

October 25, 2012

**CITY OF MILWAUKEE**  
**DEPARTMENT OF PUBLIC WORKS**  
**MILWAUKEE WATER WORKS**

**ADDENDUM NO. 3**

The purpose of this addendum is to provide updated information to supersede and change the Contract Documents for HP-179.

**CONTRACT DRAWINGS**

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1. **HP-179-21 Symbols & Abbreviations - Electrical:**

REVISED Please see revised contract drawing.

2. **HP-179-22 Ground Floor Plan – Lighting:**

REVISED Please see revised contract drawing.

QUESTION Note #1 states to cct exit lighting to Panel L1. Where is panel L1?

ANSWER “Panel L1 is located in the Service Wing of the Filter Building on the ground floor across from the entrance to the Maintenance Shop. This circuit can be picked up at any exit light in the Administration Building.”

3. **HP-179-23 Second Floor Plan – Lighting:**

REVISED Please see revised contract drawing.

4. **HP-179-25 Ground Floor Plan – Electrical:**

REVISED Please see revised contract drawing.

October 25, 2012

5. **HP-179-26 Second Floor Plan – Electrical:**

REVISED Please see revised contract drawing.

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QUESTION Are there existing circuit breakers in DC 6 for new equipment fed from DC 6? Or do we include new breakers?

ANSWER “All equipment fed from DC 6 requires new breakers. These are special order from Kinney Electric. See revised HP-179-29 drawing.”

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QUESTION What panel are CA-1 and 2 fed from? Homerun shown as fed from CA-1 and 2. Is that correct?

ANSWER “CA-1 and CA-2 are fed from condensing unit 1, CU-1.”

6. **HP-179-27 Roof Plan – Electrical:**

REVISED Please see revised contract drawing.

7. **HP-179-28 Schematics - Electrical:**

REVISED Please see revised contract drawing.

8. **HP-179-29 Schedules – Electrical:**

REVISED Please see revised contract drawing.

END OF ADDENDUM NO. 3

**ABBREVIATIONS:**

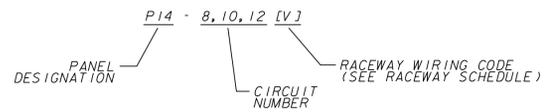
1P	ONE POLE
2P	TWO POLE
3P	THREE POLE
4P	FOUR POLE
1P/1W	ONE POLE, ONE WIRE
1P/2W	ONE POLE, TWO WIRE
2P/2W	TWO POLE, TWO WIRE
2P/3W	TWO POLE, THREE WIRE
3P/2W	THREE POLE, TWO WIRE
3P/3W	THREE POLE, THREE WIRE
3P/4W	THREE POLE, FOUR WIRE
4P/4W	FOUR POLE, FOUR WIRE
A	AMPERE
AC	ALTERNATING CURRENT
AF	AMP FRAME
AFB	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
AS	AMP SWITCH
AT	AMP TRIP
ARCH	ARCHITECT
ATS	AUTOMATIC TRANSFER SWITCH
A/V	AUDIO VISUAL
B	BELOW FINISHED FLOOR
BF	BELOW FINISHED GRADE
BLDG	BUILDING
C	CONDUIT
CAT	CATALOG
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING MOUNTED
CT	CURRENT TRANSFORMER
CU	COPPER
CL	CENTERLINE
D	DEDICATED DEVICE
DC	DIRECT CURRENT
Δ	DELTA
DISC	DISCONNECT
DWG	DRAWING
E	EMERGENCY
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRIC METALLIC TUBING
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EX	EXISTING
FLA	FULL LOAD AMPS
GC	GENERAL CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFPE	GROUND FAULT PROTECTION EQUIPMENT
GND	GROUND
GRC	GALVANIZED RIGID CONDUIT
HP	HORSEPOWER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HZ	HERTZ (cycle) PER SECOND
JB	JUNCTION BOX
KVA	KILOVOLT AMPERE
KVAR	KILOVOLT AMPERE REACTIVE
KW	KILOWATT
LP	LIGHTING PANELBOARD
LS	LIMIT SWITCH
LTG	LIGHTING
LV	LOW VOLTAGE
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
NA	NOT APPLICABLE
NCC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NUMBER NOT TO SCALE
P	POLE
PB	PULL BOX
PC	PLUMBING SYSTEM CONTRACTOR
PH	PHASE
PNL	PANEL (BOARD)
PP	POWER PANEL
PR	PAIR
PR1	PRIMARY
PVC	POLYVINYL CHLORIDE CONDUIT
RSC	RECESSED
SEC	RIGID STEEL CONDUIT
SN	SECONDARY
SP	SOLID NEUTRAL
SS	SPARE
ST	STAINLESS STEEL
STP	SHUNT TRIP
SUSP	SHIELDED TWISTED PAIR
SW	SUSPENDED SWITCH
SWBD	SWITCHBOARD
T	TAMPER RESISTANT SAFETY RECEPTACLE
T&B	TOP AND BOTTOM
TC	TELEPHONE CABINET
TCI	TELECOMMUNICATIONS CABLING INSTALLER
TEL/DATA	TELEPHONE/DATA
TEL	TELEPHONE
TYP	TYPICAL
UG	UNDERGROUND
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
UOI	UNLESS OTHERWISE INDICATED
W	WATT
WP	WEATHERPROOF
XFMR	TRANSFORMER
ZAM	ZONE ADAPTER MODULE

**SYMBOLS:**

	INTERRUPTER SWITCH WITH FUSES
	FUSED VOLTAGE TRANSFORMER
	CURRENT TRANSFORMERS
	VOLTAGE SENSOR
	SWITCH OPERATOR
	SOURCE TRANSFER CONTROLLER
	SURGE ARRESTERS
	GENERATOR
	GROUND CONNECTION - SYSTEM AND OR EQUIPMENT
	CIRCUIT BREAKER (OPEN) (xxAF) FRAME SIZE (yyAT) TRIP SIZE (3P) NUMBER OF POLES
	DUPLEX RECEPTACLE - MOUNTED 18" AFF UNLESS OTHERWISE NOTED CIRCUIT NUMBER (SEE PLAN FOR PANEL BOUNDARIES) - TYPICAL RECEPTACLE TYPE (D) DEDICATED CIRCUIT (DD) DOUBLE DUPLEX (GFCI) GROUND FAULT CIRCUIT INTERRUPTING (WP) WEATHERPROOF
	TLPIA xxx KVA xxx V, x PH, x W PRI xxx Y/xxx V, x PH, x W SEC TRANSFORMER, DRY TYPE, UNLESS OTHERWISE INDICATED. (TLPIA) TRANSFORMER IDENTIFICATION
	POTENTIAL TRANSFORMER (3) QUANTITY
	CURRENT TRANSFORMER (3) QUANTITY (400-5A) RATIO
	PANELBOARD

	DATA OUTLET
	TELEPHONE/DATA OUTLET
	TELEPHONE OUTLET
	TIME CLOCK - SEE SCHEDULE
	CONTRACTOR - SEE SCHEDULE
	PHOTO CELL
	WALL MOUNTED LIGHT FIXTURES
	POLE MOUNTED LIGHT FIXTURES WITH ARM
	POST TOP MOUNTED LIGHT FIXTURES
	EXIT LAMP
	RECESSED DOWNLIGHT
	SURFACE MOUNTED CEILING FIXTURE
	RECESSED FLOURESCENT FIXTURE
	NON-SWITCHED LUMINAIRE
	SUSPENDED FLOURESCENT TROFFER
	SURFACE MOUNTED STRIPLIGHT
	WALL MOUNTED STRIPLIGHT
	SPECIAL POWER RECEPTACLE - NUMBER INDICATES NEMA CONFIGURATION SEE PLANS
	PUSHBUTTON
	SPECIAL PURPOSE OUTLET
	SPECIAL PURPOSE OUTLET - (SEE SCHEDULE) (1) DEVICE IDENTIFICATION
	MOTOR CONNECTION - (SEE SCHEDULE) (X) MOTOR IDENTIFICATION
	MOTOR, SQUIRREL CAGE INDUCTION, HORSEPOWER INDICATED
	PANELBOARD - SURFACE MOUNTED (SEE SCHEDULE)
	TRANSFORMER - PAD MOUNTED
	METER
	COMBINATION MOTOR STARTER INDICATES MOTOR STARTER CONTROLS (SEE SCHEDULE)
	JUNCTION BOX
	DISCONNECT SWITCH INDICATES MOTOR DISCONNECT SWITCH FEEDS
	SHUNT TRIP
	KIRK KEY INTERLOCK SYSTEM (2) RELATED KIRK KEYS
	SWITCH M - MANUAL MOTOR STARTER 2 - 2 POLE 3 - 3 POLE
	THERMOMETER

	OCCUPANCY SENSOR X - FLOOR LOCATION Y - NUMBERED SEQUENTIALLY
	DISCONNECT SWITCH, NONFUSED, SIZE AS INDICATED ON DRAWING (xxI) AMPERAGE RATING
	DISCONNECT SWITCH, FUSED TYPE, SIZE AS INDICATED ON DRAWING (xxAF) FRAME SIZE (xxAT) FUSE SIZE, DUAL ELEMENT
	DISCONNECT SWITCH, CIRCUIT BREAKER TYPE, SIZE AS INDICATED ON DRAWING (xxAF) FRAME SIZE (xxAT) TRIP SIZE
	VARIABLE FREQUENCY DRIVE INDICATES MOTOR CONTROLLED
	COMBINATION MAGNETIC STARTER AND DISCONNECT (F) FUSED DISCONNECT SWITCH (CB) CIRCUIT BREAKER (NEMA) NEMA STARTER SIZE (xxA) FUSE OR CIRCUIT BREAKER RATING (XP) NUMBER POLES INDICATES MOTOR CONTROLLED
	LOW VOLTAGE DRAW OUT TYPE CIRCUIT BREAKER (xxA) TRIP SIZE (yyP) NUMBER OF POLES
	CONTACT, NORMALLY OPEN (NO) ('TC' - WITH TIMED CLOSING)
	CONTACT, NORMALLY CLOSED (TO) ('TO' - WITH TIMED OPENING)
	DISCONNECT SWITCH UNFUSED (xxAF) FRAME SIZE
	FUSE (ZZA) FUSE RATING
	INDICATES DEMOLITION WORK OR EQUIPMENT
	MOTOR SWITCH



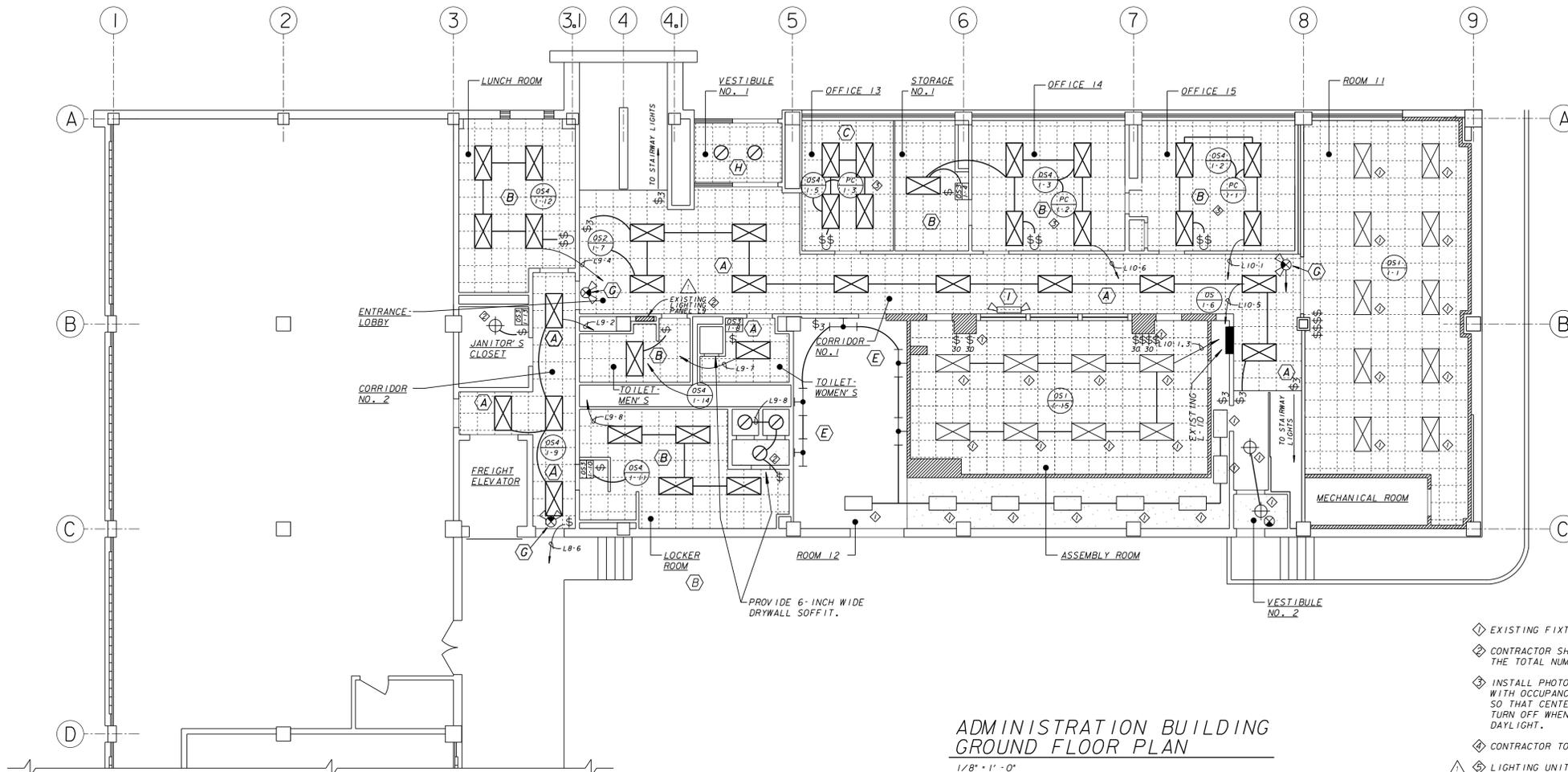
NO.	BY	REVISION	DATE

**Milwaukee Water Engineering**  
Department of Public Works

**HOWARD AVENUE PURIFICATION PLANT**  
ADMINISTRATION BUILDING HVAC & LIGHTING IMPROVEMENTS  
HP-179  
SYMBOLS & ABBREVIATIONS - ELEC./LIGHT.

DESIGNED BY	DATE
DRAWN BY S. MILLER	9-25-12
CHECKED BY	PLANTS PROJECT ENGINEER
DATE 6-21-2012	9-25-12
SCALE AS SHOWN	CHIEF DESIGN ENGINEER
WORK ORDER WT450093300	9-25-12
OFFICIAL NOTICE 56-2012	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS
FILE NO. 8-12-2	

DRAWING NO. **HP-179-21**



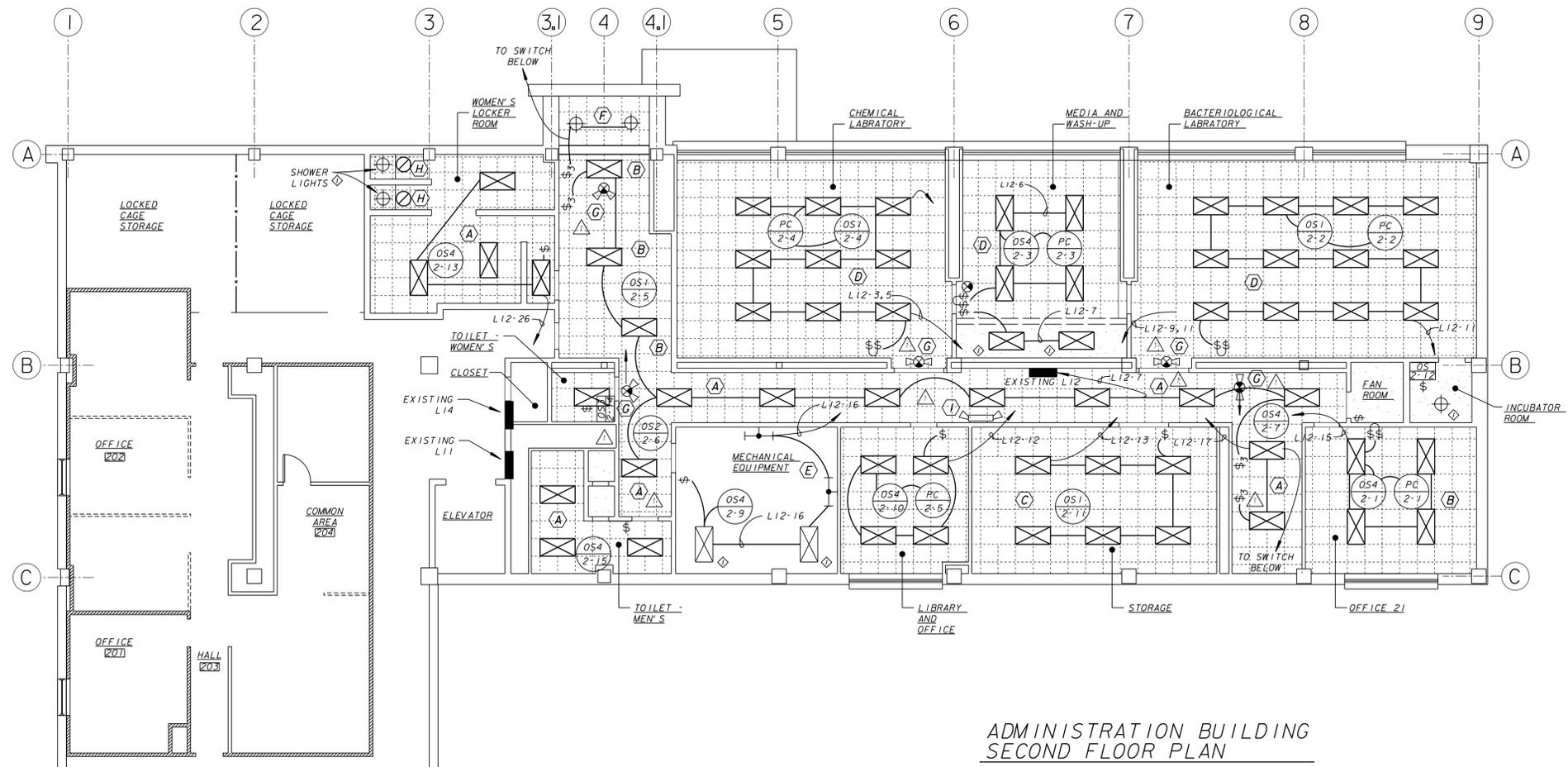
ADMINISTRATION BUILDING  
GROUND FLOOR PLAN  
1/8" = 1' - 0"

- NOTES:
- ◇ EXISTING FIXTURE, WIRING AND CONTROLS TO REMAIN.
  - ◇ CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING THE TOTAL NUMBER OF POWER PACKS NEEDED.
  - ◇ INSTALL PHOTOCELL AND ADDITIONAL POWER PACK ALONG WITH OCCUPANCY SENSOR. PHOTOCELL SHALL BE INSTALLED SO THAT CENTER LIGHTS OF LUMINAIRES IN DAYLIGHT ZONE TURN OFF WHEN ROOM IS OCCUPIED AND THERE IS SUFFICIENT DAYLIGHT.
  - ◇ CONTRACTOR TO REUSE EXISTING SWITCHES AS APPLICABLE.
  - △ ◇ LIGHTING UNITS SHALL USE EXISTING BREAKERS

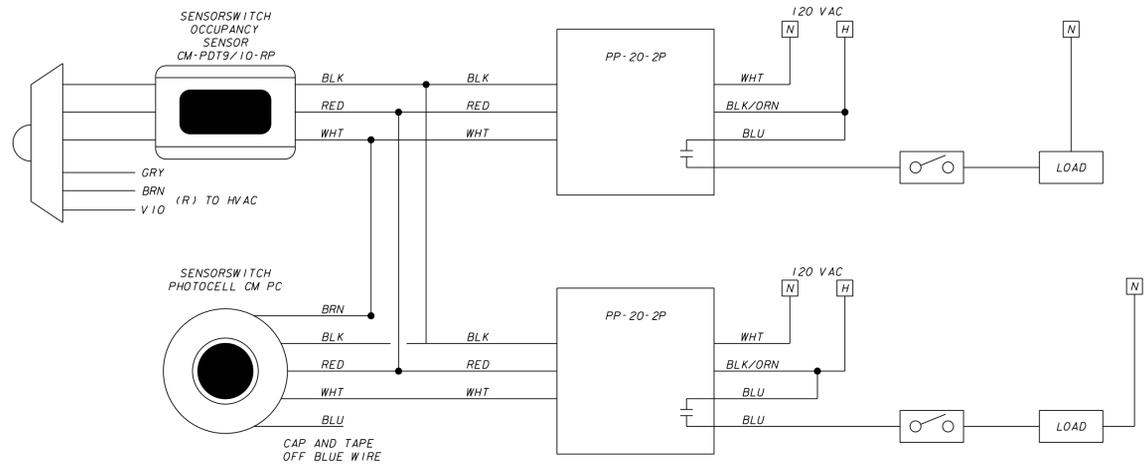
NOTES:  
1 ALL EXIT LIGHTS ARE FED FROM PANEL L1 CIRCUIT 35

<b>Milwaukee Water Works</b>		<b>Water Engineering</b> Department of Public Works	
<b>HOWARD AVENUE PURIFICATION PLANT</b>			
<b>ADMINISTRATION BUILDING HVAC &amp; LIGHTING IMPROVEMENTS</b>			
<b>HP-179</b>			
<b>GROUND FLOOR PAN - LIGHTING</b>			
DESIGNED BY	M.A.G.	APPROVED	DATE
DRAWN BY	J.F.S.	<i>Andrew Reynolds</i>	9-25-12
CHECKED BY	A.J.S.	<i>Daniel G. Hart</i>	PLANT'S PROJECT ENGINEER
DATE	4-25-12	<i>William</i>	9-25-12
SCALE	AS SHOWN		CHIEF DESIGN ENGINEER
WORK ORDER	WT450093300		9-25-12
OFFICIAL NOTICE	56-2012		SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS
NO.	BY	REVISION	DATE

DRAWING NO. HP-179-22



ADMINISTRATION BUILDING  
SECOND FLOOR PLAN  
1/8" = 1' - 0"



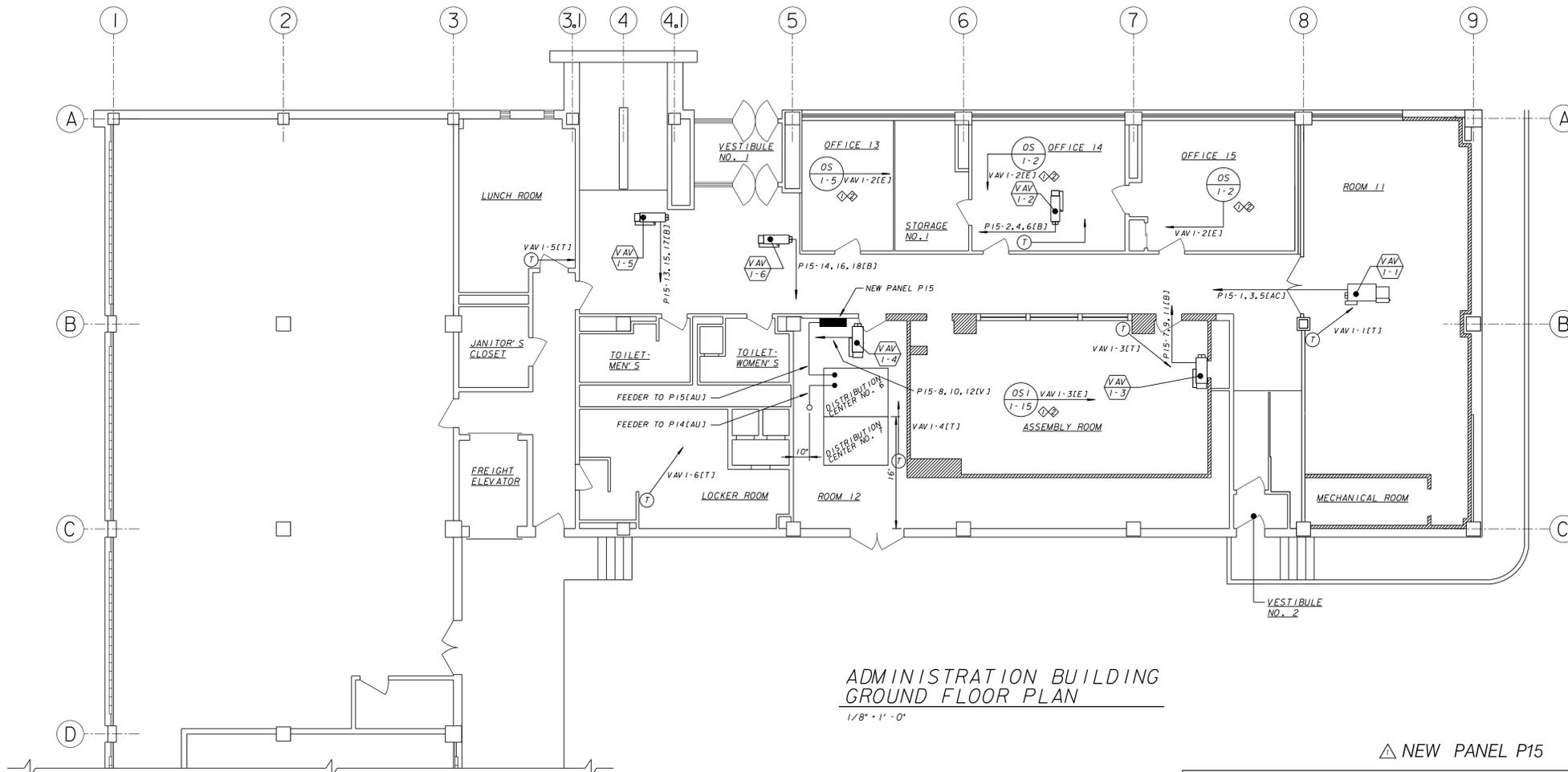
OCCUPANCY SENSOR AND PHOTOCELL  
CONTROLLING TWO LOADS  
N.T.S.

- ◇ EXISTING FIXTURE, WIRING AND CONTROLS TO REMAIN.
- ◇ CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING THE TOTAL NUMBER OF POWER PACKS NEEDED.
- ◇ INSTALL PHOTOCELL AND ADDITIONAL POWER PACK ALONG WITH OCCUPANCY SENSOR. PHOTOCELL SHALL BE INSTALLED SO THAT CENTER LIGHTS OF LUMINAIRES IN DAYLIGHT ZONE TURN OFF WHEN ROOM IS OCCUPIED AND THERE IS SUFFICIENT DAYLIGHT.
- ◇ CONTRACTOR TO REUSE EXISTING SWITCHES AS APPLICABLE.
- ◇ LIGHTING UNITS SHALL USE EXISTING BREAKERS

<b>Milwaukee Water Engineering</b> Department of Public Works	
<b>HOWARD AVENUE PURIFICATION PLANT</b>	
<b>ADMINISTRATION BUILDING HVAC &amp; LIGHTING IMPROVEMENTS</b>	
<b>HP-179</b>	
<b>SECOND FLOOR PLAN - LIGHTING</b>	
DESIGNED BY	M.A.G.
DRAWN BY	J.F.S.
CHECKED BY	A.J.S.
DATE	4-25-12
SCALE	AS SHOWN
WORK ORDER	WT450093300
OFFICIAL NOTICE	56-2012
FILE NO.	B-12-2
DATE	9-25-12
PLANTS PROJECT ENGINEER	<i>Andrew Reynolds</i>
CHIEF DESIGN ENGINEER	<i>Daniel J. Hart</i>
SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	<i>William</i>

NO.	BY	REVISION	DATE

DRAWING NO. **HP-179-23**

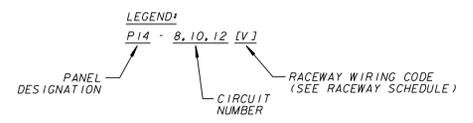


ADMINISTRATION BUILDING  
GROUND FLOOR PLAN  
1/8" = 1' - 0"

▲ NEW PANEL P15

PANEL SCHEDULE P15 (GROUND FLOOR)										
VOLTAGE 120/208 VOLTS					ENCLOSURE: NEMA 1					
3 PHASE, 4 WIRE					MAIN: 200 AMPS					
MOUNTING: WALL					NEUTRAL: FULL					
22,000 AMPS 1C					TYPE: MAIN BREAKER					
BOLT-ON BREAKERS					LOCATION: CHEM. BLDG. GROUND FLOOR					
DESCRIPTION	VA/PHASE	BKR. SIZE	BKR. POLES	CKT. NO.	THREE PHASE	CKT. NO.	BKR. POLES	BKR. SIZE	VA/PHASE	DESCRIPTION
VAV-1-1	2660.05	30	3	1		2		15	1167.26	VAV-1-2
VAV-1-1	2660.05			3		4			1167.26	VAV-1-2
VAV-1-1	2660.05			5		6			1167.26	VAV-1-2
VAV-1-3	833.42	15		7		8		20	1833.75	VAV-1-4
VAV-1-3	833.42			9		10			1833.75	VAV-1-4
VAV-1-3	833.42			11		12			1833.75	VAV-1-4
VAV-1-5	666.50	15		13		14		15	1167.26	VAV-1-6
VAV-1-5	666.50			15		16			1167.26	VAV-1-6
VAV-1-5	666.50			17		18			1167.26	VAV-1-6
				19		20				
				21		22				
				23		24				
				25		26				
				27		28				
				29		30				
				31		32				
				33		34				
				35		36				
				37		38				
				39		40				
				41		42				

24,984.72 TOTAL VA  
69.35 TOTAL AMPS



- NOTES:
- ◇ MULTIPLE OCCUPANCY SENSOR OUTPUTS TO SAME VAV BOX SHALL BE PARALLELED
  - ◇ CONTRACTOR TO FURNISH AND INSTALL TWO (2) 200A, CIRCUIT BREAKERS IN DISTRIBUTION CENTER NO. 6. CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC, RATED 22,000 AIC, 240VAC 3-PHASE AS MANUFACTURED BY KINNEY ELECTRICAL MANUFACTURING, INC.

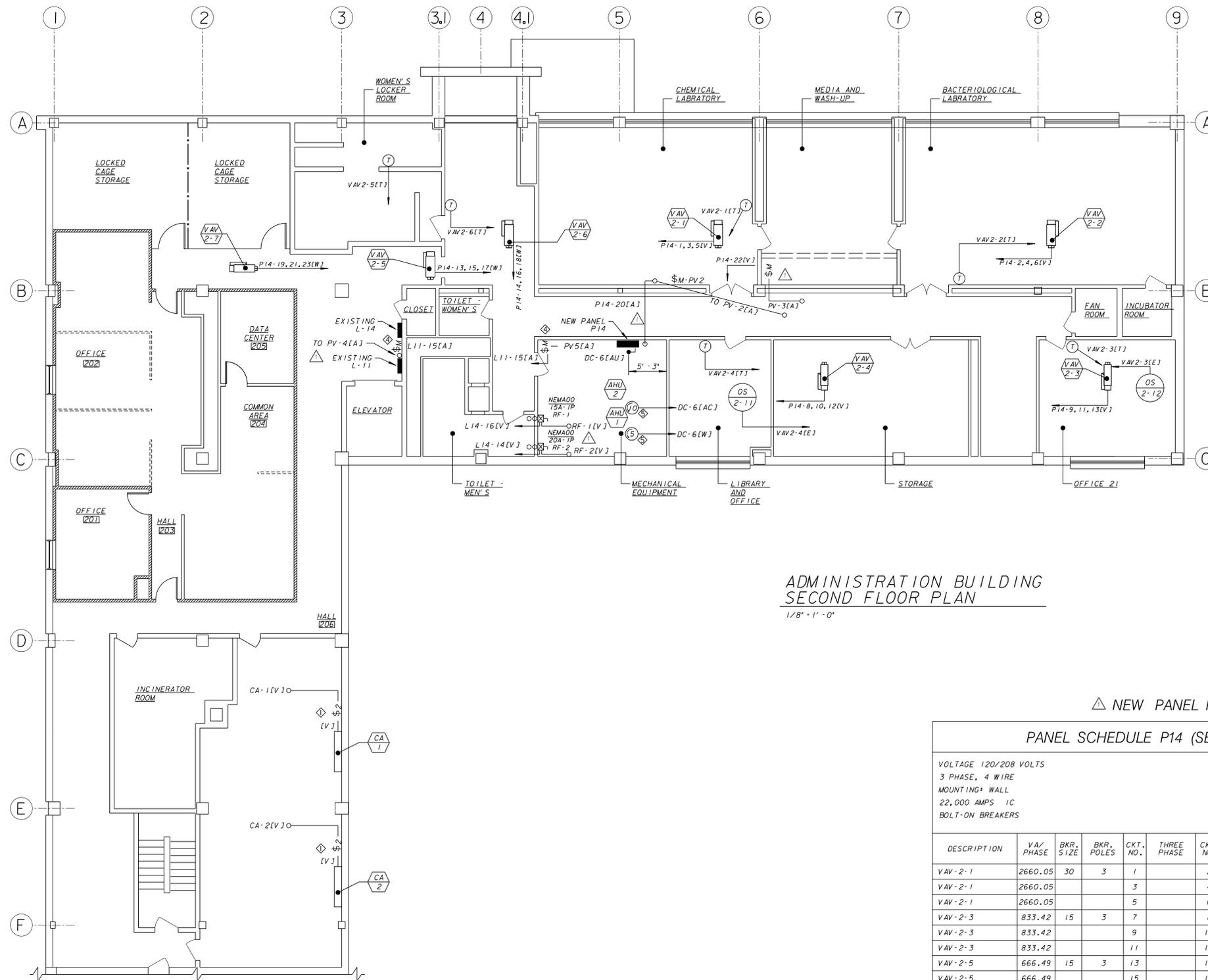
**Milwaukee Water Works** Water Engineering  
Department of Public Works

**HOWARD AVENUE PURIFICATION PLANT**  
ADMINISTRATION BUILDING HVAC & LIGHTING IMPROVEMENTS  
HP-179  
GROUND FLOOR PLAN - ELECTRICAL

DESIGNED BY	S. MILLER	DATE	9-25-12
DRAWN BY	A.A.	PLANT'S PROJECT ENGINEER	
CHECKED BY	A.A.	DATE	5-14-2012
SCALE	AS SHOWN	DATE	9-25-12
WORK ORDER	WT450093300	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	
OFFICIAL NOTICE	56-2012	DATE	9-25-12
NO. BY	REVISION	DATE	FILE NO. B-12-2

DRAWING NO. **HP-179-25**

NO.	BY	REVISION	DATE

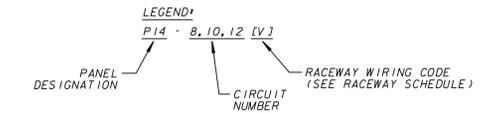


ADMINISTRATION BUILDING  
SECOND FLOOR PLAN  
1/8" = 1' - 0"

△ NEW PANEL P14

PANEL SCHEDULE P14 (SECOND FLOOR)

DESCRIPTION	V.A. / PHASE	BKR. SIZE	BKR. POLES	CKT. NO.	THREE PHASE	CKT. NO.	BKR. POLES	BKR. SIZE	V.A. / PHASE	DESCRIPTION
VAV-2-1	2660.05	30	3	1		2	3	15	1167.26	VAV-2-2
VAV-2-1	2660.05			3		4			1167.26	VAV-2-2
VAV-2-1	2660.05			5		6			1167.26	VAV-2-2
VAV-2-3	833.42	15	3	7		8	3	20	1833.75	VAV-2-4
VAV-2-3	833.42			9		10			1833.75	VAV-2-4
VAV-2-3	833.42			11		12			1833.75	VAV-2-4
VAV-2-5	666.49	15	3	13		14	3	20	1167.26	VAV-2-6
VAV-2-5	666.49			15		16			1167.26	VAV-2-6
VAV-2-5	666.49			17		18			1167.26	VAV-2-6
VAV-2-7	3338.47	40	3	19		20	1	20	667	PV-2
VAV-2-7	3338.47			21		22	1	20	667	PV-3
VAV-2-7	3338.47			23		24	1	20	667	RF-1
				25		26	1	20	1127	RF-2
				27		28				
				29		30				
				31		32				
				33		34				
				35		36				
				37		38				
				39		40				
				41		42				



- NOTES:
- △ FURNISH AND INSTALL BRYANT 3002PLR277 TOGGLE SWITCH DPDT, 30 A., 120/277 VAC, WITH IVORY NAMEPLATE IN SWITCHBOARD
  - ⊕ EQUIPMENT FURNISHED AND INSTALLED BY OTHERS
  - ⊙ REUSE EXISTING CONDUIT WHERE CONVENIENT
  - ⊠ FURNISH AND INSTALL CLASS 2510 TYPE F, MANUAL MOTOR STARTER WITH MELTING ALLOY TYPE THERMAL OVERLOAD RELAY, RED PILOT LIGHT, 115 VAC, 1P, 1 HP
  - ⊡ CIRCUIT BREAKER DISCONNECT FURNISHED BY MANUFACTURER INTEGRAL TO UNIT

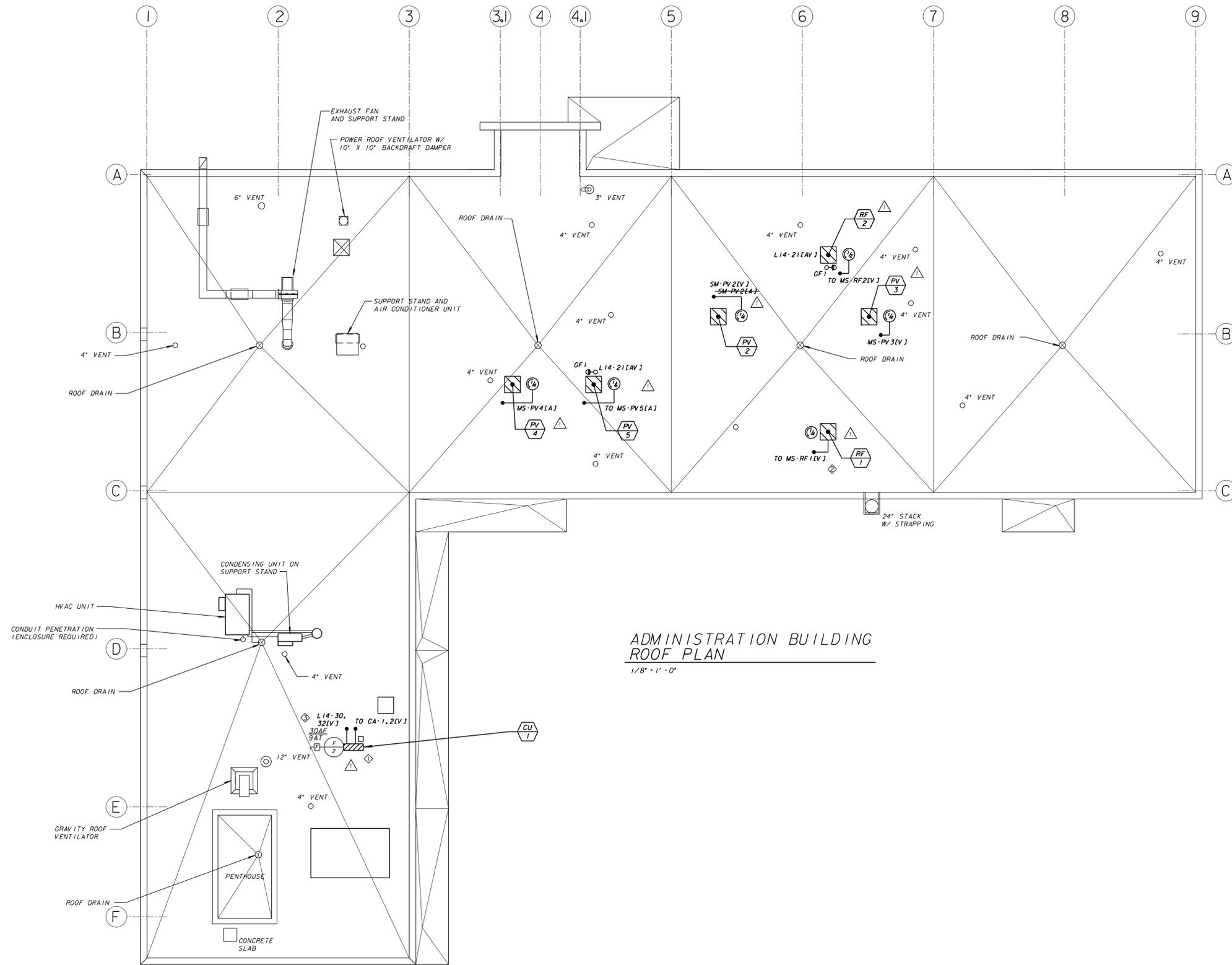
-35,000.10 TOTAL VA  
-97.15 TOTAL AMPS  
38,128.10 TOTAL VA  
12,709.37 AVG. VA PER PHASE  
112.17 AMPS PHASE A  
102.78 AMPS PHASE B  
102.78 AMPS PHASE C

NO.	BY	REVISION	DATE

**Milwaukee Water Engineering**  
Department of Public Works  
**HOWARD AVENUE PURIFICATION PLANT**  
ADMINISTRATION BUILDING HVAC & LIGHTING IMPROVEMENTS  
HP-179  
SECOND FLOOR PLAN - ELECTRICAL

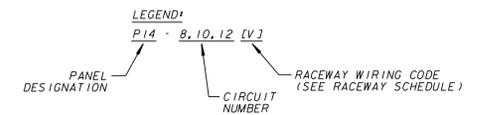
DESIGNED BY	S. MILLER	DATE	9-25-12
DRAWN BY	A.A.	PLANT'S PROJECT ENGINEER	9-25-12
CHECKED BY	A.A.	DATE	5-23-2012
SCALE	AS SHOWN	DATE	9-25-12
WORK ORDER	WT450093300	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	9-25-12
OFFICIAL NOTICE	56-2012	FILE NO.	B-12-2

DRAWING NO. **HP-179-26**



ADMINISTRATION BUILDING  
ROOF PLAN

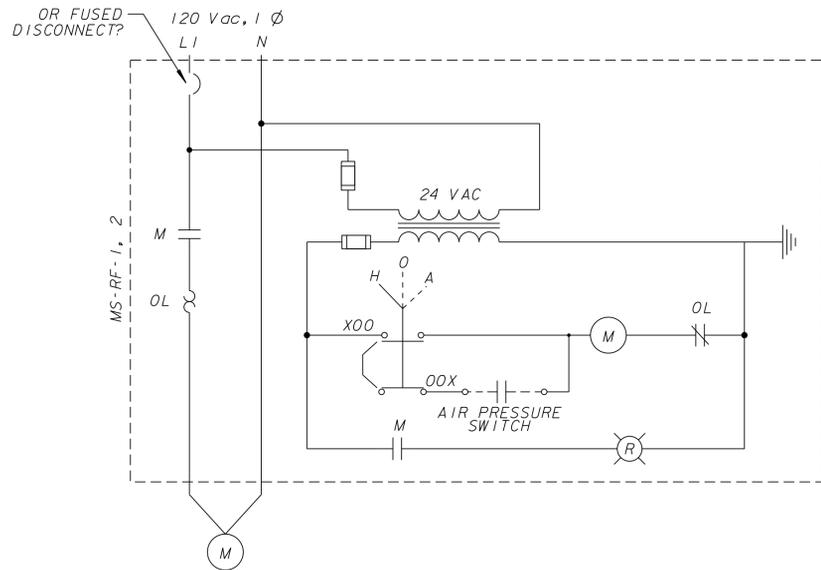
1/8" = 1' - 0"



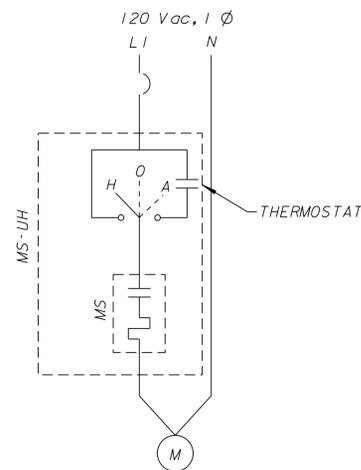
- NOTES:
- ◇ CONTRACTOR TO SEAL ALL ROOF PENETRATIONS USING PITCH POCKETS AND NON-SHRINK GROUT
  - ◇ DISCONNECT FURNISHED BY MANUFACTURER - INTEGRAL TO UNIT
  - ◇ PROVIDE NEW BREAKER IN PANEL TO MEET LOAD REQUIREMENTS

<b>Milwaukee Water Engineering</b> Department of Public Works	
<b>HOWARD AVENUE PURIFICATION PLANT</b>	
<b>ADMINISTRATION BUILDING HVAC &amp; LIGHTING IMPROVEMENTS</b>	
<b>HP-179</b>	
<b>ROOF PLAN - ELECTRICAL</b>	
DESIGNED BY	M.A.G.
DRAWN BY	J.F.S.
CHECKED BY	A.J.S.
DATE	4-25-12
SCALE	AS SHOWN
WORK ORDER	WT450093300
OFFICIAL NOTICE	56-2012
FILE NO.	B-12-2
DATE	9-25-12
PLANT'S PROJECT ENGINEER	<i>Andrew Reynolds</i>
CHIEF DESIGN ENGINEER	<i>James G. Smith</i>
SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	<i>William</i>
DRAWING NO. <b>HP-179-27</b>	

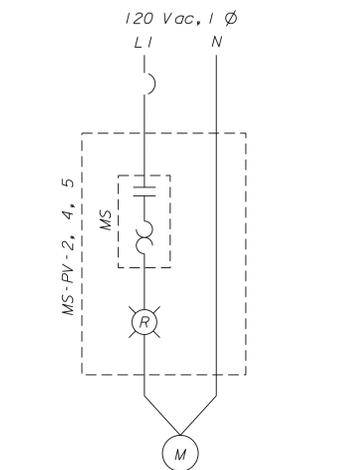
NO.	BY	REVISION	DATE



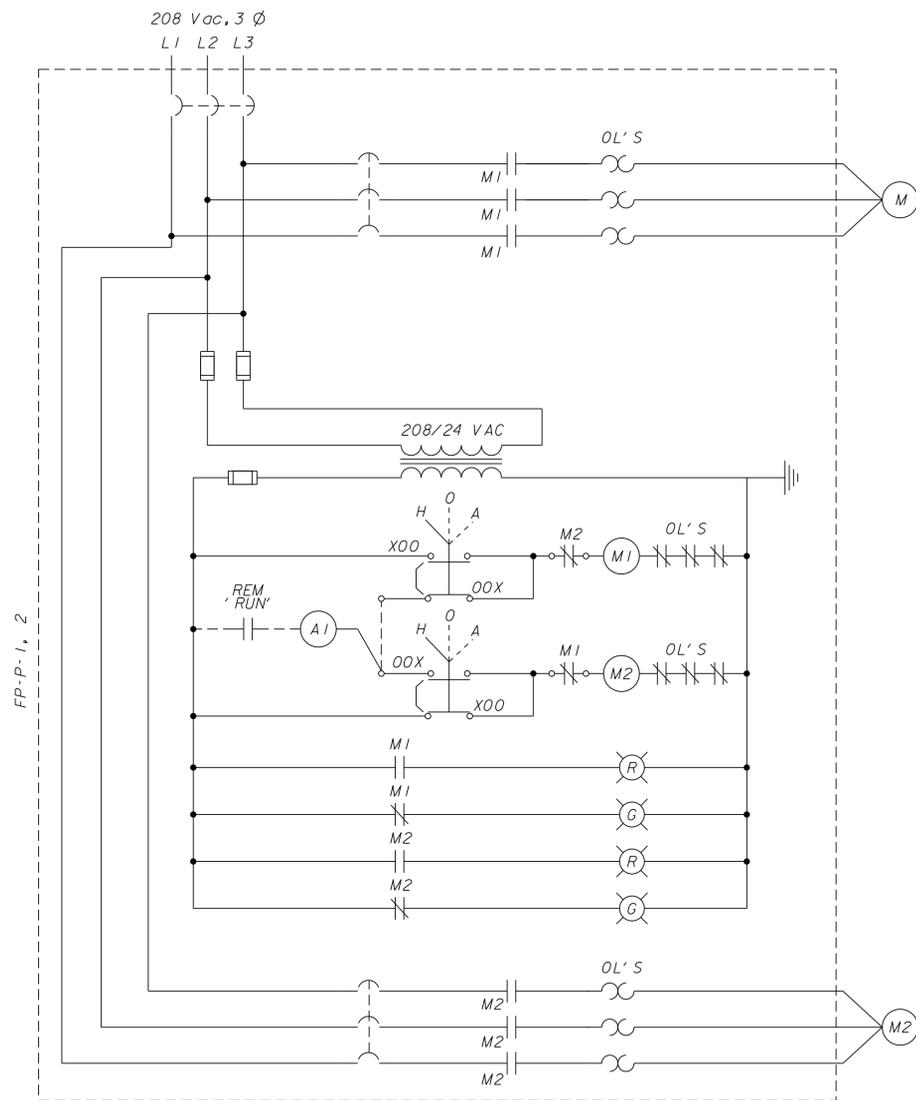
ROOF FAN RF-1, 2



UNIT HEATERS



POWER VENTILATORS  
PV-2, 3, 4, 5



WATER CIRCULATING PUMP PANEL  
WCR-P1, WCR-P2

NOTES:

- PROVIDE MANUAL STARTER INCLUDING RED PILOT LIGHT AND LOCKABLE HANDLE GUARD FOR PV-2, 4 AND 5

**Milwaukee Water Works Water Engineering**  
Department of Public Works  
**HOWARD AVENUE PURIFICATION PLANT**  
ADMINISTRATION BUILDING HVAC & LIGHTING IMPROVEMENTS  
HP-179  
ELECTRICAL SCHEMATICS

DESIGNED BY	B.S.T.	DATE	9-25-12
DRAWN BY	S. MILLER	PLANT'S PROJECT ENGINEER	
CHECKED BY	A.A.	DATE	9-25-12
DATE	6-11-2012	DATE	9-25-12
SCALE	NONE	DATE	9-25-12
WORK ORDER	WT450093300	SPECIAL DEPUTY COMMISSIONER OF PUBLIC WORKS	

NO.	BY	REVISION	DATE

OFFICIAL NOTICE 56-2012  
FILE NO. B-12-2  
DRAWING NO. **HP-179-28**

