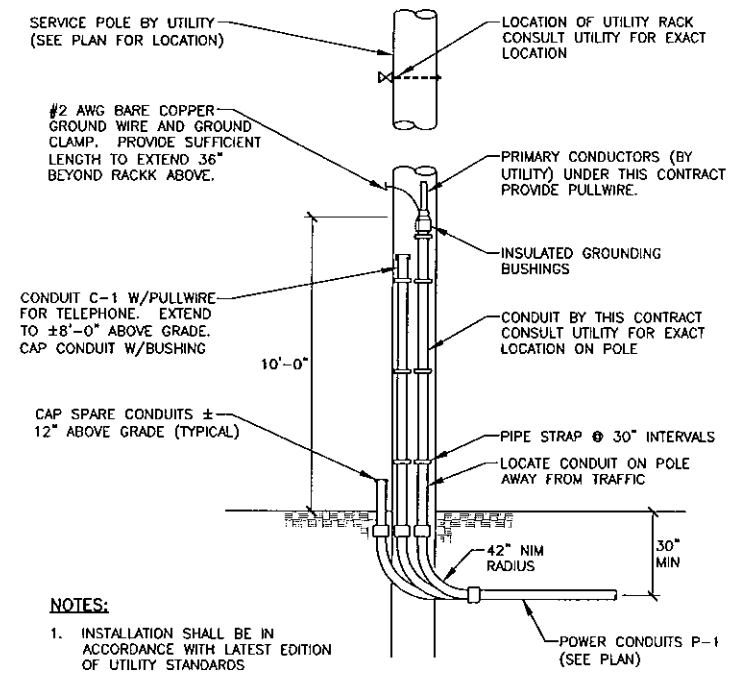


SITE PLAN
SCALE: 1" = 20'

NOTES:

1. PROVIDE 30 AMP NEMA 4, NON-FUSED DISCONNECT SWITCH FOR ENTRANCE GATE OPERATOR.
2. COORDINATE COMMUNICATION CONDUITS (C-1), SECURITY ENTRANCE CONDUITS (P-46 & P-48), PARKING LOT LIGHTS CONDUIT (P-41) AND SERVICE ENTRANCE CONDUITS ROUTING (P-1) WITH STRUCTURAL DRAWINGS.
3. SEE STRUCTURAL DRAWINGS FOR GENERATOR/GENERATOR FUEL TANK PAD DETAILS.



NOTES:

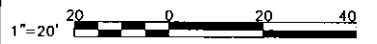
1. INSTALLATION SHALL BE IN ACCORDANCE WITH LATEST EDITION OF UTILITY STANDARDS

INCOMING PRIMARY SERVICE POLE DETAIL
NOT TO SCALE

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IN CHARGE OF MRW
DESIGNED BY TES CHECKED BY JJC
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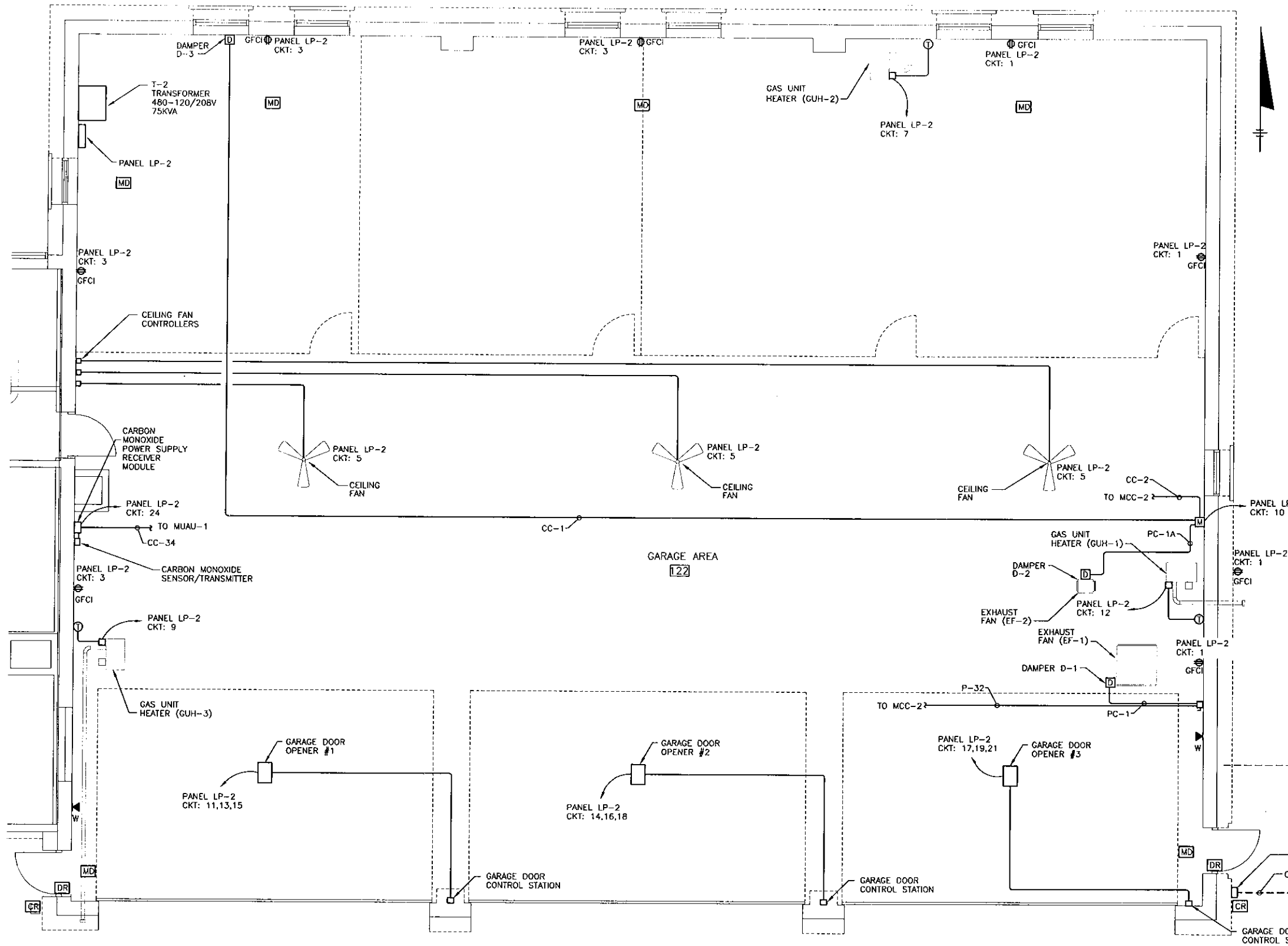


TOWN OF BEDFORD
WATER FILTRATION PLANT &
CONNECTION WITH THE DELAWARE
AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL
SITE PLAN & DETAILS

FILE NO.
14300.43172-351
DATE
OCTOBER 2009

E100



NOTES:

1. PROVIDE 3/4" RSC WITH 2-#14 AWG FROM GAS UNIT HEATERS TO ASSOCIATED THERMOSTAT. (TYPICAL 3)
2. PROVIDE 5-#12 AWG CONDUCTORS IN 3/4" RSC TO EACH CEILING FAN FROM ASSOCIATED 4-SPEED CONTROLLER.
3. INSTALL RECEPTACLES AT 42" ABOVE FINISH FLOOR, WALL MOUNTED TELEPHONE JACKS AT 54" ABOVE FINISH FLOOR, GARAGE DOOR CONTROLLERS AT 44" ABOVE FINISH FLOOR AND THERMOSTATS AT 54" ABOVE FINISH FLOOR.

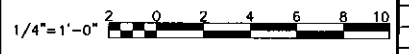
GARAGE AREA - POWER PLAN
 SCALE: 1/4" = 1'-0"

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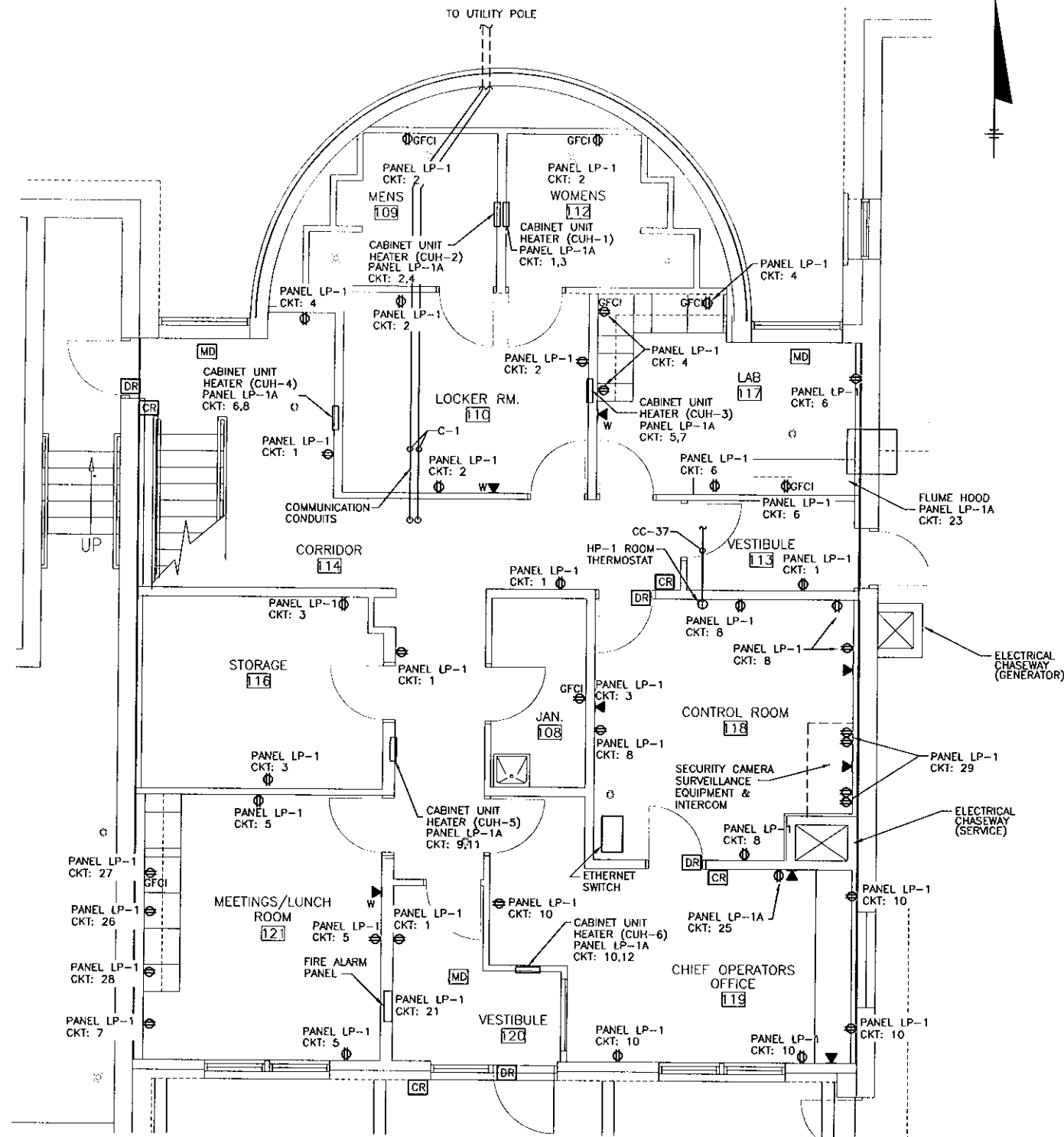


TOWN OF BEDFORD
 WATER FILTRATION PLANT &
 CONNECTION WITH THE DELAWARE
 AQUEDUCT AT SHAFT #13
 BEDFORD, NEW YORK

ELECTRICAL
**GARAGE AREA
 POWER PLAN**

FILE NO.
 14300.43172-352
 DATE
 OCTOBER 2009

E101



NOTES:

1. PROVIDE 2-4" CONDUITS FOR COMMUNICATION SERVICE (CC-1). COORDINATE ROUTING WITH HVAC AND ELECTRICAL CONTRACTORS. CONDUITS TO PENETRATE 2ND FLOOR AND TERMINATE AT THE TELEPHONE BOARD.
2. COORDINATE ABOVE THE COUNTER RECEPTACLES WITH ARCHITECTURAL DRAWINGS FOR INSTALLATION HEIGHT. ALL OTHER RECEPTACLES SHALL BE INSTALLED AT 18" ABOVE FINISHED FLOOR.
3. WALL MOUNTED TELEPHONE OUTLETS SHALL BE INSTALLED AT 54" ABOVE FINISHED FLOOR. ALL OTHER TELEPHONE OUTLETS SHALL BE INSTALLED AT 18" ABOVE FINISHED FLOOR.
4. CARD READER DEVICES SHALL BE INSTALLED AT 44" ABOVE FINISH FLOOR. THERMOSTATS SHALL BE INSTALLED AT 54" ABOVE FINISH FLOOR.

FIRST FLOOR POWER PLAN
 SCALE: 1/4" = 1'-0"

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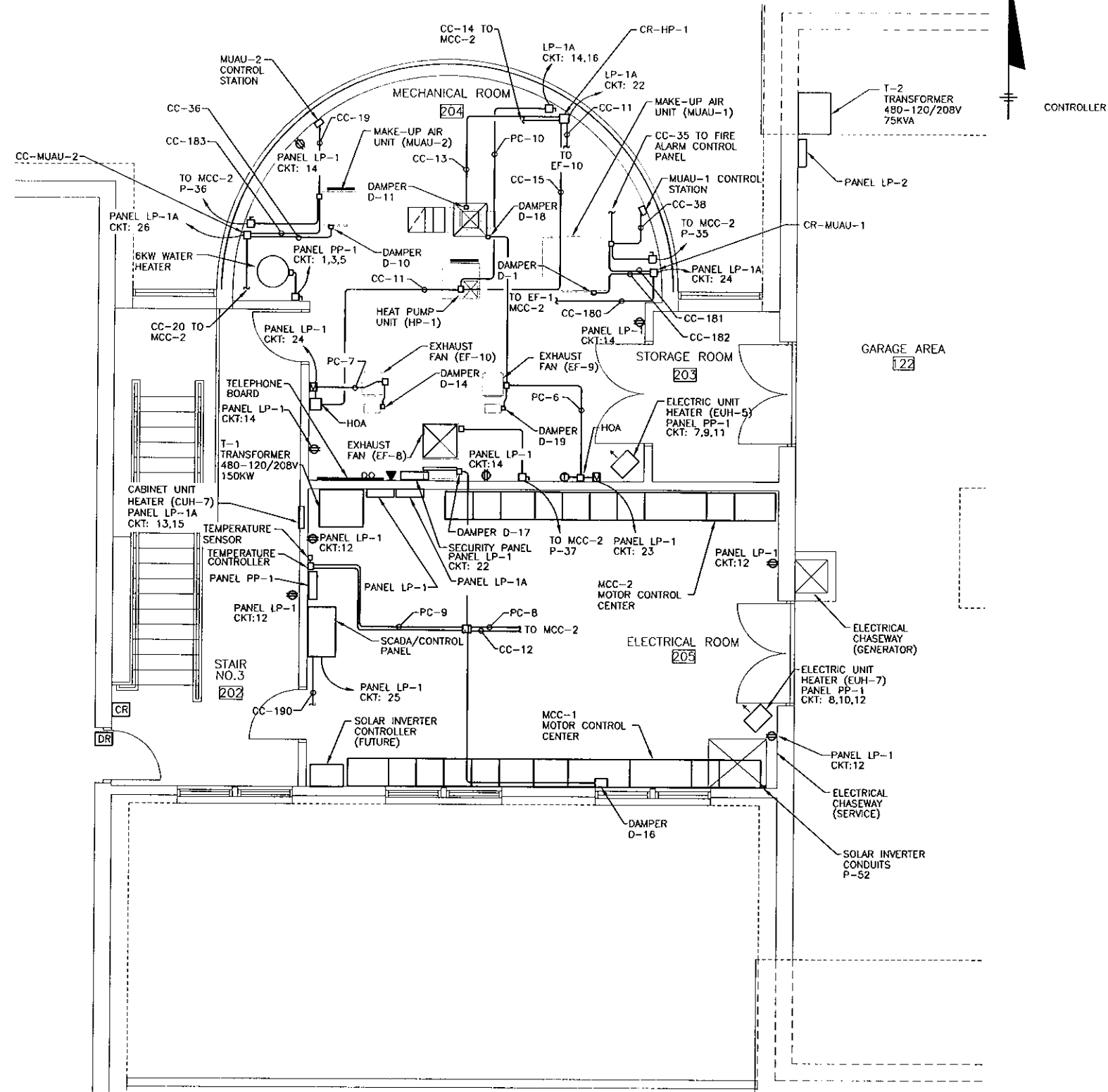


TOWN OF BEDFORD
 WATER FILTRATION PLANT &
 CONNECTION WITH THE DELAWARE
 AQUEDUCT AT SHAFT #13
 BEDFORD, NEW YORK

ELECTRICAL
 ADMINISTRATION AREA
 FIRST FLOOR
 POWER PLAN

FILE NO.
 14300.43172-353
 DATE
 OCTOBER 2009

E102



NOTES:

1. PROVIDE 30 AMP NON-FUSED DISCONNECT FOR 6KW WATER HEATER LOCATED IN THE MECHANICAL ROOM.
2. INSTALL RECEPTACLES AT 18" ABOVE FINISH FLOOR. INSTALL WALL MOUNTED TELEPHONE OUTLET, AT TELEPHONE BOARD, 48" ABOVE FINISH FLOOR.
3. COORDINATE SERVICE ENTRANCE AND GENERATOR FEED CONDUITS ROUTING WITH STRUCTURAL DRAWINGS.
4. SEE CONDUIT AND CONDUCTOR SCHEDULE FOR SOLAR INVERTER CONDUITS. TERMINATE ONE END OF CONDUITS AT FUTURE INVERTER LOCATION. TERMINATE OTHER END AT UTILITY TRANSFORMER PAD 2' ABOVE FINAL GRADE AND CAP BOTH CONDUITS. SEE SITE PLAN SHEET E100.

SECOND FLOOR POWER PLAN

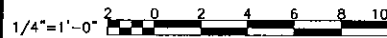
SCALE: 1/4" = 1'-0"

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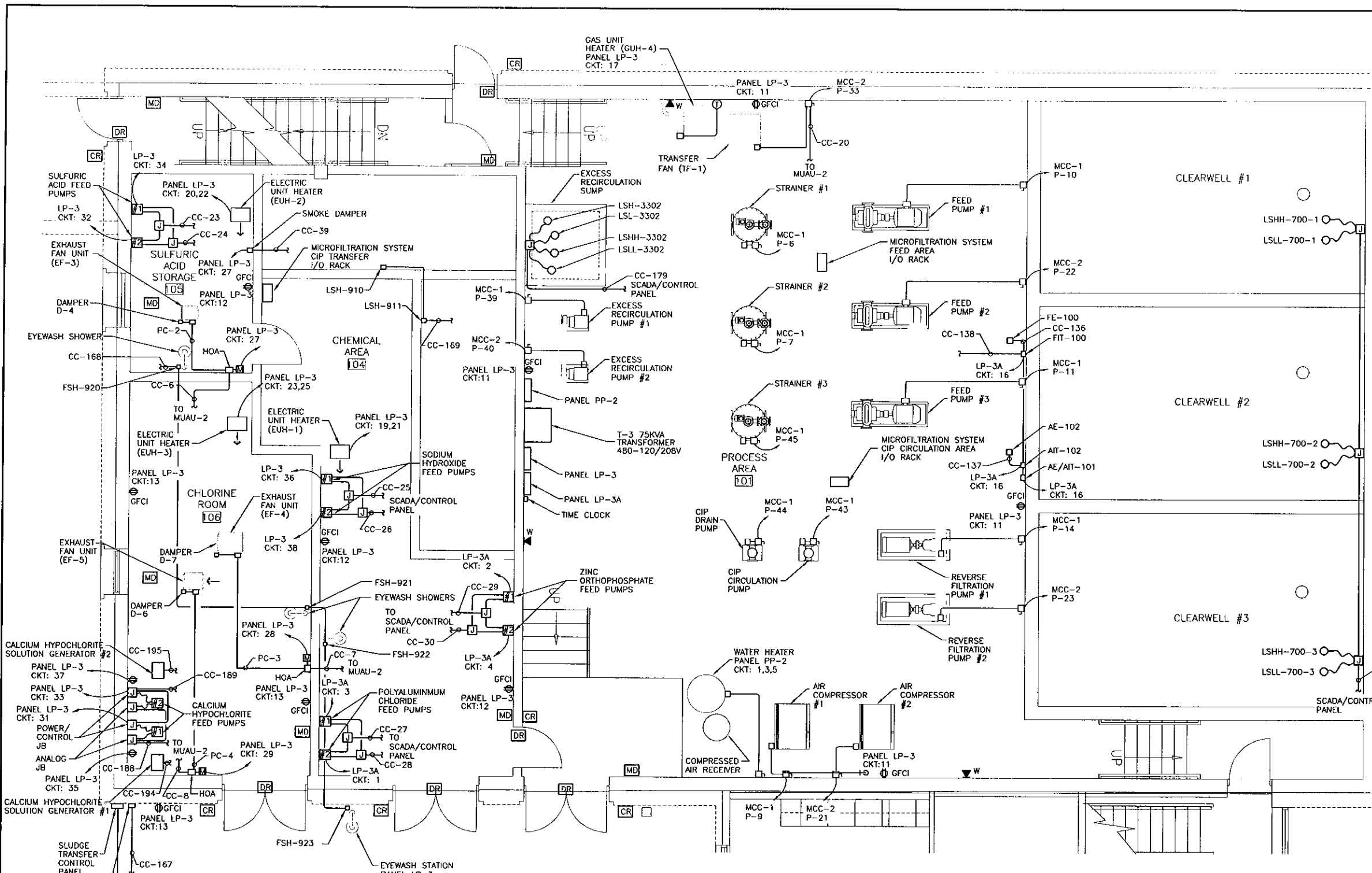
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TOWN OF BEDFORD
 WATER FILTRATION PLANT &
 CONNECTION WITH THE DELAWARE
 AQUEDUCT AT SHAFT #13
 BEDFORD, NEW YORK

ELECTRICAL
 ADMINISTRATION AREA
 SECOND FLOOR
 POWER PLAN

FILE NO.
 14300.43172-354
 DATE
 OCTOBER 2009

E103



- NOTES:
1. PROVIDE 30 AMP, 3 PHASE, NON-FUSED DISCONNECT FOR ELECTRIC WATER HEATER IN 1ST FLOOR PROCESS AREA.
 2. CHEMICAL AREA (104), CHLORINE ROOM (106), SULFURIC ACID STORAGE (105) ARE RATED AS CORROSIVE AREAS.
 3. INSTALL RECEPTACLES AT 42" ABOVE FINISH FLOOR. INSTALL WALL MOUNTED TELEPHONE OUTLETS AT 54" ABOVE FINISH FLOOR.

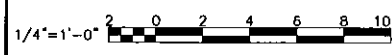
FIRST FLOOR POWER PLAN
SCALE: 1/4" = 1'-0"



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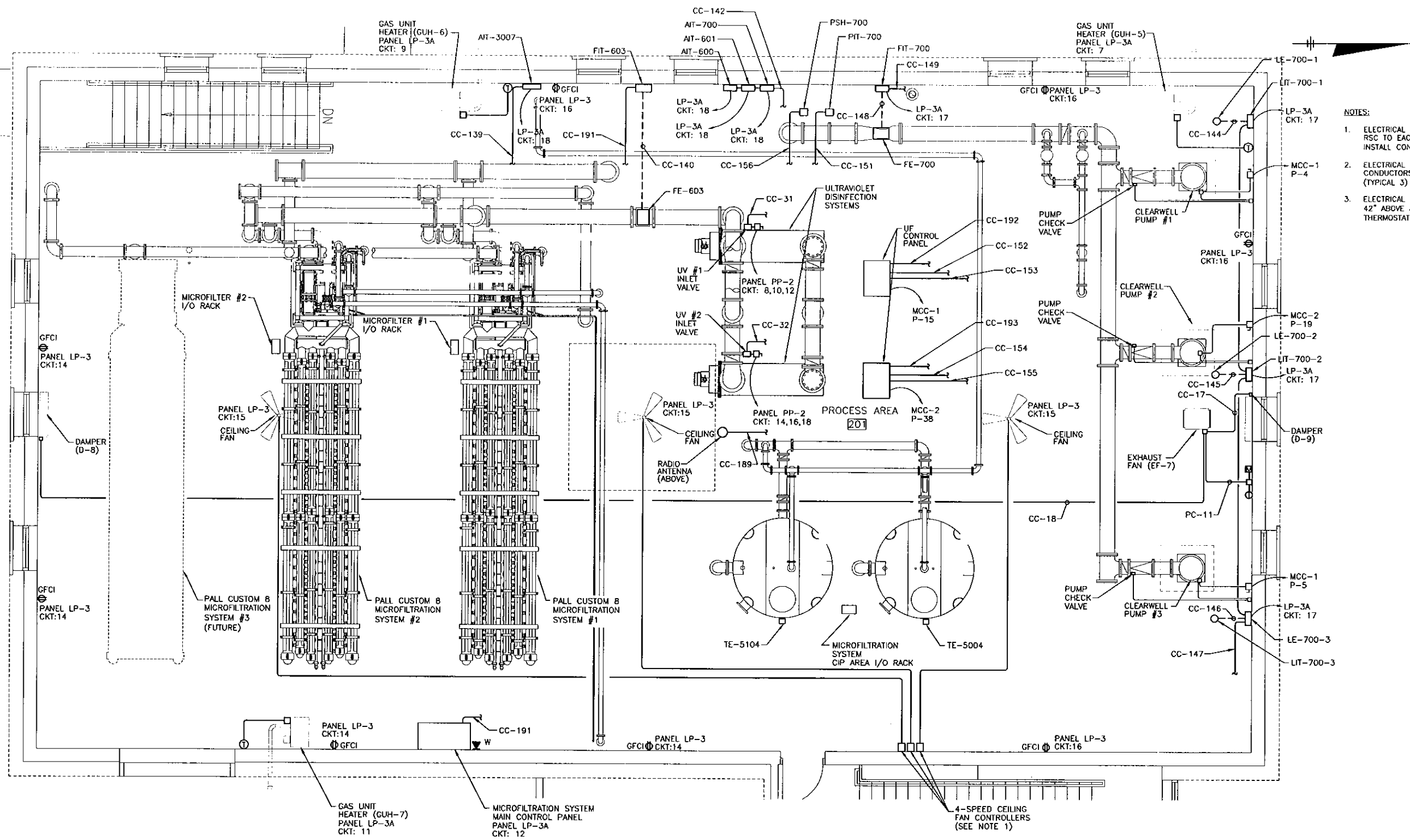


TOWN OF BEDFORD
WATER FILTRATION PLANT &
CONNECTION WITH THE DELAWARE
AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL
**PROCESS AREA
FIRST FLOOR
POWER PLAN**

FILE NO.	14300.43172-355
DATE	OCTOBER 2009

E104



- NOTES:**
1. ELECTRICAL CONTRACTOR TO PROVIDE 5-#12 AWG CONDUCTORS IN 3/4" RSC TO EACH CEILING FAN FROM ASSOCIATED 4-SPEED CONTROLLER. INSTALL CONTROLLERS AT 44" ABOVE FINISH FLOOR.
 2. ELECTRICAL CONTRACTOR TO PROVIDE 3/4" RSC WITH 2-#14 AWG CONDUCTORS FROM GAS UNIT HEATERS TO ASSOCIATED THERMOSTATS. (TYPICAL 3)
 3. ELECTRICAL CONTRACTOR SHALL INSTALL GENERAL USE RECEPTACLES AT 42" ABOVE FINISH FLOOR, WALL MOUNTED TELEPHONE OUTLETS AND THERMOSTATS AT 54" ABOVE FINISH FLOOR.

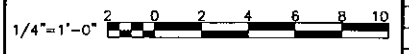
SECOND FLOOR POWER PLAN
SCALE: 1/4" = 1'-0"

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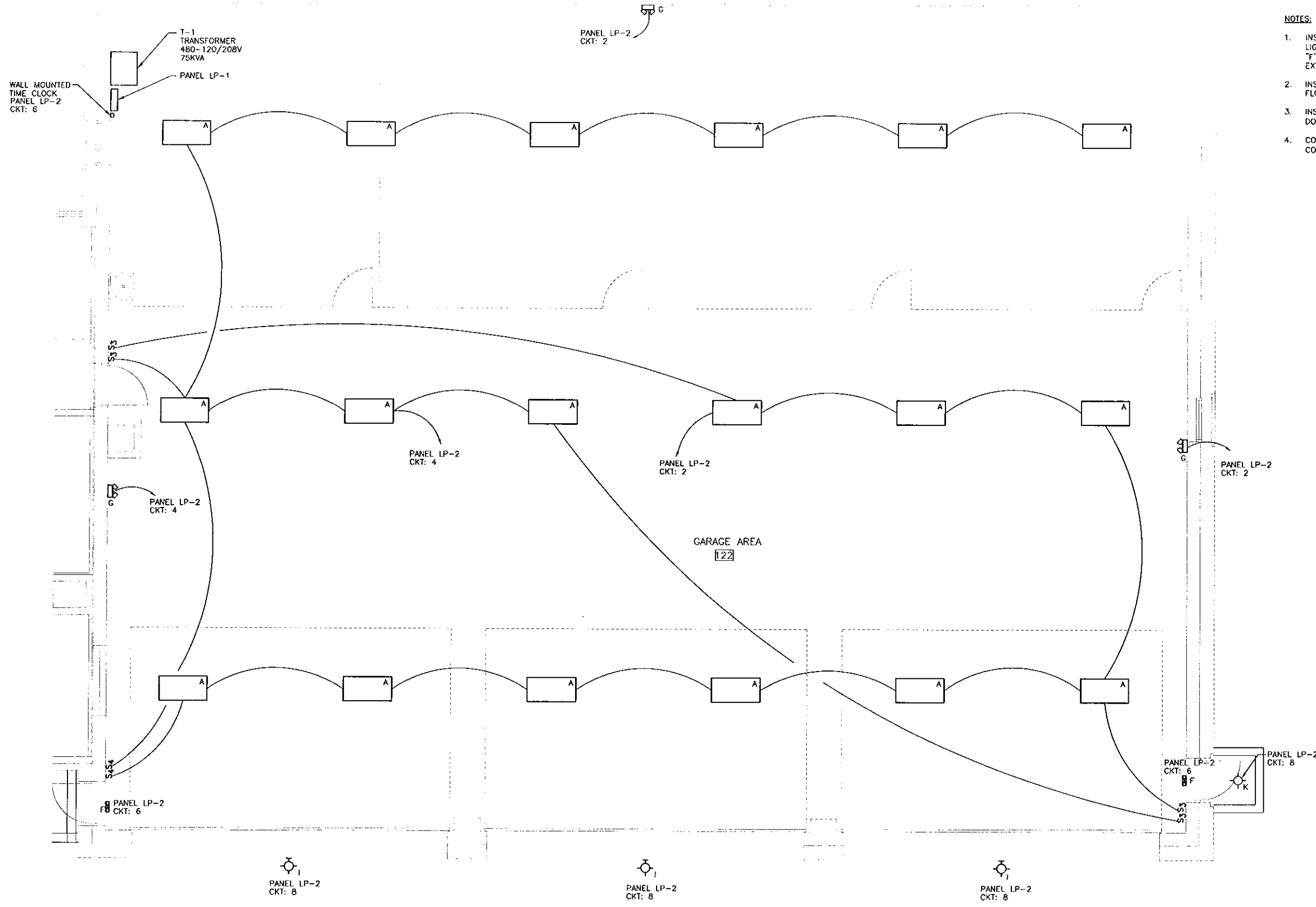
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TOWN OF BEDFORD
WATER FILTRATION PLANT &
CONNECTION WITH THE DELAWARE
AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL
**PROCESS AREA
SECOND FLOOR
POWER PLAN**

FILE NO.	14300.43172-356
DATE	OCTOBER 2009



- NOTES:**
1. INSTALL LIGHT FIXTURE "A" AT 15'-6" ABOVE FINISH FLOOR. INSTALL EMERGENCY LIGHT FIXTURES (TYPE "G") AT 10'-0" ABOVE FINISH FLOOR. EXIT LIGHTS (TYPE "F") SHALL BE INSTALLED AT 10'-0" ABOVE FINISH FLOOR, CENTERED OVER EACH EXTERIOR DOOR.
 2. INSTALL LIGHT SWITCHES AND CEILING FAN CONTROLLERS AT 44" ABOVE FINISH FLOOR.
 3. INSTALL EXTERIOR LIGHT FIXTURE "K" AT 15'-0" CENTERED ABOVE GARAGE DOOR OPENING (TYPICAL 3).
 4. CONNECT EXTERIOR LIGHT FIXTURES "K" TO WALL MOUNTED TIME CLOCK. COORDINATE TIME SETTINGS WITH OWNER'S REPRESENTATIVE.

GARAGE AREA LIGHTING PLAN
SCALE: 1/4" = 1'-0"

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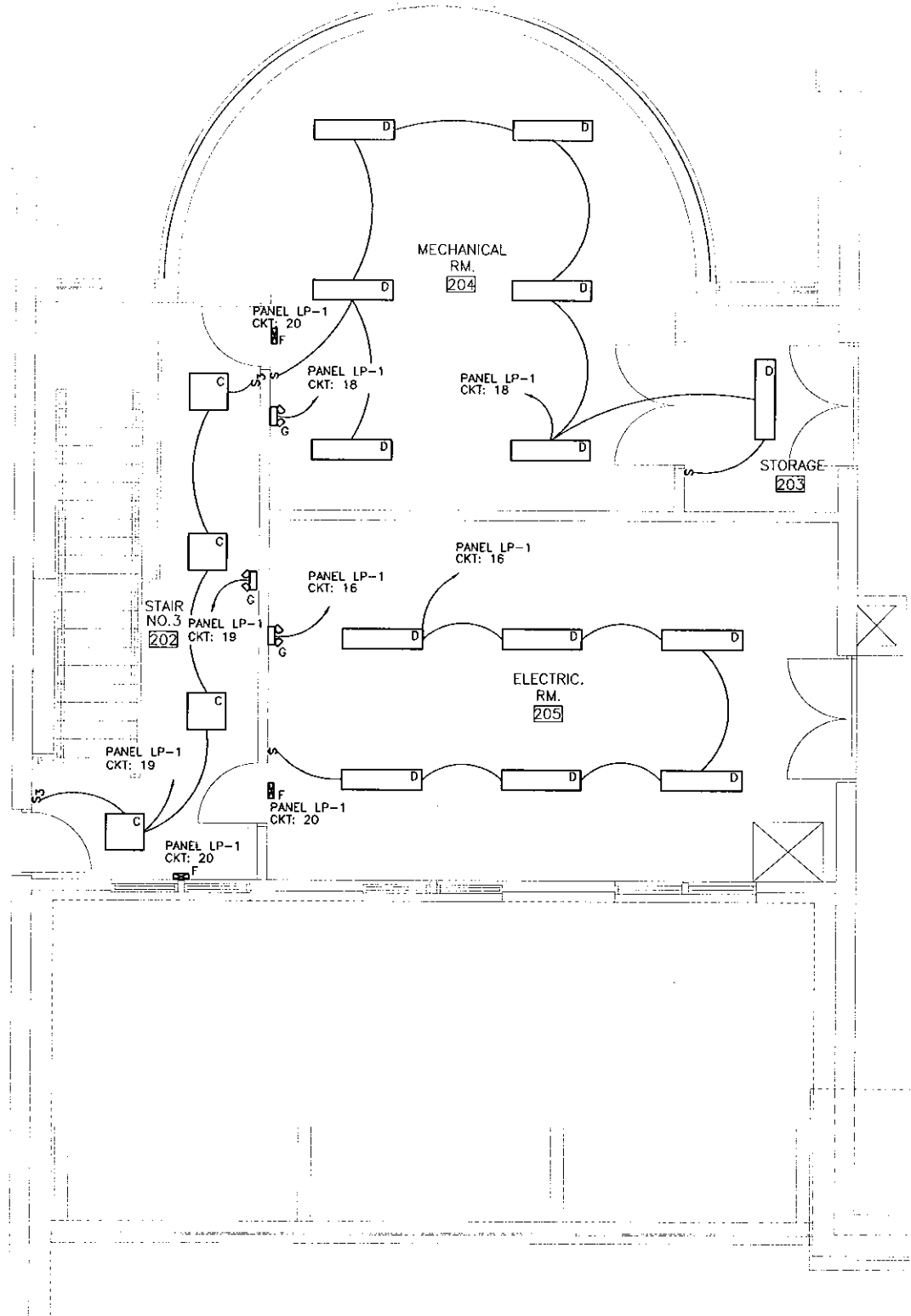


TOWN OF BEDFORD
WATER FILTRATION PLANT &
CONNECTION WITH THE DELAWARE
AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL
**GARAGE AREA
LIGHTING PLAN**

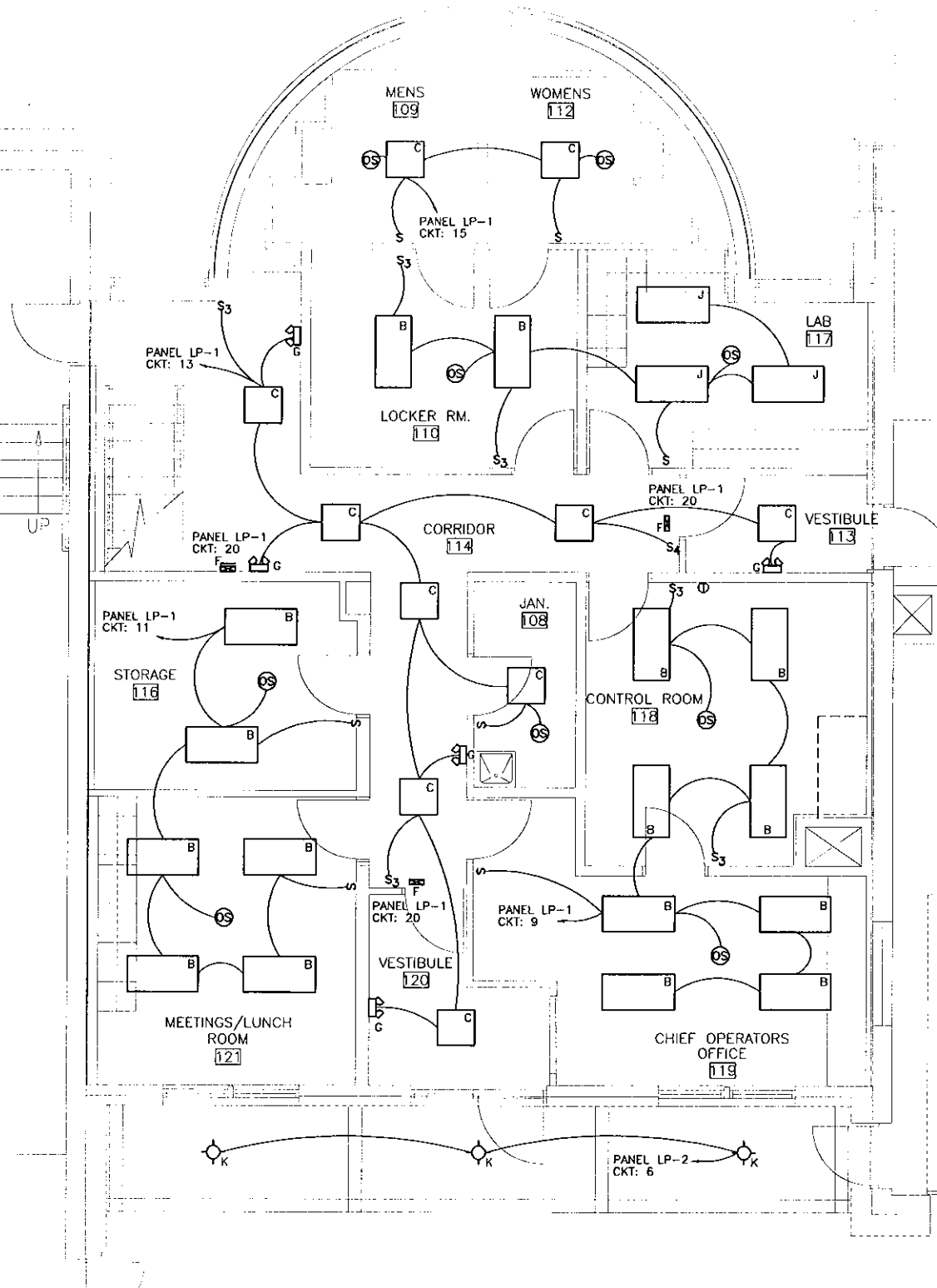
FILE NO.
14300.43172-357
DATE
OCTOBER 2009

E106



SECOND FLOOR LIGHTING PLAN

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



FIRST FLOOR LIGHTING PLAN

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

NOTES:

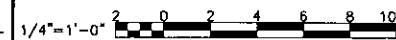
1. INSTALL LIGHT FIXTURES TYPE "B" AND "C" IN DROP CEILING AT 9'-0" ABOVE FINISH FLOOR. COORDINATE LIGHTING LAYOUT WITH REFLECTED CEILING PLAN IN THE ARCHITECT DRAWINGS.
2. INSTALL LIGHT SWITCHES AT 44" ABOVE FINISH FLOOR.



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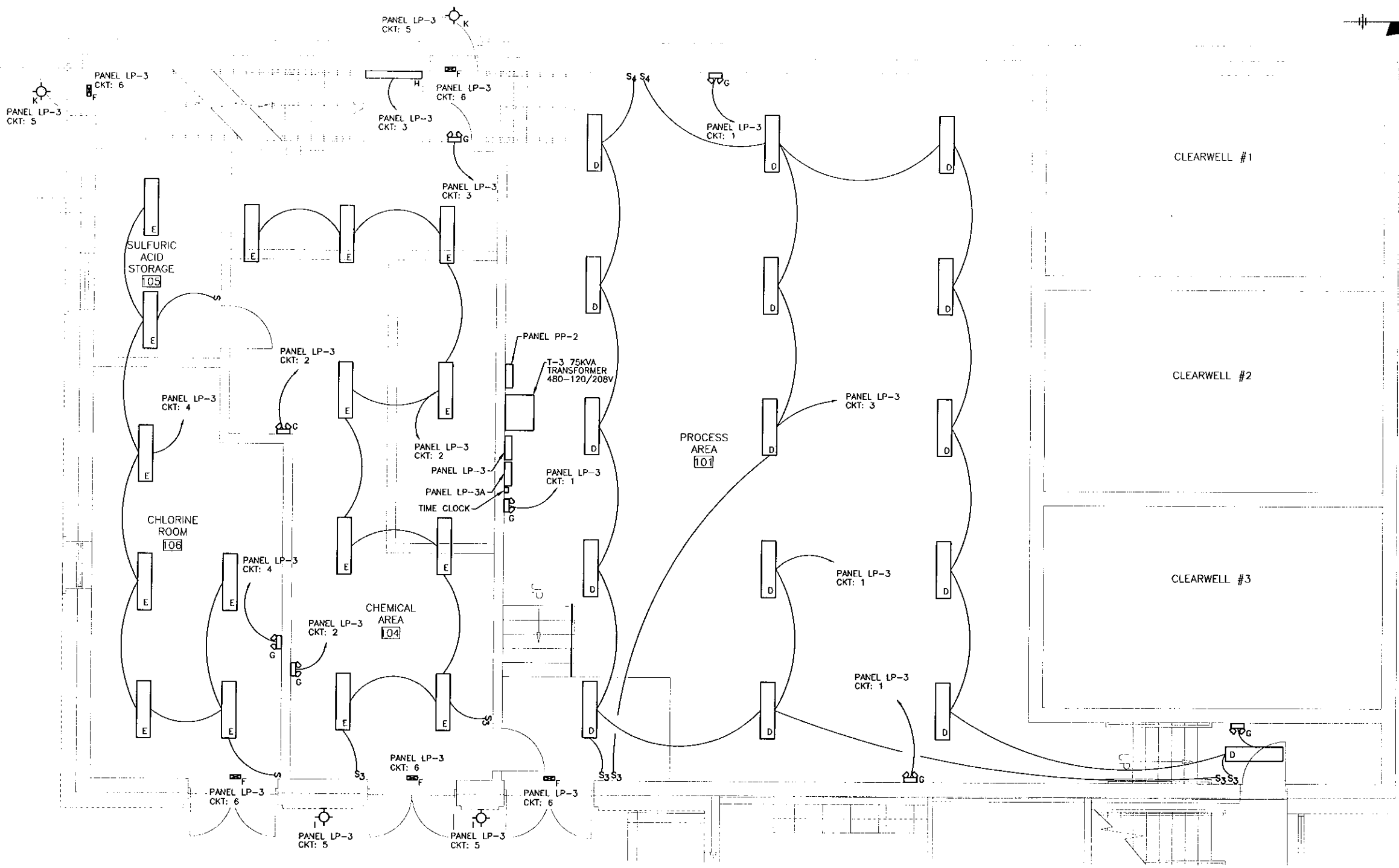


TOWN OF BEDFORD
 WATER FILTRATION PLANT &
 CONNECTION WITH THE DELAWARE
 AQUEDUCT AT SHAFT #13
 BEDFORD, NEW YORK

ELECTRICAL
 ADMINISTRATION AREA
 FIRST & SECOND FLOOR
 LIGHTING PLAN

FILE NO.
 14300.43172-358
 DATE
 OCTOBER 2009

E107



- NOTES:**
1. INSTALL LIGHT FIXTURE "D" AT 11'-0" ABOVE FINISH FLOOR. INSTALL EMERGENCY LIGHT FIXTURES (TYPE "G") AT 10'-0" ABOVE FINISH FLOOR. EXIT LIGHTS (TYPE "F") SHALL BE INSTALLED AT 10'-0" ABOVE FINISH FLOOR, CENTERED OVER EACH EXTERIOR DOOR. LIGHT FIXTURE "E" ARE CEILING MOUNTED.
 2. INSTALL LIGHT SWITCHES AT 44" ABOVE FINISH FLOOR.
 3. INSTALL EXTERIOR LIGHT FIXTURE "I" AT 15'-0" CENTERED BETWEEN EXTERIOR DOOR OPENING (TYPICAL 2).
 4. CONNECT EXTERIOR LIGHT FIXTURES "K" TO WALL MOUNTED TIME CLOCK. COORDINATE TIME SETTINGS WITH OWNER'S REPRESENTATIVE.

FIRST FLOOR LIGHTING PLAN
SCALE: 1/4" = 1'-0"

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AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

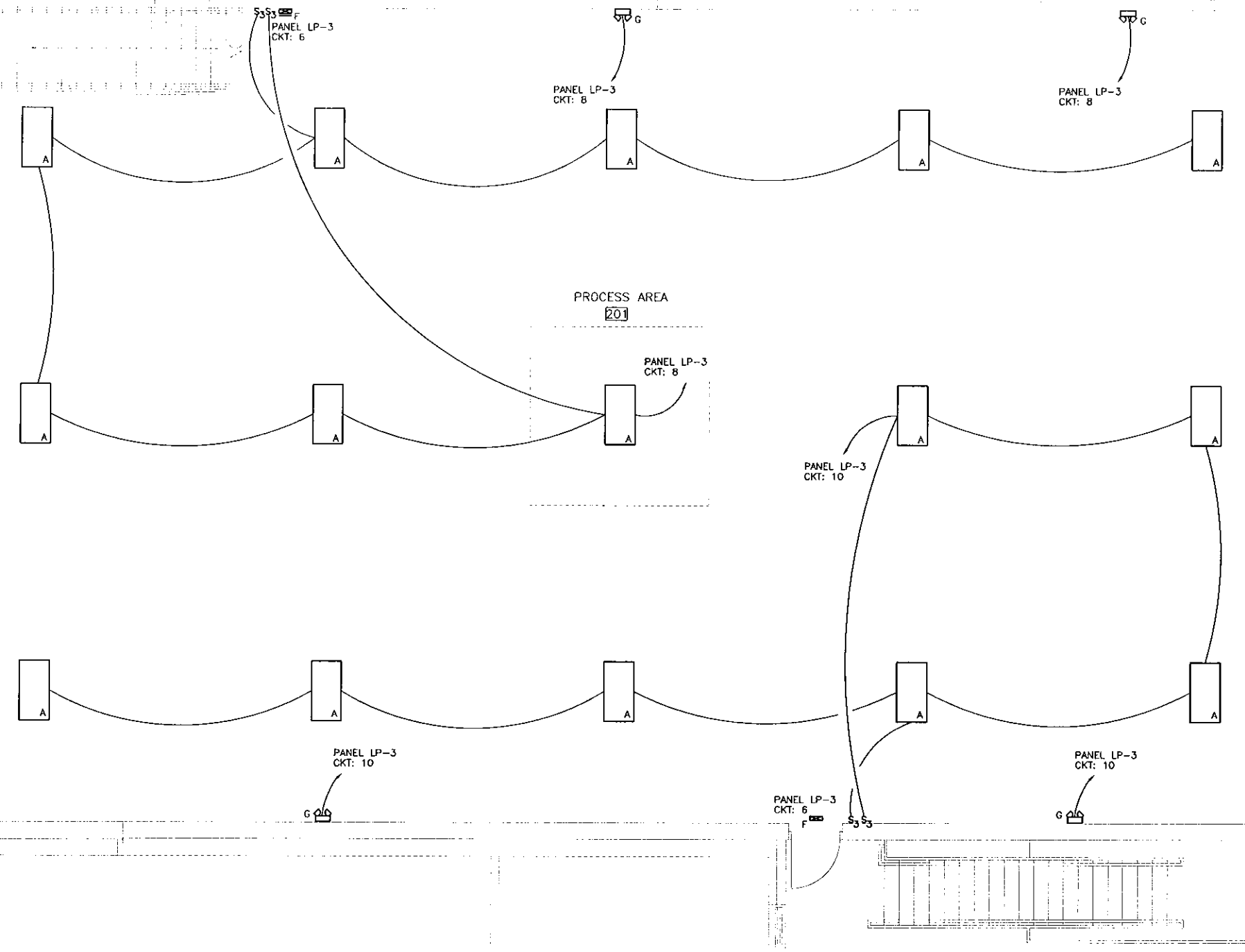
ELECTRICAL
**PROCESS AREA
FIRST FLOOR
LIGHTING PLAN**

FILE NO.
14300.43172-359
DATE
OCTOBER 2009
E108



NOTES:

1. INSTALL LIGHT FIXTURE "A" AT 15'-0" ABOVE FINISH FLOOR. INSTALL EMERGENCY LIGHT FIXTURES (TYPE "G") AT 10'-0" ABOVE FINISH FLOOR. EXIT LIGHTS (TYPE "F") SHALL BE INSTALLED AT 10'-0" ABOVE FINISH FLOOR. COORDINATE LIGHTING LAYOUT WITH MECHANICAL AND STRUCTURAL DRAWINGS.
2. INSTALL LIGHT SWITCHES AT 44" ABOVE FINISH FLOOR.



SECOND FLOOR LIGHTING PLAN
SCALE: 1/4" = 1'-0"

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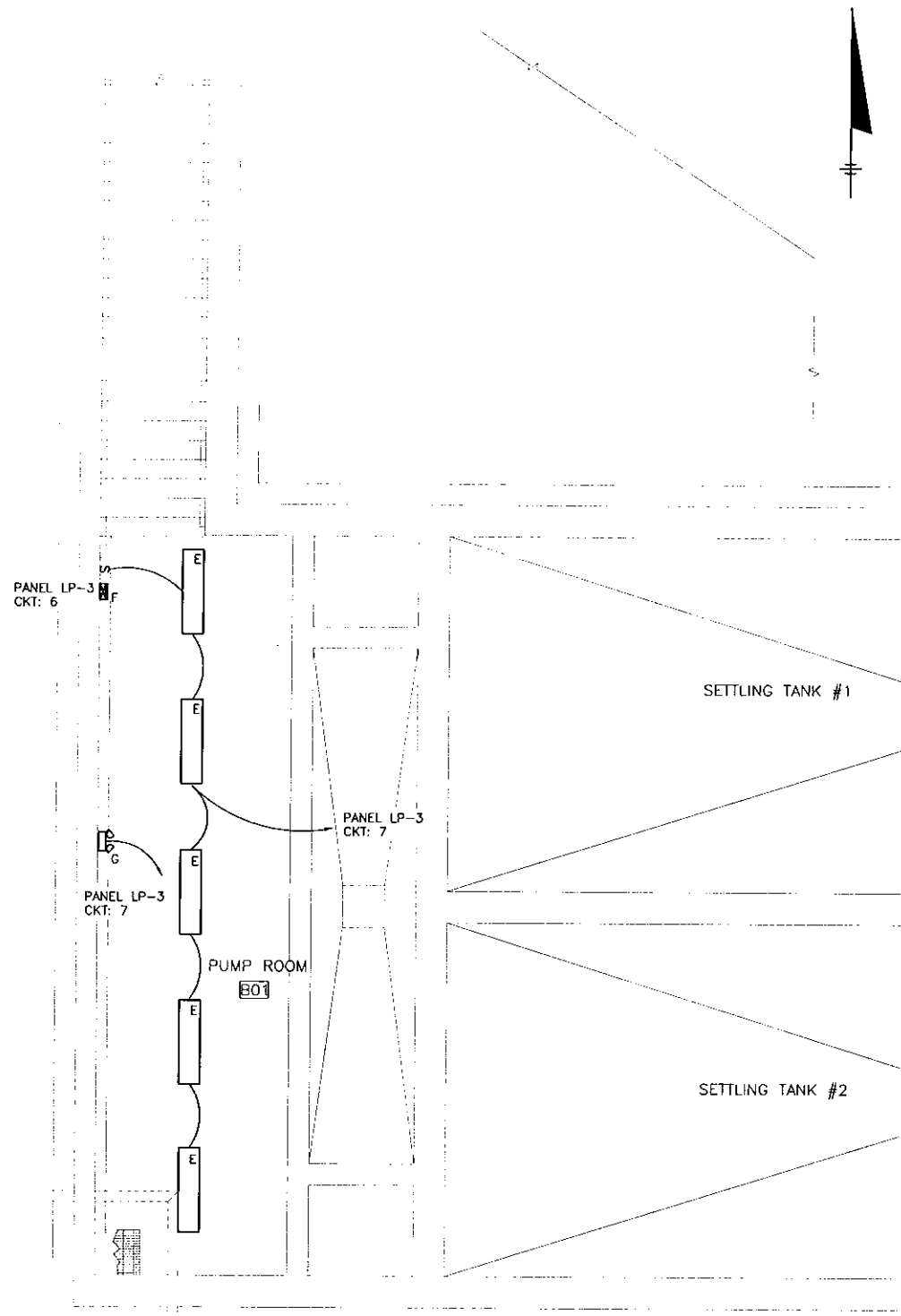
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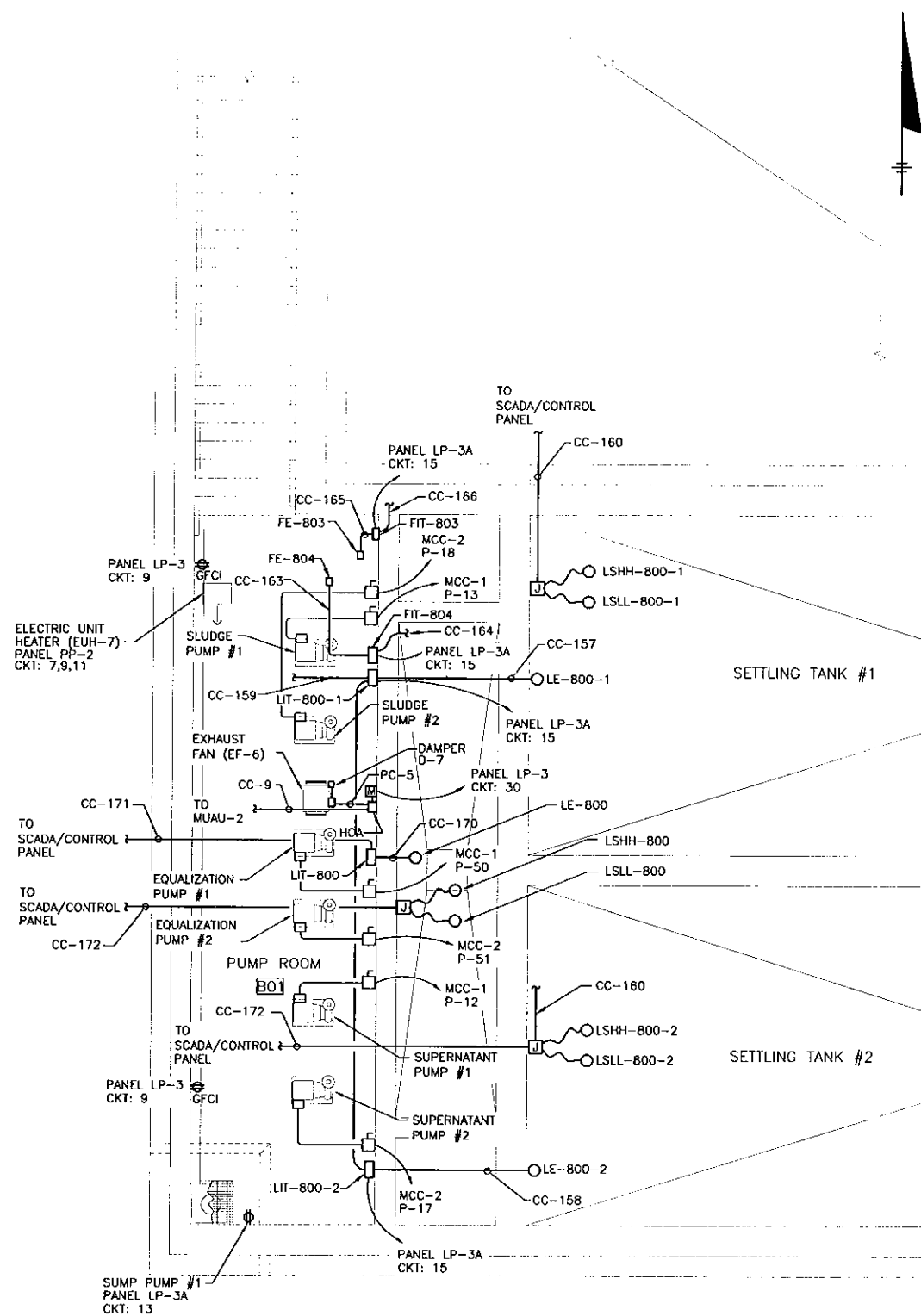
TOWN OF BEDFORD
WATER FILTRATION PLANT &
CONNECTION WITH THE DELAWARE
AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL
**PROCESS AREA
SECOND FLOOR
LIGHTING PLAN**

FILE NO. 14300.43172-360	E109
DATE OCTOBER 2009	



SETTLING TANKS LIGHTING PLAN
SCALE: 1/4" = 1'-0"



SETTLING TANKS POWER PLAN
SCALE: 1/4" = 1'-0"

NOTES:

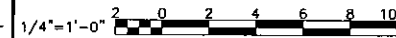
1. INSTALL LIGHT FIXTURE "E" AT 13'-0" ABOVE FINISH FLOOR. INSTALL EMERGENCY LIGHT FIXTURES (TYPE "G") AT 10'-0" ABOVE FINISH FLOOR. EXIT LIGHTS (TYPE "F") SHALL BE INSTALLED AT 10'-0" ABOVE FINISH FLOOR. COORDINATE LAYOUT WITH MECHANICAL AND HVAC DRAWINGS.
2. INSTALL LIGHT SWITCHES AT 44" ABOVE FINISH FLOOR.
3. INSTALL RECEPTACLES AT 42" ABOVE FINISH FLOOR.
4. COORDINATE DISCONNECT SWITCHES FOR ALL PUMP MOTORS WITH HVAC AND MECHANICAL DRAWINGS. INSTALL DISCONNECT SWITCHES AT 5'-0" ABOVE FINISH FLOOR.



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TOWN OF BEDFORD
WATER FILTRATION PLANT &
CONNECTION WITH THE DELAWARE
AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL
**SETTLING TANKS
LIGHTING PLAN**

FILE NO.
14300.43172-361
DATE
OCTOBER 2009

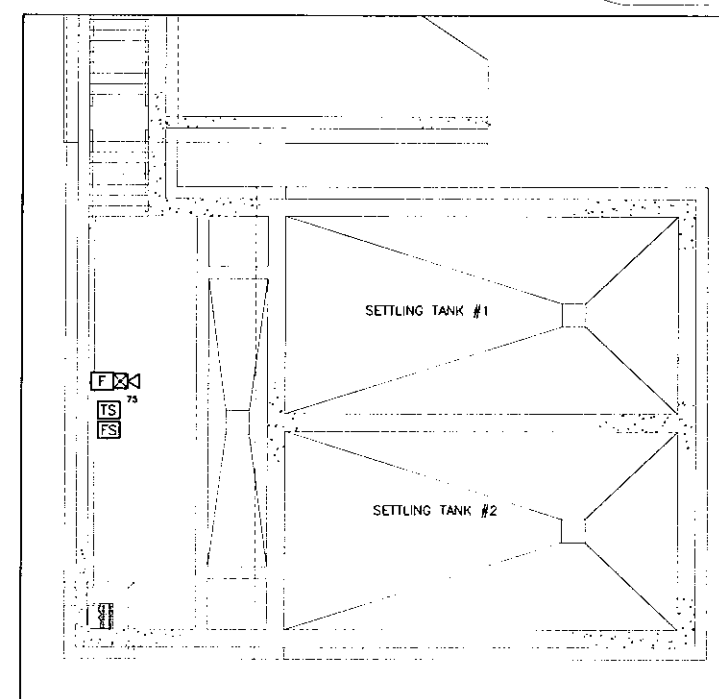
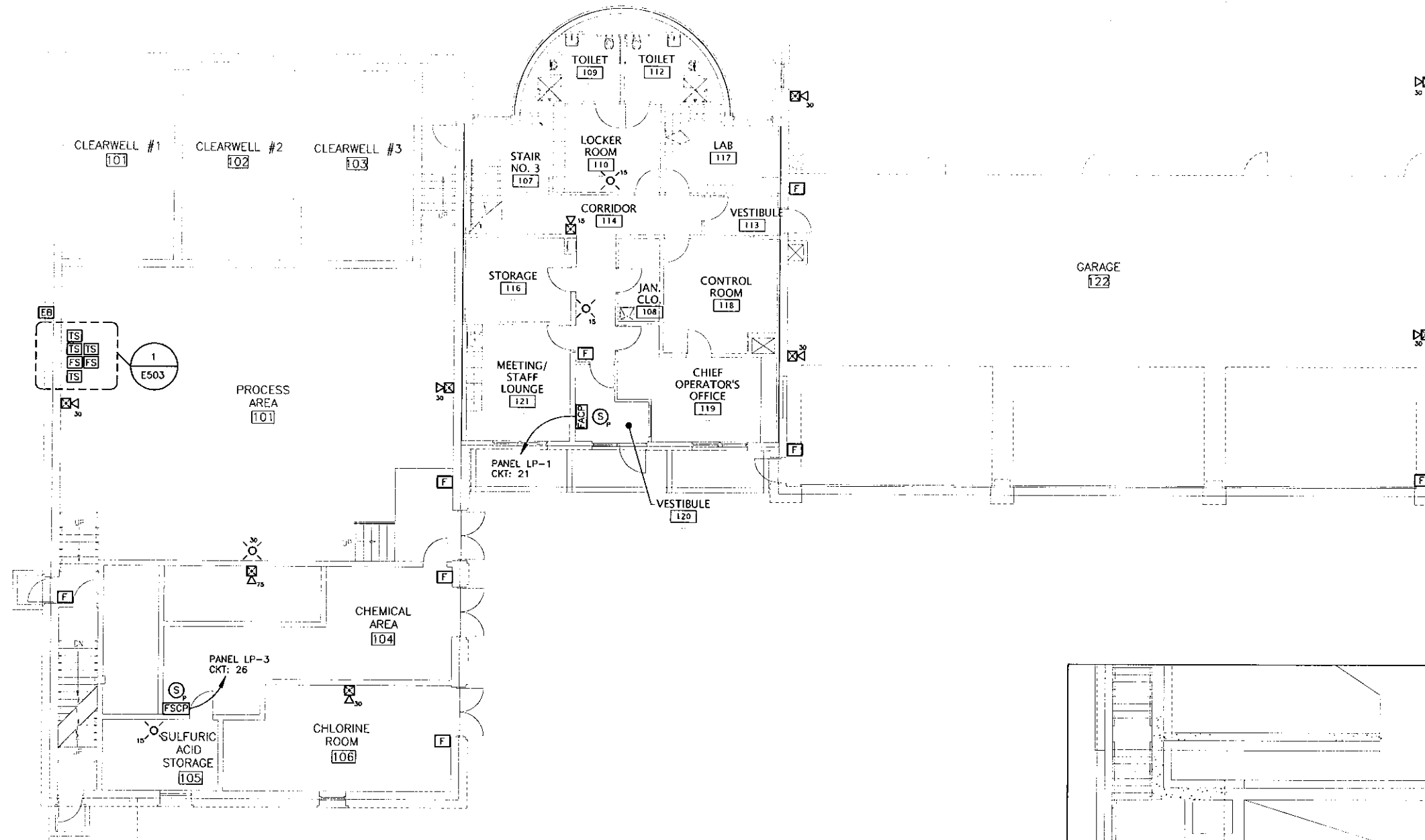
E110

GENERAL FIRE PROTECTION NOTES

1. ALL SITE UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY.
2. VERIFY EXACT LOCATION AND INVERT ELEVATION IN FIELD BEFORE BEGINNING WORK.
3. ALL SUSPENDED PIPING SHALL BE SUPPORTED FROM FLOOR OR ROOF STRUCTURAL MEMBERS.
4. COORDINATE ALL WORK WITH OTHER TRADES.
5. FIRE STOP ALL PENETRATIONS OF FIRE RATED ASSEMBLIES.
6. PROVIDE CATHODIC PROTECTION FOR UNDERGROUND METAL FIRE PROTECTION PIPING.
7. STANDARDS.

FIRE ALARM SYSTEM

1. PROVIDE NEW ANALOG/ADDRESSABLE FIRE ALARM AND DETECTION SYSTEM FOR THE BUILDING. FIRE ALARM AND DETECTION SYSTEM SHALL BE IN FULL ACCORDANCE WITH THE REQUIREMENTS AND APPENDIX OF NFPA 70, 72, 90A, 101, 241, IBC, LOCAL AUTHORITY AND THE SPECIFICATIONS.
2. WALL MOUNTED DEVICES AND FIRE ALARM CONTROL PANEL SHALL BE RECESS MOUNTED, THE CONDUIT SHALL BE CONCEALED IN THE WALLS AND CEILINGS.
3. WHERE WALL MOUNTED FIRE ALARM DEVICES IN THE ELECTRICAL ROOM AND MECHANICAL ROOMS ARE INDICATED TO BE SURFACE MOUNTED, THE CONDUIT SHALL BE INSTALLED EXPOSED ON WALLS AND ON CEILINGS.
4. FIRE ALARM MANUAL PULL STATIONS AT DOOR OPENINGS SHALL BE WITHIN 5'-0" HORIZONTALLY OF THE DOOR OPENING.
5. SPACING OF SMOKE SENSOR, HEAT SENSORS AND DUCT SMOKE SENSORS SHALL BE IN ACCORDANCE WITH NFPA 72, 90A, AND AS INDICATED ON THE CONTRACT DOCUMENTS.
6. PROVIDE SYNCHRONIZATION FOR ALL NEW AUDIBLE (HORN) AND VISIBLE (STROBE) NOTIFICATION APPLIANCES WHERE THERE ARE MORE THAN TWO DEVICES WITHIN A FIELD OF VIEW TO COMPLY WITH THE REQUIREMENTS OF NFPA.
7. ALL FLOOR AND WALL PENETRATIONS SHALL BE CORE DRILLED AND SHALL BE COORDINATED WITH STRUCTURAL SYSTEMS.
8. CONDUCTORS FOR THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70. THE CONDUCTORS SHALL NOT BE INSTALLED WITH CONDUCTORS OF LIGHTING OR POWER SYSTEMS. THE SUM OF THE CROSS-AREA OF INDIVIDUAL CONDUCTORS SHALL NOT EXCEED 40% OF THE INTERIOR CROSS-SECTION OF THE CONDUIT. ALL FIRE ALARM SYSTEM CONDUIT SHALL NOT BE LESS THAN 3/4".
9. THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.
10. FIRE ALARM FLOOR PLAN AND RISER DIAGRAM ARE DIAGRAMMATIC. CONDUIT RUNS AND MANNER OF CONNECTION SHALL BE DETERMINED BY THE CONTRACTOR IN ACCORDANCE WITH THE FIRE ALARM SYSTEM MANUFACTURER RECOMMENDATIONS, NFPA 70, NFPA-72, AND THE CONTRACT SPECIFICATIONS.
11. REFER TO SHEET E503 AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



**FIRST FLOOR & BASEMENT
FIRE ALARM PLAN**
SCALE: 1/8"=1'-0"

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IN CHARGE OF MRW
DESIGNED BY MAL CHECKED BY MAL
DRAWN BY MSM



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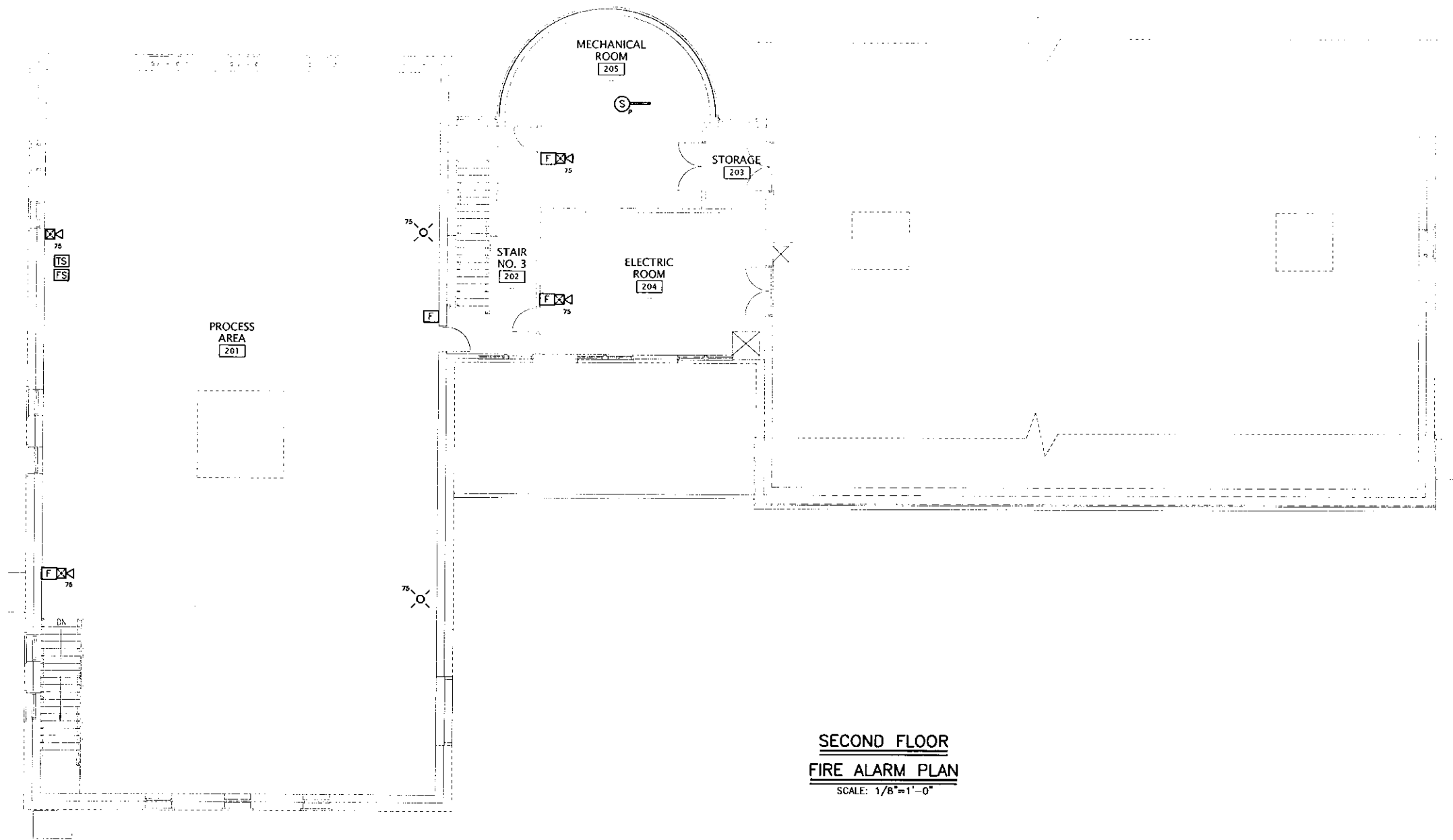


TOWN OF BEDFORD
WATER FILTRATION PLANT &
CONNECTION WITH THE DELAWARE
AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL
**FIRE ALARM
FIRST FLOOR & BASEMENT
PLANS**

FILE NO.
14300.43172-304
DATE
OCTOBER 2009

E111



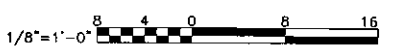
**SECOND FLOOR
FIRE ALARM PLAN**
SCALE: 1/8"=1'-0"

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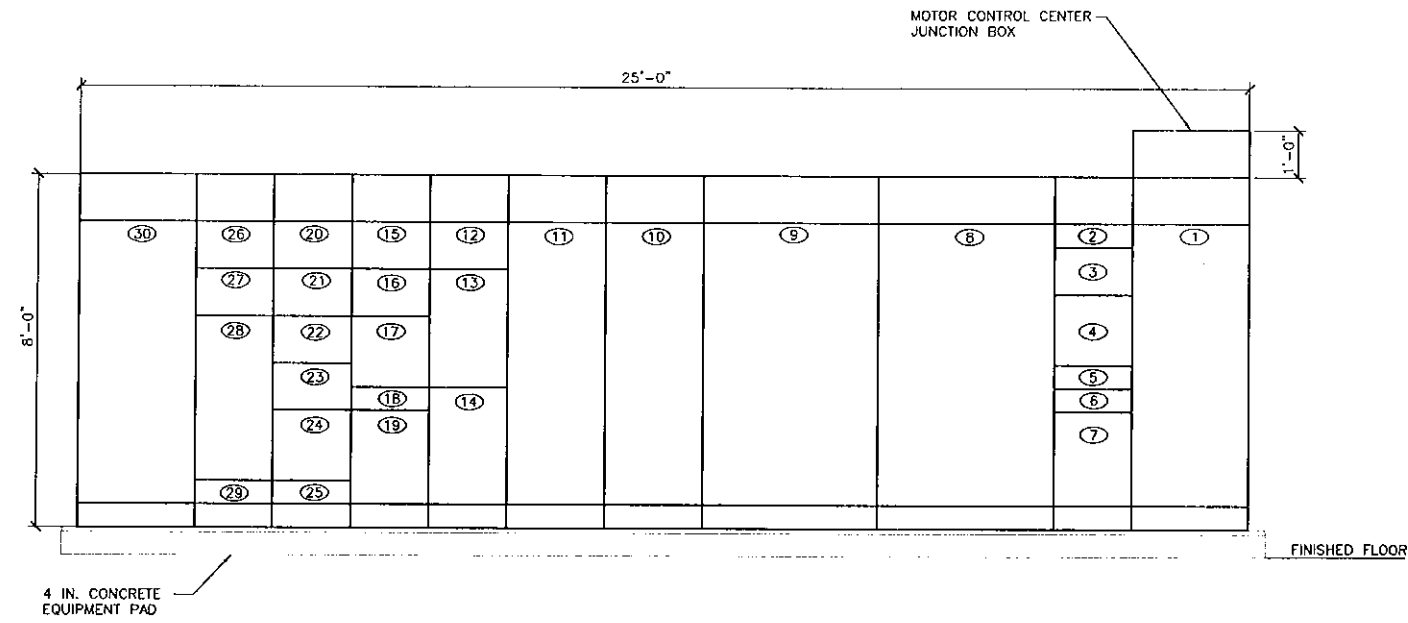


TOWN OF BEDFORD
WATER FILTRATION PLANT &
CONNECTION WITH THE DELAWARE
AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL
**FIRE ALARM
SECOND FLOOR
PLAN**

FILE NO.
14300.43172-305
DATE
OCTOBER 2009

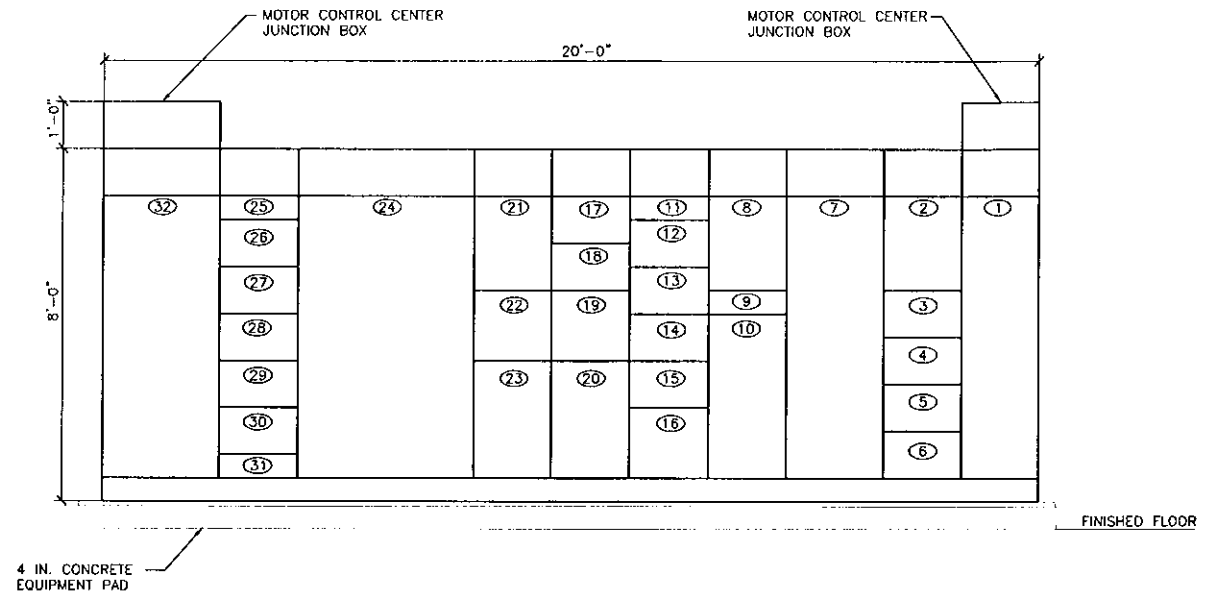
E112



MOTOR CONTROL CENTER (MCC-1) ELEVATION
NOT TO SCALE

NOTES:

- | | |
|-------------------------|----------------------------------|
| 1. MAIN CIRCUIT BREAKER | 16. SLUDGE PUMP #1 |
| 2. TVSS | 17. FEED STRAINER #2 |
| 3. METERING | 18. DOOR |
| 4. CIP ACID TANK HEATER | 19. EQUALIZATION PUMP #1 |
| 5. DOOR | 20. UV DISINFECTION SYSTEM #3 |
| 6. DOOR | 21. UV DISINFECTION SYSTEM #1 |
| 7. FLC CONTROLLER | 22. CIP DRAIN PUMP |
| 8. CLEARWELL PUMP #3 | 23. SPARE |
| 9. CLEARWELL PUMP #1 | 24. FEED STRAINER #1 |
| 10. FEED PUMP #1 | 25. DOOR |
| 11. FEED PUMP #3 | 26. EXCESS RECIRCULATION PUMP #1 |
| 12. AIR COMPRESSOR #1 | 27. CIP CIRCULATION PUMP |
| 13. EQUALIZATION PUMP | 28. REVERSE FILTRATION PUMP #1 |
| 14. RECYCLE PUMP #1 | 29. DOOR |
| 15. SPARE | 30. TIE BREAKER |



MOTOR CONTROL CENTER (MCC-2) ELEVATION
NOT TO SCALE

NOTES:

- | | |
|---------------------------------|-------------------------------|
| 1. MAIN LUGS UNIT | 17. EXHAUST FAN (EF-1) |
| 2. PANELBOARD PP-1 | 18. SLUDGE PUMP #2 |
| 3. UV DISINFECTION SYSTEM #2 | 19. CIP CAUSTIC TANK HEATER |
| 4. DOOR | 20. EXHAUST FAN (EF-3) |
| 5. EXCESS RECIRCULATION PUMP #2 | 21. PANELBOARD PP-2 |
| 6. AIR COMPRESSOR #2 | 22. TRANSFORMER (T-1) |
| 7. FEED PUMP #2 | 23. RECYCLE PUMP #2 |
| 8. EQUALIZATION PUMP #2 | 24. CLEARWELL PUMP #2 |
| 9. DOOR | 25. SPARE |
| 10. REVERSE FILTRATION PUMP #2 | 26. METERING |
| 11. DOOR | 27. TRANSFORMER T-2 |
| 12. AIR HANDLING UNIT (AHU-1) | 28. RETURN FAN (RF-1) |
| 13. MAKE-UP AIR UNIT (MAU-1) | 29. SOLAR INVERTER CONTROLLER |
| 14. MAKE-UP AIR UNIT (MAU-2) | 30. TRANSFORMER T-3 |
| 15. TRANSFER FAN (TF-1) | 31. DOOR |
| 16. FEED STRAINER #3 | 32. GENERATOR MAIN BREAKER |



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DESIGNED BY TES CHECKED BY JJC
DRAWN BY TES

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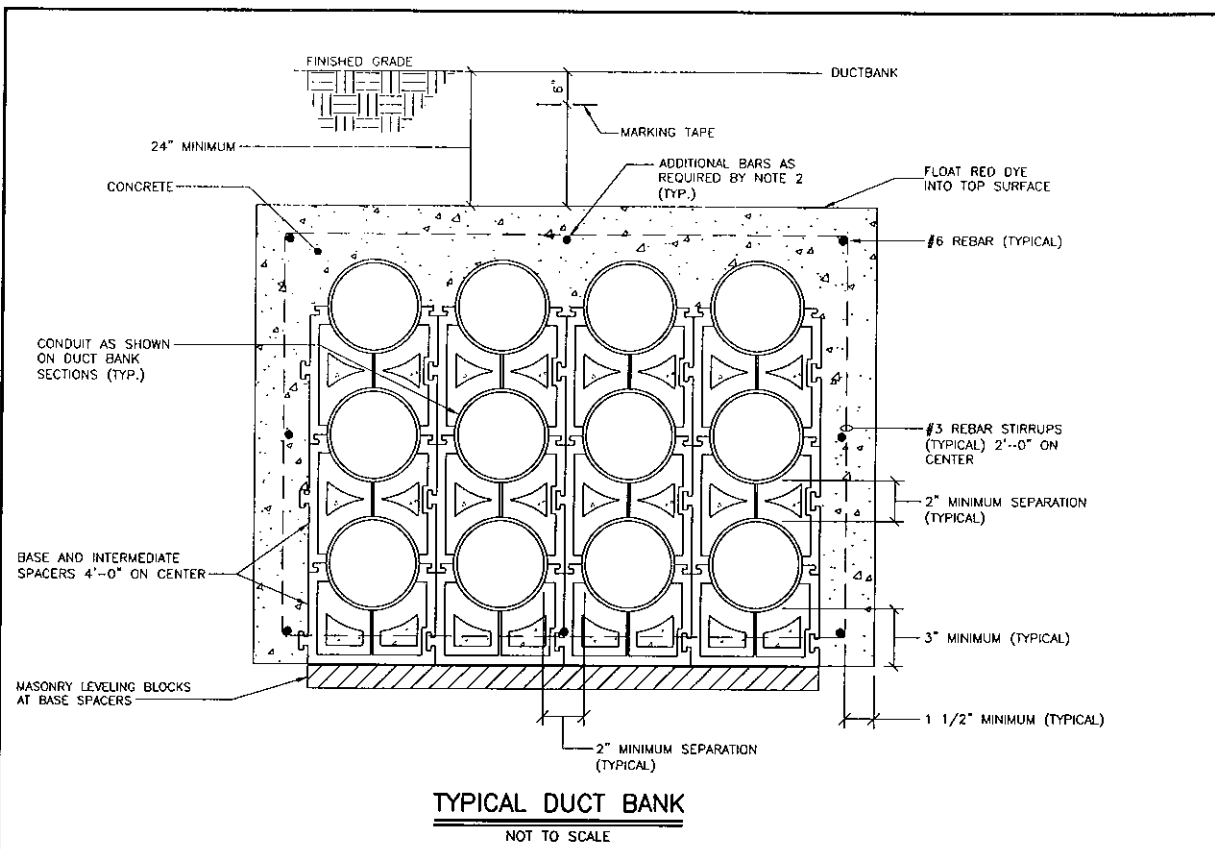
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TOWN OF BEDFORD
WATER FILTRATION PLANT &
CONNECTION WITH THE DELAWARE
AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL
DETAILS 1

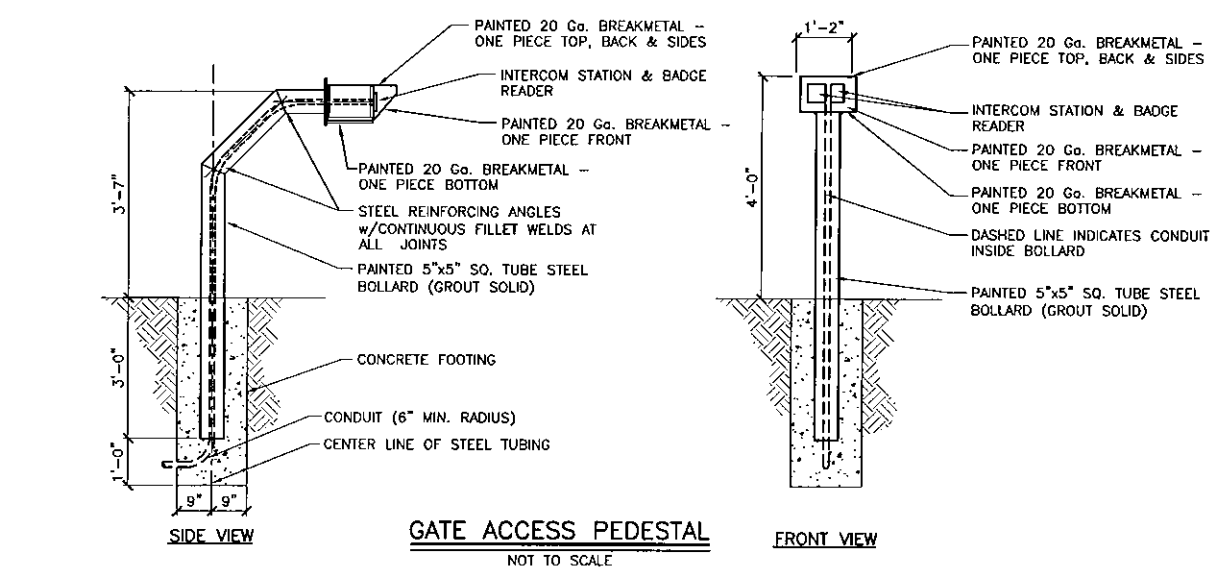
FILE NO.
14300.43172-362
DATE
OCTOBER 2009

E500



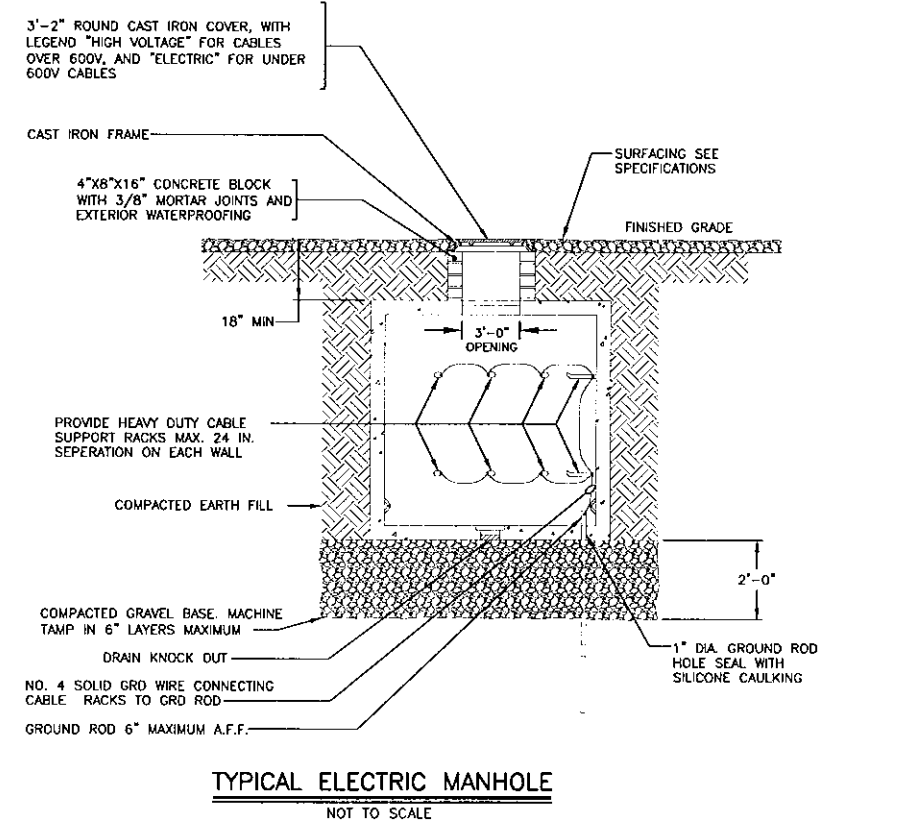
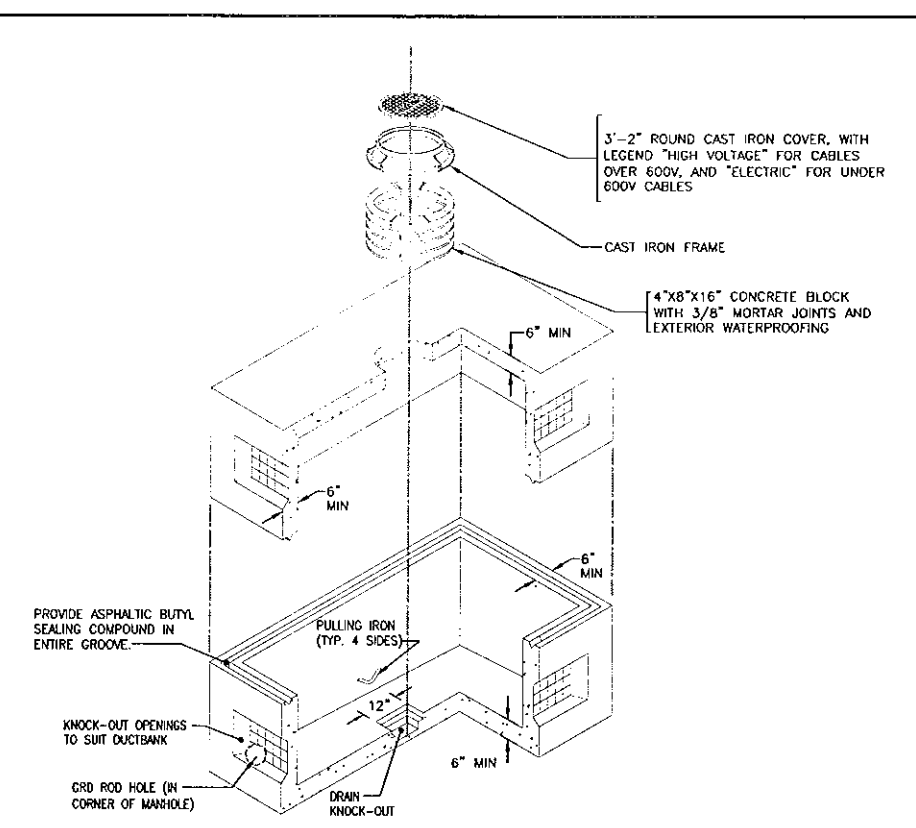
TYPICAL DUCT BANK
NOT TO SCALE

- NOTES:**
- REFER TO DUCT BANK SECTIONS FOR CONDUIT SIZES.
 - MAX LONGITUDINAL SPACING OF #4 REBAR SHALL BE 12 INCHES.
 - REFER TO SPECIFICATION FOR CONDUIT REQUIREMENTS.



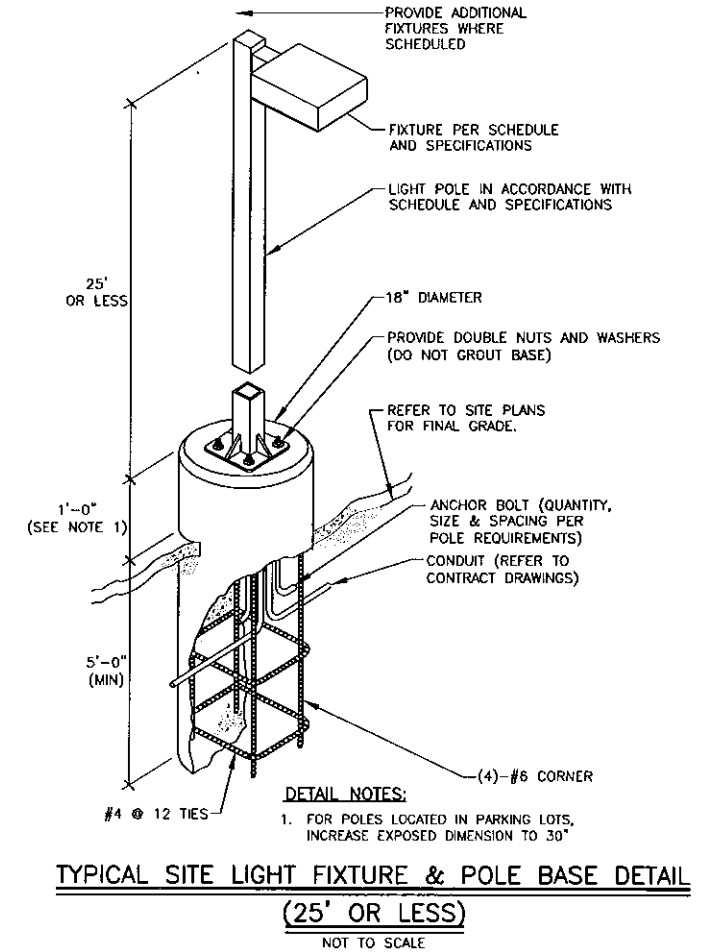
GATE ACCESS PEDESTAL
NOT TO SCALE

- NOTES:**
- PROVIDED BY SECURITY ACCESS VENDOR UNDER THIS CONTRACT.
 - CONCRETE BASE AND INSTALLATION BY THIS CONTRACT.
 - COORDINATE EXACT DIMENSIONS WITH BADGE READER AND INTERCOM REQUIREMENTS.



TYPICAL ELECTRIC MANHOLE
NOT TO SCALE

- NOTES:**
- FOR ADDITIONAL REQUIREMENTS SEE SPECIFICATIONS.



TYPICAL SITE LIGHT FIXTURE & POLE BASE DETAIL
(25' OR LESS)
NOT TO SCALE

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DESIGNED BY	TES CHECKED BY JJC
DRAWN BY	TES

NOT TO SCALE	
NO.	DATE
0	10/19/09
ISSUED FOR BID	MRW
REVISION	INIT.

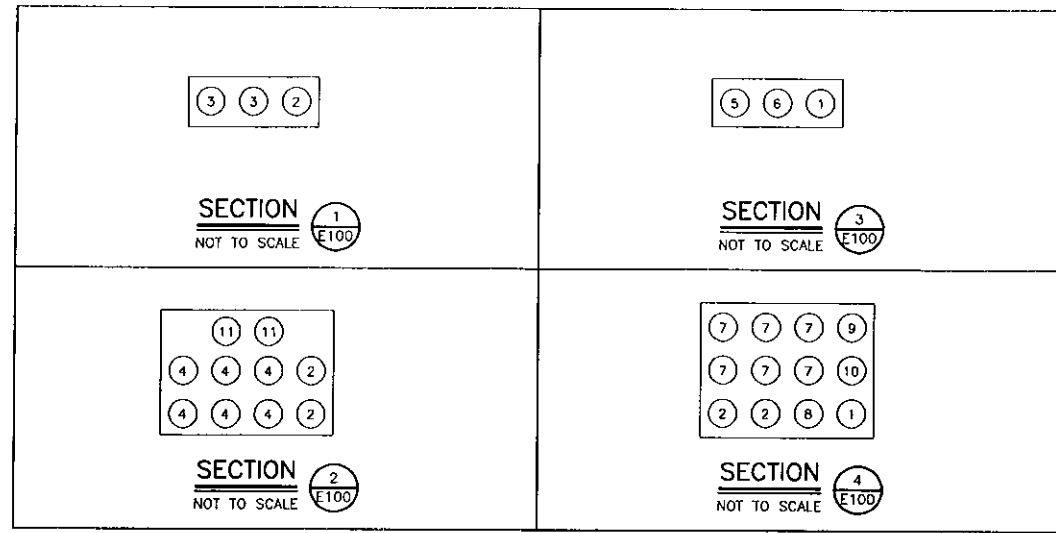


TOWN OF BEDFORD
WATER FILTRATION PLANT &
CONNECTION WITH THE DELAWARE
AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL	FILE NO.
	14300.43172-363
	DATE
	OCTOBER 2009

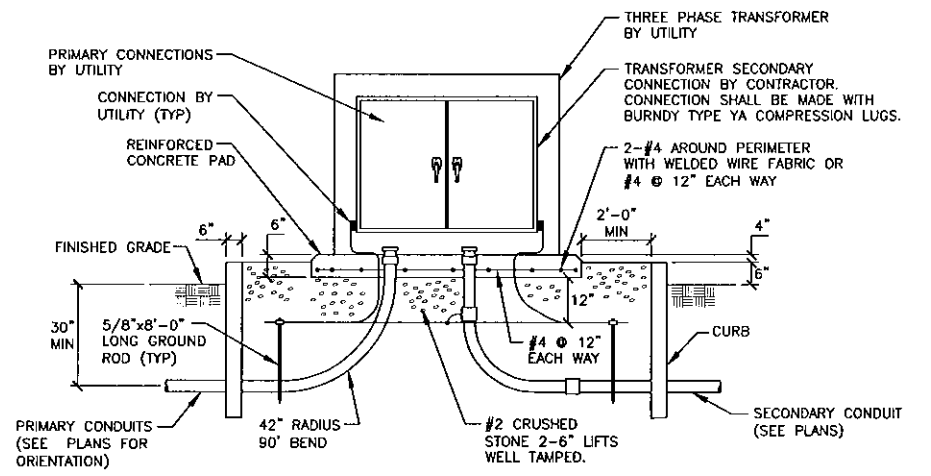
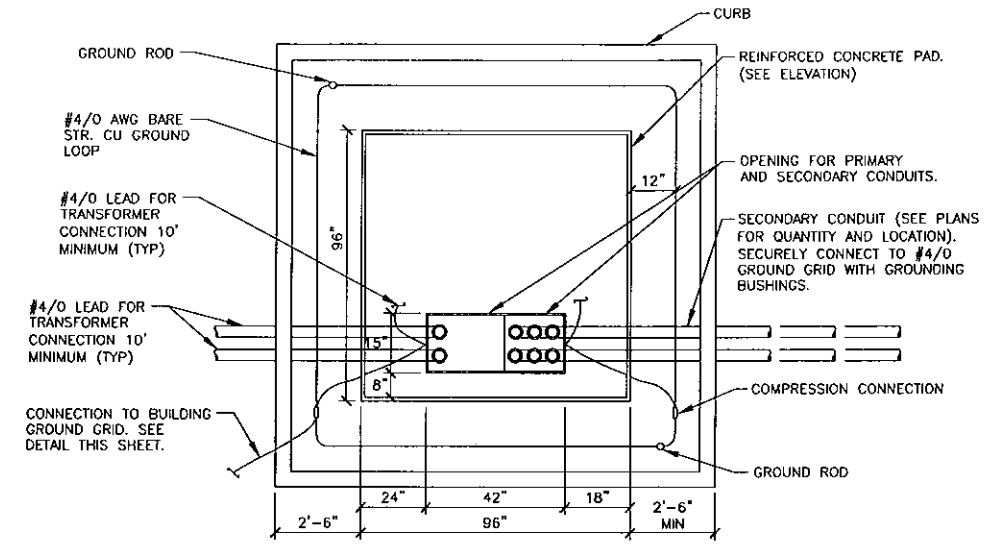
E501

DETAILS 2



DUCT BANK SECTION KEY

- 1 2" SPARE
- 2 4" SPARE
- 3 PF-1
- 4 P-1
- 5 C-1
- 6 C-1
- 7 P-2
- 8 P-42
- 9 CC-4
- 10 CC-5
- 11 P-52

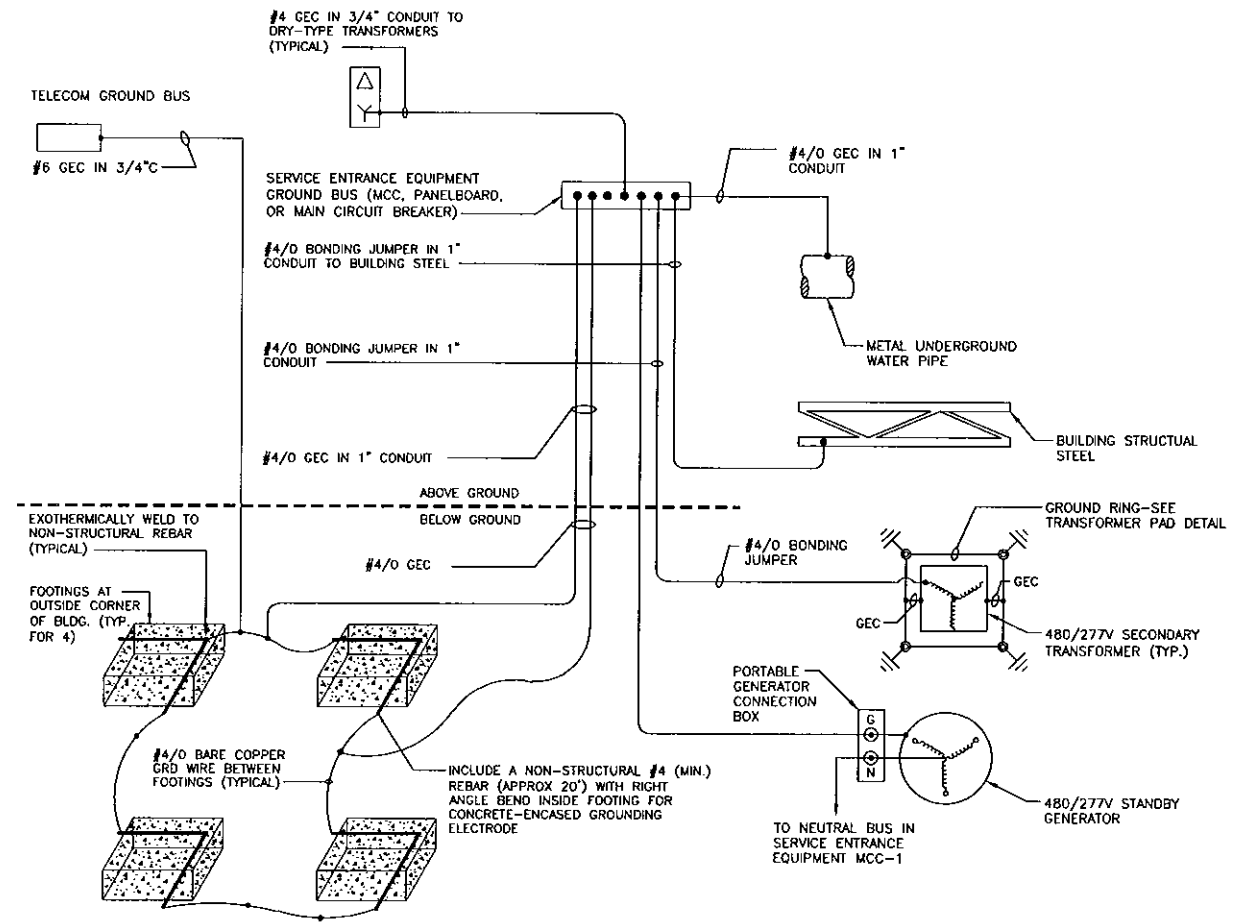


DETAIL NOTES:

1. TRANSFORMER PAD SHALL BE IN CONFORMANCE WITH LATEST EDITION OF NEW YORK STATE ELECTRIC & GAS (NYSEG).
2. CONCRETE SHALL BE 4000 PSI @ 28 DAYS.
3. TOP SURFACE SHALL BE TROWEL FINISHED WITH 3/4" CHAMFER ON ALL EXPOSED EDGES.
4. CONTRACTOR SHALL COORDINATE ORIENTATION OF TRANSFORMER PAD WITH UTILITY.

TRANSFORMER PAD DETAIL

NOT TO SCALE
(2500 KVA AND SMALLER)



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TOWN OF BEDFORD
WATER FILTRATION PLANT &
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AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL

DETAILS 3

FILE NO.	14300.43172-364
DATE	OCTOBER 2009

E502

PANEL SCHEDULE											
PANELBOARD		PP-1		LOCATION		ADMINISTRATION BUILDING		INSTALLATION		SURFACE	
RATINGS		250 AMPS, 480/277 VOLTS,		3 PH,		4 WIRE,		60 HZ.,		GRD BAR X	
MAIN LUGS		-		BKR INTERRUPTING RATING		22,000		RMS. SYMM. AMPS			
MAIN CIRCUIT BREAKER		250 AMPS,		CONNECTED LOAD		23.25 KVA,		PANEL SIZE		42 SPACES	
DESCRIPTION	LOAD KVA	BKR AMPS	CKT	A	B	C	CKT	BKR AMPS	LOAD KVA	DESCRIPTION	
6KW WATER HEATER	6.32	20	1				2	20	8.34	MAKE-UP AIR HANDLING UNIT (MUAU-1)	
ELECTRIC UNIT HEATER (EUH-5)	5.26	20	7				8	20	2.11	ELECTRIC UNIT HEATER (EUH-7)	
ENTRENCE GATE OPERATOR	1.22	20	13				14	20	-	SPARE	
SPARE	-	20	19				20	20	-		
SPACE	-	-	31				32	-	-	SPACE	
	-	-	33				34	-	-		
	-	-	35				36	-	-		
	-	-	37				38	-	-		
	-	-	39				40	-	-		
	-	-	41				42	-	-		

PANEL SCHEDULE											
PANELBOARD		PP-2		LOCATION		PROCESS AREA - 1ST FLOOR		INSTALLATION		SURFACE	
RATINGS		250 AMPS, 480/277 VOLTS,		3 PH,		4 WIRE,		60 HZ.,		GRD BAR X	
MAIN LUGS		-		BKR INTERRUPTING RATING		22,000		RMS. SYMM. AMPS			
MAIN CIRCUIT BREAKER		250 AMPS,		CONNECTED LOAD		15.86 KVA,		PANEL SIZE		42 SPACES	
DESCRIPTION	LOAD KVA	BKR AMPS	CKT	A	B	C	CKT	BKR AMPS	LOAD KVA	DESCRIPTION	
6KW WATER HEATER	9.47	20	1				2	20	.39	MAKE-UP AIR HANDLING UNIT (MUAU-2)	
ELECTRIC UNIT HEATER (EUH-4)	5.25	30	7				8	20	.25	UV INLET VALVE #1	
UV INLET VALVE #3 (FUTURE)	.25	20	13				14	20	.25	UV INLET VALVE #2	
SPARE	-	20	19				20	20	-	SPARE	
SPACE	-	-	31				32	-	-	SPACE	
	-	-	33				34	-	-		
	-	-	35				36	-	-		
	-	-	37				38	-	-		
	-	-	39				40	-	-		
	-	-	41				42	-	-		

PANEL SCHEDULE											
PANELBOARD		LP-3A		LOCATION		PROCESS AREA - 1ST FLOOR		INSTALLATION		SURFACE	
RATINGS		250 AMPS, 120/208 VOLTS,		3 PH,		4 WIRE,		60 HZ.,		GRD BAR X	
MAIN LUGS		X		BKR INTERRUPTING RATING		22,000		RMS. SYMM. AMPS			
MAIN CIRCUIT BREAKER		-		AMPS,		CONNECTED LOAD		10.46 KVA,		PANEL SIZE 42 SPACES	
DESCRIPTION	LOAD KVA	BKR AMPS	CKT	A	B	C	CKT	BKR AMPS	LOAD KVA	DESCRIPTION	
POLYALUMINUM CHLOR. FEED PUMP #1	.50	20	1				2	20	.50	ZINC OTHROPHOSHATE FEED PUMP #1	
POLYALUMINUM CHLOR. FEED PUMP #2	.50	20	3				4	20	.50	ZINC OTHROPHOSHATE FEED PUMP #2	
EXHAUST FAN - (EF-7)	.70	20	5				6	20	.35	FIRE SUPPRESSION PANEL	
GAS UNIT HEATER - (GUH-5)	.70	20	7				8	20	.35	MICRO FILTRATION MAIN CONTROL PANEL	
GAS UNIT HEATER - (GUH-6)	.70	20	9				10	20	.10	SECURITY CAMERA - PROCESS BUILDING	
GAS UNIT HEATER - (GUH-7)	.70	20	11				12	30	1.16	MICROFILTRATION MAIN CONTROL PANEL	
SUMP PUMP - BASEMENT AREA	.30	20	13				14	20	.50	LIT-805, LE/LS-805, AT-102	
LIT-800-1 & 2, FIT-803, FIT-804	.50	20	15				16	20	.50	FIT-100, AT-102, AE/AT-101	
LIT-700-1, 2, & 3, FIT-700	.50	20	17				18	20	.50	AT-600, AT-601, AT-700, AT-3007	
SPARE	-	20	19				20	20	-	SPARE	
	-	20	21				22	20	-		
	-	20	23				24	20	-		
	-	20	25				26	20	-		
	-	20	27				28	20	-		
	-	20	29				30	20	-		
SPACE	-	-	31				32	-	-	SPACE	
	-	-	33				34	-	-		
	-	-	35				36	-	-		
	-	-	37				38	-	-		
	-	-	39				40	-	-		
	-	-	41				42	-	-		

LIGHTING FIXTURE SCHEDULE							
TYPE	DESCRIPTION	LAMPS		VOLTAGE	MANUFACTURER #1 - MODEL	MANUFACTURER #2 - MODEL	REMARKS
		QUANTITY	TYPE				
A	2FT. X 4FT. FLUORESCENT HIGH BAY	4	32W T8	120	COOPER LIGHTING - METALUX 2HBHT-432-G-CL-UNV-EBB	LITHONIA LIGHTING IB-432-WDS	-
B	2FT. X 4FT. RECESSED TROFFER W/ PARABOLIC LOVER	2	32W T8	120	COOPER LIGHTING - METALUX 2P2GX-232S-461-UNV-EBB	LITHONIA LIGHTING - PARAMAX 2PM2GB-232-24-LS-MVOLT-GEB10IS	-
C	2FT. X 2FT. RECESSED TROFFER W/ PARABOLIC LOVER	2	32W U6T8	120	COOPER LIGHTING - METALUX 2P2GX-2UGT8-S341-UNV-EBB	LITHONIA LIGHTING - PARAMAX 2PM2G-B2U316-16LS-MVOLT-GEB1DIS	-
D	4FT. INDUSTRIAL SERIES FLUORESCENT FIXTURE	2	32W T8	120	COOPER LIGHTING - METALUX VT2-232-DR-UNV-EBB	LITHONIA LIGHTING - ACUITY AF-232-MVOLT-GEB1DIS	-
E	4FT. INDUSTRIAL/VAPORTIGHT FLUORESCENT FIXTURE	2	32W T8	120	COOPER LIGHTING - METALUX VT2-232-DR-UNV-EBB	LITHONIA LIGHTING DM-232-MVOLT-GEB1DIS	-
F	EXIT LIGHT	N/A	LED	120	DUAL-LITE LXURW-E-1	EMERGI-LITE PVL-100H-128LP-PBT-234-120	-
G	EMERGENCY LIGHTING UNIT (INDUSTRIAL)	2	20W 6V PAR36	120	COOPER LIGHTING - SURE LITES CCS-WH-MRTSO	LITHONIA LIGHTING - QUANTUM ELM654-HI206-SOTD-ELAMR24	-
H	STEEL WALL BRACKET FLUORESCENT FIXTURE	2	32W T8	120	COOPER LIGHTING - METALUX BEU-232-LTS-UNV-EBB	LITHONIA LIGHTING - WALL BRACKET WC-232-AI2-MVOLT-GEB1DIS	-
I	METAL HALIDE CUTOFF WALL MOUNT FIXTURE	1	100W ED17	120	COOPER LIGHTING - LUMARK LM10C	LITHONIA LIGHTING - WALL PACKS TWR1-100M-MVOLT-PE	PHOTOCELL REQUIRED
J	2FT. X 4FT. RECESSED TROFFER W/ ACRYLIC LENS	2	32W T8	120	COOPER LIGHTING - METALUX 2GCB-FA-232A-UNV-EBB	LITHONIA LIGHTING - TROFFERS GT2MV	-
K	METAL HALIDE RECESSED DOWN FIXTURE	1	70W MH	120	COOPER LIGHTING - PORTFOLIO M6023-0-730-10012-P-HB26	HUBBELL LIGHTING - PRESCOLITE LF6MH70EB-120V-OR-6MHV-BBPL	PHOTOCELL REQUIRED
L	METAL HALIDE ROADWAY LIGHTING FIXTURE	1	175W MH	120	ACUITY LIGHTING - HOLOPHANE G175MH00LWFX - TYPE II	-	PHOTOCELL REQUIRED

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 DRAWN BY TES

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TOWN OF BEDFORD
 WATER FILTRATION PLANT &
 CONNECTION WITH THE DELAWARE
 AQUEDUCT AT SHAFT #13
 BEDFORD, NEW YORK

ELECTRICAL
 SCHEDULES

FILE NO.
 14300.43172-365
 DATE
 OCTOBER 2009

E600

NOTES:

- POWER DISTRIBUTION PANELBOARDS AND LIGHTING PANELBOARD HOMERUN WIRING SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED.

CKT BKR	CONDUCTORS	CONDUIT
50 AMP/2 POLE	2-#6, 1-#10 GRD	3/4"
40 AMP/1 POLE	2-#8, 1-#10 GRD	3/4"
30 AMP/3 POLE	3-#10, 1-#10 GRD	3/4"
30 AMP/2 POLE	2-#10, 1-#10 GRD	3/4"
30 AMP/1 POLE	2-#10, 1-#10 GRD	3/4"
20 AMP/3 POLE	3-#12, 1-#12 GRD	3/4"
20 AMP/2 POLE	2-#12, 1-#12 GRD	3/4"
20 AMP/1 POLE	2-#12, 1-#12 GRD	3/4"

- LIGHTING PANELBOARD HOMERUNS SHALL BE PERMITTED TO BE CONSOLIDATED. CONTRACTOR SHALL SIZE AND DERATE CONDUCTOR AMPACITIES IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- CONDUITS AND CONDUCTORS BETWEEN DICONNECTING MEANS, MOTOR STARTING SWITCHES OR CONTROL DEVICES AND THE LOADS SERVED SHALL BE THE SAME QUANTITIES AND SIZES AS THE HOMERUN WIRING UNLESS OTHERWISE SCHEDULED, NOTED OR REQUIRED.

PANEL SCHEDULE										
PANELBOARD LP-1		LOCATION ADMINISTRATION BUILDING		INSTALLATION SURFACE						
RATINGS 400 AMPS, 120/208 VOLTS, 3 PH, 4 WIRE, 60 HZ., GRD BAR X										
MAIN LUGS -		BKR INTERRUPTING RATING 22,000 RMS. SYMM. AMPS								
MAIN CIRCUIT BREAKER 400 AMPS,		CONNECTED LOAD 15.27 KVA,		PANEL SIZE 42 SPACES						
DESCRIPTION	LOAD KVA	BKR AMPS	CKT	A	B	C	CKT	BKR AMPS	LOAD KVA	DESCRIPTION
RECEPTACLES - CORRIDOR 1ST FLOOR	.72	20	1				2	20	.72	RECEPTACLES - LOCKER AREA
RECEPTACLES - STORAGE/JANITORS RM	.54	20	3				4	20	.54	RECEPTACLES - LAB AREA
RECEPTACLES - LUNCH/MEETING RM	.72	20	5				6	20	.54	RECEPTACLES - LAB AREA
REFRIGERATOR - LUNCH RM	.20	20	7				8	20	.90	RECEPTACLES - CONTROL ROOM
LIGHTS - CONTROL/OPERATOR RMS	.65	20	9				10	20	.90	RECEPTACLES - OPERATOR ROOM
LIGHTS - LUNCH/STORAGE RMS	.49	20	11				12	20	.72	RECEPTACLES - MECHANICAL ROOM
LIGHTS - CORRIDOR 1ST FLOOR	.65	20	13				14	20	.49	LIGHTS - ELECTRIC ROOM
LIGHTS - LAB/LOCKER RMS	.57	20	15				16	20	.57	LIGHTS - MECHANICAL ROOM
LIGHTS - CORRIDOR 2ND FLOOR	.33	20	17				18	20	.14	EXIT LIGHTS - 1ST/2ND FLOORS
DRINKING FOUNTAIN	.20	20	19				20	20	-	-
FIRE ALARM PANEL	.50	20	21				22	20	.25	SECURITY SYSTEM PANEL
EXHAUST FAN (EF-9)	.70	20	23				24	20	.70	EXHAUST FAN (EF-10)
SCADA/CONTROL PANEL	1.25	20	25				26	20	.18	RANGE/STOVE LUNCH ROOM
MICROWAVE RECEPTACLE	.20	20	27				28	20	.18	COUNTERTOP RECEPTACLE - LUNCH RM
SECURITY RECEPTACLES - CONTROL RM	.72	20	29				30	20	-	SPARE
SPARE	-	20	31				32	20	-	SPARE
↓	-	20	33				34	20	-	↓
↓	-	20	35				36	20	-	↓
SPACE	-	-	37				38	-	-	SPACE
↓	-	-	39				40	-	-	↓
↓	-	-	41				42	-	-	↓

PANEL SCHEDULE										
PANELBOARD LP-1A		LOCATION ADMINISTRATION BUILDING		INSTALLATION SURFACE						
RATINGS 400 AMPS, 120/208 VOLTS, 3 PH, 4 WIRE, 60 HZ., GRD BAR X										
MAIN LUGS X		BKR INTERRUPTING RATING 22,000 RMS. SYMM. AMPS								
MAIN CIRCUIT BREAKER -		CONNECTED LOAD 19.25 KVA,		PANEL SIZE 42 SPACES						
DESCRIPTION	LOAD KVA	BKR AMPS	CKT	A	B	C	CKT	BKR AMPS	LOAD KVA	DESCRIPTION
CABINET UNIT HEATER (CUH-1)	.86	20	1				2	20	.86	CABINET UNIT HEATER (CUH-2)
CABINET UNIT HEATER (CUH-3)	1.16	20	5				6	20	1.16	CABINET UNIT HEATER (CUH-4)
CABINET UNIT HEATER (CUH-5)	1.16	20	9				10	20	.86	CABINET UNIT HEATER (CUH-6)
CABINET UNIT HEATER (CUH-7)	1.16	20	13				14	30	4.9	HEAT PUMP (HP-1)
GENERATOR ENCLOSURE PANEL (LP-4)	28.82	100	17				18	20	1.72	CP-1 PUMP
FLUME HOOD	.30	20	21				22	20	.25	CR-HP-1 ; D-11 ACTUATOR
COPIER - OPERATOR'S ROOM	.18	20	25				26	20	.25	CR-MUAU-1 ; D-15 ACTUATOR
SPARE	-	20	27				28	20	-	SPARE
↓	-	20	29				30	20	-	↓
↓	-	20	31				32	20	-	↓
SPACE	-	-	33				34	-	-	SPACE
↓	-	-	35				36	-	-	↓
↓	-	-	37				38	-	-	↓
↓	-	-	39				40	-	-	↓
↓	-	-	41				42	-	-	↓

PANEL SCHEDULE										
PANELBOARD LP-2		LOCATION GARAGE AREA		INSTALLATION SURFACE						
RATINGS 250 AMPS, 120/208 VOLTS, 3 PH, 4 WIRE, 60 HZ., GRD BAR X										
MAIN LUGS -		BKR INTERRUPTING RATING 22,000 RMS. SYMM. AMPS								
MAIN CIRCUIT BREAKER 225 AMPS,		CONNECTED LOAD 21.83 KVA,		PANEL SIZE 42 SPACES						
DESCRIPTION	LOAD KVA	BKR AMPS	CKT	A	B	C	CKT	BKR AMPS	LOAD KVA	DESCRIPTION
RECEPTACLES - GARAGE AREA	.72	20	1				2	20	1.34	LIGHTING - GARAGE AREA
RECEPTACLES - GARAGE AREA	.72	20	3				4	20	1.34	LIGHTING - GARAGE AREA
CEILING FANS - GARAGE AREA	.42	20	5				6	20	.30	EXIT LIGHTS - GARAGE AREA
GAS UNIT HEATER - (GUH-2)	.70	20	7				8	20	.43	EXTERIOR LIGHTS - GARAGE/ADMIN. AREAS
GAS UNIT HEATER - (GUH-3)	.70	20	9				10	20	.70	EXHAUST FAN - (EF-2)
GARAGE DOOR OPENER #1	4.32	20	11				12	20	.70	GAS UNIT HEATER - (GUH-1)
		3P	15				16	20	4.32	GARAGE DOOR OPENER #2
GARAGE DOOR OPENER #3	4.32	20	17				18	3P	.25	FENCE SCURITY SYSTEM
		3P	21				22	20	.25	ENTRANCE GATE EQUIPMENT
SECURITY CAMERAS - GARAGE AREA	.20	20	23				24	20	.10	CARBON MOXIODE MONITORTING EQUIP.
SPARE	-	20	25				26	20	-	SPARE
↓	-	20	27				28	20	-	↓
↓	-	20	29				30	20	-	↓
SPACE	-	-	31				32	-	-	SPACE
↓	-	-	33				34	-	-	↓
↓	-	-	35				36	-	-	↓
↓	-	-	37				38	-	-	↓
↓	-	-	39				40	-	-	↓
↓	-	-	41				42	-	-	↓

PANEL SCHEDULE										
PANELBOARD LP-3		LOCATION PROCESS AREA - 1ST FLOOR		INSTALLATION SURFACE						
RATINGS 250 AMPS, 120/208 VOLTS, 3 PH, 4 WIRE, 60 HZ., GRD BAR X										
MAIN LUGS -		BKR INTERRUPTING RATING 22,000 RMS. SYMM. AMPS								
MAIN CIRCUIT BREAKER 225 AMPS,		CONNECTED LOAD 22.41 KVA,		PANEL SIZE 42 SPACES						
DESCRIPTION	LOAD KVA	BKR AMPS	CKT	A	B	C	CKT	BKR AMPS	LOAD KVA	DESCRIPTION
LIGHTS - PROCESS AREA 1ST FLOOR	.73	20	1				2	20	.73	LIGHTS - CHEMICAL AREA
LIGHTS - PROCESS AREA 1ST FLOOR	.65	20	3				4	20	.65	LIGHTS - CHLORINE/STORAGE RMS
LIGHTS - EXTERIOR	.33	20	5				6	20	.18	EXIT LIGHTS - 1ST/2ND FLOOR
LIGHTS - BASEMENT	.41	20	7				8	20	1.10	LIGHTS - PROCESS AREA 2ND FLOOR
RECEPTACLES - BASEMENT	.04	20	9				10	20	1.26	LIGHTS - PROCESS AREA 2ND FLOOR
RECEPTACLES - PROCESS 1ST FLOOR	.72	20	11				12	20	.54	RECEPTACLES - CHEMICAL/STORAGE RM
RECEPTACLES - CHLORINE ROOM	.54	20	13				14	20	.72	RECEPTACLES - PROCESS 2ND FLOOR
CEILING FANS - PROCESS 2ND FLOOR	.42	20	15				16	20	.72	RECEPTACLES - PROCESS 2ND FLOOR
GAS UNIT HEATER (GUH-4)	.70	20	17				18	20*	.84	EYEWASH SHOWER - EXTERIOR
ELECTRIC UNIT HEATER (EUH-1)	2.11	30	19				20	30	2.11	ELECTRIC UNIT HEATER (EUH-2)
		2P	21				22	2P		
ELECTRIC UNIT HEATER (EUH-3)	2.11	30	23				24	30	.25	CIP MAIN CONTROL PANEL
		2P	25				26	20	.25	FIRE SUPPRESSION PANEL
EXHAUST FAN (EF-3)/SMOKE DAMPER	.70	20	27				28	20	.70	EXHAUST FAN (EF-4)
EXHAUST FAN (EF-5)	.70	20	29				30	20	.70	EXHAUST FAN (EF-6)
CALCIUM HYPOCHLORITE FEED PUMP #1	.20	20	31				32	20	.18	SULFURIC ACID FEED PUMP #1
CALCIUM HYPOCHLORITE FEED PUMP #2	.20	20	33				34	20	.18	SULFURIC ACID FEED PUMP #2
CAL. HYPO. GENERATOR RECEPTACLE #1	.18	20	35				36	20	.18	SODIUM HYDROXIDE FEED PUMP #1
CAL. HYPO. GENERATOR RECEPTACLE #2	.18	20	37				38	20	.18	SODIUM HYDROXIDE FEED PUMP #2
SPARE	-	20	39				40	20	-	SPARE
SPARE	-	20	41				42	20	-	SPARE

* GFCI BREAKER CIRCUIT REQUIRED.



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		REVISION	INIT.



TOWN OF BEDFORD
 WATER FILTRATION PLANT &
 CONNECTION WITH THE DELAWARE
 AQUEDUCT AT SHAFT #13
 BEDFORD, NEW YORK

ELECTRICAL
 PANEL SCHEDULES

FILE NO.
 14300.43172-366
 DATE
 OCTOBER 2009

E601

CONDUIT & CONDUCTOR SCHEDULE

Table with columns: DESIGNATION, FROM, TO, CONDUIT SIZE, CONDUCTORS QTY/SIZE, REMARKS. Contains 52 rows of conduit and conductor data.

CONDUIT & CONDUCTOR SCHEDULE

Table with columns: DESIGNATION, FROM, TO, CONDUIT SIZE, CONDUCTORS QTY/SIZE, REMARKS. Contains 45 rows of conduit and conductor data.

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TOWN OF BEDFORD
WATER FILTRATION PLANT & CONNECTION WITH THE DELAWARE AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL
CONDUIT & CONDUCTOR SCHEDULES

FILE NO. 14300.43172-367
DATE OCTOBER 2009

E602

CONDUIT AND CONDUCTOR SCHEDULE

DESIGNATION	FROM	TO	CONDUIT SIZE	CONDUCTORS QTY/SIZE	REMARKS
CC-46	SCADA/CONTROL PANEL	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	3/4"	2-ETHERNET CABLES	
CC-47	MOTOR CONTROL CENTER #1	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	1 1/2"	70-#14 AWG	INCLUDES SPARES
CC-48	MOTOR CONTROL CENTER #1	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	1 1/2"	8-TSP	INCLUDES SPARES
CC-49	MOTOR CONTROL CENTER #2	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	1 1/4"	50-#14 AWG	INCLUDES SPARES
CC-50	MOTOR CONTROL CENTER #2	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	1 1/4"	6-TSP	
CC-51	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTER #1 I/O RACK	3/4"	3-#14 AWG	
CC-52	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTER #1 I/O RACK	3/4"	1-ETHERNET CABLE	
CC-53	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTER #2 I/O RACK	3/4"	3-#14 AWG	
CC-54	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTER #2 I/O RACK	3/4"	1-ETHERNET CABLE	
CC-55	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	COMPRESSOR #1	3/4"	4-#14 AWG	
CC-56	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	COMPRESSOR #2	3/4"	4-#14 AWG	
CC-57	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTRATION SYSTEM FEED AREA I/O RACK	3/4"	3-#14 AWG	
CC-58	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTRATION SYSTEM FEED AREA I/O RACK	3/4"	1-ETHERNET CABLE	
CC-59	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTRATION SYSTEM CIP AREA I/O RACK	3/4"	3-#14 AWG	
CC-60	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTRATION SYSTEM CIP AREA I/O RACK	3/4"	1-ETHERNET CABLE	
CC-61	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	TE-5004, TE-5104	3/4"	2-TYPE K THERMOCOUPLE CABLES	
CC-62	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTRATION SYSTEM CIP TFR AREA I/O RACK	3/4"	3-#14 AWG	
CC-63	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTRATION SYSTEM CIP TFR AREA I/O RACK	3/4"	1-ETHERNET CABLE	
CC-64	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTER SYSTEM CIP CIRC. AREA I/O RACK	3/4"	3-#14 AWG	
CC-65	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	MICROFILTER SYSTEM CIP CIRC. AREA I/O RACK	3/4"	1-ETHERNET CABLE	
CC-66 THRU CC-75	MICROFILTER #1 FEED AREA I/O RACK	ZS-1014,ZS-1022,ZS-1023 ZS-1024,ZS-1025,ZS-1027 ZS-1028,ZS-1029,ZS-1030 ZS-1031	10-3/4"	FURNISHED WITH MICROFILTRATION SYSTEM	SEE NOTE 1
CC-76 THRU CC-85	MICROFILTER #2 FEED AREA I/O RACK	ZS-1014,ZS-1022,ZS-1023 ZS-1024,ZS-1025,ZS-1027 ZS-1028,ZS-1029,ZS-1030 ZS-1031	10-3/4"	FURNISHED WITH MICROFILTRATION SYSTEM	SEE NOTE 1
CC-86 THRU CC-93	MICROFILTRATION SYSTEM FEED AREA I/O RACK	ZS-3201A,ZS-3201B,ZS-3201C Z-3119A THRU Z-3119E	8-3/4"	8-#18 4/C	SEE NOTE 1
CC-94 THRU CC-98	MICROFILTRATION SYSTEM FEED AREA I/O RACK	FSL-3114A THRU FSL-3114E	5-3/4"	5-#18 3/C	SEE NOTE 1
CC-99 CC-100 CC-101	MICROFILTRATION SYSTEM FEED AREA I/O RACK	PIT-3005, PIT-3009 AIT-3025	3-3/4"	3-#18 TSP	SEE NOTE 1
CC-102	MICROFILTRATION SYSTEM FEED AREA I/O RACK	AIT-3025	3/4"	3-#14 AWG	SEE NOTE 1
CC-103 THRU CC-108	MICROFILTRATION SYSTEM CIP AREA I/O RACK	FSL-5270A,FSL-5270B, LSHH-5002,LSHH-5102, LSL-5003, LSL-5103	6-3/4"	6-#18 3/C	SEE NOTE 1
CC-109 THRU CC-112	MICROFILTRATION SYSTEM CIP AREA I/O RACK	LIT-5006, LIT-5106 TT-5007, TT-5107	4-3/4"	4-#18 TSP	SEE NOTE 1
CC-113 CC-114 CC-115	MICROFILTRATION SYSTEM CIP TFR AREA I/O RACK	FIT-5017, FIT-5121 FIT-5405	3-3/4"	9-#14 AWG	SEE NOTE 1
CC-116 CC-117 CC-118	MICROFILTRATION SYSTEM CIP TFR AREA I/O RACK	FIT-5017, FIT-5121 FIT-5405	3-3/4"	3-#18 TSP	SEE NOTE 1
CC-119 CC-120	MICROFILTER SYSTEM CIP CIRC. AREA I/O RACK	FSL-5203A FSL-5203B	2-3/4"	2-#18 3/C	SEE NOTE 1
CC-121	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	AIT-6009	3/4"	3-#14 AWG	SEE NOTE 2
CC-122 CC-123 CC-124	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	FCV-6034A,FCV-6034B PIT-6011	3-3/4"	3-#18 TSP	SEE NOTE 2
CC-125 CC-126 CC-127	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	FIT-6035A,FIT-6035B AIT/TT-6009	3-3/4"	3-#16 TST	SEE NOTE 2
CC-128	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	AIT-3006	3/4"	3-#14 AWG	SEE NOTE 3
CC-129 CC-130	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	AIT-3006 TT-3008	2-3/4"	2-#18 TSP	SEE NOTE 3
CC-131 CC-132	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	FIT-4305 AIT-4001	2-3/4"	6-#14 AWG	SEE NOTE 4

CONDUIT AND CONDUCTOR SCHEDULE

DESIGNATION	FROM	TO	CONDUIT SIZE	CONDUCTORS QTY/SIZE	REMARKS
CC-133 CC-134 CC-135	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	PIT-4003 FIT-4305 AIT-4001	2-3/4"	3-#18 TSP	SEE NOTE 4
CC-136	FE-100	FIT-100	1"	1- MAGMETER CABLE	CABLE FURNISHED WITH MAGMETER
CC-137	AE-102	AIT-102	3/4"	1- PH SENSOR CABLE	CABLE FURNISHED WITH PH SENSOR
CC-138	SCADA/CONTROL PANEL	FIT-100, AIT-101, AIT-102	1"	3-TSP	
CC-139	SCADA/CONTROL PANEL	AIT-3007	3/4"	1-TSP	
CC-140	FE-603	FIT-603	1"	1- MAGMETER CABLE	CABLE FURNISHED WITH MAGMETER
CC-141	SCADA/CONTROL PANEL	FIT-603	3/4"	1-TSP	
CC-142	SCADA/CONTROL PANEL	AIT-600, AIT-601, AIT-700	1"	3-TSP	
CC-143	SCADA/CONTROL PANEL	LSHH-700-1, LSL-700-1, LSHH-700-2, LSL-700-2, LSHH-700-3, LSL-700-3	3/4"	12-#14 AWG	
CC-144	LE-700-1	LIT-700-1	3/4"	1- SENSOR CABLE	CABLE FURNISHED WITH SENSOR
CC-145	LE-700-2	LIT-700-2	3/4"	1- SENSOR CABLE	CABLE FURNISHED WITH SENSOR
CC-146	LE-700-3	LIT-700-3	3/4"	1- SENSOR CABLE	CABLE FURNISHED WITH SENSOR
CC-147	SCADA/CONTROL PANEL	LIT-700-1, LIT-700-2, LIT-700-3	1"	3-TSP	
CC-148	FE-700	FIT-700	1"	1-MAGMETER CABLE	CABLE FURNISHED WITH MAGMETER
CC-149	SCADA/CONTROL PANEL	FIT-700	3/4"	1-TSP	
CC-150	SCADA/CONTROL PANEL	LIT-805	3/4"	1-TSP	
CC-151	SCADA/CONTROL PANEL	PIT-700	3/4"	1-TSP	
CC-152	SCADA/CONTROL PANEL	UV #1	3/4"	6-#14 AWG	
CC-153	SCADA/CONTROL PANEL	UV #1	3/4"	1-TSP	
CC-154	SCADA/CONTROL PANEL	UV #2	3/4"	6-#14 AWG	
CC-155	SCADA/CONTROL PANEL	UV #2	3/4"	1-TSP	
CC-156	SCADA/CONTROL PANEL	PSH-700	3/4"	2-#14 AWG	
CC-157	LE-800-1	LIT-800-1	3/4"	1- SENSOR CABLE	CABLE FURNISHED WITH SENSOR
CC-158	LE-800-2	LIT-800-2	3/4"	1- SENSOR CABLE	CABLE FURNISHED WITH SENSOR
CC-159	SCADA/CONTROL PANEL	LIT-800-1 LIT-800-2	3/4"	2-TSP	
CC-160	SCADA/CONTROL PANEL	LSHH-800-1, LSL-800-1 LSHH-800-2, LSL-800-2	3/4"	8-#14 AWG	
CC-161	LE-805	LIT-805	3/4"	1- SENSOR CABLE	CABLE FURNISHED WITH SENSOR
CC-162	SCADA/CONTROL PANEL	LSHH-805, LSL-805 LE/LS-805	3/4"	6-#14 AWG	
CC-163	FE-804	FIT-804	1"	1- MAGMETER CABLE	CABLE FURNISHED WITH MAGMETER
CC-164	SCADA/CONTROL PANEL	FIT-804	3/4"	1-TSP	
CC-165	FE-803	FIT-803	1"	1- MAGMETER CABLE	CABLE FURNISHED WITH MAGMETER
CC-166	SCADA/CONTROL PANEL	FIT-803	3/4"	1-TSP	
CC-167	SCADA/CONTROL PANEL	ZSC-803 ZSO-803	3/4"	4-#14 AWG	
CC-168	SCADA/CONTROL PANEL	FSH-920, FSH-921 FSH-922, FSH-923	3/4"	8-#14 AWG	
CC-169	SCADA/CONTROL PANEL	LSH-910 LSH-911	3/4"	4-#14 AWG	
CC-170	LE-800	LIT-800	3/4"	1- SENSOR CABLE	CABLE FURNISHED WITH SENSOR
CC-171	SCADA/CONTROL PANEL	LIT-800	3/4"	1-TSP	
CC-172	SCADA/CONTROL PANEL	LSHH-800 LSL-800	3/4"	4-#14 AWG	
CC-173	SCADA/CONTROL PANEL	SLUDGE TRANSFER CONTROL PANEL	3/4"	4-#14 AWG	
CC-174	SECURITY PANEL MECHANICAL ROOM	CARD READER SECURITY GATE	3/4"	PER SECURITY SYSTEM MFR REQUIREMENTS	
CC-175	SECURITY PANEL MECHANICAL ROOM	ENTRANCE GATE OPERATOR	3/4"	2-#14 AWG	
CC-176	INTERCOM CONTROL ROOM	INTERCOM ENTRANCE GATE	3/4"	PER SECURITY SYSTEM MFR REQUIREMENTS	
CC-177	INTERCOM CONTROL ROOM	ENTRANCE GATE OPERATOR	3/4"	2-#14 AWG	
CC-178	ENTRANCE GATE OPERATOR	VEHICLE DETECTOR	3/4"	2-#14 AWG	
CC-179	SCADA/CONTROL PANEL	LSHH-3302, LSH-3302, LSL-3302, LSL-3302	3/4"	8-#14 AWG	
CC-180	MOTOR CONTROL CENTER #1	CR-MUAU-1	3/4"	2-#14 AWG	

NOTES:

- DEVICES DESCRIBED IN THE COLUMN TITLED "TO" FOR CONDUITS REFERENCED TO THIS NOTE, ARE FIELD MOUNTED DEVICES ASSOCIATED WITH THE MICROFILTRATION SYSTEM. DEVICES SHALL BE FURNISHED AND INSTALLED BY C-BWFP-A, CONNECTED BY C-BWFP-B. COORDINATE MOUNTING LOCATION WITH C-BWFP-A. ALLOW 30' PER CONDUIT FOR BIDDING.
- DEVICES DESCRIBED IN THE COLUMN TITLED "TO" FOR CONDUITS REFERENCED TO THIS NOTE, ARE FIELD MOUNTED DEVICES ASSOCIATED WITH THE MICROFILTRATION SYSTEM COMPRESSED AIR EQUIPMENT. DEVICES SHALL BE FURNISHED AND INSTALLED BY C-BWFP-A, CONNECTED BY C-BWFP-B. COORDINATE MOUNTING LOCATION WITH C-BWFP-A. ALLOW 70' PER CONDUIT FOR BIDDING.
- DEVICES DESCRIBED IN THE COLUMN TITLED "TO" FOR CONDUITS REFERENCED TO THIS NOTE, ARE FIELD MOUNTED DEVICES ASSOCIATED WITH THE MICROFILTRATION SYSTEM FEED HEADER. DEVICES SHALL BE FURNISHED AND INSTALLED BY C-BWFP-A, CONNECTED BY C-BWFP-B. COORDINATE MOUNTING LOCATION WITH C-BWFP-A. ALLOW 100' PER CONDUIT FOR BIDDING.
- DEVICES DESCRIBED IN THE COLUMN TITLED "TO" FOR CONDUITS REFERENCED TO THIS NOTE, ARE FIELD MOUNTED DEVICES ASSOCIATED WITH THE MICROFILTRATION SYSTEM FILTRATE HEADER. DEVICES SHALL BE FURNISHED AND INSTALLED BY C-BWFP-A, CONNECTED BY C-BWFP-B. COORDINATE MOUNTING LOCATION WITH C-BWFP-A. ALLOW 70' PER CONDUIT FOR BIDDING.



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TOWN OF BEDFORD
 WATER FILTRATION PLANT &
 CONNECTION WITH THE DELAWARE
 AQUEDUCT AT SHAFT #13
 BEDFORD, NEW YORK

ELECTRICAL
 CONDUIT & CONDUCTOR
 SCHEDULES 2

FILE NO.
 14300.43172-378
 DATE
 OCTOBER 2009

E603

CONDUIT SCHEDULE

DESIGNATION	FROM	TO	CONDUIT SIZE	CONDUCTORS QTY/SIZE	REMARKS
CC-181	MUAU-1	CR-MUAU-1	3/4"	2-#12 AWG	-
CC-182	CR-MUAU-1	DAMPER D-1	3/4"	2-#12 AWG	-
CC-183	CR-MUAU-2	DAMPER D-10	3/4"	2-#12 AWG	-
CC-184	MOTOR CONTROL CENTER #1	CLEARWATER PUMPS #1 & PUMP CHECK VALVE	3/4"	13-#14 AWG	-
CC-185	MOTOR CONTROL CENTER #2	CLEARWATER PUMPS #2 & PUMP CHECK VALVE	3/4"	13-#14 AWG	-
CC-186	MOTOR CONTROL CENTER #1	CLEARWATER PUMPS #3 & PUMP CHECK VALVE	3/4"	13-#14 AWG	-
CC-187	SCADA/CONTROL PANEL	CALCIUM HYPO. PUMPS #1 & #2 POWER/CONTROL J-BOX	3/4"	20-#14 AWG	-
CC-188	SCADA/CONTROL PANEL	CALCIUM HYPO. PUMPS #1 & #2 ANALOG J-BOX	3/4"	2-TSP	-
CC-189	SCADA/CONTROL PANEL	RADIO ANTENNA	2"	1 - ANTENNA CABLE	-
CC-190	SCADA/CONTROL PANEL	ETHERNET SWITCH	3/4"	2 - ETHERNET CABLE	-
CC-191	ETHERNET SWITCH	MICROFILTRATION SYSTEM MAIN CONTROL PANEL	3/4"	1 - ETHERNET CABLE	-
CC-192	ETHERNET SWITCH	UV SYSTEM #1	3/4"	1 - ETHERNET CABLE	-
CC-193	ETHERNET SWITCH	UV SYSTEM #1	3/4"	1 - ETHERNET CABLE	-
CC-194	ETHERNET SWITCH	CALCIUM HYPO. SOLENOID GOVERNER #1	3/4"	1 - ETHERNET CABLE	-
CC-195	ETHERNET SWITCH	CALCIUM HYPO. SOLENOID GOVERNER #2	3/4"	1 - ETHERNET CABLE	-
PC-1	DISCONNECT SWITCH EXHAUST FAN (EF-1)	DAMPER ACUTATOR D-1	3/4"	3-#12 AWG & GRD 3-#12 AWG	
PC-1A	DISCONNECT SWITCH EXHAUST FAN (EF-2)	DAMPER ACUTATOR D-2	3/4"	3-#12 AWG & GRD 3-#12 AWG	
PC-2	MANUAL MOTOR STARTER EXHAUST FAN - (EF-3)	EXHAUST FAN - (EF-3) DAMPER D-4	3/4"	4-#12 AWG & GRD	
PC-3	MANUAL MOTOR STARTER EXHAUST FAN - (EF-4)	EXHAUST FAN - (EF-4) DAMPER D-5	3/4"	4-#12 AWG & GRD	
PC-4	MANUAL MOTOR STARTER EXHAUST FAN - (EF-5)	EXHAUST FAN - (EF-5) DAMPER D-6	3/4"	4-#12 AWG & GRD	
PC-5	MANUAL MOTOR STARTER EXHAUST FAN - (EF-6)	EXHAUST FAN - (EF-6) DAMPER D-7	3/4"	4-#12 AWG & GRD	
PC-6	MANUAL MOTOR STARTER EXHAUST FAN - (EF-9)	EXHAUST FAN - (EF-9) DAMPER D-18 & D-19	3/4"	4-#12 AWG & GRD	
PC-7	MANUAL MOTOR STARTER EXHAUST FAN - (EF-10)	EXHAUST FAN - (EF-10) DAMPER D-14	3/4"	4-#12 AWG & GRD	
PC-8	MOTOR CONTROL CENTER #2	DAMPER MOTORS D-17 & D-16	3/4"	2-#12 AWG	
PC-9	MOTOR CONTROL CENTER #2	TEMPERTURE CONTROLLER ELECTRIC ROOM	3/4"	4-#12 AWG	
PC-10	DISCONNECT SWITCH HEAT PUMP - (HP-1)	HEAT PUMP - (HP-1) MOTOR	3/4"	2-#12 AWG & GRD	
PC-11	MANUAL MOTOR STARTER EXHAUST FAN - (EF-7)	EXHAUST FAN - (EF-7) MOTOR	3/4"	2-#12 AWG & GRD	
PC-12	MOTOR CONTROL CENTER MCC-2	RETURN FAN RF-1	3/4"	3-#12 AWG W/ 1-#12 GRD	



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DRAWN BY	TES

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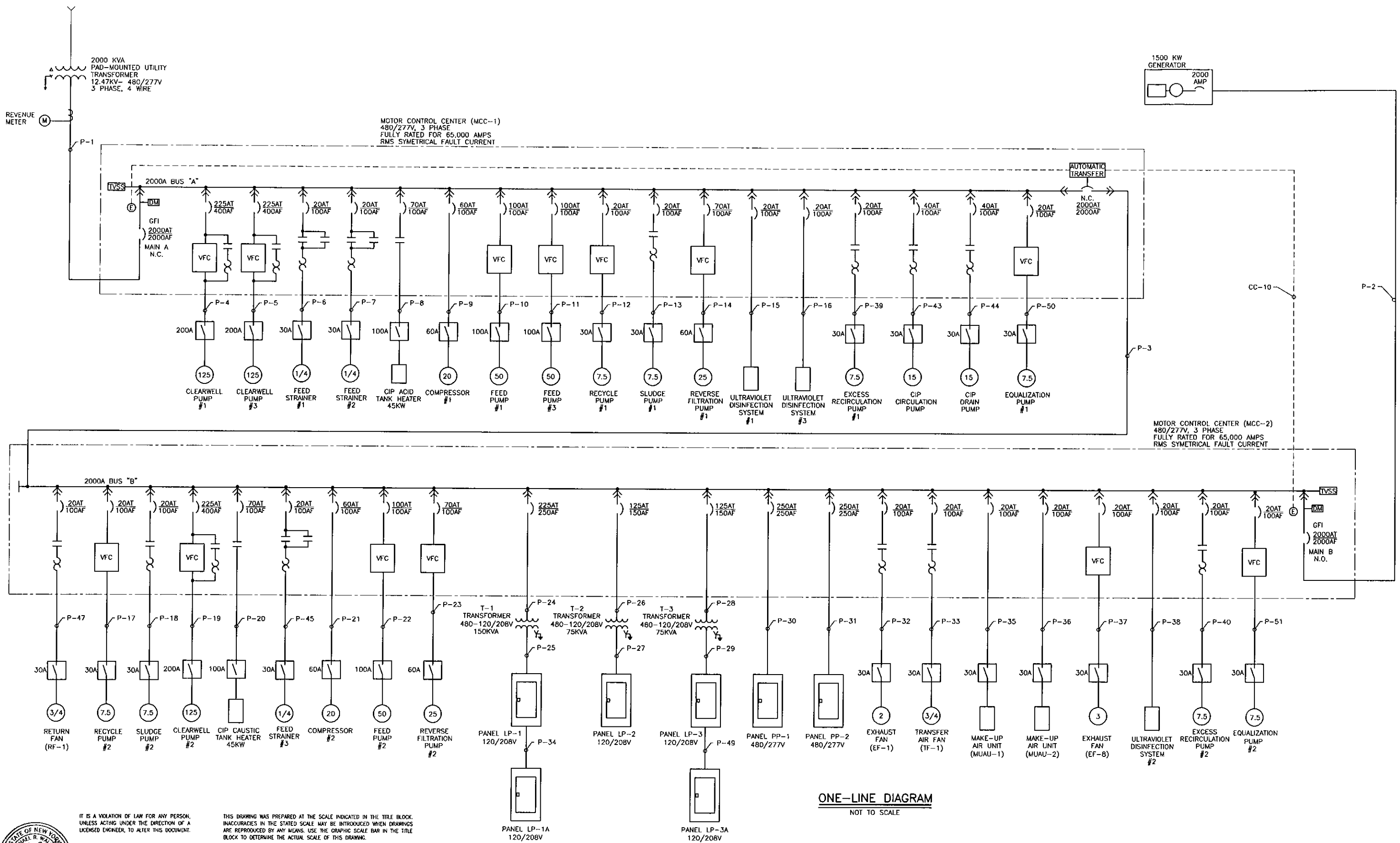
TOWN OF BEDFORD
WATER FILTRATION PLANT &
CONNECTION WITH THE DELAWARE
AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL

CONDUIT & CONDUCTOR
SCHEDULES

FILE NO.	14300.43172-377
DATE	OCTOBER 2009

E604



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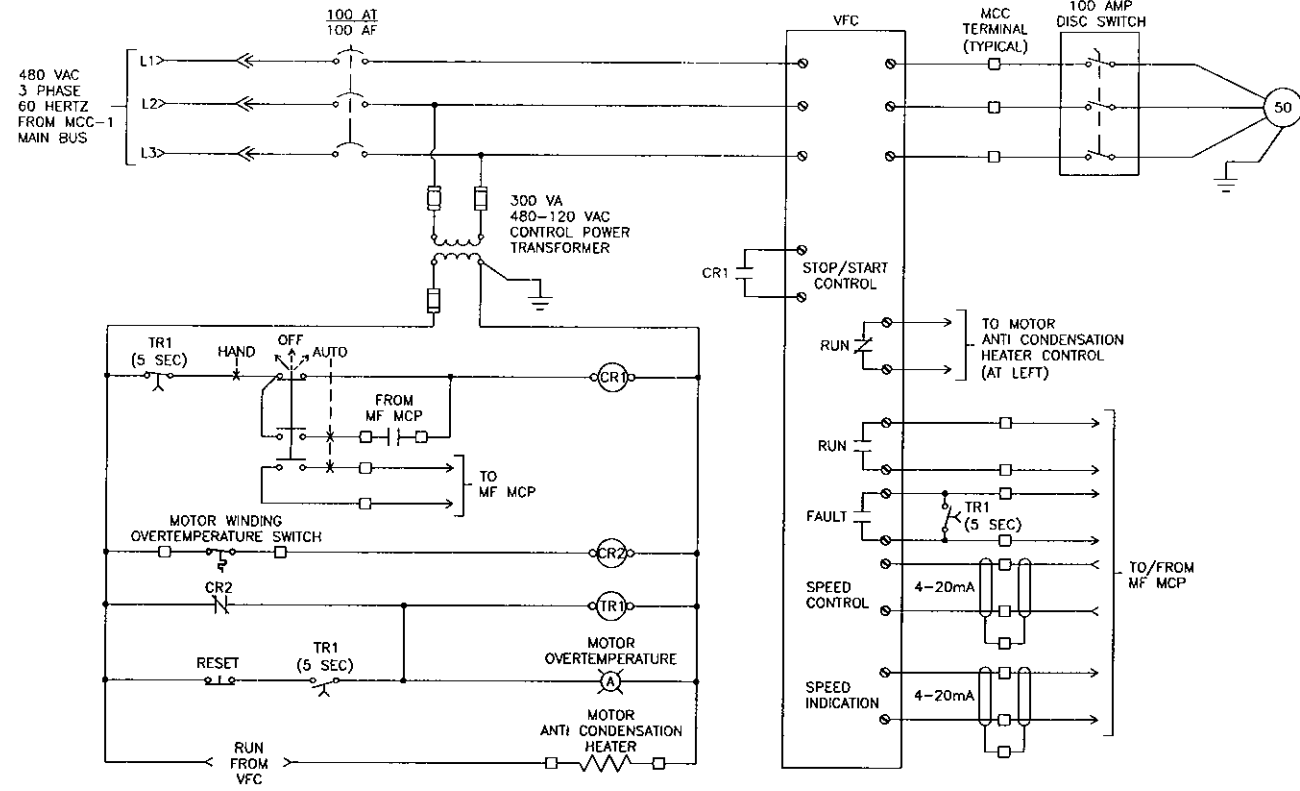
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 AQUEDUCT AT SHAFT #13
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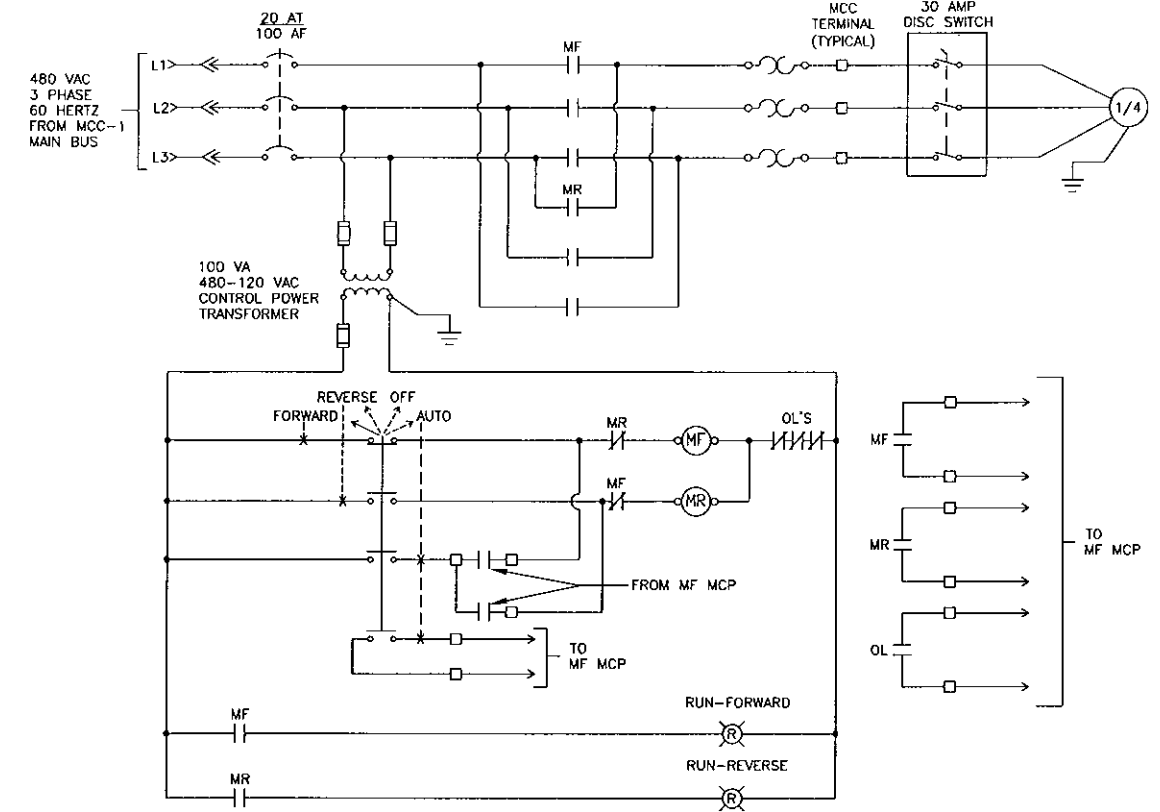
ELECTRICAL
 ONE-LINE DIAGRAM

FILE NO.
 14300.43172-368
 DATE
 OCTOBER 2009

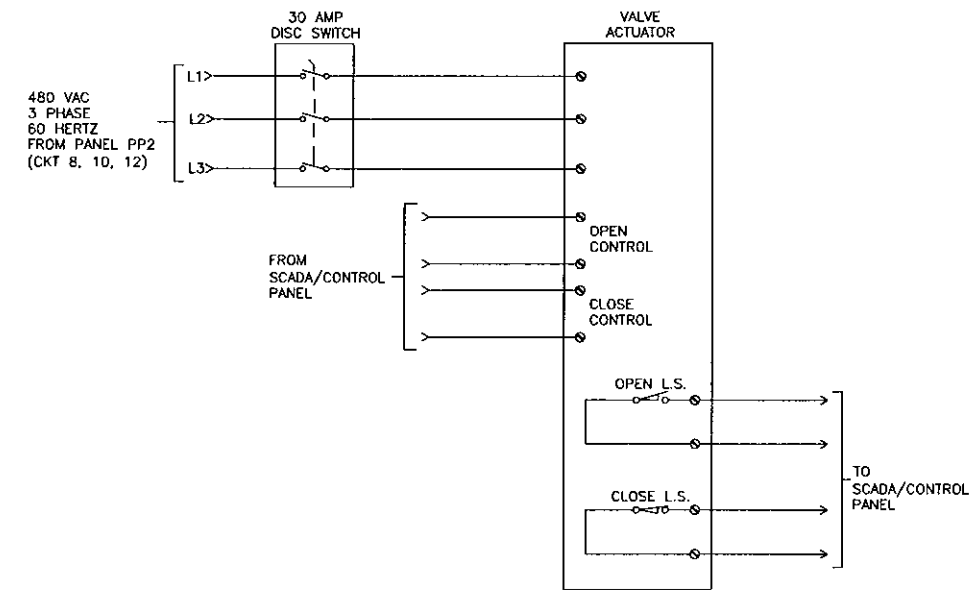
E700



FEED PUMP #1
 TYPICAL: FEED PUMP #2 (WITH MCC-2)
 FEED PUMP #3



FEED STRAINER #1
 TYPICAL: FEED STRAINER #2 (WITH MCC-2)
 FEED STRAINER #3



UV #1 INLET VALVE
 TYPICAL: UV #2 INLET VALVE (WITH PP2-14, 16, 18)

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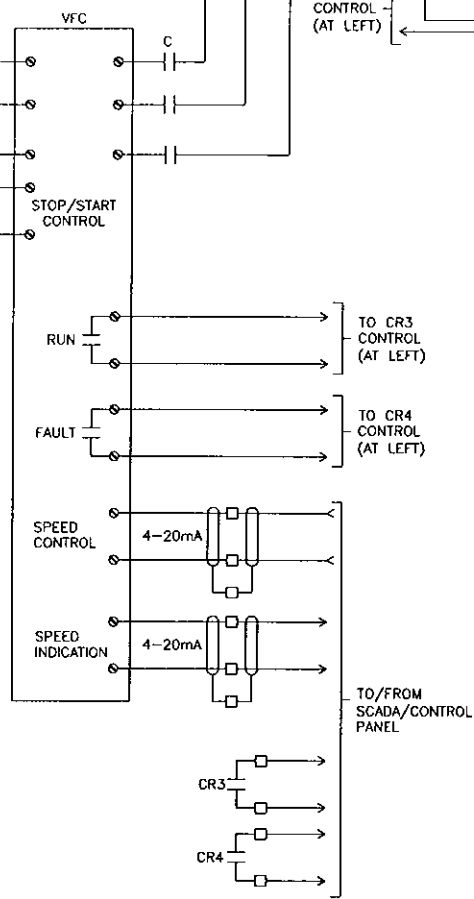
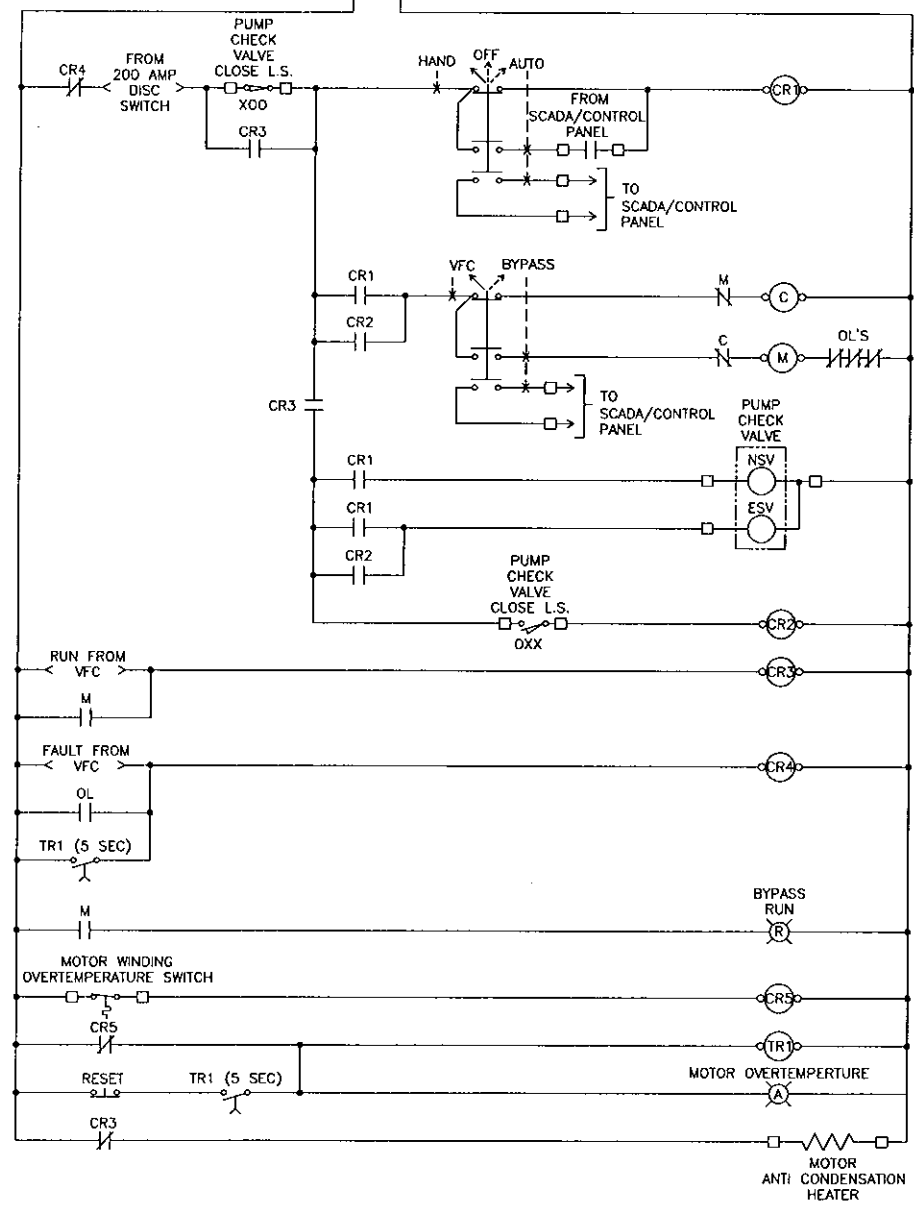
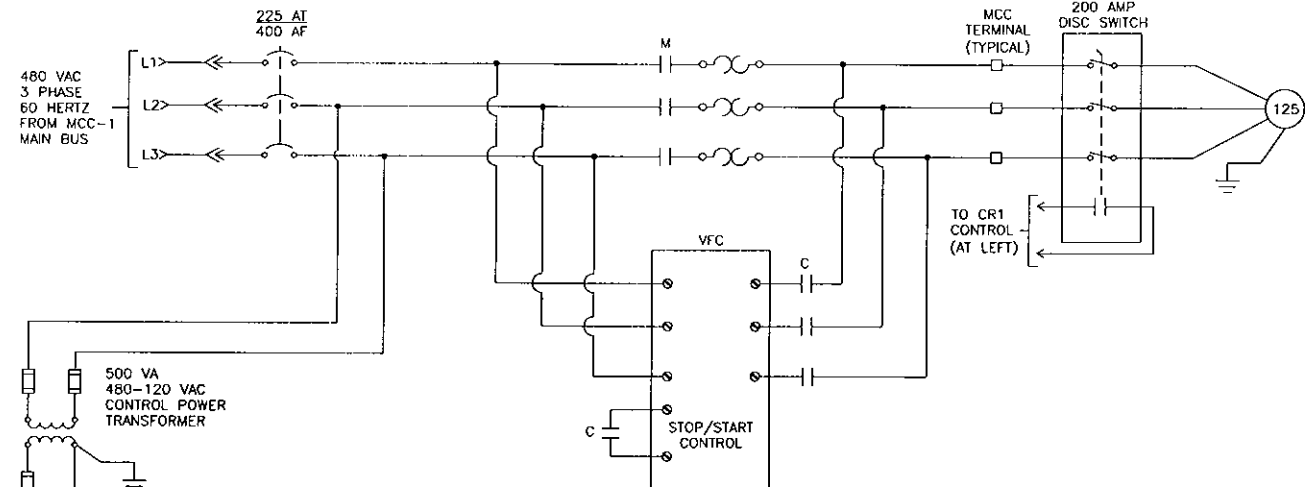


TOWN OF BEDFORD
 WATER FILTRATION PLANT &
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ELECTRICAL
 ELEMENTARIES 1

FILE NO.
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 OCTOBER 2009

E701



NOTES:

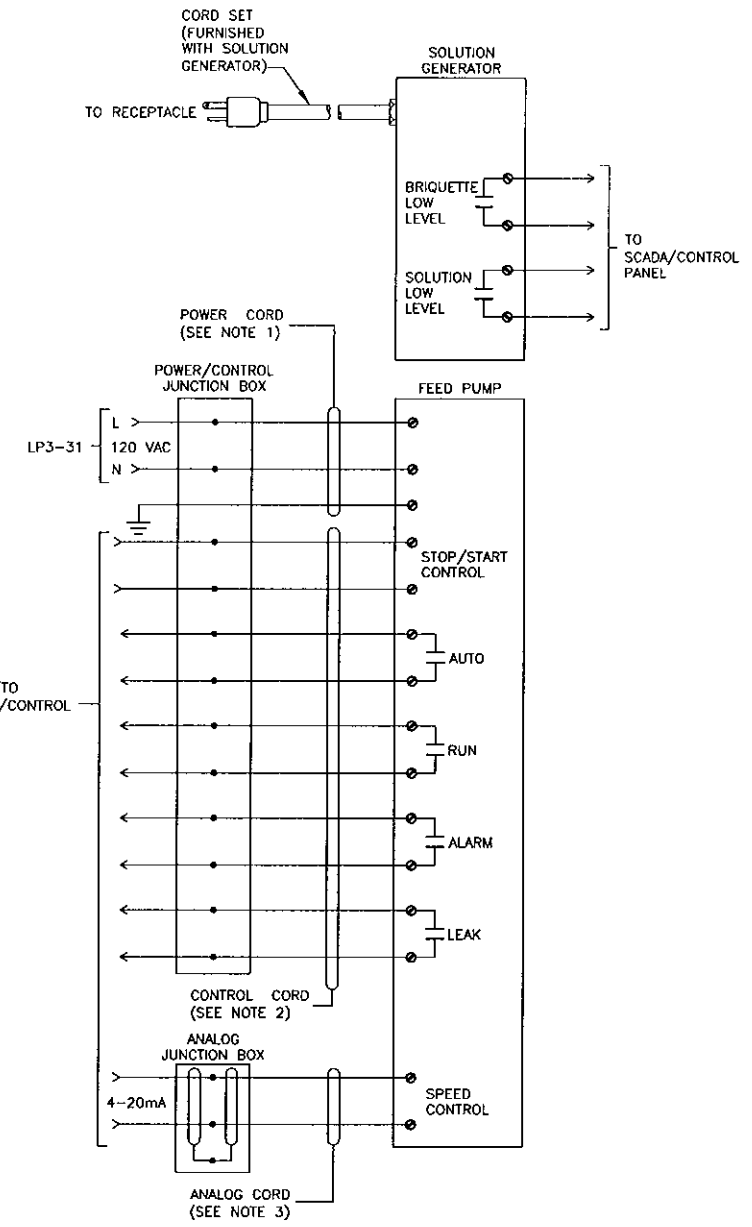
1. VALVE LIMIT SWITCH OPERATION SHALL BE AS INDICATED WITH THE FOLLOWING DESIGNATIONS (O=SWITCH OPEN, X=SWITCH CLOSED): X X O

SWITCH POSITION WITH VALVE CLOSED

SWITCH POSITION WITH VALVE INTERMEDIATE

SWITCH POSITION WITH VALVE OPEN

CLEARWELL PUMP #1
 TYPICAL: CLEARWELL PUMP #2 (WITH MCC-2)
 CLEARWELL PUMP #3



NOTES:

1. PROVIDE TYPE S0 POWER CORD WITH 3-#18 CONDUCTORS ROUTED FROM POWER/CONTROL JUNCTION BOX TO FEED PUMP (OPEN WIRING).
2. PROVIDE TYPE S0 CONTROL CORD WITH 10-#18 CONDUCTORS ROUTED FROM POWER/CONTROL JUNCTION BOX TO FEED PUMP (OPEN WIRING).
3. PROVIDE TWISTED SHIELDED PAIR ANALOG CORD WITH 2-#18 CONDUCTORS ROUTED FROM ANALOG JUNCTION BOX TO FEED PUMP (OPEN WIRING).

CALCIUM HYPOCHLORITE SOLUTION GENERATOR #1 AND FEED PUMP #1
 TYPICAL: CALCIUM HYPOCHLORITE SOLUTION GENERATOR #2 AND FEED PUMP #2 (WITH LP3-33)



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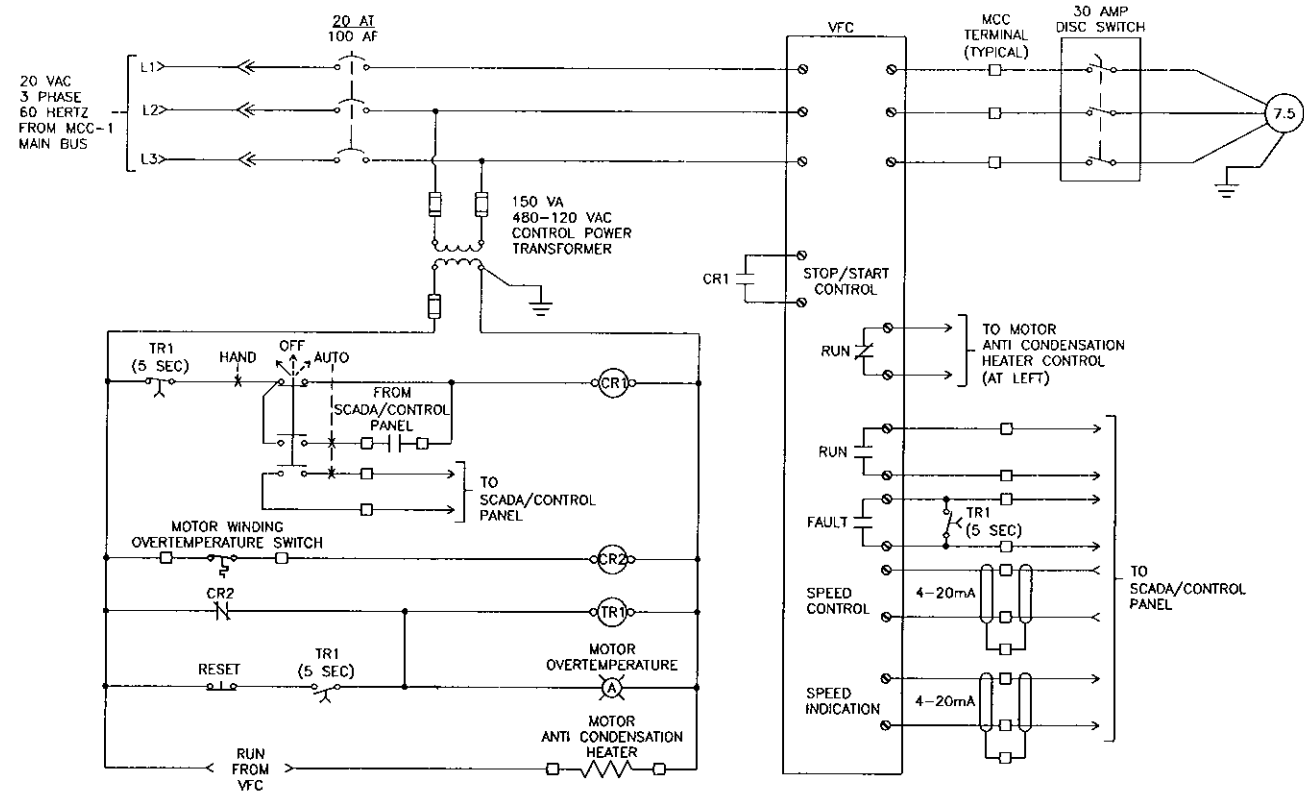


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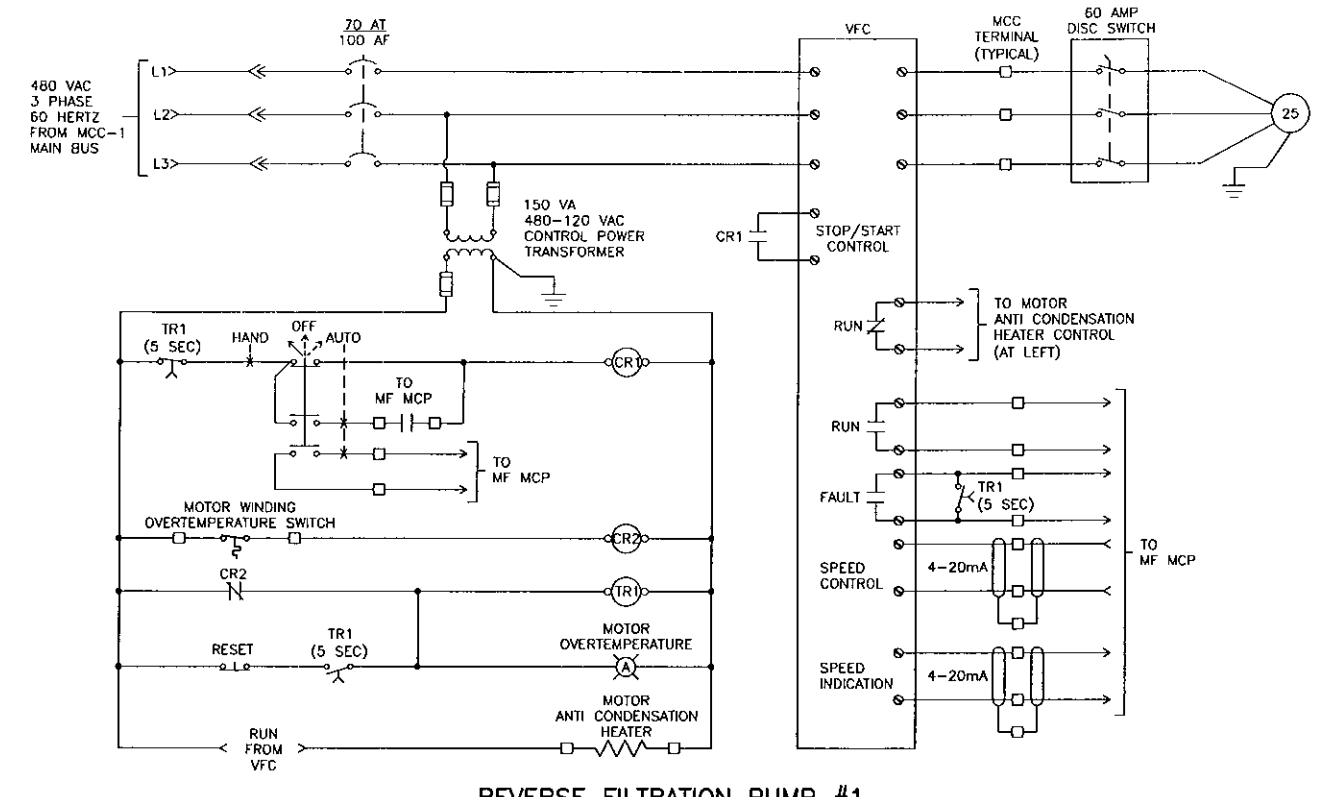
ELECTRICAL
 ELEMENTARIES 2

FILE NO.
 14300.43172-372
 DATE
 OCTOBER 2009

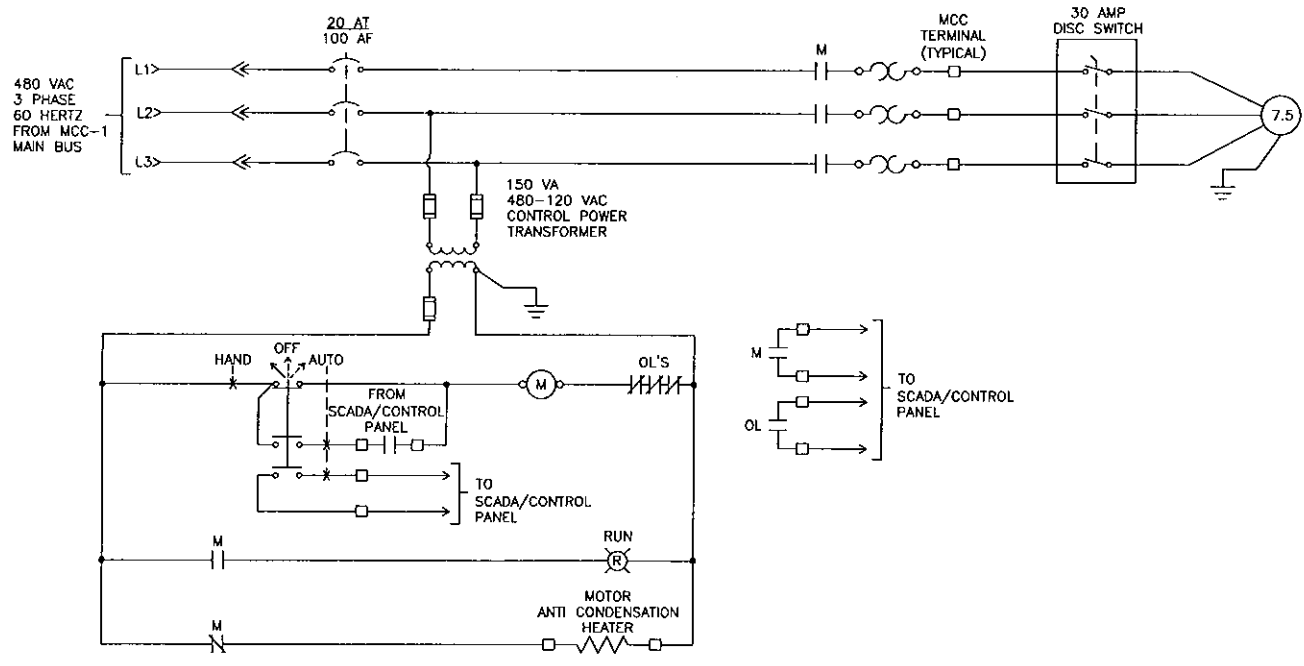
E702



SUPERNATANT PUMP #1
TYPICAL: SUPERNATANT PUMP #2 (WITH MCC-2)



REVERSE FILTRATION PUMP #1
TYPICAL: REVERSE FILTRATION PUMP #2 (WITH MCC-2)



SLUDGE PUMP #1
TYPICAL: SLUDGE PUMP #2 (WITH MCC-2)

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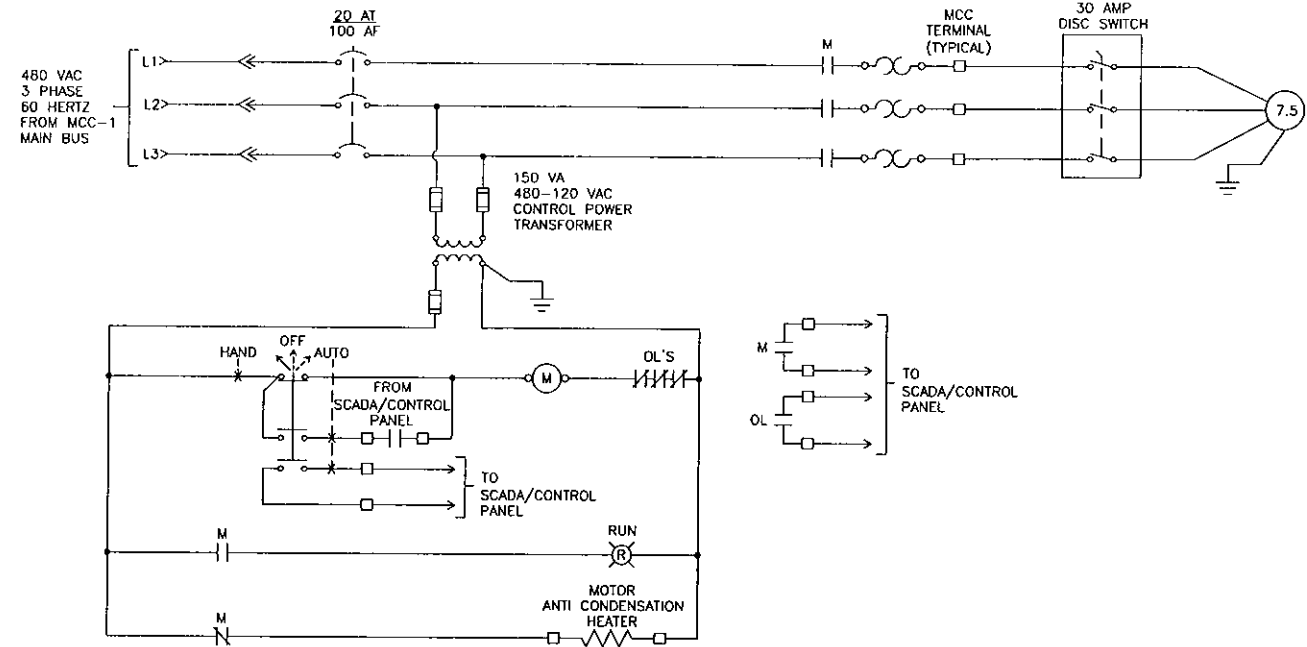


TOWN OF BEDFORD
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AQUEDUCT AT SHAFT #13
BEDFORD, NEW YORK

ELECTRICAL
ELEMENTARIES 3

FILE NO.
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DATE
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E703



EXCESS RECIRCULATION PUMP #1
 TYPICAL: EXCESS RECIRCULATION PUMP #2 (WITH MCC-2)



GENERATOR CONTROL WIRING

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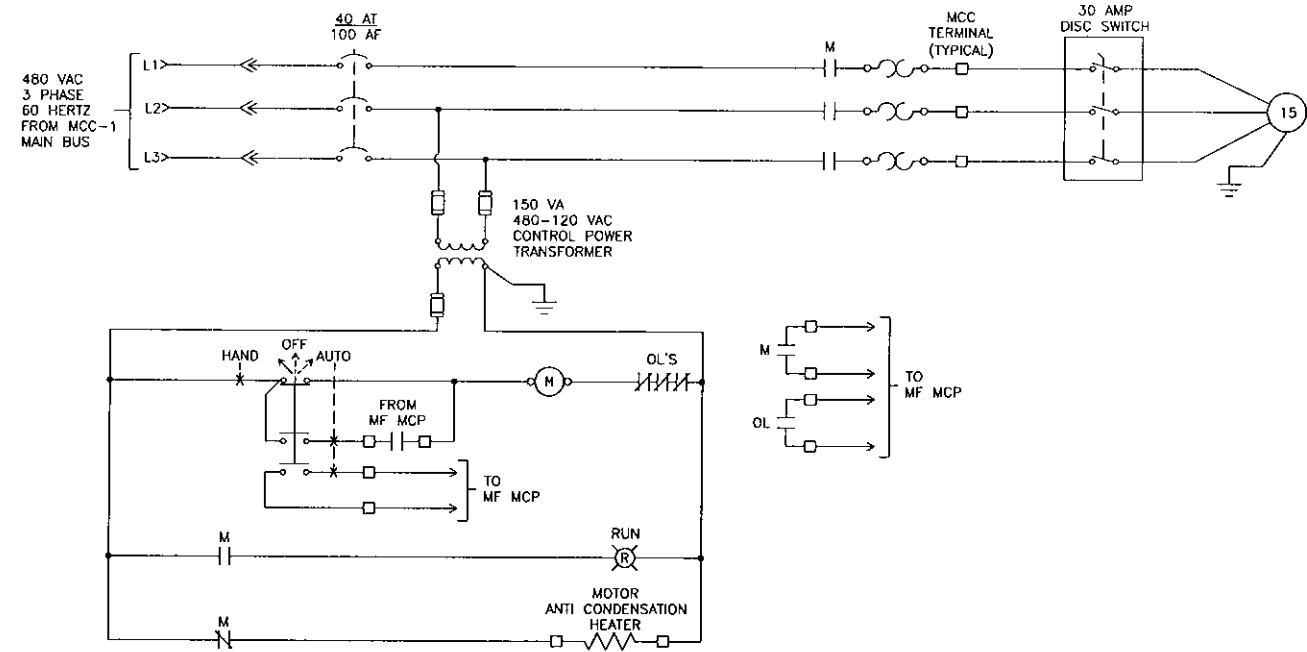
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ELECTRICAL

ELEMENTARIES 4

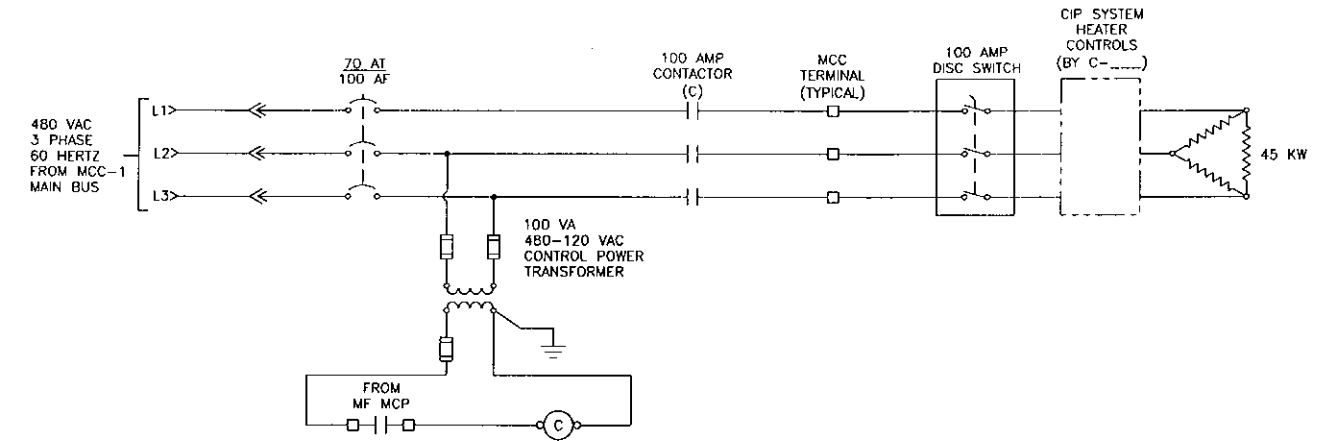
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E704



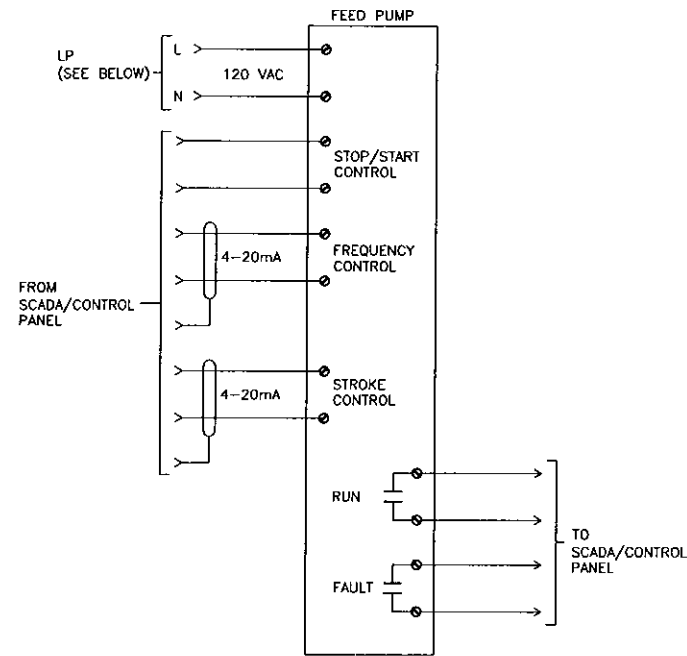
CIP CIRCULATION PUMP

TYPICAL: CIP DRAIN PUMP (WITH MCC-2)



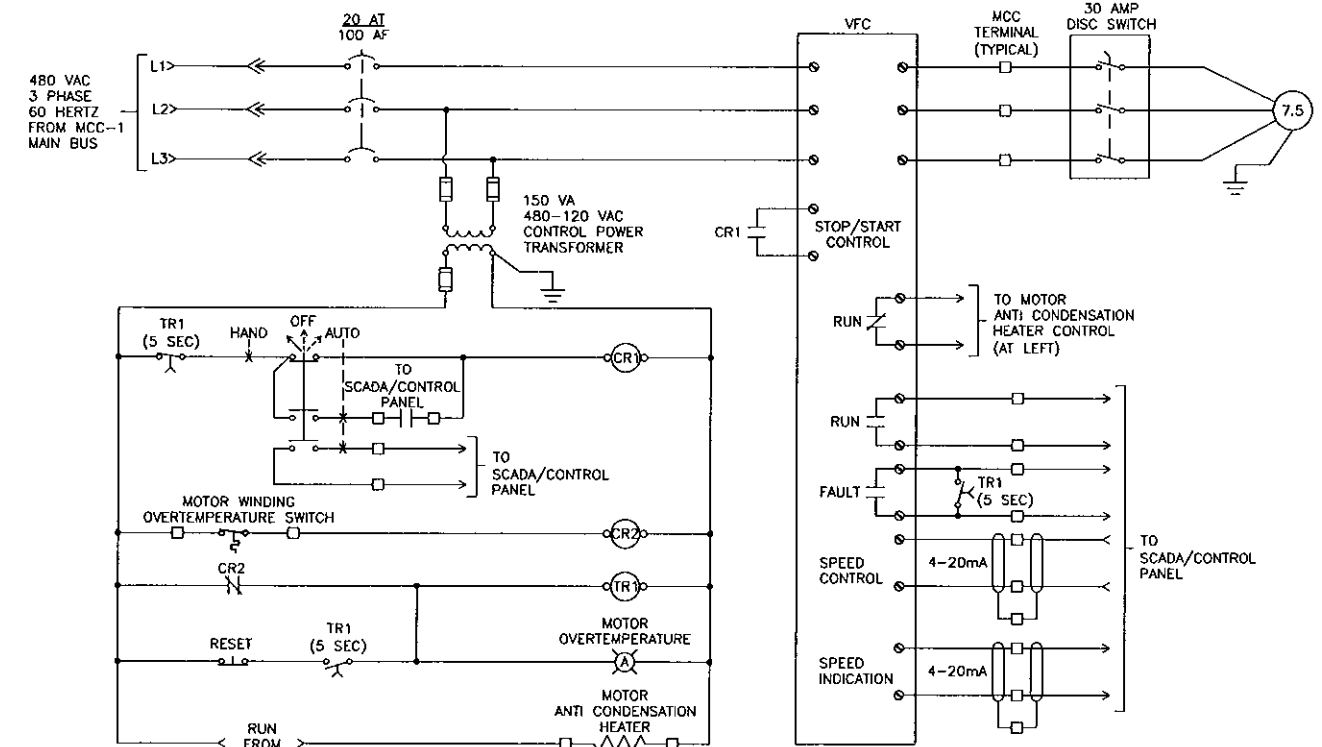
CIP ACID TANK HEATER

TYPICAL: CIP CAUSTIC TANK HEATER (WITH MCC-2)



TYPICAL CHEMICAL FEED PUMP

- TYPICAL: SULFURIC ACID FEED PUMP #1 (WITH LP3-32)
- SULFURIC ACID FEED PUMP #2 (WITH LP3-34)
- SODIUM HYDROXIDE FEED PUMP #1 (WITH LP3-36)
- SODIUM HYDROXIDE FEED PUMP #2 (WITH LP3-38)
- POLYALUMINIUM CHLORIDE FEED PUMP #1 (WITH LP3A-1)
- POLYALUMINIUM CHLORIDE FEED PUMP #2 (WITH LP3A-3)
- ZINC ORTHOPHOSPHATE FEED PUMP #1 (WITH LP3A-2)
- ZINC ORTHOPHOSPHATE FEED PUMP #2 (WITH LP3A-4)



EQUALIZATION PUMP #1

TYPICAL: EQUALIZATION PUMP #2 (WITH MCC-2)

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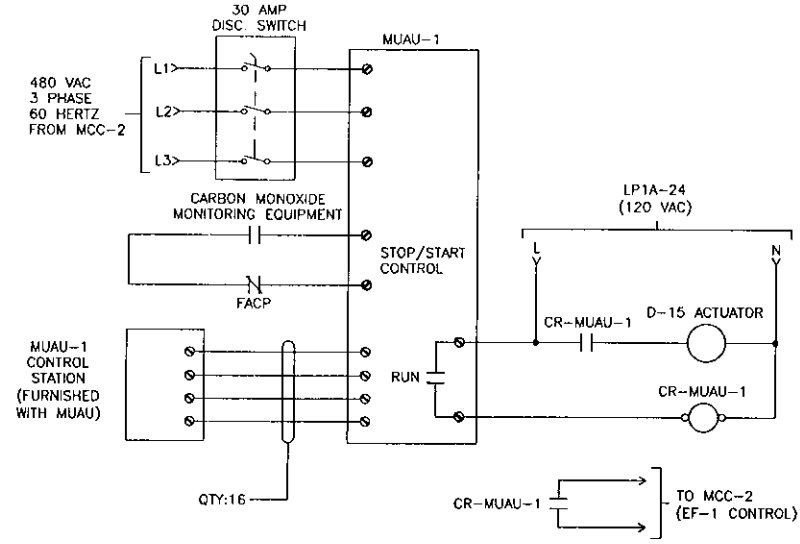
TOWN OF BEDFORD
 WATER FILTRATION PLANT &
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 AQUEDUCT AT SHAFT #13
 BEDFORD, NEW YORK

ELECTRICAL

ELEMENTARIES 5

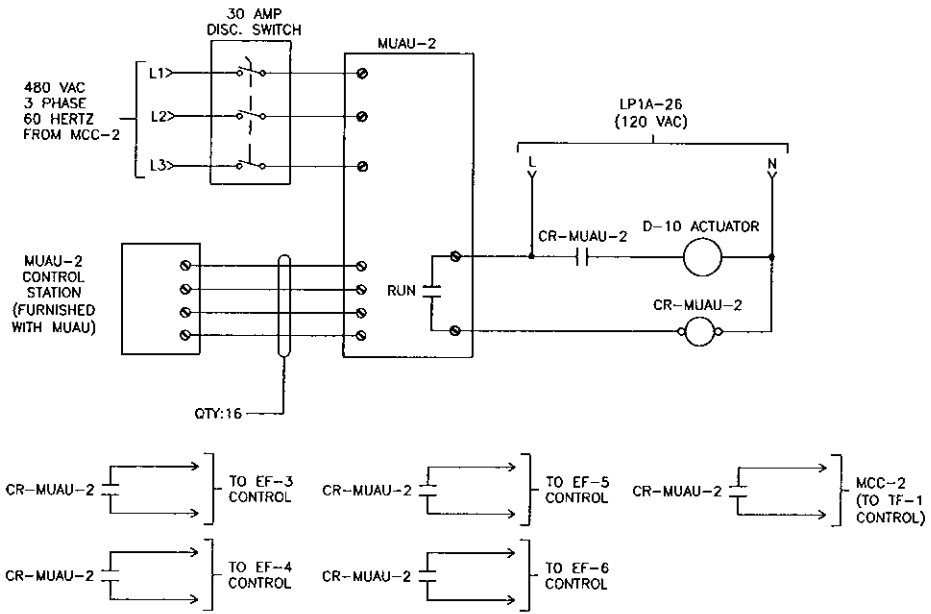
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E705



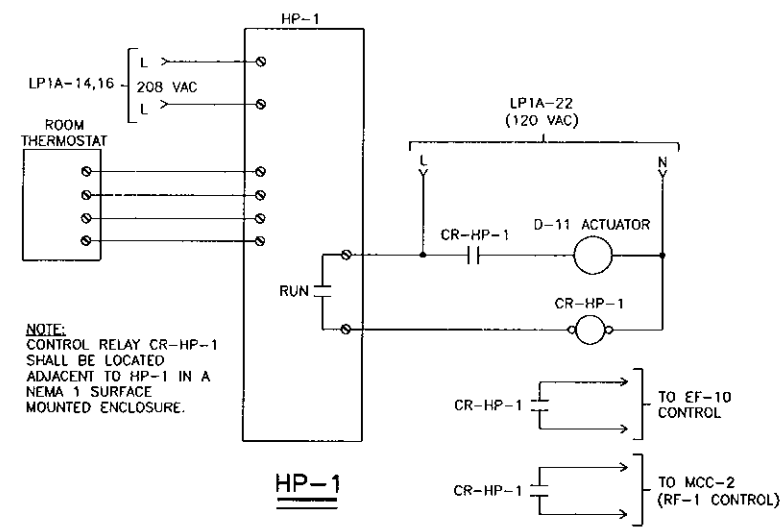
NOTE:
CONTROL RELAY CR-MUAU-1
SHALL BE LOCATED ADJACENT TO
MUAU-1 IN A NEMA 1 SURFACE
MOUNTED ENCLOSURE.

MUAU-1



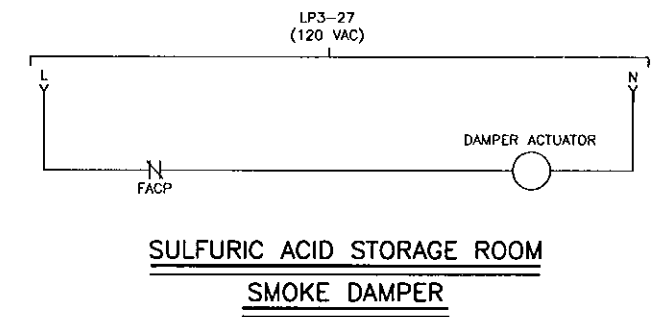
NOTE:
CONTROL RELAY CR-MUAU-2 SHALL
BE LOCATED ADJACENT TO MUAU-2 IN
A NEMA 1 SURFACE MOUNTED
ENCLOSURE.

MUAU-2

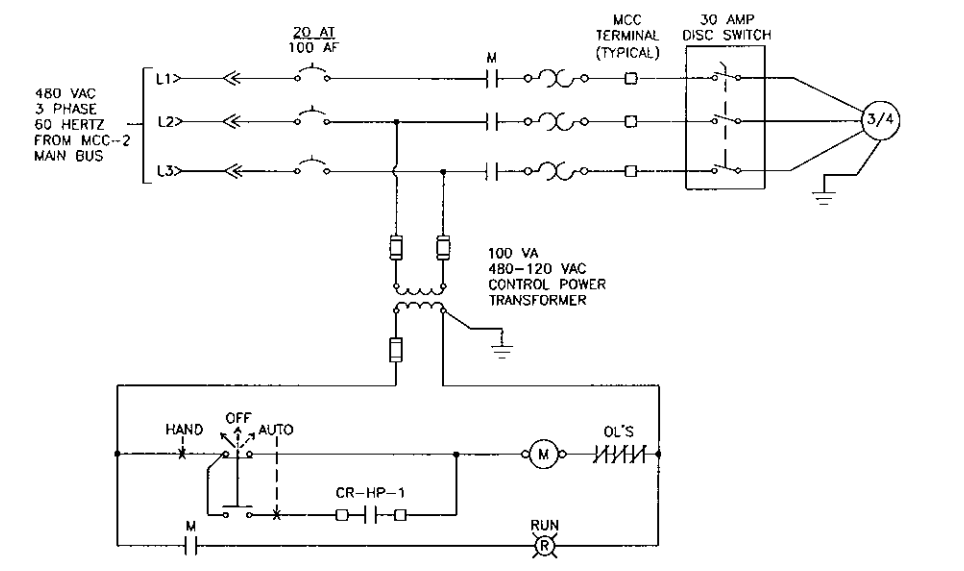


NOTE:
CONTROL RELAY CR-HP-1
SHALL BE LOCATED ADJACENT TO
HP-1 IN A NEMA 1 SURFACE
MOUNTED ENCLOSURE.

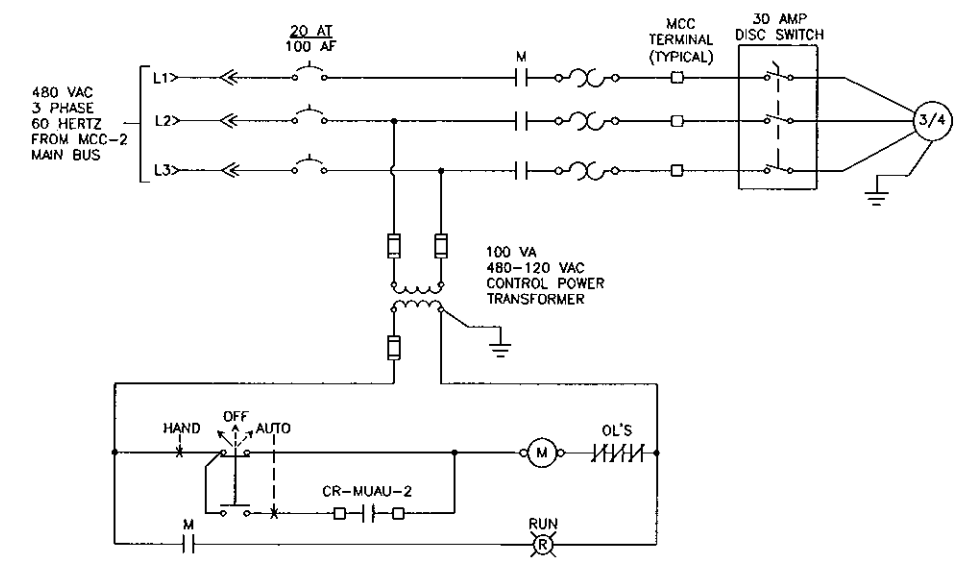
HP-1



SULFURIC ACID STORAGE ROOM
SMOKE DAMPER



RF-1



TF-1



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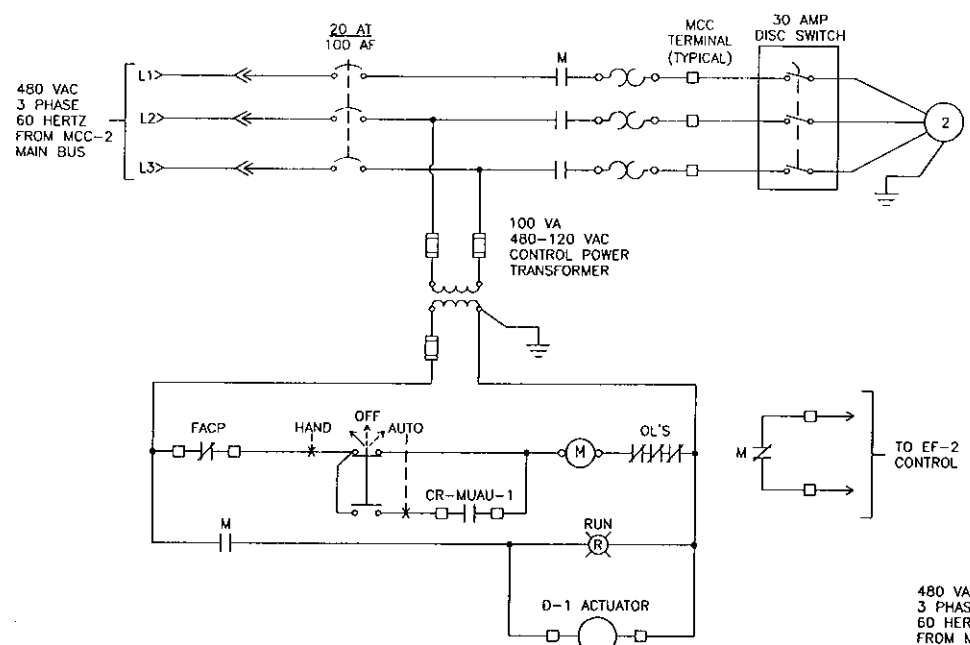


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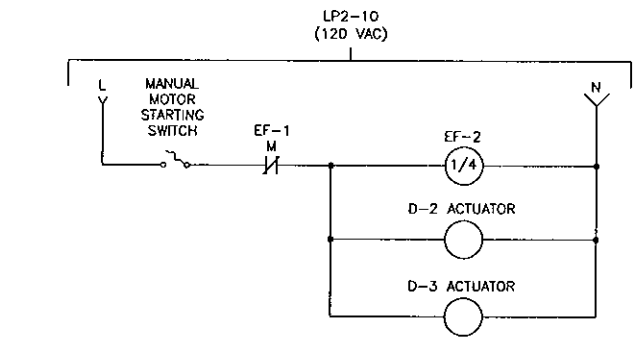
ELECTRICAL
ELEMENTARIES 6

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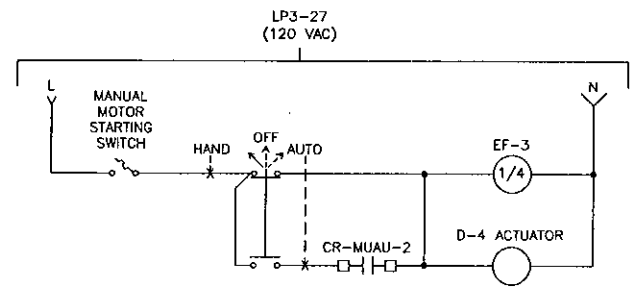
E706



EF-1

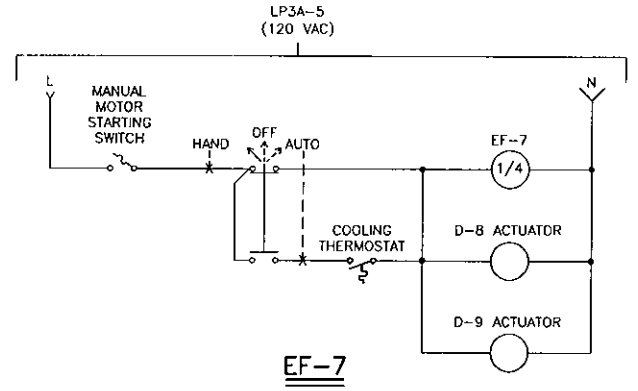


EF-2

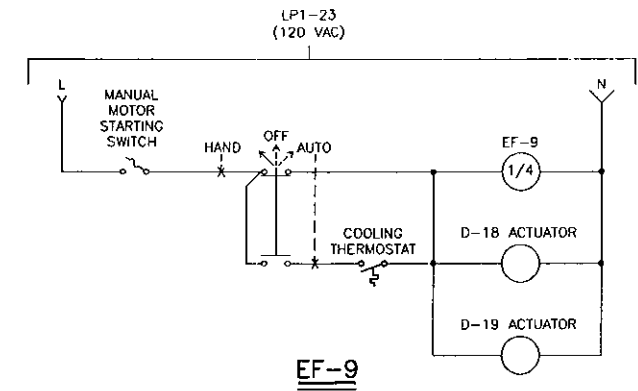


EF-3

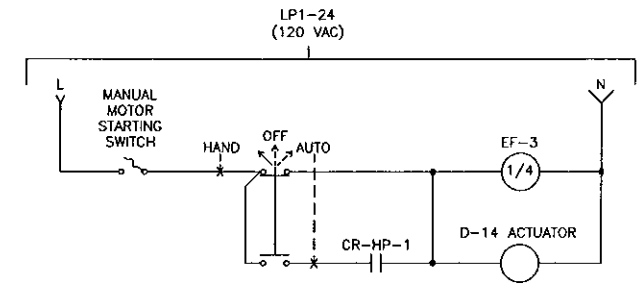
TYPICAL: EF-4 WITH LP3-28, D-5 ACTUATOR
 EF-5 WITH LP3-29, D-6 ACTUATOR
 EF-6 WITH LP3-30, D-7 ACTUATOR



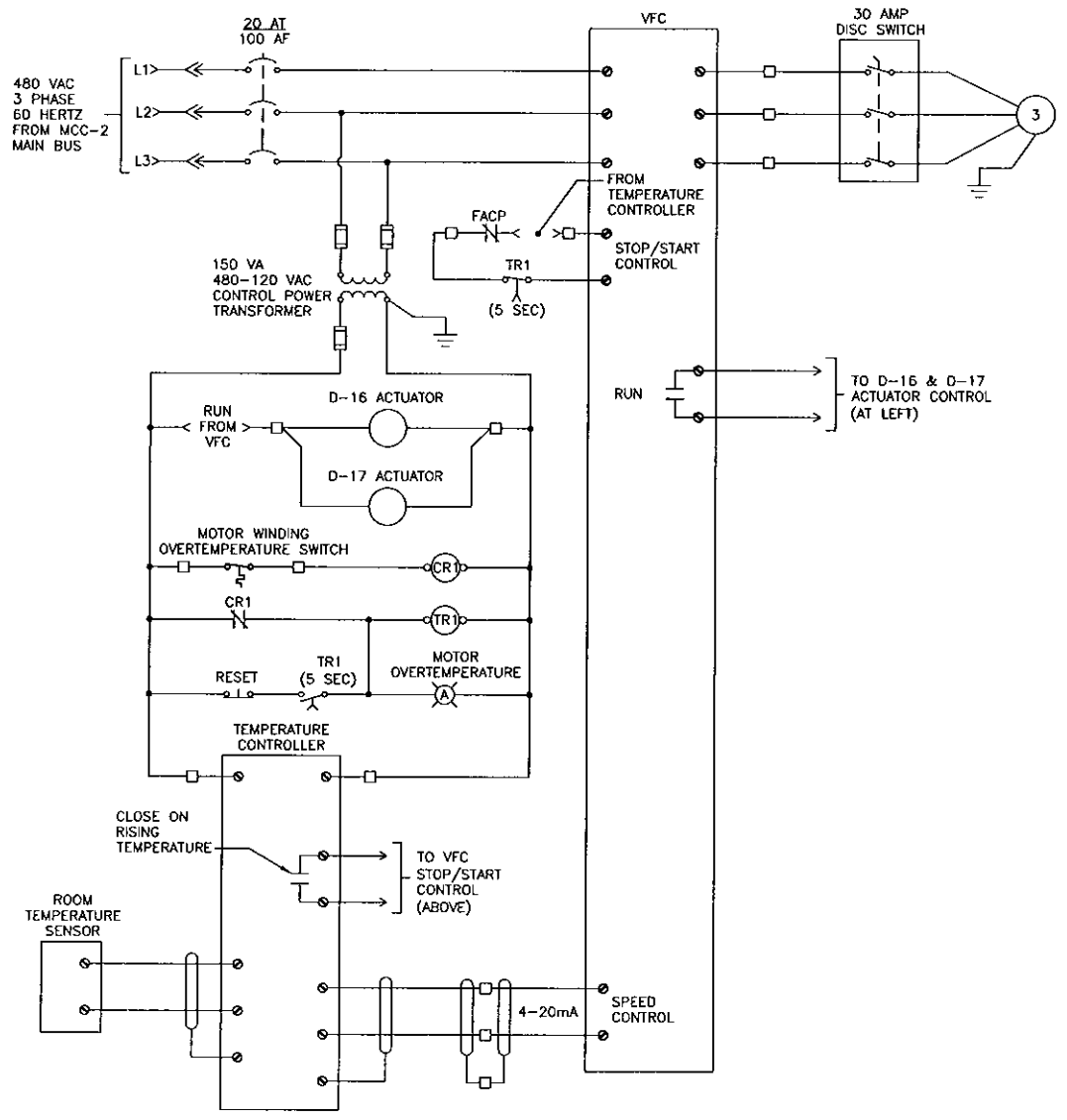
EF-7



EF-9



EF-10



EF-8



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ELECTRICAL

ELEMENTARIES 7

FILE NO.	14300.43172-375
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E707