The Enclosed Document Is Provided For Your Convenience.

Please Email ALL Questions:

MailTo:ContractAdministration@TampaGov.net

Please Let Us Know If You Plan To Bid

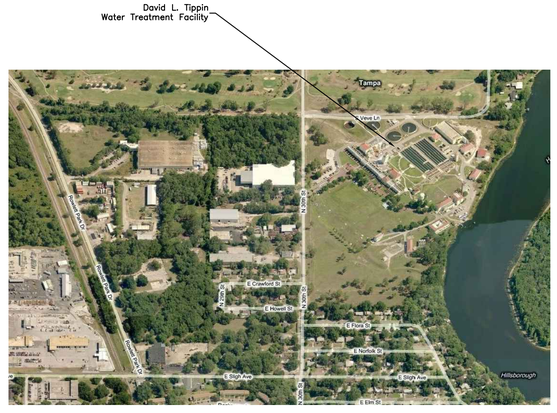
City of Tampa
Contract Administration Department
306 E. Jackson St. #280A4N
Tampa, FL 33602
(813)274-8456

Laboratory Building #16 HVAC Replacement
at
DAVID L. TIPPIN
WATER TREATMENT FACILITY

PREPARED FOR

City of Tampa Water Department

CONTRACT NO. 12-D-00416
WORK ORDER NO. 7819



LOCATION OF SITE

PREPARED BY

AGI Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 Tel(813)963-1919
Email: AGI@agi-engineers.com HTTP://www.agi-engineers.com
Florida Engineering Business Number 6093

January 10, 2014

100% CONSTRUCTION DOCUMENTS

HARRY W. PORTELLOS, P.E. 61597

ROBERT C. ANSTON, P.E. 40858

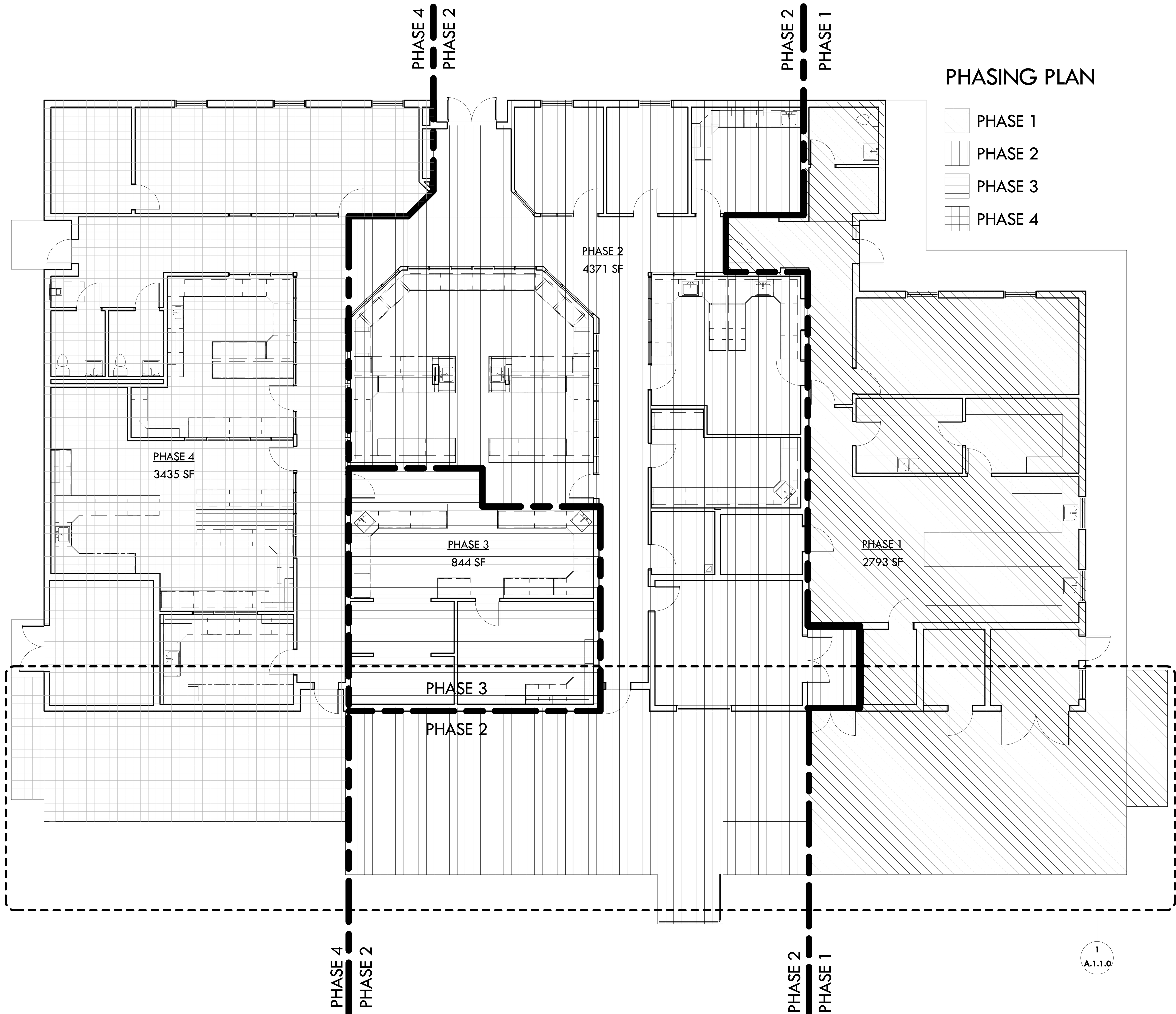
DRAWING INDEX

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH FLORIDA STATUTES.

AGI PROJECT 13009

SHEET X1

Drawing File: I:\13xxx\13009.001\13009X1c.dwg X1
Plotted By: amb02 Jan 24, 2014 - 3:02pm



1 PHASING PLAN
1/8" = 1'-0"

PHASING NOTES

TOTAL PROJECT TIME PERIOD

THE TIME PERIOD FROM NOTICE TO PROCEED TO SUBSTANTIAL COMPLETION OF THE FINAL PHASE SHALL BE 345 DAYS.

a. 51 DAYS = SHOP DRAWING REVIEW AND MOBILIZATION
b. 84 DAYS = EQUIPMENT DELIVERY
c. 210 DAYS = CONSTRUCTION
TOTAL=345 DAYS

60 DAYS = FINAL COMPLETION AND PROJECT CLOSEOUT.

TOTAL PROJECT TIME PERIOD FROM NOTICE TO PROCEED TO FINAL COMPLETION SHALL BE 405 DAYS. SEE PHASING PLAN BELOW FOR A DETAILED BREAKDOWN OF THE ALLOWABLE TIME PERIOD OR EACH PHASE OF CONSTRUCTION.

PHASING PLAN

THE CONSTRUCTION SHALL BE REQUIRED TO BE IMPLEMENTED IN A PHASED MANNER THAT ALLOWS THE OWNER TO CONTINUE TO OCCUPY THE BUILDING AND PERFORM OPERATIONS. THE FOLLOWING PROPOSED PHASING APPROACH IS INTENDED TO OUTLINE THE GENERAL REQUIREMENTS OF THE PHASED WORK, THE GENERAL DEMARCATION OF THE PHASING ZONES, THE NUMBER OF PHASES, THE TIME PERIOD ALLOWED, AND OTHER RESTRICTIONS AND REQUIREMENTS. THIS PHASING OUTLINE IS NOT INTENDED TO DICTATE THE CONTRACTOR'S MEANS AND METHODS FOR IMPLEMENTING THE WORK. REFER TO THE DRAWINGS FOR THE PHASING DEMARCATION LINES AND OTHER REQUIREMENTS. THIS WILL BE AN OCCUPIED, OPERATIONAL BUILDING DURING CONSTRUCTION. PLAN ACCORDINGLY.

PHASE 1
1. ALL ITEMS EXCEPT AS NOTED BELOW WITH UTILITY SERVICES, SUCH AS WATER, ELECTRICAL, TELECOMMUNICATIONS, DI WATER, GASES, ETC., SHALL BE DISCONNECTED BY THE CONTRACTOR AND PREPARED FOR MOVING. THE FOLLOWING ITEMS AND EQUIPMENT SHALL BE DISCONNECTED AND PREPARED FOR MOVING BY THE OWNER.

a. BALANCES, PH METERS, TURBID METER, OVENS: VARIOUS LOCATIONS
b. PERKIN ELMER FIMS 100: METALS LAB 115
c. DIONEX ICS 3000: GENERAL CHEMISTRY 123
d. DIONEX ICS 5000: GENERAL CHEMISTRY 123
e. DIONEX ICS 2500: ORGANICS LABORATORY 124
f. AGILENT (VARIAN) LC/MS/MS: ORGANICS LABORATORY 124
g. AGILENT (VARIAN) LC/MS: ORGANICS LABORATORY 124
h. AQUAMATE SPEC: GENERAL CHEMISTRY 123
i. JAR TEST APPARATUS: GENERAL CHEMISTRY 123
j. FUSION TOC INSTRUMENT: GENERAL CHEMISTRY 123

THE CONTRACTOR SHALL MOVE ALL ITEMS AND EQUIPMENT OUT OF THE SPACES INTO OTHER AREAS FOR THEIR USE OR TO STORAGE CONTAINER AS REQUIRED. CONTRACTOR SHALL NOTIFY THE LAB MANAGER 30 DAYS PRIOR TO COMMENCEMENT OF PHASE WORK.

2. THE CONTRACTOR SHALL PROVIDE AN ON SITE STORAGE CONTAINER. LOCATION WILL BE DETERMINED BY THE OWNER. THE CONTRACTOR SHALL MOVE AND STORE ALL OF THE OWNER'S PACKED AND BOXED ITEMS AND OTHER EQUIPMENT INTO AN ON-SITE STORAGE CONTAINER. THE MOVING AND STORING SHALL BE PERFORMED BY A PROFESSIONAL CERTIFIED, LICENSED, AND BONDED MOVING COMPANY. THE STORAGE CONTAINER WILL NOT BE REQUIRED TO BE AIR CONDITIONED.

3. THE CONTRACTOR SHALL PUT UP NOISE AND DUST BARRIERS TO SEPARATE THE OWNER'S OCCUPIED AREAS FROM THE CONSTRUCTION ZONE.

4. THE CONTRACTOR SHALL COMMENCE DEMOLITION OF THE CEILINGS, LIGHTING, DUCTWORK, HVAC EQUIPMENT, CABINETS (WHERE APPLICABLE), ETC. CARE AND CAUTION SHALL BE TAKEN DURING DEMOLITION TO ENSURE THE FOLLOWING:

A. MEANS OF EGRESS IS MAINTAINED FOR THE OCCUPIED AREAS.

B. ELECTRICAL POWER SHALL REMAIN IN OPERATION IN OCCUPIED AREAS, EXCEPT FOR ANY REQUIRED PRIOR APPROVED AND SCHEDULED OUTAGES. A SCHEDULED OUTAGE WILL BE REQUIRED TO PROVIDE THE NEW SERVICE AND NEW PANEL MDP. THIS OUTAGE WILL BE REQUIRED TO BE PERFORMED OVER A WEEKEND.

C. POWER WILL BE REQUIRED TO REMAIN ON FOR LIGHTING AND ALL BRANCH CIRCUITS TO THE AREAS OUTSIDE THE CONSTRUCTION ZONE. PROVIDE TEMPORARY RE-ROUTING OF ELECTRICAL CIRCUITS AS NECESSARY. EMERGENCY LIGHTING SHALL REMAIN OPERATIONAL. REFER TO SECTION 16050 FOR MORE REQUIREMENTS.

D. TELECOMMUNICATIONS SERVICES SHALL REMAIN IN OPERATION IN OCCUPIED AREAS. ALL VOICE AND DATA CABLING SHALL BE PROTECTED. REFER TO SECTION 16050 FOR MORE REQUIREMENTS.

E. THE NEW FIRE ALARM CONTROL PANEL SHALL BE INSTALLED DURING PHASE 1 AND CONNECTED TO THE EXISTING FIRE ALARM CONTROL PANEL FOR MONITORING. SEE SECTION 16721 FOR MORE REQUIREMENTS. THERE SHALL BE AN OPERATIONAL AND FUNCTIONAL FIRE ALARM SYSTEM IN ALL OCCUPIED AREAS AT ALL TIMES.

F. ALL EXISTING HVAC SYSTEMS, INCLUDING AIR HANDLERS, FUME HOOD EXHAUST, GENERAL EXHAUST, AND CONTROLS, SHALL REMAIN OPERATIONAL IN THE PHASE 2, 3, AND 4 AREAS.

G. ALL EXISTING WATER AND SANITARY SEWER SYSTEMS SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION IN THE PHASE 2, 3, AND 4 AREAS.

5. INSTALL ALL NEW WORK SCHEDULED AND INDICATED IN THE CONTRACT DOCUMENTS, AND AS REQUIRED FOR THE COMPLETION OF THIS PHASE, INCLUDING TEST AND BALANCE OF ALL AREAS, OTHER REQUIRED TESTING, PAINTING, AND CLEAN-UP.

6. SCHEDULE AND PASS A SUBSTANTIAL COMPLETION INSPECTION PRIOR TO STARTING TO THE NEXT PHASE OF WORK.

7. MOVE ALL BOXES FROM STORAGE BACK INTO THIS AREA. THE OWNER WILL UN-PACK AND MOVE BACK INTO THE SPACE.

8. WARRANTY PERIODS SHALL NOT COMMENCE UNTIL ALL PHASES ARE COMPLETE.

9. THIS PHASE SHALL BE COMPLETE IN 60 DAYS.

PHASE 2
1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING WATER AND SEWER SYSTEMS IN PHASE 1, 3 & 4 SHALL REMAIN OPERATIONAL, AND PROTECTED DURING CONSTRUCTION. THE EXISTING HVAC SYSTEM IN PHASE 1 AND 4 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.

2. PROVIDE TEMPORARY AIR CONDITIONING FOR THE PHASE 3 AREA.

3. PROVIDE FOR ELECTRICAL CIRCUITS THAT WILL NEED TO EXTEND FROM PHASE 2 INTO PHASE 3 AND 4 SUCH THAT THE DISRUPTION TO THE PHASE 2 AREA IS MINIMAL DURING THE CONSTRUCTION OF PHASE 3 AND 4.

4. PROVIDE FOR HVAC SYSTEMS EXTENSION INTO PHASE 3 AND 4 SUCH THAT THE DISRUPTION TO THE PHASE 2 AREA IS MINIMAL DURING THE CONSTRUCTION OF PHASE 3 AND 4.

5. THIS PHASE SHALL BE COMPLETED IN 60 DAYS.

PHASE 3
1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING HVAC, WATER AND SEWER SYSTEMS IN PHASE 1, 2 & 4 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.

2. THIS PHASE SHALL BE COMPLETED IN 30 DAYS.

PHASE 4
1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING HVAC, WATER AND SEWER SYSTEMS IN PHASE 1, 2 & 3 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.

2. THIS PHASE SHALL BE COMPLETED IN 60 DAYS.

A. AIR CONDITIONING, DATA NETWORK, POWER AND TELEPHONE SERVICE MUST REMAIN OPERATIONAL IN OCCUPIED AREAS FOR THE DURATION OF THE PROJECT. ANY OUTAGES OF UTILITIES AS MAY BE NECESSARY TO PERFORM THE WORK OF THIS PROJECT MUST OCCUR ON WEEKENDS ONLY AND SERVICES MUST BE RESTORED BY 7:00 AM MONDAY MORNING.

B. SOME OF THE OWNER'S FURNITURE, EQUIPMENT WILL REMAIN IN THE AREA OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO COVER AND PROTECT IT FROM DAMAGE AND THEFT, AND TO MOVE IT AS NEEDED TO ACCOMPLISH THE WORK. THE CONTRACTOR IS REQUIRED TO RETURN ALL ITEMS TO THE ROOM OF ORIGIN PRIOR TO REQUESTING A SUBSTANTIAL COMPLETION INSPECTION.

GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WITH EACH TRADE WHETHER IT BE PRIME OR SUBCONTRACTOR. CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATION ANY WORK. DO NOT SCALE THESE DRAWINGS.

2. CONTRACTOR SHALL PROTECT ALL EXISTING ADJACENT CONSTRUCTION TO PREVENT DAMAGE DURING DEMOLITION AND CONSTRUCTION AND AT ALL TIMES.

3. CONTRACTOR SHALL PATCH AND/OR REPAIR ALL EXISTING ADJACENT CONSTRUCTION AS MAY BE REQUIRED AFTER DEMOLITION TO PROVIDE A COMPLETE FINISHED INSTALLATION.

4. ALL MATERIAL AND EQUIPMENT REMOVED FROM THE BUILDING SHALL BE DISPOSED OF BY THE CONTRACTOR.

5. EACH TRADE WHETHER IT BE THE CONTRACTOR OR THE SUBCONTRACTOR, IS RESPONSIBLE FOR THEIR OWN CUTTING. ALL PATCHING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

6. WHERE EXISTING LIGHTING FIXTURES, PLUMBING FIXTURES, HVAC EQUIPMENT ETC. ARE TO BE REMOVED, ALL SERVICE TO SAME SHALL BE CAPPED OR REMOVED IN ACCORDANCE WITH APPLICABLE CODES. WHERE EXISTING LIGHTING, PLUMBING, HVAC, ETC. ARE TO REMAIN BUT ARE EFFECTED BY ADJACENT DEMOLITION AND/OR NEW CONSTRUCTION. CONTRACTOR IS TO PROVIDE RECONNECTION, CLEANING AND RELOCATION AS NECESSARY TO ACCOMMODATE WORK. COORDINATE WITH MECHANICAL AND ELECTRICAL DISCIPLINES.

7. IF DURING DEMOLITION, THE DEMOLITION CONTRACTOR FINDS PLUMBING, PIPING, ELECTRICAL, ETC., WITHIN CHASE WALL OR ENCLOSURE NOT SHOWN ON DRAWINGS, DEMOLITION CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER/ENGINEER.

8. CONTRACTOR SHALL CLEAN WORK AREA AND REMOVE ALL DEBRIS AFTER AND DURING EACH WORK SHIFT, IN ORDER TO MAINTAIN MINIMAL DISTURBANCE.

9. PHASING SEPARATION BARRICADES: PROVIDE BARRICADE SEPARATION ENCLOSURES AS REQUIRED TO MAINTAIN SAFETY AMONG PERSONS EMPLOYED IN ADDITION TO THE BUILDING OCCUPANTS IN ACCORDANCE WITH THE STANDARDS SET BY THE OCCUPATIONAL SAFETY AND HEALTH ACT (LATEST ADOPTION). THE OWNER AND ARCHITECT SHALL BE HELD HARMLESS FOR ANY ACCIDENT, INJURY OR ANY OTHER INCIDENT RESULTING FORM NONCOMPLIANCE WITH THESE STANDARDS.

10. USE EXISTING COUNTERTOPS TO BE USED AS TEMPLATES FOR PROPOSED COUNTERTOPS. COORDINATE WITH OWNER FOR STORAGE.

11. NOTIFY OWNER 30 DAYS PRIOR TO REMOVAL OF SPECIALIZED EQUIPMENT.

STANDARDS, CODES AND QUALITY

1. INDUSTRY STANDARDS: APPLICABLE STANDARDS OF CONSTRUCTION INDUSTRY HAVE SAME FORCE AND EFFECT ON PERFORMANCE OF THE WORK AS IF COPIED DIRECTLY INTO THE CONTRACT DOCUMENTS OR IN GOVERNING REGULATIONS HAVE PRECEDENCE OVER NON-REFERENCED STANDARDS. REFERENCES TO STANDARD SPECIFICATIONS AND CODES REFER TO CURRENT EDITIONS. COMPLY WITH APPLICABLE STANDARDS OF WORK, PROMULGATED BY ORGANIZATIONS, ASSOCIATIONS, INSTITUTES, SOCIETIES, BOARDS AND GENERALLY RECOGNIZED ORGANIZATIONS.

2. CODES: THE FLORIDA BUILDING CODE (FBC), 2010 EDITION AND NFPA 101 (LIFE SAFETY CODE) 2012 EDITION APPLY TO ALL WORK. IN EVENT OF A CONFLICT, THE MOST STRINGENT CODE SHALL APPLY.

ARCHITECTURAL SYMBOL KEY

SECTION INDICATOR
LETTER
DIRECTION OF SECTION CUT
SHEET NUMBER

ROOM NAME & NUMBER
RNAME — ROOM NAME
RNO — NUMBER

FINISH ELEV. PLAN
ELEVATION

ELEVATION INDICATOR
LETTER
SHEET NUMBER

SPECIFIC NOTE INDICATOR
DEMOLITION WORK
NOTE NO. ON SHEET SHOWN ONLY

DETAIL INDICATOR
NUMBER
SHEET NUMBER

SPECIFIC NOTE INDICATOR
PROPOSED WORK
NOTE NO. ON SHEET SHOWN ONLY

WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

813-281-0411
FLORIDA LICENSE NUMBER AA C001379

ENRIQUE A. WOODROFFE, FAIA, LEED
FLORIDA LICENSE AR 0007703

REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT AND RENOVATION
7125 NORTH 30TH STREET, TAMPA, FL 33610

100% CONSTRUCTION DOCUMENTS

PHASING PLAN AND GENERAL NOTES

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
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Email: AGI@agi-engineers.com HTTP://www.agi-engineers.com
Florida Engineering Business Number 0093

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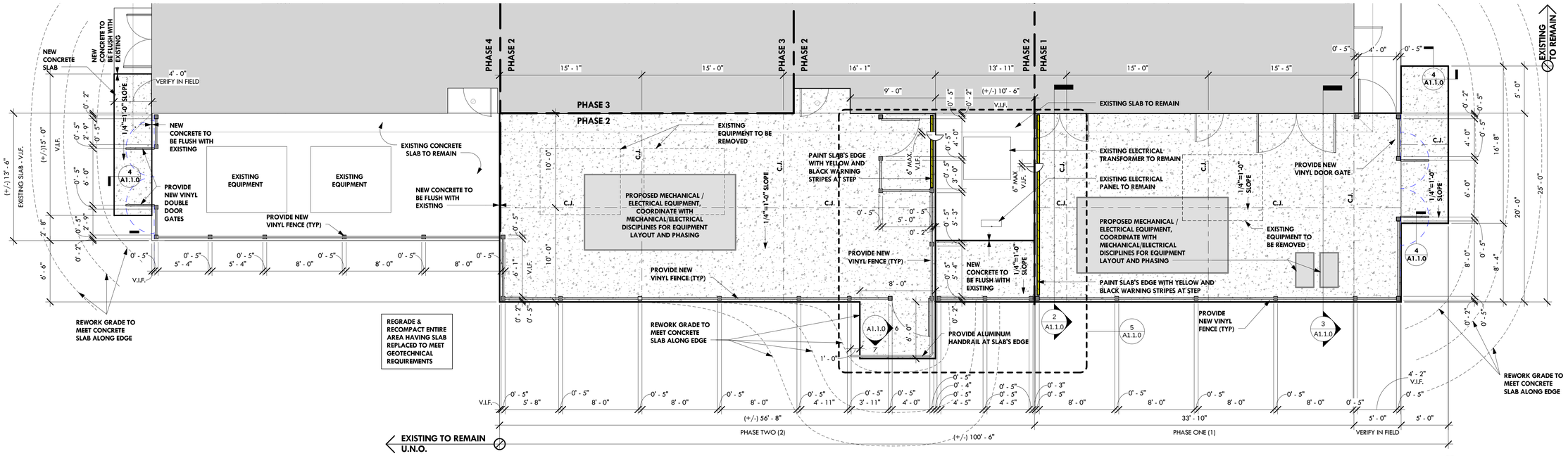
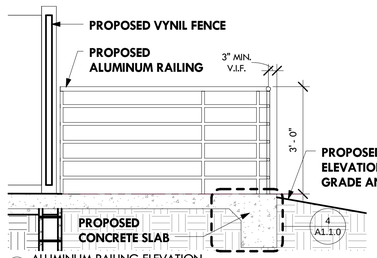


1 EXTERIOR PHASING PLAN
3/16" = 1'-0"

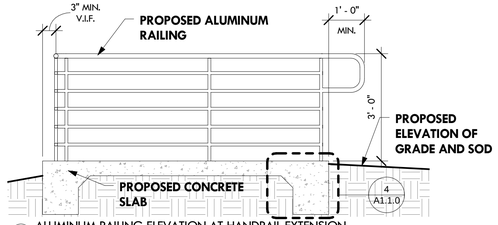
(NOTE: THIS PLAN SHOWS RENOVATED PLAN AT THE END OF PHASE IV)

NEW CHILLER YARD

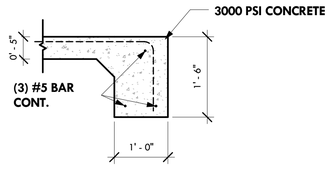
REFER TO SHEET A1.1.1 FOR PHASE I; SHEET A1.2.1 FOR PHASE II ; SHEET A1.4.1 FOR PHASE IV



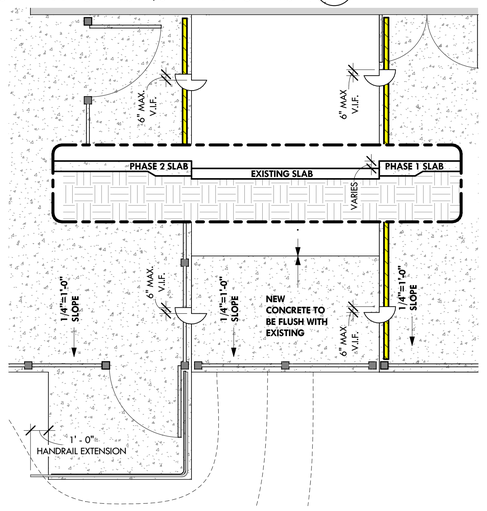
6 ALUMINUM RAILING ELEVATION
1/2" = 1'-0"



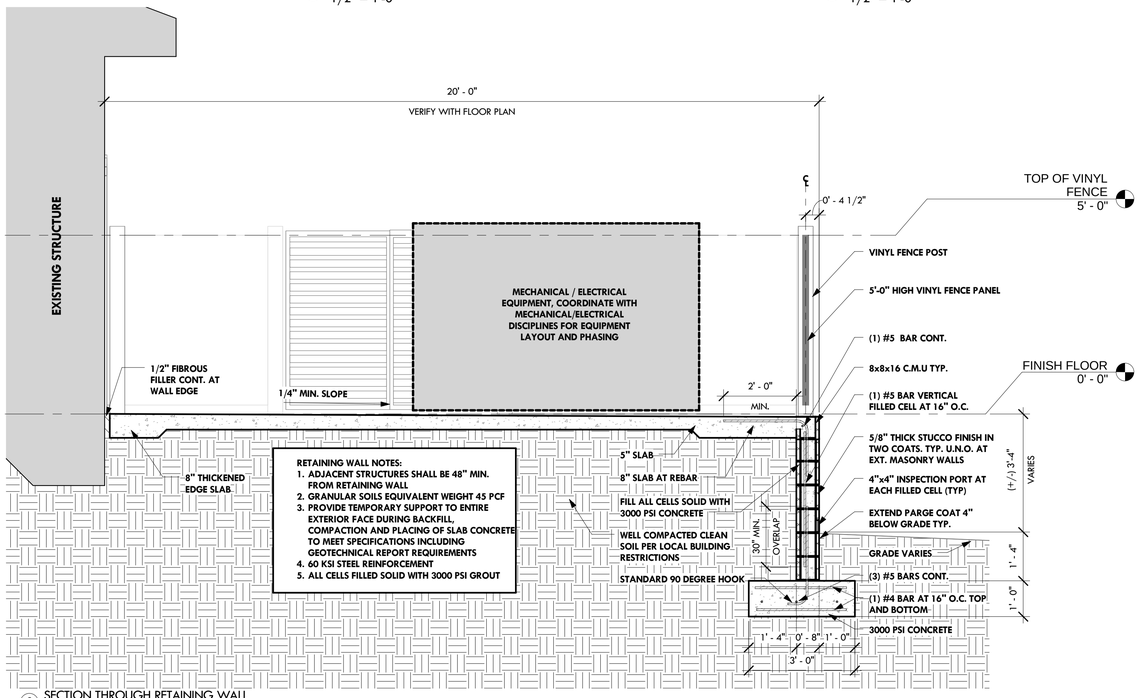
7 ALUMINUM RAILING ELEVATION AT HANDRAIL EXTENSION
1/2" = 1'-0"



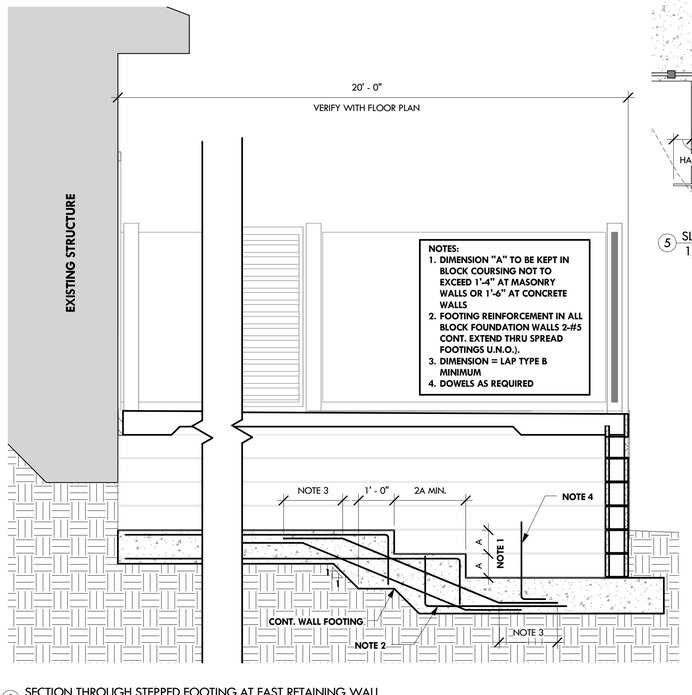
4 TYPICAL SLAB FOOTING
3/4" = 1'-0"



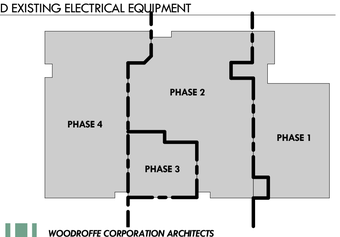
5 SLAB PLAN AROUND EXISTING ELECTRICAL EQUIPMENT
1/4" = 1'-0"



2 SECTION THROUGH RETAINING WALL
1/2" = 1'-0"



3 SECTION THROUGH STEPPED FOOTING AT EAST RETAINING WALL
1/2" = 1'-0"



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5005 WEST LAUREL STREET, SUITE 215
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7125 NORTH 30TH STREET, TAMPA, FL 33610

100% CONSTRUCTION DOCUMENTS

EXTERIOR PHASING PLAN

AGI
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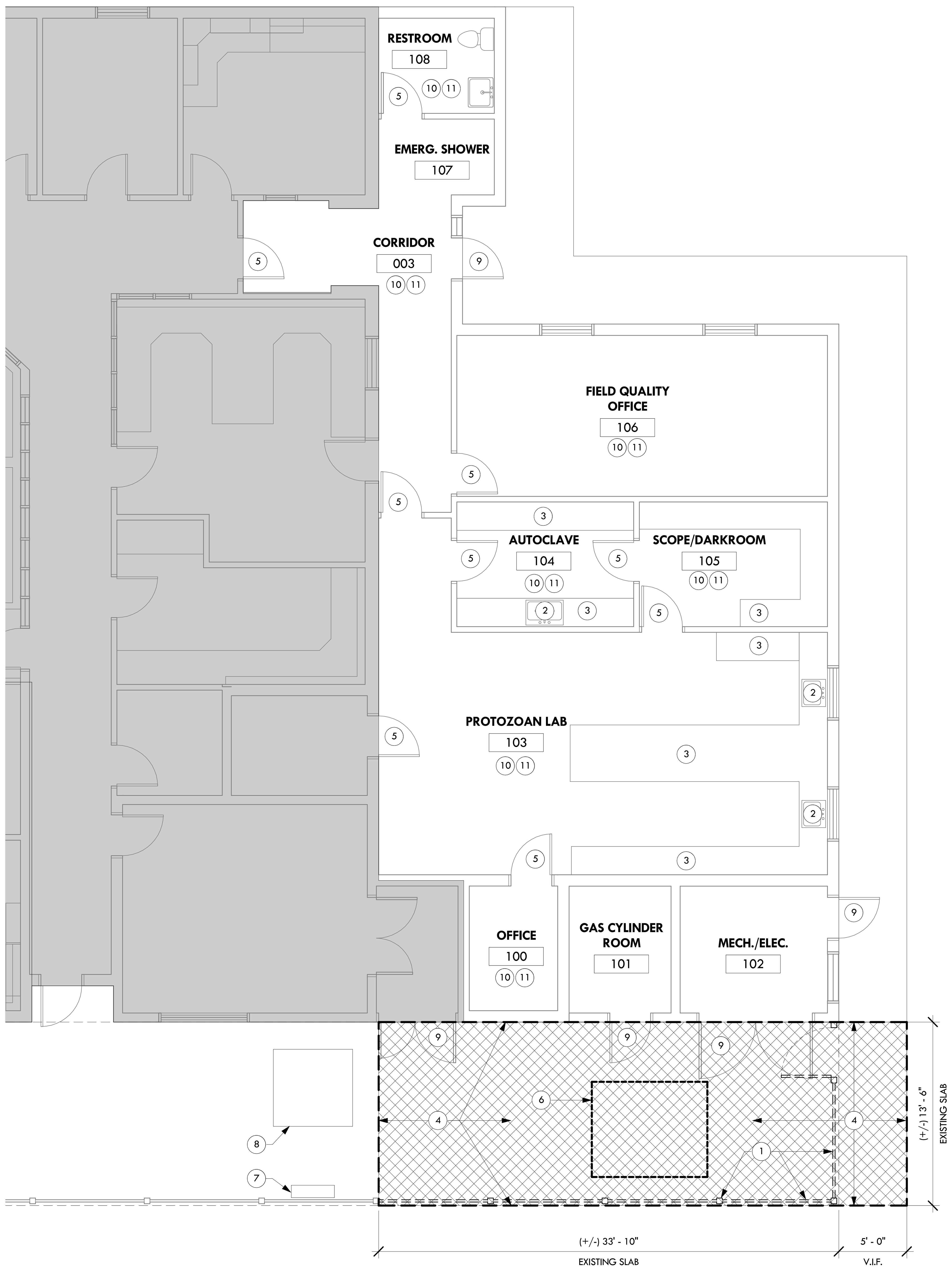
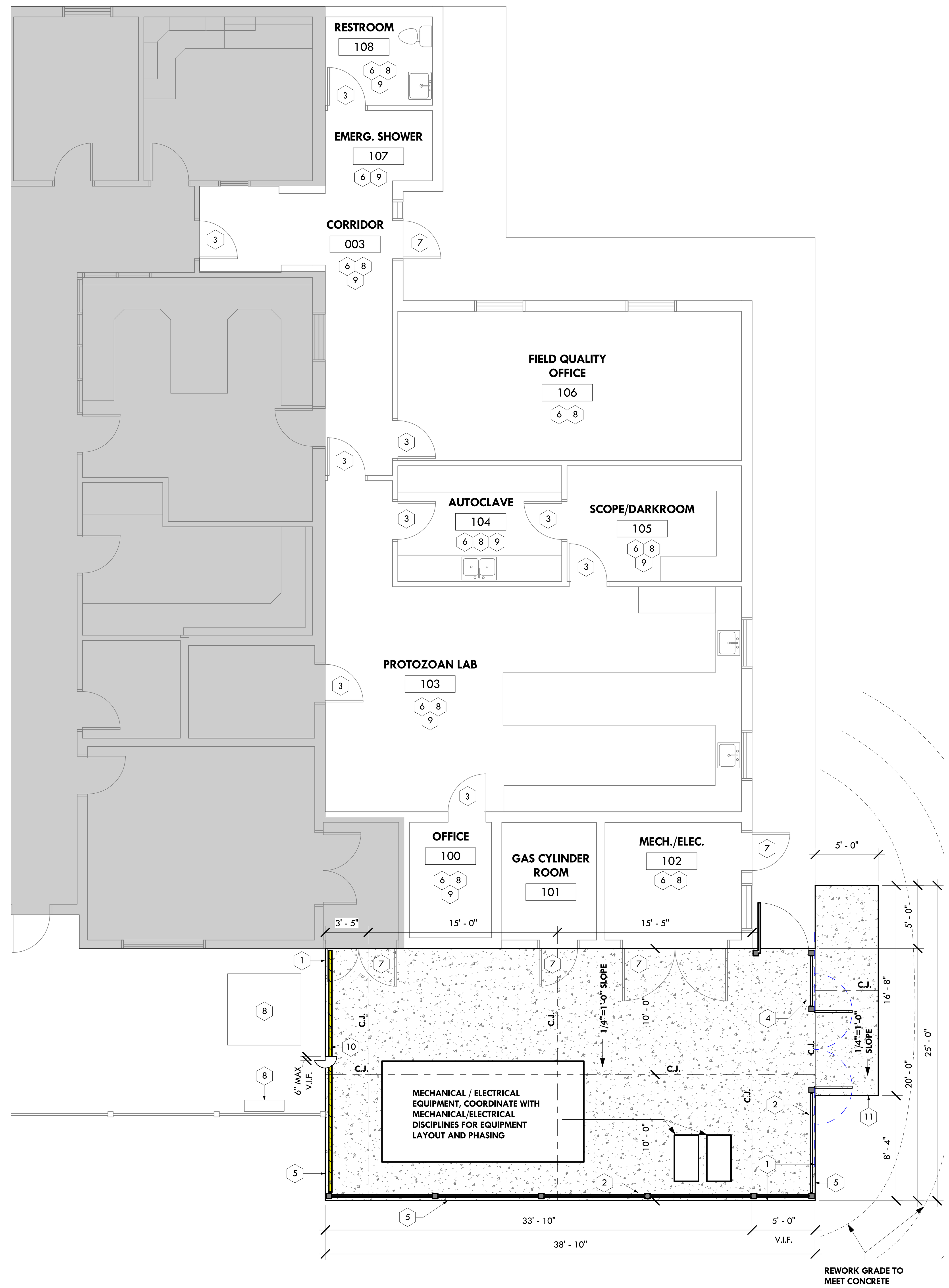


1 PHASE 1 - DEMOLITION PLAN
3/16" = 1'-0"



2 PHASE 1 - RENOVATION PLAN
3/16" = 1'-0"

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK

2. ALL DIMENSIONS ARE TO ONE OF THE FOLLOWING:

   A. CENTERLINE OF ITEMS
   B. FACE OF CONCRETE AT EXTERIOR
   C. FACE OF FINISH AT INTERIOR

3. PATCH AND PREPARE ALL INTERIOR WALLS FOR NEW PAINTING. PROTECT ALL ADJACENT SURFACES

4. PROTECT ALL FLOOR FINISHES PRIOR TO COMMENCEMENT OF WORK

5. REMOVE ALL CEILING TILES AND LIGHTING FIXTURES PER PHASE PLAN - PROVIDE HUMIDITY RESISTANT CEILING TILE AND GRID

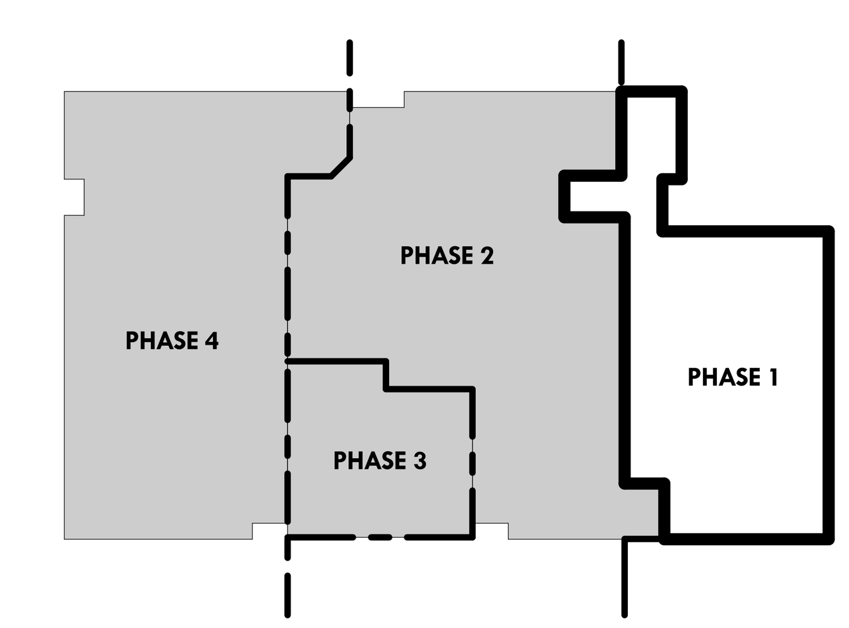
6. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR CEILING DIFFUSERS, EXIT LIGHTS, LIGHTS, ETC.

DEMO PLAN NOTES " ◯ "

1. REMOVE EXISTING VINYL FENCE
2. EXISTING SINK TO REMAIN
3. EXISTING CABINETS AND COUNTERTOPS TO REMAIN
4. REMOVE EXISTING CONCRETE SLAB
5. STRIP DOOR PANEL FINISH. PREPARE FOR PAINT AND STAIN. PREPARE METAL DOOR AND FRAME TO REPAINT
6. REMOVE EXISTING MECHANICAL EQUIPMENT - REFER TO MECHANICAL DRAWINGS FOR SCOPE OF WORK
7. EXISTING ELECTRICAL PANEL TO REMAIN
8. EXISTING ELECTRICAL TRASNFORMER TO REMAIN
9. PREPARE TO REPAINT DOOR AND FRAME
10. PREPARE TO REPAINT WALLS
11. PROTECT FLOOR FINISHES

RENOVATION PLAN NOTES " ⬡ "

1. 5" CONCRETE SLAB WITH WIRE MESH AND 8" THICKENED SLAB EDGE.
2. PROVIDE WHITE EXTERIOR VINYL ENCLOSURE FENCE
3. RE-STAIN WOOD DOORS, PAINT HOLLOW METAL FRAME AROUND DOOR AND FRAME AROUND WINDOW IF APPLICABLE
4. PROVIDE 4'-0" WHITE EXTERIOR VINYL GATE
5. PROVIDE RETENTION WALL - REFER TO SHEET A1.1.0 FOR ADDITIONAL DETAILS
6. ALL INTERIOR WALLS TO BE PAINTED - COLOR TO MATCH EXISTING
7. PAINT DOOR AND FRAME
8. REFER TO ELECTRICAL & MECHANICAL DRAWINGS FOR SCOPE OF WORK
9. CLEAN FLOORS AND BASE - USE PROFESSIONAL CLEANING SERVICE. REMOVE STAINS WHERE POSSIBLE
10. PAINT SLAB'S EDGE WITH YELLOW AND BLACK WARNING STRIPES AT STEP
11. SLAB FOOTING DETAIL - REFER TO SHEET A1.1.0



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PHASE 1 - PLANS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers

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DATE	01/10/14
SCALE	As indicated
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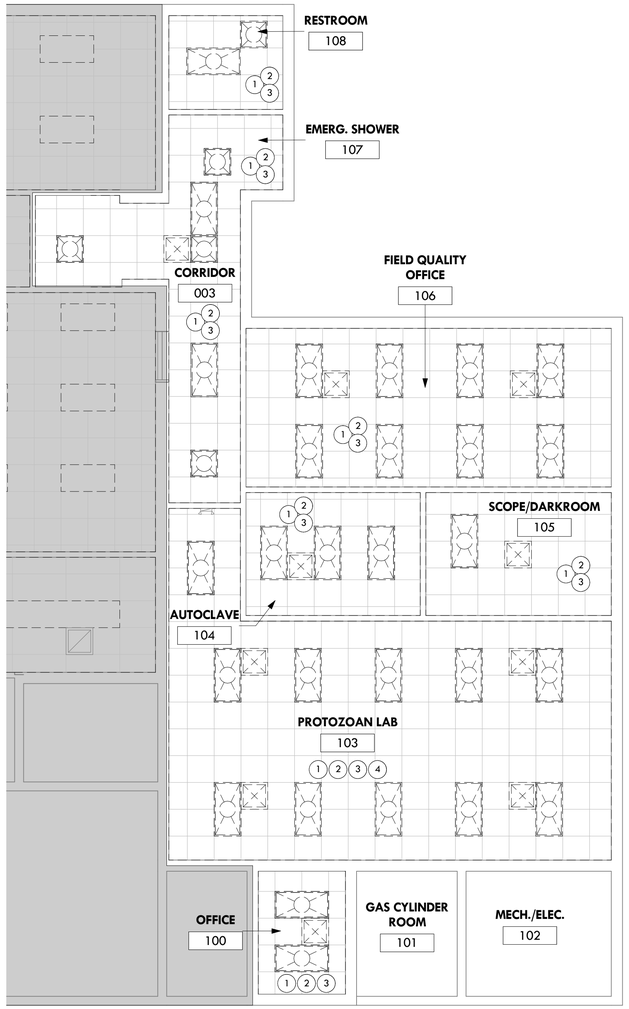
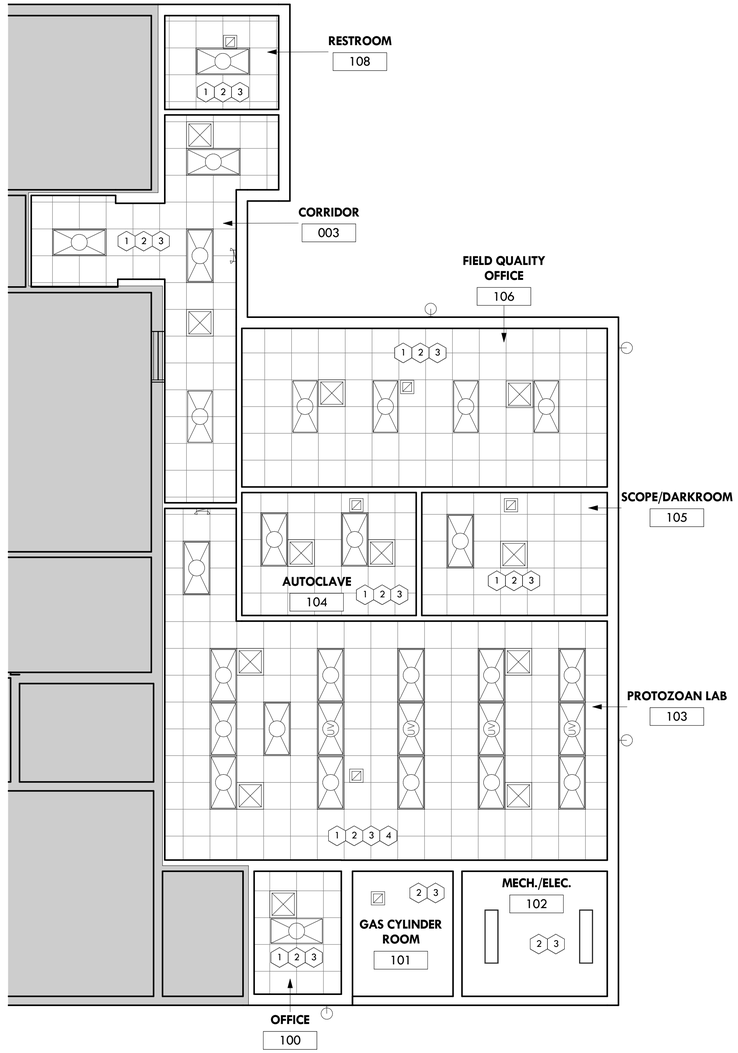


1 PHASE 1-DEMOLITION CEILING PLAN
3/16" = 1'-0"



2 PHASE 1-RENOVATION CEILING PLAN
3/16" = 1'-0"

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK

2. ALL DIMENSIONS ARE TO ONE OF THE FOLLOWING:

   A. CENTERLINE OF ITEMS
   B. FACE OF CONCRETE AT EXTERIOR
   C. FACE OF FINISH AT INTERIOR

3. PATCH AND PREPARE ALL INTERIOR WALLS FOR NEW PAINTING. PROTECT ALL ADJACENT SURFACES

4. PROTECT ALL FLOOR FINISHES PRIOR TO COMMENCEMENT OF WORK

5. REMOVE ALL CEILING TILES AND LIGHTING FIXTURES PER PHASE PLAN - PROVIDE HUMIDITY RESISTANT CEILING TILE AND GRID

6. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR CEILING DIFFUSERS, EXIT LIGHTS, LIGHTS, ETC.

DEMO PLAN NOTES " ◯ "

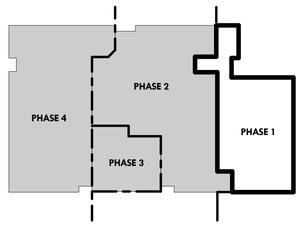
1. REMOVE EXISTING ACOUSTICAL SUSPENDED CEILING
2. REMOVE EXISTING LIGHT FIXTURES
3. REMOVE EXISTING MECHANICAL SYSTEM - SEE MECHANICAL SHEETS FOR SCOPE OF WORK
4. SALVAGE UV LIGHTS, STORE SAFELY.

RENOVATION PLAN NOTES " ⬡ "

1. NEW ACOUSTICAL 2'-0"x2'-0" SUSPENDED CEILING
2. NEW LIGHT FIXTURES - SEE ELECTRICAL SHEETS FOR SCOPE OF WORK
3. NEW MECHANICAL SYSTEM - SEE MECHANICAL SHEETS FOR SCOPE OF WORK
4. RE-USE EXISTING UV-LIGHTING FIXTURES. PROVIDE NEW UV BULBS

REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT AND RENOVATION
7125 NORTH 30TH STREET, TAMPA, FL 33610



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PHASE 1- REFLECTED CEILING PLANS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Bethel Avenue, Tampa, FL 33612 Tel(813)963-3939
Email: AGI@anston-greenlees.com Florida Certificate of Authorization Number 6097
Florida Engineering Business Number 6097

WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

813-281-0411
FLORIDA LICENSE NUMBER AA C001379

ENRIQUE A. WOODROFFE, FAIA, LEED
FLORIDA LICENSE AR 0007703

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DATE	01/10/14
SCALE	As indicated
AGI PROJECT	13009
SHEET	A1.1.2

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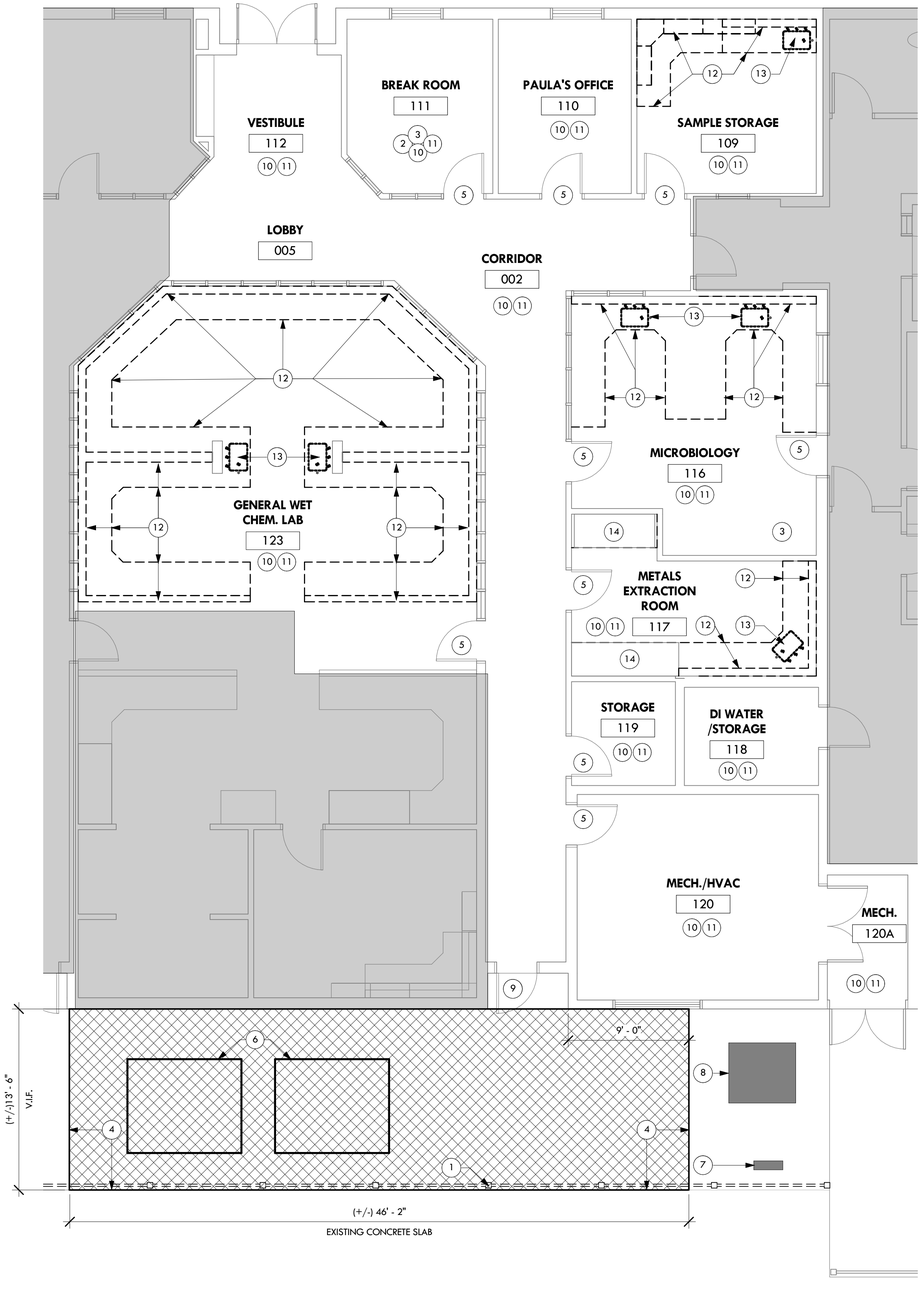
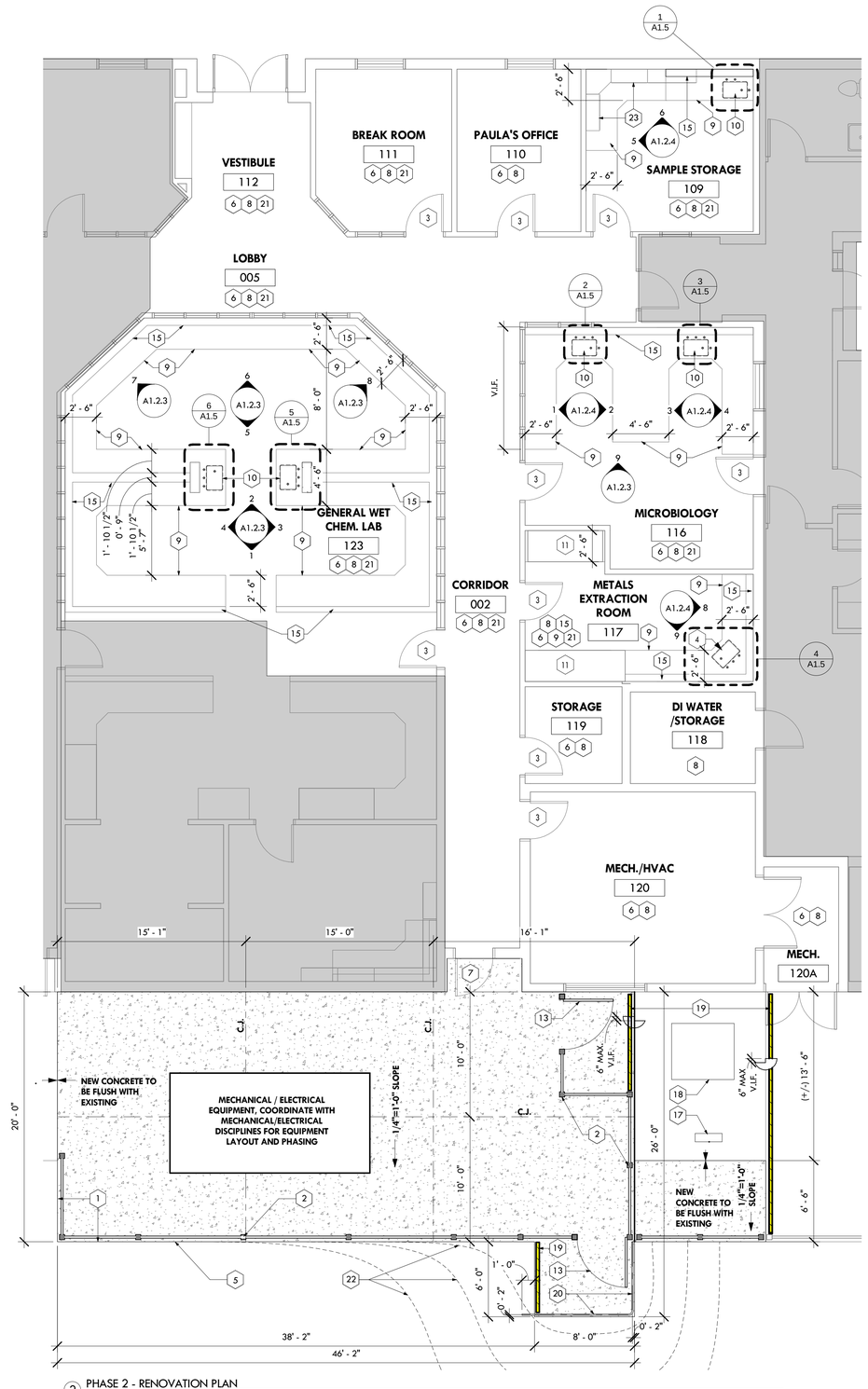


1 PHASE 2 - DEMOLITION PLAN
3/16" = 1'-0"



2 PHASE 2 - RENOVATION PLAN
3/16" = 1'-0"

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK

2. ALL DIMENSIONS ARE TO ONE OF THE FOLLOWING:

   A. CENTERLINE OF ITEMS
   B. FACE OF CONCRETE AT EXTERIOR
   C. FACE OF FINISH AT INTERIOR

3. PATCH AND PREPARE ALL INTERIOR WALLS FOR NEW PAINTING. PROTECT ALL ADJACENT SURFACES

4. PROTECT ALL FLOOR FINISHES PRIOR TO COMMENCEMENT OF WORK

5. REMOVE ALL CEILING TILES AND LIGHTING FIXTURES PER PHASE PLAN - PROVIDE HUMIDITY RESISTANT CEILING TILE AND GRID

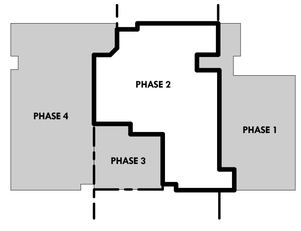
6. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR CEILING DIFFUSERS, EXIT LIGHTS, LIGHTS, ETC.

DEMO PLAN NOTES " ◯ "

1. REMOVE EXISTING VINYL FENCE
2. EXISTING SINK TO REMAIN
3. EXISTING CABINETS AND COUNTERTOPS TO REMAIN
4. REMOVE EXISTING CONCRETE SLAB.
5. STRIP DOOR PANEL FINISH. PREPARE FOR PAINT AND STAIN. PREPARE METAL DOOR AND FRAME TO REPAINT
6. REMOVE EXISTING MECHANICAL EQUIPMENT - REFER TO MECHANICAL DRAWINGS FOR SCOPE OF WORK
7. EXISTING ELECTRICAL PANEL TO REMAIN
8. EXISTING ELECTRICAL TRASNFORMER TO REMAIN
9. PREPARE TO REPAINT DOOR AND FRAME
10. PREPARE TO REPAINT WALLS
11. PROTECT FLOOR FINISHES
12. REMOVE EXISTING CABINETS AND COUNTERTOPS
13. REMOVE/RELOCATE EXISTING SINK - GC TO COORDINATE EFFORTS WITH CLIENT
14. EXISTING HOOD TO REMAIN

RENOVATION PLAN NOTES " ⬡ "

1. 5" CONCRETE SLAB WITH WIRE MESH AND 8" THICKENED SLAB EDGE
2. PROVIDE WHITE EXTERIOR VINYL ENCLOSURE FENCE
3. RE-STAIN WOOD DOORS, PAINT HOLLOW METAL FRAME AROUND DOOR AND FRAME AROUND WINDOW IF APPLICABLE
4. PROVIDE PAIR OF 3'-0" WHITE EXTERIOR VINYL GATES
5. PROVIDE RETENTION WALL - REFER TO SHEET A1.1.0 FOR ADDITIONAL DETAILS
6. ALL INTERIOR WALLS TO BE PAINTED - COLOR TO MATCH EXISTING
7. PAINT DOOR AND FRAME
8. REFER TO ELECTRICAL & MECHANICAL DRAWINGS FOR SCOPE OF WORK
9. NEW BASE CABINETS AND CHEMICAL RESISTANT SOLID SURFACE COUNTERTOPS - SEE INTERIOR ELEVATIONS FOR CABINET DETAILS
10. NEW CHEMICAL RESISTANT SINK, NEW PLUMBING FIXTURES TO MATCH EXISTING - SEE MECH/PLUMB. SHEETS FOR FIXTURE SCHEDULE
11. RECONNECT EXISTING HOOD - COORDINATE WITH HOOD MANUFACTURER AND OWNER
12. VINYL FENCE ENCLOSURE
13. 4'-0" VINYL GATE
14. RETAINING WALL REFER TO SHEET A1.1.0 FOR ADDITIONAL DETAILS
15. PROVIDE NEW ELECTRICAL RACEWAY FOR ELECTRICAL CONDUIT
16. REWORK GRADE TO MEET CONCRETE SLAB ALONG EDGE
17. EXISTING ELECTRICAL PANEL TO REMAIN
18. EXISTING ELECTRICAL TRASNFORMER TO REMAIN
19. PAINT SLAB'S EDGE WITH YELLOW AND BLACK WARNING STRIPES AT STEP
20. PROVIDE STEEL PIPE HANDRAIL AT SLAB'S EDGE.
21. CLEAN FLOORS AND BASE - USE PROFESSIONAL CLEANING SERVICE. REMOVE STAINS WHERE POSSIBLE
22. REWORK GRADE TO MEET CONCRETE SLAB ALONG EDGE
23. NEW WALL CABINET - SEE INTERIOR ELEVATIONS FOR CABINET DETAILS



WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

813-281-0411
FLORIDA LICENSE NUMBER AA C001379

ENRIQUE A. WOODROFFE, FAIA, LEED
FLORIDA LICENSE AR 0007703

REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT AND RENOVATION
7125 NORTH 30TH STREET, TAMPA, FL 33610

100% CONSTRUCTION DOCUMENTS

PHASE 2 - PLANS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Hatcher Avenue, Tampa, FL 33612 (813)963-1919
Email: AGI@anston-greenlees.com Website: www.anston-greenlees.com
Florida Engineering Business Number 6603

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DATE	01/10/14
SCALE	As indicated
AGI PROJECT	13009
SHEET	A1.2.1

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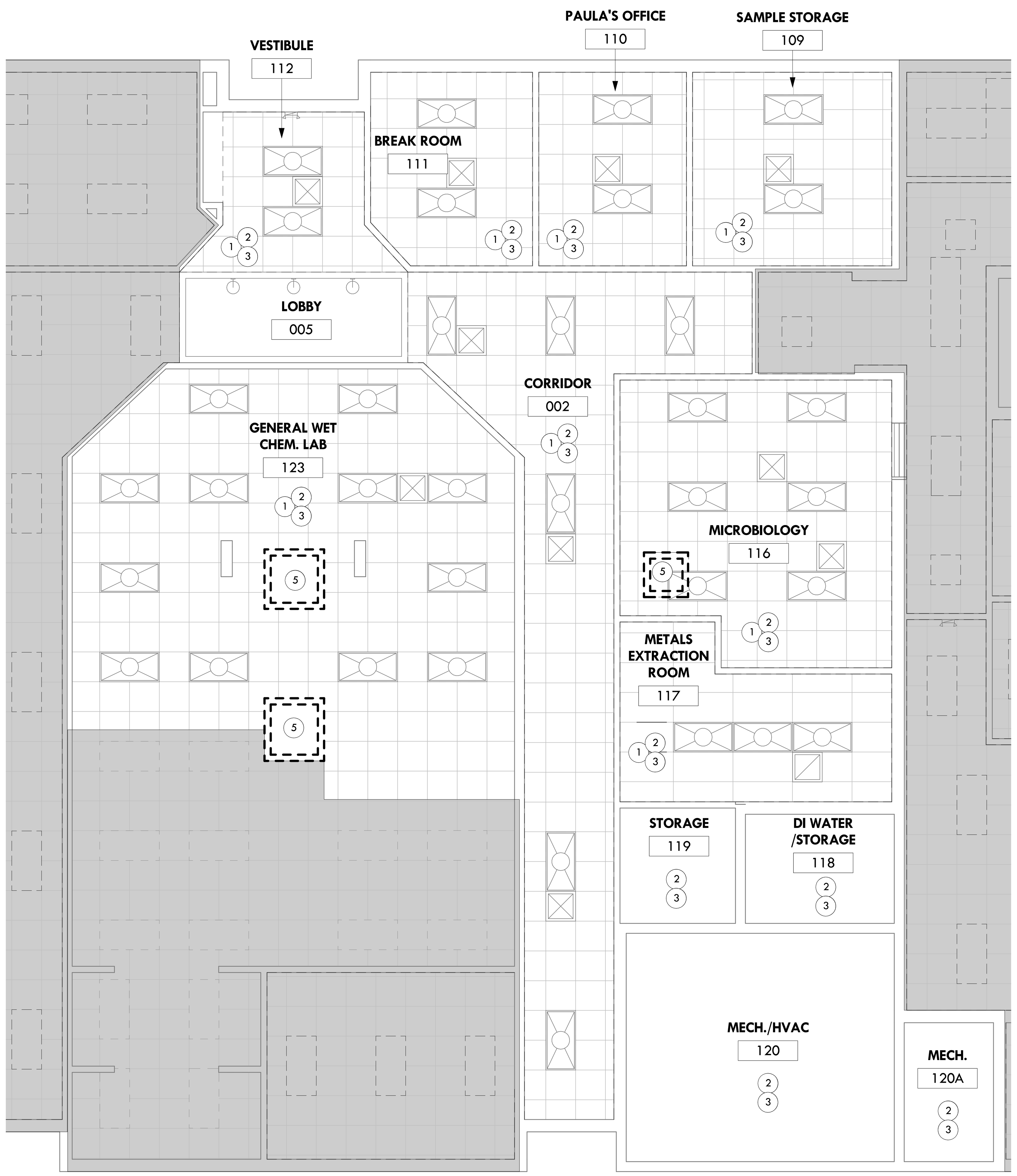
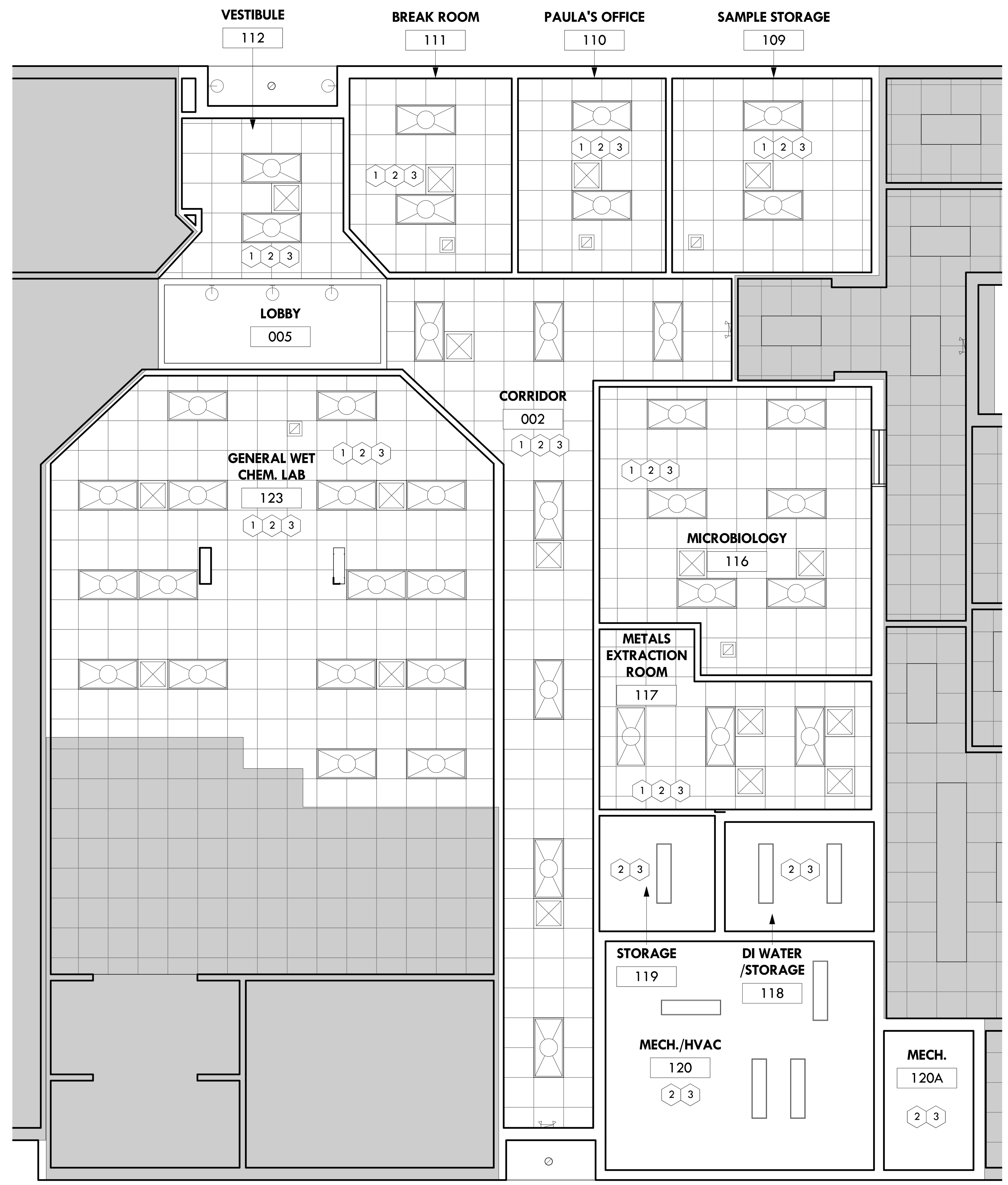


1 PHASE 2-DEMOLITION CEILING PLAN
3/16" = 1'-0"



2 PHASE 2-RENOVATION CEILING PLAN
3/16" = 1'-0"

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK

2. ALL DIMENSIONS ARE TO ONE OF THE FOLLOWING:

   A. CENTERLINE OF ITEMS
   B. FACE OF CONCRETE AT EXTERIOR
   C. FACE OF FINISH AT INTERIOR

3. PATCH AND PREPARE ALL INTERIOR WALLS FOR NEW PAINTING. PROTECT ALL ADJACENT SURFACES

4. PROTECT ALL FLOOR FINISHES PRIOR TO COMMENCEMENT OF WORK

5. REMOVE ALL CEILING TILES AND LIGHTING FIXTURES PER PHASE PLAN - PROVIDE HUMIDITY RESISTANT CEILING TILE AND GRID

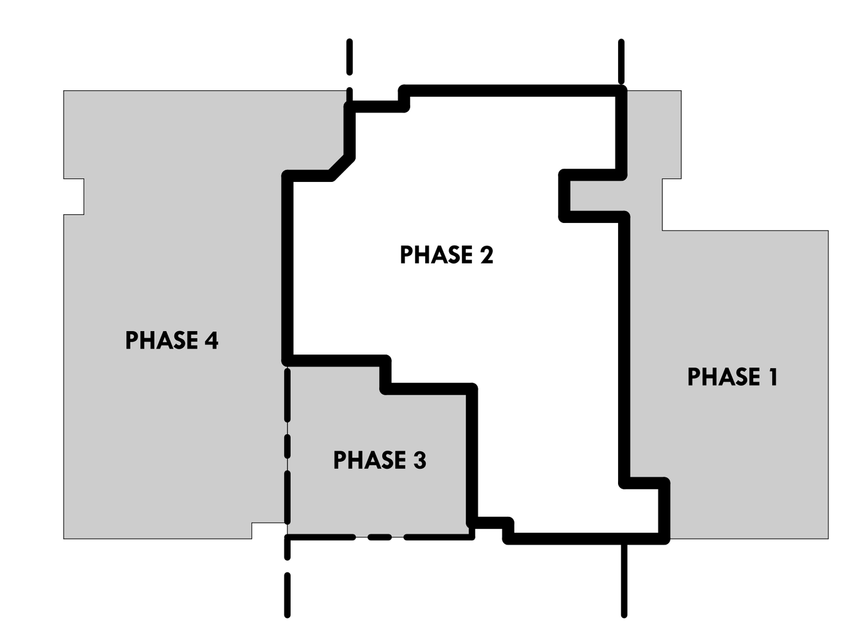
6. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR CEILING DIFFUSERS, EXIT LIGHTS, LIGHTS, ETC.

DEMO PLAN NOTES " ○ "

1. REMOVE EXISTING ACUSTICAL SUSPENDED CEILING
2. REMOVE EXISTING LIGHT FIXTURES
3. REMOVE EXISTING MECHANICAL SYSTEM - SEE MECHANICAL SHEETS FOR SCOPE OF WORK
4. EXISTING HOOD TO REMAIN
5. REMOVE EXISTING ABANDONED SKYLIGHT - REMOVE FRAMING - PROTECT EXISTING CURB AND WATERPROOFING TO AVOID WATER INTRUSION CAUSED BY DEMOLITION

RENOVATION PLAN NOTES " ⬡ "

1. NEW ACOUSTICAL SUSPENDED CEILING
2. NEW LIGHT FIXTURES - SEE ELECTRICAL SHEETS FOR SCOPE OF WORK
3. NEW MECHANICAL SYSTEM - SEE MECHANICAL SHEETS FOR SCOPE OF WORK



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5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

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FLORIDA LICENSE NUMBER AA C001379

ENRIQUE A. WOODROFFE, FAIA, LEED
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REVISIONS	BY

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LABORATORY HVAC REPLACEMENT AND RENOVATION
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PHASE 2 - REFLECTED CEILING PLANS

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Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 Tel(813)963-1919
Email: AGI@agi-engineers.com HTTP://www.agi-engineers.com
Florida Engineering Business Number 6093

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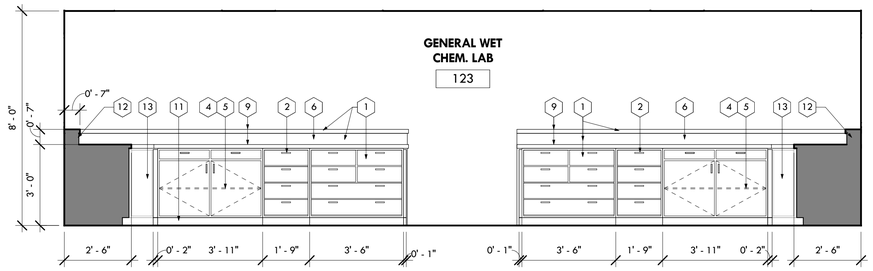
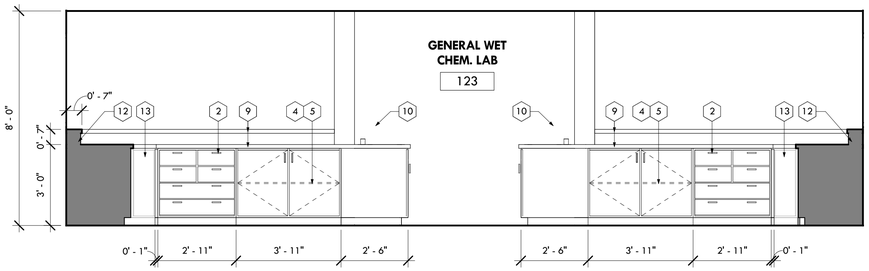
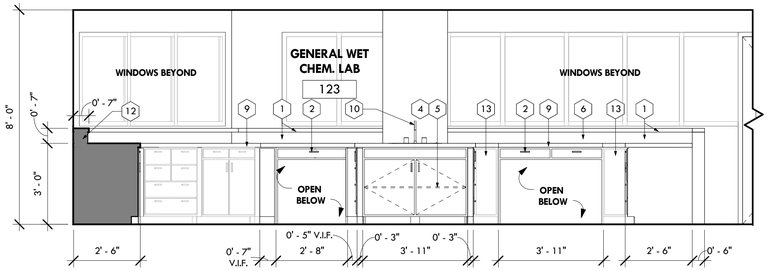


1 PHASE 2- INTERIOR ELEVATIONS
3/8" = 1'-0"



2 PHASE 2- INTERIOR ELEVATIONS
3/8" = 1'-0"



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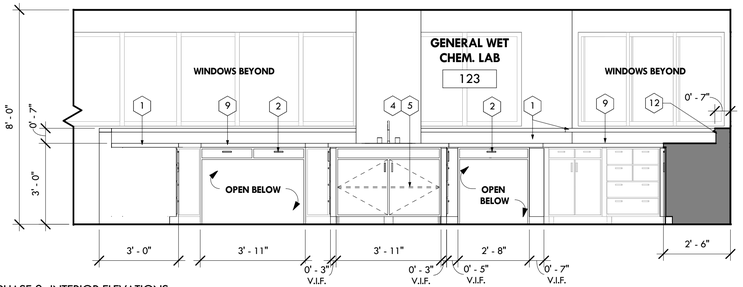
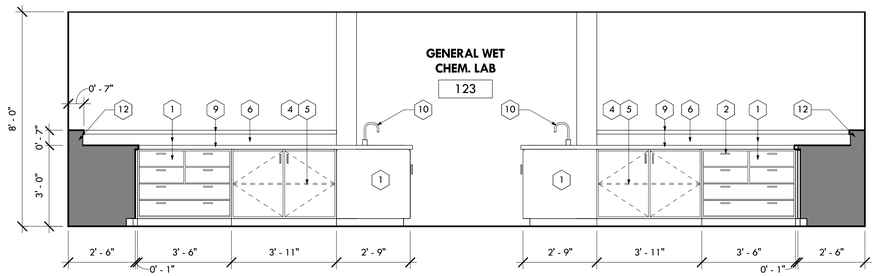
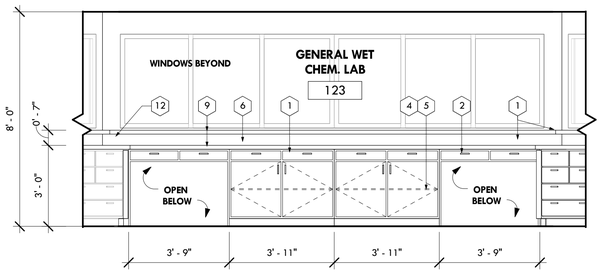
3/8" = 1'-0"



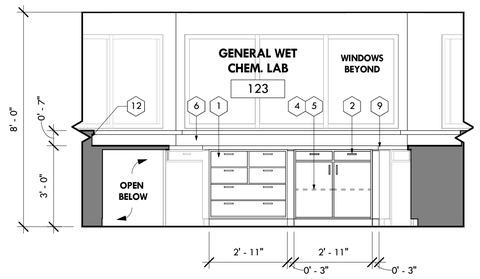
4 PHASE 2- INTERIOR ELEVATIONS
3/8" = 1'-0"



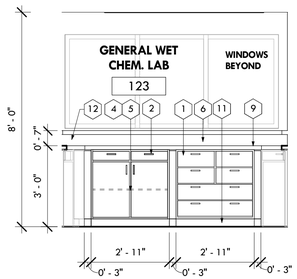
5 PHASE 2- INTERIOR ELEVATIONS
3/8" = 1'-0"



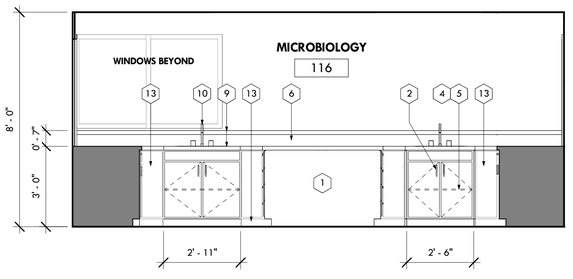
6 PHASE 2- INTERIOR ELEVATIONS
3/8" = 1'-0"



8 PHASE 2- INTERIOR ELEVATIONS
3/8" = 1'-0"



7 PHASE 2- INTERIOR ELEVATIONS
3/8" = 1'-0"



9 PHASE 2- INTERIOR ELEVATIONS
3/8" = 1'-0"

GENERAL NOTES

1. WOOD CABINETS ARE TO BE CERTIFIED BY AN INDEPENDENT AGENCY SIMILAR AWI . SEE SHEET A0.0 FOR LIST OF ARCHITECTURAL SYMBOLS.
2. CONTRACTOR SHALL VERIFY A DIMENSIONS AT THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK.
3. ALL CASEWORK SHALL BE SQUARE, PLUMB AND TRUE.
4. ALL EXPOSED AND SEMI-EXPOSED WOOD SURFACES TO HAVE PLASTIC LAMINATE FINISH.
5. PROVIDE NYLON ROPE STOPS WHERE CABINET DOORS WOULD OTHERWISE HIT ADJACENT SURFACES.
6. PROVIDE FILLER PANELS (MAX. 1 1/2" WIDE) AT CASEWORK SIDES & TOPS. SCRIBE FILLERS TO WALL & SECURE TO ADJACENT SURFACE. SEAL CASEWORK FILLERS TO ADJACENT WALL.
7. PROVIDE A MINIMUM 3/8" THICK INSTALLATION RAIL FOR MOUNTING CABINETRY TO WALL, EXCEPT WHERE 1/2" THICK MATERIAL IS PROVIDED.
8. GENERAL CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF SINK DRAINAGE CONNECTION PRIOR TO ORDERING PLUMBING FIXTURES
9. GENERAL CONTRACTOR TO COORDINATE OPENING IN COUNTERTOP FOR ALL PLUMBING FIXTURES.
10. PROTECT EXISTING FLOOR FINISHES PRIOR TO DEMOLITION AND THROUGHOUT INSTALLATION OF NEW CABINET WORK. CLEAN FLOOR BY A PROFESSIONAL CLEANING COMPANY.
11. ALL COUNTERTOPS TO BE 1" EPOXY RESIN CHEMICAL RESISTANT
12. ALL SINKS TO BE EPOXY RESING CHEMICAL RESISTANT
13. ALL CABINETS TO BE MADE OF PLYWOOD
14. REFER TO SHEET A1.5 FOR CABINET DETAILS

SPECIFIC CABINETRY NOTES "⬡"

1. CHEMICAL RESISTAN PLASTIC LAMINATE AT ALL EXPOSED SURFACES ON 3/4" PLYWOOD (TYPICAL). PROVIDE WEAR FACTOR FINISH
2. 4" WIRE PULL TO MATCH EXISTING
3. CABINET BACKS TO BE 3/4" PLYWOOD
4. HOLES DRILLED FOR ADJUSTABLE SHELVES AT 1-1/4" O.C. PROVIDE SHELF PINS TO ACCOMODATE 3/4" SHELVES
5. PLASTIC LAMINATE ADJUSTABLE SHELVES
6. HIGH BACKSPLASH AT BACK OF COUNTER. RETURN SPLASH WHERE PERPENDICULAR WALL ABUTTS CABINET
7. NOT USED
8. PLASTIC LAMINATE AT UPPER CABINET SHELVING (3/4" THICK PLYWOOD-TYP)
9. 1" CHEMICAL RESISTANT EPOXY RESIN BLACK COUNTER TOP (TYP.)
10. CHEMICAL RESISTANT EPOXY RESIN BLACK SINKS TO MATCH EXISTING - SEE SHEE A1.5 FOR ADDITIONAL INFORMATION - REFER TO PLUMBING SHEET FOR FIXTURE SCHEDULES (TYP.)
11. 4" INTEGRAL BASE
12. ELECTRICAL RACEWAY FOR ELECTRICAL CONDUIT
13. CORNER CABINET - PROVIDE ROTATING SHELVES TO MATCH EXISTING (TYP.)
14. MACHINE SCRUB FLOORS BEFORE INSTALLING NEW CABINETS
15. PROVIDE WOOD BLOCKING AS REQUIRED
16. GLASS FRAME OPTIONAL - MATCH EXISTING CONDITIONS- COORDINATE WITH CLIENT
17. FULL EXTENSION DRAWER SLIDE
18. 1/4" PLYWOOD BACKING ON 1 X 3 HARDWOOD CABINET FRAME
19. CABINET SUB BASE. SEPARATE AND CONTINUOUS P.T. 2X4 WITH CONCEALED FASTENING TO CABINET BOTTOM. INSET WITH 1/4" AT CABINET FINISHED ENDS FOR A RECESSED BASE CONDITION
20. ELECTRICAL OUTLET - REFER TO ELECTRICAL SHEETS FOR SCOPE OF WORK
21. 2X4 KNEE WALL AT 16" O.C.
22. NEW WALL CABINET - SEE INTERIOR ELEVATIONS FOR CABINET DETAILS

REVISIONS	BY

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PHASE 2 - INTERIOR CABINET ELEVATIONS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 (813) 933-1919
Email: AGI@anston-greenlees.com Certificate of Authorization
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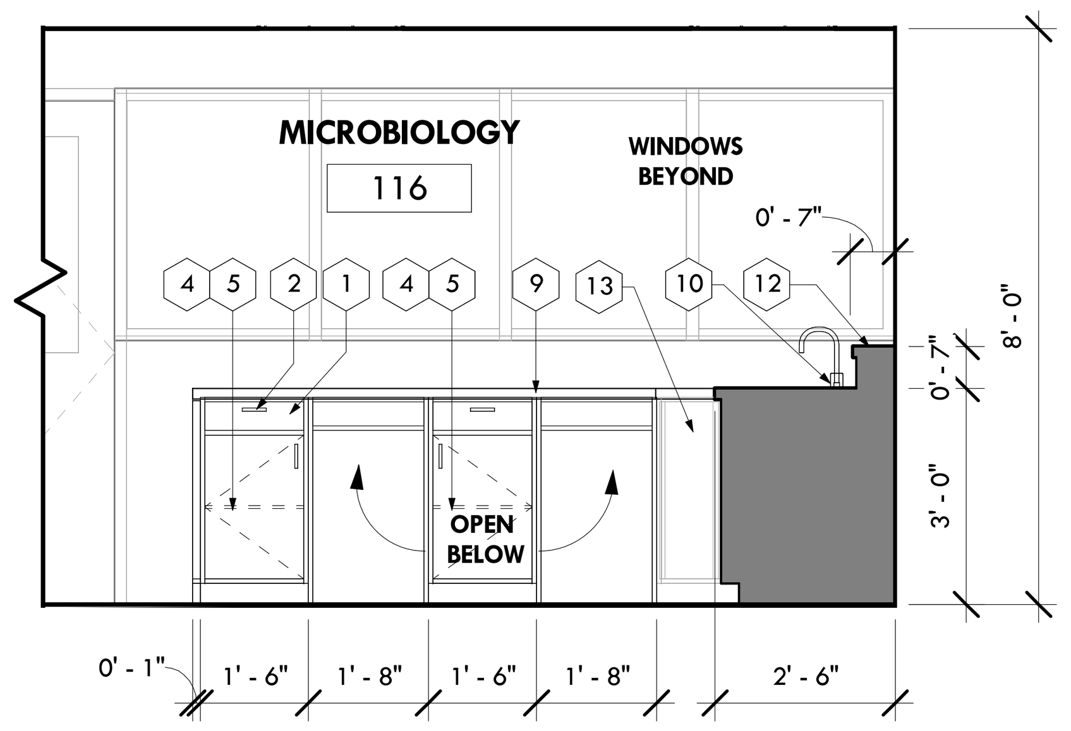
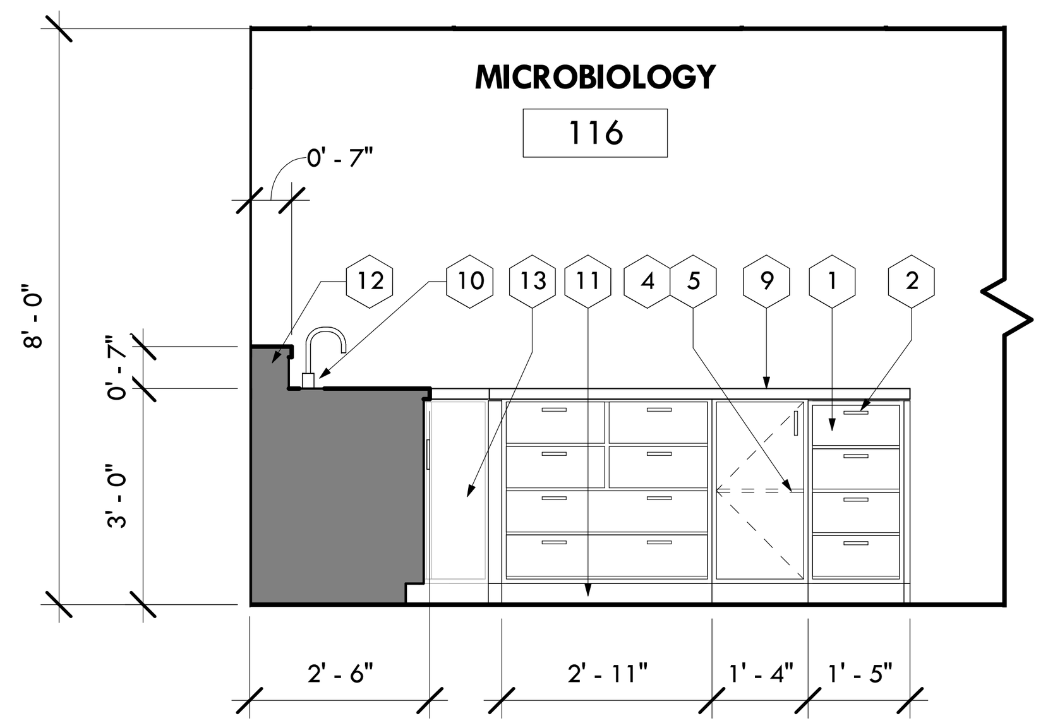


1 PHASE 2- INTERIOR ELEVATIONS
3/8" = 1'-0"



2 PHASE 2- INTERIOR ELEVATIONS
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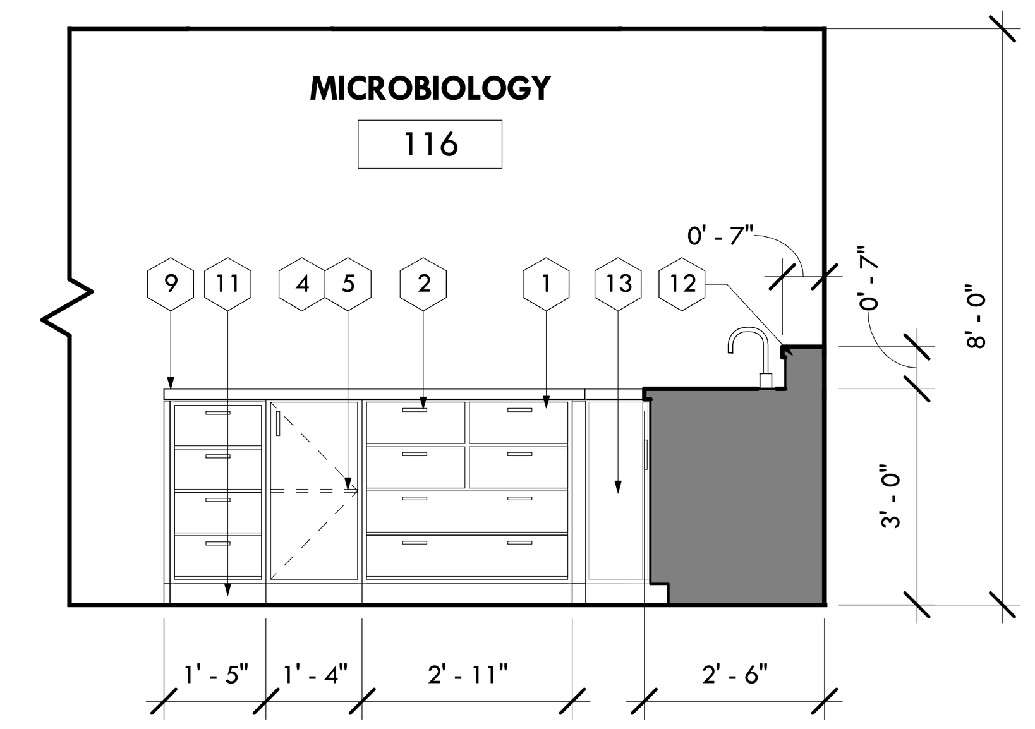

3 PHASE 2- INTERIOR ELEVATIONS
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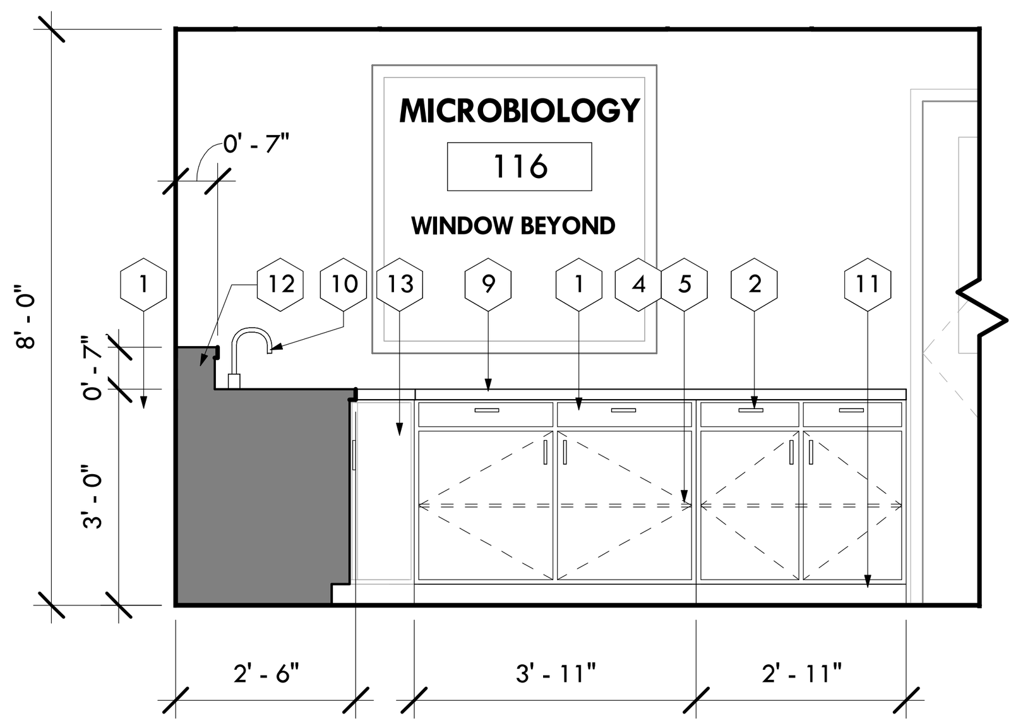
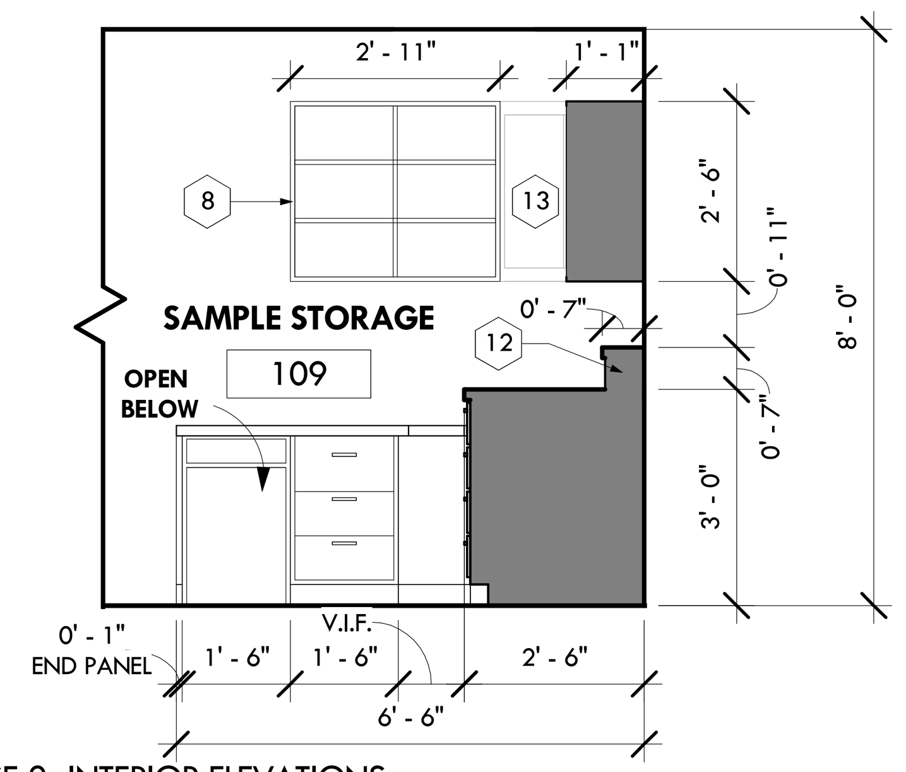


4 PHASE 2- INTERIOR ELEVATIONS
3/8" = 1'-0"



5 PHASE 2- INTERIOR ELEVATIONS
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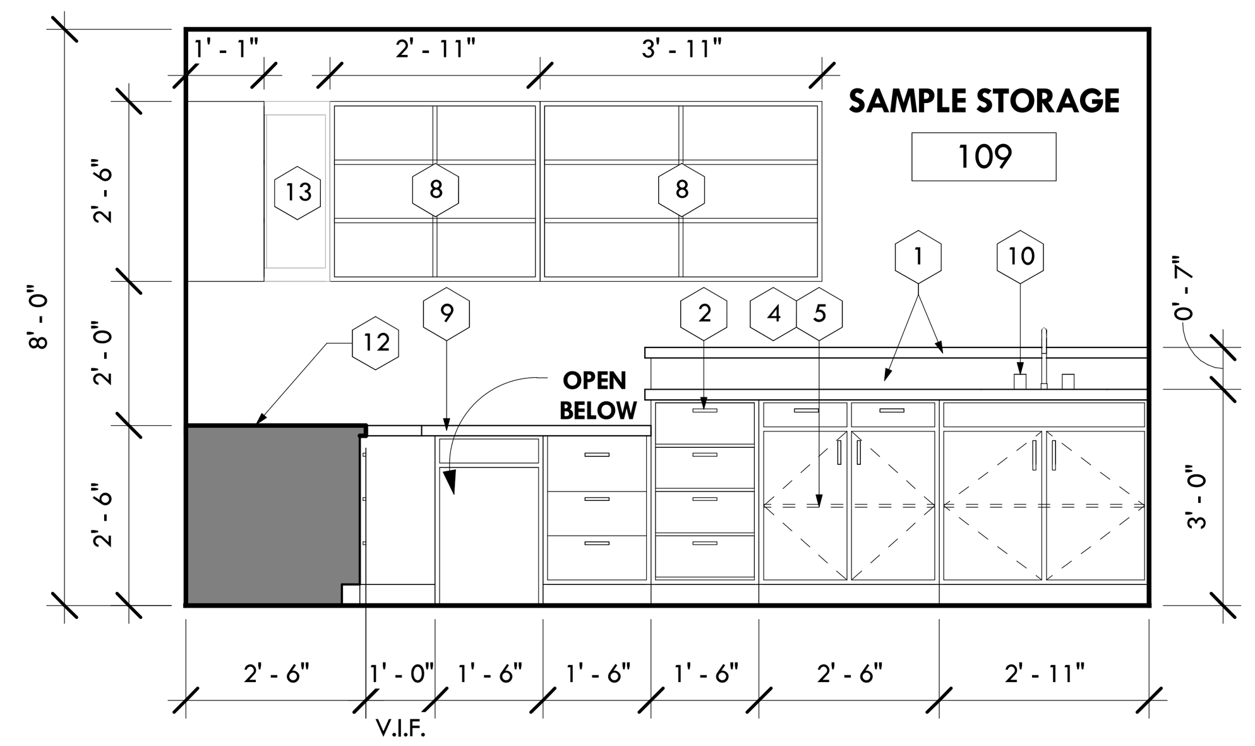

6 PHASE 2 - INTERIOR ELEVATIONS
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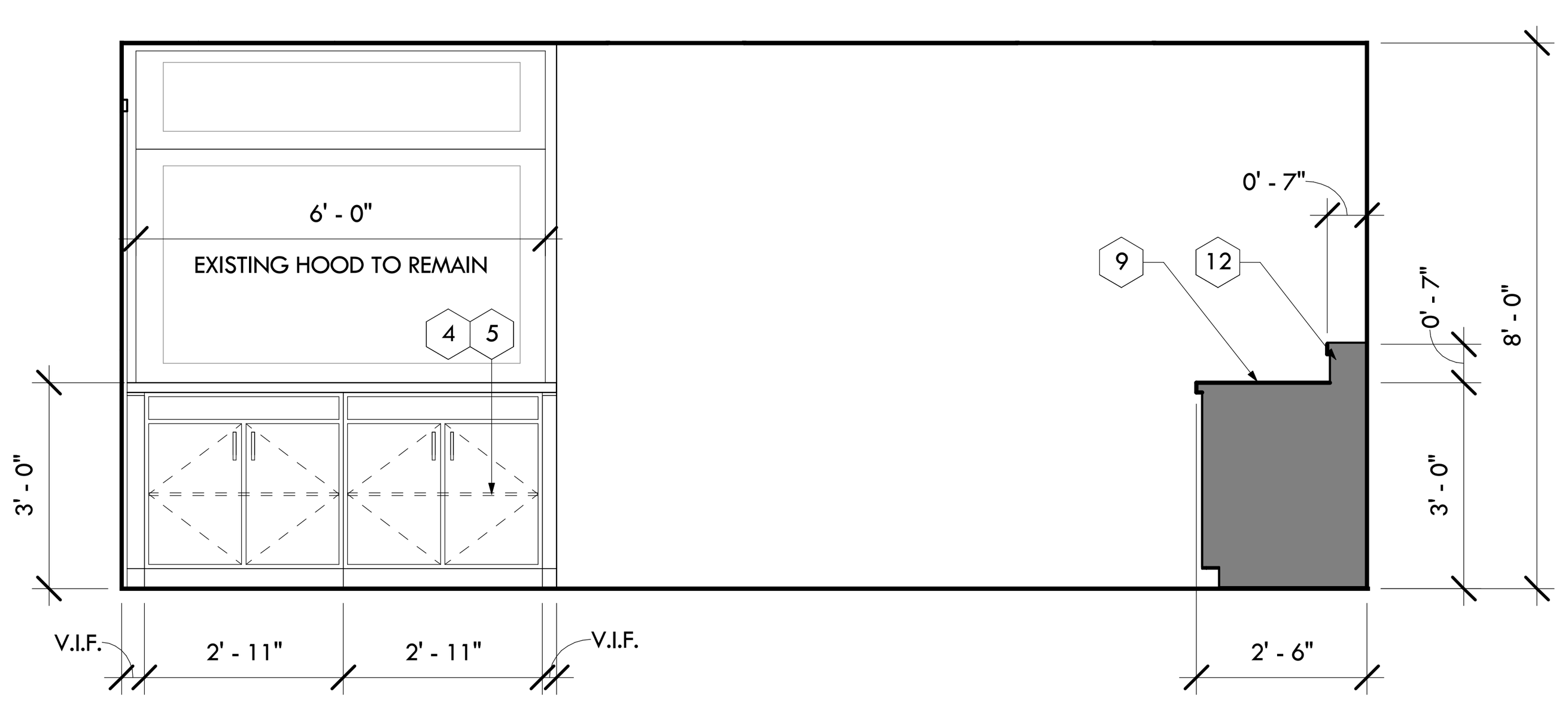
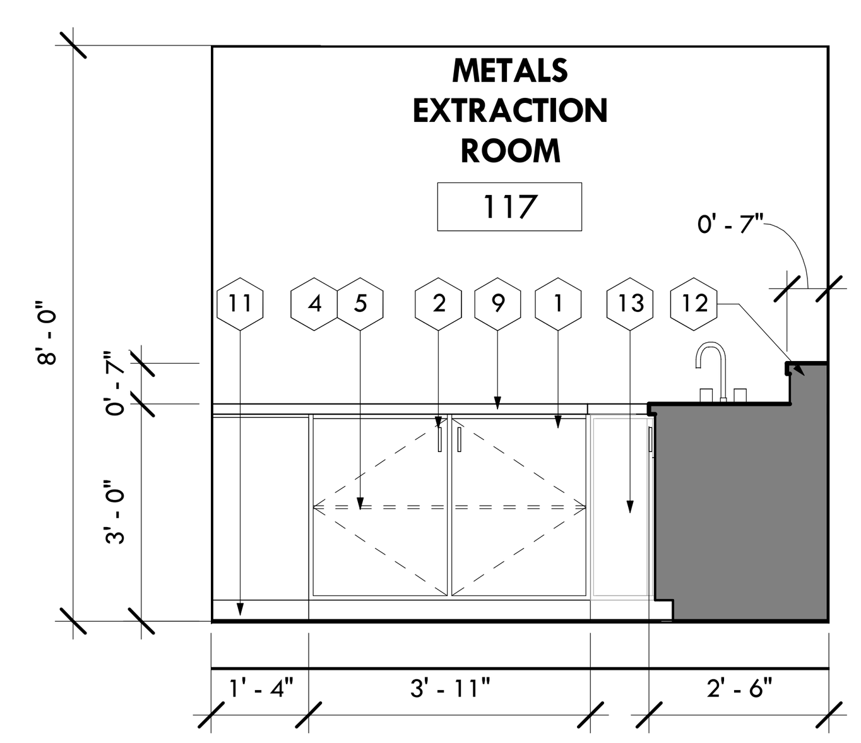
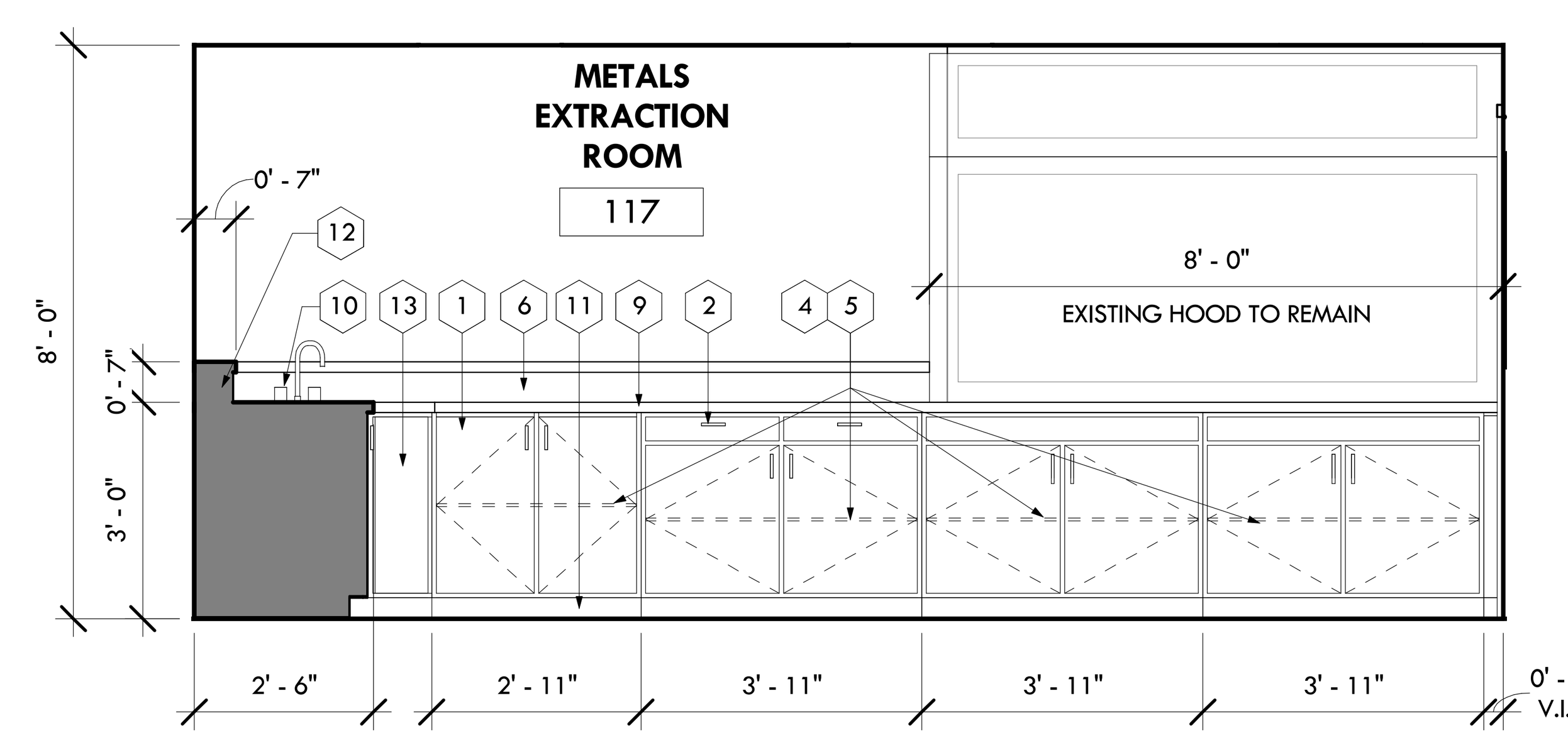


7 PHASE 2 - INTERIOR ELEVATIONS
3/8" = 1'-0"



8 PHASE 2 - INTERIOR ELEVATIONS
3/8" = 1'-0"



9 PHASE 2 - INTERIOR ELEVATIONS
3/8" = 1'-0"

GENERAL NOTES

1. WOOD CABINETS ARE TO BE CERTIFIED BY AN INDEPENDENT AGENCY SIMILAR AWI . SEE SHEET A0.0 FOR LIST OF ARCHITECTURAL SYMBOLS.
2. CONTRACTOR SHALL VERIFY A DIMENSIONS AT THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK.
3. ALL CASEWORK SHALL BE SQUARE, PLUMB AND TRUE.
4. ALL EXPOSED AND SEMI-EXPOSED WOOD SURFACES TO HAVE PLASTIC LAMINATE FINISH.
5. PROVIDE NYLON ROPE STOPS WHERE CABINET DOORS WOULD OTHERWISE HIT ADJACENT SURFACES.
6. PROVIDE FILLER PANELS (MAX. 1 1/2" WIDE) AT CASEWORK SIDES & TOPS. SCRIBE FILLERS TO WALL & SECURE TO ADJACENT SURFACE. SEAL CASEWORK FILLERS TO ADJACENT WALL.
7. PROVIDE A MINIMUM 3/8" THICK INSTALLATION RAIL FOR MOUNTING CABINETRY TO WALL, EXCEPT WHERE 1/2" THICK MATERIAL IS PROVIDED.
8. GENERAL CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF SINK DRAINAGE CONNECTION PRIOR TO ORDERING PLUMBING FIXTURES
9. GENERAL CONTRACTOR TO COORDINATE OPENING IN COUNTERTOP FOR ALL PLUMBING FIXTURES.
10. PROTECT EXISTING FLOOR FINISHES PRIOR TO DEMOLITION AND THROUGHOUT INSTALLATION OF NEW CABINET WORK. CLEAN FLOOR BY A PROFESSIONAL CLEANING COMPANY.
11. ALL COUNTERTOPS TO BE 1" EPOXY RESIN CHEMICAL RESISTANT
12. ALL SINKS TO BE EPOXY RESING CHEMICAL RESISTANT
13. ALL CABINETS TO BE MADE OF PLYWOOD
14. REFER TO SHEET A1.5 FOR CABINET DETAILS

SPECIFIC CABINETRY NOTES "⬡"

1. CHEMICAL RESISTAN PLASTIC LAMINATE AT ALL EXPOSED SURFACES ON 3/4" PLYWOOD (TYPICAL). PROVIDE WEAR FACTOR FINISH
2. 4" WIRE PULL TO MATCH EXISTING
3. CABINET BACKS TO BE 3/4" PLYWOOD
4. HOLES DRILLED FOR ADJUSTABLE SHELVES AT 1-1/4" O.C. PROVIDE SHELF PINS TO ACCOMODATE 3/4" SHELVES
5. PLASTIC LAMINATE ADJUSTABLE SHELVES
6. HIGH BACKSPLASH AT BACK OF COUNTER. RETURN SPLASH WHERE PERPENDICULAR WALL ABUTTS CABINET
7. NOT USED
8. PLASTIC LAMINATE AT UPPER CABINET SHELVING (3/4" THICK PLYWOOD-TYP)
9. 1" CHEMICAL RESISTANT EPOXY RESIN BLACK COUNTER TOP (TYP.)
10. CHEMICAL RESISTANT EPOXY RESIN BLACK SINKS TO MATCH EXISTING - SEE SHEE A1.5 FOR ADDITIONAL INFORMATION - REFER TO PLUMBING SHEET FOR FIXTURE SCHEDULES (TYP.)
11. 4" INTEGRAL BASE
12. ELECTRICAL RACEWAY FOR ELECTRICAL CONDUIT
13. CORNER CABINET - PROVIDE ROTATING SHELVES TO MATCH EXISTING (TYP.)
14. MACHINE SCRUB FLOORS BEFORE INSTALLING NEW CABINETS
15. PROVIDE WOOD BLOCKING AS REQUIRED
16. GLASS FRAME OPTIONAL - MATCH EXISTING CONDITIONS-COORDINATE WITH CLIENT
17. FULL EXTENSION DRAWER SLIDE
18. 1/4" PLYWOOD BACKING ON 1 X 3 HARDWOOD CABINET FRAME
19. CABINET SUB BASE. SEPARATE AND CONTINUOUS P.T. 2X4 WITH CONCEALED FASTENING TO CABINET BOTTOM. INSET WITH 1/4" AT CABINET FINISHED ENDS FOR A RECESSED BASE CONDITION
20. ELECTRICAL OUTLET - REFER TO ELECTRICAL SHEETS FOR SCOPE OF WORK
21. 2X4 KNEE WALL AT 16" O.C.
22. NEW WALL CABINET - SEE INTERIOR ELEVATIONS FOR CABINET DETAILS

REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT AND RENOVATION
7125 NORTH 30TH STREET, TAMPA, FL 33610

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PHASE 2 - INTERIOR CABINET ELEVATIONS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers

WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607
813-281-0411
FLORIDA LICENSE NUMBER AA C001379

DRAWN	DC
CHECKED	HW
DATE	01/10/14
SCALE	As indicated
AGI PROJECT	13009
SHEET	A1.2.4

ENRIQUE A. WOODROFFE, FAIA, LEED
FLORIDA LICENSE AR 0007703

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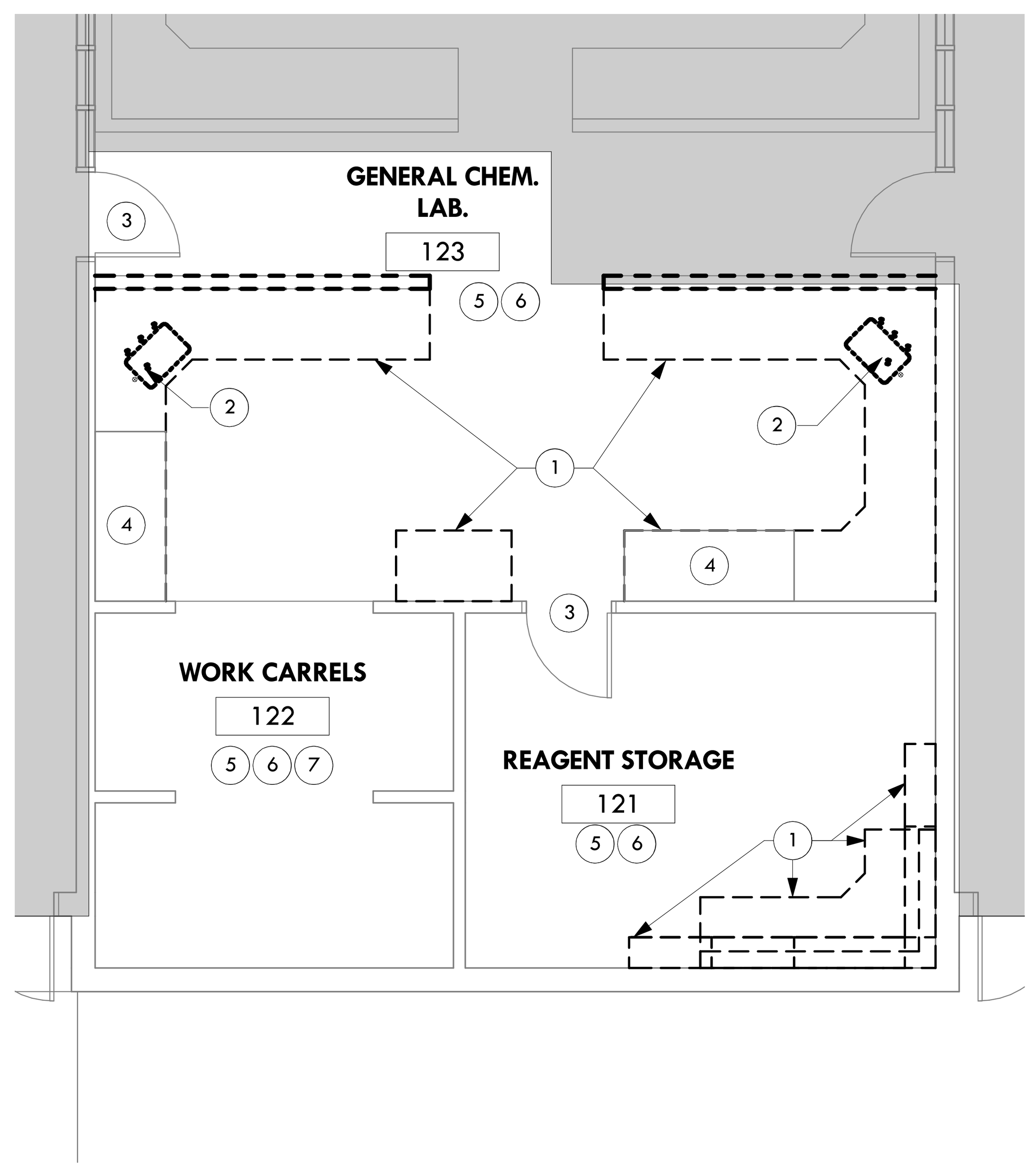
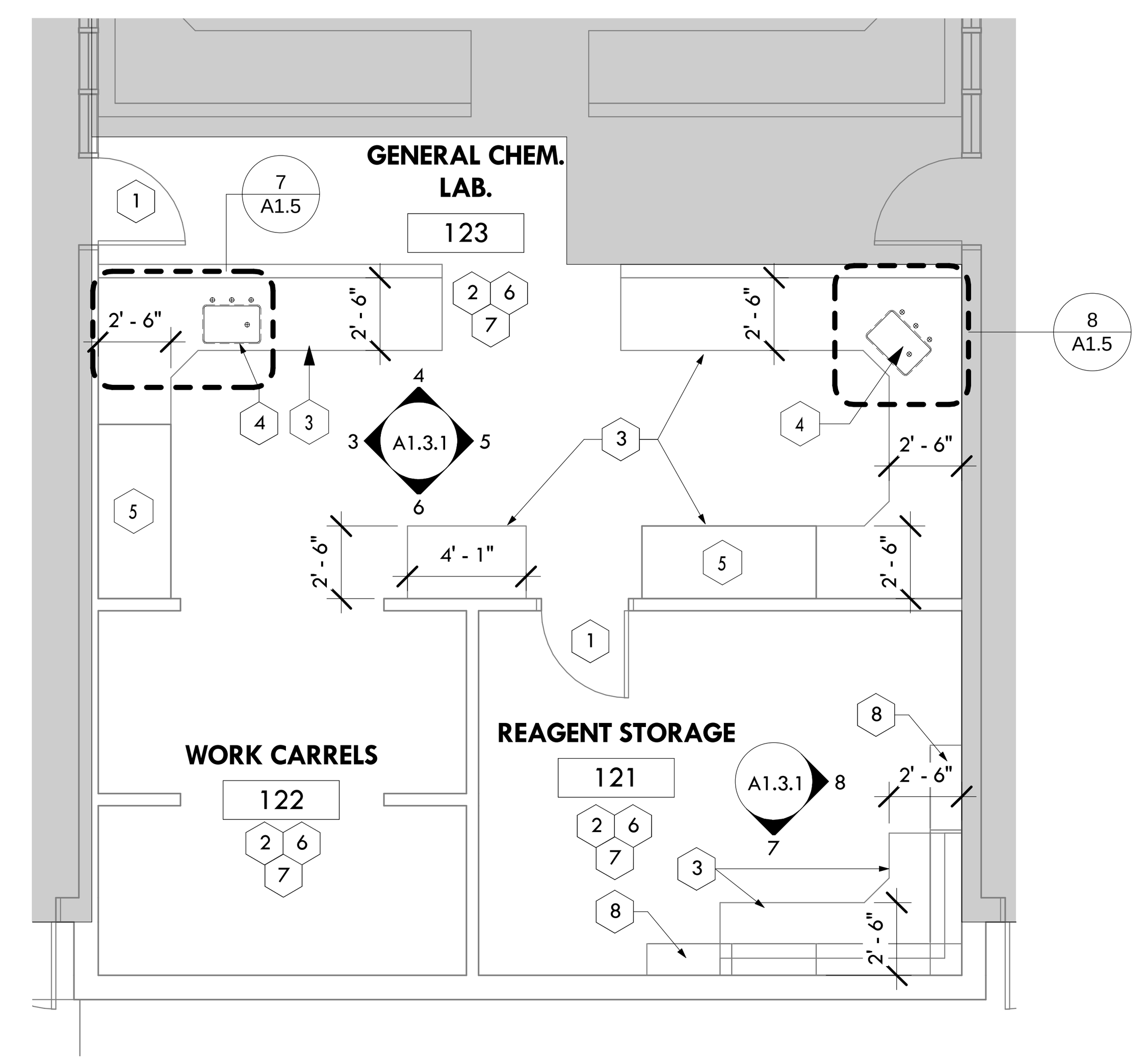
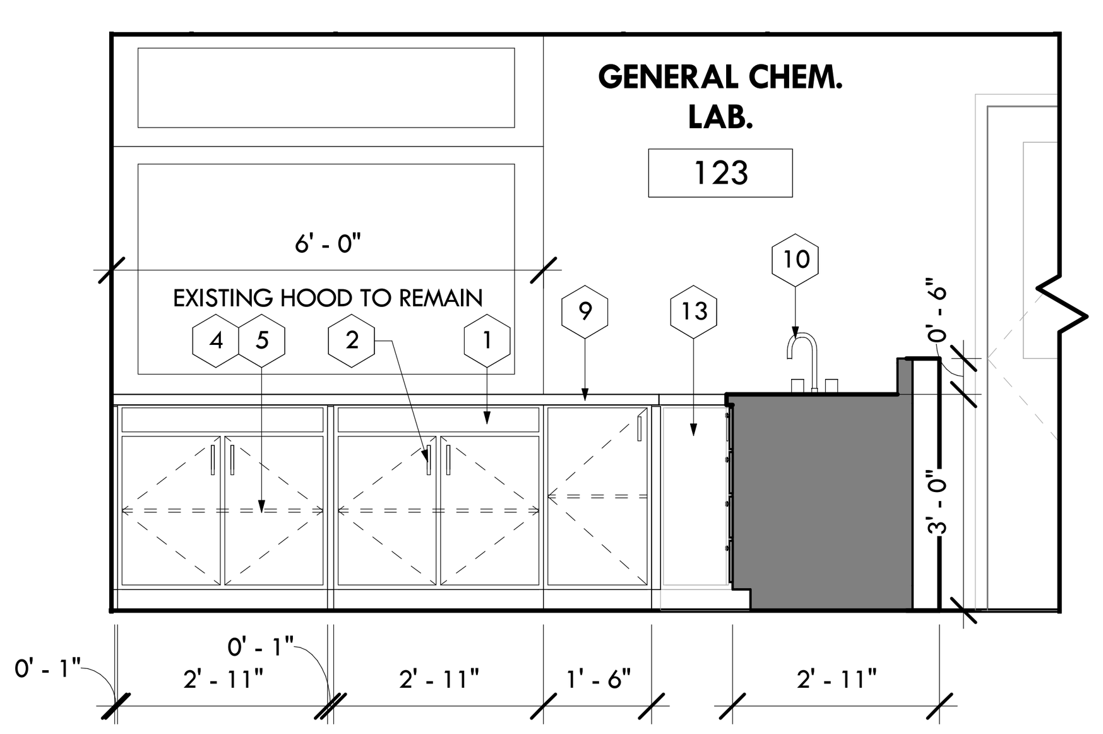


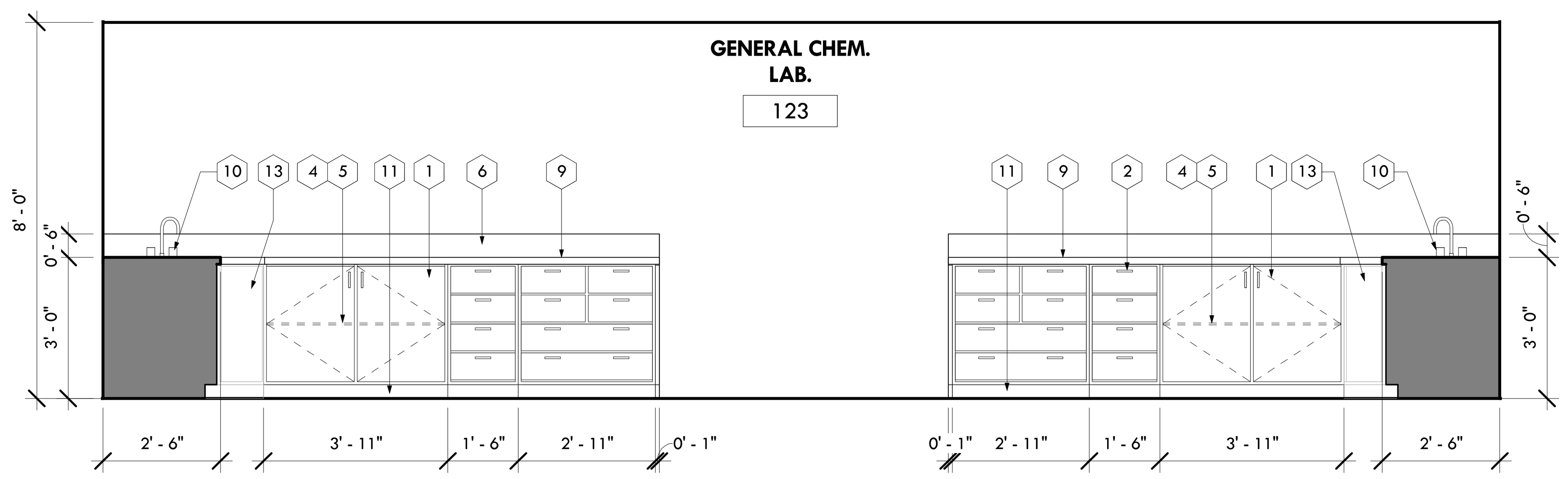
1 PHASE 3 - DEMOLITION PLAN
3/16" = 1'-0"



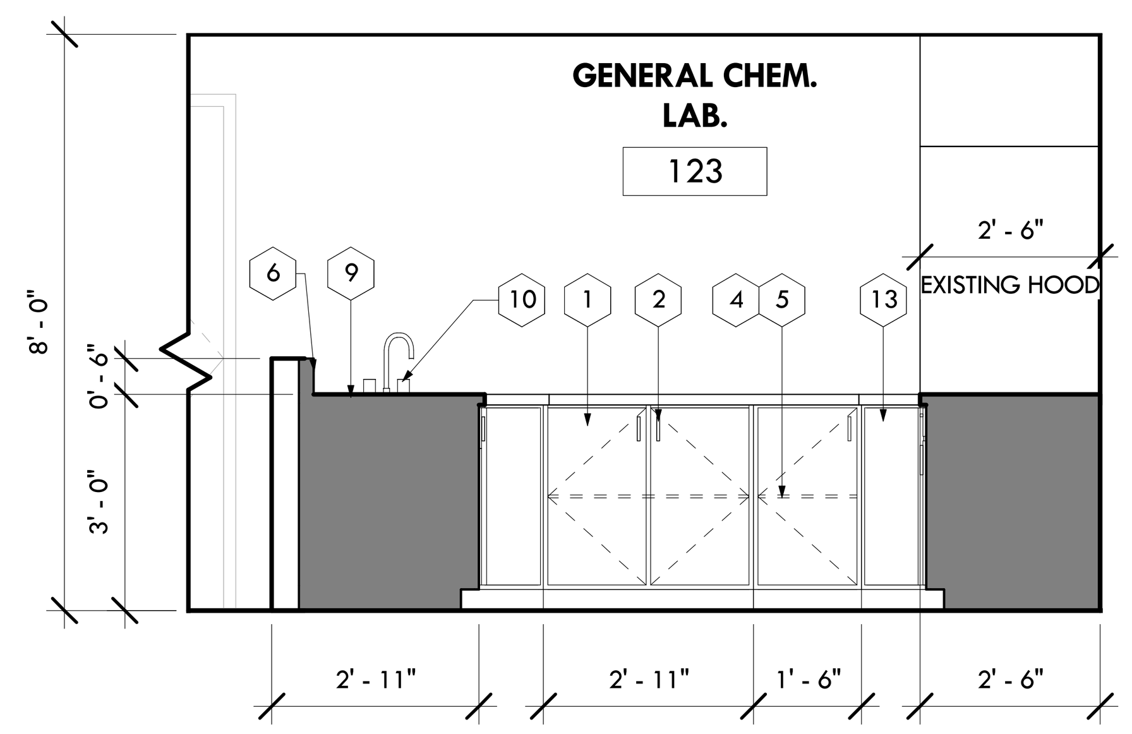
2 PHASE 3 - RENOVATION PLAN
3/16" = 1'-0"



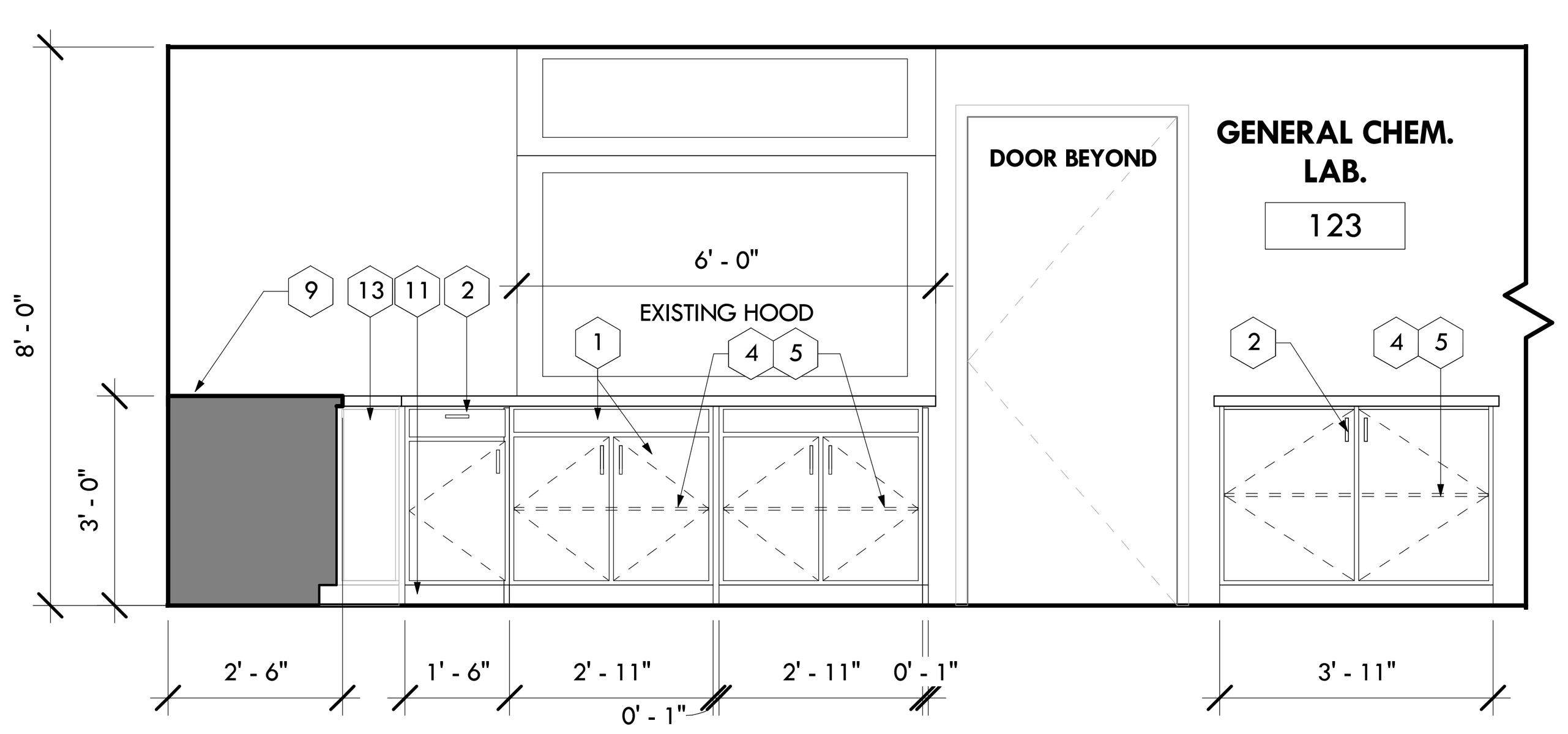
3 PHASE 3 - INTERIOR ELEVATIONS
3/8" = 1'-0"



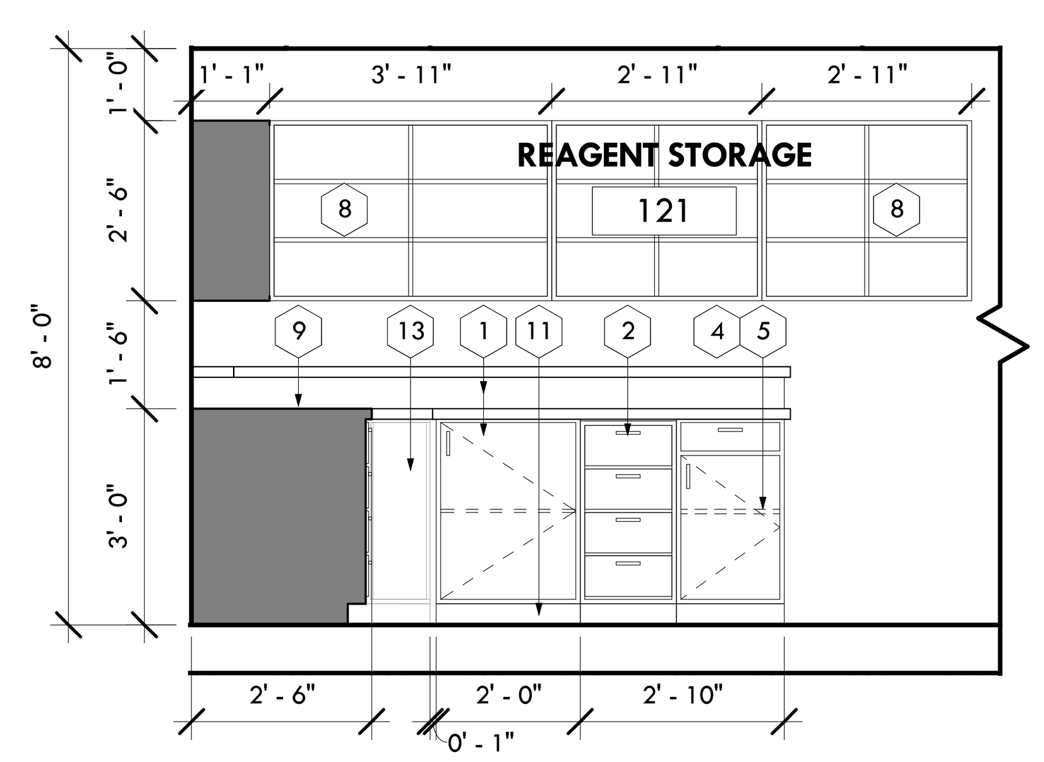
4 PHASE 3 - INTERIOR ELEVATIONS
3/8" = 1'-0"



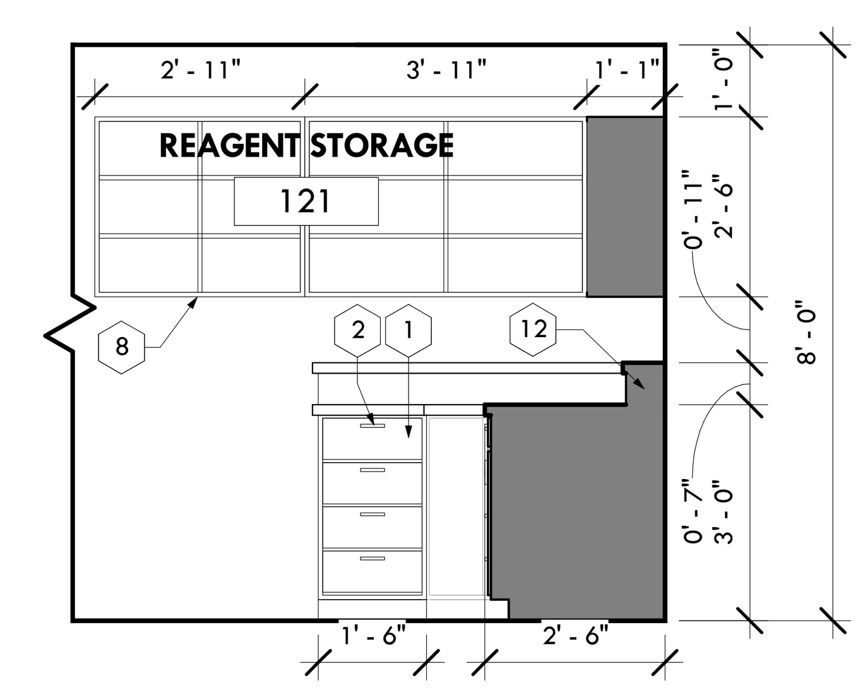
5 PHASE 3 - INTERIOR ELEVATIONS
3/8" = 1'-0"



6 PHASE 3 - INTERIOR ELEVATIONS
3/8" = 1'-0"



7 PHASE 3-INTERIOR ELEVATIONS
3/8" = 1'-0"



8 PHASE 3-INTERIOR ELEVATIONS
3/8" = 1'-0"

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK

2. ALL DIMENSIONS ARE TO ONE OF THE FOLLOWING:

   A. CENTERLINE OF ITEMS
   B. FACE OF CONCRETE AT EXTERIOR
   C. FACE OF FINISH AT INTERIOR

3. PATCH AND PREPARE ALL INTERIOR WALLS FOR NEW PAINTING. PROTECT ALL ADJACENT SURFACES

4. PROTECT ALL FLOOR FINISHES PRIOR TO COMMENCEMENT OF WORK

5. REMOVE ALL CEILING TILES AND LIGHTING FIXTURES PER PHASE PLAN - PROVIDE HUMIDITY RESISTANT CEILING TILE AND GRID

6. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR CEILING DIFFUSERS, EXIT LIGHTS, LIGHTS, ETC.

DEMO PLAN NOTES " ○ "

1. REMOVE EXISTING CABINETS AND COUNTERTOPS
2. REMOVE/RELOCATE EXISTING SINK - GC TO COORDINATE EFFORTS WITH CLIENT
3. STRIP DOOR PANEL FINISH. PREPARE FOR PAINT AND STAIN. PREPARE METAL DOOR AND FRAME TO REPAINT
4. EXISTING HOOD TO REMAIN
5. PREPARE TO REPAINT WALLS
6. PROTECT FLOOR FINISHES
7. EXISTING CABINETS AND COUNTERTOPS TO REMAIN

RENOVATION PLAN NOTES " ⬡ "

1. RE-STAIN WOOD DOORS, PAINT HOLLOW METAL FRAME AROUND DOOR AND FRAME AROUND WINDOW IF APPLICABLE
2. ALL INTERIOR WALLS TO BE PAINTED - COLOR TO MATCH EXISTING
3. NEW BASE CABINETS AND CHEMICAL RESISTANT SOLID SURFACE COUNTERTOPS - SEE INTERIOR ELEVATIONS FOR CABINET DETAILS
4. NEW CHEMICAL RESISTANT SINK, NEW PLUMBING FIXTURES TO MATCH EXISTING - SEE MECH/PLUMB. SHEETS FOR FIXTURE SCHEDULE
5. RECONNECT EXISTING HOOD - COORDINATE WITH HOOD MANUFACTURER AND OWNER
6. REFER TO ELECTRICAL & MECHANICAL DRAWINGS FOR SCOPE OF WORK
7. CLEAN FLOORS AND BASE - USE PROFESSIONAL CLEANING SERVICE. REMOVE STAINS WHERE POSSIBLE
8. NEW WALL CABINET - SEE INTERIOR ELEVATIONS FOR CABINET DETAILS

SPECIFIC CABINETRY NOTES "⬡"

1. CHEMICAL RESISTAN PLASTIC LAMINATE AT ALL EXPOSED SURFACES ON 3/4" PLYWOOD (TYPICAL). PROVIDE WEAR FACTOR FINISH
2. 4" WIRE PULL TO MATCH EXISTING
3. CABINET BACKS TO BE 3/4" PLYWOOD
4. HOLES DRILLED FOR ADJUSTABLE SHELVES AT 1-1/4" O.C. PROVIDE SHELF PINS TO ACCOMODATE 3/4" SHELVES
5. PLASTIC LAMINATE ADJUSTABLE SHELVES
6. HIGH BACKSPLASH AT BACK OF COUNTER. RETURN SPLASH WHERE PERPENDICULAR WALL ABUTTS CABINET
7. NOT USED
8. PLASTIC LAMINATE AT UPPER CABINET SHELVING (3/4" THICK PLYWOOD-TYP)
9. 1" CHEMICAL RESISTANT EPOXY RESIN BLACK COUNTER TOP (TYP.)
10. CHEMICAL RESISTANT EPOXY RESIN BLACK SINKS TO MATCH EXISTING - SEE SHEE A1.5 FOR ADDITIONAL INFORMATION - REFER TO PLUMBING SHEET FOR FIXTURE SCHEDULES (TYP.)
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14. MACHINE SCRUB FLOORS BEFORE INSTALLING NEW CABINETS
15. PROVIDE WOOD BLOCKING AS REQUIRED
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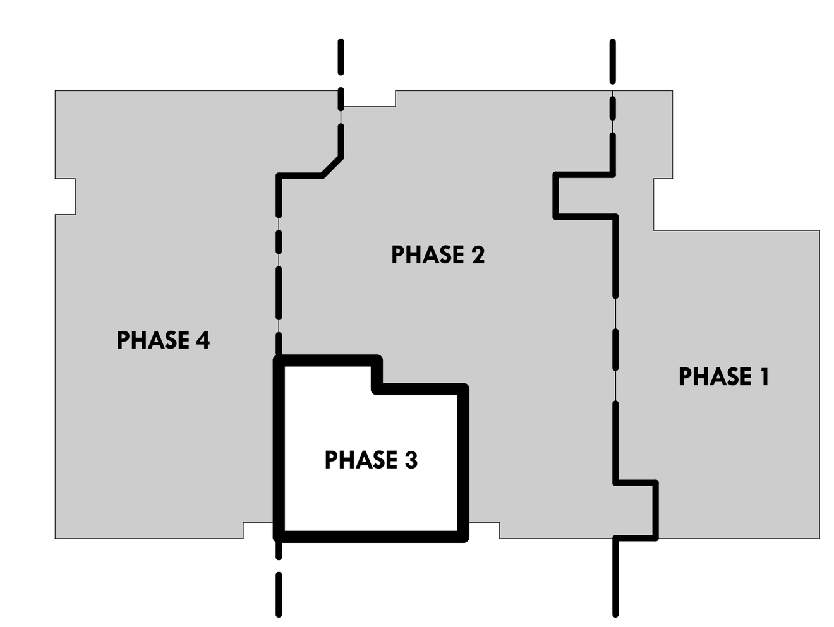
22. NEW WALL CABINET - SEE INTERIOR ELEVATIONS FOR CABINET DETAILS



WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

813-281-0411
FLORIDA LICENSE NUMBER AA C001379

ENRIQUE A. WOODROFFE, FAIA, LEED
FLORIDA LICENSE AR 0007703

REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT AND RENOVATION
7125 NORTH 30TH STREET, TAMPA, FL 33610

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PHASE 3 - PLANS & INTERIOR CABINET ELEVATIONS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers

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CHECKED	HW
DATE	01/10/14
SCALE	As indicated
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SHEET	A1.3.1

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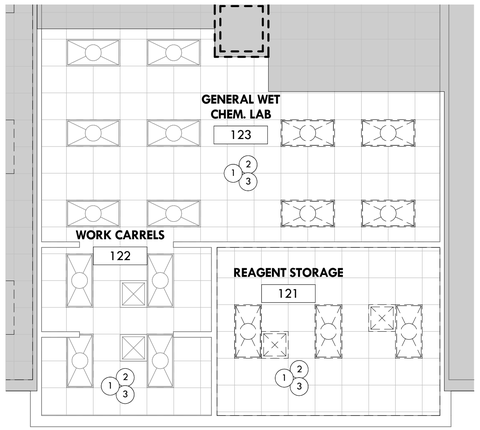
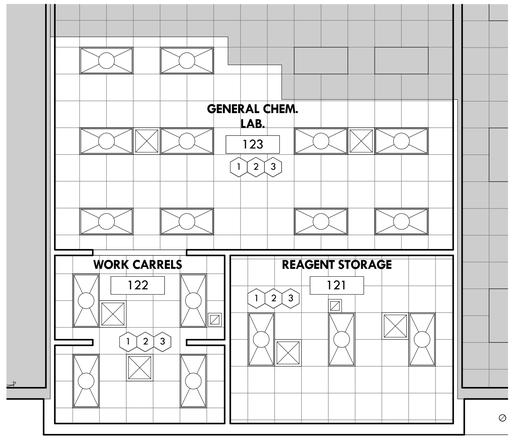


1 PHASE 3-DEMOLITION CEILING PLAN
3/16" = 1'-0"



2 PHASE 3-RENOVATION CEILING PLAN
3/16" = 1'-0"

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK

2. ALL DIMENSIONS ARE TO ONE OF THE FOLLOWING:

   A. CENTERLINE OF ITEMS
   B. FACE OF CONCRETE AT EXTERIOR
   C. FACE OF FINISH AT INTERIOR

3. PATCH AND PREPARE ALL INTERIOR WALLS FOR NEW PAINTING. PROTECT ALL ADJACENT SURFACES

4. PROTECT ALL FLOOR FINISHES PRIOR TO COMMENCEMENT OF WORK

5. REMOVE ALL CEILING TILES AND LIGHTING FIXTURES PER PHASE PLAN - PROVIDE HUMIDITY RESISTANT CEILING TILE AND GRID

6. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR CEILING DIFFUSERS, EXIT LIGHTS, LIGHTS, ETC.

DEMO PLAN NOTES " ◯ "

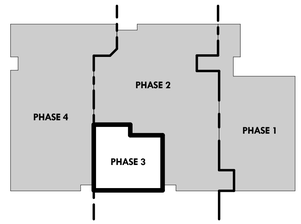
1. REMOVE EXISTING ACUSTICAL SUSPENDED CEILING
2. REMOVE EXISTING LIGHT FIXTURES
3. REMOVE EXISTING MECHANICAL SYSTEM - SEE MECHANICAL SHEETS FOR SCOPE OF WORK
4. EXISTING HOOD TO REMAIN
5. REMOVE EXISTING ABANDONED SKYLIGHT - REMOVE FRAMING - PROTECT EXISTING CURB AND WATERPROOFING TO AVOID WATER INTRUSION CAUSED BY DEMOLITION

RENOVATION PLAN NOTES " ⬡ "

1. NEW ACOUSTICAL SUSPENDED CEILING
2. NEW LIGHT FIXTURES - SEE ELECTRICAL SHEETS FOR SCOPE OF WORK
3. NEW MECHANICAL SYSTEM - SEE MECHANICAL SHEETS FOR SCOPE OF WORK

REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT AND RENOVATION
7125 NORTH 30TH STREET, TAMPA, FL 33610



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PHASE 3 - REFLECTED CEILING PLANS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 Tel(813)963-3193
Email: AGI@anston-greenlees.com Florida Certificate of Authorization
Florida Engineering Business Number 6093

WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

813-281-0411
FLORIDA LICENSE NUMBER AA C001379

ENRIQUE A. WOODROFFE, FAIA, LEED
FLORIDA LICENSE AR 0007703

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SHEET	A1.3.2

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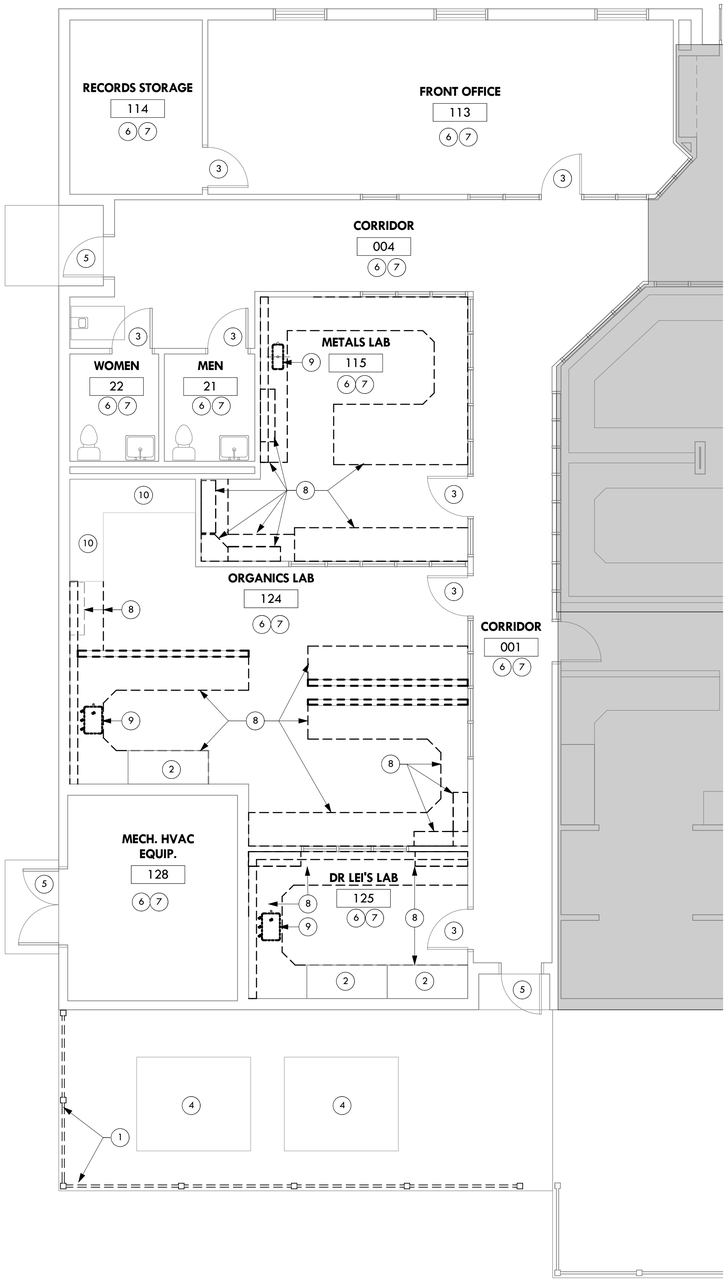
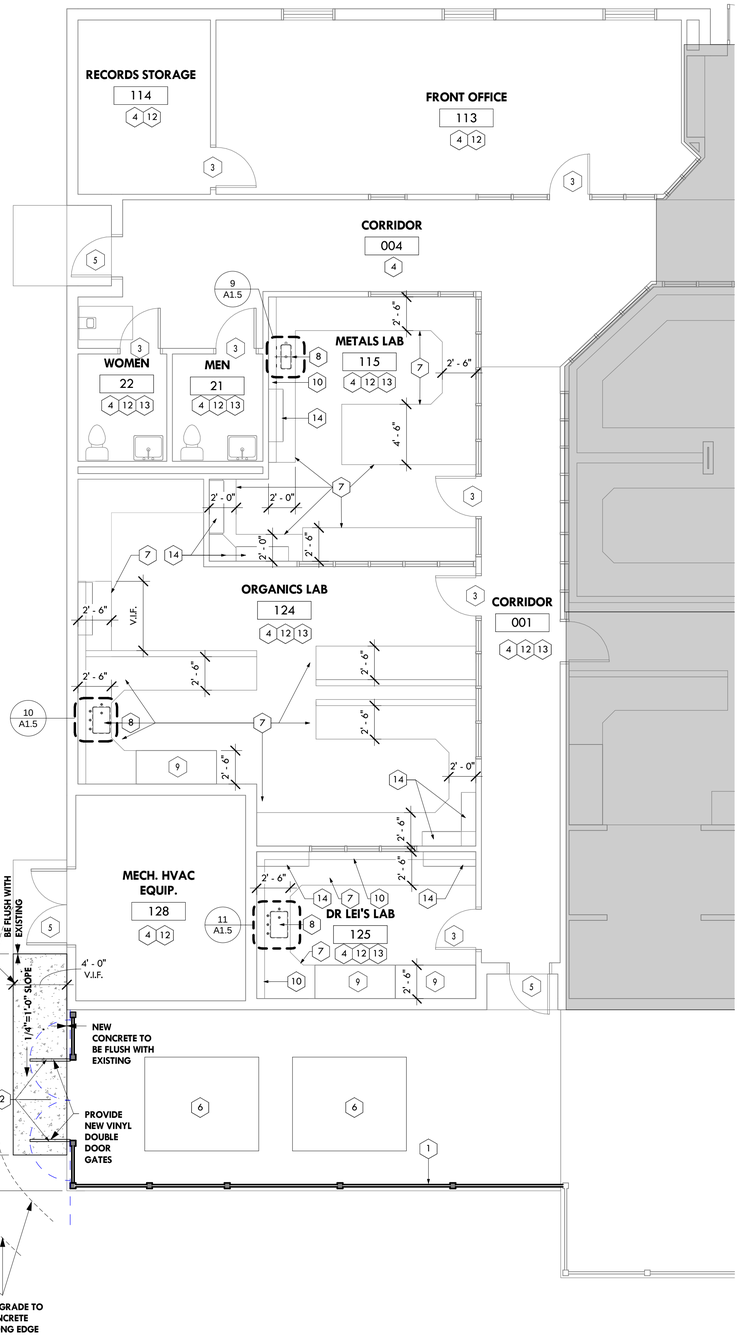


1 PHASE 4 - DEMOLITION PLAN
3/16" = 1'-0"



2 PHASE 4- RENOVATION PLAN
3/16" = 1'-0"

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK

2. ALL DIMENSIONS ARE TO ONE OF THE FOLLOWING:

   A. CENTERLINE OF ITEMS
   B. FACE OF CONCRETE AT EXTERIOR
   C. FACE OF FINISH AT INTERIOR

3. PATCH AND PREPARE ALL INTERIOR WALLS FOR NEW PAINTING. PROTECT ALL ADJACENT SURFACES

4. PROTECT ALL FLOOR FINISHES PRIOR TO COMMENCEMENT OF WORK

5. REMOVE ALL CEILING TILES AND LIGHTING FIXTURES PER PHASE PLAN - PROVIDE HUMIDITY RESISTANT CEILING TILE AND GRID

6. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR CEILING DIFFUSERS, EXIT LIGHTS, LIGHTS, ETC.

DEMO PLAN NOTES " ◯ "

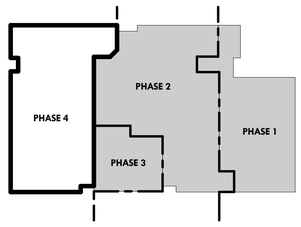
1. REMOVE EXISTING VINYL FENCE
2. EXISTING HOOD TO REMAIN
3. STRIP DOOR PANEL FINISH. PREPARE FOR PAINT AND STAIN. PREPARE METAL DOOR AND FRAME TO REPAINT
4. EXISTING MECHANICAL EQUIPMENT TO REMAIN
5. PREPARE TO REPAINT DOOR AND FRAME
6. PREPARE TO REPAINT WALLS
7. PROTECT FLOOR FINISHES
8. REMOVE EXISTING CABINETS AND COUNTERTOPS
9. REMOVE/RELOCATE EXISTING SINK - GC TO COORDINATE EFFORTS WITH CLIENT
10. EXISTING CABINETS TO REMAIN

RENOVATION PLAN NOTES " ⬡ "

1. PROVIDE WHITE EXTERIOR VINYL ENCLOSURE FENCE
2. PROVIDE PAIR OF 3'-0" WHITE EXTERIOR VINYL GATES
3. RE-STAIN WOOD DOORS, PAINT HOLLOW METAL FRAME AROUND DOOR AND FRAME AROUND WINDOW IF APPLICABLE
4. ALL INTERIOR WALLS TO BE PAINTED - COLOR TO MATCH EXISTING
5. PAINT DOOR AND FRAME
6. REFER TO ELECTRICAL & MECHANICAL DRAWINGS FOR SCOPE OF WORK
7. NEW BASE CABINETS AND CHEMICAL RESISTANT SOLID SURFACE COUNTERTOPS - SEE INTERIOR ELEVATIONS FOR CABINET DETAILS
8. NEW CHEMICAL RESISTANT SINK, NEW PLUMBING FIXTURES TO MATCH EXISTING - SEE MECH/PLUMB. SHEETS FOR FIXTURE SCHEDULE
9. RECONNECT EXISTING HOOD - COORDINATE WITH HOOD MANUFACTURER AND OWNER
10. PROVIDE NEW ELECTRICAL RACEWAY FOR ELECTRICAL CONDUIT
11. PAINT SLAB'S EDGE WITH YELLOW AND BLACK WARNING STRIPES AT STEP 12. REFER TO ELECTRICAL & MECHANICAL DRAWINGS FOR SCOPE OF WORK
13. CLEAN FLOORS AND BASE - USE PROFESSIONAL CLEANING SERVICE. REMOVE STAINS WHERE POSSIBLE
14. NEW WALL CABINET - SEE INTERIOR ELEVATIONS FOR CABINET DETAILS

REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT AND RENOVATION
7125 NORTH 30TH STREET, TAMPA, FL 33610



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PHASE 4 - PLANS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 (813) 933-1919
Email: info@anston-greenlees.com Website: www.anston-greenlees.com
Florida Engineering Business Number 6605

WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

813-281-0411
FLORIDA LICENSE NUMBER AA C001379

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FLORIDA LICENSE AR 0007703

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SHEET	A1.4.1

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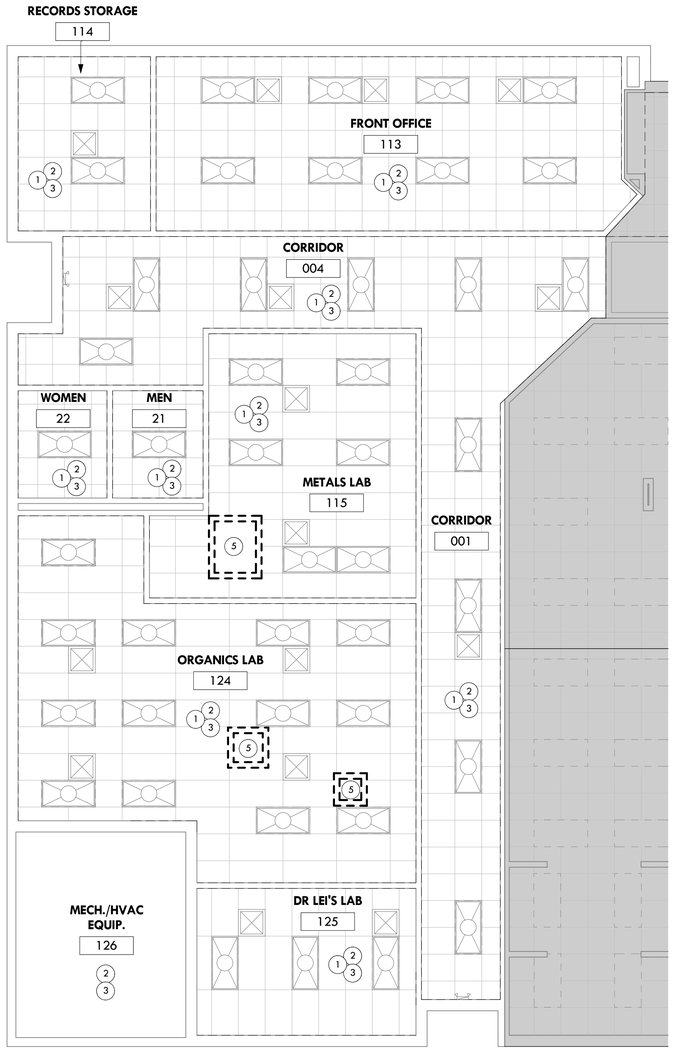
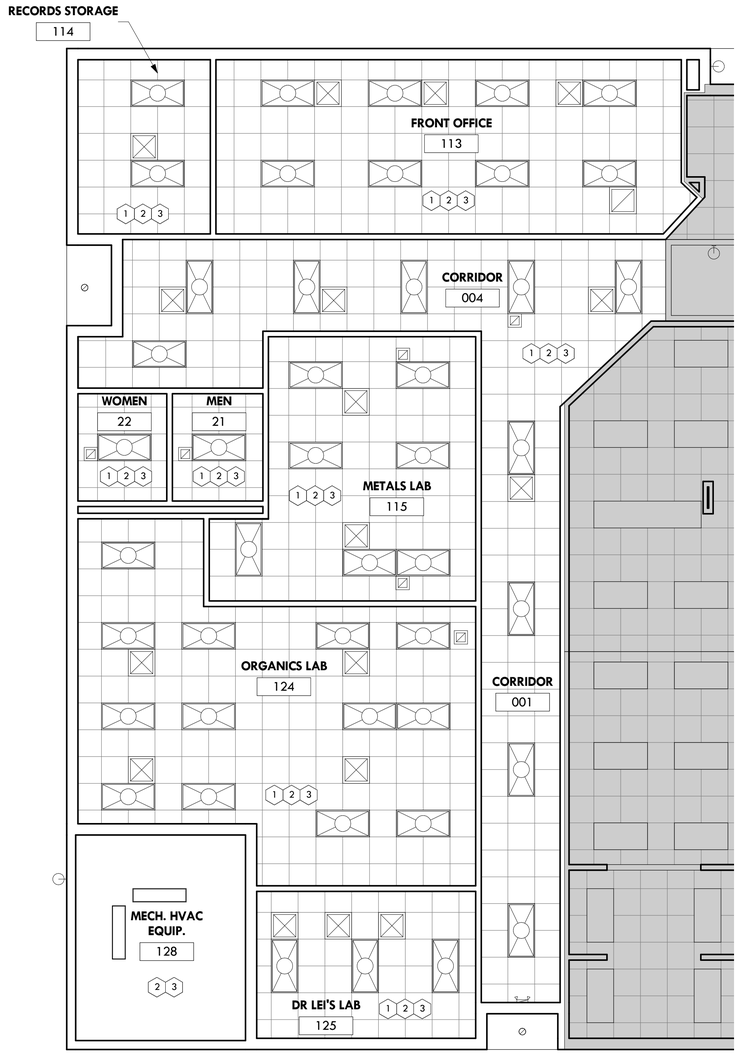


1 PHASE 4 - DEMOLITION CEILING PLAN
3/16" = 1'-0"



2 PHASE 4 - RENOVATION CEILING PLAN
3/16" = 1'-0"

GENERAL NOTES

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2. ALL DIMENSIONS ARE TO ONE OF THE FOLLOWING:

   A. CENTERLINE OF ITEMS
   B. FACE OF CONCRETE AT EXTERIOR
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3. PATCH AND PREPARE ALL INTERIOR WALLS FOR NEW PAINTING. PROTECT ALL ADJACENT SURFACES

4. PROTECT ALL FLOOR FINISHES PRIOR TO COMMENCEMENT OF WORK

5. REMOVE ALL CEILING TILES AND LIGHTING FIXTURES PER PHASE PLAN - PROVIDE HUMIDITY RESISTANT CEILING TILE AND GRID

6. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR CEILING DIFFUSERS, EXIT LIGHTS, LIGHTS, ETC.

DEMO PLAN NOTES " ◯ "

1. REMOVE EXISTING ACUSTICAL SUSPENDED CEILING
2. REMOVE EXISTING LIGHT FIXTURES
3. REMOVE EXISTING MECHANICAL SYSTEM - SEE MECHANICAL SHEETS FOR SCOPE OF WORK
4. EXISTING HOOD TO REMAIN
5. REMOVE EXISTING ABANDONED SKYLIGHT - REMOVE FRAMING - PROTECT EXISTING CURB AND WATERPROOFING TO AVOID WATER INTRUSION CAUSED BY DEMOLITION

RENOVATION PLAN NOTES " ⬡ "

1. NEW ACOUSTICAL SUSPENDED CEILING
2. NEW LIGHT FIXTURES - SEE ELECTRICAL SHEETS FOR SCOPE OF WORK
3. NEW MECHANICAL SYSTEM - SEE MECHANICAL SHEETS FOR SCOPE OF WORK

REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
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7125 NORTH 30TH STREET, TAMPA, FL 33610

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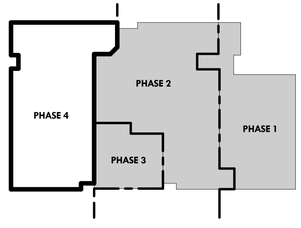
PHASE 4 - REFLECTED CEILING PLANS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 (813) 963-1919
Email: AGI@anston-greenlees.com Web: www.anston-greenlees.com
Florida Engineering Business Number 0655



WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

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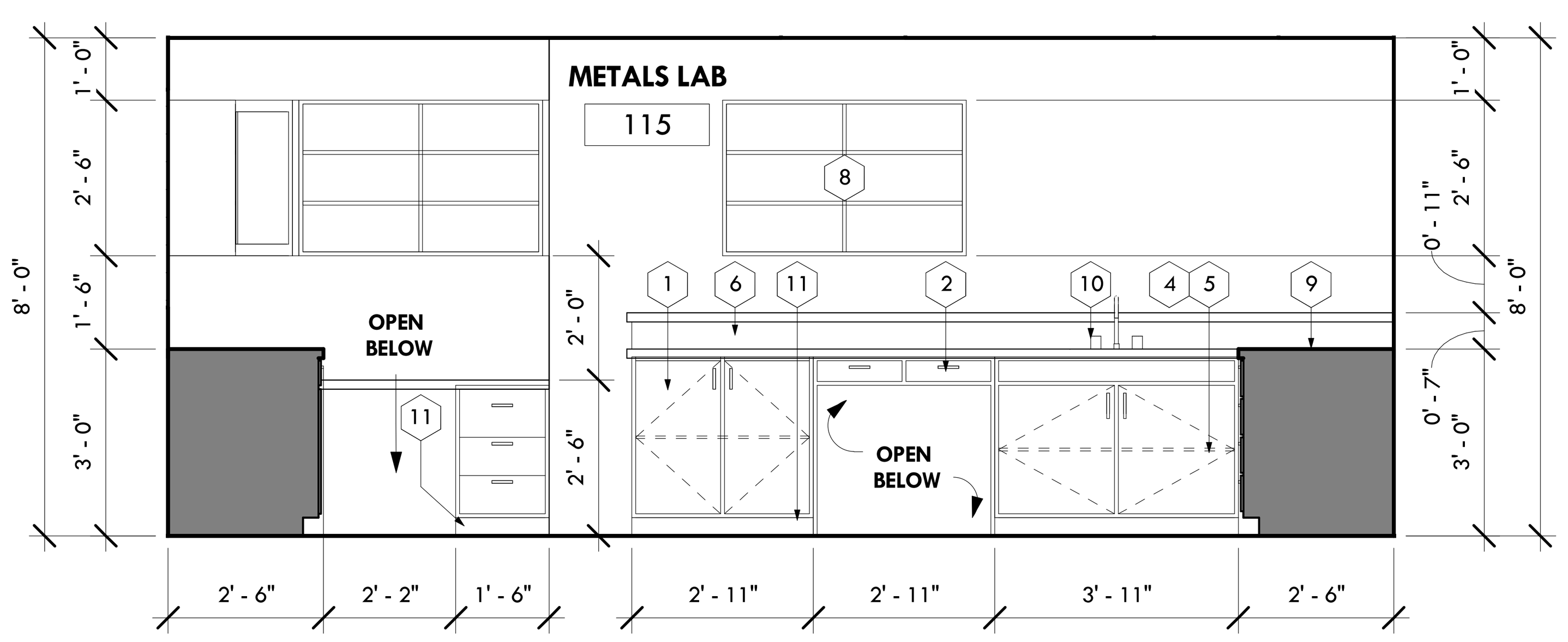
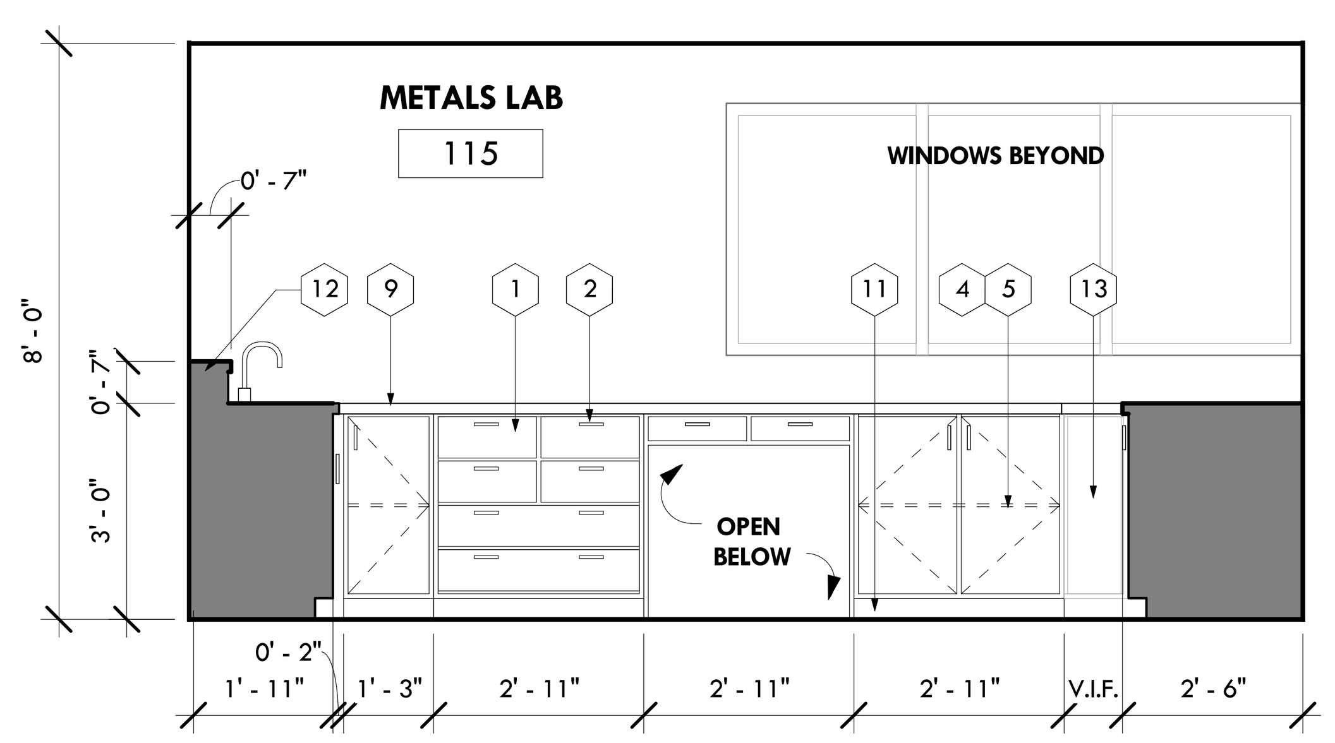


1 PHASE 4 - INTERIOR ELEVATIONS
3/8" = 1'-0"



2 PHASE 4 - INTERIOR ELEVATIONS
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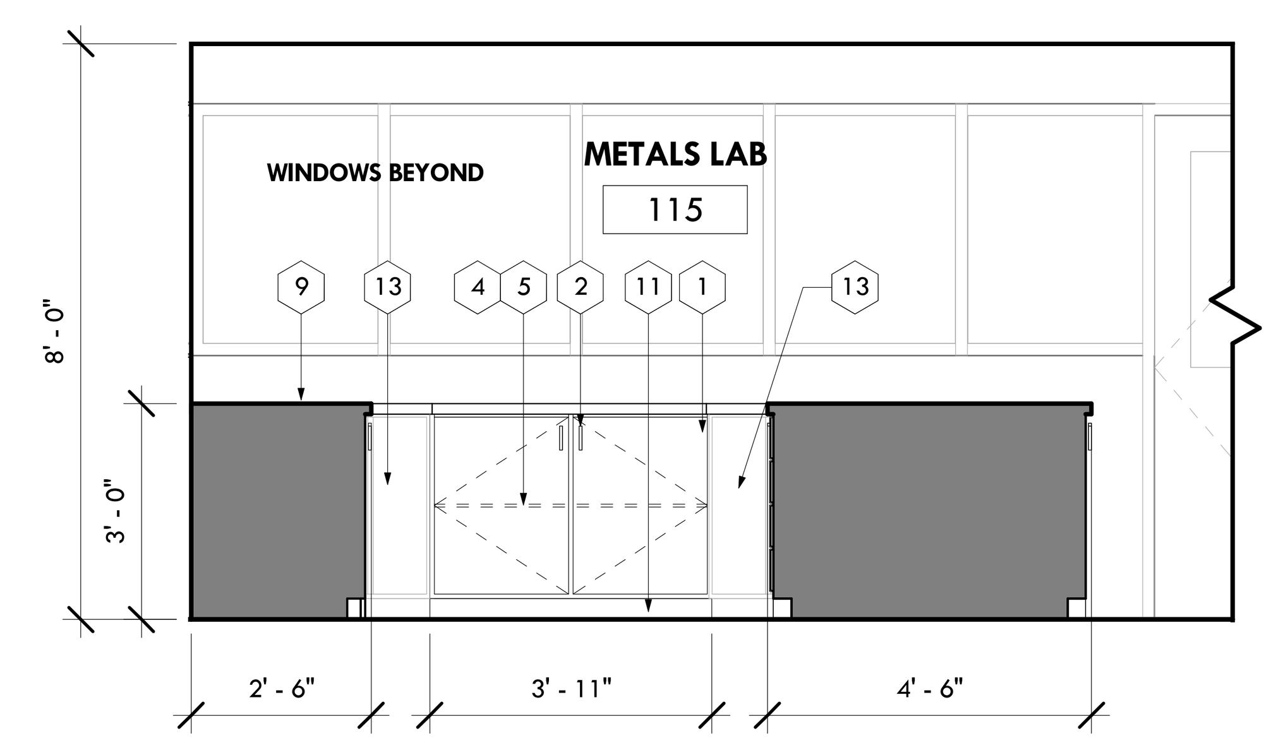
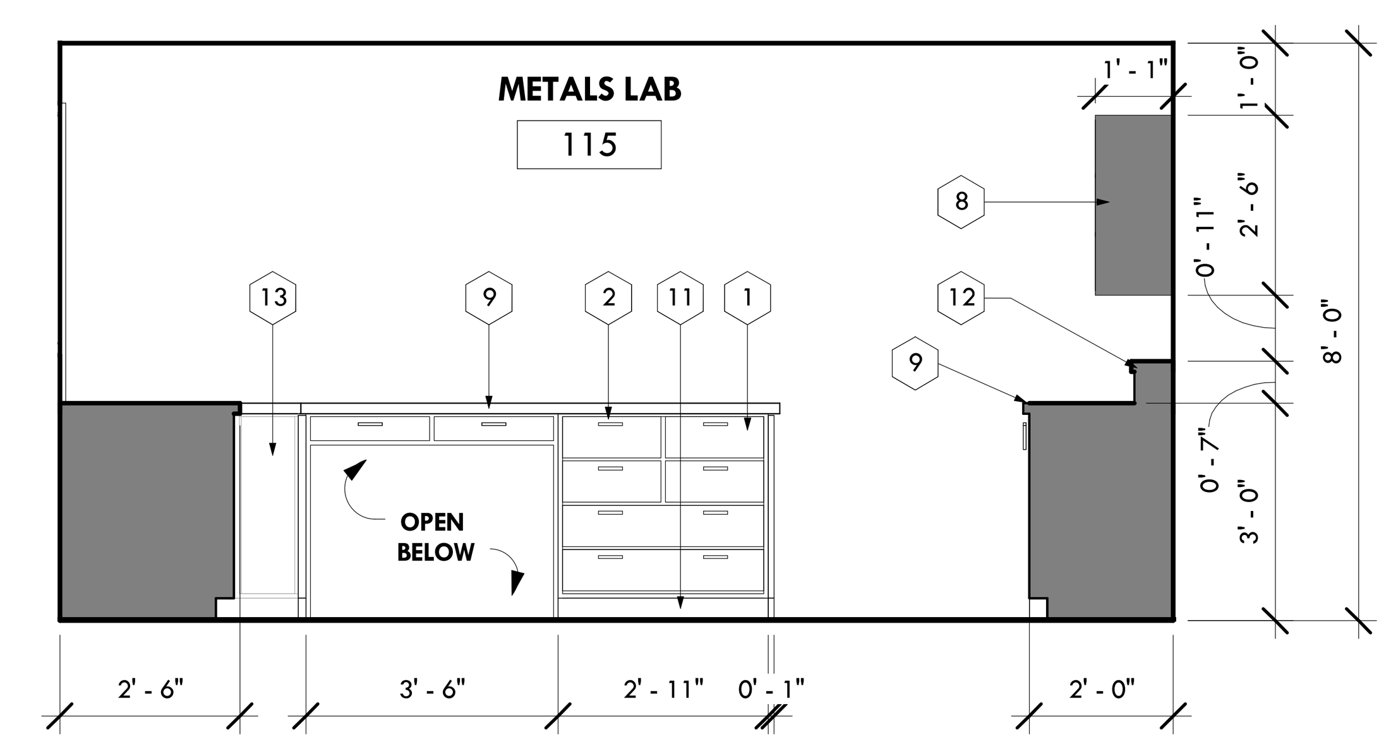
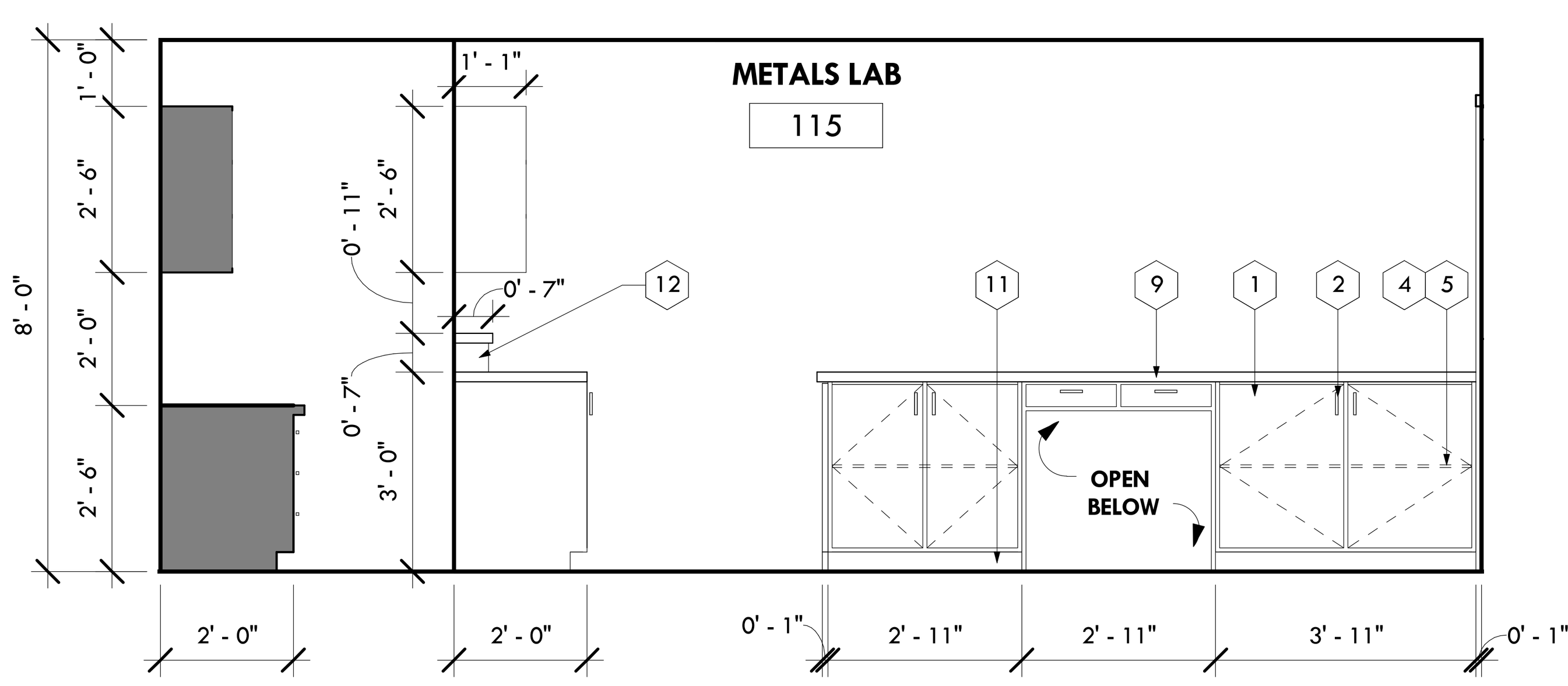


3 PHASE 4 - INTERIOR ELEVATIONS
3/8" = 1'-0"



4 PHASE 4 - INTERIOR ELEVATIONS
3/8" = 1'-0"



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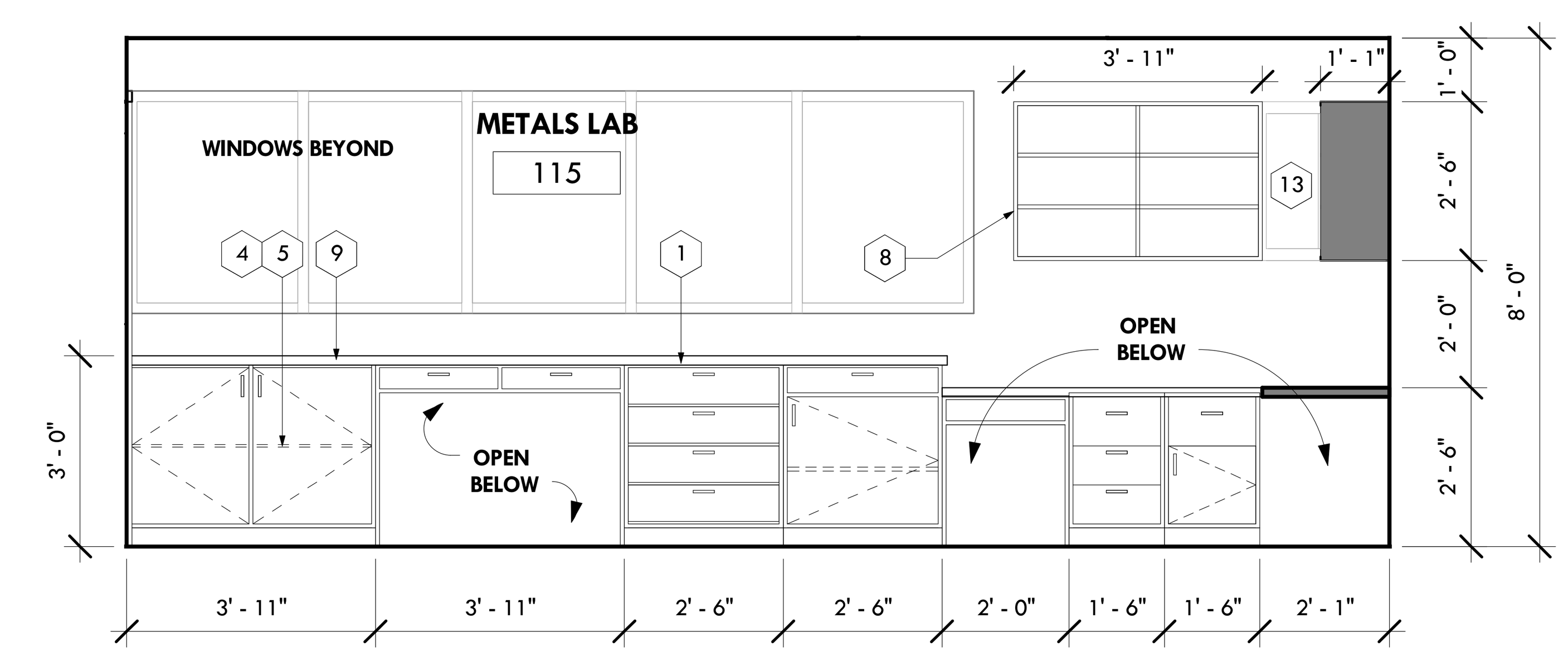

6 PHASE 4 - INTERIOR ELEVATIONS
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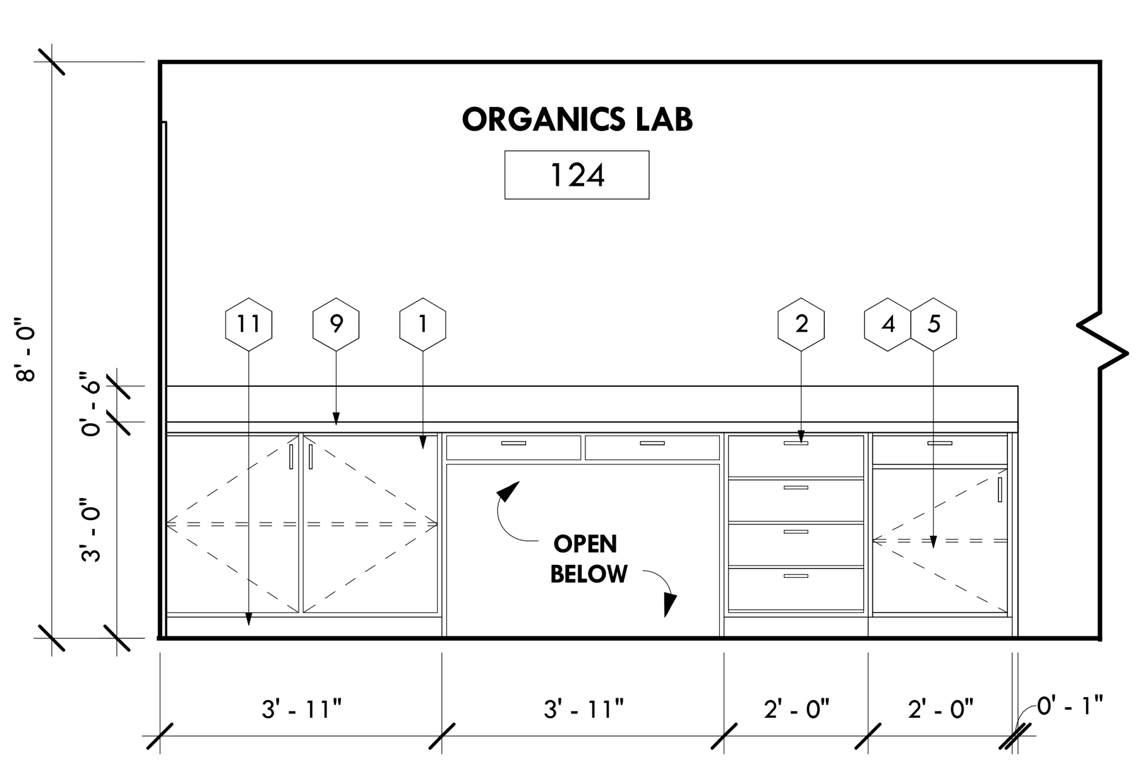

7 PHASE 4 - INTERIOR ELEVATIONS
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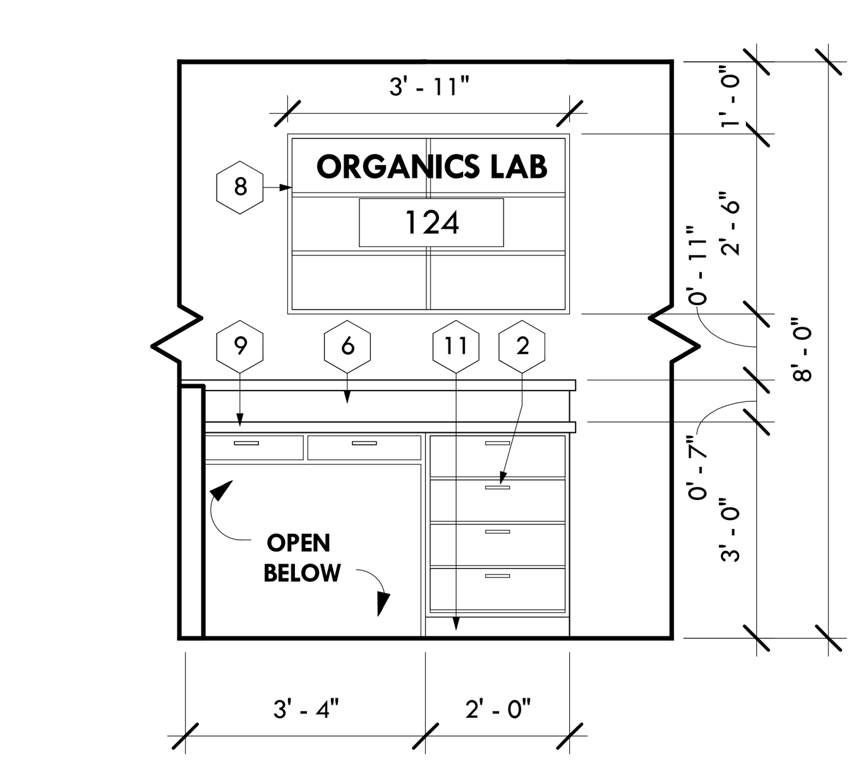

8 PHASE 4 - INTERIOR ELEVATIONS
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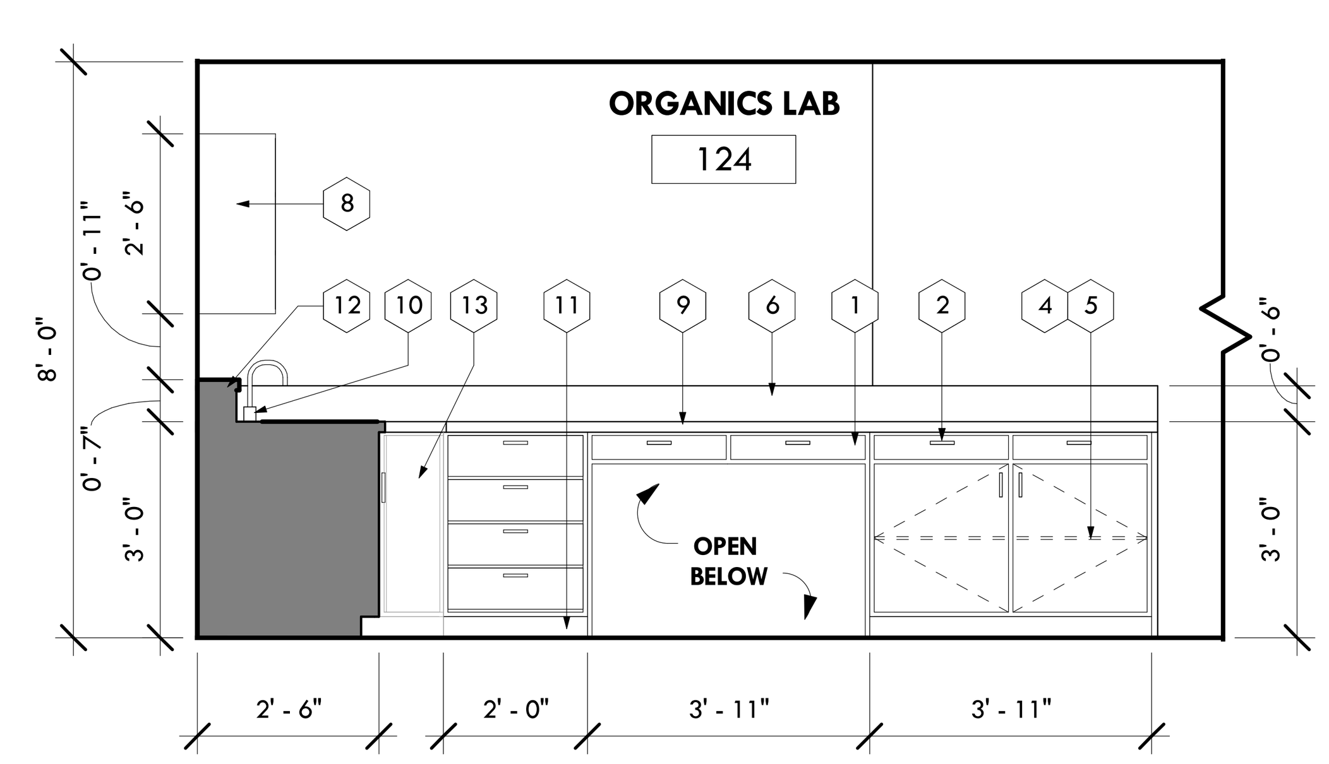

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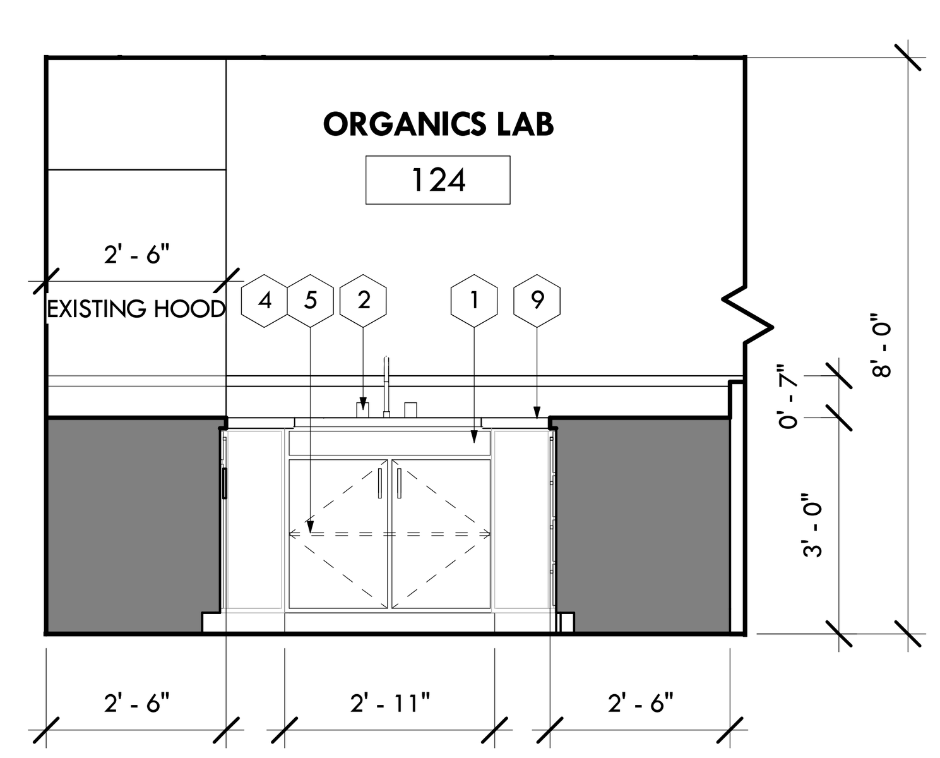
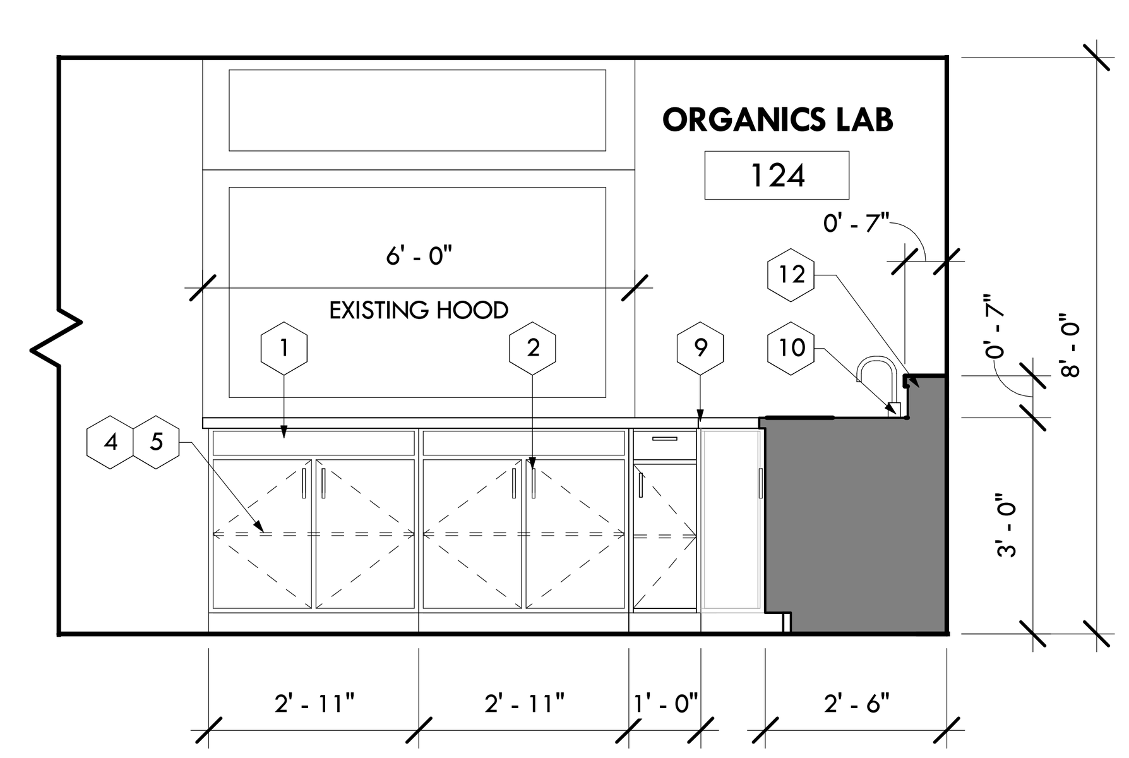


10 PHASE 4 - INTERIOR ELEVATIONS
3/8" = 1'-0"



11 PHASE 4 - INTERIOR ELEVATIONS
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3. ALL CASEWORK SHALL BE SQUARE, PLUMB AND TRUE.
4. ALL EXPOSED AND SEMI-EXPOSED WOOD SURFACES TO HAVE PLASTIC LAMINATE FINISH.
5. PROVIDE NYLON ROPE STOPS WHERE CABINET DOORS WOULD OTHERWISE HIT ADJACENT SURFACES.
6. PROVIDE FILLER PANELS (MAX. 1 1/2" WIDE) AT CASEWORK SIDES & TOPS. SCRIBE FILLERS TO WALL & SECURE TO ADJACENT SURFACE. SEAL CASEWORK FILLERS TO ADJACENT WALL.
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12. ALL SINKS TO BE EPOXY RESING CHEMICAL RESISTANT
13. ALL CABINETS TO BE MADE OF PLYWOOD
14. REFER TO SHEET A1.5 FOR CABINET DETAILS

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2. 4" WIRE PULL TO MATCH EXISTING
3. CABINET BACKS TO BE 3/4" PLYWOOD
4. HOLES DRILLED FOR ADJUSTABLE SHELVES AT 1-1/4" O.C. PROVIDE SHELF PINS TO ACCOMODATE 3/4" SHELVES
5. PLASTIC LAMINATE ADJUSTABLE SHELVES
6. HIGH BACKSPLASH AT BACK OF COUNTER. RETURN SPLASH WHERE PERPENDICULAR WALL ABUTTS CABINET
7. NOT USED
8. PLASTIC LAMINATE AT UPPER CABINET SHELVING (3/4" THICK PLYWOOD-TYP)
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REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT AND RENOVATION
7125 NORTH 30TH STREET, TAMPA, FL 33610

100% CONSTRUCTION DOCUMENTS

PHASE 4 - INTERIOR CABINET ELEVATIONS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers

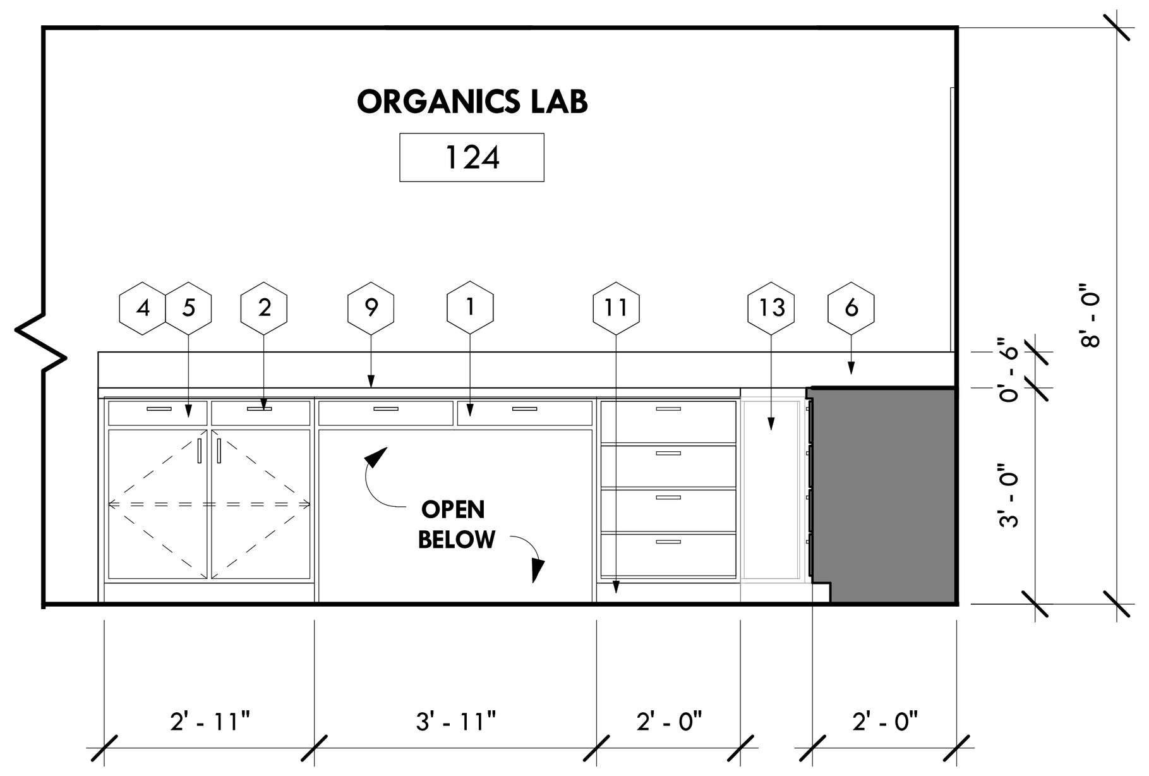
WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

813-281-0411
FLORIDA LICENSE NUMBER AA C001379

ENRIQUE A. WOODROFFE, FAIA, LEED
FLORIDA LICENSE AR 0007703

DRAWN	DC
CHECKED	HW
DATE	01/10/14
SCALE	As indicated
AGI PROJECT	13009
SHEET	A1.4.3

1/24/2014 9:13:33 AM



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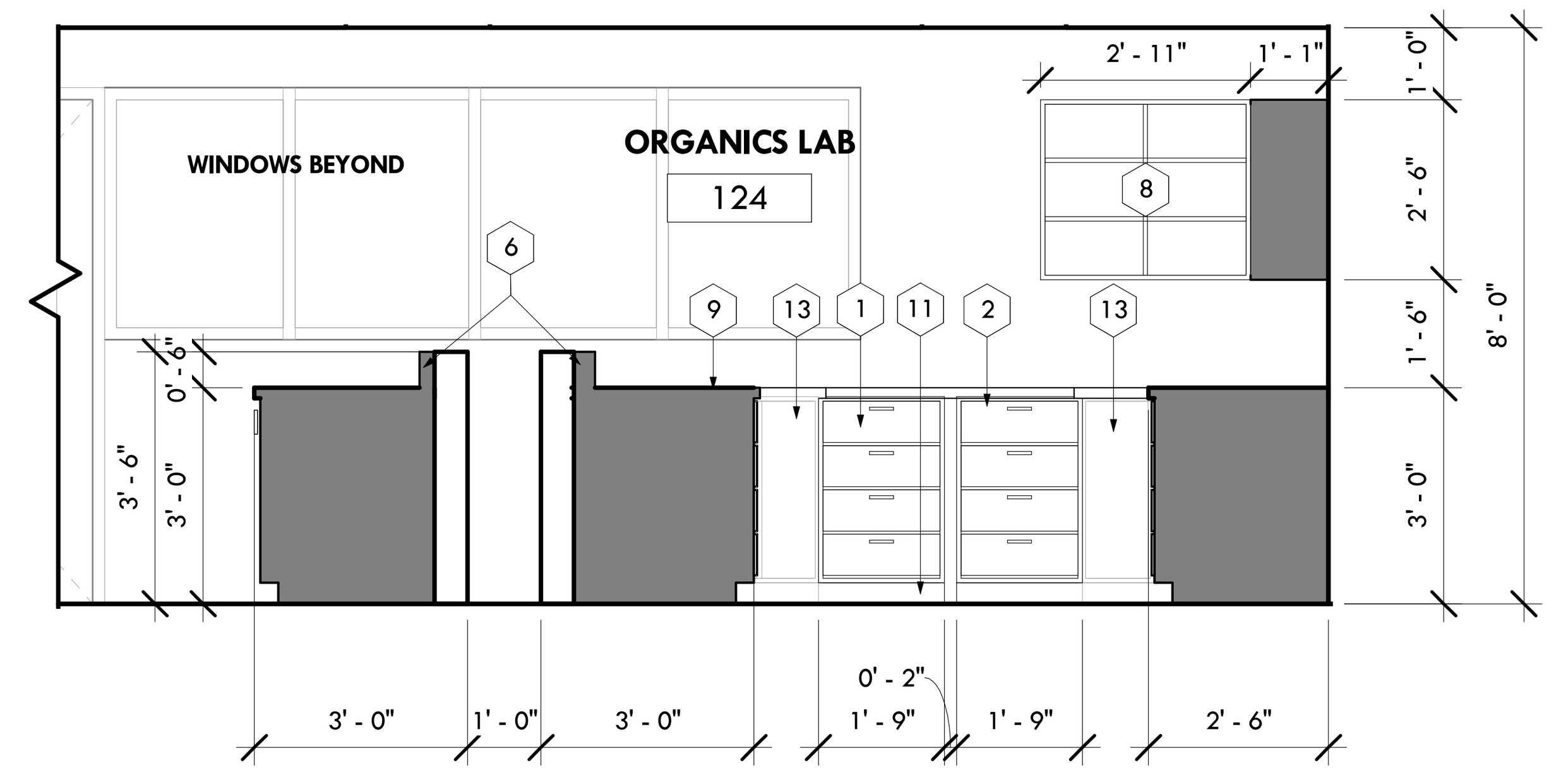

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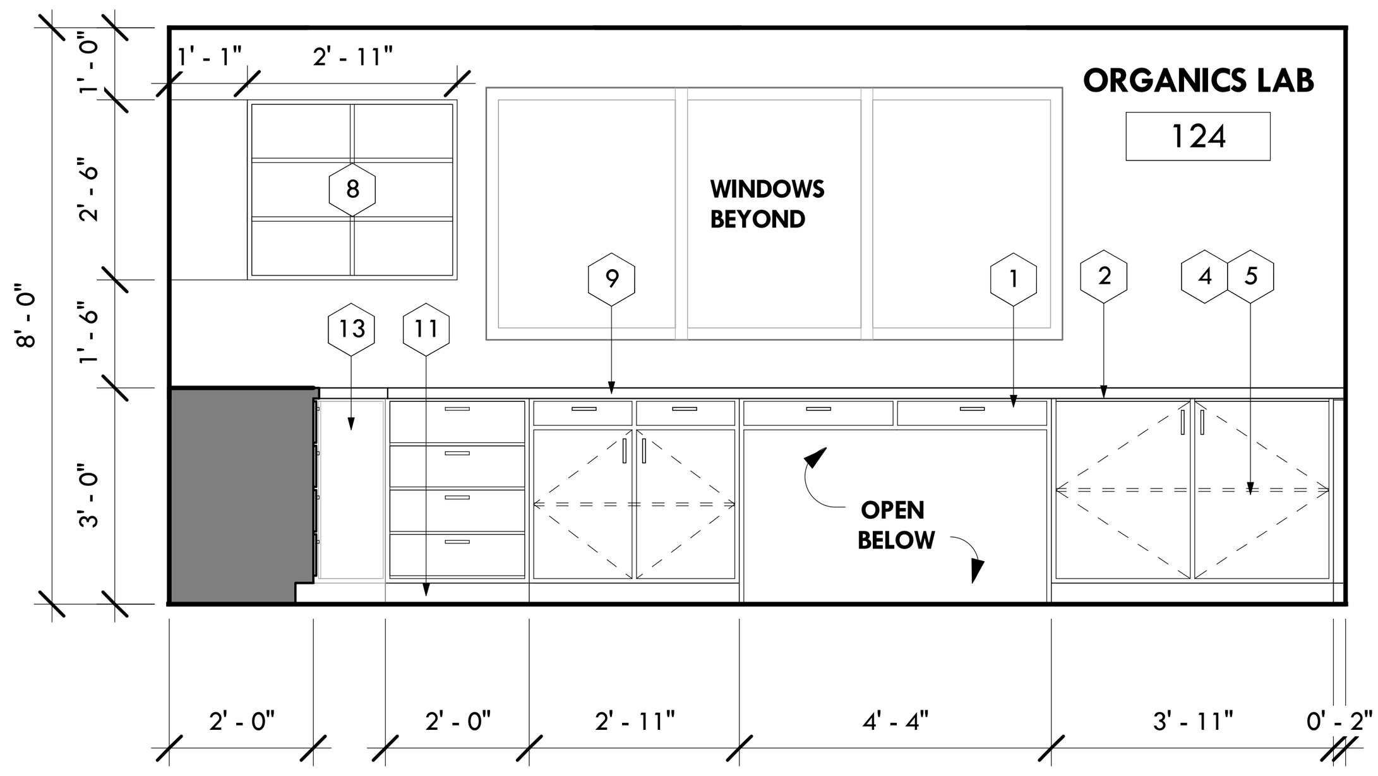

3 PHASE 4 - INTERIOR ELEVATIONS
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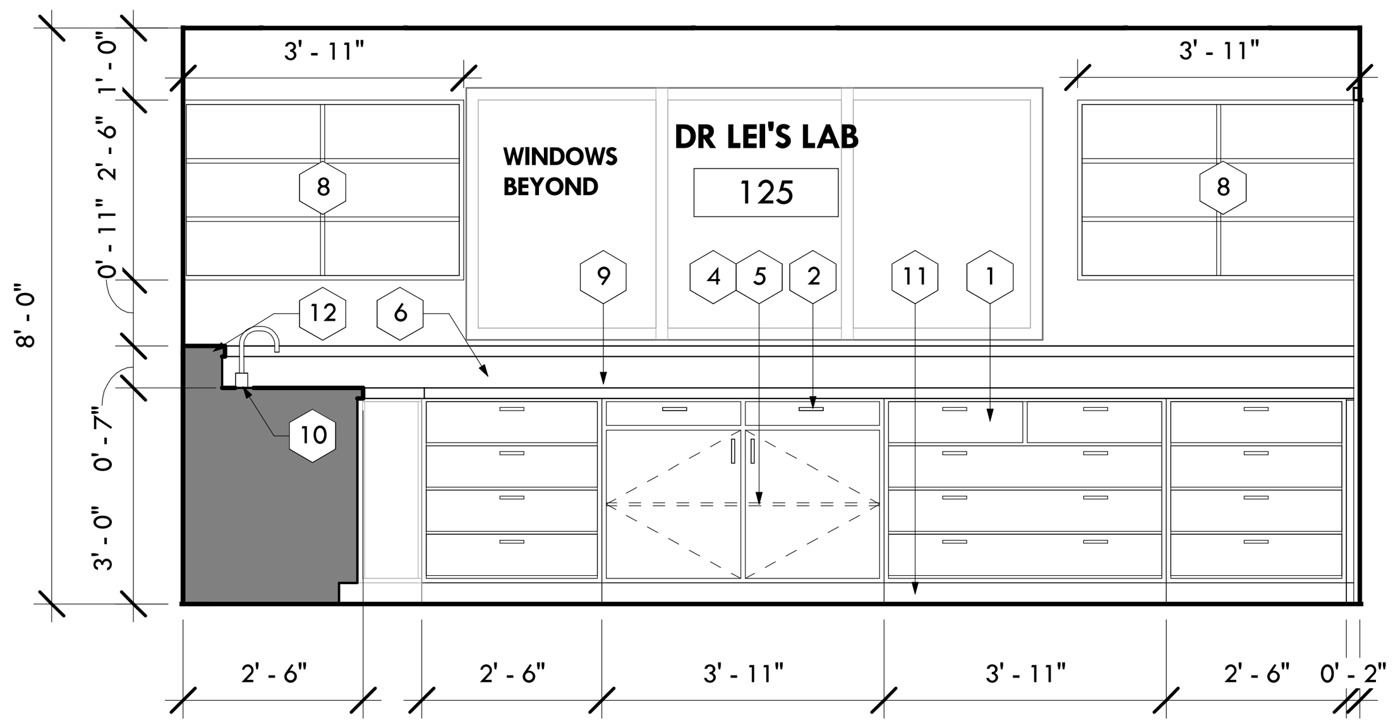

4 PHASE 4 - INTERIOR ELEVATIONS
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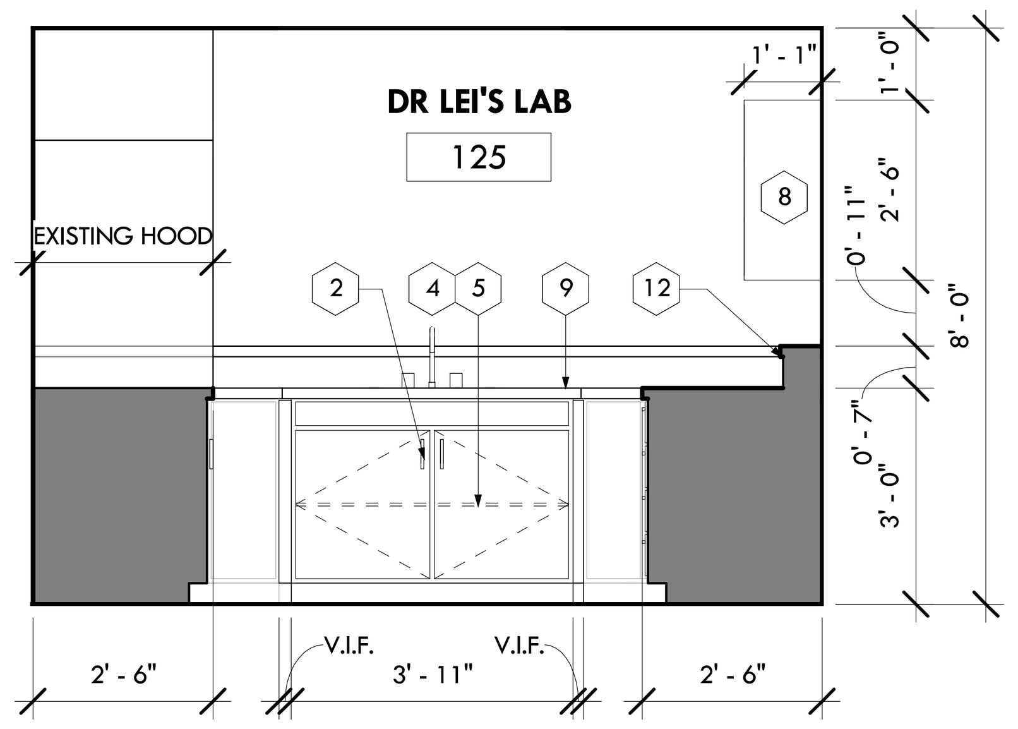

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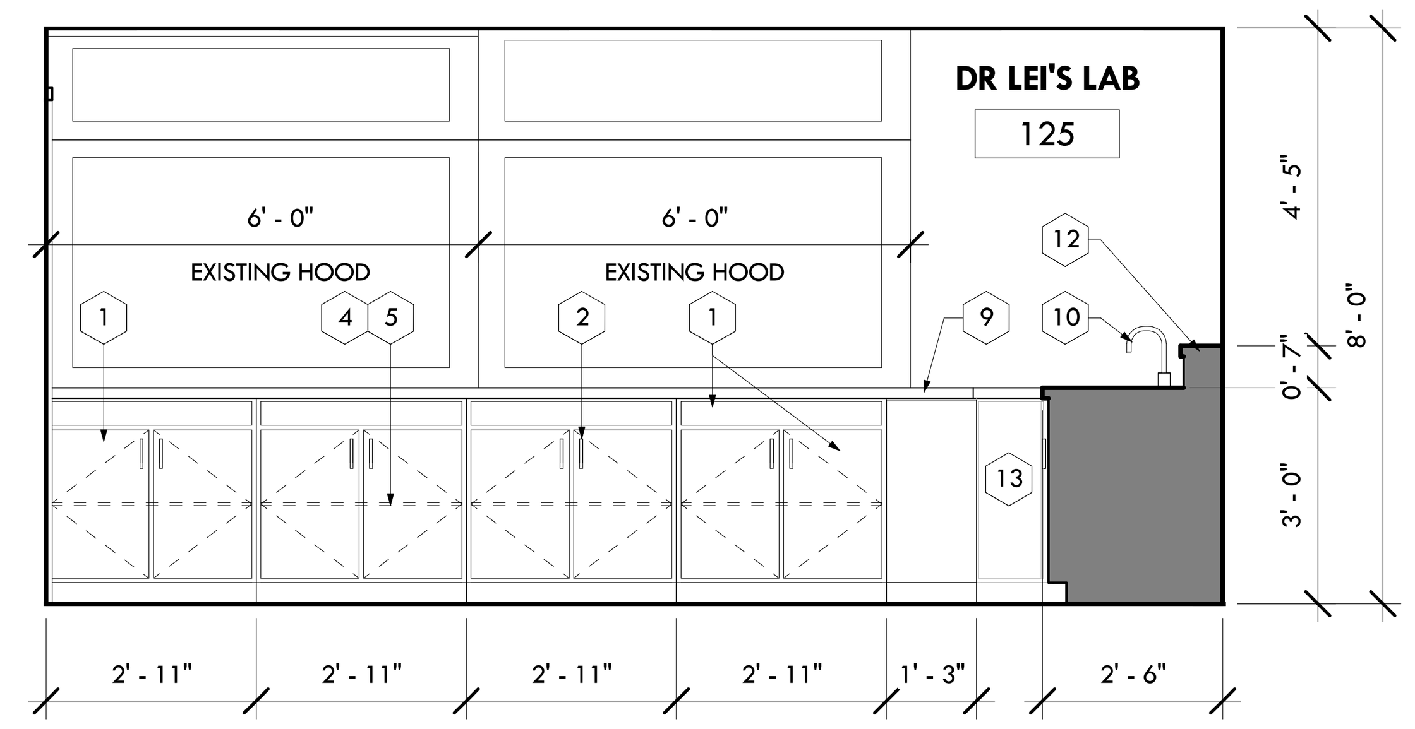

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SHEET	A1.4.4

ENRIQUE A. WOODROFFE, FAIA, LEED
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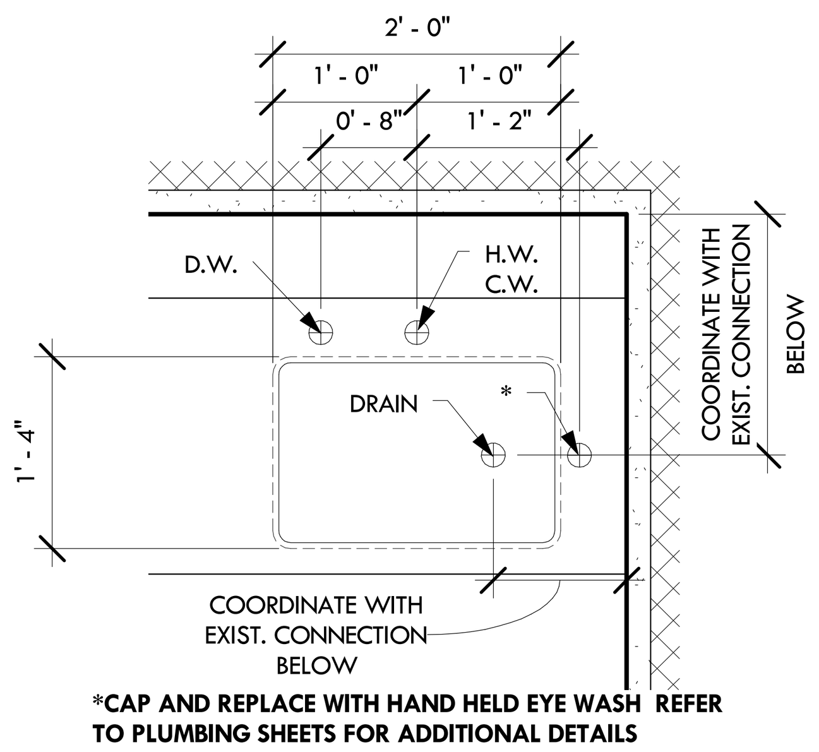
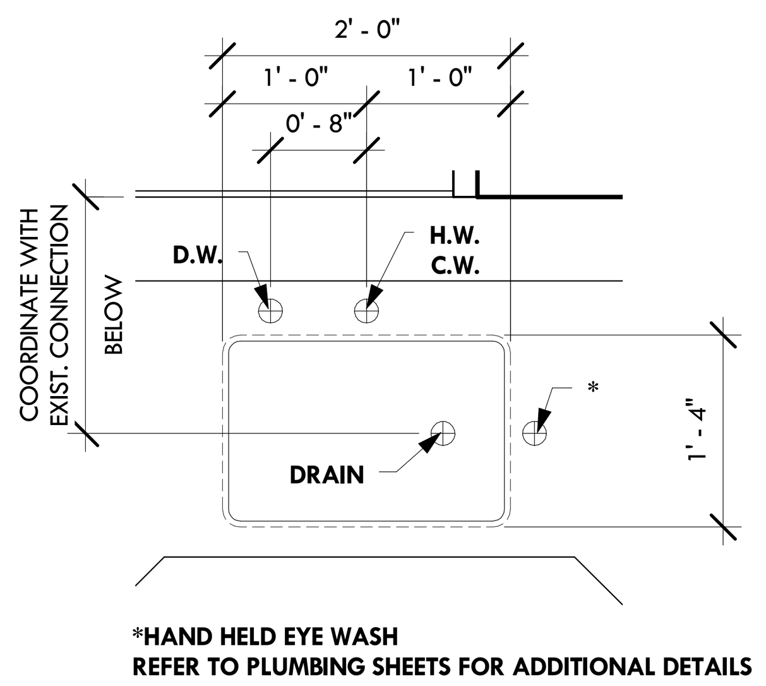
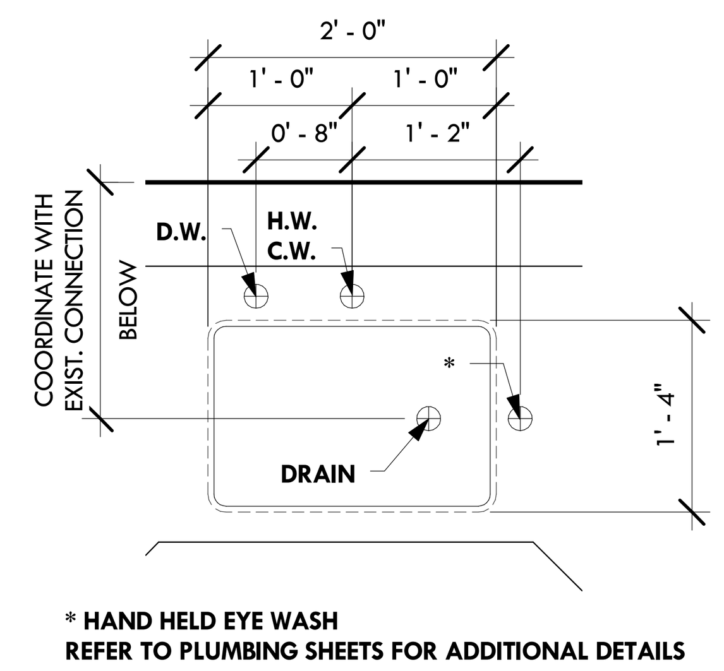


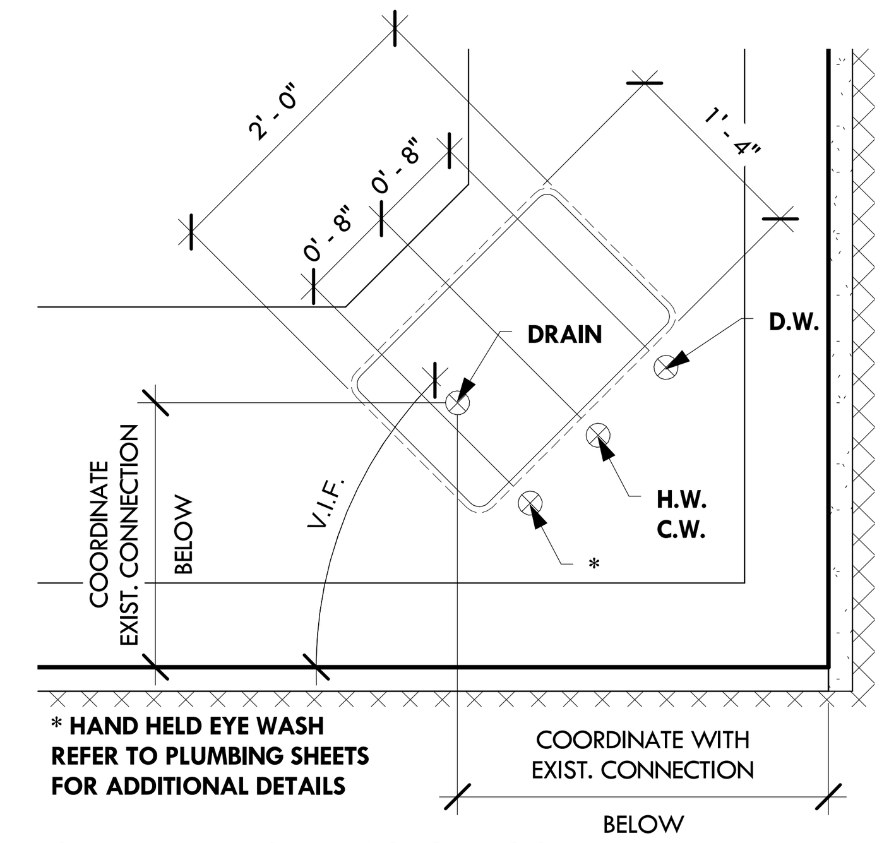
1 SINK IN SAMPLE STORAGE ROOM
3/4" = 1'-0"



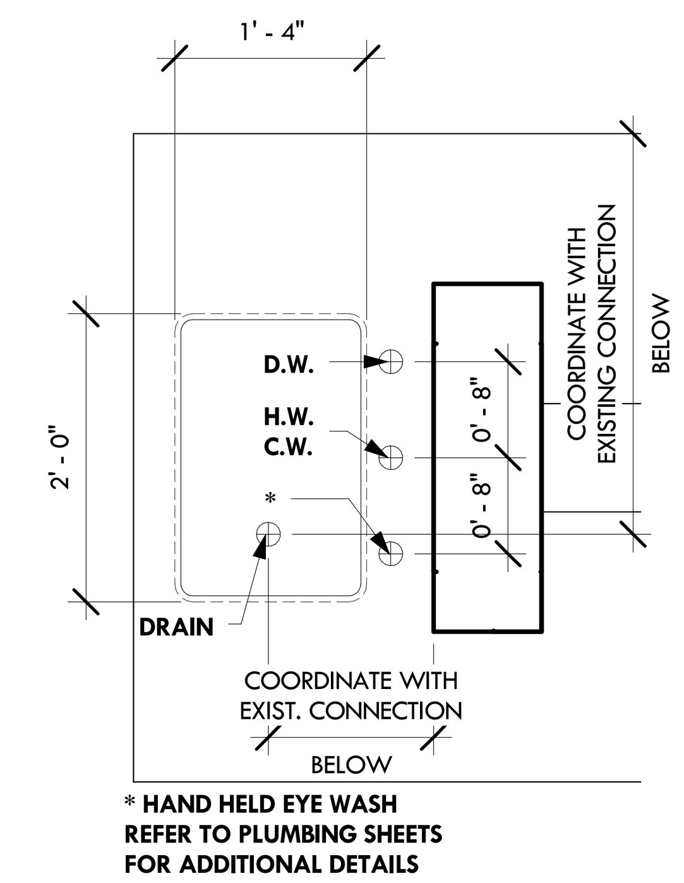
2 SINK IN MICROBIOLOGY ROOM
3/4" = 1'-0"



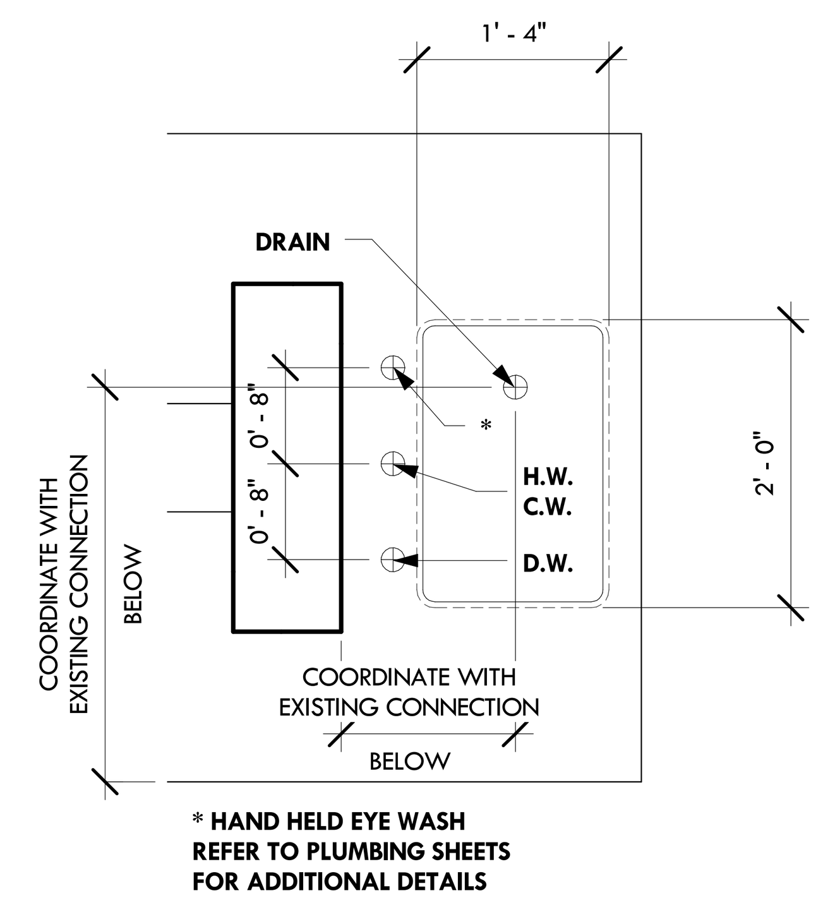
3 2ND SINK IN MICROBIOLOGY ROOM
3/4" = 1'-0"



4 SINK IN METALS EXTRACTION ROOM
3/4" = 1'-0"



5 SINK IN GEN. WET CHEM. LAB
3/4" = 1'-0"



6 2ND SINK IN GEN. WET CHEM. LAB
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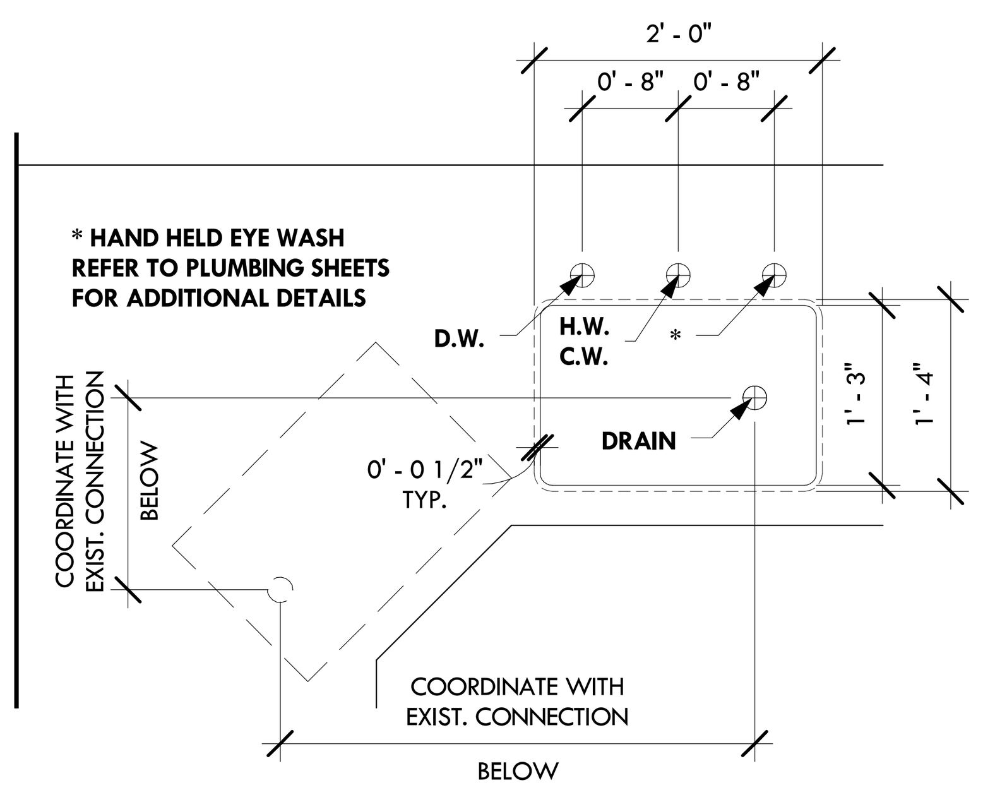

7 3RD SINK IN GEN. WET CHEM. LAB
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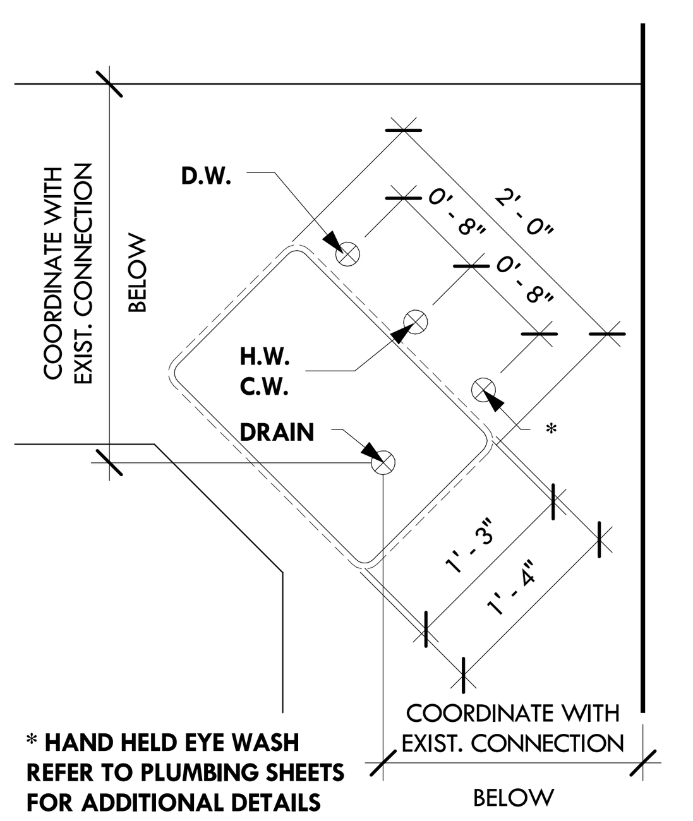
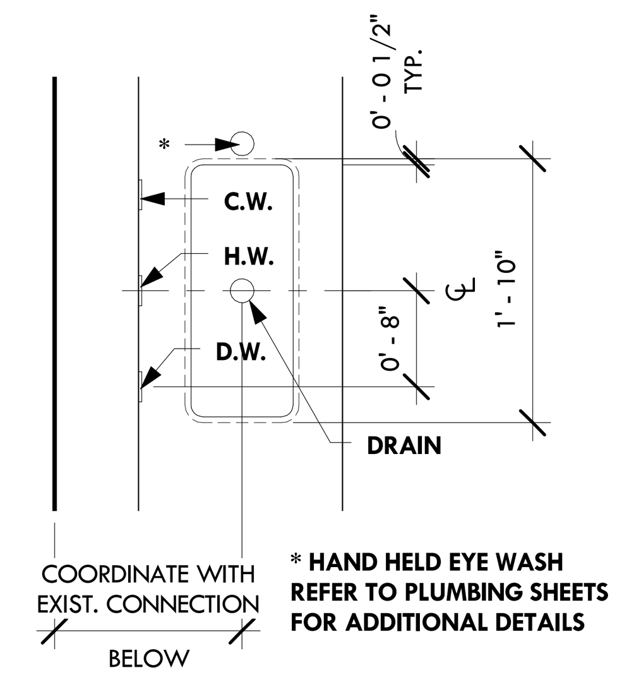
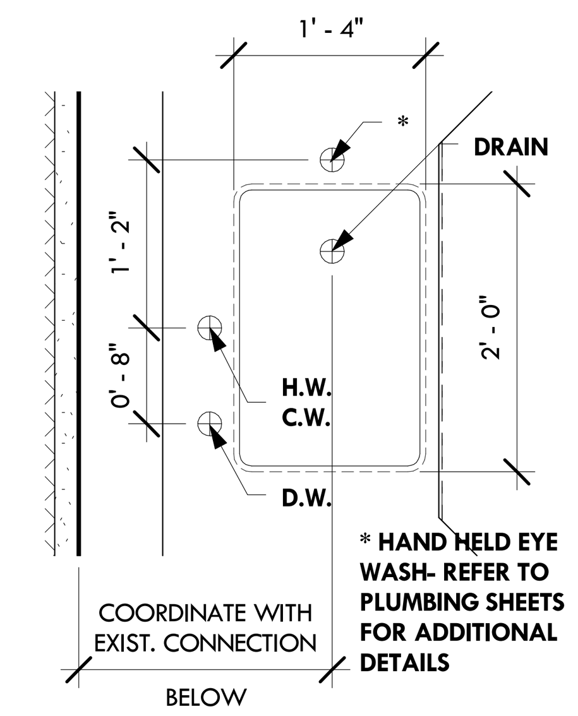


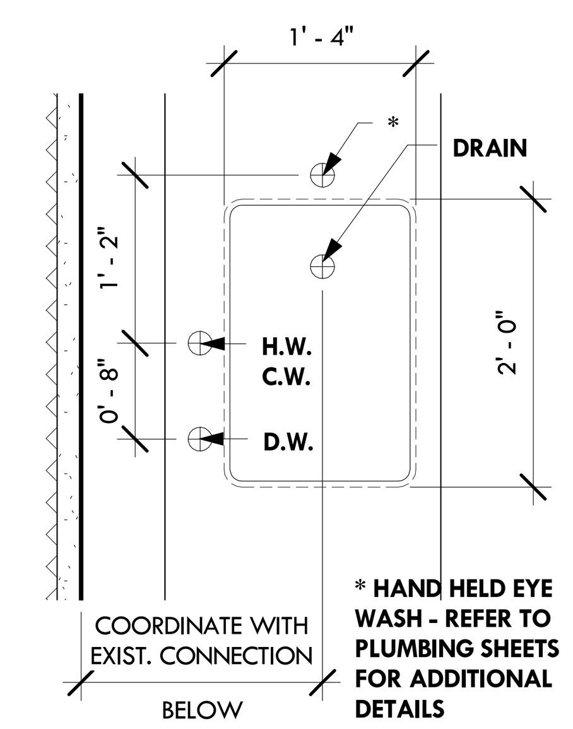
8 4TH SINK IN GEN. WET CHEM. LAB
3/4" = 1'-0"



9 SINK IN METAL'S LAB
3/4" = 1'-0"



10 SINK IN ORGANIC'S LAB
3/4" = 1'-0"



11 SINK IN DR. LEI'S LAB
3/4" = 1'-0"

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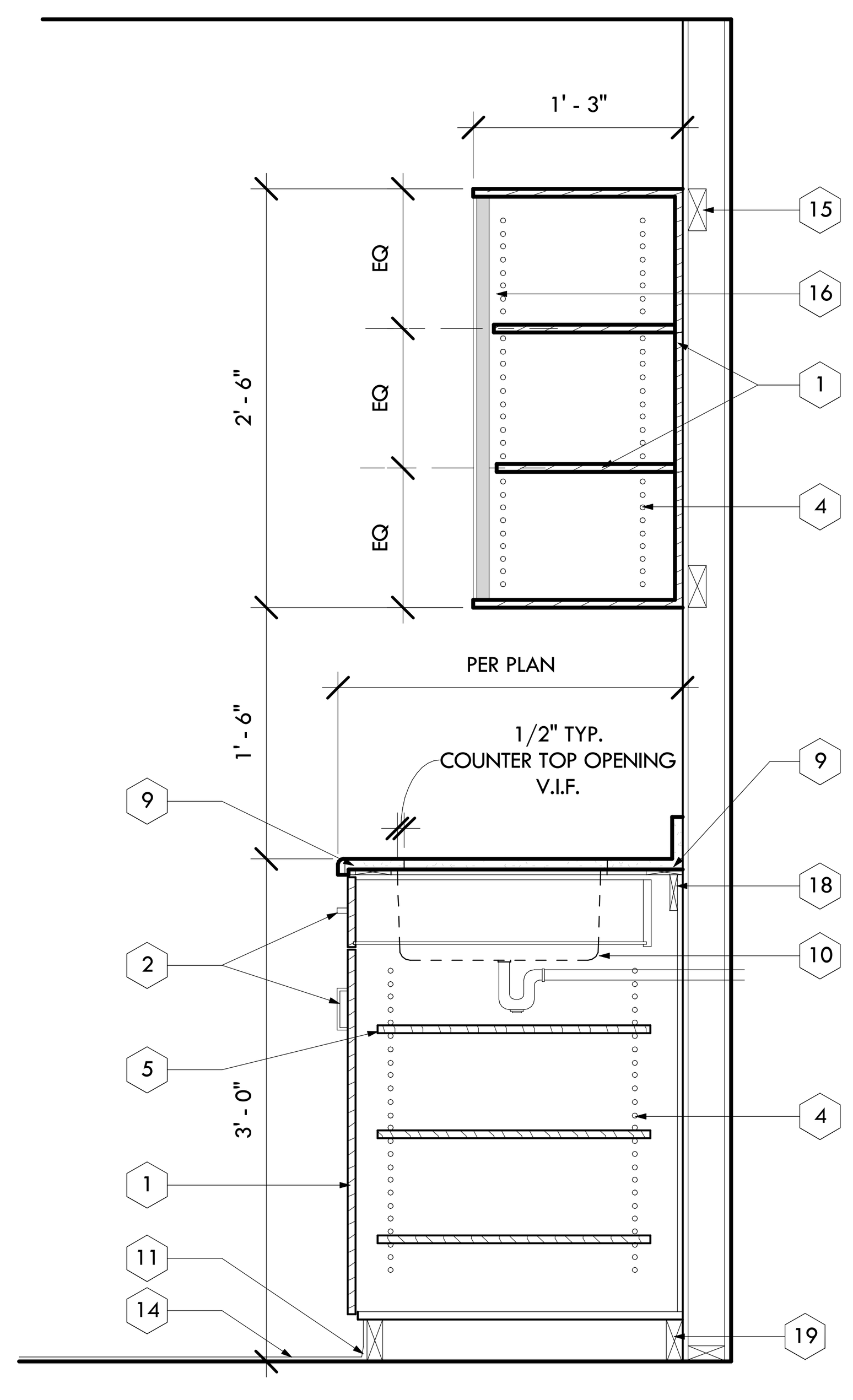
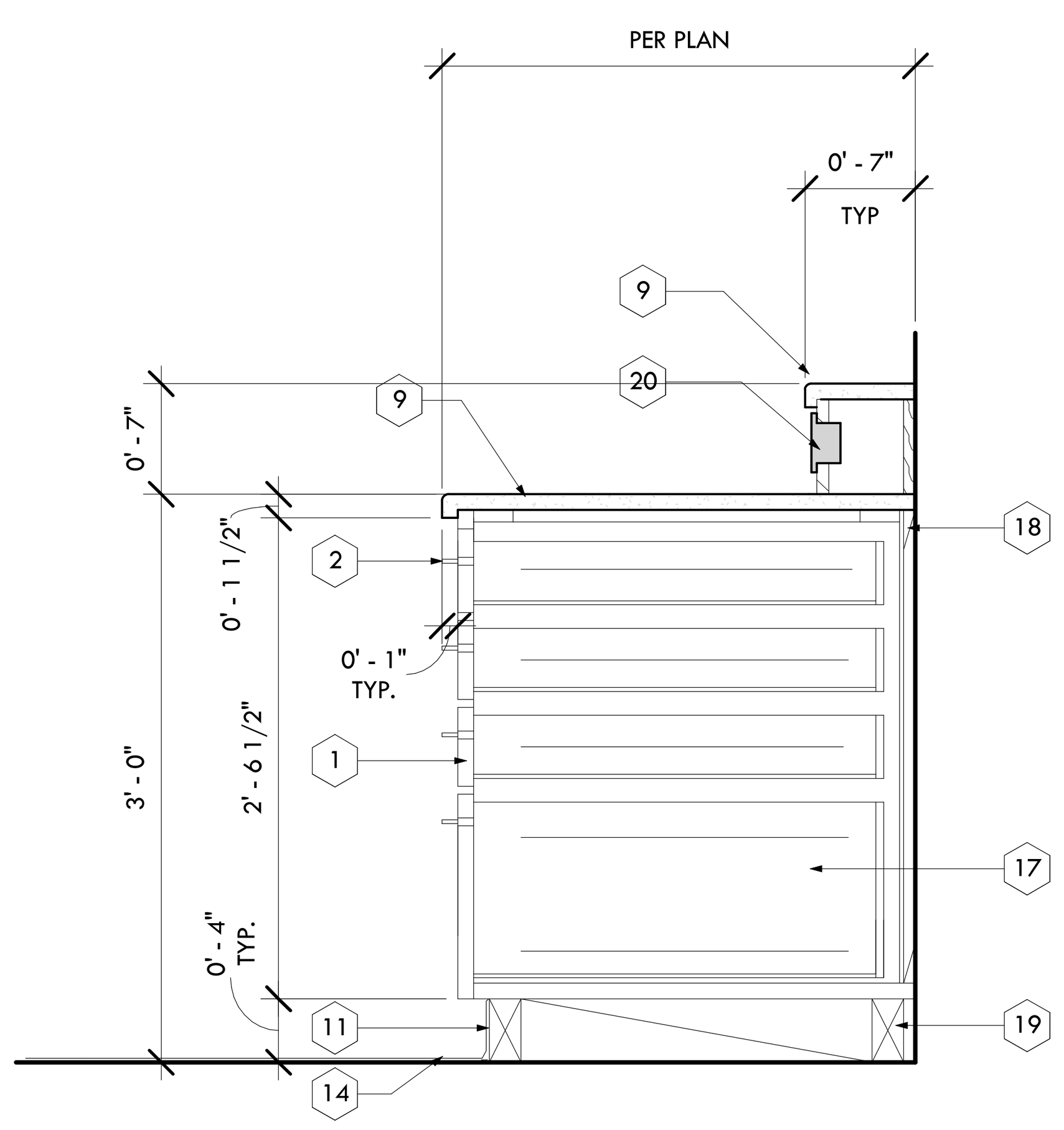
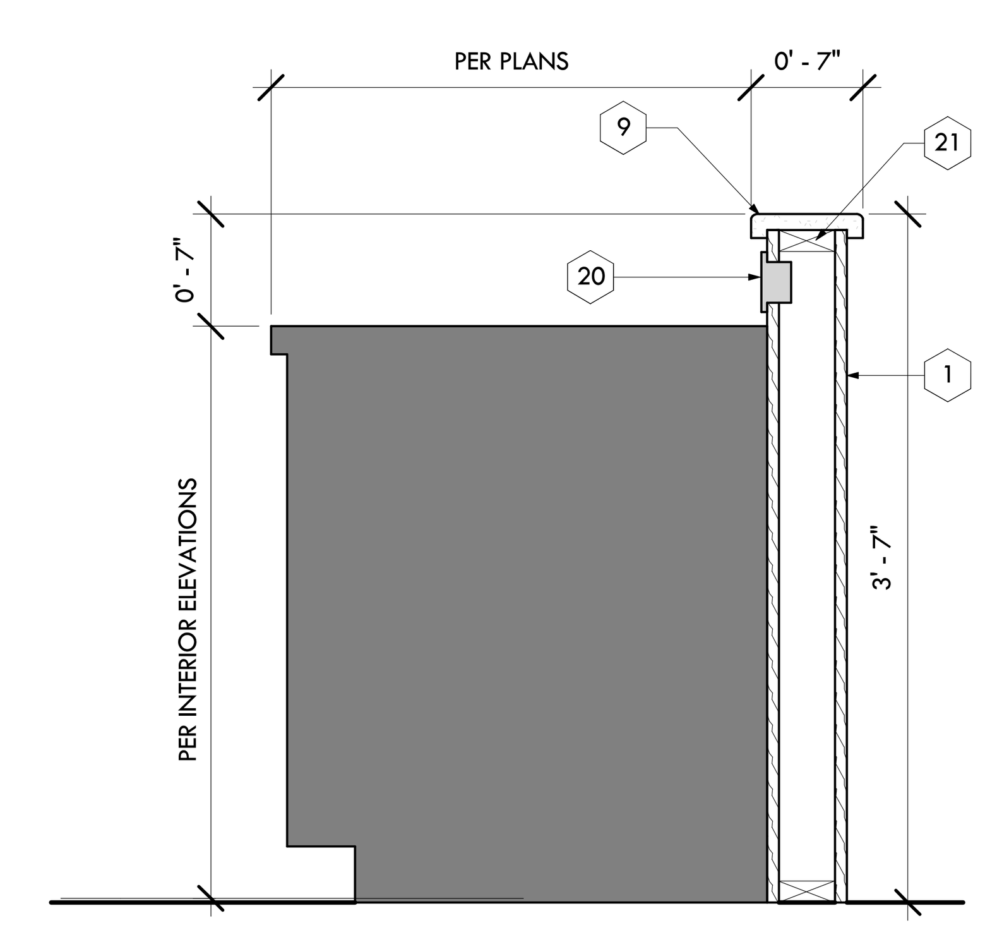


A BASE & UPPER CABINET SECTION - SINK AS PER PLAN



B BASE CABINET SECTION - WITH ELECTRICAL RACEWAY



C LOW WALL BEHIND CABINETS

12 CABINET SECTIONS
1" = 1'-0"

WOODROFFE CORPORATION ARCHITECTS
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SINK AND CABINET DETAILS

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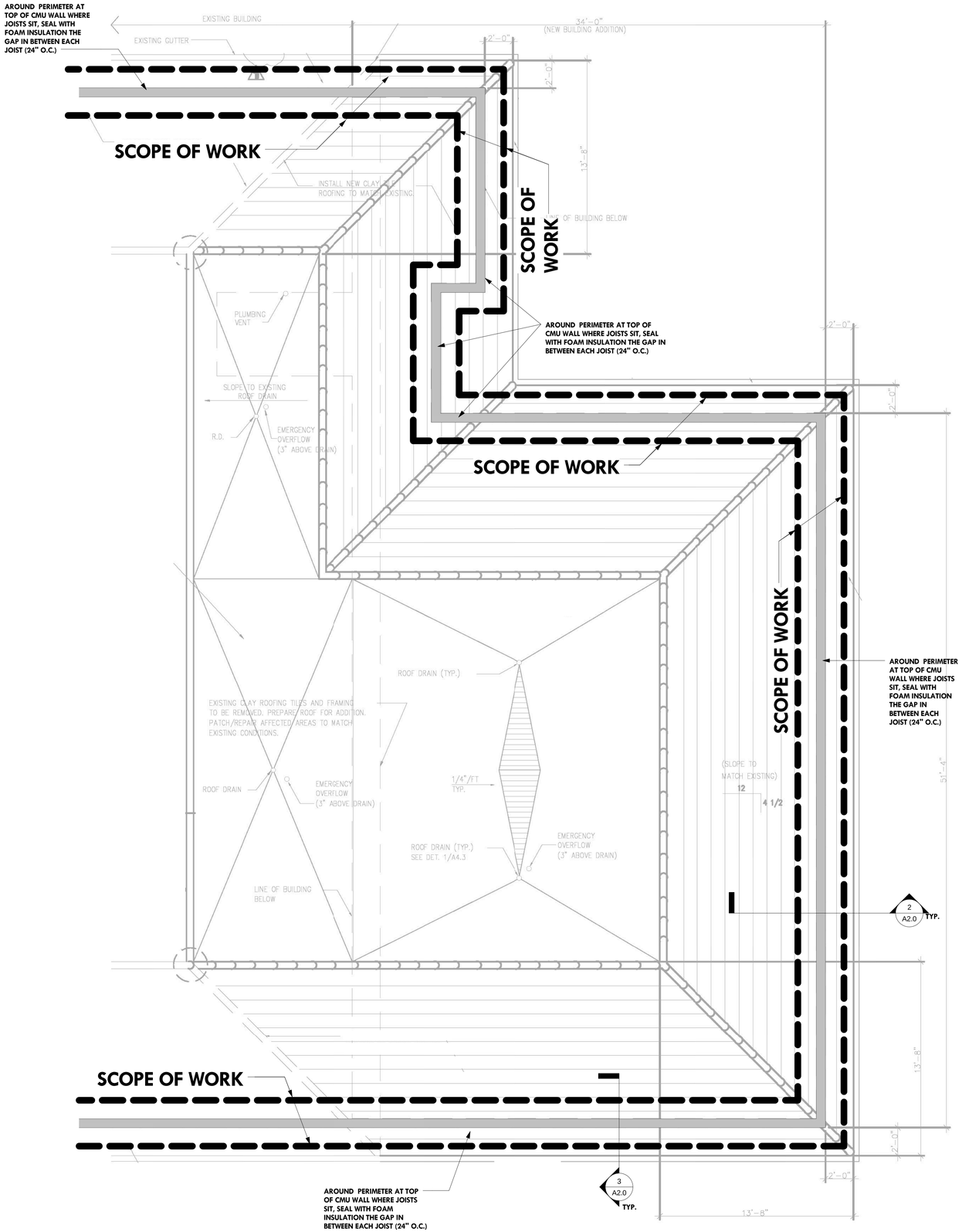
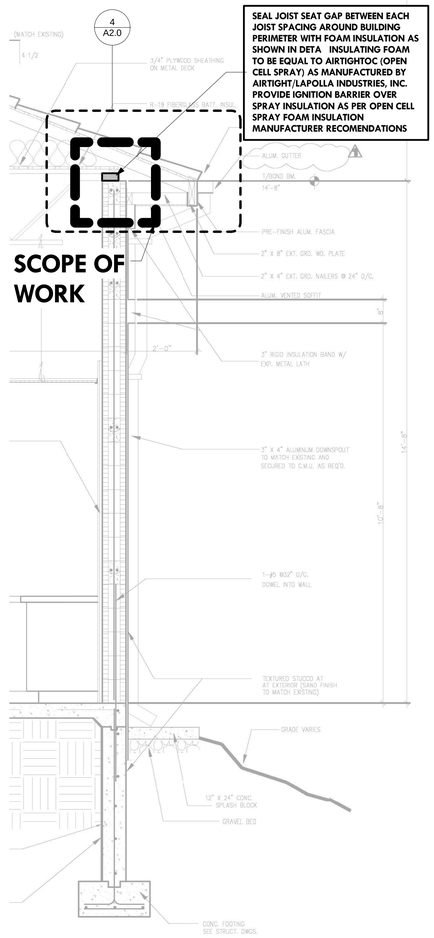


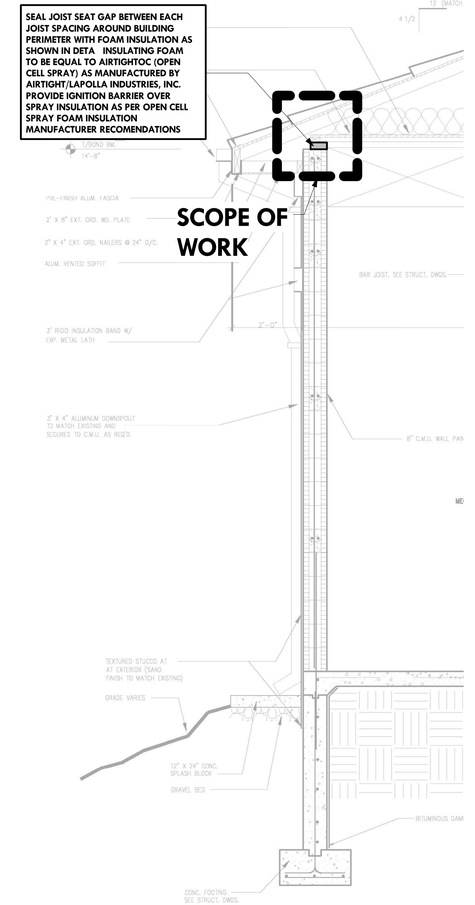
1 REFERENCE ROOF PLAN - PERIMETER INSULATION ENCLOSURE
1/4" = 1'-0"

ORIGINAL DRAWING OF LAB ADDITION IN 1997



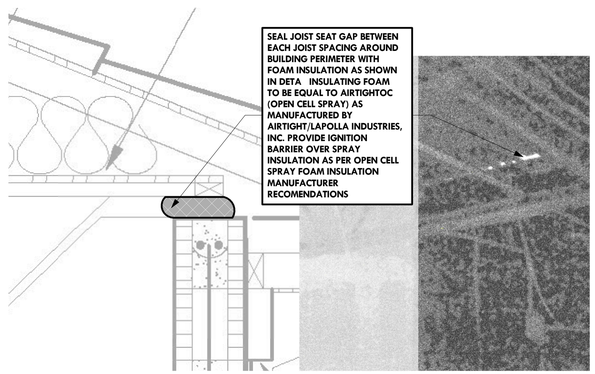
2 REFERENCE WALL SECTION - 1
1/2" = 1'-0"

ORIGINAL DRAWING OF LAB ADDITION IN 1997



3 REFERENCE WALL SECTION- 2
1/2" = 1'-0"

ORIGINAL DRAWING OF LAB ADDITION IN 1997



4 CLOSE UP DETAIL- PERIMETER INSULATION ENCLOSURE
1 1/2" = 1'-0"

ORIGINAL DRAWING OF LAB ADDITION IN 1997

WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

813-281-0411
FLORIDA LICENSE NUMBER AA C001379

ENRIQUE A. WOODROFFE, FAIA, LEED
FLORIDA LICENSE AR 0007703

REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT AND RENOVATION
7125 NORTH 30TH STREET, TAMPA, FL 33610

100% CONSTRUCTION DOCUMENTS

PERIMETER INSULATION ENCLOSURE

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Swann Avenue, Tampa, FL 33606 Tel(813)963-3939
Email: AGI@anston-greenlees.com Florida Engineering Business Number 6991

DRAWN	DC
CHECKED	HW
DATE	01/10/14
SCALE	As indicated
AGI PROJECT	13009
SHEET	A2.0

1/24/2014 9:17:50 AM

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	SELECTION	W OR S	TRAP	VENT	HW	CW
P1 LAB SINK FIXTURE CONNECTIONS	UNDER MOUNT LAB SINK SHALL BE PROVIDED UNDER DIFFERENT DIVISION. PROVIDE NEW DECK MOUNT FIXTURES AS LISTED. MAKE ALL CONNECTIONS NECESSARY FOR A COMPLETE AND WORKING SYSTEM. POTABLE WATER FAUCET: CHROME PLATED SOLID BRASS BODY. QUARTER TURN CERAMIC DISC CARTRIDGES AND A 6" CENTERLINE GOOSENECK SPOUT WITH VACUUM BREAKER. 4" COLOR CODED WRIST BLADE HANDLES. PROVIDE WITH STAINLESS STEEL BRAIDED HOSES FOR CONNECTION TO NEW SUPPLY STOPS. FIELD VERY CONNECTION LENGTHS BEFORE ORDERING. DI WATER FAUCET: POLYPROPYLENE SINGLE LAB FAUCET WITH INTEGRAL SHANK, A NEEDLE POINT VALVE AND A 5-3/4" GOOSENECK SPOUT. PROVIDE WITH A SERRATED NOZZLE OUTLET AND 1/2" NPSM MALE MOUNTING SHANK AND LOCKNUT. EMERGENCY EYE AND FACE WASH: DECK MOUNTED ABS PLASTIC PERFORATED SPRAY HEAD WITH CHROME PLATED BRASS STAY OPEN HANDLE. PROVIDE WITH 8' YELLOW REINFORCED HOSE AND BACK FLOW PREVENTER. CONNECTED TO POTABLE COLD WATER SUPPLY. DRAIN CONNECTIONS: PROVIDE ACID WASTE PIPE EQUIVALENT TO ORION BY WATTS WATER TECHNOLOGIES. PROVIDE UNDER SINK ACID TRAP AND PIPING FOR RECONNECTION TO EXISTING DRAINAGE SYSTEM. (NO HUB CONNECTION IS ACCEPTABLE) FIELD VERIFY EACH LOCATION TO MATCH EXISTING CONDITION. SUPPLY STOPS: PROVIDE NEW SUPPLY STOPS FOR EACH CONNECTION. POTABLE SUPPLY SHALL BE EQUIVALENT TO MCGUIRE HEAVY LEAD FREE STOP WITH ANGLE OR STRAIGHT CONNECTION AS REQUIRED FOR RETRO-FIT. DI WATER PIPING AND VALVES SHALL BE HIGH PURITY PIPING SCH 80 EQUIVALENT TO ORION WHITE LINE POLYPROPYLENE. RIONTITE JOINING SHALL BE ACCEPTABLE FOR NEW CONNECTIONS. PROVIDE NEW BALL VALVE SHUT OFF UNDER COUNTER FOR EACH NEW DI FAUCET INSTALLED.	ZURN Z826U4 T AND S BRASS BL-5704-08 WH4 ZURN Z82900 ORION GNF-10 BRADLEY S19-465 S27-303 McGUIRE 3/8" X 1/2" HEAVY LEAD FREE ORION BV	1-1/2"	TANK	(E)	1/2"	1/2"
P2 LAB SINK FIXTURE CONNECTIONS	UNDER MOUNT LAB SINK SHALL BE PROVIDED UNDER DIFFERENT DIVISION. PROVIDE NEW WALL MOUNT FIXTURES AS LISTED. MAKE ALL CONNECTIONS NECESSARY FOR A COMPLETE AND WORKING SYSTEM. POTABLE WATER FAUCET: CHROME PLATED SOLID BRASS 8" BODY. QUATURN COMPRESSION CARTRIDGES AND A 6" RIGID/SWING GOOSENECK SPOUT WITH VACUUM BREAKER. 4" WRIST BLADE HANDLES. PROVIDE WITH STAINLESS STEEL BRAIDED HOSES FOR CONNECTION TO NEW SUPPLY STOPS. FIELD VERY CONNECTION LENGTHS BEFORE ORDERING. DI WATER FAUCET: POLYPROPYLENE SINGLE LAB FAUCET WITH INTEGRAL SHANK, A NEEDLE POINT VALVE AND A 5-3/4" GOOSENECK SPOUT. PROVIDE WITH A SERRATED NOZZLE OUTLET AND 1/2" NPSM MALE MOUNTING SHANK AND LOCKNUT. EMERGENCY EYE AND FACE WASH: DECK MOUNTED ABS PLASTIC PERFORATED SPRAY HEAD WITH CHROME PLATED BRASS STAY OPEN HANDLE. PROVIDE WITH 8' YELLOW REINFORCED HOSE AND BACK FLOW PREVENTER. CONNECTED TO POTABLE COLD WATER SUPPLY. DRAIN CONNECTIONS: PROVIDE ACID WASTE PIPE EQUIVALENT TO ORION BY WATTS WATER TECHNOLOGIES. PROVIDE UNDER SINK ACID TRAP AND PIPING FOR RECONNECTION TO EXISTING DRAINAGE SYSTEM. (NO HUB CONNECTION IS ACCEPTABLE) FIELD VERIFY EACH LOCATION TO MATCH EXISTING CONDITION. SUPPLY STOPS: PROVIDE NEW SUPPLY STOPS FOR EACH CONNECTION. POTABLE SUPPLY SHALL BE EQUIVALENT TO MCGUIRE HEAVY LEAD FREE STOP WITH ANGLE OR STRAIGHT CONNECTION AS REQUIRED FOR RETRO-FIT. DI WATER PIPING AND VALVES SHALL BE HIGH PURITY PIPING SCH 80 EQUIVALENT TO ORION WHITE LINE POLYPROPYLENE. RIONTITE JOINING SHALL BE ACCEPTABLE FOR NEW CONNECTIONS. PROVIDE NEW BALL VALVE SHUT OFF UNDER COUNTER FOR EACH NEW DI FAUCET INSTALLED.	CHICAGO FAUCET 943-317CP T AND S BRASS BL-5725-08 B-WH4 ZURN Z82900-WM WALL MOUNT ORION GNF-20 WALL MOUNT BRADLEY S19-465 S27-303 McGUIRE 3/8" X 1/2" HEAVY LEAD FREE ORION BV	1-1/2"	TANK	(E)	1/2"	1/2"
P3 DILUTION TANK/TRAP	UNDER BENCH 2 GALLON DILUTION TANK. PROVIDE WITH A 2" CLEAN OUT. TANK SHALL BE CONSTRUCTED OF VIRGIN RESIN AND MEET ASTMD-28 FOR HIGH DENSITY POLYPROPYLENE. PROVIDE HIGH PURITY LIMESTONE CHIPS FOR EACH TANK INSTALLATION PER MANUFACTURES' RECOMMENDATION.	ORION OF59155-200 STYLE 10 - 2 GAL HIGH PURITY LIMESTONE CHIPS	1-1/2" INLET 1-1/2" OUTLET	INT.	2" CLEAN OUT	-	-

GENERAL PLUMBING NOTES

1. ALL PLUMBING WORK SHALL MEET ALL OF THE REQUIREMENTS OF THE FOLLOWING:
   A. 2010 FLORIDA BUILDING CODE (FBC): (THIS CODE INCLUDES THE FLORIDA BUILDING CODE, ACCESSIBILITY AS CHAPTER 11.) THIS CODE INCLUDES THE 2010 FBC BUILDING, MECHANICAL, PLUMBING, FUEL GAS AND ENERGY CONSERVATION VOLUMES. FURTHER, SEE THE 2010 FBC, BUILDING CHAPTER 35; FBC, PLUMBING CHAPTER 13; FBC, MECHANICAL CHAPTER 15; FBC, FUEL GAS CHAPTER 8, FBC, ENERGY CONSERVATION CHAPTER 6.) (EFFECTIVE MARCH 15, 2012).
   B. 2010 FLORIDA FIRE PREVENTION CODE (FFPC): (THIS CODE ALSO INCLUDES THE FLORIDA VERSIONS OF NFPA 1 AND NFPA 101.) (EFFECTIVE DECEMBER 31, 2011)
2. PROVIDE COMPLETE PLUMBING SYSTEMS AS DETAILED. WORK CONSISTS OF FURNISHING ALL MATERIALS, EQUIPMENT, AND SERVICES REQUIRED FOR COMPLETE SYSTEMS.
3. IN GENERAL, PLANS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED. ALL FLOOR DRAINS IN MECHANICAL ROOMS/CLOSETS, SHALL BE FIELD VERIFIED AND COORDINATED WITH THE HVAC EQUIPMENT/PAD LOCATIONS.
4. CONDITIONS SHOWN AS EXISTING ARE BASED ON AVAILABLE DATA AND SHOULD BE INTERPRETED TO BE APPROXIMATE. VERIFY EXISTING CONDITIONS IN THE FIELD.
5. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS.
6. WATER PIPING SHALL BE HARD DRAWN COPPER TYPE L WITH WROUGHT COPPER FITTINGS AND 95-5 SOLDER.
7. GATE VALVES SHALL BE #125 BRONZE WITH UNION BONNET.
8. ALL FIRE STOPPING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S U.L. DETAILS OF THE PRODUCTS USED SPECIFICALLY ON THIS PROJECT. APPLICABLE U.L. DETAILS SHALL BE SUBMITTED FOR THE ENGINEER'S REVIEW AND A COPY SHALL BE AVAILABLE ON SITE FOR USE BY THE AUTHORITY HAVING JURISDICTION.
9. UNLESS NOTED OTHERWISE, ALL PLUMBING EQUIPMENT, MATERIALS, AND WORKMANSHIP SHALL BE GUARANTEED FOR A ONE YEAR PERIOD FROM DATE OF ACCEPTANCE.
10. WASTE LINES RECEIVING BELOW AMBIENT TEMPERATURE CONDENSATE SHALL BE INSULATED WITH 1/2" FLEXIBLE UNICELLULAR FOAM (ARMAFLEX OR EQUIVALENT) INSULATION TO GRADE.
11. ALL EXISTING LINES TO REMAIN SHALL BE VISUALLY INSPECTED AND MACHINE CLEANED.
12. REMOVE ALL UNUSED WASTE AND VENT PIPING.
13. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

TOTAL PROJECT TIME PERIOD

THE TIME PERIOD FROM NOTICE TO PROCEED TO SUBSTANTIAL COMPLETION OF THE FINAL PHASE SHALL BE 345 DAYS.

a. 51 DAYS = SHOP DRAWING REVIEW AND MOBILIZATION
b. 84 DAYS = EQUIPMENT DELIVERY
c. 210 DAYS = CONSTRUCTION
TOTAL=345 DAYS

60 DAYS = FINAL COMPLETION AND PROJECT CLOSEOUT.

TOTAL PROJECT TIME PERIOD FROM NOTICE TO PROCEED TO FINAL COMPLETION SHALL BE 405 DAYS. SEE PHASING PLAN BELOW FOR A DETAILED BREAKDOWN OF THE ALLOWABLE TIME PERIOD OR EACH PHASE OF CONSTRUCTION.

COORDINATE AND VERIFY EXACT LOCATIONS OF ALL PLUMBING FIXTURES WITH ARCHITECTURAL DRAWINGS

PHASING PLAN

THE CONSTRUCTION SHALL BE REQUIRED TO BE IMPLEMENTED IN A PHASED MANNER THAT ALLOWS THE OWNER TO CONTINUE TO OCCUPY THE BUILDING AND PERFORM OPERATIONS. THE FOLLOWING PROPOSED PHASING APPROACH IS INTENDED TO OUTLINE THE GENERAL REQUIREMENTS OF THE PHASED WORK, THE GENERAL DEMARCATION OF THE PHASING ZONES, THE NUMBER OF PHASES, THE TIME PERIOD ALLOWED, AND OTHER RESTRICTIONS AND REQUIREMENTS. THIS PHASING OUTLINE IS NOT INTENDED TO DICTATE THE CONTRACTOR'S MEANS AND METHODS FOR IMPLEMENTING THE WORK. REFER TO THE DRAWINGS FOR THE PHASING DEMARCATION LINES AND OTHER REQUIREMENTS. THIS WILL BE AN OCCUPIED, OPERATIONAL BUILDING DURING CONSTRUCTION. PLAN ACCORDINGLY.

PHASE 1

1. ALL ITEMS EXCEPT AS NOTED BELOW WITH UTILITY SERVICES, SUCH AS WATER, ELECTRICAL, TELECOMMUNICATIONS, DI WATER, GASES, ETC., SHALL BE DISCONNECTED BY THE CONTRACTOR AND PREPARED FOR MOVING. THE FOLLOWING ITEMS AND EQUIPMENT SHALL BE DISCONNECTED AND PREPARED FOR MOVING BY THE OWNER.
   a. BALANCES, PH METERS, TURBID METER, OVENS: VARIOUS LOCATIONS
   b. PERKIN ELMER FIMS 100: METALS LAB 115
   c. DIONEX ICS 3000: GENERAL CHEMISTRY 123
   d. DIONEX ICS 5000: GENERAL CHEMISTRY 123
   e. DIONEX ICS 2500: ORGANICS LABORATORY 124
   f. AGILENT (VARIAN) LC/MS/MS: ORGANICS LABORATORY 124
   g. AGILENT (VARIAN) LC/MS: ORGANICS LABORATORY 124
   h. AQUAMATE SPEC: GENERAL CHEMISTRY 123
   i. JAR TEST APPARATUS: GENERAL CHEMISTRY 123
   j. FUSION TOC INSTRUMENT: GENERAL CHEMISTRY 123

   THE CONTRACTOR SHALL MOVE ALL ITEMS AND EQUIPMENT OUT OF THE SPACES INTO OTHER AREAS FOR THEIR USE OR TO STORAGE CONTAINER AS REQUIRED. CONTRACTOR SHALL NOTIFY THE LAB MANAGER 30 DAYS PRIOR TO COMMENCEMENT OF PHASE WORK.
2. THE CONTRACTOR SHALL PROVIDE AN ON SITE STORAGE CONTAINER. LOCATION WILL BE DETERMINED BY THE OWNER. THE CONTRACTOR SHALL MOVE AND STORE ALL OF THE OWNER'S PACKED AND BOXED ITEMS AND OTHER EQUIPMENT INTO AN ON-SITE STORAGE CONTAINER. THE MOVING AND STORING SHALL BE PERFORMED BY A PROFESSIONAL CERTIFIED, LICENSED, AND BONDED MOVING COMPANY. THE STORAGE CONTAINER WILL NOT BE REQUIRED TO BE AIR CONDITIONED.
3. THE CONTRACTOR SHALL PUT UP NOISE AND DUST BARRIERS TO SEPARATE THE OWNER'S OCCUPIED AREAS FROM THE CONSTRUCTION ZONE.
4. THE CONTRACTOR SHALL COMMENCE DEMOLITION OF THE CEILINGS, LIGHTING, DUCTWORK, HVAC EQUIPMENT, CABINETS (WHERE APPLICABLE), ETC. CARE AND CAUTION SHALL BE TAKEN DURING DEMOLITION TO ENSURE THE FOLLOWING:
   A. MEANS OF EGRESS IS MAINTAINED FOR THE OCCUPIED AREAS.
   B. ELECTRICAL POWER SHALL REMAIN IN OPERATION IN OCCUPIED AREAS, EXCEPT FOR ANY REQUIRED PRIOR APPROVED AND SCHEDULED OUTAGES. A SCHEDULED OUTAGE WILL BE REQUIRED TO PROVIDE THE NEW SERVICE AND NEW PANEL MDP. THIS OUTAGE WILL BE REQUIRED TO BE PERFORMED OVER A WEEKEND.
   C. POWER WILL BE REQUIRED TO REMAIN ON FOR LIGHTING AND ALL BRANCH CIRCUITS TO THE AREAS OUTSIDE THE CONSTRUCTION ZONE. PROVIDE TEMPORARY RE-ROUTING OF ELECTRICAL CIRCUITS AS NECESSARY. EMERGENCY LIGHTING SHALL REMAIN OPERATIONAL. REFER TO SECTION 16050 FOR MORE REQUIREMENTS.
   D. TELECOMMUNICATIONS SERVICES SHALL REMAIN IN OPERATION IN OCCUPIED AREAS. ALL VOICE AND DATA CABLING SHALL BE PROTECTED. REFER TO SECTION 16050 FOR MORE REQUIREMENTS.
   E. THE NEW FIRE ALARM CONTROL PANEL SHALL BE INSTALLED DURING PHASE 1 AND CONNECTED TO THE EXISTING FIRE ALARM CONTROL PANEL FOR MONITORING. SEE SECTION 16721 FOR MORE REQUIREMENTS. THERE SHALL BE AN OPERATIONAL AND FUNCTIONAL FIRE ALARM SYSTEM IN ALL OCCUPIED AREAS AT ALL TIMES.
   F. ALL EXISTING HVAC SYSTEMS, INCLUDING AIR HANDLERS, FUME HOOD EXHAUST, GENERAL EXHAUST, AND CONTROLS, SHALL REMAIN OPERATIONAL IN THE PHASE 2, 3, AND 4 AREAS.
   G. ALL EXISTING WATER AND SANITARY SEWER SYSTEMS SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION IN THE PHASE 2, 3, AND 4 AREAS.
5. INSTALL ALL NEW WORK SCHEDULED AND INDICATED IN THE CONTRACT DOCUMENTS, AND AS REQUIRED FOR THE COMPLETION OF THIS PHASE, INCLUDING TEST AND BALANCE OF ALL AREAS, OTHER REQUIRED TESTING, PAINTING, AND CLEAN-UP.
6. SCHEDULE AND PASS A SUBSTANTIAL COMPLETION INSPECTION PRIOR TO STARTING TO THE NEXT PHASE OF WORK.
7. MOVE ALL BOXES FROM STORAGE BACK INTO THIS AREA. THE OWNER WILL UN-PACK AND MOVE BACK INTO THE SPACE.
8. WARRANTY PERIODS SHALL NOT COMMENCE UNTIL ALL PHASES ARE COMPLETE.
9. THIS PHASE SHALL BE COMPLETE IN 60 DAYS.

PHASE 2

1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING WATER AND SEWER SYSTEMS IN PHASE 1, 3 & 4 SHALL REMAIN OPERATIONAL, AND PROTECTED DURING CONSTRUCTION. THE EXISTING HVAC SYSTEM IN PHASE 1 AND 4 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.
2. PROVIDE TEMPORARY AIR CONDITIONING FOR THE PHASE 3 AREA.
3. PROVIDE FOR ELECTRICAL CIRCUITS THAT WILL NEED TO EXTEND FROM PHASE 2 INTO PHASE 3 AND 4 SUCH THAT THE DISRUPTION TO THE PHASE 2 AREA IS MINIMAL DURING THE CONSTRUCTION OF PHASE 3 AND 4.
4. PROVIDE FOR HVAC SYSTEMS EXTENSION INTO PHASE 3 AND 4 SUCH THAT THE DISRUPTION TO THE PHASE 2 AREA IS MINIMAL DURING THE CONSTRUCTION OF PHASE 3 AND 4.
5. THIS PHASE SHALL BE COMPLETED IN 60 DAYS.

PHASE 3

1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING HVAC, WATER AND SEWER SYSTEMS IN PHASE 1, 2 & 4 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.
2. THIS PHASE SHALL BE COMPLETED IN 30 DAYS.

PHASE 4

1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING HVAC, WATER AND SEWER SYSTEMS IN PHASE 1, 2 & 3 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.
2. THIS PHASE SHALL BE COMPLETED IN 60 DAYS.
   A. AIR CONDITIONING, DATA NETWORK, POWER AND TELEPHONE SERVICE MUST REMAIN OPERATIONAL IN OCCUPIED AREAS FOR THE DURATION OF THE PROJECT. ANY OUTAGES OF UTILITIES AS MAY BE NECESSARY TO PERFORM THE WORK OF THIS PROJECT MUST OCCUR ON WEEKENDS ONLY AND SERVICES MUST BE RESTORED BY 7:00 AM MONDAY MORNING.
   B. SOME OF THE OWNER'S FURNITURE, EQUIPMENT WILL REMAIN IN THE AREA OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO COVER AND PROTECT IT FROM DAMAGE AND THEFT, AND TO MOVE IT AS NEEDED TO ACCOMPLISH THE WORK. THE CONTRACTOR IS REQUIRED TO RETURN ALL ITEMS TO THE ROOM OF ORIGIN PRIOR TO REQUESTING A SUBSTANTIAL COMPLETION INSPECTION.

PLUMBING LEGEND

	WASTE PIPING BELOW FLOOR OR GRADE (SAN)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	PIPING UP
	PIPING DOWN
P#	PLUMBING FIXTURE IDENTIFICATION. SEE PLUMBING FIXTURE SCHEDULE
VTR	VENT THROUGH ROOF
	ELEVATION
	CONNECT NEW TO EXISTING. FIELD VERIFY SIZE AND LOCATION PRIOR TO EXECUTING WORK
(E)	EXISTING - EXACT SIZE AND LOCATION TO BE FIELD VERIFIED.
(D)	EXISTING ITEM TO BE REMOVED
(RL)	EXISTING ITEM TO BE RELOCATED
(R)	NEW LOCATION OF EXISTING ITEM

PLUMBING DRAWING INDEX

HARRY W. PORTELLOS, P.E. 61597

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

GENERAL NOTES, LEGEND

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 Tel(813)963-1919
Email: AGI@agi-engineers.com HTTP://www.agi-engineers.com
Florida Engineering Business Number 6093

DRAWN	JC
CHECKED	HWP
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	P001

PLUMBING DEMOLITION NOTES:

1. DURING EACH PHASE OF THE PROJECT, PLUMBING FIXTURES SHALL BE REMOVED TO FACILITATE THE INSTALLATION OF NEW CASE WORK. REFER TO ARCHITECTURAL SHEETS FOR CASEWORK BEING REPLACED. CAREFULLY REMOVE AND RETAIN ALL FIXTURES, FAUCETS AND DRAIN PIPING. PROVIDE NEW FIXTURES, PIPING AND ACCESSORIES AS SCHEDULED UPON COMPLETION OF THE PHASE ALL PLUMBING FIXTURES SHALL BE IN COMPLETE WORKING ORDER.
2. EXISTING PLUMBING FIXTURE TO REMAIN.

114 RECORDS STORAGE
113 FRONT OFFICE
VESTIBULE 112
BREAK ROOM 111
PAULA'S OFFICE 110
SAMPLE STORAGE 109
RESTROOM 108
EMERG. SHOWER 107
LOBBY 005
CORRIDOR 004
CORRIDOR 001
CORRIDOR 002
CORRIDOR 003
WOMEN
MEN
115 METALS LAB
GENERAL WET CHEM. LAB 123
MICROBIOLOGY 116
FIELD QUALITY OFFICE 106
104 AUTOCLAVE
SCOPE/DARKROOM 105
ORGANICS. LAB 124
117 METALS EXTRACTION RM
SINK(D)
119
DI WATER/ STORAGE 118
Protozoan Lab 103
MECH./HVAC EQUIP. 126
FD(E)
DR LEI'S LAB 125
122 WORK CARRELS
REAGENT STORAGE 121
MECH./HVAC EQUIP. 120
OFFICE 100
101 GAS CYLINDER ROOM
MECH./ELEC. 102
PHASE 4
PHASE 2
PHASE 3
PHASE 1

NORTH

PLUMBING FLOOR PLAN
SCALE: 3/16"=1'-0"

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

PLUMBING PLAN

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 (813)935-5919
Email: info@anston-greenlees.com Website: www.anston-greenlees.com
Florida Engineering Business Number 0865

DRAWN	JC
CHECKED	HWP
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	P100

HARRY W. PORTELLOS, P.E. 61597

Drawing File: i:\13xxx\13009.001\13009p101.dwg P100
Plotted by: andre2 Jan 24, 2014 - 4:57pm

OUTSIDE AIR ALLOCATION (ASHRAE 62)

SOURCE	PEOPLE	CFM/ PERSON	SPACE SF.	CFM/SF.	SYSTEM EFF.	TOTAL CFM
AH1, AH2, AH3	27	10	6,998	0.12	0.8	1,388
((27 PEOPLE X 10 CFM/PERSON) + (6,998 SF X 0.12 CFM/SF))/0.8 = 1,388 CFM						

BUILDING AIR BALANCE

OUTSIDE AIR INTO BUILDING		EXHAUST AIR OUT OF BUILDING		NET CFM
SOURCE	CFM	SOURCE	CFM	
AH1, AH2, AH3	14,790	EF1 & EF3	13,605	990
PRESSURIZATION = 1,185 CFM POSITIVE				

DESIGN CRITERIA

Location:	TAMPA
Latitude:	28.0°
Longitude:	82.0°
Elevation:	19 ft.
Barometric Pressure:	29.9 in. Hg
DESIGN TEMPERATURES:	
Summer Design Dry Bulb:	91°F
Summer Design Wet Bulb:	80°F
Winter Design Dry Bulb:	36°F
Space Setpoint – cooling	72°F
Space Setpoint – heating	70°F
Space Setpoint – humidity	50% RH

HVAC LEGEND

- SUPPLY AIR DUCT (UP & DOWN)
- RETURN AIR DUCT (UP & DOWN)
- EXHAUST AIR DUCT (UP & DOWN)
- VOLUME DAMPER
- FIRE DAMPER – REFER TO DETAIL.
- SIDEWALL GRILLE
- WALL MTD THERMOSTAT OR TEMPERATURE SENSOR
- WALL MTD HUMIDITY SENSOR
- ELEVATION CHANGE IN DUCT
- (D) OR –X–X– EXISTING TO BE DEMOLISHED.
- (ETR) EXISTING TO REMAIN.
- (E) EXISTING. FIELD VERIFY SIZE AND LOCATION.
- BELLMOUTH "SPIN–IN" FITTING WITH LOCKING QUADRANT DAMPER
- FLEX DUCT
- AIR DEVICE MARK. TOP LINE INDICATES TYPE, REFER TO SCHEDULE. SECOND LINE INDICATES AIR QUANTITY CFM. THIRD LINE INDICATES NECK SIZE AND DUCT CONNECTION SIZE.
- UNDERCUT DOOR BY 3/4" AFF UNLESS OTHERWISE INDICATED COORDINATE WITH ARCHITECTURAL DRAWINGS.
- DUCT MOUNTED SMOKE DETECTOR
- MOTORIZED DAMPER (24 VOLT)
- DUCT HEATER
- SUPPLY AIR CONTROL VALVE
- EXHAUST AIR CONTROL VALVE
- UNDERGROUND CHILLED WATER PIPING

GENERAL MECHANICAL NOTES

1. ALL MECHANICAL WORK SHALL MEET ALL OF THE REQUIREMENTS OF THE FOLLOWING:
   A. 2010 FLORIDA BUILDING CODE (FBC): (THIS CODE INCLUDES THE FLORIDA BUILDING CODE, ACCESSIBILITY AS CHAPTER 11.) THIS CODE INCLUDES THE 2010 FBC BUILDING, MECHANICAL, PLUMBING, FUEL GAS AND ENERGY CONSERVATION VOLUMES. FURTHER, SEE THE 2010 FBC, BUILDING CHAPTER 35; FBC, PLUMBING CHAPTER 13; FBC, MECHANICAL CHAPTER 15; FBC, FUEL GAS CHAPTER 8, FBC, ENERGY CONSERVATION CHAPTER 6.) (EFFECTIVE MARCH 15, 2012)
   B. 2010 FLORIDA FIRE PREVENTION CODE (FFPC): (THIS CODE ALSO INCLUDES THE FLORIDA VERSIONS OF NFPA 1 AND NFPA 101.) (EFFECTIVE DECEMBER 31, 2011)
2. VERIFY, BY VISITING THE SITE, THE LOCATION OF UTILITIES IN ALL AREAS BEFORE COMMENCING WORK.
3. COORDINATE ALL WORK WITH OTHER AFFECTED TRADES. THE MECHANICAL SUB–CONTRACTOR SHALL FORWARD TO THE ELECTRICAL SUB–CONTRACTOR AN APPROVED COPY OF ALL EQUIPMENT SHOP DRAWINGS FOR ELECTRICAL POWER/CONTROL INTERFACE.
4. COVER ALL ELECTRICAL AND MECHANICAL EQUIPMENT TO PROTECT THEM FROM DUST AND DAMAGE DURING CONSTRUCTION. RESTORE ALL FACTORY PAINTED SURFACES TO NEW CONDITION, REPAIR ALL SCRATCHES, DENTS AND ABRASIONS. THOROUGHLY CLEAN ALL SURFACES OF DUST DEBRIS, AND FOREIGN MATTER. THE EQUIPMENT, WHEN TURNED OVER TO THE OWNER, SHALL BE CLEAN AND FREE OF DEFECTS.
5. PRIOR TO SUBSTANTIAL COMPLETION, A COMPLETE CERTIFIED TEST AND BALANCE REPORT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. REFER TO THE SPECIFICATIONS FOR REQUIREMENTS.
6. AHU'S SHALL HAVE AN AUXILIARY DRAIN PAN 3" LARGER THAN UNIT EACH WAY. DRAIN PAN SHALL HAVE A FLOAT SWITCH TO DE–ENERGIZE THE AHU IN EVENT OF A CONDENSATE OVERFLOW CONDITION. FURNISHED, INSTALLED , AND WIRED BY DIVISION 15 CONTROLS CONTRACTOR.
7. THE CONDENSATE DRAIN LINE SHALL HAVE A TRAP AT THE AHU. TRAP SHALL BE AS DETAILED OR FULL SIZE OF UNIT CONNECTION AND SHALL HAVE A WATER SEAL EQUAL TO 2" + THE UNITS' STATIC PRESSURE. PROVIDE CLEAN OUTS IN ALL CHANGES OF DIRECTION. MINIMUM PITCH 1/8" PER FOOT. CONDENSATE DRAIN LINE SHALL RUN TO CONDENSATE FLOOR DRAIN. INSULATE ALL INTERIOR CONDENSATE PIPING WITH FLEXIBLE UNICELLULAR FOAM (ARMAFLEX OR EQUIVALENT) INSULATION TO PREVENT SWEATING. CONDENSATE DRAIN LINES AND TRAPS IN MECHANICAL ROOMS SHALL BE COPPER AND SHALL BE RIGIDLY SUPPORTED.
8. PROVIDE INSULATION FOR NEW DUCTWORK TO AND FROM THE UNIT WITH GLASS FIBER DUCT WRAP INSULATION. FACTORY APPLIED FOIL FACED VAPOR BARRIER, ASTM 518 AND ASTM E84 CERTIFIED TESTING PROCEDURES. JOINT TAPE SHALL BE MINIMUM 3" WIDE FOIL REINFORCED KRAFT TYPE. INSULATION THICKNESS SHALL BE A MINIMUM 2" THICK.
9. AHU SHALL BE PLACED ON A 1" NEOPRENE PAD.
10. AIR HANDLER UNITS SHALL BE PLACED ON A CONCRETE PAD 4" THICK BY 6" LARGER, EACH WAY, THAN UNIT.
11. IN GENERAL, PLANS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED.
12. ALL DUCTWORK SHALL MEET THE STANDARDS SET FORTH BY THE LATEST EDITION OF SMACNA "HVAC DUCT CONSTRUCTION STANDARDS". SUPPLY, RETURN, AND EXHAUST DUCTWORK SHALL BE FABRICATED FROM SHEET METAL. ALL ROUND DUCT SHALL BE SHEET METAL UNLESS OTHERWISE NOTED. PROVIDE TURNING VANES IN ALL 90° SUPPLY AIR DUCT ELBOWS.
13. SUPPLY AIR DUCT FULL SIZE OF UNIT DISCHARGE. TRANSITION TO SIZE INDICATED ON DRAWINGS. RETURN AIR DUCT IS TO TRANSITION FROM SIZE INDICATED ON DRAWINGS TO FULL SIZE OF UNIT INLET.
14. ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS (FREE AREA).
15. VERIFY ALL CLEARANCES AND DIMENSIONS BEFORE FABRICATION OF DUCTWORK AND PROVIDE ADDITIONAL OFFSETS TO MEET FIELD CONDITIONS. ADJUST LOCATIONS OF ALL EQUIPMENT AND DUCTWORK, AS NECESSARY TO AVOID INTERFERENCES WITH STRUCTURAL AND OTHER BUILDING COMPONENTS.
16. UNLESS NOTED OTHERWISE, INSTALL DUCTWORK AS HIGH AS POSSIBLE, TIGHT TO UNDERSIDE OF STRUCTURE. COORDINATE DUCT ELEVATION WITH RAIN LEADERS, WATER PIPING, DRAINS, AND MAJOR ELECTRICAL CONDUITS AND LIGHTS. PROVIDE OFFSETS AND TRANSITIONS AS REQUIRED TO KEEP DUCTWORK TIGHT TO THE STRUCTURE AND MAINTAIN CEILING ELEVATIONS AS INDICATED IN THE ARCHITECTURAL DRAWINGS. DUCTWORK MAY BE FLATTENED TO A 4:1 HEIGHT RATIO MAINTAINING THE DUCT FREE AREA SIZE AS INDICATED IN THE DRAWINGS. DUCTWORK SHAPE MAY HAVE TO BE ADJUSTED (I.E. ROUND TO RECTANGULAR) AS SPACE DICTATES. MULTIPLE SMALLER RUNS MAY BE REQUIRED IN PLACE OF A SINGLE RUN. DUCT RECONFIGURATION SHALL BE INDICATED IN THE DUCT FABRICATION DRAWINGS AND FIELD VERIFIED PRIOR TO SUBMITTAL FOR ENGINEER'S REVIEW.
17. DUCTWORK, DIFFUSERS, REGISTERS, GRILLES, AND OTHER ITEMS OF THE AIR HANDLING SYSTEM SHALL NOT BE SUPPORTED BY THE CEILING OR CEILING SUSPENSION SYSTEM.
18. ALL SUPPLY DUCTWORK BETWEEN THE DISCHARGE OF THE AIR HANDLER SHALL BE 1" W.G. ALL SHEET METAL DUCTWORK SHALL HAVE A CLASS C SEAL.
19. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED TO INSTALL MECHANICAL EQUIPMENT AND MATERIALS.
20. HVAC EQUIPMENT SHALL BE SET INTO PLACE BY CRANE. EQUIPMENT SHALL NOT BE PERMITTED TO BE ROLLED ACROSS THE ROOF. IF THE EQUIPMENT WEIGHT MAKES IT PRACTICAL TO CARRY THE EQUIPMENT ACROSS THE ROOF, THEN UPON RECEIVING APPROVAL FROM THE OWNER'S REPRESENTATIVE, THIS METHOD MAY BE USED.
21. ALL ROOFTOP EQUIPMENT MUST BE PERMANENTLY IDENTIFIED BY ZONE SERVED FOR CONVENIENCE OF SERVICE AND MAINTENANCE.
22. PROVIDE ADDITIONAL VOLUME DAMPERS AS REQUIRED BY THE TEST AND BALANCE CONTRACTOR TO ACHIEVE AIRFLOWS INDICATED ON THE DRAWINGS.
23. VERIFY PROPER OPERATION OF ALL FIRE SMOKE DAMPERS IN CONJUNCTION WITH THE FIRE ALARM SYSTEM IN THE DESIGNATED CONSTRUCTION AREA.
24. MAINTAIN NEGATIVE PRESSURE IN ALL DESIGNATED CONSTRUCTION AREAS.
25. THE OWNER SHALL BE GIVEN ONE WEEK PRIOR NOTICE FOR ALL PERIODS OF HVAC SYSTEMS DOWNTIME. PROVIDE DETAIL SCHEDULE PHASING AND CONSTRUCTION SCHEDULE USING PHASING PLAN AS A GUIDELINE. CONTRACTOR SHALL NOT BE PERMITTED IN OCCUPIED AREAS.
26. IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE AIR HANDLERS MAY ONLY BE STARTED IF THE FOLLOWING CONDITIONS ARE MET:
   A. ALL OPENINGS FROM THE CONDITIONED SPACE DIRECTLY TO THE OUTSIDE MUST BE CLOSED. TEMPORARY CLOSURE METHODS MAY BE USED SUCH AS THE UTILIZATION OF PLASTIC SHEETS AND DUCT TAPE.
   B. MOP CLEAN ALL CONSTRUCTION DEBRIS AND DUST FROM THE FLOOR. PROVIDE DOOR MATS AT ALL ENTRANCES INTO THE BUILDING.
   C. TEMPORARY BARRIERS ARE TO BE PROVIDED AROUND AREAS THAT WILL HAVE ANY CONCRETE GRINDING OPERATION, DRYWALL WORK, PAINTING OR ANY OTHER PARTICULATE PRODUCING PROCESSES. ALL AIR DISTRIBUTION DEVICES IN THESE AREAS OF CONTAINMENT ARE TO BE COVERED AND SEALED AIR TIGHT.
   D. ALL RETURN GRILLES SHALL HAVE MERV–8 FILTER MEDIA TAPED OVER THEM PRIOR TO AIR HANDLER STARTUP AND SHALL REMAIN IN PLACE UNTIL ALL DUST PRODUCING OPERATIONS HAVE BEEN COMPLETED AND PRIOR TO TEST AND BALANCE. CLEAN ALL TAPE RESIDUE FROM THE GRILLES.
   E. ONCE THE UNIT IS STARTED, FILTERS IN THE AIR HANDLERS ARE TO BE SHAKEN CLEAN DAILY.
27. ALL REQUIRED FIRE DAMPERS MAY NOT BE INDICATED HEREIN. PROVIDE FIRE DAMPERS AS REQUIRED AT RATED WALLS AND FLOORS PER FLORIDA BUILDING – MECHANICAL CODE. OMIT INSULATION ON TRANSFER DUCT SYSTEM. TRANSFER DUCT SYSTEMS ARE CONNECTED TO "XG#" TYPE AIR DISTRIBUTION DEVICES.
28. RUST COAT ALL CHILLED AND CONDENSER WATER PIPING AND FITTINGS PER SPECIFICATION (SPECIFICALLY SMALL FITTINGS) INSTALL AIR BLEED IN APPROPRIATE LOCATIONS.
29. THE MECHANICAL SUB–CONTRACTOR SHALL SUBMIT DUCT FABRICATION DRAWINGS AND MECHANICAL ROOM LAYOUTS PER SPECIFICATIONS PRIOR TO ANY FRAMING WORK. ALL CHASE SIZES, FLOOR DRAINS IN MECHANICAL ROOMS, AND ELECTRICAL PANEL LOCATIONS SHALL BE FIELD VERIFIED, COORDINATED, AND INDICATED IN THE SUBMITTAL.
30. ALL DUCT MOUNTED MANUAL BALANCING DAMPERS SHALL HAVE A TWO FOOT LONG, YELLOW STRIP OF MATERIAL ATTACHED TO THE DAMPER HANDLE FOR EASY VISUAL IDENTIFICATION.
31. ALL FIRE STOPPING SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S U.L. DETAILS OF THE PRODUCTS USED SPECIFICALLY ON THIS PROJECT. APPLICABLE U.L. DETAILS SHALL BE SUBMITTED FOR THE ENGINEER'S REVIEW AND A COPY SHALL BE AVAILABLE ON SITE FOR USE BY THE AUTHORITY HAVING JURISDICTION.
32. CONTROLS CONDUITS SHALL CONFORM TO ALL REQUIREMENTS FOR DIVISION 16 CONDUITS. REFER TO DIVISION 16 SPECIFICATIONS AND DRAWINGS.
33. CONCRETE SLAB/PAD IS TO HAVE NO CONTACT WITH ANY METAL PORTION OF THE EQUIPMENT OR THAT EQUIPMENT'S SUPPORT. PROVIDE 1/4" THICK RED, OR BLACK, RUBBER PAD UNDER THE ENTIRE METAL SURFACE INTENDED TO REST ON THE CONCRETE PAD.
34. THE TEMPERATURE CONTROLS (INCLUDING GRAPHICS) SHALL BE IN OPERATION AND EXERCISED IN THE PRESENCE OF THE ENGINEER OF RECORD AT TIME OF SUBSTANTIAL COMPLETION. SCHEDULE A MEETING WITH THE ENGINEER ONE WEEK PRIOR. THIS SHALL OCCUR PRIOR TO OWNER TRAINING.
35. PROVIDE DIELECTRIC UNIONS/PROTECTION AT ALL POINTS OF CONNECTION BETWEEN DISSIMILAR METALS; PIPE, PIPE HANGERS, CONNECTIONS TO STRUCTURAL STEEL, ETC.
36. ROUND FLEX DUCT SHALL BE A MAXIMUM LENGTH PER SPECIFICATIONS OR 110% OF THE DISTANCE BETWEEN THE TWO SHEET METAL DUCT/GRILLE CONNECTIONS, WHICHEVER IS LESS. ALL RUNS OF FLEX DUCT ARE TO BE SUPPORTED WITH THE APPROPRIATE HANGERS. FLEX DUCT SHALL NOT SAG OR BE CRIMPED.
37. AIR CONDIONING FILTERS ARE TO BE PROVIDED AND CHANGED BY THE CONTRACTOR UP TO AND ON THE DATE OF SUBSTANTIAL COMPLETION ACCEPTANCE. FROM THAT TIME ON, THE OWNER WILL RETAIN ALL RESPONSIBILITY FOR FILTER MAINTENANCE. FILTERS SHALL BE CLEAN AT THE TIME OF SUBSTANTIAL COMPLETION.
38. AIR VALVES AND DUCT HEATERS SHALL BE MOUNTED WITH THE BOTTOM AT 18" ABOVE THE CEILING. THE CONTROL PANEL AND THE HEATER SERVICE PANEL SHALL BE UNOBSTRUCTED AS REQUIRED BY NEC AND AS RECOMMENDED BY THE TERMINAL MANUFACTURER. ALL DUCTWORK BETWEEN THE AIR VALVE AND DUCT HEATER INLET AND THE AIR HANDLER IS TO BE RIGID (NO FLEX).
39. PROVIDE PROTECTION FOR ALL OPENINGS IN THE ROOF DURING THE CONSTRUCTION PERIOD, INCLUDING ROOF TOP A/C UNIT OPENINGS, EXHAUST FANS, CONDUITS, ETC. PROVIDE PROTECTION FOR ALL INTERIOR AREAS OF THE BUILDING INCLUDING THE FLOORING, CEILINGS, WALLS, STRUCTURE, ETC. ANY DAMAGE TO THESE AREAS OR ANY OTHER EXISTING AREAS SHALL BE REPAIRED TO NEW CONDITION AT NO ADDITIONAL COST TO THE OWNER.
40. FALL PROTECTION SYSTEMS: OSHA REQUIRES THAT ONE OF THE FOLLOWING SYSTEMS MUST BE IN PLACE WHENEVER AN EMPLOYEE IS EXPOSED TO A FALL GREATER THAN SIX FEET:
   A. GUARDRAIL SYSTEMS
   B. PERSONAL FALL PROTECTIVE SYSTEMS CONSISTING OF THE FOLLOWING:
      – PERSONAL PROTECTIVE EQUIPMENT
      – CONNECTING DEVICES
      – ANCHORAGE
   C. WARNING LINE SYSTEMS AND CONTROLLED ACCESS ZONES: GUIDELINES FOR THE IMPLEMENTATION OF WARNING LINE SYSTEMS AND WORK IN CONTROLLED ACCESS ZONES MUST BE DEVELOPED IN ACCORDANCE WITH OSHA REGULATION 1926.502 AND APPROVED BY OSHA BEFORE EMPLOYEES ARE EXPOSED TO FALL HAZARDS.
41. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

TOTAL PROJECT TIME PERIOD

THE TIME PERIOD FROM NOTICE TO PROCEED TO SUBSTANTIAL COMPLETION OF THE FINAL PHASE SHALL BE 345 DAYS.

a. 51 DAYS = SHOP DRAWING REVIEW AND MOBILIZATION
b. 84 DAYS = EQUIPMENT DELIVERY
c. 210 DAYS = CONSTRUCTION

TOTAL=345 DAYS

60 DAYS = FINAL COMPLETION AND PROJECT CLOSEOUT.

TOTAL PROJECT TIME PERIOD FROM NOTICE TO PROCEED TO FINAL COMPLETION SHALL BE 405 DAYS. SEE PHASING PLAN BELOW FOR A DETAILED BREAKDOWN OF THE ALLOWABLE TIME PERIOD OR EACH PHASE OF CONSTRUCTION.

PHASING PLAN

THE CONSTRUCTION SHALL BE REQUIRED TO BE IMPLEMENTED IN A PHASED MANNER THAT ALLOWS THE OWNER TO CONTINUE TO OCCUPY THE BUILDING AND PERFORM OPERATIONS. THE FOLLOWING PROPOSED PHASING APPROACH IS INTENDED TO OUTLINE THE GENERAL REQUIREMENTS OF THE PHASED WORK, THE GENERAL DEMARCATION OF THE PHASING ZONES, THE NUMBER OF PHASES, THE TIME PERIOD ALLOWED, AND OTHER RESTRICTIONS AND REQUIREMENTS. THIS PHASING OUTLINE IS NOT INTENDED TO DICTATE THE CONTRACTOR'S MEANS AND METHODS FOR IMPLEMENTING THE WORK. REFER TO THE DRAWINGS FOR THE PHASING DEMARCATION LINES AND OTHER REQUIREMENTS. THIS WILL BE AN OCCUPIED, OPERATIONAL BUILDING DURING CONSTRUCTION. PLAN ACCORDINGLY.

PHASE 1
1. ALL ITEMS EXCEPT AS NOTED BELOW WITH UTILITY SERVICES, SUCH AS WATER, ELECTRICAL, TELECOMMUNICATIONS, DI WATER, GASES, ETC., SHALL BE DISCONNECTED BY THE CONTRACTOR AND PREPARED FOR MOVING. THE FOLLOWING ITEMS AND EQUIPMENT SHALL BE DISCONNECTED AND PREPARED FOR MOVING BY THE OWNER.
   a. BALANCES, PH METERS, TURBID METER, OVENS: VARIOUS LOCATIONS
   b. PERKIN ELMER FIMS 100: METALS LAB 115
   c. DIONEX ICS 3000: GENERAL CHEMISTRY 123
   d. DIONEX ICS 5000: GENERAL CHEMISTRY 123
   e. DIONEX ICS 2500: ORGANICS LABORATORY 124
   f. AGILENT (VARIAN) LC/MS/MS: ORGANICS LABORATORY 124
   g. AGILENT (VARIAN) LC/MS: ORGANICS LABORATORY 124
   h. AQUAMATE SPEC: GENERAL CHEMISTRY 123
   i. JAR TEST APPARATUS: GENERAL CHEMISTRY 123
   j. FUSION TOC INSTRUMENT: GENERAL CHEMISTRY 123

   THE CONTRACTOR SHALL MOVE ALL ITEMS AND EQUIPMENT OUT OF THE SPACES INTO OTHER AREAS FOR THEIR USE OR TO STORAGE CONTAINER AS REQUIRED. CONTRACTOR SHALL NOTIFY THE LAB MANAGER 30 DAYS PRIOR TO COMMENCEMENT OF PHASE WORK.
2. THE CONTRACTOR SHALL PROVIDE AN ON SITE STORAGE CONTAINER. LOCATION WILL BE DETERMINED BY THE OWNER. THE CONTRACTOR SHALL MOVE AND STORE ALL OF THE OWNER'S PACKED AND BOXED ITEMS AND OTHER EQUIPMENT INTO AN ON–SITE STORAGE CONTAINER. THE MOVING AND STORING SHALL BE PERFORMED BY A PROFESSIONAL CERTIFIED, LICENSED, AND BONDED MOVING COMPANY. THE STORAGE CONTAINER WILL NOT BE REQUIRED TO BE AIR CONDITIONED.
3. THE CONTRACTOR SHALL PUT UP NOISE AND DUST BARRIERS TO SEPARATE THE OWNER'S OCCUPIED AREAS FROM THE CONSTRUCTION ZONE.
4. THE CONTRACTOR SHALL COMMENCE DEMOLITION OF THE CEILINGS, LIGHTING, DUCTWORK, HVAC EQUIPMENT, CABINETS (WHERE APPLICABLE), ETC. CARE AND CAUTION SHALL BE TAKEN DURING DEMOLITION TO ENSURE THE FOLLOWING:
   A. MEANS OF EGRESS IS MAINTAINED FOR THE OCCUPIED AREAS.
   B. ELECTRICAL POWER SHALL REMAIN IN OPERATION IN OCCUPIED AREAS, EXCEPT FOR ANY REQUIRED PRIOR APPROVED AND SCHEDULED OUTAGES. A SCHEDULED OUTAGE WILL BE REQUIRED TO PROVIDE THE NEW SERVICE AND NEW PANEL MDP. THIS OUTAGE WILL BE REQUIRED TO BE PERFORMED OVER A WEEKEND.
   C. POWER WILL BE REQUIRED TO REMAIN ON FOR LIGHTING AND ALL BRANCH CIRCUITS TO THE AREAS OUTSIDE THE CONSTRUCTION ZONE. PROVIDE TEMPORARY RE–ROUTING OF ELECTRICAL CIRCUITS AS NECESSARY. EMERGENCY LIGHTING SHALL REMAIN OPERATIONAL. REFER TO SECTION 16050 FOR MORE REQUIREMENTS.
   D. TELECOMMUNICATIONS SERVICES SHALL REMAIN IN OPERATION IN OCCUPIED AREAS. ALL VOICE AND DATA CABLING SHALL BE PROTECTED. REFER TO SECTION 16050 FOR MORE REQUIREMENTS.
   E. THE NEW FIRE ALARM CONTROL PANEL SHALL BE INSTALLED DURING PHASE 1 AND CONNECTED TO THE EXISTING FIRE ALARM CONTROL PANEL FOR MONITORING. SEE SECTION 16721 FOR MORE REQUIREMENTS. THERE SHALL BE AN OPERATIONAL AND FUNCTIONAL FIRE ALARM SYSTEM IN ALL OCCUPIED AREAS AT ALL TIMES.
   F. ALL EXISTING HVAC SYSTEMS, INCLUDING AIR HANDLERS, FUME HOOD EXHAUST, GENERAL EXHAUST, AND CONTROLS, SHALL REMAIN OPERATIONAL IN THE PHASE 2, 3, AND 4 AREAS.
   G. ALL EXISTING WATER AND SANITARY SEWER SYSTEMS SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION IN THE PHASE 2, 3, AND 4 AREAS.
5. INSTALL ALL NEW WORK SCHEDULED AND INDICATED IN THE CONTRACT DOCUMENTS, AND AS REQUIRED FOR THE COMPLETION OF THIS PHASE, INCLUDING TEST AND BALANCE OF ALL AREAS, OTHER REQUIRED TESTING, PAINTING, AND CLEAN–UP.
6. SCHEDULE AND PASS A SUBSTANTIAL COMPLETION INSPECTION PRIOR TO STARTING TO THE NEXT PHASE OF WORK.
7. MOVE ALL BOXES FROM STORAGE BACK INTO THIS AREA. THE OWNER WILL UN–PACK AND MOVE BACK INTO THE SPACE.
8. WARRANTY PERIODS SHALL NOT COMMENCE UNTIL ALL PHASES ARE COMPLETE.
9. THIS PHASE SHALL BE COMPLETE IN 60 DAYS.

PHASE 2
1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING WATER AND SEWER SYSTEMS IN PHASE 1, 3 & 4 SHALL REMAIN OPERATIONAL, AND PROTECTED DURING CONSTRUCTION. THE EXISTING HVAC SYSTEM IN PHASE 1 AND 4 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.
2. PROVIDE TEMPORARY AIR CONDITIONING FOR THE PHASE 3 AREA.
3. PROVIDE FOR ELECTRICAL CIRCUITS THAT WILL NEED TO EXTEND FROM PHASE 2 INTO PHASE 3 AND 4 SUCH THAT THE DISRUPTION TO THE PHASE 2 AREA IS MINIMAL DURING THE CONSTRUCTION OF PHASE 3 AND 4.
4. PROVIDE FOR HVAC SYSTEMS EXTENSION INTO PHASE 3 AND 4 SUCH THAT THE DISRUPTION TO THE PHASE 2 AREA IS MINIMAL DURING THE CONSTRUCTION OF PHASE 3 AND 4.
5. THIS PHASE SHALL BE COMPLETED IN 60 DAYS.

PHASE 3
1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING HVAC, WATER AND SEWER SYSTEMS IN PHASE 1, 2 & 4 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.
2. THIS PHASE SHALL BE COMPLETED IN 30 DAYS.

PHASE 4
1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING HVAC, WATER AND SEWER SYSTEMS IN PHASE 1, 2 & 3 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.
2. THIS PHASE SHALL BE COMPLETED IN 60 DAYS.
   A. AIR CONDITIONING, DATA NETWORK, POWER AND TELEPHONE SERVICE MUST REMAIN OPERATIONAL IN OCCUPIED AREAS FOR THE DURATION OF THE PROJECT. ANY OUTAGES OF UTILITIES AS MAY BE NECESSARY TO PERFORM THE WORK OF THIS PROJECT MUST OCCUR ON WEEKENDS ONLY AND SERVICES MUST BE RESTORED BY 7:00 AM MONDAY MORNING.
   B. SOME OF THE OWNER'S FURNITURE, EQUIPMENT WILL REMAIN IN THE AREA OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO COVER AND PROTECT IT FROM DAMAGE AND THEFT, AND TO MOVE IT AS NEEDED TO ACCOMPLISH THE WORK. THE CONTRACTOR IS REQUIRED TO RETURN ALL ITEMS TO THE ROOM OF ORIGIN PRIOR TO REQUESTING A SUBSTANTIAL COMPLETION INSPECTION.

HVAC DRAWING INDEX

HARRY W. PORTELLOS, P.E. 61597

REVISIONS	BY

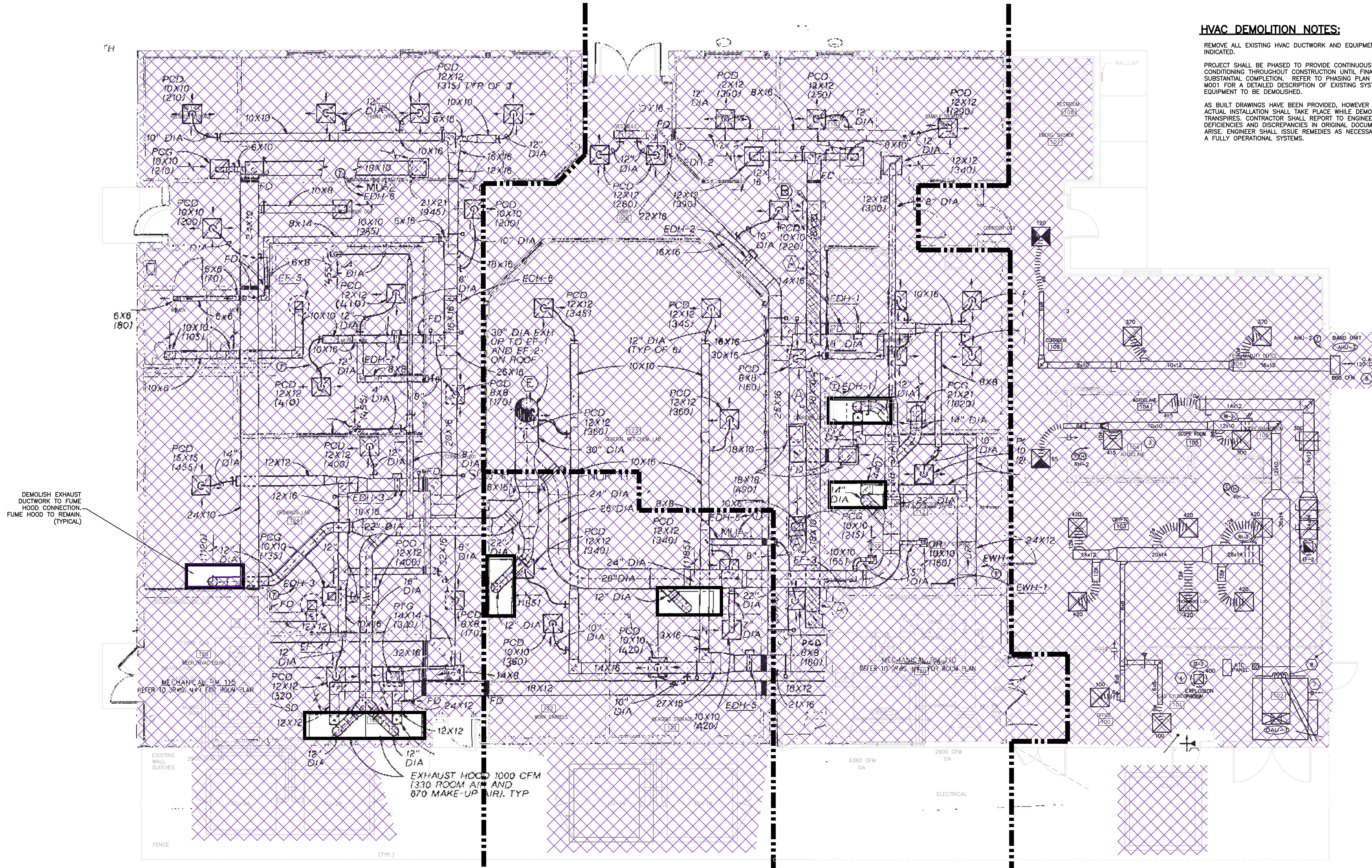
DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

GENERAL NOTES, LEGEND

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 (813)935-2919
Email: AGI@anston-greenlees.com Website: www.anston-greenlees.com
Florida Engineering Business Number 6063

DRAWN	JC
CHECKED	HWP
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	M001

Drawing File: i:\13xxx\13009.001\13009m001.dwg M001
Plotted by: andre2 Jan 24, 2014 - 4:57pm



HVAC DEMOLITION PLAN
SCALE: 3/16"=1'-0"

HVAC DEMOLITION NOTES:

REMOVE ALL EXISTING HVAC DUCTWORK AND EQUIPMENT AS INDICATED.

PROJECT SHALL BE PHASED TO PROVIDE CONTINUOUS COOLING AND CONDITIONING THROUGHOUT CONSTRUCTION UNTIL FINAL SUBSTANTIAL COMPLETION. REFER TO PHASING PLAN ON SHEET M001 FOR A DETAILED DESCRIPTION OF EXISTING SYSTEMS AND EQUIPMENT TO BE DEMOLISHED.

AS BUILT DRAWINGS HAVE BEEN PROVIDED, HOWEVER ACCURACY TO ACTUAL INSTALLATION SHALL TAKE PLACE WHILE DEMOLITION TRANSPIRES. CONTRACTOR SHALL REPORT TO ENGINEER ANY DEFICIENCIES AND DISCREPANCIES IN ORIGINAL DOCUMENTS AS THEY ARISE. ENGINEER SHALL ISSUE REMEDIES AS NECESSARY TO INSURE A FULLY OPERATIONAL SYSTEMS.

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

HVAC DEMOLITION PLAN

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 Tel(813)963-1919
Email: AGI@agi-engineers.com HTTP://www.agi-engineers.com
Florida Engineering Business Number 6093

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M010

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Plotted by: andre2 Jan 24, 2014 - 4:57pm

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HVAC DEMOLITION ROOF PLAN
SCALE: 3/16"=1'-0"

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

HVAC DEMOLITION ROOF PLAN

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1101 West Fletcher Avenue, Tampa, FL 33612 (813)935-0919
Email: AGI@anston-greenlees.com www.anston-greenlees.com
Florida Engineering Business Number 6093

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AGI PROJECT	13009
SHEET	M011

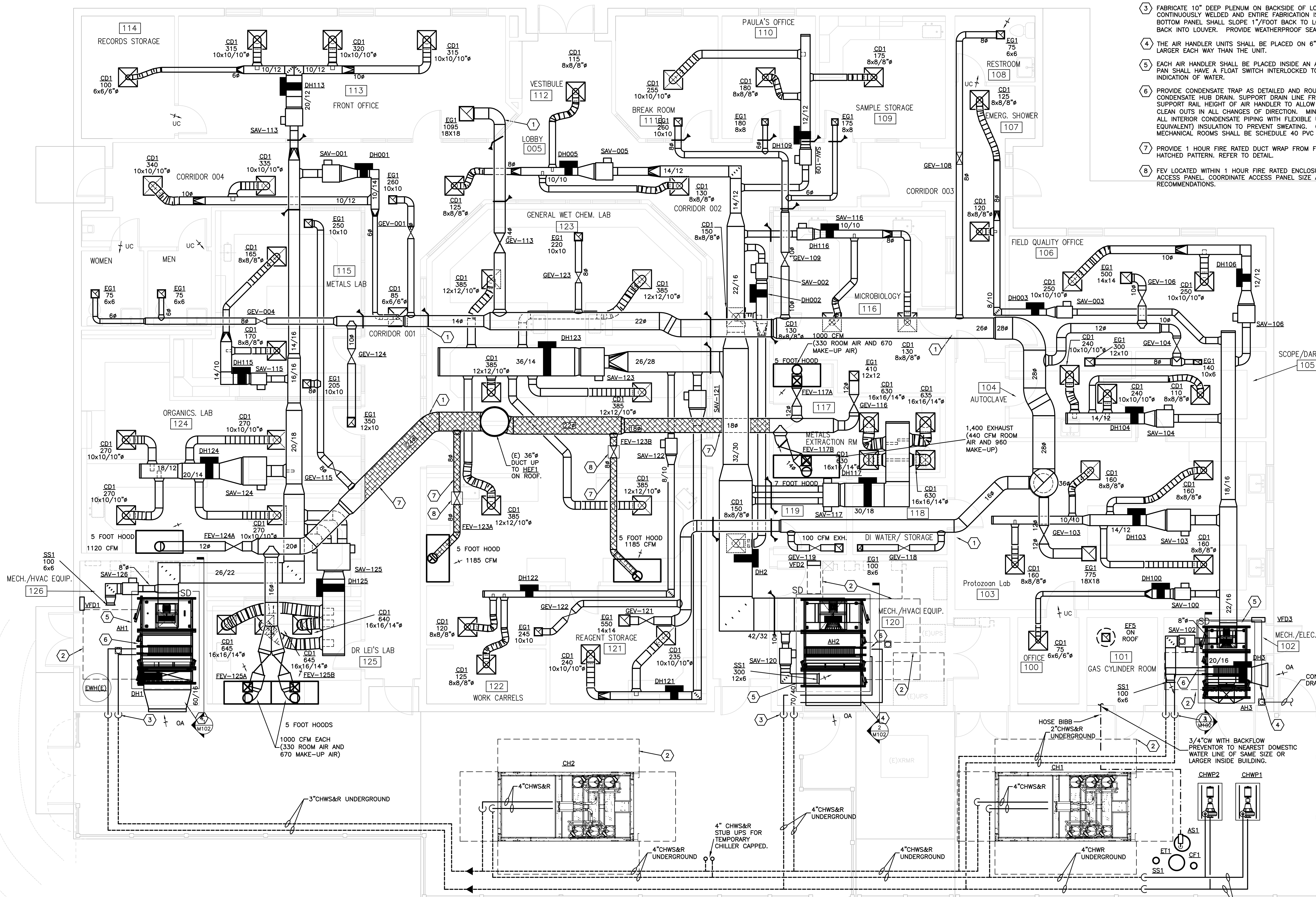
HARRY W. PORTELLOS, P.E. 61597

Drawing File: I:\13xxx\13009.001\13009m011.dwg M011
Plotted by: andre2 Jan 24, 2014 - 4:58pm

HVAC DRAWING NOTES:

1. DUCTWORK SHALL BE INSTALLED TO FACILITATE PHASING. CAP DUCT FOR FUTURE PHASE.

   MAINTAIN ALL REQUIRED CLEARANCES.
2. CHILLED WATER PIPE UP AND INTO MECHANICAL ROOM. PATCH AND SEAL WALL PENETRATION AT OPENING AIR AND WEATHER TIGHT. NO EXPOSED BOLTS.
3. FABRICATE 10" DEEP PLENUM ON BACKSIDE OF LOUVER. ALL CORNERS OF PLENUM TO BE CONTINUOUSLY WELDED AND ENTIRE FABRICATION IS TO BE HOT DIPPED GALVANIZED. BOTTOM PANEL SHALL SLOPE 1"/FOOT BACK TO LOUVER SO COLLECTED WATER DRAINS BACK INTO LOUVER. PROVIDE WEATHERPROOF SEAL AT LOUVER/PLENUM CONNECTION.
4. THE AIR HANDLER UNITS SHALL BE PLACED ON 6" THICK, REINFORCED CONCRETE PAD 6" LARGER EACH WAY THAN THE UNIT.
5. EACH AIR HANDLER SHALL BE PLACED INSIDE AN AUXILIARY DRAIN. THE AUXILIARY DRAIN PAN SHALL HAVE A FLOAT SWITCH INTERLOCKED TO THE UNIT FOR SHUTDOWN UPON INDICATION OF WATER.
6. PROVIDE CONDENSATE TRAP AS DETAILED AND ROUTE CONDENSATE DRAIN LINE TO CONDENSATE HUB DRAIN. SUPPORT DRAIN LINE FROM FLOOR. COORDINATE EQUIPMENT SUPPORT RAIL HEIGHT OF AIR HANDLER TO ALLOW FOR PROPER TRAP DEPTH. PROVIDE CLEAN OUTS IN ALL CHANGES OF DIRECTION. MINIMUM PITCH 1/8" PER FOOT. INSULATE ALL INTERIOR CONDENSATE PIPING WITH FLEXIBLE UNICELLULAR FOAM (ARMAFLEX OR EQUIVALENT) INSULATION TO PREVENT SWEATING. CONDENSATE DRAIN LINES AND TRAPS IN MECHANICAL ROOMS SHALL BE SCHEDULE 40 PVC AND SHALL BE RIGIDLY SUPPORTED.
7. PROVIDE 1 HOUR FIRE RATED DUCT WRAP FROM FAN TO CORRIDOR WALL AS INDICATED BY HATCHED PATTERN. REFER TO DETAIL.
8. FEV LOCATED WITHIN 1 HOUR FIRE RATED ENCLOSURE. ENCLOSURE SHALL HAVE SIDE ACCESS PANEL. COORDINATE ACCESS PANEL SIZE AND LOCATION WITH FEV MANUFACTURERS RECOMMENDATIONS.



HVAC FLOOR PLAN
SCALE: 3/16"=1'-0"

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

HVAC FLOOR PLAN

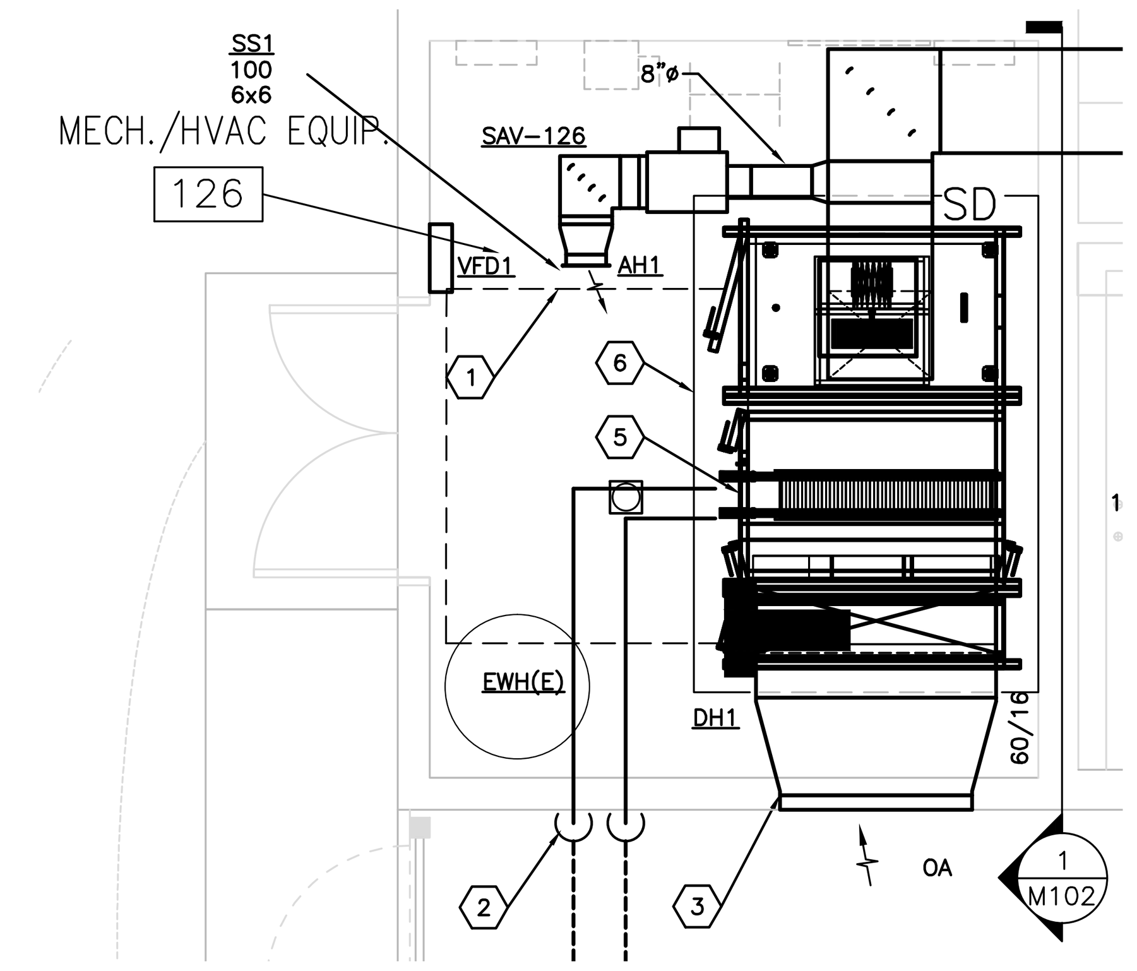
AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers

DRAWN	JC
CHECKED	HWP
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	M101

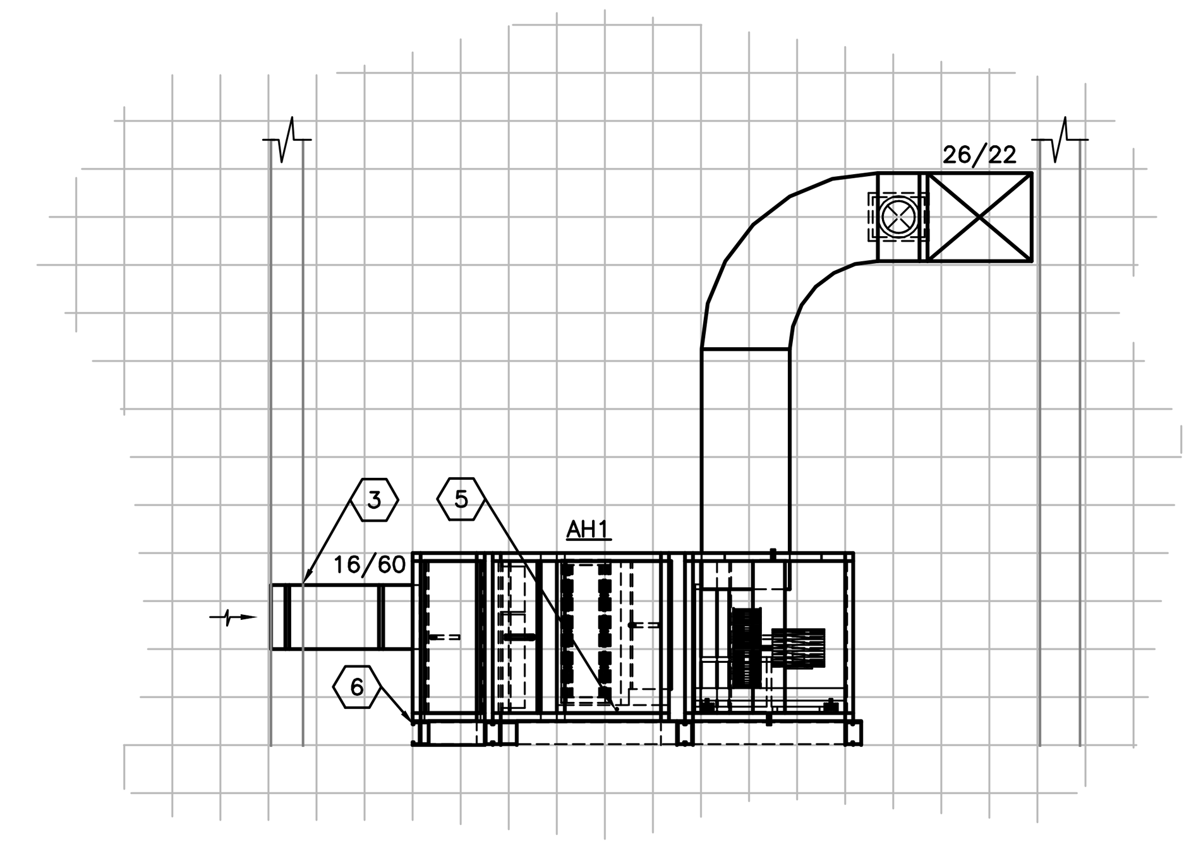
HARRY W. PORTELLOS, P.E. 61597

HVAC DRAWING NOTES:

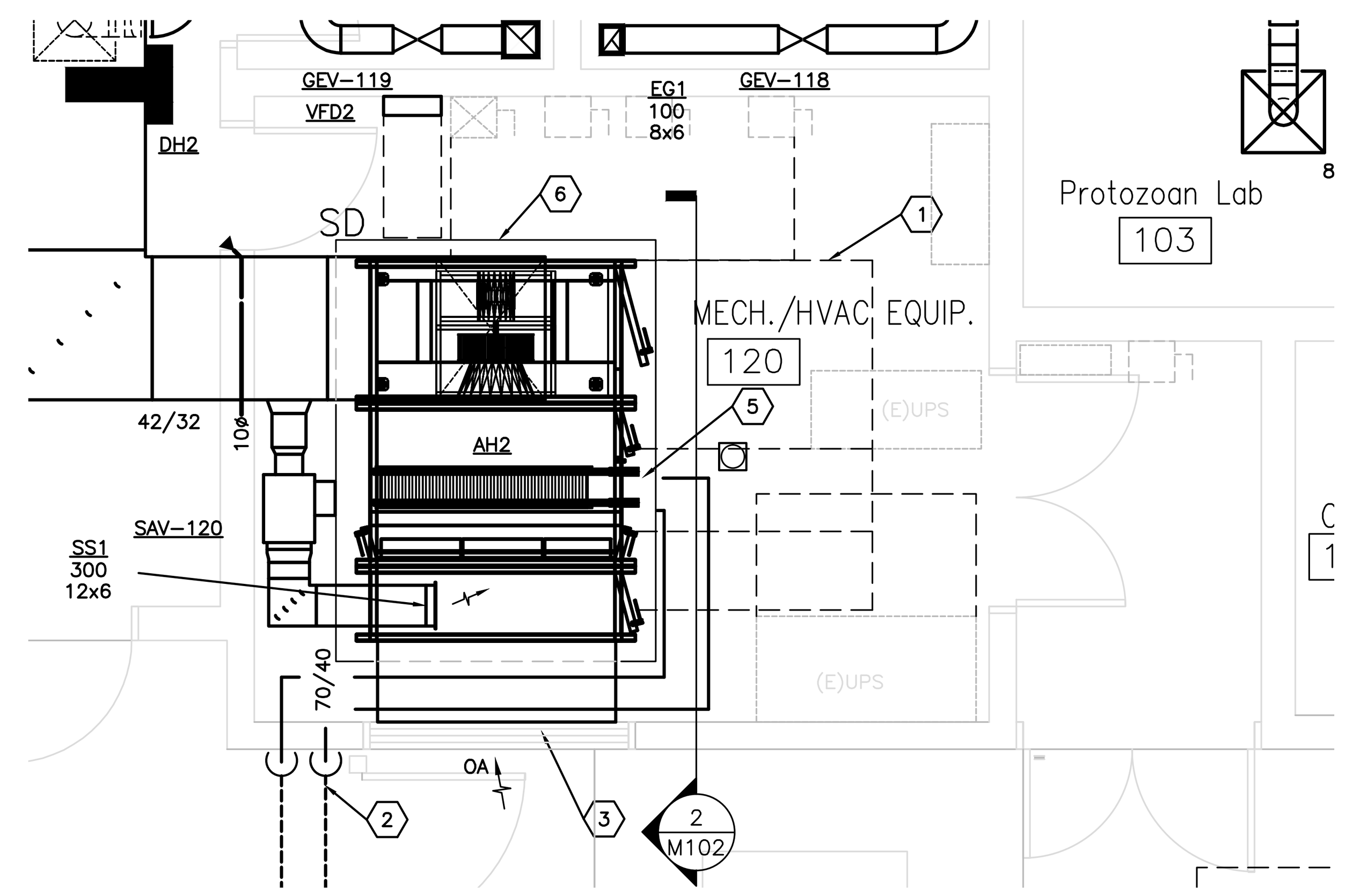
1. MAINTAIN ALL REQUIRED CLEARANCES.
2. CHILLED WATER PIPE UP AND INTO MECHANICAL ROOM. PATCH AND SEAL WALL PENETRATION AT OPENING AIR AND WEATHER TIGHT. NO EXPOSED BOLTS.
3. FABRICATE 10" DEEP PLENUM ON BACKSIDE OF LOUVER. ALL CORNERS OF PLENUM TO BE CONTINUOUSLY WELDED AND ENTIRE FABRICATION IS TO BE HOT DIPPED GALVANIZED. BOTTOM PANEL SHALL SLOPE 1"/FOOT BACK TO LOUVER SO COLLECTED WATER DRAINS BACK INTO LOUVER. PROVIDE WEATHERPROOF SEAL AT LOUVER/PLENUM CONNECTION.
4. THE AIR HANDLER UNITS SHALL BE PLACED ON 6" THICK, REINFORCED CONCRETE PAD 6" LARGER EACH WAY THAN THE UNIT. EACH AIR HANDLER SHALL BE PLACED INSIDE AN AUXILIARY DRAIN. THE AUXILIARY DRAIN PAN SHALL HAVE A FLOAT SWITCH INTERLOCKED TO THE UNIT FOR SHUTDOWN UPON INDICATION OF WATER.
5. PROVIDE CONDENSATE TRAP AS DETAILED AND ROUTE CONDENSATE DRAIN LINE TO CONDENSATE HUB DRAIN. SUPPORT DRAIN LINE FROM FLOOR. COORDINATE EQUIPMENT SUPPORT RAIL HEIGHT OF AIR HANDLER TO ALLOW FOR PROPER TRAP DEPTH. PROVIDE CLEAN OUTS IN ALL CHANGES OF DIRECTION. MINIMUM PITCH 1/8" PER FOOT. INSULATE ALL INTERIOR CONDENSATE PIPING WITH FLEXIBLE UNICELLULAR FOAM (ARMAFLEX OR EQUIVALENT) INSULATION TO PREVENT SWEATING. CONDENSATE DRAIN LINES AND TRAPS IN MECHANICAL ROOMS SHALL BE SCHEDULE 40 PVC AND SHALL BE RIGIDLY SUPPORTED.
6. THE AIR HANDLER UNITS SHALL BE PLACED ON 6" THICK, REINFORCED CONCRETE PAD 6" LARGER EACH WAY THAN THE UNIT. EACH AIR HANDLER SHALL BE PLACED INSIDE AN AUXILIARY DRAIN. THE AUXILIARY DRAIN PAN SHALL HAVE A FLOAT SWITCH INTERLOCKED TO THE UNIT FOR SHUTDOWN UPON INDICATION OF WATER. REPAIR AND MODIFY EXISTING PAD AS REQUIRED TO ACCEPT NEW AIR HANDLER UNIT.



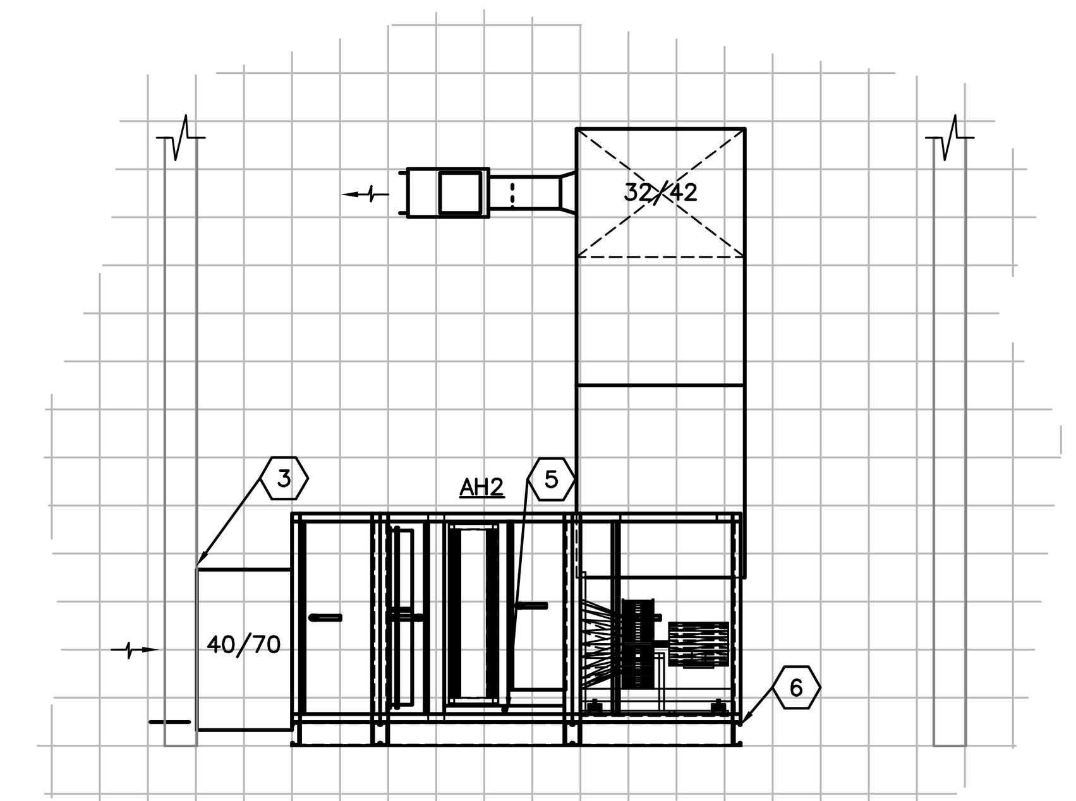
NORTH
MECH./HVAC EQUIP. 126
SCALE: 1/4"=1'-0"



1
M102 M102
MECH./HVAC EQUIP. 126
SCALE: 1/4"=1'-0"



NORTH
MECH./HVAC EQUIP. 120
SCALE: 1/4"=1'-0"



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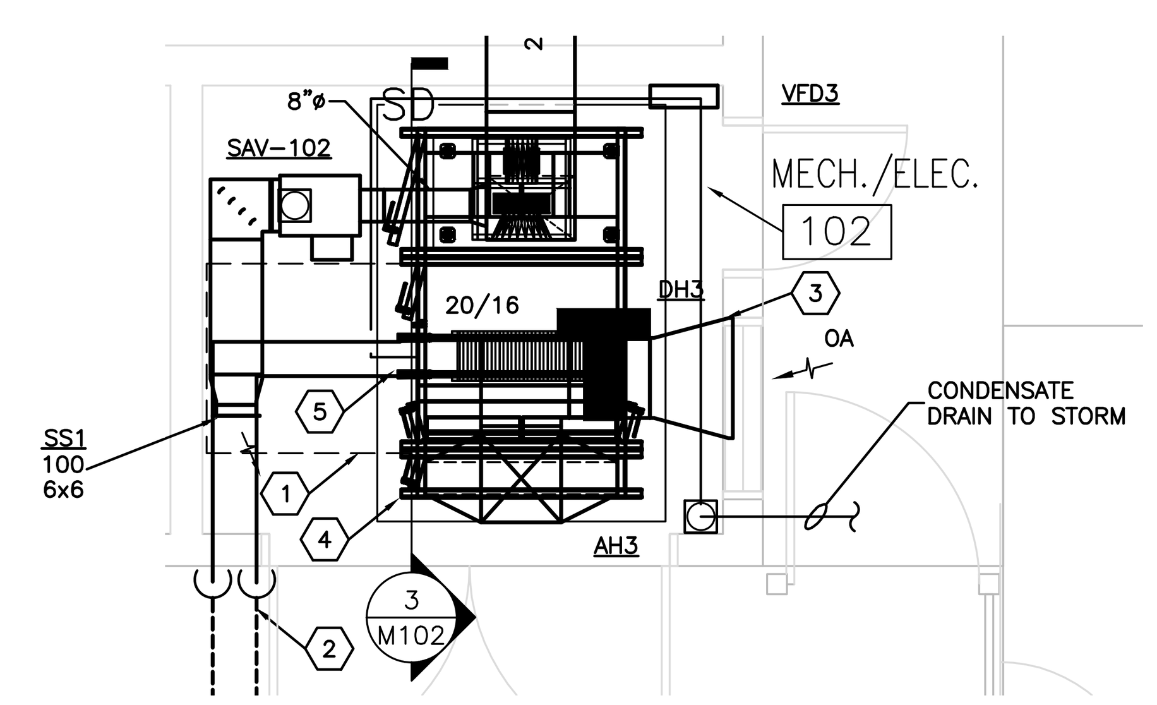
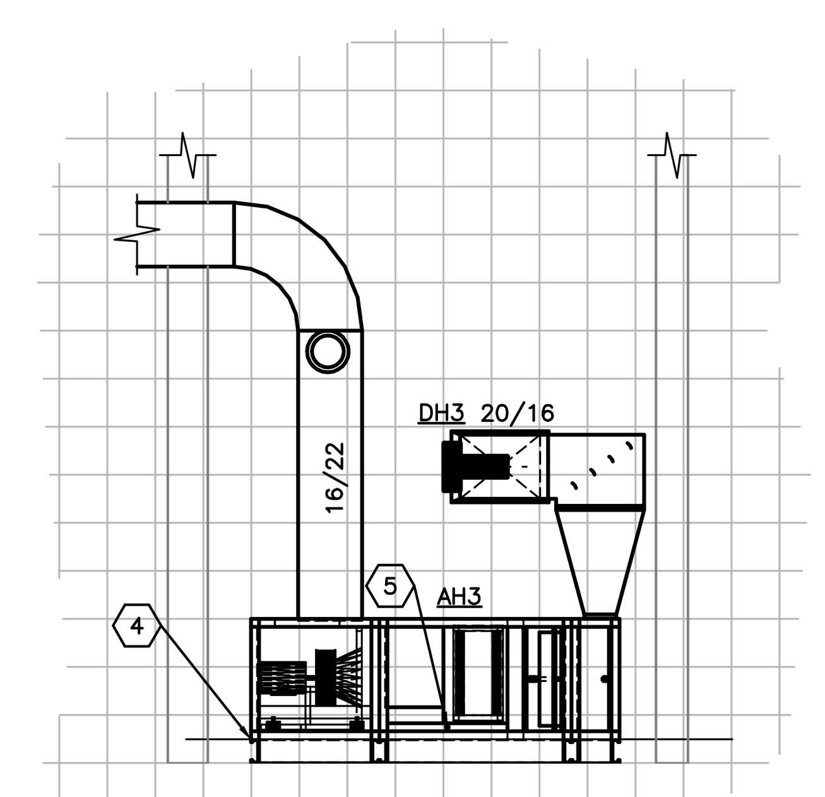
M102 M102
MECH./HVAC EQUIP. 120
SCALE: 1/4"=1'-0"



NORTH
MECH/ELEC. 102
SCALE: 1/4"=1'-0"



3
M102 M102
MECH/ELEC. 102
SCALE: 1/4"=1'-0"

HARRY W. PORTELLOS, P.E. 61597

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

ENLARGED PLANS AND SECTIONS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers

DRAWN	JC
CHECKED	HWP
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	M102

Drawing File: I:\13xxx\13009.001\13009m100.dwg M102
Plotted by: andrez Jan 24, 2014 - 4:36pm

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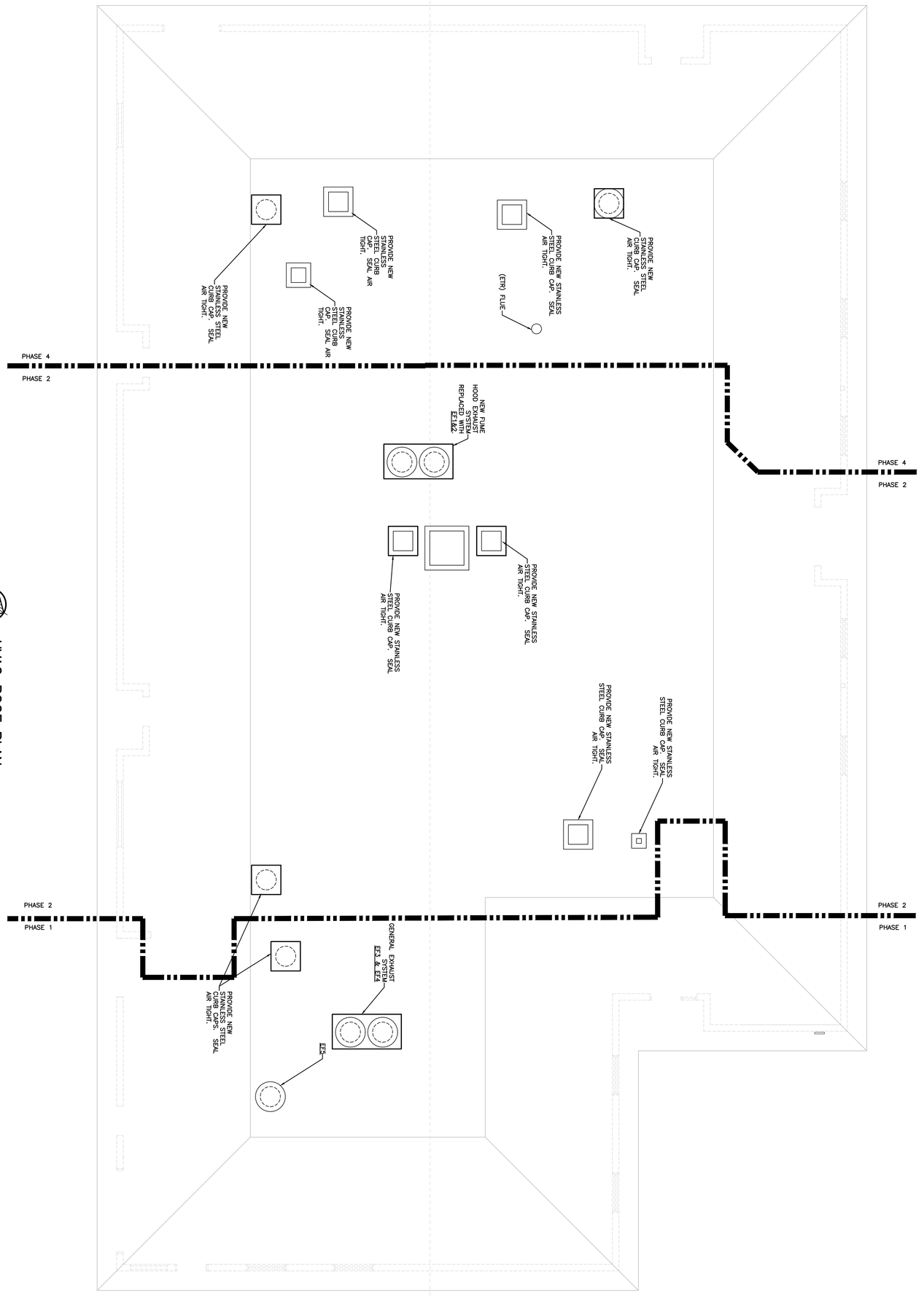
Plotted by: andre2 Jan 24, 2014 - 4:58pm



HVAC ROOF PLAN
SCALE: 3/16"=1'-0"

HARRY W. PORTELLOS, P.E. 61597

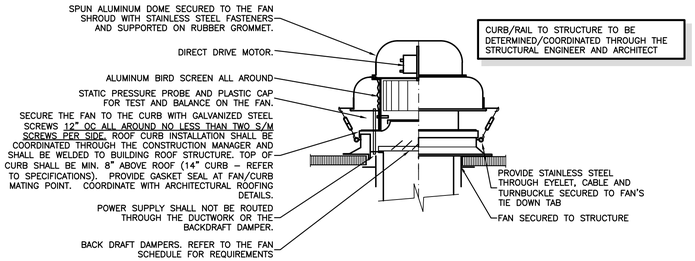
DRAWN	JC
CHECKED	HWP
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	M201

HVAC ROOF PLAN

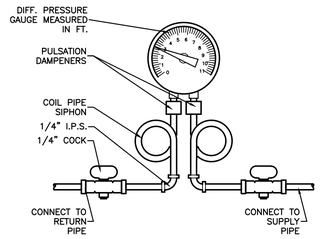
AGI Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1515 West Fletcher Avenue, Tampa, FL 33612 Tel:(813)963-4919
Email: AGI@agi-engineers.com HTTP://www.agi-engineers.com
Florida Engineering Business Number 6093

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

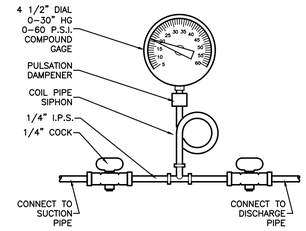
REVISIONS	BY



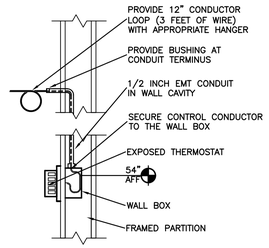
CENTRIFUGAL ROOF EXHAUST FAN WITH TIE-DOWNS
NOT TO SCALE



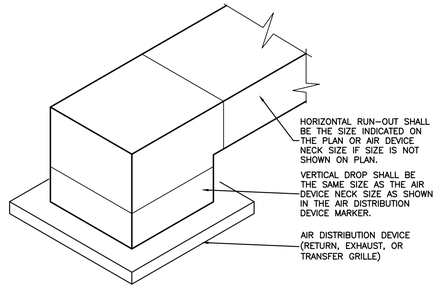
COIL PRESSURE GAGE DETAIL
NOT TO SCALE



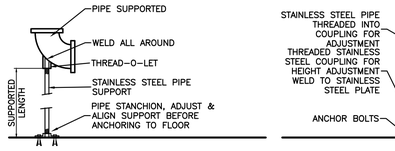
PUMP PRESSURE GAGE DETAIL
NOT TO SCALE

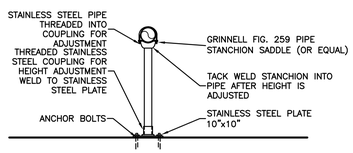


ROOM THERMOSTAT IN GYPBOARD WALL
NOT TO SCALE



RETURN, EXHAUST, AND TRANSFER DUCT CONNECTIONS
NOT TO SCALE





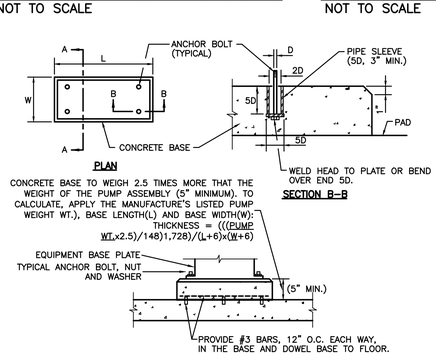
NOTES:
INSULATE STANCHION AND PIPE SUPPORT ON COLD WATER APPLICATIONS.

SPACING BETWEEN SUPPORTS SHALL CONFORM TO MSS-SP58.

STANCHION SCHEDULE

PIPE SUPPORTED \ LENGTH SUPPORTED	1"-0" TO 3"-0"	3"-1" TO 6"-0"
4" & BELOW	1"	2"
5" & ABOVE	2"	4"

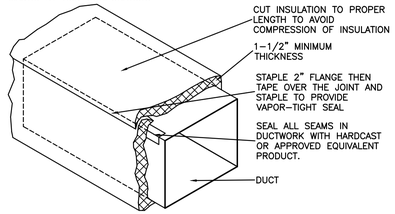
PIPE SUPPORT STANCHION
NOT TO SCALE



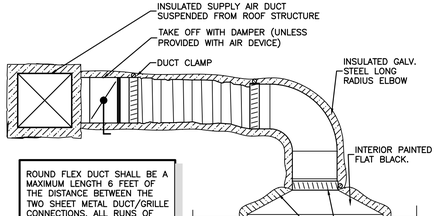
NOTE:
1. L AND W DIMENSIONS SHALL BE 6 INCHES GREATER THAN THE EQUIPMENT BASE PLATE.

PUMP BASE
NOT TO SCALE

NOTE: SECURE INSULATION WITH WELDED STICK PINS ON DUCTWORK 24" AND LARGER. ALL JOINTS SHALL BE FABRIC TAPED AND MASTIC COATED WITH #8 MASTIC BY RCD CORPORATION.

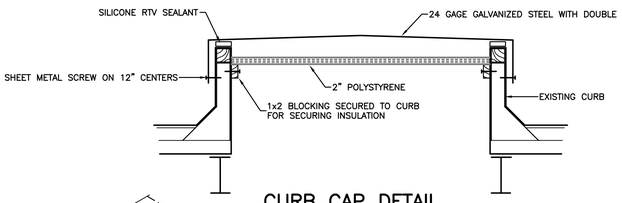


TYPICAL DUCT WRAPPING DETAIL
NOT TO SCALE

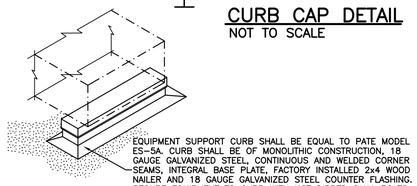


NOTES:
1. REFER TO THE AIR DISTRIBUTION DEVICE SCHEDULE FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SPECIFICATIONS FOR MAXIMUM FLEXIBLE DUCT LENGTH.
3. SUSPEND AIR DEVICE FROM ABOVE, DO NOT SUPPORT FROM CEILING.
4. INTERIOR OF DEVICE TO BE PAINTED FLAT BLACK.

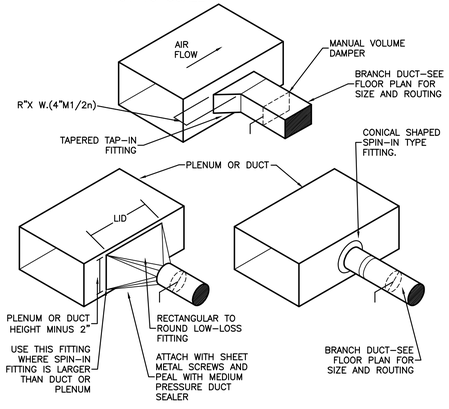
FLEXIBLE DUCT RUN-OUTS TO AIR DEVICE
NOT TO SCALE



CURB CAP DETAIL
NOT TO SCALE

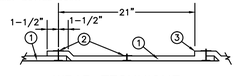


ROOF MOUNTED EQUIPMENT SUPPORT DETAIL
NOT TO SCALE



BRANCH DUCT TAKE-OFF DETAIL
NOT TO SCALE

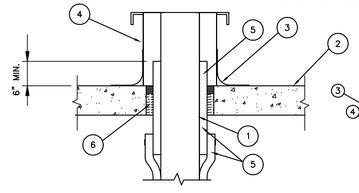
1. ONE LAYER 3M FIRE BARRIER DUCT WRAP 15A
2. 1-1/2" SQUARE OR 1-1/2" DIA. GALVANIZED SPEED CLIPS TYPICAL
3. 3" (76MM) MIN. LONGITUDINAL OVERLAP
4. 3" (76MM) MIN. PERIMETER OVERLAP
5. 6" (15.2CM) WIDE COLLAR MADE OF 3M FIRE BARRIER DUCT WRAP 15A ALTERNATE: PREFABRICATED 3M FIRE BARRIER DUCT WRAP 20A COLLAR
6. FIRMLY BUTTED JOINT



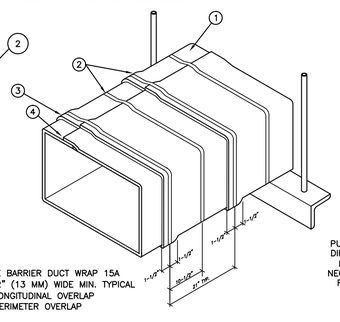
WRAP TECHNIQUE
TELESCOPING OVERLAP WRAP OPTION
CROSS SECTIONAL VIEW

FIRE WRAP DETAILS INDICATED HEREIN ARE BASED ON 3M FIRE BARRIER DUCT WRAP 15A. EQUIVALENT PRODUCTS ARE ACCEPTABLE PENDING ENGINEER'S REVIEW. MANUFACTURER'S U.L. INSTALLATION DETAILS SHALL BE SUBMITTED WITH THE PRODUCT DATA FOR SHOP DRAWING REVIEW.

1. DUCT
2. ROOF ASSEMBLY
3. ROOF FLASHING
4. VENT FLASHING
5. ONE LAYER 3M FIRE BARRIER DUCT WRAP 15A
6. FIRESTOPPING SYSTEM FOR RATED ROOF ASSEMBLIES ONLY



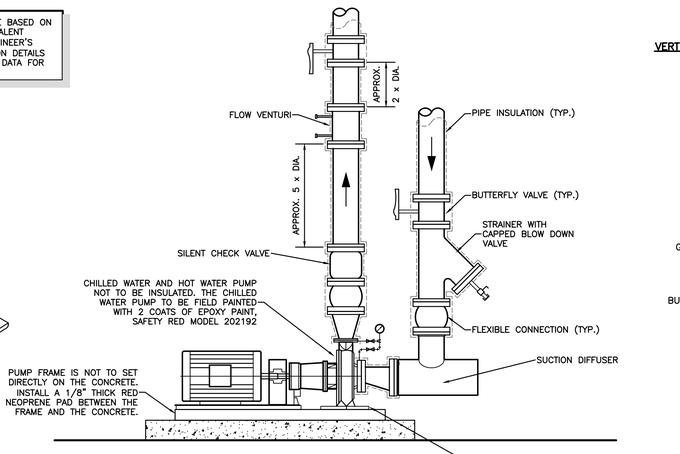
ROOF PENETRATION



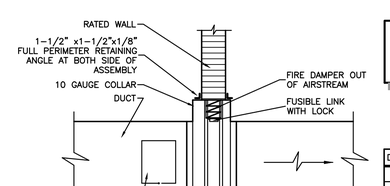
1. ONE LAYER 3M FIRE BARRIER DUCT WRAP 15A
2. STEEL BANDING 1/2" (13 MM) WIDE MIN. TYPICAL
3. 3" (76 MM) MIN. LONGITUDINAL OVERLAP
4. 3" (76 MM) MIN. PERIMETER OVERLAP

WRAP WITH BANDING

FIRE RATED WRAP DETAILS
NOT TO SCALE



CHILLED WATER END SUCTION PUMP DETAIL
NOT TO SCALE



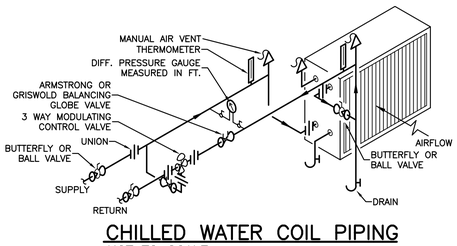
INSULATED PIPE HANGER SUPPORT
NOT TO SCALE

VERTICAL FIRE DAMPER

NOTE: PROVIDE DYNAMIC TYPE FIRE DAMPERS ON AIR SYSTEMS THAT DO NOT SHUT DOWN ON CALL FROM FIRE ALARM OR FIRESTAT.

DUCT DIMENSION	SLEEVE GAUGE
12" DOWN	26
13"-30"	24
31"-54"	22
55"-84"	20
85" UP	18

FIRE DAMPER DETAILS
NOT TO SCALE



CHILLED WATER COIL PIPING
NOT TO SCALE

REVISIONS | BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

HVAC DETAILS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1515 West Shelton Avenue, Tampa, FL 33612 (813)933-5919
Email: AGI@anston-greenlees.com Certificate of Authorization
Florida Engineering Business Number 6092

DRAWN	JC
CHECKED	HWP
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	M300

HARRY W. PORTELLOS, P.E. 61597

Drawing File: I:\13xxx\13009.001\13009m301.dwg M300
Plotted by: andre2 Jan 24, 2014 - 4:58pm

FAN SCHEDULE

MARK	SERVES	PROCESS EXHAUST (MAX.)CFM	DRIVE	S.P. (INLET) IN. H_2O	S.P. (TOTAL) IN. H_2O	ELECTRICAL VOLT/ø/60	MOTOR HP BHP/HP	MANUFACTURER	MODEL	MOUNTING	WEIGHT (LBS.)	INTERLOCK	NOTES
EF1&2	FUME HOOD EXHAUST	8,090	DIRECT	3.0	4.0	208/3/60	13.55 / 15.0	STROBIC	TS1L1150B18	ROOF CURB	4,305	CONTINUOUS	1 THROUGH 7
EF3&4	GENERAL EXHAUST	7,350	DIRECT	3.0	4.0	208/3/60	7.71 / 10.0	STROBIC	TS1L1100A18	ROOF CURB	4,305	CONTINUOUS	1 THROUGH 7
EF5	GAS CYLINDER ROOM	150	DIRECT	0.375	0.375	120/1/60	0.02 / 0.03	GREENHECK	CUE-070-D	ROOF CURB	21	CONTINUOUS	1 THROUGH 4

NOTES:

1. COORDINATE WITH ELECTRICAL DRAWINGS.
2. PROVIDE WITH ROOF CURB. PROVIDE GASKET SEAL BETWEEN FAN AND CURB.
3. PROVIDE BACKDRAFT DAMPER.
4. FAN SHALL WITHSTAND WIND LOAD OF 150 MILES PER HOUR ISOTACH (MPHI). PROVIDE FOUR POINT HURRICANE TIE DOWN TABS.
5. TOTAL STATIC PRESSURE IS THE SUM OF INLET STATIC, PLENUM, ISOLATION DAMPER AND DISCHARGE STACK STATIC LOSSES.
6. EQUIPMENT SELECTION BASED ON STROBIC AIR CORPORATION.
7. MOUNT ON CUSTOM DOUBLE FAN PLENUM, BOTTOM INLET.

AIRFLOW CONTROL SYSTEM VALVE SCHEDULE

ROOM		SUPPLY VALVE					HOOD EXHAUST				GENERAL EXHAUST				NOTES
ROOM #	ROOM OFFSET	VALVE TAG	VALVE SIZE	MIN CFM	MAX CFM	COOLING CFM	VALVE TAG	VALVE SIZE	MIN CFM	MAX CFM	VALVE TAG	VALVE SIZE	MIN CFM	MAX CFM	
001/004		SAV-001	10	760	760	–					GEV-001	8	260	260	1-5
004						–					GEV-004	8	150	150	1-5
113/114		SAV-113	12	100	1050	–					GEV-113	12	100	1050	1-5
115	-75	SAV-115	08	125	335	–					GEV-115	10	200	410	1-5
124	-75	SAV-124	14	350	1080	–	FEV-124A	EXVBF12	390	1,120	GEV-124	8	35	350	1-5
125	-75	SAV-125	DUAL 12	425	1925	–	FEV-125A	EXVBF12	250	1,000					1-5
125		SAV-125				–	FEV-125B	EXVBF12	250	1,000					1-5
126	n/a	SAV-126	08	35	100	–									1-5
											GEV-127	8	100	100	1-5
002		SAV-002	08	300	300	–									
005/112		SAV-005	08	370	370	–					GEV-112	8	370	370	1-5
109/110/111		SAV-109	08	260	610	–					GEV-109	10	260	515	1-5
116	-150	SAV-116	08	130	260	–					GEV-116	10	280	410	1-5
117	-75	SAV-117	DUAL 14	575	2525	–	FEV-117A	EXVBF12	250	1,000					
117		SAV-117					FEV-117B	EXVBF14	400	1,600					
119		SAV-119									GEV-119	8	100	100	1-5
120	n/a	SAV-120	08	35	100										
121	-75	SAV-121	10	125	475						GEV-121	10	200	550	1-5
122		SAV-122	08	60	245						GEV-122	8	60	245	1-5
123	-150	SAV-123	DUAL 14	530	2310		FEV-123A	EXVBF12	295	1,185	GEV-123	12	90	950	1-5
123		SAV-123					FEV-123B	EXVBF12	295	1,185					
003	+170	SAV-003	08	170	245										
100	n/a	SAV-100	08	35	75										
102	n/a	SAV-102	08	35	100										
103	-75	SAV-103	12	150	640						GEV-103	12	310	775	1-5
104/105	150	SAV-104	12	590	590						GEV-104	10	440	440	1-5
106	0	SAV-106	10	250	500						GEV-106	10	250	500	1-5
107/108											GEV-108	8	75	75	1-5
118											GEV-118	8	100	100	1-5

NOTES:

1 SUPPLY VALVE AND GENERAL EXHAUST VALVE SHALL BE UNCOATED ALUMINUM.

2 HOOD EXHAUST VALVES SHALL BE FLANGED, TYPE B, HERESITE COATED WITH 316L STAINLESS STEEL INTERNAL COMPONENTS.

3 CVV VALVES SHALL BE CONSTANT VOLUME.

4 SUPPLY AND GENERAL EXHAUST VALVE SHALL TRACK (MONULATE) IN RESPONSE TO THERMOSTAT SIGNAL.

5 EQUIPMENT MODEL NUMBERS ARE THOSE OF PHOENIX CONTROLS CORPORATION; WHICH IS BASIS OF DESIGN.

CHILLED WATER AIR HANDLER SCHEDULE

	MARK		AH1	AH2	AH3
	TOTAL SUPPLY AIR	CFM	5,250	7,395	2,150
	STATIC PRESSURE (EXT./TOTAL)	IN. H_2O	1.5/3.1	2.0/3.46	1.0/2.15
OUTSIDE AIR PATH	ENTERING TEMPERATURE DB/WB	°F/°F	91.0 / 80.0	91.0 / 80.0	91.0 / 80.0
	COOLING COIL TOTAL CAPACITY (NET)	MBH	510.0	719.0	209.0
	COOLING COIL SENSIBLE CAPACITY (NET)	MBH	209.6	295.5	85.9
	COOLING COIL	ROWS/FPI	8/10	8/10	8/10
	COOLING COIL MAX AIR PRESS. DROP	IN. H_2O	0.83	0.75	0.65
	COOLING COIL MAX. FACE VELOCITY	FPM	432	416	344
	COOLING COIL WATER FLOW	GPM	85.0	119.8	34.8
	CHILLED WATER TEMP., ENT/LVG	°F/°F	44/56	44/56	44/56
	COOLING COIL MAX. WATER PRESSURE DROP	FT. H_2O	10.6	15.6	6.0
	LEAVING TEMPERATURE COOLING DB/WB	°F/°F	54.0 / 53.0	54.0 / 53.0	54.0 / 53.0
	FILTERS	TYPE/EFF.	30% PLEATED PRE FILTER & 65% PLEATED IN 2 CHANNEL FLAT RACK	30% PLEATED PRE FILTER & 65% PLEATED IN 2 CHANNEL FLAT RACK	30% PLEATED PRE FILTER & 65% PLEATED IN 2 CHANNEL FLAT RACK
	MAX. OPERATING FAN SPEED	RPM	1,780	1,756	2,488
	FAN MOTOR	BHP/HP	3.9/5.0	6.2/7.5	1.43/2.0
	ELECTRICAL CHARACTERISTICS	V/ø/Hz	208/3/60	208/3/60	208/3/60
	FAN ARRANGEMENT/TYPE	–	Plenum Fan	Plenum Fan	Plenum Fan
	MINIMUM BASE RAIL HEIGHT **	IN.	6	8	6
	MANUFACTURER	–	McQuay	McQuay	McQuay
	MODEL	–	CAH012GDGC	CAH019GDGM	CAH006GDGC
	UNIT WEIGHT	LBS.	2,013	2,504	1,284
	RADIATED SOUND POWER LEVELS (OCTAVES)	dB (63 thru 8000)	73/75/69/65/56/47/31/22	76/78/75/65/59/50/34/25	66/69/60/54/53/46/33/29
	DISCHARGE SOUND POWER POWER LEVELS (OCTAVES)	dB (63 thru 8000)	81/83/81/82/76/70/66/58	84/86/87/82/79/73/69/61	74/77/72/71/73/69/68/65
	UNIT LOCATION	–	MECH RM. 126	MECH RM. 120	MECH RM. 102
	SPACE SERVED	–	West	Center	East
	NOTES	–	1 THROUGH 11	1 THROUGH 11	1 THROUGH 11

NOTES:

1. PROVIDE POSITIVE SLOPED (IN MIN OF TWO PLANES) STAINLESS STEEL DRAIN PAN WITH DRAIN OUTLET IN BOTTOM OF PAN. COIL CASING, INCLUDING CROSS BRACING, SHALL BE STAINLESS STEEL CONSTRUCTION. PROVIDE RED BRASS (NON-FERROUS) COIL CONNECTIONS, VENTS AND DRAINS AND EXTEND THROUGH THE COIL CASING.
2. PROVIDE DOUBLE WALL UNIT WITH MINIMUM R-13 INSULATION, MINIMUM 2", THROUGHOUT UNIT (INCLUDING BELOW DRAIN PAN) WITH A SOLID INNER LINER. UNIT CABINET SHALL HAVE LESS THEN 1% LEAK RATE AT +/- 8 IN. H2O OF STATIC PRESSURE. UNIT SHALL HAVE FACTORY FABRICATED DOUBLE WALL FILTER PLENUM MIXING BOX. PROVIDE FULL SIZED HINGED ACCESS DOORS AT PLENUM SECTION, FILTER SECTION, COIL SECTION(S), AND FAN SECTION. COILS SHALL BE ACCESSIBLE ON THE UPSTREAM AND DOWNSTREAM SIDE.
3. PROVIDE PREMIUM EFFICIENCY MOTORS. SEE SPECIFICATIONS.
4. UNITS SHALL HAVE INTERNAL VIBRATION ISOLATORS WITH 2" DEFLECTION. UNIT SHALL HAVE 1" NEOPRENE PADS BETWEEN THE BASE RAILS AND THE 4" HOUSEKEEPING PAD.
5. PROVIDE OVERSIZED FANS NOT TO EXCEED RADIATED SOUND POWER PER ASHRAE. PROVIDE REMOTE BEARING LUBRICATION LINES, EXTENDED TO JUST INSIDE THE ACCESS DOOR.
6. PROVIDE SINGLE HEADER ON AFTER FILTERS FOR EFFECTIVE SEALING.
7. PROVIDE MAGNAHELIC DIFFERENTIAL PRESSURE GAGE AT FILTER.
8. FAN RPM AND OUTLET VELOCITY ARE MAXIMUM. PROVIDE OVERSIZED FANS NOT TO EXCEED VALUES INDICATED.
9. PROVIDE ADJUSTABLE PITCH SHEAVE ON FAN MOTORS 10 HP AND LESS.
10. CHILLED WATER COIL FIN SPACING SHALL NOT EXCEED 11 FINS PER INCH.
11. VAV SYSTEM WITH VARIABLE FREQUENCY DRIVE FOR FAN CONTROL. PROVIDE VFD DUTY MOTOR. SEE VARIABLE FREQUENCY DRIVE SCHEDULE.

**BASE RAIL HEIGHT INDICATED IS FOR BASIS OF DESIGN UNIT. OTHER MANUFACTURER'S MAY REQUIRE ADDITIONAL BASE RAIL HEIGHT ALLOWANCE FOR THE CONDENSATE DRAIN TRAP WHERE THE DRAIN LINE PENETRATES THE BASE RAIL INSTEAD OF THE UNIT'S SIDE CASING.

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

HVAC SCHEDULES

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Hacker Avenue, Tampa, FL 33613 (813)963-5919
Email: AGI@anston-greenlees.com Web: www.anston-greenlees.com
Florida Engineering Business Number 6970

DRAWN	JC
CHECKED	HWP
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	M400

HARRY W. PORTELLOS, P.E. 61597

Drawing File: I:\13xxx\13009.001\13009m4x.dwg M400
Plotted by: andre2 Jan 24, 2014 - 4:58pm

SOLIDS SEPARATOR SCHEDULE

MARK		SS1
SERVICE	–	CHILLED WATER
FLOW RATE	GPM	9
INLET SIZE	INCHES	3
OUTLET SIZE	INCHES	3
MAX. WATER PRESS. DROP	P.S.I.	6
MANUFACTURER	–	ITT BELL & GOSSET
MODEL	–	SRS 3F
SHIPPING WEIGHT	LBS	68
NOTES	–	1

NOTE:

1. PROVIDE CONNECTIONS FOR MANUAL PURGE OF COLLECTED SEDIMENT.

PUMP SCHEDULE

MARK		CHWP1 & CHWP2
TYPE	–	FRAME MTD END SUCTION
WATER FLOW	GPM	239.8
TOTAL DYNAMIC HEAD	FT. H_20	68.6
EFFICIENCY (MINIMUM)	%	75.99
MOTOR	BHP/HP	5.43/7.5
SPEED	RPM	1,800
MOTOR TYPE	–	HIGH EFF/TEFC
BASE TYPE	MTL/SIZE	STEEL/213T
IMPELLER DIAMETER (TRIMMED)	±IN.	7.25
SUCTION DIAMETER	IN.	3
DISCHARGE DIAMETER	IN.	2.5
ELECTRICAL	VOLT/ø/HZ	208/3/60
LOCATION	–	CHILLER YARD
MANUFACTURER	–	BELL & GOSSETT
MODEL	–	1510–2–1/2BB
NOTES	–	1,2,3&4

NOTES:

1. MOTOR SHALL HAVE A 1.25% SERVICE FACTOR AND SHALL BE NON–OVERLOADING.
2. PROVIDE PHASE LOSS PROTECTION.
3. PROVIDE SUCTION GUIDE WITH STAINLESS STEEL BASKET STRAINER.
4. PROVIDE WITH STAINLESS STEEL PAN PIPED TO DROP ON GRADE. SEE DETAIL.

EXPANSION TANK SCHEDULE

MARK		ET1
SERVICE	–	CHILLED WATER
DIMENSIONS	INCHES	30h x 17w
ACCEPTANCE VOLUME (MINIMUM)	GALLONS	11.3
TANK VOLUME (MINIMUM)	GALLONS	21.7
TYPE	–	VERTICAL
MANUFACTURER	–	BELL & GOSSETT
MODEL	–	D–40V
OPERATING WEIGHT (EMPTY/FULL)	LBS	90/271
NOTES	–	1 & 2

NOTES:

1. HEAVY DUTY BUTYL DIAPHRAGM TYPE STEEL TANK, ASME SEC. VIII, DIV. 1.
2. PROVIDE WITH AIR VENT.

CHILLER SCHEDULE

MARK		CH1 & CH2
REFRIGERANT TYPE	–	R–410a
CAPACITY	TONS	118.2
AMBIENT TEMP	°F	95
WATER FLOW	GPM	239.8
MAX WATER PRESSURE DROP	FT. H2O	9.5
WATER TEMP ENT/LVG	°F/°F	56.0/44.0
# FANS/ HP EACH	–	8/2.0
UNIT TOTAL EER @ DESIGN	–	9.9
COMPRESSORS (MIN.)	#	6
STEPS OF CONTROL (MIN.)	#	6
COMPRESSOR POWER INPUT	KW/TON	143.8
ELECTRICAL	V/ø/Hz	208/3/60
PERFORMANCE PER ARI STANDARD 550		––
NPLV	KW/TON	15.40
100%	EER	9.8
75%	EER	13.6
50%	EER	16.6
25%	EER	17.8
OPERATING WEIGHT	LBS.	7,265
DIMENSIONS	INCHES/LxWxH	173 x 88 x 100
LOCATION	–	CHILLER YARD
MANUFACTURER	–	MCQUAY
MODEL	NO.	AGZ125D
WIRE SIZE AMPS/ REC FUSE	AMPS	576 / 600
SOUND POWER LEVELS (OCTAVES)	dB (63 thru 8000)	93/96/93/92/89/83/83/82
SOUND PRESSURE LEVELS (OCTAVES)	dB (63 thru 8000)	66/69/66/65/62/56/56/55
NOTES:	#	1 THROUGH 15

NOTES:

1. PROVIDE SINGLE POINT POWER CONNECTION – 208V/3ø.
2. PROVIDE FACTORY MOUNTED DOOR INTERLOCKING NON–FUSED DISCONNECT SWITCH AND FACTORY INSTALLED INTEGRAL CONTACTORS/STARTERS AND RELAYS REQUIRED TO START/STOP AND CONTROL THE CHILLER.
3. PROVIDE WITH 6 COMPRESSORS. THE LEAD COMPESSOR SHALL BE DIGITAL SCROLL WITH 41 STEPS OF LOADING.
4. PROVIDE FULL START–UP AND OWNER'S INSTRUCTION PERIOD BY MANUFACTURER'S FACTORY AUTHORIZED SERVICE. REFER TO SPECIFICATIONS FOR WARRANTY REQUIREMENTS.
5. PROVIDE SUCTION LINE ISOLATION SHUT–OFF VALVES FOR EACH CIRCUIT.
6. PROVIDE BACNET COMMUNICATION HARDWARE AND SOFTWARE AND DDC BASED WATER TEMPERATURE CONTROLS. PROVIDE INTERFACE PANEL TO CHILLER. CHILLER FAULTS AND ALARMS SHALL BE INDICATED AT THE DDC SYSTEM HEAD END.
7. PROVIDE MAXILLARY CONTACT TO NOTIFY THE DDC SYSTEM THAT THE CHILLED WATER PUMP SHALL RUN.
8. MAXIMUM ALLOWABLE SOUND POWER AND SOUND PRESSURE DATA IS LISTED ABOVE. SOUND PRESSURE LEVELS RATED IN ACCORDANCE WITH ARI STANDARD 370.
9. SOUND PRESSURE RATINGS ARE VALUES AT 30.0 FT. FROM SIDES OF UNIT. PROVIDE COMPRESSOR SOUND ENCLOSURES AND QUIET FANS IF REQUIRED TO MEET THESE LEVELS.
10. MAXIMUM WEIGHTED SOUND PRESSURE IS 65.0 DBA AT 30.0 FEET FROM SIDES OF UNIT, MAXIMUM WEIGHTED SOUND POWER IS 90.0 DBA.
11. PROVIDE PHASE VOLTAGE MONITOR, UNDER/ OVERVOLTAGE PROTECTION.
12. CAPACITIES LISTED ARE MINIMUM REQUIRED AT DESIGN CONDITIONS LISTED.
13. SHOULD THE CHILLER'S CONTROLLER DETECT LOSS OF EVAPORATOR WATER FLOW, THE CHILLER SHALL BE LATCHED OUT OF OPERATION UNTIL CLEARED AT THE CHILLER'S CONTROL PANEL. LOSS OF POWER AT THE CHILLER SHALL NOT CLEAR ITS CONTROLLER'S OPERATIONAL STATUS OR CONTROL LATCHED–OUT STATES.
14. PROVIDE R–410A REFRIGERANT. R–22 IS NOT ACCEPTABLE.
15. PROVIDE HOUSED SPRING ISOLATORS (TYPE CP, 1" DEFLECTION) UNDER CHILLERS.

SHOT FEEDER SCHEDULE

MARK		CF1
CAPACITY	GALLONS	2
SERVICE	–	CHILLED WATER
WEIGHT	LBS	20
MANUFACTURER	–	EFFICIENCY DYNAMICS
MODEL	–	FILTER FEEDER F100
NOTES	–	1

NOTES:

1. PROVIDE WITH 3/4" RUBATEX OR ARMAFLEX OR EQUIVALENT INSULATION.

AIR SEPARATOR SCHEDULE

MARK		AS1
SERVICE	–	CHILLER PLANT
CHW FLOWRATE	GPM	86
INLET SIZE	INCHES	3
OUTLET SIZE	INCHES	3
WATER PRESSURE DROP	FT. H_20	0.3
MANUFACTURER	–	ITT BELL & GOSSETT
MODEL	–	RL–3F
SHIPPING WEIGHT	LBS	115
NOTES	–	1 & 2

NOTES:

1. PROVIDE WITHOUT STRAINER.
2. PROVIDE WITH BLOWDOWN CONNECTION TO FACILITATE ROUTINE CLEANING.

ELECTRIC DUCT HEATER SCHEDULE

MARK		DH1	DH2	DH3	DH001	DH113	DH115	DH124	DH125	DH002	DH005	DH109
AIR FLOW	CFM	5,245	7,195	2,150	710	1095	335	1,080	1,925	300	370	610
HEAT CAPACITY	KW	38.4	54.1	15.7	7.8	12.1	3.7	6.0	10.6	3.3	4.1	6.7
STEPS	–	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR
MAX. AIR PRESS. DROP	IN. H_20	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
ELECTRICAL	VOLT/ø/60	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60
MANUFACTURER	–	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH
NOTES	–	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4
MARK		DH116	DH117	DH121	DH122	DH123	DH003	DH100	DH103	DH104	DH106	
AIR FLOW	CFM	260	2,525	475	245	2,310	245	75	640	590	500	
HEAT CAPACITY	KW	2.9	13.9	5.2	2.7	12.7	2.7	0.8	7.1	6.5	5.5	
STEPS	–	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	SCR	
MAX. AIR PRESS. DROP	IN. H_20	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
ELECTRICAL	VOLT/ø/60	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60	208/3/60	120/1/60	208/3/60	208/3/60	208/3/60	
MANUFACTURER	–	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	BRASCH	
NOTES	–	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	1, 2, 3, 4	

NOTES:

1. PROVIDE WITH ALL REQUIRED CONTROL CONTACTORS AND FAN INTERLOCK RELAYS.
2. PROVIDE COIL IN TUBE HEATER.
3. PROVIDE WITH NON–FUSED INTERLOCKING DISCONNECT, DISCONNECTING BREAK MAGNETIC CONTACTORS, AUTOMATIC RESET THERMAL CUTOUT FOR PRIMARY OVER–TEMPERATURE PROTECTION, MANUAL RESET THERMAL CUTOUT FOR SECONDARY OVER TEMPERATURE PROTECTION, TRANSFORMER WITH FUSED PRIMARY, SPST AIRFLOW SWITCH, AND VAPOR BARRIER.
4. DUCT SIZE TO BE VERIFIED WITH DUCT FABRICATION DRAWINGS PRIOR TO ORDERING.

AIR DISTRIBUTION DEVICE SCHEDULE

MARK		CD1	RR1	EG1	XG1	SS1		
NECK SIZE	INCH	–	22x22	–	22x22	–		
MODULE/FACE SIZE	INCH	24x24/24x24	24x24/23x23	–/–	24x24/23x23	–/–		
MANUFACTURER	–	J&J	TITUS	TITUS	TITUS	TITUS		
MODEL	–	AL1444–33–TR	PAR–AA	50F	PAR–AA	300FS		
CONSTRUCTION	–	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM		
NOTES	–	1, 2, 4	1, 4, 5	1, 4, 5, 6	1, 4, 5	4		

NOTES:

1. NECK SIZE OF DEVICE IS EQUAL TO THE DUCT SIZE INDICATED ON THE DRAWING.
2. PROVIDE WITH SQUARE TO ROUND ADAPTER. REFER TO PLANS FOR SIZE.
3. COORDINATE COLOR AND FINISH TEXTURE BY SAMPLE SUBMITTAL TO ARCHITECT.
4. SEE PLANS FOR SIZE.
5. WHERE GRILLE IS INDICATED TO BE LOCATED IN LAY–IN CEILINGS, PROVIDE 24x24 LAY–IN PANEL BORDER, WHITE IN COLOR.
6. PAINT INSIDE OF DUCT & GRILLE FLAT BLACK WHEN CAN BE SEEN THROUGH FACE OF GRILLE.

REMARKS:

A. REFER TO PLANS FOR EXACT LOCATIONS OF ALL DIFFUSERS, GRILLES AND REGISTERS.
B. COORDINATE FRAME STYLES WITH CEILING SYSTEM ACTUALLY FURNISHED.
C. NC VALUES FOR DIFFUSERS, GRILLES AND REGISTERS SHALL NOT EXCEED 35 WITH A ROOM ABSORPTION RATE OF 10db ie.. 10–12 WATTS.
D. REFER TO THE MECHANICAL LEGEND FOR A DESCRIPTION OF THE AIR DEVICE MARK.
E. WHERE THE CONNECTING DUCT CAN BE OBSERVED THROUGH THE FACE OF THE GRILLE, THE VISIBLE DUCTWORK SHALL BE PAINTED FLAT BLACK.

VARIABLE FREQUENCY DRIVE SCHEDULE

MARK	SERVES	ELECTRICAL			MANUFACTURER	MODEL	NOTES
		VOLT/ø/60	MOTOR HP	MAX. AMPS OUTPUT			
VFD1	AH1	208/3/60	5.0	16.7	ABB	ACH550–VCR–017A–2+F267	1, 2, 3, 4, 5, & 6
VFD2	AH2	208/3/60	7.5	24.2	ABB	ACH550–VCR–024A–2+F267	1, 2, 3, 4, 5, & 6
VFD3	AH3	208/3/60	2.0	7.5	ABB	ACH550–VCR–07A5–2+F267	1, 2, 3, 4, 5, & 6

NOTES:

1. PROVIDE FULL SPEED MANUAL BYPASS WITH BOTH A INTERLOCKING MAIN DISCONNECT SWITCH AND DRIVE DISCONNECT SWITCH.
2. PROVIDE INTEGRAL FACTORY WIRED DC LINK REACTORS.
3. PROVIDE INTEGRAL FACTORY WIRED EMI FILTERS.
4. PROVIDE REMOTE START/STOP CAPABILITY IN BOTH DRIVE AND BYPASS MODE.
5. DRIVE AND BYPASS SHALL BE RATED AT 100,000 AMP MAXIMUM INPUT INTERRUPTING CAPABILITY, NO EXCEPTIONS.
6. PROVIDE MANUFACTURER'S FULL THREE YEAR PARTS AND LABOR WARRANTY INCLUDING TRAVEL EXPENSES.

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

HVAC SCHEDULES

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Hacker Avenue, Tampa, FL 33612 (813)960-5919
Email: AGI@anston-greenlees.com Website: www.anston-greenlees.com
Florida Engineering Business Number 6093

DRAWN	JC
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DATE	1/10/2014
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AGI PROJECT	13009
SHEET	M401

HARRY W. PORTELLOS, P.E. 61597

TEMPERATURE CONTROLS POINT SCHEDULE

SYSTEM	HARDWARE																								SOFTWARE																							
	OUTPUT								INPUT																ALARMS			EMCS FUNCTIONS																				
	DIGITAL				ANALOG				DIGITAL						ANALOG										DIGITAL ANALOG																							
POINT DESCRIPTION	CONTROL RELAY	SOLENOID E/P	CONTACTOR (AS REQ'D.)	TRISTATE	PNEUMATIC TRANSDUCER	ELECTRICAL TRANSDUCER	4-20 mA MODULE	0-10 VDC	PRESSURE SWITCH STATUS	FLOW SWITCH	SWITCH CLOSURE	AUXILIARY CONTACT	KW	CURRENT RELAY	TEMPERATURE	RELATIVE HUMIDITY	PRESSURE SENSOR	POSITION	CO2	GPM	AIRFLOW	EQUIPMENT STATUS	MAINTENANCE	CO2 SENSOR	HIGH LIMIT	LOW LIMIT	RUN TIME	SCHEDULED START/STOP	OPTIMUM START/STOP	DUTY CYCLING	DEMAND LIMITING	DAY/NIGHT SETBACK	ECONOMIZER	VENTILATION/RECIRCULATION	TEMPERATURE CONTROL	ENTHALPY	HOT/COLD DECK RESET	REHEAT COIL RESET	STEAM BOILER OPTIMIZATION	HOT WATER BOILER OPTIMIZATION	HW OA RESET	CHILLER OPTIMIZATION	CHILLED WATER RESET	CONDENSER WATER RESET	CHILLER DEMAND LIMIT	VAV CONTROL	LIGHTING CONTROL	NOTES
CAV SYSTEM (AH1)																																																
AH1 DAMPER (D1–1)				X		X																																										
AH1 CHILLED WATER VALVE (V1)								X																																								
AH1 FAN STATUS (CS1–1)														X								X																										2
AH1 START/STOP (MS1–1)	X																								X	X	X	X																				
AH1 UNIT LVG COIL TEMP (TE1–1)															X										X	X																						
AH1 DUCT STATIC PRESSURE (P1–1)																	X																															
AH1 DUCT STATIC PRESSURE (P1–2)																	X																															
AH1 FAN VARIABLE FREQUENCY DRIVE (AO1–1)							X																																									
DH1 OA ELECTRIC HEAT (DH1)	X																																															
DH001 ZONE ELECTRIC HEAT (DH001)								X																																								
DH001 SPACE TEMPERATURE SENSOR (TE1–001)															X																																	
DH113 ELECTRIC HEAT (DH113)								X																																								
DH113 SPACE TEMPERATURE SENSOR (TE1–113)															X																																	
DH124 ELECTRIC HEAT (DH124)								X																																								
DH124 SPACE TEMPERATURE SENSOR (TE1–124)															X																																	
DH125 ELECTRIC HEAT (DH125)								X																																								
DH125 SPACE TEMPERATURE SENSOR (TE1–125)															X																																	
CAV SYSTEM (AH2)																																																
AH2 DAMPER (D2–1)				X		X																																										
AH2 CHILLED WATER VALVE (V2)								X																																								
AH2 FAN STATUS (CS2–1)														X								X																										2
AH2 START/STOP (MS2–1)	X																								X	X	X	X																				
AH2 UNIT LVG COIL TEMP (TE2–1)															X										X	X																						
AH2 DUCT STATIC PRESSURE (P2–1)																	X																															
AH2 DUCT STATIC PRESSURE (P2–2)																	X																															
AH2 FAN VARIABLE FREQUENCY DRIVE (AO2–1)							X																																									
DH2 OA ELECTRIC HEAT (DH2)	X																																															
DH002 ZONE ELECTRIC HEAT (DH002)								X																																								
DH002 SPACE TEMPERATURE SENSOR (TE2–002)															X																																	
DH005 ELECTRIC HEAT (DH005)								X																																								
DH005 SPACE TEMPERATURE SENSOR (TE2–005)															X																																	
DH109 ELECTRIC HEAT (DH109)								X																																								
DH109 SPACE TEMPERATURE SENSOR (TE2–109)															X																																	
DH116 ELECTRIC HEAT (DH116)								X																																								
DH116 SPACE TEMPERATURE SENSOR (TE2–116)															X																																	
DH117 ELECTRIC HEAT (DH117)								X																																								
DH117 SPACE TEMPERATURE SENSOR (TE2–117)															X																																	
DH121 ELECTRIC HEAT (DH121)								X																																								
DH121 SPACE TEMPERATURE SENSOR (TE2–121)															X																																	
DH122 ELECTRIC HEAT (DH122)								X																																								
DH122 SPACE TEMPERATURE SENSOR (TE2–122)															X																																	
DH123 ELECTRIC HEAT (DH123)																																																
DH123 SPACE TEMPERATURE SENSOR (TE2–123)															X																																	
CAV SYSTEM (AH3)																																																
AH3 DAMPER (D3–1)				X		X																																										
AH3 CHILLED WATER VALVE (V3)																																																
AH3 FAN STATUS (CS3–1)														X								X																										2
AH3 START/STOP (MS3–1)	X																								X	X	X	X																				
AH3 UNIT LVG COIL TEMP (TE3–1)															X										X	X																						
AH3 DUCT STATIC PRESSURE (P3–1)																	X																															
AH3 DUCT STATIC PRESSURE (P3–2)																	X																															
AH3 FAN VARIABLE FREQUENCY DRIVE (AO3–1)							X																																									
DH3 OA ELECTRIC HEAT (DH3)	X																																															
DH003 ZONE ELECTRIC HEAT (DH003)								X																																								
DH003 SPACE TEMPERATURE SENSOR (TE1–003)															X																																	
DH100 ELECTRIC HEAT (DH100)								X																																								
DH100 SPACE TEMPERATURE SENSOR (TE1–100)															X																																	
DH103 ELECTRIC HEAT (DH103)								X																																								
DH103 SPACE TEMPERATURE SENSOR (TE1–103)															X																																	
DH104 ELECTRIC HEAT (DH104)								X																																								
DH104 SPACE TEMPERATURE SENSOR (TE1–104)															X																																	
DH106 ELECTRIC HEAT (DH106)								X																																								
DH106 SPACE TEMPERATURE SENSOR (TE1–106)															X																																	
EXHAUST FANS																																																
EFx FAN STATUS (CSEFx–1)														X								X																										2
EFx START/STOP (MSEFx–1)	X																											X																				
EFx DUCT STATIC PRESSURE (P111–1)																	X																															
OUTSIDE AMBIENT TEMP (ATS1)															X																																	
AMBIENT AIR HUMIDITY (AHS1)																X																																

WHERE x = 1/2 & 3/4

NOTES:
1. PROVIDE STARTING RELAY AND CONTACTOR IN CONTROL PANEL RATED FOR MOTOR LOAD.
2. ROUTE CIRCUIT THROUGH THE MOTOR STARTER.
3. REMOTE BULB THERMOSTAT WITH BULB IN RA DUCT. THERMOSTAT LOCATION INDICATED ON PLANS.
4. REFER TO FAN SCHEDULE NOTE 2 TO IDENTIFY APPLICABLE POINTS.
5. PROVIDE INTERFACE AND ALL HARDWARE TO ALLOW FULL USER INTERFACE BETWEEN CHILLER CONTROL PANEL AND DDC SYSTEM.

AIRSIDE TEMPERATURE CONTROL SEQUENCES

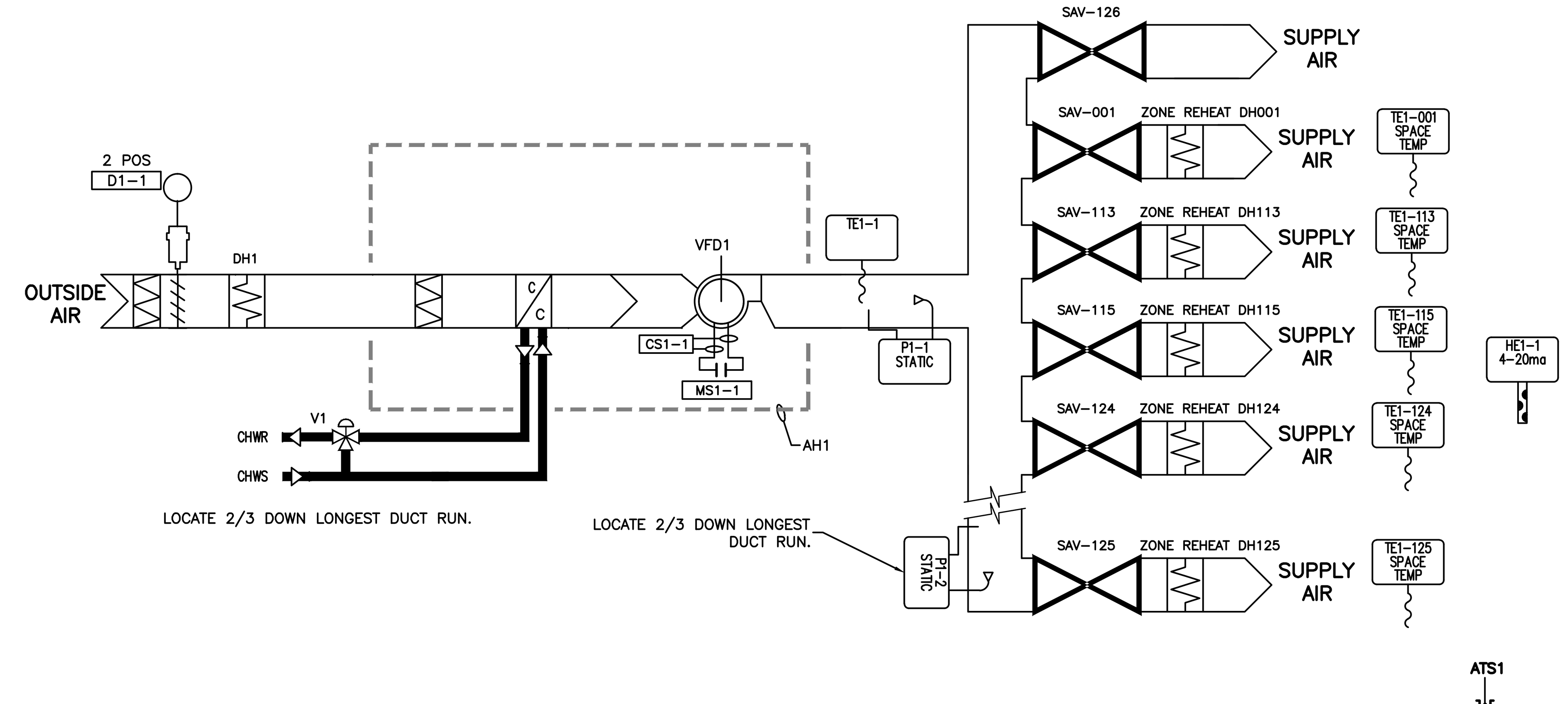
Constant Volume 100% Fresh Air Unit (AH1, AH2 & AH3)

The air handler shall run on a time of day schedule as defined by the owner. When the air handler is not running, the three–way chilled water valve shall be closed to the coil. The EMS shall enable the air handler supply air fan. The outside air damper shall be interlocked with the air handler so that the outside air damper will open when the air handler is running and will be closed when the air handler is disabled. An end switch on the damper will allow the supply fan to be energized when the damper is fully open. Interlock the exhuast fans so all fans will run when the OA damper opens on the air handler and the SA fan on the air handler is running.

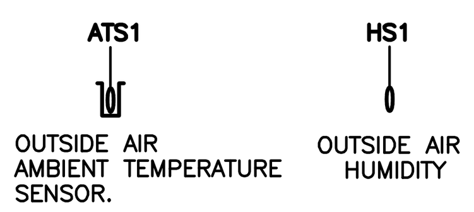
Cooling mode: In the cooling mode, the chilled water valve shall modulate to maintain the supply air temperature at 53°F setting (adjustable) as sensed by the supply air temperature sensor. When the ambient temperature falls below 60°F (adjustable), the chilled water valve shall be closed to the coil.

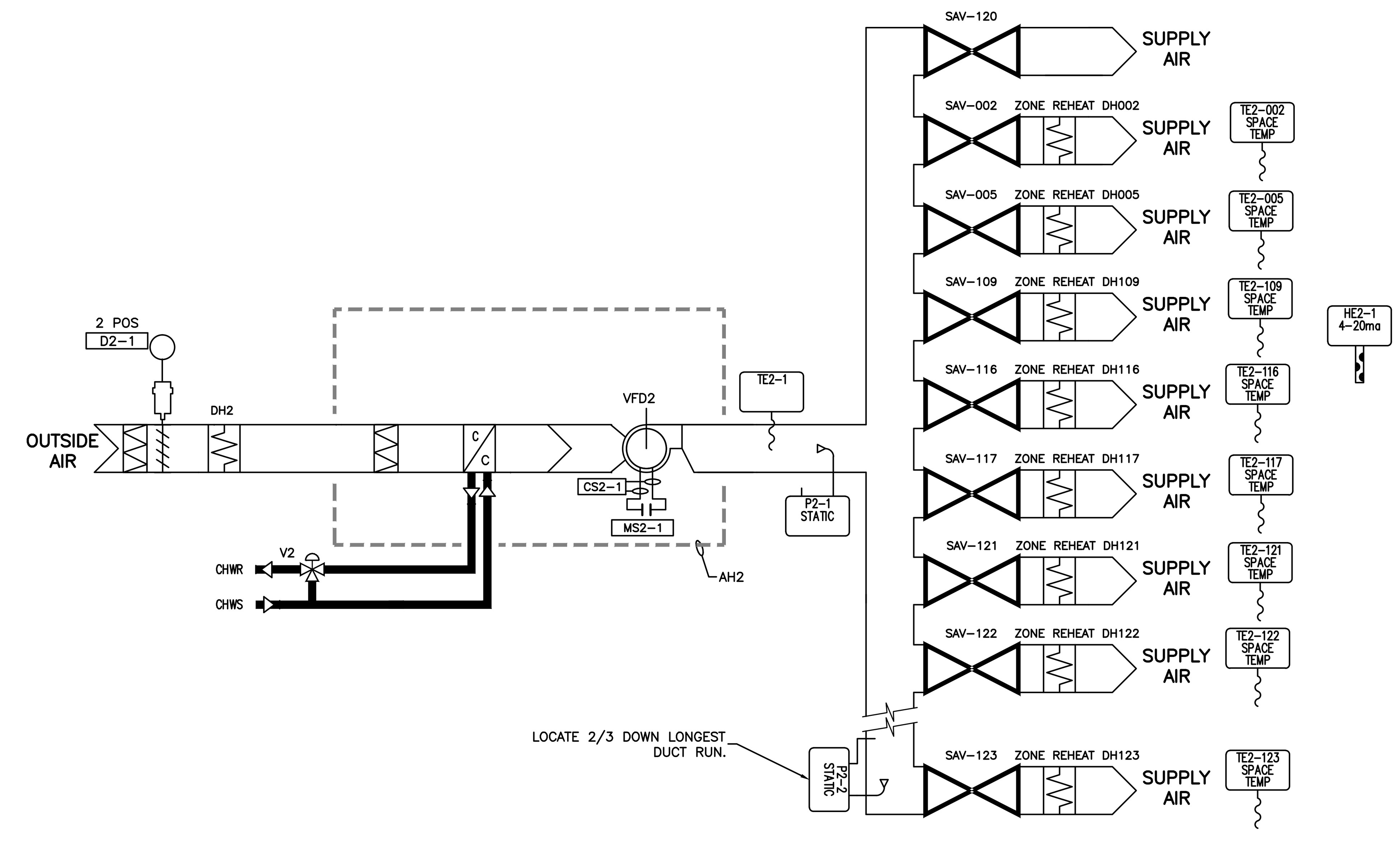
Zone reheat: In the cooling mode, the zone electric reheat shall stage on to maintain space setpoint.

Heating mode: In the heating mode, the chilled water valves shall be fully closed to the coil. The electric pre–heat shall stage on to maintain the supply air temperature setting at 55°F as sensed by the supply air temperature sensor.

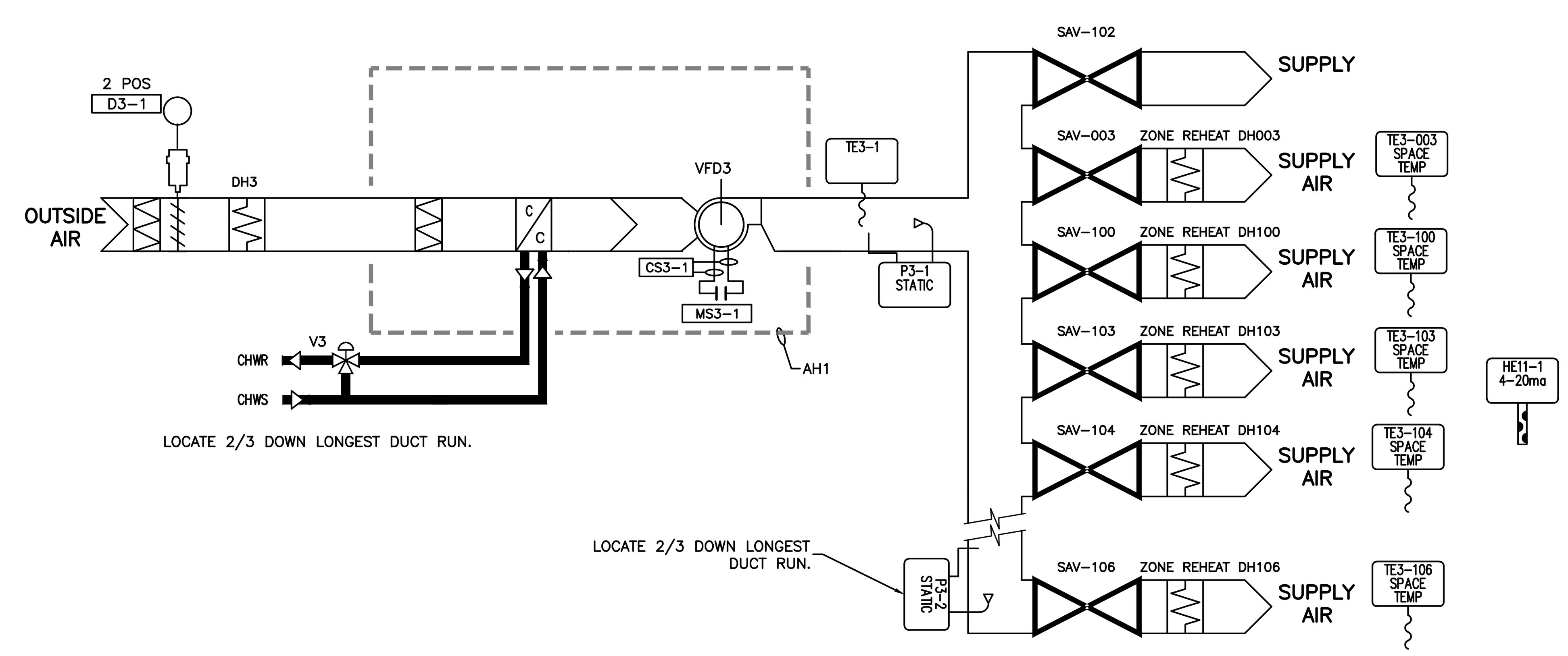


CAV AIR SYSTEM FLOW DIAGRAM (AH1)
NOT TO SCALE





CAV AIR SYSTEM FLOW DIAGRAM (AH2)
NOT TO SCALE



CAV AIR SYSTEM FLOW DIAGRAM (AH3)
NOT TO SCALE

HARRY W. PORTELLOS, P.E. 61597

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

HVAC CONTROLS

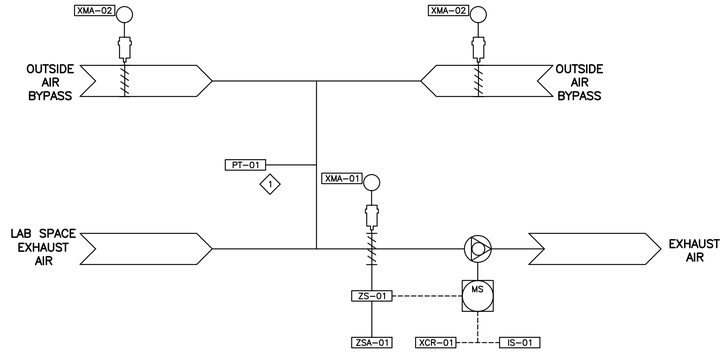
AGI Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 Tel(813)963-1919
Email: AGI@agi-engineers.com HTTP://www.agi-engineers.com
Florida Engineering Business Number 6093

DRAWN	JC
CHECKED	HWP
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	M500

Drawing File: I:\13xxx\13009.001\13009m5x.dwg M500
Plotted by: andre2 Jan 24, 2014 – 4:58pm

OPERATOR WORKSTATION POINT SCHEDULE

TAG	POINT DESCRIPTION	UNITS	USER INFORMATION					
			POINT TYPE		SETPOINT VALUE	ALARM CONDITION		
			DIGITAL	ANALOG		HIGH LIMIT	LOW LIMIT	ALARM DELAY (MIN)
HARDWARE								
PT-01	EXHAUST PLENUM STATIC PRESSURE	INWG		X		5.5	2.5	1.0
XMA-01	EXHAUST DAMPER OUTPUT	OPEN/CLOSED	X					
ZSA-01	EXHAUST DAMPER STATUS	OPEN/CLOSED	X					1.0
XCR-01	EXHAUST FAN COMMAND	ON/OFF	X					
IS-01	EXHAUST FAN STATUS	ON/OFF	X					1.0
XMA-02	OUTSIDE AIR BYPASS DAMPER OUTPUT	% OPEN		X		100.0	0.0	5.0
ZS-01	EXHAUST DAMPER STATUS	OPEN/CLOSED	X					
SOFTWARE								
SDP	SYSTEM START	ON/OFF	X		4.5			
SDP	STATIC PRESSURE SETPOINT	INWG		X				
SDP	BYPASS DAMPER COMMAND	%		X				



EXHAUST AIR SYSTEM FLOW DIAGRAM (EF1/2)
NOT TO SCALE

EXHAUST CONTROL SEQUENCES

1. Exhaust fan (EF1/2 and EF3/4)
2. The fan starts and is proven with bypass dampers open.
3. Isolation damper opens and is proven.
4. Static pressure control sequence activates.
5. Static Pressure Control
6. As static pressure rises (becomes less negative) above setpoint, the following occurs:
7. Outside air bypass damper modulates closed.
8. As static pressure falls (becomes more negative) below setpoint, the following occurs:
9. Outside air damper modulates open.

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

HVAC CONTROLS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Hoe Avenue, Tampa, FL 33612 (813)960-9459
Email: info@anston-greenlees.com Website: www.anston-greenlees.com
Florida Engineering Business Number 0825

DRAWN	JC
CHECKED	HWP
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	M501

HARRY W. PORTELLOS, P.E. 61597

Drawing File: i:\13xxx\13009.001\13009m5x.dwg M501
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TEMPERATURE CONTROLS POINT SCHEDULE

SYSTEM	HARDWARE OUTPUT DIGITAL				HARDWARE OUTPUT ANALOG				HARDWARE INPUT DIGITAL						HARDWARE INPUT ANALOG						
POINT DESCRIPTION	CONTROL RELAY	SOLENOID E/P	CONTACTOR (AS REQ'D.)	TRISTATE	PNEUMATIC TRANSDUCER	ELECTRICAL TRANSDUCER	4-20 mA MODULE	0-10 VDC	PRESSURE SWITCH STATUS	FLOW SWITCH	SWITCH CLOSURE	AUXILIARY CONTACT	KW	CURRENT RELAY	TEMPERATURE	RELATIVE HUMIDITY	PRESSURE SENSOR	POSITION	CO2	GPM	AIRFLOW
CHWP1 (ON/OFF)			X																		
CHWP1 STATUS														X							
CHWP2 (ON/OFF)			X																		
CHWP2 STATUS														X							
OUTSIDE AMBIENT TEMP (ATS1)															X						
CHWS TEMP SENSOR (TS1)															X						
CHWR TEMP SENSOR (TS2)															X						
CHWR TEMP SENSOR (TS3)															X						
CHWS TEMP SENSOR (TS4)															X						
DIFFERENTIAL PRESSURE SENSOR DS1																	X				
DIFFERENTIAL PRESSURE SENSOR DS2																	X				
CH1 INLET VALVE (V1)						X															
CH1 INLET POSITION (V1)																		X			
CH1 OUTLET VALVE (V2)						X															
CH1 OUTLET VALVE POSITION (V2)																		X			
CH2 INLET VALVE (V3)						X															
CH2 INLET VALVE POSITION (V3)																		X			
CH2 OUTLET VALVE (V4)						X															
CH2 OUTLET VALVE POSITION (V4)																		X			
(E) OUTSIDE AMBIENT TEMP (ATS1)															X						
(E) AMBIENT AIR HUMIDITY (AHS1)																X					

SYSTEM	SOFTWARE ALARMS DIGITAL				SOFTWARE ALARMS ANALOG				NOTES
POINT DESCRIPTION	EQUIPMENT STATUS	MAINTENANCE	CO2 SENSOR		HIGH LIMIT	LOW LIMIT	RUN TIME		
CHWP1 (ON/OFF)									
CHWP1 STATUS	X								1
CHWP2 (ON/OFF)									
CHWP2 STATUS	X								1
OUTSIDE AMBIENT TEMP (ATS1)									
CHWS TEMP SENSOR (TS1)									
CHWR TEMP SENSOR (TS2)									
CHWR TEMP SENSOR (TS3)									
CHWS TEMP SENSOR (TS4)									
DIFFERENTIAL PRESSURE SENSOR DS1	X								
DIFFERENTIAL PRESSURE SENSOR DS2	X								
CH1 INLET VALVE (V1)									
CH1 INLET POSITION (V1)									
CH1 OUTLET VALVE (V2)									
CH1 OUTLET VALVE POSITION (V2)									
CH2 INLET VALVE (V3)									
CH2 INLET VALVE POSITION (V3)									
CH2 OUTLET VALVE (V4)									
CH2 OUTLET VALVE POSITION (V4)									
(E) OUTSIDE AMBIENT TEMP (ATS1)									
(E) AMBIENT AIR HUMIDITY (AHS1)					X				

SYSTEM	SOFTWARE EMCS FUNCTIONS																			
POINT DESCRIPTION	SCHEDULED START/STOP	OPTIMUM START/STOP	DUTY CYCLING	DEMAND LIMITING	DAY/NIGHT SETBACK	ECONOMIZER	VENTILATION/RECIRCULATION	TEMPERATURE CONTROL	ENTHALPY	HOT/COLD DECK RESET	REHEAT COIL RESET	STEAM BOILER OPTIMIZATION	HOT WATER BOILER OPTIMIZATION	HW OA RESET	CHILLER OPTIMIZATION	CHILLED WATER RESET	CONDENSER WATER RESET	CHILLER DEMAND LIMIT	VAV CONTROL	LIGHTING CONTROL
CHWP1 (ON/OFF)																				
CHWP1 STATUS																				
CHWP2 (ON/OFF)																				
CHWP2 STATUS																				
OUTSIDE AMBIENT TEMP (ATS1)																				
CHWS TEMP SENSOR (TS1)																				
CHWR TEMP SENSOR (TS2)																				
CHWR TEMP SENSOR (TS3)																				
CHWS TEMP SENSOR (TS4)																				
DIFFERENTIAL PRESSURE SENSOR DS1																				
DIFFERENTIAL PRESSURE SENSOR DS2																				
CH1 INLET VALVE (V1)																				
CH1 INLET POSITION (V1)																				
CH1 OUTLET VALVE (V2)																				
CH1 OUTLET VALVE POSITION (V2)																				
CH2 INLET VALVE (V3)																				
CH2 INLET VALVE POSITION (V3)																				
CH2 OUTLET VALVE (V4)																				
CH2 OUTLET VALVE POSITION (V4)																				
(E) OUTSIDE AMBIENT TEMP (ATS1)																				
(E) AMBIENT AIR HUMIDITY (AHS1)																				

NOTES:

1. ROUTE CIRCUIT THROUGH THE MOTOR STARTER.

THIS BUILDING SHALL HAVE ALL NEW JOHNSON BAS CONTROL SYSTEM. THIS SYSTEM MUST BE OPERATIONAL AND TESTED AT THE END OF EACH PHASE OF WORK.

WATER SIDE MECHANICAL CONTROLS LEGEND

GENERAL

- DIRECTION OF FLOW
- STRAINER
- THERMOMETER
- PRESSURE GAGE
- VENTURI FLOWMETER
- FS — FLOW SWITCH
- FLEXIBLE PIPING CONNECTION
- PUMP
- PS — PRESSURE SENSOR
- DP — DIFFERENTIAL PRESSURE SENSOR
- TS — TEMPERATURE SENSOR
- TW — THERMOMETER TEST WELL

VALVES

- GATE VALVE
- GLOBE VALVE
- CHECK VALVE
- BUTTERFLY VALVE (MANUAL)
- TWO POSITION CONTROL VALVE (BUTTERFLY) WITH ELECTRICAL ACTUATOR IN NEMA 3R ENCLOSURE.
- CSV — CIRCUIT BALANCING VALVE
- BALL VALVE
- M — BUTTERFLY VALVE WITH MEMORY STOP(MANUAL)
- THREE-WAY MODULATING CONTROL VALVE

WATERSIDE TEMPERATURE CONTROL SEQUENCES

Chillers and Pumps:

1. The chiller and chilled water pumps shall be enabled when any of the air handlers is enabled. The chillers shall not start until water flow has been proven through the evaporator by the external differential pressure sensor, the differential pressure sensor and the auxiliary "pump run" contact in the chiller. The chilled water shall be maintained at a constant 42°F by the internal controllers on the chillers. Should either the DDC system or the chiller's controller detect loss of evaporator water flow, the chiller shall be latched out of operation until cleared at the chiller's control panel. Loss of power at the chiller shall not clear its controller's operational status or control latched-out states. Only one compressor can start at any one time.

2. The primary chilled water pump (CHWP1) and chiller (CH1) shall start and run continuously any time the chilled water system has been activated. The primary and standby chilled water pumps shall be selectable through the EMS and may be programmed to alternate on a regular basis.

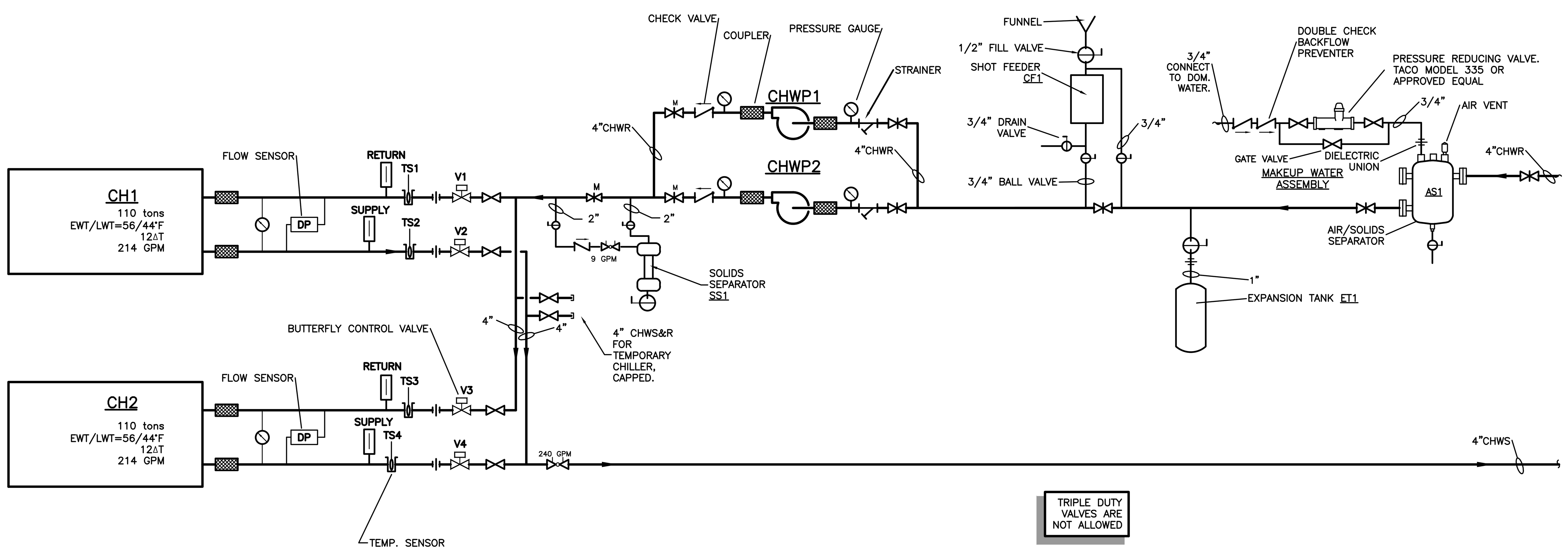
3. Valves shall open and close as indicated in table below.

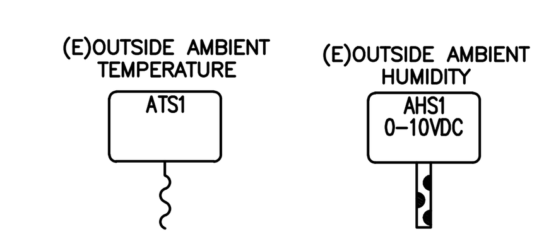
4. The chiller and chilled water pumps shall be disabled when all of the air handlers are disabled. On shut down, allow the primary chilled water pump to run an additional five minutes. Five minutes after the chiller has stopped; the chilled water pump shall be disabled.

5. The chiller's pump shall alternate on startup.

6. Outside Air Coil Freeze Protection — When the temperature at ambient temperature sensor TE-1 falls below 35°F, the chilled water pump shall run and chilled water valves shall be opened to the coils. Should the chilled water loop temperature become less than 37°F (adjustable) as sensed by TS1, the outside air systems shall be de-energized and the outside air dampers shall close.

MODE	V1	V2	V3	V4
CH1 OPERATION	OPEN	OPEN	CLOSED	CLOSED
CH2 OPERATION	CLOSED	CLOSED	OPEN	OPEN





CHILLED WATER PIPING SCHEMATIC

NOT TO SCALE

REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

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AGI Anston-Greenlees, Inc.
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SCALE	AS NOTED
AGI PROJECT	13009
SHEET	M502

HARRY W. PORTELLOS, P.E. 61597

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ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
NOTE: DASHED OBJECTS ON FLOOR PLANS INDICATED EXISTING DEVICES THAT ARE TO REMAIN U.O.N.		
	BRANCH CIRCUIT CONDUIT AND WIRE CONCEALED ABOVE CEILING OR BEHIND FINISHED WALL	N/A
	BRANCH CIRCUIT CONDUIT AND WIRE CONCEALED BELOW FINISHED FLOOR OR UNDERGROUND.	N/A
	CONDUIT/RACEWAY EXPOSED ON WALL OR CEILING	N/A
	CONDUIT CAPPED	N/A
LA–1,3,5 IG	HOMERUN TO PANELBOARD – LETTER INDICATES PANEL,	N/A
UP DOWN	RACEWAY RISER, UP OR DOWN AS NOTED	
A	RECESS OR PENDANT MOUNT TYPE LIGHT FIXTURE. LETTER INDICATES TYPE, ON NORMAL LIGHTING CIRCUIT	CEILING – SEE FIXTURE SCHEDULE
A	RECESS OR PENDANT MOUNT TYPE LIGHT FIXTURE. LETTER INDICATES TYPE. HALF SHADED INDICATES FIXTURE EQUIPPED WITH EMERGENCY BATTERY BACKUP	CEILING – SEE FIXTURE SCHEDULE
E	RECESS/SURFACE WALL MOUNT TYPE LIGHT FIXTURE. LETTER INDICATES TYPE, ON NORMAL LIGHTING CIRCUIT	CEILING OR WALL – SEE FIXTURE SCHEDULE
E	RECESS/SURFACE WALL MOUNT TYPE LIGHT FIXTURE. LETTER INDICATES TYPE. HALF SHADED INDICATES FIXTURE EQUIPPED WITH EMERGENCY BATTERY BACKUP	CEILING OR WALL – SEE FIXTURE SCHEDULE
B 1 a	RECESS/SURFACE MOUNT 2X4 FLUORESCENT LIGHTING FIXTURE. LETTER INDICATES TYPE, ON NORMAL LIGHTING CIRCUIT 1 = HOMERUN CIRCUIT, a = SWITCH DESIGNATION	CEILING – SEE FIXTURE SCHEDULE
B 1 a	RECESS/SURFACE MOUNT 2X4 FLUORESCENT LIGHTING FIXTURE. LETTER INDICATES TYPE, HALF SHADED INDICATES FIXTURE EQUIPPED WITH EMERGENCY BATTERY BACKUP 1 = HOMERUN CIRCUIT, a = SWITCH DESIGNATION	CEILING – SEE FIXTURE SCHEDULE
A	PENDANT/SURFACE MOUNT CHANNEL OR INDUSTRIAL TYPE FIXTURE, LETTER INDICATES TYPE, ON NORMAL LIGHTING CIRCUIT	CEILING – SEE FIXTURE SCHEDULE
A	PENDANT/SURFACE MOUNT CHANNEL OR INDUSTRIAL TYPE FIXTURE, LETTER INDICATES TYPE, HALF SHADED INDICATES FIXTURE EQUIPPED WITH EMERGENCY BATTERY BACKUP	CEILING – SEE FIXTURE SCHEDULE
X X X X	EXIT SIGNAGE, LETTER INDICATES TYPE, SEE PLANS FOR DIRECTIONAL CHEVRONS, CONNECT TO UNSWITCHED LEG, TYPICAL FOR ALL EXITS	SEE FIXTURE SCHEDULE
EM	EMERGENCY LIGHTING FIXTURE – UNIT EQUIPMENT TYPE, LETTER INDICATES TYPE	WALL/CEILING – SEE FIXTURE SCHEDULE
H	INCANDESCENT, FLUORESCENT OR HID FLOODLIGHT OR TRACK LIGHT FIXTURE, LETTER INDICATES TYPE	IN GRADE – SEE FIXTURE SCHEDULE
G	TRACK WITH TRACK HEADS, LETTER INDICATES TYPE.	CEILING – SEE FIXTURE SCHEDULE
$a	SINGLE POLE SWITCH LOWERCASE LETTER INDICATES FIXTURE GROUPING BY SWITCH IVORY DEVICE, STAINLESS STEEL FACEPLATE	M.H. 48" AFF TO TOP
$3	THREE WAY SWITCH IVORY DEVICE, STAINLESS STEEL FACEPLATE	M.H. 48" AFF TO TOP
$4	FOUR WAY SWITCH IVORY DEVICE, STAINLESS STEEL FACEPLATE	M.H. 48" AFF TO TOP
$M	120 VOLT, 1 POLE, HORSEPOWER RATED, TOGGLE TYPE MANUAL MOTOR DISCONNECT SWITCH. GENERAL ELECTRIC #CR101 TYPE OR EQUAL. SIZED PER MOTOR MANUF. RECOMMENDATION. PROVIDE NEMA 3R ENCLOSURE FOR EXTERIOR, NEMA 1 TYPE FOR INTERIOR.	M.H. 48" AFF TO TOP OR AS NOTED SURFACE, ADJACENT TO OR ON MOTOR
	LED OR FLUORESCENT DIMMER SWITCH LUTRON NOVA–T SERIES. FLUORESCENT AND LOW VOLTAGE DIMMERS SHALL BE COMPATIBLE WITH BALLAST OR LED DRIVE IVORY DEVICE, STAINLESS STEEL FACEPLATE	M.H. 48" AFF TO TOP
$OS	AUTOMATIC WALL SWITCH WITH OCCUPANCY SENSOR WATTSTOPPER WA–200 OR APPROVED EQUIVALENT IVORY DEVICE, STAINLESS STEEL FACEPLATE	M.H. 48" AFF TO TOP OR AS NOTED
$T	DIGITAL TIME SWITCH WITH LCD INDICATING COUNTDOWN WATTSTOPPER TS–400 OR APPROVED EQUIVALENT	M.H. 48" AFF TO TOP
OS	CEILING MOUTED OCCUPANCY SENSOR, DUAL TECHNOLOGY SUBMIT SENSOR MANUFACTURER'S LAYOUT DRAWINGS FOR APPROVAL. WATTSTOPPER DT–300 OR APPROVED EQUIVALENT	CEILING MOUNTED OR WALL MOUNT AT 9'–0" AFF, SEE DETAIL E601
$K	KEY SWITCH IVORY DEVICE, STAINLESS STEEL FACEPLATE	M.H. 48" AFF TO TOP
	SIMPLEX RECEPTACLE – 120VAC IVORY DEVICE, STAINLESS STEEL FACEPLATE	M.H. 16" AFF TO BOTTOM U.O.N.
GFI WP	DUPLEX RECEPTACLE – 120VAC, WP = WEATHERPROOF GFI = GROUND FAULT PROTECTION IVORY DEVICE, STAINLESS STEEL FACEPLATE	M.H. 16" AFF TO BOTTOM U.O.N.
F J	FLOOR MOUNTED WP/GFI RECEPTACLE OR JUNCTION BOX SEE WEATHERPROOF PEDESTAL RECEPTACLE/JUNCTION BOX DETAIL	M.H. MAX. 4" AFF TO TOP, SEE DETAIL
	DUPLEX RECEPTACLE – 120VAC IVORY DEVICE, STAINLESS STEEL FACEPLATE	MOUNTED 42" AFF TO BOTTOM U.O.N.
	DUPLEX RECEPTACLE – 120VAC MOUNTED HORIZONTALLY IN BACKSPLASH IVORY DEVICE, STAINLESS STEEL FACEPLATE	MOUNTED 6" ABOVE BACKSPLASH U.O.N.
	DOUBLE DUPLEX RECEPTACLE – 120VAC IVORY DEVICE, STAINLESS STEEL FACEPLATE	M.H. 16" AFF TO BOTTOM
	DOUBLE DUPLEX RECEPTACLE – 120VAC IVORY DEVICE, STAINLESS STEEL FACEPLATE	M.H. 42" AFF TO BOTTOM
H	SPECIAL PURPOSE TYPE RECEPTACLE, ASSUME NEMA L6–30 OR L6–20, TWISTLOCK TYPE CONFIGURATION UNLESS OTHERWISE INDICATED ON PLAN. IVORY DEVICE, STAINLESS STEEL FACEPLATE	M.H. 16" AFF TO BOTTOM U.O.N.
	SURFACE MOUNTED "PLUGMOLD" WITH OUTLETS MOUNTED ON 30" CENTERS. WIREMOLD SERIES 2200, OR EQUAL	MOUNTED ABOVE COUNTER TOP

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
	DUPLEX FLOOR OUTLET – 120VAC 20A RECEPTACLE WITH BRASS COVERPLATE, (3) 1/2" TRADE SIZE KNOCKOUTS, DIE–CAST ALUMINUM CONSTRUCTION STEEL CITY 600 SERIES OR APPROVED EQUIVALENT	SURFACE MOUNTED ON FLOOR. SEE DETAIL
P C	COMBINATION VOICE/DATA/POWER POLE DUAL CHANNEL FOR SEPARATION OF POWER/TELECOM STEEL CONSTRUCTION, (2) DUPLEX, 20A RECEPTACLES, (2) COMMUNICATIONS MOUNTING INSERTS, IVORY FINISH HUBBEL CAT. #25DTP–4ACT OR EQUIVALENT BY WIREMOLD NUMBER OF COMMUNICATIONS OUTLETS AS SHOWN ON DRAWINGS	COORDINATE WITH MANUFACTURER
	COMBINATION VOICE/DATA/POWER FLOOR BOX 2–GANG, CONCRETE TIGHT, STAMPED STEEL CONSTRUCTION 2–GANG BRASS COVERPLATE AND CARPET FLANGE PROVIDE 20A QUADRAPLEX TYPE RECEPTACLE IN FIRST SECTION D = # OF CAT–5E JACKS/CABLES TO PROVIDE IN 2ND SECTION HUBBEL CAT. #880S2 OR APPROVED EQUIVALENT PROVIDE ALL REQUIRED ACCESSORIES/FITTINGS FOR A COMPLETE INSTALLATION AND FINISH	FLUSH IN FLOOR
	NON–FUSIBLE SAFETY SWITCH	6'–0" TO TOP U.O.N.
	FUSIBLE SAFETY SWITCH	6'–0" TO TOP U.O.N.
B	RECESSED ENCLOSED 50 AMP, 2–POLE, 208 VOLT, SINGLE PHASE CIRCUIT BREAKER FOR RANGE. MOUNT ABOVE COUNTER CENTERED BETWEEN COUNTER TOP AND OVERHEAD CABINETS. CIRCUIT BREAKER: SQUARE 'D' #QO250 FLUSH ENCLOSURE: SQUARE 'D' #QO2100BNF GROUND BAR KIT: SQUARE 'D' #PKOGTA2 3/4"C.; 3 #8, 1 #10 GND.	FLUSH MOUNTED
	COMBINATION MOTOR STARTER/DISCONNECT	5'–0" TO TOP U.O.N.
	MAGNETIC MOTOR STARTER	5'–0" TO TOP U.O.N.
	RED "MUSHROOM HEAD" TYPE PUSH–BUTTON SWITCH "EPO" TYPE REQUIRES KEY RESET WITH CONTACTOR. SEE TYPICAL LAB EPO SWITCH CONTROL DETAIL ON PLANS	
	277/480V. PANELBOARD	6'–0" TO TOP U.O.N.
	120/208V. PANELBOARD	6'–0" TO TOP U.O.N.
	MOTOR CONNECTION	AS NOTED
	ELECTRIC HEAT STRIP	AS NOTED
	ELECTRIC DUCT HEATER	AS NOTED
J	JUNCTION BOX OR OUTLET BOX, 4" SQUARE BOX UNLESS OTHERWISE NOTED	AS NOTED
	DEVICE AS NOTED	AS NOTED
PCH	PHOTOELECTRIC CELL	AS NOTED
TC	DIGITAL TIME CLOCK, SINGLE POLE, SINGLE THROW, 120/277V TORK CAT. #DWZ100A OR APPROVED EQUIVALENT	M.H. 5'–0" AFF TO TOP U.O.N.
WA	COMMUNICATIONS OUTLET W/EXISTING CAT 5 CABLING IN CONDUIT. # DESIGNATES QUANTITY OF CABLES & RJ45 JACKS, SEE DETAILS AND SPECIFICATIONS FOR MORE INFO. PROVIDE A 4" SQUARE X 2.5" DEEP OUTLET BOX WA = WIRELESS ACCESS POINT – LOCATE OUTLET ABOVE CLNG	M.H. 16" AFF TO BOTTOM OR AS NOTED
F	FIRE ALARM MANUAL PULL STATION	M.H. 48" AFF TO TOP
XX F	FIRE ALARM STROBE XX = CANDELA RATING, MINIMUM 75 CANDELA U.O.N.	TOP 6" BELOW CEILING OR 90" TO CTR. A.F.F. WHICHEVER IS LOWER
V S F	FIRE ALARM HORN/SPEAKER, LETTER IN CIRCLE INDICATES TYPE: B=BELL, C=CHIME, H=HORN, S=SPEAKER WP=WEATHERPROOF TYPE	TOP 6" BELOW CEILING OR 90" TO CTR. A.F.F. WHICHEVER IS LOWER EXTERIOR HORNS MOUNTED AT 96" AFF
XX H F	FIRE ALARM COMBINATION HORN/STROBE C=CHIME, B=BELL, H=HORN, S=SPEAKER XX = CANDELA RATING, MINIMUM 75 CANDELA U.O.N.	TOP 6" BELOW CEILING OR 90" TO CTR. A.F.F. WHICHEVER IS LOWER
F RI	FIRE ALARM REMOTE INDICATOR	M.H. 48" AFF TO TOP
F FS	FIRE ALARM FLOW SWITCH	AS NOTED
F TS	FIRE ALARM TAMPER SWITCH	AS NOTED
F D	FIRE ALARM MAGNETIC DOOR HOLDER COORDINATE MOUNTING HEIGHT WITH DOOR SUPPLIER	WALL MOUNTED

ELECTRICAL ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
CIR	COMMUNICATION INSTRUMENT RACK
EWC	ELECTRIC WATER COOLER ELECTRIC
EWH	WATER HEATER
EG	EQUIPMENT GROUND
EEB	ELECTRONIC BALLAST
(ETR)	EXISTING TO REMAIN
EXP	EXPLOSION PROOF
GFI	GROUND FAULT PROTECTION
G, GND	GROUND
GWB	GYPSUM WALL BOARD
MH	MOUNTING HEIGHT
WP	WEATHER PROOF
SEC	SECURITY SYSTEM CONTROL PANEL
TVTC	TELEVISION TERMINAL CABINET
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
ITC	INTERCOM TERMINAL CABINET
EXP	EXPLOSION PROOF
MDF	MAIN DISTRIBUTION FRAME
IDF	INTERMEDIATE DISTRIBUTION FRAME
AHC	ABOVE HUNG CEILING
WP	WEATHER PROOF
N/A	NOT APPLICABLE
(R)	REMOVE
(RL)	RELOCATE
(RPN)	REPLACE WITH NEW
UON	UNLESS OTHERWISE NOTED

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
F S	FIRE ALARM SMOKE DETECTOR	CEILING MOUNTED
F H	FIRE ALARM HEAT DETECTOR	CEILING MOUNTED
F HT	FIRE ALARM HEAT DETECTOR, HIGH TEMPERATURE RATING 190°F FIXED TEMP. RATING	CEILING MOUNTED
F R	FIRE ALARM CONTROL RELAY (AIR HANDLER SHUTDOWN SOLENOID VALVE, ETC.)	SEE PLANS
F SD	FIRE ALARM DUCT MOUNTED SMOKE DETECTOR	DUCT MOUNTED (SEE MECH. DWGS.)
FATC	FIRE ALARM TERMINAL CABINET – MIN. 18"x18"x6" WITH HINGED LOCKABLE COVER	M.H. 6'–0" AFF TO TOP
FAA	FIRE ALARM ANNUNCIATOR PANEL	M.H. 6'–0" AFF TO TOP
FACP	FIRE ALARM CONTROL PANEL	M.H. 6'–0" AFF TO TOP
	FIRE ALARM SYSTEM END OF LINE RESISTOR	SEE FIRE ALARM RISER
FAPS	FIRE ALARM SIGNAGE – "FIRE ALARM PULL STATION INSIDE"	M.H. 48" AFF TO TOP

ELECTRICAL LEGEND (EXISTING DEVICES)

SYMBOL	DESCRIPTION	MOUNTING
	EXISTING FLUORESCENT LIGHTING FIXTURE UV=INDICATES ULTRAVIOLET FIXTURE	CEILING MOUNTED
	EXISTING INCANDESCENT, FLUORESCENT OR HIGH INTENSITY DISCHARGE LIGHTING FIXTURE	CEILING MOUNTED
	EXISTING LOCATION FOR DUPLEX RECEPTACLE– 120VAC	M.H. 16"/24" AFF TO BOTTOM
	EXISTING LOCATION FOR DUPLEX RECEPTACLE– 120VAC	MOUNTED 42" AFF TO BOTTOM OR AS NOTED
	EXISTING LOCATION FOR SINGLE RECEPTACLE– 120VAC	SURFACE MOUNTED ABOVE COUNTER
	EXISTING SURFACE MOUNTED "PLUGMOLD" WITH OUTLETS	MOUNTED ABOVE COUNTER TOP
$	EXISTING SINGLE POLE SWITCH	M.H. 48" AFF TO TOP
$K	EXISTING KEY OPERATED SWITCH, SINGLE POLE SWITCH	M.H. 48" AFF TO TOP
$3	EXISTING THREEWAY SWITCH	M.H. 48" AFF TO TOP
	EXISTING DIMMER SWITCH	
F S	EXISTING FIRE ALARM SMOKE DETECTOR	CEILING MOUNTED
F H	EXISTING FIRE ALARM HEAT DETECTOR	CEILING MOUNTED
F	EXISTING FIRE ALARM PULL STATION	WALL MOUNTED
F H	EXISTING FIRE ALARM INDICATION APPLIANCE	WALL MOUNTED
	EXISTING PANEL LOCATION	WALL MOUNTED
	EXISTING DATA DEVICES LOCATION	WALL MOUNTED
	EXISTING VOICE/DATA POLE TO REMAIN	MOUNTED CEILING TO FLOOR
	EXISTING DISCONNECT LOCATION	WALL MOUNTED

THIS IS A STANDARD LEGEND. NOT ALL DEVICES SHOWN ARE USED IN THESE DOCUMENTS.

TOTAL PROJECT TIME PERIOD

THE TIME PERIOD FROM NOTICE TO PROCEED TO SUBSTANTIAL COMPLETION OF THE FINAL PHASE SHALL BE 345 DAYS.

a. 51 DAYS = SHOP DRAWING REVIEW AND MOBILIZATION
b. 84 DAYS = EQUIPMENT DELIVERY
c. 210 DAYS = CONSTRUCTION

TOTAL=345 DAYS

60 DAYS = FINAL COMPLETION AND PROJECT CLOSEOUT.

TOTAL PROJECT TIME PERIOD FROM NOTICE TO PROCEED TO FINAL COMPLETION SHALL BE 405 DAYS. SEE PHASING PLAN BELOW FOR A DETAILED BREAKDOWN OF THE ALLOWABLE TIME PERIOD OR EACH PHASE OF CONSTRUCTION.

PHASING PLAN

THE CONSTRUCTION SHALL BE REQUIRED TO BE IMPLEMENTED IN A PHASED MANNER THAT ALLOWS THE OWNER TO CONTINUE TO OCCUPY THE BUILDING AND PERFORM OPERATIONS. THE FOLLOWING PROPOSED PHASING APPROACH IS INTENDED TO OUTLINE THE GENERAL REQUIREMENTS OF THE PHASED WORK, THE GENERAL DEMARCATION OF THE PHASING ZONES, THE NUMBER OF PHASES, THE TIME PERIOD ALLOWED, AND OTHER RESTRICTIONS AND REQUIREMENTS. THIS PHASING OUTLINE IS NOT INTENDED TO DICTATE THE CONTRACTOR'S MEANS AND METHODS FOR IMPLEMENTING THE WORK. REFER TO THE DRAWINGS FOR THE PHASING DEMARCATION LINES AND OTHER REQUIREMENTS. THIS WILL BE AN OCCUPIED, OPERATIONAL BUILDING DURING CONSTRUCTION. PLAN ACCORDINGLY.

PHASE 1

1. ALL ITEMS EXCEPT AS NOTED BELOW WITH UTILITY SERVICES, SUCH AS WATER, ELECTRICAL, TELECOMMUNICATIONS, DI WATER, GASES, ETC., SHALL BE DISCONNECTED BY THE CONTRACTOR AND PREPARED FOR MOVING. THE FOLLOWING ITEMS AND EQUIPMENT SHALL BE DISCONNECTED AND PREPARED FOR MOVING BY THE OWNER.
   a. BALANCES, PH METERS, TURBID METER, OVENS: VARIOUS LOCATIONS
   b. PERKIN ELMER FIMS 100: METALS LAB 115
   c. DIONEX ICS 3000: GENERAL CHEMISTRY 123
   d. DIONEX ICS 5000: GENERAL CHEMISTRY 123
   e. DIONEX ICS 2500: ORGANICS LABORATORY 124
   f. AGILENT (VARIAN) LC/MS/MS: ORGANICS LABORATORY 124
   g. AGILENT (VARIAN) LC/MS: ORGANICS LABORATORY 124
   h. AQUAMATE SPEC: GENERAL CHEMISTRY 123
   i. JAR TEST APPARATUS: GENERAL CHEMISTRY 123
   j. FUSION TOC INSTRUMENT: GENERAL CHEMISTRY 123

   THE CONTRACTOR SHALL MOVE ALL ITEMS AND EQUIPMENT OUT OF THE SPACES INTO OTHER AREAS FOR THEIR USE OR TO STORAGE CONTAINER AS REQUIRED. CONTRACTOR SHALL NOTIFY THE LAB MANAGER 30 DAYS PRIOR TO COMMENCEMENT OF PHASE WORK.
2. THE CONTRACTOR SHALL PROVIDE AN ON SITE STORAGE CONTAINER. LOCATION WILL BE DETERMINED BY THE OWNER. THE CONTRACTOR SHALL MOVE AND STORE ALL OF THE OWNER'S PACKED AND BOXED ITEMS AND OTHER EQUIPMENT INTO AN ON–SITE STORAGE CONTAINER. THE MOVING AND STORING SHALL BE PERFORMED BY A PROFESSIONAL CERTIFIED, LICENSED, AND BONDED MOVING COMPANY. THE STORAGE CONTAINER WILL NOT BE REQUIRED TO BE AIR CONDITIONED.
3. THE CONTRACTOR SHALL PUT UP NOISE AND DUST BARRIERS TO SEPARATE THE OWNER'S OCCUPIED AREAS FROM THE CONSTRUCTION ZONE.
4. THE CONTRACTOR SHALL COMMENCE DEMOLITION OF THE CEILINGS, LIGHTING, DUCTWORK, HVAC EQUIPMENT, CABINETS (WHERE APPLICABLE), ETC. CARE AND CAUTION SHALL BE TAKEN DURING DEMOLITION TO ENSURE THE FOLLOWING:
   A. MEANS OF EGRESS IS MAINTAINED FOR THE OCCUPIED AREAS.
   B. ELECTRICAL POWER SHALL REMAIN IN OPERATION IN OCCUPIED AREAS, EXCEPT FOR ANY REQUIRED PRIOR APPROVED AND SCHEDULED OUTAGES. A SCHEDULED OUTAGE WILL BE REQUIRED TO PROVIDE THE NEW SERVICE AND NEW PANEL MDP. THIS OUTAGE WILL BE REQUIRED TO BE PERFORMED OVER A WEEKEND.
   C. POWER WILL BE REQUIRED TO REMAIN ON FOR LIGHTING AND ALL BRANCH CIRCUITS TO THE AREAS OUTSIDE THE CONSTRUCTION ZONE. PROVIDE TEMPORARY RE–ROUTING OF ELECTRICAL CIRCUITS AS NECESSARY. EMERGENCY LIGHTING SHALL REMAIN OPERATIONAL. REFER TO SECTION 16050 FOR MORE REQUIREMENTS.
   D. TELECOMMUNICATIONS SERVICES SHALL REMAIN IN OPERATION IN OCCUPIED AREAS. ALL VOICE AND DATA CABLING SHALL BE PROTECTED. REFER TO SECTION 16050 FOR MORE REQUIREMENTS.
   E. THE NEW FIRE ALARM CONTROL PANEL SHALL BE INSTALLED DURING PHASE 1 AND CONNECTED TO THE EXISTING FIRE ALARM CONTROL PANEL FOR MONITORING. SEE SECTION 16721 FOR MORE REQUIREMENTS. THERE SHALL BE AN OPERATIONAL AND FUNCTIONAL FIRE ALARM SYSTEM IN ALL OCCUPIED AREAS AT ALL TIMES.
   F. ALL EXISTING HVAC SYSTEMS, INCLUDING AIR HANDLERS, FUME HOOD EXHAUST, GENERAL EXHAUST, AND CONTROLS, SHALL REMAIN OPERATIONAL IN THE PHASE 2, 3, AND 4 AREAS.
   G. ALL EXISTING WATER AND SANITARY SEWER SYSTEMS SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION IN THE PHASE 2, 3, AND 4 AREAS.
5. INSTALL ALL NEW WORK SCHEDULED AND INDICATED IN THE CONTRACT DOCUMENTS, AND AS REQUIRED FOR THE COMPLETION OF THIS PHASE, INCLUDING TEST AND BALANCE OF ALL AREAS, OTHER REQUIRED TESTING, PAINTING, AND CLEAN–UP.
6. SCHEDULE AND PASS A SUBSTANTIAL COMPLETION INSPECTION PRIOR TO STARTING TO THE NEXT PHASE OF WORK.
7. MOVE ALL BOXES FROM STORAGE BACK INTO THIS AREA. THE OWNER WILL UN–PACK AND MOVE BACK INTO THE SPACE.
8. WARRANTY PERIODS SHALL NOT COMMENCE UNTIL ALL PHASES ARE COMPLETE.
9. THIS PHASE SHALL BE COMPLETE IN 60 DAYS.

PHASE 2

1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING WATER AND SEWER SYSTEMS IN PHASE 1, 3 & 4 SHALL REMAIN OPERATIONAL, AND PROTECTED DURING CONSTRUCTION. THE EXISTING HVAC SYSTEM IN PHASE 1 AND 4 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.
2. PROVIDE TEMPORARY AIR CONDITIONING FOR THE PHASE 3 AREA.
3. PROVIDE FOR ELECTRICAL CIRCUITS THAT WILL NEED TO EXTEND FROM PHASE 2 INTO PHASE 3 AND 4 SUCH THAT THE DISRUPTION TO THE PHASE 2 AREA IS MINIMAL DURING THE CONSTRUCTION OF PHASE 3 AND 4.
4. PROVIDE FOR HVAC SYSTEMS EXTENSION INTO PHASE 3 AND 4 SUCH THAT THE DISRUPTION TO THE PHASE 2 AREA IS MINIMAL DURING THE CONSTRUCTION OF PHASE 3 AND 4.
5. THIS PHASE SHALL BE COMPLETED IN 60 DAYS.

PHASE 3

1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING HVAC, WATER AND SEWER SYSTEMS IN PHASE 1, 2 & 4 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.
2. THIS PHASE SHALL BE COMPLETED IN 30 DAYS.

PHASE 4

1. REPEAT STEPS 1 THROUGH 8, AS NOTED IN PHASE 1, EXCEPT THE EXISTING HVAC, WATER AND SEWER SYSTEMS IN PHASE 1, 2 & 3 SHALL REMAIN OPERATIONAL AND PROTECTED DURING CONSTRUCTION.
2. THIS PHASE SHALL BE COMPLETED IN 60 DAYS.
   A. AIR CONDITIONING, DATA NETWORK, POWER AND TELEPHONE SERVICE MUST REMAIN OPERATIONAL IN OCCUPIED AREAS FOR THE DURATION OF THE PROJECT. ANY OUTAGES OF UTILITIES AS MAY BE NECESSARY TO PERFORM THE WORK OF THIS PROJECT MUST OCCUR ON WEEKENDS ONLY AND SERVICES MUST BE RESTORED BY 7:00 AM MONDAY MORNING.
   B. SOME OF THE OWNER'S FURNITURE, EQUIPMENT WILL REMAIN IN THE AREA OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO COVER AND PROTECT IT FROM DAMAGE AND THEFT, AND TO MOVE IT AS NEEDED TO ACCOMPLISH THE WORK. THE CONTRACTOR IS REQUIRED TO RETURN ALL ITEMS TO THE ROOM OF ORIGIN PRIOR TO REQUESTING A SUBSTANTIAL COMPLETION INSPECTION.

ELECTRICAL DRAWING INDEX

ELECTRICAL GENERAL NOTES:

(THESE NOTES APPLY TO ALL SHEETS)

1. ALL WORK SHALL COMPLY WITH THE LATEST ACCEPTED VERSIONS OF THE FOLLOWING:
   - 2010 FLORIDA BUILDING CODE (FBC), EFFECTIVE MARCH 15, 2012;
   - 2010 FLORIDA FIRE PREVENTION CODE (FFPC); (THIS CODE ALSO INCLUDES THE FLORIDA VERSIONS OF NFPA 1 AND NFPA 101.); (EFFECTIVE DECEMBER 31, 2011)
   - 2008 NATIONAL ELECTRICAL CODE
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND VERIFY THE EXISTING CONDITIONS TO GAIN KNOWLEDGE OF THE SCOPE OF WORK INVOLVED.
3. "PROVIDE" SHALL MEAN "FURNISH AND INSTALL".
4. IN GENERAL, THESE DRAWINGS ARE SCHEMATIC IN NATURE AND SHOULD NOT BE SCALED. IT SHALL NOT BE THE INTENT OF THESE PLANS AND/OR SPECIFICATIONS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. PROVIDE ALL ITEMS NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM.
5. ELECTRICAL INSTALLATION SHALL BE CLOSELY COORDINATED WITH ALL OTHER TRADES. REVIEW THE ENTIRE SET OF DOCUMENTS FOR COORDINATION. NO COST SHALL BE ASSOCIATED WITH ILL–TIMED INSTALLATION INCLUDING ANY REPAIRS OR REPLACEMENTS.
6. ALL CONDUITS AND BOXES SHALL BE CONCEALED UNLESS OTHERWISE NOTED. ALL CONDUIT RUNS ARE SCHEMATIC IN NATURE. EXACT ROUTING TO BE DETERMINED IN THE FIELD UNLESS OTHERWISE NOTED.
7. APPLY A BITUMASTIC COATING FOR ALL CONDUITS PENETRATING FLOOR SLABS FROM BELOW GRADE.
8. PROVIDE ALL REQUIRED PULL BOXES, JUNCTION BOXES, ETC. FOR A COMPLETE INSTALLATION.
9. PATCH, REPAIR AND REPAINT ALL WALLS THAT HAVE BEEN DAMAGED DUE TO ELECTRICAL ROUGH–IN. REMOVE ANY UNUSED CONDUIT AND WIRE.
10. PROVIDE FIRE–STOPPING AT ALL FIRE WALL PENETRATIONS. USE A U.L. APPROVED SYSTEM LISTED FOR THE ASSOCIATED INSTALLATION.
11. ALL CONDUCTORS SHALL BE STRANDED COPPER, THHN/THWN, MINIMUM #12 AWG. ALL CONDUCTORS SHALL BE IN CONDUIT. FLEXIBLE CONDUIT SHALL BE LIMITED TO A MAXIMUM OF 6'–0" IN LENGTH.
12. MC CABLE OR OTHER PREMANUFACTURED CABLING SHALL NOT BE USED UNLESS APPROVED BY THE OWNER AND ENGINEER.
13. ALL CIRCUITS SHALL CONTAIN A SEPARATE, GREEN, COPPER GROUNDING CONDUCTOR.
14. ALL RECEPTACLES SHALL HAVE A GROUND TERMINAL.
15. WHEN REUSING OR EXTENDING EXISTING CIRCUITS, VERIFY ALL CIRCUIT NUMBERS AND VERIFY ANY EXISTING LOAD. CIRCUITS MAY BE PICKED UP AT AN EXISTING JUNCTION BOX IF AVAILABLE RATHER THAN PROVIDING A SEPARATE HOMERUN TO A PANEL.
16. RECESSED LIGHTING FIXTURES SHALL BE SUPPORTED FROM THE STRUCTURE AT (4) POINTS. DO NOT SUPPORT FIXTURES FROM THE CEILING GRID, MECHANICAL PIPING, DUCTWORK, CONDUIT OR OTHER NON–STRUCTURAL BUILDING MEMBERS. PROVIDE SUPPLEMENTAL STEEL AS REQUIRED FOR INSTALLATION.
17. THE COLOR OF ALL RECEPTACLES, TOGGLE SWITCHES AND COVERPLATES SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO ORDERING.
18. PANELBOARDS SHALL BE ACCURATELY LABELED TO IDENTIFY FINAL CIRCUIT NUMBERS UTILIZED, THEIR LOAD AND LOCATION.
19. BRANCH CIRCUIT SHALL NOT BE RUN UNDERGROUND UNLESS SPECIFIED OR APPROVED BY THE OWNER AND ENGINEER. ROUTE CONCEALED IN WALL AND ABOVE CEILINGS. DISTRIBUTION FEEDERS FROM THE MAIN SWITCHBOARD MAY BE RUN UNDERGROUND.
20. SYSTEMS (FIRE ALARM, INTERCOM, TV, VOICE/DATA, SECURITY) WIRING SHALL NOT BE RUN UNDERGROUND.
21. PROVIDE FIRE RETARDANT U.L. APPROVED SEALANT ON ALL PENETRATIONS OF FIRE RATED PARTITIONS, WALLS AND STRUCTURAL SLABS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, PRIOR TO SUBMITTING BID, LOCATIONS OF ALL SUCH FIRE RATED PARTITIONS, WALL AND STRUCTURAL SLABS.
22. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

ELECTRICAL LEGEND AND NOTES

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Hyde Avenue, Tampa, FL 33612 (813)963-9939
Email: Anston-Greenlees@Anston-Greenlees.com
Florida Engineering Business Number 0005

DRAWN	EJV
CHECKED	RCA
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	E001

ROBERT C. ANSTON, P.E. 40858

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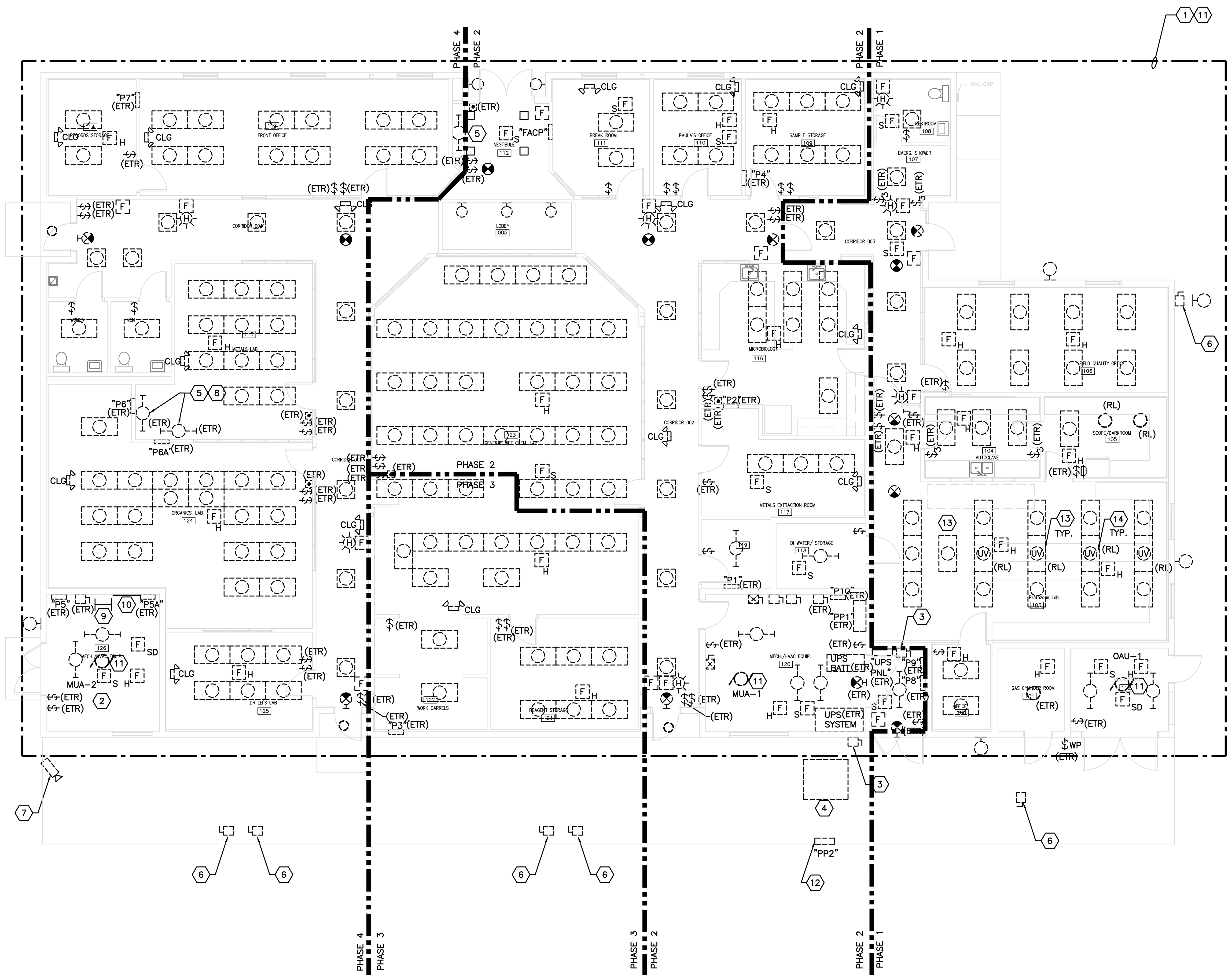
Plotted by: andre2 Jan 24, 2014 – 5:00pm



ELECTRICAL DEMOLITION FLOOR PLAN
SCALE: 1/8"=1'-0"

DEMOLITION GENERAL NOTES:

1. REFER TO DRAWINGS FOR THE AREAS AND EXTENT OF THE REQUIRED DEMOLITION.

2. SPLICE AND EXTEND CIRCUITS AS NECESSARY TO MAINTAIN CIRCUIT CONTINUITY TO EXISTING LIGHT FIXTURES AND OTHER EQUIPMENT WHICH IS TO REMAIN.

3. EXISTING LIGHTING FIXTURES, SWITCHES, DEVICES, WIRING, RACEWAY, AND JUNCTION BOXES WHICH ARE NOT BEING REUSED SHALL BE REMOVED AND THE WALLS OR CEILINGS SHALL BE PATCHED AND PAINTED TO MATCH THE SURROUNDING AREA.

4. EXTEND CIRCUITS AS NECESSARY TO DEVICE WHICH ARE TO REMAIN MAINTAIN CIRCUIT CONTINUITY.

5. RETAIN CIRCUIT INTEGRITY FOR ALL DEVICES OUTSIDE OF WORK AREA THAT ARE SCHEDULED TO REMAIN.

6. ALL CEILING MOUNTED DEVICES WHICH ARE EXISTING TO REMAIN INCLUDING MOTION SENSORS AND ULTRAVIOLET FIXTURES SHALL BE REMOVED FROM ANY CEILING THAT IS TO BE DEMOLISHED, STORED SAFELY, AND REINSTALLED IN NEW CEILING. REFER TO ARCHITECTURAL DRAWINGS FOR THE AREAS AND EXTENT OF THE REQUIRED DEMOLITION.

DEMOLITION NOTES:

1. DASHED DEVICES SHOWN ARE EXISTING TO BE REMOVED UNLESS OTHERWISE NOTED.
2. DASHED DEVICES SHOWN WITH (ETR) ARE EXISTING TO REMAIN (ETR) UNLESS OTHERWISE NOTED.
3. EXISTING 400A UPS CIRCUIT BREAKER LABELED MAIN #2 IS EXISTING TO REMAIN.
4. EXISTING CITY OWNED PAD MOUNTED 500KVA TRANSFORMER (TRA08–1) TO REMAIN.
5. CLEANING AND RELAMPING LIGHT FIXTURES IN THIS AREA.
6. EXISTING DISCONNECT SWITCH FOR CONDENSING UNIT TO BE REMOVED.
7. EXISTING SECURITY CAMERA TO REMAIN. ANY EXISTING SECURITY CAMERAS SHALL REMAIN OR BE RELOCATED WHERE REQUIRED.
8. EXISTING UNDERCABINET FIXTURE TO REMAIN.
9. EXISTING DATA RACK TO REMAIN.
10. EXISTING TELEPHONE TERMINAL BOARD TO REMAIN.
11. REMOVE EXISTING AHU AND ALL ASSOCIATED DISCONNECT, CONDUIT AND WIRING CONNECTIONS BACK TO POWER SOURCE.
12. EXISTING PANEL "PP2" TO BE REMOVED UNDER PHASE 2 ALL ASSOCIATED CONDUIT AND FEEDERS BACK TO EXISTING POWER SOURCE. (REFER TO ELECTRICAL RISER DIAGRAM FOR REQUIREMENTS).
13. EXISTING CEILING MOUNTED LIGHTING FIXTURES, EXIT SIGN, ULTRAVIOLET FIXTURES AND OCCUPANCY SENSOR IN THIS AREA ARE TO BE RELOCATED (RL) AND REUSE IN NEW CEILING LOCATION. (REFER TO LIGHTING PLAN FOR CONTINUATION). RETAIN EXISTING BRANCH CIRCUIT. REFER TO GENERAL NOTE #6.
14. PROVIDE NEW UV LIGHT LAMPS IN ALL EXISTING UV LIGHTS TO MATCH EXISTING.

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

ELECTRICAL DEMOLITION FLOOR PLAN

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers

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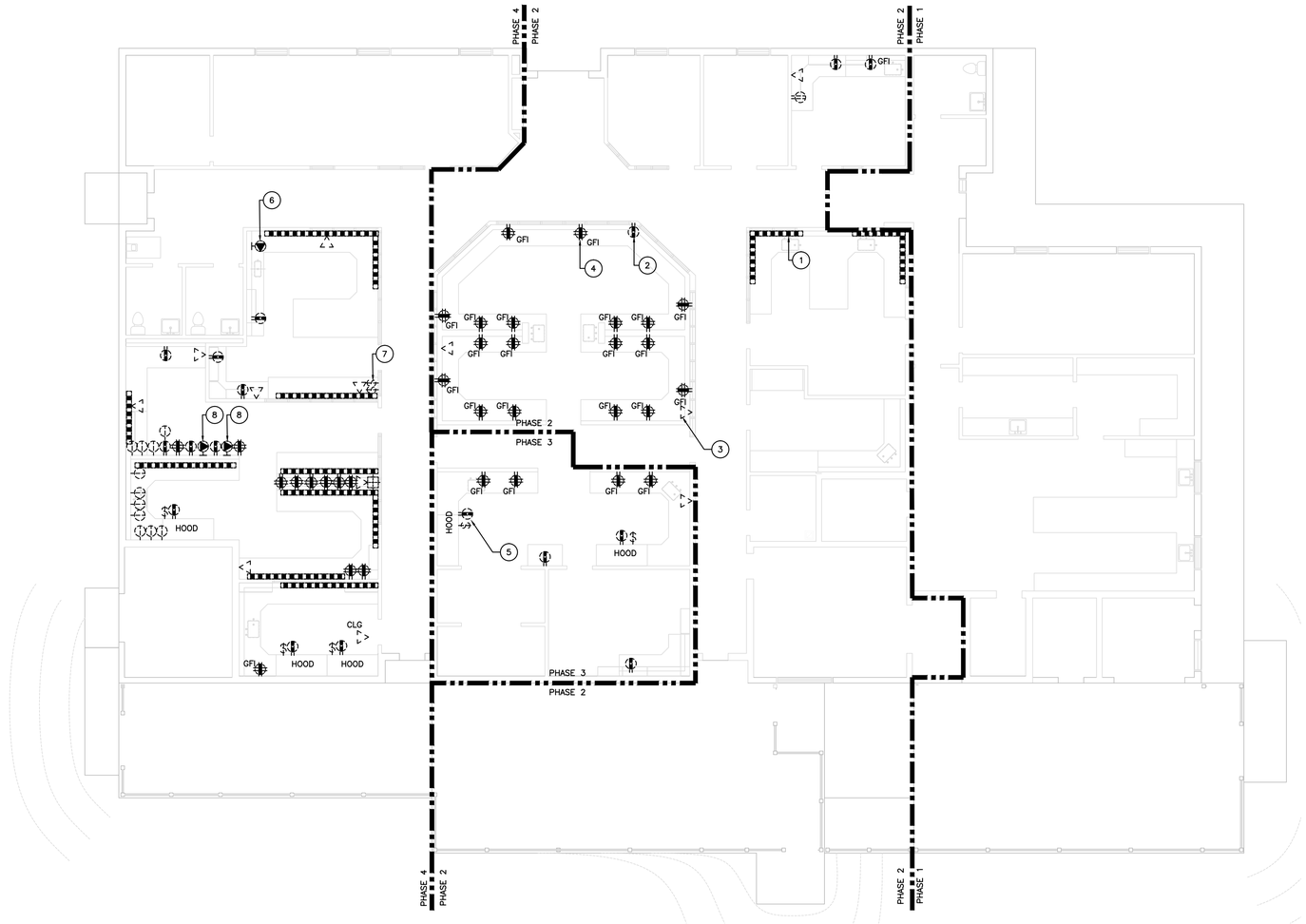
SHEET	E010

ROBERT C. ANSTON, P.E. 40858



POWER CABINET DEMOLITION PLAN
SCALE: 1/8"=1'-0"

DEMOLITION GENERAL NOTES:

1. REFER TO DRAWINGS FOR THE AREAS AND EXTENT OF THE REQUIRED DEMOLITION.

2. SPLICE AND EXTEND CIRCUITS AS NECESSARY TO MAINTAIN CIRCUIT CONTINUITY TO EXISTING LIGHT FIXTURES AND OTHER EQUIPMENT WHICH IS TO REMAIN.

3. EXISTING LIGHTING FIXTURES, SWITCHES, DEVICES, WIRING, RACEWAY, AND JUNCTION BOXES WHICH ARE NOT BEING REUSED SHALL BE REMOVED AND THE WALLS OR CEILINGS SHALL BE PATCHED AND PAINTED TO MATCH THE SURROUNDING AREA.

4. EXTEND CIRCUITS AS NECESSARY TO DEVICE WHICH ARE TO REMAIN MAINTAIN CIRCUIT CONTINUITY.

5. RETAIN CIRCUIT INTEGRITY FOR ALL DEVICES OUTSIDE OF WORK AREA THAT SHALL BE SCHEDULE TO REMAIN.

DEMOLITION NOTES:

1. EXISTING SURFACE MOUNTED ABOVE COUNTER POWER STRIP TO BE REMOVE AND RETAIN EXISTING BRANCH CIRCUIT FOR EXTENSION AND RECONNECTION OF NEW RECEPTACLES IN NEW CASEWORK. (TYPICAL)

2. EXISTING RECEPTACLE AND COVER PLATES ARE TO BE REMOVED AND REPLACE WITH NEW AND RETAIN EXISTING BRANCH CIRCUIT AND RECONNECT NEW RECEPTACLE BACK TO EXISTING BRANCH CIRCUIT, EXTEND CONDUIT AND WIRING AS REQUIRED AND MAKE ALL FINAL CONNECTIONS. SEE NEW WORK FOR NEW RECEPTACLE LOCATION. (TYPICAL)

3. EXISTING COMMUNICATION OUTLET AND COVER PLATES ARE TO BE REMOVED AND REPLACE WITH NEW AND RETAIN EXISTING DATA/VOICE CABLING AND RECONNECT NEW COMMUNICATION OUTLET BACK TO EXISTING CABLING. MAKE ALL FINAL CONNECTIONS. SEE NEW WORK FOR NEW COMMUNICATION OUTLET LOCATION. (TYPICAL)

4. EXISTING SURFACE ABOVE THE COUNTER QUAD RECEPTACLE AND COVER PLATES ARE TO BE REMOVED AND REPLACE WITH NEW AND RETAIN EXISTING BRANCH CIRCUIT AND RECONNECT NEW RECEPTACLE BACK TO EXISTING BRANCH CIRCUIT, EXTEND CONDUIT AND WIRING AS REQUIRED AND MAKE ALL FINAL CONNECTIONS. SEE NEW WORK FOR NEW RECEPTACLE LOCATION. (TYPICAL)

5. EXISTING FLUSH MOUNTED HOOD SWITCH AND RECEPTACLE AND COVER PLATES ARE TO BE REMOVED AND REPLACE WITH NEW IN SAME LOCATION AND RETAIN EXISTING BRANCH CIRCUIT AND RECONNECT NEW SWITCH AND RECEPTACLE BACK TO EXISTING BRANCH CIRCUIT, EXTEND CONDUIT AND WIRING AS REQUIRED AND MAKE ALL FINAL CONNECTIONS. SEE NEW WORK FOR NEW RECEPTACLE LOCATION. (TYPICAL)

6. EXISTING FLUSH MOUNTED NEMA L6-30R TWIST LOCK RECEPTACLE AND COVER PLATES ARE TO BE REMOVED AND REPLACE WITH NEW AND RETAIN EXISTING BRANCH CIRCUIT AND RECONNECT NEW RECEPTACLE BACK TO EXISTING BRANCH CIRCUIT, EXTEND CONDUIT AND WIRING AS REQUIRED AND MAKE ALL FINAL CONNECTIONS. SEE NEW WORK FOR NEW RECEPTACLE LOCATION. (TYPICAL)

7. EXISTING FLUSH MOUNTED WALL SWITCH AND COVER PLATES ARE TO BE REMOVED AND REPLACE WITH NEW AND RETAIN EXISTING BRANCH CIRCUIT AND RECONNECT NEW WALL SWITCH BACK TO EXISTING BRANCH CIRCUIT, EXTEND CONDUIT AND WIRING AS REQUIRED AND MAKE ALL FINAL CONNECTIONS. SEE NEW WORK FOR NEW SWITCH LOCATION. (TYPICAL)

8. EXISTING SURFACE MOUNTED NEMA L6-20R TWIST LOCK RECEPTACLE AND COVER PLATES ARE TO BE REMOVED AND REPLACE WITH NEW AND RETAIN EXISTING BRANCH CIRCUIT AND RECONNECT NEW RECEPTACLE BACK TO EXISTING BRANCH CIRCUIT, EXTEND CONDUIT AND WIRING AS REQUIRED AND MAKE ALL FINAL CONNECTIONS. SEE NEW WORK FOR NEW RECEPTACLE LOCATION. (TYPICAL)

ROBERT C. ANSTON, P.E. 40858

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

POWER CABINET DEMOLITION PLAN

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1101 Wood Stacker Avenue, Tampa, FL 33613 (813)590-1979
Email: Anston@Anston-Greenlees.com
Florida Engineering Business Number 6970

DRAWN	EJV
CHECKED	RCA
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	E011

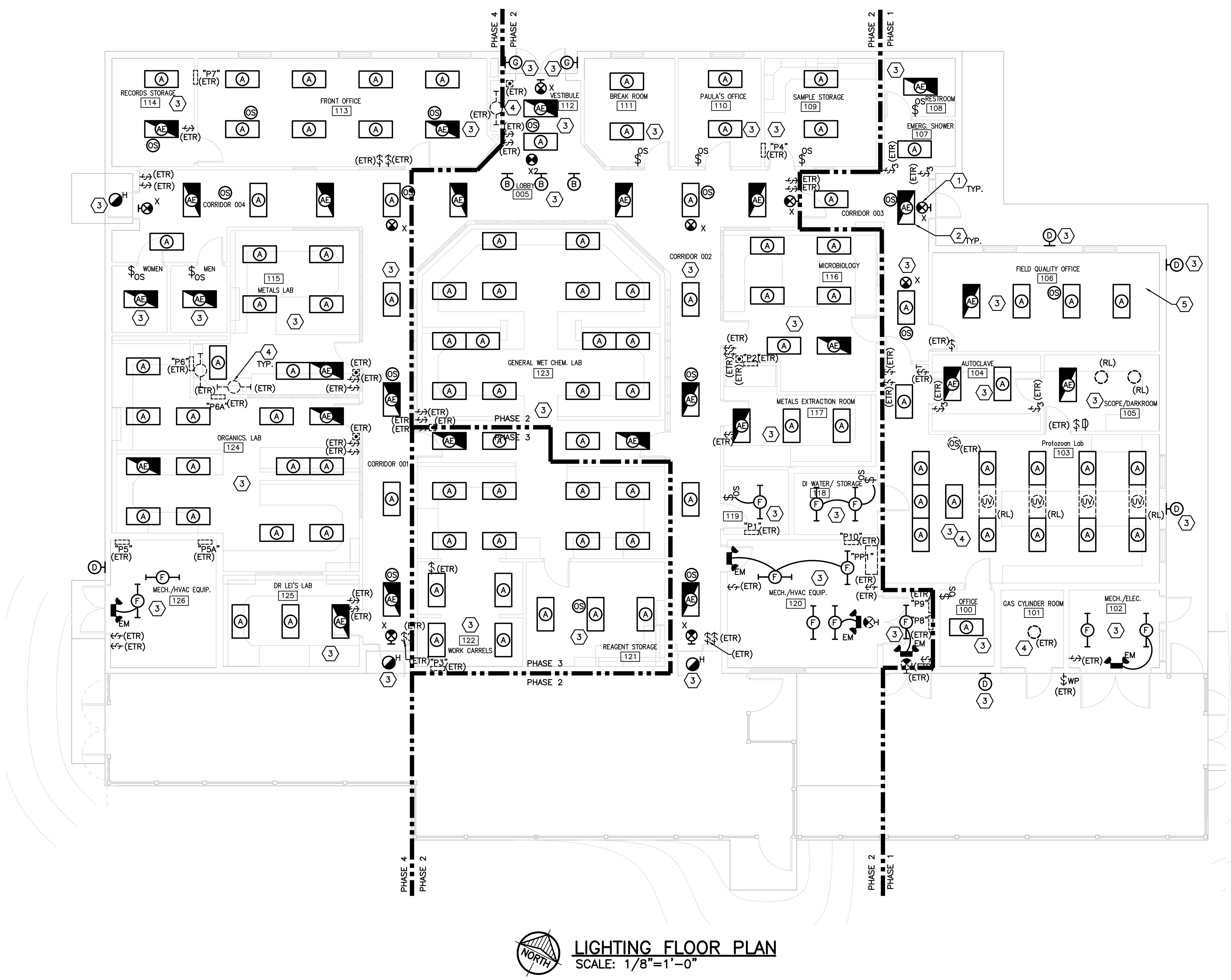
Drawing File: I:\13xxx\13009.001\13009e011.dwg E011
Plotted by: andre2 Jan 24, 2014 - 5:00pm

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	VOLTS	LAMPS	MOUNTING
A	2'x4' LED FIXTURE WITH METAL DIFFUSER. LITHONIA 2VTLED-40L-ADP-MVOLT-D40-LP840-XX, OR APPROVED EQUAL METALUX, DAYBRITE.	MVOLT	LED, 40 WATTS, 4000 LUMENS	RECESSED CEILING GRID
AE	SAME AS TYPE 'A' EXCEPT EQUIPPED WITH EMERGENCY BATTERY BACKUP. LITHONIA 2VTLED-40L-ADP-MVOLT-D40-LP840-XX-EL14L , OR APPROVED EQUAL METALUX, DAYBRITE.	MVOLT	LED, 40 WATTS, 4000 LUMENS	RECESSED CEILING GRID
B	LED UP/DOWN WALL CYLINDER LIGHT, CONSTRUCTED OF CAST ALUMINUM HOUSING WITH CORROSION-RESISTANT PAINT (WHITE) LITHONIA OLLWU-XX-MVOLT-WH OR APPROVED EQUAL METALUX, DAYBRITE.	MVOLT	LED, 14 WATTS, 500 LUMENS	WALL MOUNTED
D	WALL MOUNTED FLOOD LIGHT, DIE CAST ALUMINUM HOUSING, 100,000 HOUR INDUCTION LAMP, TEMPERED GLASS LENS, FIELD ADJUSTABLE, 12,600 LUMENS. COLOR SELECTED BY OWNER - BUFF. EVERLAST INDUCTON LIGHTING # EOF-ED-150W.	UNIV	150 WATT INDUCTION, 5,000 DEGREE KELVIN	WALL AT EXISTING LOCATION
EM	LED EMERGENCY REMOTE UNIT CONSTRUCTED WITH THERMOPLASTIC HOUSING, ADJUSTABLE LAMP HEADS. LISTED FOR WET LOCATION . LITHONIA EU2-LED-M12 OR APPROVED EQUAL METALUX, DAYBRITE.	120/277	LED, 3.6 WATTS,	WALL MOUNTED
F	4' FLOURESCENT INDUSTRIAL FIXTURE LITHONIA L-232-MVOLT-GEB10PS-WGL-HCXX) OR APPROVED EQUAL METALUX, DAYBRITE. PROVIDE WITH WIREGUARD.	MVOLT	2-48" 32WT8 3500K	CHAIN HUNG. 8'-0" AFF. CHAIN LENGTH AS REQUIRED
G	LED WALL LUMINAIREWITH HIGH OUTPUT LEDS TO PROVIDE ENERGY EFFICIENT , LOW MAINT LED WALL PACK. BACK PLATE IS DIE CAST ALUMINUMWITH FRONT COVER IMPACT RESISTANT POLYCARBONATE AND GASKETED.LITHONIA TWS-LED-1-50K-120-PE OR APPROVED EQUAL METALUX, DAYBRITE.	120	LED 19 WATTS 1000 LUMENS	WALL AT EXISTING LOCATION

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	VOLTS	LAMPS	MOUNTING
H	6" ROUND RECESSED LED DOWNLIGHT. LISTED FOR WET LOCATION. PROVIDE WITH INTERGRAL EMERGENCY BATTERY BACK-UP. LITHONIA DOM6 LED-900L-40K-120--DL64-ELRB722 OR APPROVED EQUAL METALUX, DAYBRITE.	120	LED, 25 WATTS, 900LUMENS	RECESSED CEILING EXISTING LOCATION
X	LED EXIT SIGN, CONSTRUCTED OF HIGH POLISH INJECTION MOLDED ACRYLIC PANEL. WITH INTEGRAL BATTERY BACK UP NICAD. LITHONIA SOLO-W-1-RMR-SD (SINGLE FACE) OR APPROVED EQUAL METALUX, DAYBRITE.	120/277	LED	UNIVERSAL MOUNTING
X2	LED EXIT SIGN, CONSTRUCTED OF HIGH POLISH INJECTION MOLDED ACRYLIC PANEL. WITH INTEGRAL BATTERY BACK UP NICAD. LITHONIA SOLO-W-2-RMR-SD (DOUBLE FACE) OR APPROVED EQUAL METALUX, DAYBRITE.	120/277	LED	UNIVERSAL MOUNTING



LIGHTING FLOOR PLAN
SCALE: 1/8"=1'-0"

LIGHTING GENERAL NOTES:

1. GROUNDING OF THE LIGHTING CIRCUITS WILL BE REQUIRED. ALL NEW CIRCUITS SHALL HAVE A SEPARATE GROUND CONDUCTOR IN EACH BRANCH CIRCUIT. EXISTING CIRCUITS BEING EXTENDED SHALL HAVE A GROUND CONDUCTOR ADDED AT THE NEAREST JUNCTION BOX AND BONDED TO THE BOX. THE EXISTING RACEWAY SHALL BE INSPECTED AND ALL SUPPORTS AND CONNECTIONS TIGHTENED TO PROVIDE FOR A SAFE BRANCH CIRCUIT GROUND.
2. EXISTING LIGHT SWITCHES AREA SHALL REMAIN UNLESS OTHERWISE NOTED. REMOVE UNUSED SWITCHES AND CONDUCTORS BACK TO THE LAST DEVICE THAT IS TO REMAIN PROVIDE NEW SWITCHES WHERE SHOWN, AND REMOVE EXISTING SWITCH THAT IS TO BE REPLACED BY NEW SWITCH.
3. CONNECT EXIT SIGNS TO THE UNSWITCHED LEG OF LOCAL LIGHTING.
4. EXISTING CONDUCTORS AND CONDUITS MAY BE REUSED WHERE IN GOOD CONDITION. ANY REUSED CONDUIT SHALL BE SUPPORTED PER NEC, AND ALL CONNECTIONS TIGHTENED.

DRAWING NOTES

1. EXIT LIGHTS 'X' LIGHTS ARE A NEW FIXTURE SHALL BE CONNECTED TO LOCAL LIGHTING CIRCUIT BUT SHALL NOT BE SWITCHED.
2. FIXTURES WITH EMERGENCY BATTERY PACKS SHALL BE SWITCHED AFTER THE EMERGENCY PACK SUCH THAT THE BATTERY PACK CONTINUOUSLY SEES NORMAL POWER. THE EMERGENCY BATTERY BACK-UP SHALL BE UNSWITCHED AND SHALL AUTOMATICALLY ILLUMINATE THE FIXTURE IN THE EVENT OF LOSS OF NORMAL POWER. SEE TYPICAL BATTERY BALLAST WIRING DIAGRAM, THIS SHEET. TYPICAL FOR ALL FIXTURES HALF SHADED.
3. ELECTRICAL CONTRACTOR SHALL EXTEND THE EXISTING LIGHTING BRANCH CIRCUIT AS REQUIRED TO EXISTING RESPECTIVE LIGHTING PANEL, CONCEAL NEW CONDUIT BETWEEN EXISTING WALLS AND ABOVE CEILING. PROVIDE JUNCTION BOX WITH BLANK COVER PLATE IN CEILING SPACE AS REQUIRED TO INTERCEPT EXISTING LIGHTING BRANCH CIRCUITS.
4. CLEAN AND RE-LAMP ALL EXISTING LIGHTING FIXTURES BEING REUSED.
5. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR COORDINATION.

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

LIGHTING FLOOR PLAN

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers

DRAWN	EJV
CHECKED	RCA
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	E100

ROBERT C. ANSTON, P.E. 40858

Drawing File: I:\13xxx\13009.001\13009e100.dwg E100
Plotted by: andre2 Jan 24, 2014 - 5:00pm

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

LIGHTING FIXTURE CUT SHEETS

Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
AGI

TYPE "A" & "AE"

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — The VT™ Volumetric Troffer combines the aesthetics and high performance with intelligent LED engines for applications - offices, schools, retail locations and hospitals. High-efficacy light engine delivers long life and excellent color, ensuring a superior quality lighting installation that is highly efficient and sustainable. Featured nLight controls system provides design flexibility and ease of installation and optimum energy savings.

CONSTRUCTION — Rugged, one-piece cold-rolled steel coated polyester, painted after fabrication with embossed facets. Impact-modified, single clear acrylic diffuser provides excellent shielding and wide distribution. End plates include integral T-bar clips. Fixture may be mounted and wired in continuous rows. Total fixture height is only 4-3/8".

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions, vertical and horizontal work surfaces — rendering the interior space, objects and occupants in a more balanced, complementary luminous environment. Linear faceted reflector cavity softens and distributes light into the space while minimizing luminous contrast between the fixture and ceiling. Sloped end plates provide a smooth, luminous transition between fixture and ceiling while enhancing the perception of fixture depth.

Advanced optical film provides superior LED concealment and even illumination across the diffuser.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. VTLED is rated to deliver L80 performance for 50,000 hours.

Standard nLight™ embedded controls make each luminaire addressable - allowing it to digitally communicate with other nLight enabled controls such as dimmers, switches, occupancy sensors and photocontrols. Simply connect all the nLight enabled control devices and the VTLED luminaires using standard Cat-5 cabling. Unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission.

Lumen Management: Unique lumen management system (option N80) provides onboard intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting.

Bi-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

LED AccuDrive ™ driver delivers full-range dimming from 0-10V control signal.

Driver disconnect provided where required to comply with US and Canadian codes.

INSTALLATION — Unique grid interfacing arrangement provides mounting into standard 1" and 9/16" tee bar or screw slot grids. 9/16" allows fixture trim to hang level with architectural ceiling tiles. Drywall ceiling adaptors available. Suitable for damp location.

LISTINGS — CSA Certified to meet U.S. and Canadian standards. Patents pending.

DLC certified test to LM80 standings.

WARRANTY — 5-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Specifications subject to change without notice.

VT LED
Volumetric Troffer
2VTLED
2' x 4' LED

DESIGNLIGHTS CONSORTIUM · nLIGHT

INDUSTRY RECOGNITION/AWARDS

NGL'12 — 2012 RECOGNIZED PRODUCT

pia11 — 2011 ARCHITECTURAL SSL PRODUCT INNOVATION AWARD

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** 2VTL4 48L ADP D47 LP835 N80

2VTL4			ADP					
Series	**Air function**	**Lumens**	**Diffuser**	**Voltage**	**Wattage**	**Color temperature**	**Controls**	**Options**
2VTL4 Volumetric troffer 2X4 LED	(blank) Static H Heat removal	24L 2400 lumens[1] 40L 4000 lumens[1] 48L 4800 lumens[1] 72L 7200 lumens[1]	ADP Acrylic linear prismatic	(blank) MVOLT 347 347[2]	D24 24W[3,4] D40 40W[3,5] D47 47W[3,6] D75 75W[3,7]	LP835 82CRI, 3500K LP840 82CRI, 4000K LP850 82CRI, 5000K[8]	NX Dimming, no nlight BLD Bi-level dimming N80 nlight with 80% lumen management. N80EMG nlight with 80% lumen management. For use with generator supply EM power. N100 nlight without lumen management. N100EMG nlight without lumen management. For use with generator supply EM power.	EL14L 1400 lumen battery pack

nLight™ Control Accessories: *Order as separate catalog number. Visit www.sensorswitch.com/nLight for complete listing of nLight controls.*

WallPod stations	**Model number**	**Occupancy sensors**	**Model number**
On/Off	nPODM [color]	Standard range 360°, ceiling (PIR / dual tech)	nCM 9 / nCM PDT 9
On/Off & Raise/Lower	nPODM DX [color]	Extended range 360°, ceiling (PIR / dual tech)	nCM 10 / nCM PDT 10
Graphic Touchscreen	nPOD GFX	Wide view (PIR / dual tech)	nWV 16 / nWV PDT 16
Photocell controls	**Model number**	**Cat-5 cable bundles (plenum rated)**	**Model number**
Continuous dimming	nCM ADC	10', CAT5 10FT	CAT5 10FT J1
On/Off & Dimming	nCM PC ADC	15', CAT5 15FT	CAT5 15FT J1

Accessories: *Order as separate catalog number.*

2VT4 F916	Trim to adjust fixture mounting flush with 9/16" T-bar; for 2x4 fixture
DGA24	Drywall ceiling adaptor , unit installation

Notes
1 Approximate lumen output.
2 Consult factory for availability. Not available with EL14 battery pack or BLD controls.
3 Approximate input power (watts) +/-5%.
4 For use with 24L.
5 For use with 40L.
6 For use with 48L.
7 For use with 72L.
8 Not available with 4000 lumen system.

LED · 2VTLED-2X4

TYPE "B"

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE
Provides years of maintenance-free illumination for outdoor use in residential & commercial applications. Ideal for applications such as lighting walkways and stairways for safety and security.

CONSTRUCTION
Cast-aluminum housing with corrosion-resistant paint in either dark bronze or white finish.
ADA compliant.

OPTICS
4000K CCT LEDs.
Polycarbonate lens protects the LED from moisture, dirt and other contaminants.
LUMEN MAINTENANCE: The LED will deliver 70% of its initial lumens at 50,000 hour average LED life. See Lighting Facts label on page 2 for performance details.

ELECTRICAL
MVOLT driver operates on any line voltage from 120-277V
Operating temperature -30°C to 40°C.
1KV surge protection standard.

INSTALLATION
Surface mounts to universal junction box (provided by others).

LISTINGS
UL Listed to U.S. and Canadian safety standards for wet locations.
Tested in accordance with IESNA LM-79 and LM-80 standards.

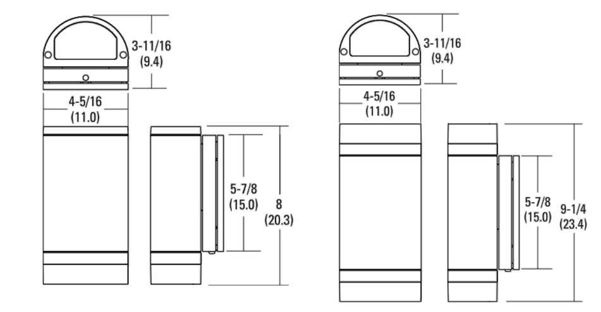
WARRANTY
Five-year limited warranty. Full warranty terms located at www.AcuityBrands.com/CustomerResources/Terms_and_Conditions.aspx.

Note: Specifications are subject to change without notice.

Actual performance may differ as a result of end-user environment and application.

Outdoor General Purpose
OLLWD & OLLWU
LED WALL CYLINDER LIGHT

Specifications
All dimensions are inches (centimeters)



ORDERING INFORMATION For shortest lead times, configure products using **bolded options**. **Example:** OLLWD

Series	**Color temperature (CCT)**	**Voltage**	**Finish**
OLLWD Downlight **OLLWU** Up & downlight	**(blank)** 4000K	**(blank)** MVOLT (120V-277V)	**DDB** Dark bronze **WH** White

DECORATIVE INDOOR & OUTDOOR · OLLWD-OLLWU

TYPE "D"

EVERLAST® LIGHTING
888-383-7578 www.everlastlight.com

Classic Wall Pack

Description
- Series: EOF-ED
- Lamp Life Rating: 100,000 hours
- Lumen Maintenance: 70% over 100,000 hours
- Light Output: 5000K, 82-85 CRI
- IP Rating: IP54
- Applications: Security lighting, buildings, parking lots
- Warranty: 10 Year Limited

Specifications and Patent Pending Features
- Die cast aluminum housing with bronze powder coat finish for corrosion-resistance
- Tempered glass lens and anodized aluminum reflector designed to optimize light distribution
- Electronic ballast with high power factor
- Excellent vibration & shock resistance

Ordering Information

Series **EOF-ED** — [ ] — [ ] — [ ] — [ ]

Wattage[1]: 40W, 55W, 70W, 80W, 100W, 120W, 150W

Voltage[2]: **120**–120-277V; 347–347V*; 480–480V*

Color Temp: **50**–5000K; 40–4000K*

Photo Cell: **X**–None; BTN1–Button 120*; BTN2–Button 208-277*

Black = Standard
Grey * = Upgrade options available upon request

Example: **EOF-ED**-70-120-50-X

*Legal Notice: Full Spectrum Solutions owns proprietary rights in the EverLast® Series of fixtures in the form of pending patent applications in the US and PCT applications for International protection.

888-383-7578 www.everlastlight.com
2021 Wellworth Ave. Jackson Michigan, 49203 U.S.A.

BUILDING MOUNTED WALL PACK

TYPE "X" & "X2"

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — Suitable for architectural applications where aesthetics, premium finishes and superior performance are required.

CONSTRUCTION — High-polish, injection-molded virgin acrylic panel, ultrasonically welded to eliminate visible hardware. Optically engineered design provides uniform light distribution on graphics. Die-cast housings are powder-coat finishes. Standard housing finish is nickel.

Letter size – 6" high, 3/4" stroke, with 100 ft viewing distance rating, based upon UL924 standard. Graphically enhanced text with mirror background. Chevron indicator direction must be specified.

Recessed rough-in section constructed of 20-gauge, die-formed galvanized steel.

Die-cast aluminum housing and canopy attaches onto wall or ceiling mounted rough-in section.

U.S. Patent Nos. D602,093 and D602,994. Other patents pending.

OPTICS — White LEDs mounted on printed circuit board. The typical life of the exit LED lamp is 10 years. Low energy consumption – less than 5-watts.

ELECTRICAL (Battery option only) — Two-state constant-current charger maximizes battery life and automatically recharges after battery discharge.

Battery option: Emergency models provided with maintenance-free, sealed nickel-cadmium battery provides 90 minutes of emergency power.

Polarized battery connector simplifies installation and maintenance; prevents charger damage due to improper connection.

Self-diagnostic evaluation of LED light source, AC to DC transfer, charging and battery condition.

Solid-state electronic elements to eliminate risk of electromechanical failures.

Single-point microcomputer control for all electronic features.

Crystal oscillator timing system with watchdog protection for precision accuracy.

AC/LVD reset allows battery connection before AC power is applied at installation.

Brownout protection is automatically switched to emergency mode when supply voltage drops below 80% of nominal.

Single multi-chromatic LED indicator to display two-state charging, test activation and three-state diagnostic status.

Test switch provides manual activation of 30-second diagnostic testing for on-demand visual inspection.

Self-diagnostic testing for five minutes every 30 days and 30 minutes every six months.

Continuously monitors AC functionality.

Surge protection meets ANSI/IEEE C62.41 category B and IEC 1000 immunity standards for high voltage surges, electrostatic discharges, high frequency electrical fast transients and line voltage dips/swells.

INSTALLATION — Recessed mount (universal rough-in section for back), ceiling, end or pendant mount. Fits into minimum wall or ceiling opening 13-5/8" L x 4-1/2" W x 3-1/8" D.

Adjustable T-bar hangers adapt mounting tray for mounting in suspended ceilings or variable-size framed openings. Trim ring has 7/8" variable depth adjustment to ensure flush fit against surface of wall or ceiling. Rough-in opening measures 5-3/8" L x 3-1/8" W.

End mounting requires accessory kit (ELA SOLOEMK) to provide attachment provisions.

Pendant mounting requires accessory kit (ELA SOLOPM12).

Oval Exit
Solo™

LED LAMPS
NEMA Premium

Fully concealed canopy mounting hardware on ceiling and wall mount.

ADP option available to retrofit the current installed rough-in section of Precise® LRP and FRP products.

LISTINGS — UL damp location listed 50-104°F (10° to 40°C). Non-IC recessed mounting. Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards. NEMA Premium certified.

WARRANTY — Five-year limited warranty on exit, including light source.

Note: Specifications subject to change without notice.

Actual performance may differ as a result of end-user environment and application.

ORDERINGINFORMATION For shortest lead times, configure products using bolded options. **Example:** SOLO W 1 RMR LA SD

SOLO						
Family	**Housing color[1]**	**Number of faces**	**Letters/background**	**Directional indicators[2]**	**Mounting**	**Options**
SOLO Oval exit	**(blank)** Nickel W White B Black BZ Bronze	**1** Single face **2** Double face	**RMR** Red on mirror **GMR** Green on mirror	**(blank)** None LA Left RA Right LRA Left and right DA Double	**(blank)** Ceiling or back EM End	**(blank)** AC only X2 Provides primary and secondary AC only[3] FI Fire alarm interface with AC-only **SD** Nicad battery with self diagnostic SDFIFA Fire alarm interface/flashing/audible flashing, Nicad battery with self diagnostics PNL Panel assembly only (must order rough-in section separately) **ADP** Adaptor option to retrofit Precise LRP or FRP product[4]

Accessories: *Order as separate items.*

ELA SOLORIS	Rough-in section. Supplied standard with exits unless PNL suffix is specified. Order ELA SOLORIS only if needed for early installation.
ELA SOLOEMK	End-mount accessory kit required for end mounting. Must specify color to match panel; e.g. ELA W SOLOEMK.
ELA SOLOPM12	Pendant mounting, 12" length, accessory kit.

Notes
1 Die-cast housings are powder-coat finishes.
2 See page 2 of specification sheet for configuration details.
3 UL listed as emergency lighting equipment.
4 Complete exit panel only (use existing Precise rough-in).

EMERGENCY · SOLO

TYPE "EM"

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE
Suitable for emergency lighting applications such as stairways and hallways.

CONSTRUCTION
Injection-molded, flame-retardant, high-impact, thermoplastic housing with snap-fit design components with LED lamps for easy installation. Universal J-box pattern. Track and swivel arrangement permits full range of lamp adjustment. Not intended for ceiling mounting.

OPTICS
The typical life of the LED is 10 years. Two 1.8W LED lamps for emergency light.

ELECTRICAL
Dual-voltage input 120V or 277V AC. Emergency unit provided with test switch, status indicator and rechargeable battery. Maintenance-free nickel-cadmium battery provides 90 minutes of emergency power.

LISTINGS
UL Listed. Meets UL 924, NFPA 101, NFPA 70-NEC and OSHA illumination standards. Damp location 32°F to 122°F (0°C to 50°C) listed standard.

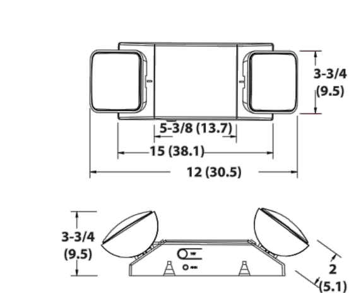
WARRANTY
Fixtures are covered by Lithonia Lighting 24-month warranty against mechanical defects in manufacture.

All life safety equipment, including emergency lighting for path of egress must be maintained, serviced, and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.

Note: Specifications subject to change without notice.

Actual performance may differ as a result of end-user environment and application.

Contractor Select
LED UNITS
LED Lamps



All dimensions are inches (centimeters) unless otherwise indicated.

ORDERING INFORMATION

Catalog Number	UPC	Description	Supply Voltage	Input Wattage[1]	Standard Pallet Qty.	Carton Qty.
EU2 LED M12	784231874493	Emergency lighting unit	120/277	1.8	324	12

Accessories: *Order as separate items.*

ELA WG1	Wireguard (back mount only)[2]

Notes:
1 Per lamp head.
2 See spec sheet ELA-WG.

CONTRACTOR SELECT / EMERGENCY · LED-UNITS

DRAWING GENERAL NOTES:

1. CATALOG CUT SHEETS INDICATED HERE ARE INTENDED TO PROVIDE A PICTORIAL INDICATION OF THE BASIS OF DESIGN. REFER TO FIXTURE SCHEDULE, DRAWINGS, DETAILS AND SPECIFICATIONS FOR ALL REQUIREMENTS AND PROVIDE ALL REQUIRED OPTIONS AND ACCESSORIES. NOT ALL ACCESSORIES AND OPTIONS INDICATED ON THE CATALOG SHEET APPLY AND SOME ACCESSORIES OR OPTIONS THAT ARE REQUIRED MAY NOT BE INDICATED ON THE CATALOG SHEET.

ROBERT C. ANSTON, P.E. 40858

DRAWN	EJV
CHECKED	RCA
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	E101

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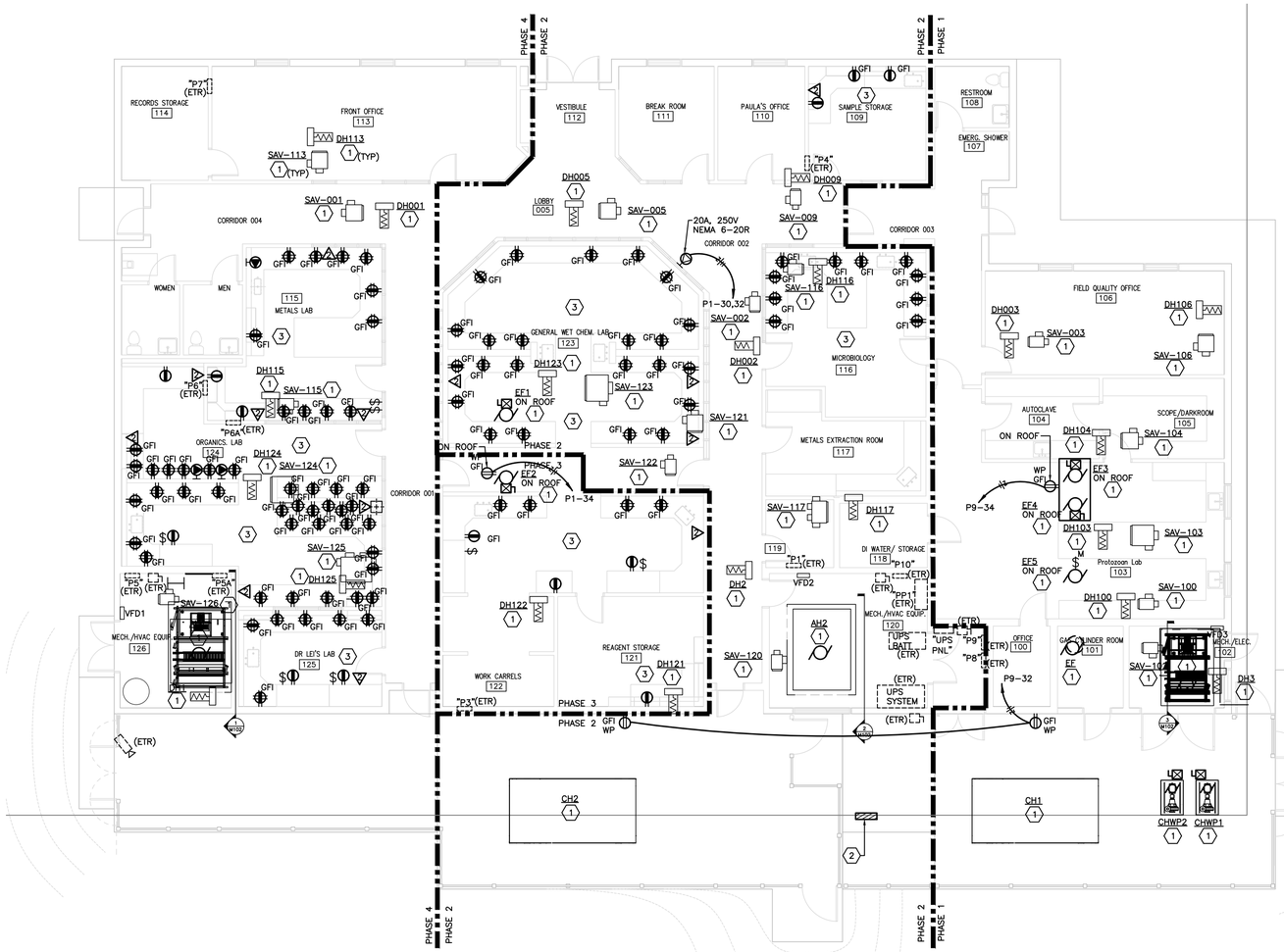

POWER FLOOR PLAN
SCALE: 1/8"=1'-0"

GENERAL NOTES

1. EXISTING RECEPTACLE BRANCH CIRCUITS SHALL REMAIN AND EXTEND AS REQUIRED AND MAKE ALL FINAL CONNECTIONS.

2. EXISTING LAB CASEWORK IS BEING REMOVED AND REPLACE. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DETAILS AND REQUIREMENTS. COORDINATE EXACT LOCATIONS AND EXACT MOUNTING WITH CASEWORK SUPPLIER/INSTALLER.

3. EXISTING RECEPTACLES SHALL BE REMOVED AND REPLACED WITH NEW AS INDICATED. EXTEND EXISTING BRANCH CIRCUIT AS REQUIRED.

4. ANY EXISTINF WALL SWITCHES SHALL BE REMOVED AND REPLACED WITH NEW AS INDICATED. EXTEND EXISTING CIRCUIT AS REQUIRED.

5.EXISTING VOICE/DATA COMMUNICATION OUTLETS SHALL BE REMOVED AND REPLACED WITH NEW. REUSE EXISTING DATA CABLING AND CONNECT TO NEW OUTLETS. TEST CABLING AFTER RE-INSTALL TO VERIFY THAT IT IS OPERATIONAL. PROTECT EXISTING DATA/VOICE CABLING DURING CONSTRUCTION.

DRAWING NOTES:

1. REFER TO MECHANICAL EQUIPMENT CONNECTION SCHEDULE (SHEET E201) FOR ELECTRICAL REQUIREMENTS. COORDINATE WITH DIVISION 15 PRIOR TO ROUGH-IN.
2. PROVIDE NEW PANEL "MDP", 800A MCB, 120/208V,3ø,4W, NEMA 3R ENCLOSURE. PROVIDE UNISTRUT SUPPORT AND HARDWARE AS REQUIRED. SEE ELECTRICAL RISER DIAGRAM, SHEET E500.
3. ALL SWITCHES, RECEPTACLES AND COMMUNICATION DEVICES ARE TO BE NEW AND FLUSH MOUNTED INTO BACK SPLASH. RECONNECT BACK TO EXISTING BRANCH CIRCUIT EXTEND CONDUIT AND WIRING AS REQUIRED AND MAKE ALL FINAL CONNECTION.

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

POWER FLOOR PLAN

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 (813)935-5319
Email: info@anston-greenlees.com Website: www.anston-greenlees.com
Florida Engineering Business Number 0805

DRAWN	EJV
CHECKED	RCA
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	E200

ROBERT C. ANSTON, P.E. 40858

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Plotted by: andre2 Jan 24, 2014 - 5:00pm

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

MARK	ROOM NO.	VOLTAGE/PHASE	KW	HP	FLA	MCA	BREAKER	HOMERUN CIRCUIT	CONDUIT & CABLING	DISCONNECT SWITCH/COMBINATION STARTER					INTERLOCK/REMARKS
										SIZE AMPS	POLES	FUSE	STARTER SIZE	NEMA RATING	
AIR HANDLERS															
AH1	MECH 126	208V/3ø	–	5	16.7	20.8	30	P5–7,9,11	3/4"C.; 3–#10, 1–#10 GND.	VFD1	–	–	–	–	–
AH2	MECH 120	208V/3ø	–	7.5	24.2	30.3	40	PP1–13,15,17	1"C.; 3–#8, 1–#10 GND.	VFD2	–	–	–	–	–
AH3	MECH. 102	208V/3ø	–	2.0	7.5	9.4	20	P9–1,3,5	3/4"C.; 3–#12, 1–#12 GND.	VFD3	–	–	–	–	–
DUCT HEATERS															
DH1	RM 126	208V/3ø	38.4	–	106.7	133.4	150	PP1–14,16,18	2"C.; 3–#1/0, 1–#6 GND.	DIV 15	–	MFS	–	1	–
DH2	RM 120	208V/3ø	54.1	–	150.3	188.0	200	P9–37,39,41	2"C.; 3–#3/0, 1–#6 GND.	DIV 15	–	MFS	–	1	–
DH3	RM 102	208V/3ø	15.7	–	43.6	54.5	60	P9–14,16,18	1"C.; 3–#6, 1–#10 GND.	DIV 15	–	MFS	–	1	–
DH001	RM 001	208V/3ø	7.8	–	21.7	27.2	30	P10–1,3,5	3/4"C.; 3–#10, 1–#10 GND.	DIV 15	–	MFS	–	1	–
DH002	RM 002	208V/3ø	3.3	–	9.2	11.5	20	P10–2,4,6	3/4"C.; 3–#12, 1–#12 GND.	DIV 15	–	MFS	–	1	–
DH003	RM 003	208V/3ø	2.7	–	7.5	9.4	20	P10–7,9,11	3/4"C.; 3–#12, 1–#12 GND.	DIV 15	–	MFS	–	1	–
DH005	RM 005	208V/3ø	4.1	–	11.4	14.3	20	P10–13,15,17	3/4"C.; 3–#12, 1–#12 GND.	DIV 15	–	MFS	–	1	–
DH100	RM 103	120V/1ø	0.8	–	6.7	8.4	20	P10–8	3/4"C.; 2–#12, 1–#12 GND.	DIV 15	–	MFS	–	1	–
DH103	RM 103	208V/3ø	7.1	–	19.7	24.7	30	P10–10,12,14	3/4"C.; 3–#10, 1–#10 GND.	DIV 15	–	MFS	–	1	–
DH104	RM 104	208V/3ø	6.5	–	18.1	22.7	30	P10–16,18,20	3/4"C.; 3–#10, 1–#10 GND.	DIV 15	–	MFS	–	1	–
DH106	RM 106	208V/3ø	5.5	–	15.3	19.2	20	P10–22,24,26	3/4"C.; 3–#12, 1–#12 GND.	DIV 15	–	MFS	–	1	–
DH109	RM 110	208V/3ø	6.7	–	18.6	23.3	30	P10–19,21,23	3/4"C.; 3–#10, 1–#10 GND.	DIV 15	–	MFS	–	1	–
DH113	RM 113	208V/3ø	12.1	–	33.6	42.1	50	PP1–2,4,6	3/4"C.; 3–#8, 1–#10 GND.	DIV 15	–	MFS	–	1	–
DH115	RM 115	208V/3ø	3.7	–	10.3	12.9	20	P10–25,27,29	3/4"C.; 3–#12, 1–#12 GND.	DIV 15	–	MFS	–	1	–
DH116	RM 116	208V/3ø	2.9	–	8.1	10.2	20	P10–28,30,32	3/4"C.; 3–#12, 1–#12 GND.	DIV 15	–	MFS	–	1	–
DH117	RM 117	208V/3ø	13.9	–	38.6	48.3	60	PP1–8,10,12	1"C.; 3–#6, 1–#10 GND.	DIV 15	–	MFS	–	1	–
DH121	RM 121	208V/3ø	5.2	–	14.4	18.1	20	P10–31,33,35	3/4"C.; 3–#12, 1–#12 GND.	DIV 15	–	MFS	–	1	–
DH122	RM 122	208V/3ø	2.7	–	7.5	9.4	20	P10–37,39,41	3/4"C.; 3–#12, 1–#12 GND.	DIV 15	–	MFS	–	1	–
DH123	RM 123	208V/3ø	12.7	–	35.3	44.2	50	P9–20,22,24	3/4"C.; 3–#8, 1–#10 GND.	DIV 15	–	MFS	–	1	–
DH124	RM 124	208V/3ø	6.0	–	16.7	20.9	30	P10–34,36,38	3/4"C.; 3–#10, 1–#10 GND.	DIV 15	–	MFS	–	1	–
DH125	RM 125	208V/3ø	10.6	–	29.4	36.8	40	P9–26,28,30	3/4"C.; 3–#8, 1–#10 GND.	DIV 15	–	MFS	–	1	–
CHILLERS															
CH1	CHILLER YARD	208V/3ø	–	(8) 2	528	660	800	MDP–1,3,5	3–1/2"C; (2) SETS OF 3#500KCMIL,1#1/0GND EACH	DIV 15	–	–	–	–	SINGLE POINT POWER CONNECTION. FACTORY MOUNTED INTERLOCKING NON–FUSED DISC. SWT
CH2	CHILLER YARD	208V/3ø	–	(8) 2	528	660	800	MDP–2,4,6	3–1/2"C; (2) SETS OF 3#500KCMIL,1#1/0GND EACH	DIV 15	–	–	–	–	SINGLE POINT POWER CONNECTION. FACTORY MOUNTED INTERLOCKING NON–FUSED DISC. SWT. BACKUP UNIT
CHILLER PUMPS															
CHWP1	CHILLER YARD	208V/3ø	–	7.5	24.2	30.3	40	MDP–7,9,11	3/4"C.; 3–#8, 1–#10 GND.	60	3	MFS	1	3R	–
CHWP2	CHILLER YARD	208V/3ø	–	7.5	24.2	30.3	40	MDP–8,10,12	3/4"C.; 3–#8, 1–#10 GND.	60	3	MFS	1	3R	BACKUP PUMP
EXHAUST FANS															
EF1	ON ROOF	208V/3ø	–	15	46.2	57.8	90	PP1–38,40,42	1–1/4"C.; 3–#3, 1–#8 GND.	100	3	MFS	3	3R	–
EF2	ON ROOF	208V/3ø	–	15	46.2	57.8	90	MDP–20,22,24	1–1/4"C.; 3–#3, 1–#8 GND.	100	3	MFS	3	3R	–
EF3	ON ROOF	208V/3ø	–	10	30.8	38.5	60	MDP–19,21,23	1"C.; 3–#6, 1–#10 GND.	60	3	MFS	2	3R	–
EF4	ON ROOF	208V/3ø	–	10	30.8	38.5	60	MDP–25,27,29	1"C.; 3–#6, 1–#10 GND.	60	3	MFS	2	3R	–
EF5	ON ROOF	120V/1ø	–	0.03	1	1.25	20	P9–36	3/4"C.; 2–#12, 1–#12 GND.	MRS	–	–	–	3R	–

MFS = MANUFACTURER'S RECOMMENDED FUSE SIZE
MRS = MOTOR RATED TOGGLE SWITCH BY DIVISION 16
VFD = VARIABLE FREQUENCY DRIVE (FURNISHED BY DIVISION 15) INSTALLED BY DIVISION 16

NF = NON–FUSED
DIV15 = DISCONNECTING MEANS PROVIDED BY THE MANUFACTURER OR DIVISION 15 CONTRACTOR

ROBERT C. ANSTON, P.E. 40858

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

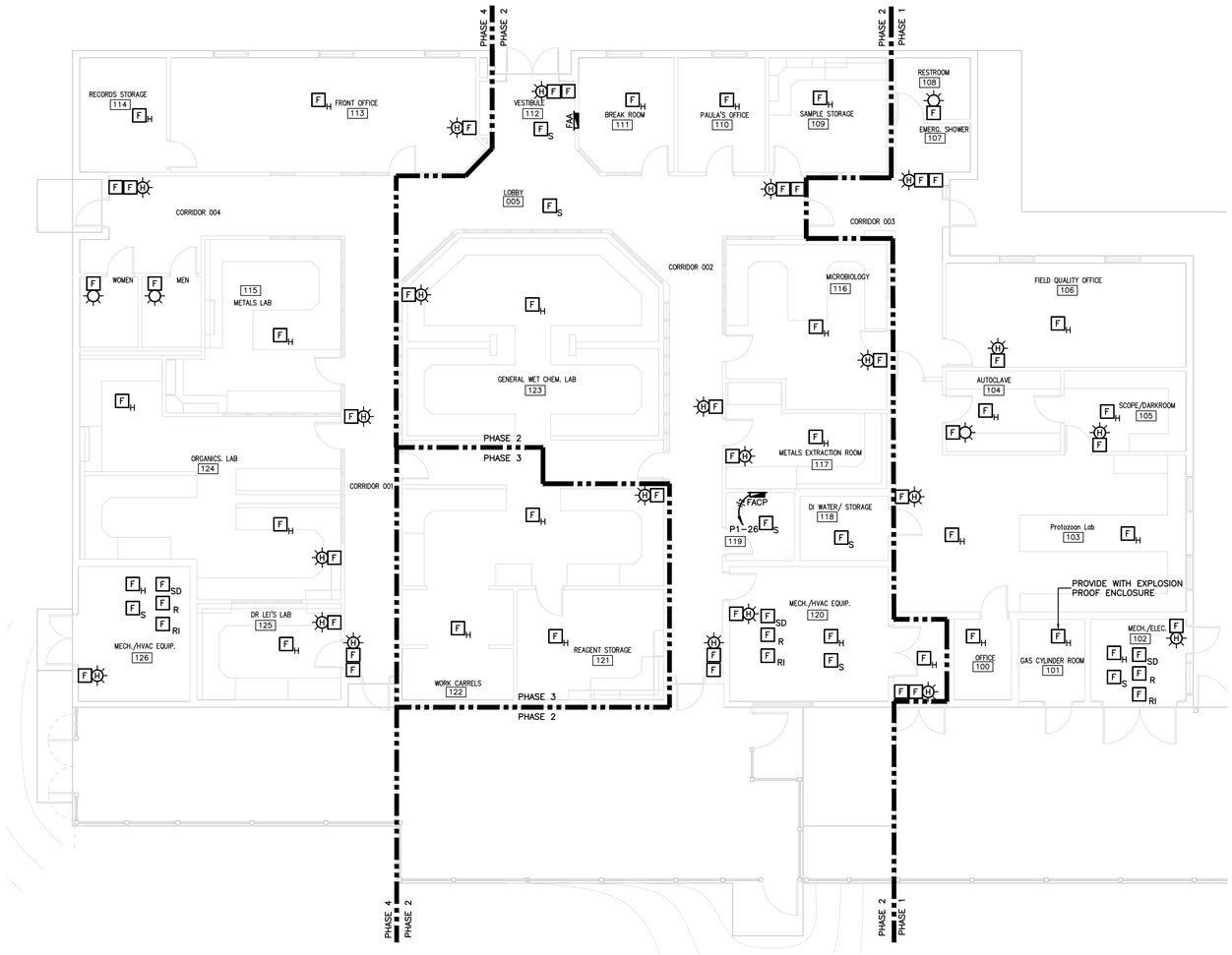
AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Hanlon Avenue, Tampa, FL 33612 (813)396-1919
Email: AGI@anston-greenlees.com http://www.anston-greenlees.com
Florida Engineering Business Number 6805

DRAWN	EJV
CHECKED	RCA
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	E201

Drawing File: I:\13xxx\13009.001\13009e201.dwg E201
Plotted by: andre2 Jan 24, 2014 - 5:00pm

GENERAL NOTES

1. EXISTING DOOR CONTACTS, ACCESS CONTROLS, MOTION DETECTORS, CAMERAS AND SECURITY PANEL TO REMAIN. PROTECT EXISTING DEVICES EQUIPMENT DURING CONSTRUCTION.



NORTH

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

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

FIRE ALARM SYSTEM FLOOR PLAN

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 (813)935-5919
Email: info@anston-greenlees.com Website: www.anston-greenlees.com
Florida Engineering Business Number 0883

DRAWN	EJV
CHECKED	RCA
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	E300

ROBERT C. ANSTON, P.E. 40858

Drawing File: i:\13xxx\13009.001\13009e300.dwg E300
Plotted by: andre2 Jan 24, 2014 - 5:01pm

"PP2" (REMOVE PANEL UNDER PHASE 4)

PANEL: PP2
AIC RATING: EXIST AMPS
SERVICE: 120/208 V.,
3PH,4W
MLO: 0 AMPS
MCB: 800 AMPS

DESCRIPTION	KVA	BKR	CKT	A	B	C	CKT	BKR	KVA	DESCRIPTION
SPARE	0	3P	1				2	–	0	SPACE
SPARE	0	110	3				4	–	0	SPACE
SPARE	0	"	5				6	–	0	SPACE
SPARE	0	3P	7				8	–	0	SPACE
SPARE	0	110	9				10	–	0	SPACE
SPARE	0	"	11				12	–	0	SPACE
A/C;CU2A	10.3	3P	13				14	3P	10.3	A/C;CU2B
A/C;CU2A	10.3	110	15				16	110	10.3	A/C;CU2B
A/C;CU2A	10.3	"	17				18	"	10.3	A/C;CU2B
SPACE	0	–	19				20	–	0	SPACE
SPACE	0	–	21				22	–	0	SPACE
SPACE	0	–	23				24	–	0	SPACE
SPACE	0	–	25				26	–	0	SPACE
SPACE	0	–	27				28	–	0	SPACE
SPACE	0	–	29				30	–	0	SPACE
SPACE	0	–	31				32	–	0	SPACE
SPACE	0	–	33				34	–	0	SPACE
SPACE	0	–	35				36	–	0	SPACE
SPACE	0	–	37				38	–	0	SPACE
SPACE	0	–	39				40	–	0	SPACE
SPACE	0	–	41				42	–	0	SPACE

A PH = 20.60 B PH = 20.60 C PH = 20.60

SERVES	CONN LOAD		FACTOR		FEED		DIVERSITY		KVAD	PANEL KVAD
LIGHTING	0.00	x	1.25	=	0.00	x		=		
RECEPT	0.00	x	*	=	0.00	x		=		
MISC EQUIP	0.00	x	1.00	=	0.00	x		=		
A/C	61.80	x	1.00	=	61.80	x		=		
HEATING	0.00	x	1.00	=	0.00	x		=		
LARGEST MOTOR	0.00	x	1.25	=	0.00	x		=		
OTHER MOTORS	0.00	x	1.00	=	0.00	x		=		
OTHER	0.00	x	1.00	=	0.00	x		=		
SPARE					226.07					
TOTALS	61.80 KVA				287.87 KVA					

* PER N.E.C. TABLE 220.44

"MDP"– NEW PANEL

PANEL: MDP
AIC RATING: AMPS
SERVICE: 120/208 V.,
3PH,4W
MLO: 0 AMPS
MCB: 1000 AMPS ***

	DESCRIPTION	KVA	BKR	CKT	A	B	C	CKT	BKR	KVA	DESCRIPTION	
**	A/C; CH1	63.4	3P	1				2	3P	0	A/C; CH2	*****
	A/C; CH1	63.4	600	3				4	600	0	A/C; CH2	
	A/C; CH1	63.4	"	5				6	"	0	A/C; CH2	
	MTR; CHWP1	2.9	3P	7				8	3P	0	MTR; CHWP–2	*****
	MTR; CHWP1	2.9	40	9				10	40	0	MTR; CHWP–2	
	MTR; CHWP1	2.9	"	11				12	"	0	MTR; CHWP–2	
****	A/C; CU1B	10.3	3P	13				14	3P	10.3	A/C; CU1A	****
	A/C; CU1B	10.3	110	15				16	110	10.3	A/C; CU1A	
	A/C; CU1B	10.3	"	17				18	"	10.3	A/C; CU1A	
	MTR; EF3 ON ROOF	3.7	3P	19				20	3P	0	MTR; EF2 ON ROOF	
	MTR; EF3 ON ROOF	3.7	60	21				22	90	0	MTR; EF2 ON ROOF	
	MTR; EF3 ON ROOF	3.7	"	23				24	"	0	MTR; EF2 ON ROOF	
	MTR; EF4 ON ROOF	0	3P	25				26	–	0	SPACE	
	MTR; EF4 ON ROOF	0	60	27				28	–	0	SPACE	
	MTR; EF4 ON ROOF	0	"	29				30	–	0	SPACE	
	SPACE	0	–	31				32	–	0	SPACE	
	SPACE	0	–	33				34	–	0	SPACE	
	SPACE	0	–	35				36	–	0	SPACE	
	SPACE	0	–	37				38	3P	0	SPD	
	SPACE	0	–	39				40	60	0	SPD	
	SPACE	0	–	41				42	"	0	SPD	

A PH = 90.60 B PH = 90.60 C PH = 90.60

SERVES	CONN LOAD		FACTOR		FEED		DIVERSITY		KVAD	PANEL KVAD
LIGHTING	0.00	x	1.25	=	0.00	x		=		
RECEPT	0.00	x	*	=	0.00	x		=		
MISC EQUIP	0.00	x	1.00	=	0.00	x		=		
A/C **	252.00	x	0.50	=	126.00	x		=		
HEATING	0.00	x	1.00	=	0.00	x		=		
LARGEST MOTOR	11.10	x	1.25	=	13.88	x		=		
OTHER MOTORS	8.70	x	1.00	=	8.70	x		=		
OTHER	0.00	x	1.00	=	0.00	x		=		
SPARE					211.27					
TOTALS	271.80 KVA				359.84 KVA					

* PER N.E.C. TABLE 220.44

NOTES:
** CHILLER LOAD IN PHASE 1 SHALL BE LIMITED TO 50% OF THE LOAD VIA HVAC CONTROLS.
*** PROVIDE 1000A FEED THRU LUGS.
**** REMOVE EXISTING A/C UNITS UNDER PHASE 2, AND LABEL SPARE.
***** CH2 & CHWP2 ARE BACKUP UNITS.

"PP1"

PANEL: PP1
AIC RATING: EXIST AMPS
SERVICE: 120/208 V.,
3PH,4W
MLO: 0 AMPS
MCB: 1200 AMPS

STATUS	DESCRIPTION	KVA	BKR	CKT	A	B	C	CKT	BKR	KVA	DESCRIPTION	STATUS
E	PNL P10	22.1	3P	1				2	3P	4.1	HEAT; DH113	N
E	PNL P10	21.3	225	3				4	50	4.1	HEAT; DH113	N
E	PNL P10	21.3	"	5				6	"	4.1	HEAT; DH113	N
E	EQ; STERILIZER	8	3P	7				8	3P	4.6	HEAT; DH117	N
E	EQ; STERILIZER	8	100	9				10	60	4.6	HEAT; DH117	N
E	EQ; STERILIZER	8	"	11				12	"	4.6	HEAT; DH117	N
N	MTR; AH2	2.9	3P	13				14	3P	12.8	HEAT; DH1	N
N	MTR; AH2	2.9	40	15				16	150	12.8	HEAT; DH1	N
N	MTR; AH2	2.9	"	17				18	"	12.8	HEAT; DH1	N
E	PNL P1	5.05	3P	19				20	3P	8	PNL P2	E
E	PNL P1	12.85	100	21				22	100	8	PNL P2	E
E	PNL P1	3.2	"	23				24	"	8	PNL P2	E
E	PNL P3	9.6	3P	25				26	3P	9	PNL P4	E
E	PNL P3	9.6	125	27				28	125	9	PNL P4	E
E	PNL P3	9.6	"	29				30	"	9	PNL P4	E
E	PNL P5	16.2	3P	31				32	3P	0	PNL P6	E
E	PNL P5	16.7	200	33				34	225	0	PNL P6	E
E	PNL P5	14.9	"	35				36	"	0	PNL P6	E
E	PNL P7	8	3P	37				38	3P	5.5	MTR; EF1 ON ROOF	N
E	PNL P7	8	100	39				40	90	5.5	MTR; EF1 ON ROOF	N
E	PNL P7	8	"	41				42	"	5.5	MTR; EF1 ON ROOF	N

A PH = 115.85 B PH = 123.35 C PH = 111.90

SERVES	CONN LOAD		FACTOR		FEED		DIVERSITY		KVAD	PANEL KVAD
LIGHTING	0.00	x	1.25	=	0.00	x		=		
RECEPT	0.00	x	*	=	0.00	x		=		
MISC EQUIP	24.00	x	1.00	=	24.00	x		=		
A/C	0.00	x	1.00	=	0.00	x		=		
HEATING	64.50	x	1.00	=	64.50	x		=		
LARGEST MOTOR	16.50	x	1.25	=	20.63	x		=		
OTHER MOTORS	8.70	x	1.00	=	8.70	x		=		
OTHER	237.40	x	1.00	=	237.40	x		=		
SPARE					76.58					
TOTALS	351.10 KVA				431.81 KVA					

* PER N.E.C. TABLE 220.44

"P10"– EXISTING PANEL

PANEL: P10
AIC RATING: EXIST AMPS
SERVICE: 120/208 V.,
3PH,4W
MLO: 225 AMPS
MCB: AMPS

STATUS	DESCRIPTION	KVA	BKR	CKT	A	B	C	CKT	BKR	KVA	DESCRIPTION	STATUS
N	HEAT; DH001	2.6	3P	1				2	3P	1.1	HEAT; DH002	N
N	HEAT; DH001	2.6	30	3				4	20	1.1	HEAT; DH002	N
N	HEAT; DH001	2.6	"	5				6	"	1.1	HEAT; DH002	N
N	HEAT; DH003	0.9	3P	7				8	20	0.8	HEAT; DH100	N
N	HEAT; DH003	0.9	20	9				10	3P	2.4	HEAT; DH103	N
N	HEAT; DH003	0.9	"	11				12	30	2.4	HEAT; DH103	N
N	HEAT; DH005	1.3	3P	13				14	"	2.4	HEAT; DH103	N
N	HEAT; DH005	1.3	20	15				16	3P	2.2	HEAT; DH104	N
N	HEAT; DH005	1.3	"	17				18	30	2.2	HEAT; DH104	N
N	HEAT; DH109	2.2	3P	19				20	"	2.2	HEAT; DH104	N
N	HEAT; DH109	2.2	30	21				22	3P	1.8	HEAT; DH106	N
N	HEAT; DH109	2.2	"	23				24	20	1.8	HEAT; DH106	N
N	HEAT; DH115	1.2	3P	25				26	"	1.8	HEAT; DH106	N
N	HEAT; DH115	1.2	20	27				28	3P	1	HEAT; DH116	N
N	HEAT; DH115	1.2	"	29				30	20	1	HEAT; DH116	N
N	HEAT; DH121	1.7	3P	31				32	"	1	HEAT; DH116	N
N	HEAT; DH121	1.7	20	33				34	3P	2	HEAT; DH124	N
N	HEAT; DH121	1.7	"	35				36	30	2	HEAT; DH124	N
N	HEAT; DH122	0.9	3P	37				38	"	2	HEAT; DH124	N
N	HEAT; DH122	0.9	20	39				40	–	0	SPACE	E
N	HEAT; DH122	0.9	"	41				42	–	0	SPACE	E

A PH = 22.10 B PH = 21.30 C PH = 21.30

SERVES	CONN LOAD		FACTOR		FEED		DIVERSITY		KVAD	PANEL KVAD
LIGHTING	0.00	x	1.25	=	0.00	x		=		
RECEPT	0.00	x	*	=	0.00	x		=		
MISC EQUIP	0.00	x	1.00	=	0.00	x		=		
A/C	0.00	x	1.00	=	0.00	x		=		
HEATING	64.70	x	1.00	=	64.70	x		=		
LARGEST MOTOR	0.00	x	1.25	=	0.00	x		=		
OTHER MOTORS	0.00	x	1.00	=	0.00	x		=		
OTHER	0.00	x	1.00	=	0.00	x		=		
SPARE					16.26					
TOTALS	64.70 KVA				80.96 KVA					

* PER N.E.C. TABLE 220.44

"P9"– EXISTING PANEL

PANEL: P9
AIC RATING: EXIST AMPS
SERVICE: 120/208 V.,
3PH,4W
MLO: 400 AMPS
MCB: 0 AMPS

STATUS	DESCRIPTION	KVA	BKR	CKT	A	B	C	CKT	BKR	KVA	DESCRIPTION	STATUS
N	MTR; AH3	0.9	3P	1				2	3P	0.5	EQ; EXIST	E
N	MTR; AH3	0.9	20	3				4	30	0.5	EQ; EXIST	E
N	MTR; AH3	0.9	"	5				6	"	0.5	EQ; EXIST	E
E	EQ; EXIST	0.5	3P	7				8	20	0.5	EQ; EXIST	E
E	EQ; EXIST	0.5	20	9				10	2P	0.5	EQ; EXIST	E
E	EQ; EXIST	0.5	"	11				12	20	0.5	EQ; EXIST	E
E	EQ; EXIST	0.5	20	13				14	3P	5.23	HEAT; DH3	N
E	EQ; EXIST	0.5	20	15				16	60	5.23	HEAT; DH3	N
E	EQ; EXIST	0.5	2P	17				18	"	5.23	HEAT; DH3	N
E	EQ; EXIST	0.5	20	19				20	3P	4.2	HEAT; DH123	N
E	EQ; EXIST	0.5	3P	21				22	50	4.2	HEAT; DH123	N
E	EQ; EXIST	0.5	30	23				24	"	4.2	HEAT; DH123	N
E	EQ; EXIST	0.5	"	25				26	3P	3.5	HEAT; DH125	N
E	SPACE	0	–	27				28	40	3.5	HEAT; DH125	N
E	SPACE	0	–	29				30	"	3.5	HEAT; DH125	N
E	PNL P8	9	3P	31				32	20	0.4	REC; RECEPTS OUTSIDE	N
E	PNL P8	9	125	33				34	20	0.2	REC; ON ROOF	N
E	PNL P8	9	"	35				36	20	1.2	MTR; EF5 ON ROOF	N
N	HEAT; DH3	18	3P	37				38	3P	0	SPARE	E
N	HEAT; DH3	18	200	39				40	80	0	SPARE	E
N	HEAT; DH3	18	"	41				42	"	0	SPARE	E

A PH = 44.23 B PH = 43.53 C PH = 44.53

SERVES	CONN LOAD		FACTOR		FEED		DIVERSITY		KVAD	PANEL KVAD
LIGHTING	0.00	x	1.25	=	0.00	x		=		
RECEPT	0.60	x	*	=	0.60	x		=		
MISC EQUIP	8.00	x	1.00	=	8.00	x		=		
A/C	0.00	x	1.00	=	0.00	x		=		
HEATING	92.79	x	1.00	=	92.79	x		=		
LARGEST MOTOR	2.70	x	1.25	=	3.38	x		=		
OTHER MOTORS	1.20	x	1.00	=	1.20	x		=		
OTHER	27.00	x	1.00	=	27.00	x		=		
SPARE					10.97					
TOTALS	132.29 KVA				143.94 KVA					

* PER N.E.C. TABLE 220.44

"P5"– EXISTING PANEL

PANEL: P5
AIC RATING: EXIST AMPS
SERVICE: 120/208 V.,
3PH,4W
MLO: 0 AMPS
MCB: 200 AMPS

STATUS	DESCRIPTION	KVA	BKR	CKT	A	B	C	CKT	BKR	KVA	DESCRIPTION	STATUS
E	EQ; HOOD 1 EXIST	1	20	1				2	20	0.8	REC; EXIST	E
E	REC; HALLWAY EXIST	1	20	3				4	20	1	REC; EXIST	E
E	REC; HVAC MECH EXIST	0.5	20	5				6	3P	0	SPARE	E
N	MTR; AH1	2	3P	7				8	60	0	SPARE	E
N	MTR; AH1	2	30	9				10	"	0	SPARE	E
N	MTR; AH1	2	"	11				12	2P	0	SPACE	E
N	HEAT; EHU2	2.8	3P	13				14	20	0	SPACE	E
N	HEAT; EHU2	2.8	30	15				16	2P	0	SPACE	E
N	HEAT; EHU2	2.8	"	17				18	30	0	SPACE	E
E	SPACE	0	20	19				20	2P	0	SPACE	E
E	SPACE	0	20	21				22	30	0	SPACE	E
E	SPACE	0	20	23				24	2P	0	SPACE	E
E	SPACE	0	20	25				26	30	0	SPACE	E
E	SPACE	0	20	27				28	20	0	SPACE	E
E	SPACE	0	3P	29				30	20	0	SPACE	E
E	SPACE	0	3P	31				32	20	0	SPACE	E
E	SPACE	0	100	33				34	20	0.3	EQ; CAMERA EXIST	E
E	SPACE	0	"	35				36	20	0	SPACE	E
E	SPACE	0	20	37				38	3P	9.6	PNL P5A	E
E	SPACE	0	2P	39				40	100	9.6	PNL P5A	E
E	SPACE	0	50	41				42	"	9.6	PNL P5A	E

A PH = 16.20 B PH = 16.70 C PH = 14.90

SERVES	CONN LOAD		FACTOR		FEED		DIVERSITY		KVAD	PANEL KVAD
LIGHTING	0.00	x	1.25	=	0.00	x		=		
RECEPT	3.30	x	*	=	3.30	x		=		
MISC EQUIP	1.30	x	1.00	=	1.30	x		=		
A/C	0.00	x	1.00	=	0.00	x		=		
HEATING	8.40	x	1.00	=	8.40	x		=		
LARGEST MOTOR	6.00	x	1.25	=	7.50	x		=		
OTHER MOTORS	0.00	x	1.00	=	0.00	x		=		
OTHER	28.80	x	1.00	=	28.80	x		=		
SPARE					22.67					
TOTALS	47.80 KVA				71.97 KVA					

* PER N.E.C. TABLE 220.44

"P1"– EXISTING PANEL

PANEL: P1
AIC RATING: EXIST AMPS
SERVICE: 120/208 V.,
3PH,4W
MLO: 0 AMPS
MCB: 125 AMPS

STATUS	DESCRIPTION	KVA	BKR	CKT	A	B	C	CKT	BKR	KVA	DESCRIPTION	STATUS
E	REC; EXIST	0.8	20	1				2	20	0.8	REC; EXIST	E
E	REC; EXIST	0.9	20	3				4	20	0.8	REC; EXIST	E
E	REC; EXIST	0.3	20	5				6	2P	0	SPACE	E
N	HEAT; EWH1	2.25	2P	7				8	30	0	SPACE	E
N	HEAT; EWH1	2.25	30	9				10	3P	0	SPACE	E
E	SPARE	0	3P	11				12	20	0	SPACE	E
E	SPARE	0	50	13				14	"	0	SPACE	E
E	SPARE	0	"	15				16	70	5.5	MTR; COMP. EXIST	E
E	SPARE	0	2P	17				18	20	0	SPARE	E
E	SPARE	0	20	19				20	20	0	SPARE	E
E	LTG; EXIST	1	20	21				22	20	1	LTG; EXIST	E
E	LTG; EXIST	1	20	23				24	20	1	LTG; EXIST	E
E	SPACE	0	–	25				26	20	0.3	EQ; FACP	E
E	MTR; EF–3 EXIST	1.2	20	27				28	–	0	EQ; TIME CLOCK EXIST	E
E	SPARE	0	20	29				30	2P	0.9	EQ; FREEZER	N
E	SPARE	0	20	31				32	20	0.9	EQ; FREEZER	N
E	SPARE	0	20	33				34	20	0.2	REC; ON ROOF	N
E	SPARE	0	20	35				36	20	0	SPARE	E
E	SPACE	0	–	37				38	20	0	SPARE	E
E	SPACE	0	–	39				40	20	0	SPARE	E
E	SPACE	0	–	41				42	20	0	SPARE	E

A PH = 5.05 B PH = 12.85 C PH = 3.20

SERVES	CONN LOAD		FACTOR		FEED		DIVERSITY		KVAD	PANEL KVAD
LIGHTING	4.00	x	1.25	=	5.00	x		=		
RECEPT	3.80	x	*	=	3.80	x		=		
MISC EQUIP	2.10	x	1.00	=	2.10	x		=		
A/C	0.00	x	1.00	=	0.00	x		=		
HEATING	4.50	x	1.00	=	4.50	x		=		
LARGEST MOTOR	5.50	x	1.25	=	6.88	x		=		
OTHER MOTORS	1.20	x	1.00	=	1.20	x		=		
OTHER	0.00	x	1.00	=	0.00	x		=		
SPARE					21.51					
TOTALS	21.10 KVA				44.98 KVA					

* PER N.E.C. TABLE 220.44

E = EXISTING CIRCUIT TO REMAIN.
N = NEW CIRCUIT.
R = REPLACE EXISTING CIRCUIT BREAKER AND PROVIDE NEW CIRCUIT WIRING TO NEW DEVICE.
S = SPARE OUT EXISTING BREAKER. REMOVE ALL ABANDONED CONDUCTORS AND CONDUIT.

PP2	MDP	PP1
P10	P9	P5
P1		

ROBERT C. ANSTON, P.E. 40858

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

PANEL SCHEDULES – PHASE 1& 2

AGI Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 Tel(813)963-1919
Email: AGI@agi-engineers.com HTTP://www.agi-engineers.com
Florida Engineering Business Number 6093

DRAWN: EJV
CHECKED: RCA
DATE: 1/10/2014
SCALE: AS NOTED
AGI PROJECT: 13009
SHEET: E400

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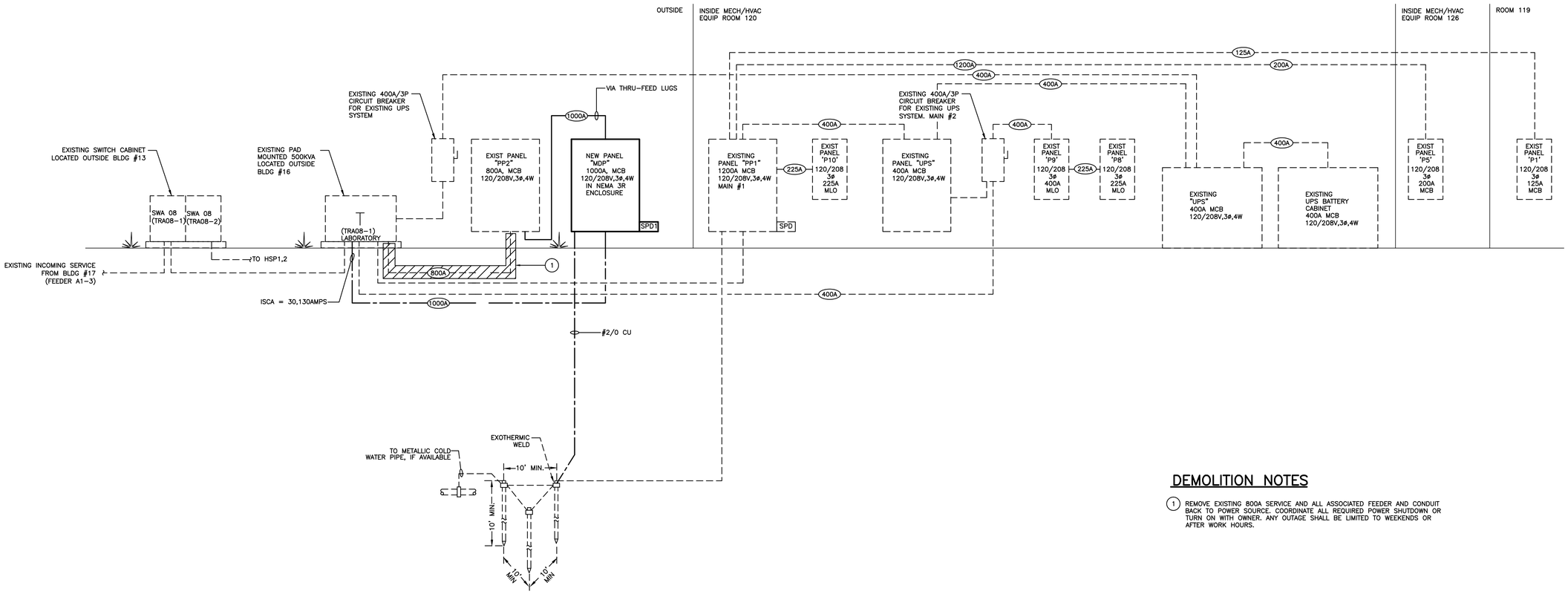

DEMOLITION NOTES

1. REMOVE EXISTING 800A SERVICE AND ALL ASSOCIATED FEEDER AND CONDUIT BACK TO POWER SOURCE. COORDINATE ALL REQUIRED POWER SHUTDOWN OR TURN ON WITH OWNER. ANY OUTAGE SHALL BE LIMITED TO WEEKENDS OR AFTER WORK HOURS.

ELECTRICAL RISER DIAGRAM – PHASE 1, 2 & 3

SCALE: NOT TO SCALE

FEEDER SCHEDULE	
AMPS	CONDUIT & CABLING
125A	1–1/2"C; 3–#1, 1–#1 NEUTRAL, 1–#6 GROUND
200A	2"C; 3–#3/0, 1–#3/0 NEUTRAL, 1–#6 GROUND
225A	2–1/2"C; 3–#4/0, 1–#4/0 NEUTRAL, 1–#4 GROUND
400A	(380A) 4"C; 3–#500 KCMIL, 1–#500 KCMIL NEUTRAL, 1–#3 GROUND
800A	THREE(3) 3"C; EACH WITH 3–#300 KCMIL, 1–#300 KCMIL NEUTRAL, 1–#1/0 GROUND
1000A	THREE(3) 4"C; EACH WITH 3–#500 KCMIL, 1–#500 KCMIL NEUTRAL, 1–#3/0 GROUND
1200A	FOUR(4) 3–1/2"C; 3–#350 KCMIL, 1–#350 KCMIL NEUTRAL, 1–#3/0 GROUND

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

ELECTRICAL RISER DIAGRAM – PHASE 1 & 2

Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Hanlon Avenue, Tampa, FL 33612 (813)396-9459
Email: info@anston-greenlees.com Web Site: www.anston-greenlees.com
Florida Engineering Business Number 6865
AGI

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SCALE	AS NOTED
AGI PROJECT	13009
SHEET	E500

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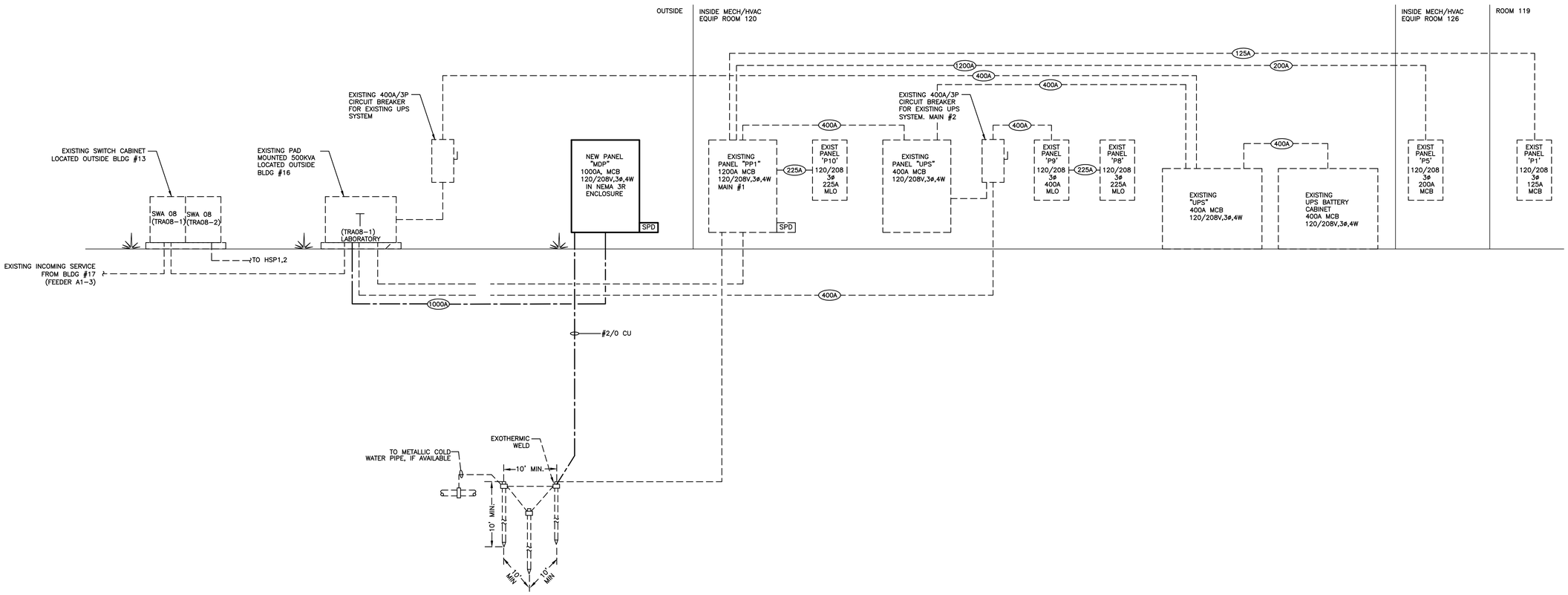

ELECTRICAL RISER DIAGRAM – PHASE 4

SCALE: NOT TO SCALE

FEEDER SCHEDULE	
AMPS	CONDUIT & CABLING
125A	1–1/2"C; 3–#1, 1–#1 NEUTRAL, 1–#6 GROUND
200A	2"C; 3–#3/0, 1–#3/0 NEUTRAL, 1–#6 GROUND
225A	2–1/2"C; 3–#4/0, 1–#4/0 NEUTRAL, 1–#4 GROUND
400A	(380A) 4"C; 3–#500 KCMIL, 1–#500 KCMIL NEUTRAL, 1–#3 GROUND
800A	THREE(3) 3"C; EACH WITH 3–#300 KCMIL, 1–#300 KCMIL NEUTRAL, 1–#1/0 GROUND
1000A	THREE(3) 4"C; EACH WITH 3–#500 KCMIL, 1–#500 KCMIL NEUTRAL, 1–#3/0 GROUND
1200A	FOUR(4) 3–1/2"C; 3–#350 KCMIL, 1–#350 KCMIL NEUTRAL, 1–#3/0 GROUND

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

ELECTRICAL RISER DIAGRAM – PHASE 3

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 (813) 935-5459
Email: AGI@anston-greenlees.com Certificate of Authorization
Florida Engineering Business Number 6093

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DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	E501

ROBERT C. ANSTON, P.E. 40858

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CONDUCTOR LEGEND

A – INITIATION DEVICE LOOP – MINIMUM #18 TWISTED SHIELDED PAIR.

B – STROBE CIRCUIT – MINIMUM #18 AWG. PROVIDE #12 OR HIGHER WHERE REQUIRED FOR VOLTAGE DROP.

C – HORN/STROBE CIRCUIT – MINIMUM #18 AWG. PROVIDE #12 OR HIGHER WHERE REQUIRED FOR VOLTAGE DROP.

D – AUXILIARY CONTROL CIRCUIT – MINIMUM #18 AWG. PROVIDE #12 OR HIGHER WHERE REQUIRED FOR VOLTAGE DROP. * QUANTITY OF AUXILIARY CONTROL CIRCUITS TO BE DETERMINED BASED UPON CONTROLS REQUIRED.

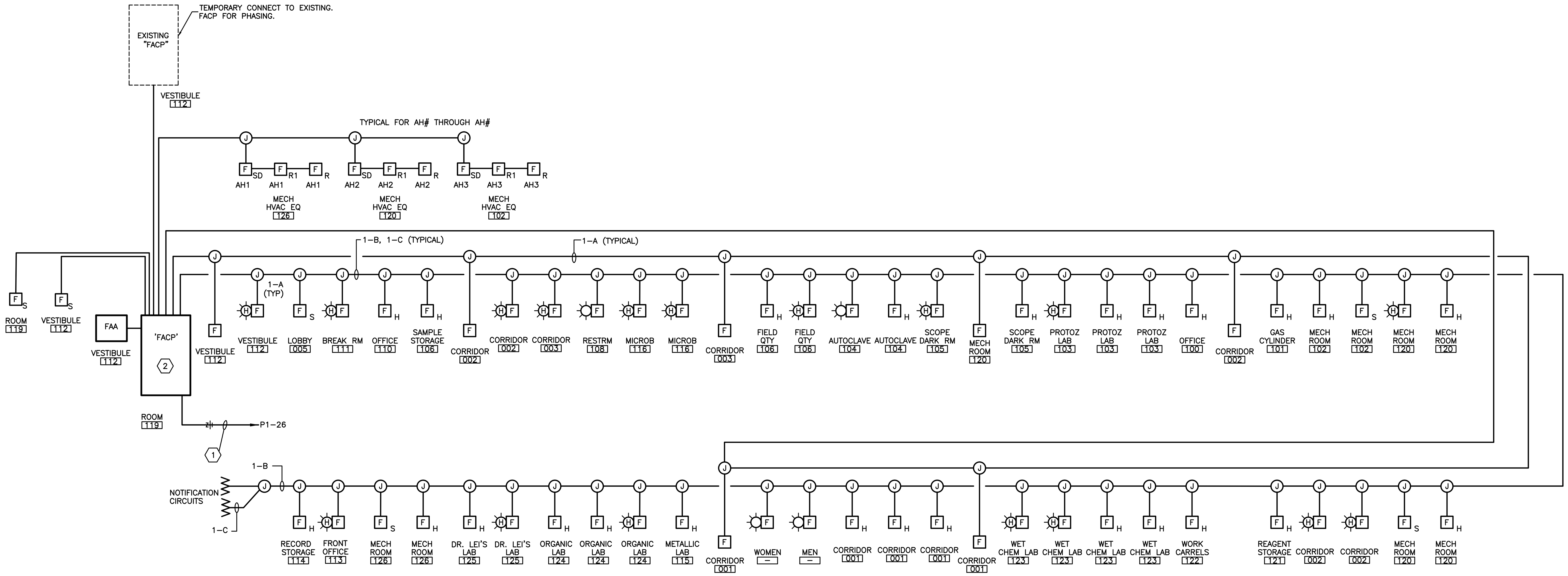
FIRE ALARM GENERAL NOTES:

1. ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT SIZED IN ACCORDANCE WITH NEC. ALL CONDUIT SHALL BE CONCEALED WHERE EVER POSSIBLE. PROVIDE SURFACE MOUNTED WIREMOLD WHERE RACEWAY IS REQUIRED TO BE SURFACE MOUNTED. CONDUIT SIZES SHOWN ARE MINIMUM. PROVIDE REQUIRED CONDUIT FOR NUMBER OF CONDUCTORS REQUIRED.
2. INDICATING APPLIANCE SIGNAL CIRCUITS SHALL BE A MINIMUM #12 AWG STRANDED COPPER, NPLFP TYPE, PER NEC. ALARM INITIATING CIRCUITS SHALL BE A MINIMUM #18 AWG STRANDED COPPER, NPLFP TYPE, PER NEC.
3. QUANTITIES OF CONDUCTORS AND CIRCUITING INDICATED IS BASED ON A SPECIFIC SYSTEM AND MAY BE DIFFERENT DEPENDING ON THE MANUFACTURER UTILIZED. CONTRACTOR IS TO PROVIDE ALL NECESSARY CIRCUITS, WIRE AND CONDUIT TO ACCOMPLISH THE FUNCTIONS INDICATED HERE, ON THE FLOOR PLANS AND IN THE SPECIFICATIONS.
4. SEE FLOOR PLANS FOR ADDITIONAL DEVICES REQUIRED WHICH MAY NOT BE INDICATED ON THE RISER DIAGRAM.
5. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

FIRE ALARM NOTES:

1. PROVIDE 120 VOLT CIRCUIT FROM PANELBOARD AS INDICATED ON DRAWING.
2. PROVIDE REQUIRED BATTERIES AND POWER SUPPLIES PROVIDE SURGE SUPPRESSION IN CABINET.

REVISIONS	BY



FIRE ALARM RISER DIAGRAM

NOT TO SCALE

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

FIRE ALARM RISER DIAGRAM

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Mechanical & Electrical Consulting Engineers

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SCALE	AS NOTED
AGI PROJECT	13009
SHEET	E600

ROBERT C. ANSTON, P.E. 40858

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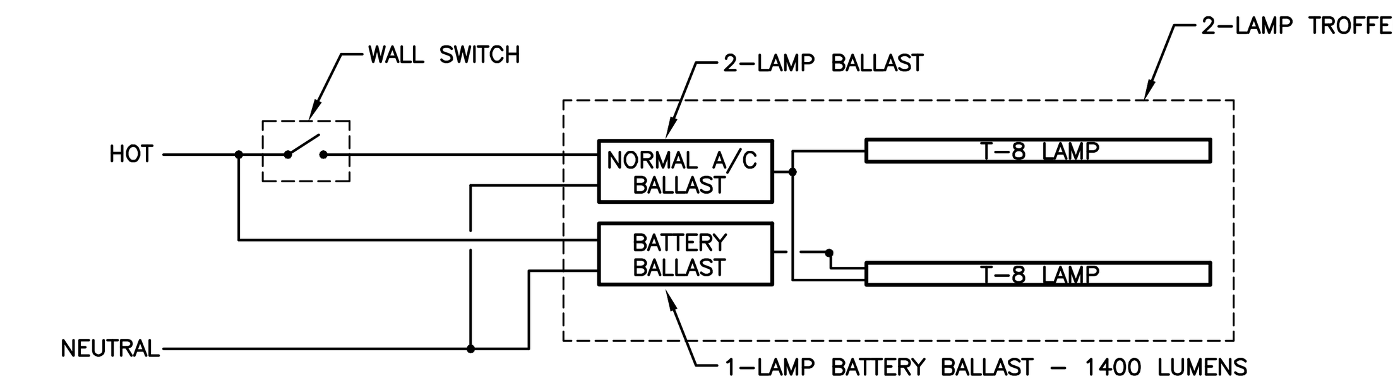
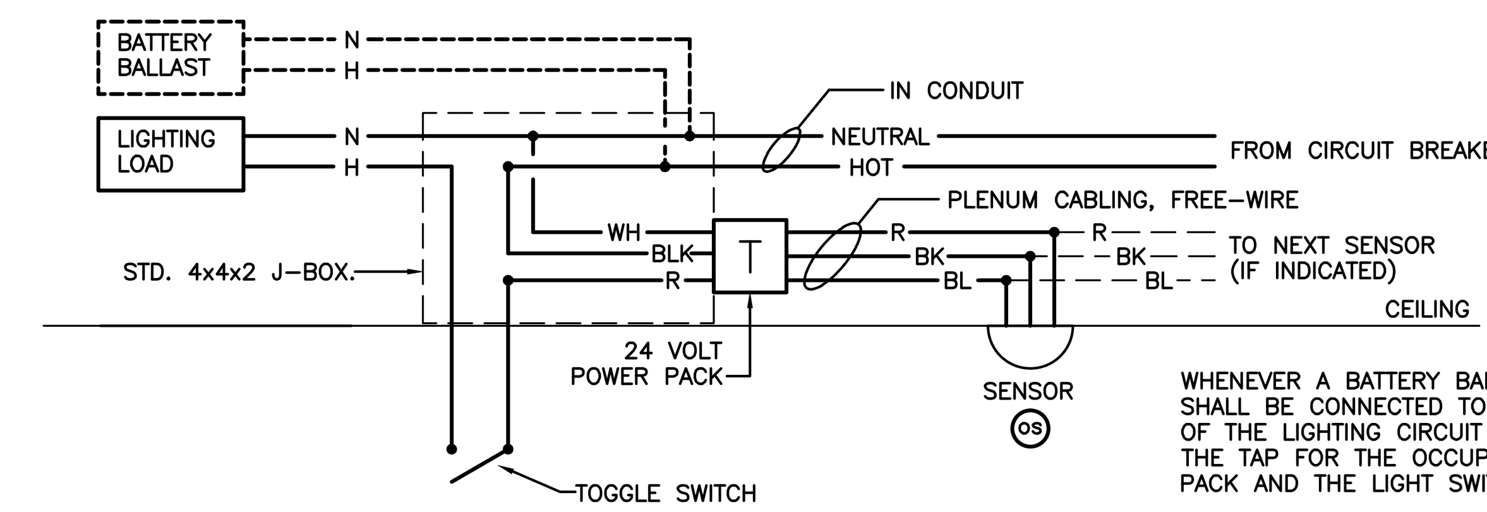


TYPICAL ONE LAMP BATTERY BALLAST WIRING DIAGRAM 2-LAMP FIXTURE

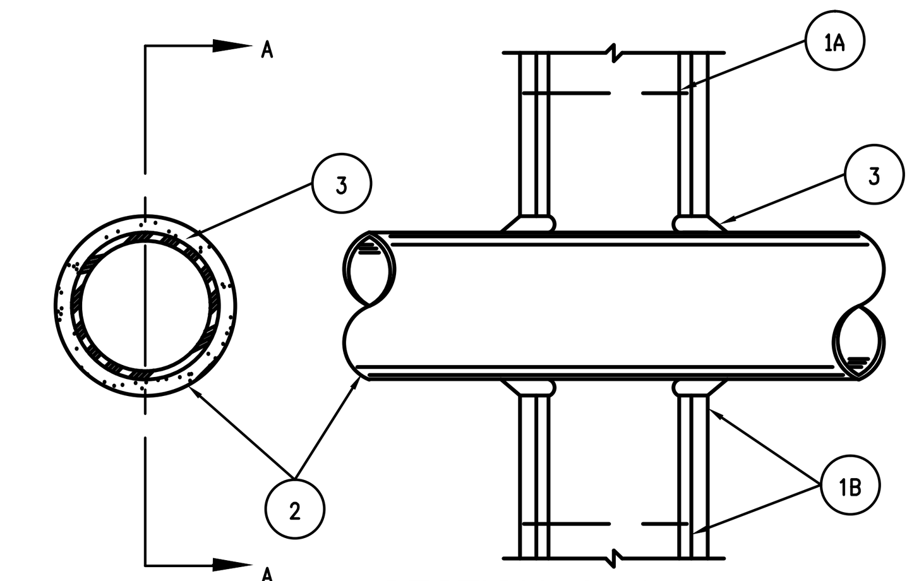
SCALE: NONE



WHENEVER A BATTERY BALLAST IN USED, IT SHALL BE CONNECTED TO THE UNSWITCHED LEG OF THE LIGHTING CIRCUIT AND WIRED AHEAD OF THE TAP FOR THE OCCUPANCY SENSOR POWER PACK AND THE LIGHT SWITCH

TYPICAL CEILING MOUNT OCCUPANCY SENSOR WIRING DIAGRAM

SCALE: NONE



SECTION A-A

REFERENCE: UL SYSTEM WL1001 (1994)

B/E-2 FIRE-RATED WALL PENETRATION DETAIL FOR PIPE OR CONDUIT

NOT TO SCALE

(1) WALL ASSEMBLY THE 1,2,3 OR 4HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS-WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX 2H FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2X4. LUMBER SPACED 16" O.C. WITH NOM 2X4". LUMBER END PLATES & CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8" WIDE BY 1-3/8" DEEP CHANNELS SPACED MAX 24" O.C.

B. WALLBOARD GYPSUM*-NOM 1/2 OR 5/8" THICK, 4' WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LEAVERS, FASTENER TYPE & SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 13-1/2".

(2) PIPE OR CONDUIT-NOM 12" DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE, NOM 6" DIAM (OR SMALLER) STEEL CONDUIT, NOM 4" DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR TYPE L OR (OR HEAVIER) COPPER TUBING OR NOM 1" DIAM (OR SMALLER) FLEXIBLE STEEL CONDUIT. WHEN COPPER PIPE OR FLEXIBLE STEEL CONDUIT IS USED, MAX F RATING OF FIRESTOP SYSTEM (ITEM 3) IS 2 H, STEEL PIPES OR CONDUITS LARGER THAN NOM 4" DIAM MAY ONLY BE USED IN WALLS CONSTRUCTED USING STEEL CHANNEL STUDS. A MAX OF ONE PIPE OR CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH & TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.

(3) FILL VOID OR CAVITY MATERIAL*-CAULK-CAULK FILL MATERIAL INSTALLED TO COMPLETELY FILL ANNULAR SPACE BETWEEN PIPE OR CONDUIT & GYPSUM GYPSUM WALLBOARD & WITH A MIN 1/4" DIAM BRAD OF CAULK APPLIED TO PERIMETER OF PIPE OR CONDUIT AT ITS EGRESS FROM THE WALL. CAULK INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDANT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDANT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT & THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

MAX PIPE OR CONDUIT DIAM, IN.	ANNULAR SPACE, IN.	F RATING, HR.	T RATING, HR.
1	0 TO 3/16	1 OR 2	0+, 1 OR 2
1	1/4 TO 1/2	3 OR 4	3 OR 4
4	0 TO 1/4	1 OR 2	0
6	1/4 TO 1/2	3 OR 4	0
12	3/16 TO 3/8	1 OR 2	0

WHEN COPPER PIPE IS USED, T RATING IS 0 H.

MINNESOTA MINING & MFG. CO.-TYPES CP-25 S/L, CP-25 WB, CP-25 WB+. (NOTE: L RATINGS APPLY ONLY WHEN TYPE CP-25 WB+ CAULK IS USED).

*BEARING THE UL CLASSIFICATION MARKING.

REVISIONS	BY

DAVID L. TIPPIN
WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT
7125 NORTH 30TH STREET, TAMPA, FL 33610

ELECTRICAL DETAILS

AGI
Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers
1315 West Fletcher Avenue, Tampa, FL 33612 Tel(813)963-1919
Email: AGI@agi-engineers.com HTTP://www.agi-engineers.com
Florida Engineering Business Number 6093

DRAWN	EJV
CHECKED	RCA
DATE	1/10/2014
SCALE	AS NOTED
AGI PROJECT	13009
SHEET	E601

ROBERT C. ANSTON, P.E. 40858

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STRUCTURAL NOTES

GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR AND SHALL VERIFY AND COORDINATE ALL DIMENSIONS AND DETAILS BEFORE PROCEEDING WITH WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT AND ENGINEERS.
2. DETAILS SHOWN IN ANY SECTION APPLY TO ALL SIMILAR SECTIONS AND CONDITIONS UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL FULLY BRACE AND OTHERWISE PROTECT ALL WORK IN PROGRESS UNTIL THE BUILDING IS COMPLETED.
4. ALL STRUCTURAL ITEMS FOR THIS PROJECT HAVE BEEN DESIGNED IN ACCORDANCE WITH APPROPRIATE PROVISIONS OF EACH OF THE FOLLOWING:

   A. THE FLORIDA BUILDING CODE, 2010 EDITION.
   B. ACI STANDARD 318–08 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
   C. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530–08/ASCE 5–10/TMS 402–05).
   D. AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" NINTH EDITION.
   E. ASCE 7–10 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES".

5. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SPECIFICATIONS AND THE ARCHITECTURAL AND MECHANICAL DRAWINGS. IF THERE IS A DISCREPANCY BETWEEN DRAWINGS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ARCHITECT PRIOR TO PERFORMING WORK. IN CASE OF CONFLICT THE MOST STRINGENT CONDITION SHALL APPLY.
5. ALL DIMENSIONS MUST BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND WITH EQUIPMENT MANUFACTURER (I.E. WINDOW, DOOR, AIR HANDLER, ETC.). CONTRACTOR MUST OBTAIN AN ARCHITECTURAL DIRECTIVE IN CASE OF ANY CONFLICT.

STEEL ROOF DECK:

1. STEEL ROOF DECK SHALL BE A MINIMUM OF 1–1/2" – 20 GAGE WIDE RIB FOR SPANS UP TO 5'–0"
2. ALL STEEL ROOF DECK SHALL BE GALVANIZED G90 AS PER ASTM SPECIFICATIONS.
3. ALL STEEL ROOF DECK SHALL BE CAPABLE OF SUPPORTING ALL CONSTRUCTION LOADS.
4. IN AREAS WHERE THE DECK IS CUT AS PER NOTE 6, THE GAGE OF THE SINGLE SPAN DECK SHALL BE ADJUSTED UPWARDS AS REQUIRED BY THE ENGINEER TO SUPPORT THE LOADS.
5. STEEL ROOF DECK SHALL BE WELDED AT ENDS AND ALL INTERMEDIATE SUPPORTING MEMBERS WITH 5/8" DIAMETER PUDDLE WELDS OR ELONGATED WELDS OF EQUAL STRENGTH SPACED PER SPECIFICATIONS IN THE BOTTOM OF THE RIB ACROSS THE WIDTH OF THE DECK UNIT.

STRUCTURAL STEEL:

1. ALL STRUCTURAL STEEL WORK SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST A.I.S.C. SPECIFICATIONS.
2. STRUCTURAL STEEL SHALL CONFORM TO:

WIDE FLANGE (WF)	ASTM A992 (50 KSI)
SHAPES (L,T,C,PL)	ASTM A36
STRUCTURAL TUBE (HSS)	ASTM A500 (46 KSI)
STEEL PIPE (HSS)	ASTM A500 (42 KSI)
ANCHOR BOLTS	ASTM F1554 (36 KSI) U.N.O. IN PLANS, OR SECTIONS.
FRAMING BOLTS	ASTM A325 OR A490
SHEAR STUDS	ASTM A108
WELDING ELECTRODES	E70XX

3. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM SPECIFICATION A325 AND SHALL BE PROVIDED WITH HARDENED WASHERS UNDER THE TURNED ELEMENT (NUT OR BOLT HEAD).
4. INSTALLATION AND TIGHTENING OF ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
5. SHOP CONNECTIONS MAY BE WELDED OR HIGH STRENGTH BOLTED. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM. ALL CONNECTIONS SHALL CONFORM TO THE TYPICAL CONNECTION DETAILS SHOWN ON THE PLANS UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

SHOP DRAWINGS:

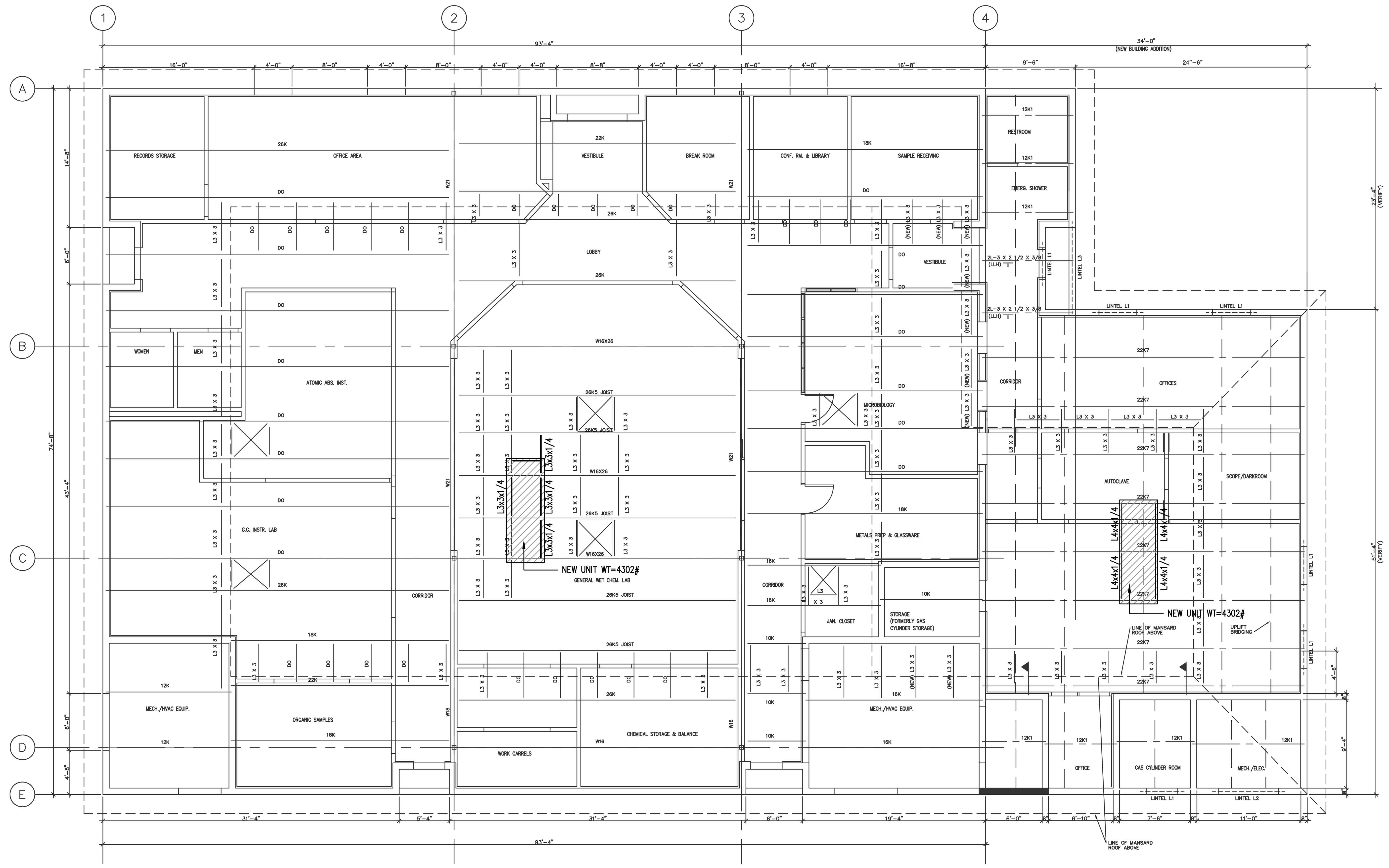
1. NO STRUCTURAL DRAWINGS SHALL BE REPRODUCED FOR USE AS SHOP DRAWINGS.
2. ALL DIMENSIONAL COORDINATION SHALL BE DONE BY THE CONTRACTOR AND/OR HIS DETAILER.
3. DETAILER SHALL CHECK ALL ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ALL ATTACHMENTS, CLIPS, OPENINGS, OR DUCT WORK AFFECTING STRUCTURAL MEMBERS. ALL ITEMS SHALL BE SHOWN ON SHOP DRAWINGS.
4. ALL SHOP DRAWINGS SHALL BE SUBMITTED ON TRANSPARENCIES FOR DIRECT REPRODUCTION WITH THREE PRINTS ONLY. DISTRIBUTION AS PER ARCHITECT INSTRUCTIONS.
5. PROVIDE SUFFICIENT SPACE ON SHOP DRAWINGS NEAR TITLE BOX (ABOUT 40 SQUARE INCHES) FOR STAMPS AND ENGINEERS COMMENTS.
6. THE SHOP DRAWINGS SHALL BEAR INITIALS OF DETAILER'S CHECKER AND CONTRACTOR PRIOR TO SUBMISSION.
7. COMPLETED ERECTION PLANS SHALL BE SUBMITTED PRIOR TO OR IN CONJUNCTION WITH DETAIL DRAWINGS. BUT IN NO CASE SHALL DETAIL DRAWINGS BE SUBMITTED PRIOR TO ERECTION PLANS.
8. DETAILER SHALL SUBMIT AN INDEX OF THE DETAIL DRAWINGS WITH EACH SHOP DRAWING SUBMITTAL.
9. SHOP DRAWINGS NOT COMPLYING WITH ALL THE ABOVE ITEMS SHALL BE RETURNED FOR CORRECTIONS WITHOUT PROCESSING.
10. RESUBMITTED SHOP DRAWINGS SHALL HAVE THE FOLLOWING CHANGES INCORPORATED: FIRST RESUBMISSION TO HAVE LETTER "A" ADDED TO DRAWING

    A. NUMBER AND ANY CHANGES MARKED ON THE DRAWING MARKED 1 AT EACH ITEM CHANGED. ALL ITEMS TO BE NOTED IN REVISION BOX.
    B. SUBSEQUENT RESUBMISSION SHALL BEAR CHANGES "B" AND 2 AND 3 ETC. AS IN 11A.

11. CONTRACTOR SHALL HAVE SHOP DRAWINGS WHICH HAVE BEEN SATISFACTORILY REVIEWED BY THE ARCHITECT AND/OR ENGINEER AND CONFIRMED BY THE CONTRACTOR BEFORE PROCEEDING WITH ANY WORK.
12. DETAILER SHALL USE THE SAME STRUCTURAL ELEMENT NUMBER IN HIS DETAILS AS THOSE SHOWN ON CONTRACT DRAWINGS.

WIND DESIGN DATA:

CODE: FLORIDA BUILDING CODE 2010 EDITION
ASCE 7–10
EXPOSURE CATEGORY: C
RISK CATEGORY: IV
BASIC WIND SPEED: 150 MPH (ULT)
ENCLOSURE CLASSIFICATION: ENCLOSED
INTERNAL PRESSURE COEFFICIENT: +/–0.18
WIND PRESSURE ON UNITS: +/–36 PSF (ASD)



1 EXISTING ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

ROOF FRAMING NOTES:

1. EXISTING ROOF FRAMING CONSISTS OF 1 1/2"– 20 GAGE TYPE "B" (WIDE RIB) METAL DECK SPANNING OVER OPEN WEB STEEL JOIST AND BEAMS SPACED AT @ 5'–0" O.C. (U.N.O.).
2. DIRECTION OF METAL DECK SPAN SHOWN THUS ⟷ ON PLAN.
3. FOR LOAD SCHEDULE & WIND DESIGN DATA, SEE DRAWING S2.1.
4. SEE S3.1 FOR TYPICAL DETAILS.

MASTER CONSULTING ENGINEERS, INC.
STRUCTURAL CONSULTANTS
5523 WEST CYPRESS ST., #200
TAMPA, FLORIDA 33607
813.287.3600 FAX 813.287.3622
www.mcengineers.com

CA: 8426 PROJ NO.

JAMES R. MEHLTRETTER, P.E.
FL. LIC. No. 33860

REVISIONS | BY

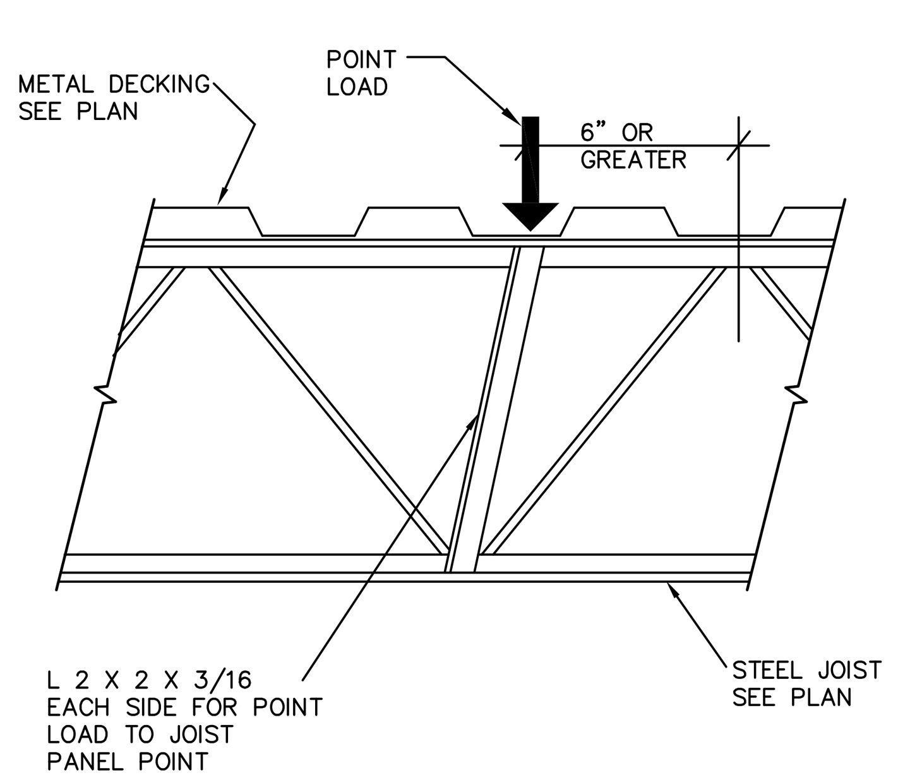
DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT AND RENOVATION
7125 NORTH 30TH STREET, TAMPA, FL 33610

Framing Plan and Notes

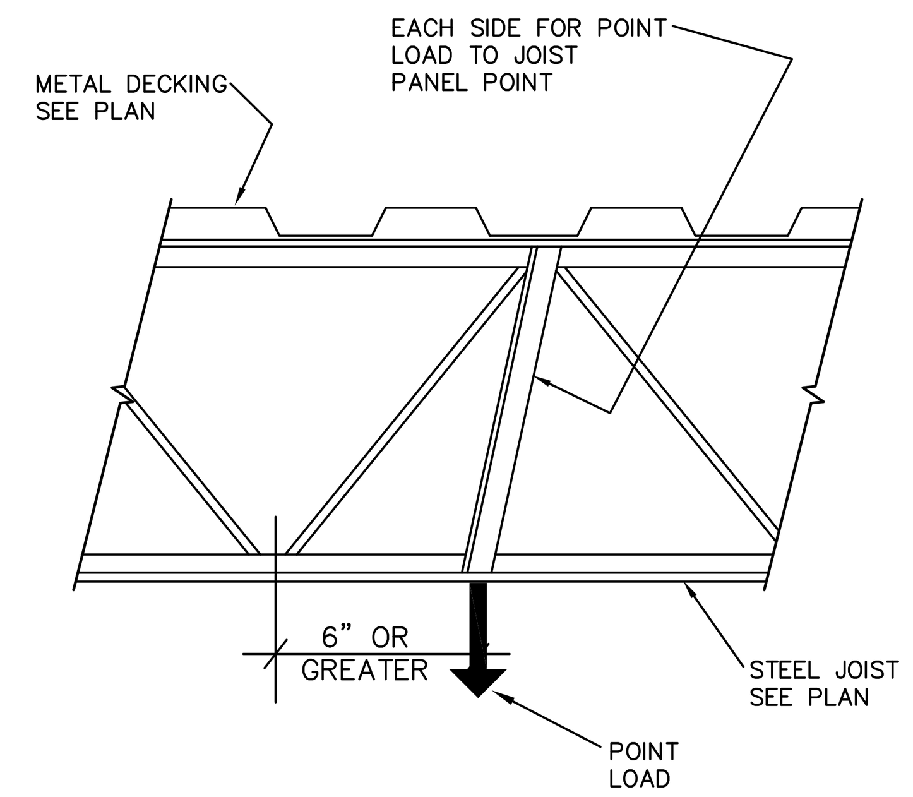
AGI Anston-Greenlees, Inc.

DRAWN	JLW
CHECKED	JRM
DATE	January 10, 2014
SCALE	AS NOTED
AIG PROJECT	13009
SHEET	S2.1

Drawing File: P:\1000 Projects\1084 Anston-Greenlees\1084-009 Tippin Lab\Drafting\Sdwg\S2.1.dwg S2.1
Plotted by: James Jan 03, 2014 – 8:03am



LOAD @ TOP CHORD

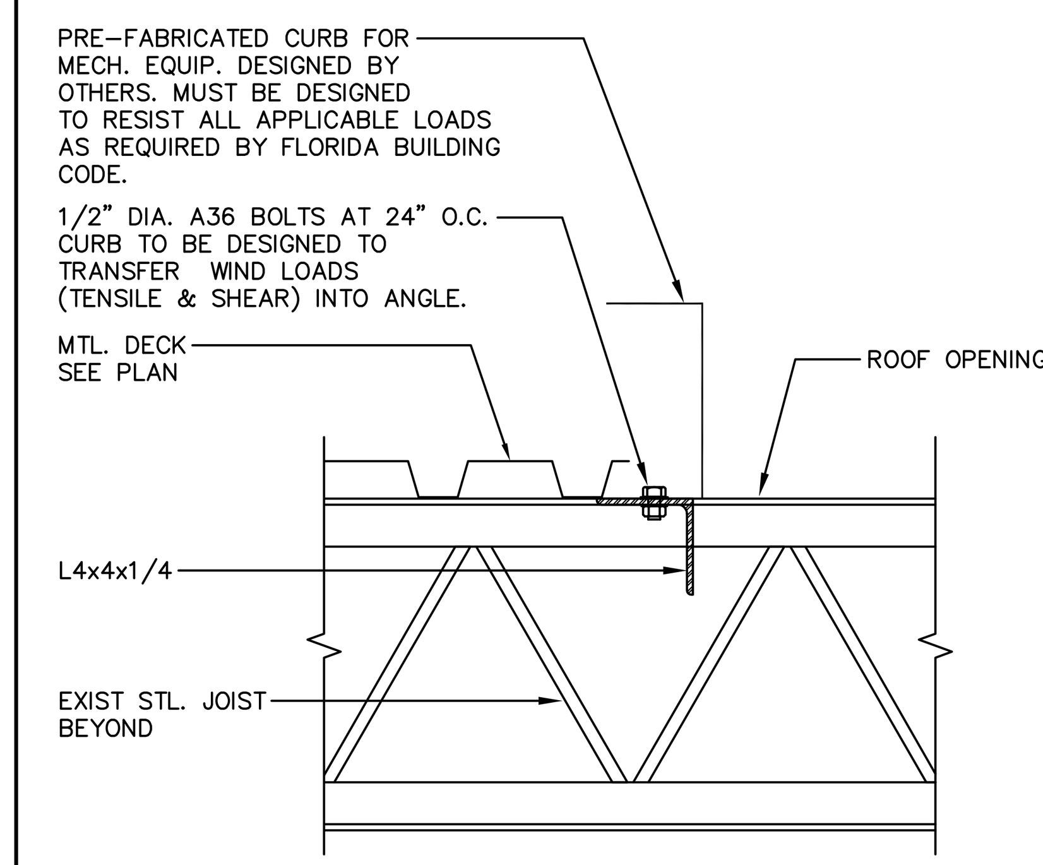


LOAD @ BOTTOM CHORD

TYPICAL ADDITIONAL WEB REINFORCMENT FOR CONCENTRATED LOAD

SCALE: N.T.S.

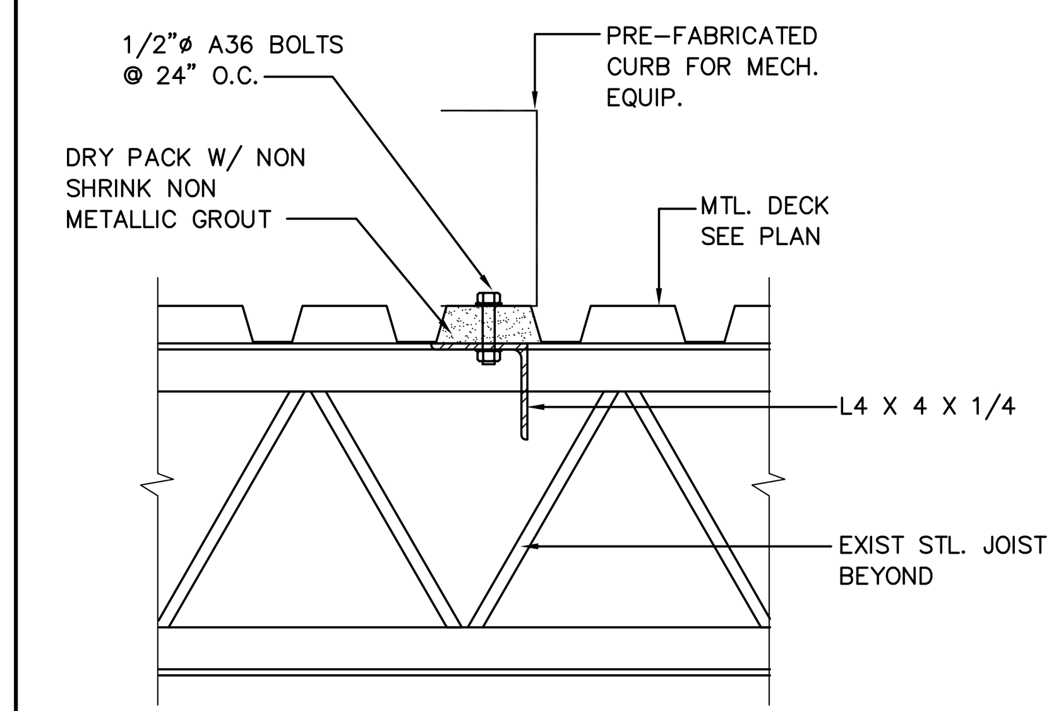
5–092



CONNECTION OF PRE–FABRICATED CURB TO ROOF STRUCTURE WHEN SUPPORTED BY ANGLES SPANNING BTW. ROOF JOIST

N.T.S

5–093



CONNECTION OF PRE–FABRICATED CURB TO ROOF STRUCTURE WHEN SUPPORTED BY 4 X 4 X 1/4 ANGLES SPANNING BTW. ROOF JOIST

N.T.S

5–091

REVISIONS	BY

DAVID L. TIPPIN WATER TREATMENT FACILITY
LABORATORY HVAC REPLACEMENT AND RENOVATION
7125 NORTH 30TH STREET, TAMPA, FL 33610

Sections and Details

AGI Anston-Greenlees, Inc.
Mechanical & Electrical Consulting Engineers

MASTER CONSULTING ENGINEERS, INC.
STRUCTURAL CONSULTANTS
5523 WEST CYPRESS ST., #200
TAMPA, FLORIDA 33607
813.287.3600 FAX 813.287.3622
www.mcengineers.com

CA: 8426 PROJ NO.

JAMES R. MEHLTRETTER, P.E.
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Plotted by: James Jan 03, 2014 – 8:03am