

ELECTRICAL NOTES:

1. NEW EXPOSED CONDUIT IN POLICE MEMORIAL VAULT SHALL BE PVC COATED INSIDE AND OUT RIGID GALVANIZED STEEL.
2. OUTSIDE PVC COATING ON RGS CONDUIT SHALL BE 40 MIL THICK AS PLASTI-BOND H₂O T OR EQUIVALENT.
3. INTERIOR PVC COATING SHALL BE PLASTI-BONDRED H₂O T 2 MIL THICK.
4. ALL THREADS CUT IN THE FIELD SHALL BE COLD GALVANIZED TREATED WITH ZRC, ZINC RICH COATING. 95% ZINC BY WEIGHT DRY FILM.
5. PVC COATING SHALL BE REPAVED IF DAMAGED WITH TOUCH UP PAINT FROM MANUFACTURER OF CONDUIT, APPROVED FOR THIS PURPOSE.
6. ENCLOSURES TO BE 316 STAINLESS STEEL, SIZED TO CONTAIN EQUIPMENT NOT REQUIRING VENTILATION. FOR EQUIPMENT REQUIRING VENTILATION REQUIREMENTS FOR NEMA 4 ENCLOSURE TO BE AS RECOMMENDED BY THE MANUFACTURER.

SCOPE OF ELECTRICAL DEMO WORK.

1. REMOVE ALL MEMORIAL FOUNTAIN ELECTRICAL CORRODED EQUIPMENT AND EQUIPMENT EXPOSED TO SEA WATER AND DAMAGED THEREBY AND INDICATED ON DEMOLITION PLAN.
2. REMOVE ELECTRICAL CABLE, CONDUCTORS AND PULL BOXES CORRODED, DAMAGED AND INDICATED AS PART OF DEMO PLAN.
3. REMOVE CORRODED CONDUIT EXPOSED IN VAULT LIMITED TO POLICE MEMORIAL.
4. REMOVE EXISTING VAULT CEILING LIGHT FIXTURES AND CONDUCTORS CONNECTED TO POLICE MEMORIAL MEMORIAL EQUIPMENT.
5. DISCONNECT AND REMOVE CONDUIT AND CABLE TO PUMP MOTORS BEING REMOVED.
6. REMOVE EXHAUST FAN AND SUPPLY FAN/DAMPER CONDUCTORS AND CORRODED OR DAMAGED CONDUIT AS INDICATED ON DEMO PLAN.
7. REMOVE FLUME FOUNTAIN LIGHT FIXTURES AND CONDUCTORS BACK TO VAULT. CONDUIT TO REMAIN.
8. REMOVE FIBER OPTIC LIGHT FIXTURES IN FLUME AND HAND HOLES.
9. REMOVE CONDUIT AND DEVICES IN HANDHOLES CORRODED OR DAMAGED.
10. REMOVE GROUNDING AND BONDING LUGS, TERMINAL BLOCKS AND ACCESSORIES IN HANDHOLES.
11. PRIOR TO REMOVING ANY EXISTING PANEL, CONTROL PANEL, DIMMER BOARD, THE CONTRACTOR WILL RECORD AND TRACE OUT ALL EXISTING CIRCUITY TO ALLOW FOR REINSTALLING ALL EQUIPMENT IN KIND IF REQUIRED.
12. REMOVE ELECTRICAL SERVICE FEEDER (CON EDISON FEEDER) PER DEMO PLAN.
13. REMOVE ELECTRICAL CONDUIT AND CONDUCTORS FROM SERVICE ENTRANCE BOX.
14. REMOVE 75KVA TRANSFORMER AND SECONDARY PROTECTION, ALL CONDUCTORS IN EXISTING CONDUIT. CONDUIT TO REMAIN.

SCOPE OF ELECTRICAL NEW WORK.

1. PROVIDE AND INSTALL ALL NEW EQUIPMENT, PULL BOXES, SUPPORTING HARDWARE, SUPPORTS AND NEW HARDWARE TO BE 316 STAINLESS STEEL.
2. REINSTALL CONDUIT AND DISCONNECTED EQUIPMENT CLEARING OBSTRUCTION.
3. BALL AND BRUSH CONDUIT. FLUSH OUT SALT RESIDUE, AIR DRY.
4. PULL NEW CONDUCTORS FOR ALL CIRCUITS, USE EXISTING UNDERGROUND CONDUIT.
5. INSTALL NEW OUTDOOR WATERPROOF LIGHTING FIXTURES AS INDICATED ON PLAN AND LISTED IN LIGHTING FIXTURE SCHEDULES.
6. PROVIDE AND INSTALL NEW LAMPS.
7. PROVIDE AND INSTALL NEW FLUME LIGHTING FIXTURES (SEE SCHEDULE).
8. PROVIDE AND INSTALL NEW CONTROL PANELS AND CONDUCTORS WITH REPLACEMENT ACCESSORIES FOR ALL SEQUENCED OPERATIONS OF PUMPS AND LIGHTING. DEFINED ON DRAWINGS E703, E704.
9. PROVIDE 3 NEW WATERPROOF CEILING LIGHT FIXTURES, LAMPS AND CIRCUIT CONDUCTORS AFTER FLUSHING ALL EXISTING TO BE REUSED CONDUIT.
10. PROVIDE AND INSTALL NEW CONDUIT PUMPS MOTORS AND VALVES. SEE SPECIFICATIONS FOR MATERIALS REQUIRED, SUPPORTS ETC.
11. COORDINATE TESTING OF ALL EQUIPMENT WITH INSTALLING MECHANICAL CONTRACTOR TO RESTORE ORIGINAL SEQUENCE OF POLICEMAN'S MEMORIAL.
12. PROVIDE AND INSTALL RECEPTACLE OUTLETS AS INDICATED IN VAULT, HANDHOLES.
13. PROVIDE AND INSTALL LIGHT SWITCHES AS INDICATED ON PLAN AT ELEVATION SHOWN.

SCOPE OF WORK FOR POLICE MEMORIAL ELECTRICAL SERVICE

1. PROVIDE NEW 2" CONDUIT FROM ELECTRICAL SERVICE END BOX TO NEW METER PAN.
2. PROVIDE NEW #2 AWG CONDUCTORS.
3. PROVIDE NEW SERVICE SWITCH.
4. FLUSH CONDUIT AND SWAB CLEAN AND DRY.
5. REMOVE CONDUCTORS BETWEEN SERVICE SWITCH AND 75KVA TRANSFORMER, LOADSIDE SWITCH AND VAULT SAFETY SWITCHED. REPLACE IN KIND WITH 4#0 AWG XHHW-2.
6. REPAIR NEW CONDUCTORS FROM SERVICE SWITCH TO 75KVA TRANSFORMER, SECONDARY OCP AND DISCONNECT, TO VAULT SAFETY FUSED DISCONNECT.
7. REPLACE ALL EQUIPMENT IN KIND INCLUDING PULL BOX AT VAULT WALL FOR A COMPLETE REPLACEMENT OF ENTIRE SERVICE EQUIPMENT SYSTEM.
8. CLEAN, FLUSH OUT AND SWAB DRY UNDERGROUND CONDUIT BETWEEN SERVICE ROOM PULL BOX AND MEMORIAL EQUIPMENT ROOM VAULT DISCONNECT SWITCH. REUSE UNDERGROUND CONDUIT.

ABBREVIATIONS

AWG	AMERICAN WIRE GAGE
BPCA	BATTERY PARK CITY AUTHORITY
RGS	RIGID GALVANIZED STEEL
AC	ALTERNATING CURRENT
SP	SPARE
DWG	DRAWING
CKT	CIRCUIT
T.C.R.P.	TIME CONTROL RELAY PANEL
TYP.	TYPICAL
PVC	POLYVINYL CHLORIDE PLASTIC
NYCEC	NEW YORK CITY ELECTRICAL CODE
N.T.S.	NOT TO SCALE
NEC	NATIONAL ELECTRICAL CODE
DOT	DEPARTMENT OF TRANSPORTATION
NYCDOT	NEW YORK CITY DEPARTMENT OF TRANSPORTATION

LIST OF ELECTRICAL DRAWINGS

DRAWING No.	DESCRIPTION
E001.00	ELECTRICAL NOTES, SYMBOLS, ABBREVIATIONS AND DRAWING LIST
E020.00	ELECTRICAL LIGHTING/POWER DEMOLITION PART PLAN
E030.00	POLICE MEMORIAL VAULT ELECTRICAL DEMOLITION PLAN
E101.00	NEW WORK ELECTRICAL LIGHTING/POWER PART PLANS
E201.00	NEW ELECTRICAL POWER PLAN POLICE MEMORIAL VAULT
E202.00	ELECTRICAL PANEL SCHEDULES
E203.00	ELECTRICAL SERVICE PLAN
E401.00	LIGHT FIXTURE SCHEDULE AND SCENE LIGHTING PLAN
E501.00	ELECTRICAL ONE LINE DIAGRAM, SCHEMATIC AND NOTES
E701.00	ELECTRICAL DETAILS
E702.00	ORIGINAL FOUNTAIN CONTROLS SCHEMATIC LADDER DIAGRAM
E703.00	LOGIC OF CONTROL FUNCTIONAL AND SAFETY
E704.00	FOUNTAIN OPERATIONAL ALGORITHM



Consultants:

ENSIGN ENGINEERING, P.C.
1111 Calhoun Ave.
Bronx, N.Y. 10465
TEL. 718-863-5590 FAX. 718-863-6178
WWW.ENSIGNENGINEERING.COM

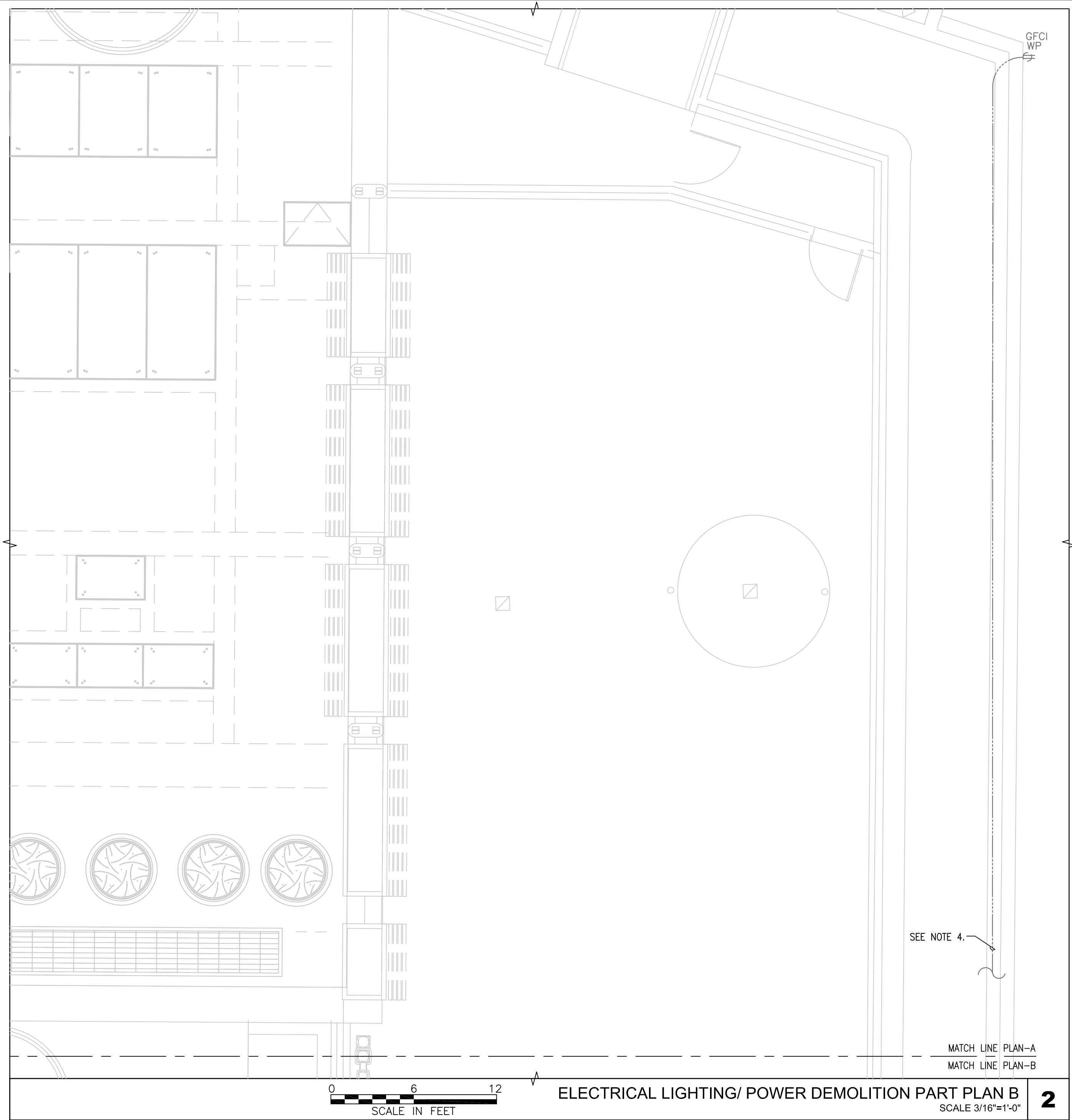
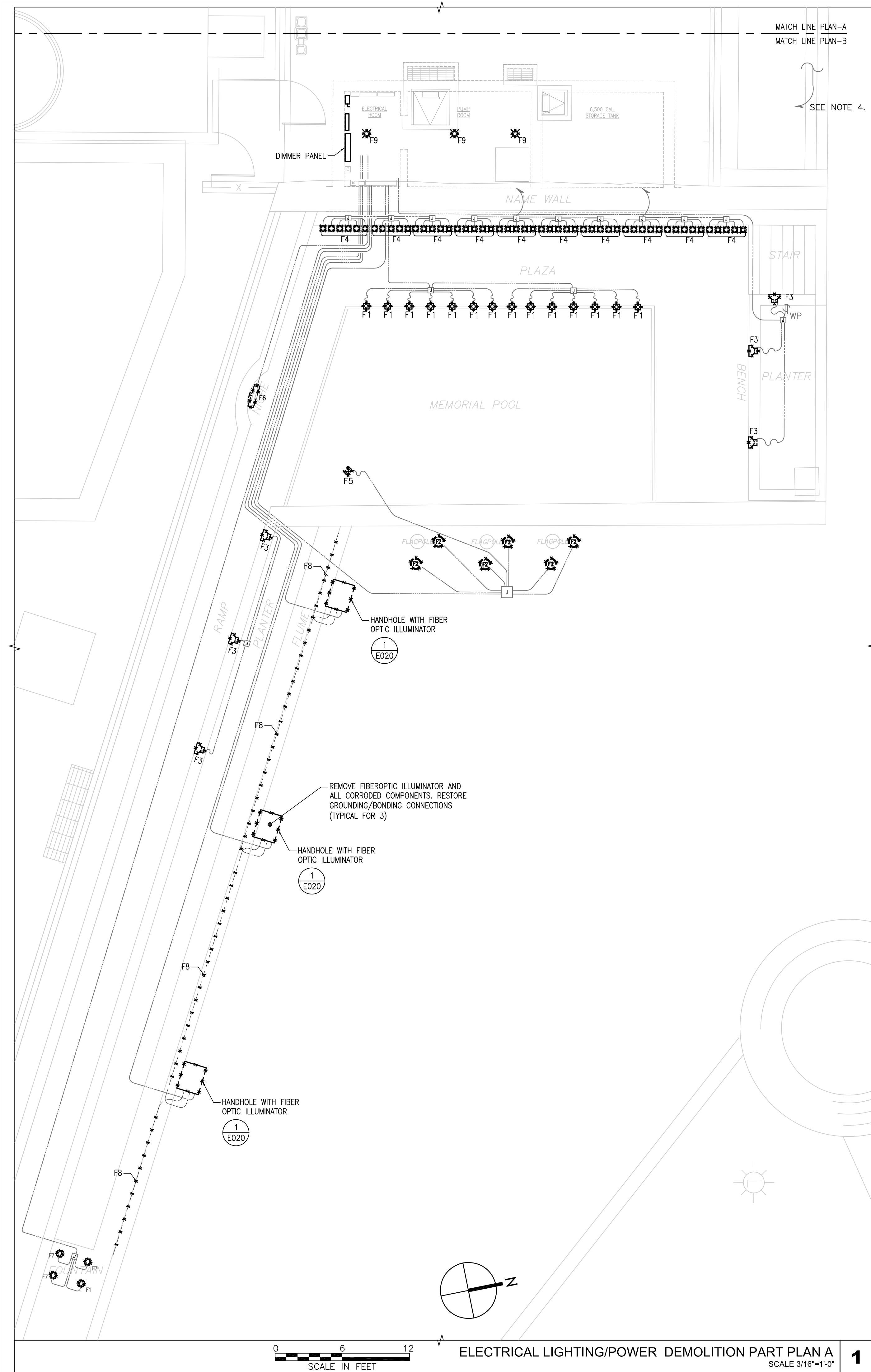
NOTE: Drawing may be printed at reduced scale.
Refer to graphic scale.

No.	Date	Revision

No.	Date	Submittal
Key Plan: SHADED AREA = AREA OF WORK		
AREA OF WORK		
Project Engineer:	CARL J. CANNIZZARO, P.E.	
Designer:	EUGENE KIELMANOWICZ, P.E.	
Drawn by:	ALVIN WONG	
Checked by:	CARL J. CANNIZZARO, P.E.	
Design No. or LLW No.:	Facility Code:	Date:
-	N/A	05/17/13

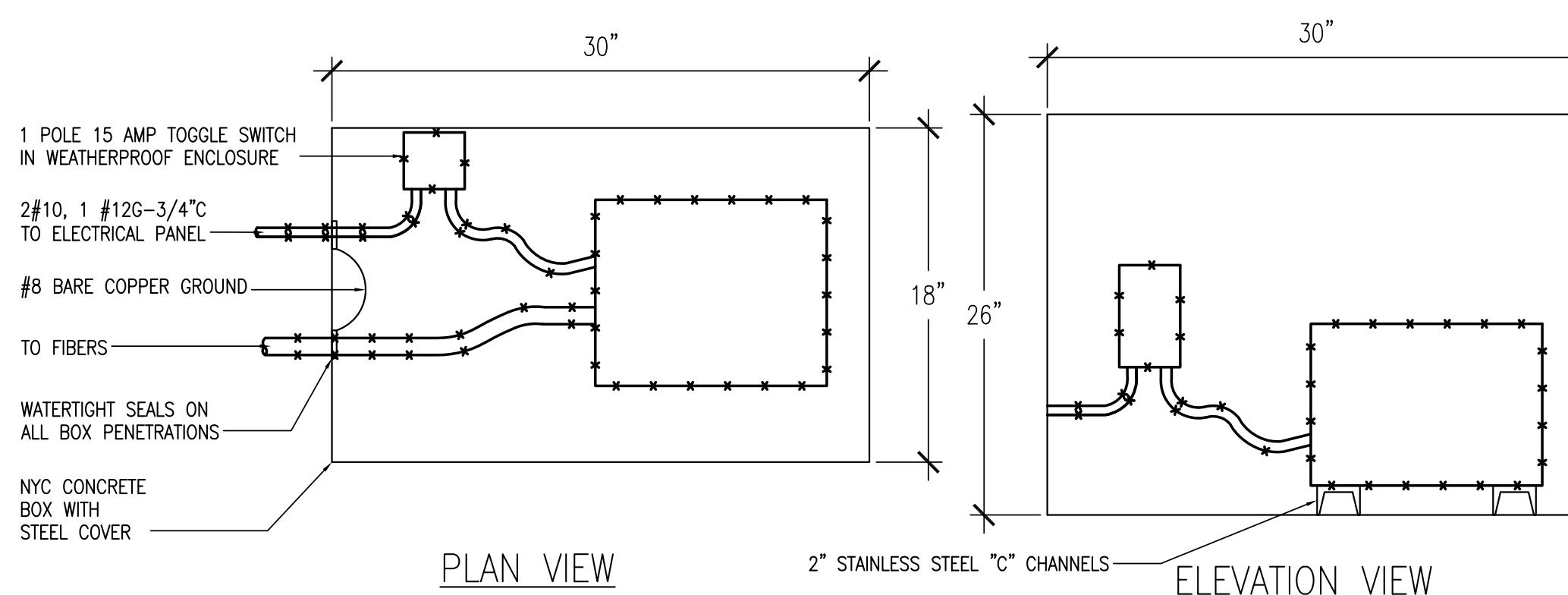
Project:	POLICE MEMORIAL SERVICE RECONSTRUCTION - SUPERSTORM SANDY BATTERY PARK CITY AUTHORITY	
Address:	MANHATTAN NEW YORK, NY	
Drawing Title:	ELECTRICAL NOTES, SYMBOLS, ABBREVIATIONS AND DRAWING LIST	

Drawing No.:	E001.00
Sheets in Contract: 11 of 23	



NOTES:

1. ELECTRICAL DEMOLITION IS TO BE SELECTIVE NOT GLOBAL AND FOLLOW DESIGN INTENT TO REUSE ALL CONDUIT THAT REMAINS IN GOOD CONDITION.
2. CONDUIT CORRODED SEVERELY SHALL BE RETHEADED AND RESTORED TO FUNCTIONAL CONDITION.
3. CLEAN OUT AND REMOVE CORROSION FROM FIBER OPTIC HANDHOLES TO ACCEPT NEW FIXTURE EQUIPMENT.
4. REMOVE EXISTING CONDUCTORS AND GFCI RECEPTACLE. SWAB CLEAN CONDUIT. PREPARE FOR REUSE.



1 FIBER OPTIC LIGHTS IN HANDHOLE DEMO.

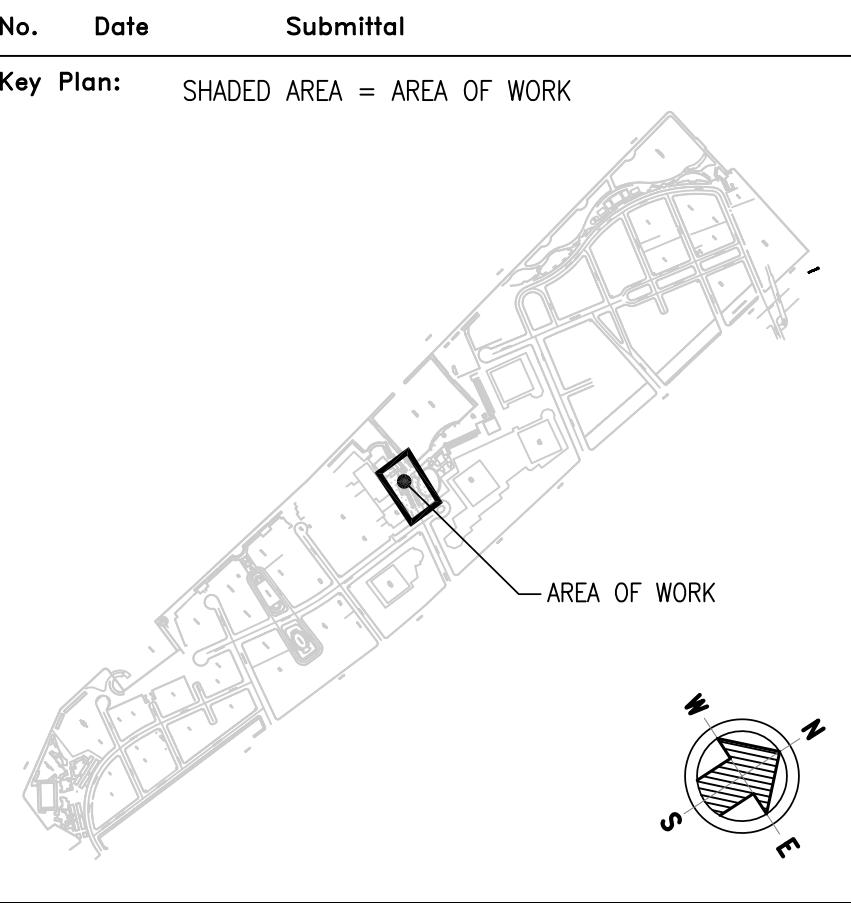
Scale: N.T.S.



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ENSIGN ENGINEERING, P.C.
1111 Calhoun Ave.
Bronx, N.Y. 10465
TEL. 718-863-5590 FAX. 718-863-6178
WWW.ENSIGNENGINEERING.COM

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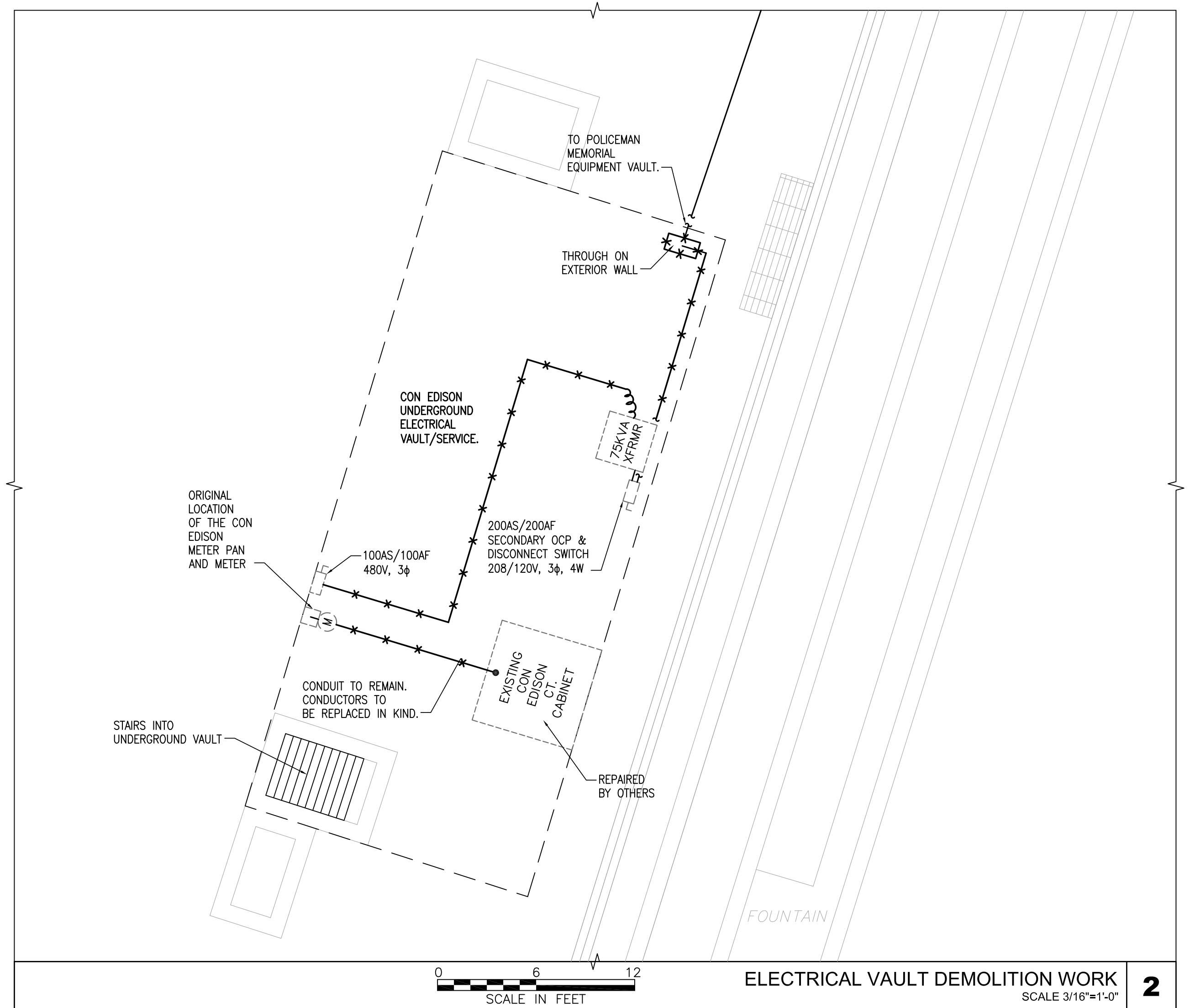
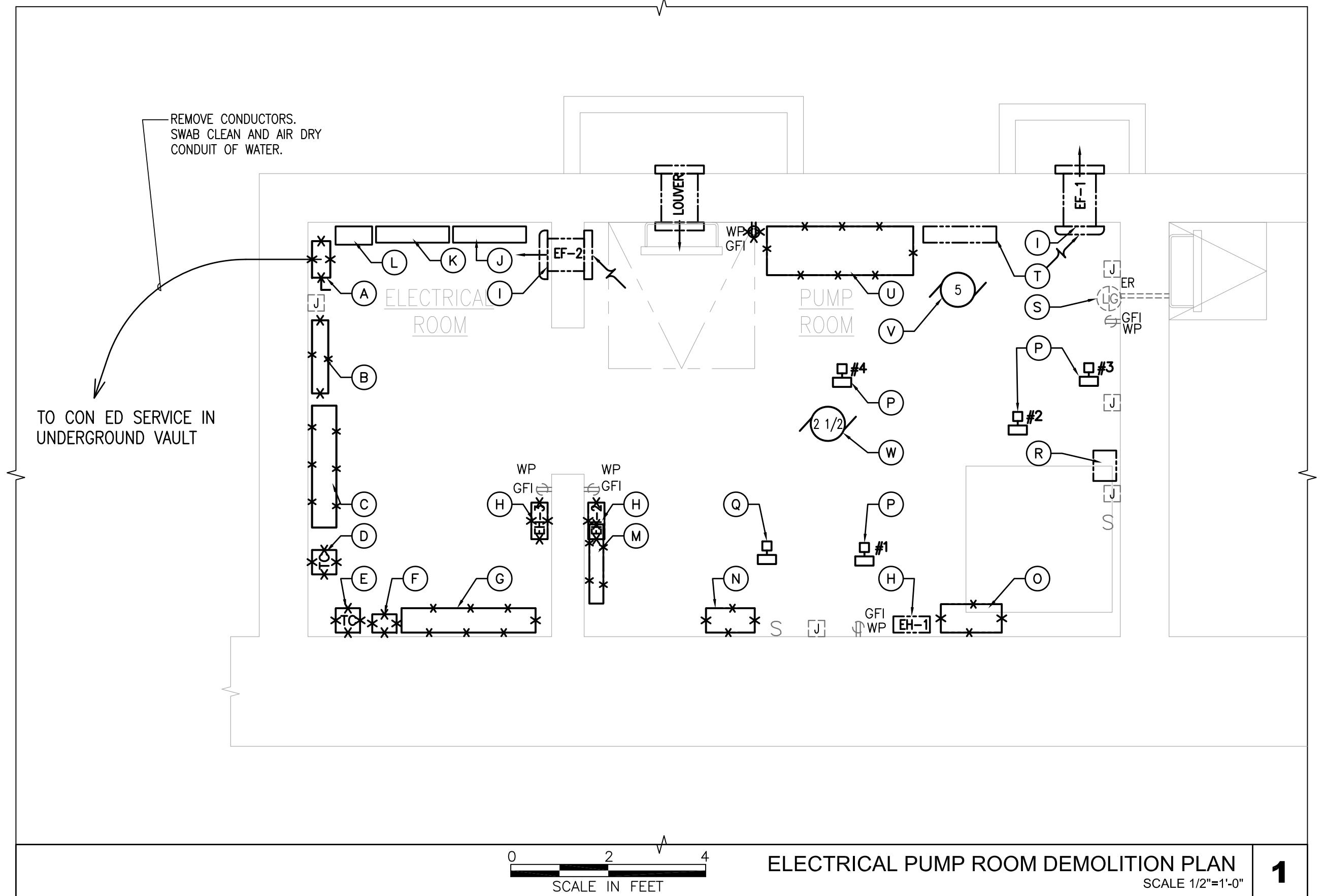


Project Engineer: CARL J. CANNIZZARO, P.E.
Designer: EUGENE KIELMANOWICZ, P.E.
Drawn by: ALVIN WONG
Checked by: CARL J. CANNIZZARO, P.E.
Design No. or LLW No.: Facility Code: Date:
- N/A 05/17/13

Project: POLICE MEMORIAL SERVICE RECONSTRUCTION - SUPERSTORM SANDY BATTERY PARK CITY AUTHORITY
Address: MANHATTAN NEW YORK, NY

Drawing Title: ELECTRICAL LIGHTING/POWER DEMOLITION PART PLAN

Drawing No.: E020.00
Sheets in Contract: 12 of 23



EQUIPMENT LIST KEY			
ITEM	QUANTITY	DESCRIPTION	EXISTING EQUIPMENT MANUFACTURER/MODEL
*	1	SAFETY SWITCH	SQUARE D, 240V-3φ, 200A-60HP
*	1	POWER DISTRIBUTION PANEL	SQUARE D CAT #MH32WP PNL BOARD NOOD, NF OR NEHB, 30 POLE 22KAIC
*	1	DIMMER PANEL	LUTRON GRAFIK EYE GP20-1204ML-15105A 120/208V, 3φ, 4 WIRE TYPE 1 ENCLOSURE
*	1	TIME CLOCK	TORK MODEL DZ5100A
*	1	TIME CLOCK	TORK MODEL 1101
*	1	RELAY PANEL	
*	1	TRANSFORMER ENCLOSURE	(5) TRANSFORMERS GE MODEL 9T58B2883, 1KVA, 1 PH. 60HZ TYPE IP
*	3	ELECTRIC UNIT HEATER	MARKE MODEL #E6650, 500WATTS, 115V, 1PH, 60HZ.
*	2	EXHAUST FAN	FANTECH MODEL #DLX200
N.I.C.	1	RAIN MASTER PANEL	MODEL EVOLUTION DX2 MODEL # DX18WM
N.I.C.	1	TIMERS AND RELAYS PANEL	HOFFMAN ENCLOSURE CAT # A242410LP
N.I.C.	1	DISTRIBUTION PANEL	
*	1	WATER TREATMENT OZONE GENERATOR SYSTEM	"ROMAN FOUNTAIN", MODEL #HYDRO100
*	1	PUMP CONTROL BOX	
*	1	SUMP PUMP CONTROL PANEL	
**	4	ELECTRIC ACTUATOR (2 WAY)	QUARTER MASTER CHIEF MODEL BM92XWJ, 115V/1.0A
**	1	ELECTRIC ACTUATOR (3 WAY)	WORCHESTER CONTROLS SERIES 73 MODEL C73WP6428, 120V/1.5A
*	1	HYDREL ELWC-ELWC-1	
(S)	1	LEVEL GAGE	
(T)	1	VORTEX CONTROL PANEL	
*	1	PUMP CONTROL PANEL	
**	1	RECIRCULATION PUMP - 5 HP	MARATHON ELECTRIC MODEL 4V0184TDDR7358BT L
**	1	FLUME PUMP MOTOR - 2 1/2 HP 230V	
**	1	11.2A, 1 PH, 450 RPM	A.O. SMITH K48N2N
**	1	SUMP PUMPS	

* INDICATES DEMOLITION BY ELECTRICAL CONTRACTOR

** INDICATES REMOVAL OF ELECTRICAL CONNECTION. COORDINATE WITH MECH. CONTRACTOR.

NOTES:

1. ELECTRICAL DEMOLITION IS TO BE SELECTIVE NOT GLOBAL AND FOLLOW DESIGN INTENT TO REUSE ALL CONDUIT THAT REMAINS IN GOOD CONDITION.
2. DEMO CONDUIT UP TO NEAREST SALVAGEABLE COUPLING AND RESTORE EXISTING PRIOR TO EXTENDING TO NEW EQUIPMENT. ALL CONDUIT WITHIN THE VAULT INDICATED AS PART OF THE CONTRACT WORK SHALL BE REPLACED WITH PVC COATED TYPE AS SPECIFIED.
3. EQUIPMENT AND ENCLOSURES IDENTIFIED AS NOT IN CONTRACT, N.I.C. SHALL BE DISCONNECTED FROM ELECTRICAL POWER SUPPLY AND LEFT IN PLACE. ALL ABANDONED CONDUCTORS ARE TO BE IDENTIFIED AND LEFT INSIDE THEIR ENCLOSURES. ANY CONDUIT LEAVING N.I.C. SCOPE EQUIPMENT SHALL REMAIN AS IS.
4. COORDINATION DURING DEMOLITION IS REQUIRED AMONG ALL TRADES.

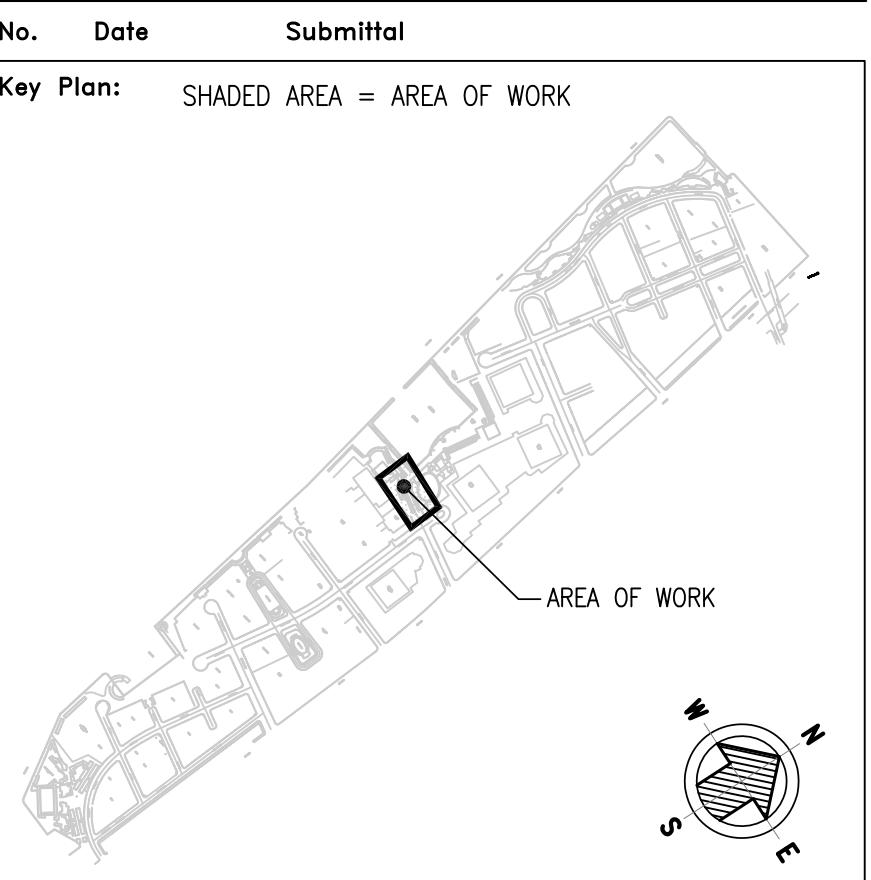
HUGH L. CAREY
BATTERY PARK
CITY AUTHORITY

Consultants:

ENSIGN ENGINEERING, P.C.
1111 Calhoun Ave.
Bronx, N.Y. 10465
TEL. 718-863-5590 FAX. 718-863-6178
WWW.ENSIGNENGINEERING.COM

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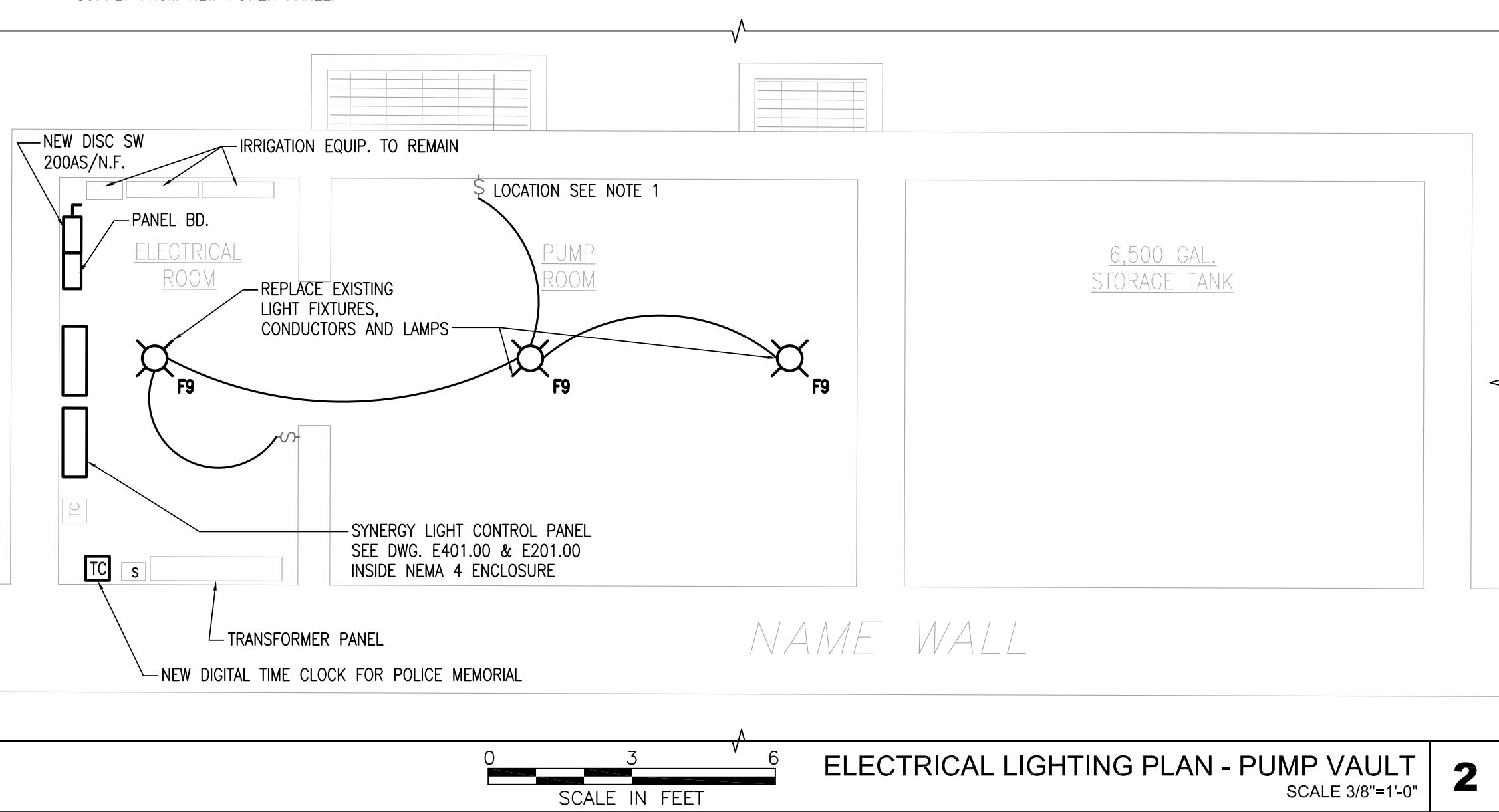
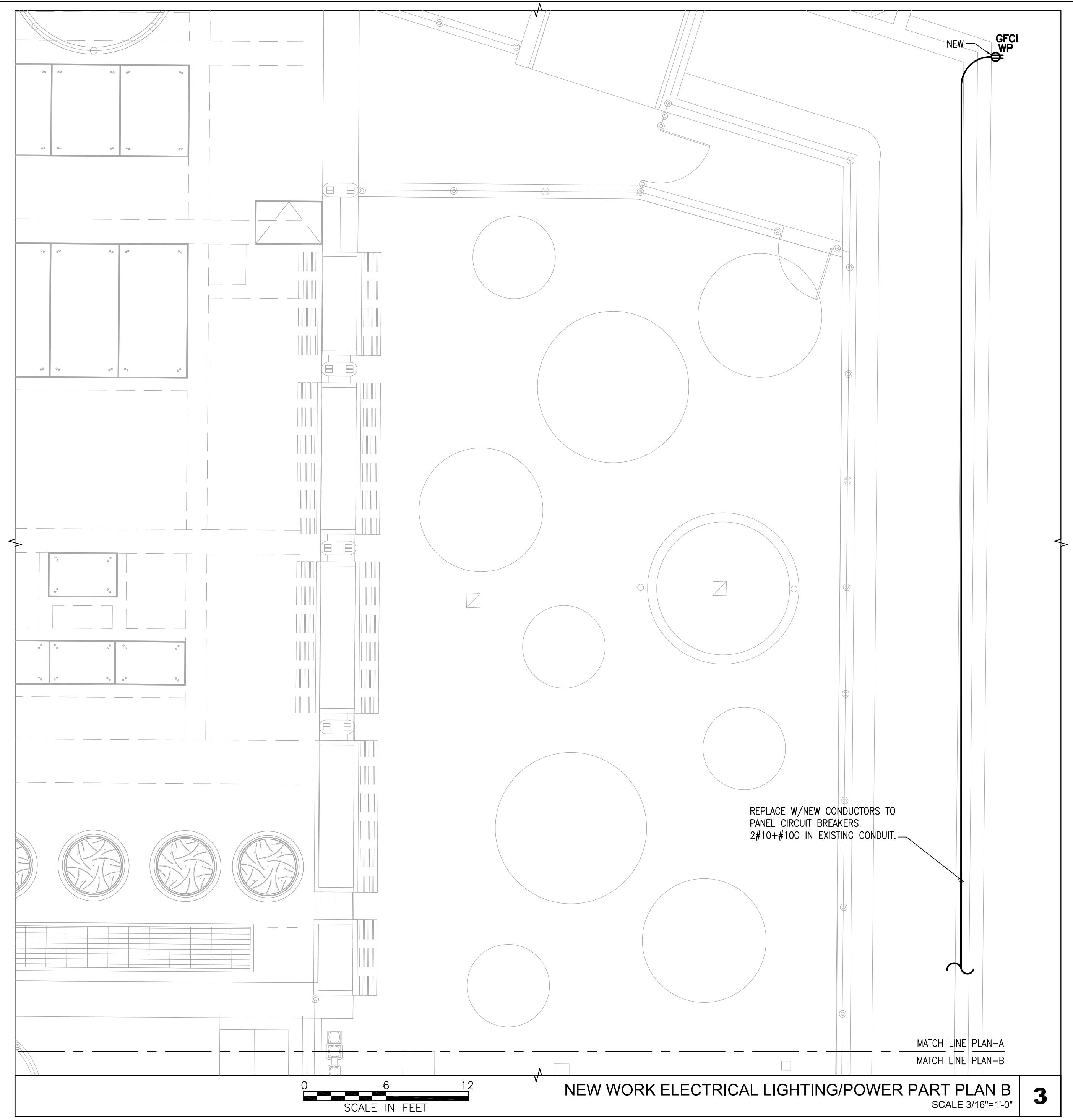
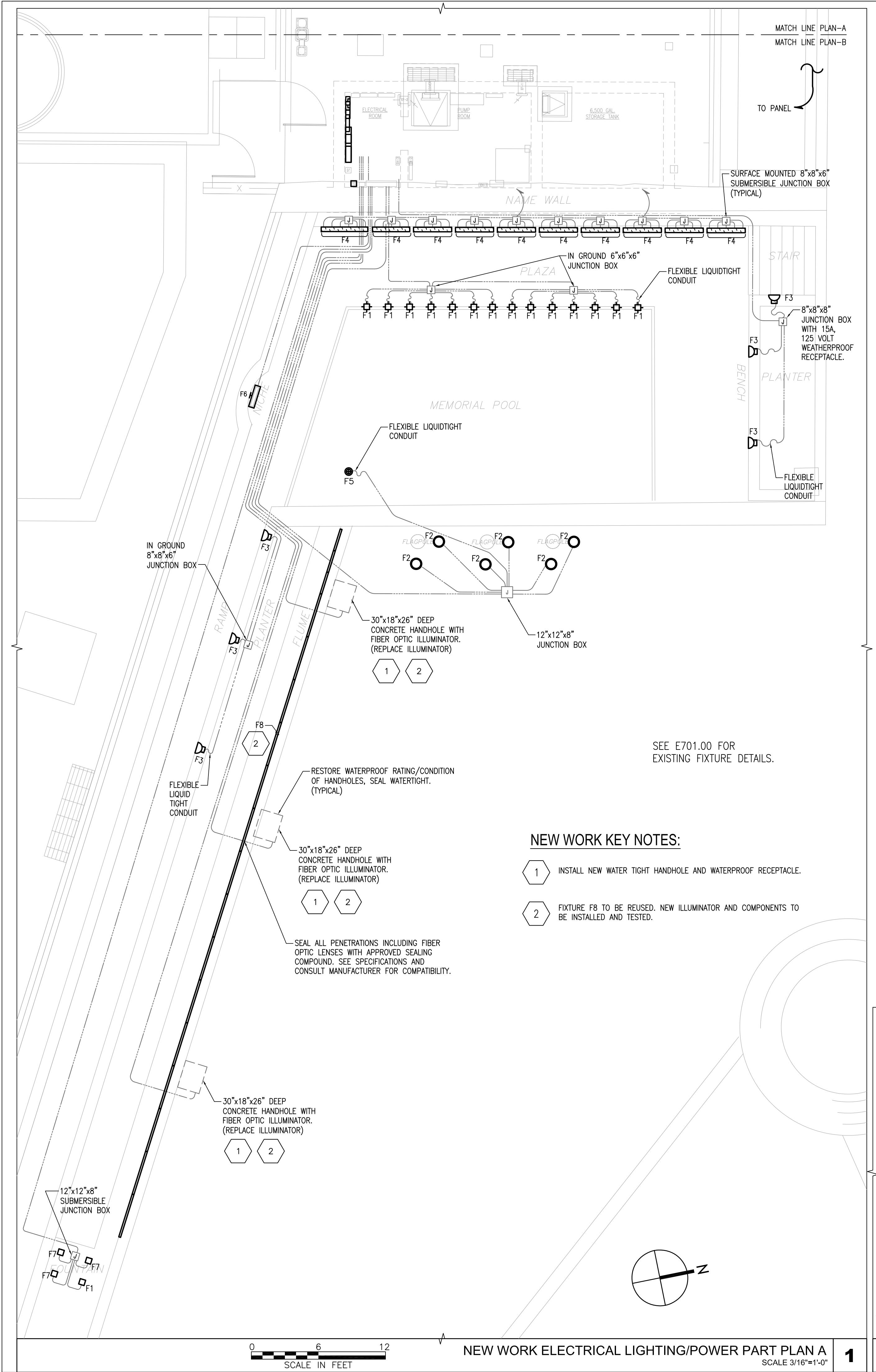
Project Engineer:	CARL J. CANNIZZARO, P.E.
Designer:	EUGENE KIELMANOWICZ, P.E.
Drawn by:	ALVIN WONG
Checked by:	CARL J. CANNIZZARO, P.E.
Design No. or LLW No.:	N/A
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Date:	05/17/13

Project: POLICE MEMORIAL SERVICE RECONSTRUCTION - SUPERSTORM SANDY BATTERY PARK CITY AUTHORITY
Address: MANHATTAN NEW YORK, NY

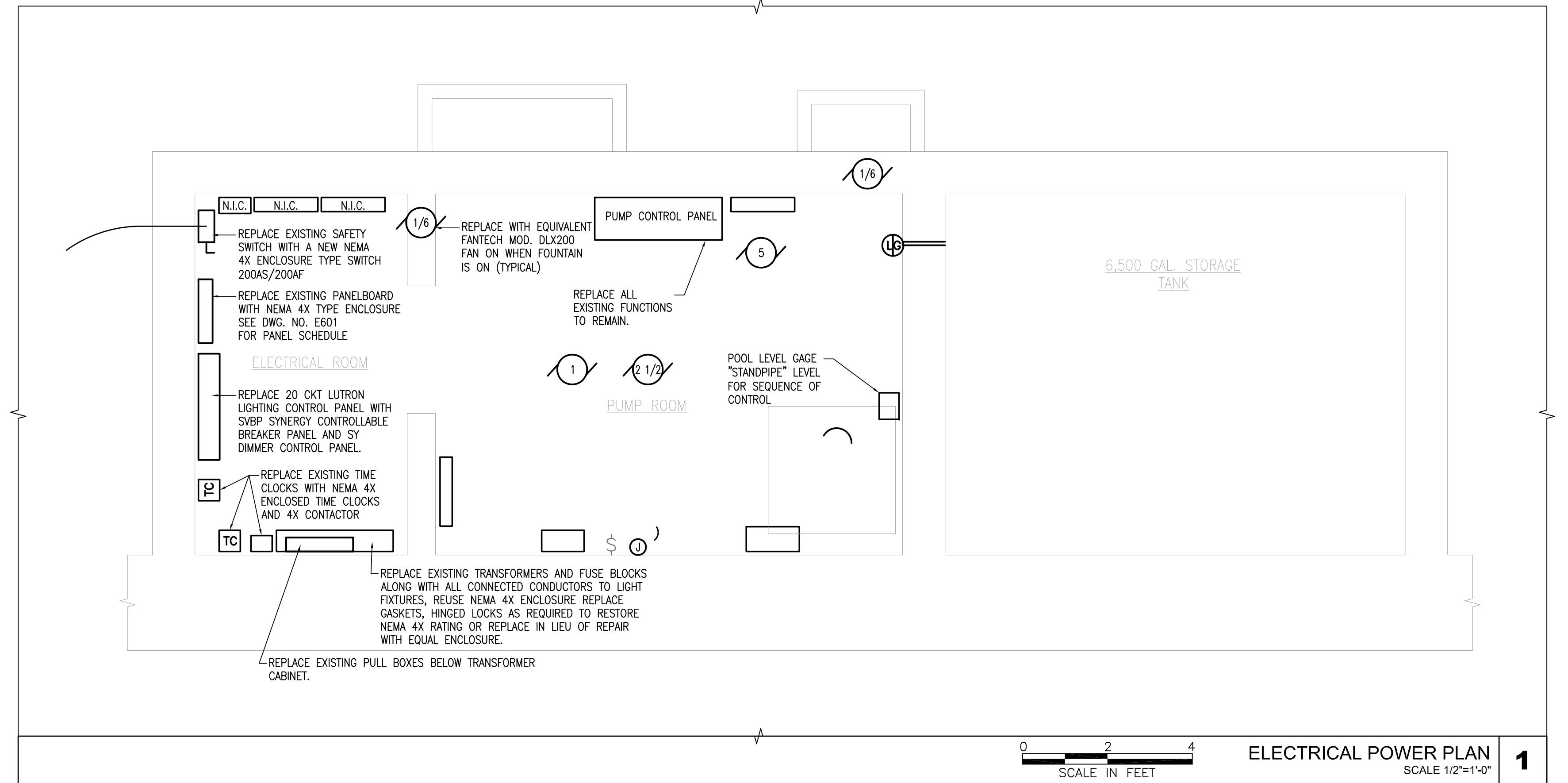
Drawing Title: POLICE MEMORIAL VAULT ELECTRICAL DEMOLITION PLAN

Drawing No.: E030.00

Sheets in Contract:
13 of 23



<p>HUGH L. CAREY BATTERY PARK CITY AUTHORITY</p>		
<p>Consultants:</p> <p>ENSIGN ENGINEERING, P.C. 1111 Calhoun Ave. Bronx, N.Y. 10465 TEL. 718-863-5590 FAX. 718-863-6178 WWW.ENSIGNENGINEERING.COM</p>		
<p>NOTE: Drawing may be printed at reduced scale. Refer to graphic scale.</p>		
No.	Date	Revision
<p>No. Date Submittal</p> <p>Key Plan: ~</p> <p>AREA OF WORK</p>		
<p>Project Engineer: CARL J. CANNIZZARO, P.E. Designer: EUGENE KIELMANOWICZ, P.E. Drawn by: ALVIN WONG Checked by: CARL J. CANNIZZARO, P.E. Design No. or LLW No.: - Facility Code: Date: N/A 05/17/13</p>		
<p>Project: POLICE MEMORIAL SERVICE RECONSTRUCTION - SUPERSTORM SANDY BATTERY PARK CITY AUTHORITY Address: MANHATTAN NEW YORK, NY</p>		
<p>Drawing Title: NEW WORK ELECTRICAL LIGHTING/POWER PART PLANS</p>		
<p>Drawing No.: E101.00</p>		
<p>Sheets in Contract: 14 of 23</p>		

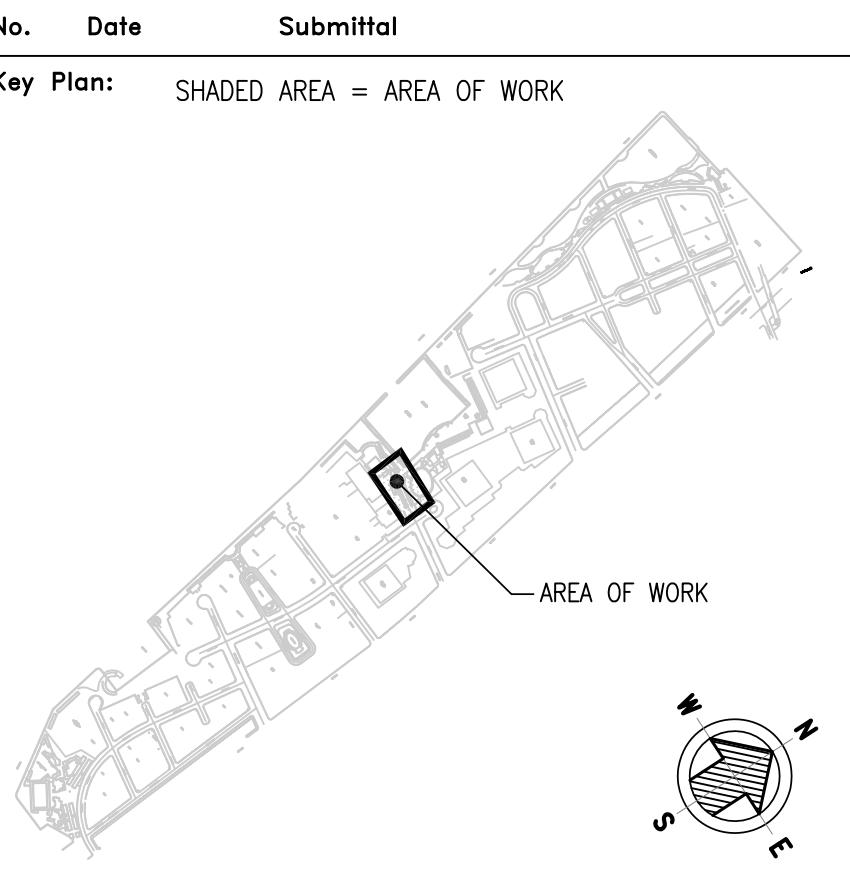


HUGH L. CAREY
BATTERY PARK
CITY AUTHORITY

Consultants:
ENSIGN ENGINEERING, P.C.
1111 Calhoun Ave.
Bronx, N.Y. 10465
TEL. 718-863-5590 FAX. 718-863-6178
WWW.ENSIGNENGINEERING.COM

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Project Engineer: CARL J. CANNIZZARO, P.E.
Designer: EUGENE KIELMANOWICZ, P.E.
Drawn by: ALVIN WONG
Checked by: CARL J. CANNIZZARO, P.E.
Design No. or LLW No.: - Facility Code: Date: N/A 05/17/13

Project: POLICE MEMORIAL SERVICE
RECONSTRUCTION - SUPERSTORM SANDY
BATTERY PARK CITY AUTHORITY
Address: MANHATTAN
NEW YORK, NY

Drawing Title: NEW ELECTRICAL POWER PLAN
POLICE MEMORIAL VAULT

Drawing No.: **E201.00**
Sheets in Contract:
15 of 23



HUGH L CAREY
BATTERY PARK
CITY AUTHORITY

Consultants:

ENSIGN ENGINEERING, P.C.
 1111 Calhoun Ave.
 Bronx, N.Y. 10465
 TEL. 718-863-5590 FAX. 718-863-6178
WWW.ENSIGNENGINEERING.COM

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PANEL SCHEDULE									
PANEL DESIGNATION: POWER DISTRIBUTION PANEL EXISTING				PANEL LOCATION:					
SERVICE: 208 VOLTS 3 PHASE 4 WIRE	MOUNTING TYPE: SURFACE	MAIN: 200 AMPS	REMARKS: SPLIT NEUTRAL BAR	GROUND BUS:	ISOLATED GROUND BUS:	NUMBER OF POLES: 30	FEEDERS:		
SERVICE TO:	VA LOAD	O.C. No.	BRANCH CIRCUITS	A	B	C	No.	O.C.	VA LOAD
				3	1		2	3	
				3			4		
				100	5		6	100	
				3	7		8	20	TANDEM BREAKERS
				20	11		10	20	TANDEM BREAKERS
				15	13		12	20	TANDEM BREAKERS
				2	15		14	3	
				20	17		18	30	
GFCI	20	19		20	30				
GFCI	20	21		22	2				GFCI BREAKER
GFCI	20	23		24	20				
	30	25		26	2				
	2	27		28	30				
	30	29		30	20				
				20	31		32	20	GFCI
				20	33		34	20	GFCI - OUTDOOR RECEPTACLE
				20	35		36	20	GFCI - SPARE
				20	37		38	20	
				20	39		40	20	
				20	41		42	20	FILTER - RECONNECT

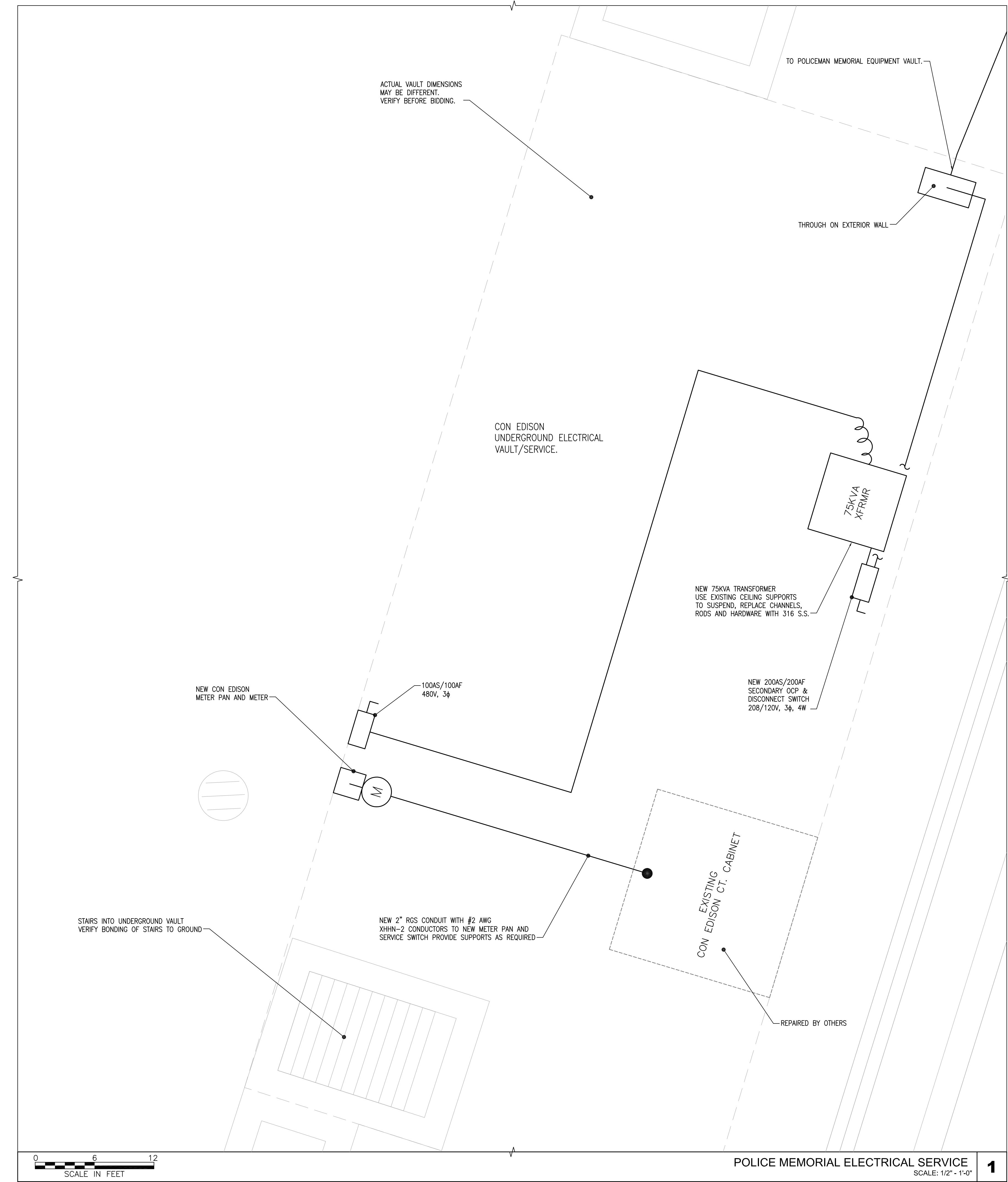
NOTES:

1. CONTRACTOR SHALL TRACE OUT ALL EXISTING CIRCUITS AND PREPARE A TYPED PANEL DIRECTORY OF/FOR THE EXISTING POWER DISTRIBUTION PANEL LISTING ALL DEVICES, FIXTURES AND EQUIPMENT PRIOR TO DEMOLITION AND SUBMIT IT TO THE ENGINEER OF RECORD, ENSIGN ENGINEERING, P.C.

PANEL SCHEDULE									
PANEL DESIGNATION: POWER DISTRIBUTION PANEL NEW				PANEL LOCATION:					
SERVICE: 208 VOLTS 3 PHASE 4 WIRE	MOUNTING TYPE: SURFACE	MAIN: 100 AMPS	REMARKS: 22 KAIC RMS	GROUND BUS:	ISOLATED GROUND BUS:	NUMBER OF POLES: 42	FEEDERS:		
SERVICE TO:	VA LOAD	O.C. No.	BRANCH CIRCUITS	A	B	C	No.	O.C.	VA LOAD
NEW DIMMING PANEL				3	1		2	3	
				3			4		
				100	5		6	100	
				3	7		8	20	ELECTRIC HEATER (NEW)
				20	11		10	20	VENTILATION FANS (NEW)
				20	13		12	20	
				2	15		14	3	
				20	17		18	30	
				20	19		20	30	
				20	21		22	2	
				26	23		24	20	
				30	25		26	2	
				2	27		28	30	
				30	29		30	20	
				20	31		32	20	GFCI
				20	33		34	20	GFCI - OUTDOOR RECEPTACLE
				20	35		36	20	GFCI - SPARE
				20	37		38	20	
				20	39		40	20	
				20	41		42	20	FILTER - RECONNECT

PANEL DESIGNATION: DIMMING PANEL EXISTING				LUTRON	22 KAIC RMS
SERVICE: 120/208 VOLTS 3 PHASE 4 WIRE				CHASSIS: 22X, RATING 100, COPPER, NEUTRAL:	
NO.	BREAKER	POLES	SERVICE TO:	VOLTS	VA LOAD
1	15A	1	NICHE LIGHTS (F6 120V)		
2	15A	1	FLAG LIGHTS (F2 120V)		
3	15A	1	RAMP/STAIR LIGHTS (F3 120V)		
4	15A	1	FLAG LIGHTS (F2 120V)	12	
5	15A	1	POOL LIGHTS (F1 12V)		
6	15A	1	POOL LIGHTS - WATER FALL (F5 12V)	12	
7	15A	1	POOL LIGHTS (F1 12V)	12	
8	15A	1	WALL LIGHTS (F4 120V)		
9	15A	1	FLUME LIGHTS (F8 120V)		
10	15A	1	WALL LIGHTS (F4 120V)		
11	15A	1	WALL LIGHTS (F4 120V)		
12	15A	1	WALL LIGHTS (F4 120V)		
13	15A	1	WALL LIGHTS (F4 120V)		
14	15A	1	WALL LIGHTS (F4 120V)		
15	15A	1	FOUNTAIN LIGHTS (F7 12V)	12	
16	15A	1	FOUNTAIN LIGHTS (F7 12V)	12	
17	15A	1	CONTROL PANEL		
18	15A	1	FILTER		
19	15A	1	SPARE		
20	15A	1	SPARE		
21	-	-	SPACE		
22	-	-	SPACE		
23	-	-	SPACE		
24	-	-	SPACE		
25	15A	1	NOT IDENTIFIED		

PANEL DESIGNATION: DIMMING PANEL NEW				SYBPC MLX SYNERGY	22 KAIC RMS
SERVICE: 120/208 VOLTS 3 PHASE 4 WIRE				CHASSIS: 22X, RATING 100, COPPER, NEUTRAL:	
NO.	BREAKER	POLES	SERVICE TO:	VOLTS	VA LOAD
1	15A	1	NICHE LIGHTS (F6 120V)	120	108
2	15A	1	FLAG LIGHTS (F2 120V)	120	110
3	15A	1	RAMP/STAIR LIGHTS (F3 120V)	120	42
4	15A	1			
5	15A	1	POOL LIGHTS (F1 12V)	12	97
6	15A	1	POOL LIGHTS - WATER FALL (F5 12V)	12	14
7	15A	1	POOL LIGHTS (F1 12V)	12	97
8	15A	1			
9	15A	1	FLUME LIGHTS (F8 120V)		
10	15A	1	WALL LIGHTS (F4 120V)	120	193
11	15A	1	WALL LIGHTS (F4 120V)	120	193
12	15A	1	SPARE		
13	15A	1	SPARE		
14	15A	1	SPARE		
15	15A	1	FOUNTAIN LIGHTS (F7 12V)	12	56
16	15A	1	SPARE		
17	15A	1	CONTROL PANEL		
18	15A	1	SPARE		
19	15A	1	SPARE		
20	15A	1	SPARE		
21	15A	1	SPACE		
22	15A	1	SPACE		
23	15A	1	SPACE		
24					



NOTES:

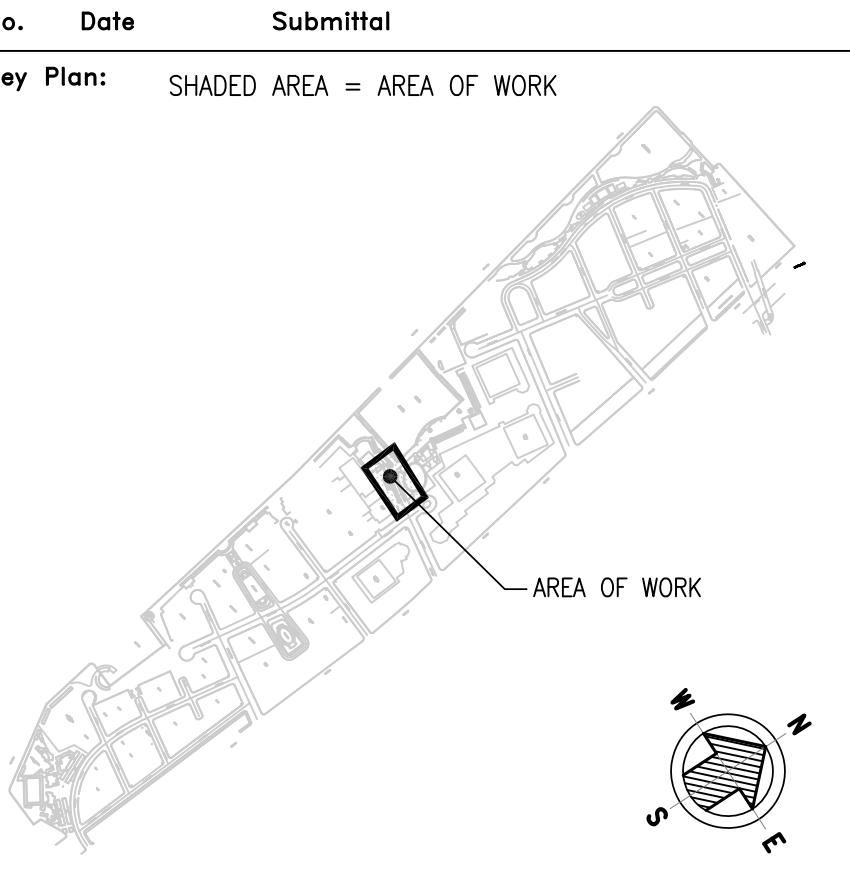
- ALL ELECTRICAL SERVICE EQUIPMENT IS TO BE REMOVED AND REPLACED IN KIND.
- ELECTRICAL METER PAN, METER AND SERVICE SWITCH WERE REMOVED BY OTHERS. THE CONTRACTOR SHALL INSTALL NEW EQUIPMENT AFTER APPROVAL FROM THE ELECTRICAL ADVISORY BOARD IS RECEIVED.
- THE ELECTRICAL CONTRACTOR SHALL SUBMIT PLANS TO THE ELECTRICAL ADVISORY BOARD WHICH CONTAIN IN ADDITION TO THE NEW POLICEMEN'S MEMORIAL SERVICE, THE EXISTING MARINA SERVICE DETAILS AND DETAILS FOR THE FOUNTAIN ELECTRICAL WORK AS REQUIRED BY THE RULES OF NEW YORK CITY AND FOLLOW THE ELECTRICAL CODE OF 2011 OF NEW YORK CITY.
- ALL CONDUIT IS BEING REPLACED. A NEW 2" RGS CONDUIT WILL REPLACE THE EXISTING 1 1/2" CONDUIT FROM THE SERVICE ENTRANCE BOX TO THE NEW METER PAN.
- NIPPLE BETWEEN METER PAN AND SERVICE SWITCH SHALL BE 2" RGS AND CONTAIN #2 AWG CONDUCTORS, XHHN-2 TYPE INSULATION OR AS OTHERWISE REQUIRED BY CON EDISON. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY FOR SHUT-DOWN OF SERVICE TO MAKE CONNECTIONS TO THE 460 VOLT SERVICE SOURCE ONLY AFTER ALL WORK IS COMPLETED WITH EXCEPTION TO THE CONNECTION.
- THE ELECTRICAL CONTRACTOR SHALL MEGGER ALL CONDUCTORS AND ASSURE SAFE LOAD SIDE EQUIPMENT PRIOR TO ENERGIZING THE POLICEMEN'S MEMORIAL POOL EQUIPMENT AND LIGHTING.
- THE ELECTRICAL CONTRACTOR SHALL REPLACE THE 75 KVA TRANSFORMER WITH SAME CAPACITY AND KIND FROM 460V DELTA TO 208/120V WYE AND GROUND THE CENTER CONNECTION TO PROVIDE A NEUTRAL. ADDITIONAL GROUNDING OF THE GROUNDED CONDUCTOR NOT ALLOWED UNLESS REQUIRED BY THE NEW YORK CITY ELECTRICAL ADVISORY BOARD. GROUND TO GROUND BAR IN THE SERVICE VAULT ONLY. GROUNDING ELECTRODE CONDUCTOR IS TO BE A MINIMUM OF 2/0 AWG. SINGLE UNBROKEN/UNSPLICED CONDUCTOR AND OTHERWISE ACCORDING TO NYC ELECTRICAL CODE.
- SECONDARY LOAD SIDE FUSED DISCONNECT IS TO BE INSTALLED AS INDICATED WITH TYPE LA LIQUID TIGHT FLEXIBLE METALLIC CONDUIT AND APPROVED CONNECTORS.
- THE ELECTRICAL CONTRACTOR SHALL REPLACE THE NOW CORRODED STEEL TROUGH AT THE WALL PENETRATION WITH A NEMA 4X 316 STAINLESS STEEL TROUGH.
- THE ELECTRICAL CONTRACTOR SHALL CLEAN AND RESTORE THE EXISTING UNDERGROUND CONDUIT PRIOR TO REPAIRING NEW 4 X 4/0 AWG CONDUCTORS INTO THE CLEANED AND SWABBED, AIR DRIED CONDUIT TO FEED THE POLICEMEN'S MEMORIAL VAULT SAFETY DISCONNECT SWITCH, A 200 AMP UNFUSED SWITCH RATED FOR 100,000AIC RMS.
- THE CONTRACTOR SHALL ENERGIZE THE SWITCH AND VERIFY PROPER PHASE ROTATION.



Consultants:
ENSIGN ENGINEERING, P.C.
1111 Calhoun Ave.
Bronx, N.Y. 10465
TEL. 718-863-5590 FAX. 718-863-6178
WWW.ENSIGNENGINEERING.COM

NOTE: Drawing may be printed at reduced scale.
Refer to graphic scale.

No.	Date	Revision



Project Engineer: CARL J. CANNIZZARO, P.E.
Designer: EUGENE KIELMANOWICZ, P.E.
Drawn by: ALVIN WONG
Checked by: CARL J. CANNIZZARO, P.E.
Design No. or LLW No.: - Facility Code: N/A Date: 05/17/13

Project: POLICE MEMORIAL SERVICE
RECONSTRUCTION - SUPERSTORM SANDY
BATTERY PARK CITY AUTHORITY
Address: MANHATTAN
NEW YORK, NY

Drawing Title: ELECTRICAL SERVICE PLAN

Drawing No.: **E203.00**

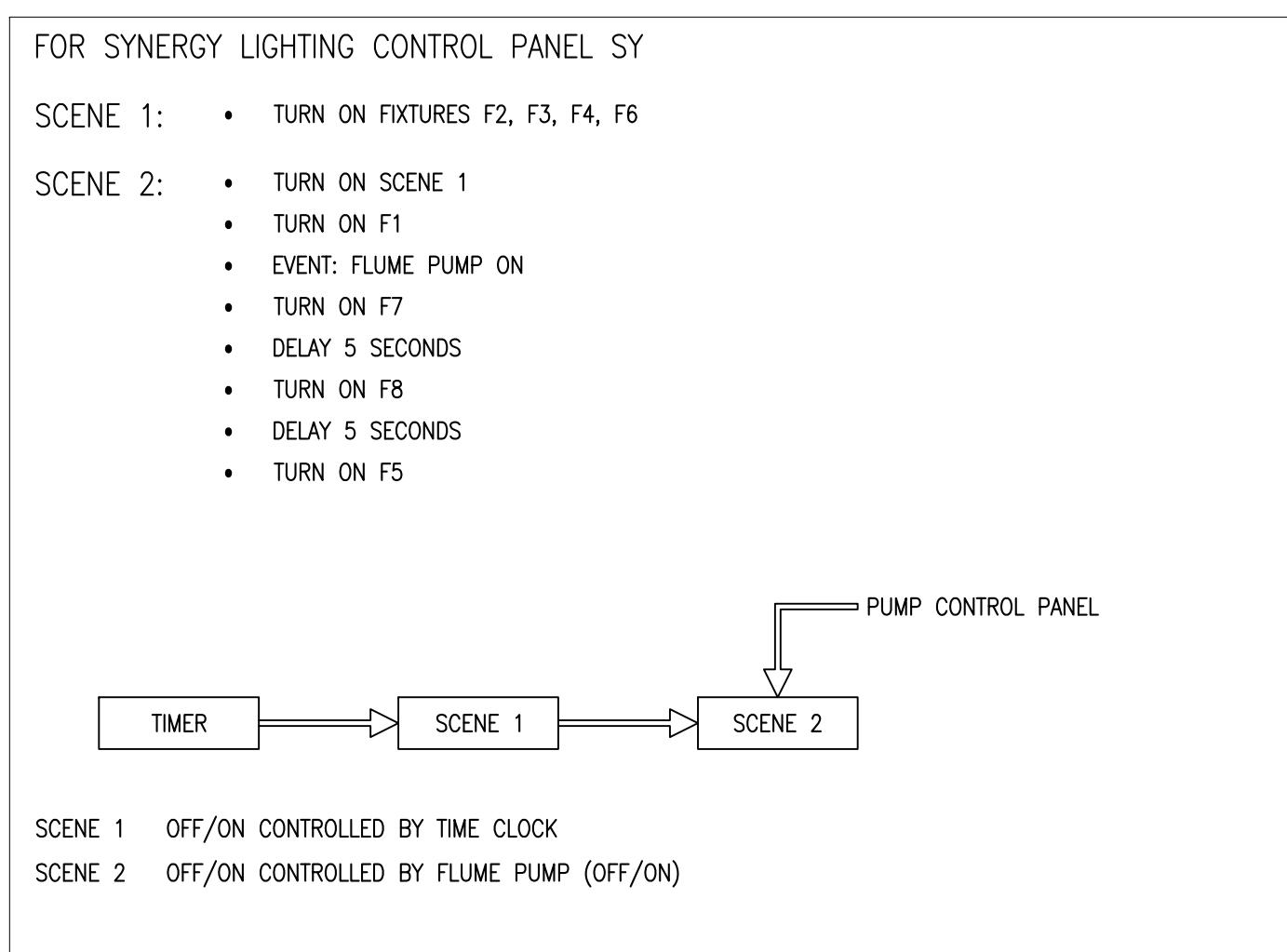
Sheets in Contract: 17 of 23



LIGHT FIXTURE SCHEDULE

TYPE	QUANTITY	LOCATION	OUTSIDE DIA.	INSIDE DIA.	MANUFACTURER	MODEL	LAMP (WATTS)	VOLTAGE	DESCRIPTION	COMMENTS
F1	14	POOL WEST WALL, IN GROUND POOL	5" (WALL OPENING 5 1/2" DIA. 1 1/8" COUNTERSUNK)	3"	HYDREL	4800 LED 12 WHT53K MFL CLC YM CSL120 LP	9W	12V	LED MEDIUM FLOOD	REPLACE FIXTURE WITH SUITABLE OR SUPERIOR TYPE AS EXISTING.
F2	6	IN GROUND AT (3) FLAG POLES (POLES 5' TALL EACH)	9 1/2"	6"	HYDREL	M9420 B 12LED WHT53K MVOLT MFL FLC LP BZ	12W	120V	LED MEDIUM FLOOD	
F3	6	RAMP NORTH WALL, STEPS SIDE WALL, WALL BELOW BENCH	7"	5	HYDREL	4800 RD B LED 120 WHT53K MFL CLC MN RG CSL120 LP	9W	120V	LED MEDIUM FLOOD	
F4	10	IN GROUND ALONG NAME WALL BASE	25.16"	24"	HYDREL	RHY2 NRPS WHT53K MVOLT WWD KM CSL120 BLA	12.56W/FT120V	120V	LED -2FT FIXTURE	
F5	1	WATERFALL BASE	6"	2"	HYDREL	4800 LED 12 WHT53K NSP CLC YM CSL120 LP	9W	12V	LED NARROW SPOT	
F6	1	NICHE ON WALL ABOVE PLAQUE	6"		LITHONIA	WFL2 70M GZ 120 DNA LP1	70W	120V	LED WALLGRAZING	
F7	4	SUBMERSIBLE AT ROOKIE FOUNTAIN	5"	3"	HYDREL	4800 LED 12 WHT53K NSP CLC YM CSL120 LP	9W	12V	LED NARROW SPOT	
F8		ALONG FLUME ON NORTH EDGE	FIBEROPTIC 3/4" WIDE			REUSE EXISTING FIXTURE			SUPPLY NEW ILLUMINATOR AND COMPONENTS.	LOW VOLTAGE TRANSFORMER T1900
F9	3	CEILING VAULT	PENDANT ROUND	3.5" x 3.5" x 11.25" L	KACM	1 63B350/40K SR5 120 DBLXD	73W	120V	LED SURFACE MOUNT	

SEE E701.00 FOR EXISTING FIXTURE DETAILS.



PANEL SVELB MLX

SCENE LIGHTING PLAN

SCALE: N.T.S.

NOTES:

- ELECTRICAL CONTRACTOR SHALL CONNECT MECHANICAL SYSTEM CONTROLS AND CONDUCTORS TO THE NEW LIGHTING CONTROLS TO INTERACT WITH SEQUENTIAL OPERATION OF FOUNTAIN AND COORDINATE LIGHT SCENES AND SCHEDULES ACCORDINGLY.

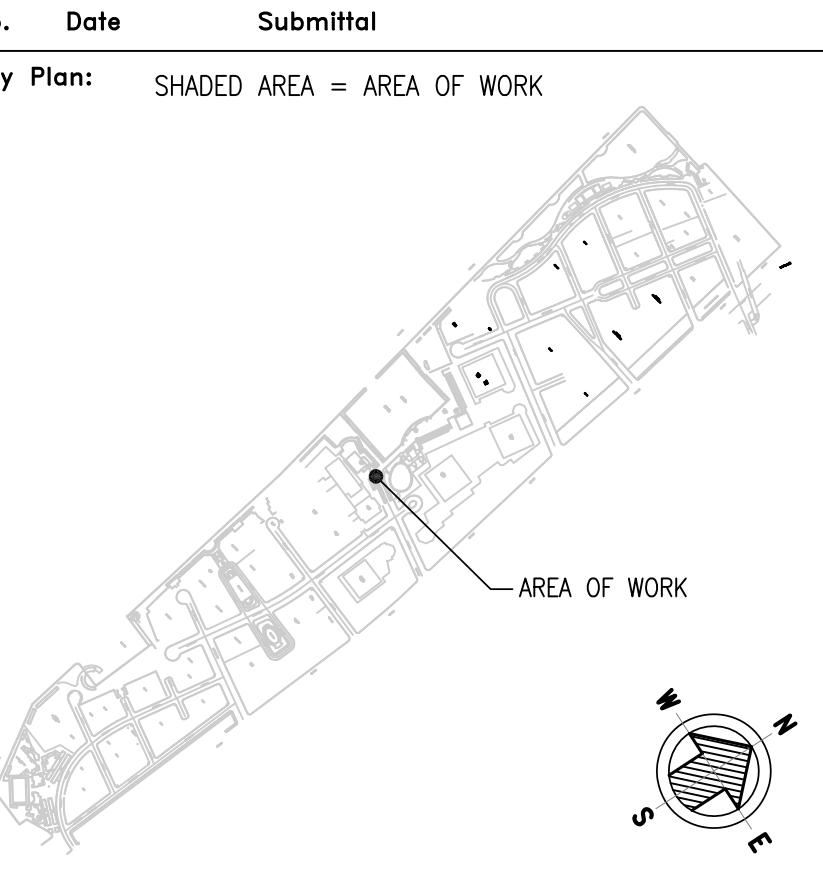
Consultants:



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1111 Calhoun Ave.
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TEL. 718-863-5590 FAX. 718-863-6178
WWW.ENSIGNENGINEERING.COM

NOTE: Drawing may be printed at reduced scale. Refer to graphic scale.

No.	Date	Revision



Project Engineer:	CARL J. CANNIZZARO, P.E.	
Designer:	EUGENE KIELMANOWICZ, P.E.	
Drawn by:	ALVIN WONG	
Checked by:	CARL J. CANNIZZARO, P.E.	
Design No. or LLW No.:	Facility Code:	Date:
-	N/A	05/17/13

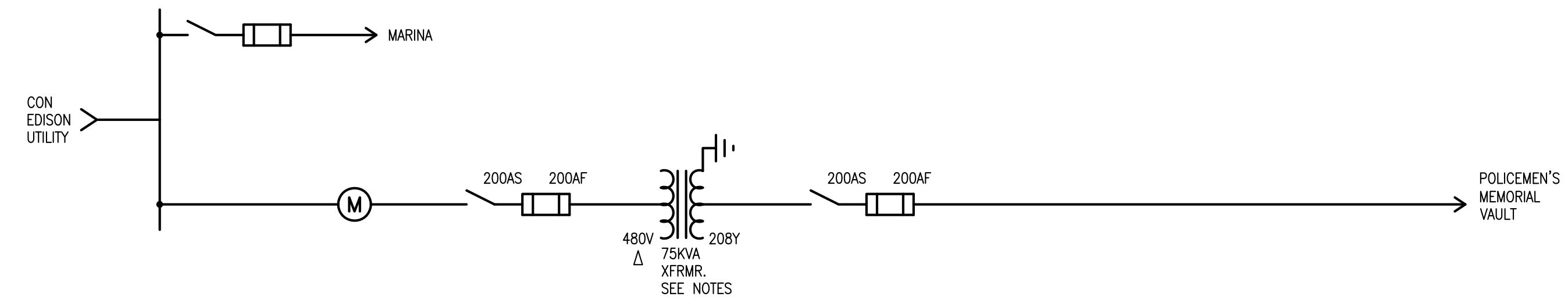
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Address:	MANHATTAN NEW YORK, NY	
Drawing Title:		

Drawing No.:	
	E401.00

Sheets in Contract:
18 of 23



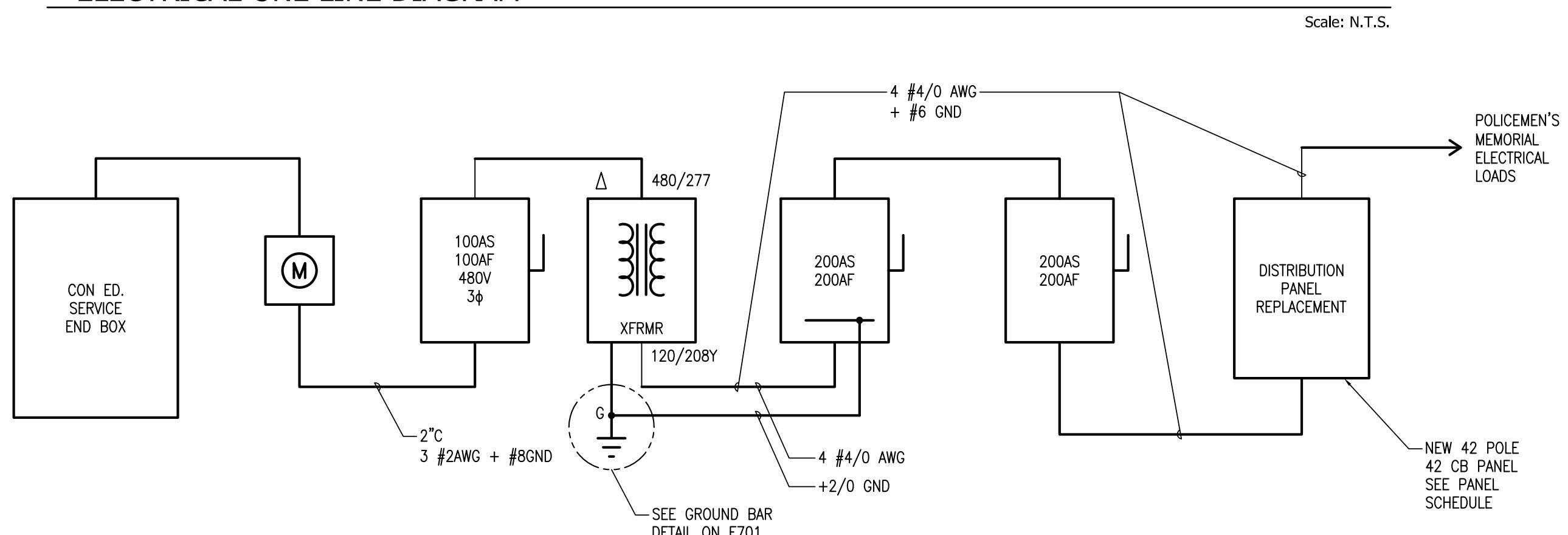
HUGH L. CAREY
BATTERY PARK
CITY AUTHORITY



NOTES:

- ELECTRICAL CONTRACTOR SHALL SUBMIT COMPLETE SYSTEM CONFIGURATION INCLUDING PORTION REQUIRED BY NYC EAB OF SHARED SERVICES IN COMMON VAULT ALONG WITH POLICEMEN'S MEMORIAL SERVICE AND FOUNTAIN FOR APPROVAL OF NYC ELECTRICAL ADVISORY BOARD.
- CONNECTION TO CON. EDISON (UTILITY) SERVICE IS TO BE COORDINATED WITH CON EDISON FOR SHUT DOWN, POINT OF CONNECTION.
- CON EDISON SERVICE CONNECTION SHALL BE MADE ONLY WHERE THE UTILITY APPROVES, IN METERING TAPS SECTION WITH APPROVED MATERIALS AND MEANS.

ELECTRICAL ONE LINE DIAGRAM

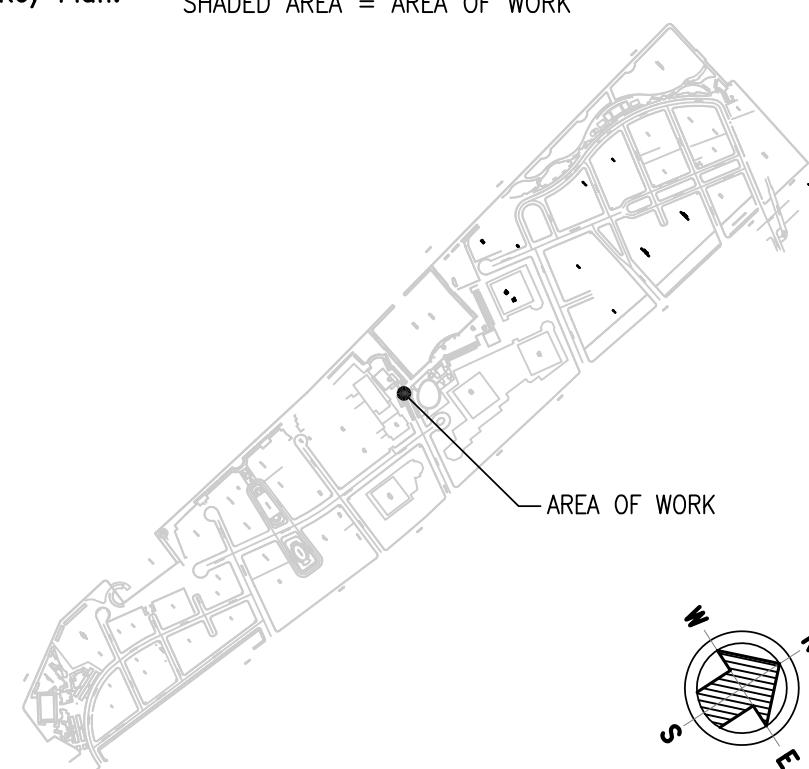


Scale: N.T.S.

NOTE: Drawing may be printed at reduced scale. Refer to graphic scale.

No.	Date	Revision

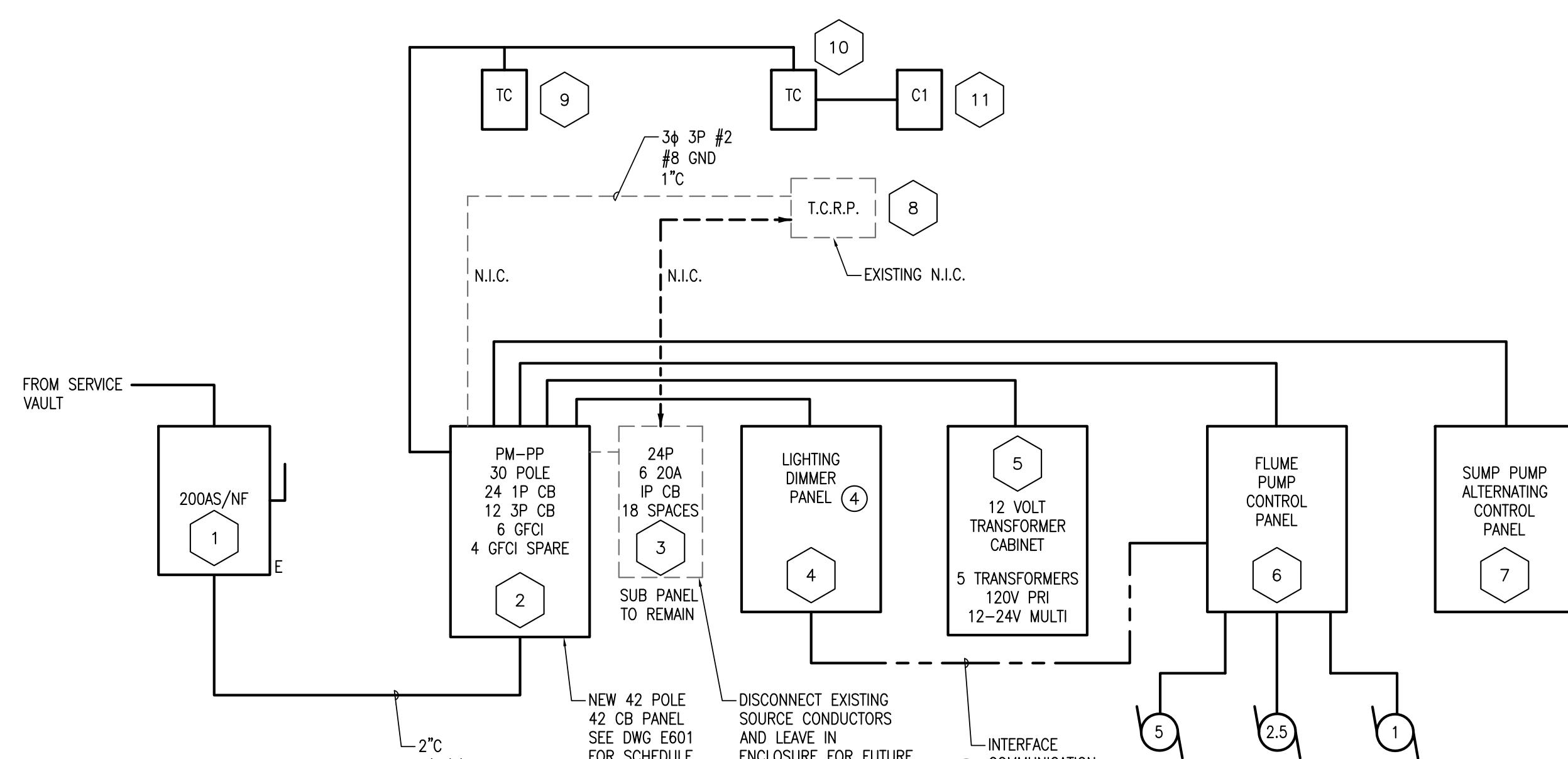
No.	Date	Submittal
Key Plan:	SHADED AREA = AREA OF WORK	



ONE LINE BLOCK DIAGRAM

G - GROUND BUS BAR

Scale: N.T.S.



ONE LINE BLOCK DIAGRAM

Scale: N.T.S.

KEY NOTES:

- (1) SAFETY DISCONNECT SWITCH
- (2) NEW 30 POLE C.B. PANEL
- (3) EXISTING IRRIGATION SUB PANEL (N.I.C.)
- (4) LIGHTING DIMMER PANEL
- (5) 12V TRANSFORMER CABINET
- (6) FLUME PUMP CONTROL PANEL
- (7) SUMP PUMP CONTROL PANEL
- (8) TIMER CONTROLLED RELAY PANEL (IRRIGATION) (N.I.C.)
- (9) TIME CLOCK MEMORIAL POOL
- (10) TIME CLOCK MAIN LTG.
- (11) CONTRACTOR (EXISTING)

Project Engineer:	CARL J. CANNIZZARO, P.E.
Designer:	EUGENE KIELMANOWICZ, P.E.
Drawn by:	ALVIN WONG
Checked by:	CARL J. CANNIZZARO, P.E.
Design No. or LLW No.:	N/A
Facility Code:	
Date:	05/17/13

Project:	POLICE MEMORIAL SERVICE RECONSTRUCTION - SUPERSTORM SANDY BATTERY PARK CITY AUTHORITY
Address:	MANHATTAN NEW YORK, NY

Drawing Title:	ELECTRICAL ONE LINE DIAGRAM, SCHEMATIC AND NOTES
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Drawing No.:	E501.00
Sheets in Contract:	19 of 23

- TRACE OUT CIRCUITS AND SUBMIT AS BUILT CONDITION EXISTING DRAWING TO ENGINEER OF RECORD.
- REUSE EXISTING UNDERGROUND CONDUIT AND REPLACE CONDUIT IN VAULT. CLEAN, BALL BRUSH UNDERGROUND CONDUITS BEFORE REPELLING.
- PROVIDE CONDUIT AND CABLE AS REQUIRED THROUGH COORDINATION TO PROVIDE ELECTRICAL TO MECHANICAL INTERFACE IN LIGHTS AND WATER DISPLAY.
- LIGHTING DIMMER PANEL - SYNERGY SYMB 12DB1 8LB1 MLX NBAR LCP-1 OR APPROVED EQUAL.



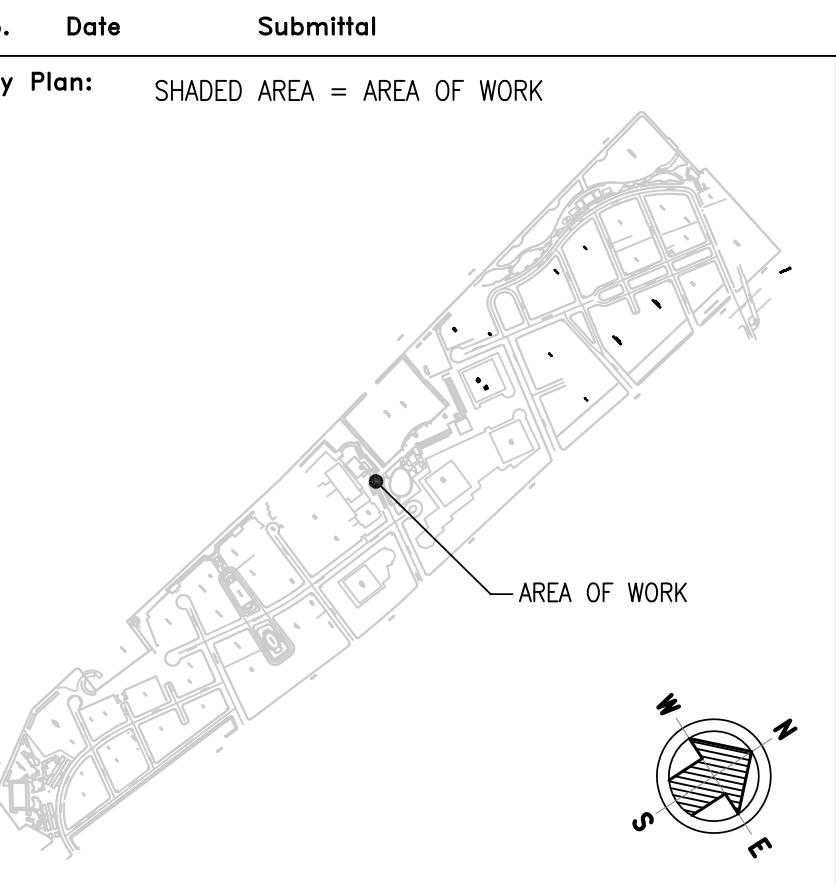
HUGH L CAREY
BATTERY PARK
CITY AUTHORITY

Consultants:

ENSIGN ENGINEERING, P.C.
 1111 Calhoun Ave.
 Bronx, N.Y. 10465
 TEL. 718-863-5590 FAX. 718-863-6178
WWW.ENSIGNENGINEERING.COM

NOTE: Drawing may be
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No.	Date	Revision



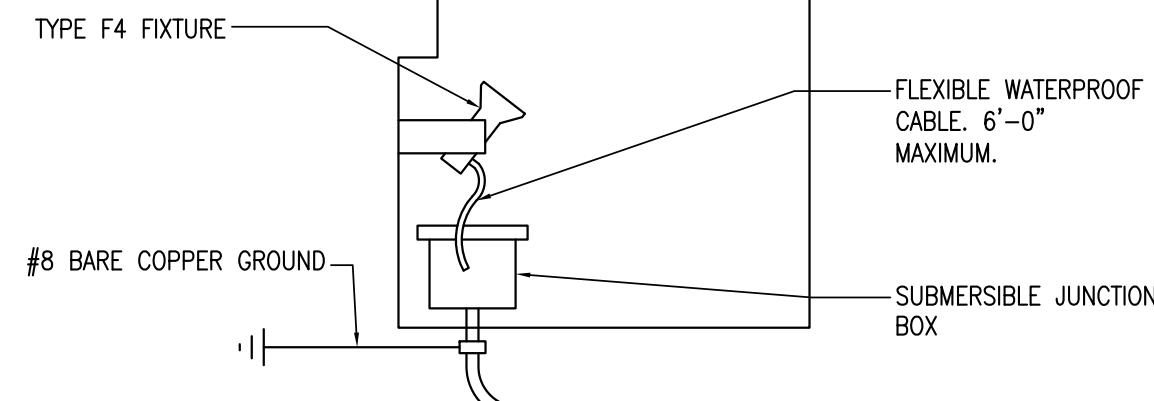
Project Engineer: CARL J. CANNIZZARO, P.E.
 Designer: EUGENE KIELMANOWICZ, P.E.
 Drawn by: ALVIN WONG
 Checked by: CARL J. CANNIZZARO, P.E.
 Design No. or LLW No.: - Facility Code: N/A Date: 05/17/13

Project: POLICE MEMORIAL SERVICE
 RECONSTRUCTION - SUPERSTORM SANDY
 BATTERY PARK CITY AUTHORITY
 Address: MANHATTAN
 NEW YORK, NY

Drawing Title: ELECTRICAL DETAILS

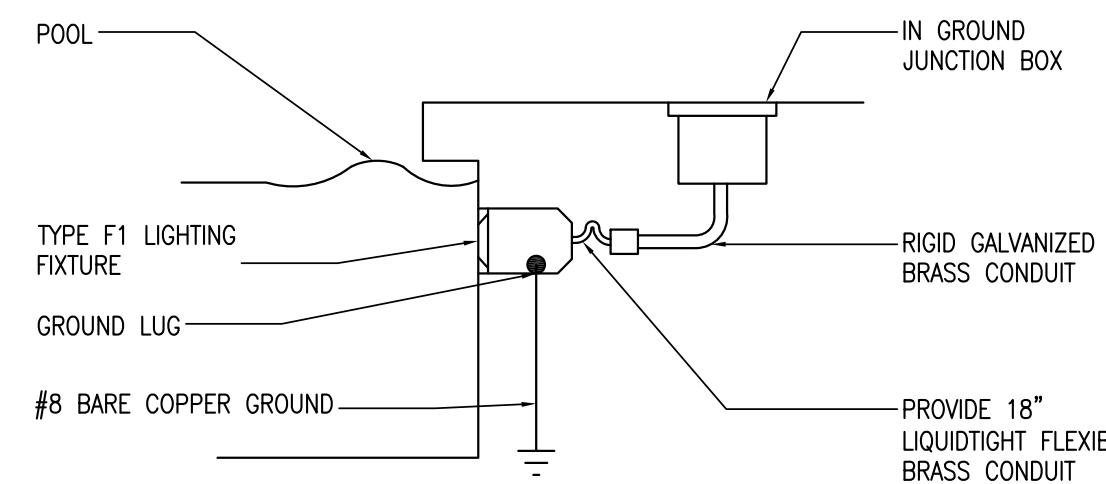
Drawing No.: E701.00

Sheets in Contract:
 20 of 23



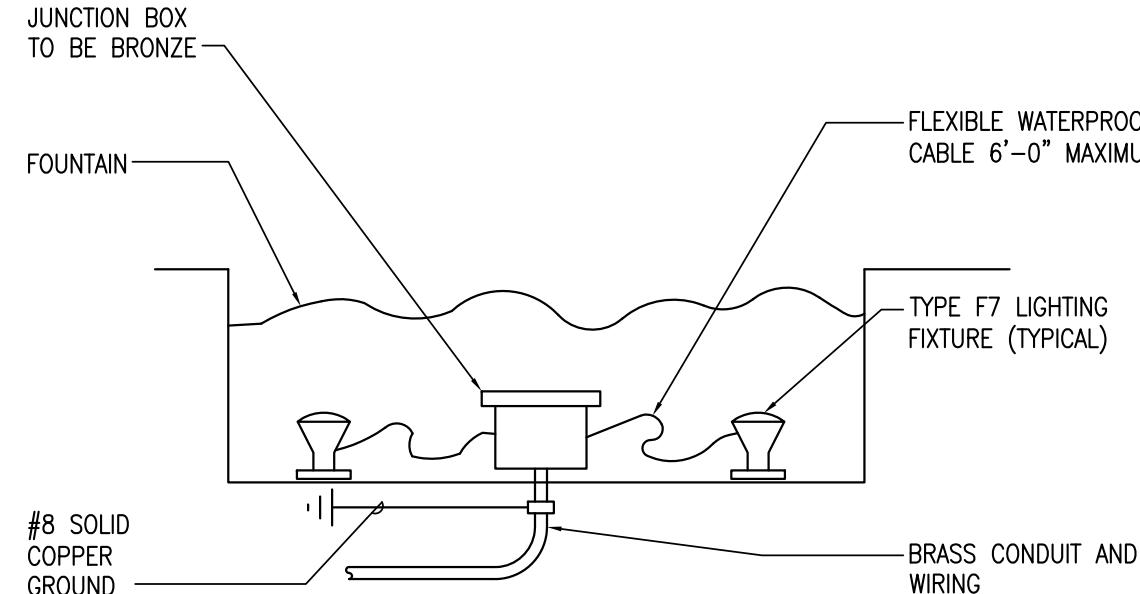
1 TYPE F4 FIXTURE WIRING DETAIL

Scale: N.T.S.



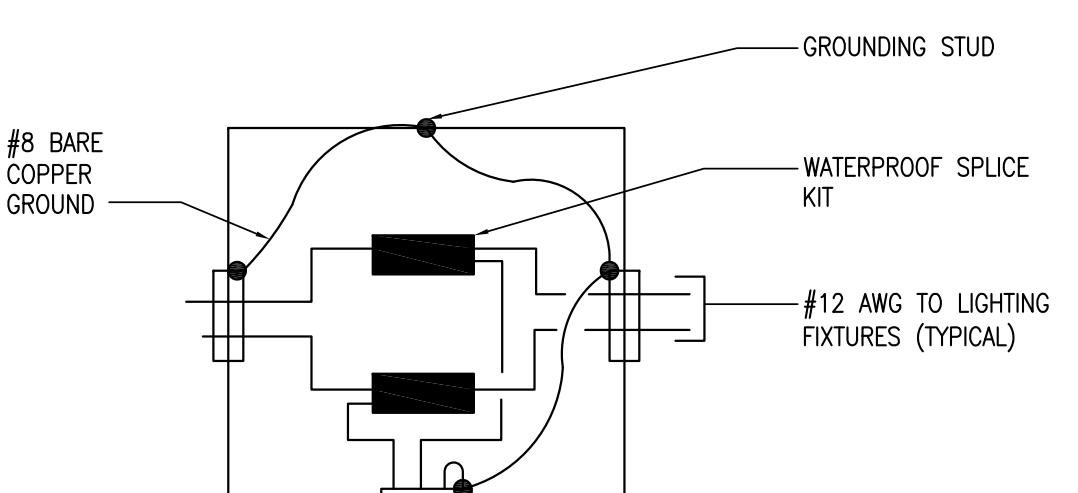
2 TYPE F1 FIXTURE WIRING DETAIL

Scale: N.T.S.



3 TYPE F7 FIXTURE WIRING DETAIL

Scale: N.T.S.

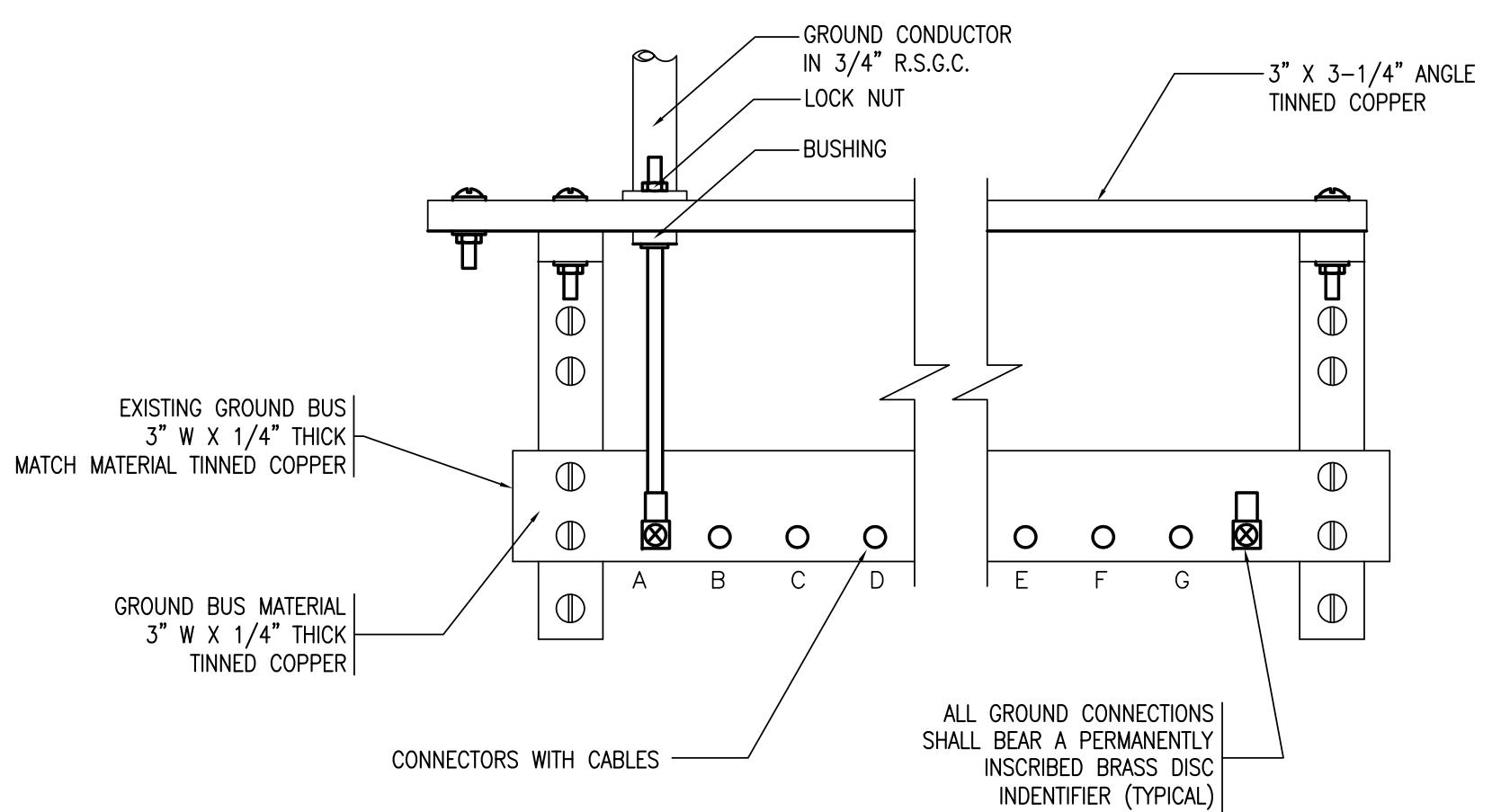


NOTE:

ALL BRANCHES TO LIGHTING FIXTURES TO BE #12 AWG - 3/4" CONDUIT
UNLESS OTHERWISE NOTES.

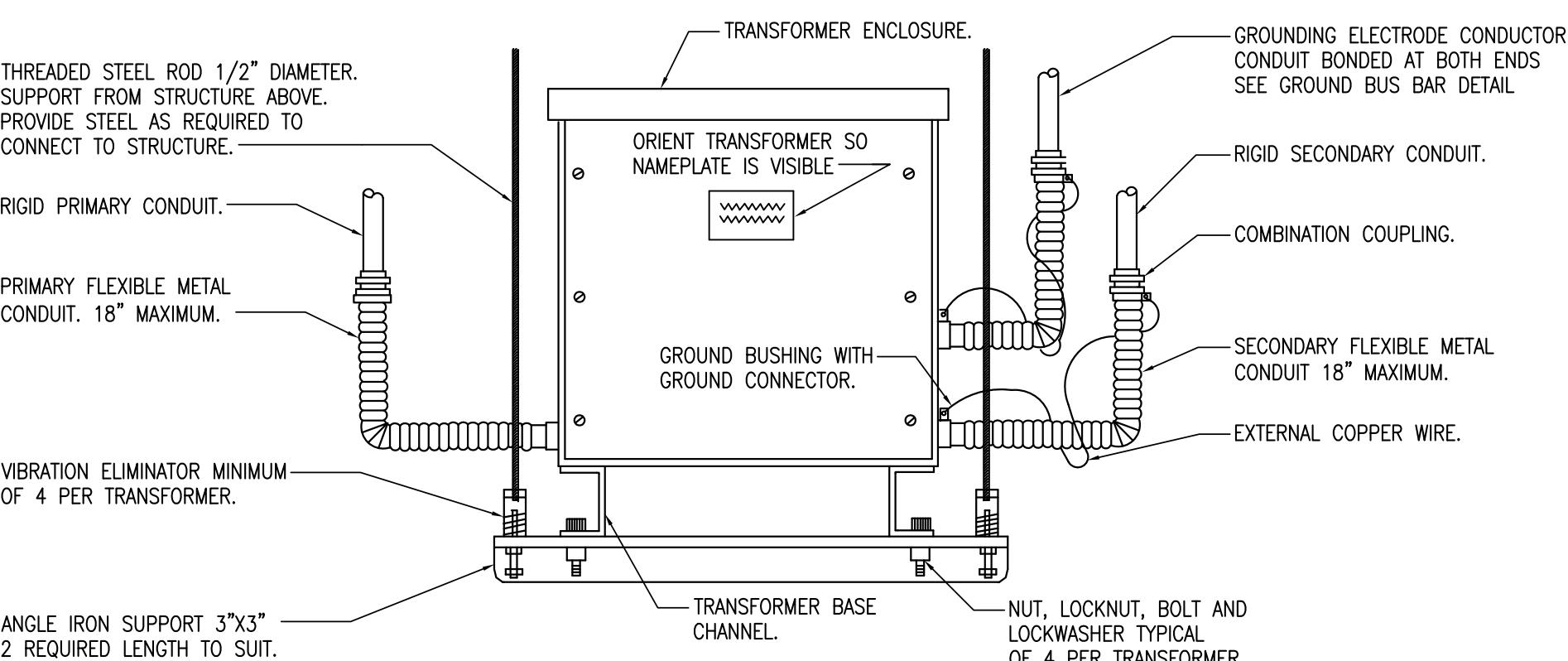
4 TYPICAL BOX SPLICING AND GROUNDING DETAIL

Scale: N.T.S.



5 GROUNDING EXISTING GROUND BUS AND NEW CONNECTIONS

Scale: N.T.S.



TRANSFORMER TRAPEZE MOUNTING DETAIL

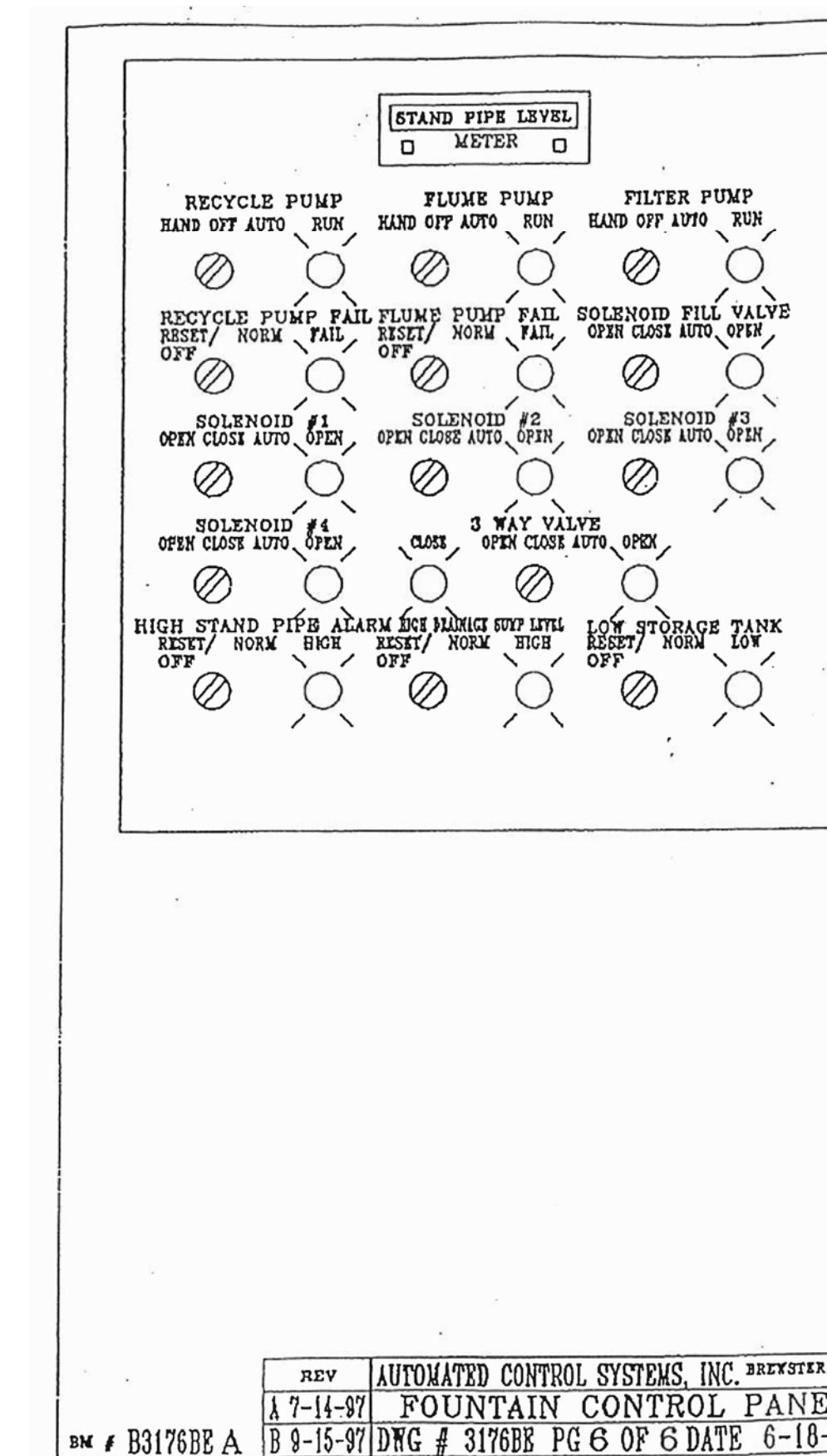
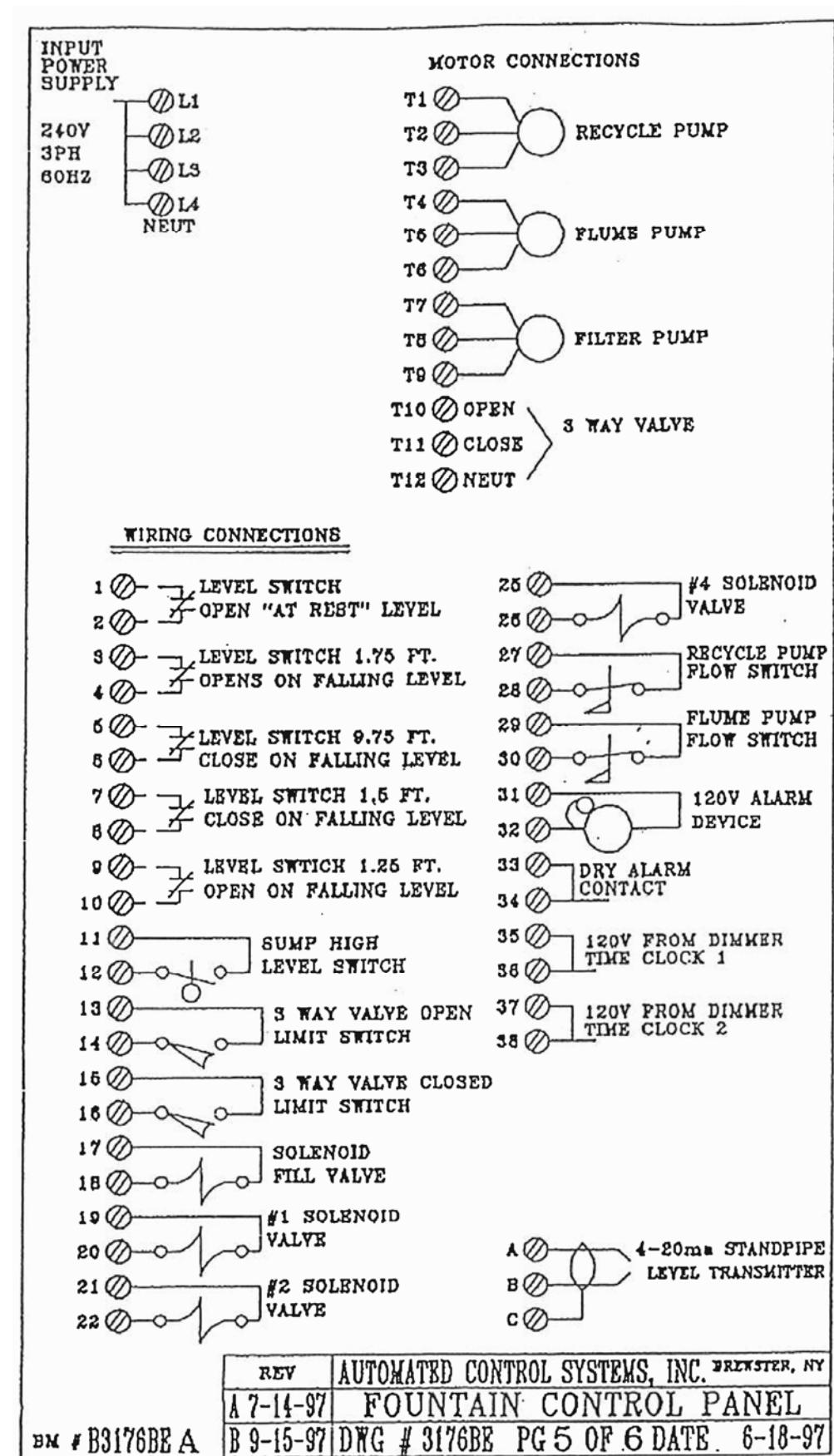
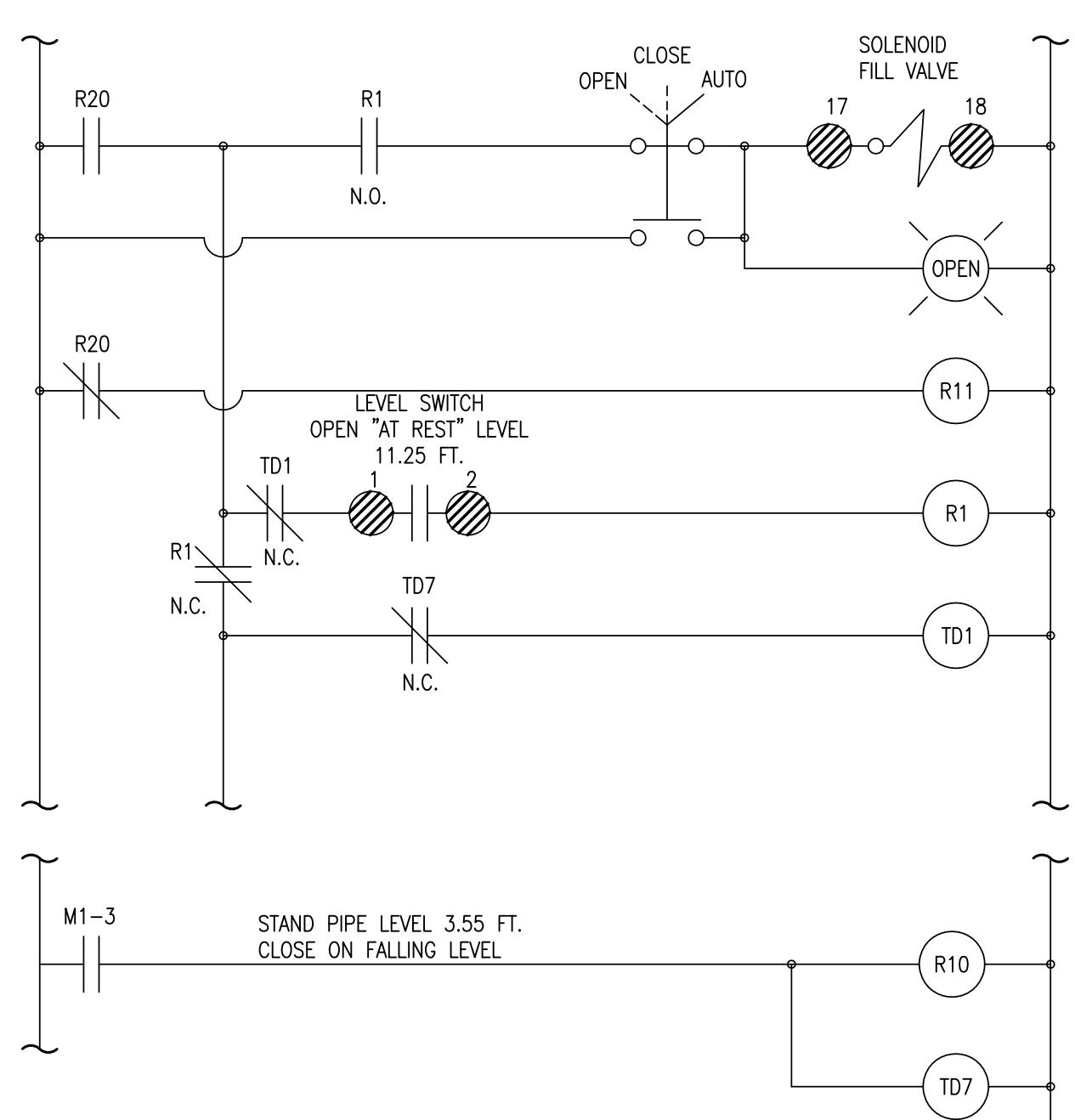
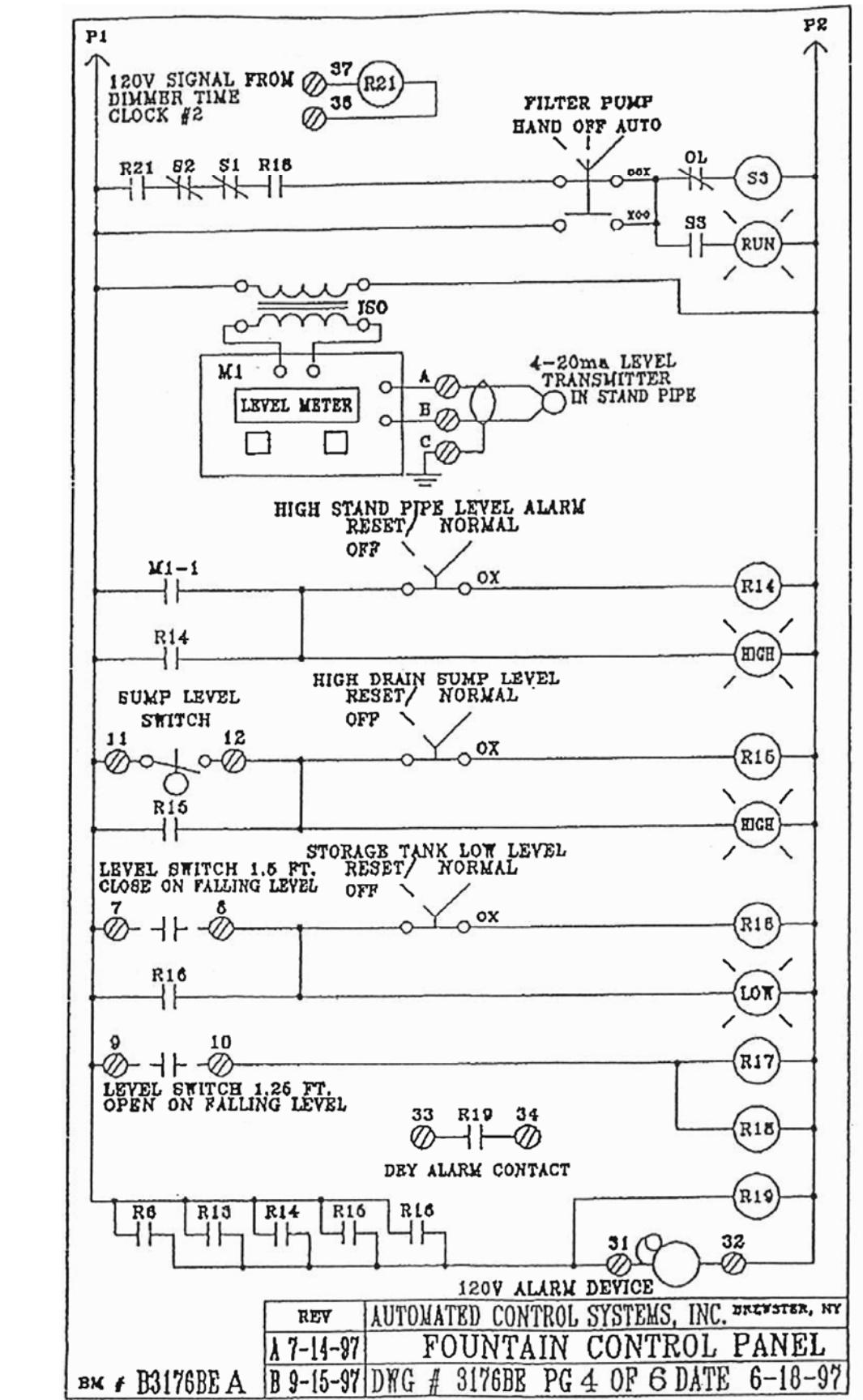
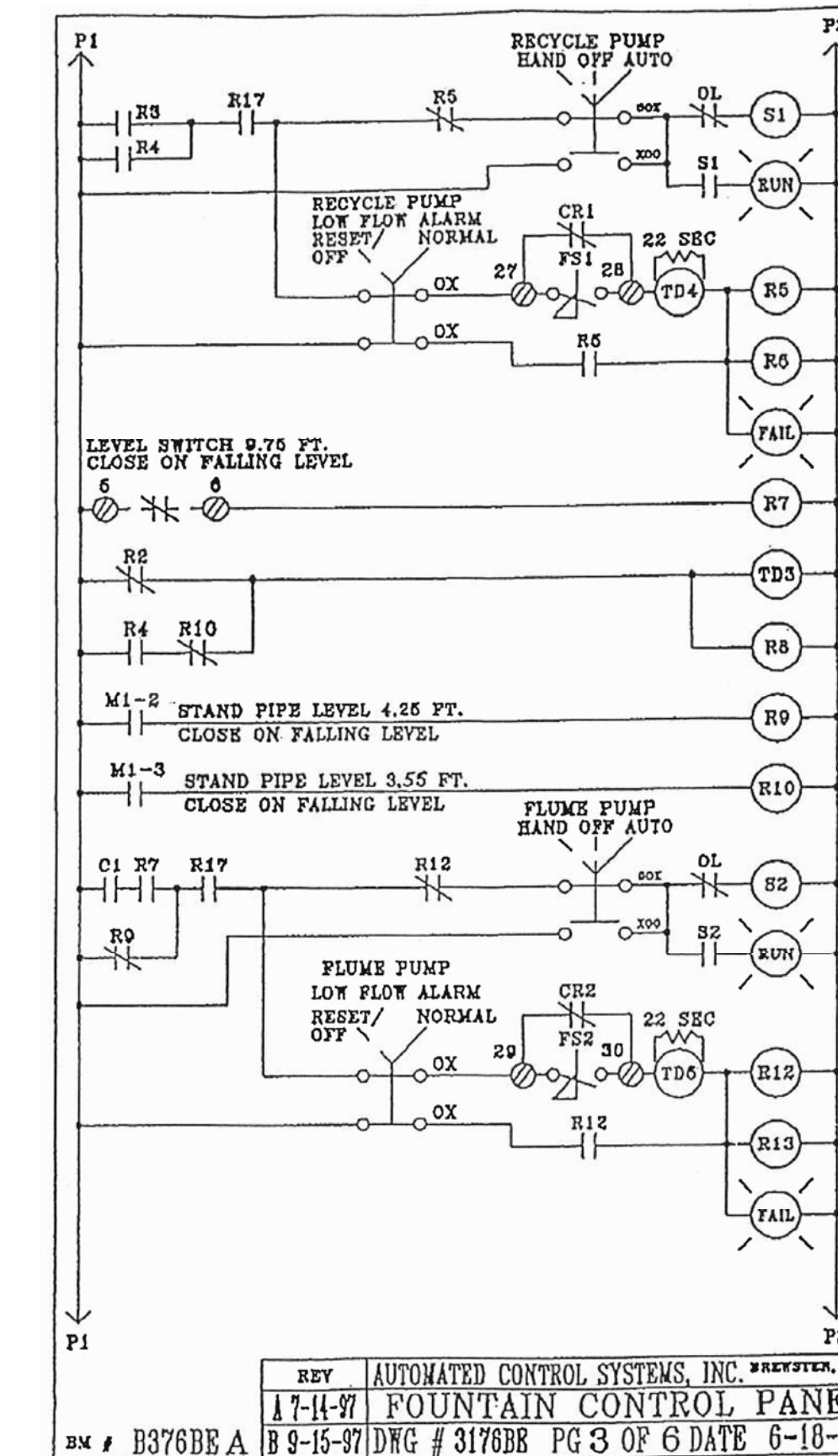
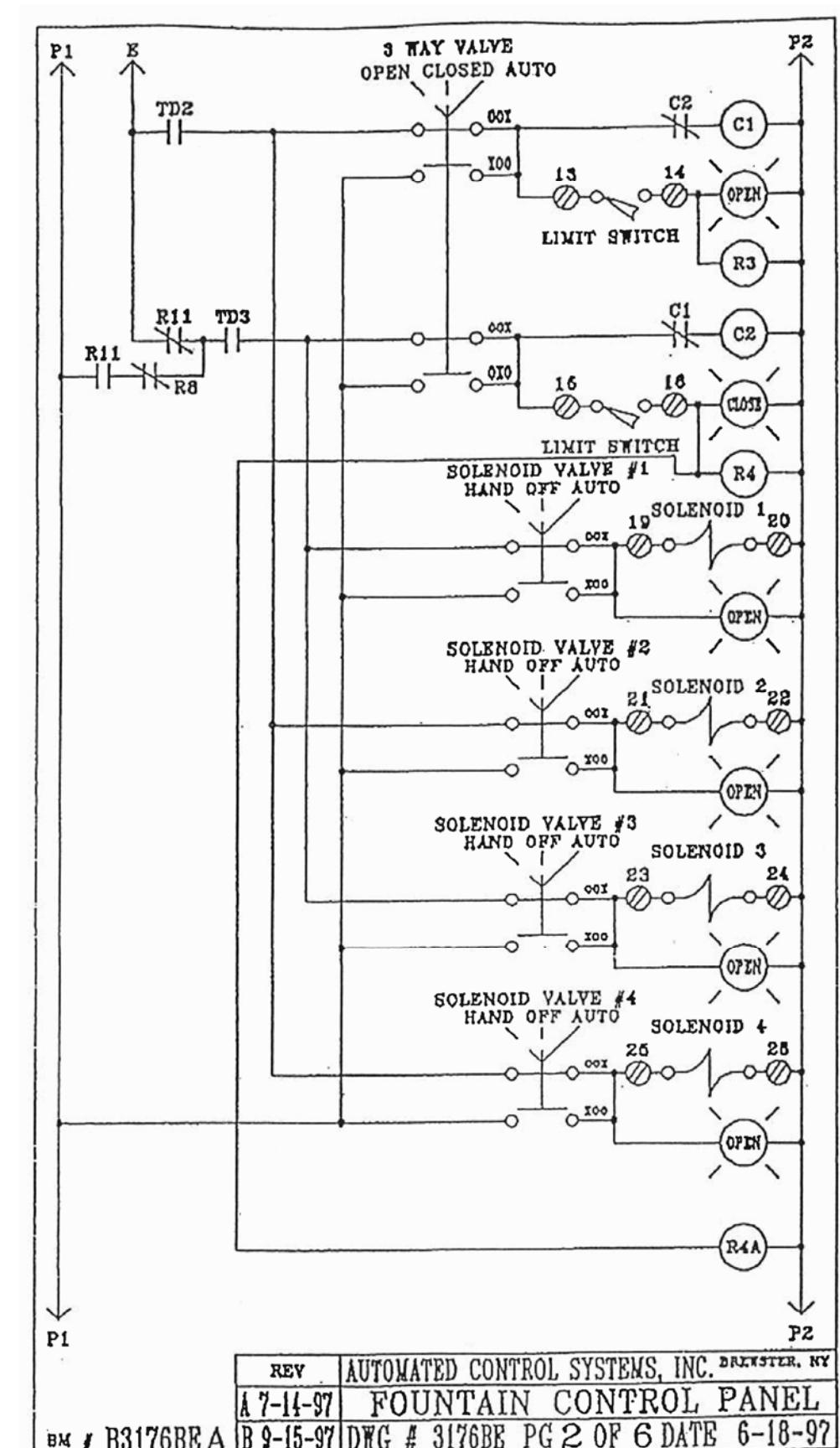
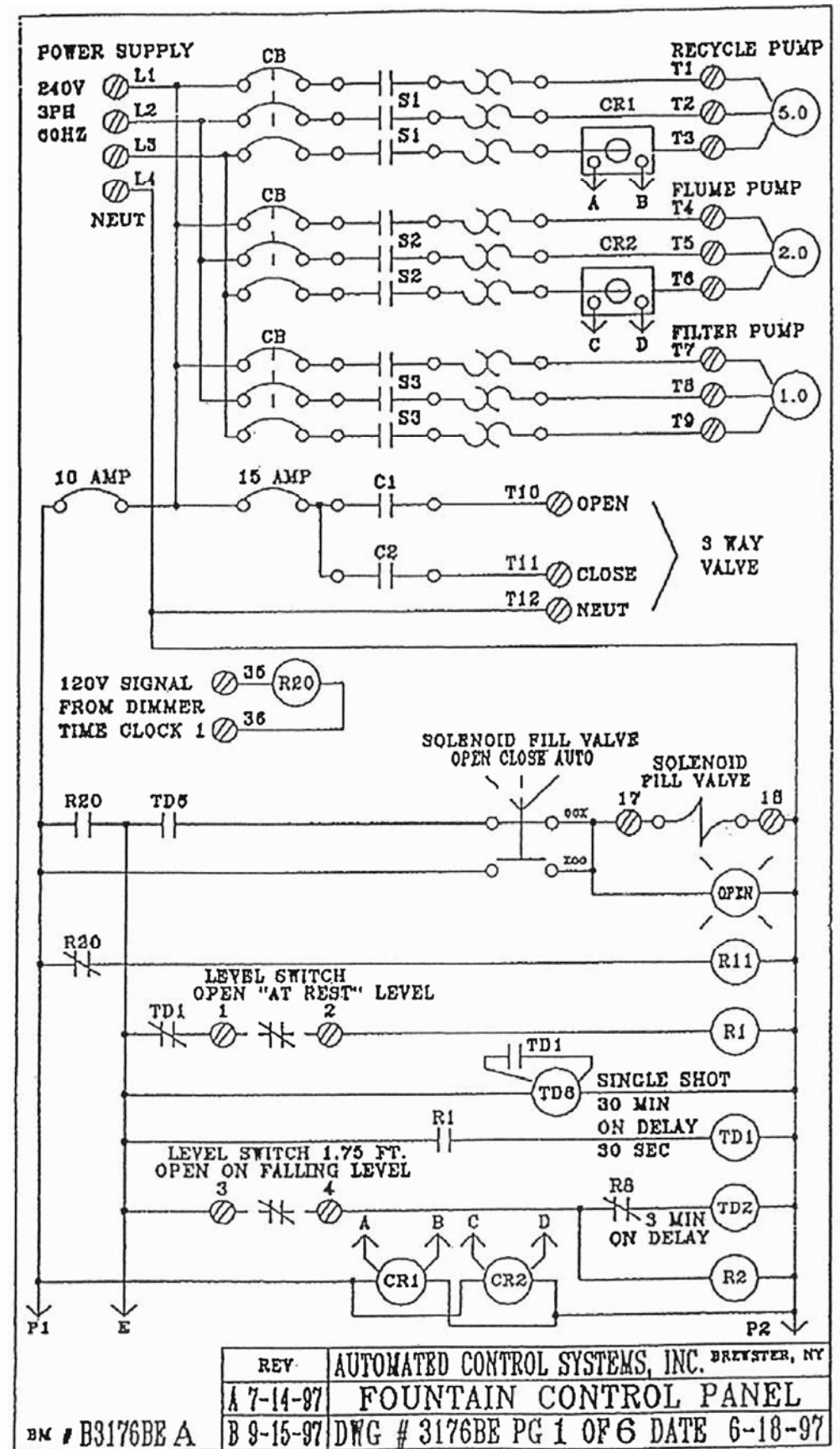
N.T.S.

NOTES:

1. THIS DETAIL APPLIES TO INSTALLATIONS UP TO 75 KVA. INSTALLATIONS ABOVE 75 KVA MUST BE REVIEWED BY A STRUCTURAL ENGINEER.
2. TRANSFORMER SHALL BE MOUNTED 6'6" A.F.F. TO BOTTOM OF ANGLE IRON WHEREVER FEASIBLE.

6 TRANSFORMER MOUNTING CONNECTION AND BONDING DETAIL

Scale: N.T.S.



NOTES:

1. CONTRACTOR SHALL INTEGRATE INDICATED FUNCTIONALITY INTO NEW INSTRUMENTATION AND CONTROL WITH EQUIPMENT READILY AVAILABLE OR MANUFACTURED.

DRAWING PROVIDED FOR INFORMATION ONLY

PANEL SHALL INTERFACE WITH LIGHTING CONTROL PANEL SYNERGY SYELB MLX (NETWORK).

NEW PANEL TO BE DESIGNED AND
MANUFACTURED BY AUTOMATED CONTROL
SYSTEMS, INC.



HUGH L CAREY
BATTERY PARK
CITY AUTHORITY

Consultants:

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1111 Calhoun Ave.

Bronx, N.Y. 10465

TEL. 718-863-5590 FAX. 718-863-6178

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NOTE: Drawing may be printed at reduced scale.
Refer to graphic scale.

No. Date Submittal

Key Plan: SHADED AREA = AREA OF WORK

The figure shows a site plan of a residential or institutional complex. A specific area within the plan is shaded with diagonal lines. A black dot is placed on the boundary of this shaded area. A line extends from this dot to the text "AREA OF WORK". In the bottom right corner, there is a circular compass rose with arrows pointing North (N), South (S), East (E), and West (W).

Project Engineer:	CARL J. CANNIZZARO, P.E.
Designer:	EUGENE KIELMANOWICZ, P.E.
Drawn by:	ALVIN WONG
Checked by:	CARL J. CANNIZZARO, P.E.
Design No. or LLW No.:	Facility Code: Date: — N/A 05/17/13

Project: POLICE MEMORIAL SERVICE
RECONSTRUCTION - SUPERSTORM SANDY
BATTERY PARK CITY AUTHORITY

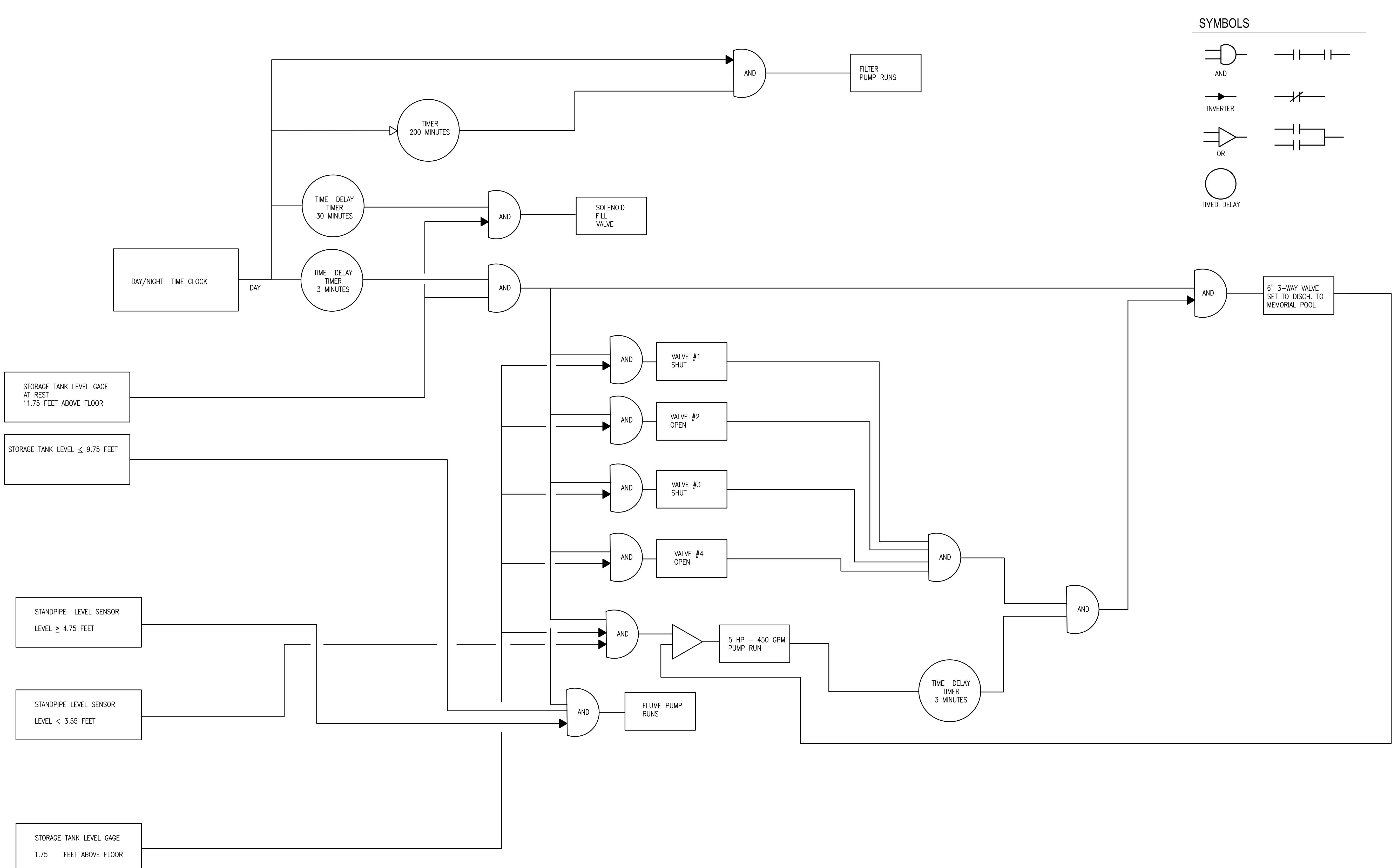
Address: MANHATTAN
NEW YORK, NY

Drawing Title:

ORIGINAL FOUNTAIN
CONTROLS SCHEMATIC
LADDER DIAGRAM

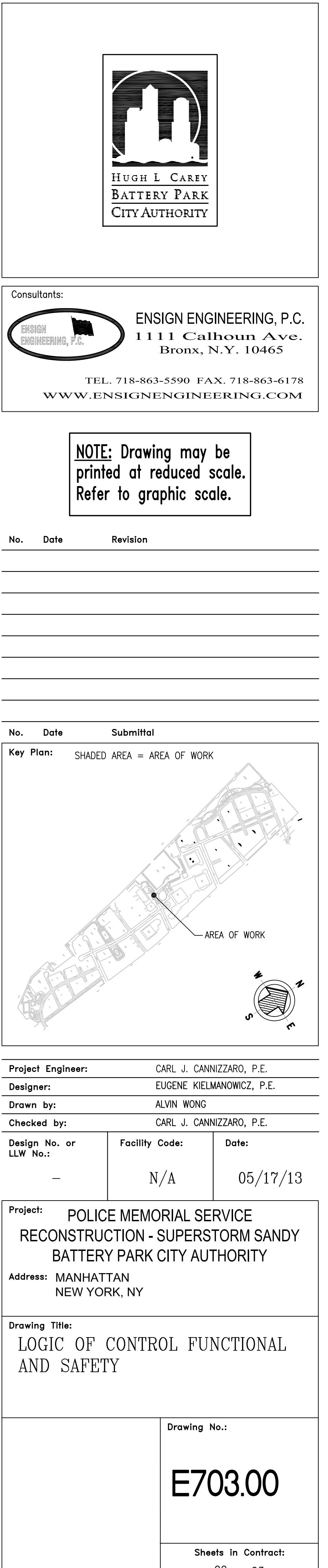
Drawing No.: F700

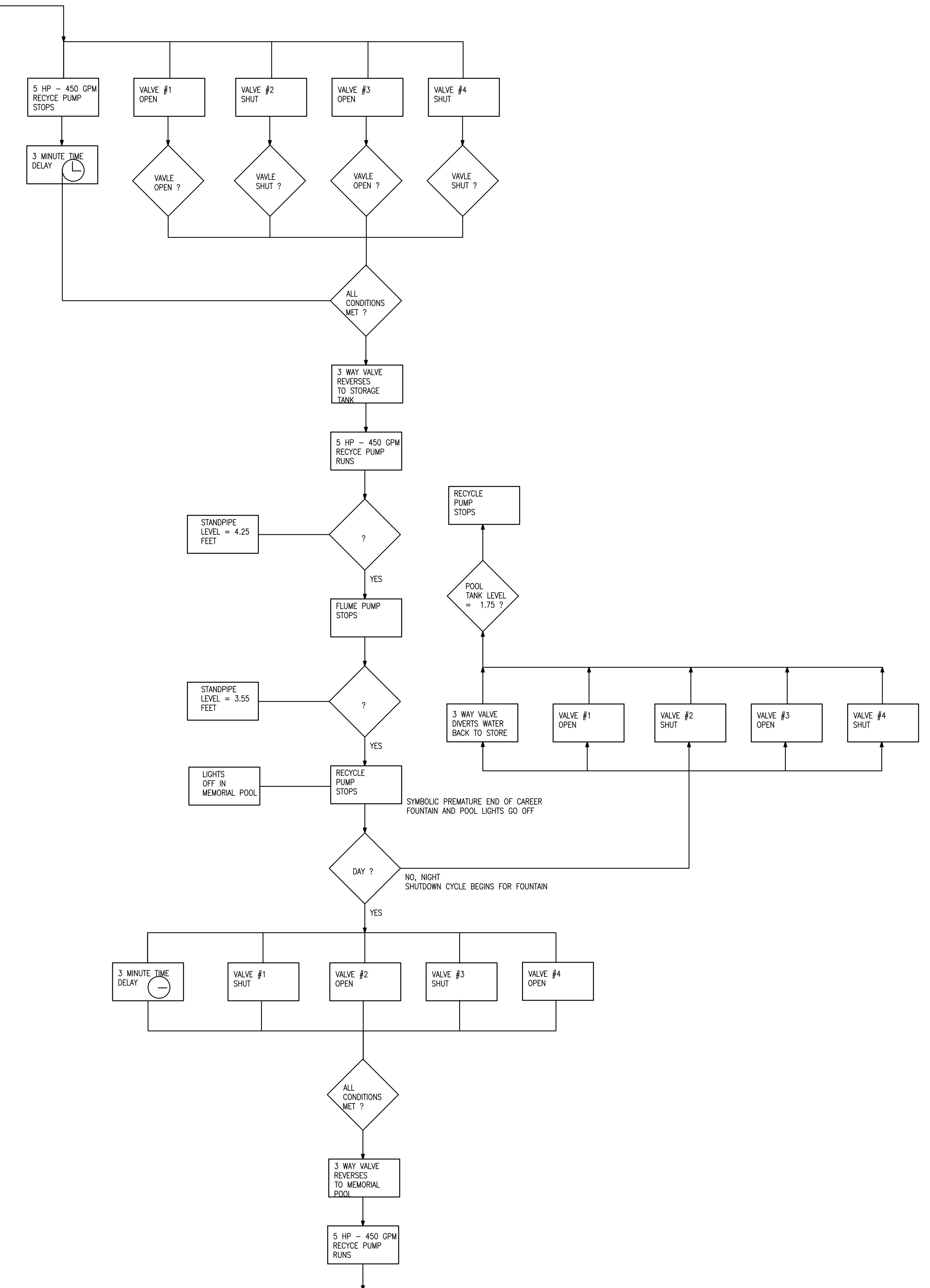
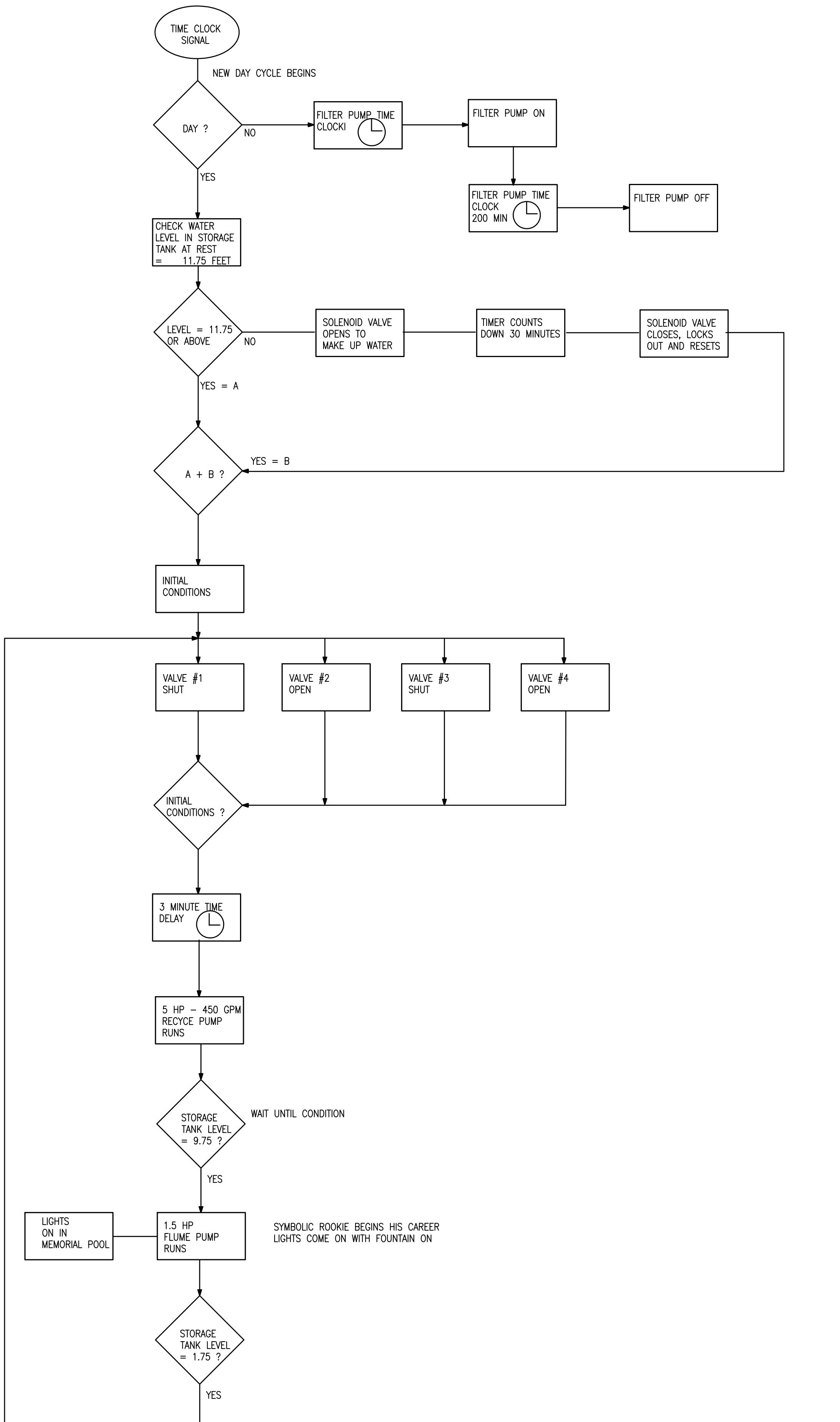
Drawing No.: E702.00



LOGIC OF CONTROL FUNCTIONAL AND SAFETY

Scale: N T S





HUGH L CAREY
BATTERY PARK
CITY AUTHORITY

The logo for Ensign Engineering, P.C. is located at the top left. It features the company name "ENSIGN ENGINEERING, P.C." in a serif font, with "ENSIGN" on top and "ENGINEERING, P.C." on the bottom, enclosed within a dark oval border. To the right of the oval is a small graphic of a flag with stars and stripes.

NOTE: Drawing may be printed at reduced scale.
Refer to graphic scale.

No. Date Submittal

Key Plan: SHADED AREA = AREA OF WORK

The figure is a Key Plan map of a residential area. The map shows a grid of streets and houses. A specific location is highlighted with a black dot and a callout line pointing to the text "AREA OF WORK". In the bottom right corner, there is a compass rose with cardinal directions (N, S, E, W) and intermediate points (NE, NW, SE, SW). The "N" is at the top, "S" is at the bottom, "E" is on the right, and "W" is on the left. The "NE", "NW", "SE", and "SW" points are also indicated.

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FOUNTAIN OPERATIONAL ALGORITHM

Let N.T.S.