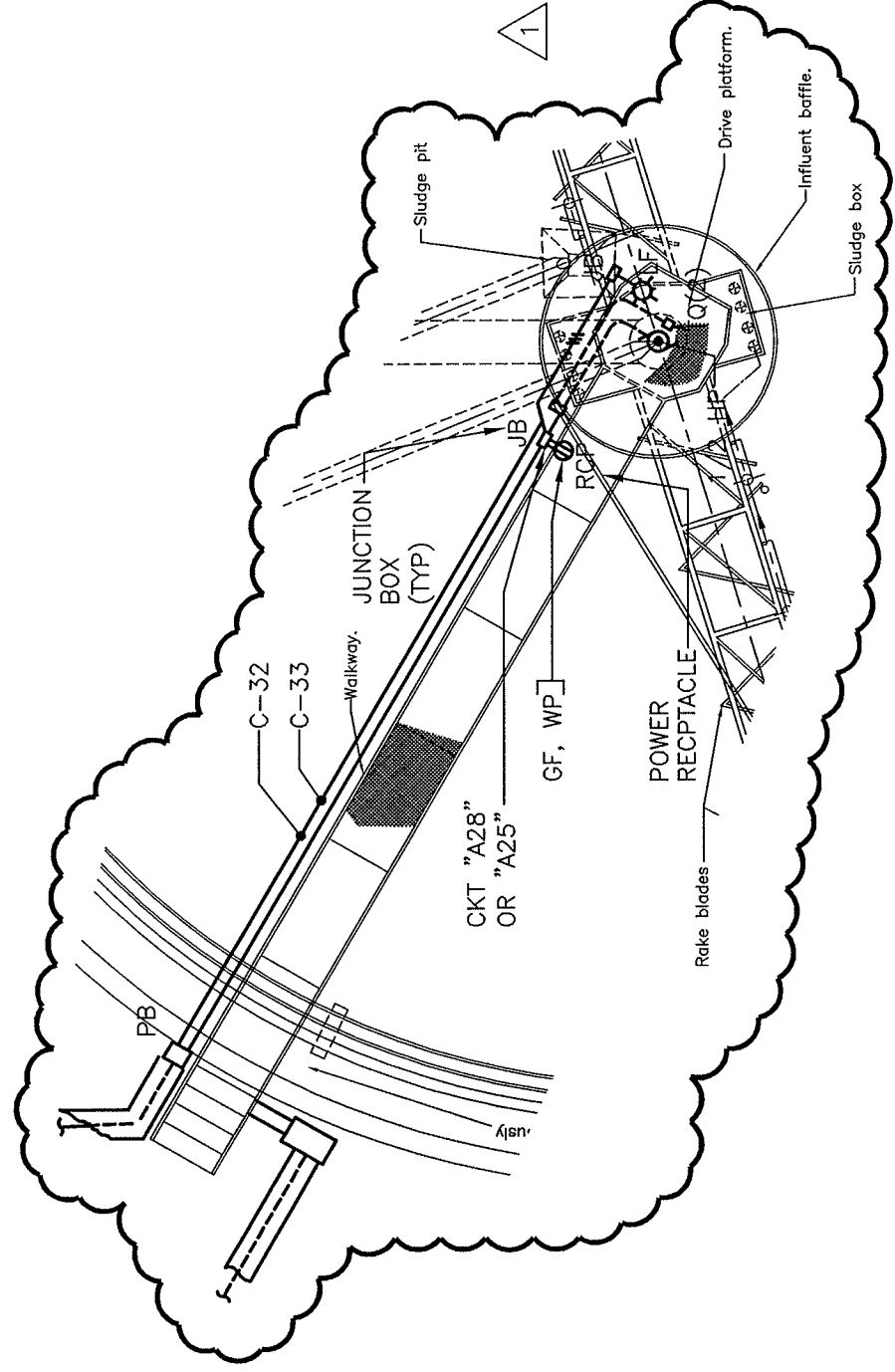
REFERENCE DRAWING: E-PP.7



CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-SC.1

REFERENCE DRAWING: E-SC.1



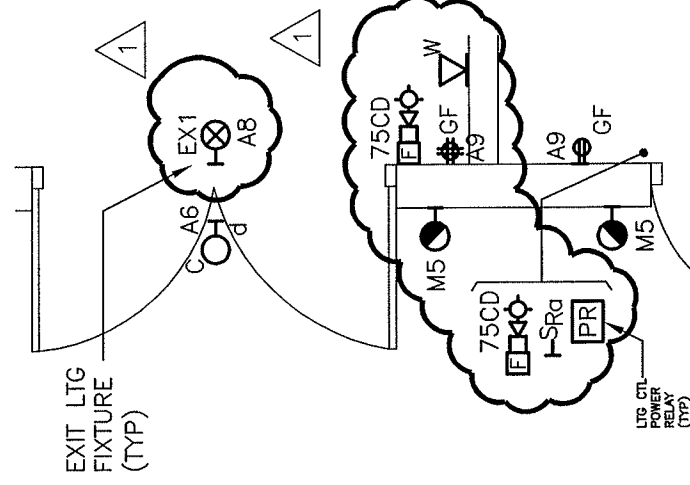
PROPOSED POWER AND LIGHTING PLAN

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

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-SC2

REFERENCE DRAWING: E-SC.1



SECONDARY SLUDGE PUMP BUILDING UPPER LEVEL LIGHTING PROPOSED PLAN *

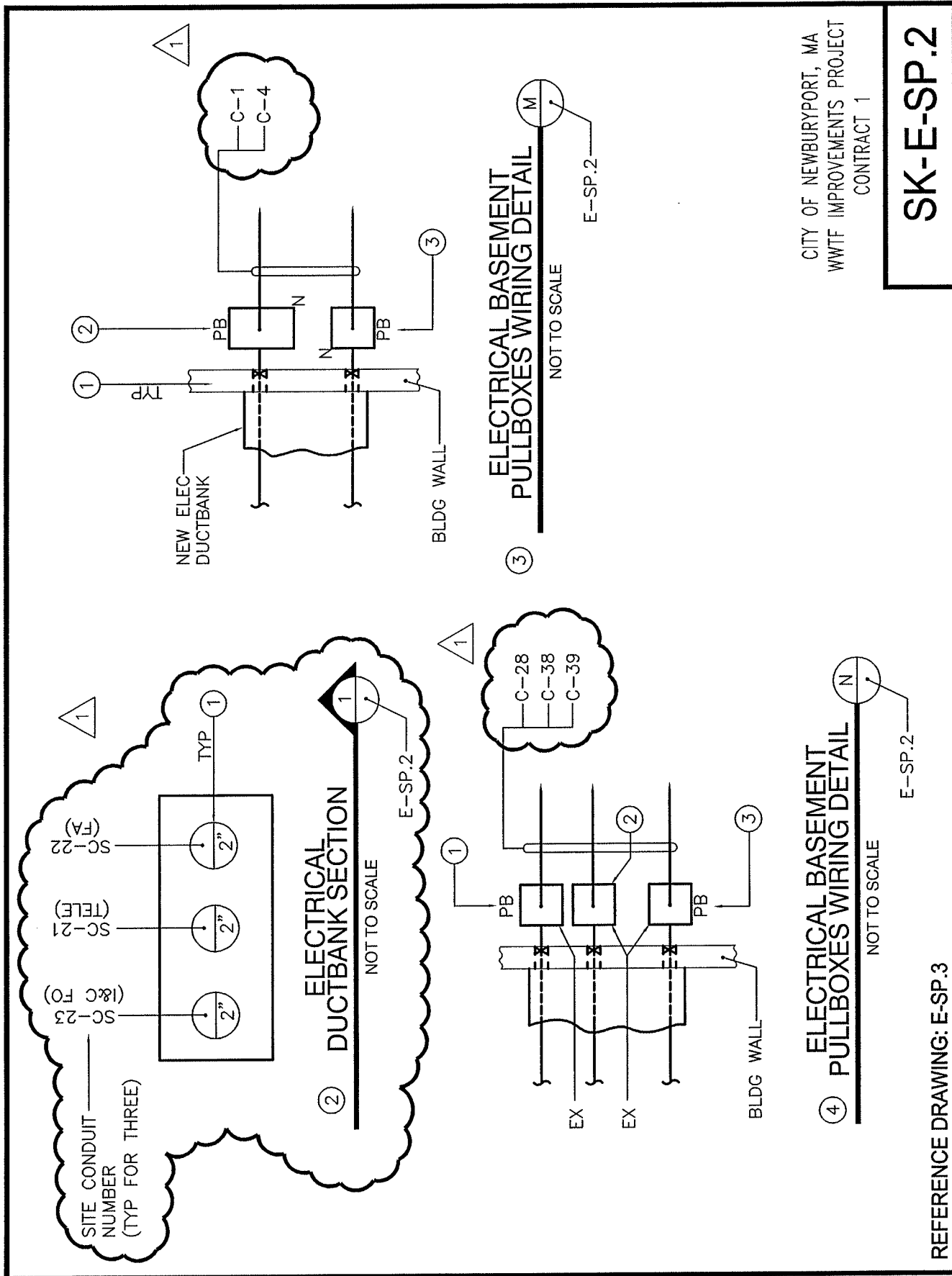
SCALE: 1/4"=1'-0"

CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-SP.1

REFERENCE DRAWING: E-SP.2

P:\2009\0905100\Drawings\ADDENDUM\Addendum 1 Submittal 11162009\0905100 SKESP2.dwg



CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-SP.2

REFERENCE DRAWING: E-SP.3

P:\2009\0905100\Drawings\ADDENDUM\Addendum 1 Submittal 11162009\0905100 SKESP3.dwg

SECONDARY SLUDGE PUMPING STATION CONDUIT AND WIRE SCHEDULE						
CONDUIT NUMBER "C-"	CONDUIT SIZE	NO. OF WIRES	WIRE SIZE	FROM	TO	COMMENTS
C-28	2.0"	1 @	12 STRAND FO (SEE NOTE # 4)	I&C CONTROL PANEL "ICP-5"	BASEMENT PULLBOX	I&C DATA SIGNALS
C-29	0.75"	4 1	14 14	TEMP ALARM THERMOSTATS	I&C CONTROL PANEL "ICP-5"	ALARMS GROUND ¹
C-30	1.0"	SEE	NOTE # 2	I&C FLOW SENSOR	I&C FLOW TRANSMITTER	FLOW SIGNAL
C-31	0.75"	1 @ 2 / C	16 SH	I&C FLOW TRANSMITTER	I&C CONTROL PANEL "ICP-5"	FLOW SIGNAL
C-32	1.0"	3 1 8	12 12 14	CLARIFIER TANK JUNCTION BOX	CLARIFIER EQUIP WIREWAY	POWER GROUND CONTROLS
C-33	1.0"	4 1	12 12	CLARIFIER TANK JUNCTION BOX	CLARIFIER TANK LTG & RECPT	POWER GROUND
C-34	2.0"	7 1 8	10 10 14	CLARIFIER TANK JUNCTION BOX	DISINF BUILDING P/C/A PULL BOX	POWER GROUND CONTROLS
C-35	1.0"	1 @ 2/C	16SH	CLARIFIER TANK POWER MONITOR PANEL	DISINF BUILDING I&C PANEL "ICP-4"	SIGNALS
C-36	1.0"	2 1 8	12 12 14	CLARIFIER TANK POWER MONITOR PANEL	CLARIFIER TANK JUNCTION BOX	POWER GROUND CONTROLS
C-37	1.0"	2 1	14 14	SCUM PUMP CONTROL STATION	DISINF BUILDING I&C PANEL "ICP-4"	CONTROL GROUND
C-38	1.0"	SEE	NOTE # 5	BASEMENT TELEPHONE PULLBOX	TELE SERVICE PANEL	TELEPHONE SERVICE
C-39	1.0"	SEE	NOTE # 4	BASEMENT FIRE ALARM PULLBOX	FIRE ALARM SERVICE PANEL	FIRE ALARM SERVICE

CONDUIT & WIRE SCHEDULE NOTES

- 1) EC SHALL COORDINATE ALL EQUIPMENT WIRING WITH THE "AS SUPPLIED" EQUIPMENT PRIOR TO ANY ROUGH WIRING.
- 2) EC SHALL FURNISH / INSTALL LOW VOLTAGE I&C CABLES AS REQUIRED BY EACH I&C INSTRUMENT MANUFACTURER.
- 3) EC SHALL FURNISH / INSTALL FIRE ALARM WIRING AS INDICATED ON THE FIRE ALARM SYSTEM RISER DIAGRAM.
- 4) EC SHALL FURNISH / INSTALL I&C FIBER OPTIC CABLES AS INDICATED ON THE I&C SYSTEM FIBER OPTIC RISER DIAGRAM.
- 5) EC SHALL FURNISH / INSTALL TELEPHONE CABLES AS INDICATED ON THE TELEPHONE/DATA SYSTEMS RISER DIAGRAM DRAWING.

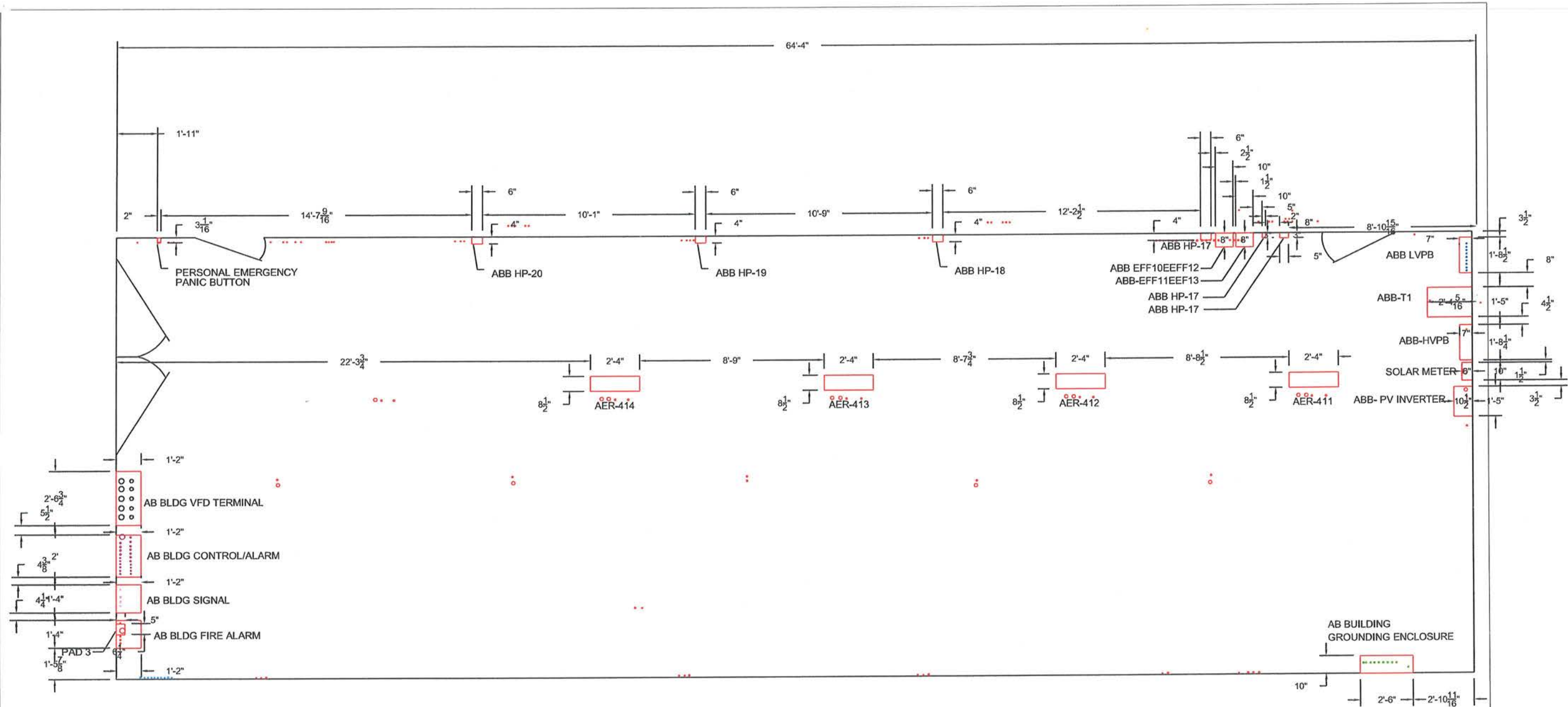
CITY OF NEWBURYPORT, MA
WWTF IMPROVEMENTS PROJECT
CONTRACT 1

SK-E-SP.3

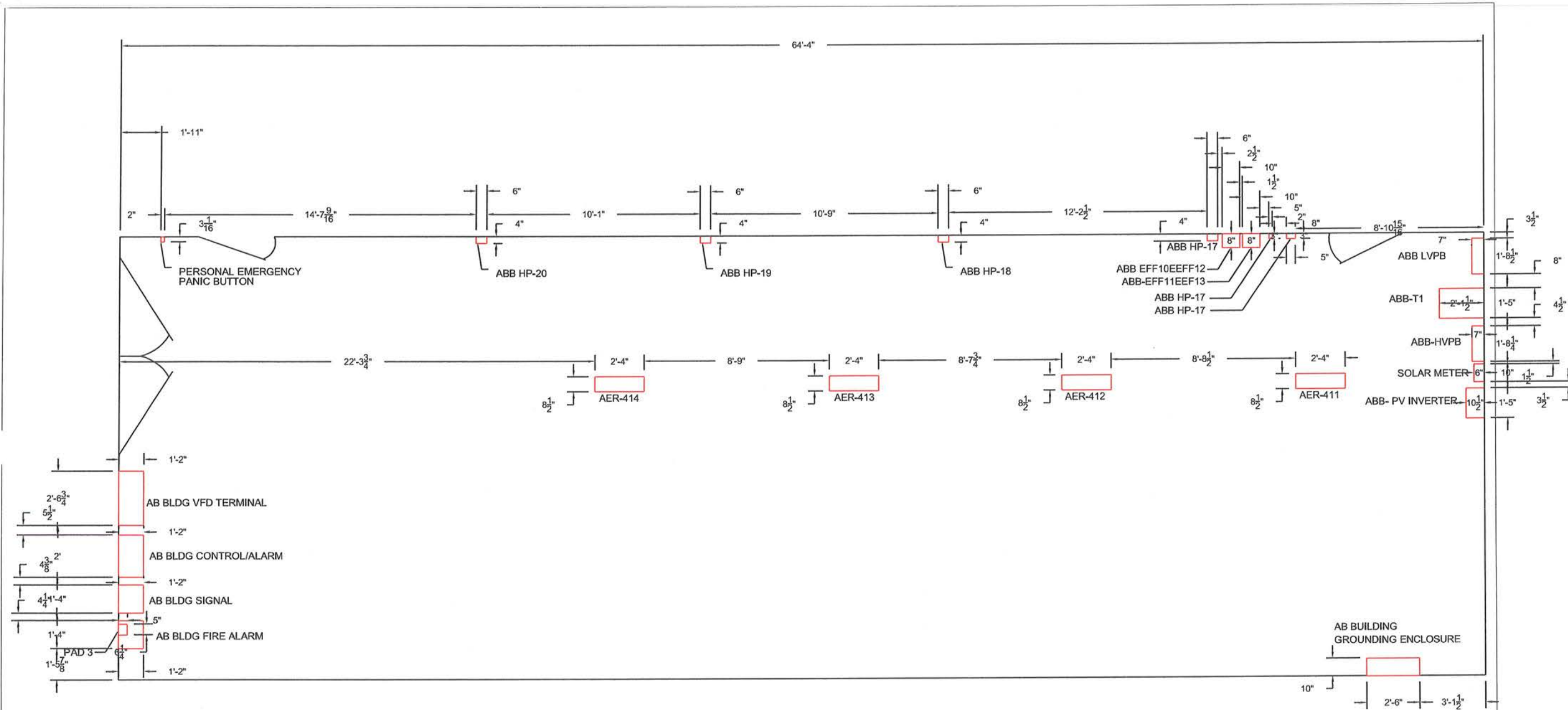
REFERENCE DRAWING: E-SP.6

SECTION 2

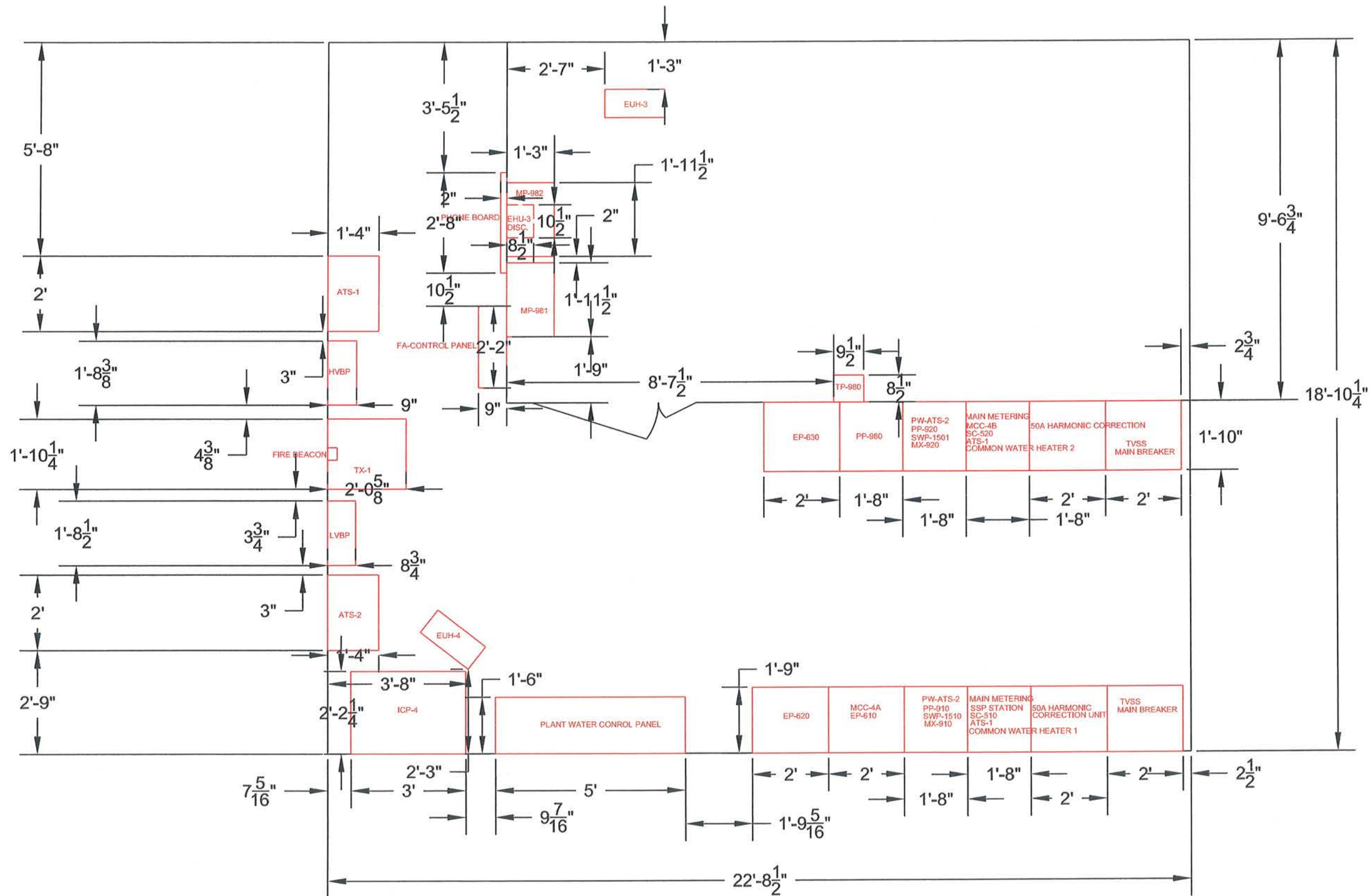
ROOM LAYOUTS & WIRING DIAGRAMS PROVIDED BY THE GENERAL CONTRACTOR &
SUBCONTRACTOR



AERATION BUILDING ELECTRICAL LAYOUT

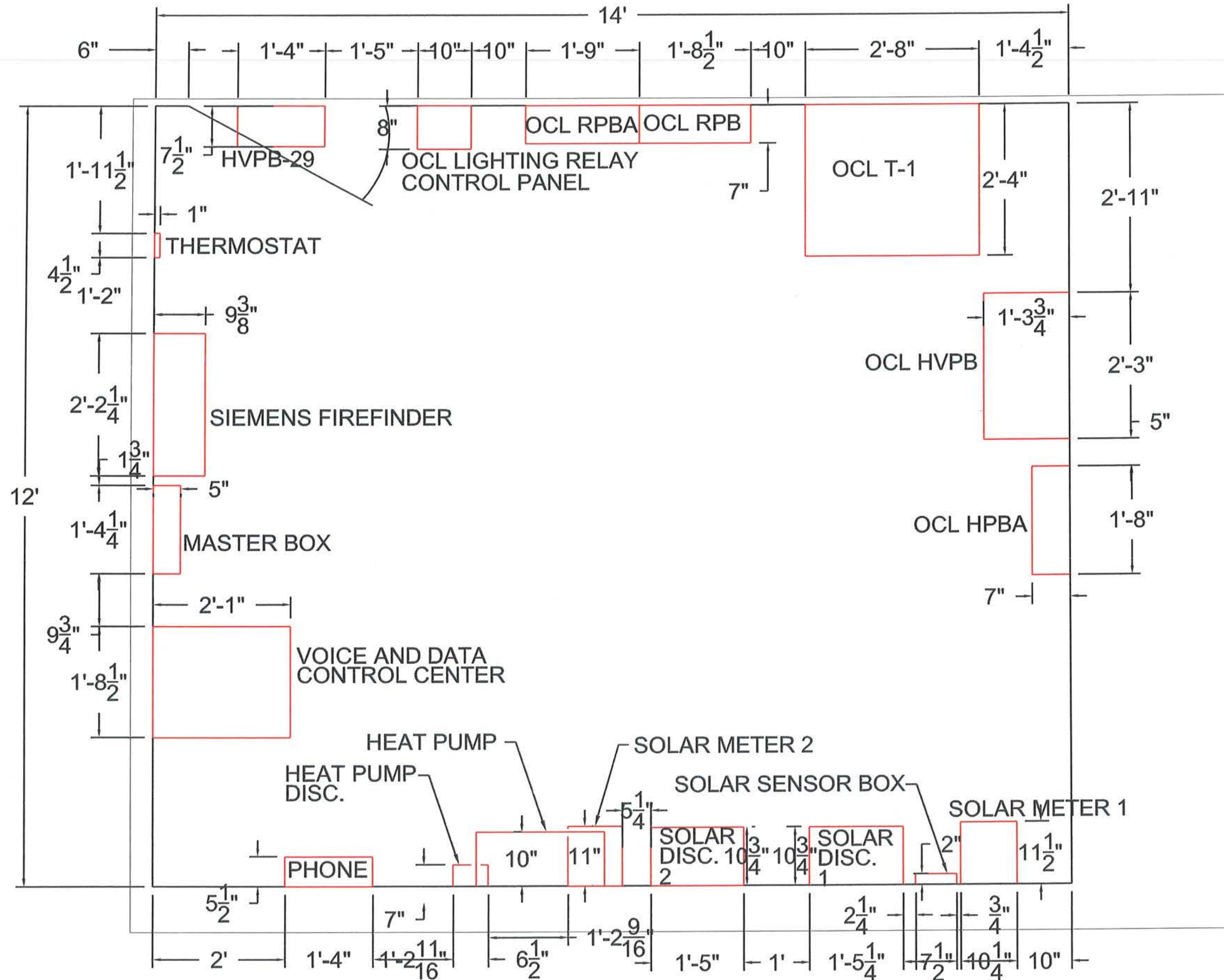


AERATION BUILDING ELECTRICAL LAYOUT

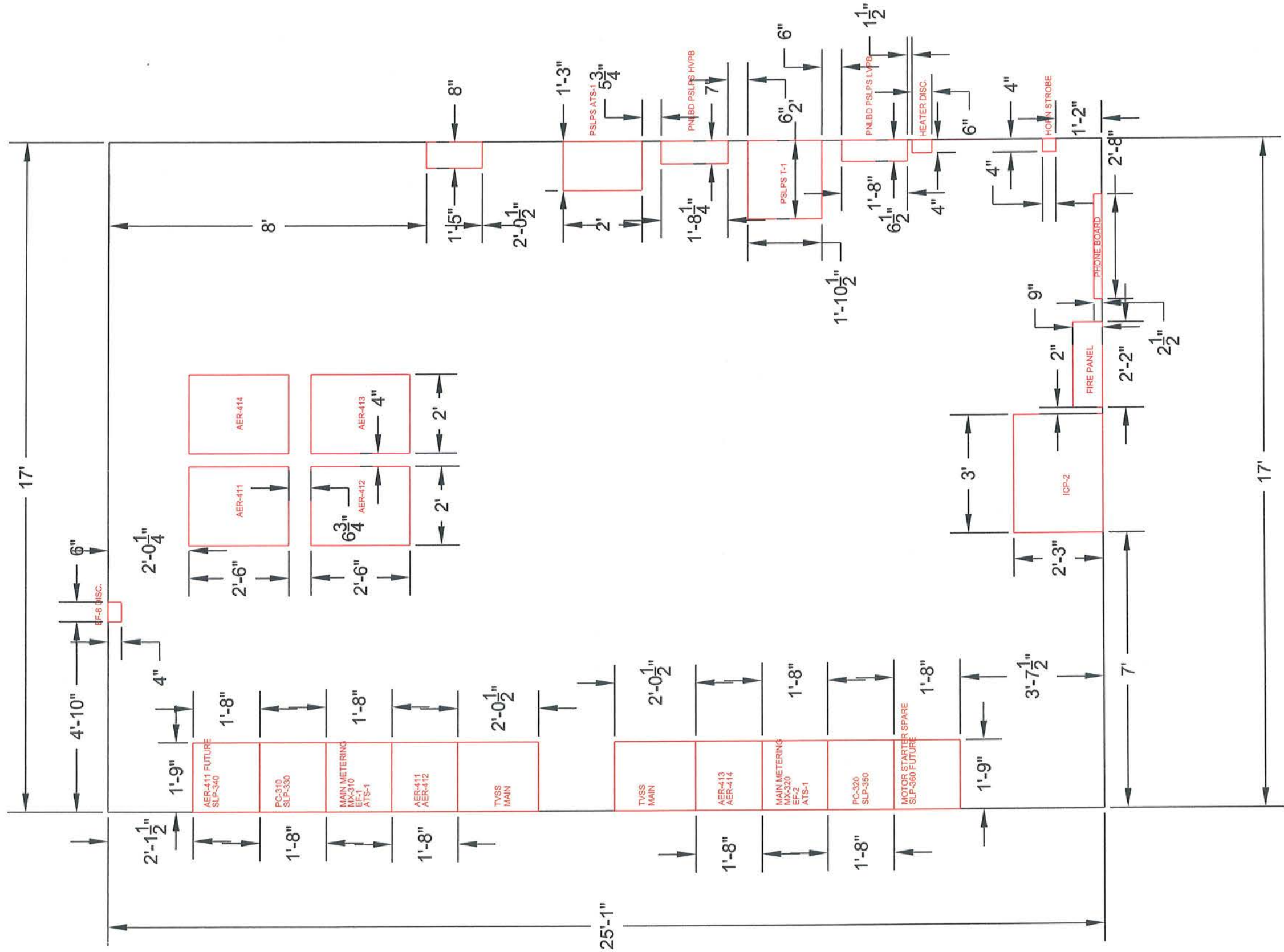


DISINFECTATION BUILDING ELECTRIC ROOM AS-BUILT

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

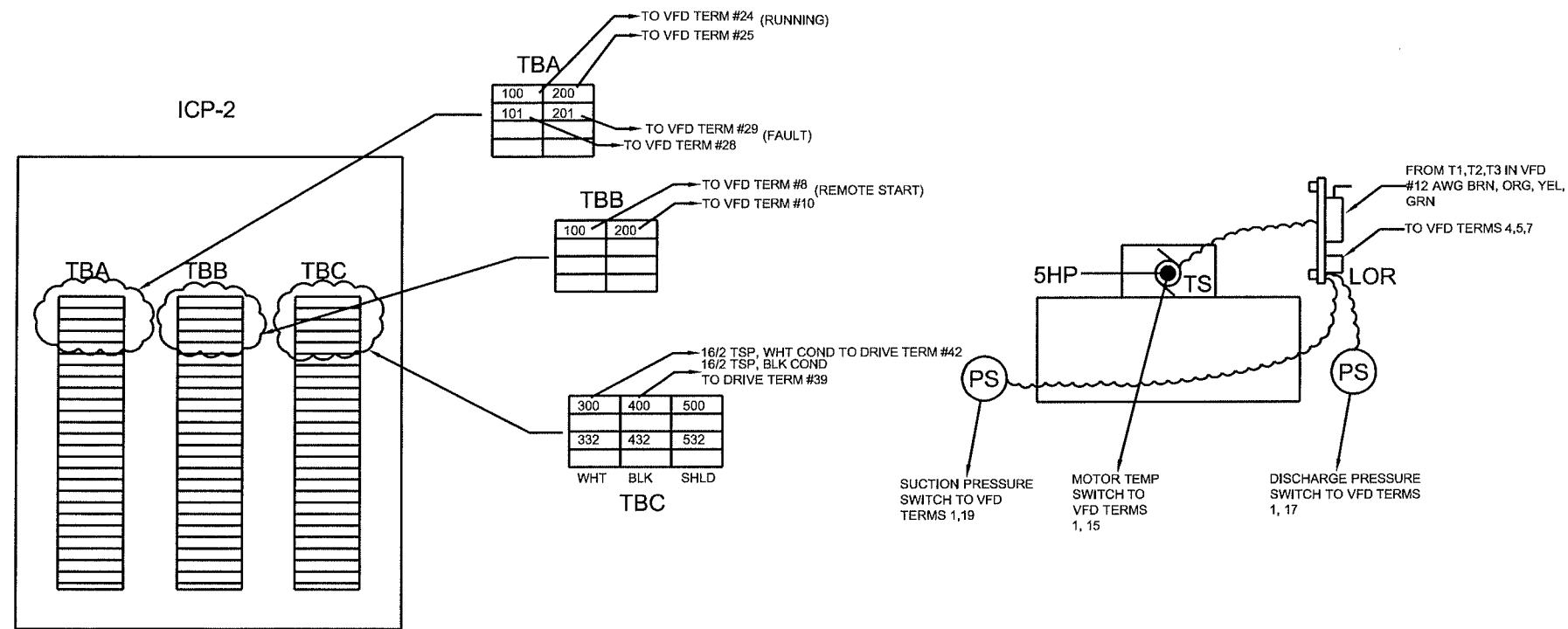


OCL ELECTRIC ROOM LAYOUT



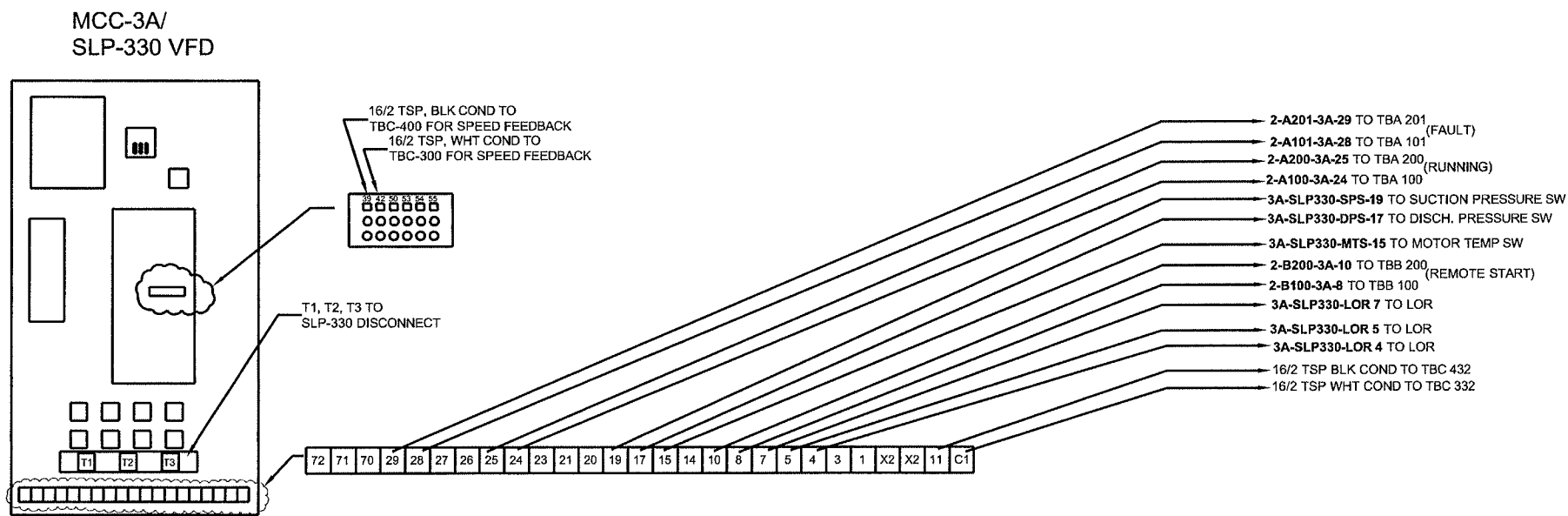
PRIMARY PUMP STATION ELECTRIC ROOM AS-BUILT

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

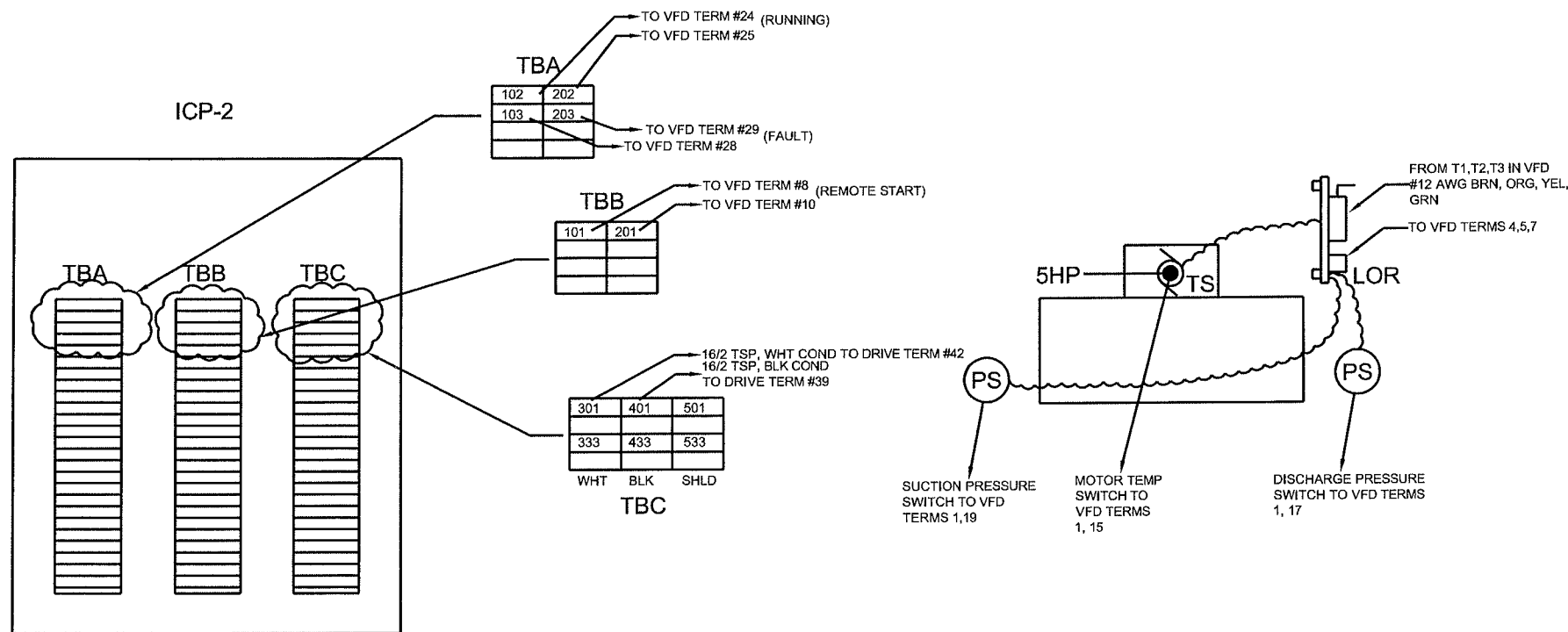


TBA- 100-199, 200-299
 TBB- 100-168, 200-268
 TBC- 300-352, 400-452, 500-552
 WHITE BLACK SHIELD

NOTE: ALL CONTROL CONDUCTORS
 #14 AWG THWN-2

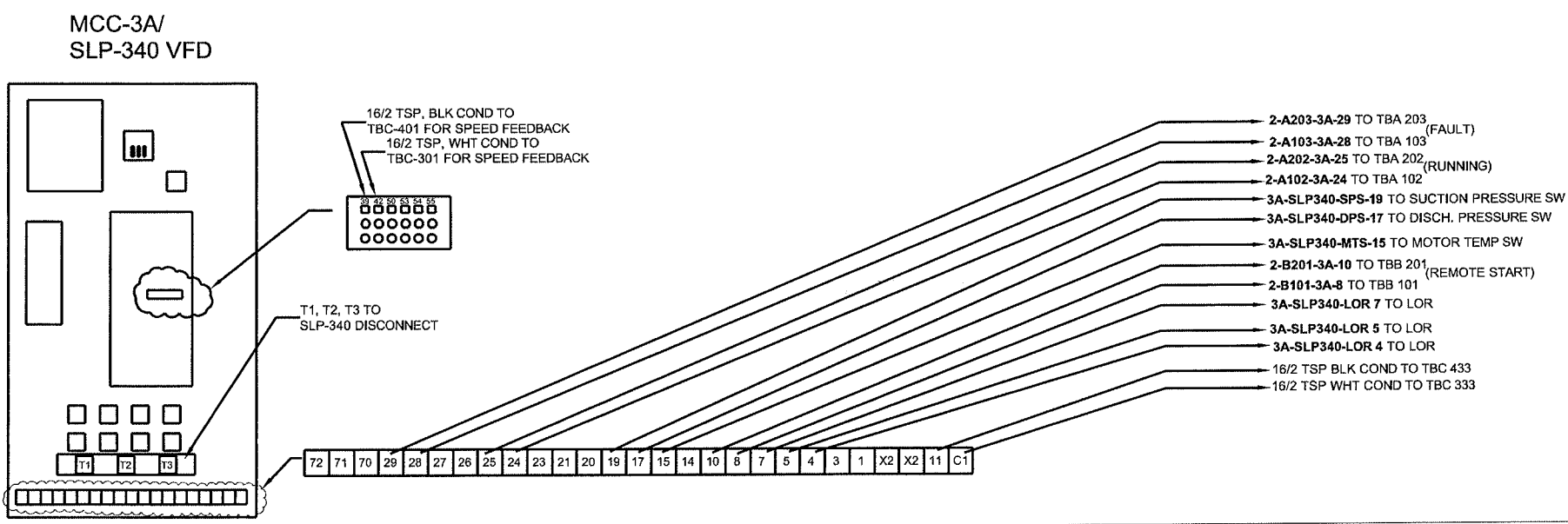


PRIMARY SLUDGE PUMP SLP-330

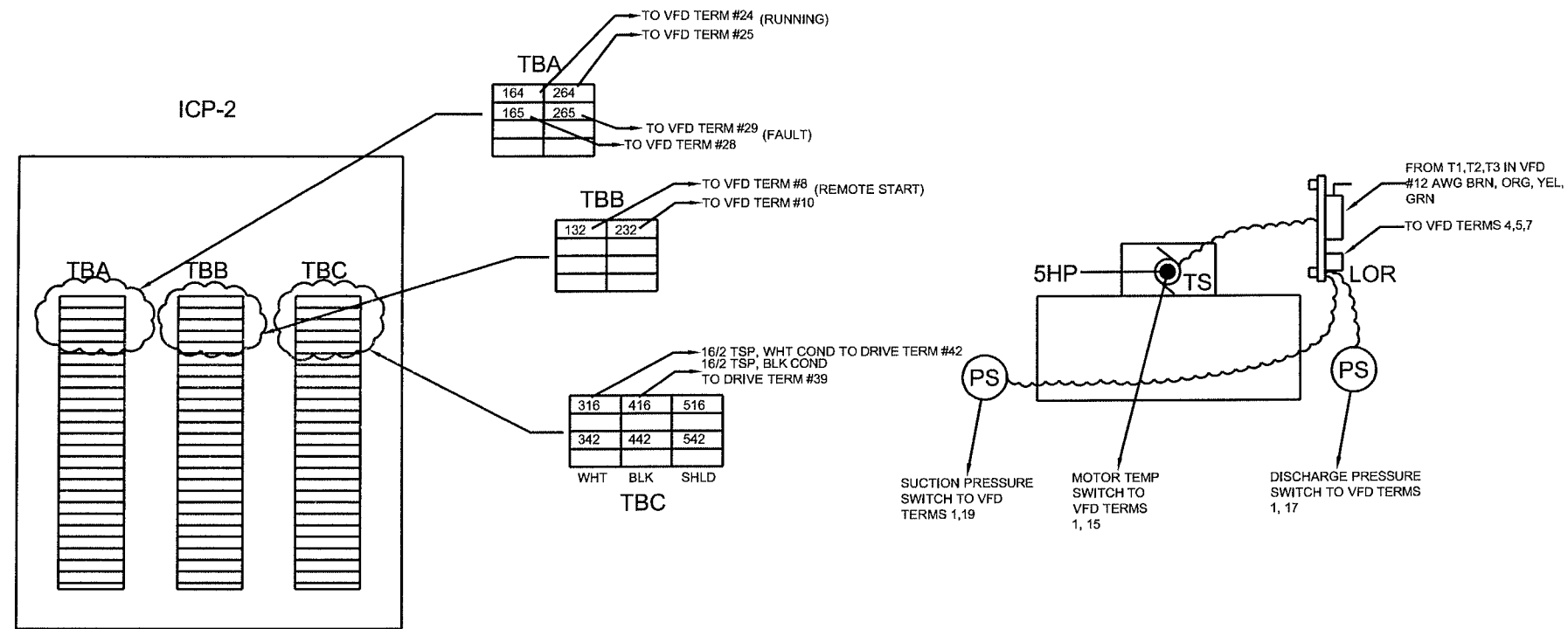


TBA- 100-199, 200-299
 TBB- 100-168, 200-268
 TBC- 300-352, 400-452, 500-552
 WHITE BLACK SHIELD

NOTE: ALL CONTROL CONDUCTORS
 #14 AWG THWN-2

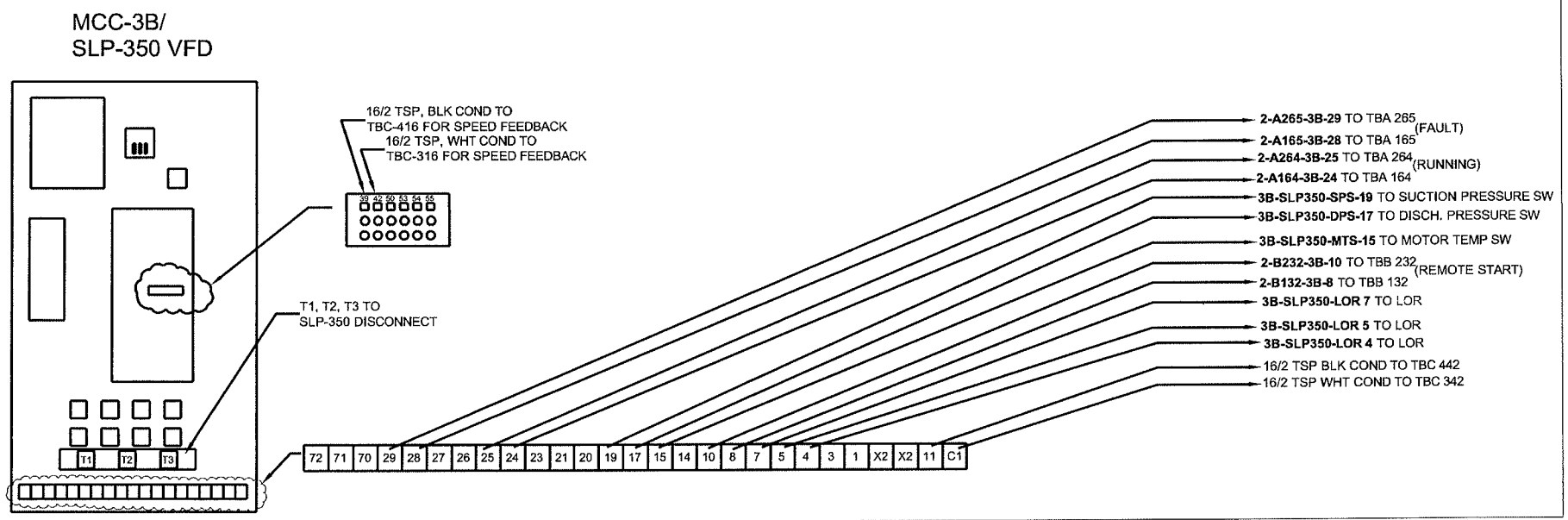


PRIMARY SLUDGE PUMP SLP-340

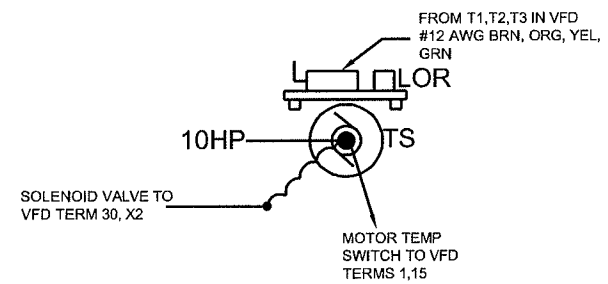
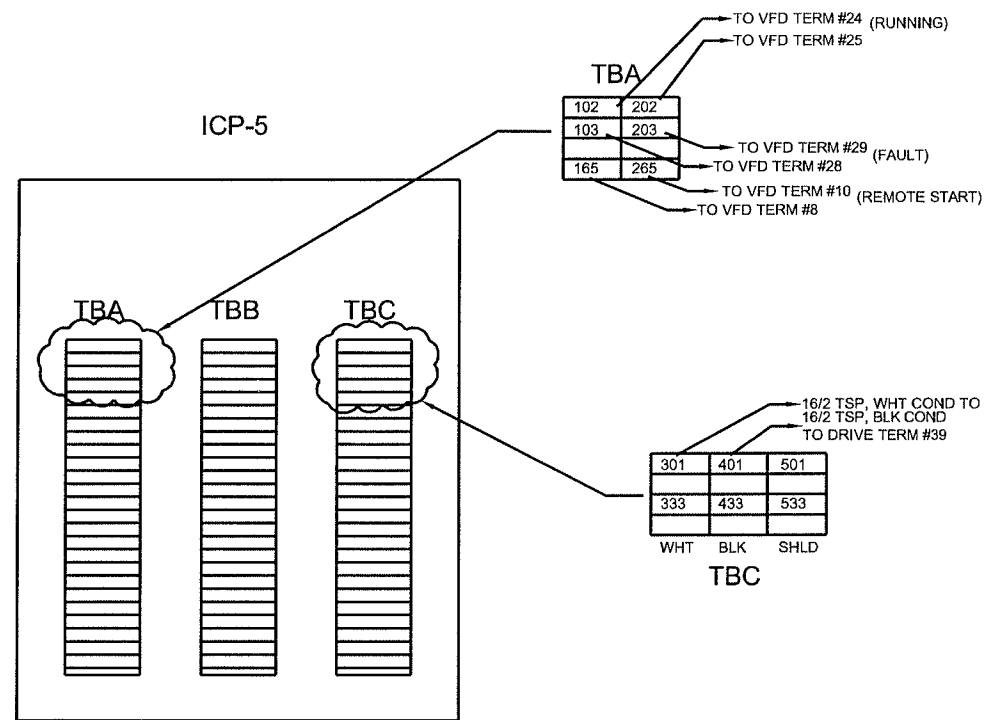


TBA- 100-199, 200-299
 TBB- 100-168, 200-268
 TBC- 300-352, 400-452, 500-552
 WHITE BLACK SHIELD

NOTE: ALL CONTROL CONDUCTORS
 #14 AWG THWN-2

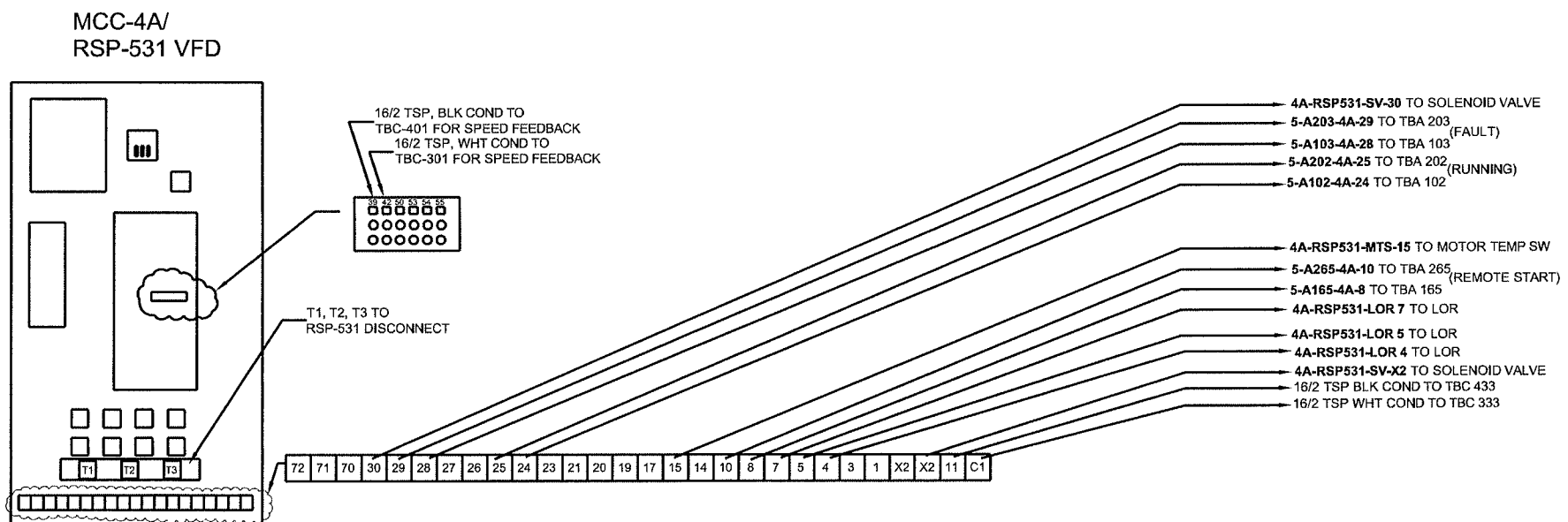


PRIMARY SLUDGE PUMP SLP-350

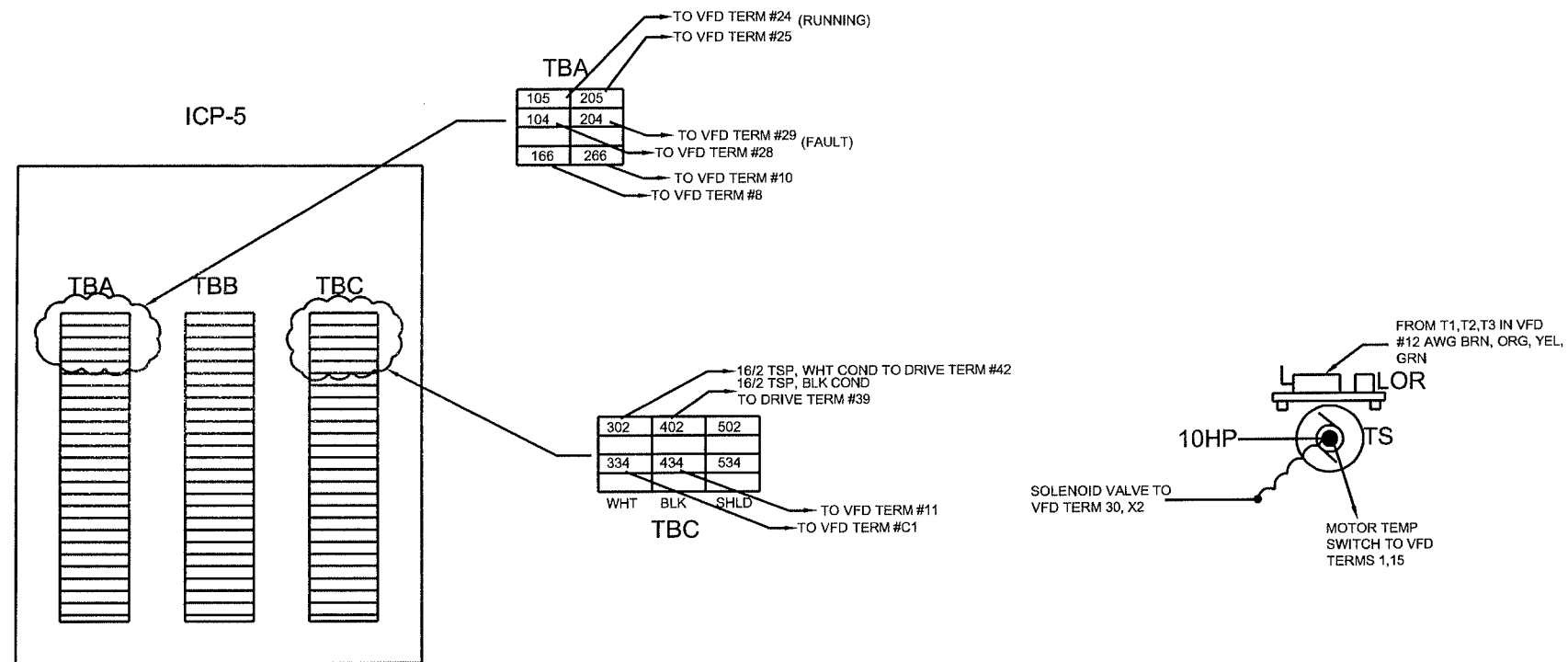


TBA- 100-199, 200-299
 TBB- 100-168, 200-268
 TBC- 300-352, 400-452, 500-552
 WHITE BLACK SHIELD

NOTE: ALL CONTROL CONDUCTORS
 #14 AWG THWN-2

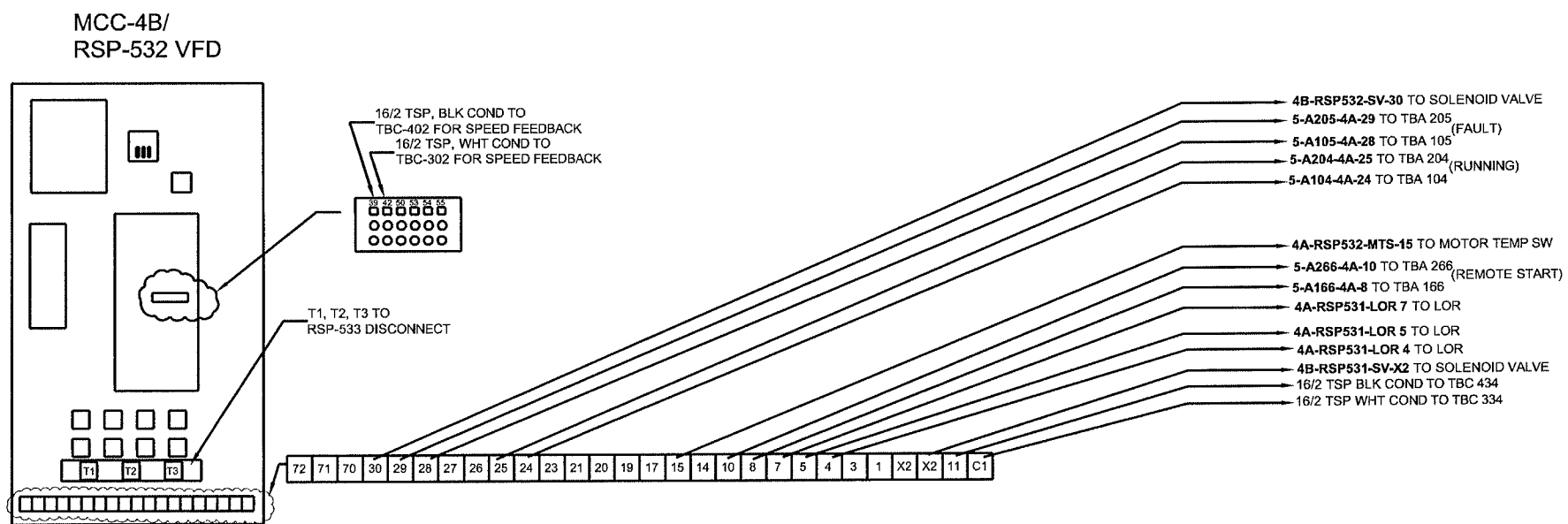


RETURN SLUDGE PUMP RSP-531

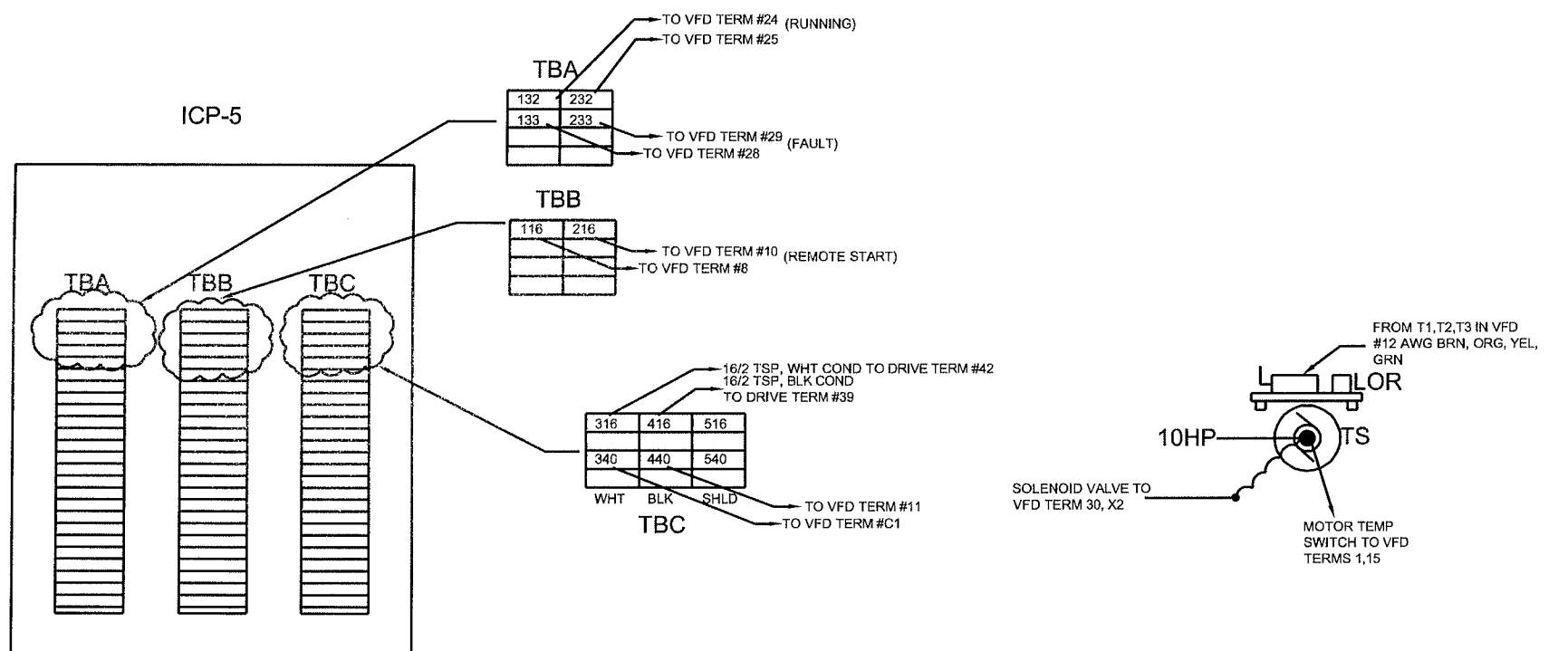


TBA- 100-199, 200-299
 TBB- 100-168, 200-268
 TBC- 300-352, 400-452, 500-552
 WHITE BLACK SHIELD

NOTE: ALL CONTROL CONDUCTORS
 #14 AWG THWN-2

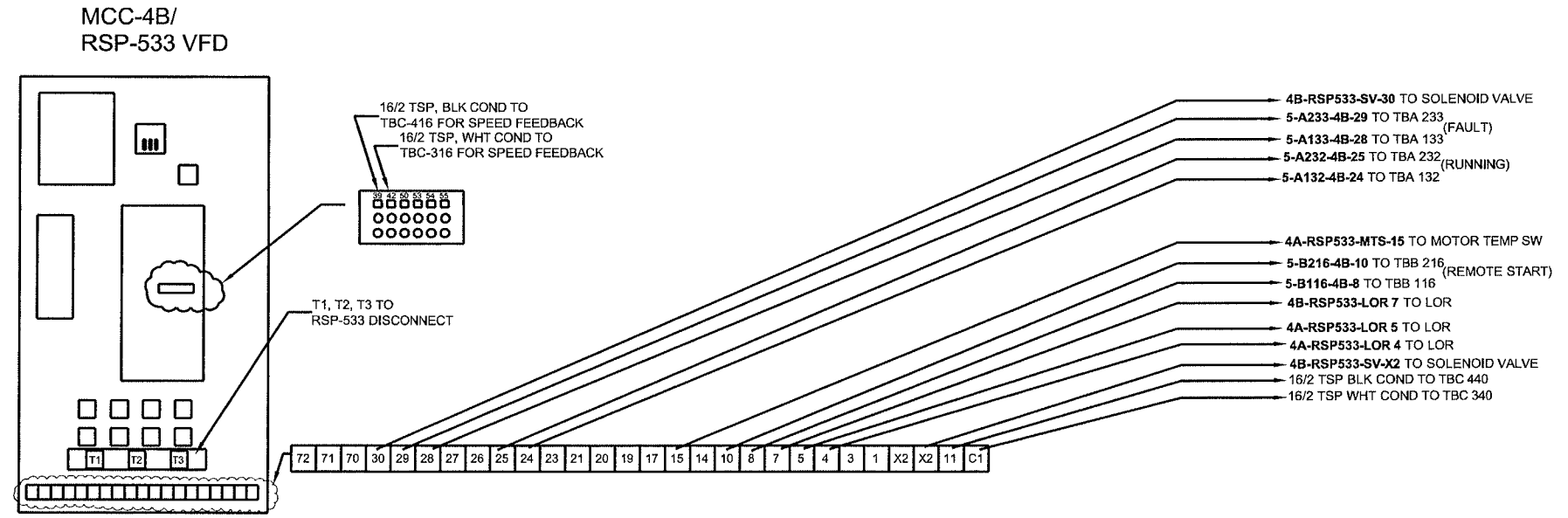


RETURN SLUDGE PUMP RSP-532

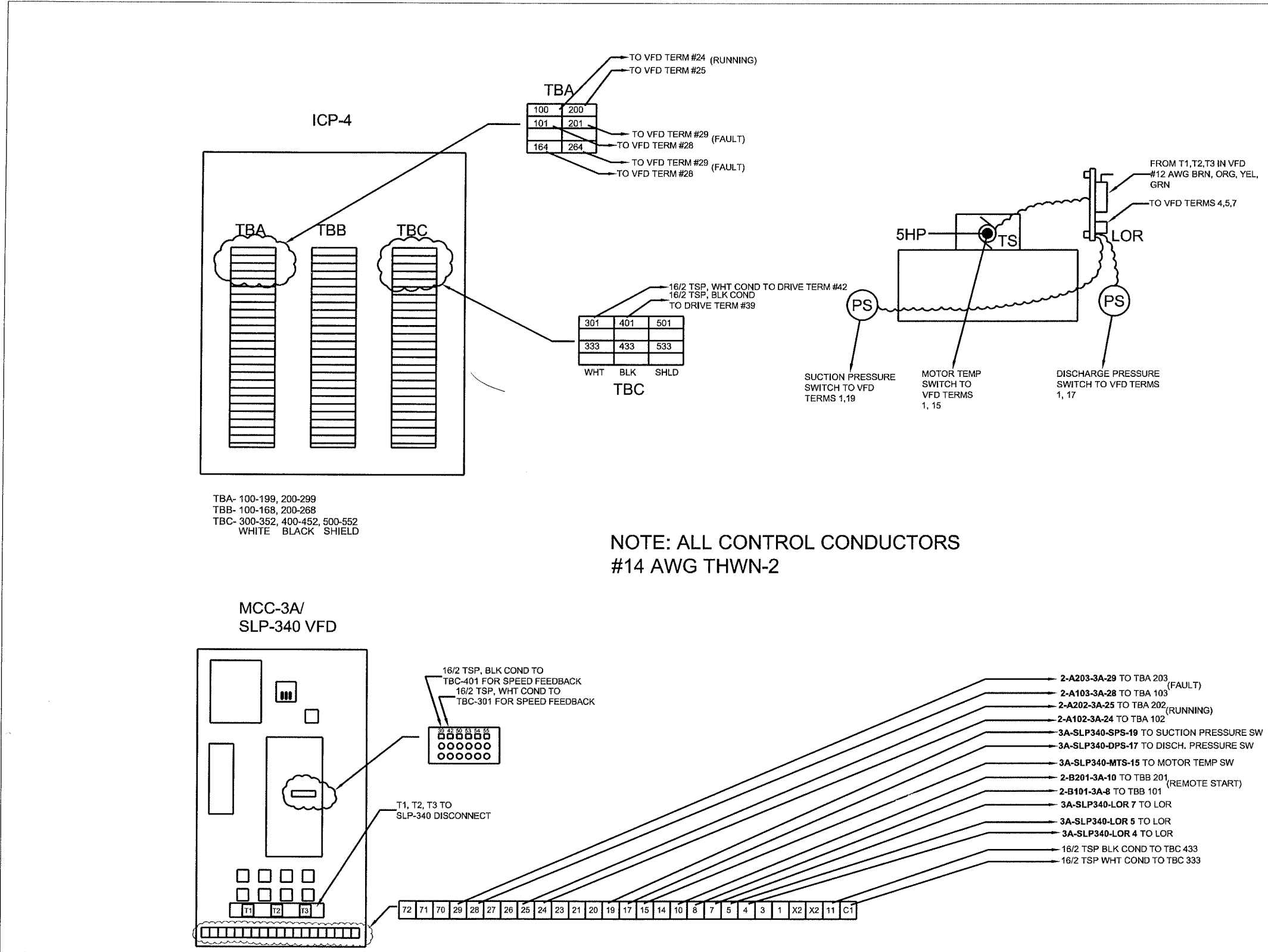


TBA- 100-199, 200-299
 TBB- 100-168, 200-268
 TBC- 300-352, 400-452, 500-552
 WHITE BLACK SHIELD

NOTE: ALL CONTROL CONDUCTORS
 #14 AWG THWN-2



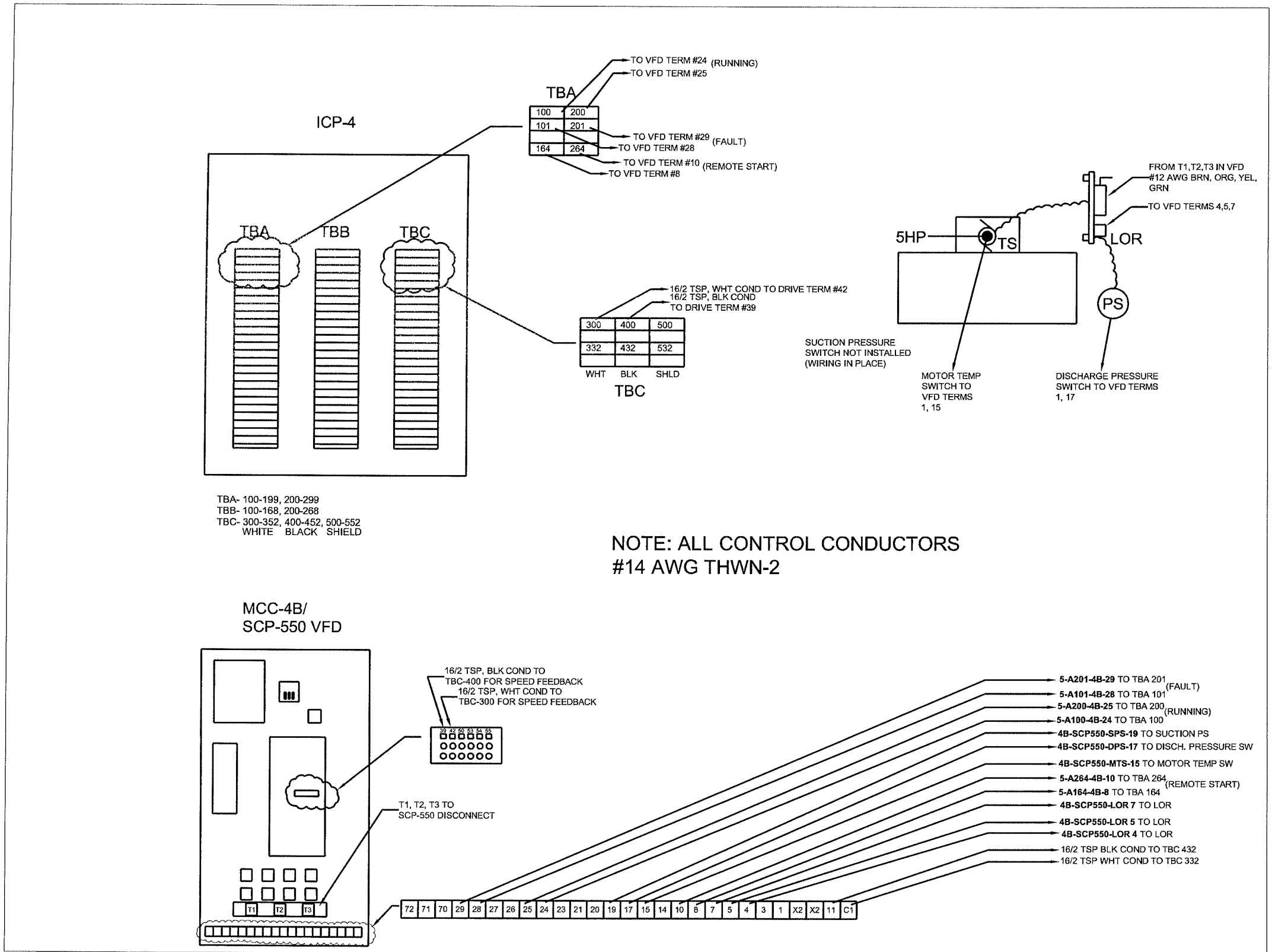
RETURN SLUDGE PUMP RSP-533



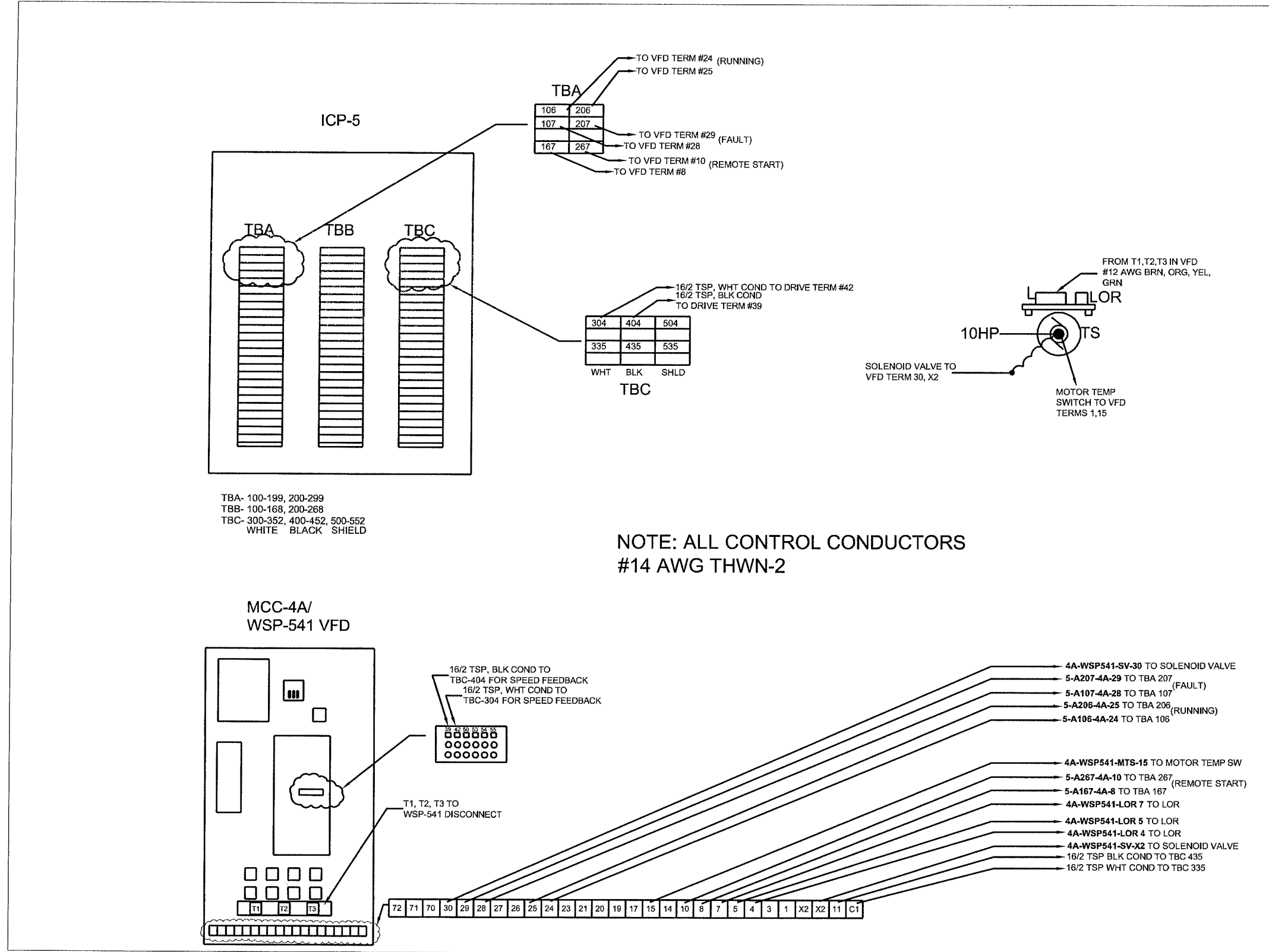
TBA- 100-199, 200-299
 TBB- 100-168, 200-268
 TBC- 300-352, 400-452, 500-552
 WHITE BLACK SHIELD

NOTE: ALL CONTROL CONDUCTORS
 #14 AWG THWN-2

SECONDARY SCUM PUMP SCP-550



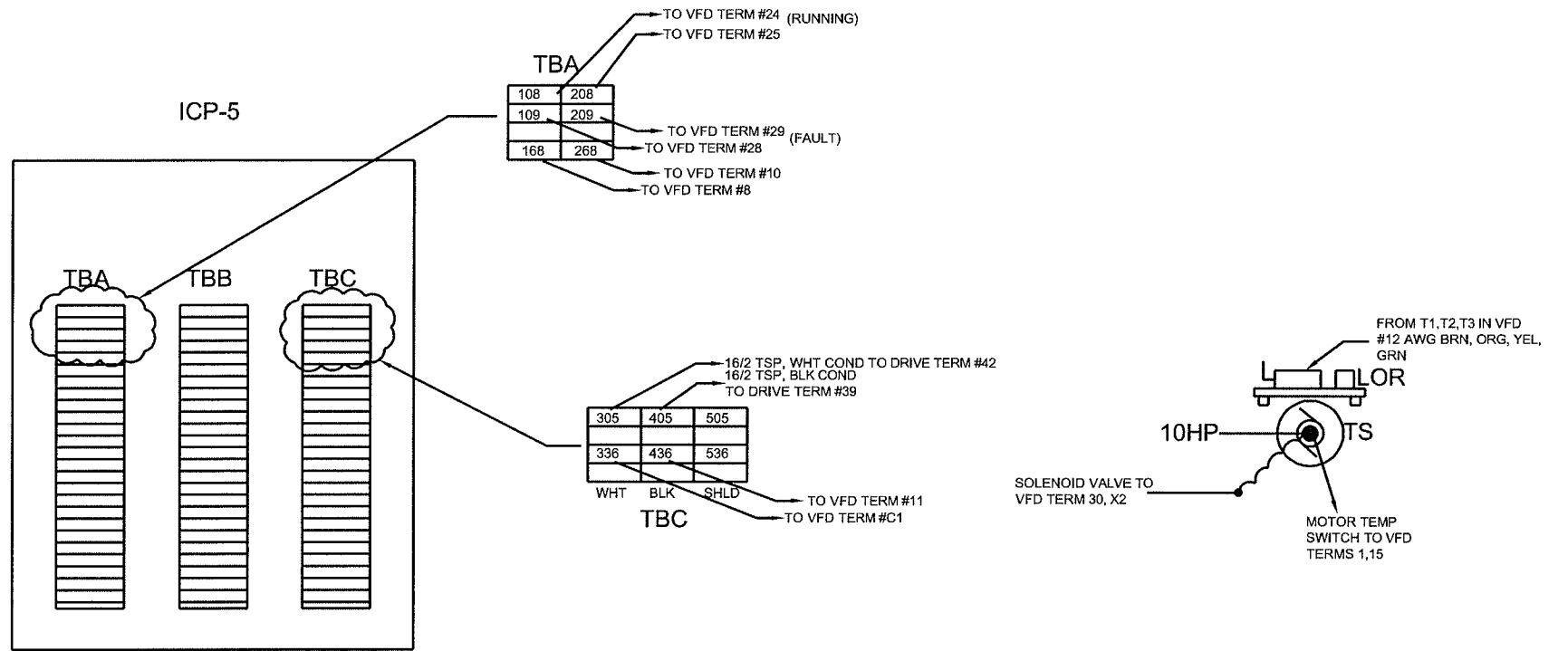
SECONDARY SCUM PUMP SCP-550



TBA- 100-199, 200-299
 TBB- 100-168, 200-268
 TBC- 300-352, 400-452, 500-552
 WHITE BLACK SHIELD

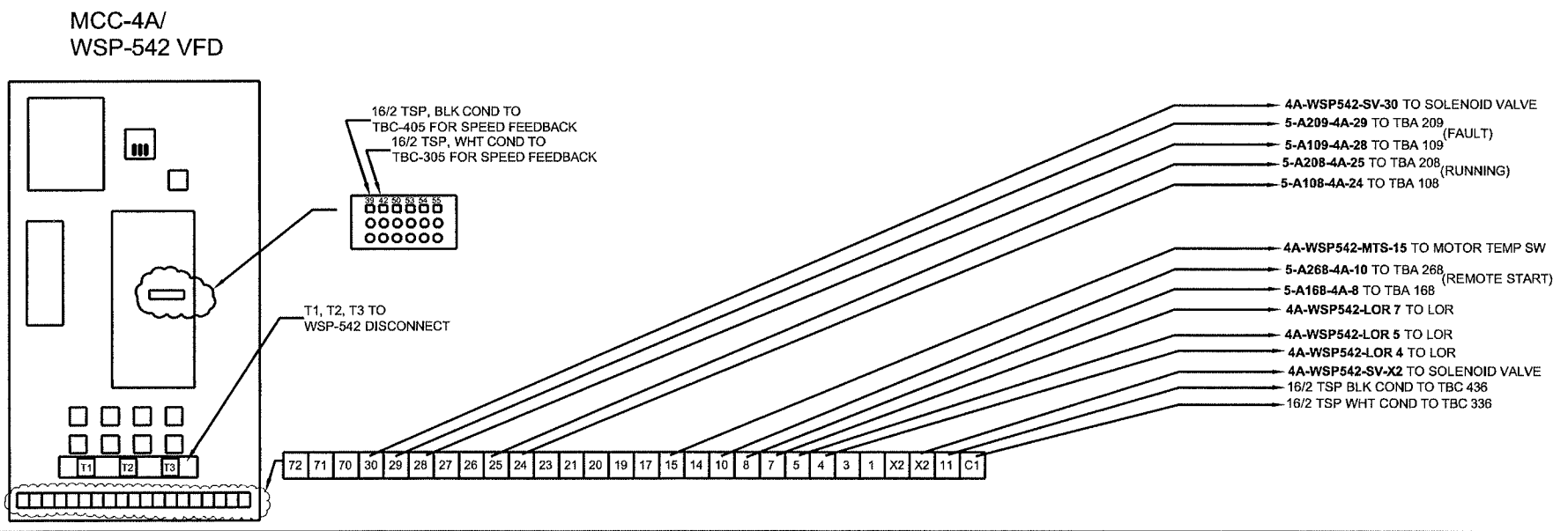
NOTE: ALL CONTROL CONDUCTORS
 #14 AWG THWN-2

WASTE SLUDGE PUMP WSP-541

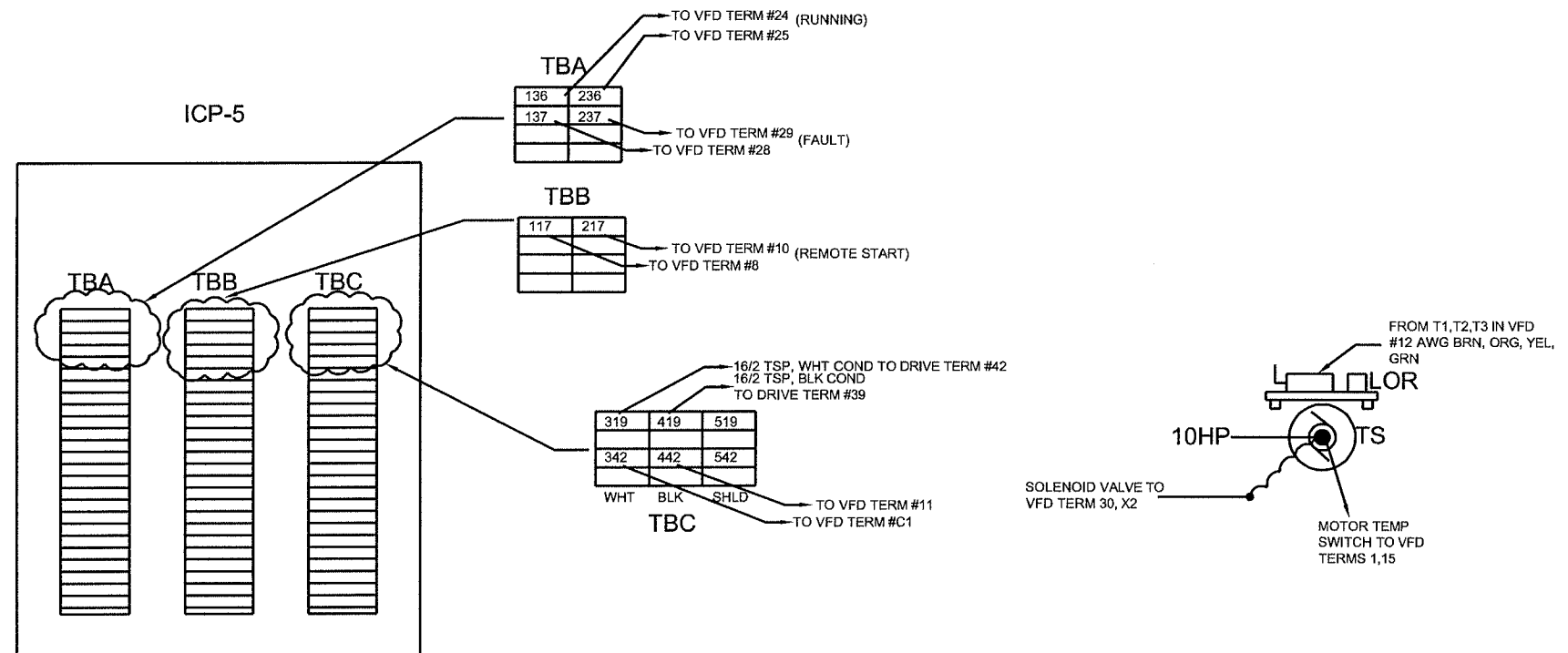


TBA- 100-199, 200-299
 TBB- 100-168, 200-268
 TBC- 300-352, 400-452, 500-552
 WHITE BLACK SHIELD

NOTE: ALL CONTROL CONDUCTORS
 #14 AWG THWN-2

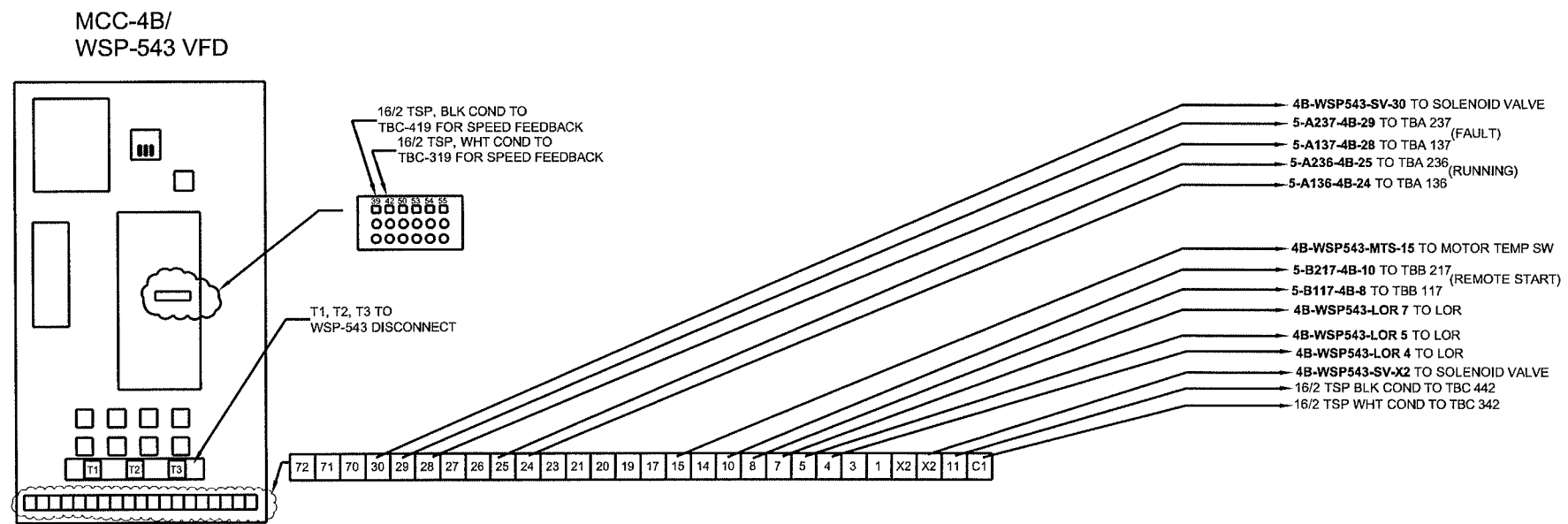


WASTE SLUDGE PUMP WSP-542



TBA- 100-199, 200-299
TBB- 100-168, 200-268
TBC- 300-352, 400-452, 500-552
WHITE BLACK SHIELD

NOTE: ALL CONTROL CONDUCTORS
#14 AWG THWN-2



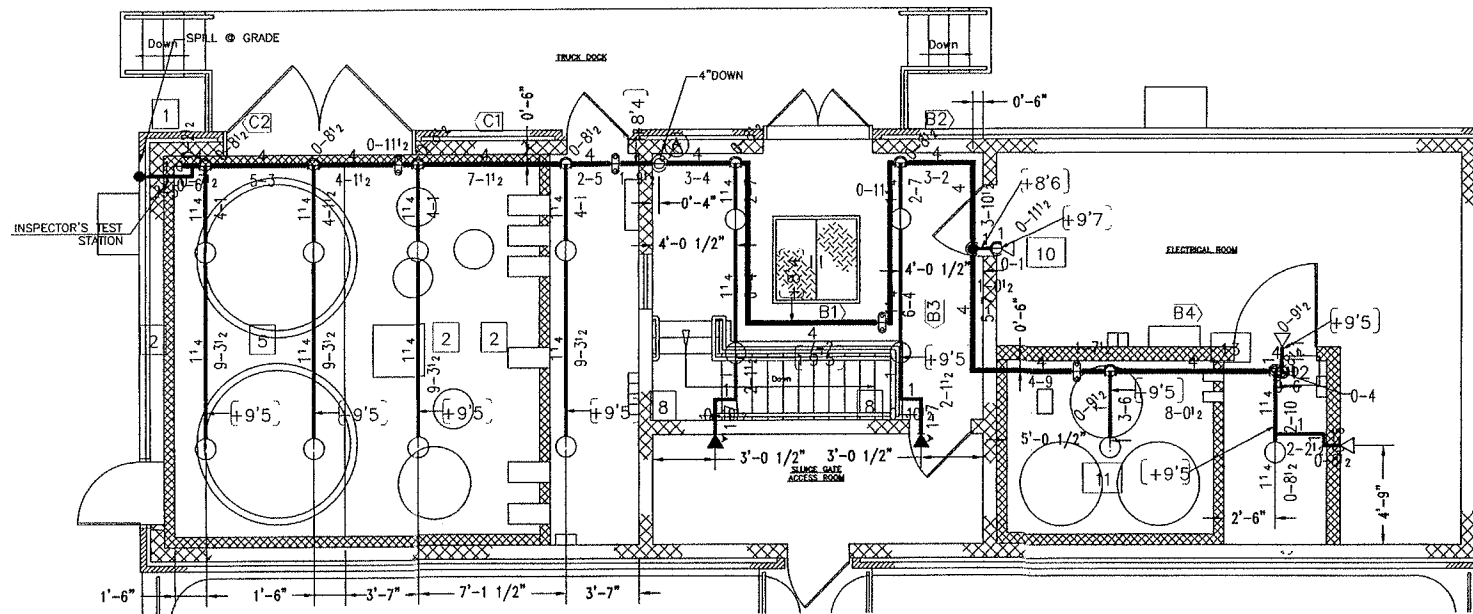
WASTE SLUDGE PUMP WSP-543

APPENDIX F – FIRE PROTECTION

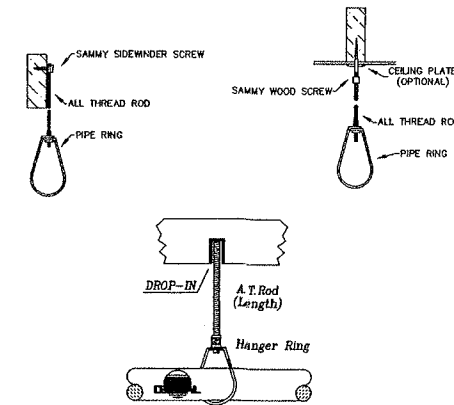
AS-BUILT SKETCH PROVIDED BY THE SUBCONTRACTOR

WATER SUPPLY DATA
 Static Pressure 86 PSI
 Residual Pressure 80 PSI
 Residual Flow 1405 GPM

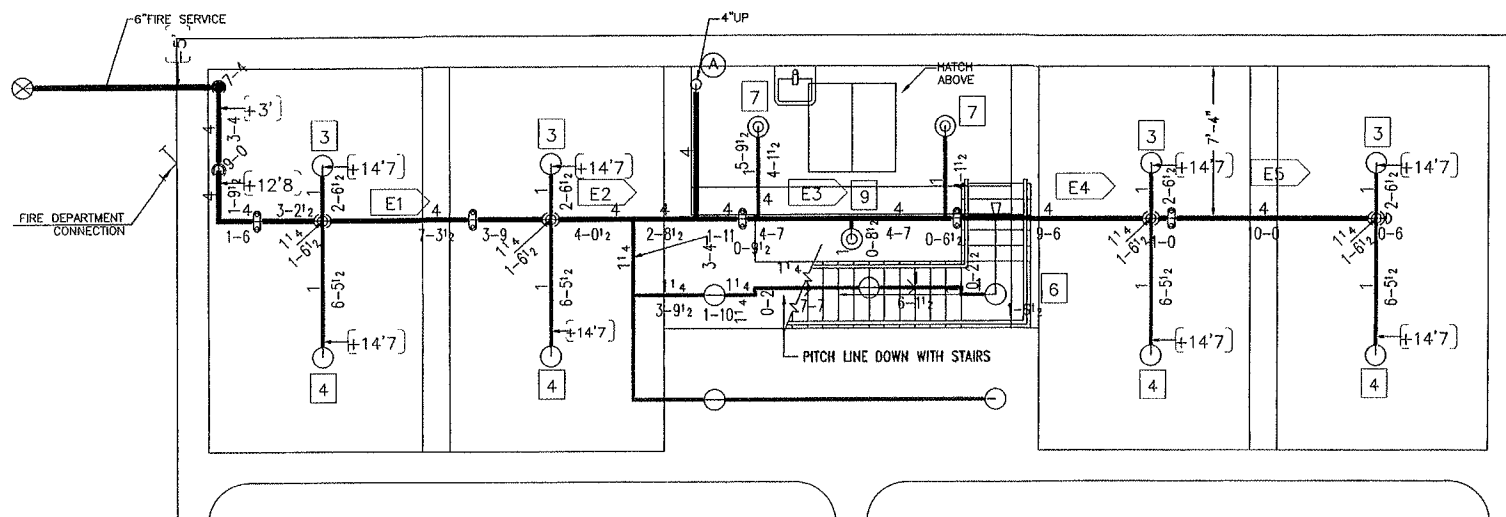
FLOW TEST CONDUCTED ON
 July 22, 2010



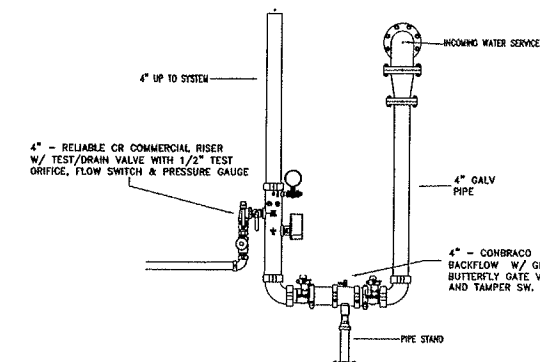
UPPER LEVEL PROPOSED PLAN
 1/4" = 1'-0"



HANGER DETAILS
 SCALE: NONE



LOWER LEVEL PROPOSED PLAN
 1/4" = 1'-0"



RISER DETAIL

GENERAL NOTES:

1. SPRINKLER SYSTEM IS HYDRAULICALLY DESIGNED PER NFPA 13 2007 EDITION.
2. AREA ONE IS A WET SYSTEM DESIGNED PER NFPA 13 AND IS CALCULATED AT .15 OVER 1500 SQ. FT. PLUS 100 GPM FOR HOSE ALLOWANCE.
3. ALL MATERIALS USED ARE TO BE UL LISTED AND COMPLY WITH NFPA13 (2007 EDITION) AND THE MASSACHUSETTS STATE BUILDING CODE.
4. ALL MATERIALS USED ARE TO BE UL LISTED AND COMPLY WITH NFPA13 (2007 EDITION) AND THE MASSACHUSETTS STATE BUILDING CODE.
5. PIPING IS TO BE SUPPORTED AS REQUIRED BY NFPA-13. HANGERS ARE TO BE FIELD LOCATED TO BEST SUPPORT THE PIPE.
6. ALL PIPING WILL BE HYDROSTATICALLY TESTED AT 200 PSI FOR 2 HOURS.
7. ALL NEW PIPING 1" SHALL BE BLACK STEEL SCHEDULE 40 WITH THREADED ENDS AND BLACK CAST IRON FITTINGS.
8. ALL NEW PIPING 1 1/2" AND LARGER SHALL BE BLACK STEEL SCHEDULE 40 WITH GROOVED ENDS AND GROOVED FITTINGS.

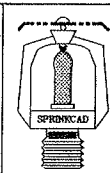
NOTES

REVISIONS

DATE	DESCRIPTION	BY
11/22/10	INSTALL DRAWING	775
3/7/11	AS BUILT	775

SPRINKLER SYMBOLS

SYM	ICD	POSITION	FINISH	TEMP	TK	NET	SN	INF.	MODEL#
○	21	UPR	BRASS	155	8.00	3/4"	R3622	REL	F1FR
◐	2	SIDE	WHITE	155	8.00	1"	V3611	MC	V36
◑	3	SIDE	WHITE	155	8.00	3/4"	R3635	REL	F1FR
⊙	3	UPR	BRASS	155	8.00	3/4"	R3622	REL	F1FR



Ebacher
 www.ebachercompany.com
 40 Portsmouth Road
 Amesbury, MA 01913
 978-815-0963

NEWBURYPORT WTF
 157 WATER STREET
 NEWBURYPORT, MA

CONTRACTOR: Waterline

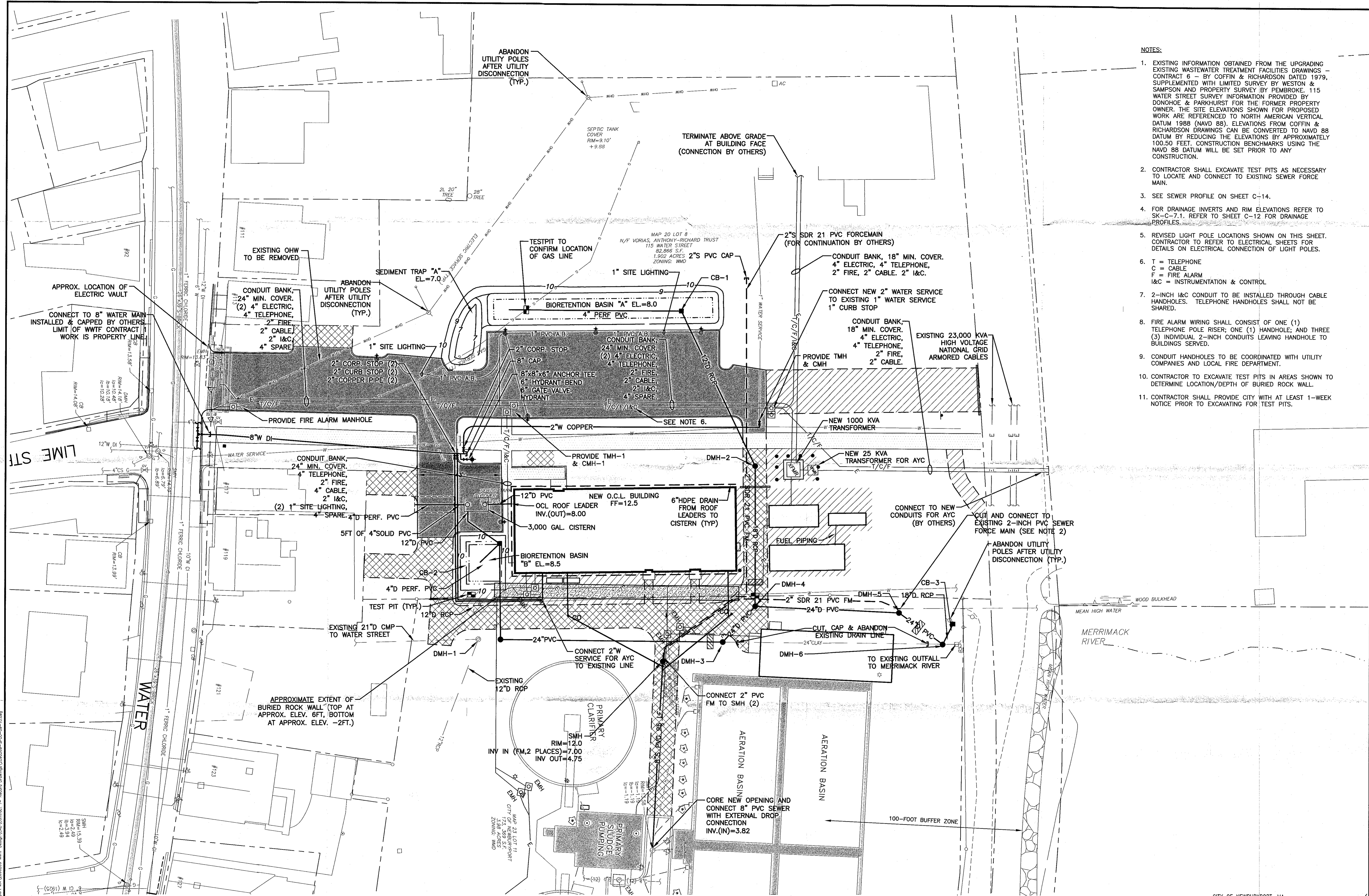
PIPING PLAN AREA 1

PERMIT NO.	
CONTRACT NO.	
APPROVAL	Newburyport ED
DRAWN BY	JTB
SCALE	1/8" = 1'-0"
DATE	10/4/10
REVISED	
PLotted	
	FP 1 of 1

APPENDIX G – MISCELLANEOUS

SECTION 1

CIVIL POST DESIGN REVISION SKETCHES



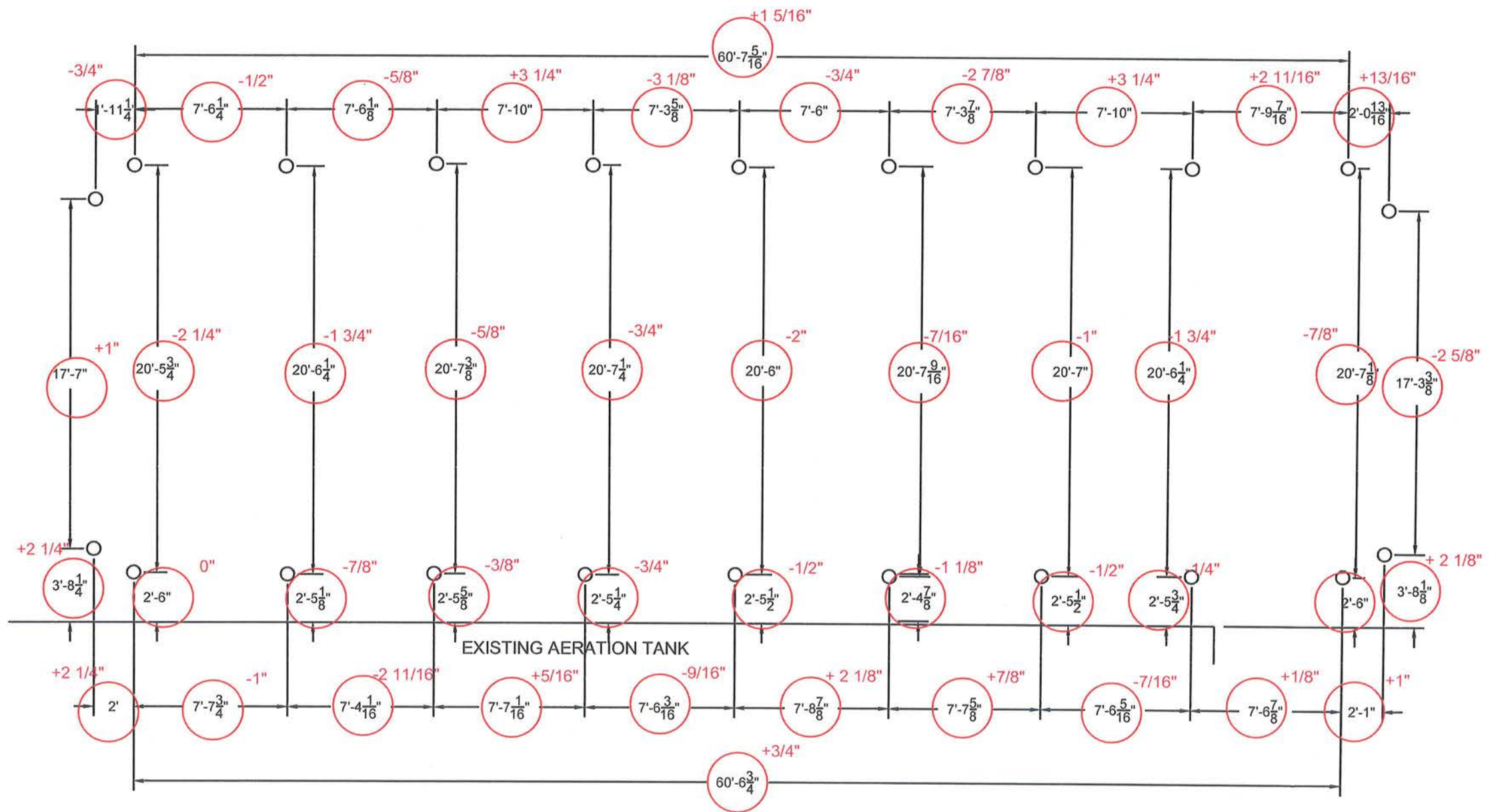
- NOTES:**
- EXISTING INFORMATION OBTAINED FROM THE UPGRADING EXISTING WASTEWATER TREATMENT FACILITIES DRAWINGS - CONTRACT 6 - BY COFFIN & RICHARDSON DATED 1979, SUPPLEMENTED WITH LIMITED SURVEY BY WESTON & SAMPSON AND PROPERTY SURVEY BY PEMBROKE. 115 WATER STREET SURVEY INFORMATION PROVIDED BY DONOHOE & PARKHURST FOR THE FORMER PROPERTY OWNER. THE SITE ELEVATIONS SHOWN FOR PROPOSED WORK ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88). ELEVATIONS FROM COFFIN & RICHARDSON DRAWINGS CAN BE CONVERTED TO NAVD 88 DATUM BY REDUCING THE ELEVATIONS BY APPROXIMATELY 100.50 FEET. CONSTRUCTION BENCHMARKS USING THE NAVD 88 DATUM WILL BE SET PRIOR TO ANY CONSTRUCTION.
 - CONTRACTOR SHALL EXCAVATE TEST PITS AS NECESSARY TO LOCATE AND CONNECT TO EXISTING SEWER FORCE MAIN.
 - SEE SEWER PROFILE ON SHEET C-14.
 - FOR DRAINAGE INVERTS AND RIM ELEVATIONS REFER TO SK-C-7.1. REFER TO SHEET C-12 FOR DRAINAGE PROFILES.
 - REVISED LIGHT POLE LOCATIONS SHOWN ON THIS SHEET. CONTRACTOR TO REFER TO ELECTRICAL SHEETS FOR DETAILS ON ELECTRICAL CONNECTION OF LIGHT POLES.
 - T = TELEPHONE
C = CABLE
F = FIRE ALARM
I&C = INSTRUMENTATION & CONTROL
 - 2-INCH I&C CONDUIT TO BE INSTALLED THROUGH CABLE HANDHOLES. TELEPHONE HANDHOLES SHALL NOT BE SHARED.
 - FIRE ALARM WIRING SHALL CONSIST OF ONE (1) TELEPHONE POLE RISER; ONE (1) HANDHOLE; AND THREE (3) INDIVIDUAL 2-INCH CONDUITS LEAVING HANDHOLE TO BUILDINGS SERVED.
 - CONDUIT HANDHOLES TO BE COORDINATED WITH UTILITY COMPANIES AND LOCAL FIRE DEPARTMENT.
 - CONTRACTOR TO EXCAVATE TEST PITS IN AREAS SHOWN TO DETERMINE LOCATION/DEPTH OF BURIED ROCK WALL.
 - CONTRACTOR SHALL PROVIDE CITY WITH AT LEAST 1-WEEK NOTICE PRIOR TO EXCAVATING FOR TEST PITS.

115 WATER ST - UTILITY PLAN
SCALE: 1"=20'

O:\Newburyport\MA\20060609 WWTF Design\CAD\Contract 1 - Record\Drawings\20060609 - SP00-09-10.dwg
 Date: 10/25/06
 User: JWB
 Plot: 10/25/06 10:25 AM

SECTION 2

AS-BUILT SKETCHES PROVIDED BY THE GENERAL CONTRACTOR

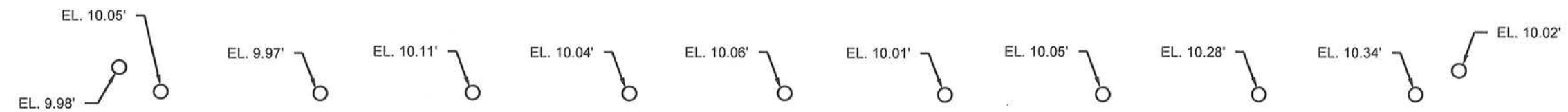
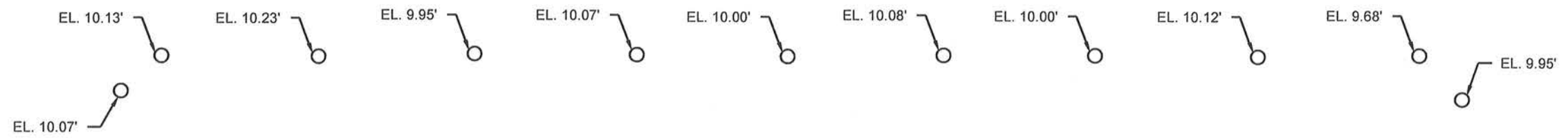


SCALE: 1/8"=1'-0"



AERATION BUILDING PILE LOCATIONS- AS BUILT

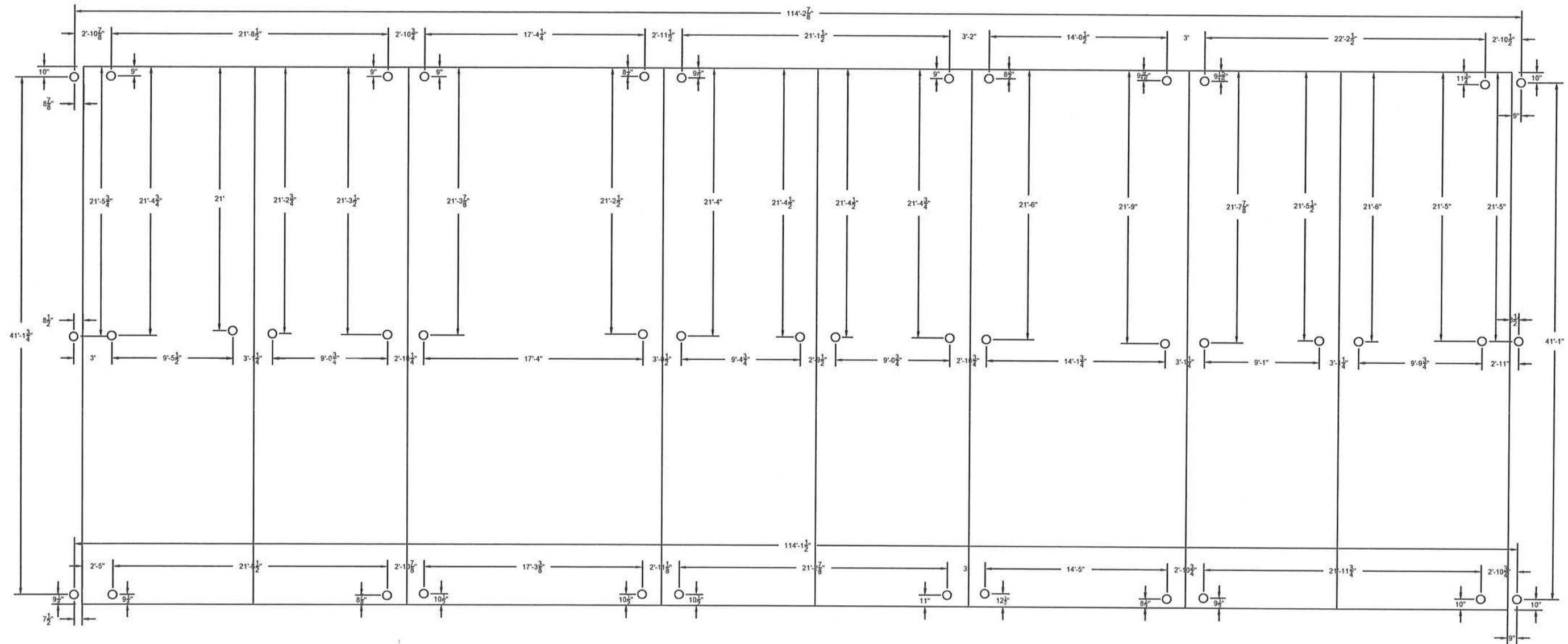
JOB NO. 392	DATE 5/20/10
----------------	-----------------



EXISTING AERATION TANK

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

	AERATION BUILDING PILE LOCATIONS- AS BUILT	
	JOB NO. 392	DATE 5/20/10

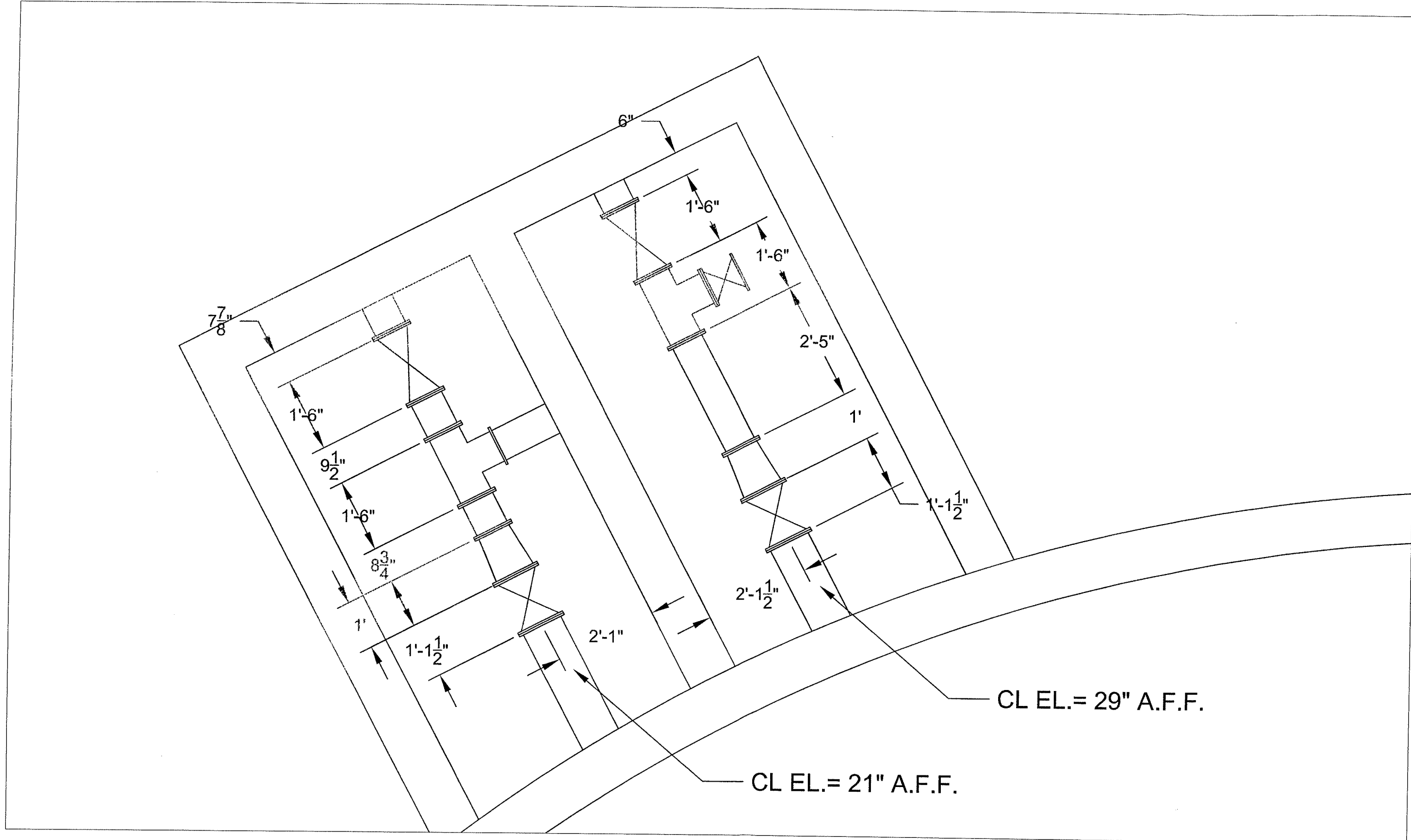


Pile	Elevation of Casing
1	7.00
2	6.98
3	6.98
4	7.00
5	7.00
6	6.98
7	6.98
8	6.97
9	6.97
10	6.99
11	7.01
12	6.99
13	6.99
14	6.99
15	8.65
16	8.65
17	8.65
18	8.68
19	8.63
20	8.68
21	8.67
22	8.65
23	8.65
24	8.65
25	8.63
26	8.63
27	8.65
28	8.68
29	7.00
30	7.02
31	6.97
32	6.99
33	6.96
34	6.96
35	7.00
36	7.00
37	7.00
38	6.94
39	6.98
40	6.98
41	6.97
42	6.98

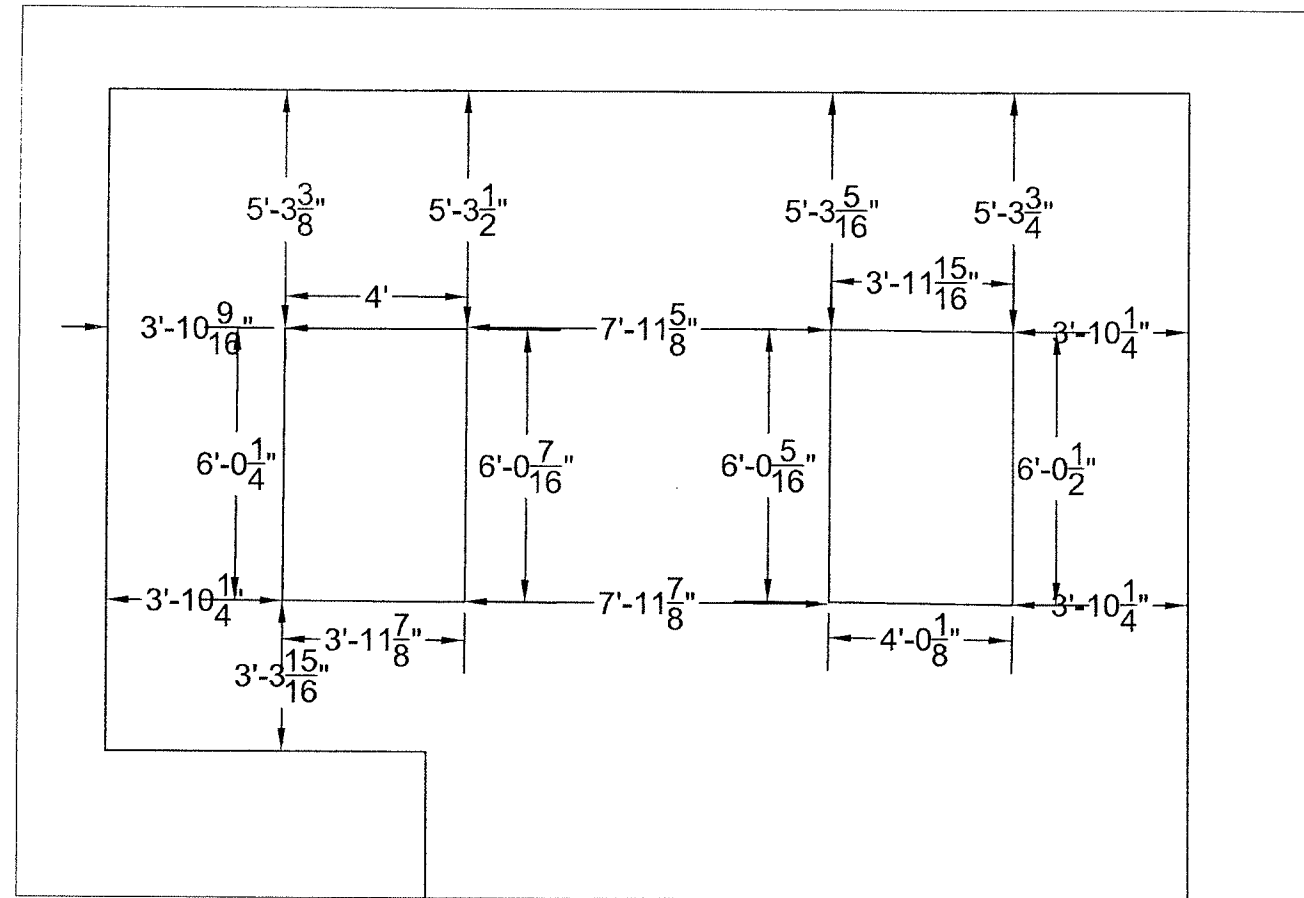
NOTE: Pile #s 1-12 are the ones on the eastern wall, numbered from south to north. 13-30 are the ones in the middle row from south to north. 31-42 are along the western wall, from south to north.



OCL BUILDING PILE LOCATIONS	
JOB	AS-BUILT
NEWBURYPORT	DATE
	8/4/10



SECONDARY CLARIFIER #2 EXISTING SCUM PIT PIPING



LOCATIONS OF SKYLIGHT SHAFTS
IN OCL LABORATORY

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