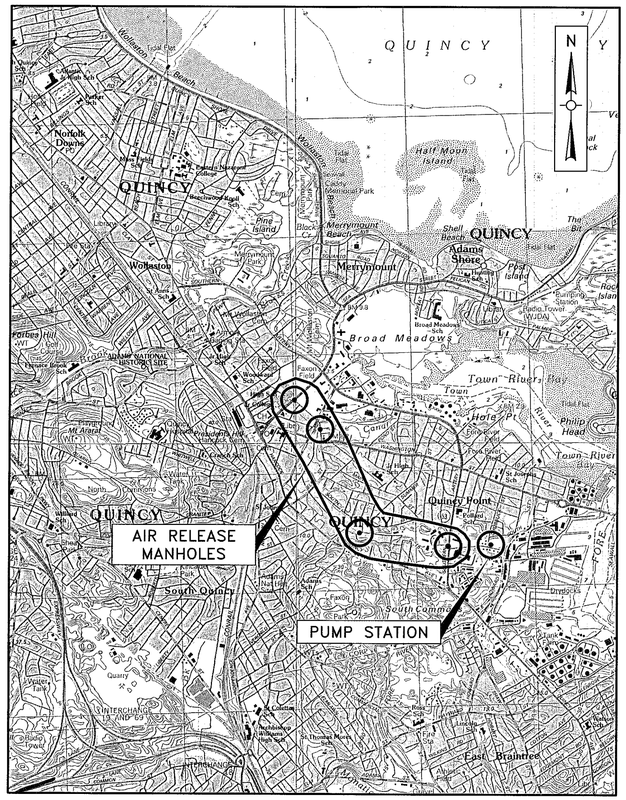

LOCUS MAP
SCALE: 1"=2000'

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

THE HONORABLE THOMAS P. KOCH, MAYOR

DEPARTMENT OF PUBLIC WORKS

DANIEL G. RAYMONDI, COMMISSIONER
LARRY PRENDEVILLE, SUPERINTENDENT
SHAWN HARDY, CITY ENGINEER

CWSRF ID 3974

AUGUST 2015

DRAWING INDEX

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File No. 213-40

LEGEND

DESCRIPTION	EXISTING	PROPOSED
SANITARY SEWER	S	8"S PVC
FORCE MAIN	FM	6"FM DI
WATER MAIN	W	6"W DI
TEMPORARY WATER		4"W
STORM DRAIN	D	18"D RCP
GAS	G	4"G
ELECTRIC	E	E
TELEPHONE	T	T
HOUSE CONNECTION		6" HOUSE CONN (TYP)
GRINDER PUMP		GP
SANITARY SEWER MANHOLE	S	SMH
STORM DRAIN MANHOLE	D	SDMH
ELECTRICAL MANHOLE		EMH
TELEPHONE MANHOLE		TMH
AIR RELEASE VALVE MANHOLE		ARMH
FORCE MAIN CLEANOUT MANHOLE		FMCO
CLEANOUT		CO
CATCH BASIN		CB
CATCH BASIN (CURB INLET)		
HYDRANT		
TEMPORARY HYDRANT		H
GATE VALVE	WV	
CHECK VALVE		
CURB STOP		
BUTTERFLY VALVE		
BALL VALVE		
REDUCER		
CAP OR PLUG		
GAS GATE VALVE	GV	
UTILITY POLE		
GUY POLE		
LIGHT POST		
EDGE OF PAVEMENT		
EDGE OF UNPAVED ROAD		
CURB		
SIDEWALK		
RAILROAD		
STONE WALL		
RETAINING WALL	RET WALL	RET WALL
FENCE	X X	X X
INDIVIDUAL DECIDUOUS TREE		
INDIVIDUAL EVERGREEN TREE		
TREE LINE		
SURVEY MARKER		
PROPERTY LINE	PL	
EASEMENT LINE		
LIMIT OF WORK		
APPROX. LIMIT OF REFUSE		
SPOT ELEVATIONS	x 141.5	x 141.5
CONTOUR LINES	56	56
DEPRESSION CONTOUR LINES		
HOUSE NUMBER	#35	
FLOOR ELEVATION	FL=56.7	
SILL ELEVATION	S=56.7	
WETLAND		
WETLAND FLAGS		1 2
RIP RAP		
STATE HIGHWAY STATION		
SURFACE MOUNTED DELINEATOR		
GUARD POST		
BOLLARD	B	B
SIGN		
BENCH MARK		
AUGER	A-1	A-1
PERCOLATION TEST	PT 1	PT-1
TEST PIT	TP 1	TP-1
BORING	B-10	B-11
PROBE	P-10	P-11
GROUNDWATER MONITORING WELL	WS-1	WS-1
GAS MONITORING WELL	GMW-10	GMW-10
GAS VENT	GV	GV
HAY BALES		
ROCK OUTCROP		
DRAINAGE DITCH / SWALE		

NOTE: ITEMS SHOWN IN THE LEGEND MAY NOT BE PRESENT IN THESE PLANS

ABBREVIATIONS

AC	ASBESTOS CEMENT PIPE
ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
ARV	AIR RELEASE VALVE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BC	BITUMINOUS CONCRETE
BIT	BITUMINOUS
BLDG	BUILDING
BM	BENCH MARK
BO	BLOW OFF
BV	BUTTERFLY VALVE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CC	CONCRETE CURB
CI	CAST IRON
℄	CENTERLINE
CL	CEMENT LINED
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CU FT	CUBIC FEET
CY	CUBIC YARD
D	STORM DRAIN, DEPTH FROM RIM TO INVERT
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DMH	DRAIN MANHOLE
DWG	DRAWING
E	EAST, ELECTRIC
EA	EACH
EF	EACH FACE
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EXIST	EXISTING
FLG	FLANGE
FT	FEET, FOOT
G	NATURAL GAS
GALV	GALVANIZED
GC	GRANITE CURB
GR	GRANITE
HC	HOUSE CONNECTION
HORIZ	HORIZONTAL
HP	HIGH PRESSURE
HYD	FIRE HYDRANT
I	INVERT
INV	INVERT
ID	INSIDE DIAMETER
IP	IRON PIPE
LB	POUND
LF	LINEAR FEET
LS	LUMP SUM
MAX	MAXIMUM
MB	MAIL BOX
MECH	MECHANICAL
MH	MANHOLE
MassDOT	MASSACHUSETTS DEPARTMENT OF TRANSPORTAION
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MWRA	MASSACHUSETTS WATER RESOURCES AUTHORITY
N	NORTH
NE	NORTH EAST
NW	NORTH WEST
NF	NOT FOUND
NO OR #	NUMBER
OD	OUTSIDE DIAMETER
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PE	PLAIN END, POLYETHYLENE
P̲L̲	PROPERTY LINE
PL	PLATE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT-OF-WAY
RQD	ROCK QUALITY
S	SEWER, SOUTH
SE	SOUTH EAST
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SPEC	SPECIFICATIONS
SQ FT	SQUARE FEET
SS	SEWER SERVICE, STAINLESS STEEL
STA	STATION
STL	STEEL
SW	SIDEWALK, SOUTH WEST
T	HYDROSTATIC THRUST, TELEPHONE
TBM	TEMPORARY BENCH MARK
THK	THICK (NESS)
TYP	TYPICAL
UP	UTILITY POLE
VC	VITRIFIED CLAY
VERT	VERTICAL
W	WATER, WEST
W/	WITH
W/O	WITHOUT

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL CALL DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
2. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS WERE OBTAINED FROM THE BEST AVAILABLE RECORDS AND ARE NOT WARRANTED TO BE CORRECT. THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN.
3. TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER.
4. STONE WALLS, FENCES, MAIL BOXES, SIGNS, CURBS, LIGHT POLES, ETC.. SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WORK. UNLESS OTHERWISE INDICATED, ALL SUCH WORK SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.
5. ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.
6. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND PAYMENT LIMITS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.
7. CONCRETE USED FOR PIPE ANCHOR BLOCKS, BACKING, PIPE CRADLES, ARCHES, AND FILL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
8. APPROVED JOINT RESTRAINT METHODS SHALL BE PROVIDED FOR FORCE MAINS WHERE ANY BENDS, TEES, PLUGS, OR WYES ARE INSTALLED.
9. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES OR WITHIN 100 FEET OF WETLANDS.
10. THE CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC TO ALL STREETS THROUGHOUT THE DURATION OF THE PROJECT.
11. CONTRACTOR SHALL MAINTAIN EXISTING FLOWS IN THE SYSTEM, BYPASSING AS NECESSARY TO PREVENT SURCHARGING, AT NO ADDITIONAL COST TO THE OWNER, AS APPROVED BY THE ENGINEER. SEE SECTION 01535 TEMPORARY BYPASS PUMPING SYSTEM.
12. ELEVATIONS REFERENCED ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
13. EXISTING UTILITY AND PROPERTY LINE INFORMATION, TOPOGRAPHIC INFORMATION, EDGE OF PAVEMENT, UTILITY POLE LOCATIONS, AND LOCATIONS OF EXISTING ABOVE GROUND STRUCTURES WERE OBTAINED FROM INFORMATION PROVIDED BY THE CITY AND THROUGH SURVEY WORK PERFORMED BY WESTON & SAMPSON ENGINEERS, INC.
14. ALL PENETRATIONS, PIPES AND CONDUITS INTO THE WETWELL SHALL HAVE GASKETS/FITTINGS ON BOTH ENDS TO MAKE EXPLOSION PROOF AND GAS AND WATER TIGHT.
15. IN PAVED AREAS THE TOPS OF THE MANHOLE COVERS SHALL BE SET FLUSH WITH THE PAVED SURFACE. IN OTHER AREAS THE TOP OF THE COVER SHALL EXTEND 6 INCHES ABOVE FINISHED GRADE, OR AS SHOWN ON THE DRAWINGS.

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No.	Date	Dr.By	Ck.By	App.By	Description
					APPROVED

8/21/15 DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS DONALD G GALLUCCI 37873 REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

ABBREVIATIONS, NOTES AND LEGEND

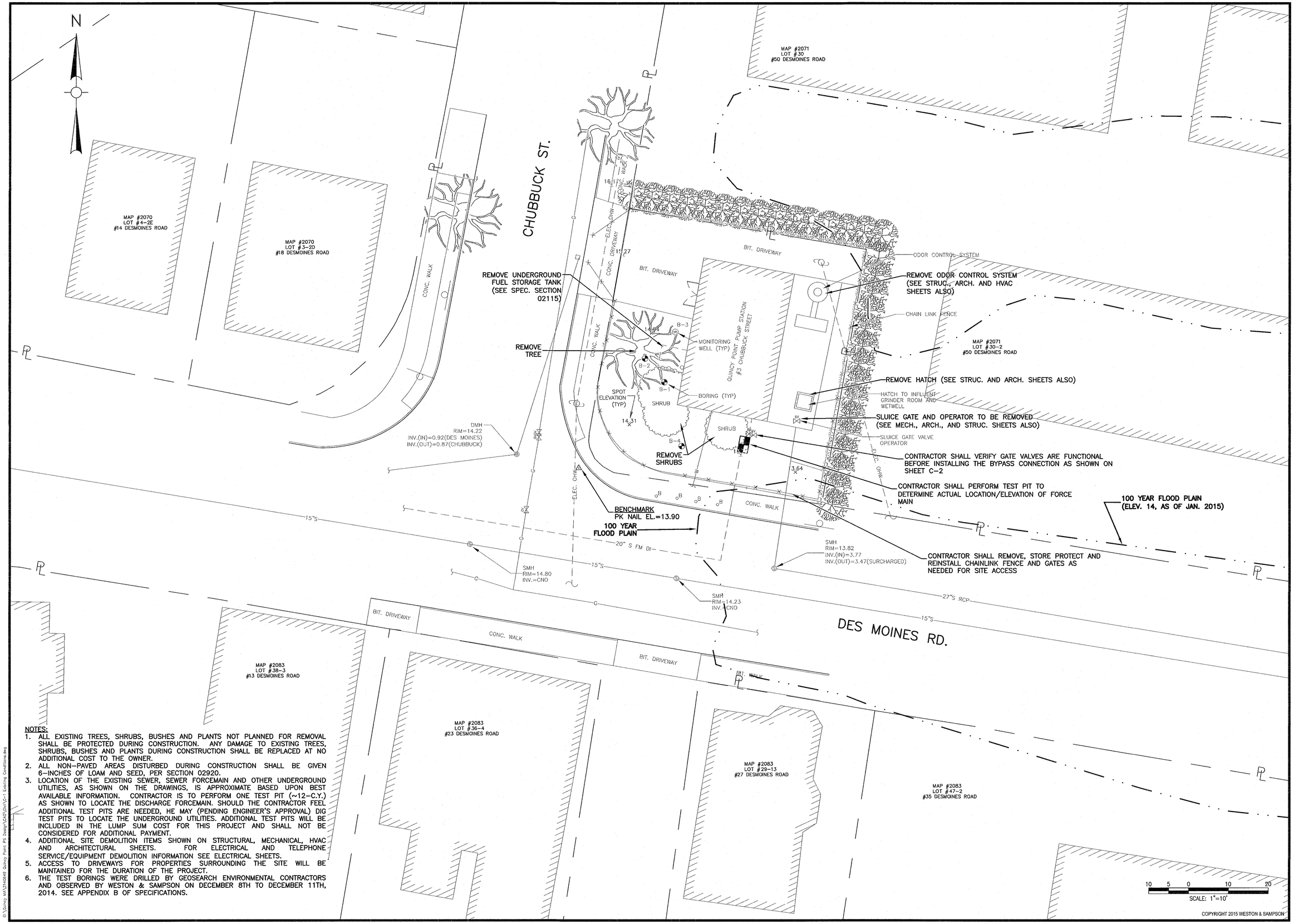
CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR.BY	DSN.BY	CHK.BY	APP.BY
G-1	G-1	NOTED	2140649	TSD	TSD	CNR	DGG

G-1

FILE NO. 213-39

SHEET 2 OF 40

O:\Quincy, MA\2140649 Quincy Point PS Design\CAD\General\G-1.dwg



NOTES:

1. ALL EXISTING TREES, SHRUBS, BUSHES AND PLANTS NOT PLANNED FOR REMOVAL SHALL BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING TREES, SHRUBS, BUSHES AND PLANTS DURING CONSTRUCTION SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
2. ALL NON-PAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE GIVEN 6-INCHES OF LOAM AND SEED, PER SECTION 02920.
3. LOCATION OF THE EXISTING SEWER, SEWER FORCEMAIN AND OTHER UNDERGROUND UTILITIES, AS SHOWN ON THE DRAWINGS, IS APPROXIMATE BASED UPON BEST AVAILABLE INFORMATION. CONTRACTOR IS TO PERFORM ONE TEST PIT (~12-C.Y.) AS SHOWN TO LOCATE THE DISCHARGE FORCEMAIN. SHOULD THE CONTRACTOR FEEL ADDITIONAL TEST PITS ARE NEEDED, HE MAY (PENDING ENGINEER'S APPROVAL) DIG TEST PITS TO LOCATE THE UNDERGROUND UTILITIES. ADDITIONAL TEST PITS WILL BE INCLUDED IN THE LUMP SUM COST FOR THIS PROJECT AND SHALL NOT BE CONSIDERED FOR ADDITIONAL PAYMENT.
4. ADDITIONAL SITE DEMOLITION ITEMS SHOWN ON STRUCTURAL, MECHANICAL, HVAC AND ARCHITECTURAL SHEETS. FOR ELECTRICAL AND TELEPHONE SERVICE/EQUIPMENT DEMOLITION INFORMATION SEE ELECTRICAL SHEETS.
5. ACCESS TO DRIVEWAYS FOR PROPERTIES SURROUNDING THE SITE WILL BE MAINTAINED FOR THE DURATION OF THE PROJECT.
6. THE TEST BORINGS WERE DRILLED BY GEOSEARCH ENVIRONMENTAL CONTRACTORS AND OBSERVED BY WESTON & SAMPSON ON DECEMBER 8TH TO DECEMBER 11TH, 2014. SEE APPENDIX B OF SPECIFICATIONS.

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No.	Date	Dr.By	Ch.By	App.By	Description
A	8/21/15				APPROVED

8/21/15
DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
DONALD G. GALLUCCI
CIVIL
No. 37973
REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

EXISTING CONDITIONS

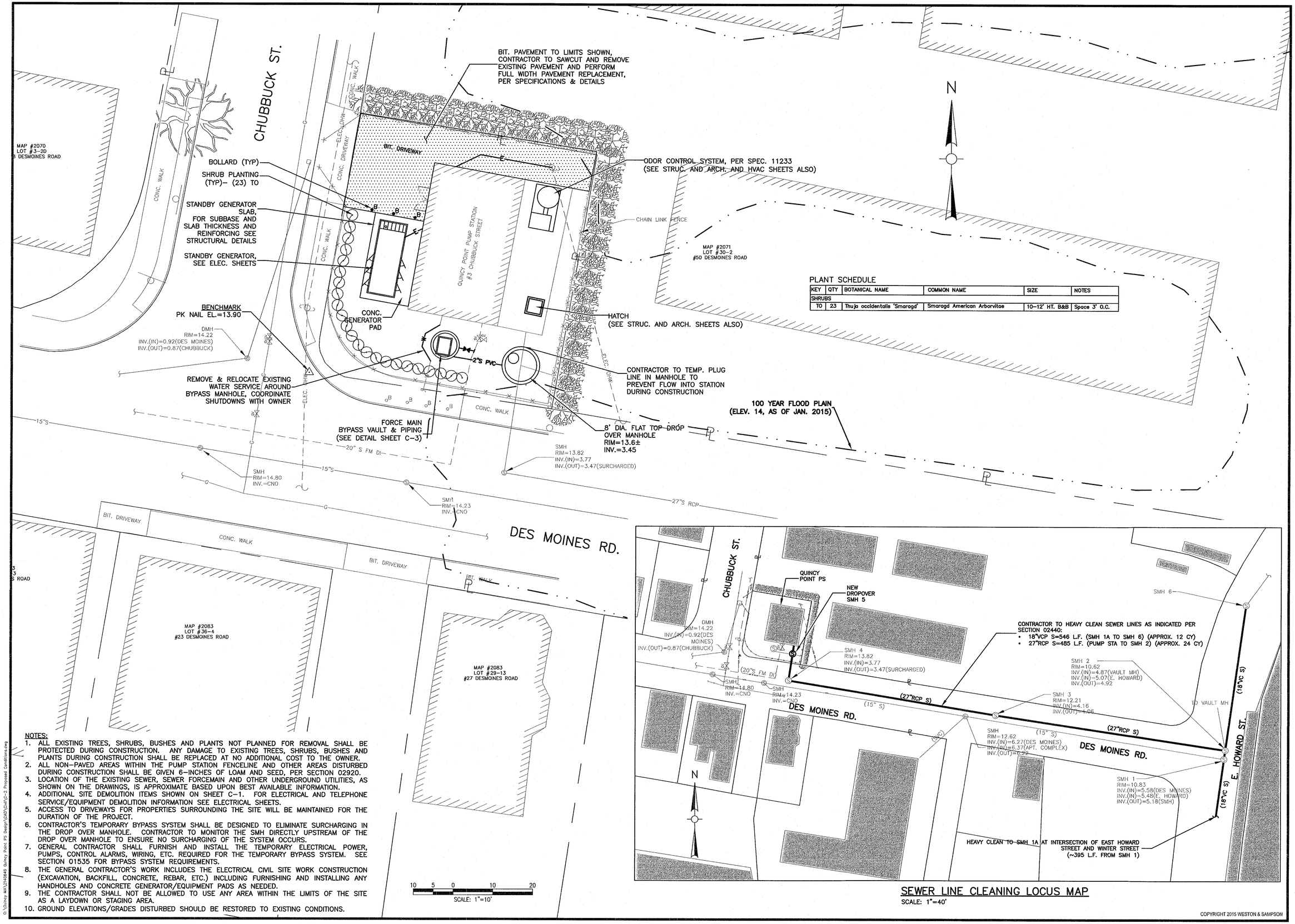
DR.BY	DSN.BY	CHK.BY	APP.BY
TSD	TSD	CNR	DGG

JOB NO.	CONTRACT:	SCALE:	CADD NO.
2140649	NA	NOTED	C-1

C-1

FILE NO. 213-38

SHEET 3 OF 40



PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES
SHRUBS					
TO	23	Thuja occidentalis 'Smaragd'	Smaragd American Arborvitae	10-12' HT. B&B	Space 3' O.C.

NOTES:

1. ALL EXISTING TREES, SHRUBS, BUSHES AND PLANTS NOT PLANNED FOR REMOVAL SHALL BE PROTECTED DURING CONSTRUCTION. ANY DAMAGE TO EXISTING TREES, SHRUBS, BUSHES AND PLANTS DURING CONSTRUCTION SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
2. ALL NON-PAVED AREAS WITHIN THE PUMP STATION FENCELINE AND OTHER AREAS DISTURBED DURING CONSTRUCTION SHALL BE GIVEN 6-INCHES OF LOAM AND SEED, PER SECTION 02920.
3. LOCATION OF THE EXISTING SEWER, SEWER FORCEMAIN AND OTHER UNDERGROUND UTILITIES, AS SHOWN ON THE DRAWINGS, IS APPROXIMATE BASED UPON BEST AVAILABLE INFORMATION.
4. ADDITIONAL SITE DEMOLITION ITEMS SHOWN ON SHEET C-1. FOR ELECTRICAL AND TELEPHONE SERVICE/EQUIPMENT DEMOLITION INFORMATION SEE ELECTRICAL SHEETS.
5. ACCESS TO DRIVEWAYS FOR PROPERTIES SURROUNDING THE SITE WILL BE MAINTAINED FOR THE DURATION OF THE PROJECT.
6. CONTRACTOR'S TEMPORARY BYPASS SYSTEM SHALL BE DESIGNED TO ELIMINATE SURCHARGING IN THE DROP OVER MANHOLE. CONTRACTOR TO MONITOR THE SMH DIRECTLY UPSTREAM OF THE DROP OVER MANHOLE TO ENSURE NO SURCHARGING OF THE SYSTEM OCCURS.
7. GENERAL CONTRACTOR SHALL FURNISH AND INSTALL THE TEMPORARY ELECTRICAL POWER, PUMPS, CONTROL ALARMS, WIRING, ETC. REQUIRED FOR THE TEMPORARY BYPASS SYSTEM. SEE SECTION 01535 FOR BYPASS SYSTEM REQUIREMENTS.
8. THE GENERAL CONTRACTOR'S WORK INCLUDES THE ELECTRICAL CIVIL SITE WORK CONSTRUCTION (EXCAVATION, BACKFILL, CONCRETE, REBAR, ETC.) INCLUDING FURNISHING AND INSTALLING ANY HANDHOLES AND CONCRETE GENERATOR/EQUIPMENT PADS AS NEEDED.
9. THE CONTRACTOR SHALL NOT BE ALLOWED TO USE ANY AREA WITHIN THE LIMITS OF THE SITE AS A LAYDOWN OR STAGING AREA.
10. GROUND ELEVATIONS/GRADES DISTURBED SHOULD BE RESTORED TO EXISTING CONDITIONS.

SEWER LINE CLEANING LOCUS MAP

SCALE: 1"=40'

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

8/21/15
DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS DONALD G. GALLO 001 CIVIL No. 37973 REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

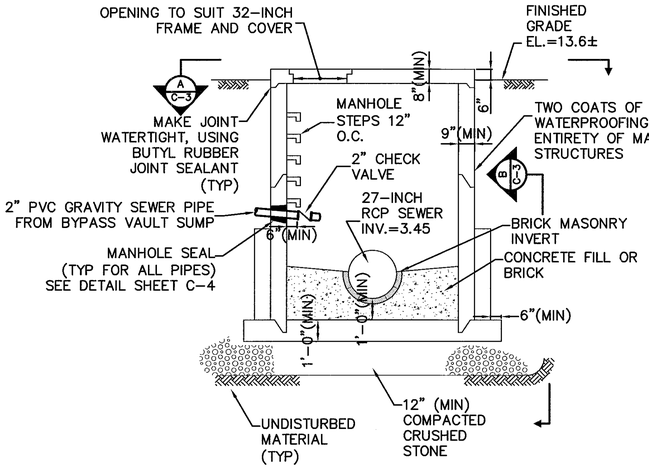
PROPOSED CONDITIONS

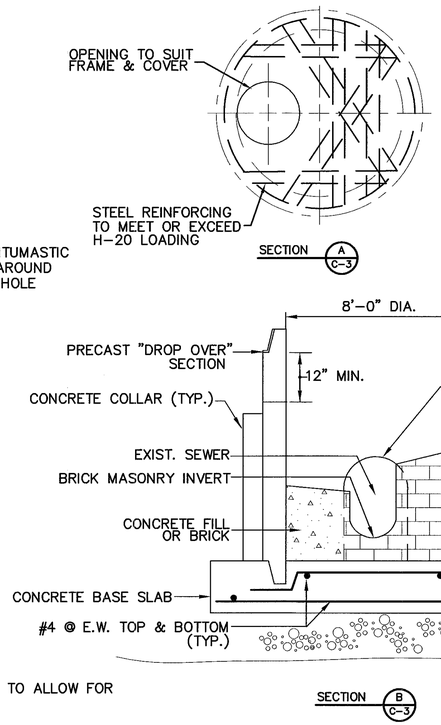
CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR.BY	DSN.BY	CHK.BY	APP.BY
C-2	NOTED	NA	2140649	TSD	TSD	CNR	DGG

C-2

FILE NO. 213-37

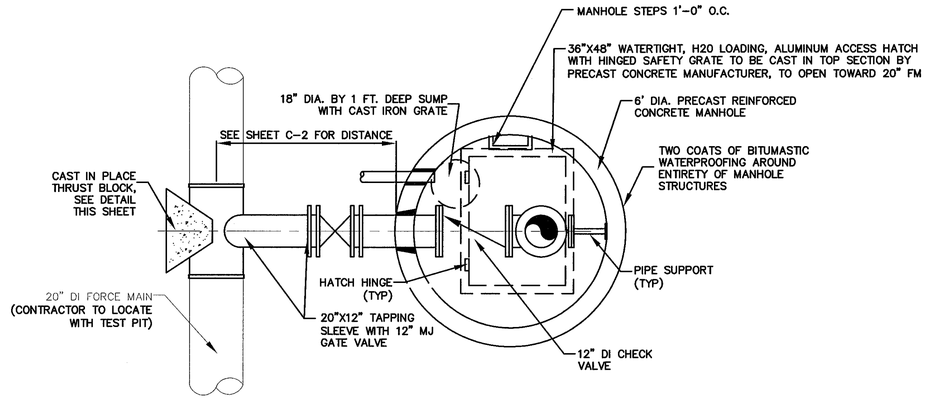
SHEET 4 OF 40



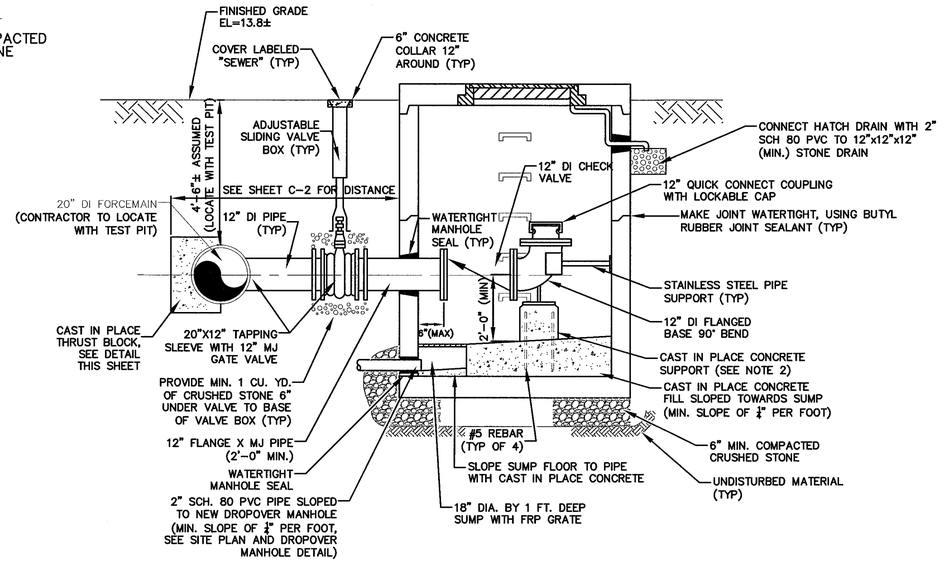


NOTE:
1. THE "DROP OVER" SECTION SHALL BE INDEPENDENTLY SUPPORTED TO ALLOW FOR PROPER CURING OF THE BASE SLAB.
2. STEEL REINFORCING TO MEET OR EXCEED H–20 LOADING.
3. WATERTIGHT SEAL REQUIRED AT ALL PENETRATIONS.
4. SEE SPECIFICATION SECTION 02631 FOR ADDITIONAL MANHOLE REQUIREMENTS.

DROPOVER MANHOLE
N.T.S.

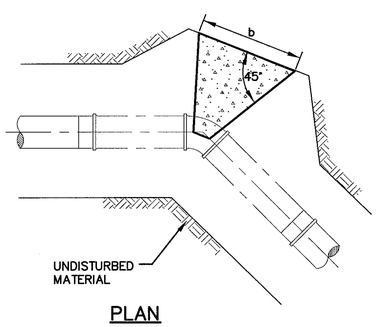


FORCE MAIN BYPASS VAULT PLAN DETAIL (ALSO SEE SITE PLAN, SHEET C–2)
N.T.S.

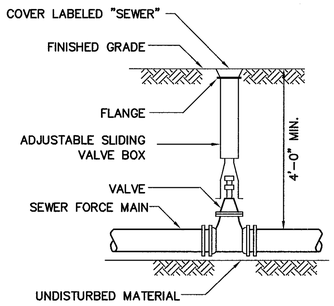


FORCE MAIN BYPASS VAULT SECTION DETAIL
N.T.S.

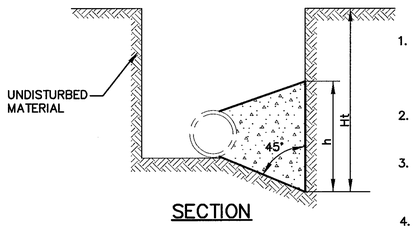
NOTES:
1. PIPE LENGTHS SHOWN ON PROPOSED SITE PLAN, SHEET C–2.
2. CONCRETE SUPPORT SHALL BE REINFORCED WITH #5 REBAR WITH 3–INCH COVER AT EACH CORNER AND SET 6" INTO CONCRETE FLOOR. DIMENSIONS FOR SUPPORT AREA SHALL BE 2'X2' WITH 1" CHAMFER ON ALL EDGES.
3. CONTRACTOR TO DIG TEST PIT TO LOCATE EXISTING FORCE MAIN AND TO DETERMINE THE DEPTH OF THE NEW BYPASS VAULT.
4. SEE SPECIFICATION SECTION 02631 FOR ADDITIONAL MANHOLE/VAULT REQUIREMENTS.



PLAN



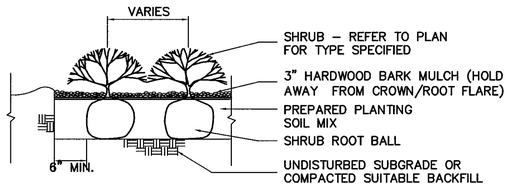
VALVE AND BOX DETAIL
N.T.S.



SECTION

NOTES:
1. BEARING SURFACE SHOULD, WHERE POSSIBLE, BE PLACED AGAINST UNDISTURBED SOIL. WHERE IT IS NOT POSSIBLE, THE FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL MUST BE COMPACTED TO AT LEAST 90% STANDARD PROCTOR DENSITY.
2. BLOCK HEIGHT(h) SHOULD BE EQUAL TO OR LESS THAN ONE–HALF THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK, (Ht), BUT NOT LESS THAN THE PIPE DIAMETER (D).
3. BLOCK HEIGHT(h) SHOULD BE CHOSEN SUCH THAT THE CALCULATIONS BLOCK WIDTH (b) VARIES BETWEEN ONE AND TWO TIMES THE HEIGHT(h). BEARING AREA OF THRUST BLOCK AS SHOWN ON THE DRAWINGS
4. CONTRACTOR SHALL USE CARE TO AVOID PLACEMENT OF CONCRETE ON THE FITTING JOINTS

CONCRETE THRUST BLOCK
N.T.S.



NOTE:
ALL MULCH MUST BE DARK IN COLOR. PROVIDE SAMPLE PRIOR TO INSTALLATION TO BE APPROVED BY OWNER'S REPRESENTATIVE

SHRUB PLANTING DETAIL
N.T.S.

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

8/21/15
DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS DONALD G GALLUCCI No. 37973 REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

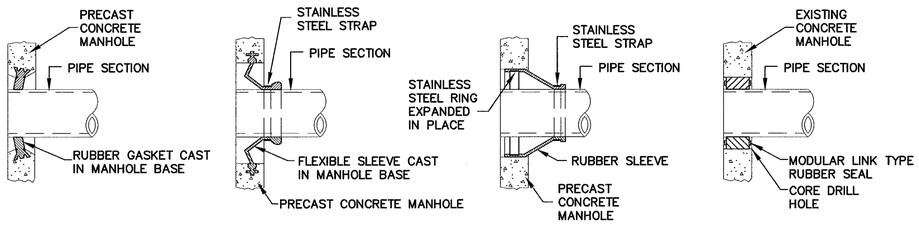
DETAILS I

DES.BY	DR.BY	CHK.BY	APP.BY
TSD	TSD	CNR	DGG

JOB NO. 21406649
CONTRACT: NA
SCALE: NOTED
CAD/D NO. C-3
FILE NO. 213-36

C-3

SHEET 5 OF 40

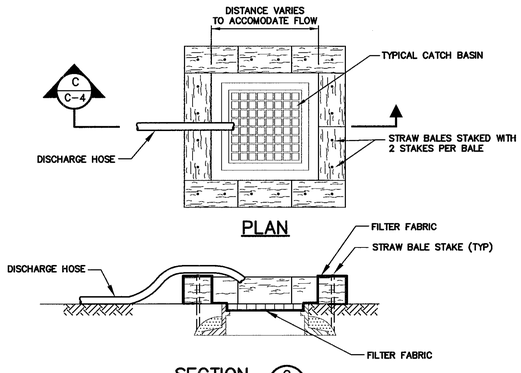


MANHOLE SEAL DETAILS

N.T.S.

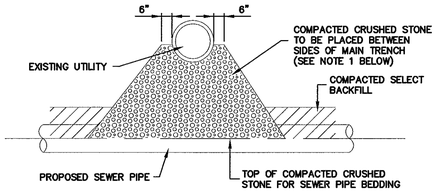
NOTE:

1. ALL PENETRATIONS INTO THE WETWELL SHALL BE VAPOR AND GAS TIGHT.



DEWATERING DISCHARGE DISPOSAL TO CATCH BASIN DETAIL

N.T.S.

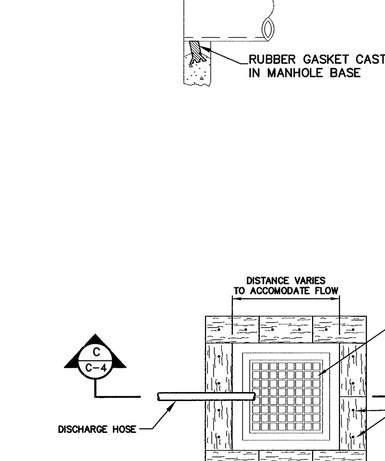


UTILITY CROSSING DETAIL

N.T.S.

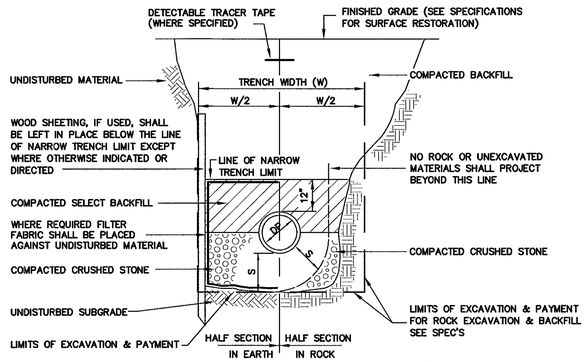
NOTE:

WHERE ASBESTOS CEMENT (A.C.) PIPE IS ENCOUNTERED CONTROLLED DENSITY FILL SHALL BE INSTALLED IN LIEU OF CRUSHED STONE



BOLLARD DETAIL

N.T.S.



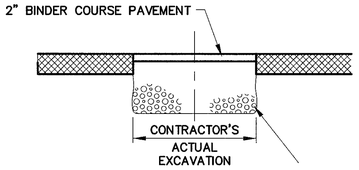
TRENCH DETAIL

(SEWER, FORCE MAIN)

N.T.S.

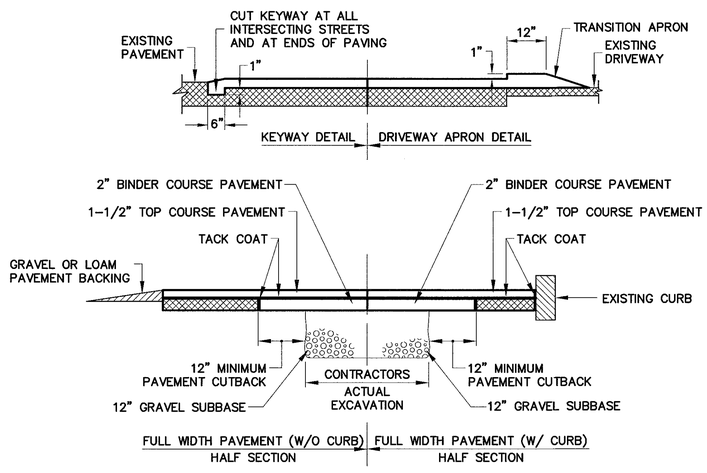
DEPTH TO INVERT	DIAMETER OF PIPE (DP)	MAXIMUM TRENCH WIDTH BELOW LINE OF NARROW TRENCH LIMIT (SHEETED OR UNSHEETED) (W)	MINIMUM CLEARANCE (S)
0–12'	TO 18"	5'	6"
OVER 12'	TO 18"	7'	6"

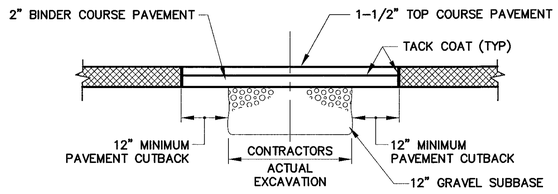
TABLE A



TEMPORARY PAVEMENT DETAIL

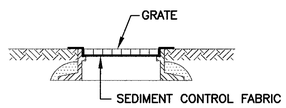
N.T.S.





PAVEMENT REPLACEMENT DETAILS

N.T.S.



CATCH BASIN PROTECTION DETAIL

N.T.S.

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No.	Date	Dr.By	Ch.By	App.By	Description
A	8/21/15				PROVED

8/21/15 DATE

REGISTERED PROFESSIONAL ENGINEER

DONALD G. GALLOWAY CIVIL No. 37973 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

DETAILS II

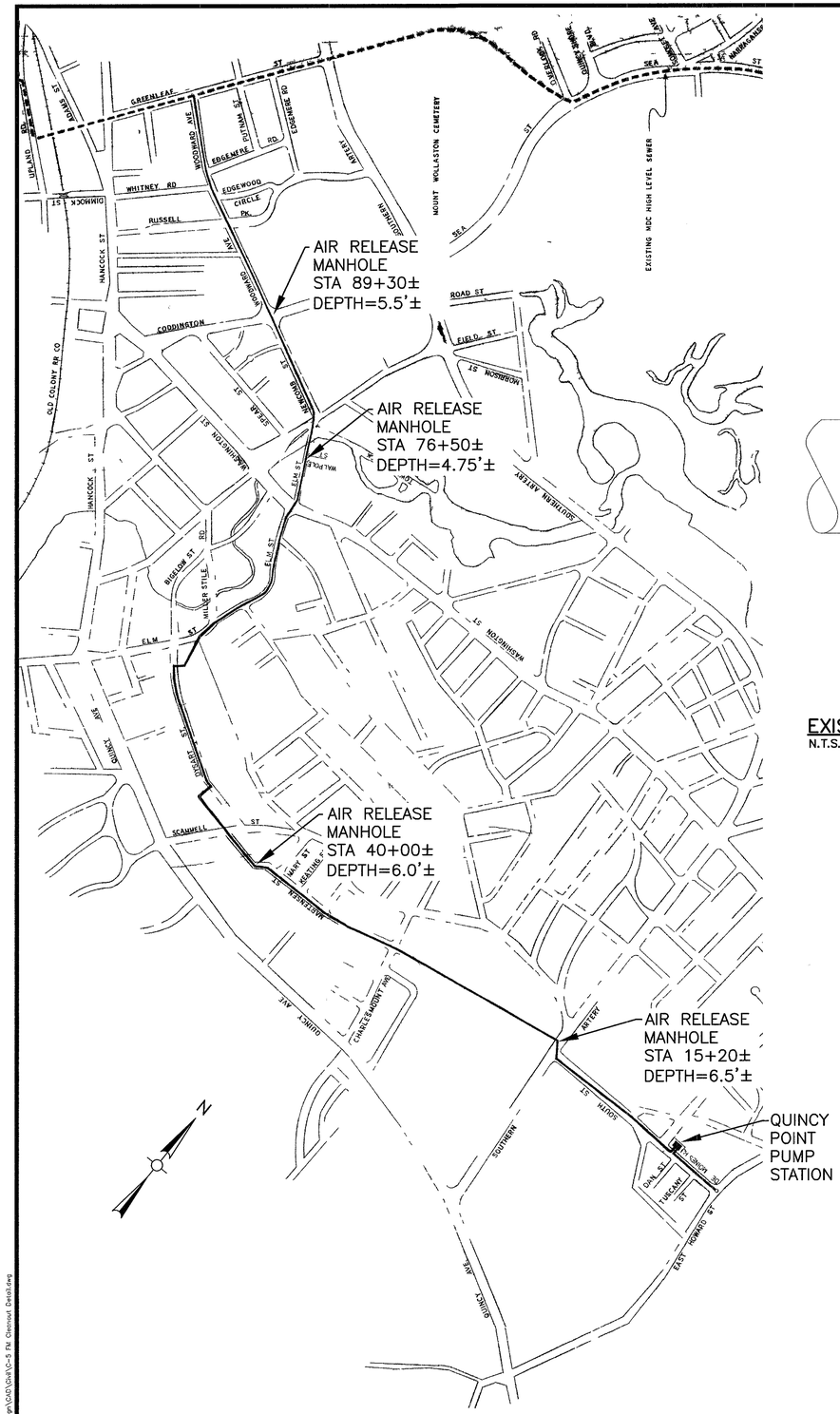
DR.BY	DSN.BY	CHK.BY	APP.BY
TSD	TSD	CNR	DGG

JOB NO.	CONTRACT:	SCALE:	CADD NO.
2140649	NA	NOTED	C-4

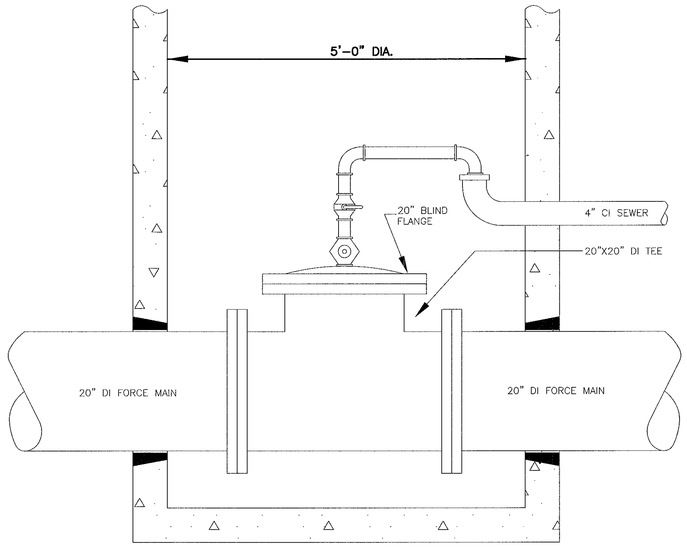
C-4

FILE NO. 213-35

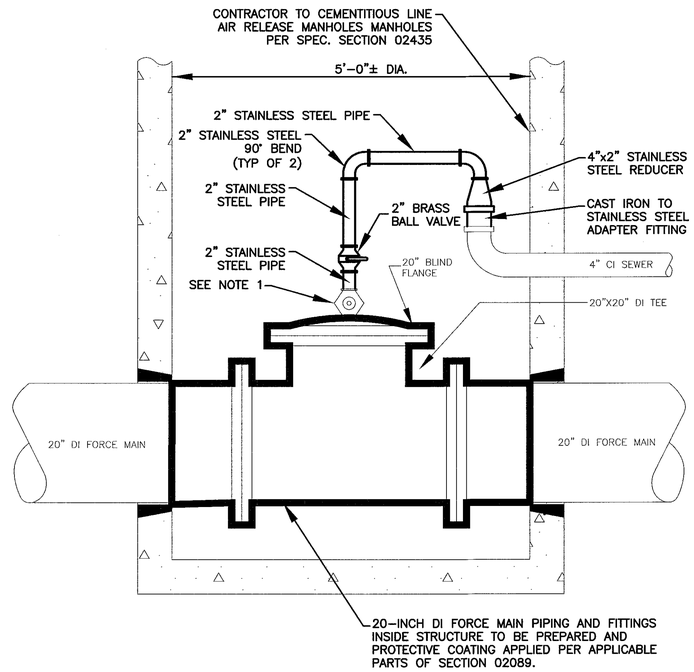
SHEET 6 OF 40



FORCE MAIN AIR RELEASE MANHOLES LOCUS MAP
N.T.S.

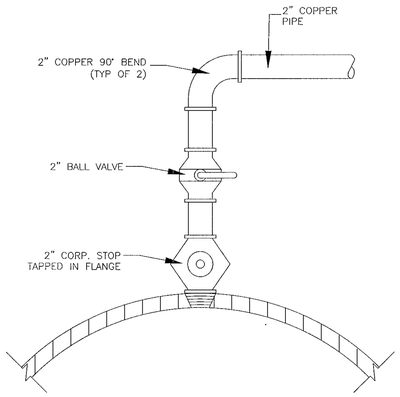


EXISTING FORCE MAIN AIR RELEASE VALVE DETAIL (TYP OF 4)
N.T.S.

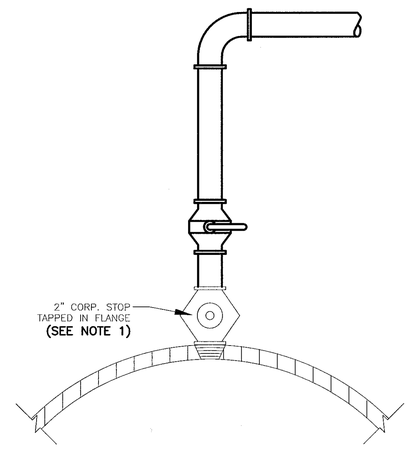


PROPOSED FORCE MAIN AIR RELEASE VALVE DETAIL (TYP OF 4)
N.T.S.

NOTES:
1. CONTRACTOR SHALL CONFIRM CORPORATION STOP IS FUNCTIONAL BEFORE REPLACING AIR RELEASE PIPING/VALVES.



EXISTING FORCE MAIN AIR RELEASE VALVING DETAIL
N.T.S.



PROPOSED FORCE MAIN AIR RELEASE VALVING DETAIL
N.T.S.

NOTES:
1. CONTRACTOR SHALL CONFIRM CORPORATION STOP IS FUNCTIONAL BEFORE REPLACING AIR RELEASE PIPING/VALVES.

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

8/21/15
DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS DONALD G. GALLOCCI CIVIL No. 37973 REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

FORCE MAIN REHABILITATION DETAILS

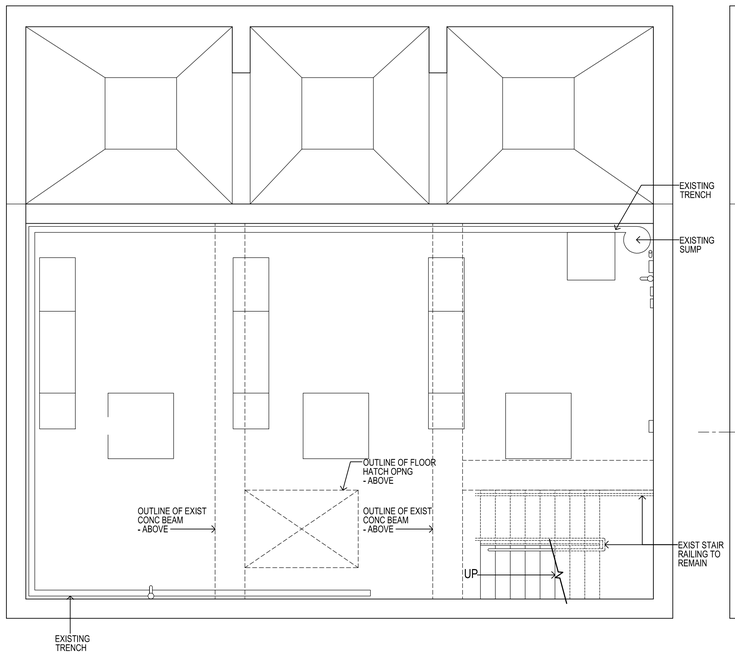
CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR.BY	DSN.BY	CHK.BY	APP.BY
C-5	NOTED	NA	2140649	TSD	TSD	CNR	DGG

C-5

FILE NO. 213–34

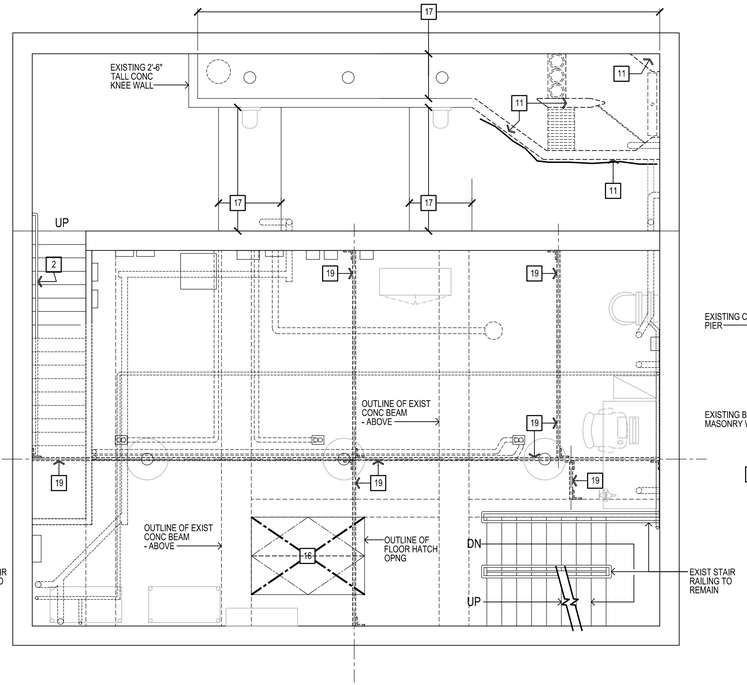
SHEET 7 OF 40

O:\Quincy MA\2140649 Quincy Point PS Design\CADD\Civil\C-5 FM Clenmout Details.dwg



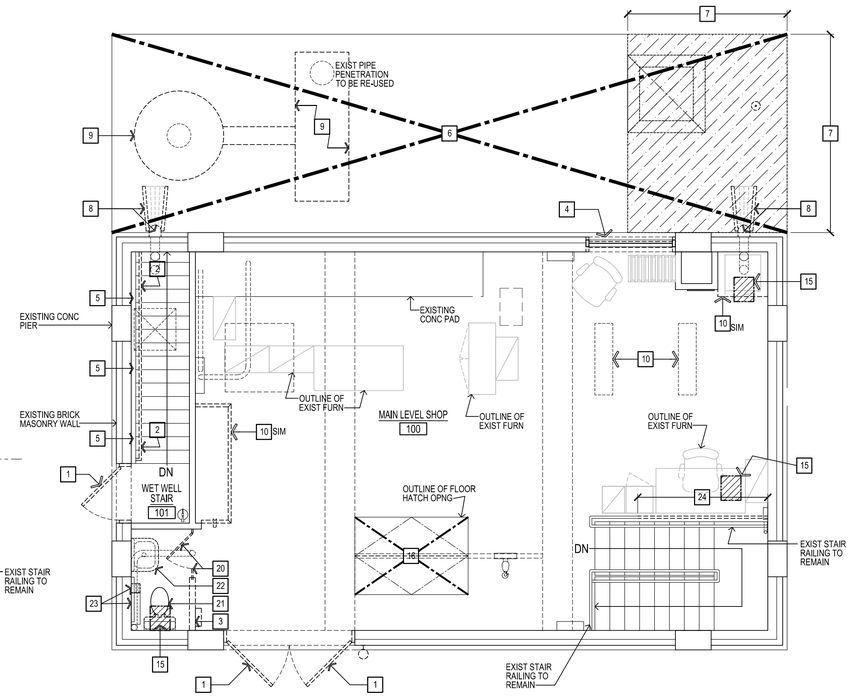
3 LOWER LEVEL FLOOR PLAN

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



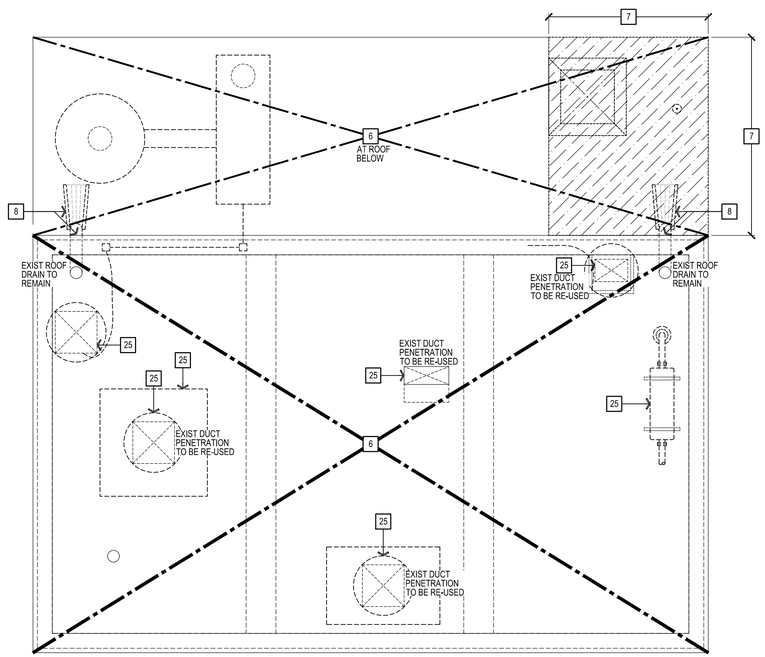
2 INTERMEDIATE LEVEL FLOOR PLAN

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



1 MAIN LEVEL FLOOR PLAN

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



4 ROOF PLAN

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

GENERAL FURNITURE NOTE:

ALL FURNITURE SHOWN IS EXISTING AND MAY HAVE CHANGED SINCE CONSTRUCTION DOCUMENTS WERE GENERATED

GENERAL HAZARDOUS MATERIAL NOTE:

REFER TO SPECIFICATIONS FOR LOCATION OF HAZARDOUS MATERIALS AND PROCEDURES.

GENERAL DEMOLITION NOTES:

1. CONTRACTOR SHALL VISIT THE SITE TO VERIFY AND BE FULLY AWARE OF EXISTING CONDITIONS PRIOR TO START OF WORK. CONTRACTOR SHALL IDENTIFY ALL EXISTING ITEMS OF WORK SCHEDULED TO REMAIN OR SALVAGED FOR REUSE.
2. ALL DEMOLITION WORK SHALL BE PERFORMED IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS. CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED DEMOLITION PERMITS.
3. COORDINATE ALL DEMOLITION OPERATIONS WITH OWNER FOR SHUTDOWN PERIODS AND SEQUENCE OF WORK. ARRANGE WITH OWNER AND/OR APPROPRIATE UTILITIES FOR SERVICE SHUTOFFS BEFORE BEGINNING DEMOLITION OPERATIONS. PROVIDE TEMPORARY DUST PARTITIONS, BARRICADES AND PROTECTIVE ENCLOSURES REQUIRED TO PROPERLY SECURE, ISOLATE AND WEATHERPROOF AREAS OF WORK AND EXISTING AREAS AND ELEMENTS TO REMAIN.
4. REMOVE AND DISPOSE OF ALL DEMOLISHED MATERIALS IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
5. IT IS NOT THE INTENT TO SHOW EVERY PIECE OR ITEM TO BE REMOVED IN DEMOLITION WORK. PLUMBING, ELECTRICAL AND OTHER WORK RELATED TO A WALL, OR AREA SCHEDULED FOR DEMOLITION AND REMOVAL, SHALL BE PERFORMED WHETHER NOTED OR NOT.
6. THE EXTENT OF ALL SPECIFIC DEMOLITION WORK SHALL BE COORDINATED WITH CONTRACT DOCUMENTS.
7. CONTRACTOR TO PATCH/REPAIR/REFINISH, AS REQUIRED, ALL SURFACES EXPOSED BY DEMOLITION WORK WITH MATERIALS AND METHODS TO MATCH FINISH AND MAKE FLUSH WITH EXISTING ADJACENT SURFACES. WORK SHALL INCLUDE ALL LABOR AND MATERIALS ON ALL SURFACES REQUIRED TO RENDER SUBSTRATES ACCEPTABLE TO RECEIVE NEW FINISHES SPECIFIED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS.
8. TERMINATE, CAP, AND REMOVE ALL ABANDONED ELECTRICAL, PLUMBING, MECHANICAL AND FIRE PROTECTION ITEMS BACK TO ITS SOURCE.
9. WHERE EXISTING FINISHES ARE INDICATED TO REMAIN AS BASE MATERIAL SURFACES FOR INSTALLATION OF NEW FINISHES, REMOVE ALL PROJECTIONS AND VOIDS AND SECURE OR REMOVE AND REPLACE ANY EXISTING LOOSE OR OTHERWISE UNSUITABLE SUBSTRATE MATERIAL.
10. CONTRACTOR TO PROTECT ALL ITEMS TO REMAIN DURING DEMOLITION. ALL ITEMS DAMAGED DURING DEMOLITION ARE TO BE REPLACED AT NO EXPENSE TO THE OWNER.
11. CONTRACTOR IS RESPONSIBLE FOR MEANS & METHODS IN A SAFE MANNER FOR ALL DEMOLITION WORK.

SPECIFIC DEMOLITION NOTES:

1. REMOVE HM DOOR, FRAME ASSEMBLY, AND ASSOCIATED HARDWARE IN ITS ENTIRETY.
2. REMOVE MTL STAIR RAILING AND ASSOCIATED CONNECTIONS IN ITS ENTIRETY.
3. REMOVE & DISPOSE OF EXISTING CMU WALL IN ITS ENTIRETY. SALVAGE ITEMS ON WALL FOR RE-INSTALLATION ELSEWHERE.
4. REMOVE & DISPOSE OF EXISTING MECH. LOUVER. TEMPORARILY PROTECT OPENING UNTIL WALL INFILL IS INSTALLED.
5. DRILL EXISTING CONCRETE WALL AT STAIR AS REQUIRED TO INSTALL HANDRAIL ASSEMBLY AS INDICATED IN DETAILS 6/A-1.
6. REMOVE AND DISPOSE OF EXISTING MEMBRANE ROOFING ASSEMBLY AND INSULATION BOARD DOWN TO EXISTING CONCRETE ROOF DECK.
7. SAWCUT, REMOVE AND DISPOSE OF EXISTING CONC ROOF DECK AS INDICATED BY HATCH ( ). COORDINATE EXTENT WITH STRUCT DRAWINGS. TEMPORARILY SHORE ALL INTEGRAL COMPONENTS AS REQUIRED TO PERFORM WORK.
8. REMOVE AND DISPOSE OF EXISTING CONCRETE SPLASH GUARDS AT ROOF LEVEL. PREPARE EXISTING CAST IRON DOWNSPOUT / RAIN LEADER TO RECEIVE ADDITIONAL PIPING FOR LENGTHENING.
9. REMOVE AND DISPOSE OF EXISTING ODOR CONTROL SYSTEM IN ITS ENTIRETY. REFER TO ELEC, HVAC, & MECH DRAWINGS FOR ADDITIONAL INFO.
10. REMOVE AND DISPOSE OF EXISTING CONCRETE PADS. MAKE FLUSH WITH ADJACENT EXISTING FLOOR SLAB. REFER TO STRUCT DWGS FOR ADDITIONAL INFO.
11. REMOVE & DISPOSE OF EXISTING CONCRETE CHANNEL WALL. INFILL SLAB AND PREPARE SURROUNDING SLAB/ WALLS FOR NEW CONCRETE CHANNEL WALL. COORDINATE EXTENT WITH STRUCTURAL AND MECHANICAL DRAWINGS.
12. NOT USED.
13. NOT USED.
14. NOT USED.
15. SAWCUT & DISPOSE OF EXISTING CONCRETE SLAB ON GRADE FLOOR ASSEMBLY AS REQUIRED TO INSTALL MEP/HVAC ITEMS. REFER TO STRUCT. & MEP/HVAC DRAWINGS FOR ADDITIONAL INFO. SHOWN APPROXIMATELY AS ( ).
16. REMOVE AND DISPOSE OF EXISTING DOUBLE-LEAF EQUIPMENT FLOOR HATCH. (2 TOTAL)
17. REMOVE AND DISPOSE OF EXISTING MTL GRATING. COORDINATE WITH STRUCT DWGS.
18. NOT USED.
19. REMOVE AND DISPOSE OF EXISTING STEEL CHANNELS AT INTERMEDIATE FLOOR AS SHOWN. COORDINATE WITH STRUCT DWGS.
20. REMOVE AND DISPOSE OF EXISTING TOILET PARTITION ASSEMBLY IN ITS ENTIRETY.
21. REMOVE AND DISPOSE TOILET FIXTURE. INFILL EXISTING FLOOR HOLES. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
22. REMOVE AND DISPOSE WORK SINK FIXTURE. INFILL EXISTING FLOOR HOLES. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
23. REMOVE AND DISPOSE PLUMBING ACCESSORIES IN DEMOLISHED RESTROOM AREA. FOR EXAMPLE, PAPER TOWER DISPENSER, TOILET TISSUE DISPENSER, ETC...
24. REMOVE AND DISPOSE OF EXISTING GUARD RAIL AT "MAIN LEVEL SHOP 100" WHERE "RESTROOM 101" IS TO BE LOCATED. INFILL EXISTING FLOOR HOLES. COORDINATE EXTENT WITH NEW WORK.
25. REMOVE AND DISPOSE OF ROOF MOUNTED HVAC EQUIPMENT. EXHAUST FANS, EXHAUST FAN CURBS,. GENERATOR EXHAUST UNIT, MECH DUCTWORK, ETC... REFER TO HVAC & ELEC DWGS FOR ADDITIONAL INFO.

1/4" = 1'-0" 0 2' 4' 8'

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No.	Date	Description	DATE
		APPROVED	
	Dr.By		
	Ck.By		
	App.By		

REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

DEMOLITION NOTES AND PLANS

CADD NO.	AD-1
SCALE:	NOTED
CONTRACT:	N / A
JOB NO.	2140649
DR.BY	BPM
DSN.BY	BPM
CHK.BY	JRC
APP.BY	DMH
FILE NO.	213-33

AD-1

SHEET 8 OF 40

ABBREVIATIONS:

ACT	ACOUSTICAL TILE	EPXY	EPOXY SEALING SYSTEM	JST	JOIST	R & D	REMOVE & DISPOSE
AFF	ABOVE FINISH FLOOR	EQ	EQUAL	JT	JOINT	R & R	REMOVE & REPLACE
ALT	ALTERNATE	EQUIP	EQUIPMENT			R & S	REMOVE & SALVAGE
ALUM	ALUMINUM	ER	EXISTING TO REMAIN	KIP	1,000 LBS	R	RADIUS/RISER
ANC BLT	ANCHOR BOLT	EXH	EXHAUST	KO	KNOCKOUT	RB	RUBBER WALL BASE
APPROX	APPROXIMATE	EXIST	EXISTING	KPLT	KICKPLATE	RUB	RUBBER
ARCH	ARCHITECT	EXIST'G	EXISTING			RD	ROOF DRAIN
		EXP	EXPANSION	LP	LOW POINT	REFURB	REFURBISH
BD	BOARD	EXPT	EPOXY PAINT	LSC	LIFE SAFETY CODE	RELOC	RELOCATED
BITUM	BITUMINOUS	EXT	EXTERIOR			REINF	REINFORCEMENT
BF	BRACE FRAME	EW	EACH WAY	MAS	MASONRY	RES	RESILIENT
BLDG	BUILDING			MAX	MAXIMUM	REQ'D	REQUIRED
BLK	BLOCK	FA	FIRE ALARM	MECH	MECHANICAL	REV	REVISION
BLKG	BLOCKING	FACP	FIRE ALARM	MANUF	MANUFACTURER	RFS	RESINOUS FLOOR SYSTEM
BM	BENCH MARK		CONTROL PANEL	MH	MANHOLE	RH	RIGHT HAND
B.O.	BOTTOM OF	FAK	FIRST AID KIT	MIN	MINIMUM	RL	RAIN LEADER
BOF	BOTTOM OF FOOTING	FB	FIRE BLANKET	MIRR	MIRROR	RM	ROOM
BOTT	BOTTOM	FCU	FAN COIL UNIT	MISC	MISCELLANEOUS	R.O.	ROUGH OPENING
BPL	BEARING PLATE	FD	FLOOR DRAIN	ML	MATCH LINE	RTU	ROOF TOP UNIT
BVL	BEVELED	FE	FIRE EXTINGUISHER	M.O.	MASONRY OPENING		
		FF	FINISH FLOOR	MOD	MODULAR	S	SEALANT
CAB	CABINET	FFE	FINISH FLOOR ELEVATION	MS	METAL STUD	SD	SOAP DISPENSER
CB	CATCH BASIN	FIN	FINISH	MTD	MOUNTED	SF	SQUARE FEET
CH	CEILING HEIGHT	FG	FIBERGLASS	MTL	METAL	SIM	SIMILAR
CJ	CONTROL JOINT	FRP	FIBERGLASS REINF PANEL			S.L.	STRUCTURAL LINE
℄	CENTER	FLASH	FLASHING	NA	NOT APPLICABLE	SPEC	SPECIFICATION
	LINE	FLR	FLOOR	NIC	NOT IN CONTRACT	SQ	SQUARE
CLG	CEILING	FLUOR	FLUORESCENT	NOM	NOMINAL	SS	STAINLESS STEEL
CLOS	CLOSET	FNDN	FOUNDATION	NO.	NUMBER	STD	STANDARD
CLR	CLEAR	FOC	FACE OF CONCRETE	NTS	NOT TO SCALE	STL	STEEL
CMU	CONCRETE	FOF	FACE OF FINISH	NUM	NUMBER	STOR	STORAGE
	MASONRY UNIT	FOM	FACE OF MASONRY	NW	NEW	STRUCT	STRUCTURE or STRUCTURAL
COL	COLUMN	FOS	FACE OF STUD			SUSP	SUSPENDED or SUSPENSION
COMP	COMPOSITION	FP	FIREPROOFING	OA	OVERALL	SV	SHEET VINYL
CONC	CONCRETE	FR	FIRE RETARDENT	OC	ON CENTER		
CONST	CONSTRUCTION	FRWP	FIBERGLASS REINFORCED	OD	OUTSIDE DIAMETER	T	TREAD
CONT	CONTINUOUS		WALL PANEL	OH	OVERHEAD / OPPOSITE HAND	TBD	TO BE DETERMINED
COORD	COORDINATE	FT	FEET	OPNG	OPENING	TEL	TELEPHONE
CPT	CARPET	FTG	FOOTING	OPP HAND	OPPOSITE HAND	TEMP	TEMPORARY
CT	CERAMIC TILE	FUR	FURRING	OPP HD	OPPOSITE HAND	THK	THICK or THICKNESS
CY	CUBIC YARD			OPP	OPPOSITE	THOLD	THRESHOLD
		GA	GAUGE	OTS	OPEN TO STRUCTURE	TOC	TOP OF CURB / TOP OF CONCRETE
DBL	DOUBLE	GB	GRAB BAR			TOL	TOP OF LANDING
DEMO	DEMOLITION	GC	GENERAL CONTRACTOR	PERIM	PERIMETER	TOP	TOP OF PLATE / TOP OF PAVEMENT
DI	DRAIN INLET	GALV	GALVANIZED	PL	PROPERTY LINE	TOS	TOP OF STEEL
DIAG	DIAGONAL	GL	GLASS	PLAM	PLASTIC LAMINATE	TOW	TOP OF WALL
DIAM	DIAMETER	GN	GOOSENECK	PLAS	PLASTIC	TTD	TOILET TISSUE DISPENSER
DIM	DIMENSION	GYP	GYPSUM WALL BOARD	PLWD	PLYWOOD	TYP	TYPICAL
DL	DRAIN LEADER			PMJF	PREMOLDED JOINT FILLER		
DN	DOWN	HB	HOSE BIB	PNT	PAINT	UG	UNDERGROUND
DR	DOOR	HC	HANDICAP	PNTD	PAINTED	UNO	UNLESS NOTED OTHERWISE
DS	DOWNSPOUT	HD	HEAVY DUTY	PR	PAIR	UV	UNIT VENTILATOR
DTL	DETAIL	HDWR	HARDWARE	PREFIN	PREFINISHED		
DWG	DRAWING	HM	HOLLOW METAL	PSF	POUNDS PER SQUARE FOOT	VB	VINYL WALL BASE
		HOR	HORIZONTAL			VCT	VINYL COMPOSITION TILE
EA	EACH	HP	HIGH POINT	PSI	POUNDS PER SQUARE INCH	VERT	VERTICAL
EF	EACH FACE	HT	HEIGHT			VEST	VESTIBULE
EJ	EXPANSION JOINT	HTR	HEATER	PT	PRESSURE TREATED	V.I.F.	VERIFY IN FIELD
ELEC	ELECTRIC	HVAC	HEATING, VENTILATING, AIR CONDITIONING	PTD	PAPER TOWEL DISPENSER	VS	VENT STACK
EL	ELEVATION			PTN	PARTITION	VT	VINYL TREAD / VINYL TREAD
ELEV	ELEVATION / ELEVATOR			PVC	POLYVINYL CHLORIDE	VTS	VINYL TRANSITION STRIP
EMERG	EMERGENCY	ICMU	12" NOMINAL CMU INSULATED SINGLE WYTHE EXTERIOR WALL ASSEMBLY	PVMT	PAVEMENT		
ENCL	ENCLOSURE					W/	WITH
EP	ELECTRICAL PANEL			QT	QUARRY TILE	W/O	WITHOUT
	(CONTINUED...)	ID	INSIDE DIAMETER		(CONTINUED...)	WC	WATER CLOSET
		INFO	INFORMATION			WD	WOOD
		INSUL	INSULATION / INSULATED			WF	WIRE FABRIC
		INT	INTERIOR			WG	WIRE GLASS
		INV	INVERT			WP	WORK POINT
			(CONTINUED...)			WP'G	WATERPROOF(ING)
						WS	WOOD STUD
						WT	WEIGHT
						WWF	WELDED WIRE FABRIC

LEGEND:

- DOOR AND FRAME ASSEMBLY (102)
- ROOM TAG (CONTROL / LAB ROOM 101)
- DIMENSION (10'-0")
- WINDOW TYPE TAG (A)
- ELEVATION TAG / FINISH FLOOR ELEVATION (T.O. CONC FLOOR ELEV. - 0'-6")
- WALL TYPE DESIGNATION (DIMENSION DENOTES HEIGHT OF WALL ABOVE FINISH FLOOR, NO DIMENSION MEANS TO UNDERSIDE OF ROOF DECK) (C, 12'-0")
- INTERIOR ELEVATION CALL-OUT SYMBOL (A, D, B, C; 5 / A2.00; DETAIL NO., DRAWING NO., ELEVATION SUB-LETTER DESIGNATION)
- WALL SECTION or DETAIL (X / AX-X; DRAWING NO., ELEVATION SUB-LETTER DESIGNATION)
- ELEVATION SYMBOL (3 / A-2.1; DETAIL NO., DRAWING NO.)
- SECTION SYMBOL (3 / A-2.1; DETAIL NO., DRAWING NO.)
- DETAIL SYMBOL & CALL-OUT BUBBLE (X / AX-X; DRAWING NO., ELEVATION SUB-LETTER DESIGNATION)
- 1 LARGE SCALE PLAN — SCALE: 1/8" = 1'-0" (DRAWING TITLE)
- NORTH ARROW

- 1 SPECIFIC DEMOLITION NOTE
- 1A SPECIFIC CONSTRUCTION NOTE
- WP ELEVATION or WORK POINT (WP)
- ALIGN ALIGN SURFACES
- 1 REVISION MARKER
- 3.5 STRUCTURAL COLUMN GRID
- EXISTING CONSTRUCTION ELEMENTS TO REMAIN
- EXISTING CONSTRUCTION ELEMENTS TO BE DEMOLISHED
- BATT INSULATION / SOUND ATTENUATION BLANKET
- BRICK MASONRY UNIT
- CONCRETE
- CONCRETE MASONRY UNIT
- GLASS
- PLYWOOD
- RIGID INSULATION
- WOOD
- PVC
- WOOD STUDS / BLOCKING (DIMENSIONAL LUMBER)
- WOOD BLOCKING (NON-DIMENSIONAL)

GENERAL CONSTRUCTION NOTES:

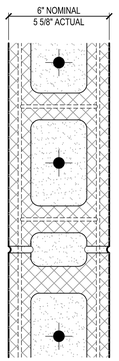
1. ALL INTERIOR DIMENSIONS ARE TAKEN TO FACE OF WALL FROM FACE OF WALL UNLESS SPECIFICALLY NOTED OTHERWISE. DO NOT SCALE DRAWINGS. REFER TO ENLARGED PLANS AND DETAILS FOR FURTHER DIMENSIONING INFORMATION. ALL WORK LINES AND LEVELS SHALL BE LAID OUT BY WRITTEN DIMENSIONS. ANY DEVIATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. ALL DEVIATIONS AND DISCREPANCIES SHALL BE CORRECTED BY THE CONTRACTOR BEFORE HE BEGINS HIS PORTION OF THE WORK.
2. THE GENERAL CONTRACTOR (G.C.) SHALL FIELD VERIFY ALL DIMENSIONS & CONDITIONS PRIOR TO THE WORK AND SHALL NOTIFY THE ARCHITECT REGARDING ANY DISCREPENCIES.
3. THE G.C. SHALL BE RESPONSIBLE FOR ALL PERMITS, BACKCHARGES AND FEES AS REQUIRED BY THE CITY OF QUINCY.
4. PERFORM ALL WORK IN ACCORDANCE WITH THE MA STATE BUILDING CODE (MA.S.B.C), 521 CMR, AS WELL AS ALL LOCAL CODES AND ORDINANCES.
5. THE G.C. SHALL SUBMIT ALL SHOP DRAWINGS, SAMPLES, CATALOG CUTS ETC., INCLUDING COLOR CHARTS FOR PAINTS, FOR ALL INTERIOR FINISHES, TO THE ARCHITECT FOR SELECTION, REVIEW AND APPROVAL PRIOR TO FABRICATION OR INSTALLATION.
6. THE G.C. SHALL BE RESPONSIBLE FOR DAILY REMOVAL AND LEGAL DISPOSAL OF ALL DEBRIS OFF SITE.
7. PROVIDE ALL ACCESSIBLE FIXTURES, CONTROLS & ACCESSORIES, AND APPROPRIATE CLEARANCES, AS REQ'D FOR COMPLIANCE W/ MA STATE BUILDING W/ AMENDMENTS, TYP.
8. ALL INTERIOR MATERIAL SURFACE COLORS AND TEXTURES SHALL BE SELECTED BY THE ENGINEER FROM THE MANUFACTURES STANDARD FINISH/COLOR SELECTIONS.
9. THE G.C. SHALL INSTALL ALL INTERIOR FINISHES AT ALL SURFACES INDICATED ON THE DRAWINGS IN CONFORMANCE TO MA.S.B.C. ALL DOORS SHALL HAVE LEVER HARDWARE TO CONFORM TO 521 CMR.
10. DETAILS AND NOTES SHOWN ON THE ARCHITECTURAL DRAWINGS SHALL BE APPLICABLE TO ALL PARTS OF ARCHITECTURAL WORK EXCEPT WHERE SPECIFICALLY REQUIRED OTHERWISE BY THE CONTRACT DOCUMENTS. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE SIMILAR TO THOSE SHOWN FOR LIKE CONDITIONS AS DETERMINED BY THE ENGINEER.
11. CONTRACTOR SHALL PROTECT ALL EXISTING CONSTRUCTION REMAIN. ANY DAMAGED CONSTRUCTION TO REMAIN SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AND TO THE ACCEPTANCE OF THE ENGINEER.

SPECIFIC CONSTRUCTION NOTES:

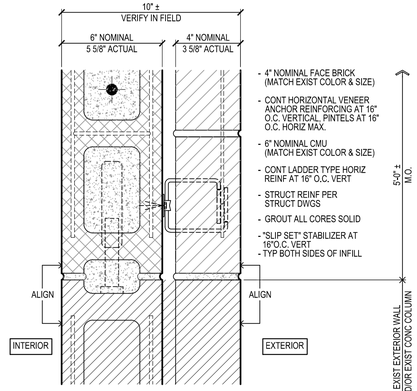
1. INFILL DEMOLISHED LOUVER MASONRY OPENING WITH MATERIALS ALIGNED WITH ADJACENT SURFACES. DEMOLISHED LOUVER IS APPROX. 5'-0" WIDE x 4'-6" TALL ±. COORDINATE WITH WINDOW TYPE "A" INSTALLATION.
2. REMOVE EXISTING MORTAR AS REQUIRED TO UNPLUG EXISTING COTTON SASH CORD WEEPS ALONG BASE OF MASONRY WALL.
3. PARGE EXISTING CONCRETE BANDING / COLUMNS AS REQUIRED TO MAKE FLUSH WITH ADJACENT BANDING.
4. DRY BRUSH EXISTING WALLS WHERE EFFLORESCENCE IS VISIBLE AND OCCURS. FLUSH LIGHTLY WITH CLEAN WATER. IF DRY BRUSHING DOES NOT WORK, APPLY A DILUTE SOLUTION OF MURIATIC ACID, BETWEEN 5-10% AT THE MOST TO HELP CLEAN THE WALLS WHILE BRUSHING, FLUSH WITH WATER THOROUGHLY.
5. PROVIDE 1 1/4" Ø XTRA-STRONG (XS) STAINLESS STEEL HAND RAIL AT WET WELL STAIR LOCATION. REFER TO DETAIL 6/A-1 FOR ADDITIONAL INFORMATION.
6. PREPARE AND PAINT EXISTING STL HANDRAIL / GUARDRAIL TO REMAIN.

WALL & INFILL TYPES

3" = 1'-0"



A — 6" NOMINAL CMU WALL



B — EXTERIOR WALL INFILL

DOOR SCHEDULE

NO.	DOOR SIZE	TYPE	MAT	FIN	FRAME TYPE	MAT	FIN	HEAD	JAMB	SILL	WIDTH	HW SET	LBL	REMARKS
100	PAIR OF 3'-6" x 8'-10" x 1 3/4" ±	D1	HM	PNT	F1	HM	PNT	1 / A-1	2 / A-1	5 / A-1	8-5/8"	2	-	1, 2
101	3'-0" x 7'-0" x 1 3/4"	D1	HM	PNT	F2	HM	PNT	3 / A-1	4 / A-1	-	6-5/8"	3	-	1
102	3'-0" x 8'-10" x 1 3/4" ±	D1	HM	PNT	F1	HM	PNT	1 / A-1	2 / A-1	5 / A-1	8-5/8"	1	-	1, 2
103	3'-0" x 7'-0" x 1 3/4"	D1	HM	PNT	F2	HM	PNT	3 / A-1	4 / A-1	-	6-5/8"	4	-	1
104	2'-6" x 7'-0" x 1 3/4"	D1	HM	PNT	F2	HM	PNT	3 / A-1	4 / A-1	-	6-5/8"	4	-	1

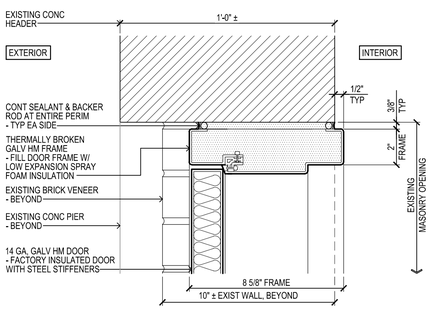
REMARKS:
1. PROVIDE COMPONENTS DESIGNED FOR A MARINE ENVIRONMENT.
2. PROVIDE THERMALLY BROKEN GALV HM EXTERIOR DOOR FRAME AND INSULATED GALV HM DOOR.

ROOM FINISH SCHEDULE

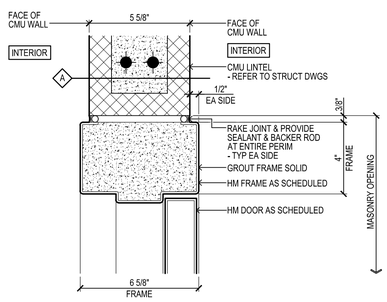
* REFER TO SPECIFICATIONS FOR COMPLETE PAINTING & COATINGS SCHEDULE

ROOM #	ROOM NAME	FLOOR MAT	FLOOR FIN	FLOOR BASE	WALLS MAT - NORTH	WALLS FIN - NORTH	WALLS MAT - SOUTH	WALLS FIN - SOUTH	WALLS MAT - EAST	WALLS FIN - EAST	WALLS MAT - WEST	WALLS FIN - WEST	CEILING MAT	CEILING FIN	CEILING HGT	CEILING TYPE	REMARKS
LOWER LEVEL																	
LL100	LOWER LEVEL SHOP	EXIST CONC	PNT	EXIST CONC	EXIST CONC	PNT	EXIST CONC	PNT	EXIST CONC	PNT	EXIST CONC	PNT	OTS (CONC)	PNT / PNT	11'-2"± / 9'-6"±	-	1, 2, 3
INTERMEDIATE LEVEL																	
UL100	UPPER LEVEL SHOP	EXIST CONC	PNT	EXIST CONC	EXIST CONC	PNT	EXIST CONC	PNT	EXIST CONC	PNT	EXIST CONC	PNT	OTS (CONC)	PNT / PNT	11'-2"± / 9'-6"±	-	1, 2, 3
102	WET WELL	EXIST CONC	PNT	EXIST CONC / CONC	EXIST CONC / EXIST CMU	PNT	EXIST CONC / EXIST CMU	PNT	EXIST CONC / EXIST CMU	PNT	EXIST CONC / EXIST CMU	PNT	OTS (CONC)	PNT / PNT	10'-0"± / 9'-0"±	-	1, 3, 4, 5
MAIN LEVEL																	
100	ENTRY ROOM	EXIST CONC	PNT	EXIST CONC / CONC	EXIST CONC / EXIST CMU	PNT	EXIST CONC / EXIST CMU	PNT	EXIST CONC / EXIST CMU	PNT	EXIST CONC / EXIST CMU	PNT	OTS (CONC)	PNT / PNT	10'-0"± / 9'-0"±	-	1, 2, 3
101	RESTROOM	EXIST CONC	PNT	EXIST CONC / CONC	CMU	PNT	EXIST CONC / CONC	PNT	CMU	PNT	CMU	PNT	OTS (CONC)	PNT	10'-0"±	-	1, 2, 3
103	STORAGE	EXIST CONC	PNT	EXIST CONC / CONC	CMU	PNT	CMU	PNT	CMU	PNT	CMU	PNT	OTS (CONC)	PNT	10'-0"±	-	1, 2, 3
104	JANITOR	EXIST CONC	PNT	EXIST CONC	EXIST CONC / EXIST CMU	PNT	CMU	PNT	EXIST CMU	PNT	EXIST CONC / EXIST CMU	PNT	OTS (CONC)	PNT	10'-0"±	-	1, 2, 3

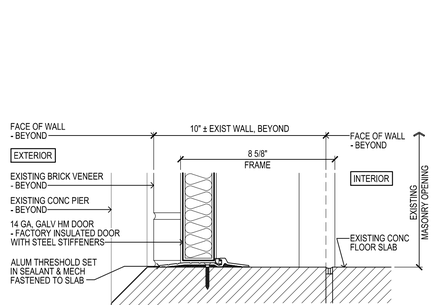
REMARKS:
1. REFER TO STRUCT DWGS & SPECS FOR INFORMATION ON EXISTING CONCRETE FLOOR REPAIR.
2. REMOVE EXCESS EPOXY RESIN REPAIR MATERIAL PRIOR TO APPLICATION OF NEW FLOOR COATING SYSTEMS.
3. FOR NON-SLIP SURFACE, BROADCAST 30/50 MESH SAND INTO WET RESIN PRIOR TO APPLICATION OF FINISH FLOOR COAT
4. PROVIDE EPOXY LINING AT WET WELL CHANNEL. PREPARE SURFACE AS DESCRIBED BY MANUF REQUIREMENTS. REQUIREMENTS MAY INCLUDE WATER BLASTING TO OBTAIN A CLEAN, ROUGH SURFACE. FINISHING GAPS & OTHER IMPERFECTIONS IN THE WALL THAT THE EPOXY LINING MAY NOT SPAN.
5. PROVIDE EPOXY LINING AT WET WELL WALLS, FLOOR, & CEILING, TYPICAL ENTIRE SPACE BESIDES CHANNEL. PREPARE SURFACE AS DESCRIBED BY MANUF REQUIREMENTS. REQUIREMENTS MAY INCLUDE WATER BLASTING TO OBTAIN A CLEAN, ROUGH SURFACE. FINISHING GAPS & OTHER IMPERFECTIONS IN THE WALL THAT THE EPOXY LINING MAY NOT SPAN.



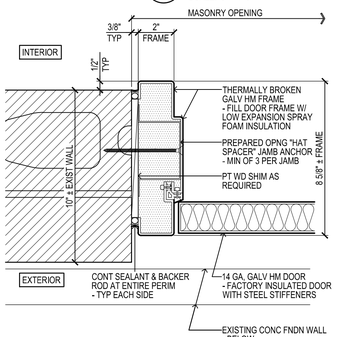
1 HEAD DETAIL — SCALE: 3" = 1'-0"



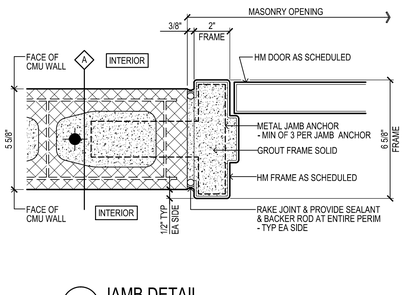
2 HEAD DETAIL — SCALE: 3" = 1'-0"



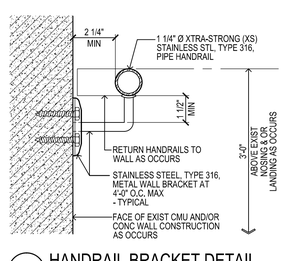
5 EXTERIOR SILL DETAIL — SCALE: 3" = 1'-0"



3 JAMB DETAIL — SCALE: 3" = 1'-0"



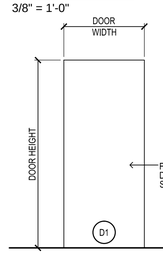
4 JAMB DETAIL — SCALE: 3" = 1'-0"



6 HANDRAIL BRACKET DETAIL — SCALE: 3" = 1'-0"

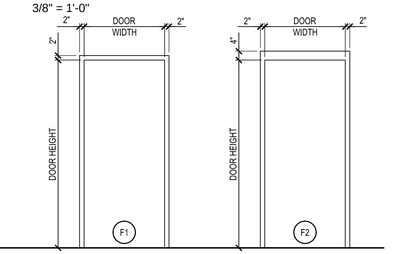
DOOR TYPES

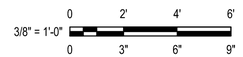
3/8" = 1'-0"



FRAME TYPES

3/8" = 1'-0"





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No.	Date	Description	Dr.By	Ck.By	App.By
A	January 19, 2015	DRAWING ISSUED FOR PROPOSAL	BPM	DSN.BY	JRC
				DR.BY	DMH

REGISTERED PROFESSIONAL ENGINEER
No. 39501
BENJAMIN P. MARTIN
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

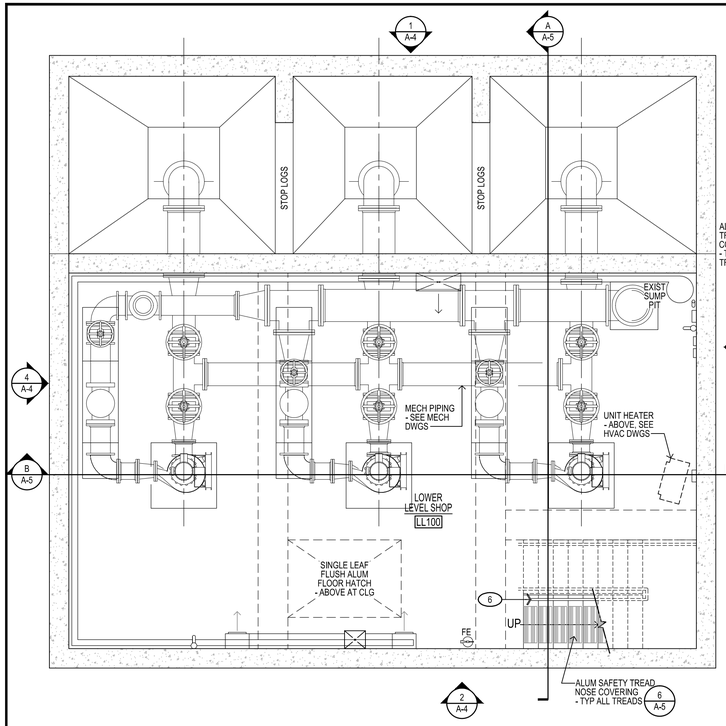
ABBREVIATIONS, LEGEND, GENERAL NOTES & WALL TYPES

CADD NO.	SCALE:	CONTRACT:	JOB NO.
A-1	NOTED	N / A	2140649

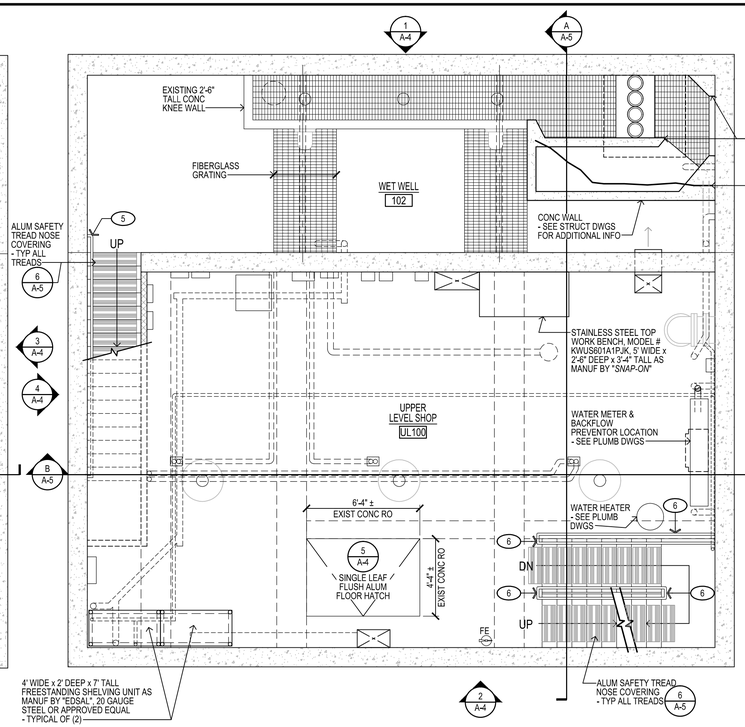
A-1

FILE NO.
213-32

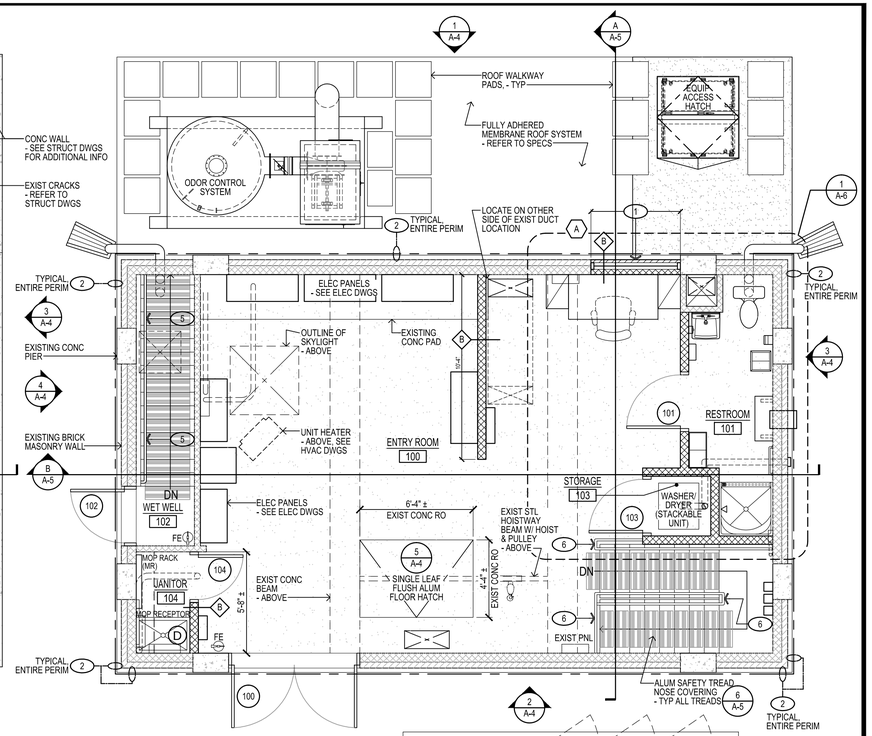
SHEET 9 OF 40



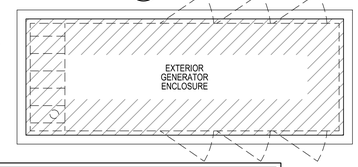
3 LOWER LEVEL FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 INTERMEDIATE LEVEL FLOOR PLAN
SCALE: 1/4" = 1'-0"



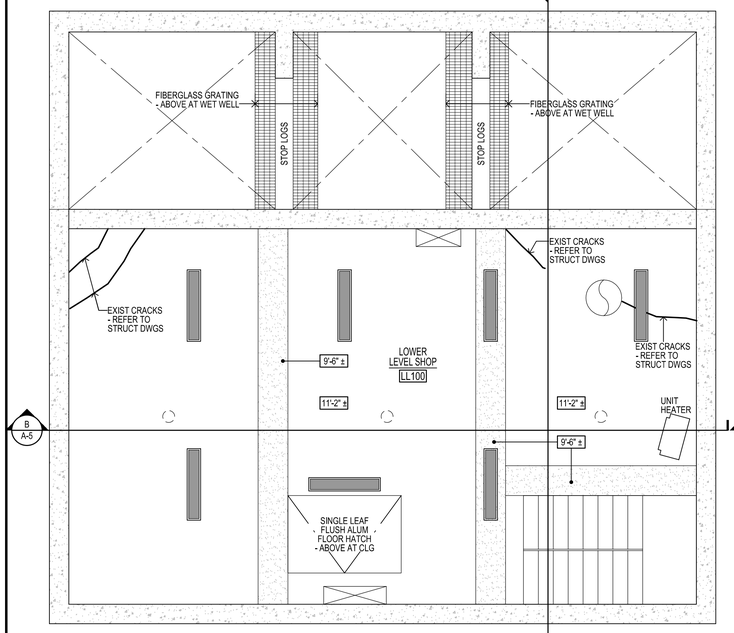
1 MAIN LEVEL FLOOR PLAN
SCALE: 1/4" = 1'-0"



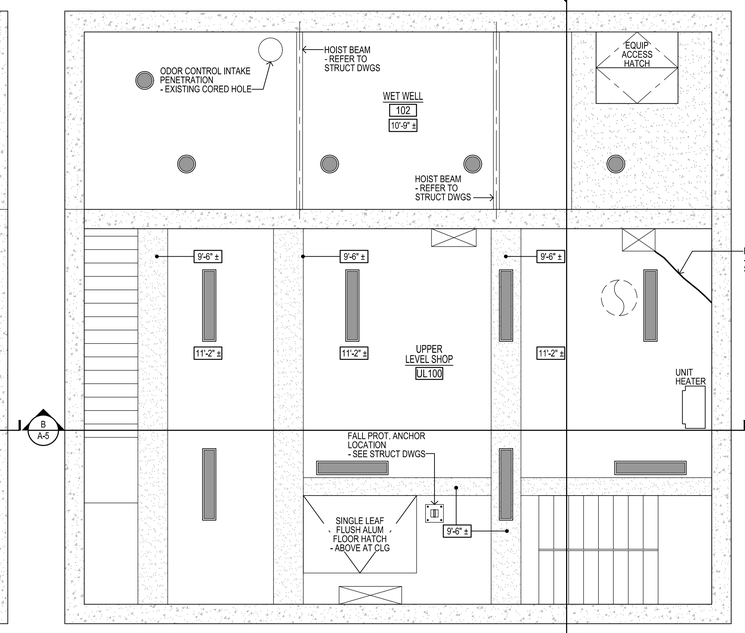
REFER TO DRAWING A-1 FOR GENERAL & SPECIFIC CONSTRUCTION NOTES

CEILING LEGEND

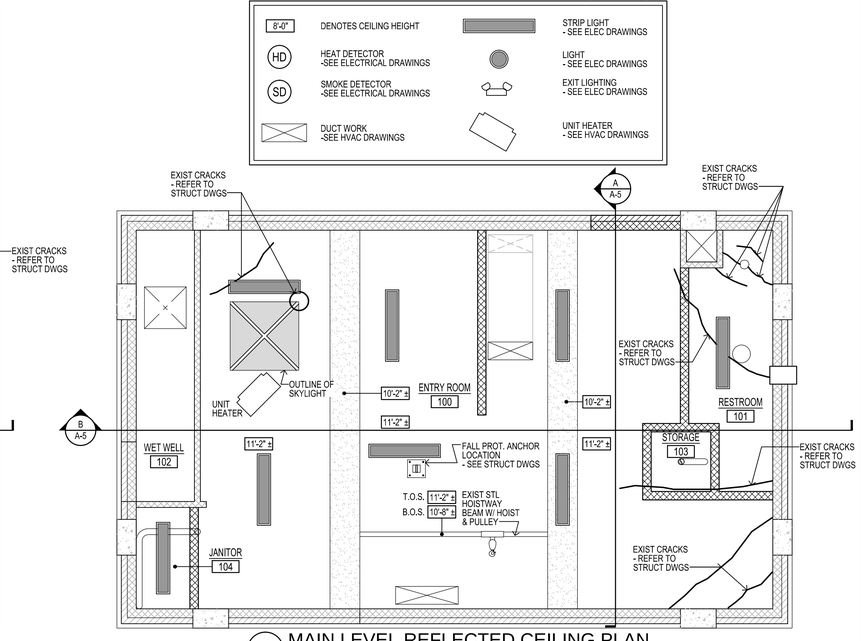
8'-0"	DENOTES CEILING HEIGHT		STRIP LIGHT - SEE ELEC DRAWINGS
HD	HEAT DETECTOR -SEE ELECTRICAL DRAWINGS		LIGHT - SEE ELEC DRAWINGS
SD	SMOKE DETECTOR -SEE ELECTRICAL DRAWINGS		EXIT LIGHTING - SEE ELEC DRAWINGS
	DUCT WORK -SEE HVAC DRAWINGS		UNIT HEATER - SEE HVAC DRAWINGS



6 LOWER LEVEL REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"



5 INTERMEDIATE LEVEL REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"



4 MAIN LEVEL REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

1/4" = 1'-0" 0 2' 4' 8'

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No.	Date	Description	DATE
		APPROVED	
		Dr.By	
		Ck.By	
		App.By	

REGISTERED PROFESSIONAL ENGINEER

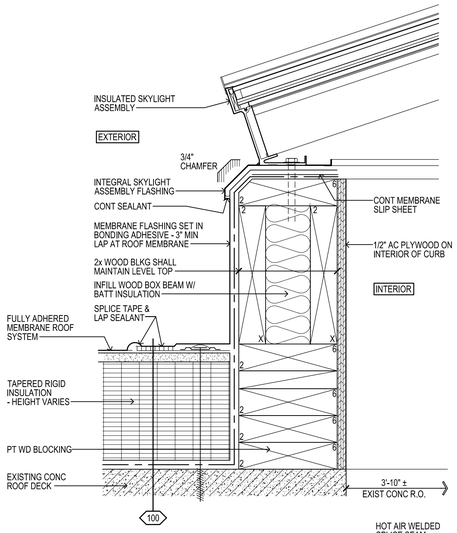
CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

OVERALL FLOOR & REFLECTED CEILING PLANS

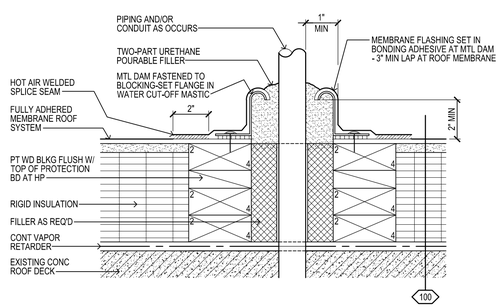
APP.BY	DMH
CHK.BY	JRC
DSN.BY	BPM
DR.BY	BPM
JOB NO.	2140649
CONTRACT:	N / A
SCALE:	NOTED
CADD NO.	A-2
FILE NO.	213-31

A-2

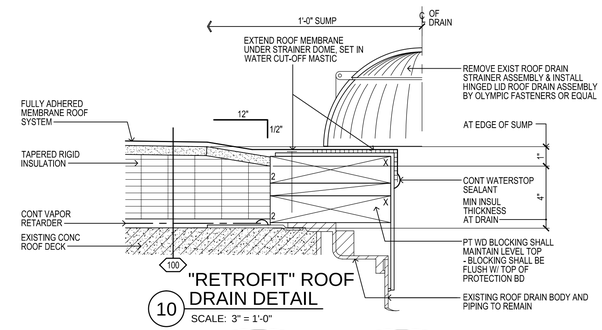
SHEET 10 OF 40



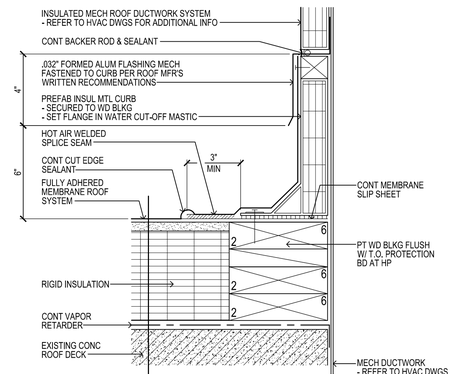
12 SKYLIGHT DETAIL
SCALE: 3" = 1'-0"



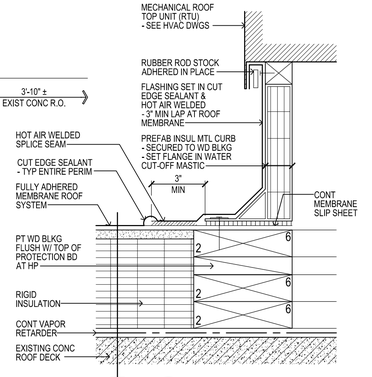
11 PITCH POCKET DETAIL
SCALE: 3" = 1'-0"



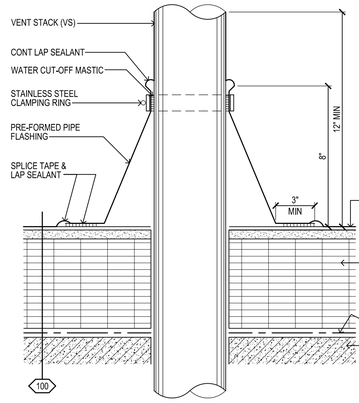
10 "RETROFIT" ROOF DRAIN DETAIL
SCALE: 3" = 1'-0"



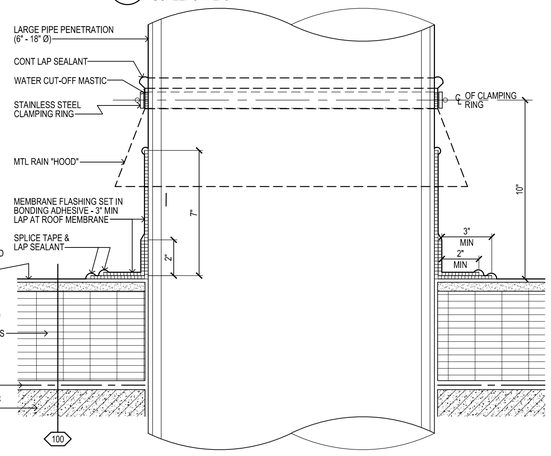
9 DUCTWORK THRU ROOF DETAIL
SCALE: 3" = 1'-0"



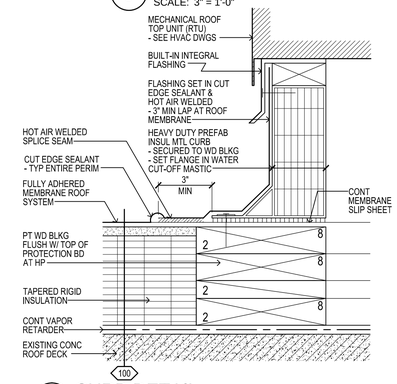
5 CURB DETAIL
SCALE: 3" = 1'-0" LESS THAN 500 LB RTU'S & EQUIPMENT U.N.O.



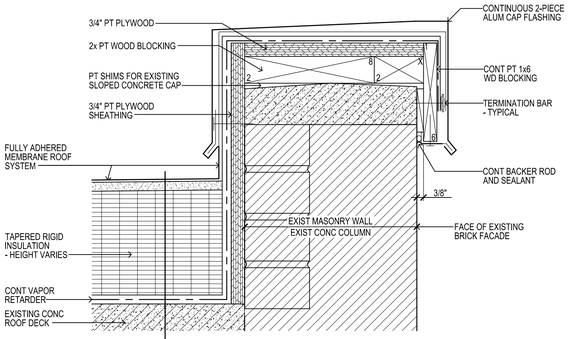
6 VENT STACK (VS) DETAIL
SCALE: 3" = 1'-0"



7 LARGE HVAC PIPE PENETRATION DETAIL
SCALE: 3" = 1'-0" (6"-18" PIPE/DUCT PENETRATION)



8 CURB DETAIL
SCALE: 3" = 1'-0" MORE THAN 500 LB RTU'S & EQUIPMENT U.N.O



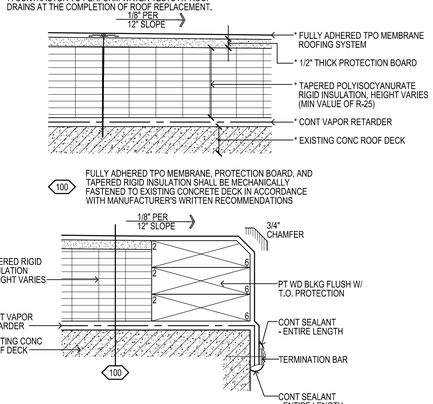
4 CAP TERMINATION DETAIL
SCALE: 3" = 1'-0"

GENERAL ROOF NOTES:

1. CONCEPTUAL TAPERED INSULATION LAYOUT TO PROVIDE MINIMUM INSULATION HEIGHTS AT ROOF TO WALL AND PERIMETER LOCATIONS. SPECIFIC TAPERED LAYOUT TO BE DEVELOPED BY CONTRACTOR IN CONJUNCTION WITH INSULATION SUPPLIER.
2. ADJUSTMENTS TO WOOD BLOCKING HEIGHTS AND CONFIGURATIONS OF FLASHINGS TO CONFORM TO TAPERED INSULATION LAYOUT IS THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL COSTS WILL BE ALLOWED TO THE CONTRACTOR IF PROPOSED DETAIL CONFIGURATIONS ARE ALTERED.
3. CONTRACTOR TO PERFORM PULL TESTS ON EACH SUBSTRATE PRIOR TO INSTALLING ROOFING MATERIAL.
4. FOR REMOVAL & REPLACEMENT OF HVAC EQUIPMENT, REFER TO HVAC DRAWINGS AND SPECIFICATIONS.
5. CONTRACTOR TO CONFIRM HEIGHT OF ALL WOOD BLOCKING TO ACCOMMODATE THE HEIGHT OF ROOF INSULATION.
6. CONTRACTOR TO CONDUCT ADHESION TESTING OF ALL SEALANTS.
7. CONTRACTOR TO PERFORM WATER TESTS AT ROOF DRAINS AT THE COMPLETION OF ROOF REPLACEMENT.

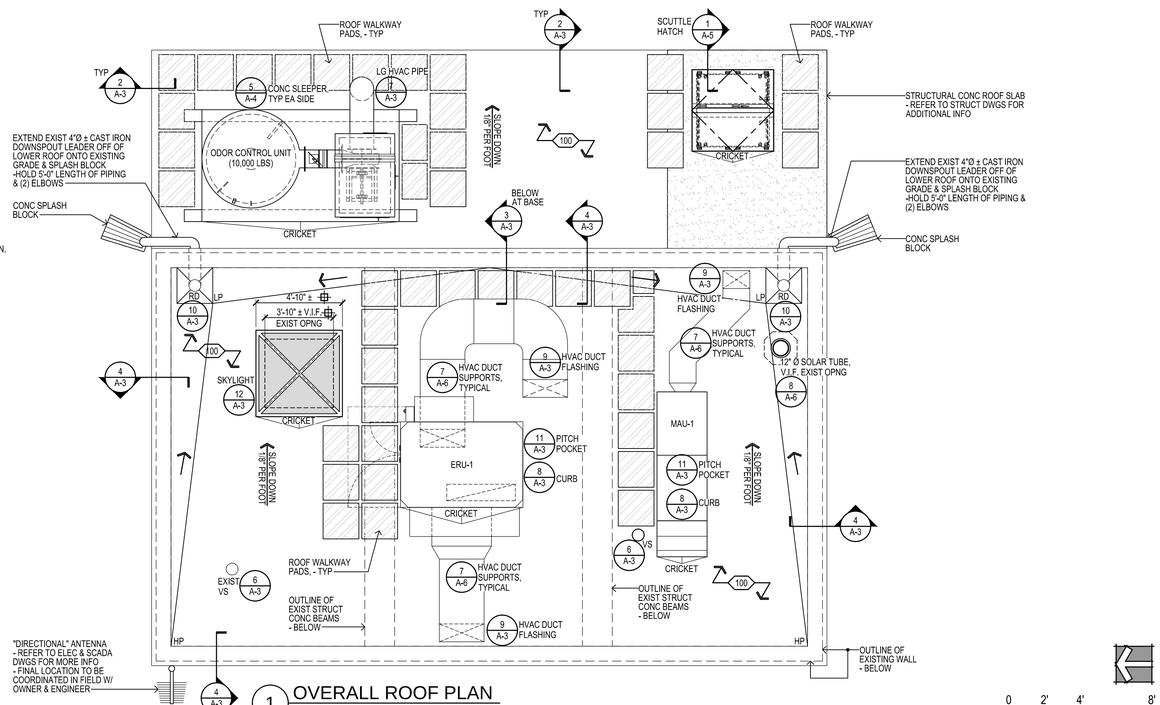
ROOF NOTES:

1. RD	DENOTES EXISTING ROOF DRAIN RETROFITTED.
2. EF	DENOTES NEW ROOF EXHAUST FAN & CURB ASSEMBLY AT EXISTING FAN LOCATION.
3. VS	DENOTES EXISTING VENT STACK. EXTEND TOP OF VENT STACK PIPE TO 12" MINIMUM ABOVE TOP OF ROOF SURFACE.
4. HP	DENOTES HIGH POINT OF TAPERED RIGID INSULATION.
5. LP	DENOTES LOW POINT OF TAPERED RIGID INSULATION.
6. CRICKET	CRICKET SHALL CONSIST OF POLYISOCYANURATE RIGID INSULATION AT 1/4" PER FOOT SLOPE ALL BUILT ON TOP OF THE MAIN ROOF SYSTEM TAPERED RIGID INSULATION.



3 BASE TERMINATION DETAIL
SCALE: 3" = 1'-0"

2 EDGE TERMINATION DETAIL
SCALE: 3" = 1'-0"



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

0 2' 4' 8'
1/4" = 1'-0"
0 3" 6" 9"
3" = 1'-0"

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No.	Date	Description	Dr.By	Ch.By	App.By
		APPROVED			

DATE: January 19, 2015

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS — DAVID M. HOLMES — No. 39560 — REGISTERED PROFESSIONAL ENGINEER — BELMONT, MASS.

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

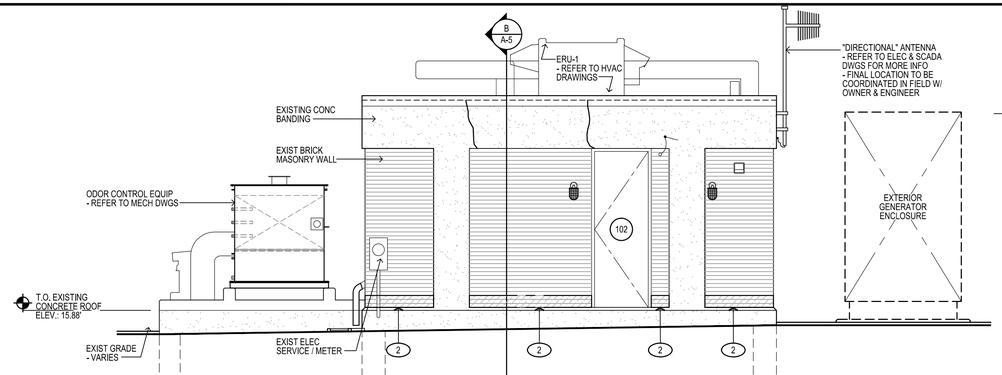
ROOF PLAN AND DETAILS

APP.BY	CHK.BY	DSN.BY	DR.BY	JOB NO.	CONTRACT:	SCALE:	CADD NO.
DMH	JRC	BPM	BPM	2140649	N / A	NOTED	A-3

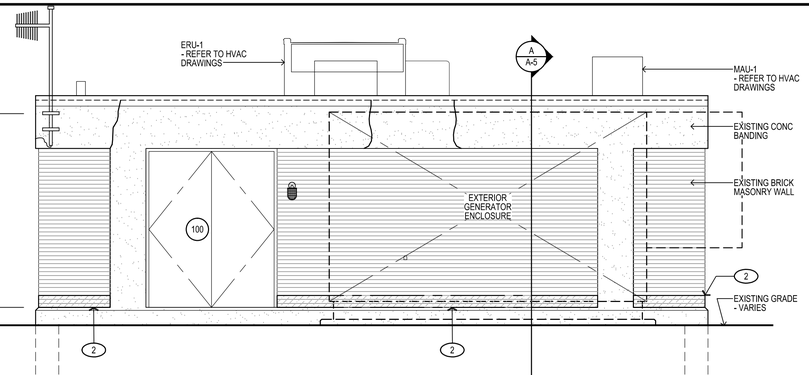
FILE NO. 213-30

A-3

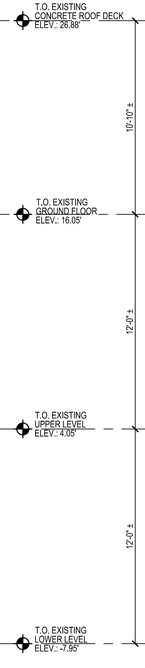
SHEET 11 OF 40

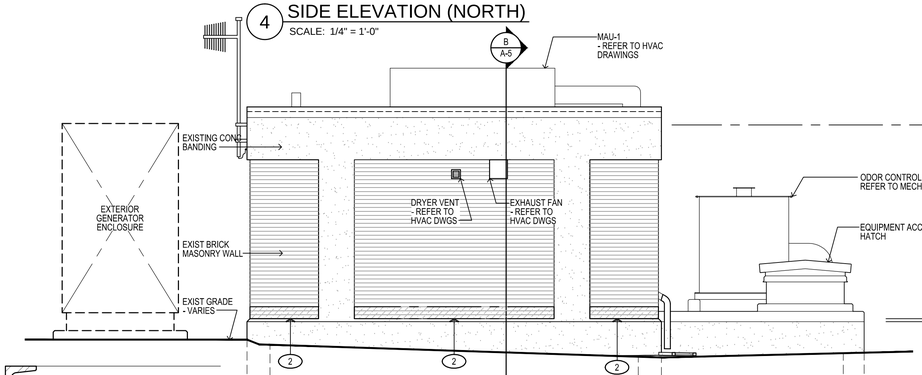


4 SIDE ELEVATION (NORTH)
SCALE: 1/4" = 1'-0"

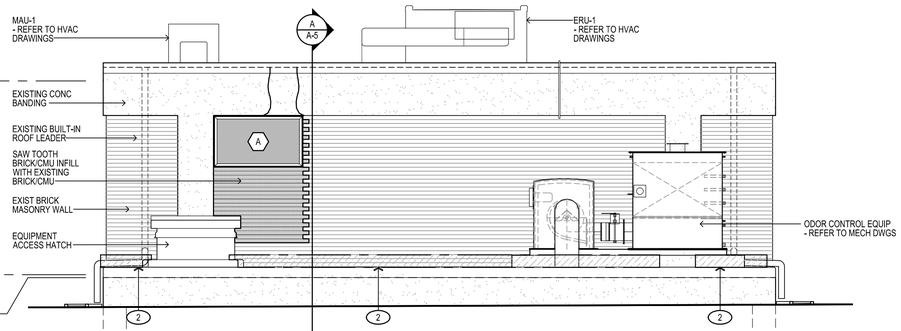


2 FRONT ELEVATION (WEST)
SCALE: 1/4" = 1'-0"

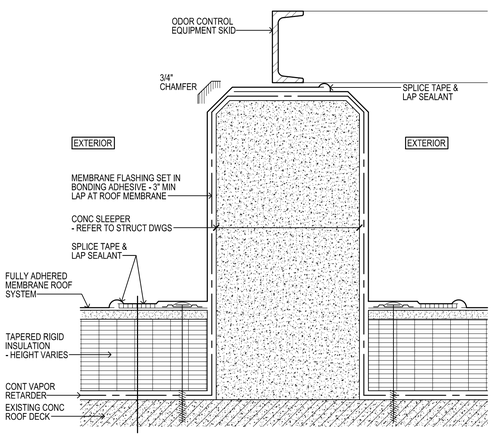




3 SIDE ELEVATION (SOUTH)
SCALE: 1/4" = 1'-0"



1 REAR ELEVATION (EAST)
SCALE: 1/4" = 1'-0"



100
5 ODOR CONTROL SLEEPER DETAIL
SCALE: 3" = 1'-0"

GENERAL NOTE:
ACTUAL GROUND FLOOR IS AT 16.05' BASED ON NAVD 88. VERIFY IN FIELD.

3" = 1'-0" 0 3" 6" 9"

1/4" = 1'-0" 0 2' 4' 8'

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No.	Date	Description	DATE

Dr.By | Ck.By | App.By | APPROVED

REGISTERED PROFESSIONAL ENGINEER

No. 39590
BENJAMIN
SHERIDAN

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

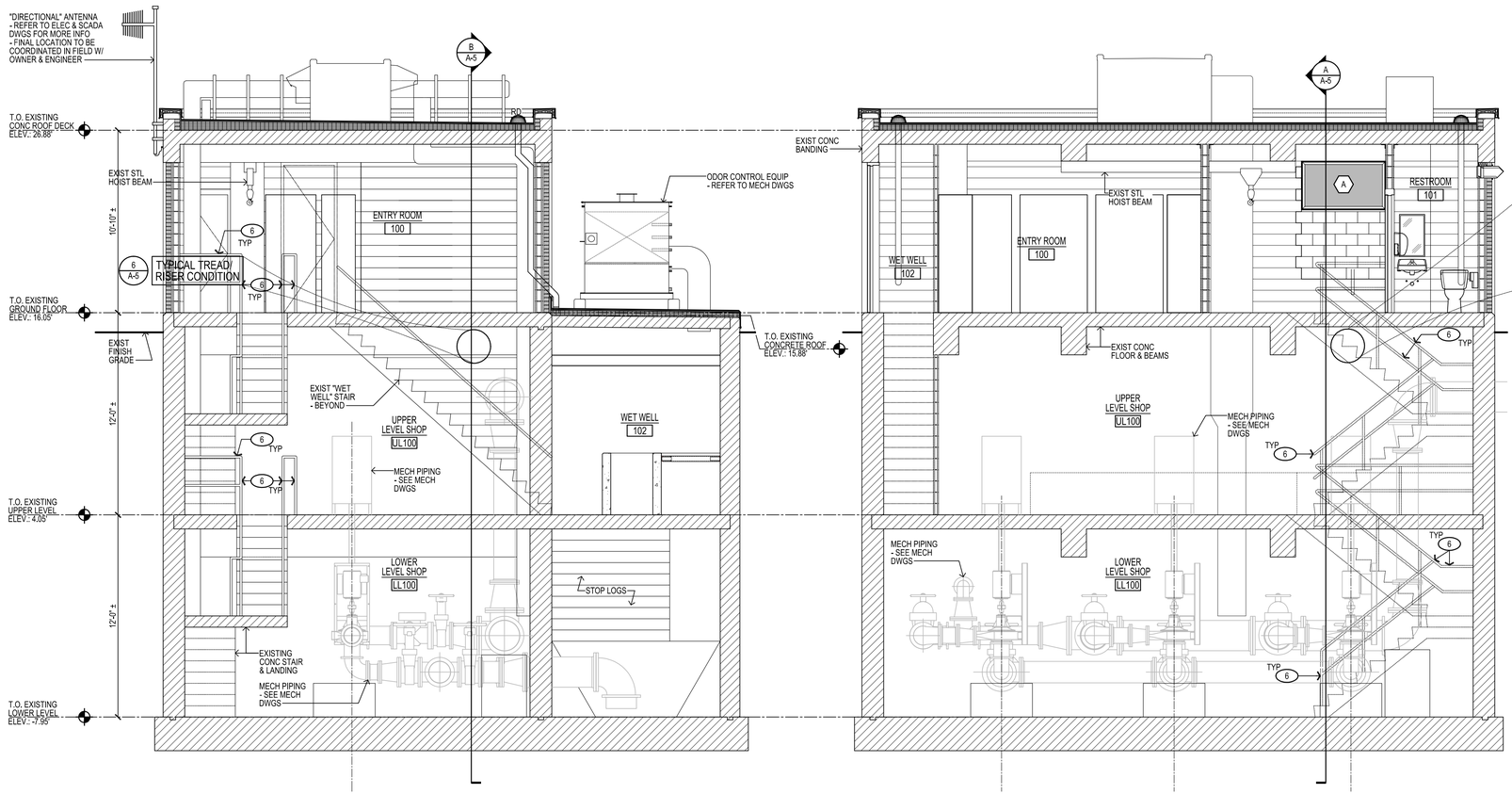
EXTERIOR ELEVATIONS

APP.BY	CHK.BY	DSN.BY	DR.BY	JOB NO.	CONTRACT:	SCALE:	CADD NO.
DMH	JRC	BPM	BPM	2140649	N / A	NOTED	A-4

A-4

FILE NO. 213-29

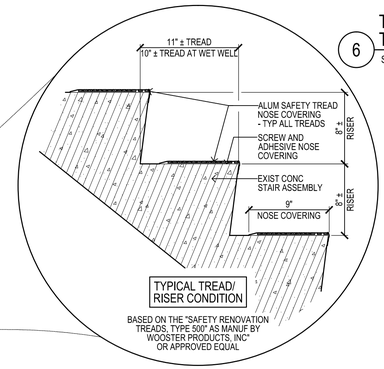
SHEET 12 OF 40

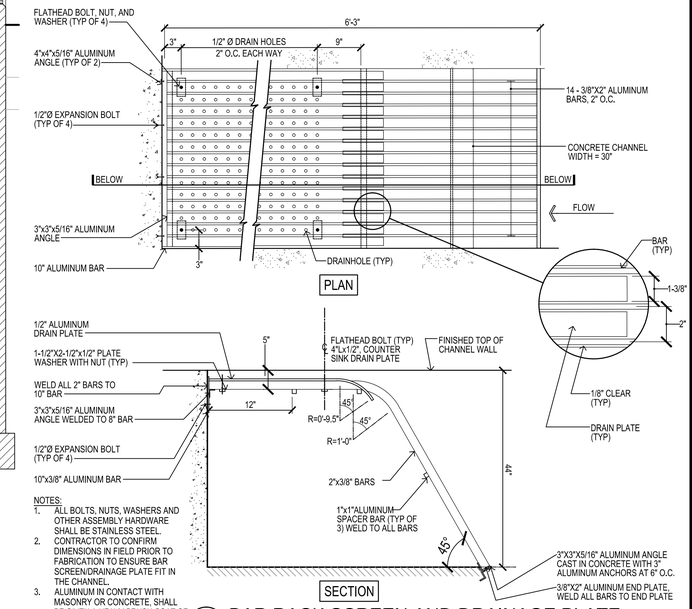


A BLDG SECTION
SCALE: 1/4" = 1'-0"

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

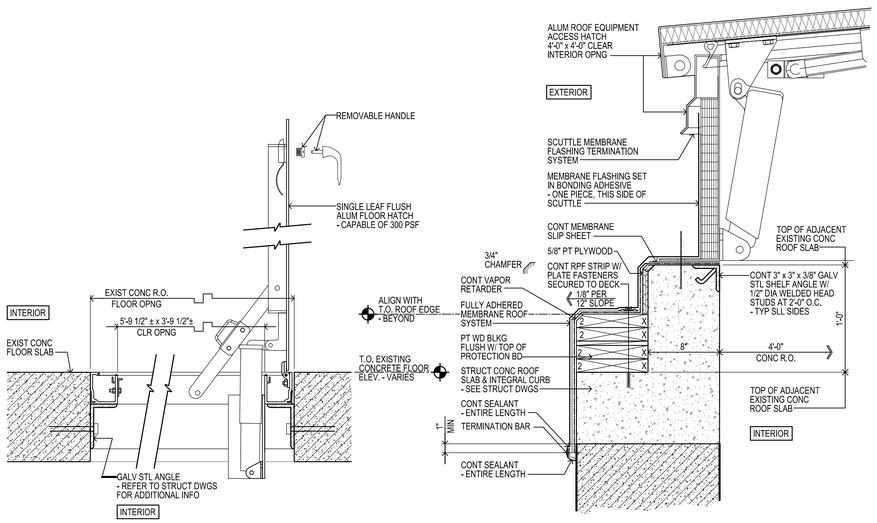
6 TYPICAL EXIST TREAD DETAIL
SCALE: NOT TO SCALE





NOTES:
1. ALL BOLTS, NUTS, WASHERS AND OTHER ASSEMBLY HARDWARE SHALL BE STAINLESS STEEL.
2. CONTRACTOR TO CONFIRM DIMENSIONS IN FIELD PRIOR TO FABRICATION TO ENSURE BAR SCREEN/DRAINAGE PLATE FIT IN THE CHANNEL.
3. ALUMINUM IN CONTACT WITH MASONRY OR CONCRETE, SHALL BE GIVEN A HEAVY BRUSH COAT OF ALKALI-RESISTANT BITUMINOUS PAINT.

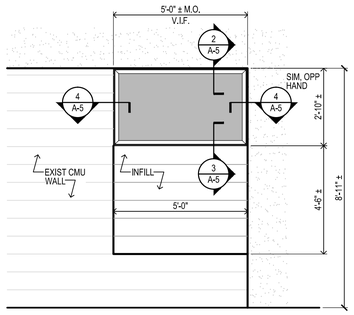
7 BAR RACK SCREEN AND DRAINAGE PLATE
SCALE: NOT TO SCALE



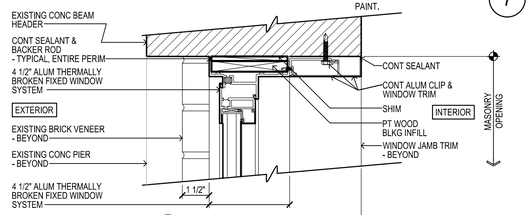
5 EQUIPMENT FLOOR HATCH DETAIL
SCALE: 1 1/2" = 1'-0" INTERIOR AT MAIN LEVEL

1 EQUIPMENT ACCESS HATCH DETAIL
SCALE: 1 1/2" = 1'-0" EXTERIOR AT WET WELL ROOF

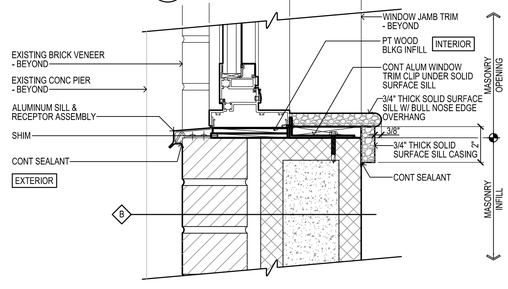
WINDOW SCHEDULE
3/8" = 1'-0" (INTERIOR SIDE SHOWN)



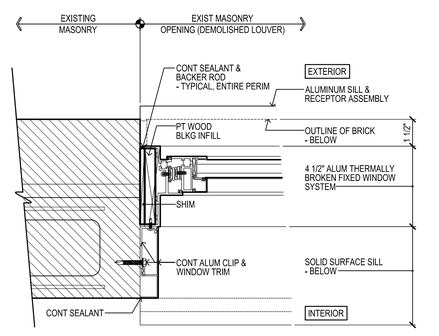
A
BASED ON THE "SERIES 2900 THERMAL 4 1/2" HEAVY COMMERCIAL FIXED WINDOW" AS MANUFACTURED BY "EFCO CORPORATION" OR APPROVED EQUAL



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



3 WINDOW SILL
SCALE: 3" = 1'-0"



4 WINDOW JAMB
SCALE: 3" = 1'-0"

GENERAL NOTE:
ACTUAL GROUND FLOOR IS AT 16.05' BASED ON NAVD 88. VERIFY IN FIELD.

0 3" 6" 9"
3" = 1'-0"
0 4" 8" 1'-4"
1 1/2" = 1'-0"
0 2' 4' 6'
3/8" = 1'-0"
0 2' 4' 8'
1/4" = 1'-0"

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No.	Date	Description	Dr.By	Ck.By	App.By
		APPROVED			

DATE January 19, 2015

REGISTERED PROFESSIONAL ENGINEER

REGISTERED PROFESSIONAL ENGINEER No. 39501 BENJAMIN P. MCMANUS MASSACHUSETTS

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

BUILDING SECTIONS

DR.BY	DSN.BY	CHK.BY	APP.BY
BPM	BPM	JRC	DMH

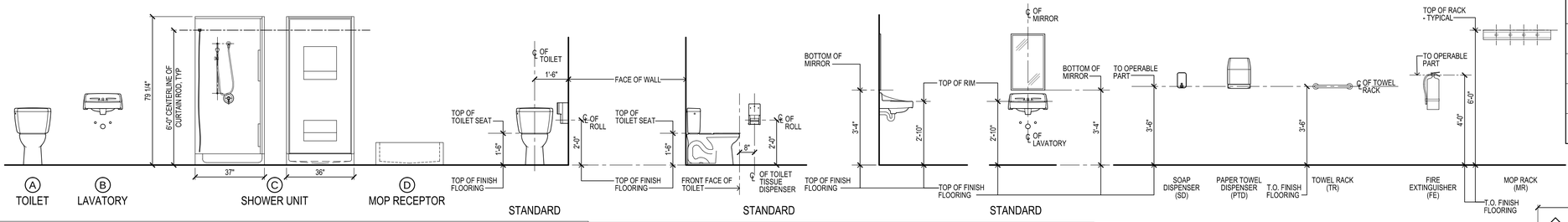
JOB NO. 2140649
CONTRACT: N / A
SCALE: NOTED
CADD NO. A-5
FILE NO. 213-28

A-5

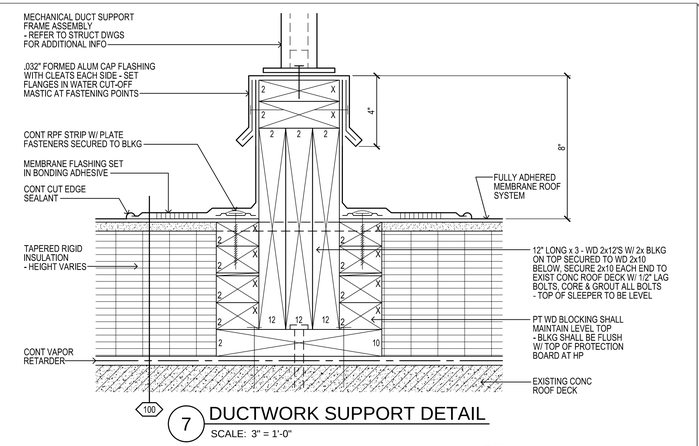
1 FIXTURE AND ACCESSORY MOUNTING HEIGHTS
SCALE: NTS

PLUMBING FIXTURE DESIGNATION
- REFER TO PLUMBING SCHEDULE ON PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION

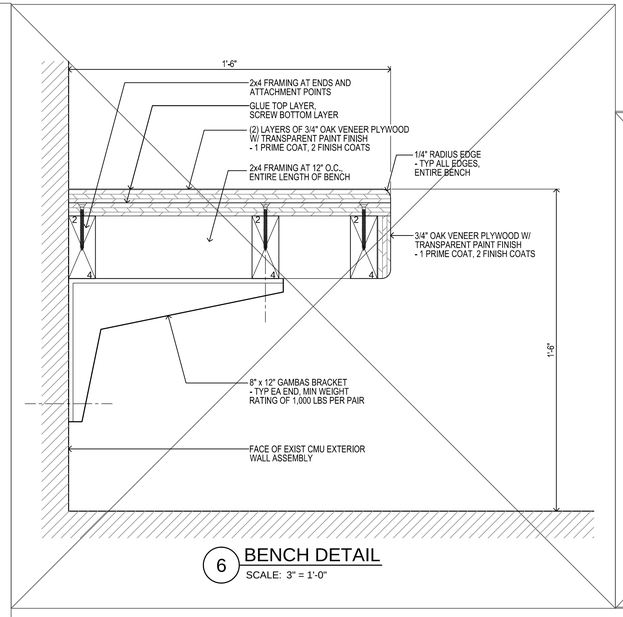
TOILET, GRAB BARS, AND FIXTURES MOUNTING HEIGHTS



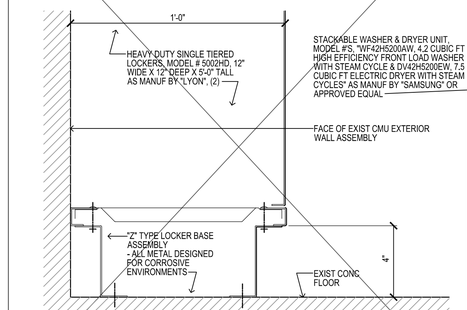
FIXTURE NUMBER	ACCESSORY DESCRIPTION
TTD	SURFACE MOUNTED DUAL ROLL TOILET TISSUE DISPENSER, STAINLESS STEEL
PTD	SURFACE MOUNTED PAPER TOWER DISPENSER, STAINLESS STEEL
SD	SURFACE MOUNTED SOAP DISPENSER, STAINLESS STEEL
MIRR	SURFACE MOUNTED MIRROR, STAINLESS STEEL
SCR	SHOWER CURTAIN ROD, SHOWER CURTAIN, & SHOWER CURTAIN HOOKS, STAINLESS STEEL
TR	TOWEL RACK, STAINLESS STEEL
WR	WASTE RECEPTACLE, STAINLESS STEEL
FE	FIRE EXTINGUISHER, CLASS A,B,C - QUANTITY 4, SHOWN ON SHEET A-2
MR	MOP RACK, STAINLESS STEEL



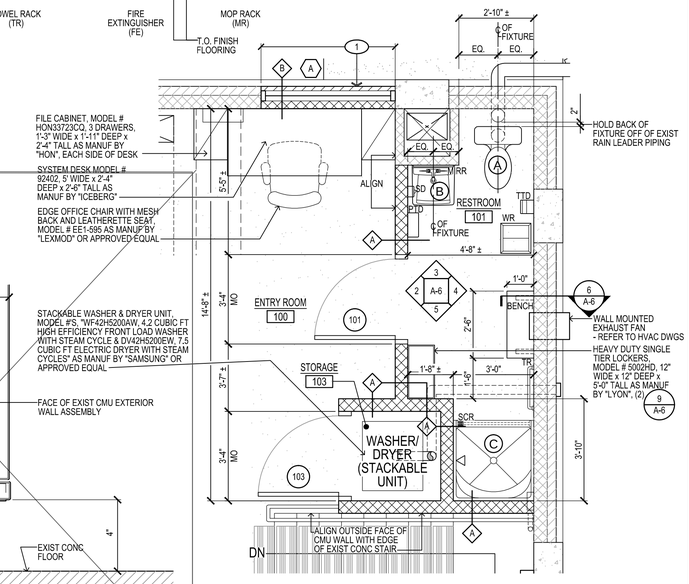
7 DUCTWORK SUPPORT DETAIL
SCALE: 3" = 1'-0"



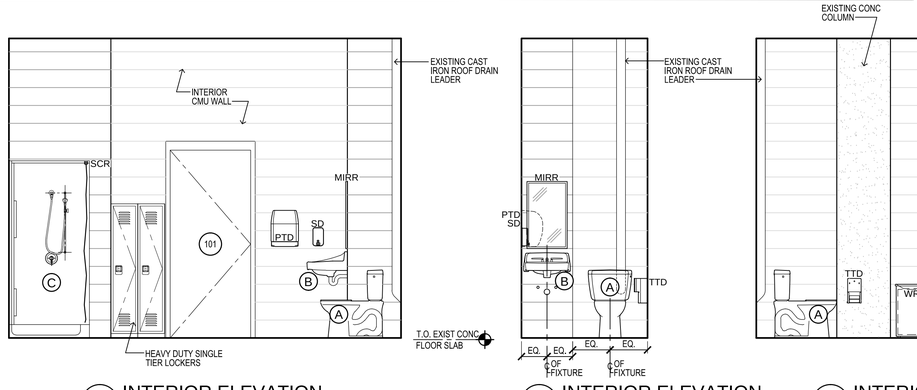
6 BENCH DETAIL
SCALE: 3" = 1'-0"



9 LOCKER BASE DETAIL
SCALE: 3" = 1'-0"



1 OVERALL BATHROOM FLOOR PLAN
SCALE: 3/8" = 1'-0"

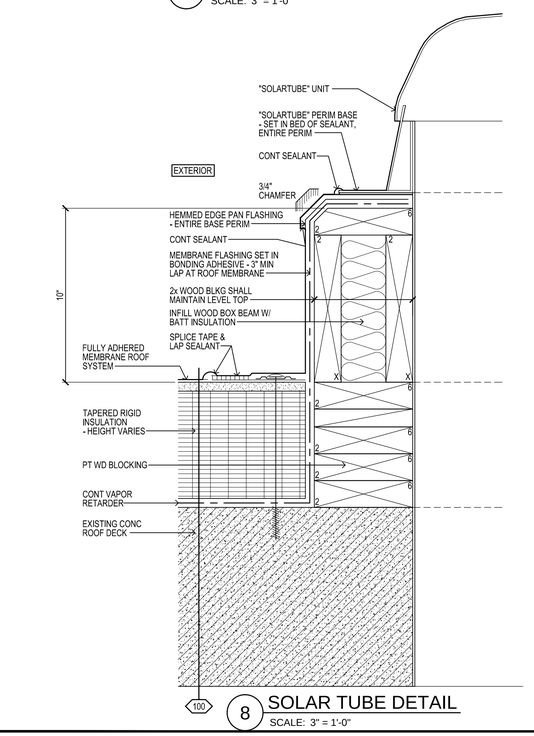


2 INTERIOR ELEVATION
SCALE: 3/8" = 1'-0"

3 INTERIOR ELEVATION
SCALE: 3/8" = 1'-0"

4 INTERIOR ELEVATION
SCALE: 3/8" = 1'-0"

5 INTERIOR ELEVATION
SCALE: 3/8" = 1'-0"



8 SOLAR TUBE DETAIL
SCALE: 3" = 1'-0"

1 1/2" = 1'-0" (0, 4", 8", 1'-4")

3/8" = 1'-0" (0, 1', 2', 3', 6')

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No.	Date	Dr.By	Ck.By	App.By	Description	DATE
					PROVED	January 19, 2015

REGISTERED PROFESSIONAL ENGINEER
No. 39901
REGISTERED
MICHAEL
COMMONWEALTH OF MASSACHUSETTS
PROFESSIONAL ENGINEER

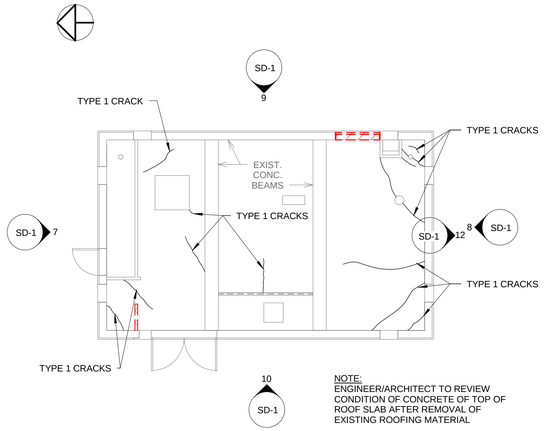
CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

BATHROOM INTERIOR ELEVATIONS & PLUMBING SCHEDULE

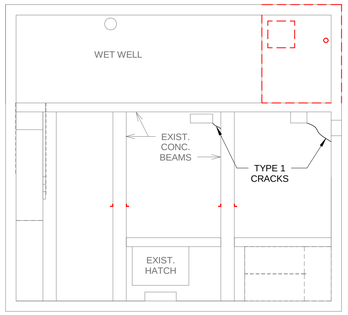
CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR.BY	DSN.BY	CHK.BY	APP.BY
A-6	NOTED	N / A	2140649	BPM	BPM	JRC	DMH

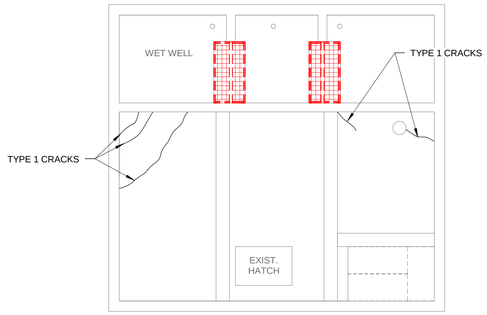
A-6

FILE NO. 213-27



NOTE:
ENGINEER/ARCHITECT TO REVIEW CONDITION OF CONCRETE OF TOP OF ROOF SLAB AFTER REMOVAL OF EXISTING ROOFING MATERIAL



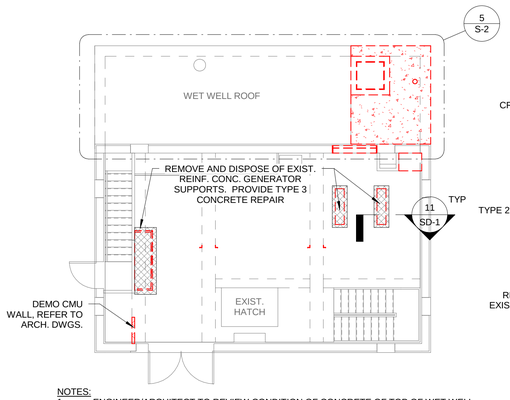


CONCRETE REPAIR SCHEDULE			
MARK	REPAIR MATERIAL	QUANTITY	COMMENTS
TYPE 1	SIKADUR 35 HI-MOD LV	200 LF	PRESSURE INJECTED CRACK REPAIR
TYPE 2	SIKADUR 55 SLV	3,500 SF	GRAVITY FED CRACK REPAIR, APPLY TO ENTIRE FLOOR SURFACE
TYPE 3	SIKATOP 122 PLUS	250 SF	CONCRETE REPAIR, REFER TO DETAIL 11

CRACK REPAIR NOTES:

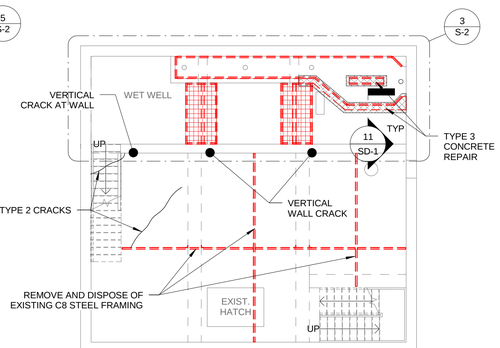
1. CRACK REPAIR MATERIALS MANUFACTURED BY SIKA CORP. FOLLOW MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
2. HAZARDOUS MATERIAL ABATEMENT SHALL BE PERFORMED PRIOR TO PROCEEDING WITH CRACK REPAIR.
3. THOROUGHLY CLEAN CRACK REPAIR AREAS BY POWER WASHING. ALLOW TO DRY 24 HOURS PRIOR TO REPAIR.
4. SUBSTRATE SHALL BE FREE OF DUST, LAITANCE, LOOSE CONCRETE, GREASE, AND OTHER CONTAMINANTS PRIOR TO REPAIR. USE MECHANICAL MEANS (SHOTBLASTING, SANDBLASTING, ETC.) IF NECESSARY.
5. FLOOR PREPARATION INCLUDES REMOVAL OF EXISTING COATING BY MECHANICAL MEANS (SHOTBLASTING, SANDBLASTING, ETC.),
6. IMMEDIATELY PRIOR TO REPAIR, CLEAN CRACK USING COMPRESSED AIR.
7. PRESSURE INJECTED CRACK REPAIR (TYPE 1):
   - A. ROUTE VEE-NOTCH GROOVE (3/8-INCH +/- DEEP, 1/2-INCH +/- WIDE) IN CONCRETE FOR LENGTH OF CRACK.
   - B. INSTALL INJECTION PORTS. MAXIMUM SPACING OF PORTS SHALL EQUAL THE DEPTH/THICKNESS OF THE REPAIRED ELEMENT.
   - C. SEAL TOP OF CRACK AND SEAL PORTS USING SIKADUR 33 EPOXY
   - D. INJECT SIKADUR 35 HI-MOD LV EPOXY PER THE MANUFACTURER'S RECOMMENDATIONS.
   - E. REMOVE PORTS AND PATCH USING SIKADUR 33 EPOXY
8. GRAVITY FED CRACK REPAIR (TYPE 2):
   - A. APPLY FERROGARD 903 CORROSION INHIBITOR OVER ENTIRE FLOOR AREA. ALLOW TO DRY 24 HOURS PRIOR TO PROCEEDING TO STEP 'B'.
   - B. SPREAD SIKADUR 55 SLV EPOXY RESIN OVER ENTIRE FLOOR AREA USING SQUEEGEE OR BROOM TO ALLOW PONDING OVER CRACKS. REMOVE EXCESS RESIN.
   - C. FOR CRACK WIDTHS OVER 1/8-INCH THICK, FILL WITH OVEN-DRIED SAND PRIOR TO APPLICATION OF EPOXY RESIN.
   - D. UNDERSIDE OF THRU-CRACKS SHALL BE SEALED BY PRESSURE INJECTION PRIOR TO APPLYING EPOXY RESIN.
   - E. APPLY SECOND TREATMENT AS REQUIRED TO FILL CRACKS. REMOVE EXCESS RESIN.
   - F. ALLOW RESIN TO CURE FOR 6 HOURS MINIMUM. PREPARE FLOOR SLAB SURFACE FOR NEW COATING BY SHOTBLASTING/SANDBLASTING/SANDING REMOVING EXCESS EPOXY RESIN. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

1 MAIN LEVEL REFLECTED CEILING PLAN - DEMOLITION AND CONCRETE REPAIR PLAN
1/8" = 1'-0"



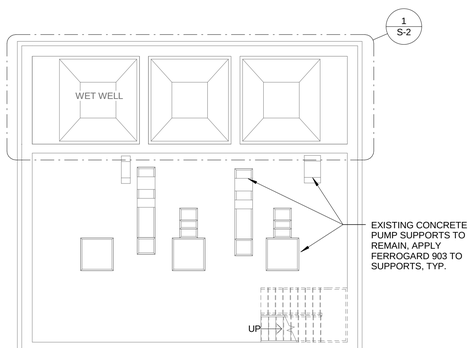
NOTES:
1. ENGINEER/ARCHITECT TO REVIEW CONDITION OF CONCRETE OF TOP OF WET WELL ROOF SLAB AFTER REMOVAL OF EXISTING ROOFING MATERIAL.
2. APPLY FERROGARD 903 AND SIKADUR 55 SLV TO ENTIRE FLOOR SURFACE, REFER TO CRACK REPAIR NOTES.

3 INTERMEDIATE LEVEL REFLECTED CEILING PLAN - DEMOLITION AND CONCRETE REPAIR PLAN
1/8" = 1'-0"



NOTE:
1. APPLY FERROGARD 903 AND SIKADUR 55 SLV TO ENTIRE FLOOR SURFACE WET WELL AND CHANNEL, REFER TO CRACK REPAIR NOTES.
2. USE TYPE 1 CRACK REPAIR FOR VERTICAL CRACKS AT WALLS.

2 LOWER LEVEL REFLECTED CEILING PLAN - DEMOLITION AND CONCRETE REPAIR PLAN
1/8" = 1'-0"

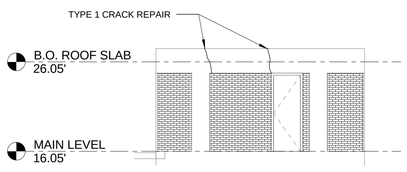


NOTE:
1. APPLY FERROGARD 903 AND SIKADUR 55 SLV TO ENTIRE FLOOR SURFACE INCLUDING WET WELL, REFER TO CRACK REPAIR NOTES.

4 MAIN LEVEL - DEMOLITION AND CONCRETE REPAIR PLAN
1/8" = 1'-0"

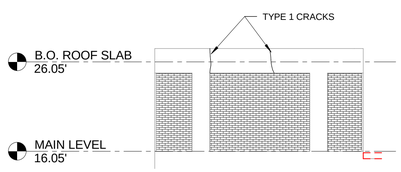
5 INTERMEDIATE LEVEL - DEMOLITION AND CONCRETE REPAIR PLAN
1/8" = 1'-0"

6 LOWER LEVEL - DEMOLITION AND CONCRETE REPAIR PLAN
1/8" = 1'-0"



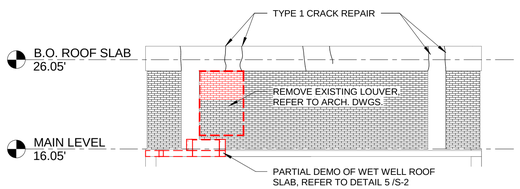
NOTE: REMOVE EXIST. SKIM COAT ON EXPOSED CONCRETE. PREP AND APPLY NEW CEMENTITIOUS SKIM ON EXPOSED CONCRETE SURFACES.

7 NORTH ELEVATION - CONCRETE REPAIR
1/8" = 1'-0"



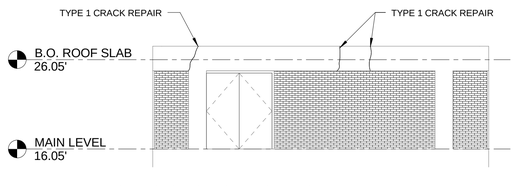
NOTE: REMOVE EXIST. SKIM COAT ON EXPOSED CONCRETE. PREP AND APPLY NEW CEMENTITIOUS SKIM ON EXPOSED CONCRETE SURFACES.

8 SOUTH ELEVATION - CONCRETE REPAIR
1/8" = 1'-0"



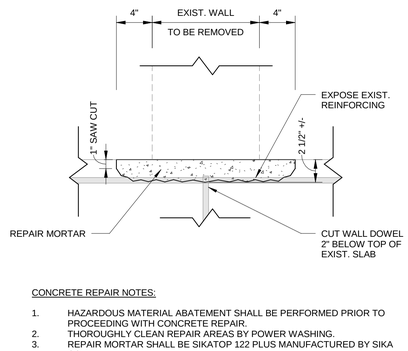
NOTE: REMOVE EXIST. SKIM COAT ON EXPOSED CONCRETE. PREP AND APPLY NEW CEMENTITIOUS SKIM ON EXPOSED CONCRETE SURFACES.

9 EAST ELEVATION - CONCRETE REPAIR
1/8" = 1'-0"



NOTE: REMOVE EXIST. SKIM COAT ON EXPOSED CONCRETE. PREP AND APPLY NEW CEMENTITIOUS SKIM ON EXPOSED CONCRETE SURFACES.

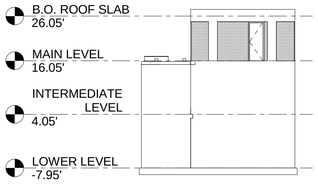
10 WEST ELEVATION - CONCRETE REPAIR
1/8" = 1'-0"



CONCRETE REPAIR NOTES:

1. HAZARDOUS MATERIAL ABATEMENT SHALL BE PERFORMED PRIOR TO PROCEEDING WITH CONCRETE REPAIR.
2. THOROUGHLY CLEAN REPAIR AREAS BY POWER WASHING.
3. REPAIR MORTAR SHALL BE SIKATOP 122 PLUS MANUFACTURED BY SIKA CORP.
4. CORROSION INHIBITOR SHALL BE FERROGARD 903 MANUFACTURED BY SIKA CORP.
5. BONDING AGENT SHALL BE ARMITEC 110 EPOCEM MANUFACTURED BY SIKA CORP.
6. CONCRETE REPAIR PROCEDURE:
   - A. AFTER EXISTING WALL IS REMOVED, CHIP EXIST. CONCRETE TO LOCATE TOP OF EXISTING REINFORCING BARS
   - B. SAW CUT PERIMETER OF REPAIR AREA TO 1-INCH DEPTH. EXISTING REINFORCING BARS SHALL NOT BE CUT.
   - C. REMOVE EXIST. CONCRETE TO A DEPTH OF 2-1/2" +/-. ROUGHEN SURFACE OF REPAIR TO 1/4 INCH AMPLITUDE. EXISTING REINFORCING BARS TO REMAIN IN-PLACE.
   - D. APPLY (2) COATS OF CORROSION INHIBITOR PER THE MANUFACTURER'S RECOMMENDATIONS. ALLOW TO DRY FOR 24 HOURS, THEN REMOVE SURFACE FILM BY POWER WASHING.
   - E. APPLY BONDING AGENT PER THE MANUFACTURER'S RECOMMENDATIONS.
   - F. INSTALL MORTAR IN REPAIR AREA PER THE MANUFACTURER'S RECOMMENDATIONS.
   - G. CURE REPAIR MORTAR PER MANUFACTURER'S RECOMMENDATIONS.

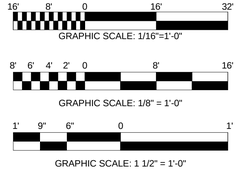
11 TYPICAL CONCRETE REPAIR DETAIL (TYPE 3)
1 1/2" = 1'-0"



WEST ELEVATION

NOTE: GROUND FLOOR ELEVATION IS 16.05' BASED ON NAVD 88. VERIFY IN FIELD.

12 ELEVATION KEY
1/16" = 1'-0"



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A	P	P	R	O	V E D

DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
RICHARD A. CAMPBELL
STRUCTURAL
No. 36258
REGISTERED PROFESSIONAL ENGINEER
Aug. 20, 2015

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

DEMOLITION AND CONCRETE REPAIR PLANS, NOTES, AND DETAILS

APP. BY	CHK. BY	DSN. BY	DR. BY	JOB NO.	CONTRACT:	SCALE:	CADD NO.
RAC	RAC	NMS	NMS	2140649	N/A	As indicated	SD-1

SD-1

FILE NO. 213-26

SHEET 15 OF 40

1.0 - GENERAL

1.01 THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS AND SPECIFICATIONS. REFER TO CIVIL, ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR LOCATION, DIMENSIONS, AND DETAILS OF OPENINGS, SLEEVES, EMBEDMENTS, INSERTS, PADS, CURBS, DEPRESSIONS, ANCHOR BOLTS, AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.

1.02 THE CONTRACTOR IS RESPONSIBLE FOR CHECKING, COORDINATING AND VERIFYING ALL DIMENSIONS IN THE FIELD PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL IMMEDIATELY REPORT ANY DISCREPANCY TO THE ARCHITECT AND ENGINEER.

1.03 THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING IN THE FIELD THE EXISTENCE AND LOCATION OF OVERHEAD, BURIED AND/OR EMBEDDED UTILITIES, AND DETERMINING LOCATIONS OF ALL EMBEDDED MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS AFFECTED BY THE WORK OF THIS CONTRACT.

1.04 ALL WORK IS TO CONFORM WITH THE FOLLOWING CODES AND STANDARDS:

(A) "780 CMR: MASSACHUSETTS AMENDMENTS" - 8TH EDITION (MSBC)
(B) INTERNATIONAL BUILDING CODE, (IBC 2009)
(C) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" - AMERICAN CONCRETE INSTITUTE (ACI 318-05)
(D) "MANUAL OF STEEL CONSTRUCTION" - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC 360)
(E) "STRUCTURAL WELDING CODE - STEEL" - AMERICAN WELDING SOCIETY (AWS D1.1-92)
(F) "SEISMIC PROVISION FOR STRUCTURAL STEEL BUILDINGS" -AMERICAN INSTITUTE OF STEEL CONSTRUCTION, (AISC)
(G) "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" - AMERICAN SOCIETY OF CIVIL ENGINEERS, (ASCE 7-05)

FOR ADDITIONAL CODES AND STANDARDS REFER TO SPECIFICATIONS.

1.05 THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER OF UNANTICIPATED CONDITIONS THAT MAY BE UNCOVERED DURING DEMOLITION AND CONSTRUCTION.

1.06 PERMANENT STRUCTURAL ELEMENTS TO BE DESIGNED IN ACCORDANCE WITH PERFORMANCE SPECIFICATIONS INCLUDE, BUT ARE NLIMITED TO, THE FOLLOWING:

(A) MISC. ARCH COMPONENT SEISMIC SUPPORTS
(B) MISC. MECHANICAL AND ELECTRICAL COMPONENT AND SYSTEM SEISMIC SUPPORTS
(C) LIGHT GAUGE COLD FORMED STEEL FRAMING

FOR PERFORMANCE DESIGN REQUIREMENTS OF ELEMENTS LISTED ABOVE, REFER TO ADDITIONAL NOTES ON THESE SHEETS AND IN THE TECHNICAL SPECIFICATIONS. ALL DESIGN SUBMITTAL DRAWINGS AND CALCULATIONS SHALL BE CERTIFIED, SIGNED AND SEALED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF MASSACHUSETTS.

1.07 STRUCTURAL REQUIREMENTS TO ACCOMMODATE FIXED EQUIPMENT, INCLUDING BUT NOT LIMITED TO ROOF TOP UNITS ARE INCIDENTAL TO THE REQUIREMENTS OF A SPECIFIC EQUIPMENT MANUFACTURER. ALL WORK SHALL CONFORM TO APPROVED EQUIPMENT MANUFACTURER'S SHOP DRAWINGS AND INSTALLATION INSTRUCTIONS. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL ANY REQUIRED MODIFICATIONS TO ACCOMMODATE APPROVED EQUIPMENT DRAWINGS. SUCH MODIFICATIONS SHALL BE MADE AT NO COST TO THE OWNER.

1.08 DETAILS AND NOTES SHOWN ON STRUCTURAL DRAWINGS SHALL BE APPLICABLE TO ALL PARTS OF THE STRUCTURAL WORK EXCEPT WHERE SPECIFICALLY REQUIRED OTHERWISE BY CONTRACT DOCUMENTS. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE SIMILAR TO THOSE SHOWN FOR LIKE CONDITIONS AS DETERMINED BY THE ENGINEER.

1.09 IN ACCORDANCE WITH SPECIFICATION SECTION 1450, TESTING AND INSPECTION OF STRUCTURAL WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE COSTS FOR TESTING AND INSPECTIONS WILL BE PAID BY THE CONTRACTOR. PROVIDE TEST RESULTS TO THE ENGINEER IN A TIMELY MANNER.

1.10 THE CONTRACTOR SHALL DESIGN AND PROVIDE ALL REQUIRED SHORING AND TEMPORARY BRACING TO RESIST FORCES ON THE STRUCTURE THROUGHOUT THE CONSTRUCTION PERIOD.

2.0 - CAST IN PLACE CONCRETE

2.01 CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-05) AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301-99).

2.02 CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED AND PLACED IN THE PRESENCE OF A REPRESENTATIVE OF AAPPROVED TESTING AGENCY.

2.03 UNLESS NOTED OTHERWISE, CONCRETE SHALL BE NORMAL WEIGHT AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH AS FOLLOWS:

(A) ALL STRUCTURAL CONCRETE: 4500 PSI
(B) EXTERIOR WALKS AND SLABS: 4500 PSI

2.04 ALL PERMANENTLY EXPOSED VERTICAL AND HORIZONTAL CONCRETE SURFACES SHALL BE TREATED OR SEALED IN ACCORDANCE WIPROJECT SPECIFICATIONS.

2.05 CONCRETE WORK SHALL BE COORDINATED WITH ALL METAL BUILDINGS, ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL WORK, AND ALL EQUIPMENT. THE CONTRACTOR SHALL VERIFY INSTALLATION AND LOCATIONS OF ALL EMBEDDED ITEMS INCLUDING BUT NOT LIMITEDINSERTS, ANCHOR BOLTS, DOWELS, BLOCKOUTS, SLEEVES, EMBEDDED PIPING, AND EMBEDDED CONDUIT PRIOR TO CONCRETE PLACEMENT.

2.06 SEALANT FOR CONTROL/CONTRACTION JOINTS AND SAW CUT JOINTS SHALL BE SIKADUR 51 MANUFACTURED BY SIKA OR AN APPROVED EQUAL.

2.07 CONCRETE EXPOSED TO WEATHER (FREEZE-THAW CONDITIONS) IN THE FINISHED PROJECT SHALL BE AIR ENTRAINED PER SPECIFICAREQUIREMENTS.

2.08 A MINIMUM OF 72 HOURS SHALPE BETWEEN ADJACENT CONCRETE PLACEMENTS.

2.09 CONCRETE SLABS SHALL BE PLACED SO THAT THE SLAB THICKNESS IS AT NO POINT LESS THAN THAT INDICATED ON THE DRAWINGS.

2.10 PROVIDE A 3/4" CHAMFER ON ALL VERTICAL AND HORIZONTAL CORNERS EXPOSED TO VIEW UNLESS NOTED OTHERWISE.

2.11 ALL CONCRETE SHALL BE WATER CURED UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

2.12 NON-SHRINK, NON-METALLIC, GROUT SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 7,500 PSI (ASTM C942) AND A MINIMUM BOND STRENGTH OF 2,000 PSI AT 28-DAYS (ASTM C882). GROUT MAY BE EXTENDED WITH COARSE AGGREGATE PER THE MANUFACTURER'S RECOMMENDATIONS.

3.0 - CAST IN PLACE CONCRETE REINFORCEMENT

3.01 REINFORCEMENT DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO "ACI DETAILING MANUAL" - SP-66, "CRSI MANUAL OF STANDARD PRACTICE".

3.02 STEEL REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL CONFORM TO THE FOLLOWING:

(A) BARS, TIES, AND STIRRUPS ASTM A615 GRADE 60
(B) WELDED WIRE FABRIC ASTM A185, FLAT SHEETS

3.03 REINFORCING STEEL SHALL BE UNCOATED AND DEFORMED.

3.04 MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS REQUIRED FOR FIRE PROTECTION OR NOTED OTHERWISE, SHALL BE AS FOLLOWS:

(A) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:____3"
(B) CONCRETE EXPOSED TO EARTH OR WEATHER:
(1) NO. 6 THRU NO. 18 BARS____2"
(2) NO. 5 BAR, W31 OR D31 WIRE AND SMALLER____2"
(C) SURFACES NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
(1) SLABS, WALLS, JOISTS:
(a) NO. 14 AND NO 18 BARS____2"
(b) NO. 11 BARS AND SMALLER____2"
(2) BEAMS, COLUMNS:
(a) PRIMARY REINFORCEMENT____2-1/2"
(b) TIES, STIRRUPS, SPIRALS____2"

3.05 REINFORCING STEEL SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS, CORNERS, AND INTERSECTIONS UNLESS OTHERWISE NOTED. REINFORCING SHALL BE LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS, UNLESS OTHERWISE NOTED.

3.06 FOR REINFORCING STEEL SPLICE LAP LENGTHS REFER TO THE TABLE PROVIDED UNLESS OTHERWISE INDICATED.

3.07 MECHANICAL SPLICES SHALL BE PERMITTED SUBJECT TO APPROVAL BY THE ENGINEER. MECHANICAL SPLICES SHALL DEVELOP AT LEAST 125 PERCENT OF THE SPECIFIED YIELD STRENGTH OF THE BAR. NO WELDED CONNECTIONS ARE PERMITTED.

3.08 WELDED WIRE FABRIC SHALL BE LAPPED (1) SQUARE PLUS (2) INCHES WHERE REQUIRED AND SHALL BE WIRED TOGETHER AT ALL LAPS. WWF SHALL BE SUPPORTED BY CHAIRS AND/OR CARRYING BARS PRIOR TO CONCRETE PLACEMENT.

3.09 REINFORCEMENT SHALL NOT BE TACK WELDED.

3.10 NOTIFY THE TESTING LAB AND ENGINEER A MINIMUM OF 48 HOURS PRIOR TO SCHEDULED CONCRETE PLACEMENT IN ORDER TO ACCOMMODATE INSPECTION OF REINFORCEMENT AND CONCRETE TESTING. NO CONCRETE SHALL BE PLACED WITHIN 48 HOURS OF SUCH NOTIFICATION.

3.11 WHERE REINFORCEMENT IS NOT SHOWN ON DRAWINGS, PROVIDE REINFORCEMENT IN ACCORDANCE WITH APPLICABLE DETAILS AS DETERMINED BY THE ARCHITECT AND ENGINEER. IN NO CASE SHALL REINFORCEMENT BE LESS THAN THE MINIMUM REINFORCEMENT PERMITTED BY THE CODES, NOR LESS THAN THE FOLLOWING:
(A) BEAM STIRRUPS: #3 @12"
(B) BEAM STIRRUP SUPPORTS: 1-#5 AT EACH STIRRUP BEND
(C) FACE REINFORCEMENT IN BEAMS OR PORTIONS OF BEAMS #4@12" EF.
(D) STRUCTURAL SLABS: .0020 GROSS CONCRETE AREA IN EACH DIRECTION
(E) CONCRETE WALLS: .0025 x GROSS CONCRETE AREA IN EACH DIRECTION

3.12 WHERE REINFORCEMENT IS REQUIRED IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTIONS APPLIES.

3.13 WHERE THERE IS CONFLICT BETWEEN LOCATIONS OF COLUMN VERTICAL BARS AND BEAM HORIZONTAL BARS, THE COLUMN BARS SHALL REMAIN IN THEIR DESIGNATED POSITIONS AND BEAM BAR LOCATIONS SHALL BE ADJUSTED.

3.14 DOWELS SHALL MATCH BAR SIZE, NUMBER AND SPACING, UNLESS NOTED OTHERWISE.

4.0 - POST INSTALLED CONCRETE ANCHORS AND REINFORCING DOWELS

4.01 ADHESIVE ANCHORS AND REINFORCING DOWELS SHALL BE HILTI HIT-HY-200 ADHESIVE ANCHORING SYSTEM.

4.02 EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT TZ EXPANSION ANCHORS.

4.03 INSTALL ANCHORS IN STRICT CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS.

4.04 HOLES SHALL BE THOROUGHLY CLEANED AND DRY PRIOR TO INSTALLING ANCHORS.

4.05 DO NOT DAMAGE EXISTING REINFORCING. LOCATE REINFORCING WITH PROFOMETER OR OTHER MEANS PRIOR TO DRILLING CONCRETE.

4.06 ANCHORS INSTALLED OVERHEAD SHALL BE PROOF TESTED BY THE MANUFACTURER'S FIELD ENGINEER OR OTHER APPROVED AGENCY. PROOF TEST A MINIMUM OF 25% OF THE ANCHORS OR (2) TOTAL, WHICHEVER IS GREATER.

5.0 - MASONRY CONSTRUCTION

5.01 CLAY (BRICK) AND CONCRETE MASONRY (CMU) CONSTRUCTION SHALL CONFORM TO 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES' (ACI 530-99/ASCE 5-99/TMS402-99), AND TO 'SPECIFICATIONS FOR MASONRY STRUCTURES' (ACI 530, 1-99/ASCE 6-99/TMS 602-99).

5.02 MATERIALS STRENGTH SHALL BE AS FOLLOWS:

(A) CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO ASTM C-90 OF C-145 GRADE N-1.
(B) MORTAR SHALL CONFORM TO ASTM C-270, TYPE M OR S.
(C) GROUT SHALL CONFORM TO ASTM C-476 FINE OR COARSE.

5.03 MASONRY SHALL HAVE f'm = 1,500 PSI, f'm IS THE COMPRESSIVE STRENGTH OF THE MASONRY AT 28 DAYS AS DETERMINED BY PRISM TESTS, (SEE SPECIFICATIONS SECTION 04200)

5.04 PRIOR TO GROUTING CELLS, BARS AND CELLS MUST BE INSPECTED BY THE TESTING AGENCY.

5.05 THE DESIGN OF REINFORCED MASONRY CONSTRUCTIONS IS BASED ON ALLOWABLE STRESSES PREDICATED ON 'WITH INSPECTION' PROVISIONS, REQUIRING THAT QUALIFIED MASONRY INSPECTION TAKE PLACE ON A CONTINUOUS BASIS WHENEVER MASONRY IS BEING PLACED.

5.06 REINFORCED MASONRY WALLS SHALL HAVE BOND BEAMS AT THE TOP OF EACH WALL AND SHALL BE CONTINUOUS WITH ALL INTERSECTING BOND BEAMS.

5.07 BONDING METHODS, TIES, LINTELS AND ACCESSORIES SHALL BE APPROVED BY THE ARCHITECT. ANCHORS SHALL ONLY BE INSTALLED IN FULLY GROUTED CELLS OF CONCRETE MASONRY.

5.08 MASONRY OPENINGS FOR UTILITIES ARE TO BE CLOSED UP WITH NEW MASONRY WORK AROUND THE UTILITY AND PROPERLY FIRESTOPPED WITH MATERIAL SPECIFIED BY ARCHITECT'S DRAWINGS AND SPECIFICATIONS.

5.09 PROVIDE 1-#5 VERTICAL REINFORCING AT 32" OC AT ALL MASONRY WALLS UNLESS NOTED OTHERWISE. THIS REINFORCING SHALL BE CONTINUOUS FULL HEIGHT AND SPLICED 2'-0" ABOVE EACH FLOOR LEVEL.

5.10 PROVIDE W1.7 (9 GAUGE) LADDER TYPE WIRE JOINT REINFORCING AT 16 INCHES VERTICAL SPACING UNLESS NOTED OTHERWISE.

5.11 MASONRY BLOCK CELLS CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID. FILLING CELLS WITH MORTAR IS UNACCEPTABLE. THE COMPRESSIVE STRENGTH OF GROUT AT THE END OF 28 DAYS SHALL BE 3,000 PSI MINIMUM.

5.12 PROVIDE 2-#5 CONTINUOUS HORIZONTAL BARS IN THE TOP COURSE OF WALLS (BOND BEAM) AND AT 4' - 0" O.C. VERT.

6.0 - STRUCTURAL STEEL

6.01 STRUCTURAL STEEL DESIGN, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC "MANUAL OF STEEL CONSTRUCTION", STEEL BUILDING AND BRIDGES" (AISC MARCH 18, 2005).

6.02 STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO THE FOLLOWING:

(A) WIDE FLANGE SHAPES:_____ASTM A992
(B) OTHER STEEL SHAPES, PLATES AND BARS:_____ASTM A572 OR ASTM A36.
(C) STRUCTURAL TUBING:_____ASTM A500 GR B.

6.03 STAINLESS STEEL, INDICATED AS S.S., SHALL BE TYPE 304 U.N.O.

6.04 ALL WELDED CONNECTIONS SHALL BE MADE BY APPROVED CERTIFIED WELDERS AND SHALL CONFORM TO A.W.S. SPECIFICATIONS AMENDED TO DATE. ELECTRODES SHALL BE E70XX.

6.05 BOLTS SHALL CONFORM TO ASTM A325 AND BE INSTALLED SNUG-TIGHT UNLESS NOTED OTHERWISE

6.06 S.S. BOLTS SHALL CONFORM TO ASTM A193/A320 CLASS 2 B8 (TYPE 304 SOLUTION TREATED/STRAIN-HARDENED).

6.07 STRUCTURAL STEEL FRAMING SHALL BE WITHIN TOLERANCE BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED.

6.08 FIELD CUTTING OF STRUCTURAL STEEL OR ANY FIELD MODIFICATIONS OF STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT PRIOR WRITTEN APPROVAL BY THE ENGINEER FOR EACH SPECIFIC USE.

6.09 STRUCTURAL STEEL SHAPES AND PLATES SHALL BE HOT-DIPPED GALVANIZED PER ASTM A123 U.N.O. FASTNERS SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153 U.N.O. HOT-DIPPED GALVANIZING SHALL ALSO CONFORM TO ASTM A385. THE GALVANIZSHALL SUBMIT A SCERTIFICATE OF CONFORMANCE FOR RECORD.

6.10 PROVIDE FIELD TOUCH-UP AND REPAIR OF GALVANIZING AS REQUIRED PER ASTM A780 USING AN INORGANIC ZINC-RICH PRIMER.

6.11 WHEN DISSIMILAR METALS ARE IN CONTACT (E.G. STAINLESS STEEL IN CONTACT WITH GALVANIZED STEEL), COAT SURFACE WITH COAL TAR EPOXY OR PROVIDE OTHER APPROVED MEANS TO PROVIDE A BARRIER.

6.12 WELDS SHALL BE 1/4" FILLET WELDS MINIMUM UNLESS NOTED OTHERWISE ON THE DRAWINGS.

6.13 PROVIDE TEMPORARY ERECTION BRACING AND SUPPORTS TO HOLD STRUCTURAL STEEL FRAMING SECURELY IN POSITION. SUCH TEMPORARY BRACING AND SUPPORTS SHALL NOT BE REMOVED UNTIL PERMANENT BRACING HAS BEEN INSTALLED AND CONCRETE FLOOR SLABS AHS ATTAINED 75% OF SPECIFIED CONCRETE STRENGTH.

6.14 SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR APPROVAL PRIOR TO FABRICATION.

7.0 DESIGN LOADS

LOADS, LOADING CONDITIONS AND COMBINATIONS SHALL BE IN ACCORDANCE WITH THE MASSACHUSETTS STATE BUILDING CODE 8TH EDITION, IBC 2009 AND ASCE 7-05 AS APPLICABLE. LOADS DESIGNATED BY "PSF" ARE UNIFORM LOADS, THOSE DESIGNATED BY "LB" ARE CONCENTRATED LOADINGS AND SHALL BE APPLIED AS REQUIRED BY THE MSBC.

BUILDING OCCUPANCY CATEGORY II

7.01 DEAD LOADS
(A) SELF-WEIGHT OF ALL ATTACHED AND SUSPENDED ELEMENTS, CONSULT APPLICABLE DRAWINGS AND TRADES FOR FURTHER INFORMATION

7.02 LIVE LOADS
(A) FLOOR LIVE LOADS
(1) ASSUMED MINIMUM ___100 PSF
(B) ROOF LIVE LOADS
(1) CONSTRUCTION___20 PSF, 300 LB

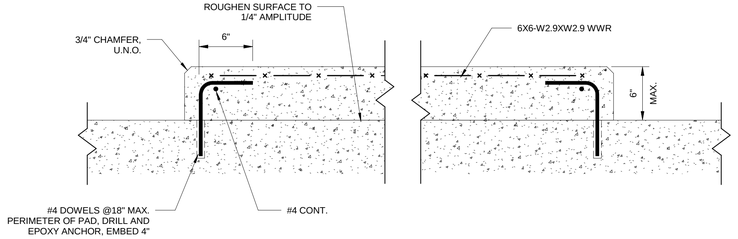
7.03 ROOF SNOW LOAD
(A) GROUND SNOW LOAD, PG___40 PSF
(B) MIN. FLAT ROOF SNOW LOAD, PF___30 PSF + DRIFT
(C) SNOW EXPOSURE FACTOR, CE 1.0
(D) SNOW LOAD IMPORTANCE FACTOR, I___1.0, II
(E) THERMAL FACTOR, CT___1.0

7.04 WIND DESIGN DATA
(A) BASIC WIND SPEED, V ___110 MPH
(B) WIND IMPORTANCE FACTOR, I __1.0, II
(C) WIND EXPOSURE____B

7.05 EARTHQUAKE DESIGN DATA
(A) SEISMIC IMPORTANCE FACTOR, I____1.0, II
(B) MAPPED SPECTRAL RESPONSE ACCELERATIONS, SS, S1____0.27G, 0.067G
(C) SITE CLASS___B
(D) SPECTRAL RESPONSE COEFFICIENTS, SDS AND SD1____0.180G, 0.045G
(E) DESIGN CATEGORY____B

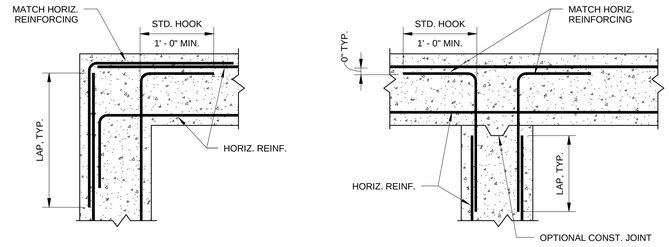
7.06 GEOTECHNICAL INFORMATION
(A) REFER TO WESTON & SAMPSON REPORT DATED 12/29/2014 FOR RECOMMENDATIONS.
THE ENGINEER SHALL VERIFY CONDITIONS OF EXISTING SUBGRADE PRIOR TO PLACING CONCRETE.

7.07 HAZARDOUS MATERIALS
(A) REFER TO WESTON & SAMPSON MEMO DATED 1/22/2015 FOR INFORMATION.



NOTE: REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SIZE, SHAPE, AND LOCATION OF EQUIPMENT (HOUSEKEEPING) PADS. COORDINATE WITH APPROVED EQUIPMENT SUBMITTALS AND SHOP DRAWINGS FOR ANCHOR BOLT AND OTHER REQUIREMENTS.

1 CONCRETE EQUIPMENT PAD
1 1/2" = 1'-0"

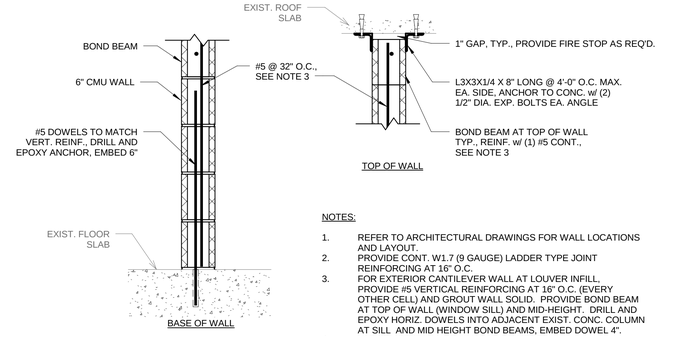


AT CORNERS AT INTERSECTIONS

NOTES:

1. VERTICAL REINFORCING NOT SHOWN FOR CLARITY.
2. DETAIL APPLIES TO CONCRETE AND MASONRY CORNERS/INTERSECTIONS.
3. REFER TO LAP SPLICE SCHEDULE FOR REQUIRED LENGTH.
4. WHERE BARS OF DIFFERENT SIZE SPLICE, LAP LENGTH SHALL BE AS REQUIRED FOR THE SMALLER BAR.

2 HORIZONTAL WALL REINFORCING
1" = 1'-0"



TOP OF WALL

BASE OF WALL

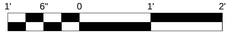
NOTES:

1. REFER TO ARCHITECTURAL DRAWINGS FOR WALL LOCATIONS AND LAYOUT.
2. PROVIDE CONT. W1.7 (9 GAUGE) LADDER TYPE JOINT REINFORCING AT 16" O.C.
3. FOR EXTERIOR CANTILEVER WALL AT LOUVER INFILL, PROVIDE #5 VERTICAL REINFORCING AT 16" O.C. (EVERY OTHER CELL) AND GROUT WALL SOLID. PROVIDE BOND BEAM AT TOP OF WALL (WINDOW SILL) AND MID-HEIGHT. DRILL AND EPOXY HORIZ. DOWELS INTO ADJACENT EXIST. CONC. COLUMN AT SILL AND MID HEIGHT BOND BEAMS, EMBED DOWEL 4".
4. LAP SPLICE SHALL BE 40 X BAR DIAMETER.

3 TYPICAL CONCRETE MASONRY DETAILS - NON-LOAD-BEARING WALLS
1" = 1'-0"

REBAR SPLICE SCHEDULE		
BAR SIZE	TOP	OTHER
#3	15"	12"
#4	20"	15"
#5	24"	19"
#6	29"	22"
#7	42"	33"
#8	48"	37"
#9	60"	46"
#10	74"	57"
#11	89"	68"

REBAR SPLICE SCHEDULE NOTES:
1. TABLE BASED ON
A. f'c = 4,500 PSI, NORMAL WEIGHT
B. MINIMUM CONCRETE COVER OF 2 INCHES
C. REINFORCING STEEL fy = 60,000 PSI



GRAPHIC SCALE: 1" = 1'-0"

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

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

DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
RICHARD A. CAMPBELL
STRUCTURAL
No. 36258
REGISTERED
PROFESSIONAL ENGINEER
Aug. 20, 2015

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

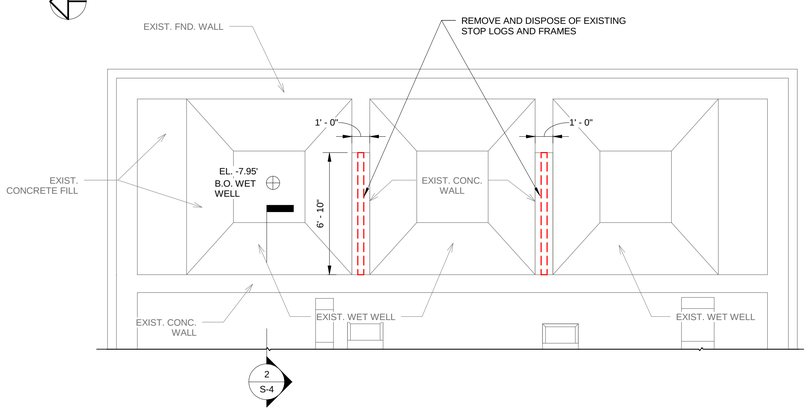
QUINCY POINT PUMP STATION RENOVATION PROJECT

GENERAL NOTES AND TYPICAL DETAILS

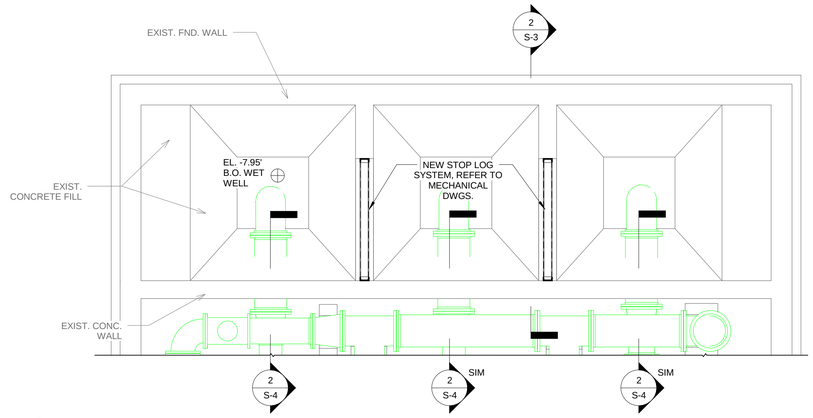
APP.BY RAC
CHK.BY RAC
DSN.BY NMS
DR.BY NMS
JOB NO. 2140649
CONTRACT: N/A
SCALE: As indicated
CADD NO. S-1
FILE NO. 213-25

S-1

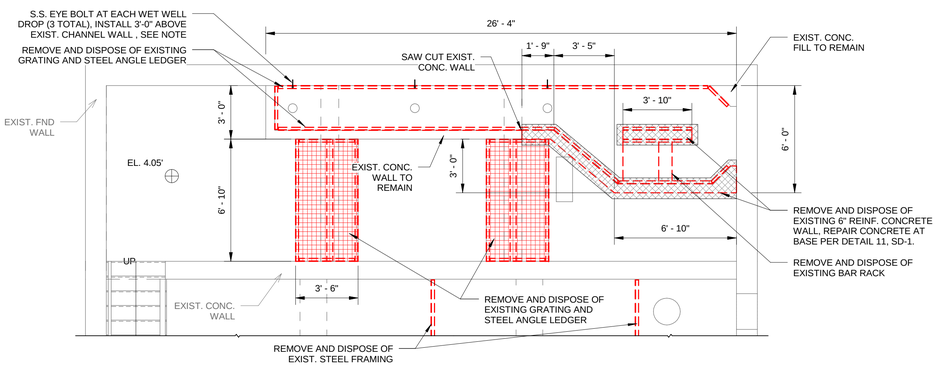
SHEET 16 OF 40



1 PARTIAL STRUCTURAL DEMO PLAN - LOWER LEVEL
1/4" = 1'-0"

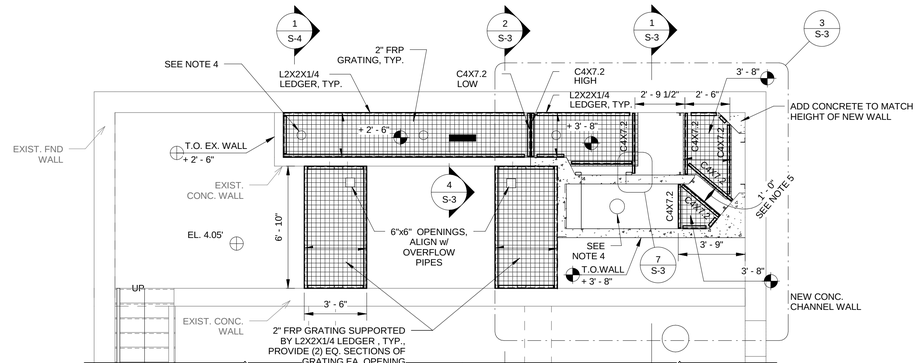


2 PARTIAL PLAN -LOWER LEVEL
1/4" = 1'-0"



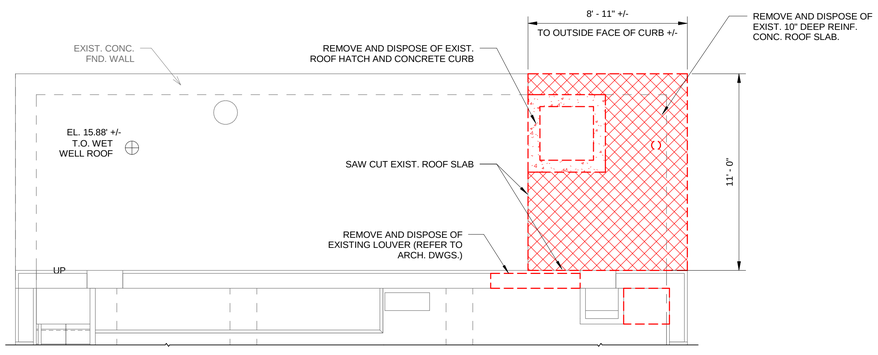
NOTE: PROVIDE (3) 1/2" DIA. S.S. EYE BOLTS (US CARGO CONTROL PART# MSSEB12X78 OR EQUAL) IN 1/2" DIA. HILTI HIS-RN (S.S.) INSERTS. INSTALL HILTI INSERTS USING HILTI HIT-HY 200 ADHESIVE SYSTEM, EMBED 5". EYE BOLTS ARE TO FACILITATE BLADDER INSTALLATION, AND ARE RATED FOR A MAXIMUM LOAD OF 500 LBS. EYE BOLTS ARE NOT RATED FOR LIFE SAFETY. PROVIDE PERMANENT SIGN FASTENED TO WALL STATING "EYE-BOLTS RATED FOR 500 LBS. MAX. - NOT FOR LIFE SAFETY".

3 PARTIAL STRUCTURAL DEMO PLAN - INTERMEDIATE LEVEL
BASEMENT
1/4" = 1'-0"

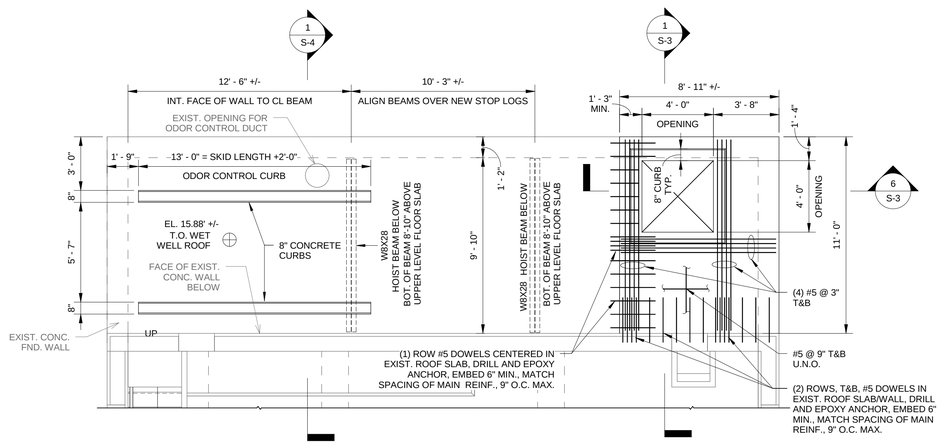


NOTES:
1. GRATING SHALL BE 2" FRP w/ 2"X2" GRID AND GRIT SURFACE. PROVIDE McNICHOLS MS S-200 OR APPROVED EQUAL.
2. FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS. COORDINATE WITH MECHANICAL EQUIPMENT AND COMPONENTS.
3. PROVIDE MECHANICAL FASTENERS AT 18" O.C. AT GRATING SUPPORTS (2 MIN. PER SUPPORT). PROVIDE McNICHOLS TYPE M S.S. OR APPROVED EQUAL. COAT SURFACE OF GALVANIZED SUPPORT IN CONTACT WITH S.S. FASTENER WITH COAL TAR EPOXY PAINT.
4. SUBMIT GRATING LAYOUT PLAN FOR APPROVAL PRIOR TO FABRICATION.
5. CORE NEW 10" DIA. FLOOR OPENING AT BYPASS CHANNEL. ENLARGE EXISTING OPENINGS IN MAIN CHANNEL TO 10" DIA. (3 TOTAL). DO NOT CUT EXISTING REINFORCING. FIELD LOCATE REINFORCING USING PROFOMETER OR OTHER MEANS. COORDINATE WITH MECHANICAL DRAWINGS.
6. PROVIDE 1/2" REMOVABLE FRP PLATE OVER GAP MECHANICALLY FASTENED TO GRATING OR STEEL SUPPORTS.

4 PARTIAL PLAN - INTERMEDIATE LEVEL
1/4" = 1'-0"



5 PARTIAL STRUCTURAL DEMO PLAN - WET WELL ROOF
1/4" = 1'-0"



6 PARTIAL PLAN - WET WELL ROOF
1/4" = 1'-0"

4' 2' 0 4' 8'
GRAPHIC SCALE: 1/4" = 1'-0"

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No.	Date	Dr.By	Ck.By	App.By	Description
A					APPROVED

DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
RICHARD A. CAMPBELL
No. 36258
REGISTERED PROFESSIONAL ENGINEER
Aug. 20, 2015

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

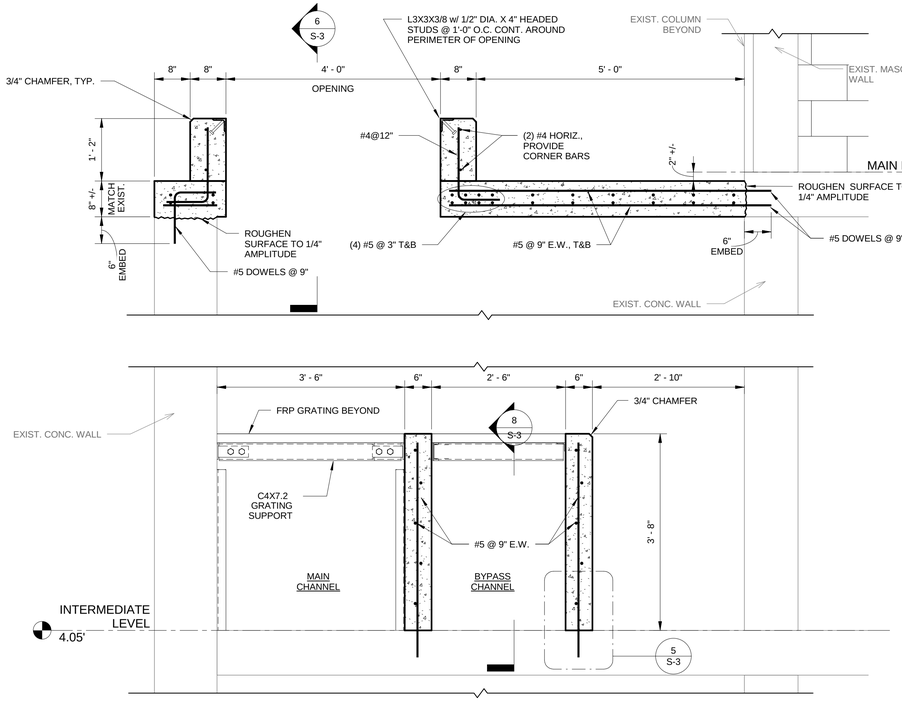
PARTIAL PLANS AT WET WELL MODIFICATIONS

DR. BY	DSN. BY	CHK. BY	APP. BY
NMS	NMS	RAC	RAC

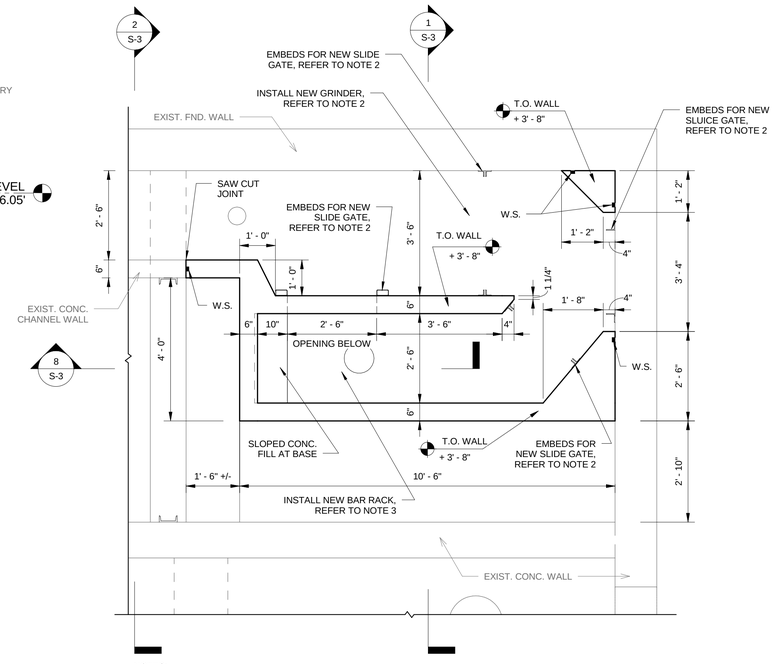
JOB NO. 2140649
CONTRACT: N/A
SCALE: 1/4" = 1'-0"
CADD NO. S-2
FILE NO. 213-24

S-2

SHEET 17 OF 40

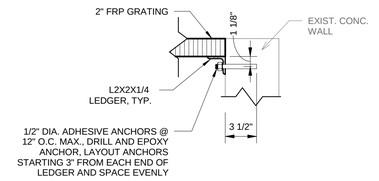


1 SECTION AT WET WELL LOOKING SOUTH
3/4" = 1'-0"

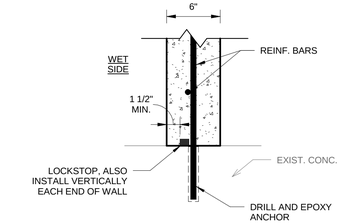


NOTES:
1. LEDGER ANGLE AND SUPPORT FRAMING FOR GRATING NOT SHOWN FOR CLARITY.
2. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR NEW GRINDER, SLUICE GATE, AND SLIDE GATE DETAILS. PROVIDE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. DOWEL INTO CONCRETE USING HILTI HIT-HY 200 ADHESIVE SYSTEM WITH S.S. FASTENERS. SUBMIT DETAILS FOR APROVAL.
3. REFER TO DETAIL 7 ON DWG. A-7 FOR BAR RACK DETAILS. FASTEN TO CONCRETE USING HILTI HIT-HY 200 ADHESIVE SYSTEM AND S.S. FASTENERS. SUBMIT DETAILS FOR APPROVAL.
4. W.S. INDICATES WATERSTOP, REFER TO DETAIL 7, S-3.

3 PLAN DETAIL OF CHANNEL WALL RELOCATION - CONCRETE DIMENSIONS
1/2" = 1'-0"

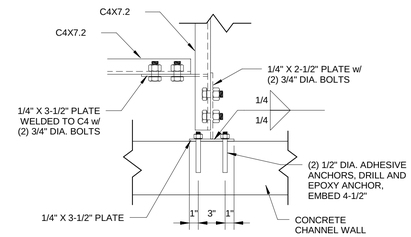


4 GRATING SUPPORT DETAIL
1 1/2" = 1'-0"

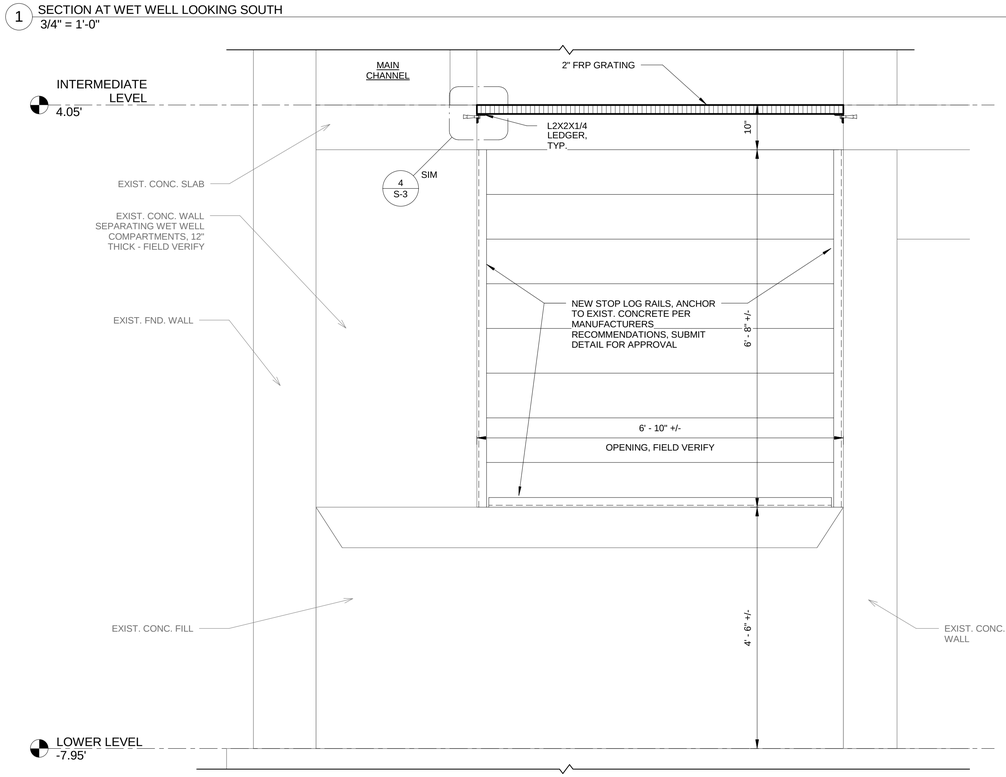


NOTES:
1. LOCKSTOP IS A STRIP APPLIED WATERSTOP SUPPLIED BY SIKA GREENSTREAK.
2. CLEAN EXISTING CONCRETE REMOVING DUST, OIL, LAITANCE, ETC.
3. APPLY LOCKSTOP PRIMER ADHESIVE TO EXIST. CONCRETE, 2" WIDE MINIMUM. ALLOW TO DRY FOR 2 HOURS PRIOR TO APPLICATION OF LOCKSTOP.
4. IN ADDITION TO PRIMER, PROVIDE MECHANICAL FASTENERS AT 12" O.C AT VERTICAL APPLICATIONS.
5. REFER TO SUPPLIER FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

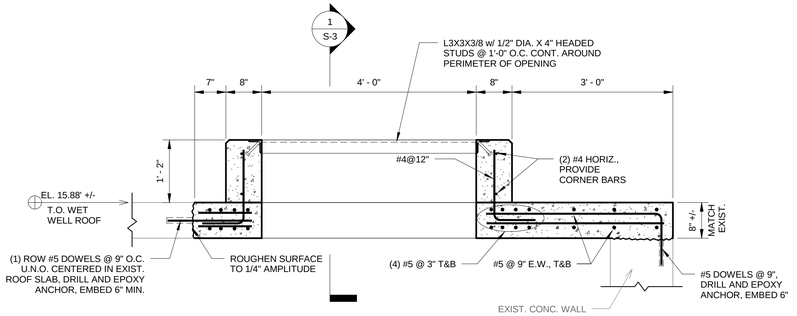
5 WATERSTOP DETAIL AT WET WELL CHANNEL WALL
1 1/2" = 1'-0"



NOTE: GRATING NOT SHOWN FOR CLARITY.

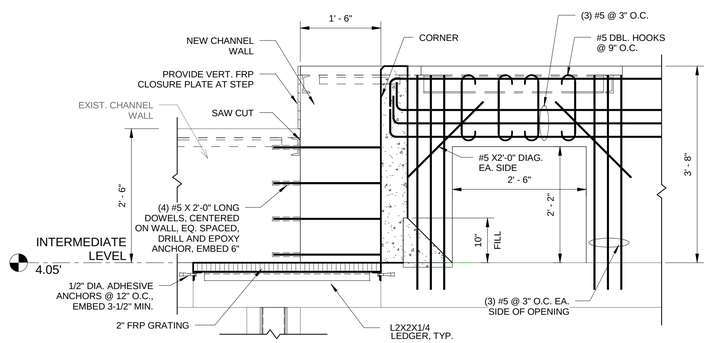


2 SECTION AT CONCRETE INFILL AT NEW SLUICE GATES
3/4" = 1'-0"



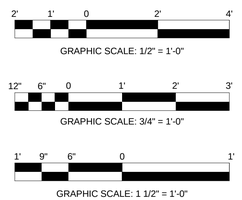
6 SECTION AT WET WELL ROOF LOOKING EAST
3/4" = 1'-0"

NOTE: REFER TO ARCHITECTURAL PLANS FOR ROOF HATCH



NOTES:
1. ONLY ADDITIONAL WALL REINFORCING SHOWN, REFER TO SECTION 1 ON DWG. S-3 FOR TYPICAL WALL REINFORCING.
2. KEY CONCRETE FILL AT BASE INTO NEW WALL AND EXISTING CONCRETE FLOOR 1 INCH. ROUGH INTERFACE TO 1/4" AMPLITUDE.

7 WET WELL CHANNEL (C4) TO CONCRETE CONNECTION
1 1/2" = 1'-0"



8 SECTION AT STEP TO NEW CHANNEL WALL
3/4" = 1'-0"

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No.	Date	Description	Dr.By	Ck.By	App.By	DATE
		APPROVED				

REGISTERED PROFESSIONAL ENGINEER

RICHARD A. CAMPBELL STRUCTURAL No. 36258 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS
Aug. 20, 2015

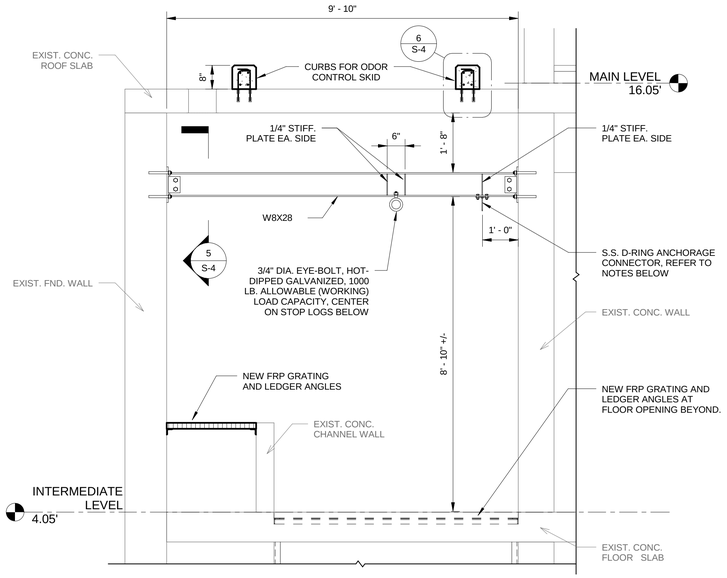
CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

SECTIONS AND DETAILS

APP BY	RAC
CHK BY	RAC
DSN BY	NMS
DR. BY	NMS
JOB NO.	2140649
CONTRACT:	N/A
SCALE:	As indicated
CADD NO.	S-3
FILE NO.	213 23

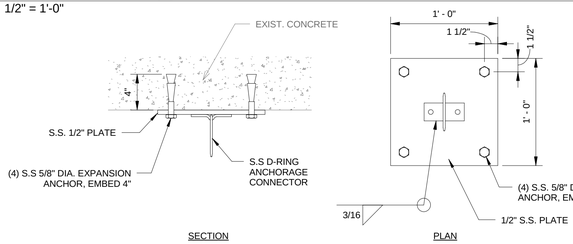
S-3



NOTES FOR FALL PROTECTION ANCHORAGE:

1. FALL PROTECTION ANCHORAGE ASSEMBLY DESIGNED FOR ONE PERSON WITH A MAXIMUM WEIGHT OF 310 LBS. INCLUDING CLOTHING AND TOOLS.
2. PROVIDE (2) 1/2" DIA. S.S. BOLTS TO CONNECT ANCHORAGE THROUGH W8 FLANGE.
3. PROVIDE S.S. D-RING ANCHORAGE CONNECTOR MANUFACTURED BY DBI SALA, MODEL NO. 2101636.
4. USE OSHA APPROVED PERSONAL FALL PROTECTION EQUIPMENT LIMITING THE MAXIMUM FALL ARREST FORCE TO 1,800 LBS.
5. LIFTING MATERIALS AND EQUIPMENT NOT PERMITTED - LIFE SAFETY ONLY.

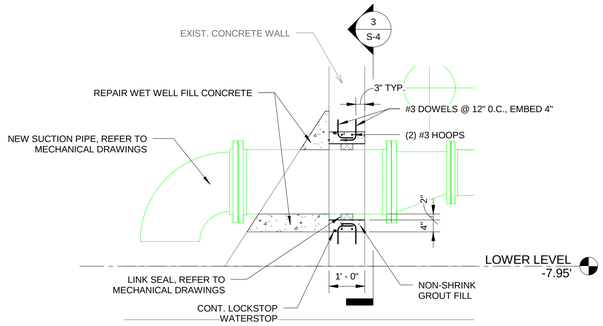
1 SECTION AT WET WELL HOIST BEAM
1/2" = 1'-0"



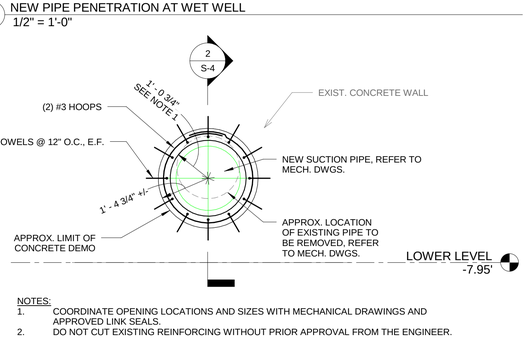
NOTES:

1. REFER TO ARCHITECTURAL/MECHANICAL DRAWINGS FOR LOCATIONS.
2. FALL PROTECTION ANCHORAGE ASSEMBLY DESIGNED FOR ONE PERSON WITH A MAXIMUM WEIGHT OF 310 LBS. INCLUDING CLOTHING AND TOOLS.
3. S.S. INDICATES TYPE 304 STAINLESS STEEL. PROVIDE S.S. ELECTRODES FOR WELDING.
4. PROVIDE S.S. D-RING ANCHORAGE CONNECTOR MANUFACTURED BY DBI SALA, MODEL NO. 2101636.
5. USE OSHA APPROVED PERSONAL FALL PROTECTION EQUIPMENT LIMITING THE MAXIMUM FALL ARREST FORCE TO 1,800 LBS.
6. LIFTING MATERIALS AND EQUIPMENT NOT PERMITTED - LIFE SAFETY ONLY.

2 NEW PIPE PENETRATION AT WET WELL
1/2" = 1'-0"

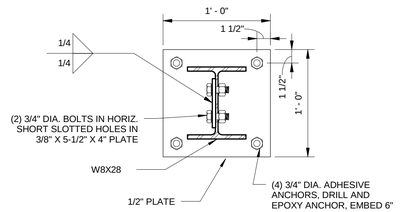


3 ELEVATION AT NEW PIPE PENETRATION
1/2" = 1'-0"



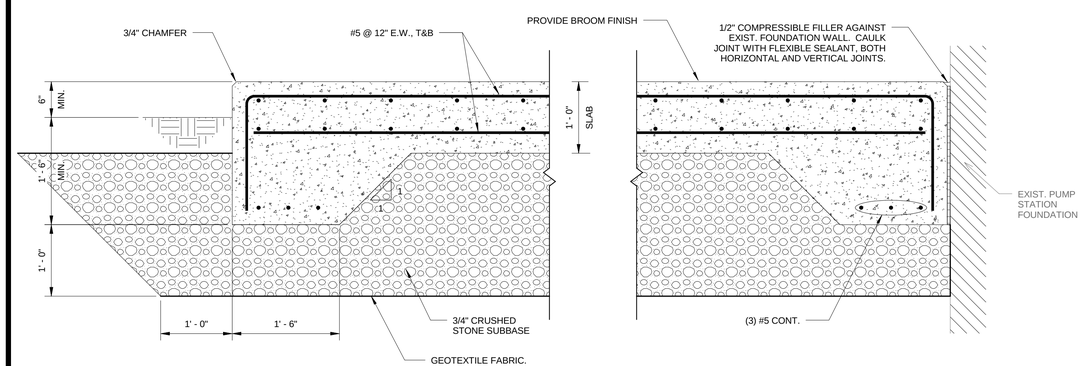
NOTES:

1. COORDINATE OPENING LOCATIONS AND SIZES WITH MECHANICAL DRAWINGS AND APPROVED LINK SEALS.
2. DO NOT CUT EXISTING REINFORCING WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



4 FALL PROTECTION ANCHOR DETAIL
1 1/2" = 1'-0"

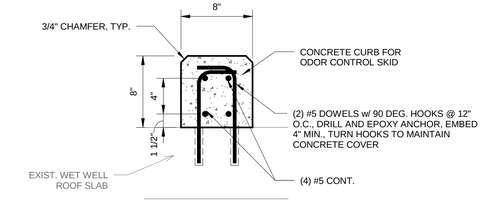
5 HOIST BEAM CONNECTION
1 1/2" = 1'-0"



NOTES:

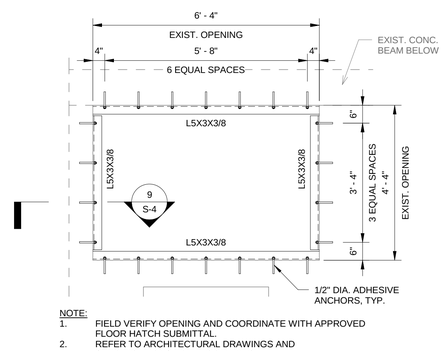
1. REFER TO CIVIL DRAWINGS FOR SIZE AND LOCATION.
2. COORDINATE WITH APPROVED GENERATOR SHOP DRAWINGS, INCLUDING MANUFACTURER'S ANCHORING REQUIREMENTS.

6 DETAIL OF CURB FOR ODOR CONTROL SKID
1 1/2" = 1'-0"



NOTES:

1. REFER TO MECHANICAL DRAWINGS AND ARCHITECTURAL DRAWINGS FOR SKID SIZE AND LOCATION, AND ROOFING DETAILS.
2. COORDINATE CURB SIZE AND ANCHORING REQUIREMENTS WITH SKID MANUFACTURER.

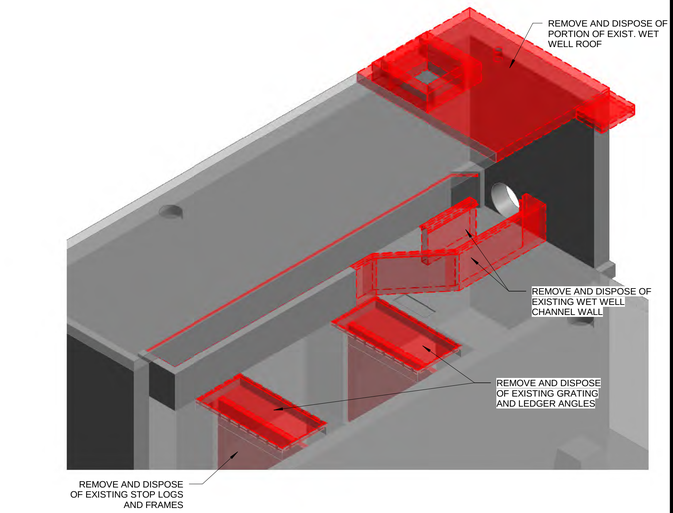


NOTE:

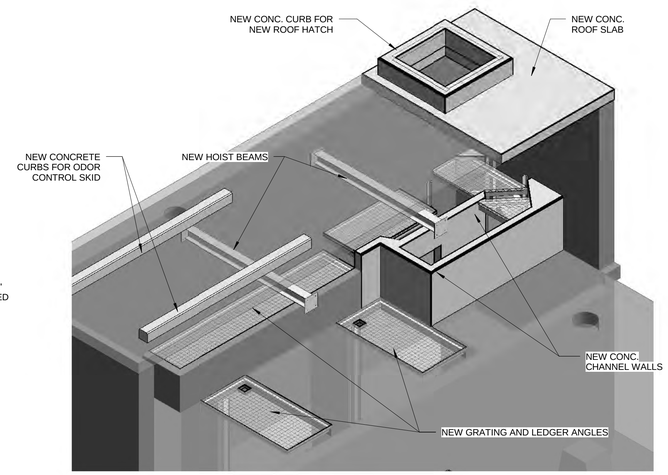
1. FIELD VERIFY OPENING AND COORDINATE WITH APPROVED FLOOR HATCH SUBMITTAL.
2. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FLOOR HATCH.
3. PROVIDE AT (2) LOCATIONS - AT MAIN LEVEL AND INTERMEDIATE LEVEL BASEMENT.

7 GENERATOR PAD DETAIL
1" = 1'-0"

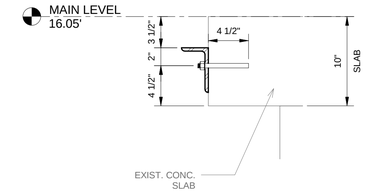
8 NEW FLOOR HATCH SUPPORT FRAME
1/2" = 1'-0"



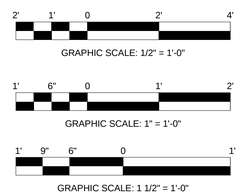
A STRUCTURAL DEMOLITION AT WET WELL - 3D VIEW



B STRUCTURAL 3D VIEW AT WET WELL



9 FLOOR HATCH SUPPORT DETAIL
1 1/2" = 1'-0"



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No.	Date	Description	Dr.By	Ck.By	App.By	DATE
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REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
RICHARD A. CAMPBELL
No. 36256
REGISTERED PROFESSIONAL ENGINEER
Aug. 20, 2015

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

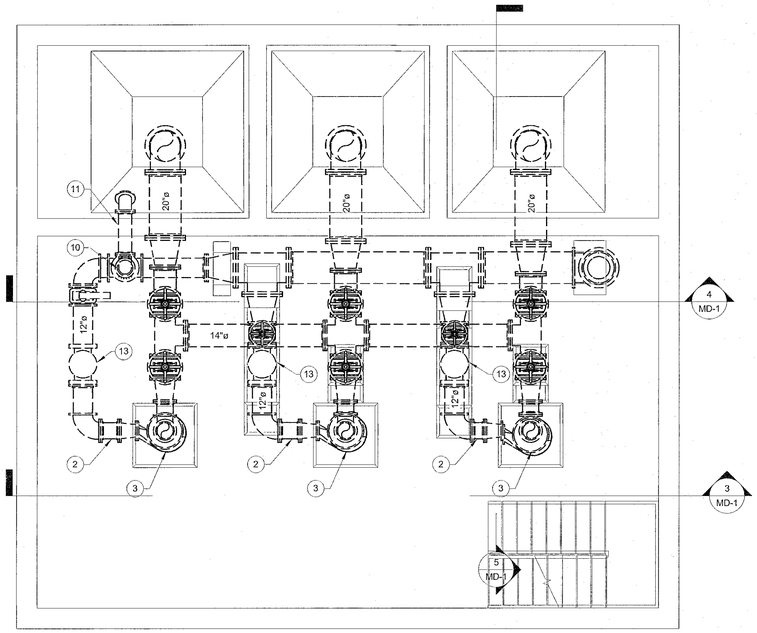
SECTIONS, DETAILS, AND 3D VIEWS

APP BY	CHK BY	DSN BY	DR BY	JOB NO.	CONTRACT:	SCALE:	CADD NO.
RAC	RAC	NMS	NMS	2140649	N/A	As indicated	S-4

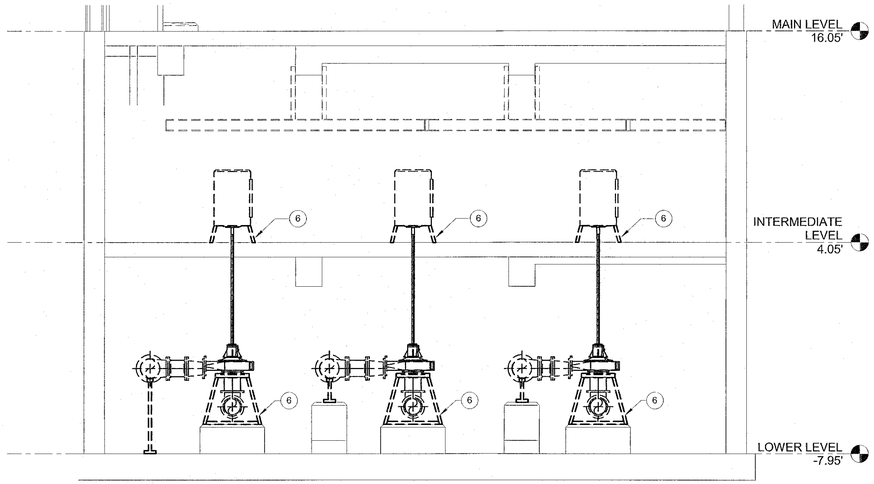
S-4

FILE NO. 213-22

SHEET 19 OF 40



2 DEMO LOWER LEVEL
1/4" = 1'-0"



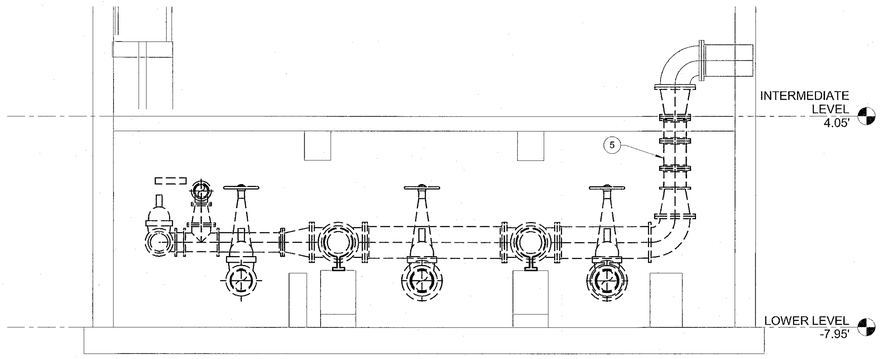
3 SECTION
1/4" = 1'-0"

DEMOLITION KEYNOTES

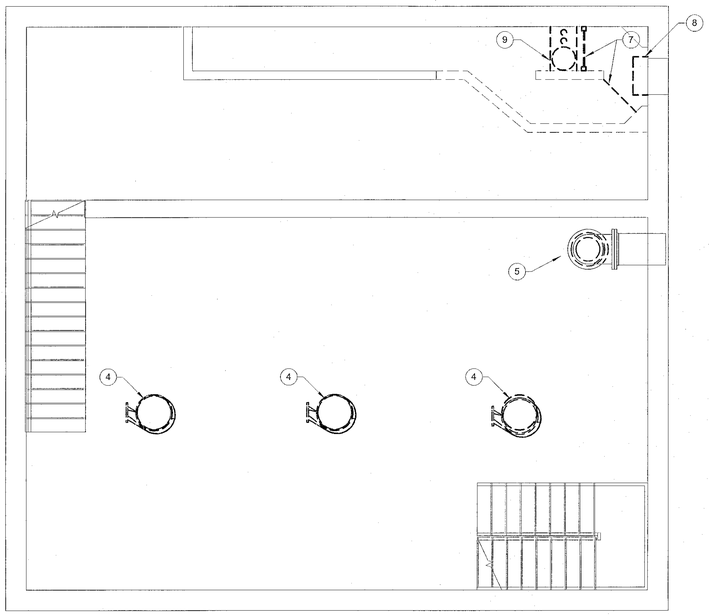
1. REMOVE EXISTING ODOR CONTROL SYSTEM IN IT'S ENTIRETY INCLUDING OUTDOOR ABSORBER, FAN AND ALL ASSOCIATED DUCTWORK
2. REMOVE EXISTING PIPING, HANGERS AND SUPPORTS AS SHOWN.
3. REMOVE EXISTING PUMP AND SHAFTING AS SHOWN.
4. REMOVE EXISTING PUMP MOTOR AS SHOWN
5. REMOVE EXISTING FLOW METER IN RISE
6. REMOVE EXISTING PUMP/MOTOR FRAMES AS SHOWN
7. REMOVE EXISTING SLIDE GATES AS SHOWN
8. REMOVE EXISTING SLUICE GATES AND OPERATOR AS SHOWN
9. REMOVE EXISTING SEWAGE GRINDER AS SHOWN
10. REMOVE EXISTING PRESSURE RELIEF VALVE AND PIPING AS SHOWN
11. CONTRACTOR TO PATCH AND SEAL RELIEF PIPING CORE HOLE
12. REMOVE EXISTING ECO BIONICS BIOLOGICAL BACTERIA FEED PANELS AND DELIVER TO OWNER (TYP 2)
13. EXISTING CHECK VALVES TO REMOVED/CLEANED AND RETURNED TO OWNER

DEMOLITION NOTES

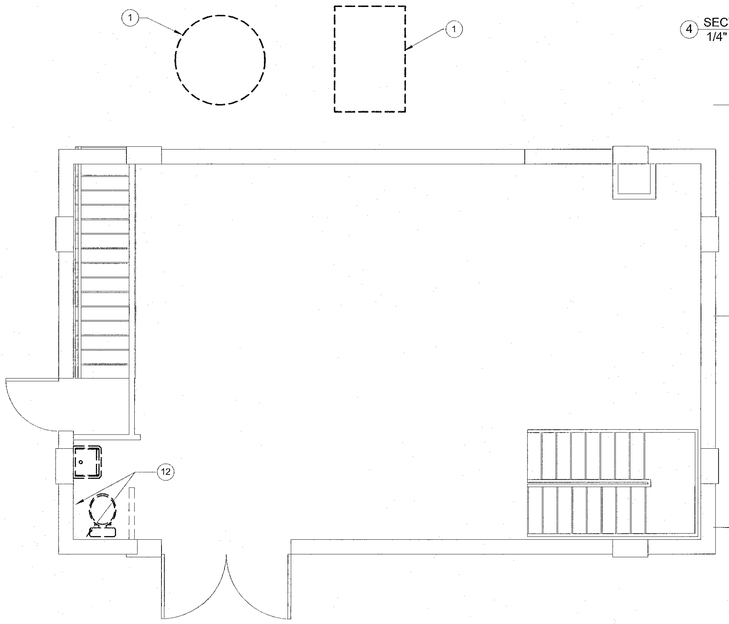
1. ALL OPENINGS IN EXISTING STRUCTURE FROM DEMOLISHED/ABANDON SHALL BE FILL/PATCHED WITH CONCRETE.
2. ALL ELECTRIFIED MECHANICAL EQUIPMENT NOTED FOR REMOVAL SHALL BE DISCONNECTED, MADE SAFE AND THEN REMOVED/REPLACED.



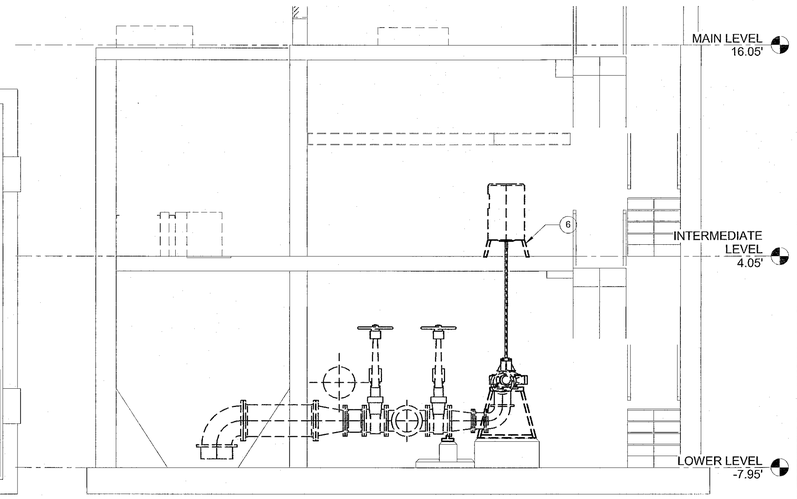
4 SECTION B DEMO
1/4" = 1'-0"



1 DEMO INTERMEDIATE LEVEL
1/4" = 1'-0"



6 DEMO MAIN LEVEL
1/4" = 1'-0"



5 SECTION
1/4" = 1'-0"

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No.	Date	Description	Dr.By	Ch.By	App.By
A	8/21/15				

REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS
DONALD G GALLUCCI
No. 37973
REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATIONS

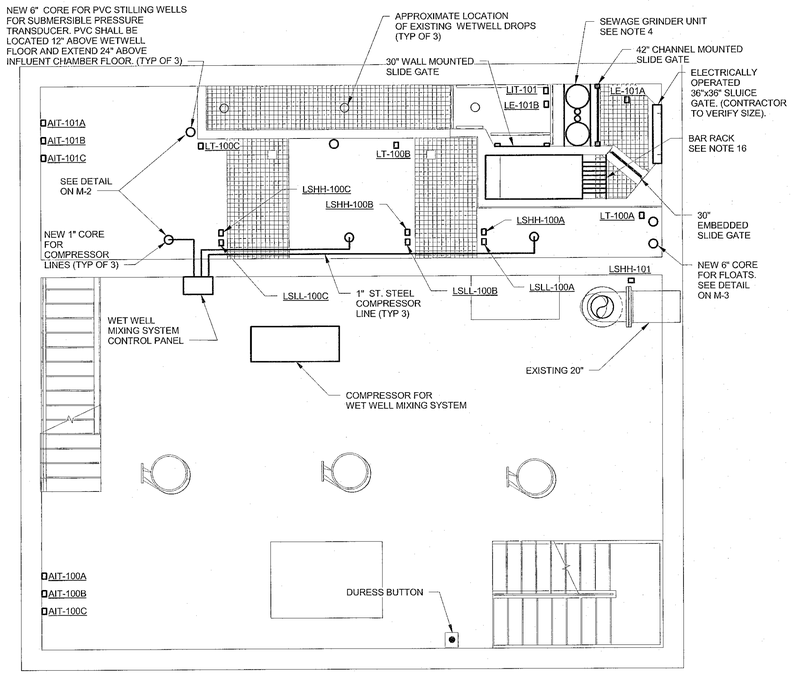
MECHANICAL DEMOLITION PIPING PLANS

DR.BY	DSN.BY	CHK.BY	APP.BY
KJP	TSD	CNR	DGG

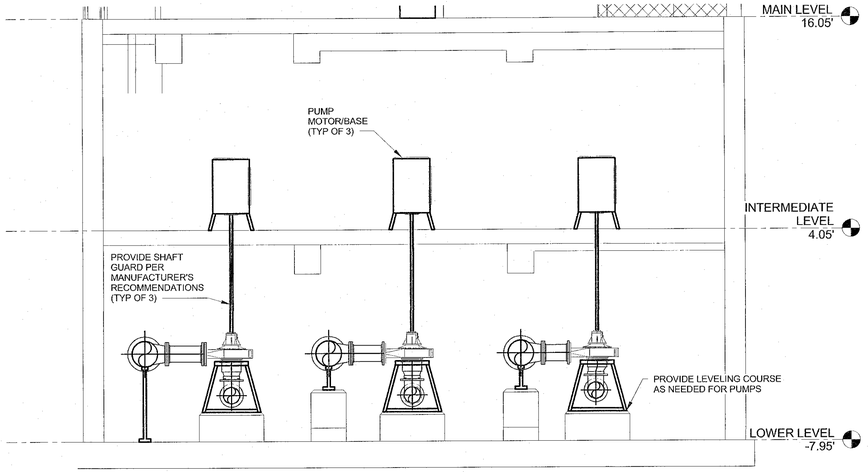
JOB NO.	CONTRACT:	SCALE:	CADD NO.
2140649		1/4" = 1'-0"	

MD-1

FILE NO. 213-21



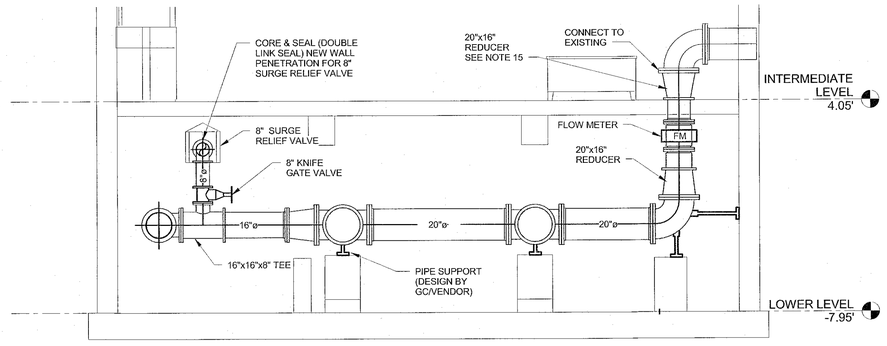
2 NEW WORK INTERMEDIATE LEVEL BASEMENT
1/4" = 1'-0"



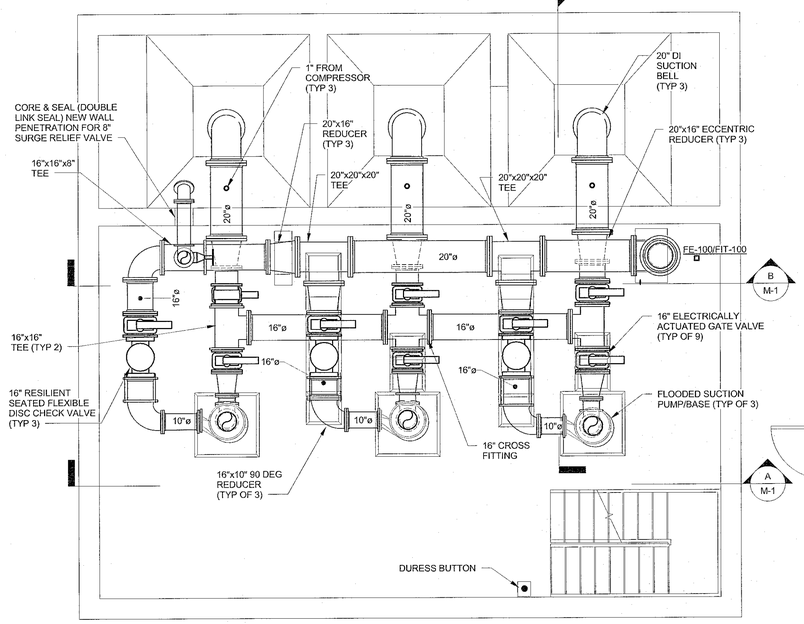
A SECTION
1/4" = 1'-0"

NOTES:

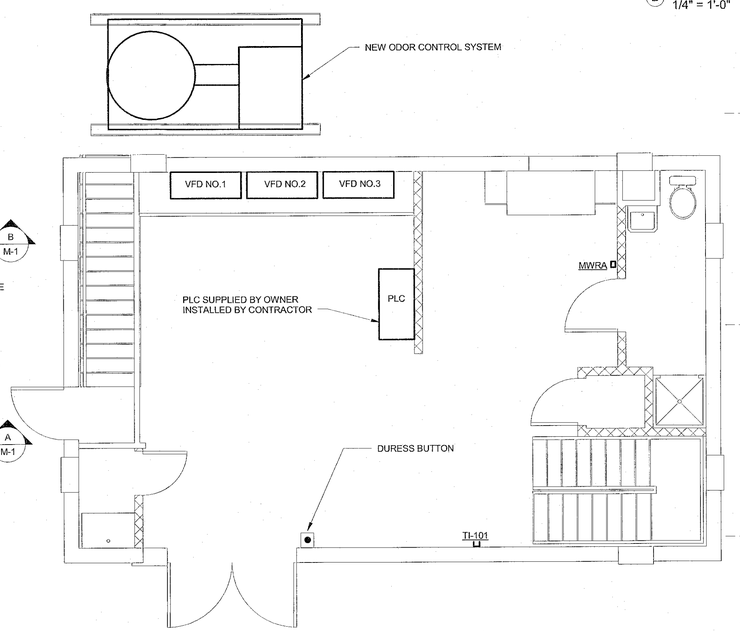
1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO DEMOLITION/UPGRADE WORK.
2. CONTRACTOR TO VERIFY ALL EQUIPMENT SIZES WILL FIT WITHIN THE BUILDING OPENINGS. SHOULD ANY EQUIPMENT REQUIRE DISASSEMBLY & REASSEMBLY TO FIT INTO THE BUILDING, IT SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
3. ALL OPENINGS IN EXISTING STRUCTURE FROM DEMOLISHED/ABANDONED ITEMS SHALL BE FILLED/PATCHED WITH CONCRETE.
4. ALL NEW CORE HOLES SHALL AND/OR EXISTING OPENINGS REUSED IN WET WELL SHALL HAVE MECHANICAL LINK SEALS INSTALLED.
5. ALL PENETRATIONS FROM/INTO THE WETWELL SHALL BE GAS/VAPOR TIGHT.
6. ALL PROCESS PIPING AND VALVES SHALL BE ADEQUATELY RESTRAINED AND SUPPORTED IN ACCORDANCE WITH THE DRAWINGS, AND PER MANUFACTURERS RECOMMENDATIONS AS SHOWN, WITH DESIGN CALCULATIONS PER SECTION 15140.
7. THE MAGNETIC FLOW METER SHALL BE WIRED INTO THE NEW I&C SYSTEM, SEE ELEC. AND I&C DRAWINGS.
8. PUMP AND INTAKE/DISCHARGE PIPING LAYOUT AND ELEVATIONS ARE BASED ON A FLOWSERVE 10"x10" PUMP. IF CONTRACTOR SELECTS DIFFERENT PUMP MANUFACTURER, REDUCERS AND PROCESS PIPE SHALL BE ADDED ACCORDINGLY AT NO ADDITIONAL COST AND ANY ADJUSTMENTS OF THE EXISTING CONCRETE PIPE SUPPORTS AND CONCRETE PAD SIZE/HEIGHT SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL ALSO VERIFY THERE IS SUFFICIENT SPACE REQUIRED IF ADDITIONAL FITTINGS ARE NEEDED. NO CHANGES TO VALVES AND VALVE CONFIGURATIONS, AS INDICATED ON THE PLAN, SHALL BE ALLOWED WITHOUT APPROVAL FROM THE ENGINEER.
9. SEE PLUMBING SHEET FOR SUMP PUMP AND SUMP PUMP PIPING.
10. CONTRACTOR MAY REUSE EXISTING CONCRETE PIPE SUPPORTS, HOWEVER EXISTING "CRADLE" PORTIONS SHALL BE REPLACED FOR NEW PIPE ALIGNMENT.
11. EXISTING PUMP PAD MAY BE REUSED, HOWEVER IT WILL NEED ADJUSTMENT TO ACCOUNT FOR THE NEW ECCENTRIC REDUCERS LOCATED ON THE SUCTION LINES.
12. CONTRACTOR TO PROVIDE THREE (3) - 1" STAINLESS STEEL COMPRESSED AIRLINES FOR THE THREE (3) WETWELL MIXING SYSTEM'S BUBBLE FORMING PLATES AS SHOWN ON DETAIL ON DWG M-2.
13. ALL INSTRUMENTATION SHOWN ON THIS DRAWING TO BE INSTALL BY THIS CONTRACTOR AND POWERED BY THE ELECTRICAL CONTRACTOR. REFER TO ELECTRICAL DWGS FOR ADDITIONAL INFORMATION.
14. CHANNEL MODIFICATIONS ARE BASED ON JWC ENV. GRINDER UNIT MODEL CCD3216-XD2.0 CONTRACTOR RESPONSIBLE FOR COORDINATION AND APPROVAL BY ENGINEER OF CHANNEL MODIFICATIONS FOR ALTERNATE UNITS.
15. CONTRACTOR TO VERIFY IN FIELD EXISTING OPENING IS ADEQUATE FOR REDUCER. CORE HOLE LARGER IF REQUIRED.
16. CONTRACTOR TO REMOVE AND REPLACE EXISTING BAR RACK WITH NEW ALUMINUM BAR RACK. SEE ARCHITECTURAL SHEETS FOR DETAIL. CONTRACTOR TO CONFIRM DIMENSION PRIOR TO FABRICATION.
17. GAS DETECTION SYSTEM SHALL INCLUDE REMOTE MONITORS. DISPLAYS SHALL BE MOUNTED AT EYE LEVEL. SENSORS SHALL BE MOUNTED IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDED INSTALLATION HEIGHT FOR EACH SENSOR.
18. ALL PIPING SHALL BE EPOXY COVERED DUCTILE IRON PER SECTION 15140. ALL VALVES SHALL BE EPOXY COATED PER SECTION 15110.



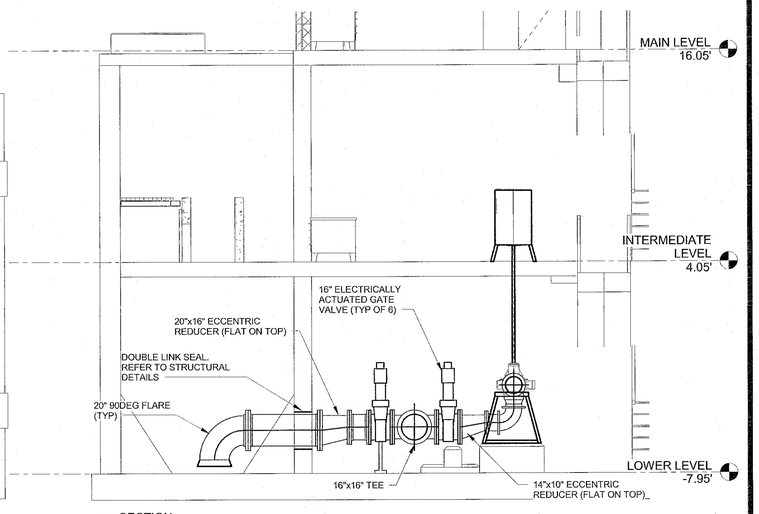
B SECTION B
1/4" = 1'-0"



1 NEW WORK LOWER LEVEL
1/4" = 1'-0"



3 NEW WORK MAIN LEVEL
1/4" = 1'-0"



C SECTION
1/4" = 1'-0"

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No.	Date	Dr.By	Ch.By	App.By	Description
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DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS DONALD G. GALLUCCI CIVIL No. 37973 REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATIONS

MECHANICAL NEW WORK PIPING PLANS

DR.BY	DES.BY	CHK.BY	APP.BY
KJP	TSD	CNR	DGG

JOB NO. 214064.9

CONTRACT:

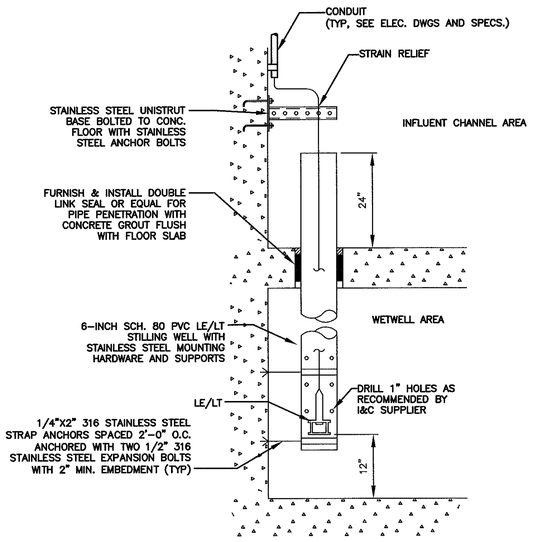
SCALE: 1/4" = 1'-0"

CADD NO.

FILE NO. 213-20

M-1

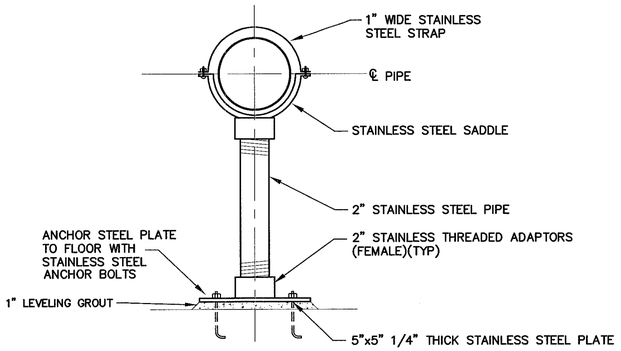
SHEET 21 OF 40



SUBMERSIBLE LEVEL SENSOR/TRANSMITTER MOUNTING DETAIL

N.T.S.

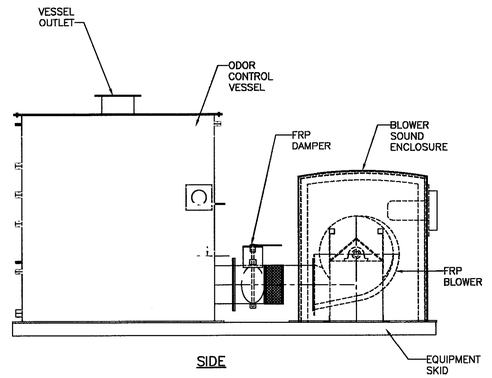
NOTES:
1. PROVIDE SUFFICIENT CABLE LENGTH TO ENSURE THE SENSOR CAN BE PULLED OUT FOR MAINTENANCE, CLEANING OR REPLACEMENT.
2. PROVIDE LABELS AT UNISTRUT FOR EACH LEVEL SENSOR CABLE.

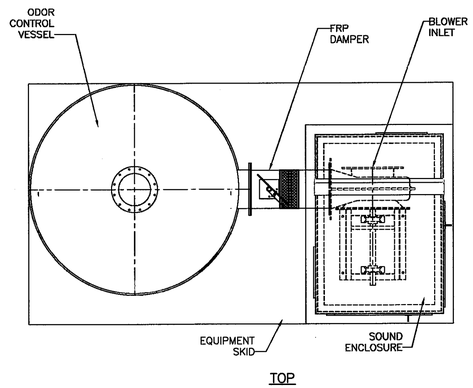


ADJUSTABLE STAINLESS STEEL PIPE SUPPORT

N.T.S.

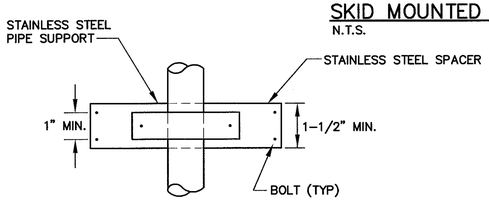
NOTES:
1. FOR PIPE SUPPORTS ON BASE TEES/BENDS SADDLE TO BE REPLACED WITH SUITABLY SIZED STAINLESS STEEL BASE FLANGE ADAPTOR.



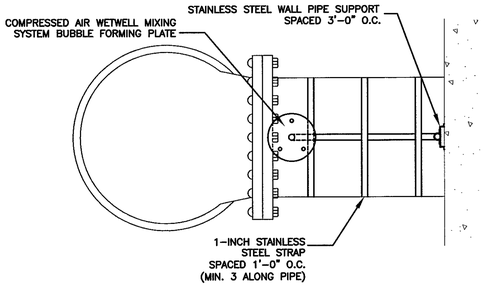


SKID MOUNTED ODOR CONTROL UNIT DETAIL

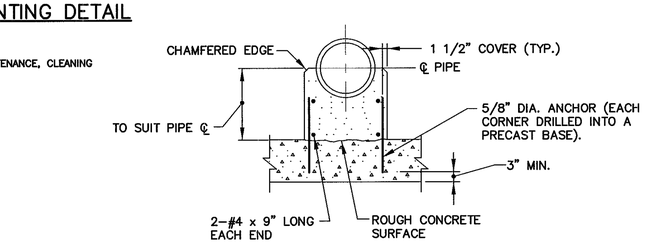
N.T.S.



PLAN



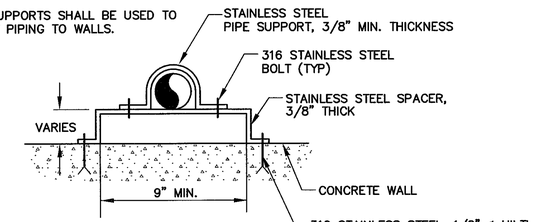
PLAN



CONCRETE PIPE SUPPORT

N.T.S.

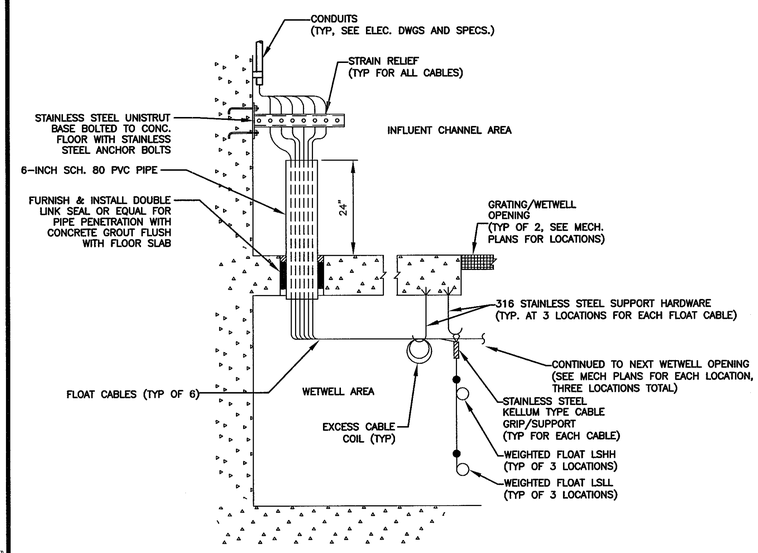
NOTE:
THESE SUPPORTS SHALL BE USED TO SUPPORT PIPING TO WALLS.



SECTION

STAINLESS STEEL PIPE SUPPORT DETAIL (WALL)

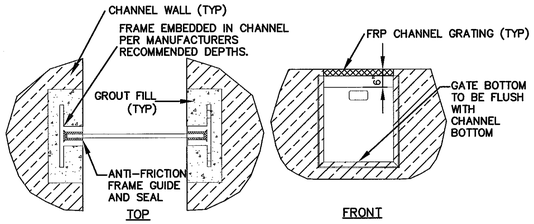
N.T.S.



FLOAT MOUNTING DETAIL

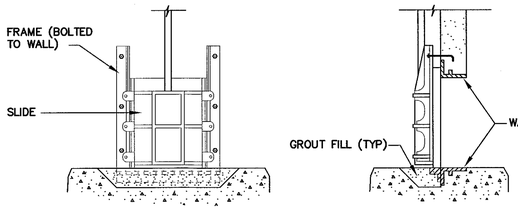
N.T.S.

NOTES:
1. PROVIDE SUFFICIENT CABLE LENGTH TO ENSURE THE FLOATS CAN BE PULLED OUT FOR MAINTENANCE, CLEANING AND/OR REPLACEMENT.
2. FLOATS SHALL BE LOCATED IN AREAS THAT ALLOW FOR REMOVAL FOR MAINTENANCE, CLEANING AND/OR REPLACEMENT.
3. PROVIDE LABELS AT UNISTRUT FOR EACH FLOAT CABLE.
4. FLOATS SHALL BE MOUNTED AT ELEVATIONS PROVIDED BY THE ENGINEER.



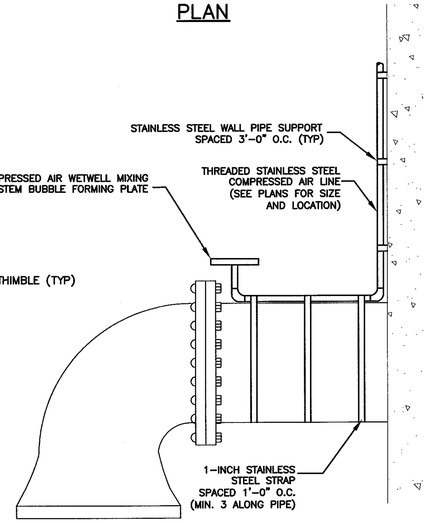
EMBEDDED CHANNEL MOUNTED STOP GATE DETAIL

N.T.S.



SLUICE GATE DETAIL

N.T.S.

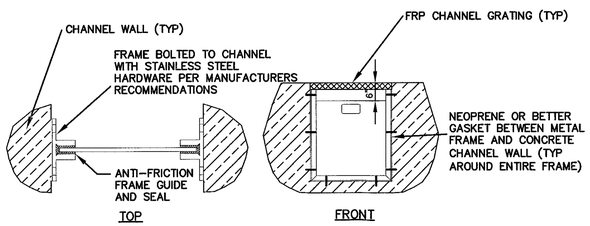


SECTION

WETWELL MIXING SYSTEM BUBBLE FORMING PLATE STAND

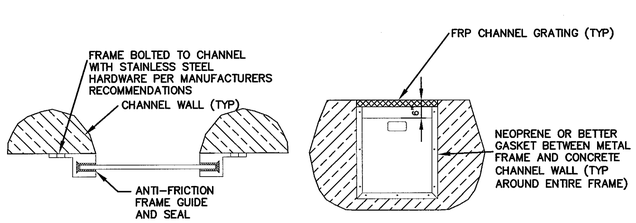
N.T.S.

NOTES:
1. CONTRACTOR TO VERIFY DIMENSIONS OF STAINLESS STEEL MEMBERS TO SUPPORT/MOUNT BUBBLE FORMING PLATES PER THE MANUFACTURERS RECOMMENDATIONS.
2. CONTRACTOR TO PROVIDE ADEQUATELY SIZED MOUNTING HOLES ON THE STAINLESS STEEL PLATE IN ORDER TO MOUNT THE BUBBLE FORMING PLATE. VERIFY SIZE REQUIREMENTS WITH WETWELL MIXING SYSTEM MANUFACTURER.



CHANNEL MOUNTED STOP GATE DETAIL

N.T.S.



WALL MOUNTED STOP GATE DETAIL

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No.	Date	Dr.By	Ck.By	App.By	Description
					APPROVED

8/21/15
DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS DONALD G. GAUCI CIVIL No. 37973 REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

MECHANICAL DETAILS

APP.BY	CHK.BY	DSN.BY	DR.BY	JOB NO.	CONTRACT:	SCALE:	CADD NO.	FILE NO.
DGG	CNR	TSD	TSD	2140649	NA	NOTED	M-2	213-19

M-2

LEGEND

SYMBOL	ABBREV	DESCRPTION
		TEE LOOKING UP
		TEE LOOKING DOWN
		UNION
	VIV	VALVE IN VERTICAL
	RPBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
		STRAINER
	WHA/SA	WATER HAMMER ARRESTOR/SHOCK ABSORBER
		FLOW IN DIRECTION OF ARROW
		DIRECTION OF SLOPE
		PIPE SLEEVE
	FD	FLOOR DRAIN
	CO	CLEANOUT
	FCO	FLOOR CLEANOUT
		P-TRAP
		ELBOW UP OR RISE
		ELBOW DOWN OR DROP
		CAP OR END OF PIPE
HB	HB	HOSE BIBB
	CW	COLD WATER
	HW	HOT WATER
	HWR	HOT WATER RETURN
	S or W	SOIL OR WASTE ABOVE GROUND
	V	VENT ABOVE GROUND
NCW	NCW	NON POTABLE COLD WATER
		BALL VALVE
		CHECK VALVE
	MV	MIXING VALVE
		BALANCING VALVE
	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
		VACUUM RELIEF VALVE
		AQUASTAT
		THERMOMETER
	PRV	PRESSURE REDUCING/REGULATING VALVE
	PG	PRESSURE GAUGE
—X—X—X—X—X—	X	EXISTING TO BE REMOVED

ABBREVIATIONS

AFF	ABOVE FINISH FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECT
BLDG	BUILDING
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUT
CONT	CONTINUATION
CP	CHROME PLATED
CW	COLD WATER
DF	DRINKING FOUNTAIN
DN	DOWN
DWG	DRAWING
ELEC	ELECTRICAL
ES	EMERGENCY SHOWER
EW	EMERGENCY EYE WASH
ES/EW	EMERGENCY SHOWER AND EYE WASH
EL/ELEV	ELEVATION
FCO	FLOOR CLEANOUT
FFE	FINISH FLOOR ELEVATION
FLR	FLOOR
FV	FLUSH VALVE
GC	GENERAL CONTRACTOR
GPC	GALLONS PER CYCLE
GPF	GALLONS PER FLUSH
GPM	GALLONS PER MINUTE
HW	HOT WATER
HWR	HOT WATER RETURN
INV	INVERT
IW	INDIRECT WASTE
LPC	LIMIT OF PLUMBING CONTRACTOR
MECH	MECHANICAL
MSB	MOP SERVICE BASIN-FIXTURE IDENTIFICATION
NTS	NOT TO SCALE
OED	OPEN END DRAIN
PC	PLUMBING CONTRACTOR
PLBG	PLUMBING
PSI	POUNDS PER SQUARE INCH
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
SA	SHOCK ABSORBER
SH	SHOWER-FIXTURE IDENTIFICATION
SK	SINK-FIXTURE IDENTIFICATION
SPEC	SPECIFICATION
TMW	TEMPERED WATER
TP	TRAP PRIMER
TW	TEMPERED WATER
TYP	TYPICAL
UR	URINAL
V	VENT
VIV	VALVE IN VERTICAL
VS	VENT STACK
VTR	VENT THRU ROOF
W	WASTE
WC	WATER CLOSET
WM	WASHING MACHINE
XTBR	EXISTING TO BE REMOVED
XTR	EXISTING TO REMAIN
XR	EXISTING TO BE RELOCATED
XN	RELOCATED EQUIPMENT IN NEW LOCATION
	CONNECT NEW TO EXISTING
	LIMIT OF REMOVAL

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE				FITTING			TRAP	CARRIER/MOUNTING	FLOW RATE	REMARKS
	MANUFACTURER	MODEL	TYPE	SIZE	MANUFACTURER	TYPE	SUPPLY				
WC-1	TOTO	VITREOUS CHINA CT705ELN	FLOOR MOUNT 1.28 GPF	N/A	TOTO	ECOPOWER TET1LN32#CP	1-1/4"	INTEGRAL	-	1.28 GPF	ELONGATED WHITE SEAT LESS COLOR, CHURCH MODEL 1955 FR
SK-1	TOTO	VITREOUS CHINA LT307	WALL MOUNT SINGLE HOLE	21"x18.25"	TOTO	ECOPOWER TELGS100 SPOUT W/TN78-10V510 THERMAL MIXING CONTROLLER	1/2" HW 1/2" CW CP SUPPLIES AND STOPS	1-1/2" CP BRASS P-TRAP W/CO PLUG	CONCEALED ARM CARRIER TO SUIT	0.17 GPC	TRAPS AND SUPPLIES TO BE INSULATED WITH TRUEBRO PREFORMED INSULATION KIT
SH-1	BEST-BATH SYSTEMS	ONE PIECE GELCOAT/ FIBERGLASS W/FULL INTEGRAL PLYWOOD BACKING - LSS363FRCP	N/A	36"x36"x 79.25"	SYMMONS	S-5300-X SHWR VALVE W/4-231-1.5 SHWR HEAD	1/2" HW 1/2" CW	2" P-TRAP	NA	1.5 GPM	
HB-1	CHICAGO	952-1/2CP	INSIDE SILL FITTING (HOSE BIB B)	NA	NA	NA	1/2" CW	NA	NA	NA	W/VACUUM BREAKER
WM-1	N/A	N/A	N/A	N/A	WATTS	AUTOMATIC WASHING MACHINE WATER SHUT-OFF AZC-WB-M1	1/2" HW 1/2" CW	1-1/2"	NA	NA	
MSB-1	FIAT	MSB 3624	N/A	36" x 24"	FIAT	SERVICE FAUCET 830-AA	1/2" HW 1/2" CW	3"	NA	NA	W/VACUUM BREAKER & HOSE AND HOSE BRACKET

MIXING VALVE SCHEDULE

TAG NO.	CW INLET	HW INLET	TEMPERED OUTLET	FLOW (GPM) LO/HI	MIXED TEMP. (°F)	SYSTEM	MANUFACTURER	MODEL NO.	REMARKS
TMV-1	¾"	¾"	1"	.5 / 19	120	DOMESTIC HOT WATER	POWERS	LFSH1432	LEAD FREE BRASS BODY WITH CHECK STOPS, INSTALL VALVE NEAR HOT WATER SOURCE AND PIPE PER MANUFACTURES RECOMENDATIONS TO ACHIEVE MINIMUM FLOW OF .5 GPM

ELECTRIC WATER HEATER SCHEDULE

SYMBOL	STORAGE GALLONS	RECEIVER		TEMP SETTING	MANUFACTURER & MODEL #	ELECTRICAL				SERVICE	REMARKS
		GPH	DEG RISE			KW	V	PH	HZ		
EWH-1	40	50	100	140	BRADFORD WHITE 40A-12-3	12	460	3	60	TOILET ROOM SHOWER WASHER	PROVIDE FLEX-CON MODEL PH-5 EXPANSION TANK

PUMP SCHEDULE

SYMBOL	DUTY	TYPE	GPM	HEAD (FT)	MANUFACTURER & MODEL #	ELECTRICAL				RPM	REMARKS
						HP	V	PH	HZ		
CP-1	DOMESTIC HOT WATER	INLINE	3	6	TACO 006	1/40	115	1	60	3250	ALL BRONZE CONSTRUCTION

DRAIN SCHEDULE

SYMBOL	TYPE	OUTLET	STRAINER	MANUFACTURER & MODEL #	SERVICE	REMARKS
FD-A	FLOOR DRAIN	NO-HUB	POLISHED NICKEL BRONZE	ZURN ZN415-P-4	TOILET ROOM & SHOWER DRAIN	

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No.	Date	Description
A	8/21/2015	DRAFT

Dr.By: P | Ck.By: P | App.By: R

REGISTERED PROFESSIONAL ENGINEER

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CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

PLUMBING LEGEND

DR.BY	CK.BY	APP.BY
KJP	KJP	SEH

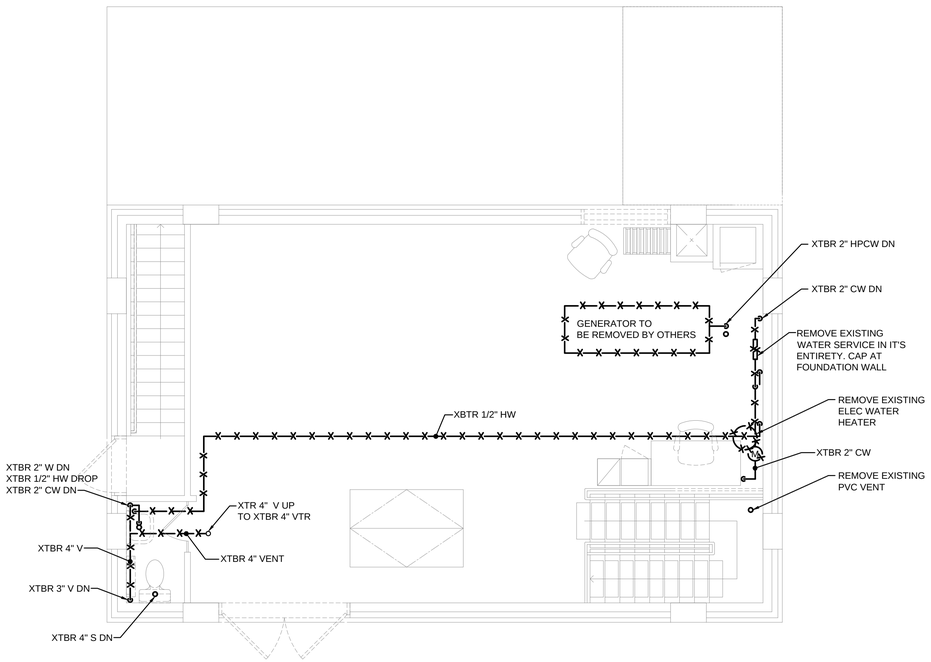
JOB NO.	CONTRACT:	SCALE:	CADD NO.
2140649	-	NOTED	-

P-7

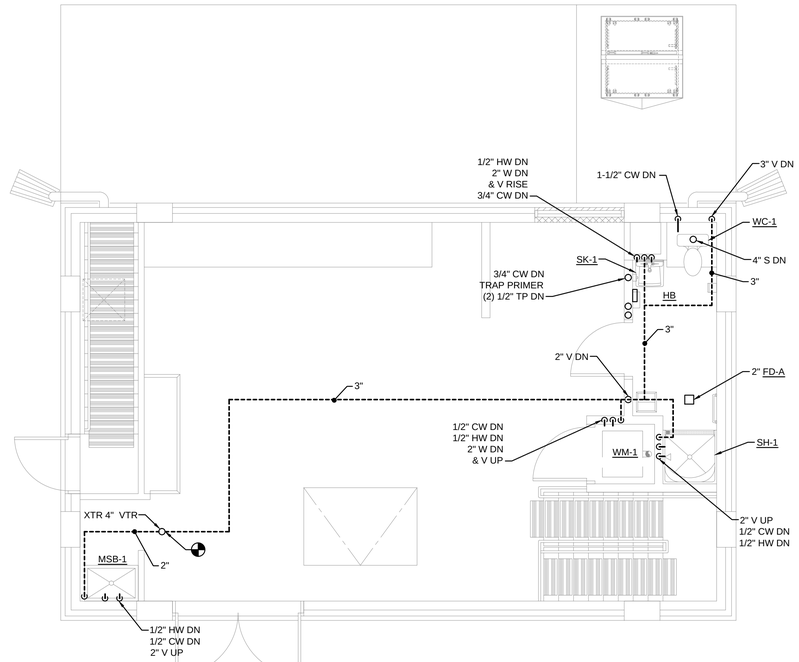
FILE NO. 213-18

SHEET 23 OF 40

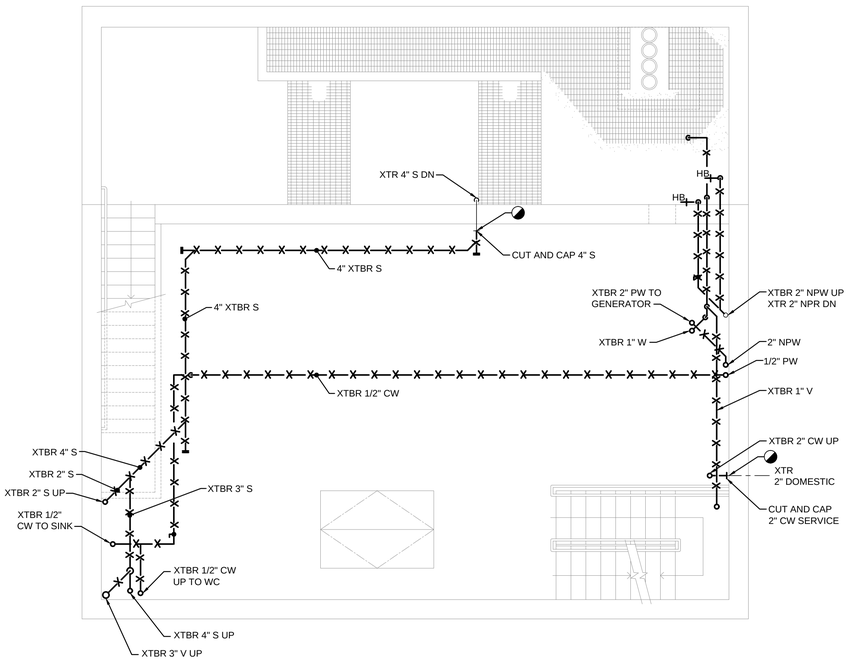
G:\Quincy MA\2140649 Quincy Point PS Design\CAD\Plumbing\P-1 PLUMBING LEGEND.dwg



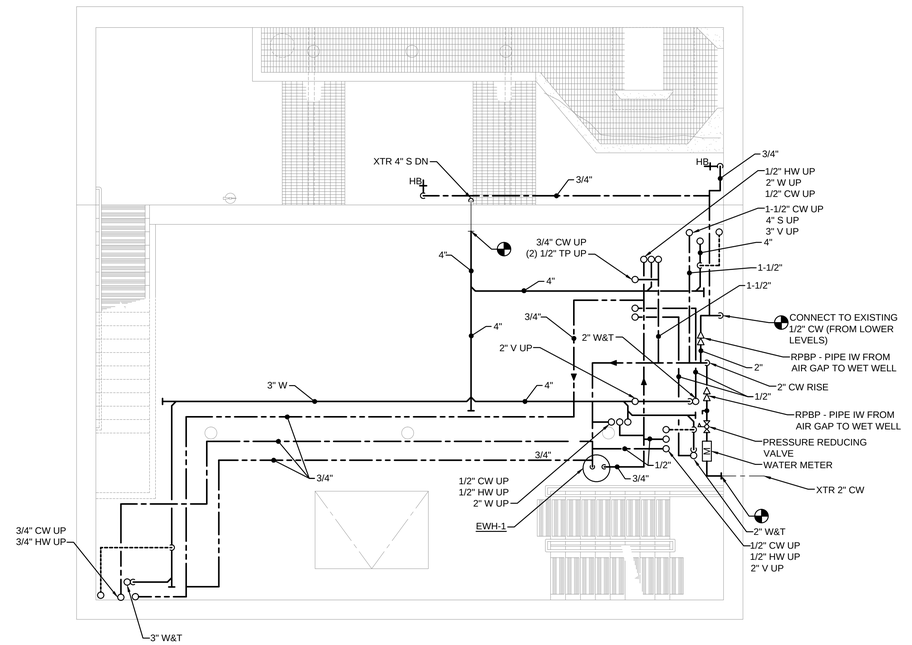
MAIN LEVEL DEMO PLAN



MAIN LEVEL NEW WORK PLAN



INTERMEDIATE LEVEL DEMO PLAN



INTERMEDIATE LEVEL NEW WORK PLAN

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No.	Date	Description	Dr.By	Ck.By	App.By
A	8/21/2015	PROVIDED			

REGISTERED PROFESSIONAL ENGINEER

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CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

PLUMBING FLOOR PLANS

CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR.BY	CHK.BY	DSN.BY	APP.BY
213-17	NOTED	-	2140649	KJP	SEH	KJP	SEH

P-2

FILE NO.

SHEET 24 OF 40

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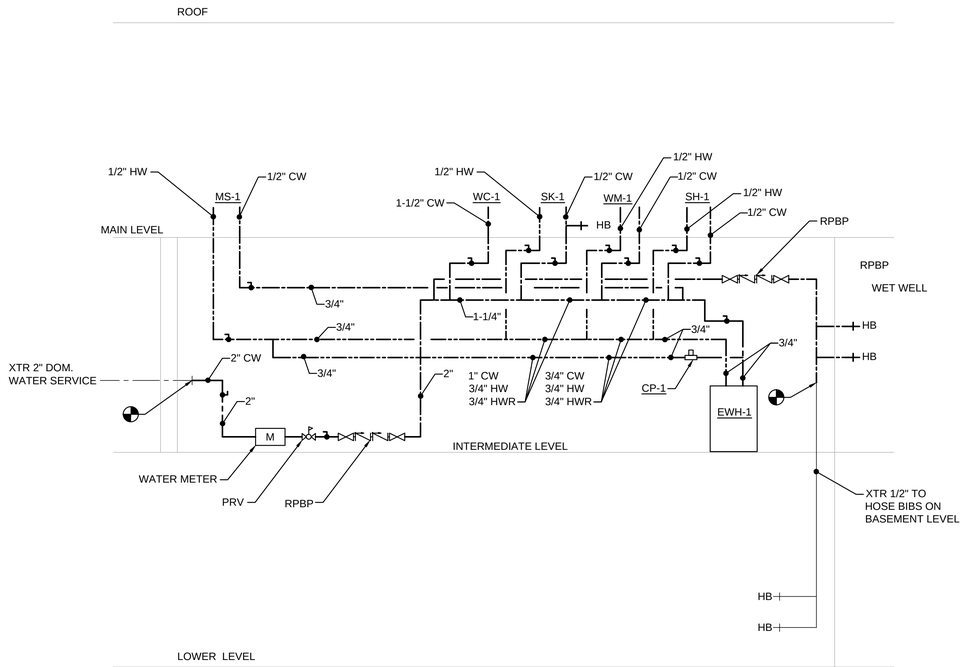
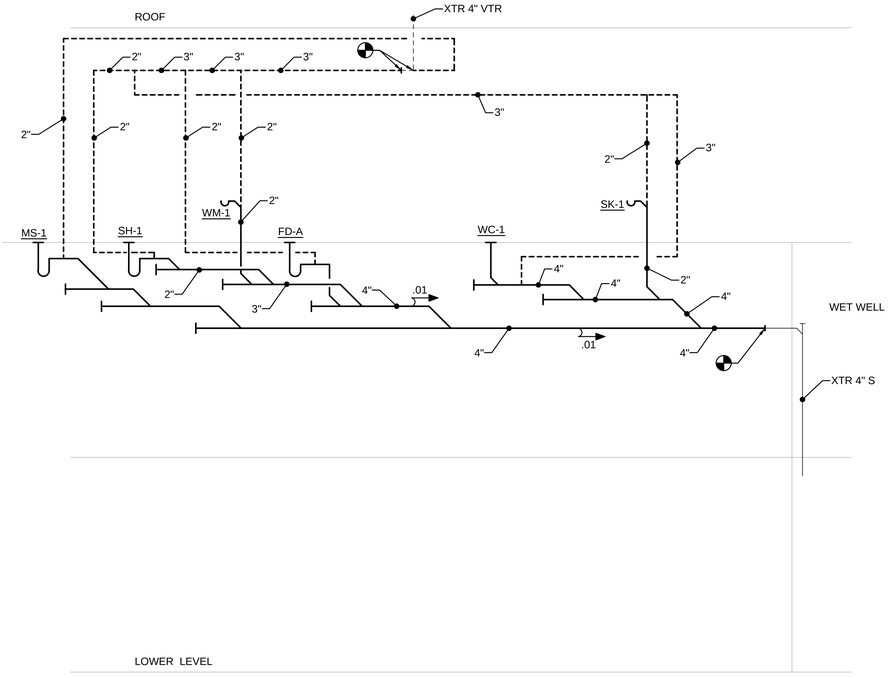
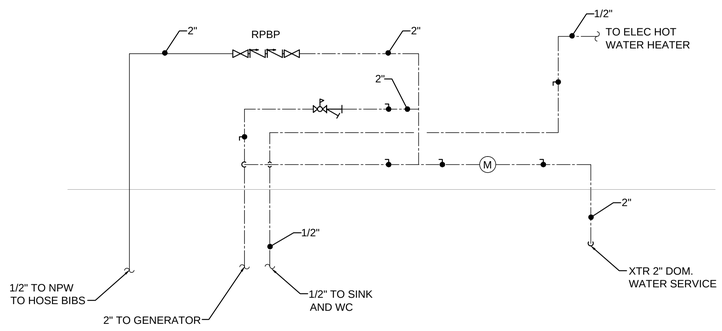


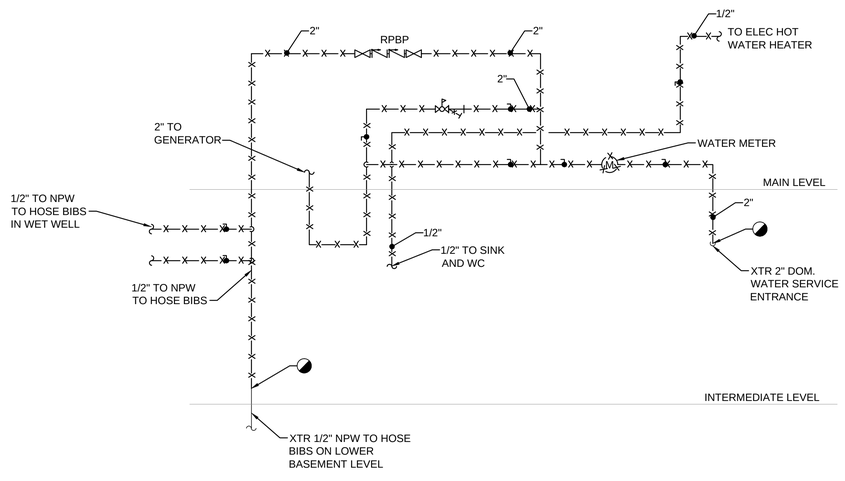
WATER RISER DIAGRAM
NTS



SANITARY RISER DIAGRAM
NTS



EXISTING WATER SERVICE PIPING
NTS



SCHEMATIC WATER SERVICE PIPING DEMOLITION
NTS

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

8/21/15 DATE

REGISTERED PROFESSIONAL ENGINEER

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CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

PLUMBING RISERS

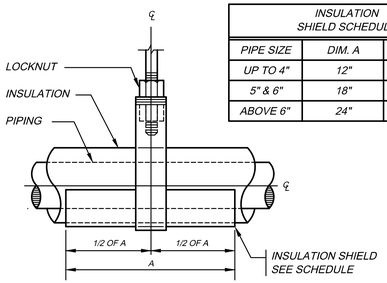
CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR.BY	DSN.BY	CHK.BY	APP.BY
-	NOTED	-	2140649	KJP	KJP	SEH	SEH

P-3

FILE NO. 213-16

SHEET 25 OF 40

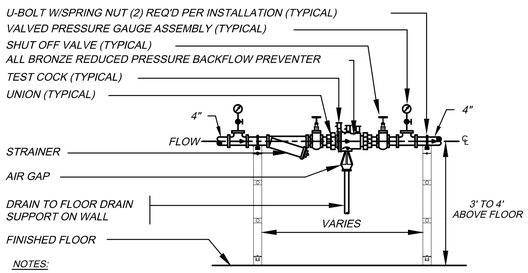
O:\Quincy MA\2140649 Quincy Point PS Design\CAD\Plumbing\P-3 PLUMBING RISERS.dwg



INSULATION SHIELD SCHEDULE		
PIPE SIZE	DIM. A	GA. OF STEEL
UP TO 4"	12"	18
5" & 6"	18"	16
ABOVE 6"	24"	14

PIPE HANGER/SHIELD DIAGRAM

NO SCALE

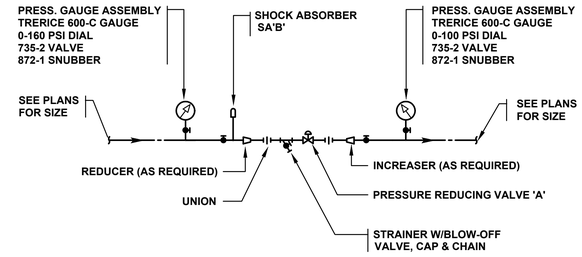


NOTES:

1. FURNISH TO OWNER (1) BACKFLOW PREVENTER TEST KIT AND SPARE PARTS KIT W/OPERATING & TEST PROCEDURES.
2. THIS CONTRACTOR SHALL ACT AS THE OWNERS AGENT IN SEEKING APPROVAL FROM ALL LOCAL AND STATE AUTHORITIES. THIS CONTRACTOR SHALL SUBMIT ALL PLANS, SPECS, AND APPLICATIONS REQUIRED FOR APPROVAL AND PAY ALL FEES.
3. SEE FLOOR PLANS FOR UNIT SIZES (THESE UNITS ARE 3/4" AND LONGER)
4. MAINTAIN 1'-0" CLERANCE FROM WALL.
5. TEST AND CERTIFY EACH INSTALLATIONS.

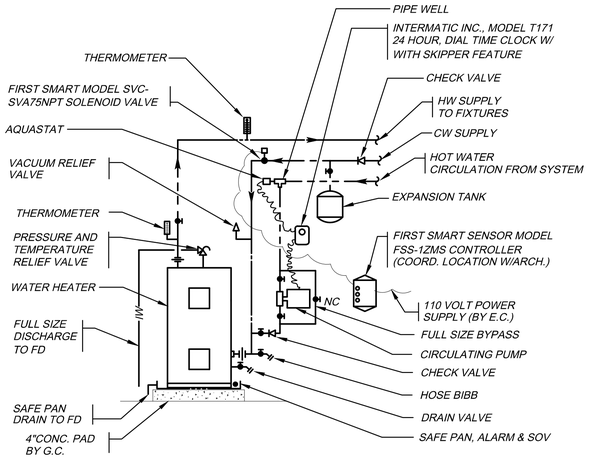
RPBFP DIAGRAM

NO SCALE



PRESSURE REDUCING VALVE ASSEMBLY (PRV) DIAGRAM

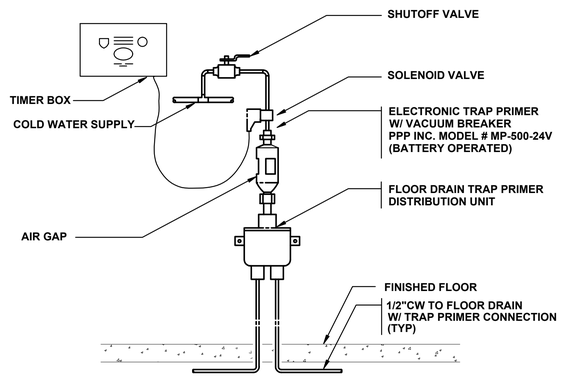
NO SCALE



NOTE: REFER TO DRAWINGS FOR LOCATION

ELECTRIC WATER HEATER DIAGRAM

NO SCALE



AUTOMATIC TRAP PRIMER DIAGRAM

NO SCALE

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No.	Date	Description	Dr.By	Ck.By	App.By
A	8/21/2015	PRV DETAILS			

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
STEVEN E. HOTTLE
No. 38523
REGISTERED
MECHANICAL
ENGINEER
8/21/2015

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT

PLUMBING DETAILS

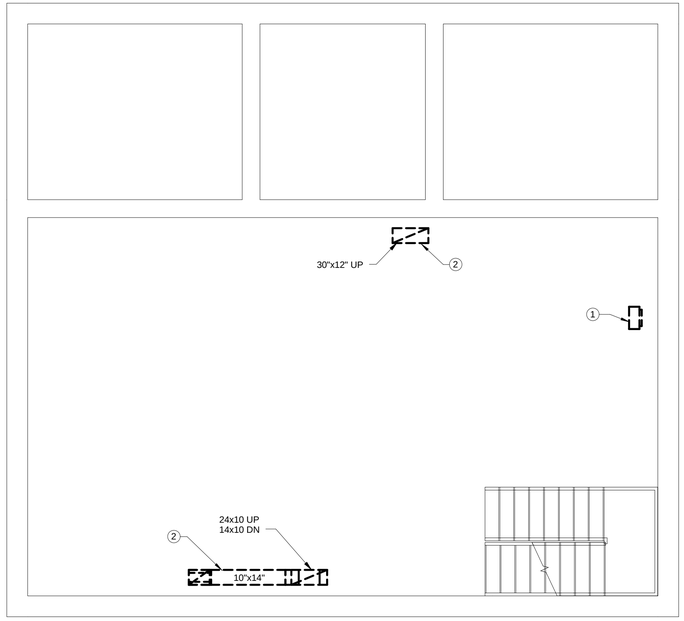
CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR.BY	DSN.BY	CHK.BY	APP.BY
213-15	NOTED	-	2140649	KJP	KJP	SEH	SEH

P-4

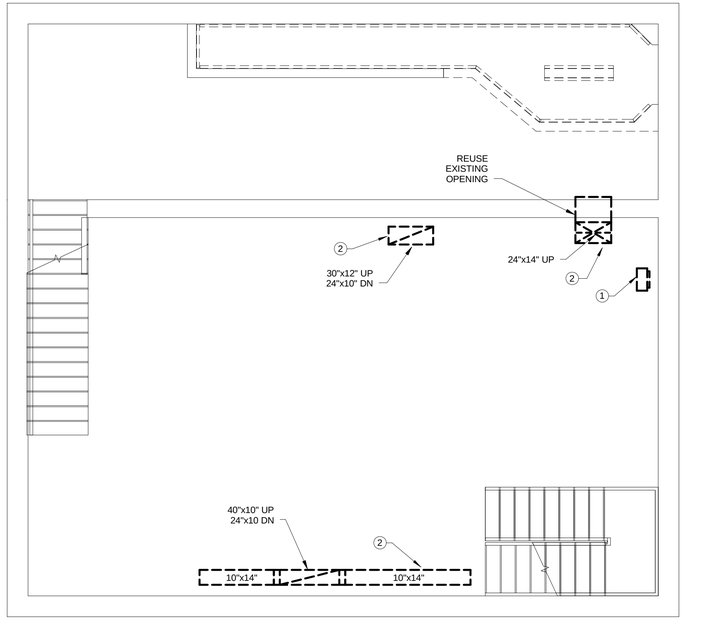
FILE NO. 213-15

SHEET 26 OF 40

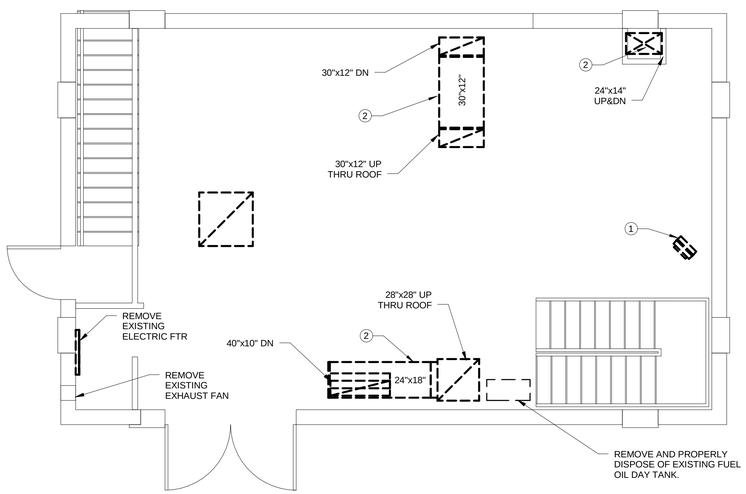
O:\Quincy MA\2140649 Quincy Point PS Design\CAD\Plumbing\P-4 PLUMBING DETAILS.dwg



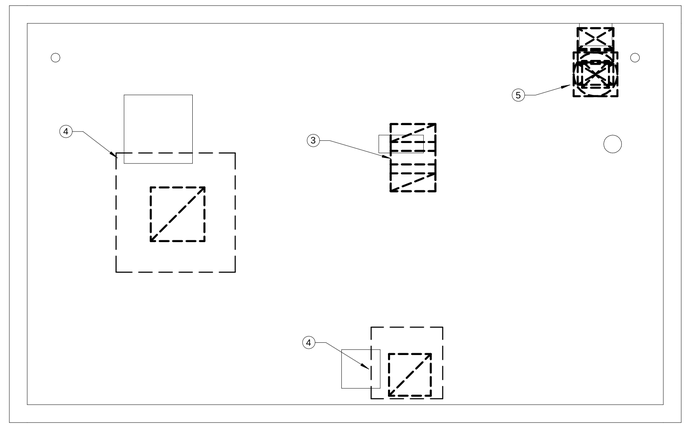
1 DEMO LOWER LEVEL
1/4" = 1'-0"



2 DEMO INTERMEDIATE LEVEL
1/4" = 1'-0"



3 DEMO MAIN LEVEL
1/4" = 1'-0"



4 DEMO ROOF
1/4" = 1'-0"

HVAC DEMOLITION KEYNOTES

1. REMOVE EXISTING ELECTRIC UNIT HEATER IN IT'S ENTIRETY
2. REMOVE DUCTWORK, HANGERS AND ASSOCIATED GRILLES IN IT'S ENTIRETY
3. REMOVE EXISTING GOOSENECK ON ROOF AS SHOWN.
4. REMOVE EXISTING EXHAUST FAN IN IT'S ENTIRETY.
5. REMOVE EXISTING WET WELL INTAKE FAN IN IT'S ENTIRETY, INCLUDING ALL DUCTWORK HANGERS AND SUPPORTS.

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No.	Date	Dr.By	Ck.By	App.By	Description	DATE
					APPROVED	8/21/2015 11/20/14

REGISTERED PROFESSIONAL ENGINEER

SCOTT E. HEBERGER — No. 45141 — REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

HVAC DEMOLITION FLOOR PLANS

SCALE:	CONTRACT:	JOB NO.	DR.BY	DSN.BY	CHK.BY	APP.BY
1/4" = 1'-0"		-	KJP	KJP	SEH	SEH

CADD NO. HD-1

FILE NO. 213-14

CALLOUT SYMBOLS

- (T) THERMOSTAT (TEMPERATURE SENSOR)
- (T$_E$) THERMOSTAT-EXISTING (TEMPERATURE SENSOR)
- (T$_R$) THERMOSTAT-RELOCATED (TEMPERATURE SENSOR)
- (T$_N$) THERMOSTAT-NEW (TEMPERATURE SENSOR)
- (H) HUMIDISTAT (HUMIDITY SENSOR)
- (CO2) CARBON DIOXIDE (CO2) SENSOR
- (CO) CARBON MONOXIDE (CO) SENSOR
- CONNECT NEW TO EXISTING
- LIMIT OF REMOVAL
- (SD) DUCT SMOKE DETECTOR

F / - / -
MOTORIZED EQUIPMENT (EF, AHU, ETC)
UPPER - EQUIPMENT DESIGNATION
LOWER - EQUIPMENT NUMBER

FPT / MAX / MIN / - and FPT / MBH / GPM / -
MOTORIZED EQUIPMENT (FPT)
UPPER - EQUIPMENT DESIGNATION
MIDDLE - MAX CFM or MBH
LOWER - MIN CFM or GPM

ET / - / -
NON-MOTORIZED EQUIPMENT (ET, AS, ETC)
UPPER - EQUIPMENT DESIGNATION
LOWER - EQUIPMENT NUMBER

VAV / MAX / MIN / - and VAV / MBH / GPM / -
NON-MOTORIZED EQUIPMENT (VAV, EXV)
UPPER - EQUIPMENT DESIGNATION
MIDDLE - MAX CFM or MBH
LOWER - MIN CFM or GPM

A / H-1
UPPER - SECTION DESIGNATION
LOWER - DRAWING NUMBER

12 / H-1
UPPER - RISER IDENTIFICATION
LOWER - RISER NUMBER

- U UNDERCUT DOOR
- L LOUVERED DOOR

ABBREVIATIONS

ACD	AUTOMATIC CONTROL DAMPER
ACV	AUTOMATIC CONTROL VALVE
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ATC	AUTOMATIC TEMPERATURE CONTROL
CFM	CUBIC FEET PER MINUTE
CO	CLEAN OUT
DB	DRY BULB
DX	DIRECT EXPANSION
EAT	ENTERING AIR TEMPERATURE
ETC	ETCETERA
ETR	EXISTING TO REMAIN
EWT	ENTERING WATER TEMPERATURE
EA	EXHAUST AIR
FLA	FULL LOAD AMPS
FD	FIRE DAMPER
FSD	COMBINATION FIRE DAMPER/SMOKE DAMPER
FPM	FEET PER MINUTE
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HPR	HIGH PRESSURE STEAM CONDENSATE RETURN
HPS	HIGH PRESSURE STEAM SUPPLY
LAT	LEAVING AIR TEMPERATURE
LBS/HR	POUNDS PER HOUR
LPR	LOW PRESSURE STEAM CONDENSATE RETURN
LPS	LOW PRESSURE STEAM SUPPLY
LRA	LOCK ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MD	MOTORIZED DAMPER
MIN	MINIMUM
MPR	MEDIUM PRESSURE STEAM RETURN
MPS	MEDIUM PRESSURE STEAM SUPPLY
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OED	OPEN END DRAIN
PIACV	PRESSURE INDEPENDENT AUTOMATIC CONTROL VALVE
PD	PRESSURE DROP
PE	PNEUMATIC ELECTRIC SWITCH
PRV	PRESSURE REDUCING VALVE
RA	RETURN AIR
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SMD	SMOKE DAMPER
SD	SMOKE DETECTOR
SP	STATIC PRESSURE (INCHES OF WATER)
SPD	SPLITTER DAMPER
VD	VOLUME DAMPER
WC	WATER COLUMN
WB	WET BULB TEMPERATURE °F
WMS	WIRE MESH SCREEN
X	EXISTING TO BE REMOVED
XTR	EXISTING TO REMAIN
XR	EXISTING TO BE RELOCATED
XRN	RELOCATED EQUIPMENT IN NEW LOCATION

DUCTWORK SYMBOLS

- 14 x 6 — RECTANGULAR DUCT
- 12"Ø — ROUND DUCT
- 24 / 12 — DUCT SECTION - SUPPLY
- 24 / 12 — DUCT SECTION - RETURN
- 12" Ø — ROUND DUCT WITH SIZE
- 12 / 48 — FLAT OVAL DUCT WITH SIZE
- DUCT TURNING UP
- DUCT TURNING DOWN
- DN — DUCT DROP IN RESPECT TO AIR FLOW
- UP — DUCT RISE IN RESPECT TO AIR FLOW
- FLEXIBLE DUCT CONNECTION
- DIFFUSER
- RETURN/EXHAUST OUTLET
- DIFFUSER WITH FLEX DUCT
- RETURN/EXHAUST OUTLET
- ACOUSTICAL DUCT LINING
- EXISTING DUCT TO REMAIN
- EXISTING DUCT TO BE REMOVED
- FD — FIRE DAMPER
- SD — SMOKE DAMPER
- FSD — COMBINATION FIRE/SMOKE DAMPER
- VD — VOLUME DAMPER
- MD — MOTORIZED DAMPER
- ACD — AUTOMATIC CONTROL DAMPER

DEMOLITION NOTES

1. THE DRAWINGS DEPICT ONLY GENERALLY THE EXISTING CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD OBSERVATIONS AND CONFIRM, DUCTWORK, PIPING AND OTHER UTILITIES.
2. ALL CONFLICTS AND ITEMS FOR CLARIFICATIONS SHALL BE BROUGHT TO THE ENGINEER/ARCHITECT'S ATTENTION PRIOR TO WORK IN THE AREA.
3. CAPPING OF ALL SERVICES SHALL BE PERFORMED TO LEAVE EXISTING SERVICES TO OTHER AREAS INTACT AND FUNCTIONAL.
4. WHERE EQUIPMENT IS SHOWN TO BE REMOVED, THE EQUIPMENT SHALL BE PROPERLY DISPOSED OF.
5. ANY DUCTWORK SHOWN TO BE REMOVED SHALL INCLUDE REMOVE OF ALL ASSOCIATED DUCTWORK, FLEXIBLE CONNECTIONS, DIFFUSERS, HANGERS, INSULATION, ETC.
6. CONTRACTOR SHALL SURVEY EXISTING CONDITIONS AND INFORM ENGINEER OF ANY DEVIATIONS PRIOR TO DEMOLITION.
7. DEMOLITION WORK SHALL BE DONE BY THE HVAC CONTRACTOR. THE HVAC CONTRACTOR SHALL COORDINATE ALL WORK CONCERNING EXISTING EQUIPMENT AND SYSTEMS REMAINING IN THE BUILDING.

DRAWING LIST

GENERAL NOTES

1. THE HVAC CONTRACTOR SHALL BE FAMILIAR WITH ALL CONTRACT DOCUMENTS FOR ALL TRADES AND COORDINATE WITH OTHER CONTRACTORS.
2. THE DRAWINGS ARE DIAGRAMMATIC ONLY; FINAL ROUTING OF DUCTWORK, PIPING AND EQUIPMENT LOCATIONS SHALL BE DETERMINED IN THE FIELD. PROVIDE ALL ADDITIONAL OFFSETS, ELBOWS, ETC., AT NO ADDITIONAL COST TO THE OWNER.
3. CONSTRUCT AND INSTALL ALL DUCTWORK IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS.
4. PROVIDE VOLUME DAMPERS AT ALL LOW PRESSURE SUPPLY, RETURN AND EXHAUST DUCTWORK BRANCH TAKE-OFFS.
5. COORDINATE ALL ELECTRICAL AND PLUMBING REQUIREMENTS WITH THE ELECTRICAL AND PLUMBING CONTRACTORS.
6. PROVIDE ALL INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE HVAC WORK COMPLETE AND READY FOR OPERATION.
7. PROVIDE (FURNISH AND INSTALL) ALL HVAC WORK SHALL BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. INSTALL ALL HVAC EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
9. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE INTEGRITY, CONDITION AND LOCATION OF EXISTING DUCTWORK AND PIPING WHICH IS TO BE REUSED. IF PIPING AND DUCTWORK CANNOT BE REUSED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER TO DETERMINE THE EXTENT OF REPLACEMENT.
10. FURNISH TO THE GENERAL CONTRACTOR ALL INFORMATION REQUIRED FOR SETTING OF WALL, ROOF AND PARTITION OPENINGS FOR HVAC WORK. THIS INFORMATION SHALL BE FURNISHED IN A TIMELY MANNER SUCH THAT CONSTRUCTION SCHEDULE IS NOT JEOPARDIZED.
11. COORDINATE PHASING REQUIREMENTS FOR THE PROJECT WITH THE GENERAL CONTRACTOR.
12. FIELD MEASURE THE EXACT SIZES AND VERIFY ALL OPENINGS FOR SHAFTS AND LOUVERS PRIOR TO SUBMISSION OF SHOP DRAWINGS AND INSTALLATION.
13. MINIMAL CONTROL POWER HAS BEEN IDENTIFIED ON THE DRAWINGS. IF ANY ADDITIONAL POWER IS REQUIRED BASED ON SYSTEMS DESIGN BY THE CONTROLS CONTRACTOR THE ATC/BAS CONTRACTOR SHALL BE RESPONSIBLE TO SUPPLY THAT POWER.

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No.	Date	Description	Dr.By	Ck.By	App.By
A	8/1/17	REVISED PER ADDENDUM 1	KJP	PP	PP

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
STEVEN E. HOWARD
REGISTERED MECHANICAL ENGINEER
No. 45,647
REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

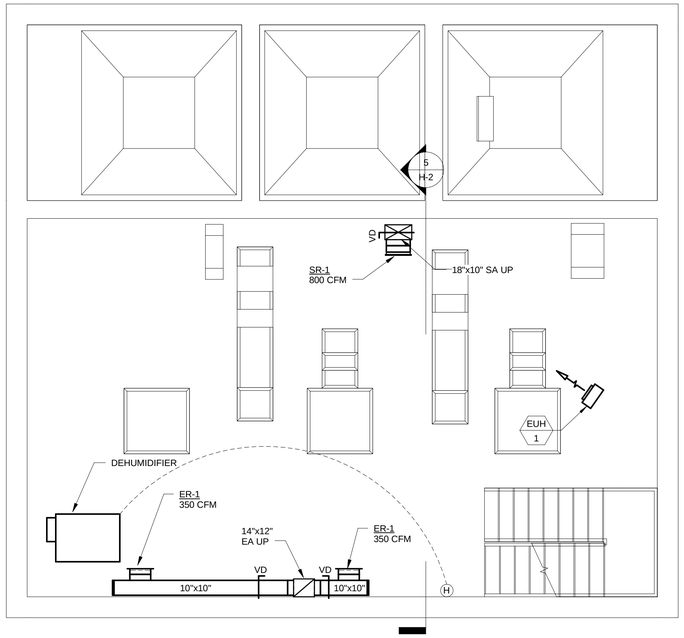
HVAC LEGEND

DR.BY	KJP
DSN.BY	KJP
CHK.BY	SEH
APP.BY	SEH
JOB NO.	2140649
CONTRACT:	-
SCALE:	NOTED
CADD NO.	-
FILE NO.	213-13

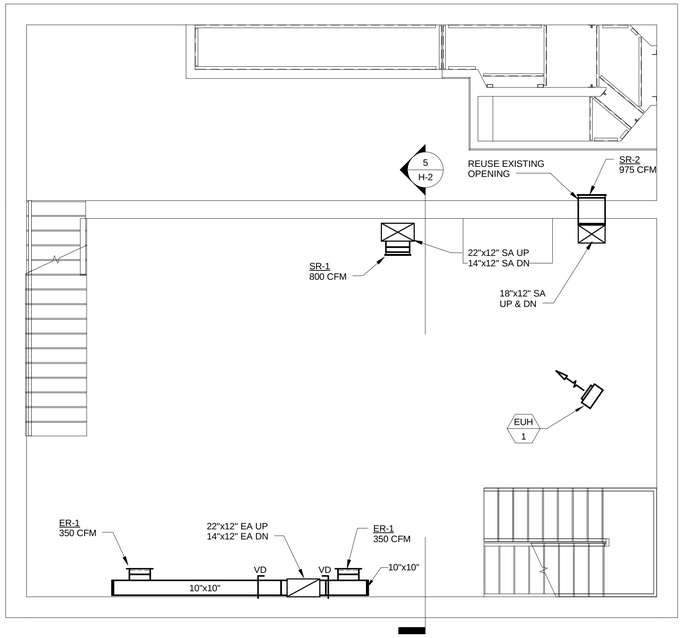
H-1

SHEET 28 OF 40

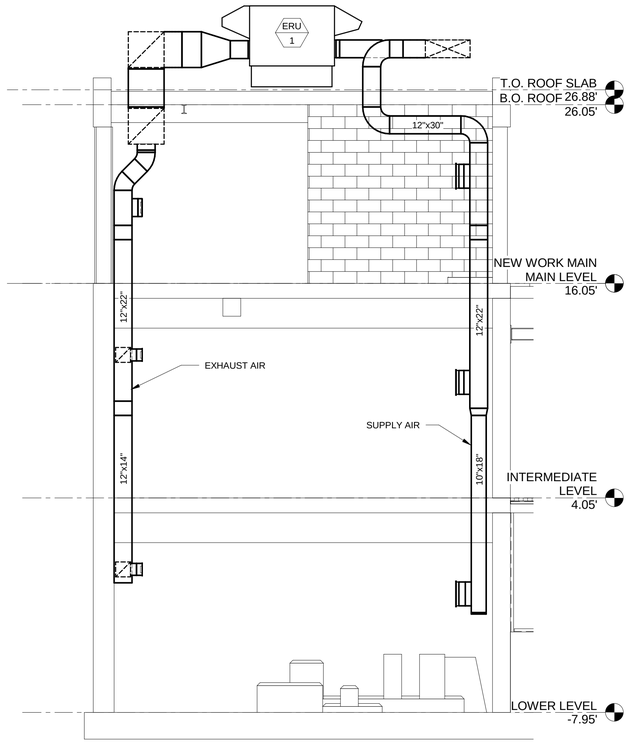
O:\Quincy MA\2140649 Quincy Point PS Design\CAD\HVAC\H-1 HVAC Legend.dwg



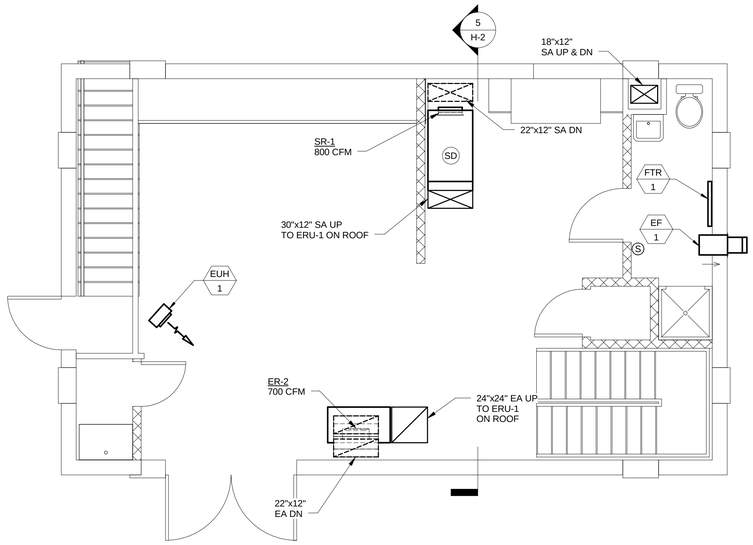
1 NEW WORK LOWER LEVEL
1/4" = 1'-0"



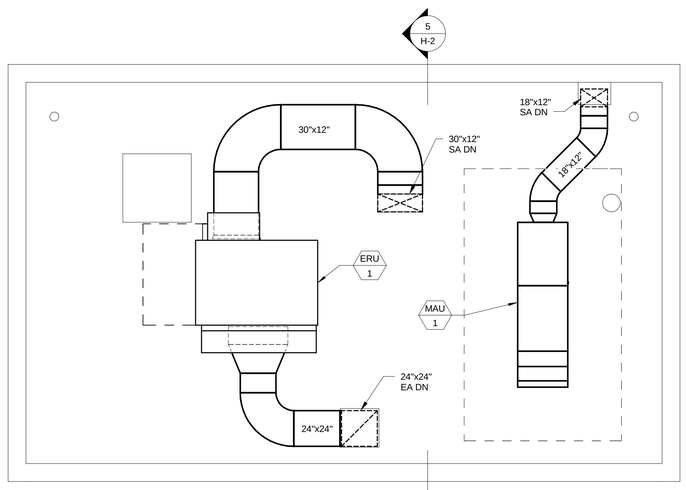
2 NEW WORK INTERMEDIATE LEVEL
1/4" = 1'-0"



5 Section
1/4" = 1'-0"



3 NEW WORK MAIN LEVEL
1/4" = 1'-0"



4 NEW WORK ROOF LEVEL
1/4" = 1'-0"

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No.	Date	Description	DATE
		APPROVED	8/21/2015
			12/20/14

Dr. By
Ck. By
App. By

REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

HVAC NEW WORK FLOOR PLANS

APP. BY	CHK. BY	DSN. BY	DR. BY	JOB NO.	CONTRACT:	SCALE:	CADD NO.
SEH	SEH	KJP	KJP	-		1/4" = 1'-0"	

H-2

FILE NO. 213-12

GRILLE, REGISTERS & DIFFUSERS

SYMBOL	SIZE	MODEL	FUNCTION	MATERIAL	TYPE	DAMPER	CFM RANGE	MAX NC	REMARKS
SR-1	16"x16"	620	SUPPLY	ALUMINUM	SIDEWALL	NO	0 - 800	35	1
SR-2	18"x12"	620	SUPPLY	ALUMINUM	SIDEWALL	NO	975	-	1
ER-1	14"x8"	630	EXHAUST	ALUMINUM	SIDEWALL	NO	0 - 350	35	1
ER-2	18"x12"	630	EXHAUST	ALUMINUM	SIDEWALL	NO	351-700	35	1

NOTES:
1. BASED ON PRICE

FAN

TAG	TYPE	SERVICE	CFM	FAN TYPE	S.P. (IN WC)	WHEEL			FAN RPM	MOTOR RPM	VFD	ELECTRICAL DATA					MODEL NUMBER	REMARKS
						DIA (IN)	TYPE	DRIVE				HP	BHP	V	PH	HZ		
EF-1	SIDEWALL	RESTROOM	125	PROP	.25	8	AXIAL	DIRECT	1350	1350	NO	1/50	-	115	1	60	SE1-8-440-G	1 & 2

NOTES:
1. BASED ON GREENHECK
2. PROVIDE WITH GRAVITY DAMPER, SHORT WALL HOUSING (FLUSH EXT W/OSHA GAURD) AND WEATHERHOOD W/BIRD SCREEN)

MAKE-UP AIR UNIT SCHEDULE (100% OA)

TAG	SERVICE	LOCATION	CFM		STATIC PRESS		ELECTRIC HEATING COIL			FILTER DATA	MOTOR RPM	VFD	MODEL NUMBER	ELECTRICAL DATA						REMARKS
			TOTAL	MIN O.A.	ESP (IN)	TSP (IN)	KW	EAT (°F)	LAT (°F)					MCA	MOP	HP	V	PH	HZ	
MAU-1	WET -SIDE	ROOF	975	975	.75	.906	15	7	55.6	MERV 8	1725	NO	MSX-108-H12	25.9	30	3/4	460	3	60	1, 2 & 3

NOTES:
1. BASED ON GREENHECK
2. PROVIDE WITH LOUVERED WEATHERHOOD, INLET DAMPER, HORIZONTAL DISCHARGE, PERMATECTOR COATING (GREY), CONTROL CENTER, FREEZE PROTECTION, HEAT INLET SENSOR, SERVICE RECEPTACLE AND FACTORY CURB (GPI-29.5/94-A12 - W/1" INSULATION).
3. PROVIDE SCR CONTROL ON HEAT.

ENERGY RECOVERY UNIT (100 % OA)

SYMBOL	SERVICE	LOCATION	SUPPLY FAN					EXHAUST FAN					WINTER ENERGY RECOVERY					FILTERS		MODEL NUMBER	ELECTRICAL DATA					REMARKS
			CFM	E.S.P.	VFD	FLA	MOTOR HP	CFM	E.S.P.	VFD	FLA	MOTOR HP	OUTSIDE AIR		EXHAUST AIR		MBH HEATING	OA MERV	EXH MERV		MCA	MOP	V	PH	HZ	
													DB	WB	DB	WB										
ERU-1	DRY-SIDE	ROOF	2,400	1	NO	4.24	3	2,100	1	NO	2.9	2	7	-2	70	65	158	8	8	HE4XRT	9	15	460	3	60	1 & 2

NOTES:
1. UNIT BASED ON RENEW-AIRE
2. PROVIDE WITH DIGITAL TIME CLOCK MODEL TC7D-W

ELECTRIC UNIT HEATER SCHEDULE

TAG	LOCATION & SERVICE	TYPE	CAPACITY		NO. OF STAGES	CFM	EAT (°F)	LAT (°F)	ELECTRICAL DATA					MODEL NUMBER	CONTROL OPTIONS	REMARKS
			KW	MBH					FAN HP	A	V	PH	HZ		REMOTE/INTEGRAL THERMOSTAT	
EUH-1	AS SHOWN	PROPELLER	5	17	1	350	60	105	1/100	6	480	3	60	MUH05-41	INTEGRAL	1 & 2

NOTES:
1. BASED ON QMARK
2. PROVIDE INTEGRAL THERMOSTAT

FINNED TUBE RADIATION (ELECTRIC)

SYMBOL	LOCATION & SERVICE	OUTPUT (MBH)	WATTS	ELECTRICAL DATA				REMARKS
				AMPS	V	PH	HZ	
FTR-1	RESTROOM	1706	500	4.2	120	1	60	1 & 2

NOTES:
1. BASED ON QMARK.
2. PROVIDE WITH INTEGRAL THERMOSTAT

DEHUMIDIFIER (R-407C)

TAG	LOCATION	FAN DATA			MOISTURE REMOVAL (#/HR)	COMPRESSOR DATA			ELECTRICAL DATA					MODEL NUMBER	REMARKS
		CFM	ESP (WC)	FLA		TONS	RLA	LRA	V	PH	HZ	MCA	MOP		
DH-1	LOWER LEVEL	650	.5	4.4	6.9	1.5	9.6	55	208	1	60	17.8	25	DCA 650T	1, 2, 3 & 4

NOTES:
1. BASED ON DEHUMIDIFIER CORPORATION OF AMERICA
2. DESIGN CONDITIONS: 82° / 50% RH
3. PROVIDE WITH MPCH-3001 ELEC HUMIDITY CONTROLLER & WALL MOUNTED HUMIDITY TRANSMITTER (HT-W-5)
4. PROVIDE WITH VCC-20 SERIES LITTLE GIANT SUBMERGIBLE PUMP, 115 V. PIPE DRAIN TO ROOM SUMP USING 1/2" PVC PIPE.

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No.	Description	Date
A	PRELIMINARY	8/1/2014

Dr.By: KJP | Ck.By: SEH | App.By: SEH

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS — STEVEN E. HOWARD — No. 37707 — REGISTERED PROFESSIONAL ENGINEER — MECHANICAL

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

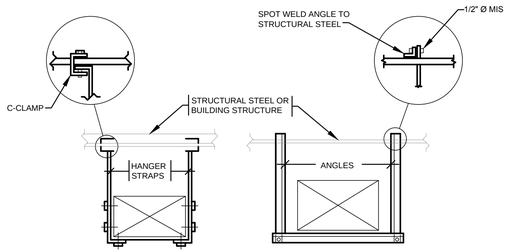
HVAC SCHEDULES

DSN.BY: KJP | DR.BY: KJP | JOB NO.: 2140649 | CONTRACT: - | SCALE: NOTED | CADD NO.: -

FILE NO.: 213-11

H-3

SHEET 30 OF 40

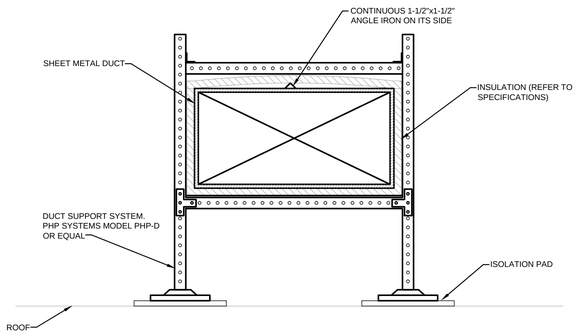


STRAP HANGER TRAPEZE HANGER

NOTES:
1. FOR STRAP AND TRAPEZE HANGER SIZE, REFER TO SMACNA DUCT STANDARDS
2. NO POP RIVETS ALLOWED, USE SELF-TAPPING SHEET METAL SCREWS ONLY.

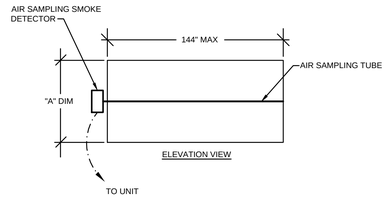
DUCT HANGER DETAIL

NTS 1



EXTERIOR DUCTWORK SUPPORT DETAIL

NTS 2

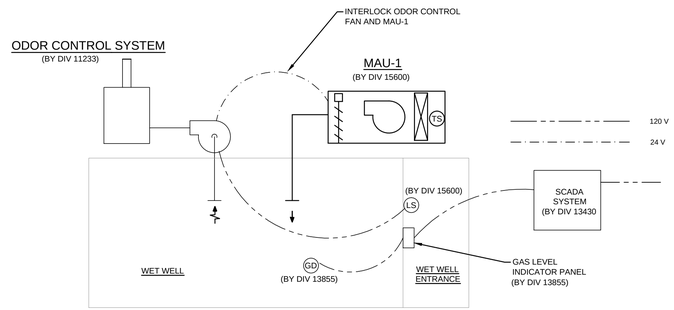


NOTE:
1. SMOKE DETECTORS SHALL BE IN ACCORDANCE WITH NFPA 72 AND ELECTRICAL SPECIFICATIONS. DETECTORS SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR, INSTALLED BY THE HVAC CONTRACTOR, AND WIRED TO THE UNIT BY THE ATC CONTRACTOR.
2. SMOKE DETECTORS SHALL BE EQUALLY SPACED AS DEFINED BY THE ELEVATION PARAMETERS.

"A" DIM	NO. OF SMOKE DETECTORS
36"	1
72"	2
96"	3
120"	4
144"	5

DUCT SMOKE DETECTOR DETAIL

NTS 3



GENERAL
1. ALL WIRING TO BE DONE BY DIVISION 16.
2. ODOR CONTROL SYSTEM AND MAU-1 TO BE INTERLOCKED.
3.

SEQUENCE OF OPERATION:
1. WHENEVER THE ODOR CONTROL SYSTEMS IS RUNNING MAU-1 SHALL RUN.
2. MAU-1 SHALL BE CONTROLLED BY A FACTORY MOUNTED INLET TEMPERATURE SENSOR. WHENEVER THE INLET TEMPERATURE IS BELOW 40° F THE ELECTRIC HEATING COIL SHALL BE ENERGIZED.

MAU-1 SEQUENCE OF OPERATION

SEQUENCE OF OPERATION:
1. EUH-1 SHALL BE CONTROLLED BY A FACTORY UNIT MOUNTED THERMOSTAT.
2. SETPOINT TO BE 50° F (ADJ)

EUH/FTR CONTROLS

SEQUENCE OF OPERATION:
1. DH-1 SHALL BE CONTROLLED BY A FACTORY MOUNTED ELECTRIC HUMIDITY CONTROLLER AND WALL MOUNTED HUMIDITY TRANSMITTER.
2. UNIT TO MAINTAIN 50% RH (ADJ)

DH-1 CONTROLS

SEQUENCE OF OPERATION:
1. EF-1 SHALL BE CONTROLLED BY WALL MOUNTED SWITCH.

EF-1 CONTROLS

SEQUENCE OF OPERATION:
1. ERU-1 SHALL CONTROLLED BY A WALL MOUNTED TIME CLOCK PROVIDED BY UNIT MANUFACTURER.

ERU-1 CONTROLS

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No.	Date	Description
A	8/27/15	PROVIDED

REGISTERED PROFESSIONAL ENGINEER

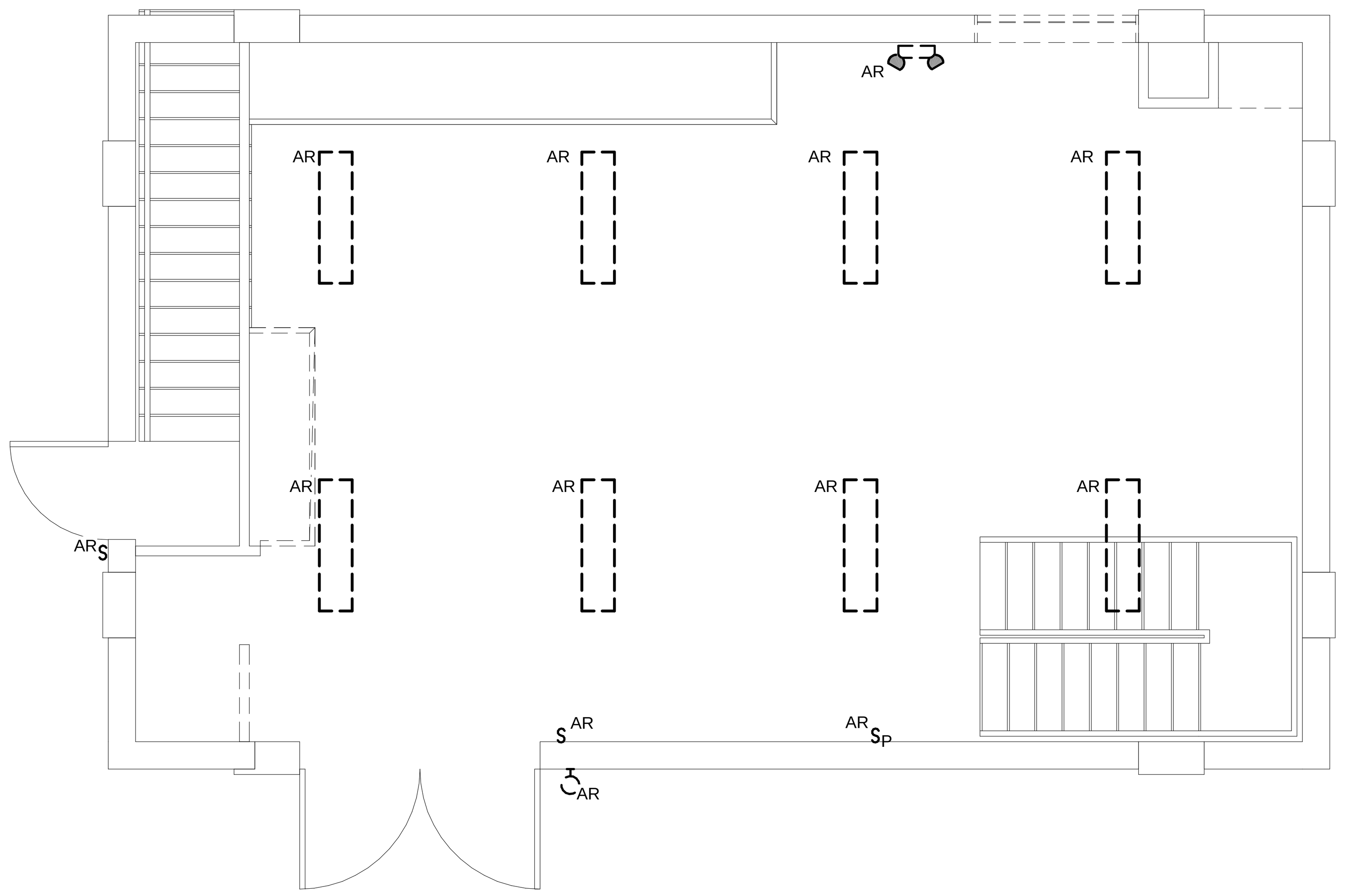
COMMONWEALTH OF MASSACHUSETTS KEVIN J. PATENAUDE No. 43,271 REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
QUINCY POINT PUMP STATION RENOVATION PROJECT
HVAC DETAILS

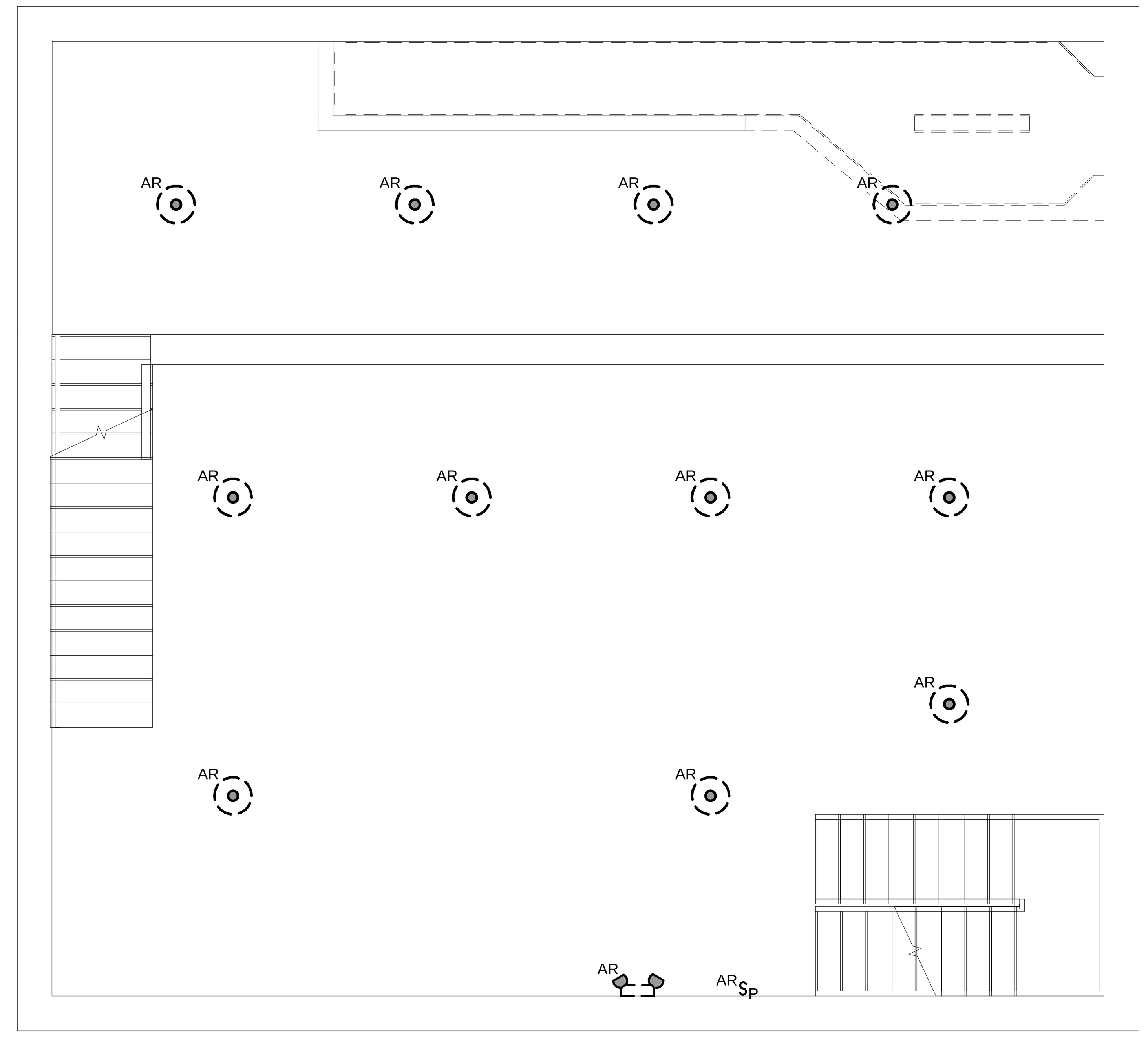
DSN BY	KJP
DR BY	KJP
CHK BY	SEH
APP BY	SEH
JOB NO.	2140649
CONTRACT:	-
SCALE:	NOTED
CADD NO.	-
FILE NO.	213-10

H-4

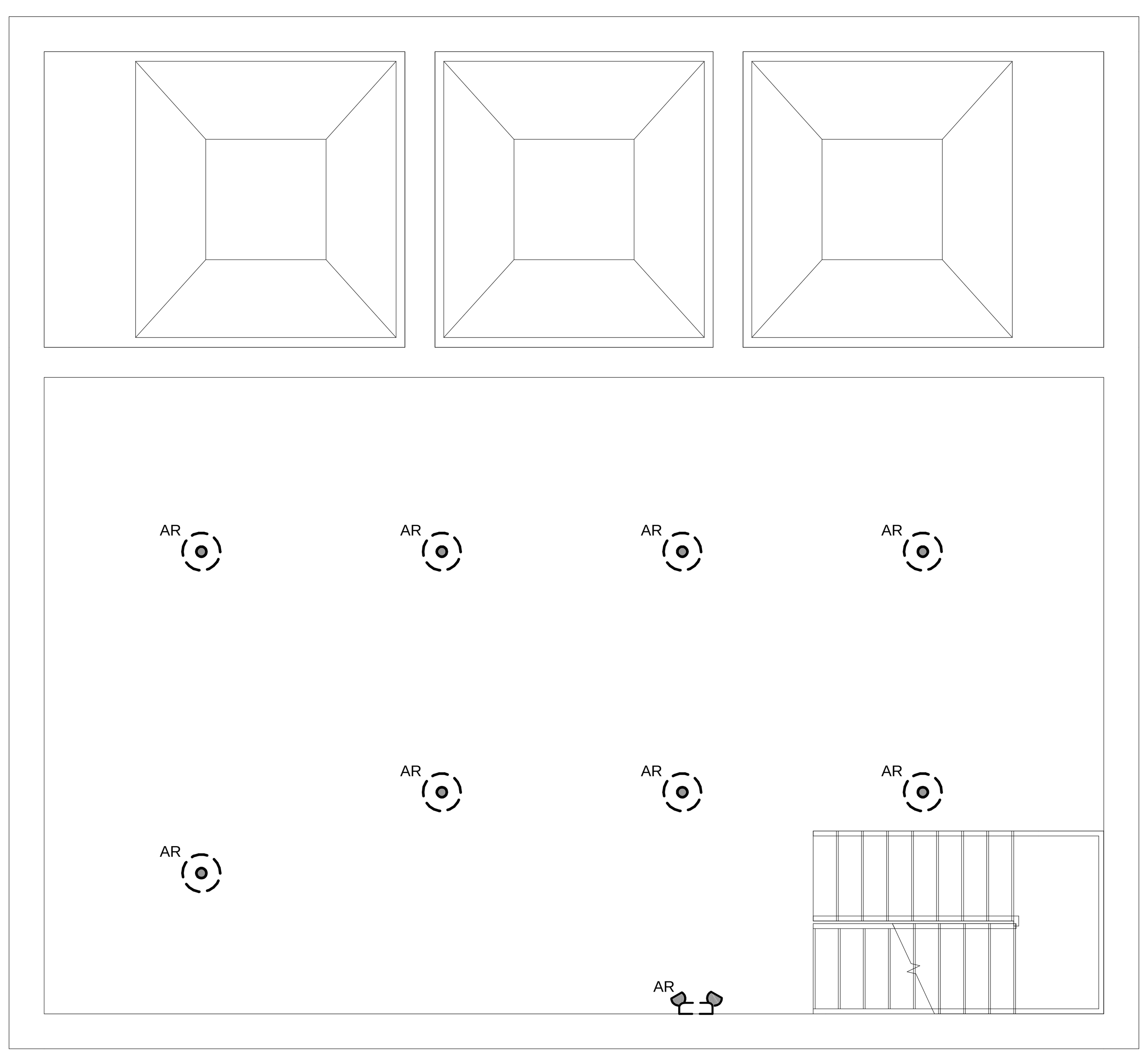
SHEET 31 OF 40



1 LIGHTING - MAIN LEVEL DEMO
1/4" = 1'-0"



2 LIGHTING - INTERMEDIATE LEVEL DEMO
1/4" = 1'-0"



3 LIGHTING - LOWER LEVEL DEMO
1/4" = 1'-0"

DEMOLITION NOTES

1. THE ELECTRICAL CONTRACTOR WILL TO DEMOLISH THE EXISTING ELECTRICAL SYSTEM. THE ELECTRICAL CONTRACTOR IS TO DEACTIVATE, DISCONNECT AND REMOVE THOSE SYSTEMS WHICH WILL BE DEMOLISHED. THE ELECTRICAL CONTRACTOR WILL REMOVE AND DISPOSE OF ALL ELECTRICAL SYSTEM MATERIALS INCLUDING DEVICES, FIXTURES, RACEWAYS, CABLE, MOTOR CONTROLS AND APPURTENANCES. SYSTEMS REQUIRING TOTAL AND/OR PARTIAL DEMOLITION SHALL CONSIST OF BUT NOT BE LIMITED TO THE FOLLOWING:
   - A. NORMAL AND EMERGENCY POWER BRANCH CIRCUIT SYSTEM
   - B. NORMAL LIGHTING SYSTEM
   - C. EMERGENCY AND EXIT LIGHTING SYSTEM
2. ALL EXISTING CAST IN PLACE RECEPTACLE, PULL, JUNCTION AND OTHER DEVICE BOXES WHICH CANNOT BE REMOVED OR EFFECTIVELY COVERED ARE TO BE PROVIDED WITH FINISHED PLATES AS APPROVED BY THE ARCHITECT.
3. HIGH TENSION AND LOW TENSION CABLING WHICH IS NO LONGER IN USE IS TO BE REMOVED. HIGH TENSION CABLE IS TO BE REMOVED TO THE PANELBOARD OR NEAREST DEVICE WHICH IS SCHEDULED TO REMAIN. LOW TENSION CABLE IS TO BE REMOVED TO THE COMMUNICATIONS CLOSET, BACKBOARD OR EQUIPMENT. COORDINATE THE REMOVAL WITH THE COMMUNICATIONS CONTRACTOR. FIRE ALARM CABLING IS TO BE RETURNED TO THE NEAREST DEVICE SCHEDULED TO REMAIN, CONTROL PANEL, TERMINAL CABINET, ETC.
4. PRIOR TO REMOVAL OF EQUIPMENT, CONFIRM THAT FEEDER AND BRANCH CIRCUITS ARE NO LONGER ACTIVE. SHOULD IT BE DISCOVERED THE FEEDER OR BRANCH CIRCUITS ARE ACTIVE, NOTIFY THE ARCHITECT IMMEDIATELY FOR DIRECTION.
5. EXISTING ABANDONED HIGH AND LOW TENSION SYSTEMS ARE TO BE REMOVED. UNDER NO CIRCUMSTANCES ARE ABANDONED HIGH AND LOW TENSION SYSTEMS OR SYSTEM COMPONENTS TO REMAIN.
6. GENERAL CONTRACTOR IS TO REMOVE ALL LAMPS, BALLASTS AND OTHER ELECTRICAL COMPONENTS CLASSIFIED AS HAZARDOUS MATERIALS.
7. ELECTRICAL DEMOLITION ABBREVIATIONS:

   "EX" DENOTES EXISTING TO REMAIN
   "ER" DENOTES EXISTING TO BE RELOCATED
   "RE" DENOTES RELOCATED LOCATION
   "AR" DENOTES EXISTING TO BE DISCONNECTED AND REMOVED

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No.	Date	Dr.By	Ck.By	App.By	Description

APPROVED
08/21/2015
DATE
REGISTERED PROFESSIONAL ENGINEER

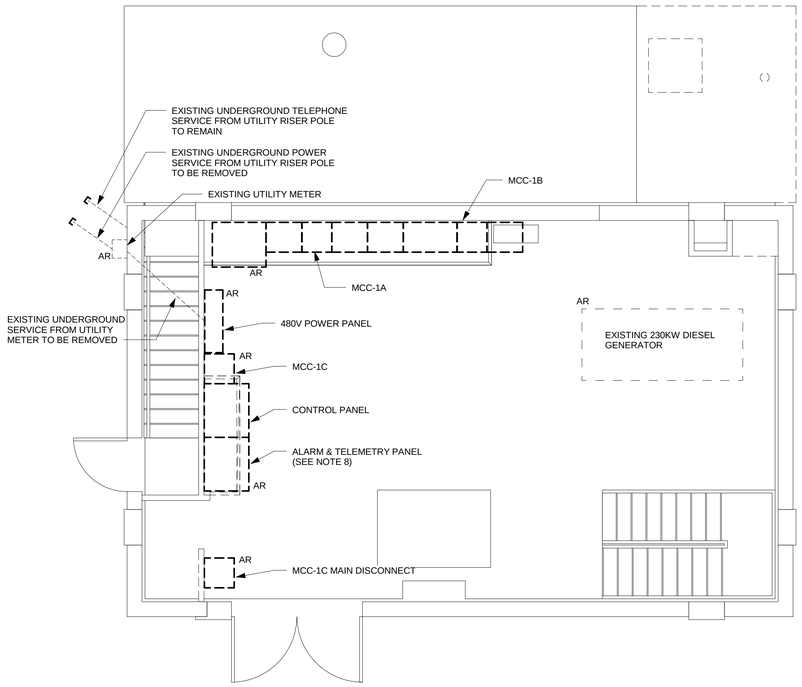
COMMONWEALTH OF MASSACHUSETTS
ROBERT F. McALEER
ELECTRICAL
No. 48017
REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

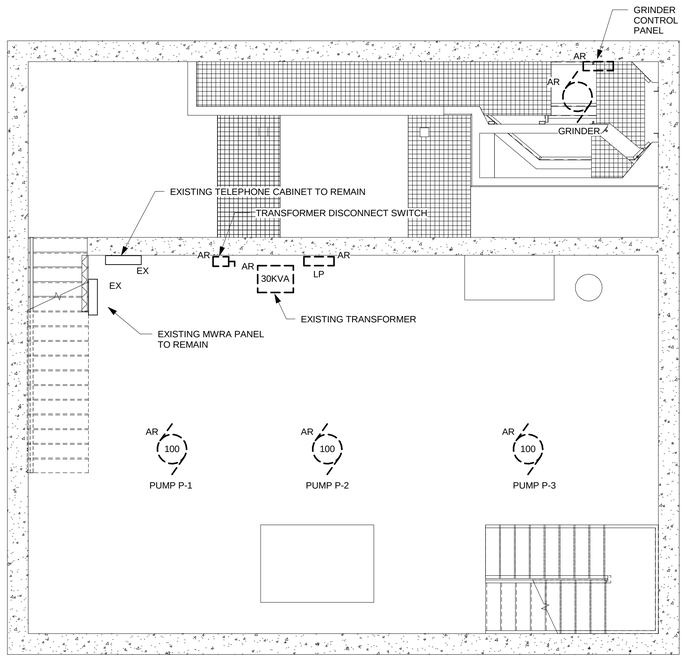
QUINCY POINT PUMP STATION RENOVATION PROJECT
ELECTRICAL LIGHTING DEMOLITION PLANS

APP.BY	RFM
CHK.BY	RFM
DSN.BY	DNM
DR.BY	DNM
JOB NO.	2140649
CONTRACT:	
SCALE:	As indicated
CADD NO.	
FILE NO.	213-09

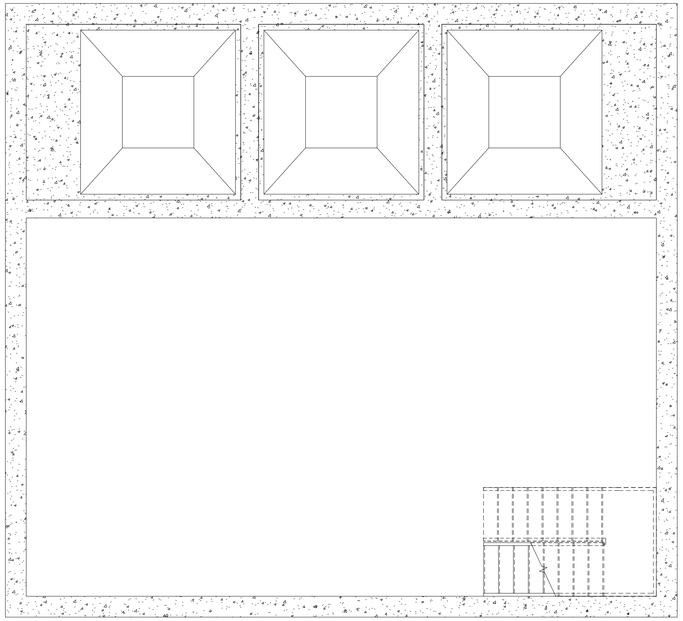
ED-1



1 POWER - MAIN LEVEL DEMO
1/4" = 1'-0"



2 POWER - INTERMEDIATE LEVEL DEMO
1/4" = 1'-0"



3 POWER - LOWER LEVEL DEMO
1/4" = 1'-0"

DEMOLITION NOTES

1. THE ELECTRICAL CONTRACTOR WILL TO DEMOLISH THE EXISTING ELECTRICAL SYSTEM. THE ELECTRICAL CONTRACTOR IS TO DEACTIVATE, DISCONNECT AND REMOVE THOSE SYSTEMS WHICH WILL BE DEMOLISHED. THE ELECTRICAL CONTRACTOR WILL REMOVE AND DISPOSE OF ALL ELECTRICAL SYSTEM MATERIALS INCLUDING DEVICES, FIXTURES, RACEWAYS, CABLE, MOTOR CONTROLS AND APPURTENANCES. SYSTEMS REQUIRING TOTAL AND/OR PARTIAL DEMOLITION SHALL CONSIST OF BUT NOT BE LIMITED TO THE FOLLOWING:
   A. NORMAL AND EMERGENCY POWER BRANCH CIRCUIT SYSTEM
   B. NORMAL LIGHTING SYSTEM
   C. EMERGENCY AND EXIT LIGHTING SYSTEM
2. ALL EXISTING CAST IN PLACE RECEPTACLE, PULL, JUNCTION AND OTHER DEVICE BOXES WHICH CANNOT BE REMOVED OR EFFECTIVELY COVERED ARE TO BE PROVIDED WITH FINISHED PLATES AS APPROVED BY THE ARCHITECT.
3. HIGH TENSION AND LOW TENSION CABLING WHICH IS NO LONGER IN USE IS TO BE REMOVED. HIGH TENSION CABLE IS TO BE REMOVED TO THE PANELBOARD OR NEAREST DEVICE WHICH IS SCHEDULED TO REMAIN. LOW TENSION CABLE IS TO BE REMOVED TO THE COMMUNICATIONS CLOSET, BACKBOARD OR EQUIPMENT. COORDINATE THE REMOVAL WITH THE COMMUNICATIONS CONTRACTOR. FIRE ALARM CABLING IS TO BE RETURNED TO THE NEAREST DEVICE SCHEDULED TO REMAIN, CONTROL PANEL, TERMINAL CABINET, ETC.
4. PRIOR TO REMOVAL OF EQUIPMENT, CONFIRM THAT FEEDER AND BRANCH CIRCUITS ARE NO LONGER ACTIVE. SHOULD IT BE DISCOVERED THE FEEDER OR BRANCH CIRCUITS ARE ACTIVE, NOTIFY THE ARCHITECT IMMEDIATELY FOR DIRECTION.
5. EXISTING ABANDONED HIGH AND LOW TENSION SYSTEMS ARE TO BE REMOVED. UNDER NO CIRCUMSTANCES ARE ABANDONED HIGH AND LOW TENSION SYSTEMS OR SYSTEM COMPONENTS TO REMAIN.
6. GENERAL CONTRACTOR IS TO REMOVE ALL LAMPS, BALLASTS AND OTHER ELECTRICAL COMPONENTS CLASSIFIED AS HAZARDOUS MATERIALS.
7. ELECTRICAL DEMOLITION ABBREVIATIONS:
   "EX" DENOTES EXISTING TO REMAIN
   "ER" DENOTES EXISTING TO BE RELOCATED
   "RE" DENOTES RELOCATED LOCATION
   "AR" DENOTES EXISTING TO BE DISCONNECTED AND REMOVED
8. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND AND RELOCATE THE EXSITING AUTO DIALER NEXT TO THE NEW PLC. CONTRACTOR SHALL RUN A NEW 3/4" CONDUIT AND TELEPHONE CABLE FROM THE EXISTING INCOMING PHONE SERVICE TO THE NEW AUTO DIALER LOCATION.

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No.	Date	Description
A	08/21/2015	ADDENDUM

Dr.By: P
Ck.By: P
App.By: P

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
ROBERT F. MUELLER
ELECTRICAL
No. 48617
REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

ELECTRICAL POWER DEMOLITION PLANS

DR BY: DNM
DSN BY: DNM
CHK BY: RFM
APP BY: RFM
JOB NO.: 2140649
CONTRACT:
SCALE: As indicated
CADD NO.
FILE NO.: 213-08

ED-2

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AC	ALTERNATING CURRENT
A	AMPERE
ATC	AUTOMATIC TEMPERATURE CONTROLS
ATS	AUTOMATIC TRANSFER SWITCH
BKR	BREAKER
C	CONDUIT
CKT	CIRCUIT
CB	CIRCUIT BREAKER
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRIC METALLIC TUBING
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EF	EXHAUST FAN
FL	FLOOR
FLA	FULL LOAD AMPERE
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HOA	HAND OFF AUTOMATIC
HP	HORSEPOWER
IG	ISOLATED GROUND
JB	JUNCTION BOX
KVA	KILOVOLT AMPERES
KW	KILOWATT
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MC	MECHANICAL CONTRACTOR
MTD	MOUNTED
MTG	MOUNTING
NMC	NON-METALLIC CONDUIT
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PNL	PANELBOARD
PH	PHASE
PVC	POLYVINYL CHLORIDE CONDUIT
RSC	RIGID GALVANIZED STEEL CONDUIT
SF	SUPPLY FAN
SS	SAFETY SWITCH
TEL	TELEPHONE
TRF	TRANSFORMER
V	VOLTS
W	WATTS OR WIRE
WP	WEATHERPROOF
4WSN	4-WIRE SOLID NEUTRAL

RECEPTACLE ABBREVIATIONS

BF	BELOW FLOOR
CLG	CEILING MOUNTED
D	DEDICATED DEVICE ON INDIVIDUAL BRANCH CIRCUIT
E	EMERGENCY
GFI	GROUND FAULT CIRCUIT INTERUPTER, PERSONAL PROTECTION
IG	ISOLATED GROUND RECEPTACLE WITH SEPERATE GREEN GROUND CONDUCTOR TO ISOLATED GROUND BUS IN PANEL
SP	SURGE PROTECTION RECEPTACLE
WP	WEATHERPROOF RECEPTACLE WITH COVERPLATE LISTED FOR WET LOCATION WITH AN ATTACHMENT PLUG INSERTED.
XP	EXPLOSION PROOF

RENOVATION/DEMO ABBREVIATIONS

	DENOTES EXISTING EQUIPMENT
EX	ELECTRICAL COMPONENTS INDENTIFIED AS (EX) SHALL REMAIN AS INSTALLED. BRANCH CIRCUITS SHALL REMAIN INSTALLED AND ACTIVATED. BRANCH CIRCUIT WIRING SERVING EQUIPMENT THAT IS TO REMAIN IN OPERATION THAT INTERFERS WITH THE NEW OR REQUIRES REMOVEL WHERE EXISTING CONSTRUCTION IS REMOVED SHALL BE MODIFIED AND REWORKED AS REQUIRED BY FIELD CONDITIONS ENCOUNTERED DURING THE RENOVATION PERIOD.
ER	ELECTRICAL COMPONENTS IDENTIFIED AS (ER) DENOTES COMPONENTS THAT ARE TO BE REMOVED AND RELOCATED.
AR	ELECTRICAL COMPONENTS IDENTIFIED AS (AR) DENOTES COMPONENTS THAT ARE TO BE ABANDONED AND REMOVED. CONDUIT AND WIRE SERVING THE DEVICE IS TO BE REMOVED TO ITS POINT OF ORIGIN. DEVICES THAT OCCUR IN THE MIDDLE OF A CIRCUIT IS TO HAVE THE WIRING MODIFIED TO PROVIDE SERVICE TO THE REMAINING DEVICES.
RE	ELECTRICAL COMPONENTS IDENTIFIED AS (RE) DENOTES NEW LOCATIONS OF RELOCATED COMPONENTS. MODIFY AND EXTEND BRANCH CIRCUIT WIRING AS REQUIRED FOR SERVICE TO SAME.

ELECTRICAL LEGEND

RACEWAY AND WIRING

1,3 LP1B — HOMERUN TO PANELBOARD, NUMBER OF TICKS INDICATES NUMBER OF #12 AWG CONDUCTORS CONTAINED IN RACEWAY. TWO (2) #12 AWG SHALL NOT BE INDICATED BY TICKS, NUMERALS 1 AND 3 INDICATE CIRCUITS IN PANELBOARD. RACEWAYS LARGER THAN 1/2" AND CONDUCTORS LARGER THAN #12 AWG SHALL BE INDICATED ON THE DRAWINGS. PROVIDE AN INSULATED GREEN GROUND WIRE IN ALL RACEWAYS MINIMUM SIZE TO BE #12AWG.

RACEWAY CONCEALED IN CEILING OR WALLS

RACEWAY EXPOSED

RACEWAY CONCEALED IN SLAB OR LOCATED IN THE CEILING OF THE FLOOR BELOW

RACEWAY TURNING UP

RACEWAY TURNING DOWN

FLEXIBLE CONNECTION

DIRECT HARD WIRED CONNECTION

P — UNDERFLOOR POWER DUCT

T — UNDERFLOOR TELEPHONE DUCT

LIGHTING FIXTURES

A 1a — PENDANT OR SURFACE MOUNTED FLUORESCENT OR LED FIXTURE "A" DENOTES FIXTURE TYPE; NUMERAL DENOTES CIRCUIT NUMBER. "a" SUBSCRIPT DENOTES SWITCH CONTROL WHERE SHOWN.

A 1a — WALL MOUNTED FIXTURE "A" DENOTES FIXTURE TYPE; NUMERAL DENOTES CIRCUIT NUMBER. "a" SUBSCRIPT DENOTES SWITCH CONTROL WHERE SHOWN.

A 1a — SURFACE OR RECESSED MOUNTED INCANDESCENT, HID, LED OR COMPACT FLUORESCENT FIXTURE. "A" DENOTES FIXTURE TYPE, NUMERAL DENOTES CIRCUIT NUMBER, "a" SUBSCRIPT DENOTES SWITCH CONTROL WHERE SHOWN.

5 — EXIT SIGN CEILING OR PENDANT MOUNTED. ARROWS DENOTE DIRECTION OF EGRESS. NUMERAL DENOTES CIRCUIT NUMBER. SHADED CHEVRONS DENOTE EXIT FACES.

5 — WALL MOUNTED EXIT SIGN. ARROWS DENOTE DIRECTION OF EGRESS. NUMERAL DENOTES CIRCUIT NUMBER. SHADED CHEVRONS DENOTE EXIT FACES.

7 — EMERGENCY LIGHTING BATTERY UNIT, TWIN OR SINGLE LAMP HEAD. NUMERAL DENOTES CIRCUIT NUMBER

LIGHTING CONTROL SWITCHES
(MOUNT 4'-0" AFF UNLESS NOTED OTHERWISE.)

Sa — SINGLE POLE SWITCH (120/277V) "a" SUBSCRIPT DENOTES CIRCUITS CONTROLLED.

S_3 — THREE WAY SWITCH. SEE NOMENCLATURE FOR SINGLE POLE SWITCH.

S_{TM} — MOTOR THERMAL SWITCH

S_{WP} — WEATHERPROOF SINGLE-POLE SWITCH.

S_P — SINGLE-POLE SWITCH WITH PILOT LIGHT.

PC — PHOTO-ELECTRIC CELL

EP — EMERGENCY SHUNT TRIP PUSHBUTTON

MISCELLANEOUS

EMERGENCY DURESS BUTTON

TELECOMMUNICATIONS

WALL MOUNTED COMMUNICATIONS RECEPTACLE LOCATED 18"AFF. PROVIDE BACK BOX, SINGLE GANG PLASTER RING AND 3/4"EMT RACEWAY TO PLC.

ONE-LINE POWER DIAGRAM SYMBOLS

GROUND - SYSTEM AND/OR EQUIPMENT

3 PHASE, 3 WIRE DELTA CONNECTION

3 PHASE, 3 WIRE WYE CONNECTION (UNGROUNDED)

3 PHASE, 4 WIRE WYE CONNECTION (GROUNDED NEUTRAL)

-A — LIGHTNING ARRESTOR AND GROUNDING

CIRCUIT BREAKER

G — GENERATOR

N, -E, L — AUTOMATIC TRANSFER SWITCH

SECURITY ALARM SYSTEM

K — KEY PAD

DC — DOOR CONTACT - SURFACE MOUNTED

FIRE ALARM SYSTEM

120 VOLT FIRE ALARM SMOKE DETECTOR.

RECEPTACLES
(MOUNT 18" AFF TO CENTER LINE UNLESS NOTED OTHERWISE)

DUPLEX CONVENIENCE OUTLET RATED 20A, 125V, U-SLOT GROUNDED TYPE MOUNTED 18" ABOVE FINISHED FLOOR TO CENTER LINE. ALL OTHER MOUNTING HEIGHTS SHALL BE AS NOTED ADJACENT TO THE SYMBOL. REFER TO RECEPTACLE ABBREVIATIONS FOR SPECIAL PURPOSE RECEPTACLES.

DOUBLE DUPLEX CONVENIENCE OUTLET RATED 20A, 125V, U-SLOT GROUNDED TYPE MOUNTED 18" ABOVE FINISHED FLOOR TO CENTER LINE. ALL OTHER MOUNTING HEIGHTS SHALL BE AS NOTED ADJACENT TO THE SYMBOL. REFER TO RECEPTACLE ABBREVIATIONS FOR SPECIAL PURPOSE RECEPTACLES.

POWER DISTRIBUTION EQUIPMENT

DISTRIBUTION PANEL

PANELBOARD-SURFACE MOUNTED

T — DRY TYPE TRANSFORMER

GB — GROUND BUS WALL MOUNTED CHATSWORTH MODEL NO. 10622-020 EXTEND A 1/2"C, 1-#6 INSULATED GROUND TO THE BUILDING GROUND SYSTEM

SAFETY SWITCH - RATING AND TYPE AS NOTED ON THE DRAWING.

30A 250A 20A — FUSIBLE SAFETY SWITCH - RATING AND TYPE AS NOTED ON THE DRAWING. (30 AMP, 20 AMP FUSE, 3 POLE)

MOTOR, NUMERAL DENOTES HORSE POWER

WALL MOUNTED LINE VOLTAGE THERMOSTAT MOUNTED 54"AFF. THERMOSTAT FURNISHED BY HVAC AND INSTALLED BY ELECTRICAL CONTRACTOR.

EWH — ELECTRIC WATER HEATER

PULL BOX

FS — FLOAT SWITCH

PACKAGE CONTROL PANEL FOR EQUIPMENT

D — MOTORIZED DAMPER

T LV — LOW VOLTAGE THERMOSTAT

SV — SOLENOID VALVE

VFD — VARIABLE FREQUENCY DRIVE

GENERAL NOTES

1. DRAWINGS ARE DIAGRAMMATIC ONLY. THE EXACT LOCATION, MOUNTING HEIGHTS, SIZE OF EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED AND DETERMINED IN THE FIELD.
2. THE EXACT LOCATION AND MOUNTING HEIGHTS OF ALL LIGHTING FIXTURES LOCATED IN MECHANICAL/ELECTRICAL EQUIPMENT SPACES SHALL BE COORDINATED IN THE FIELD BY THE ELECTRICAL CONTRACTOR BEFORE INSTALLATION OF SAME, SO AS TO AVOID INTERFERENCE WITH DUCTS, PIPING AND OTHER MECHANICAL/ELECTRICAL EQUIPMENT.
3. ALL STRAIGHT FEEDER, BRANCH CIRCUIT AND AUXILIARY SYSTEM CONDUIT RUNS SHALL BE PROVIDED WITH SUFFICIENT PULL BOXES TO LIMIT THE MAXIMUM LENGTH OF ANY SINGLE CABLE PULL TO 150 FEET. EXACT SIZES OF PULL BOXES AND LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ELECTRICAL CONTRACTOR.
4. FURNISH ALL REQUIRED ACCESS PANELS AS REQUIRED TO SUIT FIELD CONDITIONS FOR THE PROPER OPERATION AND MAINTENANCE OF THE ELECTRICAL SYSTEM. THE EXACT SIZES AND PHYSICAL LOCATIONS SHALL BE TO SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ALL ACCESS PANELS PROVIDED BY THE ELECTRICAL CONTRACTOR SHALL MATCH EXACTLY THE ACCESS PANELS FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR. THE ACCESS PANELS WILL BE INSTALLED BY THE TRADE CONTRACTOR UNDER THE APPROPRIATE SECTION OF THE SPECIFICATIONS FOR THE SURFACE IN WHICH THE PANELS ARE LOCATED.
5. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE HVAC, MECHANICAL, INSTRUMENTATION, FIRE PROTECTION, AND PLUMBING CONTRACTORS AS APPLICABLE AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT; THE POWER WIRING, CONTROL WIRING AND ALL ELECTRICAL CONNECTIONS AND CONDUIT TURN-UPS SHALL BE COORDINATED WITH THE RESPECTIVE CONTRACTORS BEFORE THE START OF CONSTRUCTION IN THE FIELD.
6. SLEEVES ARE TO BE UTILIZED FOR PASSAGE OF CONDUITS THROUGH FLOORS OR WALLS. CONDUITS AND BOXES ARE TO BE SUPPORTED BY THE USE OF PRESET FASTENERS INSTALLED IN FLOORS, WALLS OR COLUMNS. CONDUITS AND BOXES ARE TO BE INSTALLED CONCEALED IN MASONRY WALLS AND ABOVE HUNG CEILINGS. ALL SLEEVES ARE TO BE SEALED WITH APPROVED FIRE STOPPING SEALANT.
7. ALL LIGHTING FIXTURES, ELECTRICAL DEVICES, CABLES AND RACEWAYS ARE TO BE INDEPENDENTLY SUPPORTED OFF THE CEILING SYSTEM. FIXTURES ARE TO BE SUPPORTED FROM THE STRUCTURE BY THE USE OF JACK CHAIN, THREADED ROD OR OTHER MEANS APPROVED BY THE ENGINEER. CEILING SYSTEM TIE WIRES AND GRID ARE NOT TO BE UTILIZED FOR THE SUPPORT OF ELECTRICAL DEVICES, CABLES AND RACEWAYS. APPROVED SUPPORTS, HANGERS, CLIPS, ETC. ARE TO BE UTILIZED.
8. COMBINED HOMERUNS OF TWO (2) OR THREE (3) CIRCUITS MAY BE UTILIZED. HOWEVER, THE NEUTRAL CONDUCTOR IS TO BE INCREASED TO #10AWG. COMBINED HOMERUNS ARE TO BE LIMITED TO 20A, LIGHTING AND POWER CIRCUITS.
9. INSTALLATION OF BACK TO BACK DEVICES ARE TO BE AVOIDED. ALLOW ONE WALL FRAMING MEMBER BETWEEN EACH BACK TO BACK DEVICE AS A MINIMUM.
10. WORK SHALL CONFORM TO THE MASSACHUSETTS ELECTRICAL CODE, MASSACHUSETTS BUILDING CODE, NFPA AND REQUIREMENTS OF LOCAL AUTHORITIES HAVING JURISDICTION.
11. THE WORD "CONTRACTOR" AS USED IN THE "ELECTRICAL WORK" SHALL MEAN THE ELECTRICAL SUBCONTRACTOR.
12. CONTRACTOR SHALL PAY FOR ALL PERMITS, INSURANCE AND TESTS, AND SHALL PROVIDE LABOR AND MATERIAL TO COMPLETE THE ELECTRICAL WORK SHOWN.
13. CONTRACTOR SHALL PAY ELECTRIC UTILITY COMPANY BACKCHARGES AND PROVIDED COORDINATION WITH SAME.
14. EXCEPT AS OTHERWISE NOTED, THE ELECTRICAL WORK SHALL INCLUDE DEMOLITION, PANELBOARDS, CIRCUIT BREAKERS, FEEDERS, WIRING, RACEWAYS, LIGHTING FIXTURES, DEVICES, TELEPHONE AND DATA OUTLETS, SAFETY SWITCHES, FIRE ALARM, TRANSFORMERS AND CONNECTION NECESSARY TO OPERATE MOTORS AND OTHER EQUIPMENT.
15. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY LIGHTING AND POWER AND PAY ALL ENERGY CHARGES.
16. DURING CONSTRUCTION, THE ELECTRICAL CONTRACTOR SHALL KEEP HIS PORTION OF THE WORK NEAT, CLEAN AND ORDERLY.
17. ALL SYSTEMS SHALL BE TESTED FOR SHORT CIRCUIT AND GROUNDS PRIOR TO ENERGIZING AND ANY DEFECTS SHALL BE CORRECTED.
18. WHERE MATERIAL IS CALLED OUT IN THE LEGEND BY MANUFACTURER, TYPE OR CATALOG NUMBER, SUCH DESIGNATIONS ARE TO ESTABLISH STANDARDS OR DESIRED QUALITY. ACCEPTANCE OR REJECTIONS OF PROPOSED SUBSTITUTIONS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
19. WORK SHALL BE COORDINATED WITH THAT OF OTHER TRADES TO ELIMINATE INTERFERENCES.
20. EXACT LOCATIONS OF MECHANICAL EQUIPMENT, DEVICES, ETC. SHALL BE VERIFIED WITH HEATING, VENTILATION AND AIR CONDITIONING SUBCONTRACTOR PRIOR TO ROUGHING FOR SAME.
21. ELECTRICAL CONTRACTOR SHALL OBTAIN SHOP DRAWINGS/SPECIFICATIONS OF ALL EQUIPMENT FROM THE GENERAL CONTRACTOR PRIOR TO PURCHASING AND INSTALLING ELECTRICAL EQUIPMENT FOR SAME. NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN ACTUAL EQUIPMENT INSTALLED AND CONTRACT DOCUMENTS.
22. ELECTRICAL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF WHICH SYSTEMS ARE PUT INTO SERVICE UNLESS OTHERWISE SHOWN OR SPECIFIED.
23. WORK SHALL BE GROUNDED IN ACCORDANCE WITH CODE REQUIREMENTS. COMPLETE EQUIPMENT (INSULATED GREEN WIRE) GROUNDING SYSTEM SHALL BE INSTALLED.
24. PANELBOARDS, DISCONNECT SWITCHES, AND CONTROLLERS SHALL HAVE NAMEPLATES OF BLACK LAMINATED PLASTIC WITH ENGRAVED WHITE LETTERS, SECURED WITH SELF-TAPPING SCREWS.
25. CONNECTIONS AT MOTORS SHALL BE MADE WITH 18" LENGTH OF 1/2 INCH FLEXIBLE LIQUID TIGHT CONDUIT.
26. CONTRACTOR SHALL PHASE BALANCE PANELBOARDS IN THE FIELD. LOAD ON EACH PHASE SHALL BE BALANCED WITHIN 10% OF EACH OTHER.
27. FOR DEVICES IN UNFINISHED AREAS, PROVIDE CAST IRON OR ALLOY OF SUITABLE TYPE TO MATCH OUTLET BOXES SPECIFIED.
28. TOGGLE SWITCHES SHALL BE OF THE SINGLE POLE A.C. QUIET TOGGLE TYPE FOR MOUNTING IN A SINGLE-GANG SPACING. TOGGLE SWITCHES SHALL BE FULLY RATED 20 AMPERES AT 120/277 VOLT.
29. DUPLEX WALL RECEPTACLES SHALL BE 2 POLE, 3 WIRE, GROUNDING TYPE 20 AMPERE, 125 VOLT WITH METAL PLASTER EARS. RECEPTACLES SHALL BE NEMA STANDARD CONFIGURATION 5-20R.
30. FUSED OR UNFUSED SAFETY SWITCHES SHALL BE TOTALLY ENCLOSED, HEAVY DUTY TYPE. SWITCHES SHALL HAVE VOLTAGE, HORSEPOWER AND AMPERE RATING SUITABLE FOR THE APPLICATION. PROVIDE NUMBER OF POLES AS REQUIRED. SWITCHES LOCATED EXTERIOR TO THE BUILDING OR IN DAMP/WET LOCATIONS SHALL BE IN A NEMA 3R ENCLOSURE. SWITCHES LOCATED IN CLASS I DIVISION I AREAS SHALL BE IN A NEMA 7 RATED ENCLOSURE.
31. FUSES SHALL BE DUAL ELEMENT, TIME DELAY TYPE, AS MANUFACTURED BY BUSSMAN, RELIANCE OR APPROVED EQUAL.
32. FURNISH AND INSTALL SLEEVES IN FLOORS, BEAMS, WALLS, ETC. REQUIRED FOR INSTALLING THIS WORK.
33. CONDUIT PASSING THROUGH FIRE RATED WALLS AND FLOORS SHALL BE PROVIDED WITH ALL NECESSARY MATERIALS TO ENSURE THAT THE FIRE RATED INTEGRITY IS MAINTAINED.
34. LIGHTING FIXTURES SHALL BE INDIVIDUALLY SUPPORTED FROM THE STRUCTURAL SLAB OR STRUCTURAL BUILDING MEMBER. FIXTURES WILL NOT BE PERMITTED TO BE SUPPORTED FROM SUSPENDED CEILING OR ROOF DECK.
35. FEEDER TAPS WILL NOT BE ALLOWED IN PANELBOARD GUTTERS.
36. CONDUIT RUNS AS SHOWN ON THE PLANS ARE DIAGRAMMATIC ONLY; EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED IN THE FIELD.
37. GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL INSTRUMENTATION DEVICES. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONDUIT AND WIRE AS SHOWN ON THE ELECTRICAL DRAWINGS AND PROVIDE ALL TERMINATIONS AT THE DEVICES. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND DIVISION 13.

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No.	Date	Dr.By	Ck.By	App.By	Description
A	08/21/2015				PROVED

DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS — ROBERT F. MUELLER — ELECTRICAL — No. 48617 — REGISTERED PROFESSIONAL ENGINEER

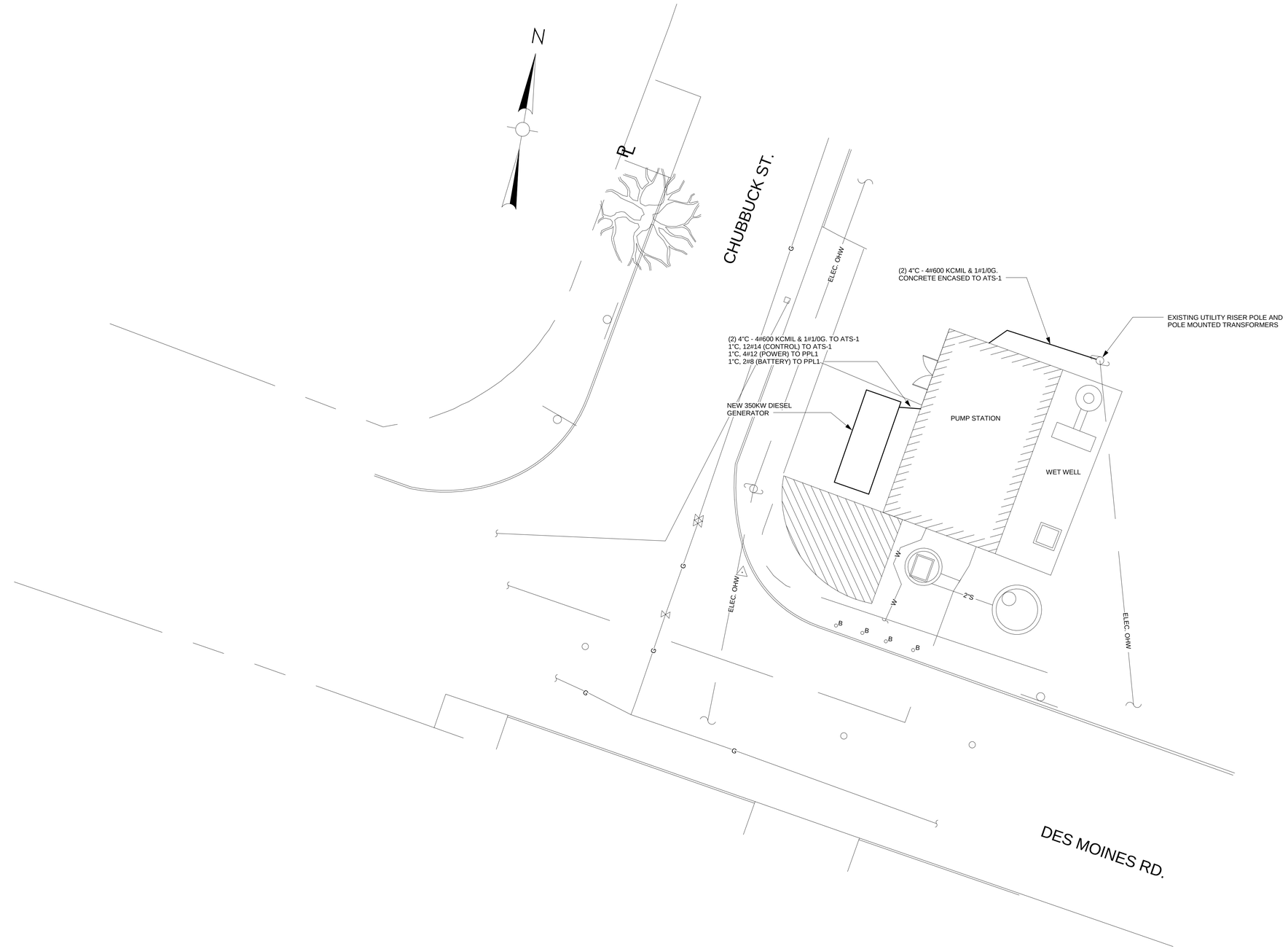
CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

ELECTRICAL LEGEND

APP BY	RFM
CHK BY	RFM
DSN BY	DNM
DR BY	DNM
JOB NO.	2140649
CONTRACT:	
SCALE:	1/8" = 1'-0"
CADD NO.	
FILE NO.	213-07

E-1



GENERAL SITE PLAN NOTES

1. ELECTRICAL CONTRACTOR TO MOUNT YAGI DIRECTIONAL ANTENNA AS SHOWN ON DETAIL ON SHEET E-7. ELECTRICAL CONTRACTOR TO COORDINATE EXACT LOCATION FOR MOUNTING WITH CITY'S COMMUNICATION CONSULTANT TCS COMMUNICATION CORP. REFER TO SPECIFICATION 13460 FOR ADDITIONAL INFORMATION.

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No.	Date	Dr.By	Ck.By	App.By	Description
A	08/21/2015				ADDENDUM

DATE 08/21/2015

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
ROBERT F. MUELLER
No. 48017
REGISTERED PROFESSIONAL ENGINEER
ELECTRICAL

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

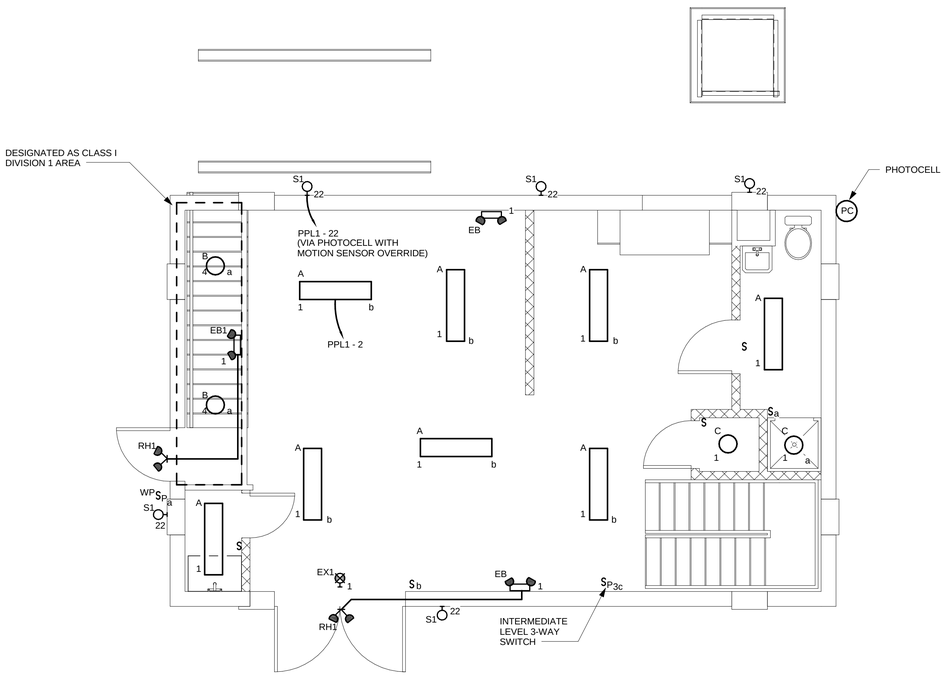
ELECTRICAL SITE PLAN, DUCTBANK SECTIONS AND SITE DETAILS

APP.BY	RFM
CHK.BY	RFM
DSN.BY	DNM
DR.BY	DNM
JOB NO.	2140649
CONTRACT:	
SCALE:	As indicated
CADD NO.	

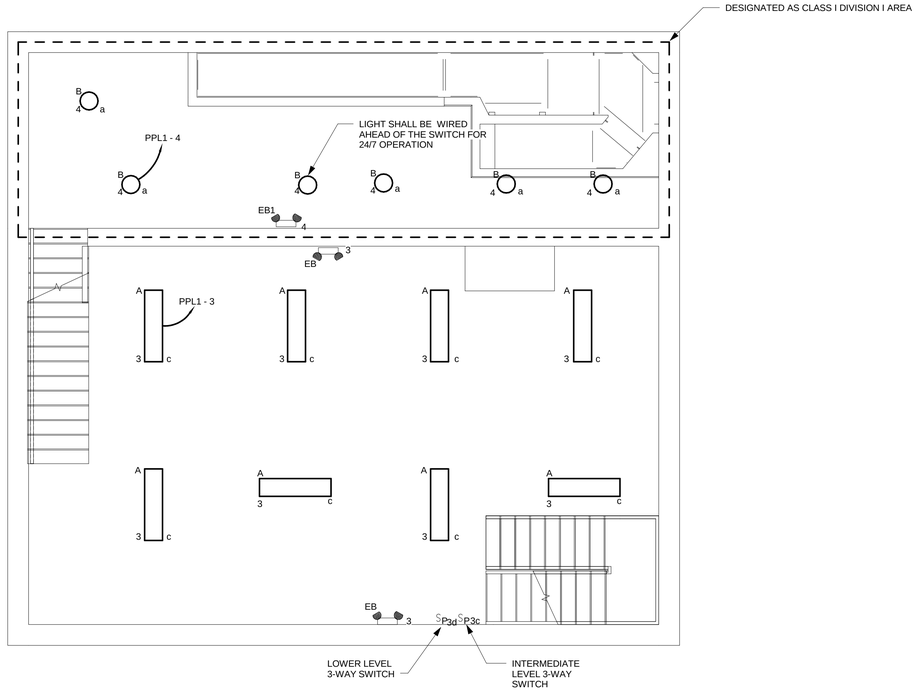
E-2

FILE NO. 213-06

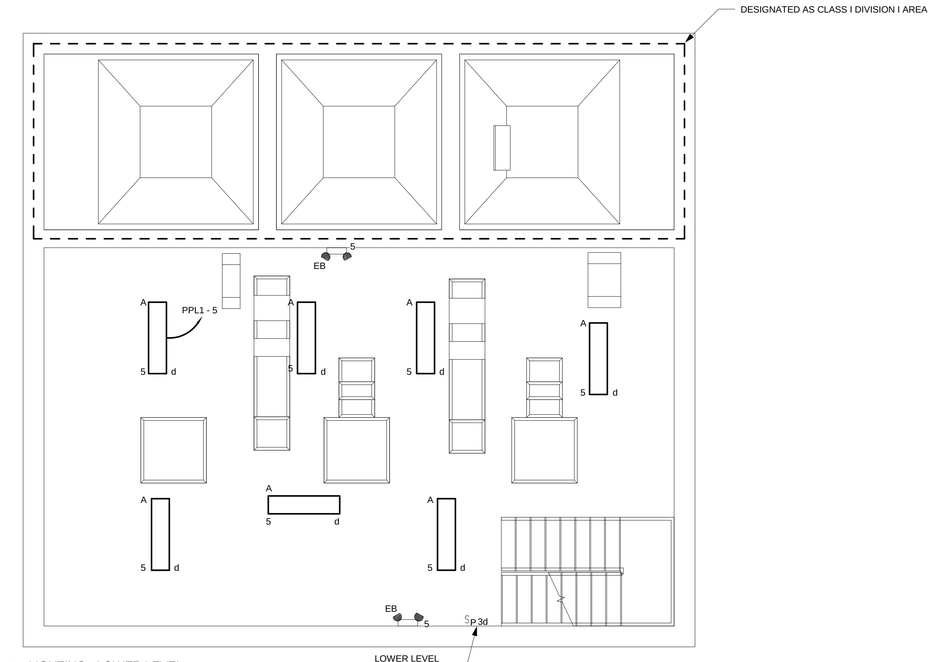
SHEET 35 OF 40



1 LIGHTING - MAIN LEVEL
1/4" = 1'-0"



2 LIGHTING - INTERMEDIATE LEVEL
1/4" = 1'-0"



3 LIGHTING - LOWER LEVEL
1/4" = 1'-0"

GENERAL LIGHTING NOTES

1. MOUNTING HEIGHTS OF ALL WALL MOUNTED AND PENDANT MOUNTED LIGHTING FIXTURES SHALL BE DETERMINED BY ARCHITECT. REFER TO ARCHITECTURAL SECTIONS AND ELEVATIONS.
2. FOR LINEAR FIXTURES, REFER TO FLOOR PLANS FOR ROW ORDERING INFORMATION. FIXTURE SHALL BE PROVIDED WITH ALL REQUIRED ACCESSORIES, i.e. END FITTINGS, EXTENSIONS, LOUVERS, WALL TRIM, ETC.
3. ALL SINGLE AND 3-LAMP FIXTURES SHALL BE TANDEM WIRED TO AVOID SINGLE LAMP BALLAST.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
5. ALL WALL TO WALL CONTINUOUS LINEAR LED FIXTURES SHALL BE FIELD MEASURED FOR EXACT LENGTHS.
6. ALL LED LAMPS SHALL BE 3500°K. UNLESS SPECIFIED OTHERWISE
7. VERIFY EXACT CEILING TYPES PRIOR TO PURCHASING RECESSED FIXTURES.
8. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL LIGHTING FIXTURES COMPLETE WITH MOUNTING ACCESSORIES TO MEET JOB REQUIREMENTS.
9. THE ELECTRICAL CONTRACTOR SHALL VERIFY FIXTURE MOUNTING AND LOCATION AGAINST PLANS, ELEVATIONS AND DETAIL DRAWINGS. EXACT LOCATION OF ALL FIXTURES SHALL BE CONFIRMED WITH THE ARCHITECT PRIOR TO ROUGHING IN.
10. ALL FIXTURES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE, INDEPENDENT OF HUNG CEILINGS.

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Dr. By: APP
Ck. By: PPR
App. By: OVE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
ROBERT F. MUELLER
ELECTRICAL
No. 48617
REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

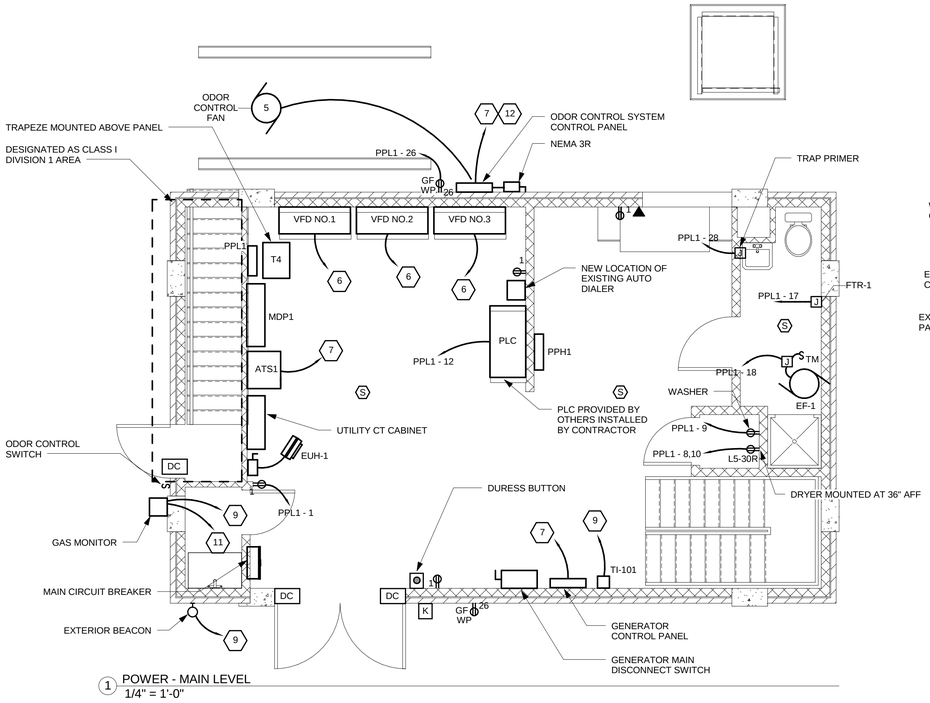
QUINCY POINT PUMP STATION RENOVATION PROJECT

ELECTRICAL LIGHTING NEW WORK PLANS

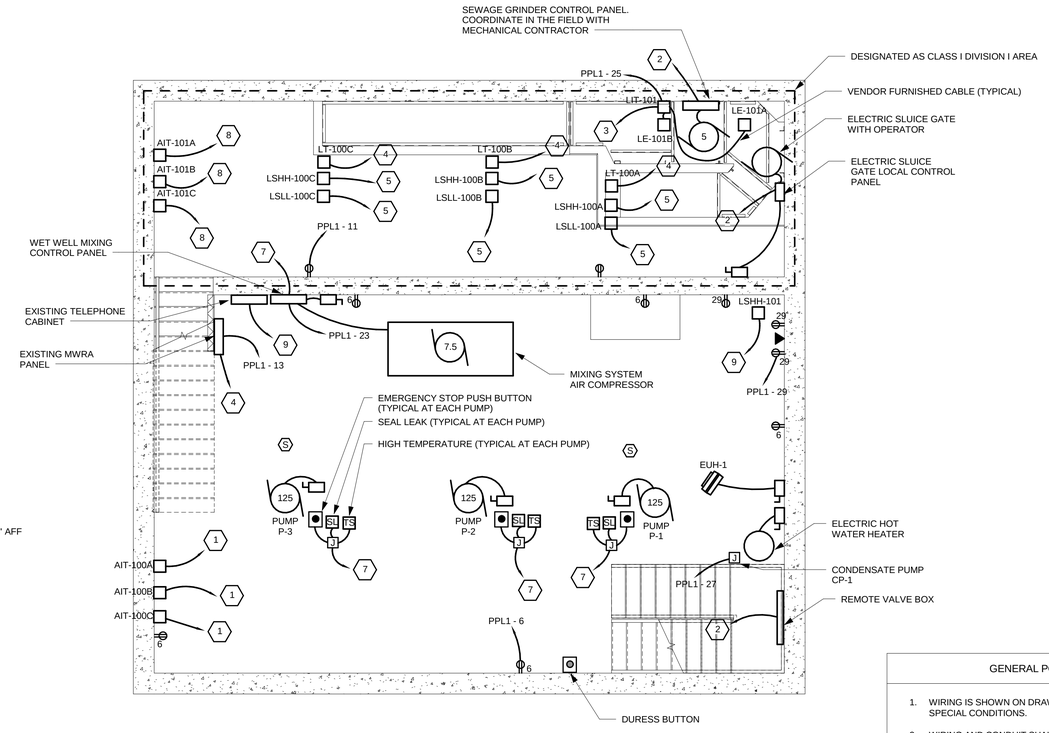
APP. BY: RFM
CHK. BY: RFM
DSN. BY: DNM
DR. BY: DNM
JOB NO.: 2140649
CONTRACT:
SCALE: As indicated
CADD NO.
FILE NO.: 213-05

E-3

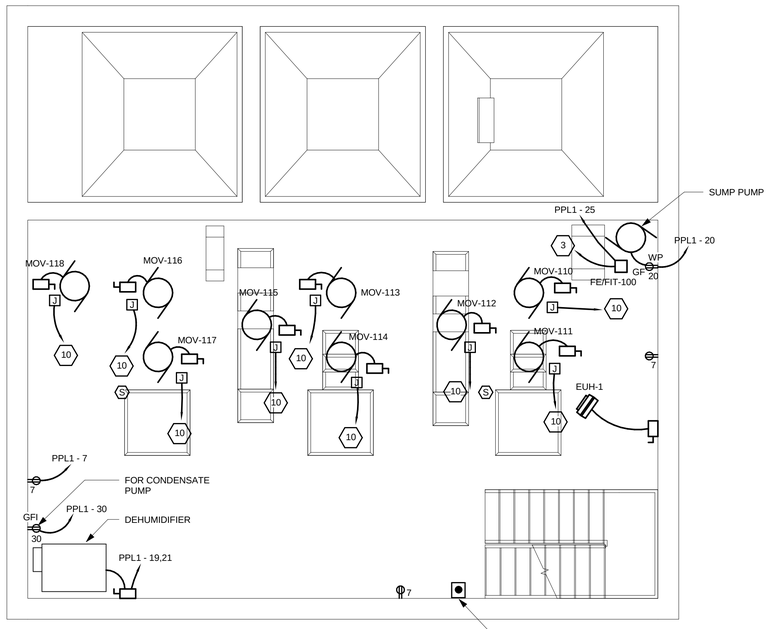
SHEET 36 OF 40



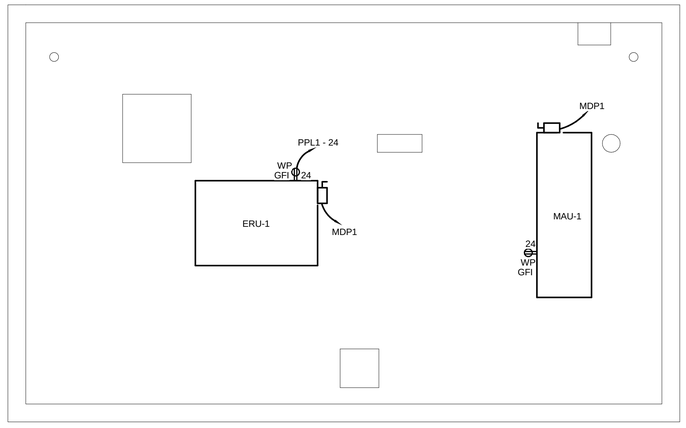
1 POWER - MAIN LEVEL
1/4" = 1'-0"



2 POWER - INTERMEDIIATE LEVEL
1/4" = 1'-0"



3 POWER - LOWER LEVEL
1/4" = 1'-0"



4 ROOF
1/4" = 1'-0"

GENERAL POWER DRAWING NOTES

1. WIRING IS SHOWN ON DRAWINGS ONLY FOR SPECIFIC ROUTING OR SPECIAL CONDITIONS.
2. WIRING AND CONDUIT SHALL BE REQUIRED BETWEEN ALL OUTLETS AND PANELS INDICATED WITH CIRCUIT NUMBERS AND PANEL DESIGNATIONS.
3. ALTHOUGH BRANCH CIRCUIT WIRING AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED.
4. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG FOR POWER AND LIGHTING CIRCUITS AND NO. 14 AWG FOR CONTROL WIRING. 120V BRANCH CIRCUITS OF MORE THAN 100 FEET AND 277V CIRCUITS OF MORE THAN 150 FEET FROM CENTER OF LOAD TO PANEL SHALL BE #10 AWG.
5. ALL SWITCH CONTROLS SHALL BE PROVIDED WITH WIRING AND CONDUIT AS REQUIRED.
6. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE 98% CONDUCTIVITY, COPPER MINIMUM #12 AWG SIZE, THWN/THHN INSULATION, 600 VOLTS RATED, UNLESS OTHERWISE NOTED.
7. PROVIDE EXPLOSION PROOF CONDUIT SEALS FOR ALL CONDUITS EXITING THE WET WELL AREA.
8. PROVIDE AN INTRINSICALLY SAFE RELAY PANEL FOR ALL INSTRUMENTS WITHIN THE WET WELL AREA. REFER TO INSTRUMENTATION SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
9. PROVIDE 1/2"C., 2#14 FROM EACH DOOR CONTACT TO THE PLC.

INSTRUMENTATION AND CONTROLS WIRING

	WIRING	TO BE WIRED TO
1	2/C#16 TWISTED SHIELDED PAIR 4-20Ma SIGNAL CABLE-3/4"C. 3/4"C-2/#14 (TO GAS MONITOR/CONTROLLER)	PLC
2	10#14-3/4"C.	PLC
3	(3) 2/C#16 TWISTED SHIELDED PAIR 4-20Ma SIGNAL CABLE-2"C.	PLC
4	2/C#16 TWISTED SHIELDED PAIR 4-20Ma SIGNAL CABLE-3/4"C.	PLC
5	2#14 - 3/4"C.	PLC
6	10#14 - 1"C. 1"C - (3) 2/C#16 TWISTED SHIELDED PAIR 4-20Ma SIGNAL CABLE.	PLC
7	8#14 - 3/4"C.	PLC
8	2/C#16 TWISTED SHIELDED PAIR 4-20Ma SIGNAL CABLE-3/4"C. 3/4"C-2/#14 (TO GAS MONITOR/CONTROLLER)	PLC
9	2#14 - 3/4"C	PLC
10	2/C#16 TWISTED SHIELDED PAIR 4-20Ma SIGNAL CABLE-3/4"C. 3/4"C-10/#14	PLC
11	(8) 2/C#16 TWISTED SHIELDED PAIR 4-20Ma SIGNAL CABLE-3"C.	PLC
12	4#14 - 3/4"C	ODOR CONTROL SWITCH

NOTES:

1. GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL INSTRUMENTATION DEVICES. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONDUIT AND WIRE AS SHOWN ON TEH ELECTRICAL DRAWINGS AND PROVIDE ALL TERMINATIONAS AT THE DEVICES. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND DIVISION 13.

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D	08/21/2015	APPROVED			

DATE

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS — ROBERT F. MILLER — ELECTRICAL — No. 48317 — REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

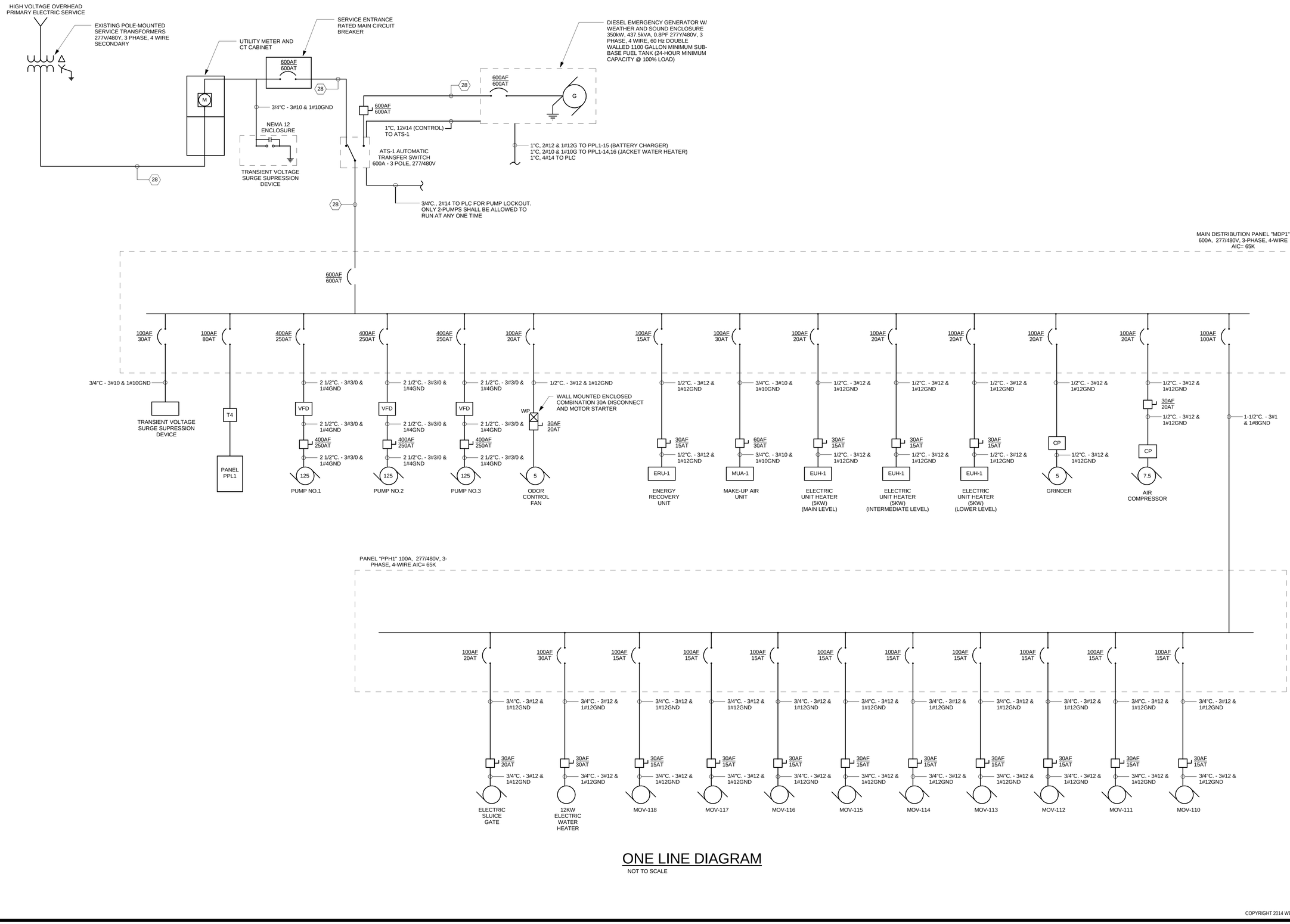
ELECTRICAL POWER NEW WORK PLANS

APP. BY: RFM
CHK. BY: RFM
DSN. BY: DNM
DR. BY: DNM
JOB NO.: 2140649
CONTRACT:
SCALE: As indicated
CADD NO.:

E-4

FILE NO.: 213-04

SHEET 37 OF 40



ONE LINE DIAGRAM

NOT TO SCALE

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D	08/21/2015	APPROVED			

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS — ROBERT F. MEISTER — ELECTRICAL — No. 48017 — REGISTERED PROFESSIONAL ENGINEER

CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

ELECTRICAL ONE LINE DIAGRAM

APP.BY	CHK.BY	DSN.BY	DR.BY	JOB NO.	CONTRACT:	SCALE:	CADD NO.
RFM	RFM	DNM	DNM	2140649		1/8" = 1'-0"	

E-5

FILE NO. 213-03

LEGEND OF FEEDER SIZES

COPPER CONDUCTORS

FEEDER SYMBOL	CONDUCTORS (3 PHASE, 3 WIRE) WITH GROUND	RACEWAY SIZE CONDUIT	CONDUCTORS (3 PHASE, 4 WIRE) WITH GROUND	RACEWAY SIZE CONDUIT	NOMINAL AMPERE RATING
1	3#4 & 1#10G.	1"			60
2			4#4 & 1#10G.	1 1/4"	
3	3#4 & 1#8G.	1"			70
4			4#4 & 1#8G.	1 1/4"	
5	3#1 & 1#8G.	1 1/2"			100
6			4#1 & 1#8G.	1 1/2"	
7	3#1/0 & 1#6G.	1 1/2"			125
8			4#1/0 & 1#6G.	2"	
9	3#1/0 & 1#6G.	1 1/2"			150
10			4#1/0 & 1#6G.	2"	
11	3#2/0 & 1#6G.	2"			175
12			4#2/0 & 1#6G.	2"	
13	3#3/0 & 1#6G.	2"			200
14			4#3/0 & 1#6G.	2"	
15	3#4/0 & 1#4G.	2"			225
16			4#4/0 & 1#4G.	2 1/2"	
17	3#250 KCMIL & 1#4G.	2 1/2"			250
18			4#250 KCMIL & 1#4G.	3"	
19	3#350 KCMIL & 1#4G.	3"			300
20			4#350 KCMIL & 1#4G.	3"	
21	3#500 KCMIL & 1#3G.	3 1/2"			350
22			4#500 KCMIL & 1#3G.	4"	
23	3#600 KCMIL & 1#3G.	3 1/2"			400
24			4#600 KCMIL & 1#3G.	4"	
25	6#250 KCMIL & 2#2G.	2-2 1/2"			500
26			8#250 KCMIL & 2#2G.	2-3"	
27	6#350 KCMIL & 2#1G.	2-3"			600
28			8#350 KCMIL & 2#1G.	2-3"	
29	6#600 KCMIL & 2#1/0G.	2-3 1/2"			800
30			8#600 KCMIL & 2#1/0G.	2-4"	

NOTES:

1. 600KCMIL FEEDERS SHALL BE PROVIDED WITH MAC ADAPTERS AS REQUIRED TO COORDINATE WITH BREAKER LUG SIZES.
2. SEE SPECIFICATIONS FOR ACCEPTABLE CONDUCTOR TYPES.

DRY TYPE TRANSFORMER SCHEDULE

SIZE	KVA	PRIMARY AMPS	SECONDARY AMPS	480 VOLT (2) OVERCURRENT	208 VOLT (3) OVERCURRENT	480V PRIMARY FEEDER	120/208V SECONDARY FEEDER	GROUNDING (4) CONDUCTOR
T1	9	11	25	20A, 3P	30A, 3P	3#12 & 1#12G - 3/4"C.	4#10 & 1#10G - 3/4"C.	1#8 - 3/4"C
T2	15	18	42	30A, 3P	50A, 3P	3#10 & 1#10G - 3/4"C.	4#6 & 1#8G - 1"C.	1#8 - 3/4"C
T3	30	36	83	60A, 3P	100A, 3P	3#4 & 1#10G - 1"C.	4#1 & 1#6G - 1 1/2"C.	1#6 - 3/4"C
T4	45	54	125	80A, 3P	150A, 3P	3#3 & 1#8G - 1 1/4"C.	4#1/0 & 1#6G - 2"C.	1#6 - 3/4"C
T5	75	90	208	150A, 3P	250A, 3P	3#1/0 & 1#6G - 1 1/2"C.	4#250 KCMIL & 1#2G - 3"C.	1#2 - 3/4"C

TRANSFORMER SCHEDULE NOTES:

1. ALL PHASE AND NEUTRAL CONDUCTOR SIZES ARE BASED ON COPPER CONDUCTORS PER N.E.C. TABLE 310-16.
2. MANUFACTURERS SELECTION FOR THE TYPE OF PRIMARY BREAKER (THERMAL MAGNETIC VS. SOLID STATE) SHALL ENSURE COORDINATION WITH TRANSFORMER IN-RUSH CURRENT. IF MIS-COORDINATION IS IDENTIFIED BY THE COORDINATION STUDY, THE MANUFACTURER SHALL REPLACE THE DEVICE WITH A DEVICE THAT WILL PROPERLY COORDINATE, AT NO ADDITIONAL COST.
3. SECONDARY OVERCURRENT PROTECTION SHALL BE LOCATED WITHIN A PANELBOARD (MAIN BREAKER) OR INDIVIDUALLY MOUNTED CIRCUIT BREAKER. THE SECONDARY OVERCURRENT PROTECTION DEVICE SHALL BE LOCATED SUCH THAT THE MAXIMUM LENGTH OF SECONDARY CONDUCTORS DO NOT EXCEED 10'-0".
4. SIZE OF TRANSFORMER BONDING JUMPERS AND GROUNDING ELECTRODE CONDUCTOR.
5. THE GROUNDING ELECTRODE CONDUCTOR SHALL BE UNSPLICED AND INSTALLED AS OPEN WIRING OR RUN IN NON METALLIC (PVC SCHEDULE 40) CONDUIT TO PROTECT IT FROM SEVERE DAMAGE.
6. 600 KCMIL CONDUCTORS AND LARGER SHALL BE PROVIDED WITH MAC ADAPTERS AS REQUIRED TO COORDINATE WITH BREAKER LUG SIZES.

LIGHTING FIXTURE SCHEDULE

TYPE	TYPE	MANUFACTURER	CATALOG NUMBER	LAMP NO.	LAMP TYPE	MOUNTING	VOLTAGE	WATTS	REMARKS
A	1'x4' ENCLOSED AND GASKETED, WET LOCATION LISTED LED STRIP FIXTURE	COOPER LIGHTING	VTLD2-55-DR-UNV-L835-WL	-	5500 LUMEN 3500K LED	SURFACE	UNIVERSAL	80	
B	CLASS I DIVISION 1 HAZARDOUS LOCATION LISTED FIXTURE	HUBBELL LIGHTING	HLELM-45-30-G-AN	-	5000K LED	SURFACED	120	45	
C	CLOSET/SHOWER LED SURFACE MOUNTED LIGHT FIXTURE	COOPER LIGHTING	SLD606930WHJB	-	675 LUMEN 3000K LED	SURFACED	120	12.9	
S1	EXTERIOR LIGHTING FIXTURE	COOPER LIGHTING	ISW-BO2-LED-E1-BL3-BK	-	4000 LUMEN 4000K LED	WALL	MVOLT	51	PROVIDE WITH MOTION SENSOR
EB	EMERGENCY BATTERY UNIT WITH HEADS	COOPER CROUSE-HINDS LIGHTING	UEL1-WH-SD	2	12W INCANDESCENT	WALL	MVOLT	24	PROVIDE WITH NICKEL CADMIUM BATTERY
EB1	CLASS I, DIIVISION 1 HAZARDOUS LOCATION LIISTED EMERGENCY BATTERY UNIT WITH HEADS	COOPER SURE-LITES LIGHTING	ELPS502	2	12W INCANDESCENT	WALL	MVOLT	24	PROVIDE WITH NICKEL CADMIUM BATTERY
RH1	WEATHERPROOF EMERGENCY REMOTE HEADS	COOPER SURE-LITES LIGHTING	12X12DWBKWG9	2	12W INCANDESCENT	WALL	MVOLT	24	PROVIDE WITH NICKEL CADMIUM BATTERY
EX1	SINGLE FACE CEILING MOUNTED EXIT SIGN. ARROWS AS INDICATED ON FLOOR PLAN (SOME SINGLE, DOUBLE, WALL & CEILING MTD).	COOPER SURE-LITES LIGHTING	UX7-1-00-R-WH	PROVIDE WITH FIXTURE	LED	VARIES	120	2	

LIGHTING FIXTURE SCHEDULE REQUIREMENTS

1. FURNISH AND INSTALL ALL MATERIALS, ACCESSORIES AND OTHER EQUIPMENT NECESSARY FOR THE COMPLETE AND PROPER INSTALLATION OF ALL LIGHTING FIXTURES INCLUDED IN THIS CONTRACT. PROVIDE ALL NECESSARY ACCESSORIES TO PROVIDE A COMPLETE LIGHTING SYSTEM.
2. AT EACH LOCATION SHOWN ON THE DRAWINGS, FURNISH AND INSTALL A LIGHTING FIXTURE OF THE TYPE INDICATED. WHERE FIXTURE DESIGNATION IS OMITTED, PROVIDE A LIGHTING FIXTURE IN THAT LOCATION. THE LIGHTING FIXTURE SHALL BE THE SAME TYPE USED IN SIMILAR LOCATIONS.
3. SPECIFICATIONS AND DRAWINGS ARE INTENDED TO CONVEY THE FEATURES, FUNCTION AND CHARACTER OF THE FIXTURES ONLY, AND DO NOT UNDERTAKE TO SPECIFY EVERY ITEM OR DETAIL NECESSARY. MINOR DETAILS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE LIGHTING SYSTEM NOT INDICATED ON THE DRAWINGS NOR SPECIFIED SHALL BE PROVIDED AS IF THEY WERE SPECIFIED HERE OR INDICATED ON THE DRAWINGS.
4. FIXTURE SUBSTITUTIONS (FROM MANUFACTURERS OTHER THAN THOSE LISTED) SHALL BE EQUAL IN ALL RESPECTS OF PERFORMANCE, QUALITY OF CONSTRUCTION, SUITABILITY TO PROJECT CONDITIONS AND APPEARANCE OF THE SPECIFIED FIXTURE. SUBSTITUTIONS SHALL BE SUBMITTED FOR APPROVAL IN THE FORM OF CATALOG CUTS OR DETAIL DRAWINGS. UPON REQUEST SUBMIT SAMPLES OF SUBSTITUTE FIXTURES FOR APPROVAL. SUBMIT CERTIFIED PHOTOMETRIC TEST REPORTS FROM AN INDEPENDENT TESTING LABORATORY FOR APPROVAL BEFORE FABRICATION. THE ARCHITECT AND ENGINEER WILL BE THE SOLE JUDGES OF WHETHER THE SUBSTITUTE MANUFACTURER COMPLIES WITH THE SPECIFICATIONS.
5. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE LIGHTING FIXTURE INSTALLATION WITH THE DRAWINGS AND DETAIL OF THE ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, PLUMBING, FIRE PROTECTION AND OTHER RELATED TRADES TO ASSURE A PERFECT AND EFFICIENT INSTALLATION.
7. INSTALL EACH FIXTURE PROPERLY AND SAFELY. PROVIDE NECESSARY STRUCTURAL SUPPORTS WHERE REQUIRED FOR THE SAFE ATTACHMENT OF ALL LIGHTING FIXTURES. FURNISH AND ERECT HANGERS, RODS, MOUNTING BRACKETS, SUPPORTS AND OTHER EQUIPMENT REQUIRED. COORDINATE CONDUIT ENTRY LOCATIONS WITH FIXTURE MANUFACTURERS PRIOR TO ROUGHING. ALL LIGHTING FIXTURES ARE TO BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE BY MEANS OF JACK CHAIN, THREADED ROD OR OTHER ENGINEER APPROVED METHODS. CEILING TY-WIRE IS NOT TO BE USED FOR SUPPORT OF LIGHTING FIXTURES. SHOULD CEILING TY-WIRE BE USED IT WILL BE REMOVED AND REPLACED WITH AN APPROVED METHOD AT THE CONTRACTORS EXPENSE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR MATCHING FIXTURE ROUGH-IN AND TRIM CONFIGURATION WITH CEILING SYSTEM. DETERMINE SURFACE TYPES FROM ARCHITECTURAL DRAWINGS AND FURNISH LIGHTING FIXTURES WITH TRIM APPROPRIATE FOR THE CEILING SYSTEM THE FIXTURE IS TO BE MOUNTED IN. IF REQUIRED BY THE CEILING SYSTEM, FURNISH A SUITABLE MOUNTING FRAME OR RING FOR EACH RECESSED AND SEMI-RECESSED FIXTURE.
9. EFFECTIVELY PROTECT ALL LIGHTING EQUIPMENT AGAINST DAMAGE FROM THE TIME OF FABRICATION TO FINAL ACCEPTANCE OF THE WORK. INSTALL REFLECTOR CONES, BAFFLES, APERTURE PLATES, LIGHT CONTROLLING ELEMENT FOR AIR HANDLING FIXTURES, AND DECORATIVE ELEMENTS AFTER COMPLETION OF CEILING TILES, PAINTING AND GENERAL CLEANUP. REPLACE BLEMISHED, DAMAGED OR UNSATISFACTORY FIXTURES AS DIRECTED.
10. ALL ADJUSTABLE LIGHTING UNITS SHALL BE AIMED, FOCUSED, LOCKED, ETC., BY THE CONTRACTOR UNDER THE SUPERVISION OF THE ARCHITECT. ALL AIMING AND ADJUSTING SHALL BE CARRIED OUT AFTER THE ENTIRE INSTALLATION IS COMPLETE. ALL LADDERS, SCAFFOLDS, ETC. REQUIRED SHALL BE FURNISHED BY THE CONTRACTOR. AS AIMING AND ADJUSTING IS COMPLETED, LOCKING SET SCREWS AND BOLTS AND NUTS SHALL BE TIGHTENED SECURELY. WHERE POSSIBLE, LIGHTING FIXTURES SHALL BE FOCUSED DURING NORMAL BUSINESS HOURS. HOWEVER, WHERE DAYLIGHT INTERFERES WITH AIMING AND FOCUSING, THIS WORK SHALL BE PERFORMED AT NIGHT AT NO ADDITIONAL COST TO THE OWNER.
11. AT THE TIME OF FINAL ACCEPTANCE BY THE OWNER, ALL LIGHTING FIXTURES SHALL HAVE BEEN THOROUGHLY CLEANED WITH MATERIALS AND METHODS RECOMMENDED BY THE MANUFACTURERS, ALL BROKEN PARTS SHALL HAVE BEEN REPLACED, AND ALL LAMPS SHALL BE OPERATING.
12. ALL LAMP COLORS TO BE 3500°K.

Branch Panel: PPL1

Location:
Supply From: T4
Mounting: SURFACE
Enclosure: TYPE 1

Volts: 120/208V
Phases: 3
Wires: 4

A.I.C. Rating: 10,000
Mains Type: MLO
Mains Rating: 225 A
MCB Rating: 150 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RECEPTACLES	20 A	1	720...	562 VA					1	20 A	LIGHTING	2
3	LIGHTING	20 A	1			538 VA	184 VA			1	20 A	LIGHTING	4
5	LIGHTING	20 A	1					538 VA	900...	1	20 A	RECEPTACLES	6
7	RECEPTACLES	20 A	1	540...	750 VA					2	30 A	DRYER	8
9	WASHER	20 A	1			180 VA	750 VA			--	--	--	10
11	RECEPTACLES	20 A	1					360 VA	1000...	1	20 A	PLC	12
13	OTHER	20 A	1	1000...	1000...					2	30 A	GENERATOR JACKET WATER HEATER	14
15	GENERATOR BATTERY CHARGER	20 A	1			500 VA	1000...			--	--	--	16
17	FTR-1	20 A	1					500 VA	500...	1	20 A	EF-1	18
19	DEHUMIDIFIER	20 A	2	1165...	180 VA					1	20 A	SUMP PUMP	20
21	--	--	--			1165...	250 VA			1	20 A	EXTERIOR LIGHTING	22
23	WET WELL MIXING CP	20 A	1					1000...	360...	1	20 A	ROOF RECEPTACLES	24
25	MOTOR	20 A	1	0 VA	360 VA					1	20 A	EXTERIOR RECEPTACLES	26
27	CONDENSATE PUMP	20 A	1			500 VA	500 VA			1	20 A	TRAP PRIMER	28
29	RECEPTACLES INTERMEDIATE LEVEL	20 A	1					540 VA	180...	1	20 A	RECEPTACLE FOR CONDENSATE PUMP	30
31													32
33													34
35													36
37													38
39													40
41													42
	Total Load:			6277 VA		5567 VA		5878 VA					

	Panel Totals
Total Conn. Load:	17722 VA
Total Conn AMPS.:	49 A

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R		
P		
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A		

Dr.By | Ck.By | App.By

REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS — ROBERT F. MILLER — ELECTRICAL — No. 48617 — REGISTERED PROFESSIONAL ENGINEER

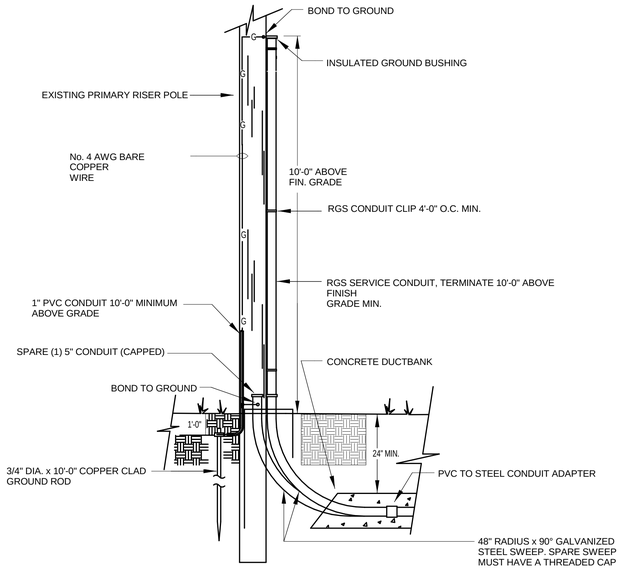
CITY OF QUINCY, MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS

QUINCY POINT PUMP STATION RENOVATION PROJECT

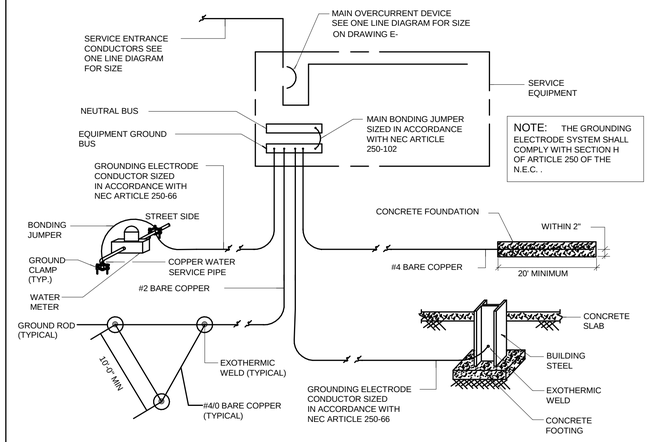
ELECTRICAL SCHEDULES

APP.BY EFM | CHK.BY RFM | DSN.BY DNM | DR.BY DNM | JOB NO. 21406049 | CONTRACT: | SCALE: 1/8" = 1'-0" | CADD NO. | FILE NO. 213-02

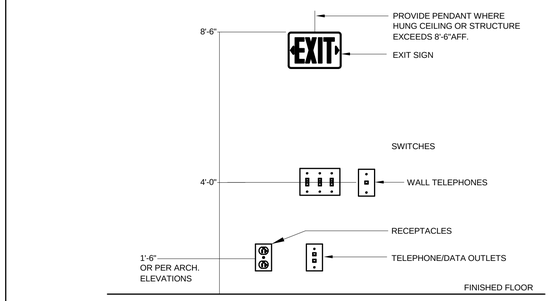
E-6



1	TYPICAL RISER POLE DETAIL	NO SCALE



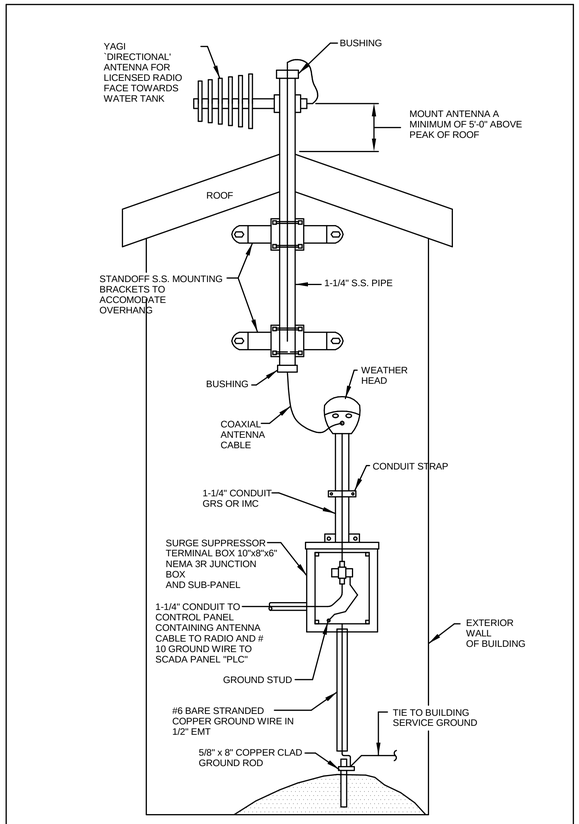
2	SERVICE GROUNDING DETAIL	NO SCALE



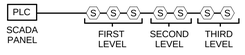
NOTES:

1. ALL MOUNTING HEIGHTS SHALL BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICE EXCEPT EXIT SIGNS.
2. DEVICES SHALL BE INSTALLED ON A COMMON VERTICAL CENTERLINE WHEREVER POSSIBLE.
3. ALL DEVICES SHALL BE INSTALLED AT MOUNTING HEIGHTS AS INDICATED ON THIS DETAIL UNLESS OTHERWISE NOTED ON ARCH. ELEVATIONS & DETAILS.

3	TYPICAL DEVICE MOUNTING HEIGHT DETAIL	NO SCALE



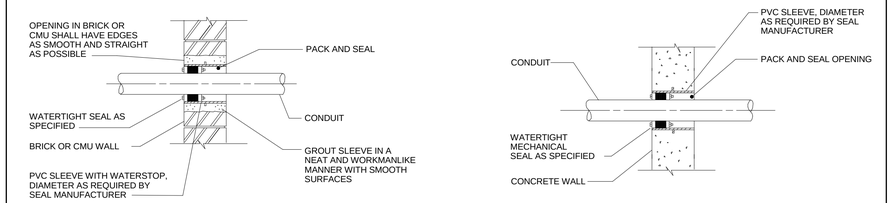
5	ANTENNA MOUNTING AND GROUNDING DETAIL	NO SCALE



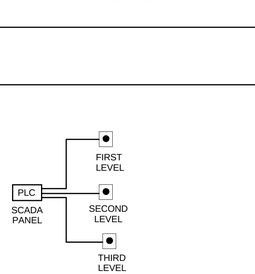
NOTES:

1. ALL SMOKE DETECTORS ARE 120V AND SHALL BE WIRED TO A 20A-1P, 120V CIRCUIT WITHIN PANEL PPL1.
2. PROVIDE 3/4"C., 2#14 FROM THE SCADA PANEL TO EACH SMOKE DETECTOR.

6	FIRE ALARM RISER DIAGRAM	NO SCALE



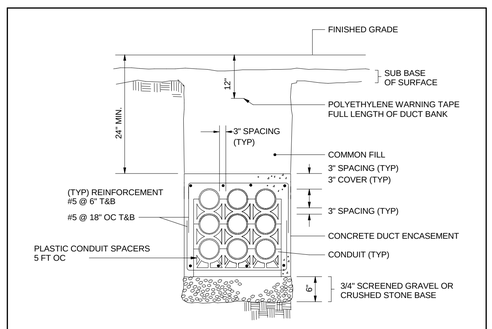
4	WATERTIGHT CONDUIT PENETRATIONS	NO SCALE



NOTES:

1. PROVIDE 3/4"C., 2#14 FROM THE SCADA PANEL TO EACH DURESS BUTTON.

7	DURESS BUTTON DIAGRAM	NO SCALE



8	TYPICAL UNDERGROUND DUCT BANK DETAIL	NO SCALE

ANTENNA INSTALLATION EQUIPMENT LIST

ITEM	QUANTITY	UNITS	PART NUMBER	DESCRIPTION	DESIGNATION
1	1	EA	Y4505	LAIRD TECHNOLOGIES UHF YAGI ANTENNA 9.2DB GAIN	
2	1	EA	IS-50NX-C2	POLYPHASER LIGHTNING ARRESTOR	
3	75*	FT	LMR-400	TIMES MICROWAVE CABLE	
4	3	EA	EZ-400-NMH-X	TIMES MICROWAVE TYPE N MALE CONNECTORS FOR LMR-400	
5	1	EA	EZ-400-NMH-RA-X	TIMES MICROWAVE TYPE N MALE RIGHT ANGLE CONNECTOR FOR LMR-400	

*CONTRACTOR TO VERIFY IN FIELD

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No.	Date	Description	Dr.By	Ck.By	App.By
A	08/21/2015	APPROVED			

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CHK. BY: RFM
DSN. BY: DNM
DR. BY: DNM
JOB NO.: 2140649
CONTRACT:
SCALE: 1/8" = 1'-0"
CADD NO.
FILE NO.: 213-01

E-7

SHEET 40 OF 40