PURCHASE COLLEGE
STATE UNIVERSITY OF NEW YORK
MUSIC BUILDING HUMIDIFICATION
735 ANDERSON HILL ROAD
PURCHASE, NY 10577

M/E PROJECT NO. 153151

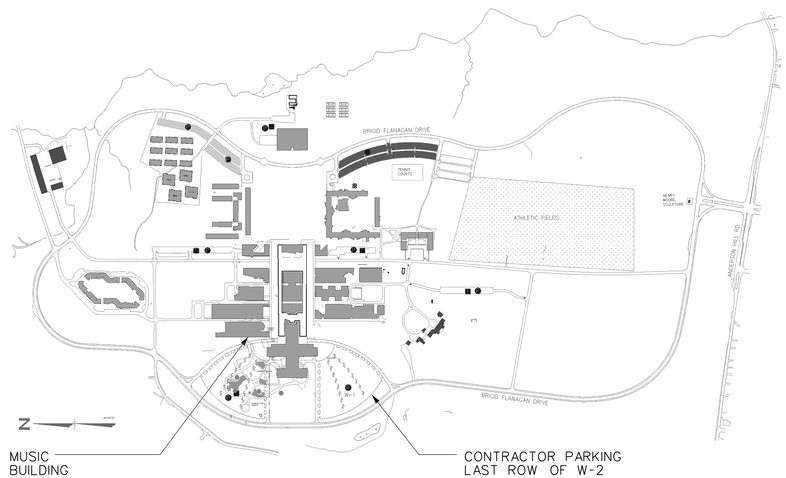
DATE: MAY 1, 2016

ENGINEER
M/E Engineering, P.C.
433 State Street, Suite 410
Schenectady, NY 12305
518-533-2171

LIST OF DRAWINGS

"TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF, THE CONSTRUCTION DOCUMENTS FOR THIS PROJECT ARE IN CONFORMANCE WITH THE BUILDING CODE OF NEW YORK STATE AND ALL OTHER APPLICABLE FEDERAL AND STATE LAWS AND REGULATIONS, ALL AS CURRENTLY AMENDED.

NAME OF REGISTERED PROFESSIONAL WHO SEALED THESE DRAWINGS | NYS REGISTRATION NO. | DATE



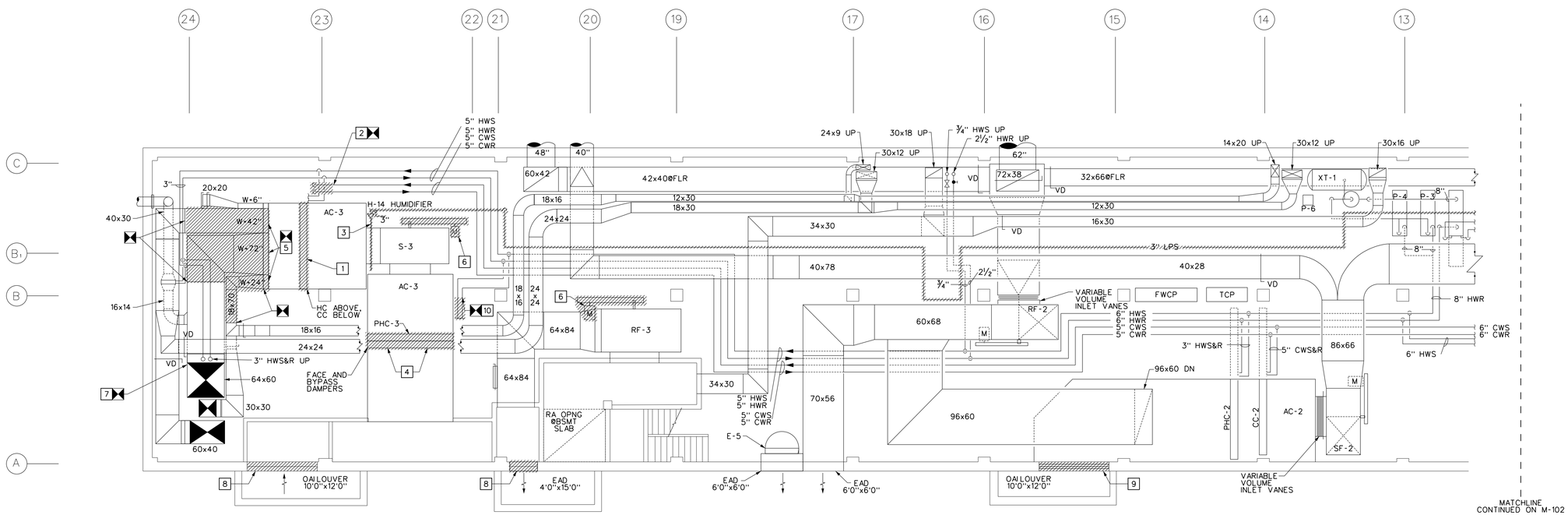
SITE MAP

GENERAL NOTES:

A. REMOVE ALL CONTROL VALVES, DAMPERS, PNEUMATIC DEVICES, PNEUMATIC TUBING, PNEUMATIC SENSORS, SPACE THERMOSTATS, SPACE TEMPERATURE SENSORS, AND CONTROLS ACCESSORIES ABANDONED IN THE COURSE OF THE WORK. REMOVE PNEUMATIC TUBING BACK TO THE MAIN AND CAP.

DEMOLITION NOTES:

1. REMOVE MULTI-SECTION COOLING COIL. SUPPORT EXISTING HEATING COIL ABOVE THE COOLING COIL.
2. REMOVE CHILLED WATER PIPING FROM COIL TO POINT INDICATED.
3. REMOVE ABANDONED HUMIDIFIER. REMOVE STEAM PIPING FROM HUMIDIFIER TO POINT INDICATED ON M-102. REMOVE CONDENSATE PIPING FROM HUMIDIFIER TO DRAIN.
4. REMOVE PREHEAT COIL, DAMPERS AND PREHEAT COIL BYPASS DAMPERS.
5. REMOVE ZONE DAMPERS. REMOVE DUCTWORK FROM UNIT TO POINT INDICATED.
6. REMOVE FAN MOTOR, SHEAVES, BELTS, AND INLET VANES.
7. REMOVE DUCTWORK IN VERTICAL DUCT TO ALLOW FOR INSTALLATION OF REHEAT COIL.
8. REMOVE LOUVER FROM EXTERIOR WALL.
9. REMOVE LOUVER FROM EXTERIOR WALL. NEW EQUIPMENT TO BE BROUGHT INTO MECHANICAL ROOM THROUGH VACANT AC-2 LOUVER SPACE.
10. REMOVE HOT WATER PIPING TO POINT INDICATED.



1 / M-101 SUB-BASEMENT NORTH REMOVALS PLAN

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

NORTH

KEY PLAN

M/E ENGINEERING P.C.

MECHANICAL/ELECTRICAL ENGINEERING CONSULTANTS

CAPITAL DISTRICT • BUFFALO • SYRACUSE • ROCHESTER

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(518) 533-2171 FAX: (518) 533-2177
M/E PROJECT #: 093174

PURCHASE COLLEGE
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STATE OF NEW YORK
JOSEPH STRAUB, JR.
062572-1
LICENSED PROFESSIONAL ENGINEER

REVISIONS:

No.	Date	By	Description

DRAWING TITLE

SUB-BASEMENT NORTH REMOVALS PLAN

DRAWING NO. M-101

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

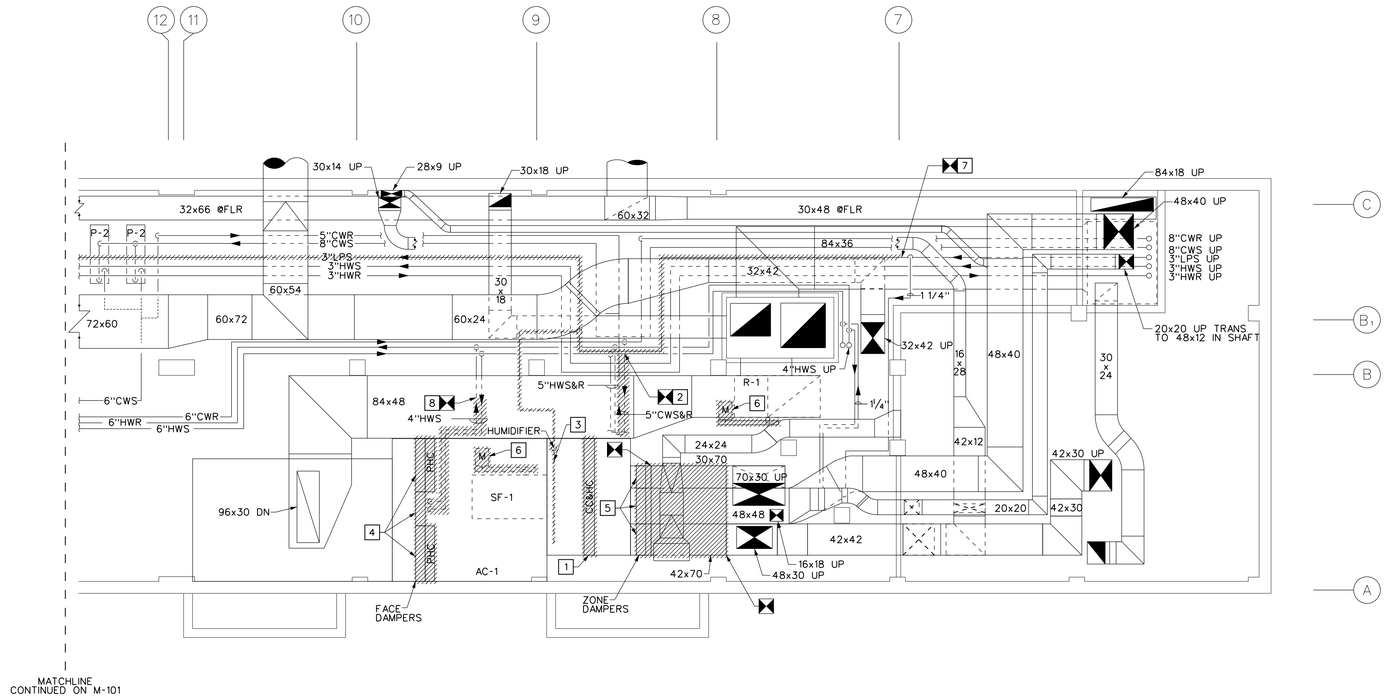
ISSUE DATE 05/01/16

GENERAL NOTES:

A. REMOVE ALL CONTROL VALVES, DAMPERS, PNEUMATIC DEVICES, PNEUMATIC TUBING, PNEUMATIC SENSORS, SPACE THERMOSTATS, SPACE TEMPERATURE SENSORS, AND CONTROLS ACCESSORIES ABANDONED IN THE COURSE OF THE WORK. REMOVE PNEUMATIC TUBING BACK TO THE MAIN AND CAP.

DEMOLITION NOTES:

1. REMOVE MULTI-SECTION COOLING COIL. SUPPORT EXISTING HEATING COIL ABOVE THE COOLING COIL.
2. REMOVE CHILLED WATER PIPING FROM COIL TO POINT INDICATED.
3. REMOVE ABANDONED HUMIDIFIER. REMOVE STEAM PIPING TO POINT INDICATED. REMOVE CONDENSATE PIPING FROM HUMIDIFIER TO DRAIN.
4. REMOVE PREHEAT COIL, DAMPERS AND PREHEAT COIL BYPASS DAMPERS.
5. REMOVE ZONE DAMPERS FROM UNIT TO POINT INDICATED.
6. REMOVE FAN MOTOR, SHEAVES, BELTS, AND INLET VANES.
7. CAP LOW PRESSURE STEAM PIPE AT THIS POINT AND REPAIR INSULATION.
8. REMOVE HOT WATER PIPING TO POINT INDICATED.



1 / M-102 SUB-BASEMENT SOUTH REMOVALS PLAN

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

NORTH

M/E ENGINEERING P.C.

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STATE OF NEW YORK — FRANK JOSEPH STRAUB, P.E. — LICENSED PROFESSIONAL ENGINEER — 062572-1

REVISIONS

No.	Date	By	Description

DRAWING TITLE

SUB-BASEMENT SOUTH REMOVALS PLAN

DRAWING NO. M-102

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

KEY PLAN

ISSUE DATE

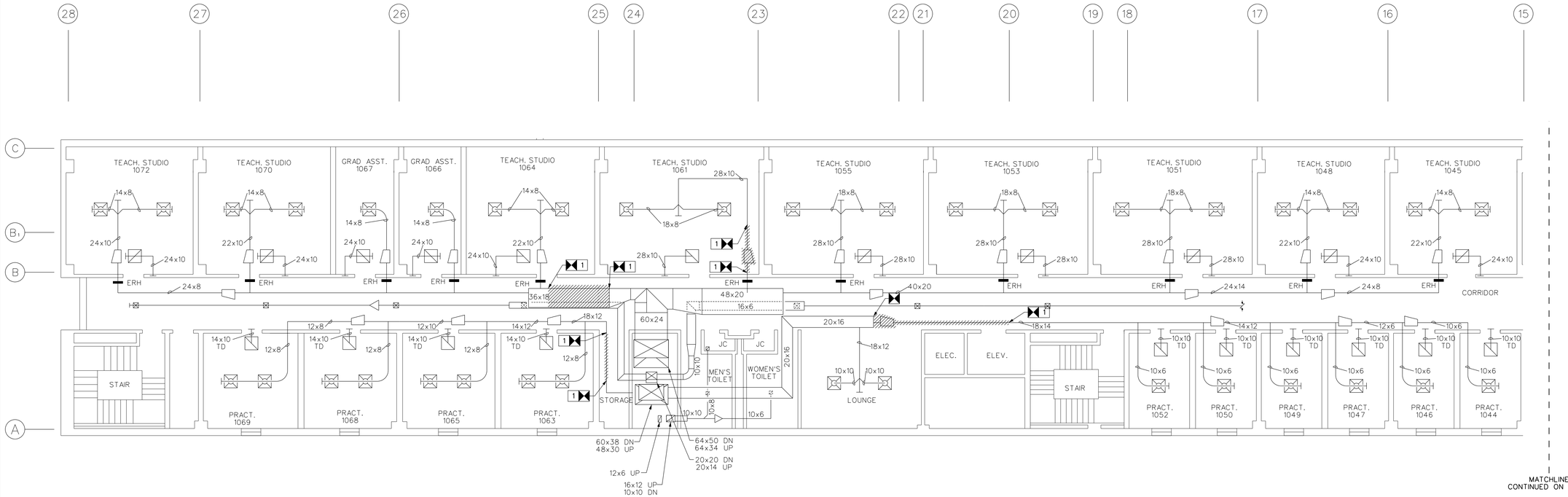
05/01/16

GENERAL NOTES:

A. REMOVE ALL CONTROL VALVES, DAMPERS, PNEUMATIC DEVICES, PNEUMATIC TUBING, PNEUMATIC SENSORS, SPACE THERMOSTATS, SPACE TEMPERATURE SENSORS, AND CONTROLS ACCESSORIES ABANDONED IN THE COURSE OF THE WORK. REMOVE PNEUMATIC TUBING BACK TO THE MAIN AND CAP.

DEMOLITION NOTES:

1 REMOVE DUCT AND INTERNAL LINING AT POINTS INDICATED.

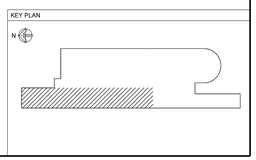


1 / M-103 PLAZA NORTH REMOVALS PLAN

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

NORTH

KEY PLAN



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STATE OF NEW YORK
JOSEPH STRAUB P.E.
LICENSED PROFESSIONAL ENGINEER
062572-1

REVISIONS

No.	Date	By	Description

DRAWING TITLE

PLAZA NORTH REMOVALS PLAN

DRAWING NO.

M-103

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE

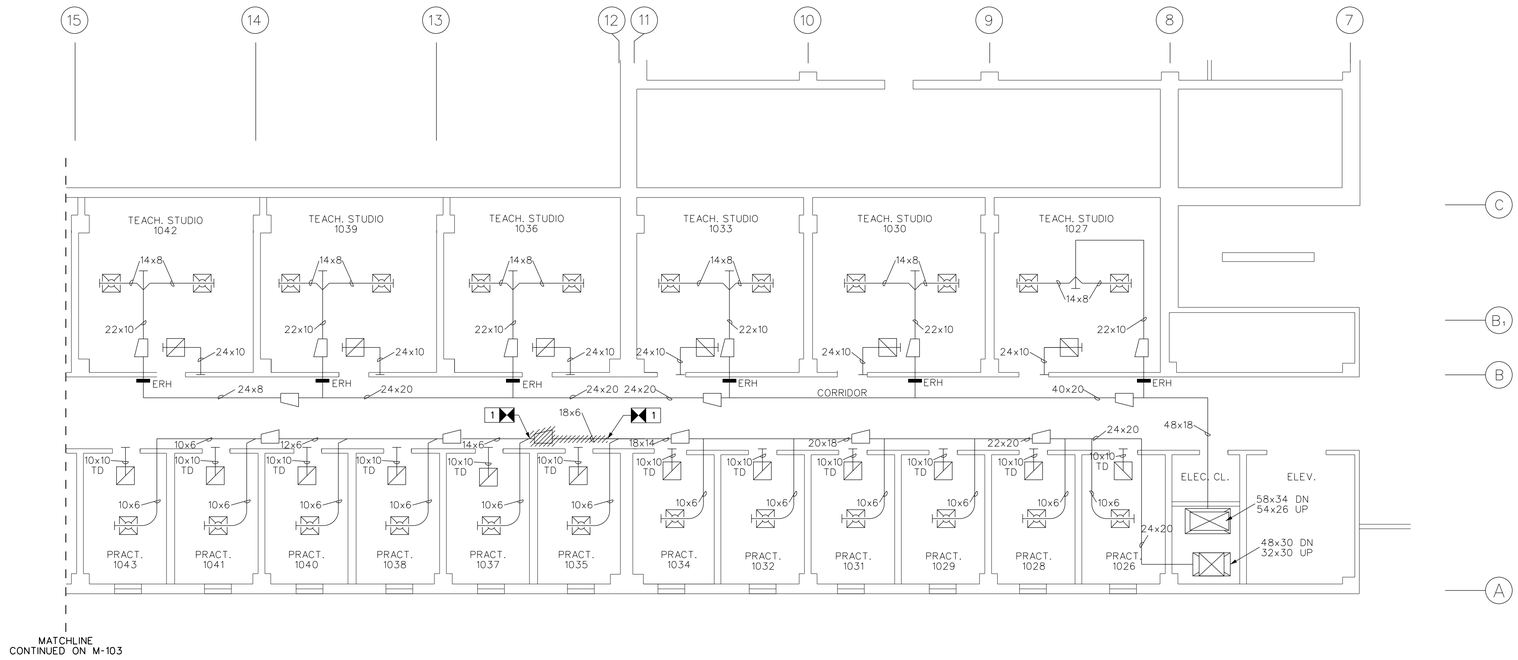
05/01/16

GENERAL NOTES:

A. REMOVE ALL CONTROL VALVES, DAMPERS, PNEUMATIC DEVICES, PNEUMATIC TUBING, PNEUMATIC SENSORS, SPACE THERMOSTATS, SPACE TEMPERATURE SENSORS, AND CONTROLS ACCESSORIES ABANDONED IN THE COURSE OF THE WORK. REMOVE PNEUMATIC TUBING BACK TO THE MAIN AND CAP.

DEMOLITION NOTES:

1 REMOVE DUCT AND INTERNAL LINING AT POINTS INDICATED.

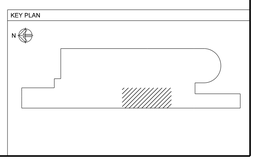


1 / M-104 PLAZA SOUTH REMOVALS PLAN

NORTH

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

KEY PLAN



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062572-1
LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	Date	By	Description

DRAWING TITLE

PLAZA SOUTH REMOVALS PLAN

DRAWING NO. M-104

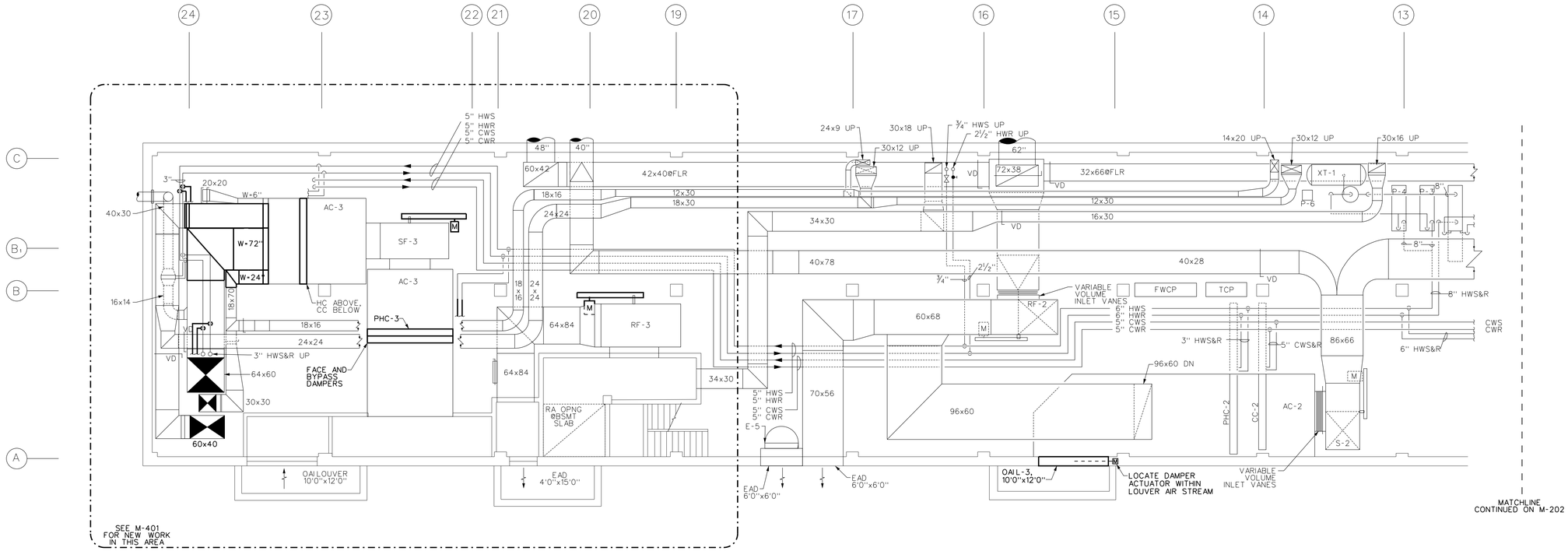
Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE 05/01/16

GENERAL NOTES:

A. REBALANCE ALL COILS IN THE SUB-BASEMENT MECHANICAL ROOM THAT ARE NOT SCHEDULED FOR REPLACEMENT.

B. WHERE HOT AND CHILLED WATER PIPES PENETRATE AHU WALLS, PROVIDE KENNARD RUBBER GROMMETS TO SEAL PENETRATION.



1 / M-201 SUB-BASEMENT NORTH PLAN

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

NORTH

KEY PLAN

M/E ENGINEERING P.C.

MECHANICAL/ELECTRICAL ENGINEERING CONSULTANTS

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STATE OF NEW YORK JOSEPH STRAUB, JR. 062572-1 LICENSED PROFESSIONAL ENGINEER

REVISIONS:

No.	Date	By	Description

DRAWING TITLE

SUB-BASEMENT NORTH PLAN

DRAWING NO. M-201

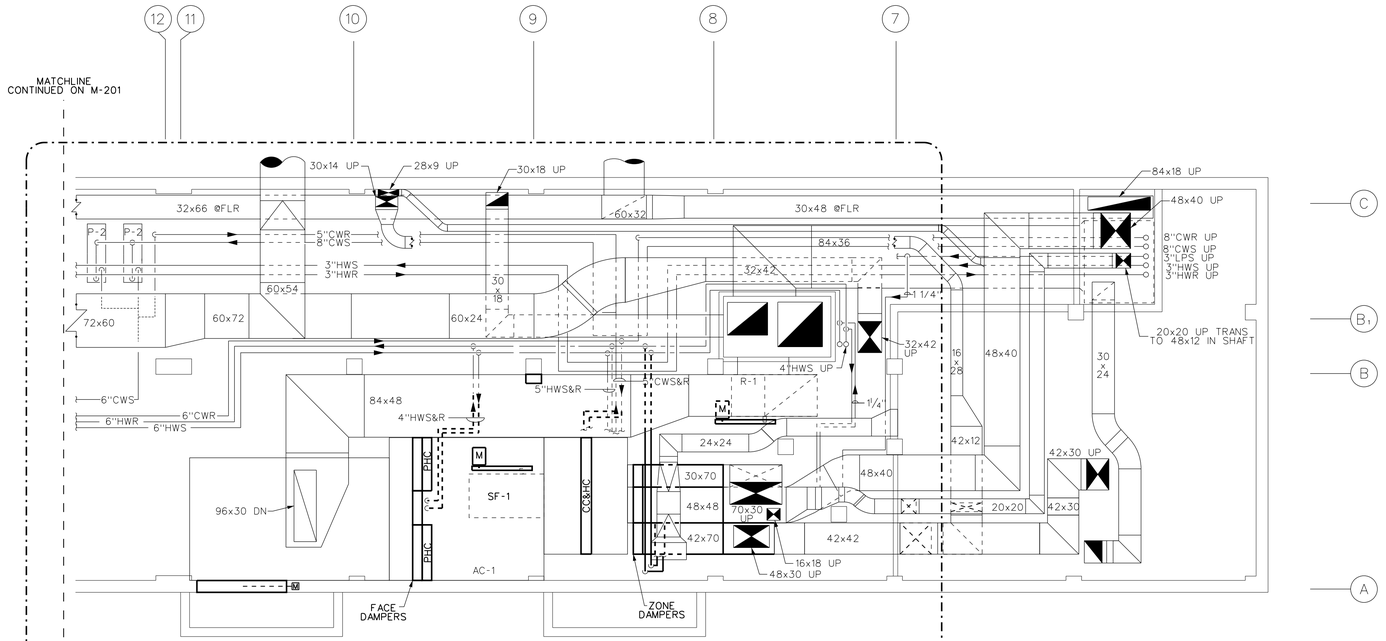
Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16

GENERAL NOTES:

A. REBALANCE ALL COILS IN THE SUB-BASEMENT MECHANICAL ROOM THAT ARE NOT SCHEDULED FOR REPLACEMENT.

B. WHERE HOT AND CHILLED WATER PIPES PENETRATE AHU WALLS, PROVIDE KENNARD RUBBER GROMMETS TO SEAL PENETRATION.



1 / M-202 SUB-BASEMENT SOUTH PLAN

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

M/E ENGINEERING P.C.

MECHANICAL/ELECTRICAL
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STATE OF NEW YORK
F. JOSEPH STRAUB JR.
062572-1
LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	Date	By	Description

DRAWING TITLE

SUB-BASEMENT
SOUTH PLAN

KEY PLAN

DRAWING NO.		
M-202	Drawn By:	JDH
	Checked By:	MEK
	Project Mgr:	FJS
	Date:	05/01/16
	Project No:	153151

ISSUE DATE
05/01/16

GENERAL NOTES:

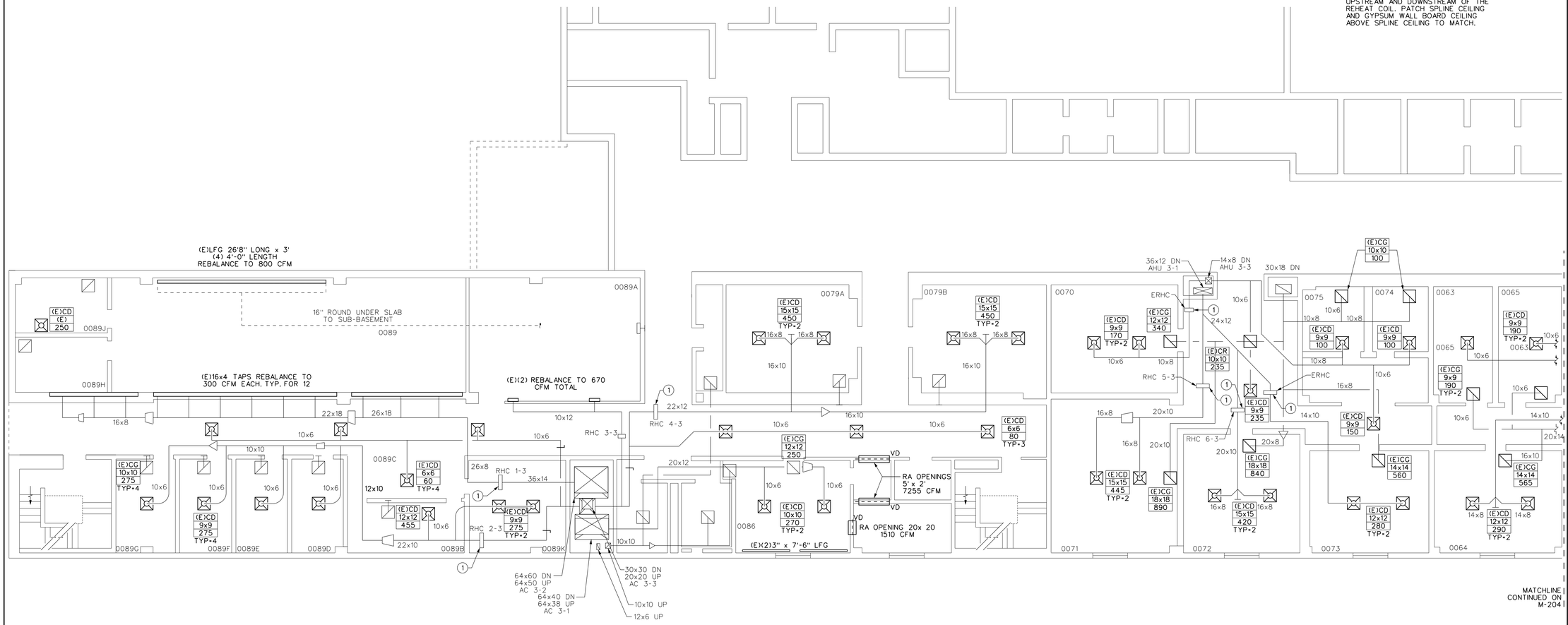
A. REBALANCE ALL SUPPLY DIFFUSERS TO THE AIRFLOW INDICATED IN THE DIFFUSER TAGS.

B. REMOVE AND REINSTALL CEILING AS REQUIRED TO COMPLETE WORK. PROVIDE NEW CEILING COMPONENTS IN EVENT OF CEILING DAMAGE DUE TO WORK.

C. REMOVE AND PATCH SPLINE CEILING AND GYPSUM BOARD CEILING ABOVE SPLINE CEILING AS REQUIRED TO COMPLETE THE BMS CONTROLS WORK. PATCH SPLINE CEILING AND GYPSUM BOARD CEILING TO MATCH EXISTING.

DRAWING NOTES:

(1) CLEAN EXISTING ELECTRIC REHEAT COILS AND DUCTWORK 3 FEET UPSTREAM AND DOWNSTREAM OF THE REHEAT COIL. PATCH SPLINE CEILING AND GYPSUM WALL BOARD CEILING ABOVE SPLINE CEILING TO MATCH.



1 M-203 BASEMENT NORTH PLAN

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

NORTH

KEY PLAN

M/E ENGINEERING P.C.
MECHANICAL/ELECTRICAL ENGINEERING CONSULTANTS
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M/E PROJECT #: 093174

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STATE OF NEW YORK
JOSEPH STRAUB
062572-1
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

No.	Date	By	Description

DRAWING TITLE

BASEMENT NORTH PLAN

DRAWING NO. M-203

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE 05/01/16

GENERAL NOTES:

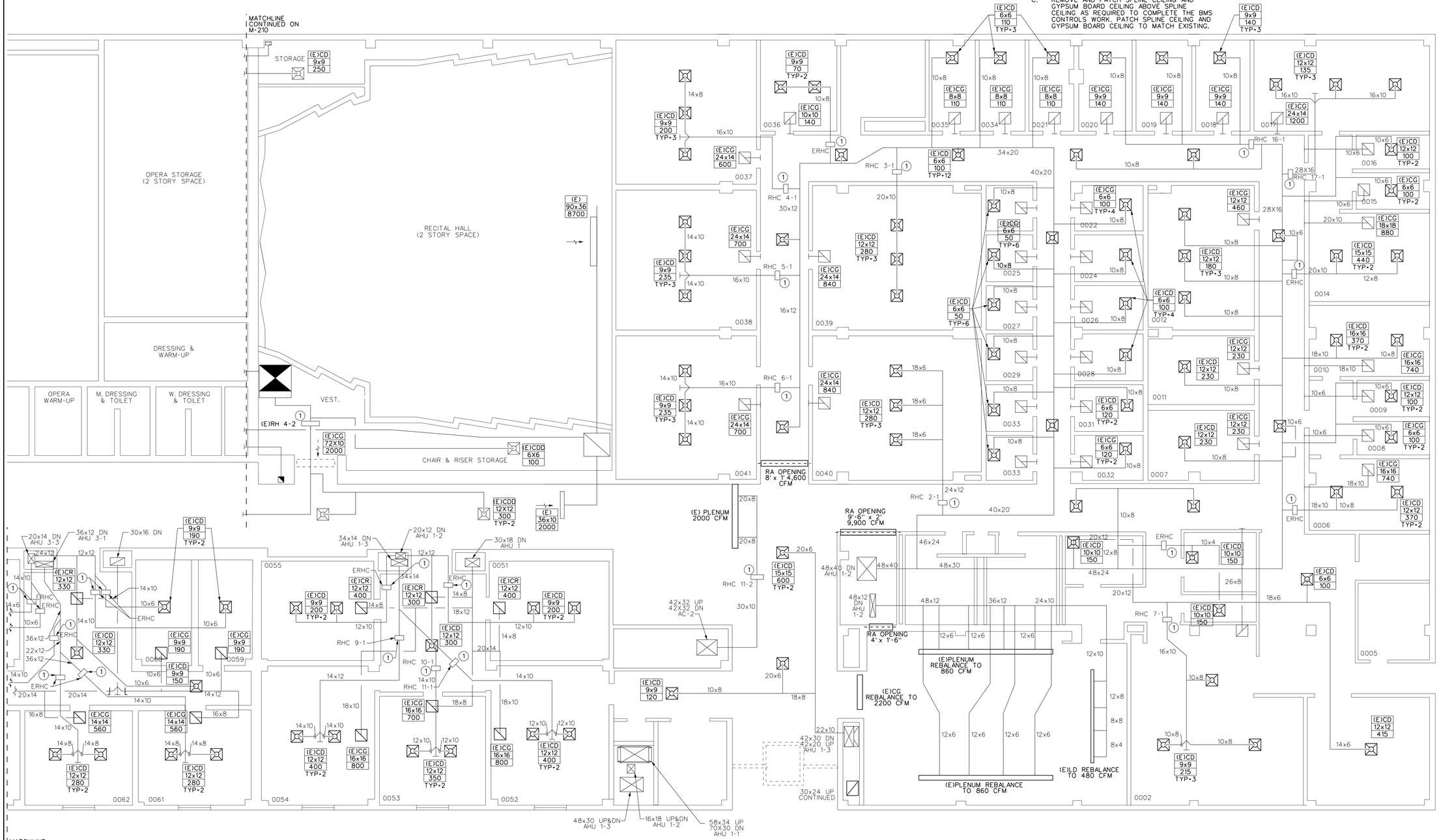
A. REBALANCE ALL SUPPLY DIFFUSERS AND RETURN AND EXHAUST GRILLES TO THE AIRFLOW INDICATED IN THE DIFFUSER TAGS.

B. REMOVE AND REINSTALL CEILING AS REQUIRED TO COMPLETE WORK. PROVIDE NEW CEILING COMPONENTS IN EVENT OF CEILING DAMAGE DUE TO WORK.

C. REMOVE AND PATCH SPLINE CEILING AND GYPSUM BOARD CEILING ABOVE SPLINE CEILING AS REQUIRED TO COMPLETE THE BMS CONTROLS WORK. PATCH SPLINE CEILING AND GYPSUM BOARD CEILING TO MATCH EXISTING.

DRAWING NOTES:

1. CLEAN EXISTING ELECTRIC REHEAT COILS AND DUCTWORK 3 FEET UPSTREAM AND DOWNSTREAM OF THE REHEAT COIL. PATCH SPLINE CEILING AND GYPSUM WALL BOARD CEILING ABOVE SPLINE CEILING TO MATCH.



1 M-204 BASEMENT SOUTH PLAN
SCALE: 1/8" = 1'-0"

NORTH

KEY PLAN

M/E ENGINEERING P.C.
MECHANICAL/ELECTRICAL ENGINEERING CONSULTANTS
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STATE OF NEW YORK
JOSEPH STRAUB
062572-1
LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	Date	By	Description

DRAWING TITLE

BASEMENT SOUTH PLAN

DRAWING NO.		
M-204	Drawn By:	JDH
	Checked By:	MEK
	Project Mgr:	FJS
	Date:	05/01/16
	Project No:	153151

ISSUE DATE
05/01/16

GENERAL NOTES:

A. REBALANCE ALL SUPPLY DIFFUSERS TO THE AIRFLOW INDICATED IN THE DIFFUSER TAGS.

B. WINDOWS IN ROOMS BEING SERVED BY NEW HUMIDIFIERS ARE TO BE PERMANENTLY LOCKED CLOSED AND SEALED AIR-TIGHT. FAILURE TO DO THIS WILL COMPROMISE THE CONTROLLABILITY OF THE SYSTEM.

C. PROVIDE CONDENSATE LIFT PUMP WHERE CONTINUOUS DOWNWARD PITCH IS NOT POSSIBLE FOR DRAIN PIPES.

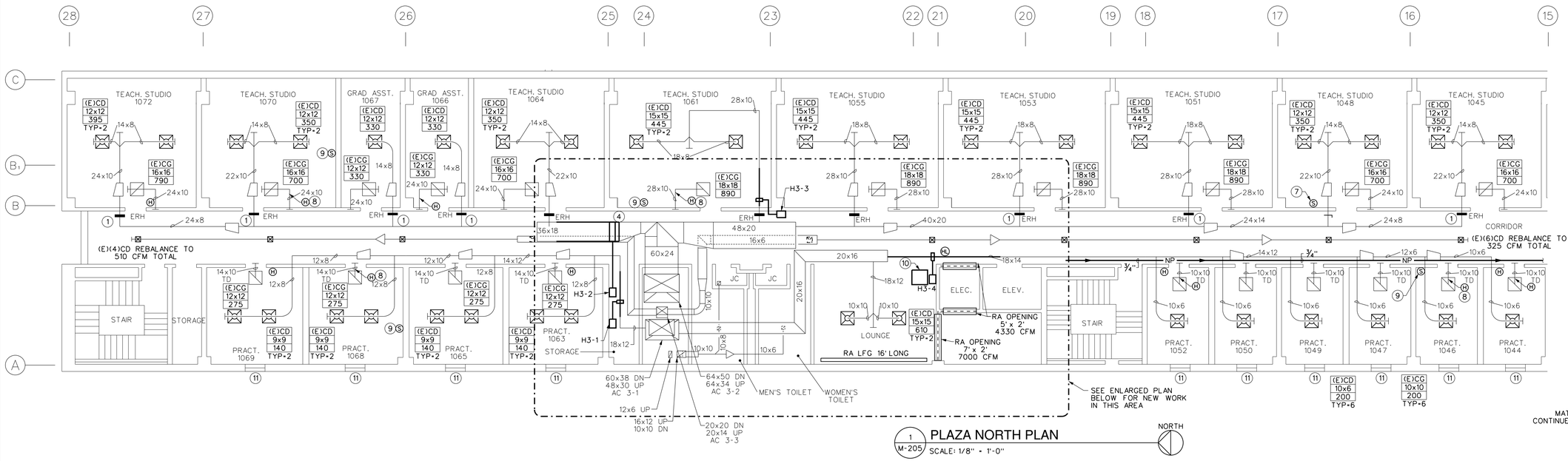
D. PROVIDE 24x24 ACCESS DOORS IN CEILING DIRECTLY BELOW HUMIDIFIERS LOCATED ABOVE CEILING.

E. REMOVE AND REINSTALL CEILING AS REQUIRED TO COMPLETE WORK. PROVIDE NEW CEILING COMPONENTS IN EVENT OF CEILING DAMAGE DUE TO WORK.

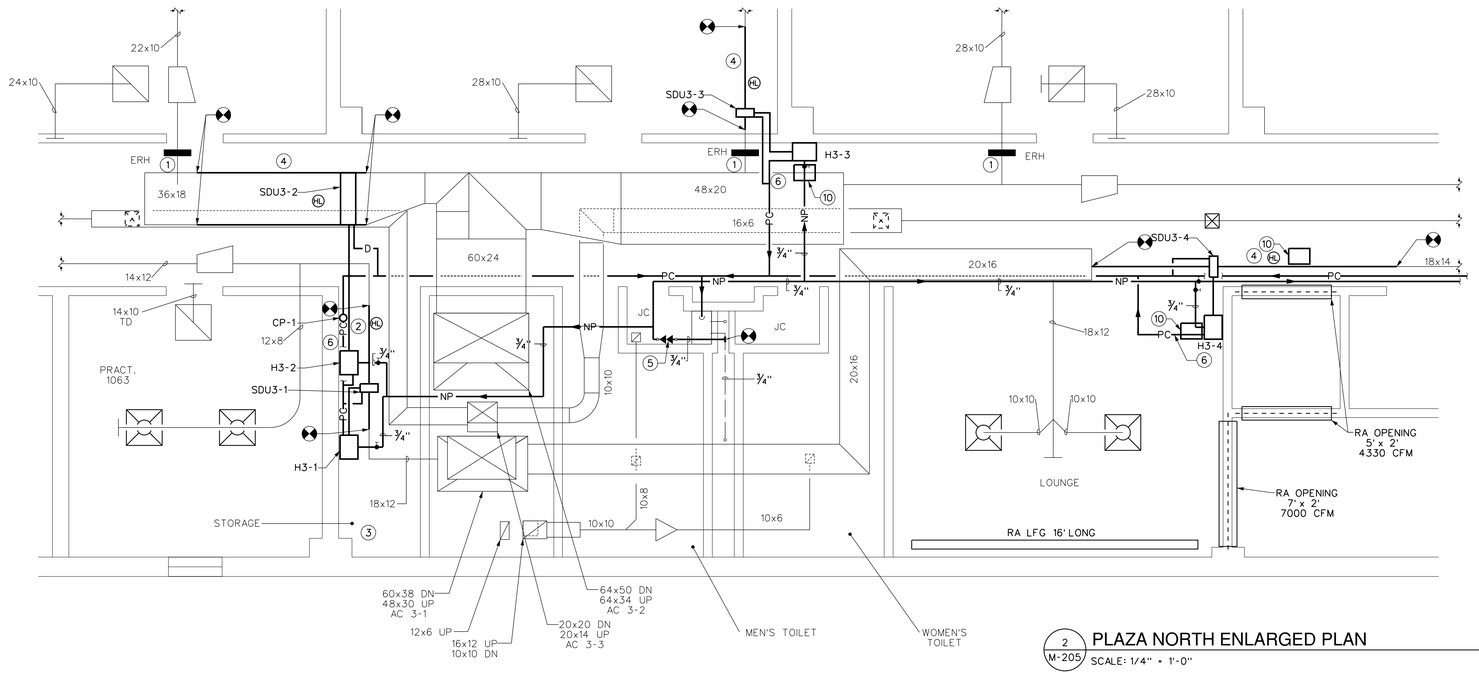
F. REMOVE AND PATCH SPLINE CEILING AND GYPSUM BOARD CEILING ABOVE SPLINE CEILING AS REQUIRED TO COMPLETE THE BMS CONTROLS WORK. PATCH SPLINE CEILING AND GYPSUM BOARD CEILING TO MATCH EXISTING.

DRAWING NOTES:

1. CLEAN EXISTING ELECTRIC REHEAT COILS AND DUCTWORK 3 FEET UPSTREAM AND DOWNSTREAM OF THE REHEAT COIL. PATCH SPLINE CEILING AND GYPSUM WALL BOARD CEILING ABOVE SPLINE CEILING TO MATCH.
2. TERMINATE DRAIN AT JANITOR CLOSET SINK.
3. PROVIDE NEW SUSPENDED CEILING FOR STORAGE ROOM.
4. PROVIDE 10' OF UNLINED STAINLESS DUCT AFTER STEAM DISPERSION UNIT (SDU).
5. PROVIDE 3/4" DOUBLE CHECK ASSEMBLY.
6. PROVIDE CONDENSATE PUMP WITH MINIMUM 30' LIFT AND MINIMUM 1 GALLON RESERVOIR.
7. REMOVE THE EXISTING CONTROL THERMOSTAT. PROVIDE SPACE TEMPERATURE SENSOR.
8. MOUNT THE HUMIDITY SENSOR IN THE RETURN TRANSFER AIR DUCT.
9. PROVIDE SPACE TEMPERATURE SENSOR.
10. PROVIDE ACCESS DOOR IN THE EXISTING SPLINE CEILING. COORDINATE LOCATION WITH SPLINE CEILING SUPPORTS.
11. PERMANENTLY SEAL WINDOWS SHUT. PROVIDE BOLT PLATE AND CAULK WINDOW AIRTIGHT.



1 M-205 PLAZA NORTH PLAN
SCALE: 1/8" = 1'-0"



2 M-205 PLAZA NORTH ENLARGED PLAN
SCALE: 1/4" = 1'-0"

NORTH

KEY PLAN

M/E ENGINEERING P.C.
MECHANICAL/ELECTRICAL ENGINEERING CONSULTANTS
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M/E PROJECT #: 093174

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STATE OF NEW YORK
JOSEPH STRAUB
LICENSED PROFESSIONAL ENGINEER
062572-1

REVISIONS

No.	Date	By	Description

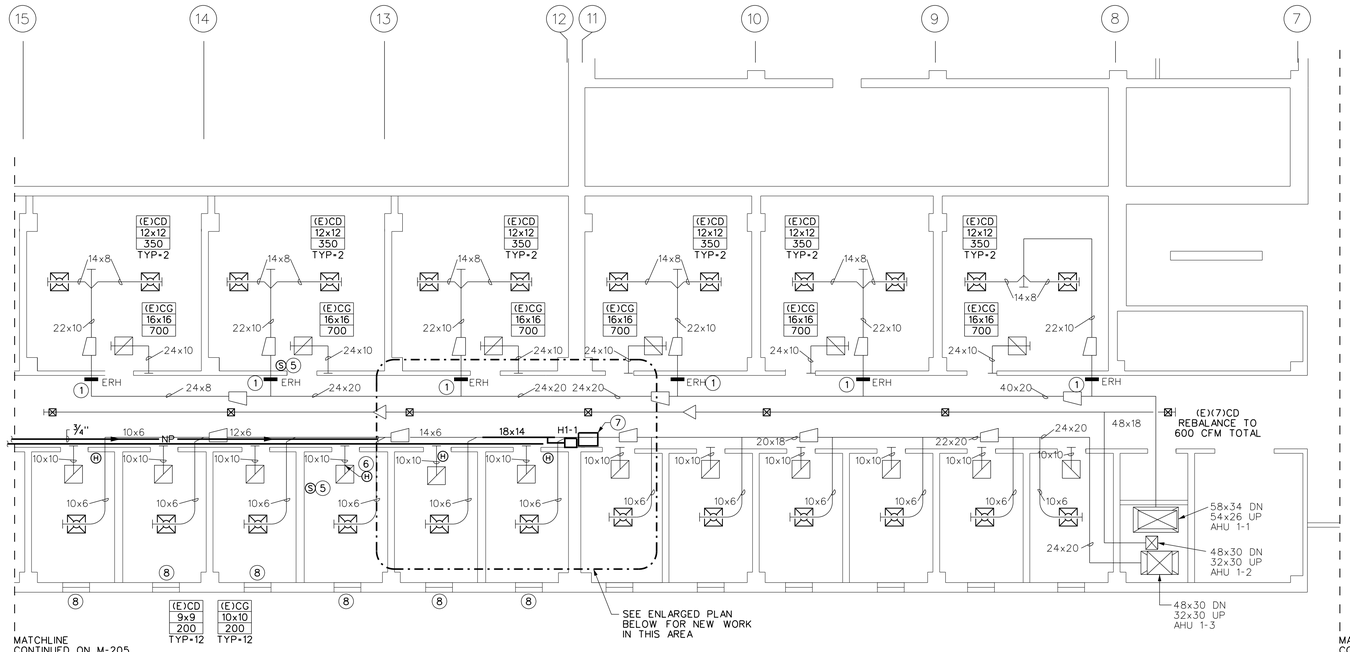
DRAWING TITLE

PLAZA NORTH PLAN

DRAWING NO. M-205

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

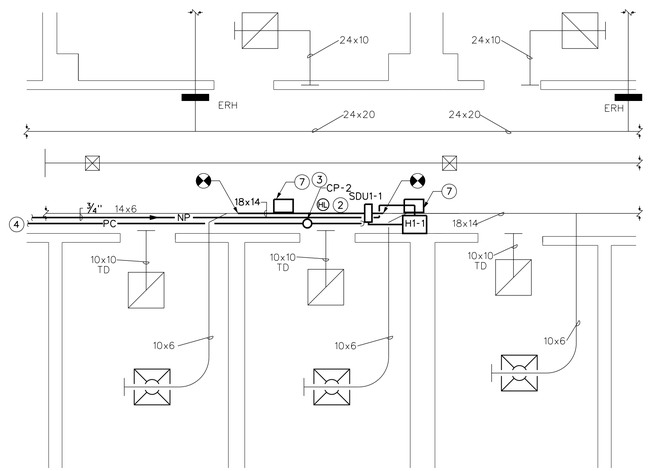
ISSUE DATE
05/01/16



1 M-206 PLAZA SOUTH PLAN

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

NORTH



2 M-206 PLAZA SOUTH ENLARGED PLAN

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

NORTH

DRAWING NOTES:

1. CLEAN EXISTING ELECTRIC REHEAT COILS AND DUCTWORK 3 FEET UPSTREAM AND DOWNSTREAM OF THE REHEAT COIL. PATCH SPLINE CEILING AND GYPSUM WALL BOARD CEILING ABOVE SPLINE CEILING TO MATCH.
2. PROVIDE 10' OF UNLINED STAINLESS DUCT AFTER STEAM DISPERSION UNIT (SDU).
3. PROVIDE CONDENSATE PUMP WITH MINIMUM 30' OF LIFT AND MINIMUM 1 GALLON RESERVOIR TO LIFT CONDENSATE TO JANITOR CLOSET DRAIN.
4. DRAIN HUMDIFIER TO JANITORS CLOSET.
5. REMOVE THE EXISTING CONTROLS THERMOSTAT. PROVIDE SPACE TEMPERATURE SENSOR.
6. MOUNT THE HUMIDITY SENSOR IN THE RETURN TRANSFER AIR DUCT.
7. PROVIDE ACCESS DOOR IN THE EXISTING SPLINE CEILING. COORDINATE LOCATION WITH SPLINE CEILING SUPPORTS.
8. PERMANENTLY SEAL WINDOWS SHUT. PROVIDE BOLT PLATE AND CAULK WINDOW AIRTIGHT.

GENERAL NOTES:

A. REBALANCE ALL SUPPLY DIFFUSERS TO THE AIRFLOW INDICATED IN THE DIFFUSER TAGS.

B. WINDOWS IN ROOMS BEING SERVED BY NEW HUMIDIFIERS ARE TO BE PERMANENTLY LOCKED CLOSED AND SEALED AIR-TIGHT. FAILURE TO DO THIS WILL COMPROMISE THE CONTROLLABILITY OF THE SYSTEM.

C. PROVIDE CONDENSATE PUMP WHERE CONTINUOUS DOWNWARD PITCH IS NOT POSSIBLE FOR DRAIN PIPES.

D. PROVIDE 24x24 ACCESS DOORS IN CEILING DIRECTLY BELOW HUMIDIFIERS LOCATED ABOVE CEILING.

E. REMOVE AND REINSTALL CEILING AS REQUIRED TO COMPLETE WORK. PROVIDE NEW CEILING COMPONENTS IN EVENT OF CEILING DAMAGE DUE TO WORK.

F. REMOVE AND PATCH SPLINE CEILING AND GYPSUM BOARD CEILING ABOVE SPLINE CEILING AS REQUIRED TO COMPLETE THE BMS CONTROLS WORK. PATCH SPLINE CEILING AND GYPSUM BOARD CEILING TO MATCH EXISTING.

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735 ANDERSON HILL ROAD
PURCHASE, NY 10577

STATE OF NEW YORK
F. JOSEPH STRAUB, JR.
LICENSED PROFESSIONAL ENGINEER
062572-1

REVISIONS

No.	Date	By	Description

DRAWING TITLE

PLAZA SOUTH PLAN

DRAWING NO. M-206

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE 05/01/16

KEY PLAN

GENERAL NOTES:

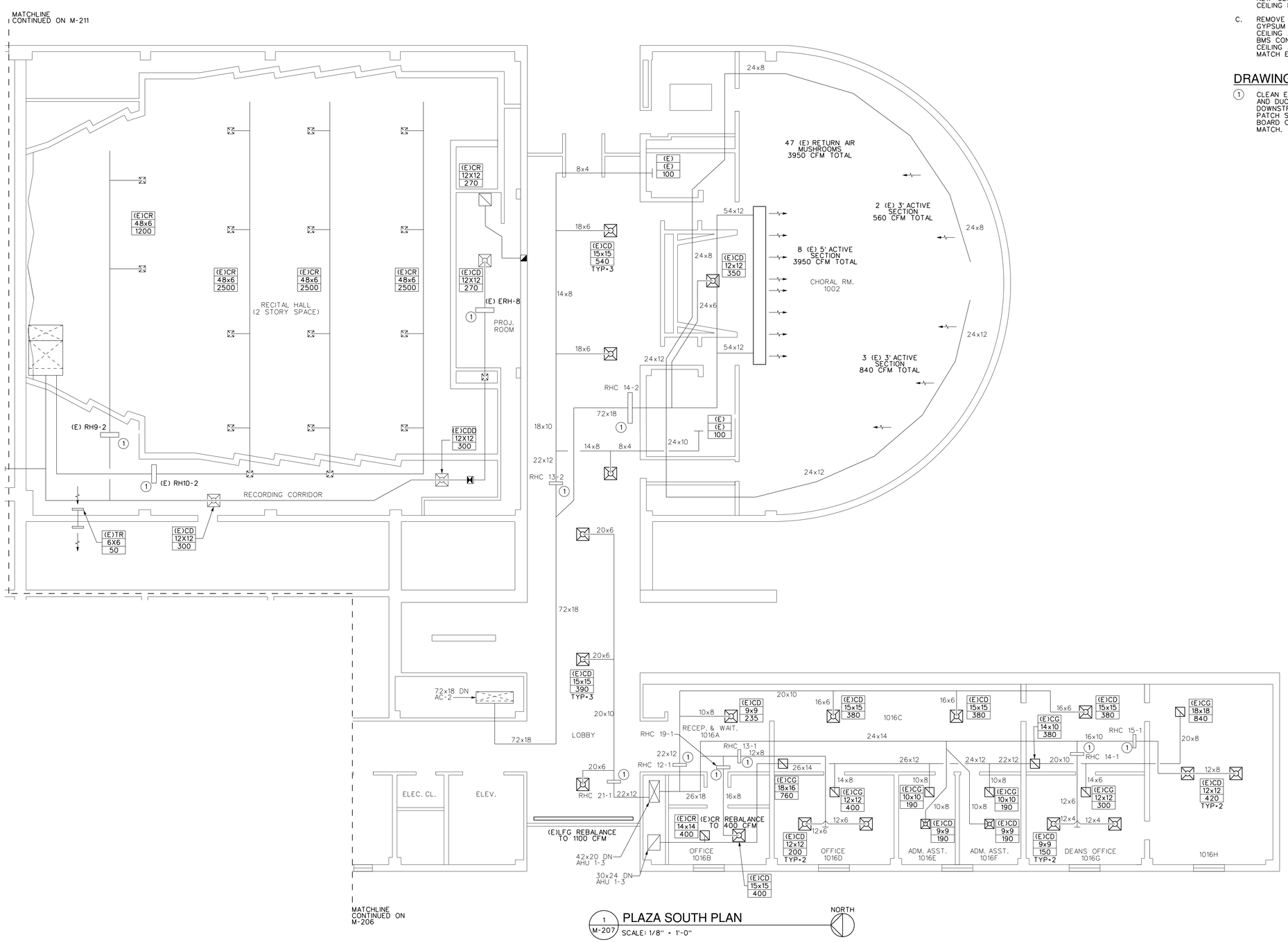
A. REBALANCE ALL SUPPLY DIFFUSERS AND RETURN AND EXHAUST GRILLES TO THE AIRFLOW INDICATED IN THE DIFFUSER TAGS.

B. REMOVE AND REINSTALL CEILING AS REQUIRED TO COMPLETE WORK. PROVIDE NEW CEILING COMPONENTS IN EVENT OF CEILING DAMAGE DUE TO WORK.

C. REMOVE AND PATCH SPLINE CEILING AND GYPSUM BOARD CEILING ABOVE SPLINE CEILING AS REQUIRED TO COMPLETE THE BMS CONTROLS WORK. PATCH SPLINE CEILING AND GYPSUM BOARD CEILING TO MATCH EXISTING.

DRAWING NOTES:

(1) CLEAN EXISTING ELECTRIC REHEAT COILS AND DUCTWORK 3 FEET UPSTREAM AND DOWNSTREAM OF THE REHEAT COIL. PATCH SPLINE CEILING AND GYPSUM WALL BOARD CEILING ABOVE SPLINE CEILING TO MATCH.



1 / M-207 PLAZA SOUTH PLAN

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

NORTH

KEY PLAN

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REVISIONS:

No.	Date	By	Description

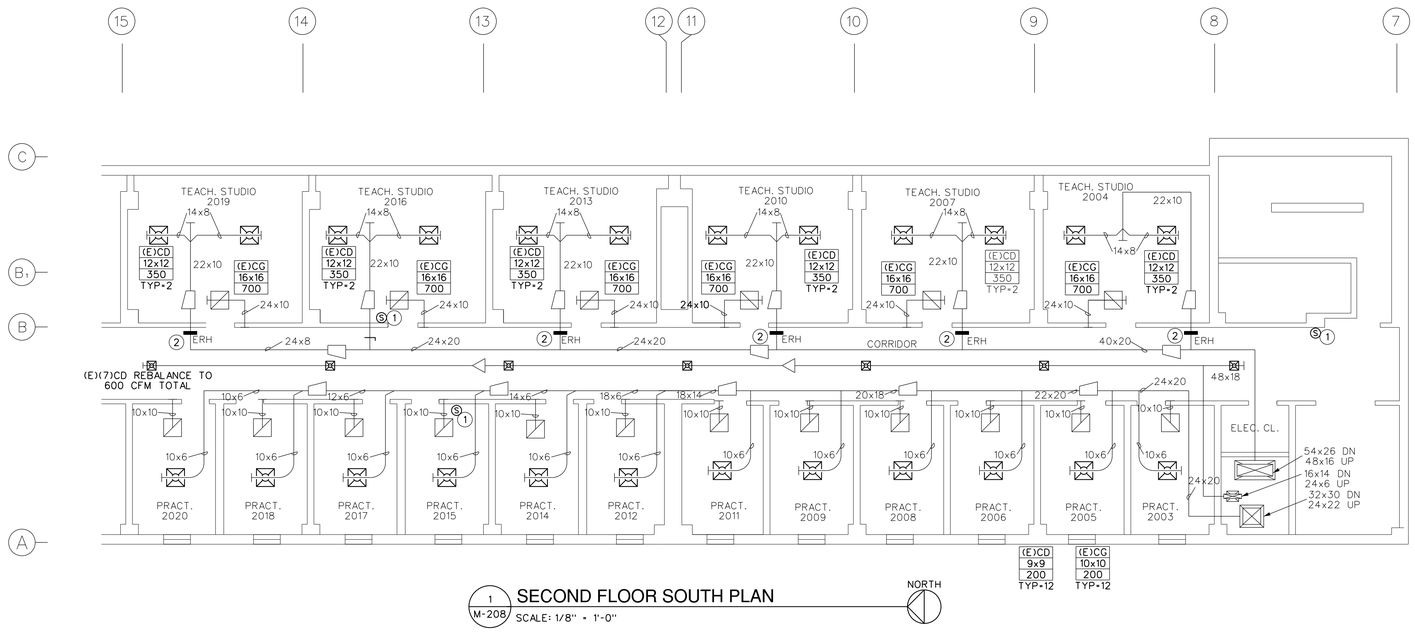
DRAWING TITLE

PLAZA SOUTH PLAN

DRAWING NO. M-207

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

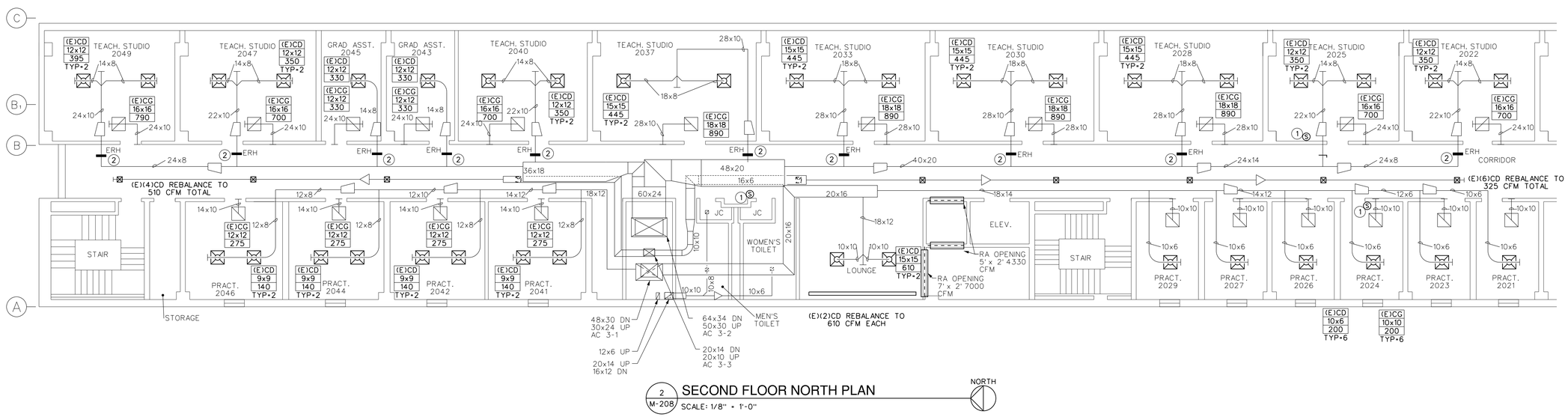
ISSUE DATE
05/01/16



1 / M-208 SECOND FLOOR SOUTH PLAN

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

NORTH



2 / M-208 SECOND FLOOR NORTH PLAN

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

NORTH

GENERAL NOTES:

A. REBALANCE ALL SUPPLY DIFFUSERS TO THE AIRFLOW INDICATED IN THE DIFFUSER TAGS.

B. WINDOWS IN ROOMS BEING SERVED BY NEW HUMIDIFIERS ARE TO BE PERMANENTLY LOCKED CLOSED AND SEALED AIR-TIGHT. FAILURE TO DO THIS WILL COMPROMISE THE CONTROLLABILITY OF THE SYSTEM.

C. REMOVE AND REINSTALL CEILING AS REQUIRED TO COMPLETE WORK. PROVIDE NEW CEILING COMPONENTS IN EVENT OF CEILING DAMAGE DUE TO WORK.

D. REMOVE AND PATCH SPLINE CEILING AND GYPSUM BOARD CEILING ABOVE SPLINE CEILING AS REQUIRED TO COMPLETE THE BMS CONTROLS WORK. PATCH SPLINE CEILING AND GYPSUM BOARD CEILING TO MATCH EXISTING.

DRAWING NOTES:

1. REMOVE THE EXISTING CONTROLS THERMOSTAT. PROVIDE SPACE TEMPERATURE SENSOR.
2. CLEAN EXISTING ELECTRIC REHEAT COILS AND DUCTWORK 3 FEET UPSTREAM AND DOWNSTREAM OF THE REHEAT COIL. PATCH SPLINE CEILING AND GYPSUM WALL BOARD CEILING ABOVE SPLINE CEILING TO MATCH.

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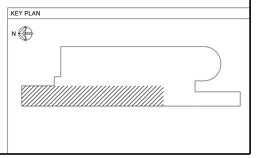
REVISIONS

No.	Date	By	Description

DRAWING TITLE

SECOND FLOOR PLAN

KEY PLAN



DRAWING NO.		
M-208	Drawn By:	JDH
	Checked By:	MEK
	Project Mgr:	FJS
	Date:	05/01/16
	Project No:	153151

ISSUE DATE

05/01/16

GENERAL NOTES:

A. REBALANCE ALL SUPPLY DIFFUSERS TO THE AIRFLOW INDICATED IN THE DIFFUSER TAGS.

B. WINDOWS IN ROOMS BEING SERVED BY NEW HUMIDIFIERS ARE TO BE PERMANENTLY LOCKED CLOSED AND SEALED AIR-TIGHT. FAILURE TO DO THIS WILL COMPROMISE THE CONTROLLABILITY OF THE SYSTEM.

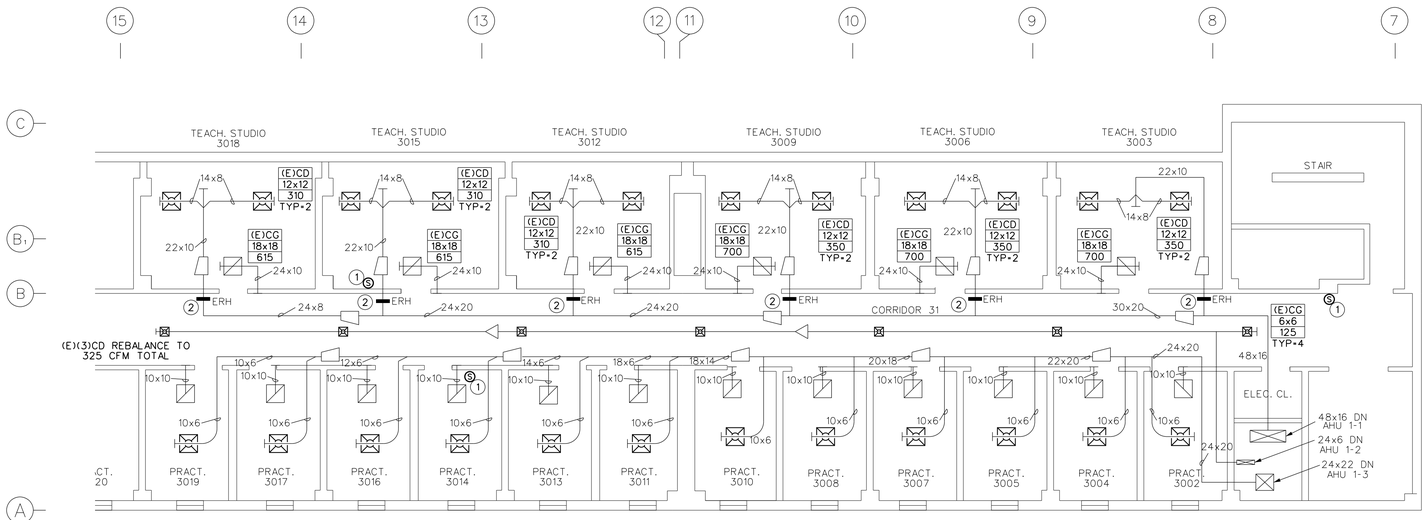
C. REMOVE AND REINSTALL CEILING AS REQUIRED TO COMPLETE WORK. PROVIDE NEW CEILING COMPONENTS IN EVENT OF CEILING DAMAGE DUE TO WORK.

D. REMOVE AND PATCH SPLINE CEILING AND GYPSUM BOARD CEILING ABOVE SPLINE CEILING AS REQUIRED TO COMPLETE THE BMS CONTROLS WORK. PATCH SPLINE CEILING AND GYPSUM BOARD CEILING TO MATCH EXISTING.

DRAWING NOTES:

(1) REMOVE THE EXISTING CONTROLS THERMOSTAT. PROVIDE SPACE TEMPERATURE SENSOR.

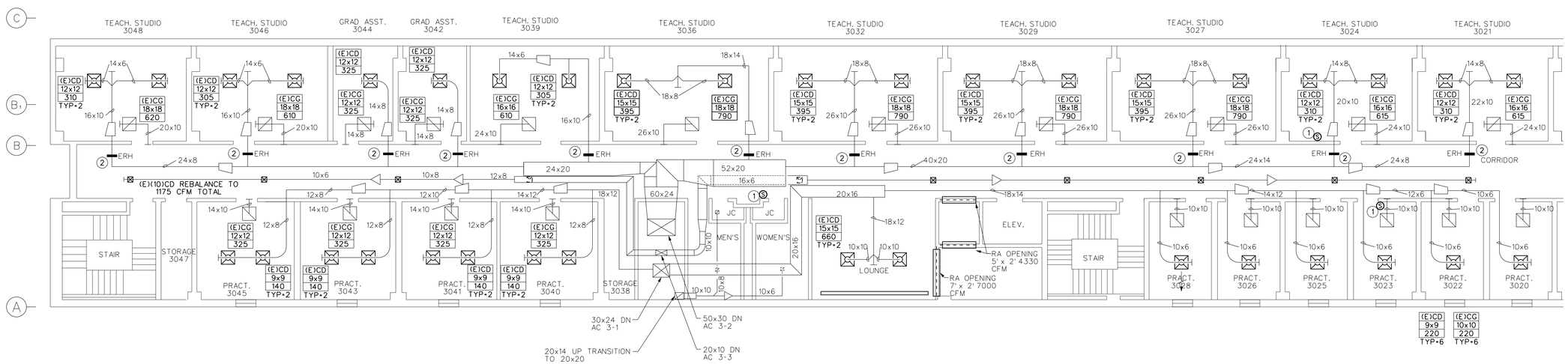
(2) CLEAN EXISTING ELECTRIC REHEAT COILS AND DUCTWORK 3 FEET UPSTREAM AND DOWNSTREAM OF THE REHEAT COIL. PATCH SPLINE CEILING AND GYPSUM WALL BOARD CEILING ABOVE SPLINE CEILING TO MATCH.



1 / M-209 THIRD FLOOR SOUTH PLAN
SCALE: 1/8" = 1'-0"

NORTH

(E)CD 9x9 220 TYP-12
(E)CG 10x10 220 TYP-12



2 / M-209 THIRD FLOOR NORTH PLAN
SCALE: 1/8" = 1'-0"

NORTH

KEY PLAN

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062572-1
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REVISIONS

No.	Date	By	Description

DRAWING TITLE

THIRD FLOOR PLAN

DRAWING NO. M-209

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE 05/01/16

GENERAL NOTES:

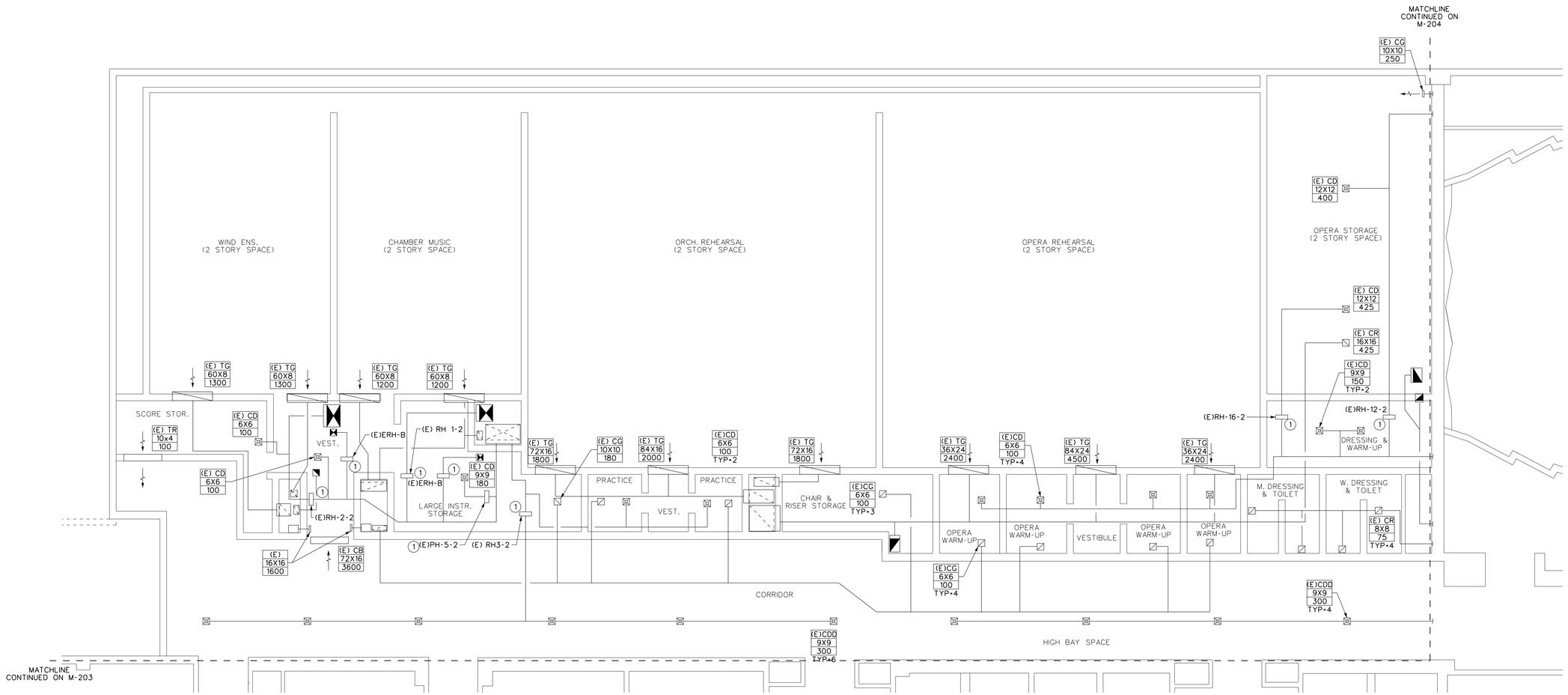
A. REBALANCE ALL SUPPLY DIFFUSERS AND RETURN EXHAUST GRILLES TO THE AIRFLOW INDICATED IN THE DIFFUSER TAGS.

B. REMOVE AND REINSTALL CEILING AS REQUIRED TO COMPLETE WORK. PROVIDE NEW CEILING COMPONENTS IN EVENT OF CEILING DAMAGE DUE TO WORK.

C. REMOVE AND PATCH CEILING AS REQUIRED TO COMPLETE CLEANING OF REHEAT COILS.

DRAWING NOTES:

(1) CLEAN EXISTING ELECTRIC REHEAT COILS, HOT WATER REHEAT COILS AND DUCTWORK 3 FEET UPSTREAM AND DOWNSTREAM OF THE REHEAT COIL. PATCH SPLINE CEILING AND GYPSUM WALL BOARD CEILING ABOVE SPLINE CEILING TO MATCH.



1 / M-210 BASEMENT NORTH PLAN

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

NORTH

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REVISIONS

No.	Date	By	Description

DRAWING TITLE

BASEMENT NORTH PLAN

DRAWING NO. M-210

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE

05/01/16

GENERAL NOTES:

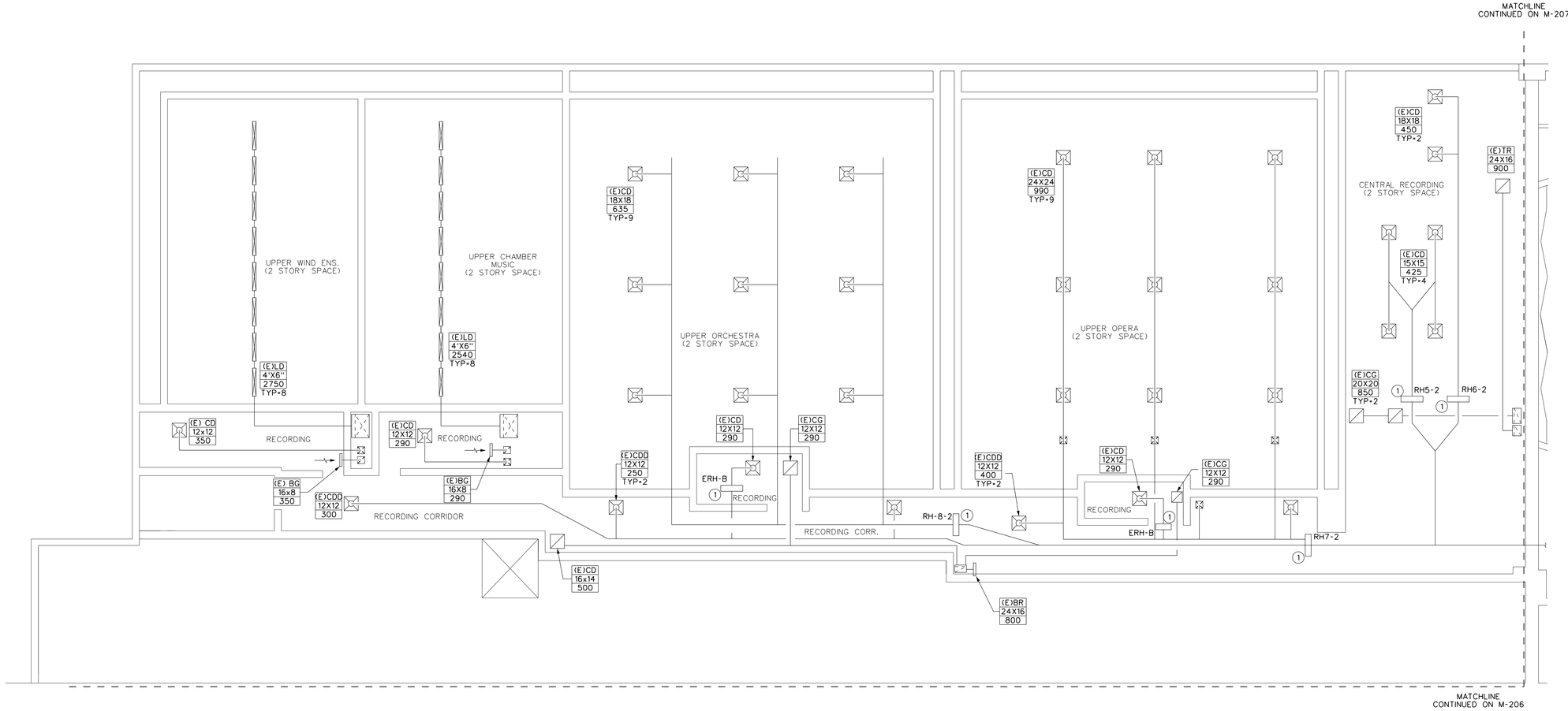
A. REBALANCE ALL SUPPLY DIFFUSERS AND RETURN AND EXHAUST GRILLES TO THE AIRFLOW INDICATED IN THE DIFFUSER TAGS.

B. REMOVE AND REINSTALL CEILING AS REQUIRED TO COMPLETE WORK. PROVIDE NEW CEILING COMPONENTS IN EVENT OF CEILING DAMAGE DUE TO WORK.

C. REMOVE AND PATCH CEILING AS REQUIRED TO COMPLETE CLEANING OF REHEAT COILS.

DRAWING NOTES:

1. CLEAN EXISTING ELECTRIC REHEAT COILS, HOT WATER REHEAT COILS AND DUCTWORK 3 FEET UPSTREAM AND DOWNSTREAM OF THE REHEAT COIL. PATCH SPLINE CEILING AND GYPSUM WALL BOARD CEILING ABOVE SPLINE CEILING TO MATCH.



1 / M-211 PLAZA NORTH PLAN

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

NORTH

KEY PLAN

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REVISIONS

No.	Date	By	Description

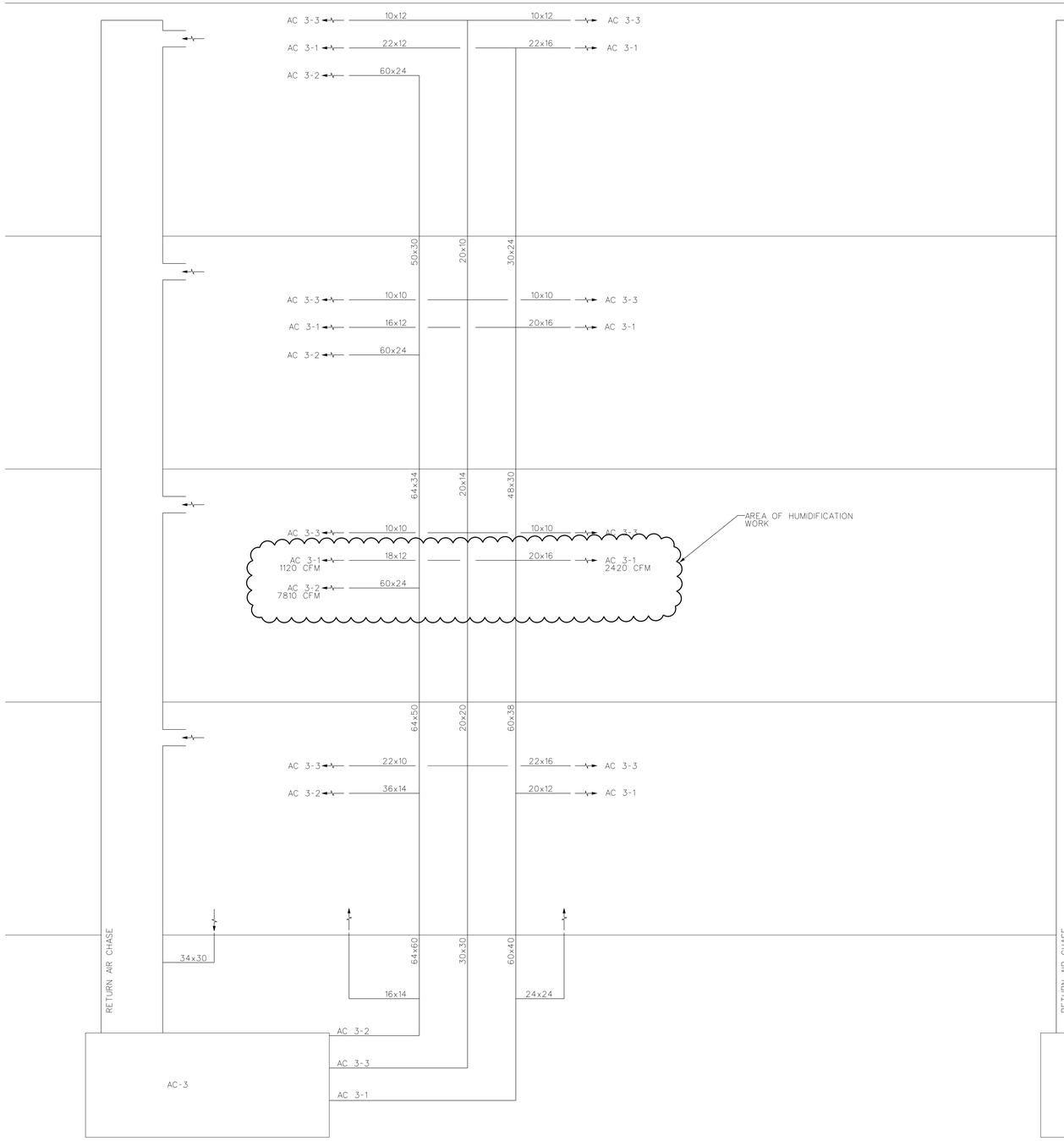
DRAWING TITLE

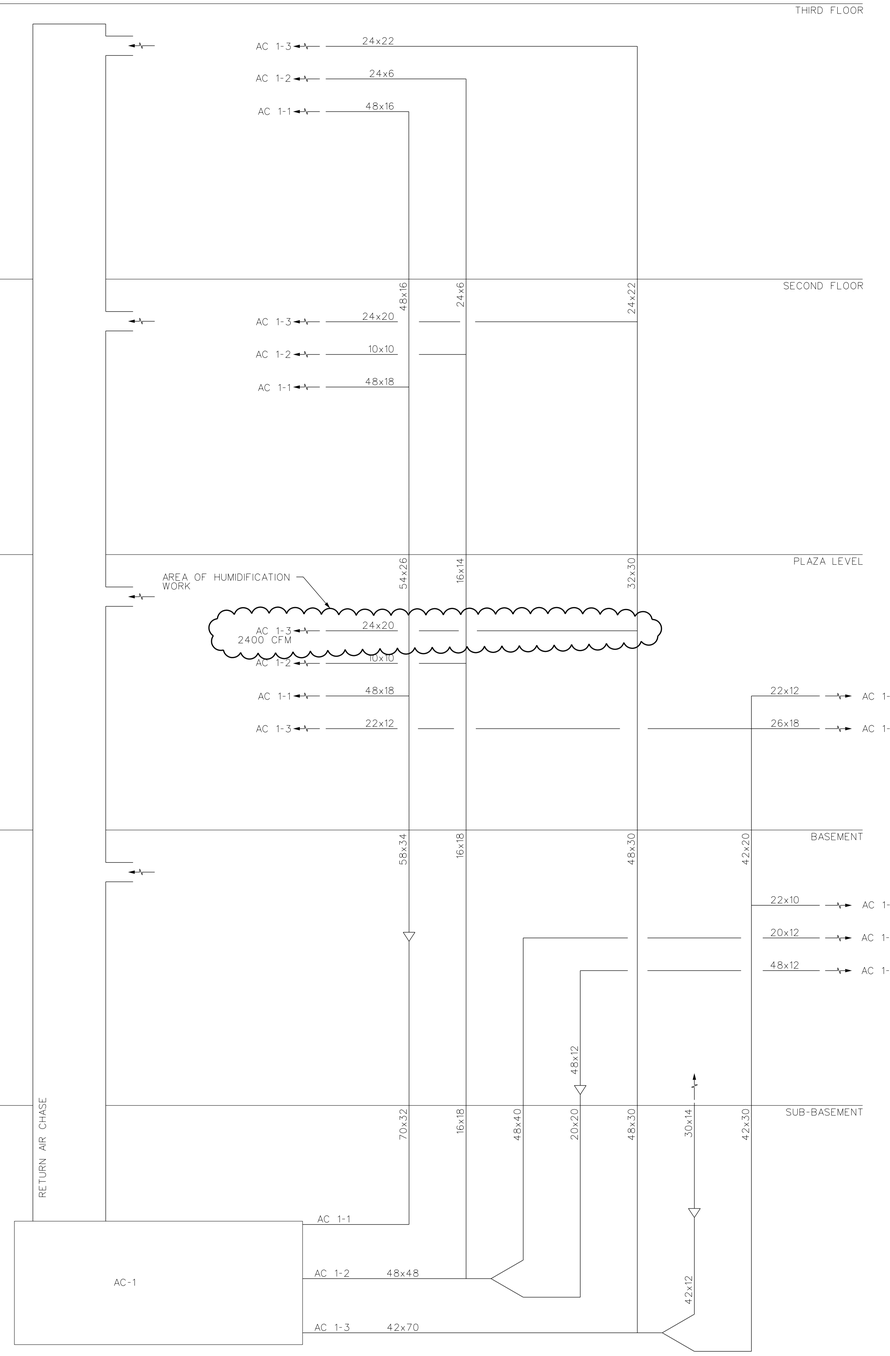
PLAZA
NORTH PLAN

DRAWING NO. M-211

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16





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LICENSED PROFESSIONAL ENGINEER
062572-1

REVISIONS

No.	Date	By	Description

DRAWING TITLE

AIR FLOW
RISER DIAGRAMS

DRAWING NO.
M-301

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16

GENERAL NOTES:

A. DAMPER DIMENSIONS TO BE VERIFIED BY MANUFACTURER PRIOR TO PURCHASE.

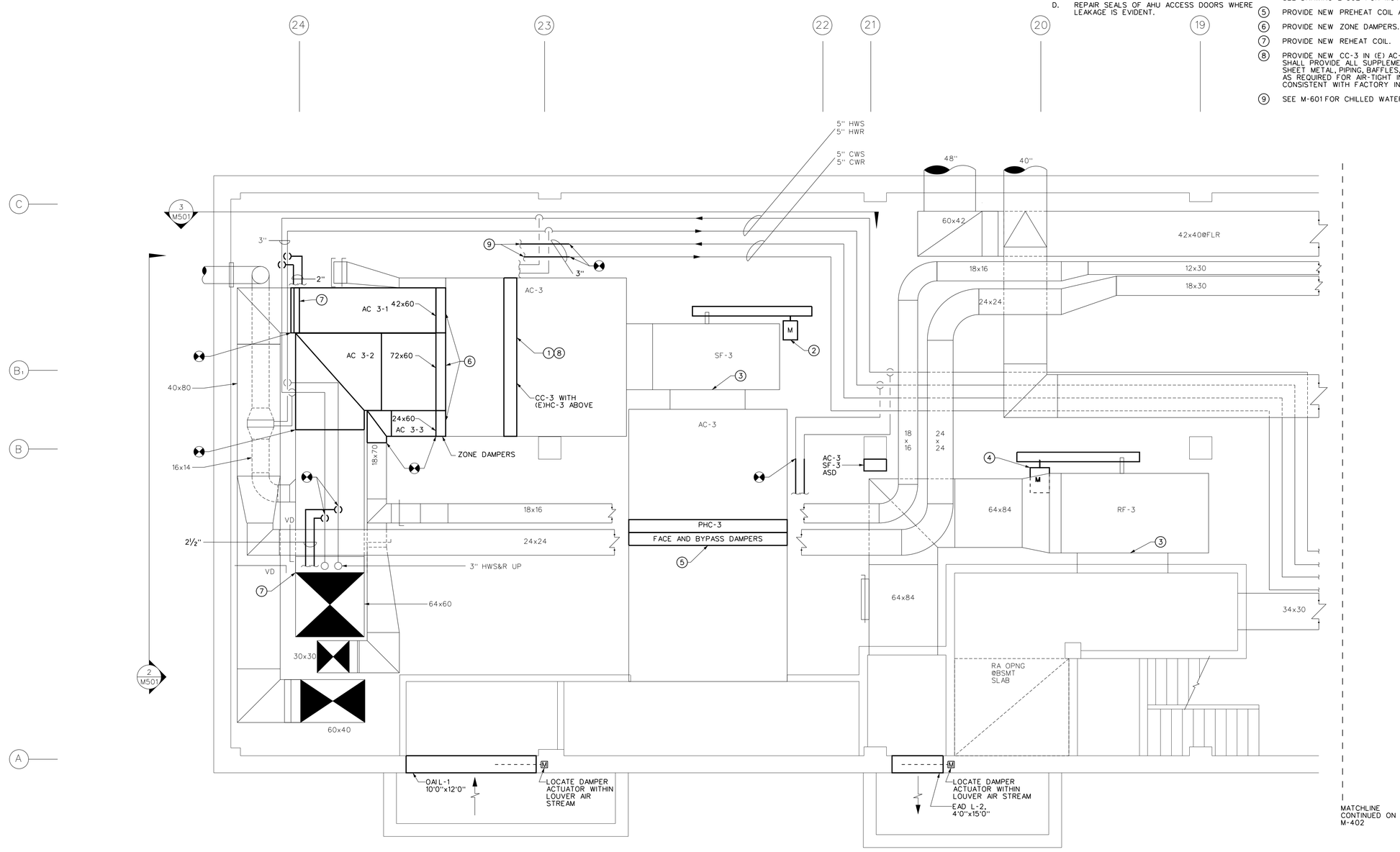
B. COOLING COIL DIMENSIONS TO BE VERIFIED BY MANUFACTURER PRIOR TO PURCHASE.

C. WHERE HOT AND CHILLED WATER PIPES PENETRATE AHU WALLS, PROVIDE KENNARD RUBBER GROMMETS TO SEAL PENETRATION.

D. REPAIR SEALS OF AHU ACCESS DOORS WHERE LEAKAGE IS EVIDENT.

DRAWING NOTES:

1. PROVIDE COOLING COIL.
2. PROVIDE AC-3 SUPPLY FAN MOTOR, SHEAVES AND BELTS. SEE DRAWING E-302 FOR MOTOR SIZES.
3. PROVIDE AIR FLOW SENSOR IN THE FAN INLET.
4. PROVIDE RF-3 FAN MOTOR, SHEAVES AND BELTS. SEE DRAWING E-302 FOR MOTOR SIZES.
5. PROVIDE NEW PREHEAT COIL AND BYPASS DAMPERS.
6. PROVIDE NEW ZONE DAMPERS.
7. PROVIDE NEW REHEAT COIL.
8. PROVIDE NEW CC-3 IN (E) AC-3, CONTRACTOR SHALL PROVIDE ALL SUPPLEMENTAL SHEET METAL, PIPING, BAFFLES, AND CASINGS AS REQUIRED FOR AIR-TIGHT INSTALLATION CONSISTENT WITH FACTORY INSTALLED QUALITY.
9. SEE M-601 FOR CHILLED WATER PIPING DETAIL.



1 M-401 ENLARGED MECHANICAL ROOM PLAN AC-3

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

NORTH

KEY PLAN

M/E ENGINEERING P.C.

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REVISIONS:

No.	Date	By	Description

DRAWING TITLE

ENLARGED MECHANICAL ROOM PLAN AC-3

DRAWING NO.		
M-401	Drawn By:	JDH
	Checked By:	MEK
	Project Mgr:	FJS
	Date:	05/01/16
	Project No:	153151

ISSUE DATE
05/01/16

GENERAL NOTES:

A. DAMPER DIMENSIONS TO BE VERIFIED BY MANUFACTURER PRIOR TO PURCHASE.

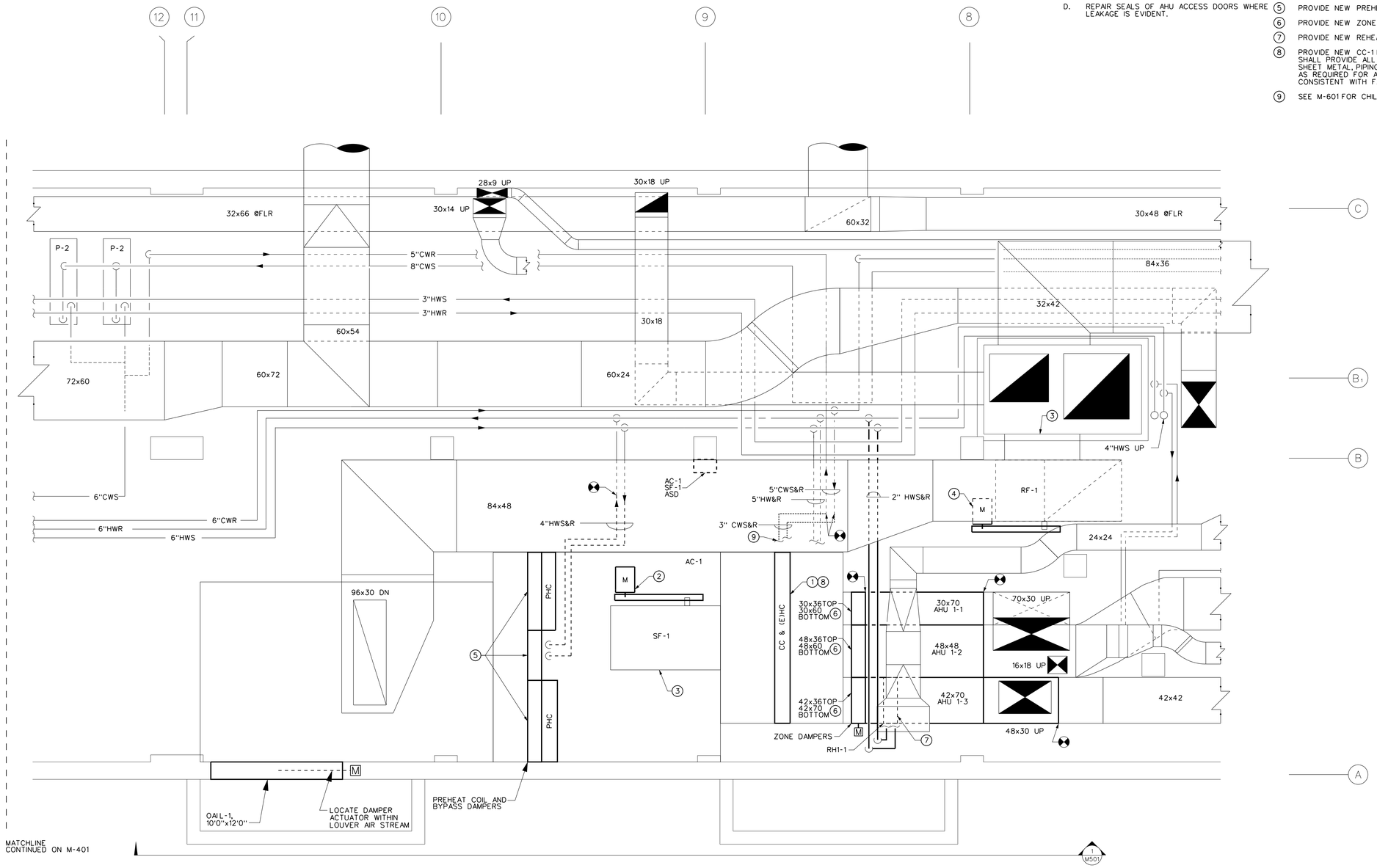
B. COOLING COIL DIMENSIONS TO BE VERIFIED BY MANUFACTURER PRIOR TO PURCHASE.

C. WHERE HOT AND CHILLED WATER PIPES PENETRATE AHU WALLS, PROVIDE KENNARD RUBBER GROMMETS TO SEAL PENETRATION.

D. REPAIR SEALS OF AHU ACCESS DOORS WHERE LEAKAGE IS EVIDENT.

DRAWING NOTES:

1. PROVIDE COOLING COIL.
2. PROVIDE AC-1 SUPPLY FAN MOTOR, SHEAVES AND BELTS. SEE DRAWING E-302 FOR MOTOR SIZES.
3. PROVIDE AIR FLOW SENSOR IN THE FAN INLET.
4. PROVIDE RF-1 FAN MOTOR, SHEAVES AND BELTS. SEE DRAWING E-302 FOR MOTOR SIZES.
5. PROVIDE NEW PREHEAT AND BYPASS DAMPERS.
6. PROVIDE NEW ZONE DAMPERS.
7. PROVIDE NEW REHEAT COIL.
8. PROVIDE NEW CC-1 IN (E) AC-1. CONTRACTOR SHALL PROVIDE ALL SUPPLEMENTAL SHEET METAL, PIPING, BAFFLES, AND CASINGS AS REQUIRED FOR AIR-TIGHT INSTALLATION CONSISTENT WITH FACTORY INSTALLED QUALITY.
9. SEE M-601 FOR CHILLED WATER PIPING DETAIL.



1 / M-402 ENLARGED MECHANICAL ROOM PLAN AC-1

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

NORTH

KEY PLAN

N

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062572-1
LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	Date	By	Description

DRAWING TITLE

ENLARGED MECHANICAL ROOM PLAN AC-1

DRAWING NO.		
M-402	Drawn By:	JDH
	Checked By:	MEK
	Project Mgr:	FJS
	Date:	05/01/16
	Project No:	153151

ISSUE DATE

05/01/16

GENERAL NOTES:

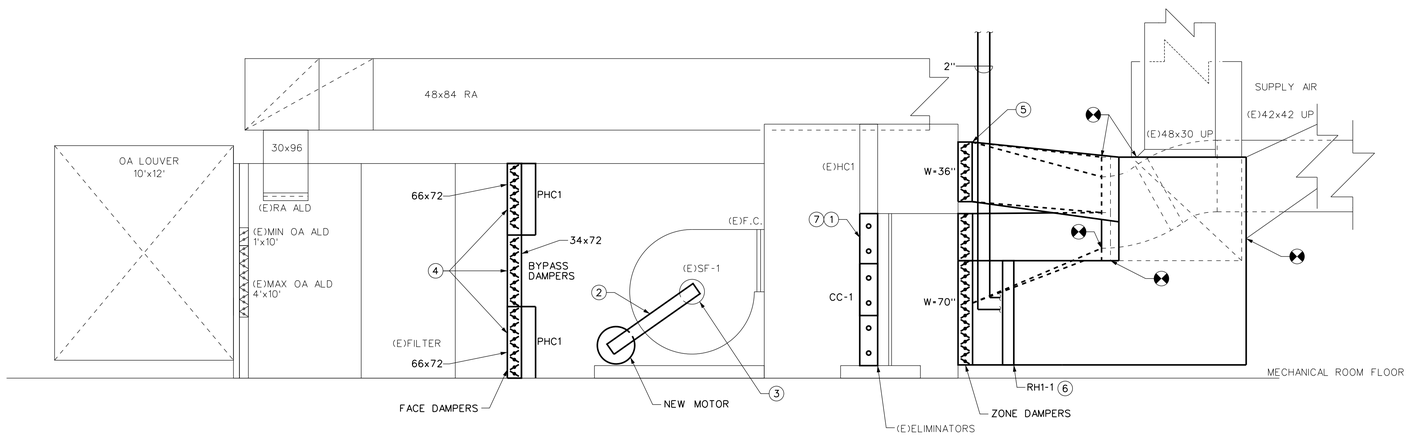
A. DAMPER DIMENSIONS TO BE VERIFIED BY MANUFACTURER PRIOR TO PURCHASE.

B. COOLING COIL DIMENSIONS TO BE VERIFIED BY MANUFACTURER PRIOR TO PURCHASE.

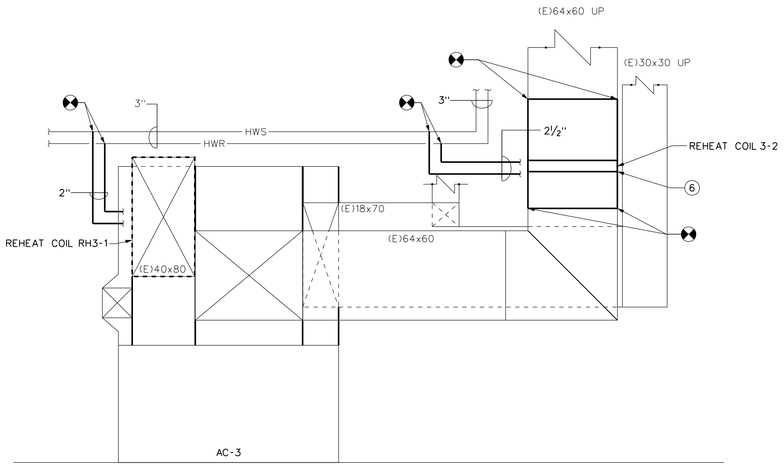
C. BAFFLES ARE TO BE PROVIDED WITH REPLACEMENT COILS AND SIZED TO ALLOW EQUAL PRESSURE DROP ACROSS HEATING AND COOLING COILS.

DRAWING NOTES:

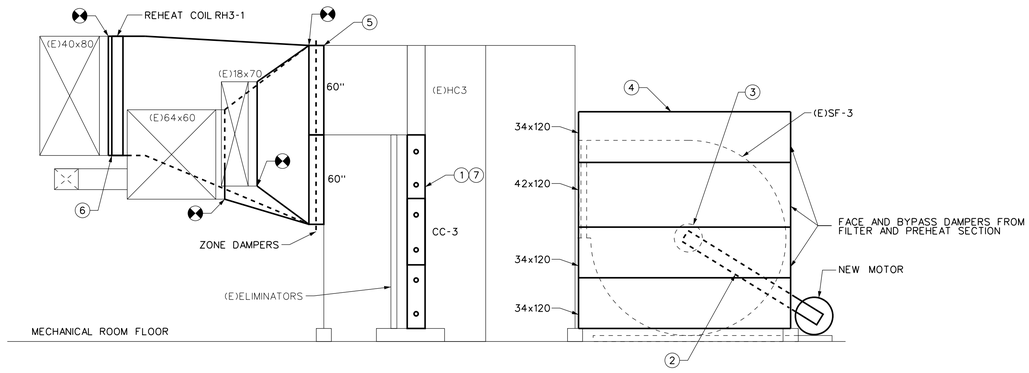
1. PROVIDE COOLING COIL.
2. PROVIDE SUPPLY FAN MOTOR, SHEAVES AND BELTS. SEE DRAWING E-302 FOR MOTOR SIZES.
3. PROVIDE AIR FLOW SENSOR IN THE FAN INLET.
4. PROVIDE NEW PREHEAT AND BYPASS DAMPERS.
5. PROVIDE NEW ZONE DAMPERS.
6. PROVIDE NEW REHEAT COIL.
7. PROVIDE NEW CHILLED WATER COIL IN (E) AC. CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPLEMENTAL SHEET METAL, PIPING, BAFFLES, AND CASINGS AS REQUIRED FOR AIR-TIGHT INSTALLATION CONSISTENT WITH FACTORY INSTALLED QUALITY.



1 / M-501 AC-1 SECTION
SCALE: 1/4" = 1'-0"



2 / M-501 AC-3 SECTION
SCALE: 1/4" = 1'-0"



3 / M-501 AC-3 SECTION
SCALE: 1/4" = 1'-0"

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M/E PROJECT #: 093174

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STATE OF NEW YORK
F. JOSEPH STRAUB, JR.
062572-1
LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	Date	By	Description

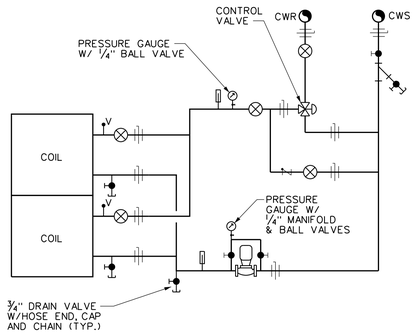
DRAWING TITLE

AHU SECTIONS

DRAWING NO. M-501

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16



DETAIL NOTES:

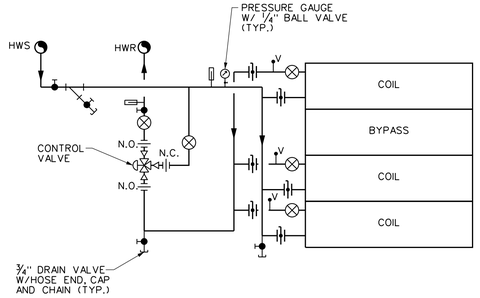
A. ARRANGE PIPING TO ALLOW REMOVAL OF COIL WITHOUT REMOVAL OF PIPING AHEAD OF UNIONS AND TO ALLOW ACCESS TO FILTERS AND ACCESS PANELS.

B. PIPE COIL FOR COUNTERFLOW ARRANGEMENT. SUPPLY CONNECTION SHALL BE ON THE DISCHARGE AIR SIDE OF THE COIL.

C. WHERE THERE IS MORE THAN ONE COIL SECTION, PROVIDE ISOLATION VALVES, AIR VENTS, DRAIN CONNECTIONS, PRESSURE GAUGES AND FLOW BALANCER FOR EACH SECTION. PIPE SIZE TO EACH COIL SECTION SHALL MATCH THE COIL CONNECTION SIZE.

1 / M-601 — AHU COOLING COIL PIPING DETAIL

SCALE: NONE — 3-WAY WITH PUMP



DETAIL NOTES:

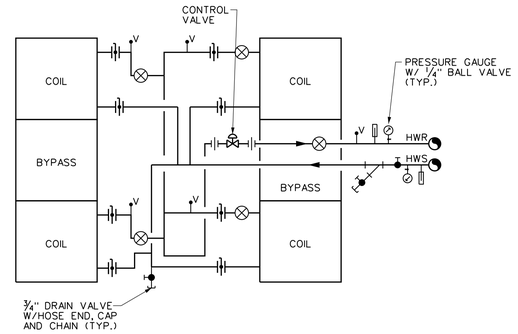
A. ARRANGE PIPING TO ALLOW REMOVAL OF COIL WITHOUT REMOVAL OF PIPING AHEAD OF UNIONS AND TO ALLOW ACCESS TO FILTERS AND ACCESS PANELS.

B. PIPE COIL FOR COUNTERFLOW ARRANGEMENT. SUPPLY CONNECTION SHALL BE ON THE DISCHARGE AIR SIDE OF THE COIL.

C. WHERE THERE IS MORE THAN ONE COIL SECTION, PROVIDE ISOLATION VALVES, AIR VENTS, DRAIN CONNECTIONS, PRESSURE GAUGES AND FLOW BALANCER FOR EACH SECTION. PIPE SIZE TO EACH COIL SECTION SHALL MATCH THE COIL CONNECTION SIZE.

2 / M-601 — AC-3 PRE-HEAT COIL PIPING DETAIL

SCALE: NONE — 3-WAY



DETAIL NOTES:

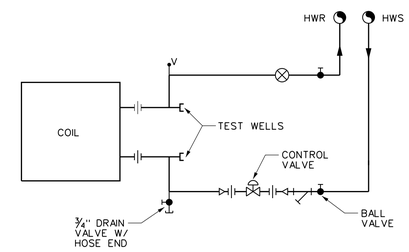
A. ARRANGE PIPING TO ALLOW REMOVAL OF COIL WITHOUT REMOVAL OF PIPING AHEAD OF UNIONS AND TO ALLOW ACCESS TO FILTERS AND ACCESS PANELS.

B. PIPE COIL FOR COUNTERFLOW ARRANGEMENT. SUPPLY CONNECTION SHALL BE ON THE DISCHARGE AIR SIDE OF THE COIL.

C. WHERE THERE IS MORE THAN ONE COIL SECTION, PROVIDE ISOLATION VALVES, AIR VENTS, DRAIN CONNECTIONS, PRESSURE GAUGES AND FLOW BALANCER FOR EACH SECTION. PIPE SIZE TO EACH COIL SECTION SHALL MATCH THE COIL CONNECTION SIZE.

3 / M-601 — AC-1 PRE-HEAT COIL PIPING DETAIL

SCALE: NONE — 2-WAY



DETAIL NOTES:

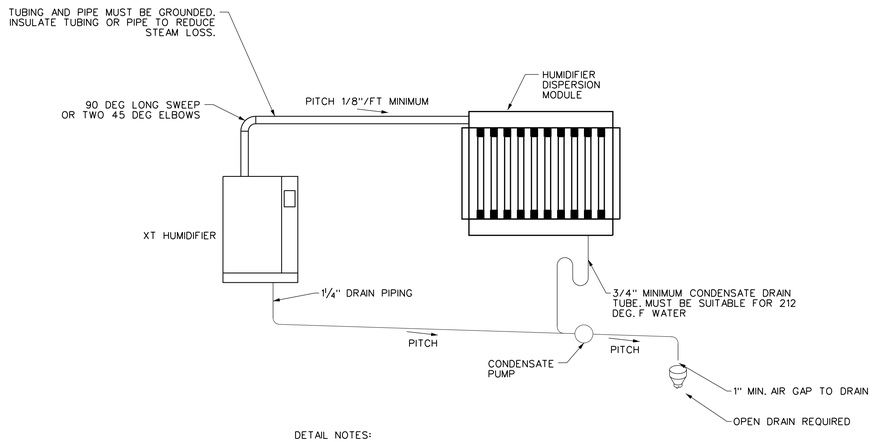
A. ARRANGE PIPING FOR REMOVAL OF COIL WITHOUT DISTURBING PIPING AHEAD OF UNIONS.

B. PROVIDE DUCT ACCESS DOOR UPSTREAM OF COIL.

C. PIPE COIL FOR COUNTERFLOW ARRANGEMENT IF COIL IS MORE THAN ONE ROW, HOT WATER SUPPLY CONNECTION SHALL BE ON THE DISCHARGE AIR SIDE OF THE COIL.

4 / M-601 — TERMINAL REHEAT COIL PIPING DETAIL

SCALE: NONE — HOT WATER



DETAIL NOTES:

A. PROVIDE MULTIPLE CONTROL HEADS AND MANIFOLDS WHERE CALLED FOR ON EQUIPMENT SCHEDULE.

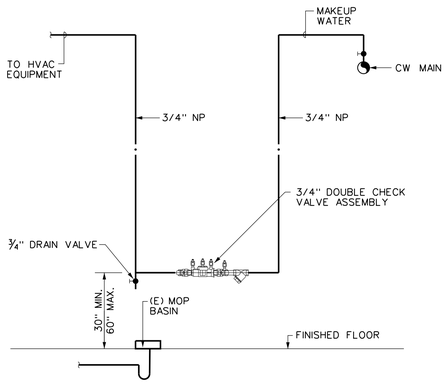
B. INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

C. MANIFOLD STEAM TO DISCHARGE AGAINST AIR STREAM.

D.

5 / M-601 — STEAM HUMIDIFIER DETAIL

SCALE: NONE



DETAIL NOTES:

A. BACKFLOW PREVENTER SHALL BE LOCATED UPSTREAM OF ALL CONNECTIONS TO HVAC EQUIPMENT.

B. PROVIDE PROPER SUPPORTS FOR BACKFLOW PREVENTER & PIPING.

C. PROVIDE 8" CLEARANCE BEHIND BACKFLOW PREVENTER, 12" ABOVE & 30" CLEARANCE IN FRONT OF DEVICE.

6 / M-601 — DOUBLE CHECK VALVE ASSEMBLY DETAIL

SCALE: NONE

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STATE OF NEW YORK — F. JOSEPH STRAUB, JR. — 062572-1 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	Date	By	Description

DRAWING TITLE

MECHANICAL DETAILS

DRAWING NO. M-601

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16

HUMIDIFIER SCHEDULE

UNIT NO.	LOCATION	SERVICE	CFM	E.A.T.		L.A.T.		STEAM PRESS PSIG	STEAM CAPACITY LBS/HR	APPROX. DUCT W x H	DISPERSION UNIT TAG	DISPERSION UNIT	DESIGN EQUIPMENT
				DB	RH (%)	DB	RH (%)						
H1-1	CORRIDOR CEILING	1037,1038,1040,1041,1042	1000	52	5	55	83	10	32.8	18x14	SDU1-1	DRI-STEEM ULTRASORB	DRI-STEEM XT-50
H3-1	STORAGE ROOM	1063,1065,1068,1069	2200	52	5	55	79	10	72.3	20x16	SDU3-1	DRI-STEEM ULTRASORB	DRI-STEEM XT-75
H3-2	STORAGE ROOM	1064,1066,1067,1070,1072	2850	52	5	55	83	10	93.6	36x18	SDU3-2	DRI-STEEM ULTRASORB	DRI-STEEM XT-100
H3-3	CORRIDOR CEILING	1061	890	52	5	55	83	10	29.2	28x12	SDU3-3	DRI-STEEM ULTRASORB	DRI-STEEM XT-30
H3-4	CORRIDOR CEILING	1044,1046,1047,1049,1050,1052	1200	52	5	55	83	10	39.4	18x14	SDU3-4	DRI-STEEM ULTRASORB	DRI-STEEM XT-50

PROVIDE ALL HUMIDIFIERS WITH FILL CUP EXTENSION KIT

PUMP SCHEDULE

PUMP NO.	LOCATION	SERVICE	GPM	HEAD FT WATER	MOTOR				STARTER	PUMP TYPE	DESIGN EQUIPMENT
					RPM	HP	VOLTS	PHASE			
P-AC-1	SUB-BASEMENT	AC-1 COOLING COIL	118	30	1760	1.5	460	3	COMBO	VERT. CC	TACO KV
P-AC-3	SUB-BASEMENT	AC-3 COOLING COIL	99	70	3500	3	460	3	COMBO	VERT. CC	TACO KV
CP-1	STORAGE ROOM	CONDENSATE	30	30	-	.5	115	1	MANUAL	CONDENSATE BOOSTER	HARTWELL SC-1A
CP-2	CORRIDOR CEILING	CONDENSATE	30	30	-	.5	115	1	MANUAL	CONDENSATE BOOSTER	HARTWELL SC-1A

COIL SCHEDULE - CHILLED WATER 48 DEG F EWT, HOT WATER 165 DEF F EWT

UNIT NO.	LOCATION	SERVICE	AIRFLOW	FACE VEL FPM	GPM	TEMP RISE DEG F	ROWS	P.D. IN FT HD	E.A.T		L.A.T.		P.D. IN W.G.	TOTAL MBH	DIMENSIONS	NO. OF COILS	DESIGN EQUIPMENT
									DB	WB	DB	WB					
CC-1	SUB-BASEMENT	COOLING COIL	23500	648	118	16	12	25	82.5	67	54	53.9	1.63	940	43x120	2	TRANE
CC-3	SUB-BASEMENT	COOLING COIL	18400	590	99	16	12	63	82.5	67	53	52.9	1.45	790	37x120	3	TRANE
RH-1-1	SUB-BASEMENT	TERMINAL REHEAT	15000	726	32.5	35	2	5.7	55	-	90	-	.4	650	42x70	1	TRANE
RH-3-1	SUB-BASEMENT	TERMINAL REHEAT	16000	740	41	35	1	4	55	-	90	-	.25	640	40x80	1	TRANE
RH-3-2	SUB-BASEMENT	TERMINAL REHEAT	20000	741	52	35	4	1.3	55	-	90	-	.47	1050	64x60	1	TRANE
PHC-1	SUB-BASEMENT	PRE-HEAT	47000	490	120	35	1	.15	2	-	37	-	6.2	1880	48x72	4	TRANE
PHC-3	SUB-BASEMENT	PRE-HEAT	54720	684	111	35	1	0.15	2	-	37	-	10.8	2140	32x120	3	TRANE

HVAC SYMBOL LIST

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING WORK TO BE REMOVED	V	VENT
	POINT OF CONNECTION	CWS	CHILLED WATER SUPPLY
		CWR	CHILLED WATER RETURN
	POINT OF DISCONNECTION	D	DRAIN
		HWS	HOT WATER SUPPLY
MBH	THOUSAND BTU/HOUR	HWR	HOT WATER RETURN
NTS	NOT TO SCALE	PC	PUMPED CONDENSATE
(E)	EXISTING	CW	DOMESTIC COLD WATER
(L)	ACOUSTIC THERMAL LINING - 1½" THICK		GLOBE VALVE
(2L)	ACOUSTIC THERMAL LINING - 2" THICK		BALL VALVE
(DBL)	DOUBLE WALL LINED DUCT		GATE VALVE
FPM	FEET PER MINUTE		CONTROL VALVE
CFM	CUBIC FEET PER MINUTE		THREE WAY CONTROL VALVE
AD	ACCESS DOOR		CHECK VALVE
ERH	ELECTRIC REHEAT COIL		BALANCING VALVE
TD	TRANSFER DUCT		BUTTERFLY VALVE
N.O.	NORMALLY OPEN		RELIEF VALVE
N.C.	NORMALLY CLOSED	PRV	PRESSURE REDUCING VALVE
EXR	EXISTING TO REMAIN		PRESSURE/TEMPERATURE TEST PLUG
EXR-S	EXISTING TO REMAIN SUPPLY DIFFUSER		SINGLE LINE PIPE OR DUCT CONTINUED
EXR-R	EXISTING TO REMAIN RETURN GRILLE		DOUBLE LINE PIPE OR ROUND DUCT CONTINUED
	FLEXIBLE DUCTWORK		DOUBLE LINE RECTANGULAR DUCT CONTINUED
AxB FO	DUCT SECTION - FLAT OVAL (FO)		AIR FLOW
12"	ROUND DUCT - IN INCHES		PIPE ANCHOR
	DUCT SECTION - SUPPLY		PIPE GUIDE
	DUCT SECTION - RETURN		EXPANSION COMPENSATOR WITH GUIDES
A / B	WIDTH A x DEPTH B		STRAINER
			PRESSURE GAUGE
SINGLE LINE / DOUBLE LINE / DUCT TAKEOFFS			THERMOMETER
	TRANSITION SQUARE TO ROUND		UNION
R	RISE IN DUCT - IN DIRECTION OF AIRFLOW	!V	AIR VENT
D	DROP IN DUCT - IN DIRECTION OF AIRFLOW		DIRECTION OF FLOW
DN 24x12 UP	SUPPLY DUCT TURNING UP OR DOWN		REDUCER
DN 24x12 UP	RETURN DUCT TURNING UP OR DOWN		CAP OR PLUG
24x12 14x8	SUPPLY/RETURN RECTANGULAR MAIN RECTANGULAR BRANCH (6" BOOT TAP)		ELBOW DOWN
24x12 14"	SUPPLY/RETURN RECTANGULAR MAIN ROUND BRANCH (6" BOOT TAP)		ELBOW UP
18" 14"	SUPPLY/RETURN ROUND MAIN ROUND BRANCH (CONICAL TEE)		BOTTOM TAP
18" 14"	SUPPLY/RETURN ROUND MAIN ROUND BRANCH (LATERAL)	FD	FIRE DAMPER
	MITERED ELBOW WITH TURNING VANES	SD	SMOKE DAMPER
	SUPPLY DIFFUSER, REGISTER OR GRILLE	FC	FLEX CONNECTOR - DUCTWORK
	RETURN OR EXHAUST REGISTER OR GRILLE	M	MOTORIZED DAMPER
A / B / C	REGISTER, GRILLE OR DIFFUSER TAG A - TYPE B - NECK SIZE C - CFM		VOLUME DAMPER
H	HUMIDISTAT		FLEXIBLE CONNECTOR - PIPING
S	TEMPERATURE SENSOR		DRAIN VALVE WITH HOSE CONNECTION, CAP AND CHAIN
T	THERMOSTAT		STATIC PRESSURE SENSOR
HL	HIGH-LIMIT HUMIDISTAT		DOMESTIC COLD WATER
			(E) DOMESTIC COLD WATER
			DOUBLE CHECK VALVE ASSEMBLY
		NP	NON POTABLE WATER

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REVISIONS

No.	Date	By	Description

DRAWING TITLE

SCHEDULES AND SYMBOLS LIST

DRAWING NO. M-701

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16

CONTROLS SCHEMATIC SYMBOL LIST

SYMBOL	DESCRIPTION
↑DI	DIGITAL INPUT (GENERAL)
↓DO	DIGITAL OUTPUT (GENERAL)
↑AI	ANALOG INPUT (GENERAL)
↓AO	ANALOG OUTPUT (GENERAL)
	THERMOWELL
A	ALARM
E	ELECTRIC ACTUATOR
FZ	FREEZE-STAT
H	HUMIDIFIER
R	RELAY
S	STATUS
I	DDC INTERFACE POINT
M	FLOW METER
BTU	BTU ENERGY METER
	AIR FLOW MEASURING STATION
	AVERAGING SENSOR
H	HUMIDITY SENSOR (DUCT MOUNTED)
T	TEMPERATURE SENSOR (DUCT OR PIPE MOUNTED)
CO2	CARBON DIOXIDE SENSOR (DUCT MOUNTED)
S	SPACE TEMPERATURE SENSOR (WALL MOUNTED)
H	SPACE HUMIDITY SENSOR (WALL MOUNTED)
CO2	CARBON DIOXIDE ROOM SENSOR (WALL MOUNTED)
CO	CARBON MONOXIDE ROOM SENSOR (WALL MOUNTED)
T	PNEUMATIC THERMOSTAT
T E	LINE VOLTAGE THERMOSTAT
OS	OCCUPANCY SENSOR
M	MOISTURE SENSOR
	PROBE SENSOR
FS	FLOW SENSOR/SWITCH
ES	END SWITCH
S M	MANUAL SWITCH
ΔP	DIFFERENTIAL STATIC PRESSURE SWITCH
E/P	ELECTRIC/PNEUMATIC SWITCH OR RELAY
P/E	PNEUMATIC/ELECTRIC SWITCH OR RELAY
ΔP	DIFFERENTIAL STATIC PRESSURE SENSOR
F	FLOW TRANSMITTER TRANSDUCER
P	PRESSURE SENSOR

SYMBOL	DESCRIPTION
DSD	DUCT SMOKE DETECTOR
CT	CURRENT TRANSDUCER
I/P	ELECTRIC/PNEUMATIC TRANSDUCER
P/E	ELECTRONIC/ELECTRIC TRANSDUCER
	ELECTRICAL INTERFACE
S S	START/STOP
O C	OPEN/CLOSE
E D	ENABLE/DISABLE
	HARD WIRE INTERFACE
	PNEUMATIC CONTROL VALVE (3-WAY)
	PNEUMATIC CONTROL VALVE (2-WAY)
E	ELECTRIC/ELECTRONIC CONTROL VALVE (3-WAY)
E	ELECTRIC/ELECTRONIC CONTROL VALVE (2-WAY)
S	SOLENOID VALVE
	THERMOSTATIC EXPANSION VALVE
	AUTOMATIC AIR DAMPER (PARALLEL BLADE)
	AUTOMATIC AIR DAMPER (OPPOSED BLADE)
	PNEUMATIC ACTUATOR
M	MAIN TEMPERATURE CONTROL AIR SOURCE
EA	EXHAUST AIR
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SF	SUPPLY FAN
RF	RETURN AIR FAN
EF	EXHAUST AIR FAN
	FILTER
	BASE MOUNTED PUMP
	IN LINE PUMP
VSD	VARIABLE SPEED DRIVE
C C	COOLING COIL
H C	HEATING COIL
HR C	HEAT RECOVERY COIL

POINT NAME	HARDWARE POINTS AI	AO	DI	DO	SOFTWARE POINTS AV	DV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
SUPPLY FAN STATIC PRESSURE	X							X		X
COOLING SUPPLY AIR TEMP	X							X		X
HEATING SUPPLY AIR TEMP	X							X		X
SUPPLY AIRFLOW	X							X	X	X
RETURN AIRFLOW	X							X	X	X
PREFILTER DIFFERENTIAL PRESSURE	X							X		
MIXED AIR TEMP	X							X		X
RETURN AIR HUMIDITY	X							X		X
RETURN AIR TEMP	X							X		X
OUTSIDE AIR HUMIDITY	X							X		X
OUTSIDE AIR TEMP	X							X		X
SUPPLY AIR STATIC PRESSURE	X							X	X	X
BYPASS DAMPER		X						X		X
PREHEATING VALVE		X						X		X
COOLING VALVE		X						X		X
HEATING VALVE		X						X		X
MIXED AIR DAMPERS		X						X		X
SUPPLY FAN ASD SPEED		X						X		X
RETURN FAN ASD SPEED		X						X		X
FREEZESTAT			X					X	X	X
SUPPLY AIR SMOKE DETECTOR			X					X	X	X
COOLING COIL PUMP STATUS			X					X		X
SUPPLY FAN ASD FAULT			X							X
SUPPLY FAN STATUS			X					X		X
RETURN FAN ASD FAULT			X							X
RETURN FAN STATUS			X					X		X
SUPPLY FAN START/STOP				X				X		X
RETURN FAN START/STOP				X				X		X
COOLING COIL PUMP START/STOP				X				X		X
PREHEATING MIXED AIR TEMP SETPOINT					X			X		X
OUTSIDE AIRFLOW					X			X		X
DEHUMIDIFICATION SETPOINT					X			X		X
UNOCCUPIED FAN SPEED					X			X		X
COOLING SUPPLY AIR TEMP SETPOINT					X			X		X
HEATING SUPPLY AIR TEMP SETPOINT					X			X		X
ECONOMIZER MIXED AIR TEMP SETPOINT					X			X		X
SUPPLY FAN STATIC PRESSURE SETPOINT					X			X		X
OUTSIDE AIRFLOW SETPOINT					X			X		X
EMERGENCY SHUTDOWN						X		X	X	X
SCHEDULE							X			
SUPPLY FAN FAILURE									X	
SUPPLY FAN IN HAND									X	
SUPPLY FAN RUNTIME EXCEEDED									X	
RETURN FAN FAILURE									X	
RETURN FAN IN HAND									X	
RETURN FAN RUNTIME EXCEEDED									X	
HIGH COOLING SUPPLY AIR TEMP									X	
HIGH HEATING SUPPLY AIR TEMP									X	
LOW HEATING SUPPLY AIR TEMP									X	
COOLING COIL PUMP FAILURE									X	
COOLING COIL PUMP IN HAND									X	
COOLING COIL PUMP RUNTIME EXCEEDED									X	
PREFILTER CHANGE REQUIRED									X	X
HIGH MIXED AIR TEMP									X	
LOW MIXED AIR TEMP									X	
LOW RETURN AIR HUMIDITY									X	
HIGH RETURN AIR HUMIDITY									X	
HIGH SUPPLY FAN STATIC PRESSURE									X	
LOW SUPPLY FAN STATIC PRESSURE									X	
HIGH OA CFM									X	
LOW OA CFM									X	
LOW RETURN AIR TEMP									X	
HIGH RETURN AIR TEMP									X	

RUN CONDITIONS - SCHEDULED:
THE UNIT SHALL RUN BASED UPON AN OPERATOR ADJUSTABLE SCHEDULE, DURING USER-DEFINABLE UNOCCUPIED PERIODS, THE SUPPLY FAN ALSO SHALL MODULATE TO 60% (ADJ.) OF THE LAST KNOWN OCCUPIED FAN SPEED.

EMERGENCY SHUTDOWN:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING AN EMERGENCY SHUTDOWN SIGNAL.

FREEZE PROTECTION:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A FREEZESTAT STATUS.

RETURN AIR SMOKE DETECTION:
THE UNIT SHALL SHUT DOWN AND GENERATE AN ALARM UPON RECEIVING A RETURN AIR SMOKE DETECTOR STATUS FROM FIRE ALARM PANEL.

SUPPLY FAN:
THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
-SUPPLY FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
-SUPPLY FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

SUPPLY AIR DUCT STATIC PRESSURE CONTROL:
THE CONTROLLER SHALL MEASURE DUCT STATIC PRESSURE AND SHALL MODULATE THE SUPPLY FAN ASD SPEED TO MAINTAIN A DUCT STATIC PRESSURE SETPOINT OF 2.5 IN. H2O (ADJ.). THE SUPPLY FAN ASD SPEED SHALL NOT DROP BELOW 30% (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH SUPPLY AIR STATIC PRESSURE: IF THE SUPPLY AIR STATIC PRESSURE IS 25% (ADJ.) GREATER THAN SETPOINT.
-LOW SUPPLY AIR STATIC PRESSURE: IF THE SUPPLY AIR STATIC PRESSURE IS 25% (ADJ.) LESS THAN SETPOINT.

RETURN FAN:
THE RETURN FAN SHALL RUN WHENEVER THE SUPPLY FAN RUNS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-RETURN FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
-RETURN FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
-RETURN FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

RETURN AIRFLOW:
THE RETURN FAN ASD SHALL MODULATE IN UNISON WITH THE SUPPLY FAN ASD. RETURN AIRFLOW SETPOINT SHALL BE 100% (ADJ.) OF THE SUPPLY AIRFLOW MINUS DESIGN MISC. EXHAUST AIRFLOW. THE RETURN FAN ASD SPEED SHALL NOT DROP BELOW 20% (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH RETURN AIRFLOW: IF THE RETURN AIRFLOW IS AN ADJUSTABLE PERCENTAGE GREATER THAN SETPOINT.
-LOW RETURN AIRFLOW: IF THE RETURN AIRFLOW IS AN ADJUSTABLE PERCENTAGE LESS THAN SETPOINT.

PREHEATING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE MIXED AIR TEMPERATURE AND MODULATE THE PREHEATING COIL AND FACE/BYPASS DAMPERS VALVE TO MAINTAIN A SETPOINT 4°F (ADJ.) LESS THAN THE COOLING SUPPLY AIR TEMPERATURE SETPOINT.

THE PREHEATING SHALL BE ENABLED WHENEVER:
-OUTSIDE AIR TEMPERATURE IS LESS THAN 55°F (ADJ.).
-AND THE ECONOMIZER (IF PRESENT) IS DISABLED.
-AND THE SUPPLY FAN STATUS IS ON.

THE PREHEATING COIL VALVE SHALL OPEN FOR FREEZE PROTECTION WHENEVER:
-MIXED AIR TEMPERATURE DROPS FROM 40°F TO 35°F (ADJ.).
-OR THE FREEZESTAT (IF PRESENT) IS ON.

THE PREHEATING COIL VALVE SHALL OPEN FULLY, AND THE FACE AND BYPASS DAMPERS SHALL MODULATE FOR CAPACITY CONTROL WHENEVER OUTSIDE AIR TEMPERATURE FALLS BELOW 35°F (ADJ.).

COLD DECK - COOLING SUPPLY AIR TEMPERATURE SETPOINT - FIXED:
THE UNIT SHALL MAINTAIN A FIXED COOLING SUPPLY AIR TEMPERATURE SETPOINT OF 55°F (ADJ.).

COLD DECK - COOLING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE COOLING SUPPLY AIR TEMPERATURE AND AND MODULATE THE COOLING COIL VALVE TO MAINTAIN ITS COOLING SETPOINT.

THE COOLING SHALL BE ENABLED WHENEVER:
-OUTSIDE AIR TEMPERATURE IS GREATER THAN 60°F (ADJ.).
-AND THE ECONOMIZER (IF PRESENT) IS DISABLED OR FULLY OPEN.
-AND THE SUPPLY FAN STATUS IS ON.

THE COOLING COIL VALVE SHALL OPEN TO 50% (ADJ.) WHENEVER THE FREEZESTAT (IF PRESENT) IS ON.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH COOLING SUPPLY AIR TEMP: IF THE COOLING SUPPLY AIR TEMPERATURE IS 5°F (ADJ.) GREATER THAN SETPOINT.

HOT DECK - HEATING SUPPLY AIR TEMPERATURE SETPOINT - OUTSIDE AIR RESET:
THE HEATING SUPPLY AIR TEMPERATURE SETPOINT SHALL RESET BASED ON OUTSIDE AIR TEMPERATURE AS OUTSIDE AIR TEMPERATURE DROPS FROM 55°F (ADJ.) TO 30°F (ADJ.) THE HEATING SUPPLY AIR TEMPERATURE SETPOINT SHALL RESET UPWARDS FROM 70°F (ADJ.) TO 110°F (ADJ.).

HOT DECK - HEATING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE HEATING SUPPLY AIR TEMPERATURE AND MODULATE THE HEATING COIL VALVE TO MAINTAIN ITS SETPOINT.

THE HEATING SHALL BE ENABLED WHENEVER:
-OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
-AND THE SUPPLY FAN STATUS IS ON.
THE HEATING COIL VALVE SHALL OPEN WHENEVER:
-HEATING SUPPLY AIR TEMPERATURE DROPS FROM 40°F TO 35°F (ADJ.).
-OR THE FREEZESTAT (IF PRESENT) IS ON.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH HEATING SUPPLY AIR TEMP: IF THE HEATING SUPPLY AIR TEMPERATURE IS GREATER THAN 120°F (ADJ.).
-LOW HEATING SUPPLY AIR TEMP: IF THE HEATING SUPPLY AIR TEMPERATURE IS 5°F (ADJ.) LESS THAN SETPOINT.

COOLING COIL PUMP:
THE RECIRCULATION PUMP SHALL RUN WHENEVER:
-THE COOLING COIL VALVE IS ENABLED.
-OR THE FREEZESTAT (IF PRESENT) IS ON.
ALARMS SHALL BE PROVIDED AS FOLLOWS:
-COOLING COIL PUMP FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
-COOLING COIL PUMP IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
-COOLING COIL PUMP RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.

ECONOMIZER:
THE CONTROLLER SHALL MEASURE THE MIXED AIR TEMPERATURE AND MODULATE THE ECONOMIZER DAMPERS IN SEQUENCE TO MAINTAIN A SETPOINT 2°F LESS THAN THE COOLING SUPPLY AIR TEMPERATURE SETPOINT. THE OUTSIDE AIR DAMPERS SHALL MAINTAIN A MINIMUM ADJUSTABLE POSITION OF 20% (ADJ.) OPEN WHENEVER OCCUPIED.

THE ECONOMIZER SHALL BE ENABLED WHENEVER:
-OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJ.).
-AND THE OUTSIDE AIR ENTHALPY IS LESS THAN 22BTU/LB (ADJ.)
-AND THE OUTSIDE AIR TEMPERATURE IS LESS THAN THE RETURN AIR TEMPERATURE.
-AND THE OUTSIDE AIR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY.
-AND THE SUPPLY FAN STATUS IS ON.

THE ECONOMIZER SHALL CLOSE WHENEVER:
-MIXED AIR TEMPERATURE DROPS FROM 40°F TO 35°F (ADJ.)
-OR ON LOSS OF SUPPLY FAN STATUS.
-OR THE FREEZESTAT (IF PRESENT) IS ON.

THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL CLOSE AND THE RETURN AIR DAMPER SHALL OPEN WHEN THE UNIT IS OFF. IF OPTIMAL START UP IS AVAILABLE THE MIXED AIR DAMPER SHALL OPERATE AS DESCRIBED IN THE OCCUPIED MODE EXCEPT THAT THE OUTSIDE AIR DAMPER SHALL MODULATE TO FULLY CLOSED.

MINIMUM OUTSIDE AIR VENTILATION:
WHEN IN THE OCCUPIED MODE, THE CONTROLLER SHALL DETERMINE THE OUTSIDE AIRFLOW (FROM SUBTRACTING MEASURED SUPPLY FROM MEASURED RETURN AIRFLOW) AND MODULATE THE OUTSIDE AIR DAMPERS TO MAINTAIN THE PROPER MINIMUM OUTSIDE AIR VENTILATION, OVERRIDING NORMAL DAMPER CONTROL ON DROPPING OUTSIDE AIRFLOW, THE CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPERS OPEN TO MAINTAIN THE OUTSIDE AIRFLOW SETPOINT (ADJ.).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-LOW OUTSIDE AIR CFM: WHEN OA FALLS TO 10% (ADJ.) BELOW SETPOINT.
-HIGH OUTSIDE AIR CFM: WHEN OA CLIMBS TO 10% (ADJ.) ABOVE SETPOINT.

DEHUMIDIFICATION:
THE CONTROLLER SHALL MEASURE THE RETURN AIR HUMIDITY AND OVERRIDE THE COOLING SEQUENCE TO MAINTAIN RETURN AIR HUMIDITY AT OR BELOW 60% RH (ADJ.). DEHUMIDIFICATION SHALL BE ENABLED WHENEVER THE SUPPLY FAN STATUS IS ON.

PREFILTER DIFFERENTIAL PRESSURE MONITOR:
THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE PREFILTER.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-PREFILTER CHANGE REQUIRED: PREFILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

MIXED AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE MIXED AIR TEMPERATURE AND USE AS REQUIRED FOR ECONOMIZER CONTROL (IF PRESENT) AND PREHEATING CONTROL (IF PRESENT).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH MIXED AIR TEMP: IF THE MIXED AIR TEMPERATURE IS GREATER THAN 90°F (ADJ.).
-LOW MIXED AIR TEMP: IF THE MIXED AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

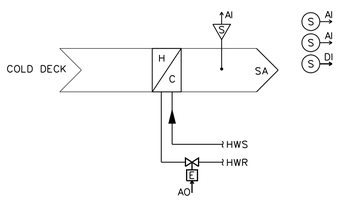
RETURN AIR HUMIDITY:
THE CONTROLLER SHALL MONITOR THE RETURN AIR HUMIDITY AND USE AS REQUIRED FOR ECONOMIZER CONTROL (IF PRESENT).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH RETURN AIR HUMIDITY: IF THE RETURN AIR HUMIDITY IS GREATER THAN 70% (ADJ.).
-LOW RETURN AIR HUMIDITY: IF THE RETURN AIR HUMIDITY IS LESS THAN 35% (ADJ.).

RETURN AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE RETURN AIR TEMPERATURE AND USE AS REQUIRED FOR ECONOMIZER CONTROL (IF PRESENT).

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS GREATER THAN 90°F (ADJ.).
-LOW RETURN AIR TEMP: IF THE RETURN AIR TEMPERATURE IS LESS THAN 45°F (ADJ.).

POINT NAME	HARDWARE POINTS AI	AO	DI	DO	SOFTWARE POINTS AV	DV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
ZONE TEMP	X							X		X
ZONE SETPOINT ADJUST	X									X
DISCHARGE AIR TEMP	X							X		X
ZONE HUMIDITY	X							X		X
REHEATING VALVE		X						X		X
HEATING SETPOINT								X		X
COOLING SETPOINT								X		X
HIGH ZONE TEMP									X	
LOW ZONE TEMP									X	
HIGH DISCHARGE AIR TEMP									X	
LOW DISCHARGE AIR TEMP									X	



RUN CONDITIONS - CONTINUOUS:
THE UNIT SHALL RUN CONTINUOUSLY AND SHALL MAINTAIN:
-A 74°F (ADJ.) COOLING SETPOINT.
-A 70°F (ADJ.) HEATING SETPOINT.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).
-LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

ZONE SETPOINT ADJUST:
THE OCCUPANT SHALL BE ABLE TO ADJUST THE ZONE TEMPERATURE HEATING AND COOLING SETPOINTS AT THE ZONE SENSOR.

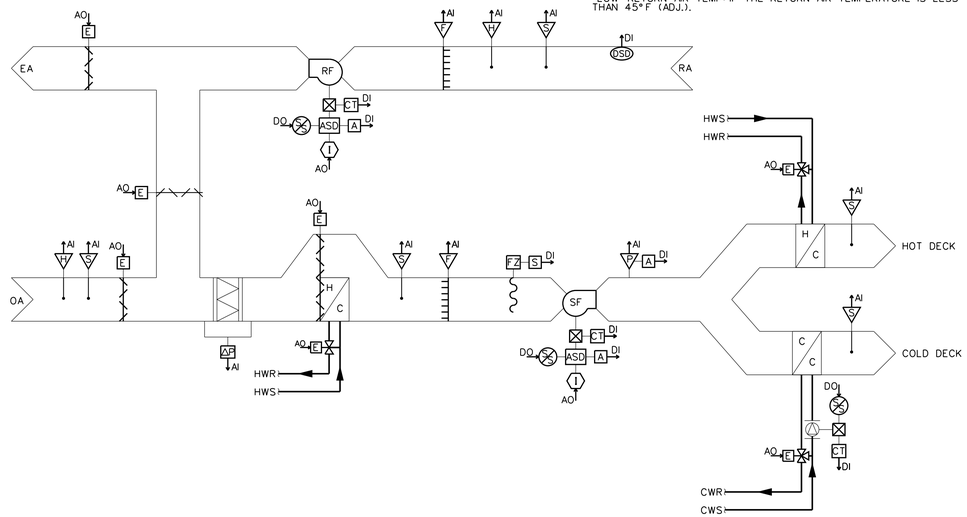
REHEATING COIL VALVE:
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND MODULATE THE REHEATING COIL VALVE TO MAINTAIN ITS SETPOINT. THE REHEATING SHALL BE ENABLED WHENEVER:
-OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F(ADJ.).
-AND THE ZONE TEMPERATURE IS BELOW SETPOINT.
-AND SUFFICIENT AIRFLOW IS PROVIDED.

DISCHARGE AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE DISCHARGE AIR TEMPERATURE.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN 120°F (ADJ.).
-LOW DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS LESS THAN 40°F (ADJ.).

ZONE HUMIDITY:
THE CONTROLLER SHALL MONITOR THE ZONE HUMIDITY, AND SHALL DISABLE THE REHEATING COIL VALVE WHEN ZONE HUMIDITY IS SATISFIED.

1 M-801 REHEAT COIL SEQUENCE, SCHEMATIC, AND POINTS LIST (TYP. 3)
SCALE: NTS



2 M-801 AC-1 & AC-3 CONTROLS SEQUENCE, SCHEMATIC, AND POINTS LIST
SCALE: NTS

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REVISIONS

No.	Date	By	Description

DRAWING TITLE
CONTROLS SYMBOLS LIST, SCHEMATICS, SEQUENCES AND POINTS LIST

DRAWING NO.
M-801

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16

POINT NAME	HARDWARE POINTS AI	AO	DI	DO	SOFTWARE POINTS AV	DV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
ZONE TEMP	X							X		X
ZONE SETPOINT ADJUST	X									X
DISCHARGE AIR TEMP	X							X		X
ZONE HUMIDITY-DUCT MOUNTED	X							X		X
ZONE DAMPER		X								
COLD DECK DAMPER POSITION					X			X		X
HOT DECK DAMPER POSITION					X			X		X
HEATING SETPOINT								X		X
COOLING SETPOINT								X		X
HIGH ZONE TEMP									X	
LOW ZONE TEMP									X	
HIGH DISCHARGE AIR TEMP									X	
LOW DISCHARGE AIR TEMP									X	

RUN CONDITIONS - CONTINUOUS:
THE UNIT SHALL RUN CONTINUOUSLY AND SHALL MAINTAIN:
-A 74°F (ADJ.) COOLING SETPOINT
-A 70°F (ADJ.) HEATING SETPOINT.

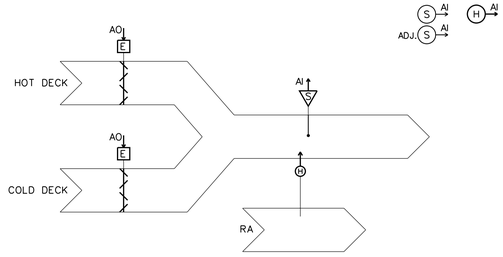
ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).
-LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

ZONE SETPOINT ADJUST:
THE OCCUPANT SHALL BE ABLE TO ADJUST THE ZONE TEMPERATURE HEATING AND COOLING SETPOINTS AT THE ZONE SENSOR. THE SETPOINT SHALL BE ADJUSTED TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. THE CONTROLLER SHALL AVERAGE THE ZONE SPACE TEMPERATURE.

ZONE DAMPER CONTROL:
THE COOLING AND HEATING DECK ZONE DAMPERS SHALL MODULATE IN SEQUENCE TO MAINTAIN ZONE TEMPERATURE COOLING AND HEATING SETPOINTS.

DISCHARGE AIR TEMPERATURE:
THE CONTROLLER SHALL MONITOR THE DISCHARGE AIR TEMPERATURE. ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS GREATER THAN 120°F (ADJ.).
-LOW DISCHARGE AIR TEMP: IF THE DISCHARGE AIR TEMPERATURE IS LESS THAN 40°F (ADJ.).

ZONE HUMIDITY:
THE CONTROLLER SHALL MONITOR THE ZONE HUMIDITY (IN ZONES WITH REHEAT), AND SHALL OVERRIDE THE MULTIZONE DAMPER TO FULL COOLING POSITION WHENEVER ZONE HUMIDITY IS ABOVE SETPOINT.



1 / M-802 MULTIZONE DAMPER SEQUENCE, SCHEMATIC, AND POINTS LIST (TYP.6)
SCALE: NTS

POINT NAME	HARDWARE POINTS AI	AO	DI	DO	SOFTWARE POINTS AV	DV	SCHED	TREND	ALARM	SHOW ON GRAPHIC
HUMIDIFIER ENABLE / DISABLE				X				X		X
RETURN DUCT RELATIVE HUMIDITY	X							X		X
RETURN DUCT TEMPERATURE	X							X		X
HUMIDIFIER STATUS			X					X		X
DDC INTERFACE: ALARM						X			X	X
DDC INTERFACE: SPACE %RH SETPOINT					X			X		X
DDC INTERFACE: RETURN DUCT %RH					X			X	X	X

RUN CONDITIONS - CONTINUOUS:
THE UNIT SHALL BE INTERLOCKED WITH ASSOCIATED AC FAN. THE HUMIDIFIERS ONBOARD CONTROLS SHALL RECEIVE THE SETPOINT FROM THE DDC SYSTEM AND MODULATE THE UNIT TO MAINTAIN THE SETPOINT. THE DEFAULT DDC SETPOINT SHALL BE 45% (ADJ.) RELATIVE HUMIDITY IN THE ZONE AS SENSED BY THE RETURN DUCT HUMIDITY SENSOR.

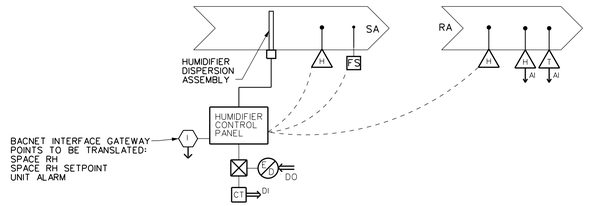
ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH ZONE RELATIVE HUMIDITY: IF ZONE RH IS GREATER THAN 60% (ADJ.) RH.
-LOW ZONE RELATIVE HUMIDITY: IF ZONE RH IS LESS THAN 30% (ADJ.) RH.

HUMIDIFIER CONTROL:
THE ONBOARD CONTROLLER SHALL MEASURE THE ZONE HUMIDITY AND MODULATE THE HUMIDIFIER TO MAINTAIN SETPOINT.

THE HUMIDIFIER SHALL TURN OFF WHENEVER:
-SUPPLY AIR HUMIDITY RISED FROM 90% (ADJ.) TO 95% (ADJ.) RH.
-ON LOSS OF AIRFLOW AS SENSED BY FLOW SWITCH.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
-HIGH SUPPLY AIR HUMIDITY: IF THE SUPPLY AIR HUMIDITY IS GREATER THAN 90% (ADJ.) RH.
-LOW SUPPLY AIR HUMIDITY: IF THE SUPPLY AIR HUMIDITY IS LESS THAN 30% (ADJ.) RH.
-UNIT FAULT: IF A FAULT CONDITION IS RECIEVED FROM THE HUMIDIFIER VIA THE DDC INTERFACE.

TRENDING:
DDC SYSTEM SHALL MONITOR AND TREND DUCT RETURN HUMIDITY AND TEMPERATURE AND SHALL TREND %RH SENSED BY THE HUMIDIFIER CONTROLLER VIA THE DDC INTERFACE. THE DDC SHALL ALARM IF THE DIFFERNCE BETWEEN THE SENSORS IS GREATER THAN 10% (ADJ).



2 / M-802 HUMIDIFIER CONTROL DIAGRAM SEQUENCE, SCHEMATIC, AND POINTS LIST
SCALE: NTS

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No.	Date	By	Description

DRAWING TITLE

CONTROLS SCHEMATICS, SEQUENCES AND POINTS LIST

DRAWING NO. M-802

Drawn By:	JDH
Checked By:	MEK
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16

ABBREVIATIONS

ABBREV.	DESCRIPTION
A	AMPERE
AC	MOUNTED ABOVE COUNTER HEIGHT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
EC	ELECTRICAL CONTRACTOR
EECS	ELECTRICAL EQUIPMENT AND CONTROL SCHEDULE
EGC	EQUIPMENT GROUNDING CONDUCTOR
ELEC	ELECTRICAL
FA	FIRE ALARM
FLA	FULL LOAD AMPS
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTING
G	GROUND
HP	HORSE POWER
JB, J-BOX	JUNCTION BOX
kVA	KILOVOLT AMPERE
kW	KILOWATT
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUG ONLY
MOPD	MAXIMUM OVER-CURRENT PROTECTION DEVICE
NEC	NATIONAL ELECTRIC CODE
NTS	NOT TO SCALE
OC	OVER COUNTER
OCPD	OVER CURRENT PROTECTION DEVICE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
P	POLE
PA	PUBLIC ADDRESS
PC	PLUMBING CONTRACTOR
PNL	PANEL
SMR	SURFACE MOUNTED RACEWAY
SPEC	SPECIFICATION
TBD	TO BE DETERMINED
TYP	TYPICAL
UC	UNDER COUNTER
UON	UNLESS OTHERWISE NOTED
UL	UNDERWRITERS LABORATORY
V	VOLT
VA	VOLTAMPERE
WG	WIREGUARD
XFMR	TRANSFORMER

ELECTRICAL SYMBOLS LIST - BASIC MATERIALS AND METHODS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
LP-404	HOME RUN TO PANELBOARD. LETTERS/ NUMBERS INDICATE PANEL. NUMBERS INDICATE CIRCUITS. NUMBER OF ARROWS EQUALS NUMBER OF CIRCUITS. CIRCUIT SHALL BE 20 AMP, 120 VOLT, 2-#12, 1-#12 E.G., IN 1/2 " C, UNLESS NOTED OTHERWISE. BRANCH CIRCUIT WIRING SIZE AND NUMBER TO MATCH HOMERUN. REFER TO SPEC'S FOR RACEWAY TYPE.		DUPLEX RECEPTACLE, 20 AMP, 125 VOLT
	SOLID HALF ARROW(S) INDICATES 120 VOLT CIRCUIT TO SINGLE POLE CIRCUIT BREAKER(S), UNLESS NOTED OTHERWISE.	(E)	EXISTING TO REMAIN- INDICATES EXISTING ITEM SHALL REMAIN. MAINTAIN EXISTING ELECTRICAL CONNECTIONS UNLESS OTHERWISE NOTED.
	SOLID FULL ARROW INDICATES 208 VOLT CIRCUIT TO MULTI-POLE CIRCUIT BREAKER, UNLESS NOTED OTHERWISE.	(ER)	EXISTING TO BE RELOCATED - INDICATES EXISTING ITEM SHALL BE RELOCATED. DISCONNECT AND REMOVE, REINSTALL AT NEW LOCATION AND RECONNECT ITEM AS REQUIRED.
	OPEN HALF ARROW(S) INDICATES 277 VOLT CIRCUIT TO SINGLE POLE CIRCUIT BREAKER(S), UNLESS NOTED OTHERWISE.	3	REFERENCE TO DRAWING NOTE
	OPEN FULL ARROW INDICATES 480 VOLT CIRCUIT TO MULTI-POLE CIRCUIT BREAKER, UNLESS NOTED OTHERWISE.	3	REFERENCE TO REMOVAL NOTE
J	JUNCTION BOX		EXISTING ELECTRICAL OR EQUIPMENT OR DEVICE, DASHED LIGHT IS EXISTING TO BE REMOVED.
	SINGLE POINT CONNECTION TO EQUIPMENT		EXISTING WIRING OR EQUIPMENT, SOLID LIGHT IS EXISTING TO REMAIN OR EXISTING TO BE RELOCATED.
S	TOGGLE SWITCH, VOLTAGE AS INDICATED ON FIXTURE SCHEDULE.		HEAVY SOLID IS NEW

POWER DISTRIBUTION AND CONTROL

SYMBOL	DESCRIPTION
	DISTRIBUTION PANELBOARD
	208/120 VOLT PANELBOARD
	EXISTING 208/120 VOLT PANELBOARD
	480/277 VOLT PANELBOARD
	NON-FUSED DISCONNECT
	COMBINATION DISCONNECT SWITCH AND MAGNETIC STARTER AMP RATING AS INDICATED ON ELECTRIC EQUIPMENT AND CONTROL SCHEDULE
ASD	ADJUSTABLE SPEED DRIVE
M	ELECTRICAL CONNECTION. REFER TO ELECTRIC EQUIPMENT AND CONTROL SCHEDULE FOR DESCRIPTION. LETTERS AND NUMBERS REFER TO "ITEM DESIGNATION" ON THE SCHEDULE.
SM	MANUAL MOTOR RATED STARTER/DISCONNECT

LUMINAIRES

SYMBOL	DESCRIPTION
FA1 D	WALL MOUNTED LUMINAIRE. UPPER CASE LETTERS INDICATE FIXTURE TYPE ON SCHEDULE, LOWER CASE LETTER INDICATES SWITCHING DESIGNATION.

ONE LINE DIAGRAM SYMBOLS

SYMBOL	DESCRIPTION
	FUSED DISCONNECT SWITCH
	THERMAL MAGNETIC MOLDED CASE CIRCUIT BREAKER
	TRANSFORMER, REFER TO SCHEDULE FOR SIZE AND TYPE
	TRANSFER SWITCH, RATING AS INDICATED. ATS - AUTOMATIC MTS - MANUAL
	GROUND CONNECTION
A	FEEDER DESIGNATION - REFER TO FEEDER SCHEDULE
	PANELBOARD

FIRE ALARM

SYMBOL	DESCRIPTION
DSD	DUCT SMOKE DETECTOR
FSD	FAN SHUT DOWN
RTS	REMOTE DUCT SMOKE DETECTOR TEST STATION

GENERAL REMOVAL NOTES:

A. EXISTING CONDITIONS ARE TAKEN FROM FIELD OBSERVATIONS AND PRIOR CONSTRUCTION DOCUMENTS WHEN AVAILABLE AND ARE NOT GUARANTEED ACCURATE. EC SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID. COORDINATE WITH OWNER REPRESENTATIVE TO ARRANGE FOR A SITE VISIT, DATE AND TIME, MINIMUM TEN WORKING DAYS PRIOR TO BID.

B. DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL EQUIPMENT SHOWN TO BE REMOVED, OR REQUIRED TO BE REMOVED AS A RESULT OF CEILING, PARTITION OR WALL DEMOLITION WORK. COORDINATE REQUIREMENT WITH GENERAL CONTRACTOR. DISCONNECT AND REMOVE ALL EXISTING LIGHTING FIXTURES AND WIRING DEVICES INDICATED TO BE REMOVED OR REQUIRED TO BE REMOVED, AND ALL ASSOCIATED BRANCH CIRCUIT AND SPECIAL SYSTEMS WIRING AND RACEWAYS. WHERE EXISTING DEVICES ARE NOT BEING REUSED, THEY AND THEIR ASSOCIATED WIRING SHALL BE COMPLETELY REMOVED. DISCONNECT AND REMOVE ALL EMPTY AND ABANDONED RACEWAYS. CUT FLUSH WITH FLOOR OR WALL WHERE APPLICABLE AND PLUG CONDUIT WATERTIGHT.

C. COORDINATE ALL REMOVAL WORK WITH OTHER TRADES.

D. PROVIDE ALL WIRING AND CONNECTIONS REQUIRED TO MAINTAIN BRANCH CIRCUITS OR SPECIAL SYSTEMS CIRCUIT CONTINUITY TO DEVICES AND EQUIPMENT REQUIRED TO REMAIN WHETHER LOCATED WITHIN OR OUTSIDE OF THE PROJECT AREA, EITHER UPSTREAM OR DOWNSTREAM OF DEVICES REQUIRED TO BE REMOVED.

E. PARTIAL BRANCH CIRCUIT WIRING DENOTING EXISTING CIRCUITING OR CONTROL IS SHOWN FOR REFERENCE ONLY, AND IS NOT INTENDED TO ILLUSTRATE COMPLETE WIRING SYSTEM. FIELD VERIFY EXISTING WIRING AND CONNECTIONS.

F. CUT AND PATCH THE EXISTING BUILDING FINISHES AND ELEMENTS TO FACILITATE ELECTRICAL REMOVAL WORK.

G. PROVIDE A TEST, PRIOR TO BEGINNING ELECTRICAL REMOVAL WORK, OF EACH AND EVERY SYSTEM AFFECTED BY THE WORK TO ASCERTAIN AND DOCUMENT PRE-CONSTRUCTION CONDITIONS OF EACH INDIVIDUAL DEVICE ON EACH SYSTEM. SYSTEMS AND DEVICES WHICH ARE UNTESTED WILL BE ASSUMED TO BE IN PERFECT WORKING ORDER PRIOR TO THE BEGINNING OF CONSTRUCTION. TEST THESE AND NEW DEVICES AND SYSTEMS AFTER CONSTRUCTION TO INDICATE AND DOCUMENT POST-CONSTRUCTION CONDITIONS. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RETURNING ALL EXISTING SYSTEMS AND DEVICES TO PRE-CONSTRUCTION CONDITION OR BETTER. OBTAIN THE SERVICES OF A CERTIFIED TESTING ORGANIZATION TO TEST AND DOCUMENT EACH SYSTEM, BOTH PRE AND POST CONSTRUCTION. SUCH SYSTEMS SHALL INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO: GENERATOR DISTRIBUTION SYSTEM, SECURITY ACCESS CONTROL SYSTEM, PUBLIC ADDRESS SYSTEM, LOCAL AREA NETWORK SYSTEM, TELEPHONE SYSTEM, NURSE CALL SYSTEM, EMERGENCY EGRESS LIGHTING SYSTEM, INTRUSION DETECTION SYSTEMS, AUTOMATIC LIGHTING CONTROL SYSTEM AND FIRE ALARM SYSTEM. SUBMIT TEST RESULTS TO OWNER AND ENGINEER FOR REVIEW AND APPROVAL.

GENERAL NOTES: (APPLY TO ALL DRAWINGS):

A. ALL CONDUITS SHALL BE INSTALLED AS HIGH AS POSSIBLE ABOVE FINISHED CEILINGS AND CONCEALED IN WALLS UNLESS OTHERWISE INDICATED. ALL CONDUITS SHALL RUN PARALLEL AND PERPENDICULAR WITH BUILDING WALLS AND STRUCTURE. CONDUITS CONCEALED IN WALLS SHALL BE INSTALLED VERTICALLY, HORIZONTAL RUNS OF CONDUIT AND CONDUITS CONCEALED IN FLOOR SLAB SHALL NOT BE PERMITTED. CONDUIT STUB-UPS THROUGH FLOOR SLAB PERMITTED.

B. ALL CIRCUITING SHALL BE CONCEALED (EXCEPT IN BOILER ROOMS, ELECTRICAL AND MECHANICAL ROOMS). WHERE CONCEALMENT OF CIRCUITING IS IMPOSSIBLE, EXPOSED RACEWAY MAY BE USED WHERE APPROVED BY THE DIRECTORS REPRESENTATIVE. ALL EXPOSED RACEWAYS SHALL BE OF FINISH PER ARCHITECT AND CONTAIN A GREEN INSULATED GROUND CONDUCTOR.

C. PROVIDE CONDUIT/WIRING (CIRCUITING) AND REQUIRED CONNECTIONS TO ALL DEVICES/ EQUIPMENT. CONNECT TO CIRCUIT(S) AS INDICATED.

D. CIRCUITING TO DEVICES/EQUIPMENT SHALL BE 2 #12 WITH 1 #12 GROUND FOR EACH 20 AMPERE CIRCUIT UNLESS OTHERWISE NOTED. ALL 20A-1P BRANCH CIRCUIT WIRING RUNS OF LESS THAN 150 LINEAR FEET SHALL BE A MINIMUM SIZE #12 AWG CONDUCTOR. RUNS EXCEEDING 200 LINEAR FEET SHALL BE A MINIMUM SIZE OF #10 AWG. RUNS EXCEEDING 300 LINEAR FEET SHALL BE SIZED FOR A MAXIMUM VOLT LOSS NOT TO EXCEED 3%.

E. PERFORM ALL CUTTING, CORE DRILLING, ETC. OF MASONRY, STUD, STEEL OR OTHER CONSTRUCTION TYPES NECESSARY TO COMPLETE THE RELATED WORK, INCLUDING WALLS, FLOORS, CEILINGS, PARTITIONS, ETC. PATCH CONSTRUCTION AFFECTED BY CUTTING, CORE DRILLING, ETC. OR ANY OTHER OPERATIONS REQUIRED TO COMPLETE THE WORK TO MATCH ADJACENT CONSTRUCTION. PATCH ALL HOLES LEFT AFTER REMOVALS. RESTORE REQUIRED FIRE RATINGS.

F. WHERE CONDUIT IS INDICATED TO BE REMOVED, REMOVE ALL HANGERS, SUPPORTS, RODS ETC., ASSOCIATED WITH CONDUIT BEING REMOVED. PATCH AND PAINT ALL HOLES IN FLOORS, WALLS ETC.

G. WHERE EXISTING CIRCUITING IS DISTURBED BY DEMOLITION WORK, THE CONTRACTOR SHALL REWORK AND/OR EXTEND EXISTING CIRCUITING AS REQUIRED TO MAINTAIN CONTINUITY TO ALL REMAINING LOADS WHERE EXISTING CIRCUITING IS DISTURBED BY DEMOLITION WORK.

H. ALL PANELBOARD DIRECTORIES, UPON COMPLETION OF WORK, SHALL REFERENCE SPECIFIC LOAD AND AREA SERVED (I.E. CLASSROOM 200 LIGHTS, UV-15, ETC.). COORDINATE ROOM NUMBERS WITH FINAL NUMBERING IN FIELD.

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REVISIONS

No.	Date	By	Description

DRAWING TITLE

ELECTRICAL SYMBOLS LIST

DRAWING NO.

E-001

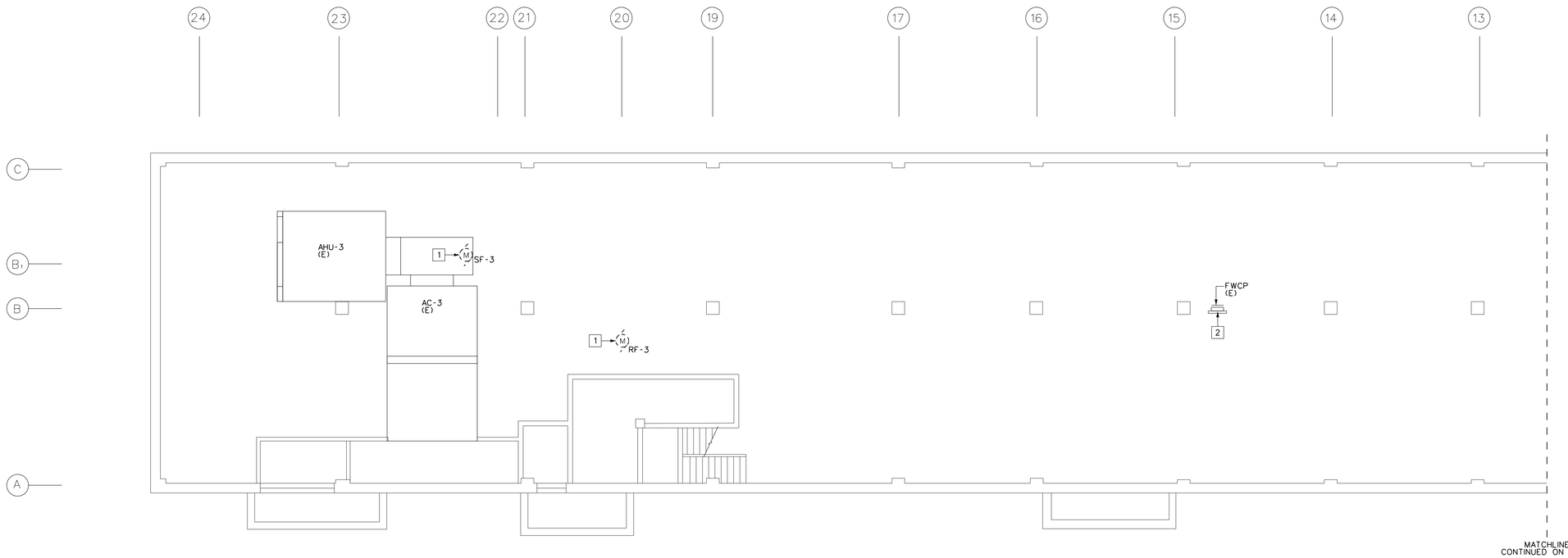
Drawn By:	ZJM
Checked By:	SZE
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE

05/01/16

REMOVAL NOTES:

1. DISCONNECT AND REMOVE ALL EXISTING BRANCH CIRCUIT WIRING BACK TO PANEL "FWCP". MAINTAIN EXISTING CONDUIT AND BRANCH CIRCUIT BREAKER FOR REUSE.
2. REMOVE EXISTING MOTOR CONTROL CENTER BUCKET SERVING AHU-1, SF-1, AHU-1, RF-1 AND AHU-3, SF-3, AHU-3, RF-3.



1 / E101 SUB-BASEMENT NORTH ELECTRICAL REMOVALS PLAN

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

NORTH

KEY PLAN

N

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062572-1
LICENSED PROFESSIONAL ENGINEER

REVISIONS

No.	Date	By	Description
1	04/16/12	M/E	ADDENDUM #1

DRAWING TITLE

SUB-BASEMENT
NORTH-ELECTRICAL
REMOVALS PLAN

DRAWING NO.

E-101

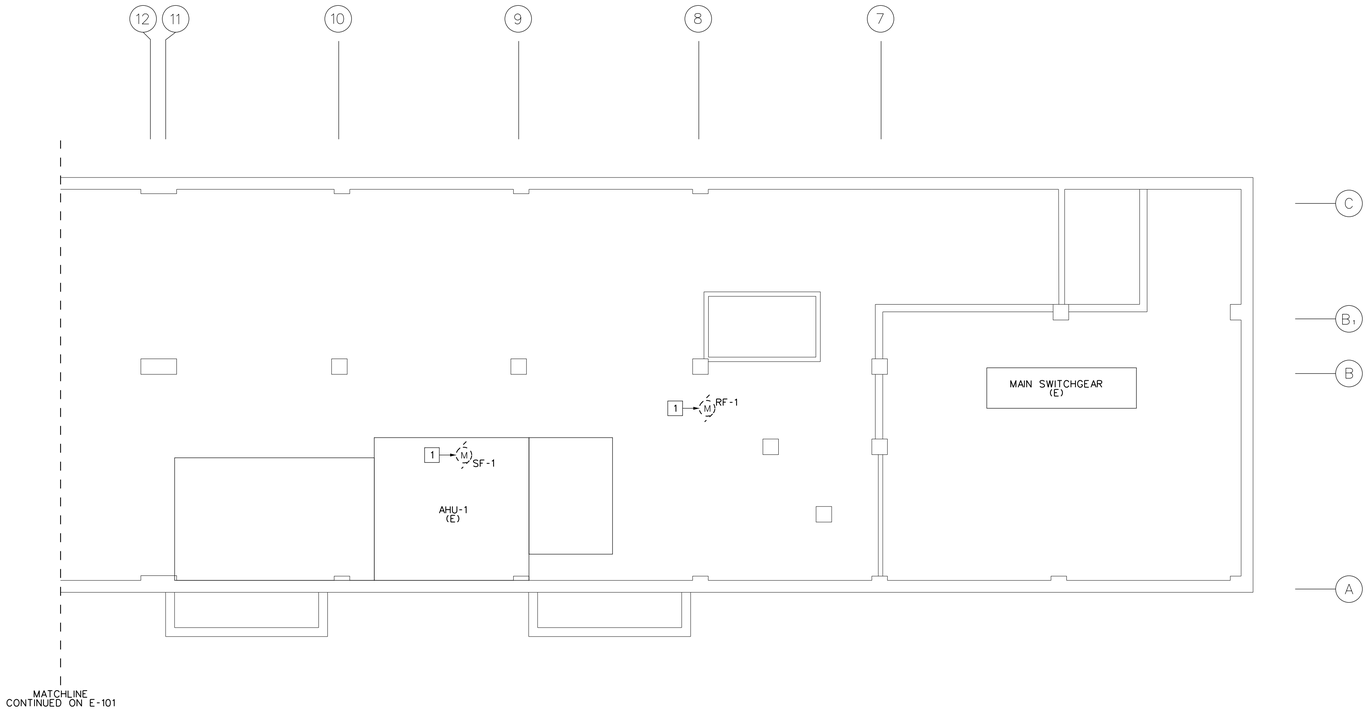
Drawn By:	ZJM
Checked By:	SZE
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE

05/01/16

REMOVAL NOTES:

1. DISCONNECT AND REMOVE ALL EXISTING BRANCH CIRCUIT WIRING BACK TO PANEL "FWCP". MAINTAIN EXISTING CONDUIT AND BRANCH CIRCUIT BREAKER FOR REUSE.



1 / E102 SUB-BASEMENT SOUTH ELECTRICAL REMOVALS PLAN

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

NORTH

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REVISIONS

No.	Date	By	Description

DRAWING TITLE

SUB-BASEMENT
SOUTH-ELECTRICAL
REMOVALS PLAN

KEY PLAN

DRAWING NO.		
E-102	Drawn By:	ZJM
	Checked By:	SZE
	Project Mgr:	FJS
	Date:	05/01/16
	Project No:	153151

ISSUE DATE
05/01/16

GENERAL NOTES:

A. REFER TO ELECTRICAL EQUIPMENT CONTROL SCHEDULE (DWGS. E302) FOR BRANCH CIRCUIT WIRING REQUIREMENTS OF ALL MECHANICAL EQUIPMENT INDICATED ON THIS PLAN.

B. UPDATE PANELBOARD DIRECTORY WITH REVISED TYPE WRITTEN CIRCUIT DIRECTORY.

C. PROVIDE MODIFICATIONS TO EXISTING MOTOR CONTROL CENTER. PADLOCKING ARRANGEMENTS SHALL PERMIT LOCKING THE DISCONNECT SERVICES "OFF" WITH DOOR CLOSED OR OPEN. REFER TO SPECIFICATION SECTION 230513-2.1.C FOR ADJUSTABLE SPEED DRIVE (ASD) REQUIREMENTS. MATCH EXISTING MAKE AND MODEL OF EXISTING BUCKET AND AIC RATING.

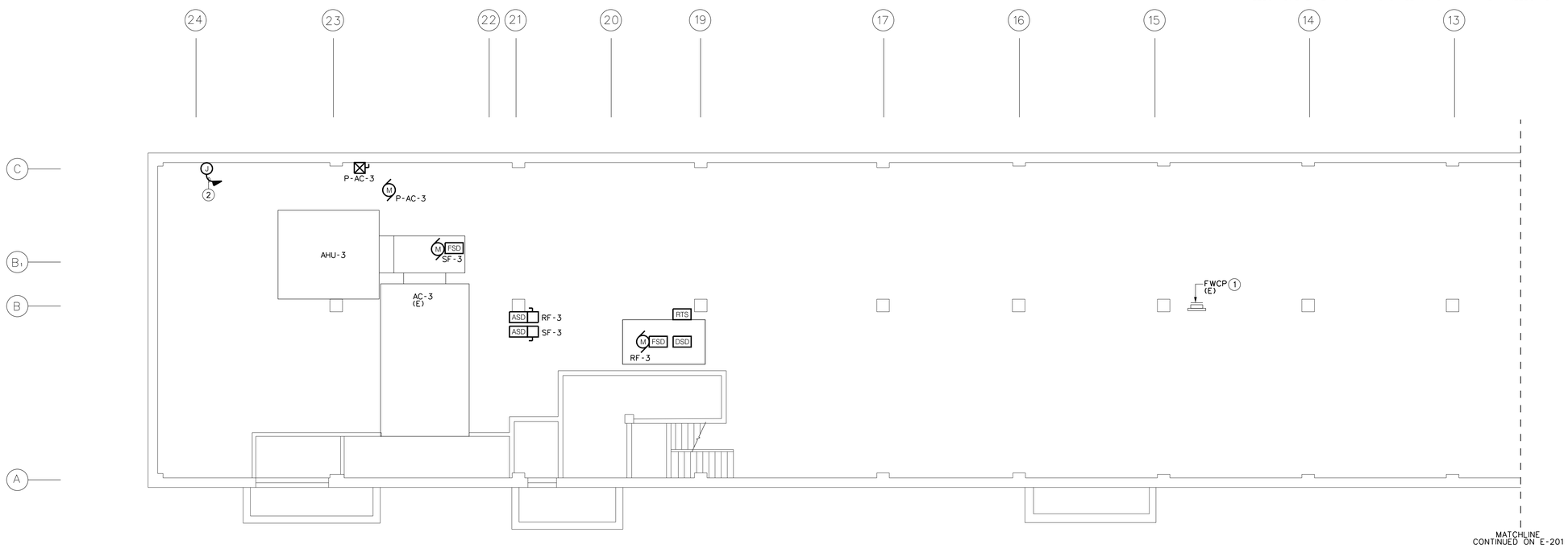
DRAWING NOTES:

(1) PROVIDE CIRCUIT BREAKER OR FUSED SWITCHES LOCATED IN THE SAME BUCKET LOCATIONS AS REMOVED STARTERS. PROVIDE NEW BUCKET THAT MATCH THE AIC RATING OF EXISTING MOTOR CONTROL CENTER (MCC).

PROVIDE CIRCUIT BREAKER OR FUSED SWITCH IN EXISTING MCC "FWCP" WITH THE FOLLOWING:

1. PROVIDE DEDICATED 90A/3P CIRCUIT BREAKERS OR FUSED DISCONNECT FOR RETURN FANS BRANCH CIRCUITS RF-1.
2. PROVIDE DEDICATED 90A/3P CIRCUIT BREAKERS OR FUSED DISCONNECT FOR RETURN FANS BRANCH CIRCUITS RF-3.
3. PROVIDE DEDICATED 175A/3P CIRCUIT BREAKERS OR FUSED DISCONNECT FOR SUPPLY FANS BRANCH CIRCUITS SF-1.
4. PROVIDE DEDICATED 175A/3P CIRCUIT BREAKERS OR FUSED DISCONNECT FOR SUPPLY FANS BRANCH CIRCUITS SF-3.

(2) PROVIDE JUNCTION BOX FOR CONTROLS TRANSFORMER. COORDINATE EXACT LOCATION IN THE FIELD. PROVIDE (2)#12, (1)#12 GND, 3/4"C TO JUNCTION BOX FROM NEAREST BRANCH CIRCUIT PANELBOARD. PROVIDE 20A/1P CIRCUIT BREAKER IN THE EXISTING SPACE OF PANELBOARD. BREAKER AIC RATING SHALL MATCH WITH THE PANELBOARD RATING.



1 / E201 SUB-BASEMENT NORTH ELECTRICAL POWER AND SYSTEMS PLAN

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

NORTH

KEY PLAN

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REVISIONS

No.	Date	By	Description
1	04/16/12	M/E	ADDENDUM #1

DRAWING TITLE

SUB-BASEMENT NORTH-ELECTRICAL POWER AND SYSTEMS PLAN

DRAWING NO. E-201

Drawn By:	ZJM
Checked By:	SZE
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16

GENERAL NOTES:

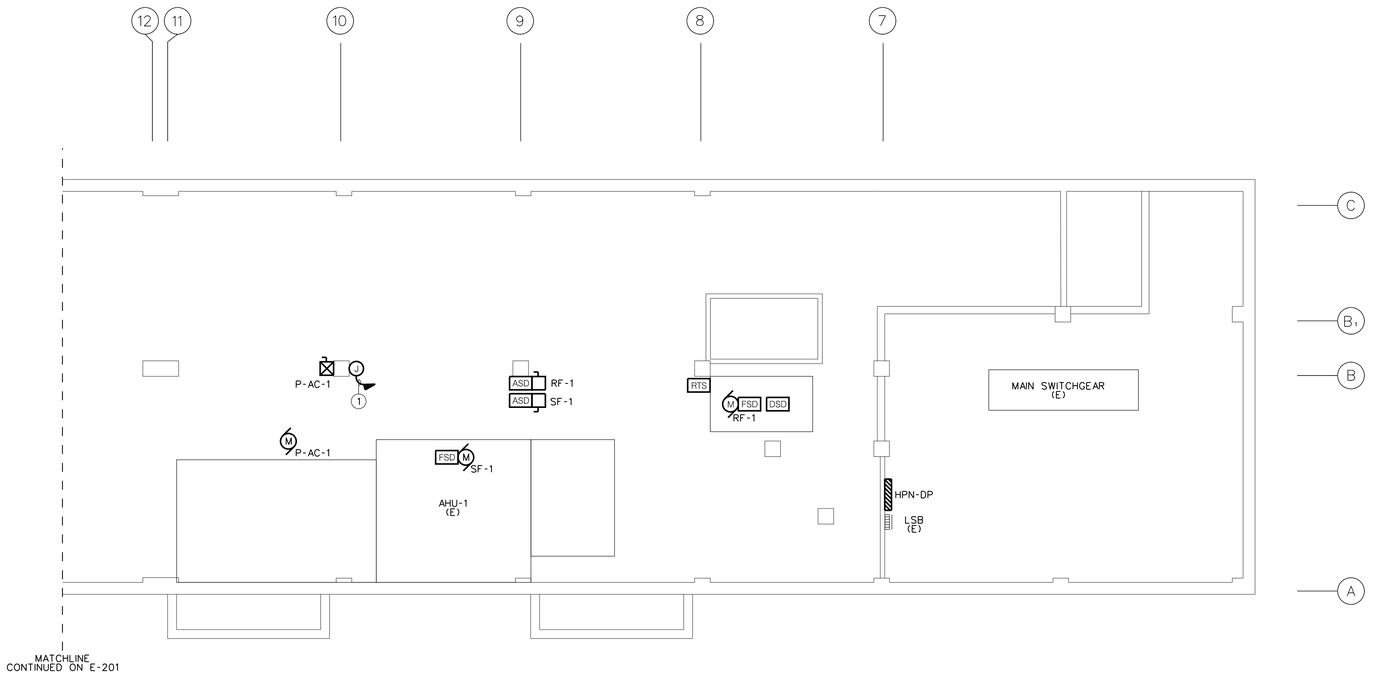
A. REFER TO ELECTRICAL EQUIPMENT CONTROL SCHEDULE (DWGS. E302) FOR BRANCH CIRCUIT WIRING REQUIREMENTS OF ALL MECHANICAL EQUIPMENT INDICATED ON THIS PLAN.

B. REFER TO DRAWING NOTES 1 ON DRAWING E201 FOR DETAILS.

C. UPDATE PANELBOARD DIRECTORY WITH REVISED TYPE WRITTEN CIRCUIT DIRECTORY.

DRAWING NOTES:

(1) PROVIDE JUNCTION BOX FOR CONTROLS TRANSFORMER. COORDINATE EXACT LOCATION IN THE FIELD. PROVIDE (2)#12, (1)#12 GND, 3/4"C TO JUNCTION BOX FROM NEAREST BRANCH CIRCUIT PANELBOARD. PROVIDE 20A/1P CIRCUIT BREAKER IN THE EXISTING SPACE OF PANELBOARD. BREAKER AIC RATING SHALL MATCH WITH THE PANELBOARD RATING.



1 / E202 SUB-BASEMENT SOUTH ELECTRICAL POWER AND SYSTEMS PLAN

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

NORTH

KEY PLAN

M/E ENGINEERING P.C.

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REVISIONS

No.	Date	By	Description

DRAWING TITLE

SUB-BASEMENT SOUTH-ELECTRICAL POWER PLAN

DRAWING NO. E-202

Drawn By:	ZJM
Checked By:	SZE
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16

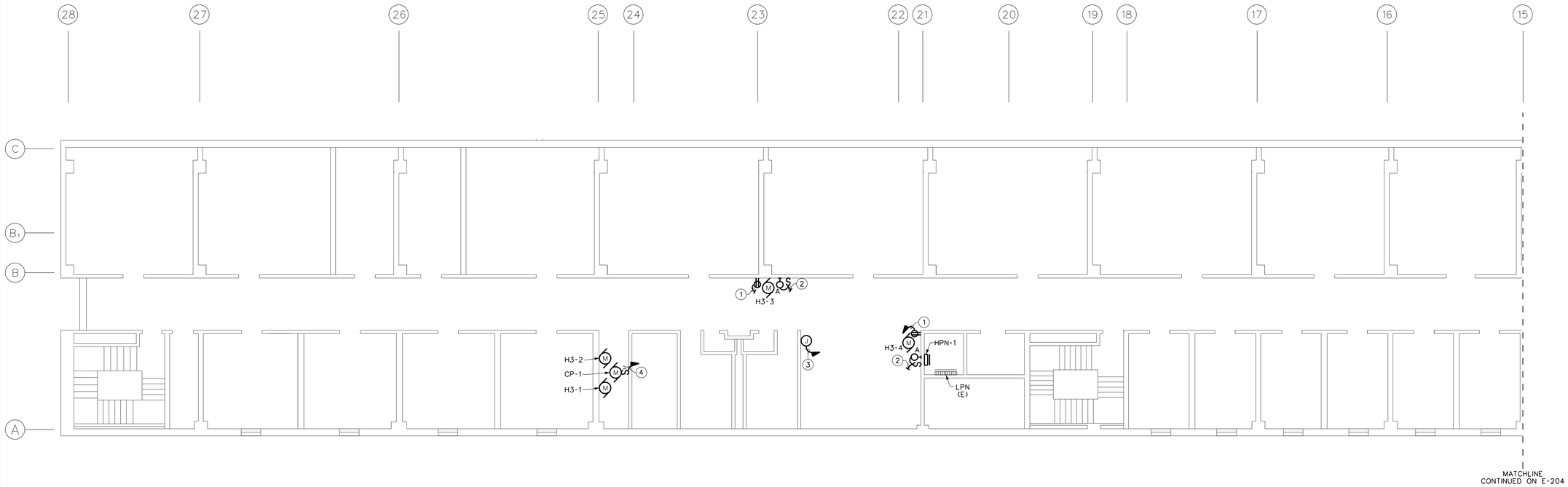
GENERAL NOTES:

A. REFER TO ELECTRICAL EQUIPMENT CONTROL SCHEDULE (DWGS. E302) FOR BRANCH CIRCUIT WIRING REQUIREMENTS OF ALL MECHANICAL EQUIPMENT INDICATED ON THIS PLAN.

B. UPDATE PANELBOARD DIRECTORY WITH REVISED TYPE WRITTEN CIRCUIT DIRECTORY.

DRAWING NOTES:

1. PROVIDE RECEPTACLE ABOVE DROP CEILING ADJACENT TO HUMIDIFIER. PROVIDE DEDICATED (2) #12, #12 GND, 3/4"C TO RECEPTACLE FROM PANELBOARD "LPN". PROVIDE 20A/1P CIRCUIT BREAKER, IN THE EXISTING SPACE OF PANELBOARD. BREAKER AIC RATING SHALL MATCH WITH THE PANELBOARD RATING.
2. PROVIDE LIGHT FIXTURE AND TOGGLE SWITCH ABOVE CEILING NEAR THE HUMIDIFIER. COORDINATE EXACT LOCATION IN FIELD. PROVIDE (2) #12, #12 GND, 3/4"C AND EXTEND TO ANY NEAREST AREA LIGHTING BRANCH CIRCUIT. CONNECTION SHALL BE MADE ON THE LINE SIDE OF SWITCH OF AREA LIGHTING.
3. PROVIDE JUNCTION BOX FOR CONTROLS TRANSFORMER ABOVE CEILING. COORDINATE EXACT LOCATION IN THE FIELD. PROVIDE (2)#12, (1)#12 GND, 3/4"C TO JUNCTION BOX FROM PANELBOARD "LPN". PROVIDE 20A/1P CIRCUIT BREAKER IN THE EXISTING SPACE OF PANELBOARD. BREAKER AIC RATING SHALL MATCH WITH THE PANELBOARD RATING.
4. PROVIDE (2)#10, (1)#10 GND, 3/4"C TO CONDENSATE PUMP (CP-1) FROM PANEL "LPN". PROVIDE 30A/1P CIRCUIT BREAKER IN THE EXISTING SPACE OF PANELBOARD. BREAKER AIC RATING SHALL MATCH WITH THE PANELBOARD RATING.



1 / E203 PLAZA NORTH ELECTRICAL LIGHTING AND POWER PLAN

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

NORTH

KEY PLAN

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REVISIONS

No.	Date	By	Description

DRAWING TITLE

PLAZA LEVEL NORTH-ELECTRICAL LIGHTING AND POWER PLAN

DRAWING NO. E-203

Drawn By:	ZJM
Checked By:	SZE
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16

GENERAL NOTES:

A. REFER TO ELECTRICAL EQUIPMENT CONTROL SCHEDULE (DWGS. E302) FOR BRANCH CIRCUIT WIRING REQUIREMENTS OF ALL MECHANICAL EQUIPMENT INDICATED ON THIS PLAN.

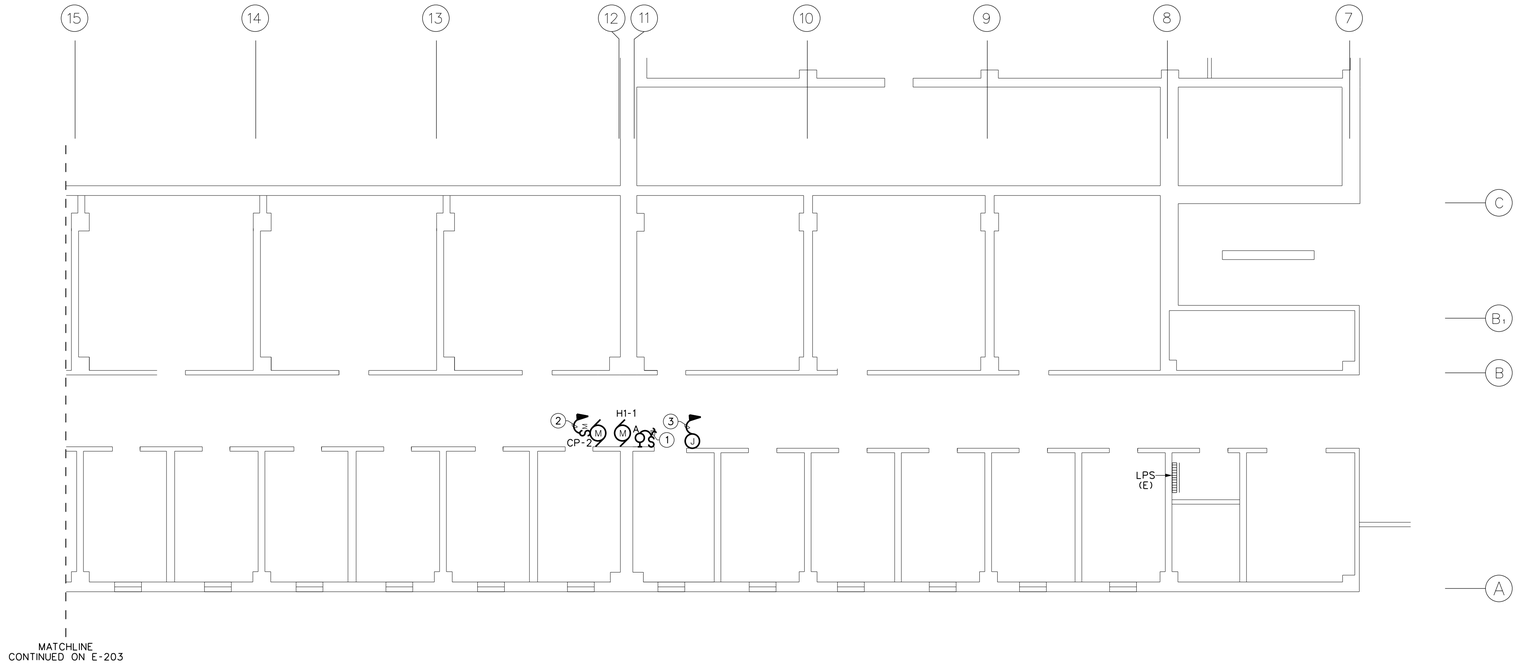
B. UPDATE PANELBOARD DIRECTORY WITH REVISED TYPE WRITTEN CIRCUIT DIRECTORY.

DRAWING NOTES:

1. PROVIDE LIGHT FIXTURE AND TOGGLE SWITCH ABOVE CEILING NEAR THE HUMIDIFIER. COORDINATE EXACT LOCATION IN FIELD. PROVIDE (2) #12 AWG, #12 AWG GND, 3/4"C AND EXTEND TO ANY NEAREST AREA LIGHTING BRANCH CIRCUIT. CONNECTION SHALL BE MADE ON THE LINE SIDE OF SWITCH OF AREA LIGHTING.

2. PROVIDE (2)#10, (1)#10 GND, 3/4"C TO CONDENSATE PUMP (CP-2) FROM PANEL "LPS". PROVIDE 30A/1P CIRCUIT BREAKER IN THE EXISTING SPACE OF PANELBOARD. BREAKER AIC RATING SHALL MATCH WITH THE PANELBOARD RATING.

3. PROVIDE JUNCTION BOX FOR CONTROLS TRANSFORMER ABOVE CEILING. COORDINATE EXACT LOCATION IN THE FIELD. PROVIDE (2)#12, (1)#12 GND, 3/4"C TO JUNCTION BOX FROM PANELBOARD "LPS". PROVIDE 20A/1P CIRCUIT BREAKER IN THE EXISTING SPACE OF PANELBOARD. BREAKER AIC RATING SHALL MATCH WITH THE PANELBOARD RATING.



1 / E204 PLAZA NORTH ELECTRICAL LIGHTING AND POWER PLAN

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

NORTH

KEY PLAN

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REVISIONS

No.	Date	By	Description

DRAWING TITLE

PLAZA LEVEL SOUTH-ELECTRICAL LIGHTING AND POWER PLAN

DRAWING NO. E-204

Drawn By:	ZJM
Checked By:	SZE
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16

CONDUIT AND COPPER CABLE SCHEDULE

FEEDER RATING	4 WIRE FEEDERS WITH GROUNDING CONDUCTOR		• SETS	WIRE SIZE (PER SET)		3 WIRE FEEDERS WITH GROUNDING CONDUCTOR	
	IDENTIFIER	CONDUIT SIZE		PHASE & NEUT	GROUND	IDENTIFIER	CONDUIT SIZE
20	A	1/2"	1	12	12	A1	1/2"
30	B	3/4"	1	10	10	B1	3/4"
40	C	3/4"	1	8	10	C1	3/4"
50,60	D	1"	1	6	10	D1	1"
70	E	1-1/4"	1	4	8	E1	1-1/4"
80	F	1-1/4"	1	3	8	F1	1-1/4"
90,100	G	1-1/2"	1	2	8	G1	1-1/4"
110	H	1-1/2"	1	2	6	H1	1-1/4"
125	I	2"	1	1	6	I1	1-1/2"
150	J	2"	1	1/0	6	J1	2"
175	K	2"	1	2/0	6	K1	2"
200	L	2-1/2"	1	3/0	6	L1	2"
225	M	2-1/2"	1	4/0	4	M1	2-1/2"
250	N	3"	1	250 KCMIL	4	N1	2-1/2"
300	O	3"	1	350 KCMIL	4	O1	3"
350	P	4"	1	500 KCMIL	2	P1	4"
400	Q	4"	1	500 KCMIL	2	Q1	4"
450	R	2-1/2"	2	4/0	2	R1	2-1/2"
500	S	3"	2	250 KCMIL	2	S1	2-1/2"
600	T	3"	2	350 KCMIL	1/0	T1	3"
700	U	4"	2	500 KCMIL	1/0	U1	4"
800	V	4"	2	500 KCMIL	1/0	V1	4"
1000	W	4"	3	500 KCMIL	2/0	W1	4"
1200	X	4"	3	600 KCMIL	3/0	X1	4"
1600	Y	4"	4	600 KCMIL	4/0	Y1	4"
2000	Z	4"	5	600 KCMIL	250 KCMIL	Z1	4"
2500	AA	4"	6	600 KCMIL	350 KCMIL	AA1	4"
3000	BB	4"	8	500 KCMIL	500 KCMIL	BB1	4"
4000	CC	4"	10	600 KCMIL	500 KCMIL	CC1	4"

GENERAL NOTES

1. IF IDENTIFIER ON ONE-LINE DIAGRAM SHOWS CONDUCTORS SIZED WELL ABOVE OVERCURRENT PROTECTION, VOLTAGE DROP HAS BEEN ACCOUNTED FOR.

2. WHERE MULTIPLE SETS ARE SPECIFIED, PROVIDE 3 PHASE, NEUTRAL AND GROUNDING CONDUCTOR IN EACH CONDUIT. CONDUCTORS AND CONDUITS SHALL BE OF EQUAL LENGTHS AND OF SAME MANUFACTURER.

GENERAL NOTES:

1. COORDINATE IN ADVANCE WITH SUNY PURCHASE FOR THE DOWN TIME TO REPLACE AND RELOCATE FUSE DISCONNECTS ASSEMBLY AS DETAILED.

NOTES:

1. RELOCATE ONE OF THE EXISTING USED (1) 100A-3POLE FUSED SWITCH ASSEMBLY FROM THE FIRST TWO ROWS, AS INDICATED, AND LOCATE IN THE THIRD ROW TO CARVE SPACE FOR INSTALLATION OF NEW 600A-3P FUSED SWITCH ASSEMBLY IN THE FIRST TWO ROWS. EXTEND/TERMINATE EXISTING FEEDER CIRCUIT TO NEW LOCATION OF 100 AMP FUSED SWITCH ASSEMBLY IN THIRD ROW.

2. DISCONNECT AND REMOVE EXISTING (4) 100A-3P FUSED DISCONNECT ASSEMBLIES PER NOTE 1 ABOVE.

3. PROVIDE (1) 600A-3P FUSED DISCONNECT SWITCH ASSEMBLY IDENTICAL CONFIGURATION AND CHARACTERISTICS TO THE EXISTING 600AMP SWITCH/FUSE ASSEMBLY IN THIS SWITCHBOARD. THE NEW SWITCH FUSE ASSEMBLY SHALL FIT INTO THE SPACE CARVED BY REMOVAL OF (4) 100A-3P FUSE SWITCH ASSEMBLIES. EXISTING SWITCHBOARD IS WESTINGHOUSE MAKE.

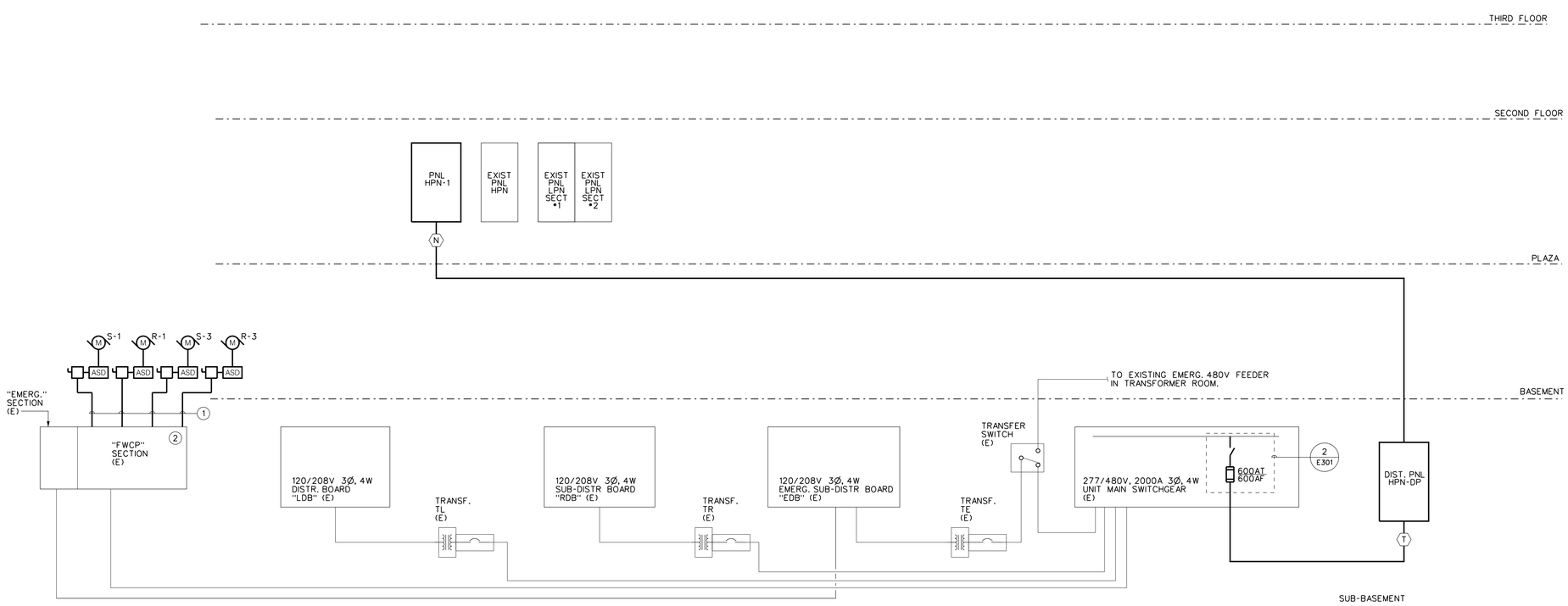
2 / E301 PARTIAL ELEVATION OF EXISTING MAIN SERIVCE SWITCHGEAR

SCALE: NTS

PARTIAL ELECTRICAL RISER DIAGRAM DRAWING NOTES:

(1) REFER TO ELECTRICAL EQUIPMENT CONTROL SCHEDULE (DWGS. E302) FOR BRANCH CIRCUIT WIRING REQUIREMENTS OF ALL MECHANICAL/PLUMBING EQUIPMENT INDICATED ON THIS PLAN.

(2) SEE DRAWING NOTE 1 ON DRAWING E-201 FOR ADDITIONAL INFORMATION.



1 / E301 PARTIAL ONE LINE POWER RISER DIAGRAM

SCALE: NTS

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REVISIONS

No.	Date	By	Description

DRAWING TITLE

PARTIAL ELECTRICAL RISER DIAGRAM AND ELEVATION

DRAWING NO. E-301

Drawn By:	ZJM
Checked By:	SZE
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16

ELECTRIC EQUIPMENT AND CONTROL SCHEDULE

GENERAL NOTES:
1. ALL DEVICES PROVIDED BY THE DIVISION 16 CONTRACTOR.
2. ITEM NUMBER INDICATES EQUIPMENT NUMBER
3. ALL DEVICES SHALL BE SURFACE MOUNTED UNLESS OTHERWISE NOTED.
4. PROVIDE OVERLOADS, SIZE AS REQUIRED, BY THE DIVISION 15 CONTRACTOR.
5. "AU" INDICATES CONTROL DEVICES IS LOCATED AT THE UNIT.
6. "NF" INDICATES NON-FUSED.
7. "IU" INDICATES INTEGRAL WITH UNIT.

REFERENCE NOTES:
1. ADJUSTABLE SPEED DRIVE FURNISHED BY DIVISION 23 INSTALLED AND WIRED BY DIVISION 26.
2. PROVIDED WITH RELAY BY DIVISION 23 FOR INTERFACE TO DCC.
3. REFER TO DWGS E201 AND E202 FOR ASD AND COMBINATION STARTER LOCATIONS.

EQUIPMENT								POWER SOURCE, PROTECTION & WIRING								CONTROL DEVICES AS SHOWN ON THE PLANS BY ITEM DESIGNATION																					
ITEM ID	NAME	ROOM LOCATION	HP	KW	PHASE	SYSTEM VOLTS	MCA or SYSTEM AMPS	PANEL or CONTROL CENTER	CIRCUIT BREAKER or "FU" FOR FUSE	POWER WIRING FROM PANEL TO CONTROL UNIT			POWER WIRING FROM CONTROL UNIT TO EQUIPMENT			NEMA SIZE STARTER	NEMA TYPE	MANUAL MOTOR RATED STARTER/DISCONNECT	MANUAL MOTOR STARTER WITH RELAY	COMBINATION MAGNETIC STARTER	COMBINATION REDUCED VOLTAGE STARTER	COMBINATION STARTER MP/FUSE (F) SIZE	ADJUSTABLE SPEED DRIVE	ADJUSTABLE SPEED DRIVE WITH BYPASS	PACKAGED CONTROL UNIT FURNISHED BY OTHERS	DUPLEX PUMP CONTROLLER BY OTHERS	FIRE ALARM FAN SHUTDOWN REQUIRED	SUPPLY DUCT SMOKE DETECTOR W/ REMOTE TEST STATION	RETURN DUCT SMOKE DETECTOR W/ REMOTE TEST STATION	EXHAUST DUCT SMOKE DETECTOR W/ REMOTE TEST STATION	THERMOSTAT CONNECTION	AQUASTAT CONNECTION	MOTORIZED DAMPER CONNECTION	START/STOP PUSHBUTTONS	HAND/OFF/AUTO SELECTOR SWITCH	CONTROL DEVICE LOCATION	DISCONNECT SWITCH				
										PHASE	GROUND	CONDUIT	PHASE	GROUND	CONDUIT																						SWITCH AMPS	FUSE SIZE	LOC.	WEATHER PROOF	REF. NOTES
H3-1	HUMIDIFIER	STORAGE RM		25.1	3	480	30	HPN-1	40/3	3#8	1-#10 EG.	3/4"C	3#8	1-#10 EG.	3/4"C										X										AU	60A	NF	AU	NO	2
H3-2	HUMIDIFIER	STORAGE RM		33.5	3	480	40	HPN-1	50/3	3#6	1-#10 EG.	1"C	3#6	1-#10 EG.	1"C										X										AU	60A	NF	AU	NO	2
H3-3	HUMIDIFIER	CORRIDOR CEILING		10.1	3	480	12	HPN-1	20/3	3#12	1-#12 EG.	1/2"C	3#12	1-#12 EG.	1/2"C										X										AU	30A	NF	AU	NO	2
H3-4	HUMIDIFIER	CORRIDOR CEILING		16.8	3	480	20	HPN-1	30/3	3#10	1-#10 EG.	3/4"C	3#10	1-#10 EG.	3/4"C										X										AU	30A	NF	AU	NO	2
H1-1	HUMIDIFIER	CORRIDOR CEILING		16.8	3	480	20	HPN-1	30/3	3#10	1-#10 EG.	3/4"C	3#10	1-#10 EG.	3/4"C										X										AU	30A	NF	AU	NO	2
CP-1	CONDENSATE PUMP	STORAGE RM	1/2		1	120	10	LPN (E)	30/1	2#10	1#10EG	1/2"C	2#10	1#10EG	1/2"C	0	3	X																	AU	30A	NF	AU	NO	3
CP-2	CONDENSATE PUMP	CORRIDOR CEILING	1/2		1	120	10	LPS (E)	30/1	2#10	1#10EG	1/2"C	2#10	1#10EG	1/2"C	0	3	X																	AU	30A	NF	AU	NO	3
P-AC-1	CHILLED WATER COIL PUMP	SUB-BASEMENT MECH RM	1 1/2		3	480	3	HPN-DP	15/3	3#12	1#12EG	1/2"C	3#12	1#12EG	1/2"C	0	3				X															AU	20A	NF	AU	NO	2
P-AC-3	CHILLED WATER COIL PUMP	SUB-BASEMENT MECH RM	3		3	480	5	HPN-DP	15/3	3#12	1#12EG	1/2"C	3#12	1#12EG	1/2"C	0	3				X															AU	20A	NF	AU	NO	2
RF-1	RETURN FAN @ AHU-1	SUB-BASEMENT MECH RM	25		3	480	34	FWCP (E)	90/3	3-#8	1-#8 EG.	3/4"C	3-#8	1-#8 EG.	3/4"C	2	3						X					X		X							100A	NF		NO	1,3
RF-3	RETURN FAN @ AHU-3	SUB-BASEMENT MECH RM	25		3	480	34	FWCP (E)	90/3	3-#8	1-#8 EG.	3/4"C	3-#8	1-#8 EG.	3/4"C	2	3						X					X		X							100A	NF		NO	1,3
SF-1	SUPPLY FAN @ AHU-1	SUB-BASEMENT MECH RM	50		3	480	65	FWCP (E)	175/3	3#2	1-#6 EG.	1"C	3#2	1-#6 EG.	1"C	3	3						X					X									200A	NF		NO	1,3
SF-3	SUPPLY FAN @ AHU-3	SUB-BASEMENT MECH RM	50		3	480	65	FWCP (E)	175/3	3#2	1-#6 EG.	1"C	3#2	1-#6 EG.	1"C	3	3						X					X									200A	NF		NO	1,3

PANELBOARD HPN-DP DIRECTORY

PROJECT:	SUNY PURCHASE	PANEL NAME:	HPN-DP	TYPE:	DISTRIBUTION				
PROJECT NO.:	09317A.00	VOLTAGE:	480	LINE TO LINE	PHASE:	3	WIRE:	4	
DATE:	05-24-2011	MAINS:	800		MAIN LUGS	YES	RATING	800	
FACILITY:	MUSIC BLDG	AIC:	42k		MAIN CKT. BKR.		RATING		
LOCATION:	SUB-BASEMENT ELECTRIC ROOM	PWR. SOURCE:	MAIN SWITCHGEAR		MOUNTING:	SURFACE			

DESCRIPTION	CKT NO.	TRIP	PANEL VA	RECEPT. VA	MOTOR VA	HTG. VA	A/C VA	A/C VA	HTG. VA	MOTOR VA	RECEPT. VA	PANEL VA	TRIP	CKT NO.	DESCRIPTION
	1a		34101											2a	
HPN-1	3b	250/3	34101										200/3	4b	SPACE
	5c		34101											6c	
	7a													8a	
SPACE	9b	200/3											200/3	10b	SPACE
	11c													12c	
	13a				831					1330				14a	
P-AC-1	15a	15/3			831					1330			15/3	16a	P-AC-3
	17c				831					1330				18c	
SPACE	19a	20/1											20/1	20a	SPACE
SPACE	21b	20/1											20/1	22b	SPACE
SPACE	23c	20/1											20/1	24c	SPACE
TOTAL PHASE "A" ODD			34101	0	831	0	0	0	0	1330	0	0			TOTAL PHASE "A" EVEN
TOTAL PHASE "B" ODD			34101	0	831	0	0	0	0	1330	0	0			TOTAL PHASE "B" EVEN
TOTAL PHASE "C" ODD			34101	0	831	0	0	0	0	1330	0	0			TOTAL PHASE "C" EVEN
SUB-TOTAL BY PHASE								GRAND TOTAL BY PHASE							
PHASE "A" (ODD + EVEN)			34101	0	2161	0	0	PHASE "A"		36262	VA	131	AMPS		
PHASE "B" (ODD + EVEN)			34101	0	2161	0	0	PHASE "B"		36262	VA	131	AMPS		
PHASE "C" (ODD + EVEN)			34101	0	2161	0	0	PHASE "C"		36262	VA	131	AMPS		
TOTAL CONNECTED LOAD															
CONNECTED LOAD (VA)			102303	0	6483	0	0	108,786	TOTAL KVA						

PANELBOARD HPN-1 DIRECTORY

PROJECT:	SUNY PURCHASE	PANEL NAME:	HPN-1	TYPE:	BRANCH				
PROJECT NO.:	09317A.00	VOLTAGE:	480	LINE TO LINE	PHASE:	3	WIRE:	4	
DATE:	05-24-2011	MAINS:	400		MAIN LUGS	YES	RATING	400	
FACILITY:	MUSIC BLDG	AIC:	22k		MAIN CKT. BKR.		RATING		
LOCATION:	PLAZA ELECTRIC ROOM	PWR. SOURCE:	HPN-DP		MOUNTING:	SURFACE			

DESCRIPTION	CKT NO.	TRIP	LIGHTING VA	RECEPT. VA	MOTOR VA	HTG. VA	A/C VA	A/C VA	HTG. VA	MOTOR VA	RECEPT. VA	LIGHTING VA	TRIP	CKT NO.	DESCRIPTION
	1a				3367					8367				2a	
H3-3	3b	20/3			3367					8367			40/3	4b	H3-1
	5c				3367					8367				6c	
	7a				11167					5600				8a	
H3-2	9b	50/3			11167					5600			30/3	10b	H3-4
	11c				11167					5600				12c	
	13a				5600								20/1	14a	SPARE
H1-1	15a	30/3			5600								20/1	16a	SPARE
	17c				5600								20/1	18c	SPARE
SPARE	19a	20/1												20a	SPACE
SPARE	21b	20/1												22b	SPACE
SPARE	23c	20/1												24c	SPACE
SPACE	25a													26a	SPACE
SPACE	27b													28b	SPACE
SPACE	29c													30c	SPACE
TOTAL PHASE "A" ODD			0	0	20134	0	0	0	0	13967	0	0			TOTAL PHASE "A" EVEN
TOTAL PHASE "B" ODD			0	0	20134	0	0	0	0	13967	0	0			TOTAL PHASE "B" EVEN
TOTAL PHASE "C" ODD			0	0	20134	0	0	0	0	13967	0	0			TOTAL PHASE "C" EVEN
SUB-TOTAL BY PHASE								GRAND TOTAL BY PHASE							
PHASE "A" (ODD + EVEN)			0	0	34101	0	0	PHASE "A"		34101	VA	123	AMPS		
PHASE "B" (ODD + EVEN)			0	0	34101	0	0	PHASE "B"		34101	VA	123	AMPS		
PHASE "C" (ODD + EVEN)			0	0	34101	0	0	PHASE "C"		34101	VA	123	AMPS		
TOTAL CONNECTED LOAD															
CONNECTED LOAD (VA)			0	0	102303	0	0	102,303	TOTAL KVA						

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MFGR. & CATALOG No.	LAMP	VOLTAGE/BALLAST	MOUNTING	REMARKS
A	8.25" L X 4"D GASKET FIXTURE, MALLEABLE IRON, PLASTIC POLYCARBONATE GLOBE, PORCELAIN ENAMEL REFLECTOR, WIRE GUARD.	APPLETON MODEL V-51 SERIES OR APPROVED EQUAL	ONE (1) 13W CFL 3500K	120 VOLT	SURFACE WALL MOUNTED ABOVE EXISTING CEILING	1

REMARK NOTES:
1. FIXTURES SHOWN IN PLAN FOR QUANTITIES ONLY.

M/E ENGINEERING P.C.
MECHANICAL/ELECTRICAL ENGINEERING CONSULTANTS
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M/E PROJECT #: 093174

PURCHASE COLLEGE
STATE UNIVERSITY OF NEW YORK
MUSIC BUILDING HUMIDIFICATION
735 ANDERSON HILL ROAD
PURCHASE, NY 10577

STATE OF NEW YORK
F. JOSEPH STRAUB JR.
LICENSED PROFESSIONAL ENGINEER
062572-1

REVISIONS

No.	Date	By	Description

DRAWING TITLE

ELECTRICAL EQUIPMENT SCHEDULE & SCHEDULES

DRAWING NO. E-302

Drawn By:	ZJM
Checked By:	SZE
Project Mgr:	FJS
Date:	05/01/16
Project No:	153151

ISSUE DATE
05/01/16