State of Utah

GARY R. HERBERT
Governor

GREGORY S. BELL
Lt. Governor

Department of Administrative Services
KIMBERLY K. HOOD
Executive Director

Division of Facilities Construction and Management
RICHARD P. AMON
Interim Director

ADDENDUM NO. 3

Date: May 23, 2013

To: Contractors

From: Kurt Baxter – Region Director

Reference: New Classroom Building
UVU - Orem, Utah
DFCM Project No. 12192790

Subject: **Addendum No. 3**

Addendum	1 page
Revised Schedule	1 page
Architects Addendum	95 pages
Total	97 pages

Note: This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form, if applicable. Failure to do so may subject the Bidder to Disqualification.

3.1 SCHEDULE CHANGES: There are changes to the project schedule.
The cost proposal time has changed from 12:00 Noon to 3:00 PM on May 29, 2013.

3.2 GENERAL: CRSA Architects – please see attached sheets.

REVISED PROJECT SCHEDULE

PROJECT NAME: UVU NEW CLASSROOM BUILDING
DFCM PROJECT NO. 12192790

Event	Day	Date	Time	Place
Request for Proposals	Monday	April 8, 2013	1:00 PM	**http://dfcm.utah.gov**
Mandatory Pre-Proposal Site Meeting	Thursday	April 18, 2013	10:00 AM	UVU Library Room LI 120 Orem, Utah
Last Day to Submit Questions prior to submittal of Statements of Qualifications	Monday	April 22, 2013	5:00 PM	Kurt Baxter - DFCM E- mail: kbaxter@utah.gov Fax: 801-538-3267
Addendum Deadline	Wednesday	April 24, 2013	4:00 PM	**http://dfcm.utah.gov**
Prime Contractors turn in References, Statements of Qualifications, Management Plans (including Schedule), and Termination/Debarment Certifications	Friday	April 26, 2013	12:00 PM	DFCM 4110 State Office Bldg SLC, UT
Short Listing by Selection Committee (if applicable)	Thursday	May 2, 2013	TBD	TBD
Mandatory Finalist Meeting Contract Document to distributed at this meeting	Tuesday	May 7, 2013	3:00 PM	UVU Liberal Arts Building Room 127 Orem, Utah
Last Date to Submit Questions for Final Addendum	Wednesday	May 22, 2013	4:00 PM	Kurt Baxter- DFCM E- mail:kbaxter@utah.gov Fax: 801-538-3267
Final Addendum Deadline (exception for bid delays)	Friday	May 24, 2013	4:00 PM	**http://dfcm.utah.gov**
Prime Contractors Turn In Cost Proposals, Cost Reduction Proposals and Subcontractor List Due	**Wednesday**	**May 29, 2013**	**3:00 PM**	DFCM 4110 State Office Bldg SLC, UT
Interviews	Friday	May 31, 2013	TBD	UVU Facilities Complex Room 107 Conference Room Orem, Utah
Announcement	Monday	June 3, 2013	4:00 PM	**http://dfcm.utah.gov**
Substantial Completion Date	Thursday	December 11, 2014		

DFCM
Division of Facilities Construction and Management
4110 State Office Building Salt Lake City, UT 84114
Telephone (801) 538-3018 FAX (801) 538-3267

ADDENDUM NO. 3
May 22nd, 2013

Utah Valley University Classroom Building
Orem, Utah

The original specifications and drawings, labeled BID DOC dated April 30th, 2013 for the project referenced above are amended in the Addendum No. 3, dated May 22th 2013.

Receipt of this addendum shall be acknowledged by inserting its number and date in the space provided on the bid form.

This addendum consists of the following:

ARCHITECTURAL ADDENDUM ITEMS:

1. Detail D6/AE531-Delete all WV-1 references and replace with WC-1.
2. Detail D6/AE531-
   Delete insulated metal panel Citadel Panel 20 reference, change insulated infill panel to generic "INFILL PANEL, ALUMINUM FINISHED, PANEL TO MATCH C.W. SYSTEM." Panel shall be insulated and shall be equal to Citadel Panel 20.
3. Sheet AE620 Finish Legend
   Add the following note to Base B-4 comments section on the finish schedule: "See detail B2/AE514 typical." See attached sheet AE514.
4. Sheet AE101B, added detail reference for enlarged plan at grid intersection J & 9.1.
5. Sheet AE105B, modified curtain wall BD along grid line 10 and south of grid line F.4, incorrect width shown.
6. Sheet AE106, modified size of storm louvers on grid line E and G to match mechanical, Modified location to match mechanical plans.
7. Sheet D5AE201, size of louver modified to match mechanical louver size as scheduled
8. Sheet D5/AE202, size of louver modified to match mechanical louver size as scheduled. Added louver to match mechanical scheduled louver to B4/AE202.
9. Sheet AE511, revised note on detail C3 & B4/AE511 to read "EXTERIOR COMPOSITE WOOD PANEL SYSTEM".
10. Sheet AE111A, revised floor finish of Toilet Rooms 100L, 100M, 100N. Revised wall finish at concrete wall at grid line intersection J & 5. Added base to wall & base specific tag for wall and base finish.
11. Sheet AE111B, revised floor finish at southwest stepped entry to Horseshoe 10A, revised finishes of Toilet 103D. Revised finishes of the main Women's and Men's restrooms. Revised finishes in east corridor of area B.
12. Sheet AE112A, Revised finishes and added base to wall & base specific tag for wall and base finish.
13. Sheet AE112B, Revised finishes and added base to wall & base specific tag for wall and base finish.
14. Sheet AE112C, Revised finishes and added base to wall & base specific tag for wall and base finish.
15. Sheet AE113A, Revised finishes and added base to wall & base specific tag for wall and base finish.
16. Sheet AE113B, Revised finishes and added base to wall & base specific tag for wall and base finish.
17. Sheet AE114A, Revised finishes and added base to wall & base specific tag for wall and base finish.
18. Sheet AE114B, Revised finishes and added base to wall & base specific tag for wall and base finish.
19. Sheet AE115A, Revised finishes and added base to wall & base specific tag for wall and base finish
20. Sheet AE115B, Revised finishes and added base to wall & base specific tag for wall and base finish

21. Sheet AE116, Revised finishes and added base to wall & base specific tag for wall and base finish
22. For all finish plan sheets, hatch pattern for CP6 and T1, wall and base finish specific tag to be updated to match the attached sheet AE111A.
23. Sheet AE608, Add mechanical louvers to windows type AN. See also item 2 above.
24. Section 096813: Clarification. The Shaw Contract Carpet for this project will be procured and installed from the State of Utah Carpet Contract, #MA2097. Contact Stan Clark from Wall 2 Wall Commercial Floor Coverings for their State Contract pricing at 801-694-4905. The specified Interface Carpet is not on the State contract. Note that not all the specified carpet is available through one manufacturer.

PRIOR APPROVALS

The following manufacturers, trade names and products are allowed to bid on a name brand only basis with the provision that they completely satisfy all and every requirement of the drawings, specifications and all addenda. Manufacturers, trade names and products shall conform to the design, quality and standards specified, established and required for the complete and satisfactory installation and performance of the building and all its respective parts.

Manufacturer	Item	Comments
Architectural Components Group	Encore Series 1	Sec. 098433 (AP-1)
Quiet Technologies Systems	AWP Panel	Sec. 098433 (AP-3)
Fry Reglet	Metal Acoustical Wall Panel	Sec. 098433 (AP-4)
Seaman Corporatoin	Fibertite 45 Mil roof Membrane	Sec. 075419
WR Meadows	Air Shield LM	Sec. 072700
Carlisle Coatings	CCW 500 R	Sec. 071413
Manko	2450, 250, 135/150	Sec. 084113, 084413 Must meet installer qualifications. See section 084413.1.7.A.
Oshkosh	Doors	Sec. 081416 Must provide species and finish as per spec.

ATTACHMENTS

1. Civil \ Wells and Well Houses: Revised sheets CJ101, CJ110, CJ115, CJ303, CJ306, CJ502, CJ601, EJ101, EJ102, EJ103, EJ601,
2. Mechanical: 41 pages total including (3) pages written items, partial sections 232113. 233400, 235700 and drawing sheets.
3. Electrical: 12 pages total including (1) page of written items and drawing sheets.
4. Architectural Drawings sheets as specified above.
5. Structural: Specification Section 051250 Buckling Restrained Braces
6. Civil: Revised sheet C502

END OF ADDENDUM 3

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Provide all parts, materials, and labor required for the design, delivery, testing and erection of buckling-restrained braces, which are designed by the manufacturer to meet stiffness, yield strength, and elongation requirements as indicated on the Drawings and other requirements specified Herein.

   2. Engineering design of BRB's.

   3. Qualification of BRB's by uniaxial and subassemblage cyclic testing. If a pin and collar connection is used the subassemblage test need not be performed.

B. Related Sections:

   1. Section 05120 - Structural Steel: For installation of BRB's and furnishing of connection hardware for BRB's, including loose plates and fasteners.

1.02 REFERENCES

A. Standards listed below apply where designation is cited in this Section. Where the applicable year of adoption or revision is not listed below, the latest edition applies.

B. AISC - American Institute of Steel Construction

   1. American Institute of Steel Construction's "Manual of Steel Construction", Thirteenth Edition (AISC)

      a. "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", 2005 Edition (AISC 360).

      b. "Code of Standard Practice for Steel Buildings and Bridges", 2005 Edition (AISC 303).

      c. "Specification for Structural Joints Using ASTM A325 or A490 Bolts", June 30, 2004 (RCSC).
      d. 2005 Seismic Provisions for Structural Steel Buildings (ANSI/AISC 341-05)

   2. American Institute of Steel Construction: "Seismic Provisions for Structural Steel Buildings", 2005 edition including Supplement 1 dated 2006 (AISC 341).

C. ASTM - American Society for Testing and Materials

   1. A6 - Specification for General Requirements for Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use.

   2. A36 - Specification for Steel.

3. A500 - Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing.

4. A325 – Specification for Structural Steel Bolts

5. A490 – Specification for Heat-Treated Steel Structural Bolts, 150 ksi min. tensile strength.
6. A572 – High-Strength Low-Alloy Columbium-Vanadium Steel, latest edition.
7. F959 – Direct Tension Indicators, latest edition.
8. F1852 – Twist-off Bolts, latest edition.

D. AWS - American Welding Society

1. “Structural Welding Code – Steel”, 2006 Edition (AWS D1.1).

2. “Structural Welding Code – Seismic Supplement”, 2005 edition (AWS D1.8).

E. JIS - Japanese Industrial Standard

1. G 3136 SN400 B - Rolled Steels for Building Structure.

2. G 3466 STKR 400 - Carbon Steel Square Pipes for General Structural Purposes.

F. Steel Structures Painting Council (SSPC):

1. Steel Structures Painting Manual, latest edition.

1.03 DEFINITIONS

A. Buckling Restrained Brace (BRB): Specialty structural brace element consisting of an axial force resisting steel core encased by a system that prevents buckling of the steel core.

1.04 SUBMITTALS

A. Submit the following in accordance with requirements of Division 1.

1. All requested submittals shall be furnished in English language.

B. Qualification Testing Report evidencing manufacturer's compliance with Article 2.01 D.

1. The Qualification Testing Report shall conform to requirements of Appendix T of the American Institute of Steel Construction “Seismic Provisions for Structural Steel Buildings”, (AISC 341-2005).

2. If project specific testing is required to supplement available test data, include schedule for fabrication of BRB test specimens, description of proposed testing program and name of test facility and schedule for testing and reporting.

C. Manufacturer's Quality Assurance Plan: Conform to requirements of Article 1.05A, "Quality Assurance".

D. Engineering Design: Refer to Article 2.01A for design requirements.

1. Design Drawings: Show size and configuration of steel core for full length of BRB. Indicate casing size, thickness and length.

2. Calculations: Provide design calculations showing the adequacy of proposed BRB's to achieve Performance Requirements specified herein.

3. Certification: In accordance with Article 2.01A, Design Requirements.

4. Preliminary Design: At Contractor's option, make an initial submittal of the items listed above, based on assumed material properties, prior to delivery of materials to be employed in work.

5. Final Design: Submit final drawings, calculations and certifications that include the final dimensions of steel core plates based on results of coupon testing of steel to be employed in Work.

a. The Design Drawings and Calculations shall be sealed and stamped by a Structural/Professional Engineer (S/P.E.) licensed in the State of Utah.

b. Submittal shall be accompanied by the results of coupon testing.

E. Erection Drawings:

1. Show location and size and of BRB's. Give complete information necessary for fabrication of elements of structural steel frame to receive braces and fabrication of connection plates. Show methods of assembly, including type and size of bolts and/or pins, hole diameter, and preparation and finish of faying surfaces. Identify tolerances for fabrication and erection.

F. Submit certified material test reports to Testing Laboratory for record purposes.

1. All steel: Tensile tests and chemical analysis. Include trace elements for steel core plates.

2. Steel Core Plates:

a. Coupon test results for each lot of steel used in fabrication showing initial yield, ultimate tensile stress, and ultimate elongation.

b. Charpy V-Notch testing for plates 2 inches (50 mm) and thicker.

3. Welding Electrodes: Include tensile, elongation, and CVN toughness tests. Identify diffusible hydrogen.

G. Submit Quality Assurance test and inspection reports to Testing Laboratory for record purposes prior to shipping of braces.

H. Technical Report

1. The Manufacturer shall submit a BRB testing report. The testing configurations used, and the results obtained shall meet the criteria found in the AISC 2005 Seismic Provisions (341-05) including Appendix T.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Shall have manufactured and successfully tested braces in accordance with Article 2.01D, "Qualification Tests" prior to opening of bids.

B. Design Engineer Qualifications: Civil Engineer, registered in the State where the project is located, that is knowledgeable with the results of cyclic testing of BRB's and experienced in the design of BRB’s based on engineering analysis.

C. Quality Assurance Plan: The manufacturer shall have a detailed Quality Assurance Plan to evidence that the BRB's being manufactured continue to be the same as those tested. The Plan shall include the following elements:

1. Indicate how the product is to be identified, such that it can be traced back to production quality assurance records.

2. Include a flow chart of the process by which the product is manufactured, including description of production methods.

3. List tests for materials, including the applicable recognized standard for each test and the qualifications of testing agency and/or personnel.

4. Identify manufacturing tolerances for each production process.

5. In-process quality control, including all points of internal inspection for control and monitoring of the fabrication and assembly process.

a. Include copies of forms and checklists used to document inspections.

b. Include required qualifications of personnel performing each inspection.

c. Identify how inspection reports are reviewed and approved.

6. Plan shall also include manufacturer furnished quality assurance for erection, including, at a minimum, attendance at pre-erection conference and a minimum of one visit thereafter to observe installation of braces.
7. Design Engineer Requirements: The Design Engineer shall be registered in the State of Utah, have experience with designing buckling-restrained braced frame systems, and have a thorough knowledge of the submitted BRB test report.

D. Qualification Testing: Refer to Article 2.01D, "Qualification Tests" for requirements.

E. Extrapolation of Qualification Testing: All deviations from materials, details of fabrication, and quality assurance controls used for the fabrication of tested prototype braces shall be identified by manufacturer and reviewed by Design Engineer to ensure

that production braces meet or exceed the level of quality used in fabrication of prototype braces. Include the following items:

a. Weld filler material, including CVN toughness.

b. Welding procedures and details, including weld terminations.

c. Shape and finish of plate edges at transitions.

d. Finish of plate edges, including roughness and treatment of occasional notches.

e. Tolerances for flatness and straightness of plates.

f. Details of isolation between plates and core at transitions, to accommodate lengthening and shortening.

g. Type and thickness of coating materials.

F. Pre-Erection Conference: Contractor shall schedule meeting with Owner's Representative, BRB-manufacturer, and the steel erector's personnel supervising installation of buckling restrained braces to review installation procedures including handling, fit-up and fastening.

PART 2 PRODUCTS

2.01 DESIGN AND PERFORMANCE REQUIREMENTS

A. Design Requirements:

1. Engage a Civil Engineer, licensed in the State of Utah, to design braces to achieve the Performance Criteria. Design shall be based on detailed examination and understanding of the results of qualifying cyclic tests and interpolation of results to project conditions.

2. Interpolation of test results for different member sizes shall be justified by rational analysis that demonstrates stress distributions and magnitudes of internal strains that are consistent with or less severe than the tested assemblies and that considers the adverse effects of larger material and variations in material properties.

3. Consider the effect of imposed end rotations.

B. Performance Criteria:

1. Initial "BRB" yield force or area shall be as indicated, within the tolerances specified on the Contract Documents.

2. Braces shall provide for stable cyclic displacement within the ranges required per AISC 341.

a. Hysteretic behavior in the non-linear range shall show no sign of degradation or loss of strength.

b. Graphs of test results shall show no signs of pinched hysteretic behavior.

3. The portion of the steel core that projects beyond the casing shall provide for stable cyclic loading.

4. Tension and compression shall be resisted entirely by the steel core. The buckling restraining system shall prevent brace buckling and control plate buckling without restraining the steel core from transverse expansion and longitudinal shortening for deformations corresponding to 2 times the design interstory drift.

5. End connections and connection configuration, including gusset stiffeners, must be similar to the tested conditions.

C. Coupon Tests: Perform coupon test results for each lot of steel used in fabrication of steel core areas showing initial yield, ultimate tensile stress, and ultimate elongation. Coupons shall be taken from plates at point of brace manufacture and shall be used as the basis for brace design.

D. Qualification Tests: The design of braces shall be based on results from qualifying cyclic tests. Tests shall consist of at least two successful cyclic tests: one is required to be a test of a brace subassemblage that includes brace connection imposed rotations and the other may be either a uniaxial or subassemblage test. If a pin and collar connection is used the subassemblage test is not be required.

1. Qualification Tests shall conform to requirements of Appendix T of the AISC 341.

2. Qualification tests are permitted to be based on documented full-scale cyclic tests performed for other projects or tests reported in research, provided that there is sufficient basis for extrapolation to project conditions.

3. Extrapolation of previous test results beyond the limitations AISC 341 Appendix T will not be permitted.

2.02 ACCEPTABLE MANUFACTURERS

A. The following manufacturer's, which have successfully completed qualification testing of braces similar to those required for the project, will be considered acceptable manufacturers, subject to compliance with other requirements of the Contract Documents, including limitations on maximum brace dimensions.

1. Nippon Steel Corporation; Tokyo, Japan

2. STAR Seismic; Park City, UT.

3. Core Brace, Salt Lake City, UT

2.03 MATERIALS

A. Steel Core Areas: JIS G 3136 SN400 B or ASTM A36; except initial yield stress shall be within the tolerances shown on the Contract Documents, as evidenced by coupon testing of plates to be incorporated in work. If the contract documents do not state the initial yield stress it shall be 42.0 ksi with the averages of the coupon tests be between 38 ksi and 46 ksi.

1. Plates 2 inches (50 mm) and thicker shall be supplied with Charpy V-Notch testing in accordance with ASTM A6 Supplementary Requirement S5, or approved equal. The impact test shall meet a minimum average value of 20 ft-lbs absorbed energy at +70 degrees F and shall be conducted in accordance with AISC Specification, or approved equal.

B. Casing: JIS G3466 STKR 400 or ASTM A500, Grade B.

C. Welding Filler Material: Meet or exceed CVN toughness and elongation of material used for fabrication of tested assemblies.

1. H16 (diffusible hydrogen), AWS A4.3.

D. Shop Primer – Standard Shop Primer.

E. Debonding Agent: Manufacturer’s standard; demonstrated suitable to maintain separation of steel core and grout encasement when subjected to a minimum of 30 cycles of inelastic yielding at 2.0 percent strain; resistant to aging effects for a life cycle of 50 years.

F. Fill Material: Manufacturer’s standard cementitious grout; demonstrated suitable for function as a confining in-fill material by uniaxial or subassemblage qualification testing.

2.04 FABRICATION

A. Fabricate steel in accordance with Section 05120, "Structural Steel".

1. Cut core plates to profile shown on Design Drawings. Conform to tolerances of Quality Assurance Manual, except tolerance on plate width shall not exceed plus or minus 0.2 inches (5 mm).

2. Splices in the steel core are not acceptable.

3. Roughness: After cutting, edges of core plates shall have roughness less than 1000 micro-inches.

4. Gouges and Notches: Occasional gouges and notches less than 0.2 inches (5 mm) deep in edges of core plates may be repaired by grinding to a smooth transition. The length of transition shall be a minimum of 10 times

the depth of gouge. The area shall be inspected by MT after grinding to ensure the entire depth of gouge has been removed. Deeper gouges shall be cause for rejection of piece.

B. The maximum dimensions of the casing of the buckling restrained brace shall be as indicated on the Contract Documents.

C. Bolted Connections: All holes for bolted connections shall be drilled and burrs removed.

D. Pin Connections: All holes for pinned connections shall be machined 1/32 inch larger than the pin diameter.

E. Welding: Continuously weld joints, using procedures intended to minimize distortion.

1. Where cruciform plates are terminated in core, pay particular attention to the detailing and finishing of weld termination; meet or exceed qualification tested assembly as minimum standard.

F. Assembly: Assemble components of the Buckling Restrained Brace in a manner to ensure proper performance of the brace.

1. Examine steel core areas for straightness prior to coating with debonding agent or pouring with concrete.

2. Provide end-confining plates to ensure confinement of the fill material while allowing for non-restricting movement of the steel core.

3. For braces exposed to exterior or corrosive conditions, interior of brace shall be sealed or otherwise protected from moisture/corrosive element infiltration into the interior core region.

2.05 **SHIPPING**

A. Manufacturer to package BRB's for protection against shipping damage.

B. Manufacturer shall coordinate delivery dates and quantities with Contractor/Owner. Contractor/Owner shall provide adequate storage space and proper lay-down areas.

C. Braces shall be stored on dunnage not touching the ground.

D. Coordinate erection aid requirements with contractor/Owner.

2.06 SOURCE QUALITY CONTROL

A. Testing Laboratory will:

1. Review Manufacturer’s Quality Assurance Plan, mill certificates and results of coupon testing.

2. Review Manufacturer's quality assurance test and inspection reports.

3. Observe fabrication and assembly as requested by Owner's Representative.

B. Contractor shall:

1. Notify Owner's Representative no less than 30 days before the start of fabrication of the buckling restrained braces, to allow Owner's Representative to observe fabrication and assembly process.

2. Perform testing and inspection in accordance with approved Quality Assurance Plan and requirements of Contract Documents.

PART 3 EXECUTION

3.01 ERECTION

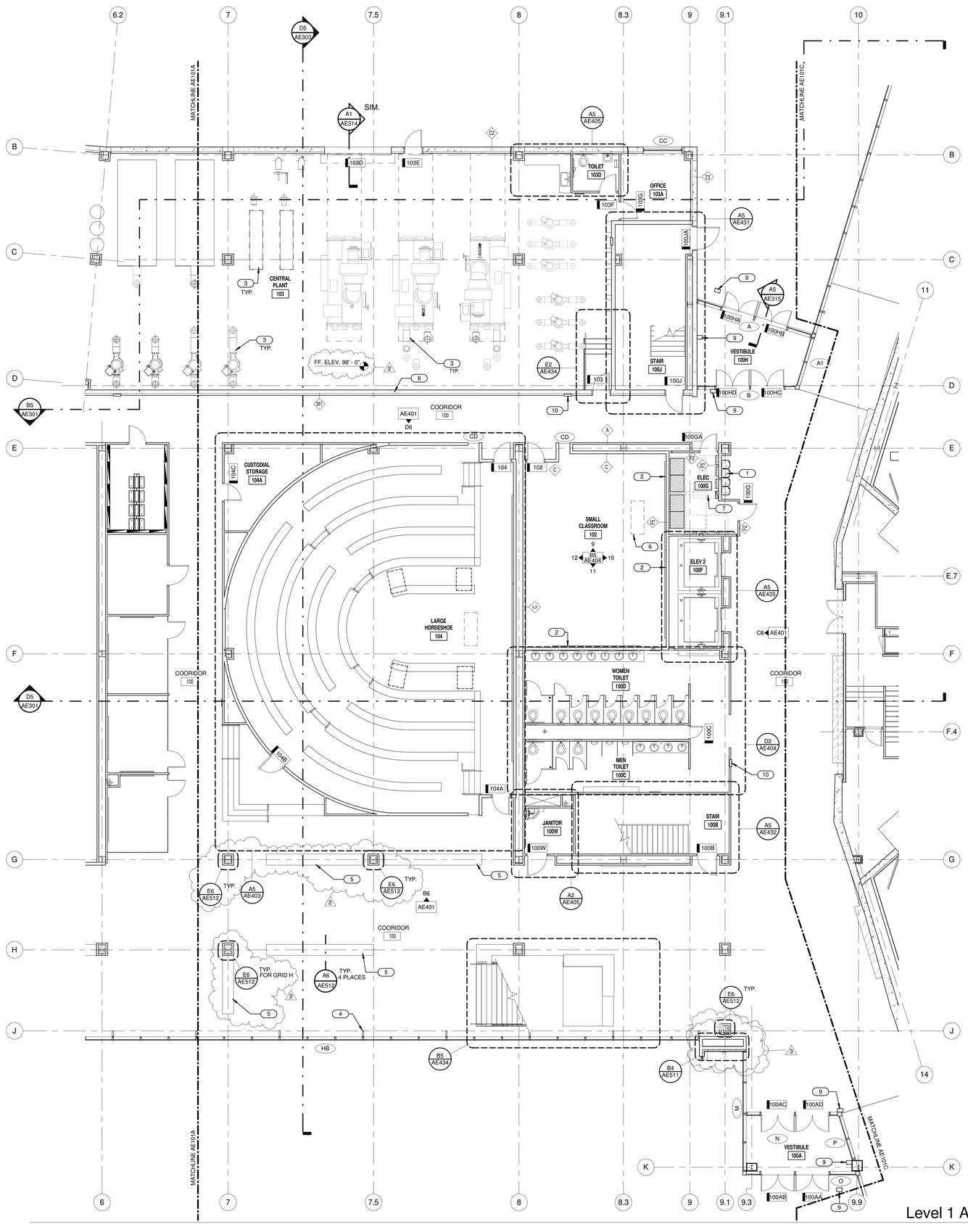
A. Braces are erected under Section 05120, "Structural Steel".

B. Prior to erection, clean faying surfaces of brace to be in contact with bolted connections to remove temporary coatings applied for transport and surface contaminants.

C. Buckling restrained braces shall not be field cut or altered. Alterations to structural steel components to receive Buckling Restrained Braces shall be as permitted by Section 05120.

D. No field welding to buckling restrained brace members will be permitted, including attachment of nonstructural components.

END OF SECTION



Level 1 Area 'B' Floor Plan (A5 / AE101B)
1/8" = 1'-0"

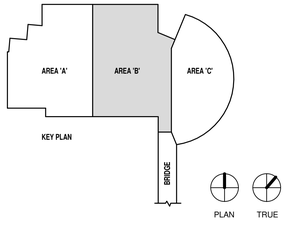
GENERAL NOTES & LEGEND:

- GENERAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND SHALL REPORT TO THE ARCHITECT ANY UNKNOWN CONDITIONS, ERRORS OR CONFLICTS IN THE DRAWINGS BEFORE BEGINNING WORK.
- DO NOT SCALE DRAWINGS.
- ALL WALLS TO BE TYPE "A" U.N.O. ON PLAN.
- WOOD GRAIN HATCH IS REPRESENTATIONAL. WOOD GRAIN WILL BE VERTICLE.
- SEE SHEET AE501 FOR WALL TYPES
- SEE SHEETS AE604 - AE612 FOR WINDOW TYPES
- WOOD VENEER GRAIN & PATTERN TO ALIGN WITH WALLS, SOFFITS, CABINETS, & BASE BELOW.
- ALL EXPOSED STEEL TO BE PAINTED.
- SEE STRUCTURAL FOR BOARD FORMED CONCRETE REINFORCING AND ADDITIONAL DETAILS.

KEYED NOTES:

1 DRINKING FOUNTAIN. SEE PLUMBING DRAWINGS.
2 WHITEBOARD. SEE ACCESSORY SCHEDULE.
3 CENTRAL PLANT EQUIPMENT. SEE PLUMBING DRAWINGS.
4 STEEL COLUMN. SEE STRUCTURAL. FIREPROOF PER SPEC.
5 CONCRETE-WOOD BENCH. SEE REFERENCED DETAIL.
6 LECTERN. SEE ELECTRICAL SHEETS.
7 ELECTRICAL PANEL. SEE ELECTRICAL DRAWINGS.
8 FOR NOTCH OUT AT JOIST SEE DETAIL A4/AE511.
9 ADA DOOR PUSH BUTTON.
10 FIRE EXTINGUISHER IN SEMI-RECESSED CABINET. SEE SPEC.

KEY PLAN:



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UTAH VALLEY UVU UNIVERSITY

State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO inc.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 2
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

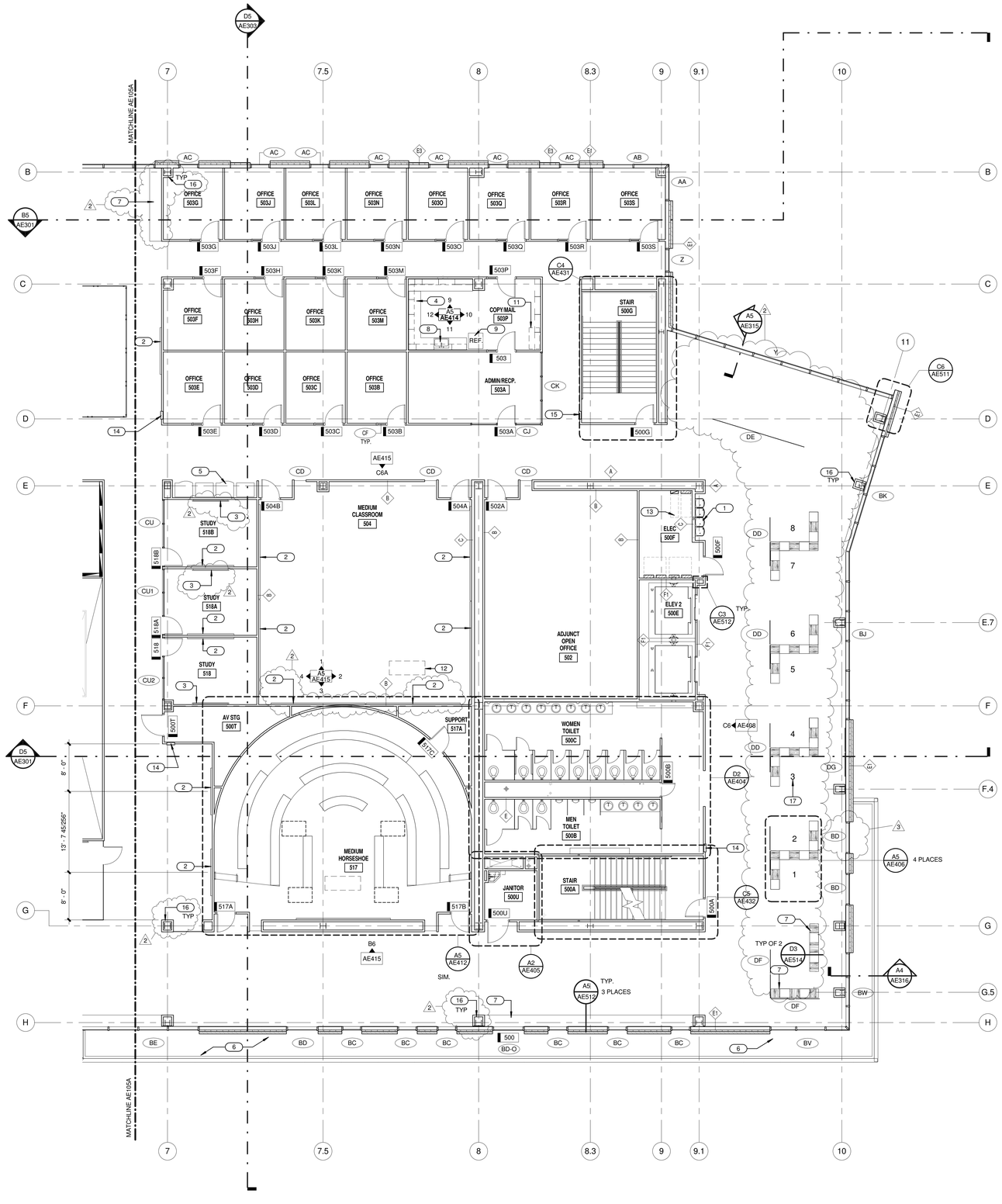
revisions:

2	Addendum 2	05/17/13
3	Addendum 3	05/22/13

title:
Level 1 Area 'B' Floor Plan

sheet:
AE101B

BID DOC



Level 5 Area 'B' Floor Plan (A5 / AE105B)
1/8" = 1'-0"

GENERAL NOTES & LEGEND:

- GENERAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND SHALL REPORT TO THE ARCHITECT ANY UNKNOWN CONDITIONS, ERRORS OR CONFLICTS IN THE DRAWINGS BEFORE BEGINNING WORK.
- DO NOT SCALE DRAWINGS.
- ALL WALLS TO BE TYPE "A" U.N.O. ON PLAN.
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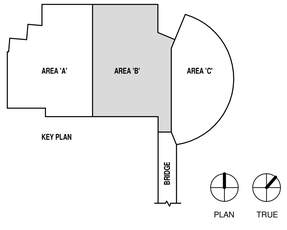
- SEE SHEETS AE604 - AE612 FOR WINDOW TYPES
- WOOD VENEER GRAIN & PATTERN TO ALIGN WITH WALLS, SOFFITS, CABINETS, & BASE BELOW.
- ALL EXPOSED STEEL TO BE PAINTED.
- SEE STRUCTURAL FOR BOARD FORMED CONCRETE REINFORCING AND ADDITIONAL DETAILS.

KEYED NOTES:

1. DRINKING FOUNTAIN. SEE PLUMBING DRAWINGS.
2. WHITEBOARD. SEE ACCESSORY SCHEDULE.
3. FLAT PANEL MONITOR. SEE ELECTRICAL SHEETS.
4. CASEWORK. SEE INTERIOR ELEVATIONS.
5. VENDING. PROVIDED BY OWNER.
6. ROOFING. SEE ROOF PLAN.
7. WOOD BENCH. SEE REFERENCED DETAIL.
8. SINK. SEE PLUMBING DRAWINGS.
9. REFRIGERATOR. SEE EQUIPMENT SCHEDULE
10. MICROWAVE. PROVIDED BY OWNER.
11. COPY MACHINE. PROVIDED BY OWNER.
12. LECTERN. SEE ELECTRICAL SHEETS.
13. ELECTRICAL PANEL. SEE ELECTRICAL DRAWINGS.
14. FIRE EXTINGUISHER IN SEMI-RECESSED CABINET. SEE SPEC.
15. FIRE EXTINGUISHER IN SURFACE MOUNTED CABINET.
16. TYPICAL COLUMN SEE DETAILS E2-E3 ON SHEET AE512.
17. TYPICAL IDENTIFIER FOR GLAZING SIGNAGE

KEY PLAN:



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State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO inc.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 2
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

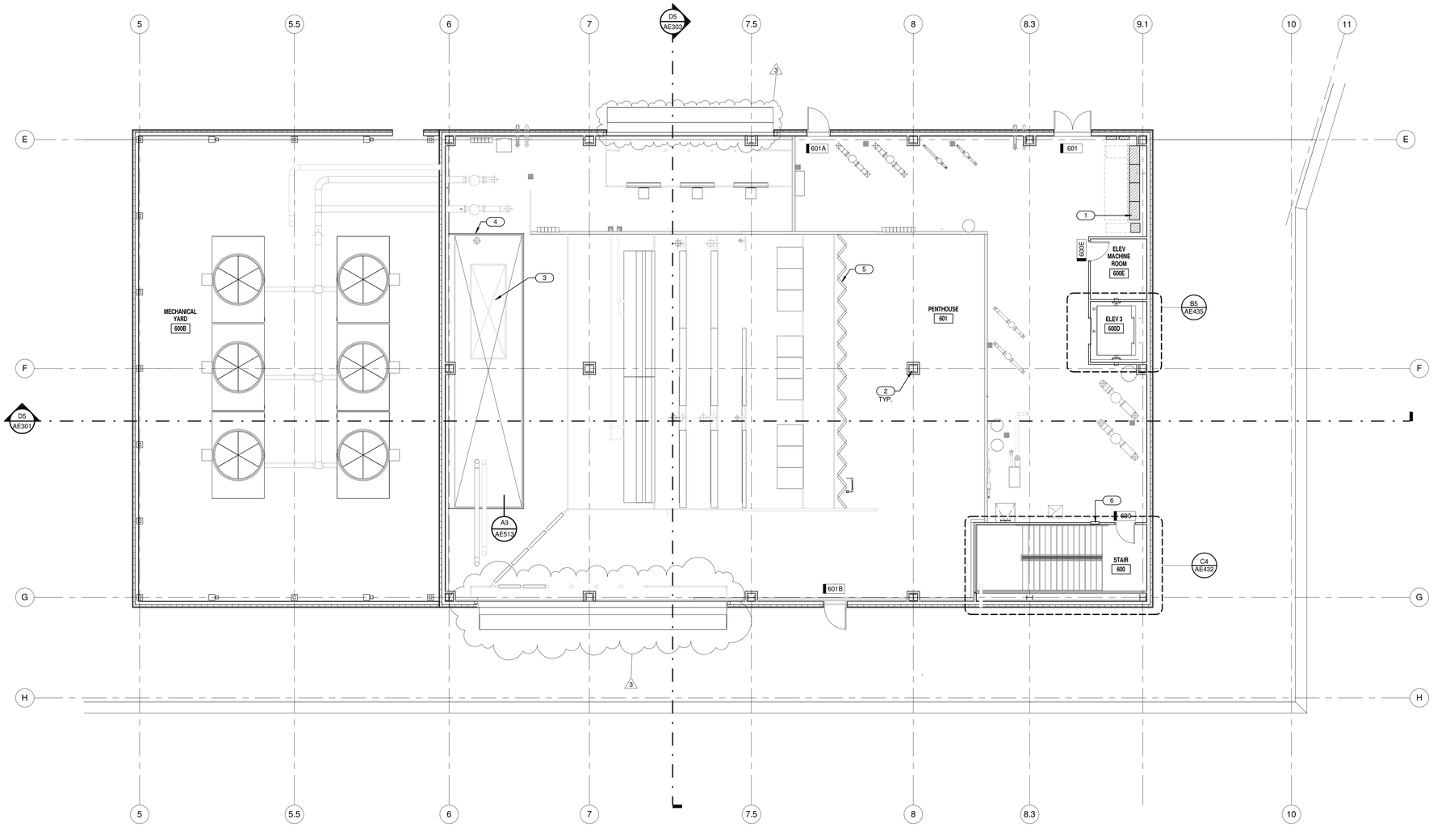
revisions :

2	Addendum 2	05/17/13
3	Addendum 3	05/22/13

title:
Level 5 Area 'B' Floor Plan

sheet:
AE105B

BID DOC



Level 6 Area 'B' Penthouse Floor Plan (A5 / AE106)

1/8" = 1'-0"

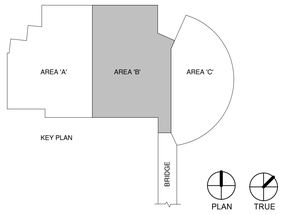
GENERAL NOTES & LEGEND:

- GENERAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND SHALL REPORT TO THE ARCHITECT ANY UNKNOWN CONDITIONS, ERRORS OR CONFLICTS IN THE DRAWINGS BEFORE BEGINNING WORK.
- DO NOT SCALE DRAWINGS.
- ALL WALLS TO BE TYPE "A" U.N.O. ON PLAN.
- WOOD GRAIN HATCH IS REPRESENTATIONAL. WOOD GRAIN WILL BE VERTICLE.
- SEE SHEET AE501 FOR WALL TYPES
- SEE SHEETS AE604 - AE612 FOR WINDOW TYPES
- WOOD VENEER GRAIN & PATTERN TO ALIGN WITH WALLS, SOFFITS, CABINETS, & BASE BELOW.
- ALL EXPOSED STEEL TO BE PAINTED.
- SEE STRUCTURAL FOR BOARD FORMED CONCRETE REINFORCING AND ADDITIONAL DETAILS.

KEYED NOTES:

1. ELECTRICAL PANEL. SEE ELECTRICAL DRAWINGS.
2. STEEL COLUMN. SEE STRUCTURAL. FIREPROOF PER SPEC.
3. MECHANICAL DUCT. SEE MECHANICAL DRAWINGS.
4. 1-1/2" DIA. PIPE GUARDRAIL. PAINT.
5. MECHANICAL EQUIPMENT. SEE MECHANICAL.
6. FIRE EXTINGUISHER IN SEMI-RECESSED CABINET. SEE SPEC.

KEY PLAN:



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revisions:
3 Addendum 3 05/22/13

title:
Level 6 Area 'B' Penthouse Floor Plan

sheet:
AE106

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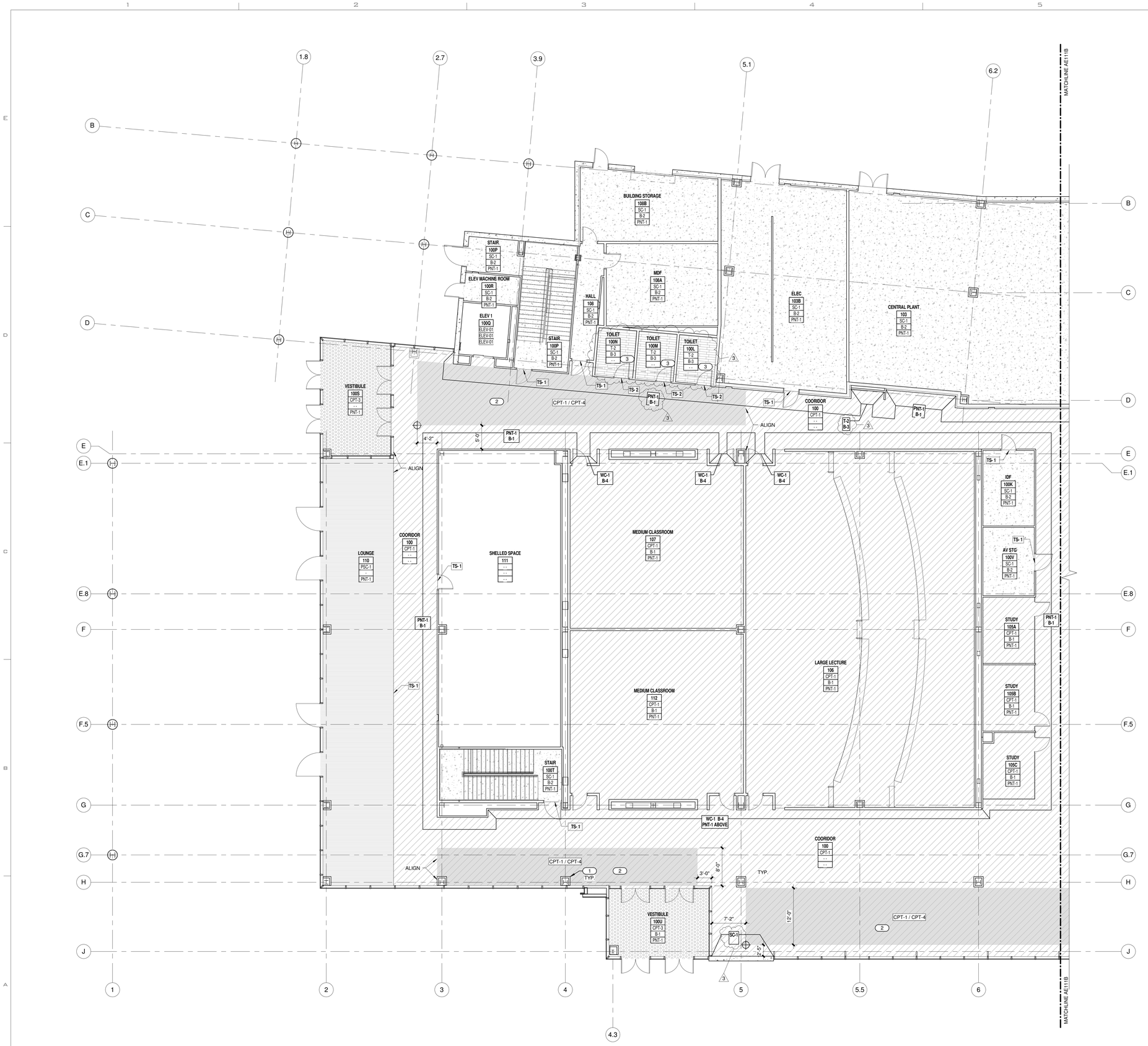


Level 1 Area 'A' Finish Plan (A5 / AE111A)

1/8" = 1'-0"

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
- FLOORING MATERIAL TRANSITIONS TO OCCUR AT CENTER LINE OF DOOR THRESHOLDS, U.N.O.
- REFER TO CARPET TILE PATTERNS ON SHEET AE620 FOR CPT-1 & CPT-4 CARPET LAYOUT.
- SEE FINISH SCHEDULE FOR TRANSITION STRIP TYPES.
- PROVIDE 4' STAINLESS STEEL CORNER GUARDS @ ALL PAINTED GYPSUM BOARD AND WOOD VENEER OUTSIDE WALL CORNERS ON ALL LEVELS PER UVU STANDARDS.
- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES

2

KEYED NOTES:

1 REFER TO FLOOR PLAN FOR COLUMN FINISH PER DETAIL
2 REFER TO 16/AE620 FOR CPT-1/CPT-4 CARPET PATTERN
3 REFER TO ELEVATIONS FOR WALL FINISHES.

FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET (3)
T-1	TILE
T-2	TILE (3)
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

ROOM NUMBER — Room name 101 — F: FLOOR FINISH; B: BASE; W: WALL

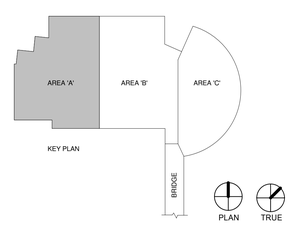
TRANSITION STRIP TAG

TS-1 — TRANSITION STRIP NUMBER

WALL & BASE FINISH SPECIFIC (3)

PNT-1 / B-1 — WALL FINISH; MATERIAL TRANSITION; BASE FINISH

KEY PLAN:



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3. Addendum 3 05/22/13

title:
Level 1 Area 'A' Finish Plan

sheet:
AE111A

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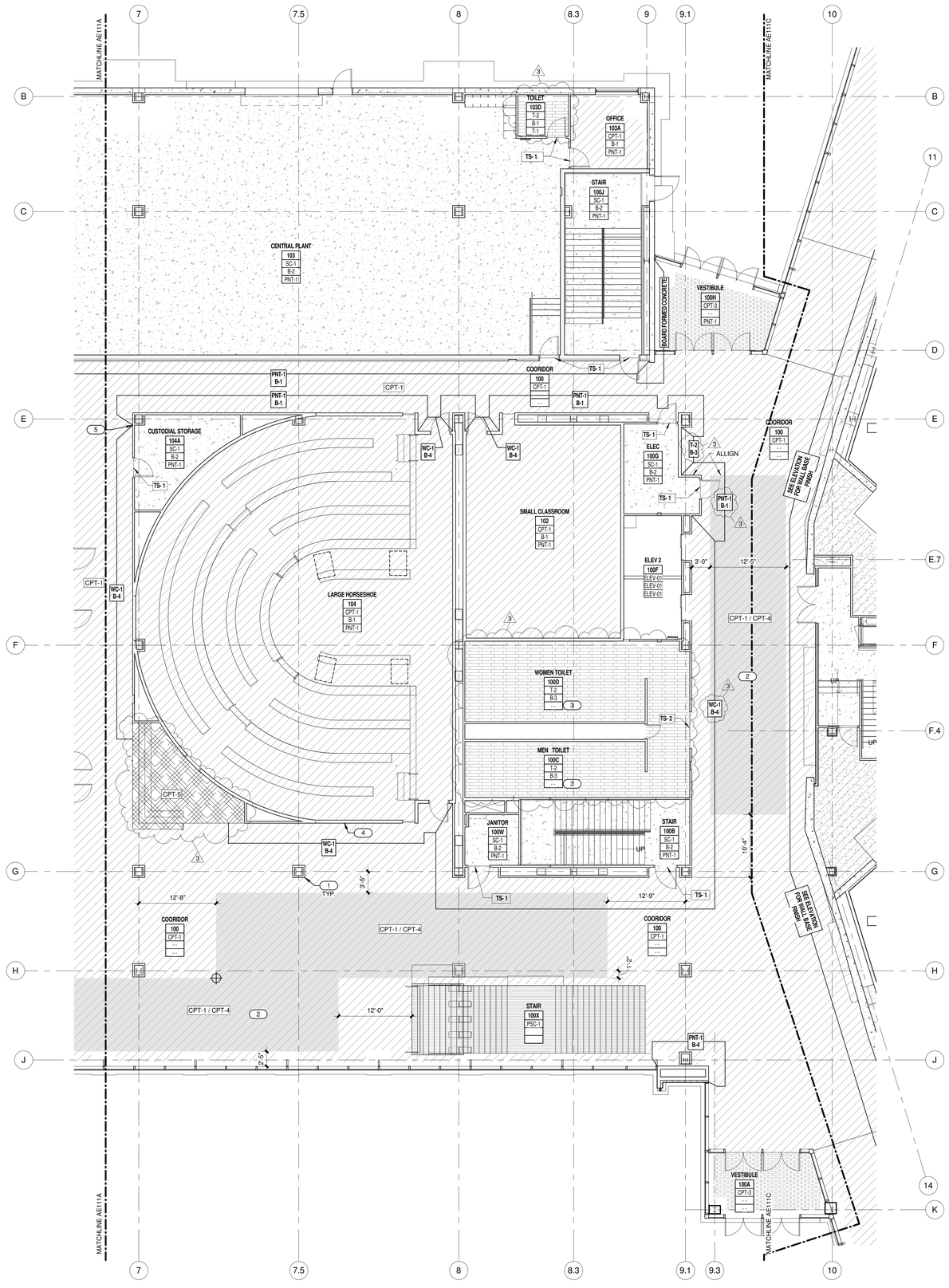


Level 1 Area 'B' Finish Plan (A5 / AE111B)

1/8" = 1'-0"

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
- FLOORING MATERIAL TRANSITIONS TO OCCUR AT CENTER LINE OF DOOR THRESHOLDS, U.N.O.
- REFER TO CARPET TILE PATTERNS ON SHEET AE620 FOR CPT-1 & CPT-4 CARPET LAYOUT.
- SEE FINISH SCHEDULE FOR TRANSITION STRIP TYPES.
- PROVIDE 4' STAINLESS STEEL CORNER GUARDS @ ALL PAINTED GYPSUM BOARD AND WOOD VENEER OUTSIDE WALL CORNERS ON ALL LEVELS PER UVU STANDARDS.
- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES

KEYED NOTES:

1. REFER TO FLOOR PLAN FOR COLUMN FINISH PER DETAIL
2. REFER TO 16/AE620 FOR CPT-1/CPT-4 CARPET PATTERN
3. REFER TO ELEVATIONS FOR WALL FINISHES.
4. SEE ELEVATION FOR WHITE BOARD LOCATION AND INFORMATION.
5. 1/2" VERTICAL ALUMINUM REVEAL TO ALIGN WITH GYP BOARD CEILING ABOVE.

FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET
T-1	TILE
T-2	TILE
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

ROOM NUMBER — Room name 101 — F FLOOR FINISH — B BASE — W WALL

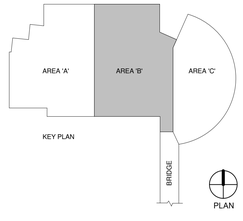
TRANSITION STRIP TAG

TS-7 — TRANSITION STRIP NUMBER

WALL & BASE FINISH SPECIFIC

PNT-1 / B-1 — WALL FINISH — MATERIAL TRANSITION — BASE FINISH

KEY PLAN:



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revisions :
2. Addendum 2 05/17/13
3. Addendum 3 05/22/13

title:

Level 1 Area 'B' Finish Plan

sheet:

AE111B

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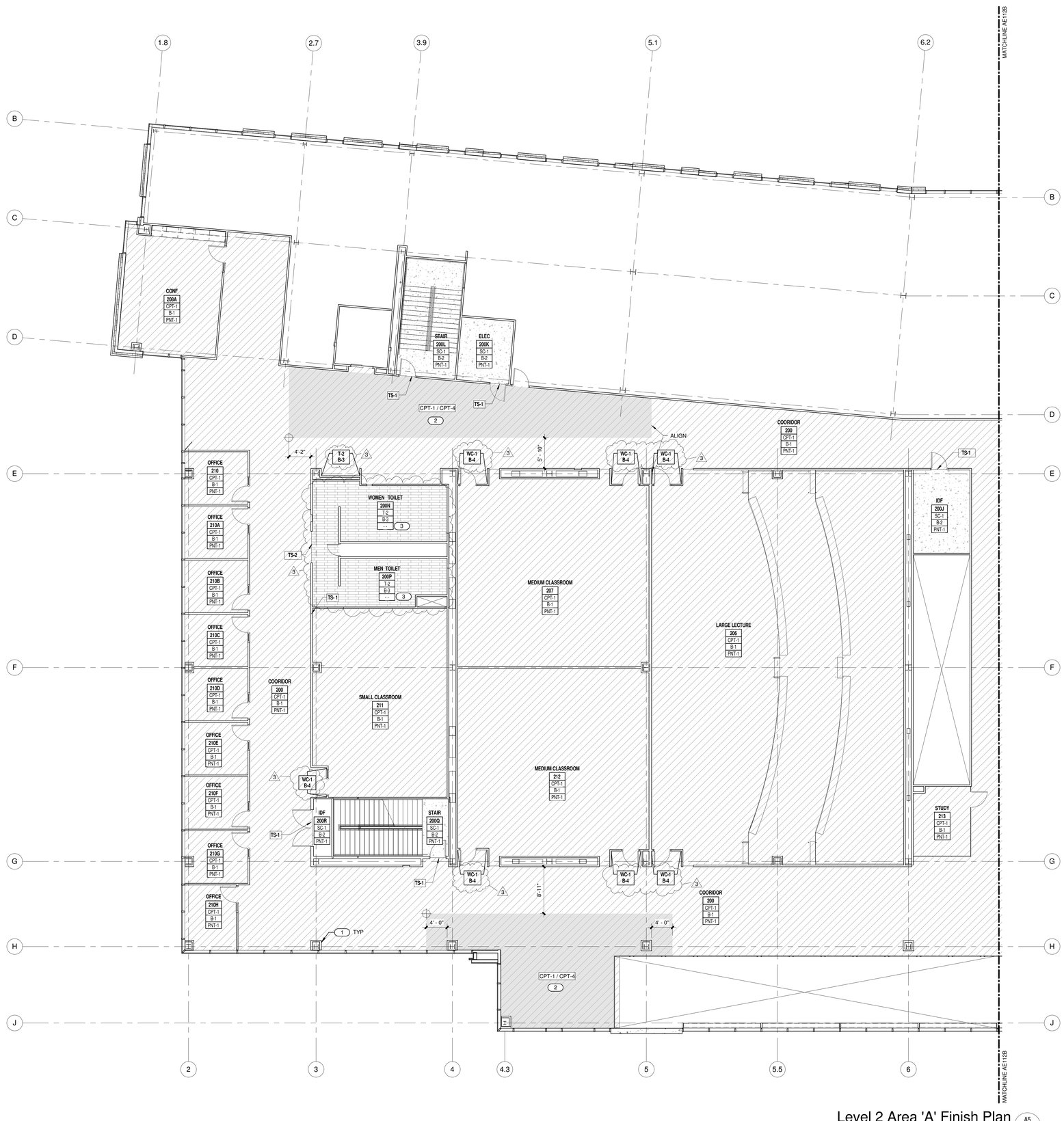

Level 2 Area 'A' Finish Plan

1/8" = 1'-0" A5 AE112A

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
- FLOORING MATERIAL TRANSITIONS TO OCCUR AT CENTER LINE OF DOOR THRESHOLDS, U.N.O.
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- SEE FINISH SCHEDULE FOR TRANSITION STRIP TYPES.
- PROVIDE 4' STAINLESS STEEL CORNER GUARDS @ ALL PAINTED GYPSUM BOARD AND WOOD VENEER OUTSIDE WALL CORNERS ON ALL LEVELS PER UVU STANDARDS.
- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES 2

KEYED NOTES:

1 REFER TO FLOOR PLAN FOR COLUMN FINISH PER DETAIL
2 REFER TO 16/AE620 FOR CPT-1/CPT-4 CARPET PATTERN
3 REFER TO ELEVATIONS FOR WALL FINISHES.

FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET 3
T-1	TILE
T-2	TILE 3
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

ROOM NUMBER — Room name 101 F B W — FLOOR FINISH, BASE, WALL

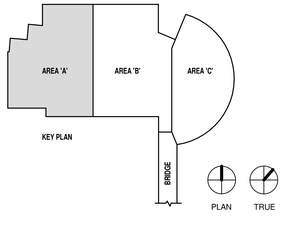
TRANSITION STRIP TAG

TS-? — TRANSITION STRIP NUMBER

WALL & BASE FINISH SPECIFIC 3

PNT-1 B-1 — WALL FINISH, MATERIAL TRANSITION, BASE FINISH

KEY PLAN:



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4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

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925 south west temple
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3 Addendum 3 05/22/13

title:
Level 2 Area 'A' Finish Plan

sheet:
AE112A

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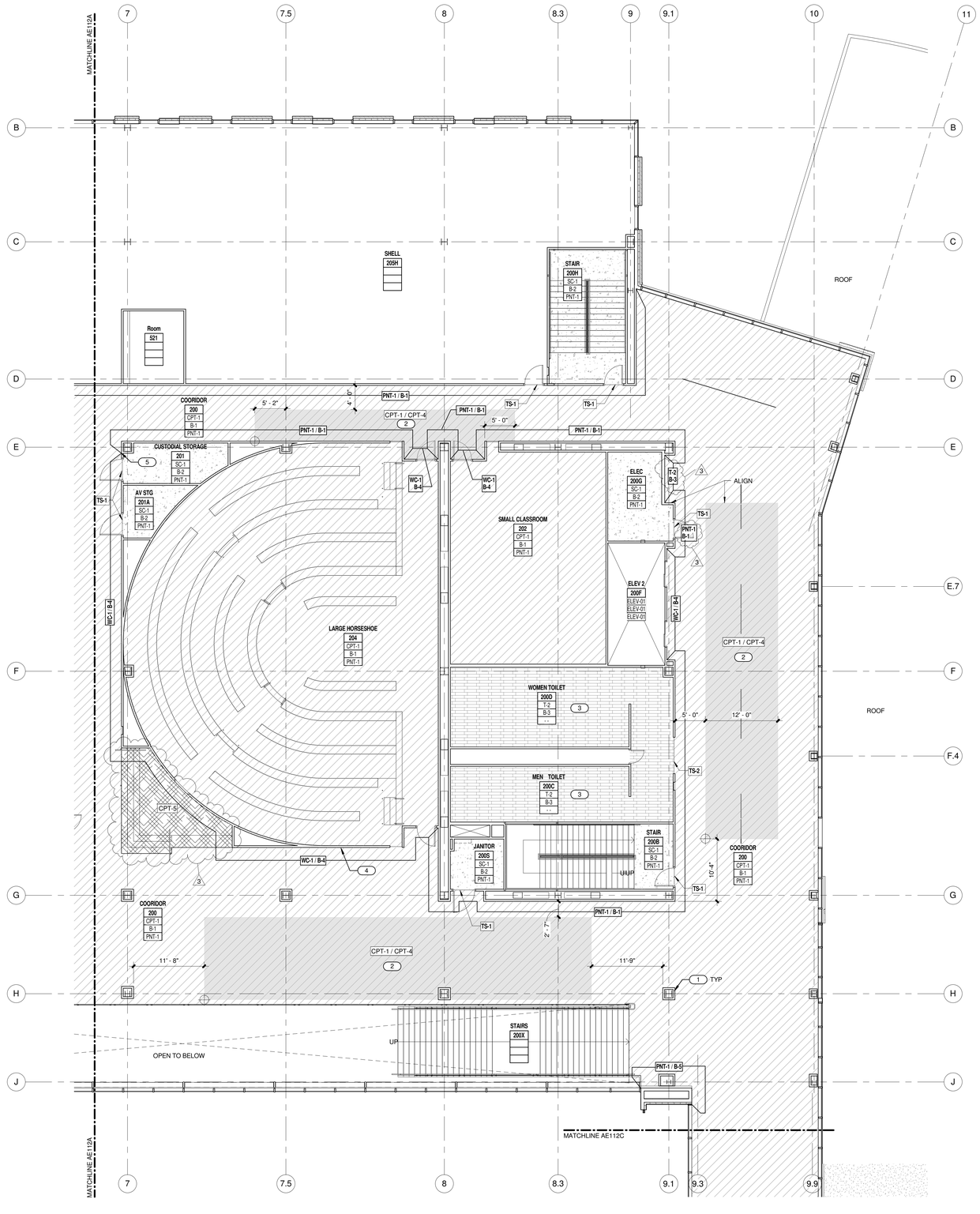

Level 2 Area 'B' Finish Plan (A5 / AE112B)

1/8" = 1'-0"

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
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- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES (2)

KEYED NOTES:

1. REFER TO FLOOR PLAN FOR COLUMN FINISH PER DETAIL
2. REFER TO 16/AE620 FOR CPT-1/CPT-4 CARPET PATTERN
3. REFER TO ELEVATIONS FOR WALL FINISHES.
4. SEE ELEVATION FOR WHITE BOARD LOCATION AND INFORMATION.
5. 1/2" VERTICAL ALUMINUM REVEAL TO ALIGN WITH GYP BOARD CEILING ABOVE.

FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET (3)
T-1	TILE
T-2	TILE (3)
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

ROOM NUMBER — Room name 101 — F FLOOR FINISH — B BASE — W WALL

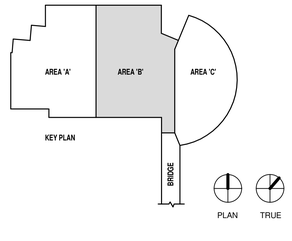
TRANSITION STRIP TAG

TS-1 — TRANSITION STRIP NUMBER

WALL & BASE FINISH SPECIFIC (3)

PNT-1 / B-1 — WALL FINISH — MATERIAL TRANSITION — BASE FINISH

KEY PLAN:



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Level 2 Area 'B' Finish Plan

sheet:
AE112B

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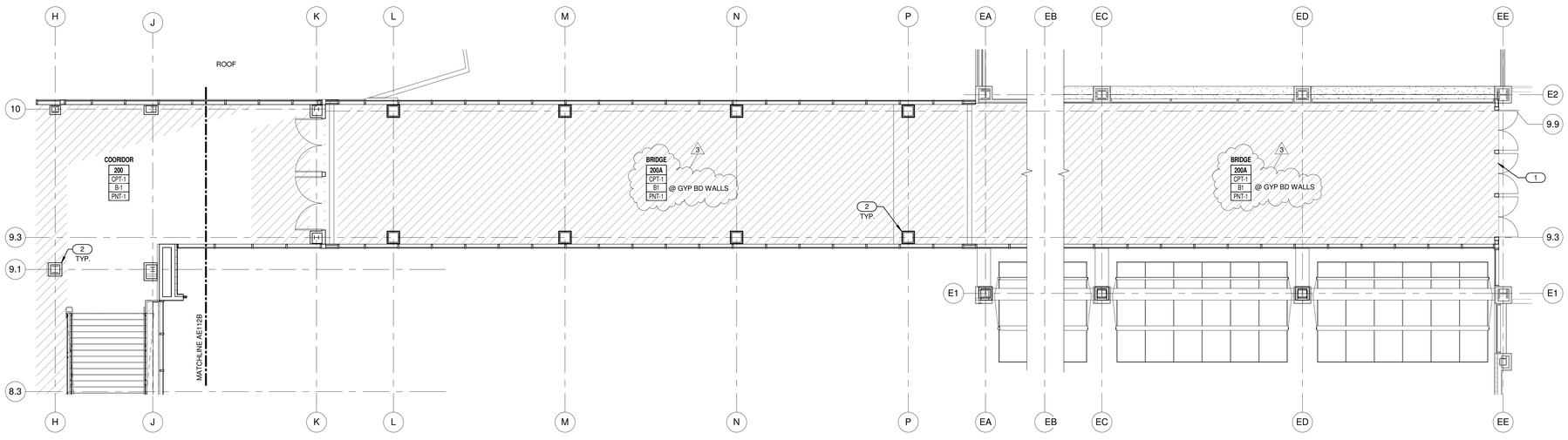

Level 2 Area 'C' Finish Plan

1/8" = 1'-0"

B5
AE112C

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
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- REFER TO CARPET TILE PATTERNS ON SHEET AE620 FOR CPT-1 & CPT-4 CARPET LAYOUT.
- SEE FINISH SCHEDULE FOR TRANSITION STRIP TYPES.
- PROVIDE 4' STAINLESS STEEL CORNER GUARDS @ ALL PAINTED GYPSUM BOARD AND WOOD VENEER OUTSIDE WALL CORNERS ON ALL LEVELS PER UVU STANDARDS.
- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES

2

KEYED NOTES:

1 PATCH AND REPAIR EXISTING CARPET.
2 REFER TO FLOOR PLAN FOR COLUMN FINISH PER DETAIL

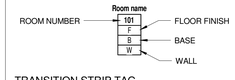
FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET 3
T-1	TILE
T-2	TILE 3
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

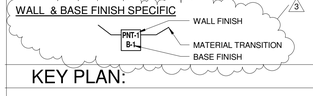
NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

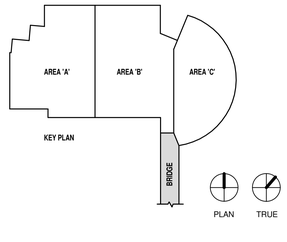


TRANSITION STRIP TAG

WALL & BASE FINISH SPECIFIC



KEY PLAN:



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title:

Level 2 Area 'C' Finish Plan

sheet:

AE112C

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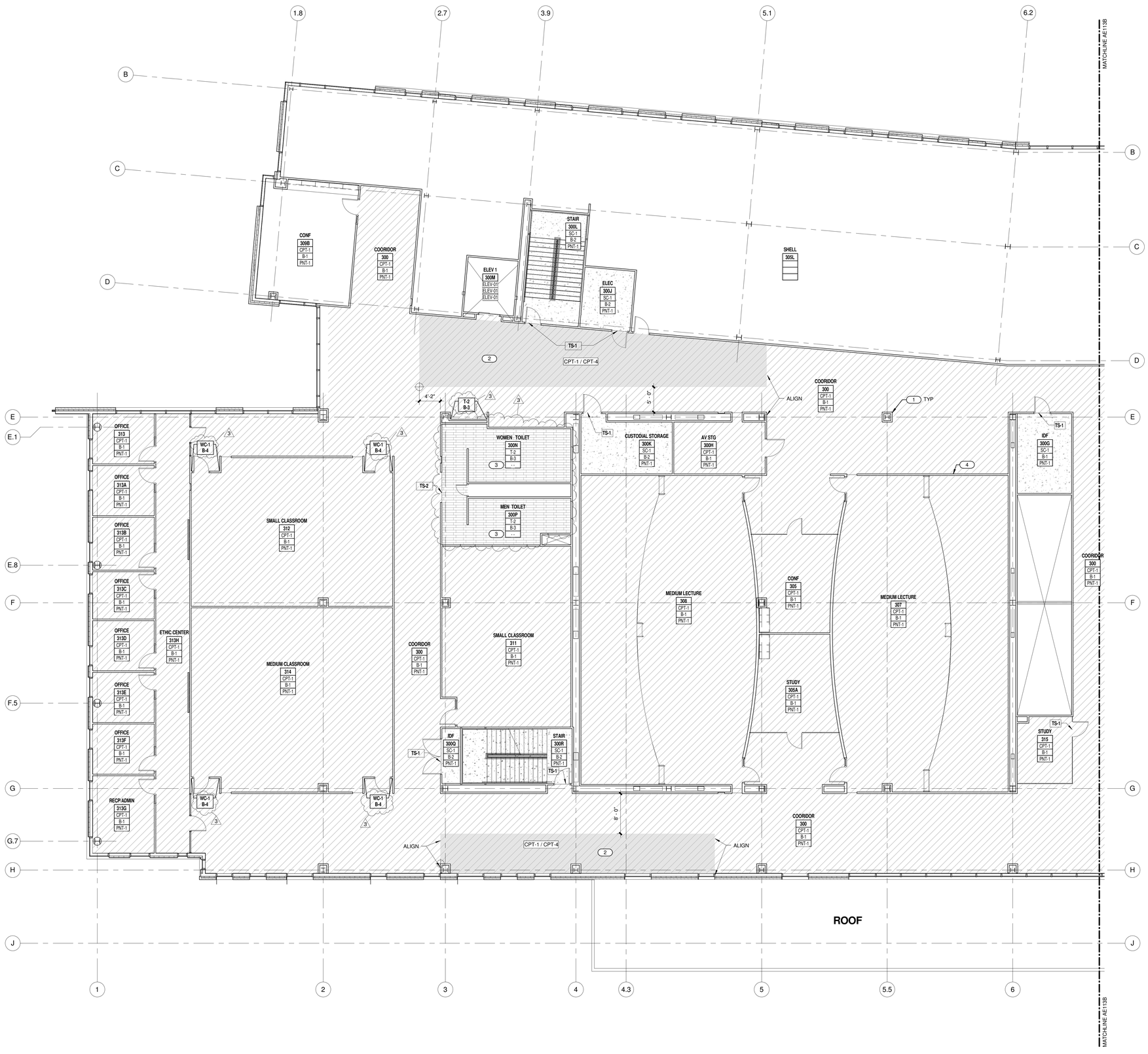

Level 3 Area 'A' Finish Plan (A5)
1/8" = 1'-0" AE113A

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
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- REFER TO CARPET TILE PATTERNS ON SHEET AE620 FOR CPT-1 & CPT-4 CARPET LAYOUT.
- SEE FINISH SCHEDULE FOR TRANSITION STRIP TYPES.
- PROVIDE 4' STAINLESS STEEL CORNER GUARDS @ ALL PAINTED GYPSUM BOARD AND WOOD VENEER OUTSIDE WALL CORNERS ON ALL LEVELS PER UVU STANDARDS.
- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES (2)

KEYED NOTES:

1. REFER TO FLOOR PLAN FOR COLUMN FINISH PER DETAIL
2. REFER TO 16/AE620 FOR CPT-1/CPT-4 CARPET PATTERN
3. REFER TO ELEVATIONS FOR WALL FINISHES.
4. SEE ELEVATION FOR WHITE BOARD LOCATION AND INFORMATION.

FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET (3)
T-1	TILE
T-2	TILE (3)
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

ROOM NUMBER — Room name 101 — F FLOOR FINISH — B BASE — W WALL

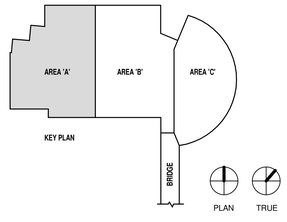
TRANSITION STRIP TAG

TS-7 — TRANSITION STRIP NUMBER

WALL & BASE FINISH SPECIFIC (3)

PNT-1 — WALL FINISH
B-1 — MATERIAL TRANSITION BASE FINISH

KEY PLAN:



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Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 2
800 West University Parkway
Orem, UT 84058

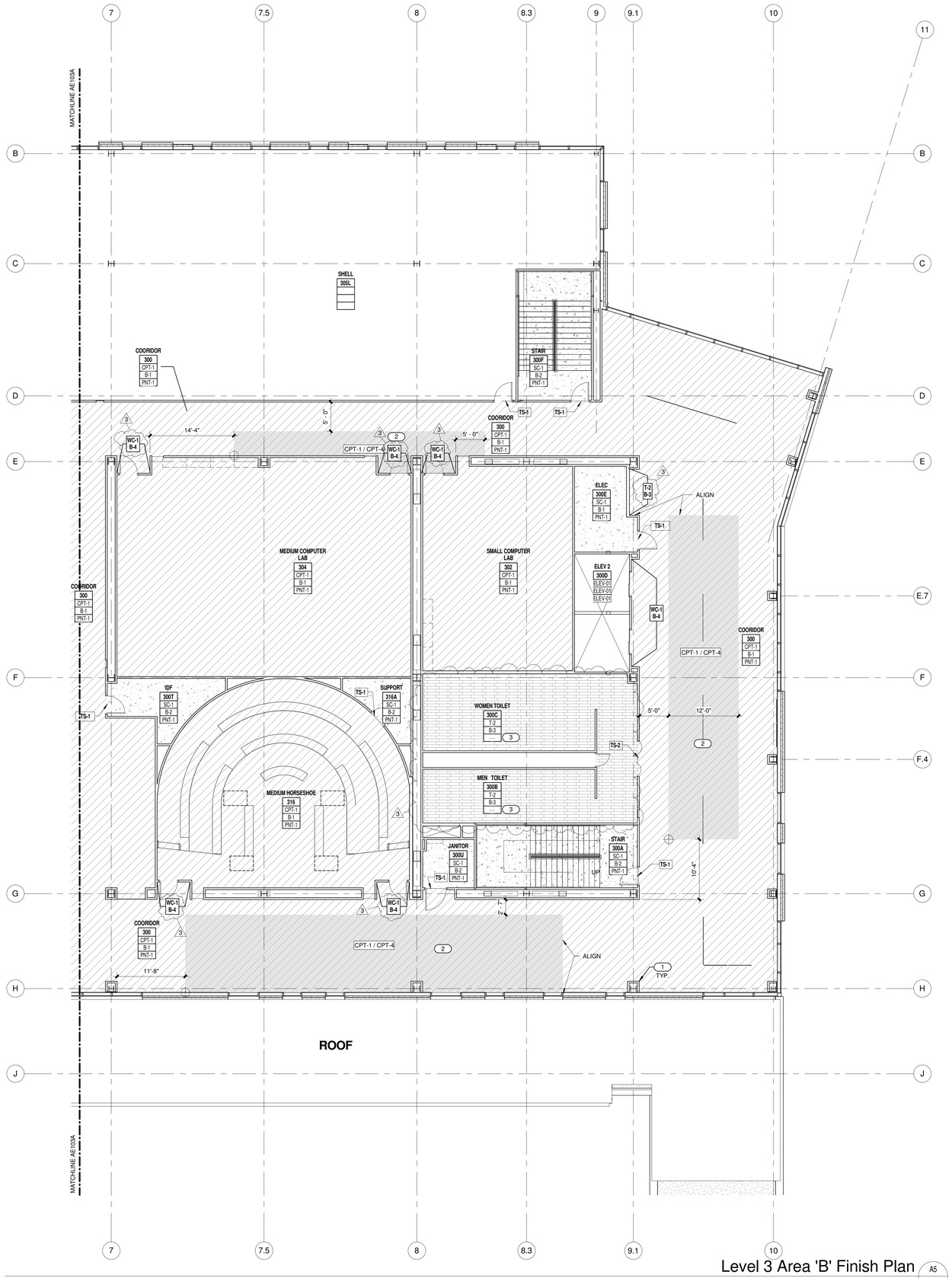
project#: DFCM# 12192790
date: April 30, 2013

revisions :
2 Addendum 2 05/17/13
3 Addendum 3 05/22/13

title:
Level 3 Area 'A' Finish Plan

sheet:
AE113A

BID DOC



Level 3 Area 'B' Finish Plan (A5 / AE113B)

1/8" = 1'-0"

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
- FLOORING MATERIAL TRANSITIONS TO OCCUR AT CENTER LINE OF DOOR THRESHOLDS, U.N.O.
- REFER TO CARPET TILE PATTERNS ON SHEET AE620 FOR CPT-1 & CPT-4 CARPET LAYOUT.
- SEE FINISH SCHEDULE FOR TRANSITION STRIP TYPES.
- PROVIDE 4' STAINLESS STEEL CORNER GUARDS @ ALL PAINTED GYPSUM BOARD AND WOOD VENEER OUTSIDE WALL CORNERS ON ALL LEVELS PER UVU STANDARDS.
- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES (2)

KEYED NOTES:

1 REFER TO FLOOR PLAN FOR COLUMN FINISH PER DETAIL
2 REFER TO 16/AE620 FOR CPT-1/CPT-4 CARPET PATTERN
3 REFER TO ELEVATIONS FOR WALL FINISHES.

FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET (3)
T-1	TILE
T-2	TILE (3)
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

ROOM NUMBER — Room name 101 — F: FLOOR FINISH; B: BASE; W: WALL

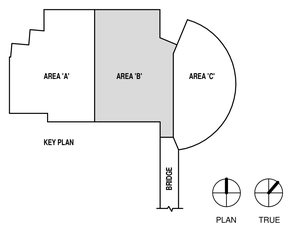
TRANSITION STRIP TAG

TS-7 — TRANSITION STRIP NUMBER

WALL & BASE FINISH SPECIFIC (3)

PNT-1 / B-1 — WALL FINISH; MATERIAL TRANSITION; BASE FINISH

KEY PLAN:



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Level 3 Area 'B' Finish Plan

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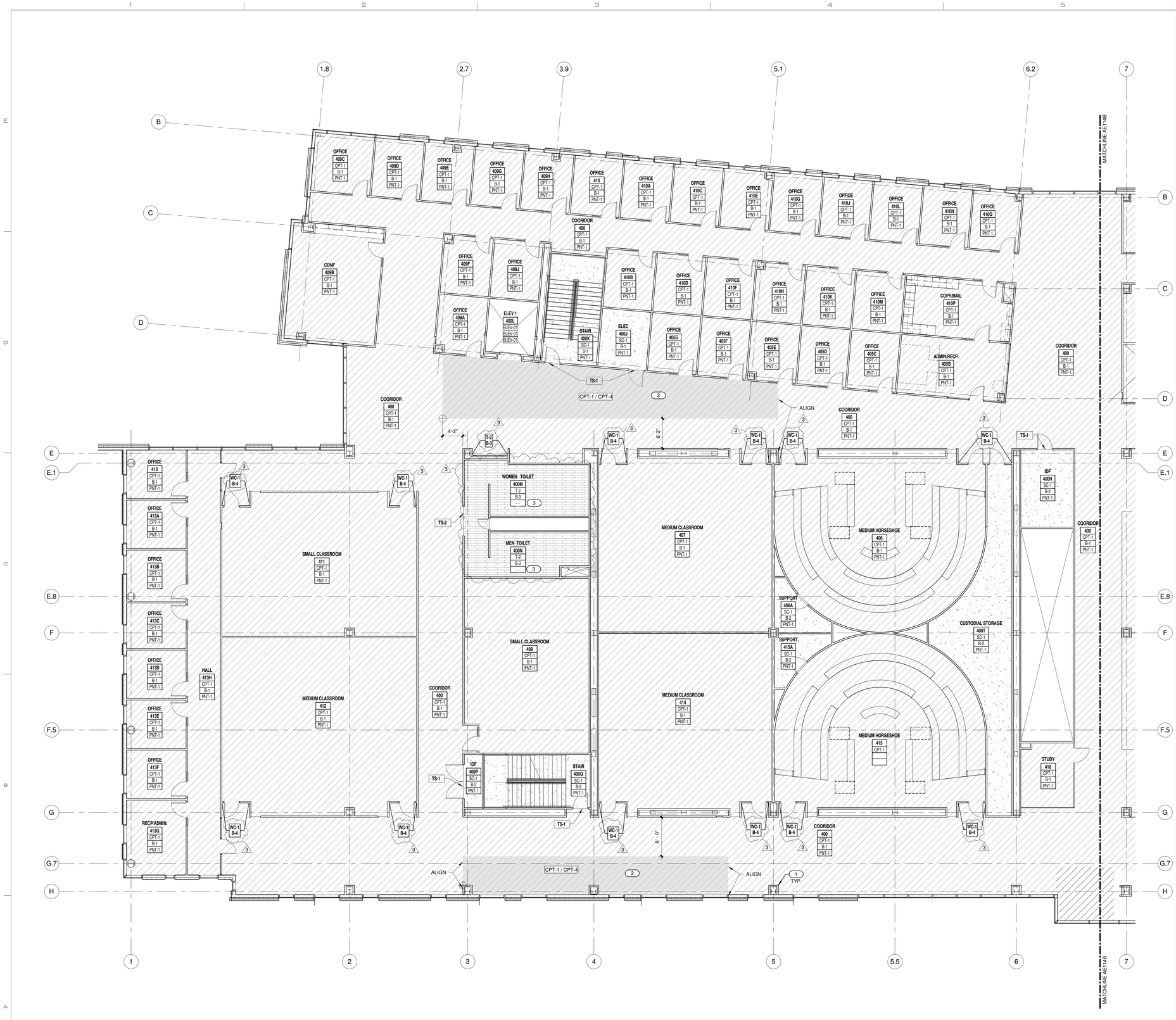


Level 4 Area 'A' Finish Plan (A5 / AE114A)
1/8" = 1'-0"

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
- FLOORING MATERIAL TRANSITIONS TO OCCUR AT CENTER LINE OF DOOR THRESHOLDS, U.N.O.
- REFER TO CARPET TILE PATTERNS ON SHEET AE620 FOR CPT-1 & CPT-4 CARPET LAYOUT.
- SEE FINISH SCHEDULE FOR TRANSITION STRIP TYPES.
- PROVIDE 4' STAINLESS STEEL CORNER GUARDS @ ALL PAINTED GYPSUM BOARD AND WOOD VENEER OUTSIDE WALL CORNERS ON ALL LEVELS PER UVU STANDARDS.
- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES (2)

KEYED NOTES:

1. REFER TO FLOOR PLAN FOR COLUMN FINISH PER DETAIL
2. REFER TO 16/AE620 FOR CPT-1/CPT-4 CARPET PATTERN
3. REFER TO ELEVATIONS FOR WALL FINISHES.

FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET (3)
T-1	TILE
T-2	TILE (3)
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

ROOM NUMBER — Room name 101 — F FLOOR FINISH — B BASE — W WALL

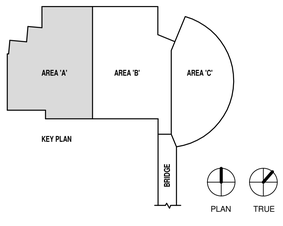
TRANSITION STRIP TAG

TS-7 — TRANSITION STRIP NUMBER

WALL & BASE FINISH SPECIFIC (3)

PNT-1 / B-1 — WALL FINISH — MATERIAL TRANSITION — BASE FINISH

KEY PLAN:



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2. Addendum 2 05/17/13
3. Addendum 3 05/22/13

title:
Level 4 Area 'A' Finish Plan

sheet:
AE114A

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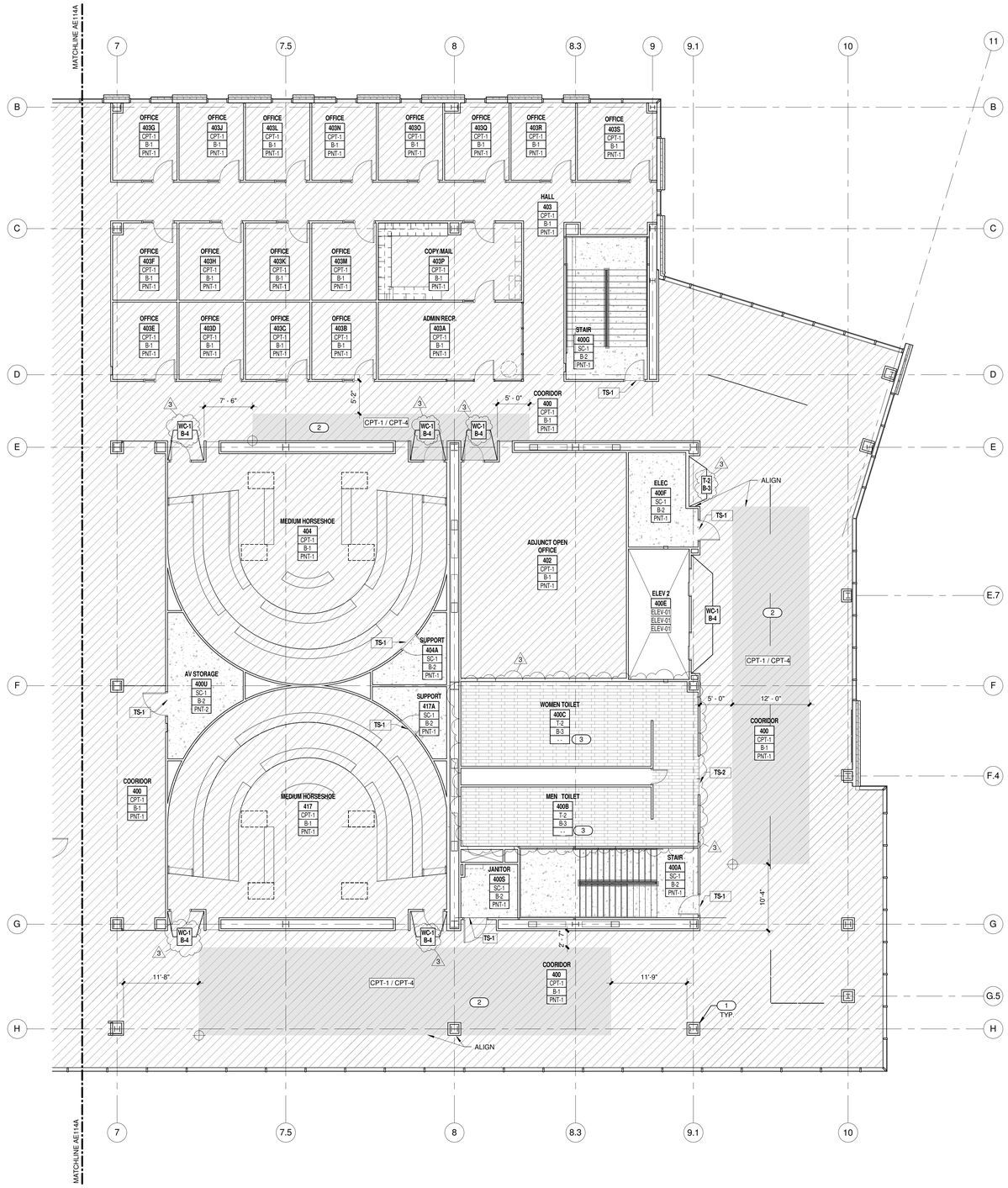

Level 4 Area 'B' Finish Plan (A5 / AE114B)
1/8" = 1'-0"

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
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- PROVIDE 4' STAINLESS STEEL CORNER GUARDS @ ALL PAINTED GYPSUM BOARD AND WOOD VENEER OUTSIDE WALL CORNERS ON ALL LEVELS PER UVU STANDARDS.
- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES (2)

KEYED NOTES:

1 REFER TO FLOOR PLAN FOR COLUMN FINISH PER DETAIL
2 REFER TO 16/AE620 FOR CPT-1/CPT-4 CARPET PATTERN
3 REFER TO ELEVATIONS FOR WALL FINISHES.

FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET (3)
T-1	TILE
T-2	TILE (3)
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

ROOM NUMBER — Room name 101 / F / B / W — FLOOR FINISH, BASE, WALL

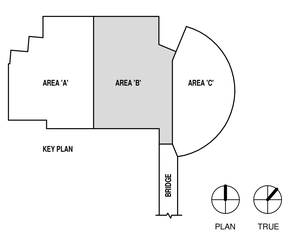
TRANSITION STRIP TAG

TS-7 — TRANSITION STRIP NUMBER

WALL & BASE FINISH SPECIFIC (3)

PNT-1 / B-L — WALL FINISH, MATERIAL TRANSITION, BASE FINISH

KEY PLAN:



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CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
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title:
Level 4 Area 'B' Finish Plan

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AE114B

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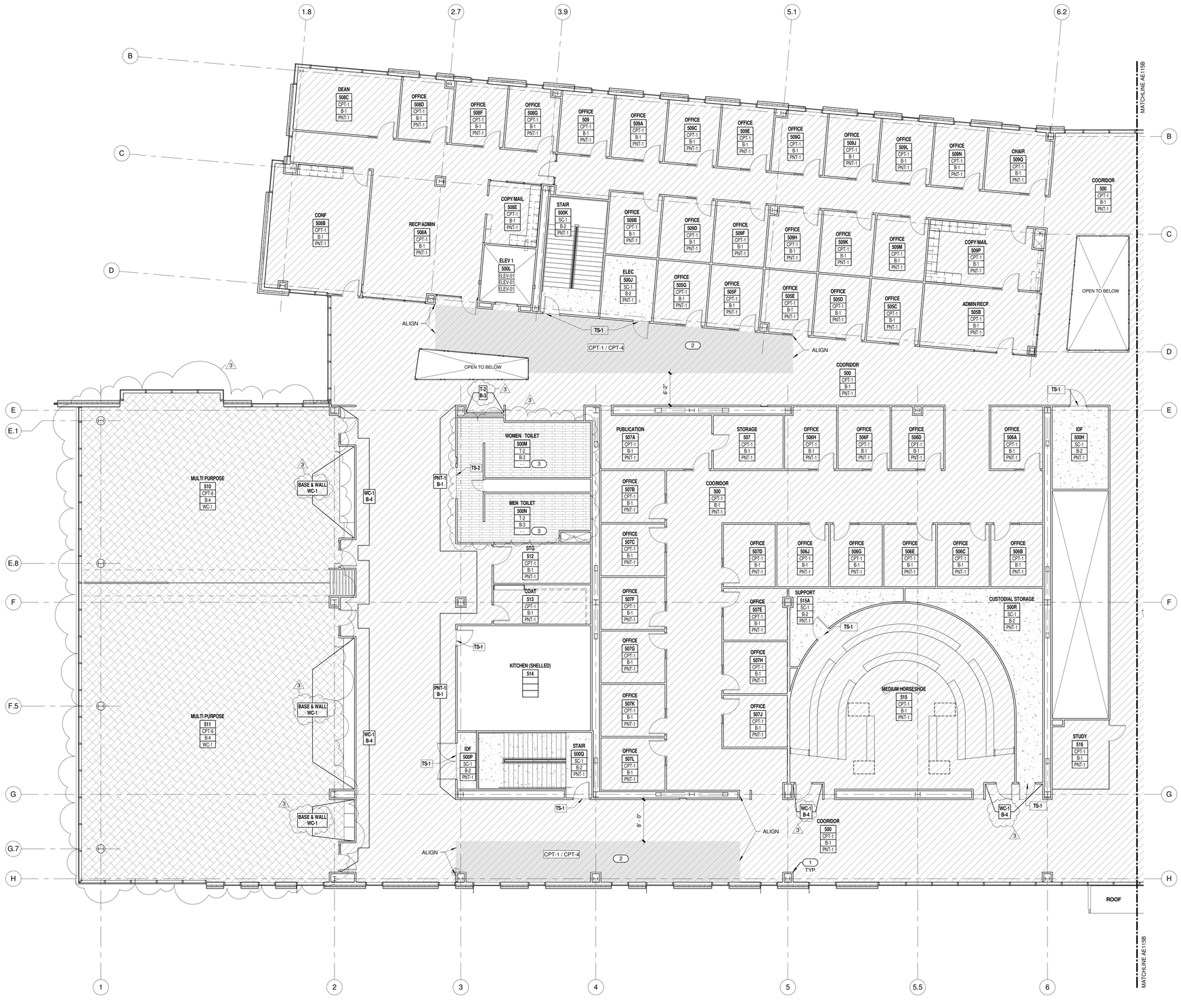


Level 5 Area 'A' Finish Plan (A5 / AE115A)

1/8" = 1'-0"

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
- FLOORING MATERIAL TRANSITIONS TO OCCUR AT CENTER LINE OF DOOR THRESHOLDS, U.N.O.
- REFER TO CARPET TILE PATTERNS ON SHEET AE620 FOR CPT-1 & CPT-4 CARPET LAYOUT.
- SEE FINISH SCHEDULE FOR TRANSITION STRIP TYPES.
- PROVIDE 4' STAINLESS STEEL CORNER GUARDS @ ALL PAINTED GYPSUM BOARD AND WOOD VENEER OUTSIDE WALL CORNERS ON ALL LEVELS PER UVU STANDARDS.
- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES (2)

KEYED NOTES:

1. REFER TO FLOOR PLAN FOR COLUMN FINISH PER DETAIL
2. REFER TO 16/AE620 FOR CPT-1/CPT-4 CARPET PATTERN
3. REFER TO ELEVATIONS FOR WALL FINISHES.

FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET (3)
T-1	TILE
T-2	TILE (3)
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

Room name — 101 — F — B — W

ROOM NUMBER — FLOOR FINISH — BASE — WALL

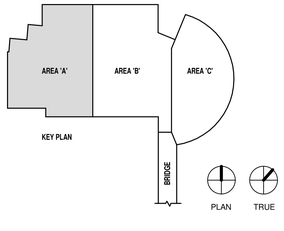
TRANSITION STRIP TAG

TS-1 — TRANSITION STRIP NUMBER

WALL & BASE FINISH SPECIFIC (3)

PNT-1 — B-1 — WALL FINISH — MATERIAL TRANSITION — BASE FINISH

KEY PLAN:



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Phone: (801) 538 - 3018
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salt lake city, utah 84102
phone:(801) 355-5915

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title:
Level 5 Area 'A' Finish Plan

sheet:
AE115A

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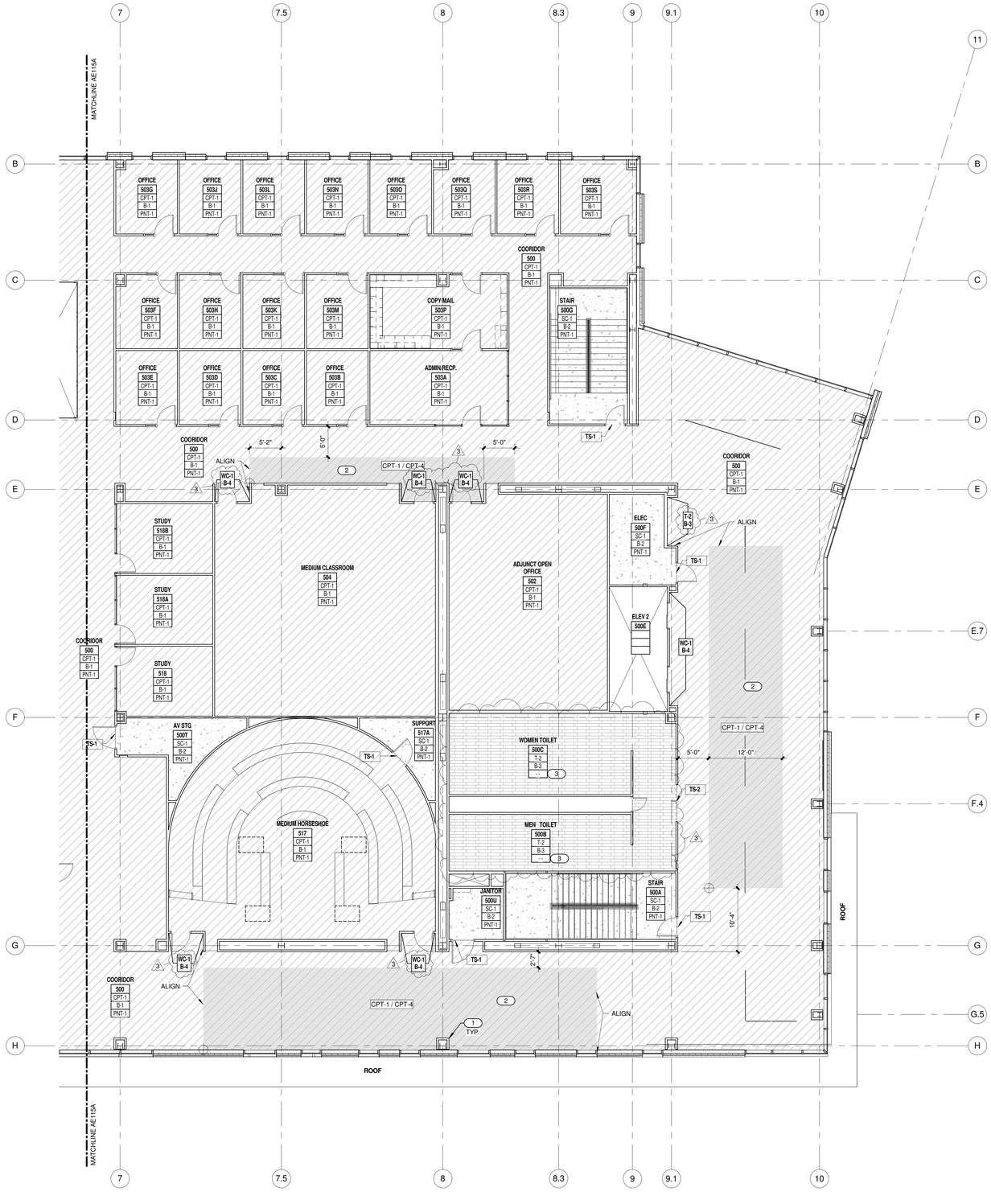


Level 5 Area 'B' Finish Plan (A5 / AE115B)

1/8" = 1'-0"

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
- FLOORING MATERIAL TRANSITIONS TO OCCUR AT CENTER LINE OF DOOR THRESHOLDS, U.N.O.
- REFER TO CARPET TILE PATTERNS ON SHEET AE620 FOR CPT-1 & CPT-4 CARPET LAYOUT.
- SEE FINISH SCHEDULE FOR TRANSITION STRIP TYPES.
- PROVIDE 4' STAINLESS STEEL CORNER GUARDS @ ALL PAINTED GYPSUM BOARD AND WOOD VENEER OUTSIDE WALL CORNERS ON ALL LEVELS PER UVU STANDARDS.
- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES (2)

KEYED NOTES:

1 REFER TO FLOOR PLAN FOR COLUMN FINISH PER DETAIL
2 REFER TO 16/AE620 FOR CPT-1/CPT-4 CARPET PATTERN
3 REFER TO ELEVATIONS FOR WALL FINISHES.

FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET (3)
T-1	TILE
T-2	TILE (3)
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

ROOM NUMBER — Room name 101 — F: FLOOR FINISH; B: BASE; W: WALL

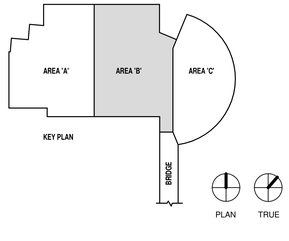
TRANSITION STRIP TAG

TS-7 — TRANSITION STRIP NUMBER

WALL & BASE FINISH SPECIFIC (3)

PNT-1 / B-1 — WALL FINISH; MATERIAL TRANSITION; BASE FINISH

KEY PLAN:



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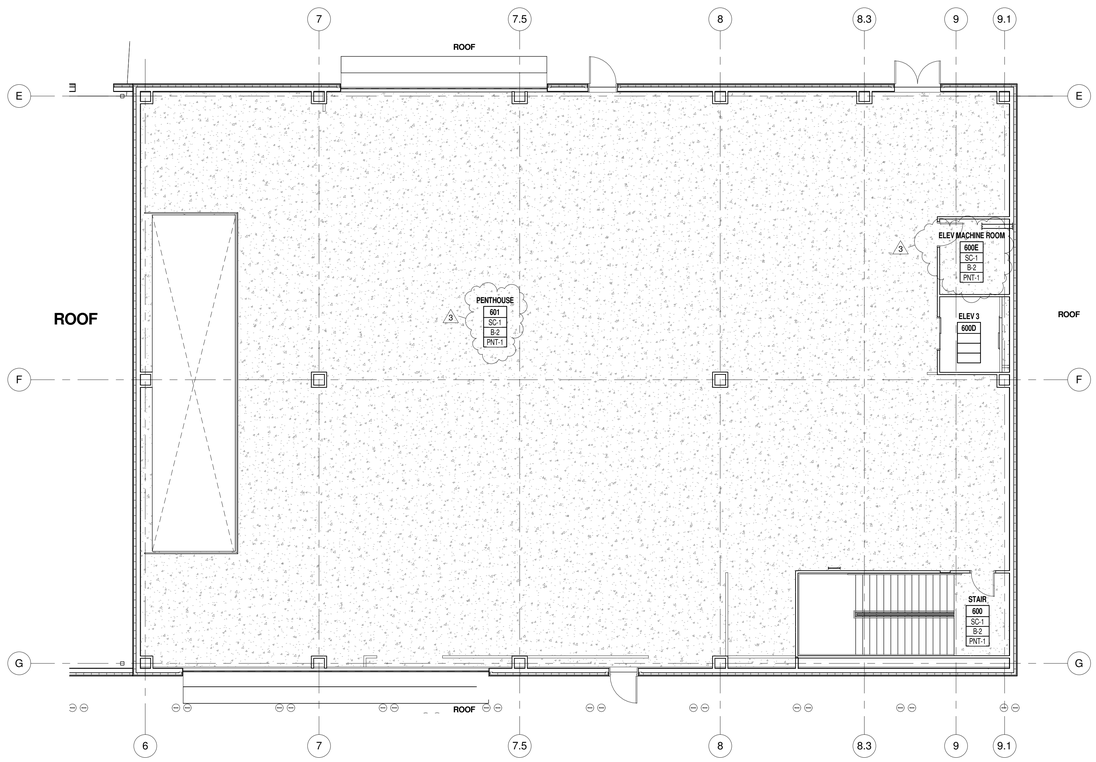

Level 6 Roof/Penthouse Finish Plan (A5 / AE116)

1/8" = 1'-0"

GENERAL FINISH FLOOR PLAN NOTES

- SEE FLOOR PLANS FOR INTERIOR ELEVATIONS.
- ALL MATERIALS TO BE INSTALLED PER SPECIFIC MANUFACTURER'S INSTALLATION RECOMMENDATINS.
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- REFER TO CARPET TILE PATTERNS ON SHEET AE620 FOR CPT-1 & CPT-4 CARPET LAYOUT.
- SEE FINISH SCHEDULE FOR TRANSITION STRIP TYPES.
- PROVIDE 4' STAINLESS STEEL CORNER GUARDS @ ALL PAINTED GYPSUM BOARD AND WOOD VENEER OUTSIDE WALL CORNERS ON ALL LEVELS PER UVU STANDARDS.
- CARPET AT STAIR AREAS TO RUN CONTINUOUS THRU RISERS AND TREADS
- BASE AT CABINET TO BE TOE KICK HEIGHT.
- SEE FINISH LEGEND ON AE620 FOR FINISHES (2)

FLOOR FINISH LEGEND

CODE	MATERIAL
CPT-1	CARPET TILE
CPT-2	CARPET TILE
CPT-3	WALK-OFF MAT
CPT-1 / CPT-4	CARPET TILE
CPT-5	CARPET
CPT-6	CARPET (3)
T-1	TILE
T-2	TILE (3)
SC-1	SEALED CONCRETE
SC-2	SEALED CONCRETE
PSC-1	POLISHED CONCRETE
	COMPACTED BACKFILL

CARPET PATTERN CONTROL POINT

NOTE: SEE ELEVATIONS FOR EXTENT OF FINISHES

ROOM FINISH TAG

ROOM NUMBER — Room name 101 / F / B / W — FLOOR FINISH, BASE, WALL

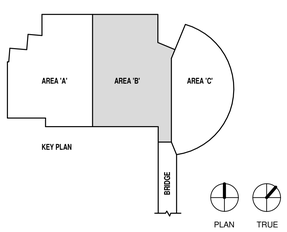
TRANSITION STRIP TAG

TS-7 — TRANSITION STRIP NUMBER

WALL & BASE FINISH SPECIFIC (3)

PNT-1 / B-1 — WALL FINISH, MATERIAL TRANSITION, BASE FINISH

KEY PLAN:



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925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 2
800 West University Parkway
Orem, UT 84058

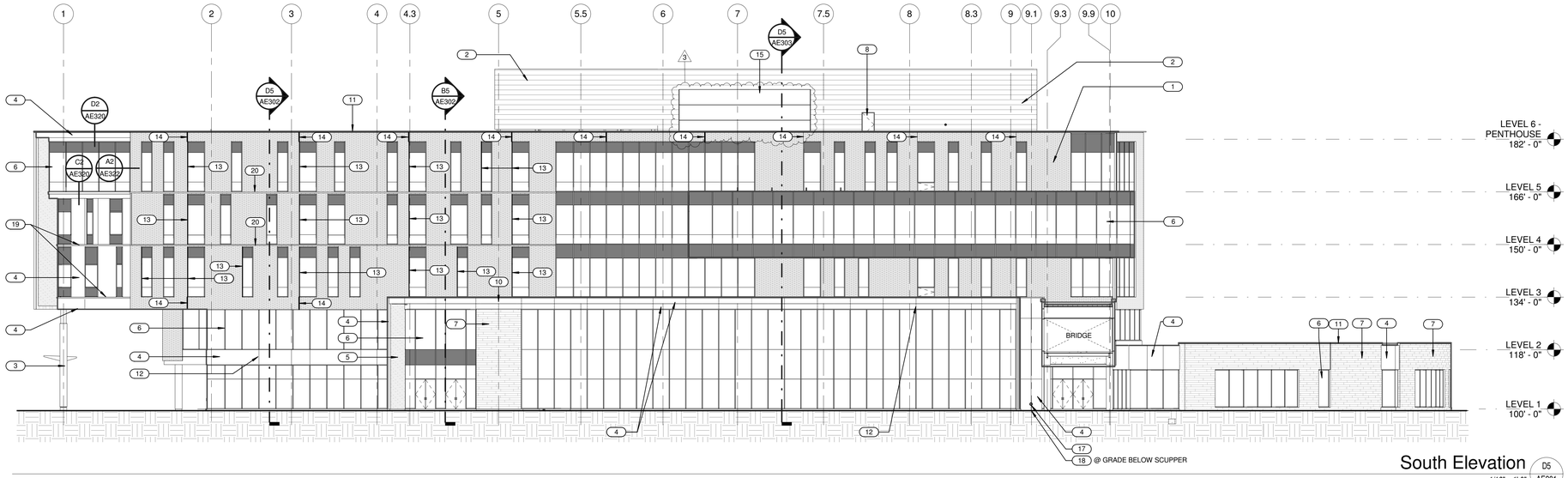
project#: DFCM# 12192790
date: April 30, 2013

revisions:
2. Addendum 2 05/17/13
3. Addendum 3 05/22/13

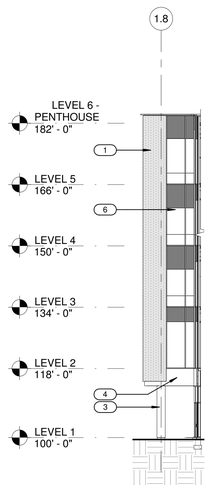
title:
Level 6 Penthouse Finish Plan

sheet:
AE116

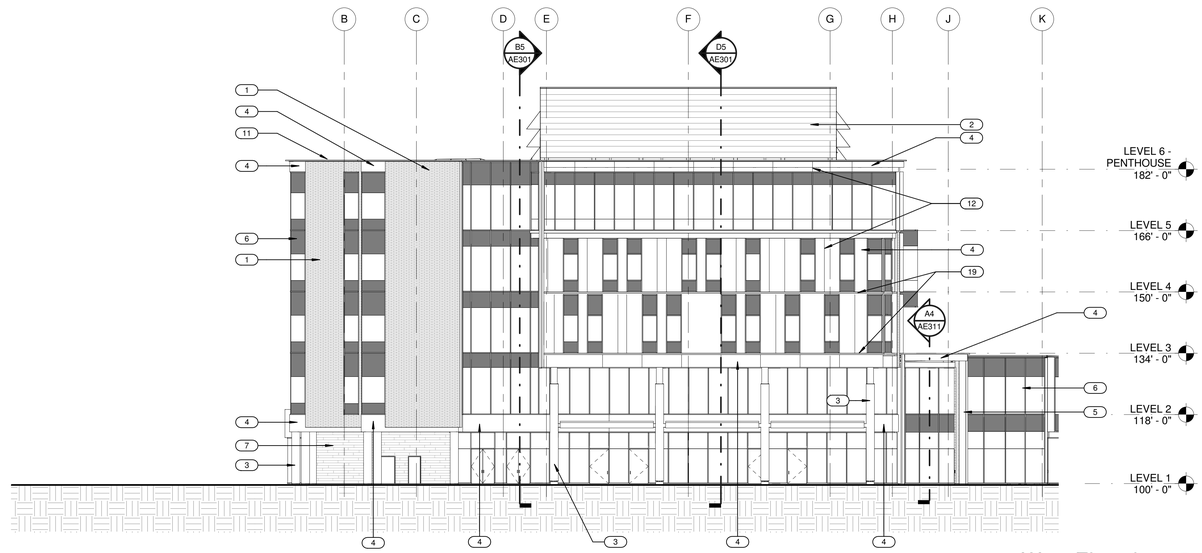
BID DOC



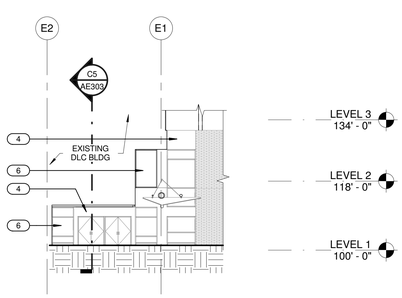
South Elevation D5 AE201
1/16" = 1'-0"



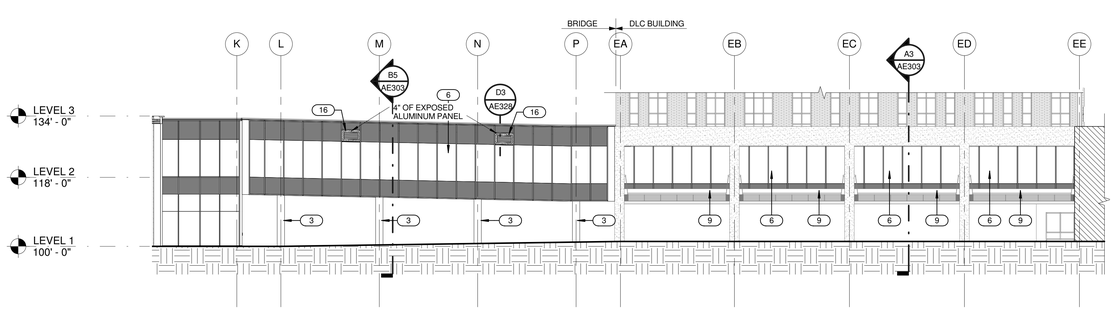
South Elevation - Partial B2 AE201
1/16" = 1'-0"



West Elevation B5 AE201
1/16" = 1'-0"



Elev-01 North DLC A2 AE201
1/16" = 1'-0"



West Elevation - Bridge A5 AE201
1/16" = 1'-0"

KEYED NOTES:

1. EMPEROR BRICK.
2. METAL PANEL, TYPE II. SEE SPEC.
3. ALUMINUM COLUMN COVER. SEE SPEC.
4. METAL PANEL, TYPE I. SEE SPEC.
5. EXTERIOR WOOD PANEL SYSTEM.
6. ALUM. CURTAIN WALL SYSTEM. SEE WINDOW TYPES.
7. BOARD FORMED CONCRETE WALL, SEE SPEC.
8. DOOR. SEE DOOR SCHEDULE.
9. EXISTING CANOPY.
10. METAL PANEL FASCIA.
11. METAL PARAPET CAP.
12. TYPICAL PANEL JOINT. ALIGN WITH CENTER LINE OF ADJACENT MULLION.
13. ALUMINUM VERTICAL SUN SHADE.
14. VERTICAL CONTROL JOINT.
15. MECHANICAL LOUVER. SEE MECHANICAL DRAWINGS.
16. CUSTOM LOUVER FROM MULLION TO MULLION IN SPANDREL PANEL. FIELD VERIFY. RE: MECHANICAL.
17. ROOF OVERFLOW DRAIN SCUPPER.
18. SPLASH BLOCK.
19. METAL COPING.
20. PRECAST CONCRETE.

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UTAH VALLEY UVU UNIVERSITY

State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO inc.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
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3 Addendum 3 05/22/13

title:
Exterior Elevations

sheet:
AE201

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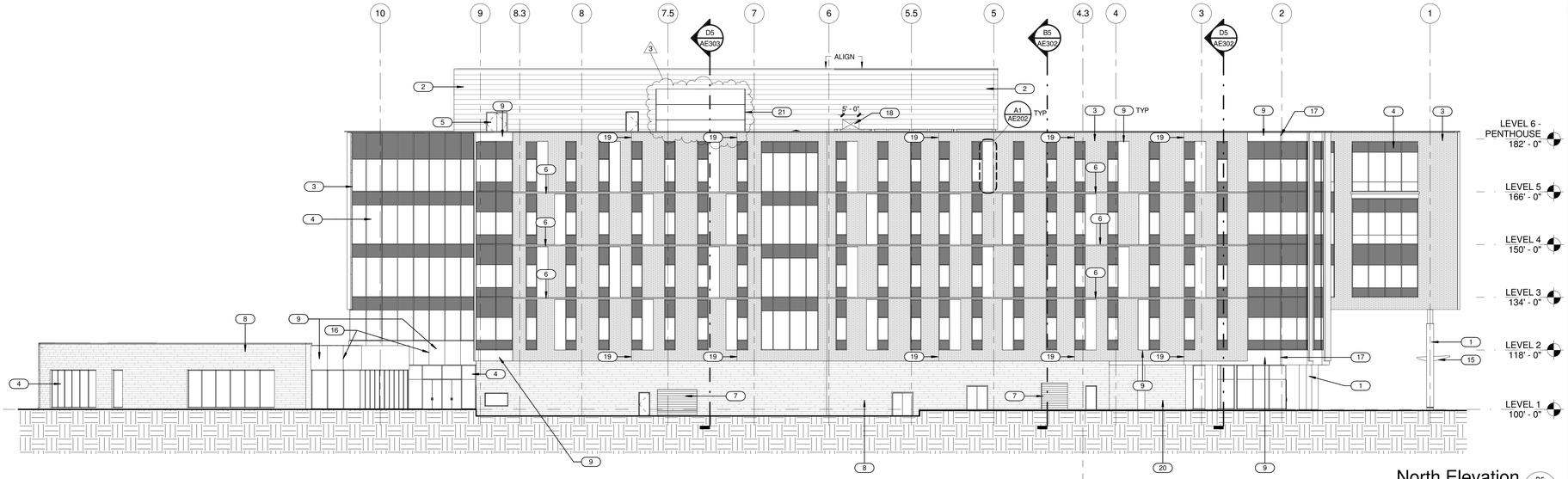
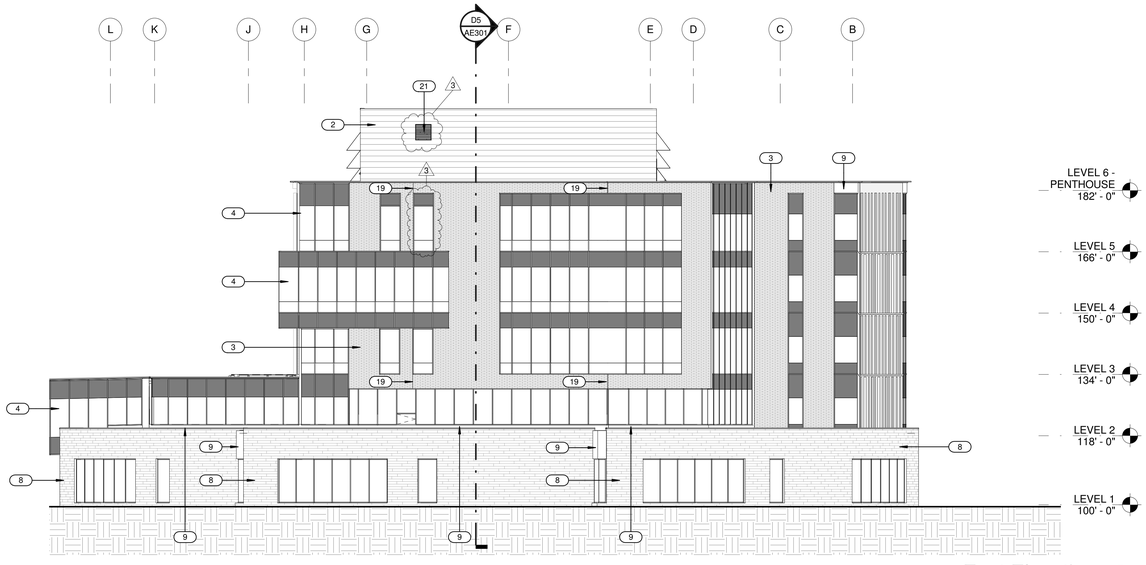
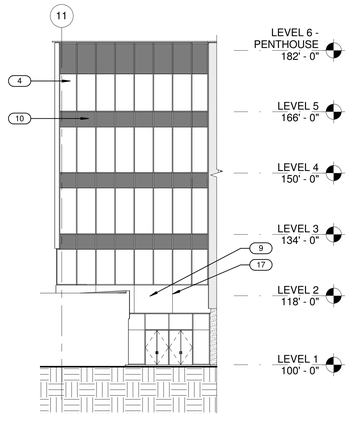


North Elevation (D5 / AE202)
1/16" = 1'-0"



East Elevation (B4 / AE202)
1/16" = 1'-0"



Partial Northeast Elevation (B5 / AE202)
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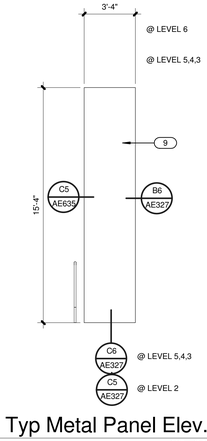
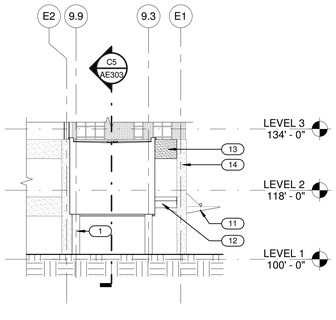
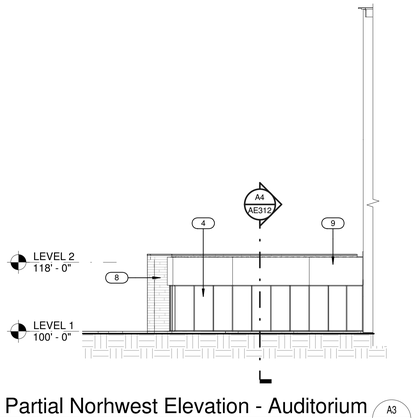


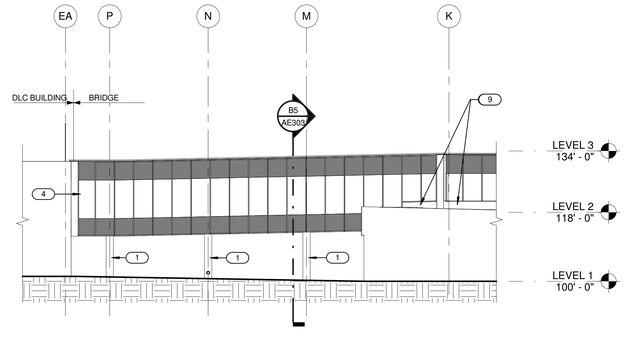
Typ Metal Panel Elev. (A1 / AE202)
1/4" = 1'-0"



Partial North Elevation - DLC (A2 / AE202)
1/16" = 1'-0"



Partial Norhwest Elevation - Auditorium (A3 / AE202)
1/16" = 1'-0"



East Elevation - Bridge (A5 / AE202)
1/16" = 1'-0"

KEYED NOTES:

1. ALUMINUM COLUMN COVER. SEE SPEC.
2. METAL PANEL, TYPE II. SEE SPEC.
3. EMPEROR BRICK.
4. ALUM. CURTAIN WALL SYSTEM. SEE WINDOW TYPES.
5. DOOR. SEE DOOR SCHEDULE.
6. PRECAST CONCRETE.
7. OVERHEAD COILING DOOR. SEE DOOR SCHEDULE.
8. BOARD FORMED CONCRETE WALL, SEE SPEC.
9. METAL PANEL, TYPE I. SEE SPEC.
10. SPANDREL. SEE WINDOW TYPES.
11. EXISTING CANOPY.
12. METAL PANEL SYSTEM TO MATCH EXISTING.
13. GROUT RUB ON BACKER BOARD AND METAL FRAMING TO BE ON ALL EXPOSED SIDES. GROUT RUB TO MATCH EXISTING PRECAST CONCRETE COLOR AND FINISH.
14. EXISTING PRECAST CONCRETE.
15. CANOPY.
16. TYPICAL PANEL JOINT. SEE SPEC.
17. TYPICAL PANEL JOINT, ALIGN WITH CENTER LINE OF ADJACENT MULLION.
18. ACCESS OPENING.
19. VERTICAL CONTROL JOINT.
20. ALUMINUM VERTICAL SUN SHADE.
21. MECHANICAL LOUVER. SEE MECHANICAL DRAWINGS.

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CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
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METHOD STUDIO INC.
925 south west temple
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revisions:
3 Addendum 3 05/22/13

title:
Exterior Elevations

sheet:
AE202

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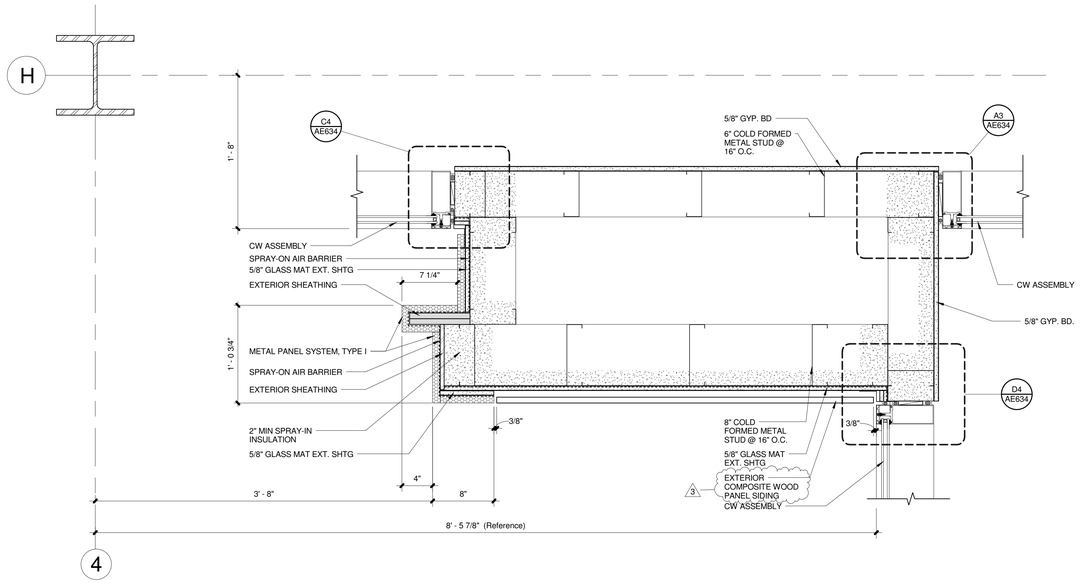
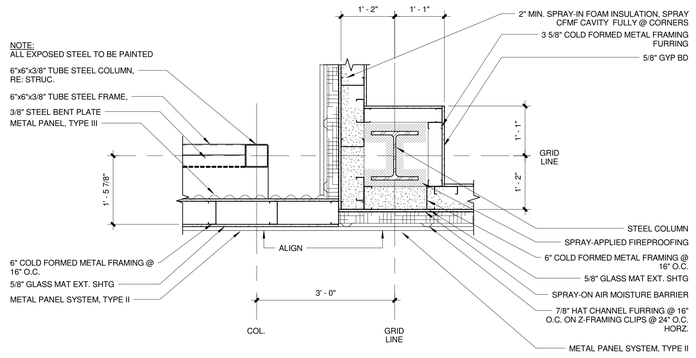
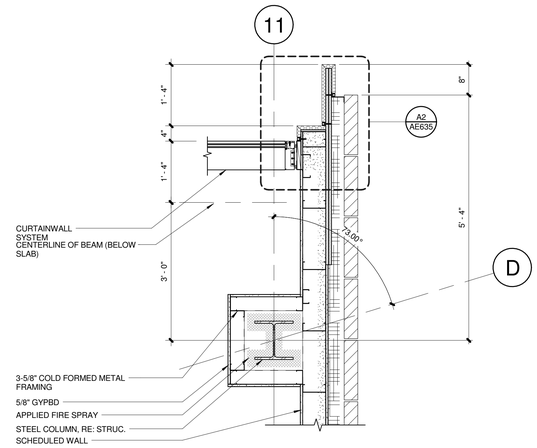


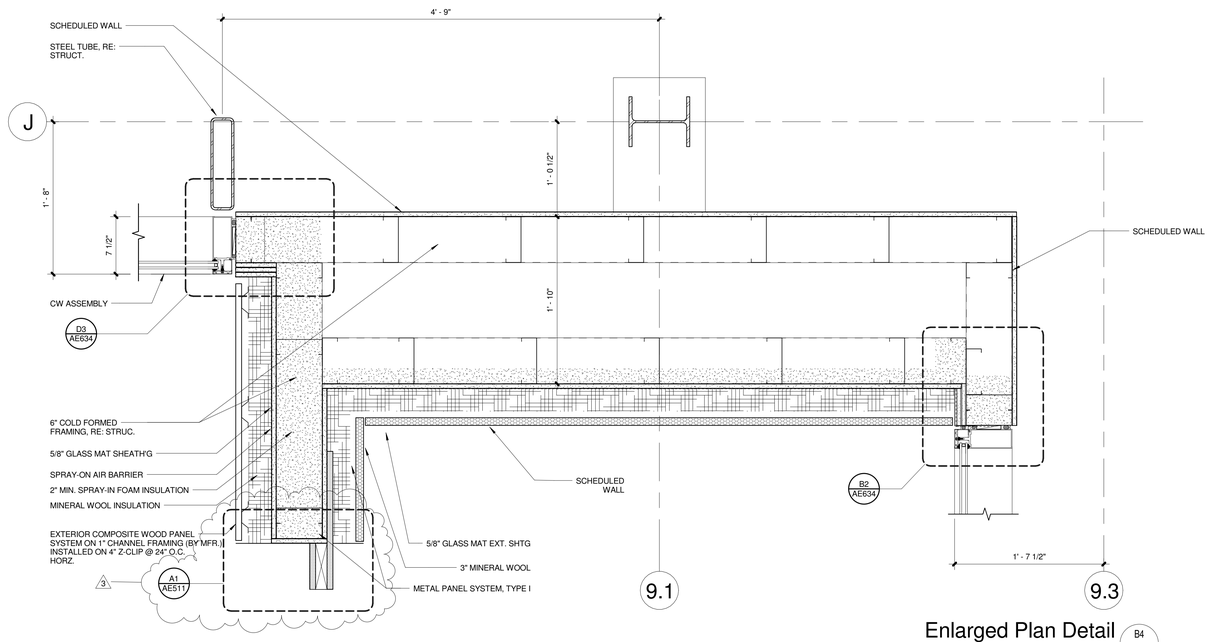
Enlarged Plan Detail (C3 / AE511)
1 1/2" = 1'-0"



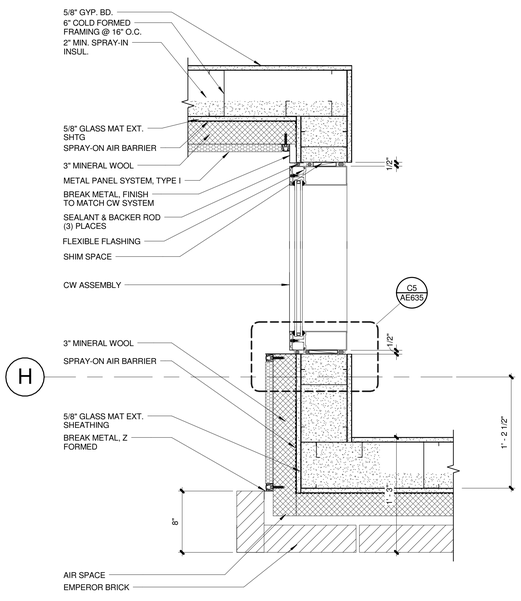
Screen Wall Detail (E6 / AE511)
3/4" = 1'-0"



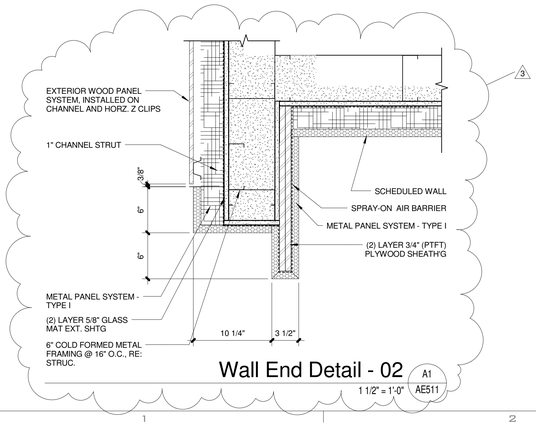
Wall Detail (C6 / AE511)
3/4" = 1'-0"



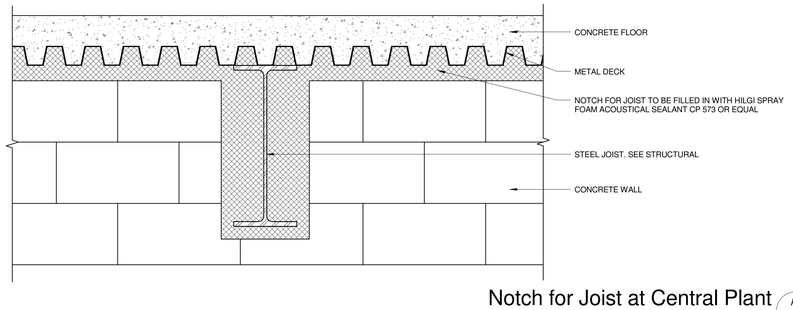
Enlarged Plan Detail (B4 / AE511)
1 1/2" = 1'-0"



Enlarged Plan Detail (A6 / AE511)
1 1/2" = 1'-0"



Wall End Detail - 02 (A1 / AE511)
1 1/2" = 1'-0"



Notch for Joist at Central Plant (A4 / AE511)
1 1/2" = 1'-0"

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3 Addendum 3 05/22/13

title:
Details

sheet:
AE511

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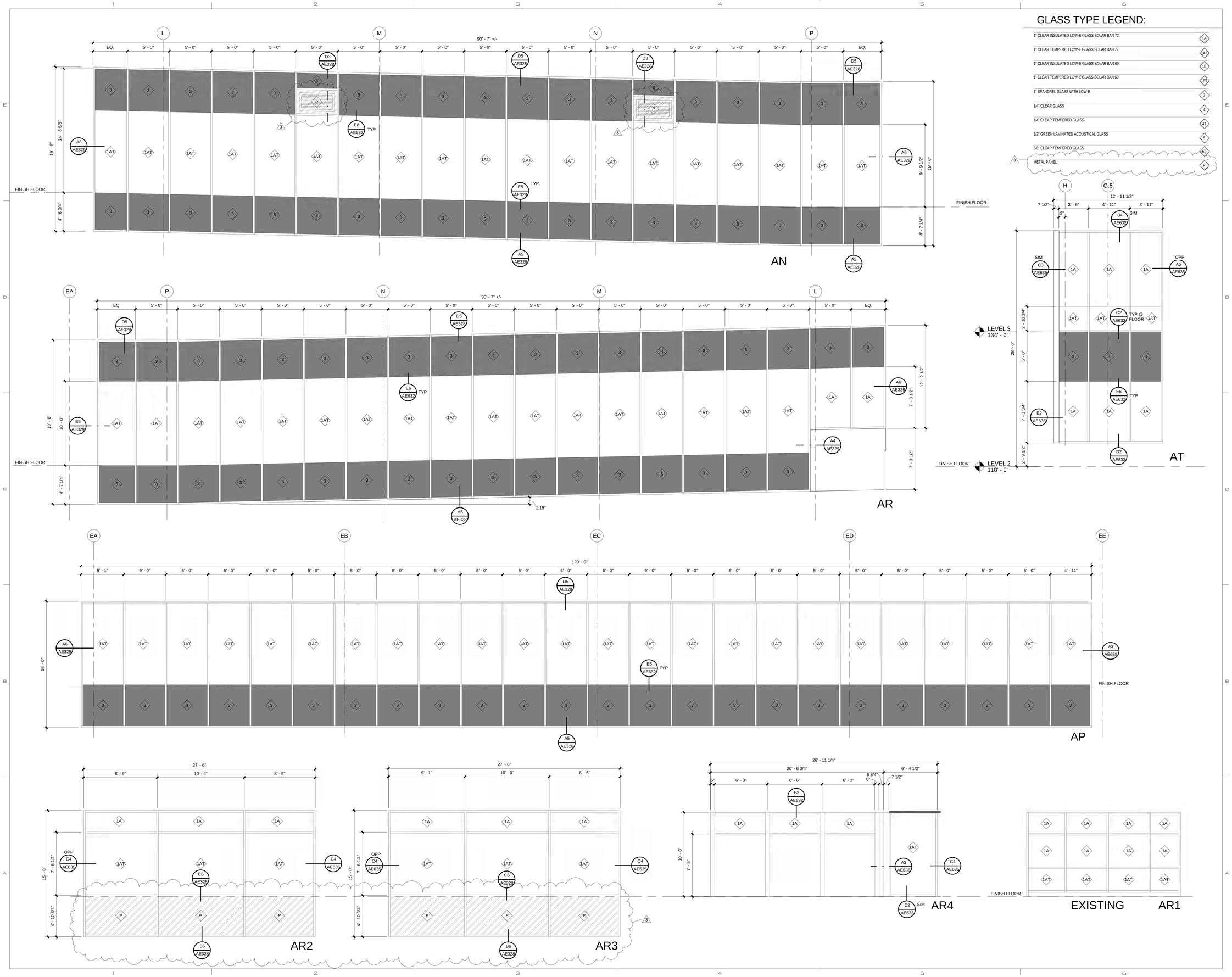

GLASS TYPE LEGEND:

1" CLEAR INSULATED LOW-E GLASS SOLAR BAN 72	1A
1" CLEAR TEMPERED LOW-E GLASS SOLAR BAN 72	1AT
1" CLEAR INSULATED LOW-E GLASS SOLAR BAN 60	1B
1" CLEAR TEMPERED LOW-E GLASS SOLAR BAN 60	1BT
1" SPANDREL GLASS WITH LOW-E	3
1/4" CLEAR GLASS	4
1/4" CLEAR TEMPERED GLASS	4T
1/2" GREEN LAMINATED ACOUSTICAL GLASS	5
5/8" CLEAR TEMPERED GLASS	6T
METAL PANEL	6

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revisions :
3 Addendum 3 05/22/13

title:
Exterior Curtain Wall Types

sheet:
AE608

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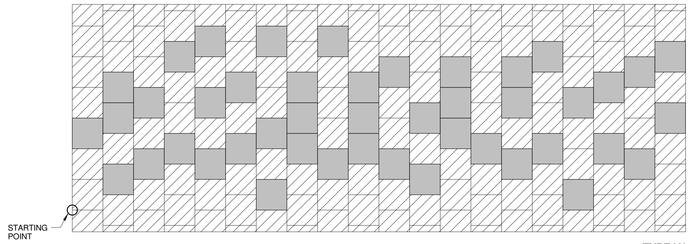
FLOOR FINISH LEGEND	
CODE	MATERIAL
CPT-1	
CPT-4	



TYPE 'A'

NOTE: ADD PATTERN TO CPT-1/CPT-4 HATCHED AREA ON FINISH PLAN: REPEAT PATTERN AS REQ'D TO FILL LENGTH / WIDTH OF INDICATED HATCH. PROVIDE CARPET LAYOUT PATTERN TO ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION.

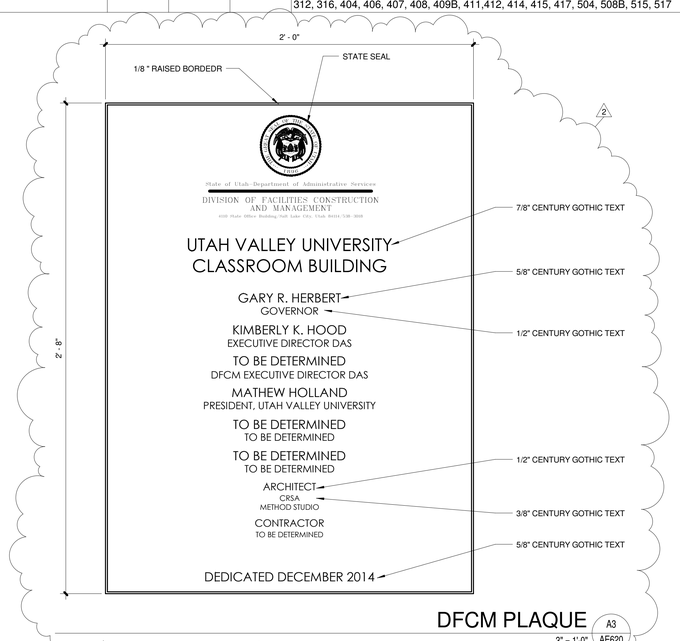
Carpet Tile Patterns

D3 / AE620

1/4" = 1'-0"

Accessory Schedule

ITEM	MAKE/MODEL	OPOI	OPCI	CPCI	ROOM
BABY CHANGING STATION	KOALA KB200			X	100L, 100M, 100N
BLINDS	SEE SPEC			X	103A, 105A-105C,208A, 210-210H, 213, ADD ALTERNATE #2 (203A-203S, 205B-205G, 208, 208B-208H, 209A-209Q), 305, 305A, 309B, 313-313G, 315, ADD ALTERNATE #3 (303A-303S, 306B-306G, 309A, 309C-309J, 310-310Q), 403A-403S, 405B-405G, 409A-409J, 410-410Q, 413-413G, ADD ALTERNATE #4 (416-416H), 503A-503S, 505B-505G, 506A-506J, 507A-507L, 508A-508G, 509-509Q, 516, 518-518B
DOUBLE ROLLER SHADES	SEE SPEC			X	510, 511
GLASSBOARD 4' x 8'	CLARUS			X	100, 200, 300
GRAB BAR 18"	BOBRICK B-5806 x 18			X	100C, 100D, 100L, 100M, 100N, 103D, 200C, 200D, 200N, 200P, 300B, 300C, 300N, 300P, 400B, 400C, 400M, 400N, 500B, 500C, 500M, 500N
GRAB BAR 36"	BOBRICK B-5806 x 36			X	100C, 100D, 100L, 100M, 100N, 103D, 200C, 200D, 200N, 200P, 300B, 300C, 300N, 300P, 400B, 400C, 400M, 400N, 500B, 500C, 500M, 500N
GRAB BAR 42"	BOBRICK B-5806 x 42			X	100C, 100D, 100L, 100M, 100N, 103D, 200C, 200D, 200N, 200P, 300B, 300C, 300N, 300P, 400B, 400C, 400M, 400N, 500B, 500C, 500M, 500N
MIRROR 24" x 36"	BOBRICK B-165 2436			X	100L, 100M, 100N, 103D
MIRROR 24" x 72"	BOBRICK B-165 2472			X	100D, 200D, 300C, 400C, 500C
MIRROR 45" x 36"	BOBRICK B-165 4536			X	100C, 100D, 200C, 200D, 200N, 200P, 300B, 300C, 300N, 300P, 400B, 400C, 400M, 400N, 500B, 500C, 500M, 500N
MOP RACK 24"	BOBRICK B-223 24			X	100W, 200S, 300U, 400S, 500U
PAPER TOWEL DISPENSER	OPCI		X		100C, 100D, 100L, 100M, 100N, 103D, 200C, 200D, 200N, 200P, 300B, 300C, 300N, 300P, 400B, 400C, 400M, 400N, 500B, 500C, 500M, 500N
SANITARY NAPKIN DISPENSER	BOBRICK B-3706			X	100D, 200D, 200N, 300C, 300N, 400C, 400M, 500C, 500M
SANITARY NAPKIN DISPOSAL	BOBRICK B-270			X	100D, 200D, 200N, 300C, 300N, 400C, 400M, 500C, 500M
SIGNS		X			
SINGLE ROLLER SHADES	SEE SPEC			X	100 WEST WALLS, 103A, 200 (NORTH, WEST WALLLS), 203F, 203H, 203K, 203M, 203N, 203Q-203S, 208A-208D, 208, F, 208H, 209, 209A, 209C, 209E, 209G, 209J, 209L, 209N, 209Q, 210- 210H, 300 (NORTH, SOUTH, WEST WALLLS), 303G, 303J, 303L, 303N, 303O, 303Q-303S, 309B-309E, 309G, 309H, 310, 310A, 310C, 310E, 310G, 310J, 310L, 310N, 310Q, 313-313G, 400 (NORTH, SOUTH, WEST WALLLS, EAST WALL AT WINDOW TYPES BO AND BP), 403G, 403J, 403L, 403N, 403O, 403Q, 403R, 403S, 409B-409E, 409G, 409H, 410, 410A, 410C, 410E, 410G, 410J, 410L, 410N, 410Q, 413-413G, 500 (NORTH, SOUTH, WEST WALLLS), 503G, 503J, 503L, 503N, 503O, 503Q, 503R, 503S, 508B-508D, 508F, 508G, 509, 509A, 509C, 509E, 509G, 509J, 509L, 509N, 509Q
SOAP DISPENSER	OPCI		X		100C, 100D, 100L, 100M, 100N, 103D, 200C, 200D, 200N, 200P, 300B, 300C, 300N, 300P, 400B, 400C, 400M, 400N, 500B, 500C, 500M, 500N
TOILET PAPER DISPENSER	OPCI		X		100C, 100D, 100L, 100M, 100N, 103D, 200C, 200D, 200N, 200P, 300B, 300C, 300N, 300P, 400B, 400C, 400M, 400N, 500B, 500C, 500M, 500N
TOILET SEAT COVER DISPENSER	OPCI		X		100C, 100D, 100L, 100M, 100N, 103D, 200C, 200D, 200N, 200P, 300B, 300C, 300N, 300P, 400B, 400C, 400M, 400N, 500B, 500C, 500M, 500N
WHITEBOARD 4' x 4'	ADP LEMCO/SKU212AD			X	307
WHITEBOARD 4' x 8'	ADP LEMCO/SKU212AH			X	105A, 105B, 105C, 106, 206, 213, 300, 305, 305A 307, 308, 311, 315, 400, 411, 418, 500, 507A, 516, 518, 518A, 518B
WHITEBOARD 4' x 16'	ADP LEMCO/SKU212AJ			X	102, 104, 106, 107, 112, 202, 204, 206, 207, 208A, 211, 212, 300, 302, 304, 307, 308, 309B, 311, 312, 316, 404, 406, 407, 408, 409B, 411,412, 414, 415, 417, 504, 508B, 515, 517



DFCM PLAQUE

A3 / AE620

3" = 1'-0"

INTERIOR FINISH LEGEND

NOTE: SCHEDULED MATERIALS AND FINISHES SHALL BE USED FOR BASES OF DESIGN.

CODE	MATERIAL	MANUFACTURER	PRODUCT NAME / NUMBER	COLOR / FINISH	SIZE	COMMENTS
CARPET						
CPT-1	Carpet Tile	Shaw Contract	Hint Tile 5T024	Black Tea 22516	24" x 24"	Direct glue down. Ashler installation. Refer to finish plan for CPT-1/CPT-4 tile pattern.
CPT-2	Carpet Tile	Interface	Viva Colores 146500250H	101125 Verde Botella	19.68" x 19.68"	Direct glue down. Monolothic installation.
CPT-3	Walk-Off Matt	Interface	Super Flor 6090002504	609009 Mouse Grey	19.68" x 19.68"	Install with releasable adhesive or tactiles.
CPT-4	Carpet Tile	Shaw Contract	Blend Tile 5T025	Fustic Indigo 25516	24" x 24"	Direct glue down. Ashlar installation. Refer to finish plans for CPT-1/CPT-4 tile pattern.
CPT-5	Broadloom	Shaw Contract	Structure Weave 5A109	Sheen 09520	12' W	Direct Glue Down.
CPT-6	Carpet Tile	Interface	Urban Retreat Planks UR501	103613 Flax	25cm x 1m	Direct Glue. Ashlar Installation.
GLASS FILM						
GF-1	Glass Film	solar graphics	-	6540 Lime Green	-	Install on corridor side of glass
GF-2	Glass Film	3M Architectural Markets	70-0709-0297-1	Milky White	-	Install on classroom side of glass
TILE						
T-1	Ceramic Tile	Daltile	Identity Glazed Wall Tile	MY67 Paramount White/Matte	8" x 20"	3/32" grout joint, Latcrete 1600 unsanded grout; 44 bright white; Thinset back butter tiles; Precise miter required at outside corners - no corner trim. Install in stack pattern.
T-2	Porcelain Tile	Daltile	Plaza Nova Glazed Wall Tile	PN98 Gray Fog	6" x 24"	3/32" grout joint, Latcrete 1600 unsanded grout; 24 naturally gray. Thinset back butter tile @ walls. Precise miter @ outside corners - no trim. Install in vertical brick pattern. Offset tile 6" at ends. Refer to interior elevations.
T-3	Ceramic Tile	Daltile	Identity Glazed Wall Tile, Bullnose Edge Trim	MY67 Paramount White/Matte	1/2" x 6"	3/32" grout joint, Latcrete 1600 unsanded grout; 44 bright white; align grout joints w/ (I-1) joints.
CEILING						
ACT-1	Suspended Acoustical Ceiling	Armstrong	Optima 3901	White	2' x 2' x 5/8"	Vector; Prelude 15/16" exposed tee, white
ACT-2	Suspended Acoustical Ceiling	Armstrong	Ultima 1902	White	2' x 2' x 3/4"	Beveld Tegular; Suprafine XL 9/16" exposed tee, white
ACT-3	Suspended Acoustical Ceiling	Armstrong	Ultima 1904	White	2' x 4' x 3/4"	Beveld Tegular; 15/16" exposed tee grid, white
ACT-4	Suspended Acoustical Ceiling	Armstrong	Cortega Lay-in 769	Black	2' x 2' x 5/8"	Layin; Prelude ML, 15/16" expossed tee grid, black
ACT-5	Suspended Acoustical Ceiling	Hunter Douglas	Classic Series, Swing Down	Black Textile	4' x 4' x 1 1/8"	
ACT-6	(AP-1) over suspended Acoustical Ceiling	Decoustics over Armstrong	Madero over Classic Series Swing Down	Custom Finish To Be Teak Quarter Cut to match (WC-1) for Decoustic Panels, Black Textile for Classic Series		Decoustic Panels to be 8mm Spacing; 7 9/16" W Plank, concealed mounting hardware ; Finish exposed edges to match. Submit sample for approval prior to ordering and installation; custom finish must match (WC-1) in cut, color grain, and finish, Install over acoustical lay in ceiling per mfr recomendations, coordinate between specs.
CONCRETE						
PSC-1	Polished Sealed Concrete	Stone Touch	Polished Concrete	Natural Gray	Expansion Joint @ 12'-0"	Grind concrete flooring to expose gravel aggreggates, see specifications for polish, sealing and additional requirements.
SC-1	Sealed Concrete	-	-	Seal Floor w/ Pentra-sil or equal	-	-
SC-2	Sealed Concrete	-	-	Paint Floor Black; Seal w/ Pentra-sil or equal	-	-
BASE						
B-1	Rubber Base	Roppe	Straight Profile; 100% Volcanized Rubber	150 Dark Gray/Visuelle	2 1/2" H	Provide Base in 120' Coils
B-2	Rubber Base	Roppe	Coved Profile; 100% Volcanized Rubber	150 Dark Gray/Visuelle	2 1/2" H	Provide Base in 120' Coils
B-3	Metal Cove Base	Schluter	DILEX-AHK AHKISICOAE	Anodized Aluminum	3/8" R	Tile to Tile cove base; Contractor to verify model # specified in coordinates w/ tile thickness. Provide inside/outside corner as req'd.
B-4	Metal Reveal Base	Fry Reglet	DRMB-625-250	Clear Anodized Aluminum	2 1/2" H	See detail B2/AE514 typical.
B-6	Rubber Base	Roppe	Coved Profile; 100% Volcanized Rubber	100 Black	2 1/2" H	Provide Base in 120' Coils
PAINT						
PNT-1	Paint	Frazee	-	Mistaya CLW 1042W LRV 90		Satin finish at walls; flat at ceilings
PNT-2	Paint	-	-	Flat Black	-	
WALL COVERING / WALL PROTECTION						
WC-1	Wood Wall Covering	Sanfoot	-	Pre-Finished QC Teak	3' x 9'	GWB shall be finished to a level 5 installation by sanfoot authorized installer in accordance w/ installation instructions (ROC. #301). Wall covering shall be end and sequenced book match. Provide flitch sample to match architects sample for approval prior to ordering. Apply (3) coat low sheen polyurethane finish.
WP-1	Wall Protection	FRP		Gray/Smooth Texture		
PLASTIC LAMINATE						
PL-1	Plastic Laminate	Abet Laminati	406	SEI	-	*Upper Cabinets*
PL-2	Plastic Laminate	Abet Laminati	420	SEI	-	*Countertops*
PL-4	Plastic Laminate	Wilsonart	7209K-78	Nepal Teak	-	*Base Cabinets*
PL-5	Plastic Laminate	Wilsonart	4941K-1B	Cosmic Strandz	-	*Toilet Partitions*
ELEVATOR						
ELEV-01	Interior Cab System	Thysen Krupp	Tkap Cab			Walls: Plastic Laminate - Wilsonart 7209k-98 Nepal Teak, Brushed SST Base / Reveal / Frieze Handrail: 2" flat bar w/ returned ends - brushed SST finish Ceiling: Island type perimeter. Lighting w/ brushed SST Panel Floor: (CPT-1) Carpet
STONE						
STN-1	NOT USED					
STN-2	Quartz Slab	Daltile	One Quartz Surface	NQ60 Brushed Flannel / Polished	120" x 55" W x 3/4" TH	Square edge; Mitter outside corners
TRANSITION STRIPS						
TS-1	CPT - SC	Schluter (Rep: 801-209-2295)	RENO-U AEU35	Satin Annodized Alumminum	1/8"	Set to substrate w/ 2-part epoxy-trowel off tightly to trim; Contractor to verify size w/ material thickness; (contact Rep. for TS installation questions 801-209-2295).
TS-2	CPT-T-2	Schluter (Rep: 801-209-2295)	SCHIENE AE45	Satin Annodized Alumminum	3/8"	Set to substrate w/ 2-part epoxy- Trowel off tightly to trim; contractor to verify size with material thickness.
ACOUSTIC PANELS						
AP-1	Acoustic Wood Panel	Decoustics	Madero Solo Plank	Custom Finish To Be Teak Quarter Cut to match (WC-1)	8mm Spacing; 7 9/16" W Plank	Vertical orientation; Concealed mounting hardware ; Finish exposed edges to match. Submit sample to architect for approval prior to ordering and installation; custom finish must match (WC-1) in cut, color grain, and finish.
AP-2	Tectum Panel	Tectum	Chosen by Architect for full range of colors		See Drawings	
AP-3	Fabric Covered Panel		Chosen by Architect for full range of colors		See Drawings	
AP-4	Metal Sound Panel	Alpro	Chosen by Architect for full range of colors		See Drawings	
WOOD VENEER						
WV-1	Wood Veneer	Formwood	DRMB-625-250	Quarter Cut Teak	- -	Finish w/ clear low sheen polyurehtane, 2 coats min. running book match: Provide flitch sample to match architects sample for approval prior to ordering. Flitch must match (WC-1) in cut, color, finish and grain.
FABRIC						
F-1	Fabric	Maharam	Hallingdal by Kvadrat 460760	960	51" W	Refer to sheet AE11C.1 for fabric locations per sheet
F-2	Fabric	Maharam	Medium 463490	042 CLOVER	54" W	Refer to sheet AE11C.1 for fabric locations per sheet
F-3	Fabric	Maharam	Messenger 458640	048 NEON	54" W	Refer to sheet AE11C.1 for fabric locations per sheet

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State of Utah
Department of Administrative Services

Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:

UVU Classroom Building - Volume 2
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

revisions:

1	Addendum 1	05/15/13
2	Addendum 2	05/17/13
3	Addendum 3	05/22/13

title:

Finish & Accessory Schedules

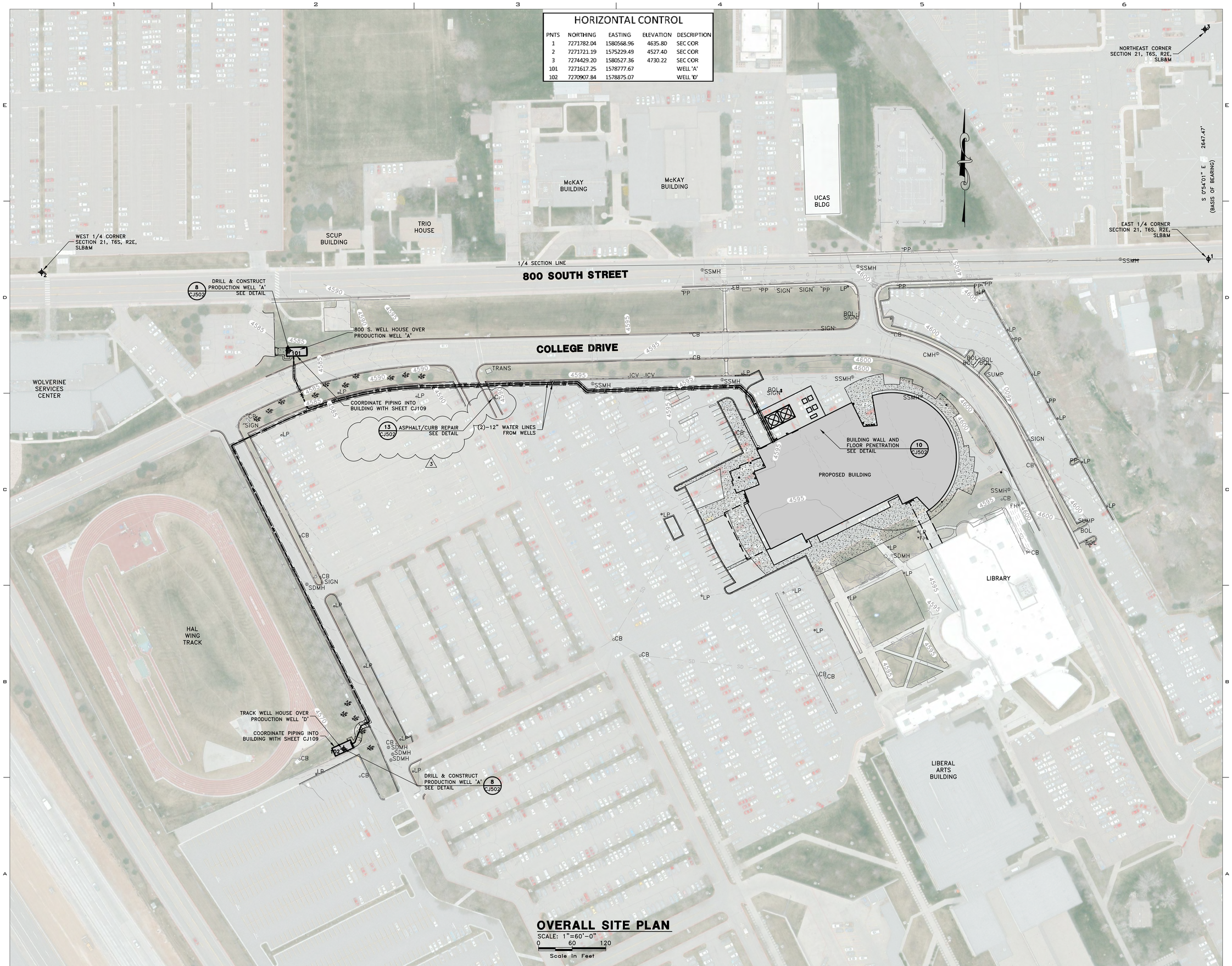
sheet:

AE620

BID DOC

HORIZONTAL CONTROL

PNTS	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	7271782.04	1580568.96	4635.80	SEC COR
2	7271721.19	1575229.49	4527.40	SEC COR
3	7274429.20	1580527.36	4730.22	SEC COR
101	7271617.25	1578777.67		WELL 'A'
102	7270907.84	1578875.07		WELL 'D'



OVERALL SITE PLAN

SCALE: 1"=60'-0"

0 60 120

Scale in Feet

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4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

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649 east south temple
salt lake city, utah 84102
phone: (801) 355 - 5915

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925 south west temple
salt lake city, utah 84101
phone: (801) 532-4422

AQUA ENGINEERING, INC.
533 W. 2600 S., SUITE 275 BOUNTIFUL, UT 84010
PHONE (801) 298-1327 FAX (801) 299-0153

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

revisions:
REV 3 – MAY 22, 2013

title:
GENERAL SITE PLAN

sheet:
CJ101

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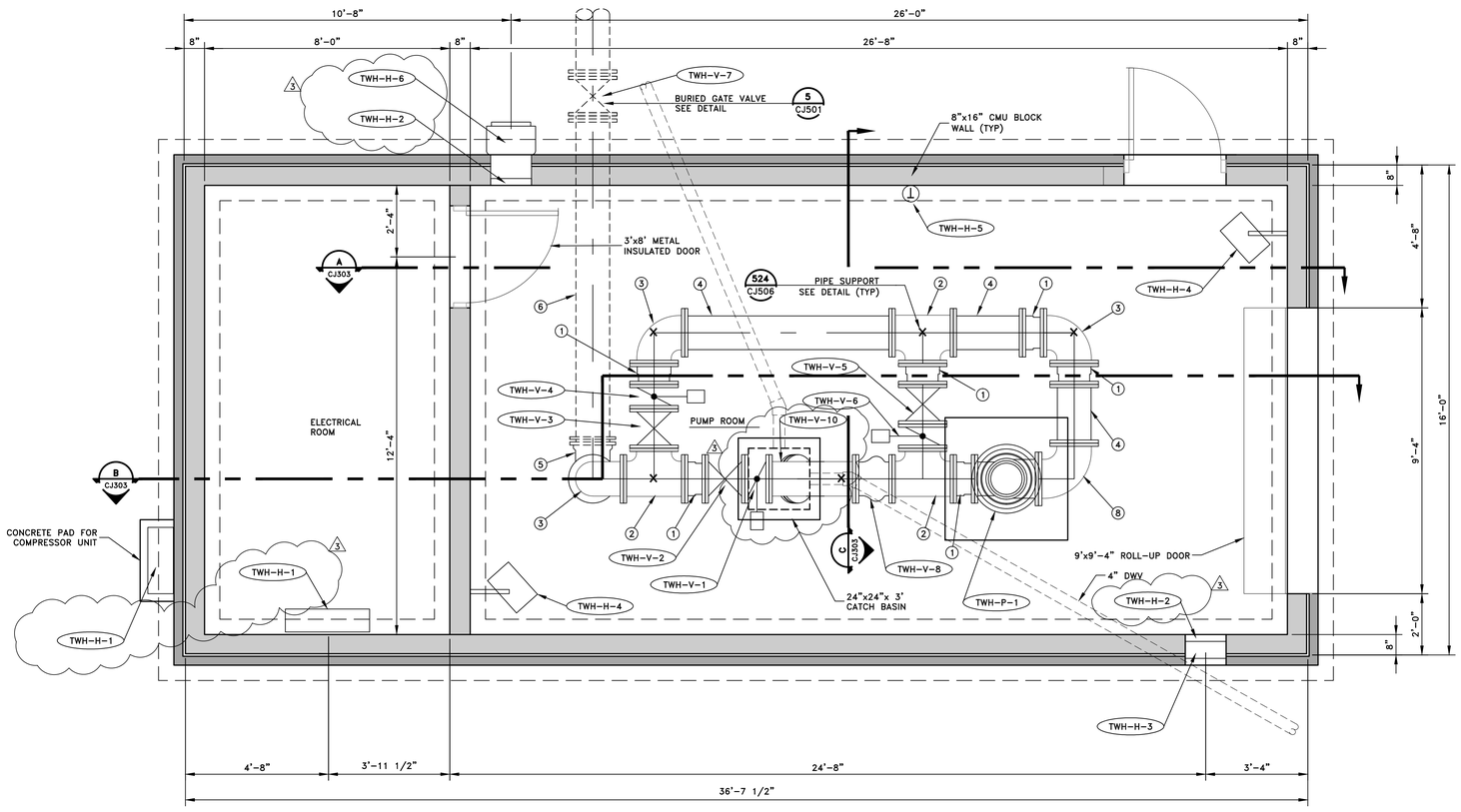

TRACK WELL HOUSE MECHANICAL PLAN

SCALE: 1/2"=1'-0"

0 2 4

Scale in Feet

PIPE SCHEDULE				
NO.	DESCRIPTION	SIZE	JOINT	MATERIAL
1	DISMANTLING JOINT	12"	FLG	DIP
2	TEE	12"	FLG	DIP
3	90° BEND	12"	FLG	DIP
4	SPOOL	12"	FLG	DIP
5	90° BEND	12"	MJ	DIP
6	SPOOL	12"	PE	DIP
7	–	–	–	–
8	REDUCING ELBOW	12"X14"	FLG	DIP
9	FLANGE ADAPTER	12"	FLGxMJ	DIP

3

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Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355 - 5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

AQUA ENGINEERING, INC.
533 W. 2600 S., SUITE 275 BOUNTIFUL, UT 84010
PHONE (801) 298-1327 FAX (801) 298-0153

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

revisions :
REV 3 – MAY 22, 2013

title:
MECHANICAL PLAN

sheet:
CJ110

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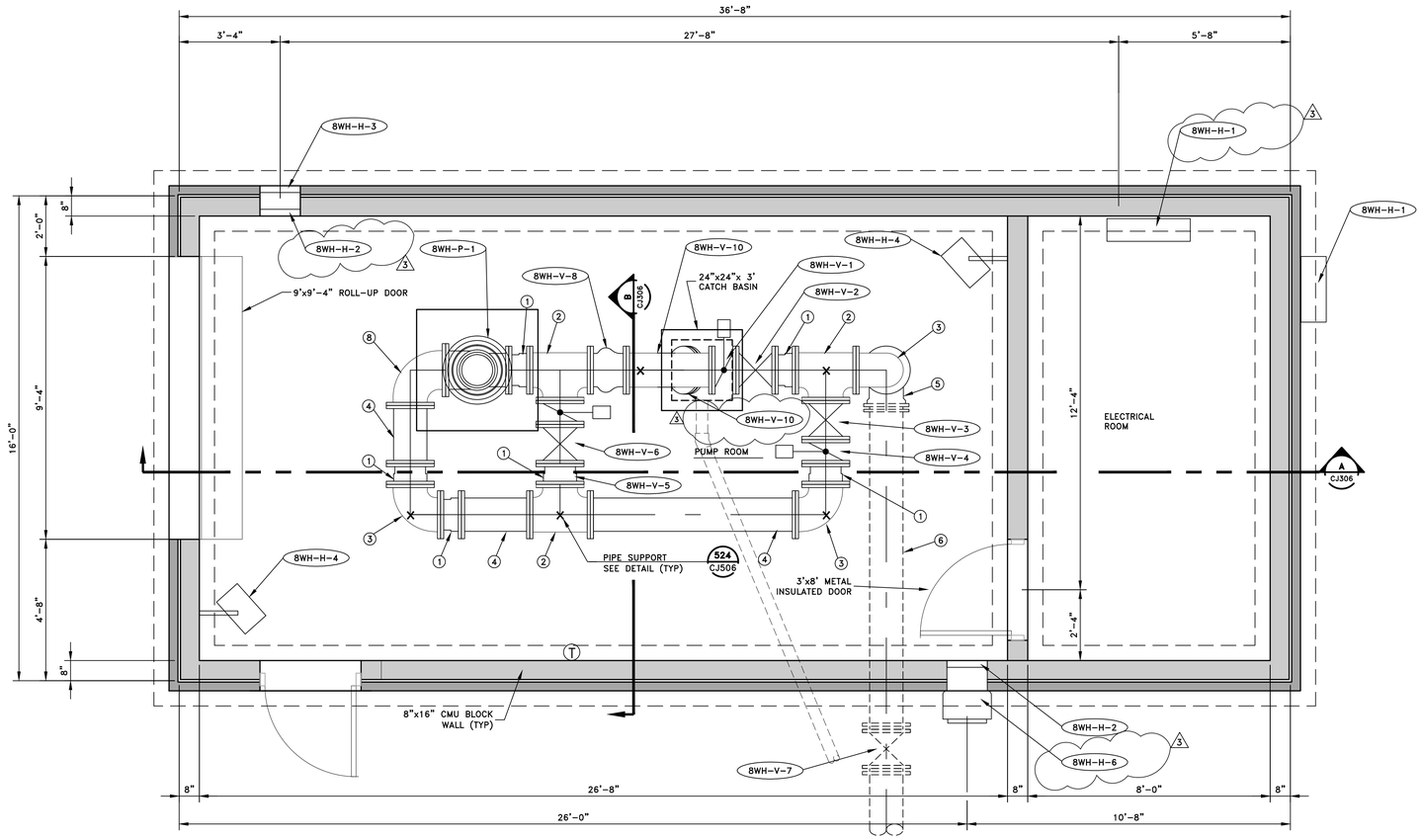

800 SOUTH WELL HOUSE
MECHANICAL PLAN

SCALE: 1/2"=1'-0"

0 2 4
Scale in Feet

3

PIPE SCHEDULE

NO.	DESCRIPTION	SIZE	JOINT	MATERIAL
1	DISMANTLING JOINT	12"	FLG	DIP
2	TEE	12"	FLG	DIP
3	90° BEND	12"	FLG	DIP
4	SPOOL	12"	FLG	DIP
5	90° BEND	12"	MJ	DIP
6	SPOOL	12"	PE	DIP
7	–	–	–	–
8	REDUCING ELBOW	12"X14"	FLG	DIP
9	FLANGE ADAPTER	12"	FLGxMJ	DIP

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CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355 - 5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
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533 W. 2600 S., SUITE 275 BOUNTIFUL, UT 84010
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DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

revisions :
REV 3 – MAY 22, 2013

title:
MECHANICAL PLAN

sheet:
CJ115

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PIPE SCHEDULE				
NO.	DESCRIPTION	SIZE	JOINT	MATERIAL
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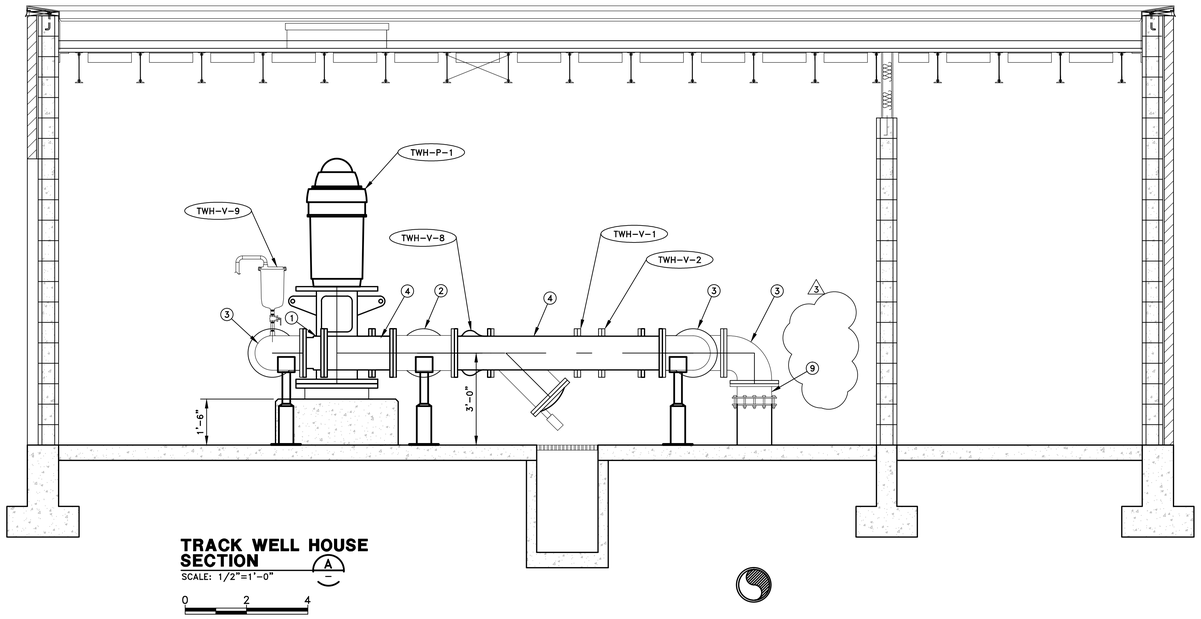
2	TEE	12"	FLG	DIP
3	90° BEND	12"	FLG	DIP
4	SPOOL	12"	FLG	DIP
5	90° BEND	12"	MJ	DIP
6	SPOOL	12"	PE	DIP
7	–	–	–	–
8	REDUCING ELBOW	12"X14"	FLG	DIP
9	FLANGE ADAPTER	12"	FLGxMJ	DIP

3



TRACK WELL HOUSE SECTION A
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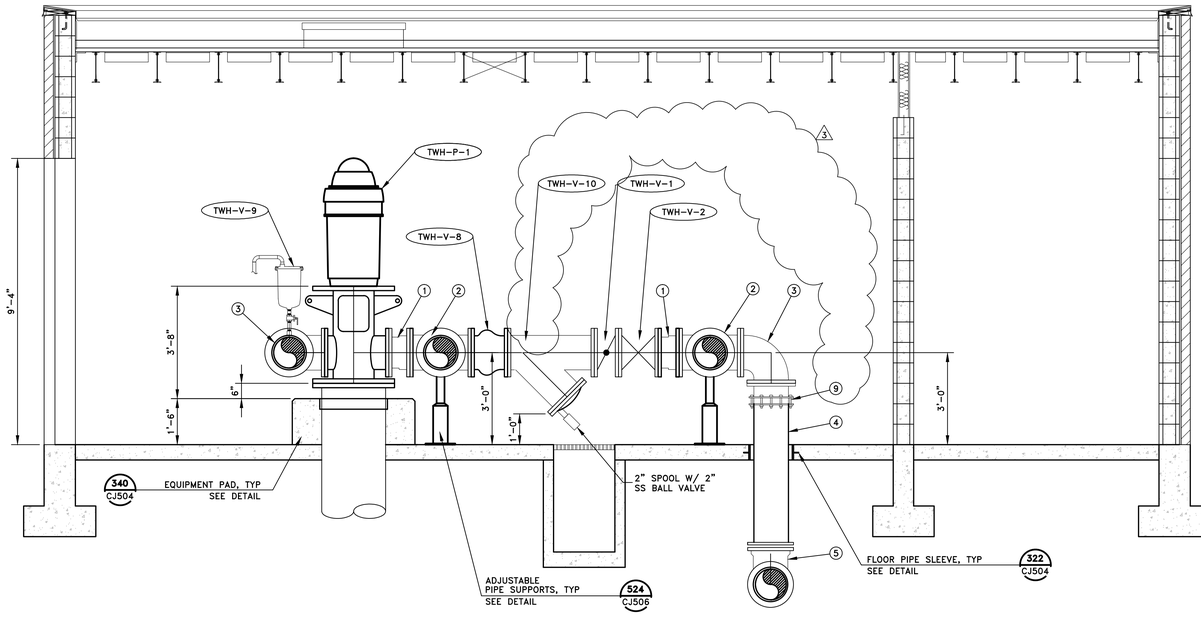
Scale in Feet



TRACK WELL HOUSE SECTION B
SCALE: 1/2"=1'-0"
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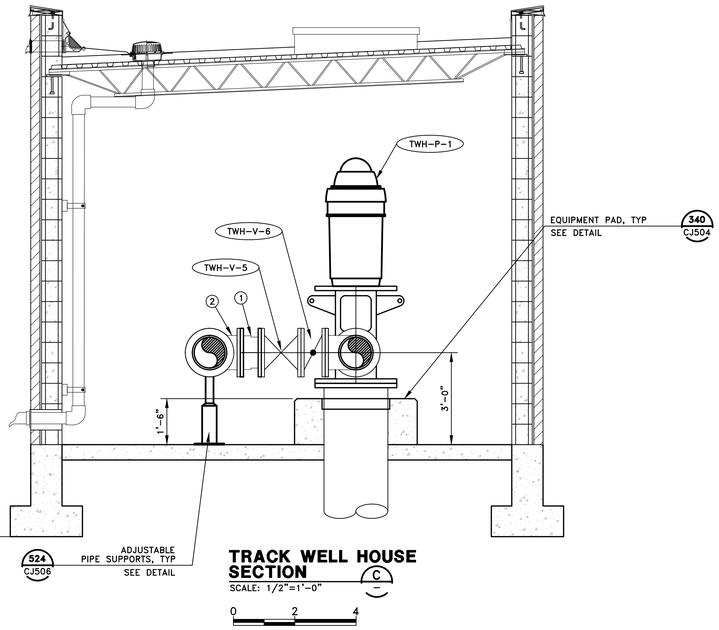
Scale in Feet



TRACK WELL HOUSE SECTION C
SCALE: 1/2"=1'-0"
0 2 4
Scale in Feet

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Department of Administrative Services
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4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone: (801) 355 - 5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone: (801) 532-4422

AQUA ENGINEERING, INC.
533 W. 2600 S., SUITE 275 BOUNTIFUL, UT 84010
PHONE (801) 298-1327 FAX (801) 298-0153

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

revisions:
REV 3 – MAY 22, 2013

title:
MEHCANICAL SECTIONS

sheet:
CJ303

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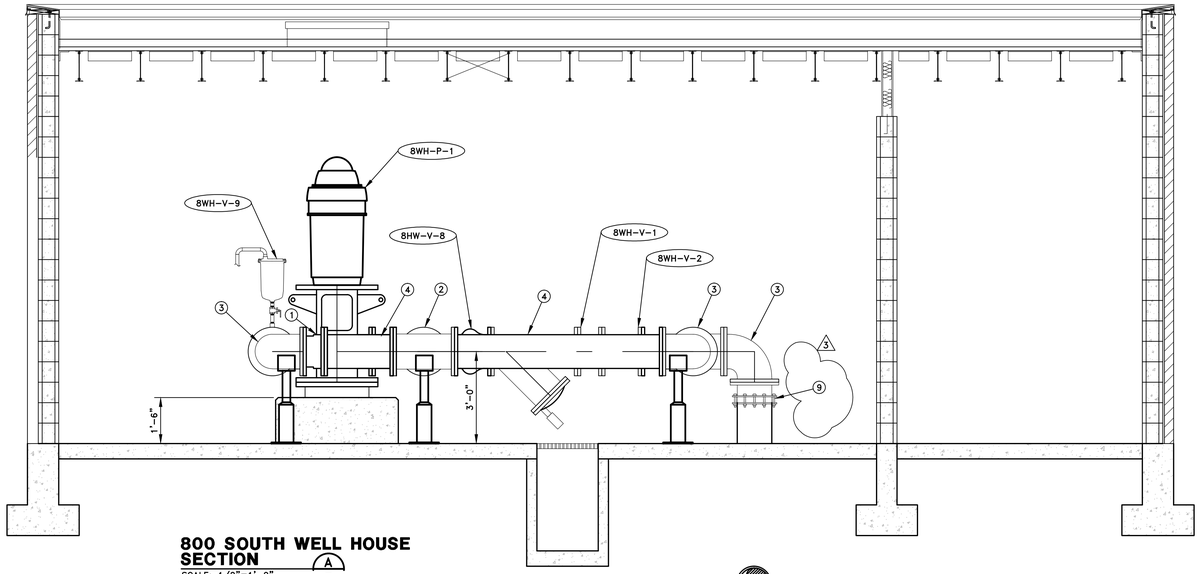
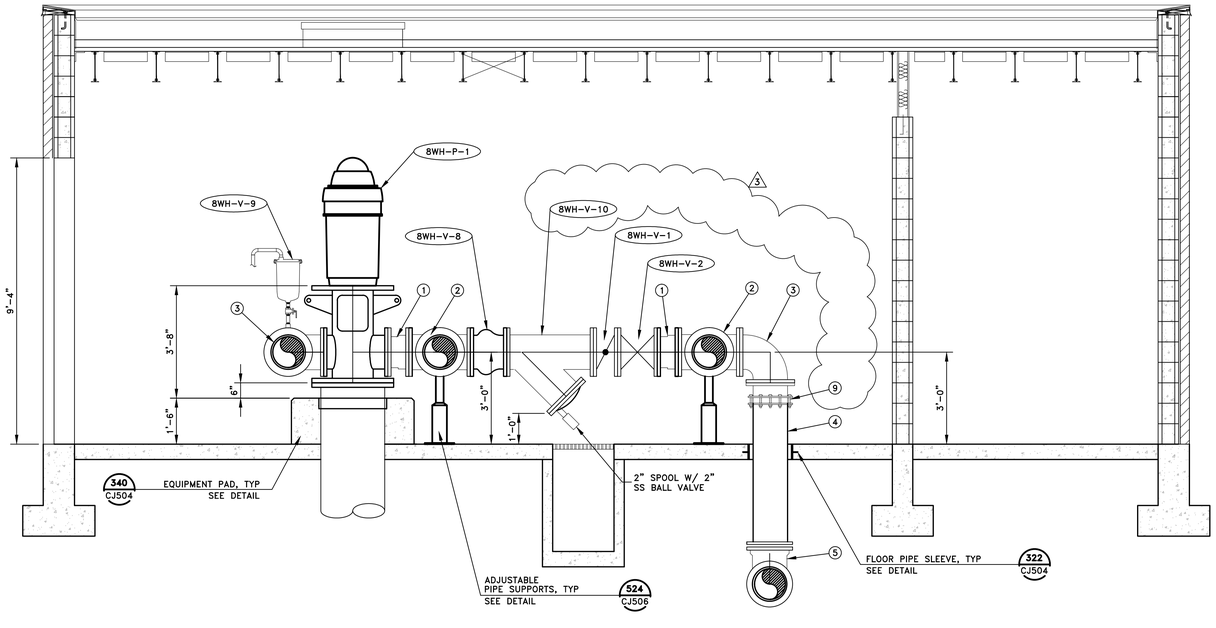
PIPE SCHEDULE				
NO.	DESCRIPTION	SIZE	JOINT	MATERIAL
1	DISMANTLING JOINT	12"	FLG	DIP
2	TEE	12"	FLG	DIP
3	90° BEND	12"	FLG	DIP
4	SPOOL	12"	FLG	DIP
5	90° BEND	12"	MJ	DIP
6	SPOOL	12"	PE	DIP
7	–	–	–	–
8	REDUCING ELBOW	12"X14"	FLG	DIP
9	FLANGE ADAPTER	12"	FLGxMJ	DIP



800 SOUTH WELL HOUSE SECTION (A)
SCALE: 1/2"=1'-0"
0 2 4
Scale in Feet



800 SOUTH WELL HOUSE SECTION (B)
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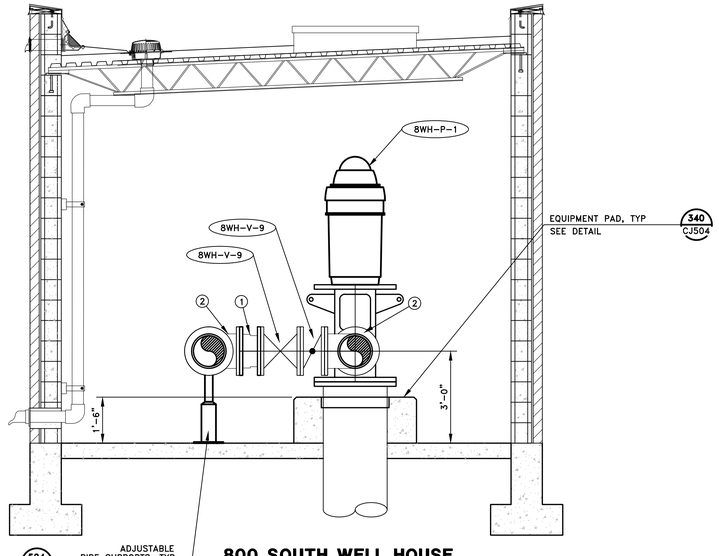
Scale in Feet



800 SOUTH WELL HOUSE SECTION (C)
SCALE: 1/2"=1'-0"
0 2 4
Scale in Feet

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4110 State Office Building
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Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355 - 5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

AQUA ENGINEERING, INC.
533 W. 2600 S., SUITE 275 BOUNTIFUL, UT 84010
PHONE (801) 298-1327 FAX (801) 298-0153

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

revisions:
REV 3 – MAY 22, 2013

title:
MECHANICAL SECTIONS

sheet:
CJ306

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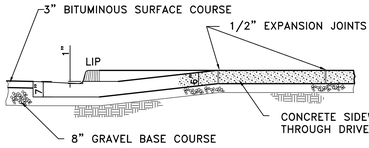
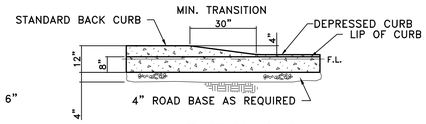
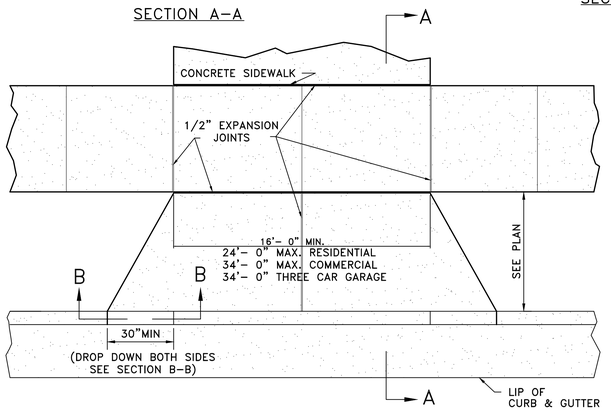


SECTION A–A

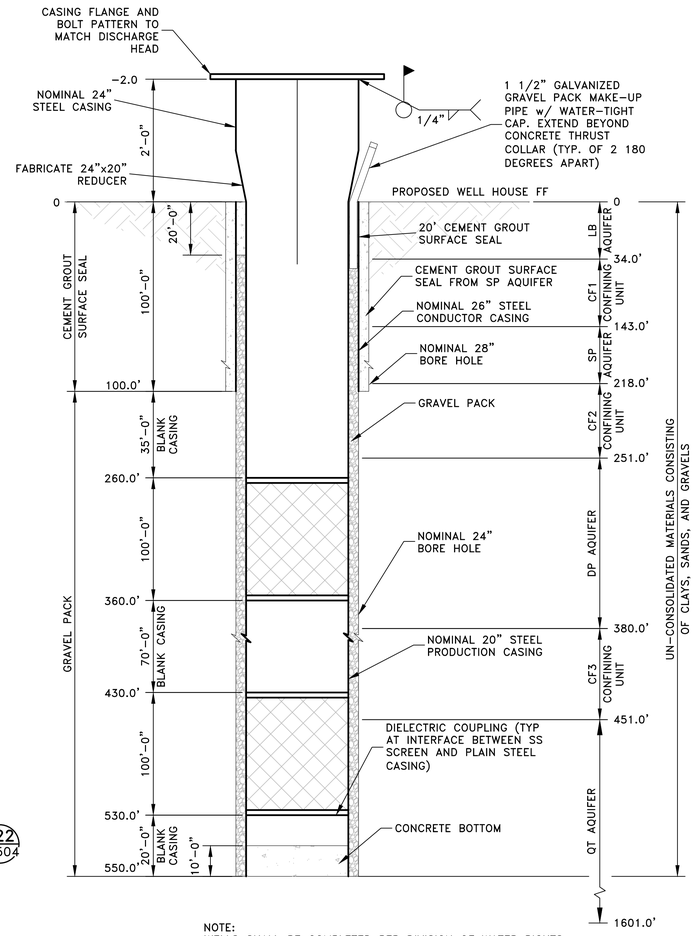


SECTION B–B



FLARED DRIVE APPROACH (7)

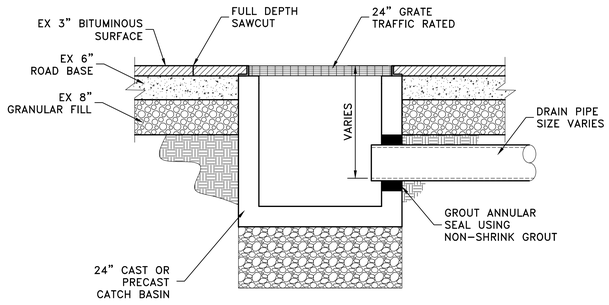
SCALE : NTS



NOTE:
WELLS SHALL BE COMPLETED PER DIVISION OF WATER RIGHTS RULES AND REGULATIONS FOR HEAT EXCHANGE WELLS.

PRODUCTION WELLS A & D SECTION (8)

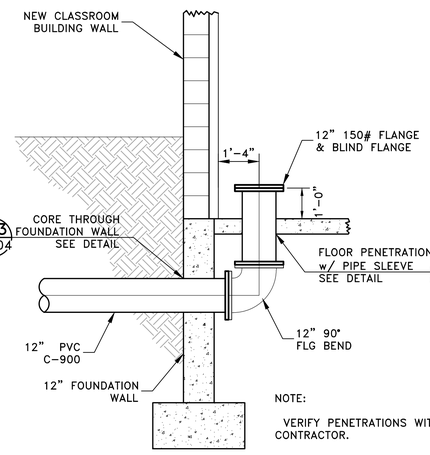
SCALE: 1/2"=1'–0"



NOTE:
PROVIDE CLEAN EDGE FOR ASPHALT PATCH.
MATCH EXISTING FOR THICKNESS AND ELEVATION.

CATCH BASIN (9)

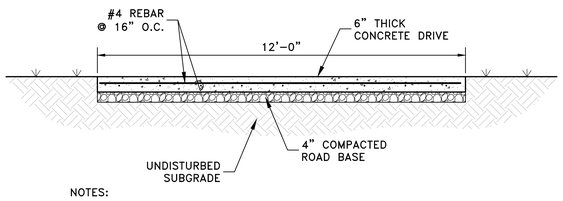
SCALE: NTS



NOTE:
VERIFY PENETRATIONS WITH BUILD CONTRACTOR.

WALL AND FLOOR PENETRATION (10)

SCALE: 1/2"=1'–0"

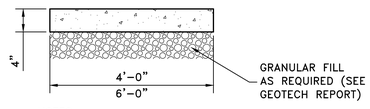


NOTES:

1. PROVIDE CONTROL JOINT AT CENTER LINE AND EVERY 10 FEET.
2. PROVIDE 1/2" EXPANSION JOINT AT SIDEWALK AND BUILDING.

TYPICAL CONCRETE ACCESS (11)

SCALE: 1/2"=1'–0"



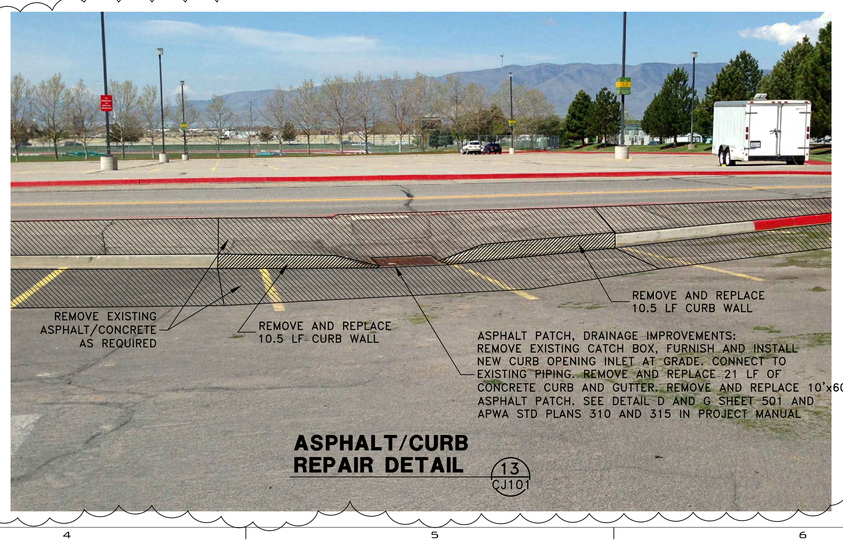
NOTES:

1. CONTRACTOR SHALL PROVIDE CONTROL JOINTS EVERY 5 FEET AND EXPANSION JOINTS EVERY 20 FEET.
2. SIDEWALK ADJACENT TO STRUCTURES SHALL HAVE 2% CROSS SLOPE AWAY FROM STRUCTURE UNLESS OTHERWISE NOTED.

4' AND 6' SIDEWALK (12)

SCALE: NTS

3



ASPHALT/CURB REPAIR DETAIL (13 / CJ101)

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UTAH VALLEY UNIVERSITY

State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355 - 5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

AQUA ENGINEERING, INC.
533 W. 2600 S., SUITE 275 BOUNTIFUL, UT 84010
PHONE (801) 298-1327 FAX (801) 298-0153

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

revisions :
REV 3 – MAY 22, 2013

title:
SITE DETAILS

sheet:
CJ502

BID DOC

VALVE SCHEDULE

VALVE NO.	LOCATION	SERVICE	TYPE	SIZE	MATERIAL	CONNECTION	ACTUATOR	REMARKS	FURNISHED BY
8WH-V-1	800 South WELL HOUSE	WATER	BUTTER FLY VALVE	12"	DIP	FL X FL	ELECT	ROTORK IQ w/ OPEN-CLOSING TIME OF 1 MINUTE MININUM (OR APPROVED EQUAL)	CONTRACTOR
8WH-V-2	800 South WELL HOUSE	WATER	GATE VALVE	12"	DIP	FL X FL	WHEEL		CONTRACTOR
8WH-V-3	800 South WELL HOUSE	WATER	GATE VALVE	12"	DIP	FL X FL	WHEEL		CONTRACTOR
8WH-V-4	800 South WELL HOUSE	WATER	BUTTER FLY VALVE	12"	DIP	FL X FL	ELECT	ROTORK IQ w/ OPEN-CLOSING TIME OF 1 MINUTE MININUM (OR APPROVED EQUAL)	CONTRACTOR
8WH-V-5	800 South WELL HOUSE	WATER	GATE VALVE	12"	DIP	FL X FL	WHEEL		CONTRACTOR
8WH-V-6	800 South WELL HOUSE	WATER	BUTTER FLY VALVE	12"	DIP	FL X FL	ELECT	ROTORK IQ w/ OPEN-CLOSING TIME OF 1 MINUTE MININUM (OR APPROVED EQUAL)	CONTRACTOR
8WH-V-7	800 South WELL HOUSE	WATER	GATE VALVE	12"	DIP	MJ X MJ	NUT	BURIED GATE W/ VALVE BOX & 2" NUT OPERATOR	CONTRACTOR
8WH-V-8	800 South WELL HOUSE	WATER	CHECK	12"	DIP	WAFER	N/A		CONTRACTOR
8WH-V-9	800 South WELL HOUSE	WATER	AIR/VAC	3"	DIP	THREADED	N/A	VAL-MATIC OR APPR. EQUAL. INSTALL USING THREADED SPOOLS AND SS BALL VALVE	CONTRACTOR
8WH-V-10	800 South WELL HOUSE	WATER	Y-STRAINER	12"	DIP	FL	N/A	KECKLEY STYLE A W #60 MESH AND BLOW-OFF PLUG (OR APPROVED EQUAL)	CONTRACTOR
TWH-V-1	TRACK WELL HOUSE	WATER	BUTTER FLY VALVE	12"	DIP	FL X FL	ELECT	ROTORK IQ w/ OPEN-CLOSING TIME OF 1 MINUTE MININUM (OR APPROVED EQUAL)	CONTRACTOR
TWH-V-2	TRACK WELL HOUSE	WATER	GATE VALVE	12"	DIP	FL X FL	WHEEL		CONTRACTOR
TWH-V-3	TRACK WELL HOUSE	WATER	GATE VALVE	12"	DIP	FL X FL	WHEEL		CONTRACTOR
TWH-V-4	TRACK WELL HOUSE	WATER	BUTTER FLY VALVE	12"	DIP	FL X FL	ELECT	ROTORK IQ w/ OPEN-CLOSING TIME OF 1 MINUTE MININUM (OR APPROVED EQUAL)	CONTRACTOR
TWH-V-5	TRACK WELL HOUSE	WATER	GATE VALVE	12"	DIP	FL X FL	WHEEL		CONTRACTOR
TWH-V-6	TRACK WELL HOUSE	WATER	BUTTER FLY VALVE	12"	DIP	FL X FL	ELECT	ROTORK IQ w/ OPEN-CLOSING TIME OF 1 MINUTE MININUM (OR APPROVED EQUAL)	CONTRACTOR
TWH-V-7	TRACK WELL HOUSE	WATER	GATE VALVE	12"	DIP	MJ X MJ	NUT	BURIED GATE W/ VALVE BOX & 2" NUT OPERATOR	CONTRACTOR
TWH-V-8	TRACK WELL HOUSE	WATER	CHECK	12"	DIP	WAFER	N/A		CONTRACTOR
TWH-V-9	TRACK WELL HOUSE	WATER	AIR/VAC	3"	DIP	THREADED	N/A	VAL-MATIC OR APPR. EQUAL. INSTALL USING THREADED SPOOLS AND SS BALL VALVE	CONTRACTOR
TWH-V-10	TRACK WELL HOUSE	WATER	Y-STRAINER	12"	DIP	FL	N/A	KECKLEY STYLE A W #60 MESH AND BLOW-OFF PLUG (OR APPROVED EQUAL)	CONTRACTOR

PUMP SCHEDULE

EQUIP. NO.	LOCATION	SERVICE	TYPE	HP (KW)	CAPACITY/SIZE	TDH	REMARKS	FURNISHED BY
8WH-P-1	800 South WELL HOUSE		GOULD'S 3-stage 12x14RHHC W/ FT STYLE DISCHARGE HEAD	250 HP	3,000 GPM	200'	TEFC, 3PH, 480V W/ NON-REVERSING RATCHET	CONTRACTOR
TWH-P-1	TRACK WELL HOUSE		GOULD'S 3-stage 12x14RHHC W/ FT STYLE DISCHARGE HEAD	250 HP	3,000 GPM	215'	TEFC, 3PH, 480V W/ NON-REVERSING RATCHET	CONTRACTOR

HVAC SCHEDULE

EQUIP. NO.	LOCATION	SERVICE	TYPE	HP (KW)	CAPACITY/SIZE	REMARKS
8WH-H-1	800 South WELL HOUSE	HEAT/AC	FUJITSU ASUIZRLF/AOUIZRLFW	3.5/4.7	12,000 BTU COOLING/ 16,000 BTU HEATING W/ T-STAT	OR APPROVED EQUAL
8WH-H-2	800 South WELL HOUSE	VENTILATION	WALL MOUNT		24"x 24" ALUMINUM DAMPER W/ ELECT. ACTUATOR	AMERICAN WARMING AND VENTILATION MODEL VC-19 OR EQUAL
8WH-H-3	800 South WELL HOUSE	VENTILATION	WALL MOUNT		24"x 24" ALUMINUM LOUVER W/ BIRDSCREEN	AMERICAN WARMING AND VENTILATION MODEL LE-31 OR EQUAL
8WH-H-4	800 South WELL HOUSE	HEAT/AC	ELECT. UNIT HEATER	5KW	3PH, 480V, 6.0 AMP, 350 CFM	APPROV. MFGs W/ BUILT-IN TSTAT - DAYTON, REZNOR
8WH-H-5	TRACK WELL HOUSE	VENTILATION	T-STAT	-	LINE VOLTAGE CONTROL 120V R-40-100	PECO MODEL 4E636 OR EQUAL
8WH-H-6	TRACK WELL HOUSE	VENTILATION	T-STAT	-	1061 CFM, SP .375, .334 HP, 1300 RPM	COOK'S MODEL 150WH13D OR EQUAL
TWH-H-1	TRACK WELL HOUSE	HEAT/AC	FUJITSU ASUIZRLF/AOUIZRLFW	3.5/4.7	12,000 BTU COOLING/ 16,000 BTU HEATING W/ T-STAT	OR APPROVED EQUAL
TWH-H-2	TRACK WELL HOUSE	VENTILATION	WALL MOUNT		24"x 24" ALUMINUM DAMPER W/ ELECT. ACTUATOR	AMERICAN WARMING AND VENTILATION MODEL VC-19 OR EQUAL
TWH-H-3	TRACK WELL HOUSE	VENTILATION	WALL MOUNT		24"x 24" ALUMINUM LOUVER W/ BIRDSCREEN	AMERICAN WARMING AND VENTILATION MODEL LE-31 OR EQUAL
TWH-H-4	TRACK WELL HOUSE	HEAT/AC	ELECT. UNIT HEATER	5KW	3PH, 480V, 6.0 AMP, 350 CFM	APPROV. MFGs W/ BUILT-IN TSTAT - DAYTON, REZNOR
TWH-H-5	TRACK WELL HOUSE	VENTILATION	T-STAT	-	LINE VOLTAGE CONTROL 120V R-40-100	PECO MODEL 4E636 OR EQUAL
TWH-H-6	TRACK WELL HOUSE	VENTILATION	T-STAT	-	1061 CFM, SP .375, .334 HP, 1300 RPM	COOK'S MODEL 150WH13D OR EQUAL

3

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Phone: (801) 538 - 3018
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649 east south temple
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phone:(801) 355-5915

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925 south west temple
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AQUA ENGINEERING, INC.
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PHONE (801) 299-1327 FAX (801) 299-0153

DFCM APPROVAL STAMP

project:
UVU Classroom Building
- Volume 1
800 West University Parkway
Orem, UT 84058

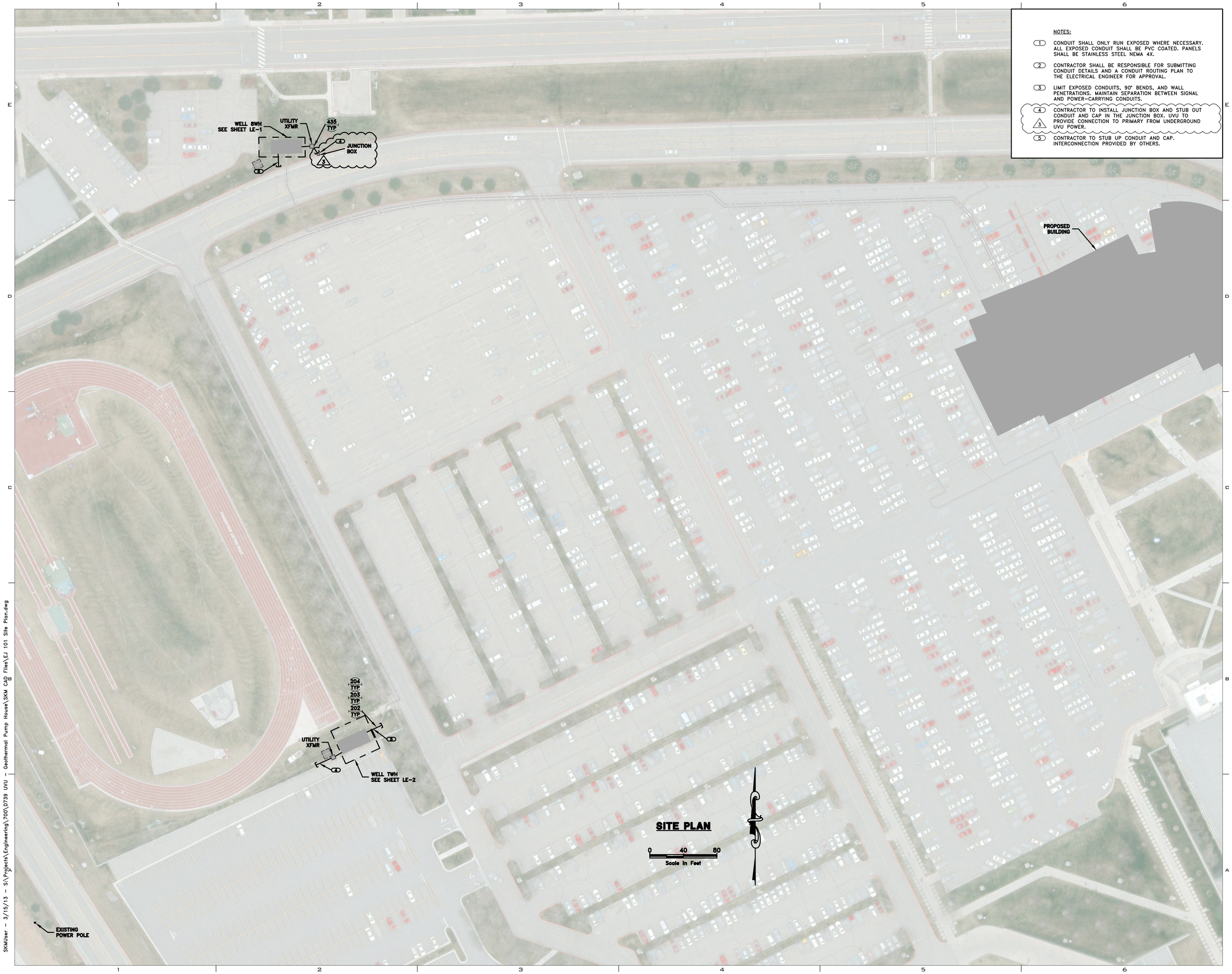
project#: DFCM# 12192790
date: April 30, 2013

revisions :
REV 3 - MAY 22, 2013

title:
SCHEDULES

sheet:
CJ601

BID DOC



NOTES:

1. CONDUIT SHALL ONLY RUN EXPOSED WHERE NECESSARY. ALL EXPOSED CONDUIT SHALL BE PVC COATED. PANELS SHALL BE STAINLESS STEEL NEMA 4X.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CONDUIT DETAILS AND A CONDUIT ROUTING PLAN TO THE ELECTRICAL ENGINEER FOR APPROVAL.
3. LIMIT EXPOSED CONDUITS, 90° BENDS, AND WALL PENETRATIONS. MAINTAIN SEPARATION BETWEEN SIGNAL AND POWER-CARRYING CONDUITS.
4. CONTRACTOR TO INSTALL JUNCTION BOX AND STUB OUT CONDUIT AND CAP IN THE JUNCTION BOX. UVU TO PROVIDE CONNECTION TO PRIMARY FROM UNDERGROUND UVU POWER.
5. CONTRACTOR TO STUB UP CONDUIT AND CAP. INTERCONNECTION PROVIDED BY OTHERS.

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Salt Lake City, Utah 84114
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skm inc.
533 W 2600 S, Suite 100
Bountiful, Utah 84010
Phone: (801) 677-0011
Fax: (801) 677-0013
www.skm-inc.com

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

revisions:
REV 3 – MAY 22, 2013

title:
ELECTRICAL SITE PLAN

sheet:
EJ101

BID DOC

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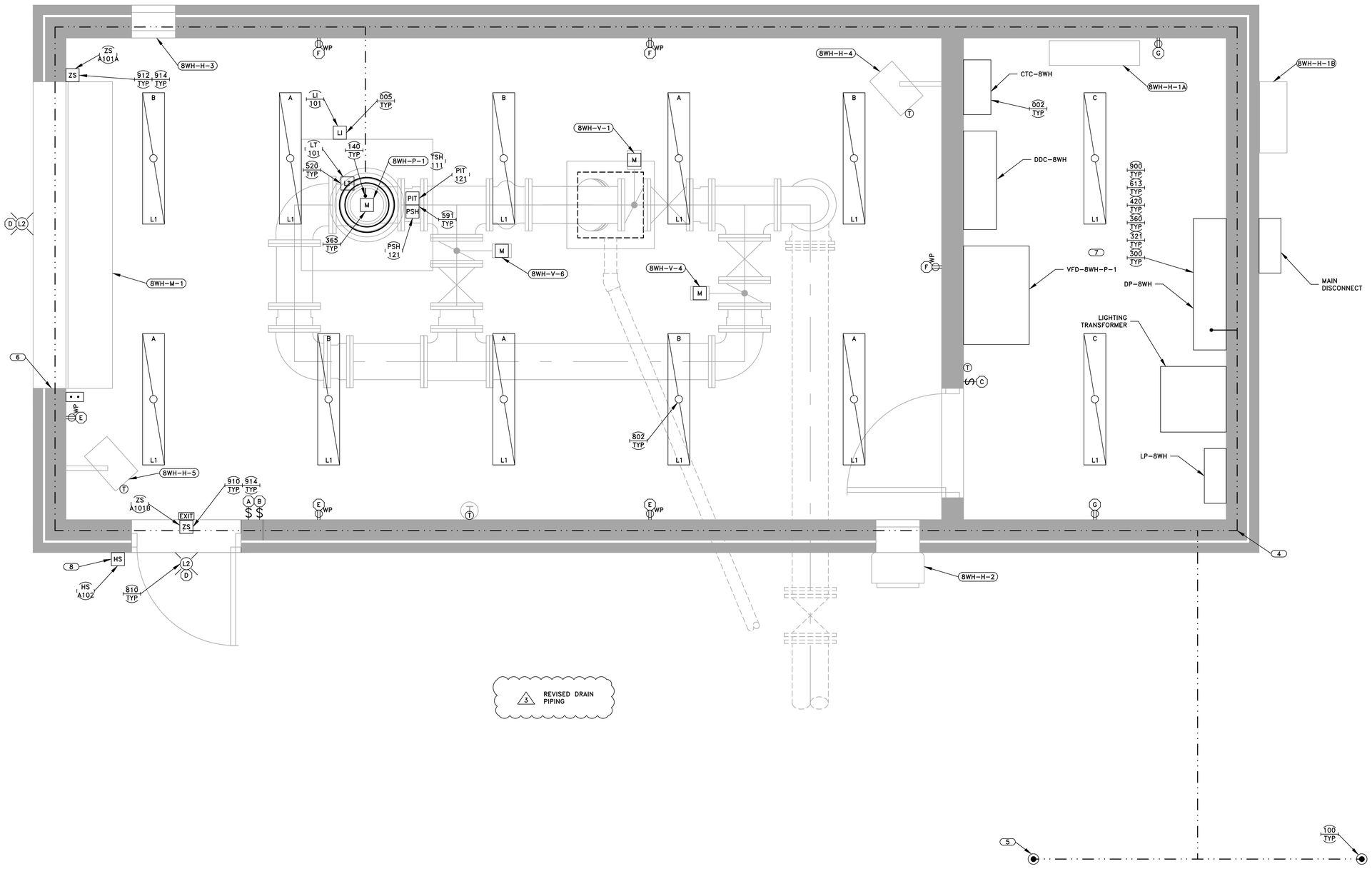

L1 — DAY-BRITE WET LOCATION VAPORLUME FLUORESCENT FIXTURE. MODEL V2WAE244HO-120-E7W. (48" DUAL ELEMENT SURFACE MOUNT WET LOCATION FLUORESCENT FIXTURE WITH EMERGENCY BALLAST).

L2 — DAY-BRITE LED MEDIUM GLASS LOW PROFILE WALL LIGHT (WALL PACK) MODEL WLP40WLU-PEC-MT. W/PHOTO CONTROL MULTI-VOLT.

WP — WEATHER-PROOF OUTLET GFCI PROTECTED.

EXIT — DAY-BRITE VE SERIES EXIT SIGN. MODEL VEGW OR EQUAL.

A — DEVICES WITH SAME LETTER CODE (I.E. A,B,C) REPRESENT DEVICES ON SAME CIRCUIT.

GARAGE DOOR OPENER

WELL HOUSE 8WH PLAN

0 1 2
Scale in Feet

NOTES:

1. CONDUIT SHALL ONLY RUN EXPOSED WHERE NECESSARY. ALL EXPOSED CONDUIT SHALL BE PVC COATED. PANELS SHALL BE STAINLESS STEEL NEMA 4X.
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3. LIMIT EXPOSED CONDUITS, 90° BENDS, AND WALL PENETRATIONS. MAINTAIN SEPARATION BETWEEN SIGNAL AND POWER-CARRYING CONDUITS.
4. CONTRACTOR SHALL PROVIDE 2 CONCRETE ENCASED ELECTRODES IN FOOTINGS PER SPECIFICATIONS 60' PER CONDUCTOR.
5. CONTRACTOR SHALL INSTALL (2) 10'X3/4"ø COPPER GROUND RODS 10' MINIMUM SPACING AND 10' MINIMUM FROM BUILDING.
6. BOND ALL BUILDING STEEL TO GROUND PER NEC.
7. EMT TYPE CONDUIT SHALL BE ALLOWED IN THE ELECTRICAL ROOM.
8. SINGLE GANG TAMPER RESISTANT KEY SWITCH.

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DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

revisions:
REV 3 – MAY 22, 2013

title:
ELECTRICAL WELL HOUSE 8WH PLAN

sheet:
EJ102

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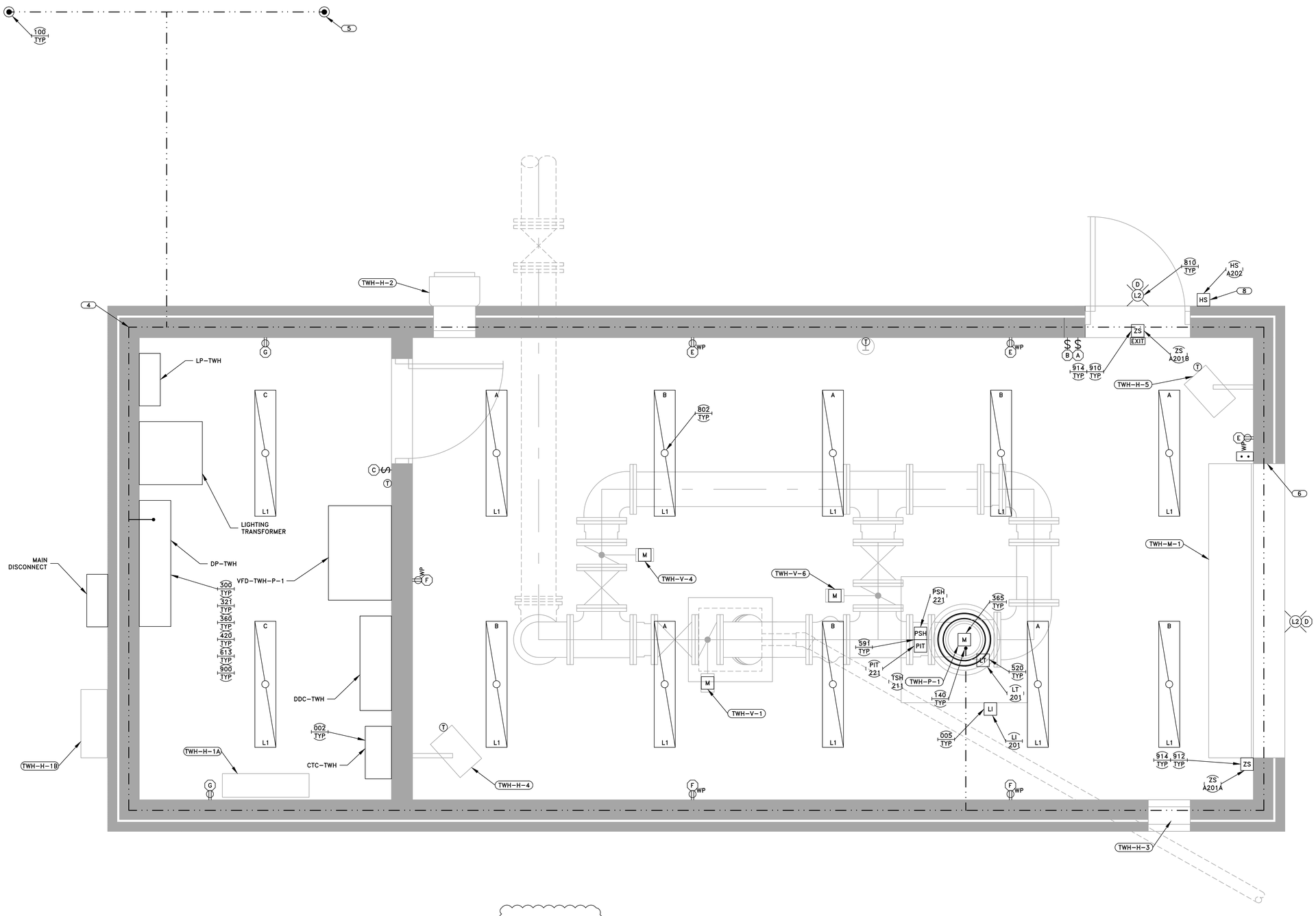

3 ORIENTATION UPDATED

L1 — DAY-BRITE WET LOCATION VAPORLUME FLUORESCENT FIXTURE. MODEL V2WAE244HO-120-E7W. (48" DUAL ELEMENT SURFACE MOUNT WET LOCATION FLUORESCENT FIXTURE WITH EMERGENCY BALLAST).

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GARAGE DOOR OPENER

WELL HOUSE TWH PLAN

0 1 2
Scale in Feet

NOTES:

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4. CONTRACTOR SHALL PROVIDE 2 CONCRETE ENCASED ELECTRODES IN FOOTINGS PER SPECIFICATIONS 60' PER CONDUCTOR.
5. CONTRACTOR SHALL INSTALL (2) 10'X3/4"ø COPPER GROUND RODS 10' MINIMUM SPACING AND 10' MINIMUM FROM BUILDING.
6. BOND ALL BUILDING STEEL TO GROUND PER NEC.
7. EMT TYPE CONDUIT SHALL BE ALLOWED IN THE ELECTRICAL ROOM.
8. SINGLE GANG TAMPER RESISTANT KEY SWITCH.

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State of Utah
Department of Administrative Services
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4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

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UVU Classroom Building - Volume 1
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REV 3 – MAY 22, 2013

title:
ELECTRICAL WELL HOUSE TWH PLAN

sheet:
EJ103

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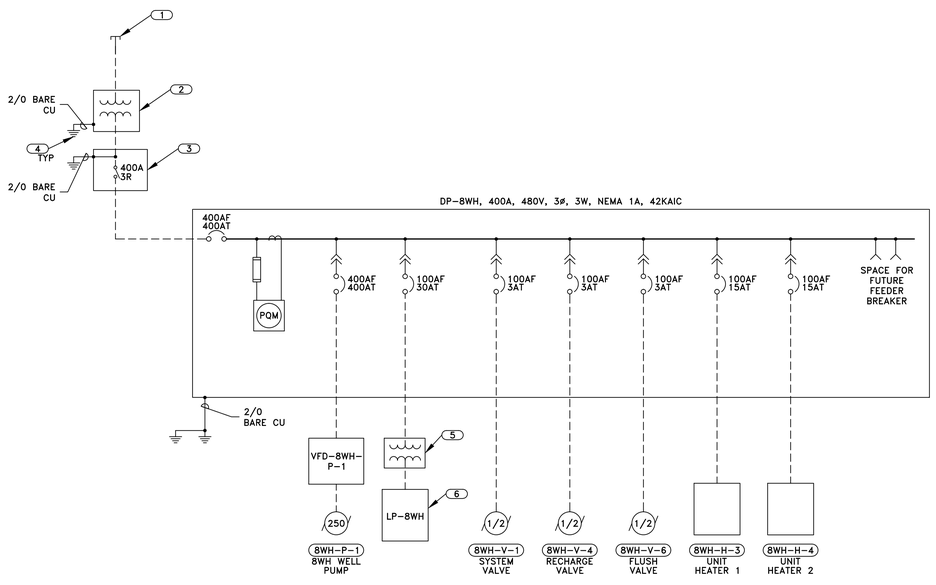
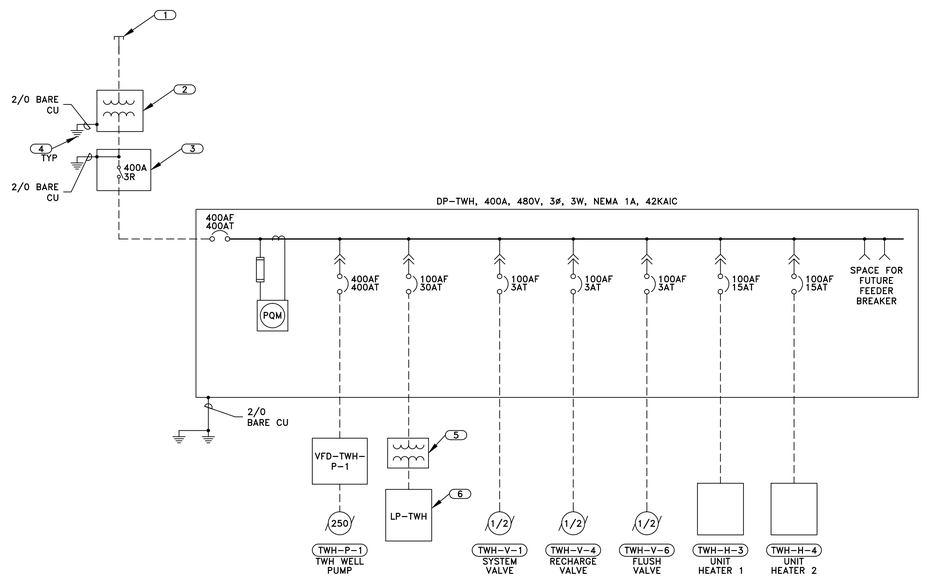


DP-8WH ONELINE DIAGRAM



DP-TWH ONELINE DIAGRAM

NOTES:

1. CONTRACTOR TO INSTALL JUNCTION BOX AND STUB OUT CONDUIT AND CAP IN THE JUNCTION BOX. UVU TO PROVIDE CONNECTION TO PRIMARY FROM UNDERGROUND UVU POWER.
2. UVU STEP-DOWN TRANSFORMER 300KVA Δ-Y 277/480V SECONDARY TRANSFORMER COORDINATE WITH UTILITY.
3. MAIN DISCONNECT DS-8WH. 400A, 480V, 3ø, 3W, NEMA 3R. BOND NEUTRAL TO GROUND.
4. GROUNDING GRID.
5. 15KVA TRANSFORMER, 480V PRIMARY, 120/208V 3ø SECONDARY, FLOOR MOUNTED, NEMA 1.
6. LIGHTING PANEL LP-8WH, 120/208V, 3ø 4W, 50A, NEMA 1, 10KAIC.

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
8WH-P-1		250.0	265.0
NON-MOTOR LOADS			
XFMR	15.0		18.1
8WH-V-1			1.1
8WH-V-4			1.1
8WH-V-6			1.1
Unit Heater 1 (8WH-H-3)			7.5
Unit Heater 2 (8WH-H-4)			7.5
SUBTOTAL			301.4
+ 25% OF LARGEST MOTOR			66.3
TOTAL AMPS @ 480V/3PHASE			367.7
SERVICE SIZE (AMPS)			400.0

DP-8WH CALCULATIONS

NOTES:

1. CONTRACTOR TO STUB UP CONDUIT AND CAP, UVU TO PROVIDE CONNECTION TO PRIMARY.
2. UVU STEP-DOWN TRANSFORMER 300KVA Δ-Y 277/480V SECONDARY TRANSFORMER COORDINATE WITH UTILITY.
3. MAIN DISCONNECT DS-TWH. 400A, 480V, 3ø, 3W, NEMA 3R. BOND NEUTRAL TO GROUND.
4. GROUNDING GRID.
5. 15KVA TRANSFORMER, 480V PRIMARY, 120/208V 3ø SECONDARY, FLOOR MOUNTED, NEMA 1.
6. LIGHTING PANEL LP-TWH, 120/208V, 3ø 4W, 50A, NEMA 1, 10KAIC.

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
TWH-P-1		250.0	265.0
NON-MOTOR LOADS			
XFMR	15.0		18.1
TWH-V-1			1.1
TWH-V-4			1.1
TWH-V-6			1.1
Unit Heater 1 (TWH-H-3)			7.5
Unit Heater 2 (TWH-H-4)			7.5
SUBTOTAL			301.4
+ 25% OF LARGEST MOTOR			66.3
TOTAL AMPS @ 480V/3PHASE			367.7
SERVICE SIZE (AMPS)			400.0

DP-TWH CALCULATIONS

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DFCM APPROVAL STAMP

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project#: DFCM# 12192790
date: April 30, 2013

revisions:
REV 3 – MAY 22, 2013

title:
ELECTRICAL ONELINE DIAGRAM

sheet:
EJ601

BID DOC

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COLVIN ENGINEERING ASSOCIATES

MECHANICAL PORTION OF ADDENDUM NO. 3
(Note that no mechanical information was issued with Addenda 1 or 2)

UVU CLASSROOM PROJECT, OREM, UT

CEA PROJECT NO. 2012-054.00

May 22, 2013

All contractors submitting proposals for this project shall be governed by the following addendum, changes, and explanations to the bidding documents. Bids shall be submitted in accordance with the following:

Item No.	Add, Delete or Clarify	Specification Section or Drawing No.	Reference / Description:
3.1	Clarify	230900	-Initially program the minimum outdoor air flow rate as 58,300 cfm for air handler AH-1. -Modulate and stage the outdoor air and return air control dampers CD-1 through CD-16 individually. Also stage control dampers so the outdoor air and return air dampers closest to each other open first in order to promote good mixing of outdoor air and return air streams. -Modify the relief fan sequence of controls so the control dampers stage open and closed one at a time and all relief fans start/stop at the same time and their speeds are ramped up/down together at the same Hz. -VAV box controllers are to be Lon, not BACnet.
3.2	Add	235700	-Add specification for coils in field erected air handlers. -Provide MERV 13 air filters in all fan coil units. Filters to meet the requirements of specification section 234100. -Add requirements for installation of evaporative media.
3.3	Add	233400	-Add specification for fan array inside field erected air handlers.
3.4	Add	MH603	-Add control damper schedule.
3.5	Clarify	MP401 232113	-All pipe joints for pipes 3” and larger located inside the ground floor central plant shall be welded. Grooved couplings can be used on any pipe size located outside of the ground floor central plant. This means grooved couplings can be used on 12” pipe in the hallways, and on pipe in the mechanical penthouse.

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Item No.	Add, Delete or Clarify	Specification Section or Drawing No.	Reference / Description:
3.6	Clarify/Add	MH102.1 MP102.1	-There were two VAV boxes tagged as 3-7, changed one to 3-67. -Added VAV box 3-68. -Added transfer air in office 303E. -Adjusted the CFM at VAV box 3-8. -Now showing VAV box 4-56 as part of the alternate as well as base bid.
3.7	Clarify/Add	MH102A MP102A	-Add VAV box 2-40. -Add diffuser tag and flex duct.
3.8	Clarify/Add	MH102B MP102B	-There were two VAV boxes tagged as 2-27, changed one to 2-53. -Added diffusers for VAV box 2-40.
3.9	Clarify	MH104A MP104A	-There were two VAV boxes tagged as 4-14, changed one to 4-24. -Adjusted location of diffuser in Study 418.
3.10	Clarify	FF101	-Removed FDC from plan. -Added remote FDC flange. -Modified keyed notes #4, 7 & 8. -Modified routing of express drain piping
3.11	Clarify	FF102	-Added Keyed Note #3
3.12	Clarify	MH604	-Modified pump selection for boiler circulation pumps.
3.13	Clarify	PL101A	-Revised keyed note #5. -Revised detail callout.
3.14	Clarify	PL101B	-Added keyed note #3. -Clarified pipe sizes.
3.15	Clarify	PL101C	-Clarified pipe size.
3.16	Add	PL102.1	-Added General Notes
3.17	Clarify	PL102A PL103A PL104A PL105A PL405 PL401	-Clarified pipe sizes.
3.18	Clarify	MH601	-Exhaust Fan Schedule
3.19	Add	MH402	-Added entry doors to Air Handler
3.20	Clarify	MH101B	-Clarified duct routing for box 1-23
3.21	Clarify	MP102D	-Clarified keyed note #1.
3.22	Clarify	MH401	-Clarified duct routing, sizes.
3.23	Clarify	MP101A	-Clarified pipe sizes.

PRODUCT SUBSTITUTIONS / PRIOR APPROVALS

Item No.	Specification Section	Product Type	Alternate Manufacturers
1	233600	VAV Boxes	Nailor Industries
2	235100	Boiler Vents	Heat Fab

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The above named alternate equipment manufacturers stand approved in name only. Approval here in no way relieves the supplier from complying with all other engineering, weight spatial, and quality requirements of equipment indicated in the contract documents. Contractors using products from the above named alternate manufacturers shall refer to Specification Section 230500 for detailed contractor responsibilities related to the use of alternate brands not used as the Basis of Design.

END OF ADDENDUM NO. 3

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2. Tube:

Up to 4" inclusive ASTM B 88, Type L, hard drawn.

3. Fittings:

a. ANSI/ASME B16.23 cast brass and/or
b. ANSI/ASME B16.29 solder wrought copper

4. Joints:

a. ASTM B32, solder, Grade 95 TA.

2.2 HEATING WATER, CHILLED WATER AND CONDENSER WATER PIPING FOR GROOVED PIPE OPTION – ABOVE GROUND

A. General: At Contractor's option, heating water, condenser water and chilled water piping may be mechanical roll grooved pipe couplings, fittings and butterfly valves **where piping is located outside of the ground floor central plant**. Cut grooves are not allowed.

B. Acceptable Manufacturers: Victaulic, Anvil/Gruvlok, Grinnell.

C. All pipe, fittings, and couplings shall be manufactured in the USA

D. Chilled water piping includes risers, mains, equipment connections, branches, supply and return lines under operating conditions not exceeding minus 30 degrees Fahrenheit to plus 230 degrees Fahrenheit.

1. Couplings: Line and fitting joints to be Victaulic "Style 75 or 77" with Grade "E" gaskets and nuts and bolts. Rated –30°F. to 230°F, or Central Sprink “Style 705 or 707", or Gruvlok 7001.
2. "Rigid" line fitting and valve joints to be Victaulic "Style S-07" Couplings with or Grade "E" gaskets and nuts and bolts.
3. Joints designated Outlet Couplings to be Victaulic "Style 72" with Grade "E" gaskets and nuts and bolts.
4. Joints designated Reducing Couplings to be Victaulic "Style 750" with Grade "E" gaskets and standard nuts and bolts.
5. Flanged components connections to be Victaulic "Style 741 Vic-Flanges" with Grade "E" gaskets.
6. Fittings: Fittings to be Victaulic "Full Flow" malleable iron or ductile iron or segmentally welded fittings, with grooved or shouldered ends.
7. Valves: Butterfly valves 2" - 12" inch to be Victaulic S/300 with 300 psi rating, latch-lock throttling handles, Grade "E" linings and standard trim. Sizes 14" - 24" to be Victaulic S/708 with 175 psi rating. Valves greater than or equal to 8” shall be supplied with gear operator.
8. All materials to be manufactured in the USA, and must be designed and intended for use on HVAC systems. No fire sprinkler parts are allowed.

PART 3 - EXECUTION

3.1 PIPE WORKMANSHIP

A. Piping shown on the drawings shall be installed complete, and shall be of the size shown on the drawings. When a size is not indicated, the sub-contractor shall request the pipe size from the Architect/Engineer thru the General Contractor. All piping shall be installed parallel or perpendicular to the building construction. All piping shall be installed so as to allow for expansion. Install saddles and shields per Section 230529.

B. Relief Valve: Install a 1” safety relief valve, set at a pressure no more than 5 psig less than the relief valve on boiler, to protect against damage by expanding liquid or other source of overpressure during test or normal operation. Discharge of a glycol system relief valve shall be piped to the glycol fill tank for recovery of glycol should glycol solution be discharged through valve.

3.2 PIPE SLOPE AND DRAINS

A. Slope all domestic water, chilled water, heating water and condenser water piping at 1”/40’ toward drains.

B. Provide ½ ball valve with hose fitting and cap to act as drain at all low points in piping systems referenced in paragraph A above.

3.3 PIPING JOINTS

A. All pipe shall be reamed to full pipe diameter before joining. Screwed joints shall be made with standard pipe thread, and an approved compound applied to the male thread only. Welded joints shall be made in accord with the procedure outlined in National Certified Pipe Welding Bureau, or by other reputable testing laboratory or agency. Subcontractor shall use only "Threadolet" or "Weldolet" fittings for intersection welding of branches to mains. Valves and specialties shall have screwed or flanged joints. No bushings allowed.

B. All pipe shall be reamed to full pipe diameter before joining.

C. Pull tee (T-drill) fittings are forbidden.

D. All joints for pipes 3” diameter and larger located inside the ground floor central plant shall be welded. All pipes located outside the ground floor central plant, regardless of pipe diameter, can be joined using any methods allowed in part 2 of this specification.

3.4 SYSTEM PRESSURE SETTINGS

A. Hot Water Heating System: Set pressure reducing fill valve or glycol fill system to maintain 10 psig at highest point in system. Pre-charge bladder-type expansion tank to 2 psig less than “fill” pressure prior to connection to the system.

B. Chilled Water System: Set pressure reducing fill valve or glycol fill system to maintain 10 psig at highest point in system. Pre-charge bladder-type expansion tank to 2 psig less than “fill” pressure prior to connection to the system.

H. Disconnect Switch: A factory wired non-fused disconnect switch shall be located under the hood of the unit.

I. Motorized Backdraft Dampers: Shall be installed on the curb of the unit.

J. Bird Screen: Entire air outlet of the fan shall be protected by a 1/2" x 1/2" aluminum mesh securely installed in place.

K. Kitchen Exhaust Fans: In addition to the above requirements, provide kitchen exhaust fans U.L. listed for grease removal. Provide drain connection and grease trap, external disconnect switch, curb hinges to lift fan, and curb extension.

2.5 EXHAUST FANS (CEILING TYPE)

A. Acceptable Manufacturer: Subject to compliance with requirements, provide ceiling type exhaust fan of one of the following: Penn Co. (Zephyr Model), ILG, Pace, Cook, Jenn-Air, Greenheck, ACME, Carnes, Twin City Fan, Broan, Breidert.

B. Type: Shall be of the centrifugal fan, integral grille and housing type, all completely self-contained.

C. Capacity: Capacity and model number of the units shall be as shown on drawings, and shall be certified by AMCA.

D. Motor and Drive: Fan shall be of the direct drive type, and maximum fan motor speed shall be 1150 RPM. Motor shall be of the permanently lubricated ball bearing type, and shall be directly coupled to the fan. The motor and fan shall be easily removable thru the intake grille for service. Direct drive fans to include solid state speed controllers.

E. Housing: Shall be constructed of heavy gauge steel, and shall be completely insulated internally with acoustical insulation material to deaden sound.

F. Backdraft Damper: Each fan shall be equipped with a nonmetallic backdraft damper constructed of neoprene and shall be shatterproof under all conditions.

G. U.L. Label: Each fan shall be approved by the Underwriters' Laboratories, Inc. and shall carry the U.L. Label.

H. Intake Grille: Shall be constructed of steel frame and woven steel grille with a minimum free area of 85%. Intake grille shall have a white, factory baked enamel finish.

2.6 PLUG FANS

A. Manufacturers: Pace, Greenheck, Acme, Twin City, Barry, Chicago, Cook, Carnes, New York Blower, **Lau**.

B. Provide centrifugal plug type fans of size and capacity as scheduled on the drawings.

C. The fan shall be of the centrifugal plug type and be of the non-overloading die formed reinforced airfoil shape, backward inclined blades, fully welded to the solid backplate and inlet shroud.

D. The fan shall be designed without an involute housing. **The fan section cabinet shall be constructed such that it is adequately reinforced so that at the fan rated discharge**

pressure it will not have any visible distortion or "oil canning". Fans used in a fan array shall include sound attenuating enclosures with perforated walls around four sides of each fan wheel.

E. Fan and motor shall be mounted on an integral steel frame or inertia base. Fan shall be direct drive. **Fan arrays to be constructed so multiple fan/motor/steel frames stack on top of one another to form fan 'columns'. Fan array columns shall include an integral steel base at the bottom of each column of fans. This steel base to act as an inertia base and shall be intended to be filled with concrete in the field.**

F. Fan bearings shall be oversized for B-10 minimum life of **200,000** ~~100,000~~ hours.

G. Fan performance ratings shall be based on tests made in accordance with AMCA Standard 210.

H. The fan motor shall be wired with a flexible conduit of adequate length so that it will not affect the vibration isolation to any appreciable degree. The maximum allowable velocity in the vertical direction on top of the bearing is 0.075 inches per second as compared to the base on which the fan and motor are mounted. In case of vibration problems, it shall be the fan manufacturer's responsibility to verify this criterion.

I. The shafting of the fan shall be sized not to exceed 75% of the first critical speed under the specified operation conditions and the lateral static deflection of the shaft shall not exceed 0.003 inches per foot of the length of the shaft. The shaft and fan wheel shall be dynamically balanced in two planes as a complete unit to a maximum residual unbalance of 0.15 oz. at 95% of the fan wheel radius in each plane.

J. Motor shall be of the Standard NEMA frame, ball bearing rigid mounted open drip-proof construction. Heavy steel motor adjusting bases shall be provided. Motor speeds shall not exceed 1750 RPM. Motor shall be in accordance with "Motors" in Section 230529.

K. Provide variable frequency drives where indicated on drawings, in accordance with Section 230810.

L. Provide inlet safety screen, outlet safety cage with access door, and safety enclosure around belt drive. **Fans that are part of a fan array only require inlet safety screens.**

2.7 MIXED FLOW FANS

A. Acceptable Manufacturers: Greenheck, Cook, Twin City.

B. The housing shall be constructed of continuously welded heavy gauge steel. Housing shall have inlet and outlet collars for slip fit duct connections. The motor support shall be constructed of structural steel members to prevent vibration. Welded steel vanes shall straighten the flow of air from the fan discharge. Housing to include a drain though inside to catch all rain water that comes down vertical duct to fan in vertical position. Through to discharge at a single drain point on side of housing.

C. The wheel shall be of the mixed flow type. Wheels shall have a wheel cone, spherical back plate and single thickness cambered blades. Wheels shall be statically and dynamically balanced to balance grade G6.3 per ANSI S2.19. The wheel cone and fan inlet cone shall be carefully matched and shall have precise running tolerances for maximum performance and operating efficiency.

SECTION 235700 - HEAT TRANSFER

PART 1 - GENERAL

1.1 RELATED WORK

A. The General Conditions, Supplementary Conditions and Division 1, General Requirements apply to this Section, and Contractor shall review and adhere to all requirements of these documents.

B. Related work specified in other Sections:

Section 230500 - Basic Mechanical Requirements
Section 230529 - Basic Mechanical Materials and Methods
Section 230540 - Mechanical Sound and Vibration Control
Section 230593 - Testing, Adjusting and Balancing
Section 230700 - Mechanical Insulation
Section 230900 - Electronic Controls
Section 232113 - HVAC Piping and Specialties
Section 232123 - HVAC Pumps
Section 233400 - Air Handling Fans
Section 235200 - Boilers
Section 236400 – Refrigeration
Section 237410 - Air Handling Unit with Coils

1.2 SYSTEM DESCRIPTION

A. The work includes, but is not limited to providing the following:

1. Cabinet Unit Heaters
2. Unit Heaters
3. Heating Water Coils in Ductwork
4. **Water Coils in Built-Up Systems**
5. Electric Cabinet Heaters and Unit Heaters
6. All contactors, relays, terminal boxes, thermostats and other electrical appurtenances for electric heat in accordance with "ELECTRIC WIRING" paragraph in Section 230529 - Basic Mechanical Materials and Methods.
7. Fan Coil Units
8. **Direct Evaporative Cooling Media**

1.3 QUALITY ASSURANCE

A. Quality control shall be in accordance with Section 230500 - Basic Mechanical Requirements.

1.4 REFERENCES

A. Reference Standards: Except as modified by governing codes and by the Contract Documents, comply with the applicable provisions and recommendations of the following:

1. Comply with American National Standards Institute (ANSI B31.1) Code for Pressure Piping.

1.5 SUBMITTALS

A. Shop Drawings: Submit Shop Drawings and Product Data for the following items in accordance with the General Conditions of the Contract:

1. Heat Exchanger
2. Fan Coil Units
3. Cabinet Unit Heaters
4. Heating Coils
5. Electric Heating Equipment
6. Coils in Built-Up Systems
7. Evaporative Cooling Sections

B. Operating Instructions and Maintenance Data: Submit printed Operating Instructions and Maintenance Data for the following items in accordance with Operating and Maintenance Data paragraph in Section 230500:

1. Fan Coil Units
2. Cabinet Unit Heaters
3. Unit Heaters
4. Electric Heating Equipment
5. Heat Exchangers
6. Evaporative Cooling Sections

PART 2 - PRODUCTS

2.1 PLATE/FRAME HEAT EXCHANGER

A. Furnish and install a water to water plate and frame heat exchanger, size and capacity as shown on the drawing, as manufactured by Bell & Gossett, Alfa Laval, Tranter, Moeller, Taco, Polaris, Armstrong, Patterson, Flat Plate, APV.

B. The exchanger shall be single pass, counter current flow, to facilitate access to the plate pack for maintenance.

C. The frame of the exchanger shall be designed to permit the future installation of 20 percent additional plates at a later date.

D. The maximum allowable pressure drop shall be as shown in the equipment schedule.

E. Plates:

1. Port holes not feeding passes between plates shall be fully gasketed and vented to the atmosphere.
2. Design of plates shall be such that metal-to-metal contact exists between adjacent plates. (Free-flow type plate exchangers are excepted from this provision).
3. If frame design includes plate support, plates shall be fully supported from the top stainless steel carrying bar and guided by only the bottom stainless steel bar with reinforced slots integral with the plate.
4. Gasket groove shall be designed so that full gasket support is provided by metal-to-metal plate contact both inboard and outboard of the gasket groove.

and between panels and basin shall be gasketed and caulked to be water and airtight. Removable panels, with stainless steel bolts and wing nuts, shall be furnished as necessary to provide access to all portions of the water distribution header/nozzles.

D. The wetted surface fill shall be Munter's Glasdek with TUFedg rubberized edge. Fill materials shall be formed and laid up using a cross fluted design to produce a highly turbulent mixing of air and water for optimum evaporation and heat transfer. Media fill sections shall split the height of the active media height indicated on the schedule so two pieces of equally tall media are stacked vertically to achieve the height listed in the schedules. In the case of this project, each piece of media shall be 3'-2" tall, with the active media height of each section of air washer being 76". Upper media shall be supported by horizontal stainless steel angles with intermediate vertical supports at 4 feet o.c. Design shall provide flushing during water circulation to minimize fouling due to mineral buildup, sand, or atmospheric dust. The upper section of the fill consists of a 2" thick distribution pad of the same material as the fill. Fill depth shall be as scheduled on drawings. Fill face area shall be sized to the nominal dimensions scheduled for operation at no greater than 490 fpm at full airflow to prevent water carryover.

E. The water recirculation system shall consist of a factory furnished and mounted vertical submersible pump, located in the basin. Pump manufacturer Ebara Model NO. EPD The pump shall be protected against entry of debris by removable brass or stainless steel suction screens in stainless steel frames. Pump shall operate on 120v/1 ph./60 Hz power. Provide disconnect switch and low water cutoff to de-energize the pump if water level becomes low enough to damage the pump. Low water cut-off shall automatically reset when sufficient water is present for safe pump operation. Construction and flow rate for the pump discharge piping and distribution header shall be in accordance with Munter's recommendations. A balancing cock and rotometer/flowmeter with flow indication in GPM (King Series 7200 or equal, flow range 3-30.5 GPM) shall be furnished for adjustment of flow. Ports shall be furnished in the pump discharge pipe for use with bleed valve. Provide exposed ball valves with hose connections at both ends of header for periodic manual flushing of header piping. Provide bleed valve and ¼" copper tube to drain.

F. Make-up water flow is regulated by a ½" non-modulating float valve, Cla-Val 124-01A or equal by OCV Control Valve with float. A fitting and hose bib shall be furnished for use as a quick-fill means and for periodic flushing cleaning of sump. Provide balance valve with locking stop on makeup line. Adjust balance valve to limit maximum fill rate to less than overflow piping flowrate to prevent over-flowing basin if float valve fails. Overflow to be minimum Ø 4".

G. Water drain down/flush valves and controls shall be by 230900 Contractor.

2.9 HEATING WATER, CHILLED WATER, AND CONDENSER WATER COILS IN BUILT-UP SYSTEMS

A. **Acceptable Manufacturers: Carrier, Trane, York, Aaon, Pace, Temtrol, Heatcraft, RAE Corp.**

B. **See details and schedules on Drawings for sizes and capacities.**

C. **Coils shall be suitable for chilled water, hot water, or glycol service with 5/8" diameter copper tubes of 0.035" wall thickness. Maximum fins per inch shall be 11. Aluminum fin thickness shall be 0.008 inch maximum.**

D. **Coils to be tested and rated in accordance with Air Conditioning and Refrigeration Institute (ARI) Standard 410-91.**

E. **Coil casings to be made of galvanized steel sheet.**

F. **Tube joints from tube-to-return-bend end and tube-to-header end to be made with high-temperature brazing alloys.**

G. **Circuiting to be designed to provide the greatest degree of counter-flow between air and water. Circuit arrangement to be non-trapping so that liquid will drain from coil when it is installed level. Provide removable drain plug for each coil row.**

H. **Coils shall be suitable for working pressures up to 200 psig and temperatures to 220°F. Test each coil to a minimum air pressure of 350 pounds per square inch with the coil submerged in water.**

PART 3 - EXECUTION

3.1 UNIT HEATERS (HORIZONTAL BLOW)

A. Unless noted otherwise, mount high as possible to give greatest headroom possible. Piping shall be as shown on the plans.

B. Protect the entire unit with a cover during construction.

C. Manufacturers data is to be observed before installation.

3.2 CABINET UNIT HEATERS

A. Install in accordance with manufacturers instructions.

B. Provide access to filters, controls, shut-off valves, etc.

3.3 FAN COIL UNITS

A. Install in accordance with manufacturers instructions.

B. Provide access to filters, controls, shut-off valves, etc.

C. Route condensate drain to approved receptor.

D. Provide auxiliary drain pan with separate drain line extended to a conspicuous point to serve as an indicator that the primary drain is restricted.

3.4 DUCT MOUNTED HEATING COILS

A. Follow all manufacturer’s installation recommendations.

B. Note that reheat coils for use with VAV boxes are separate from the VAV boxes. Provide duct transitions as necessary.

C. Support coils adequately.

3.5 CHILLED WATER/DX COOLING COILS

A. Install coils on a level concrete curb with ½" thick neoprene pad beneath coils to provide air seal and distribute load evenly.

B. Provide a double-sloped sheet metal condensate drain pan below each coil. Pan shall extend from entering air side of coil to a minimum of 24" downstream of coil face, minimum 2" deep. Slope pan to drain in both directions.

In systems with direct evaporative media downstream of coils, drain pan shall be continuous to and overlap top of evaporative media sump.

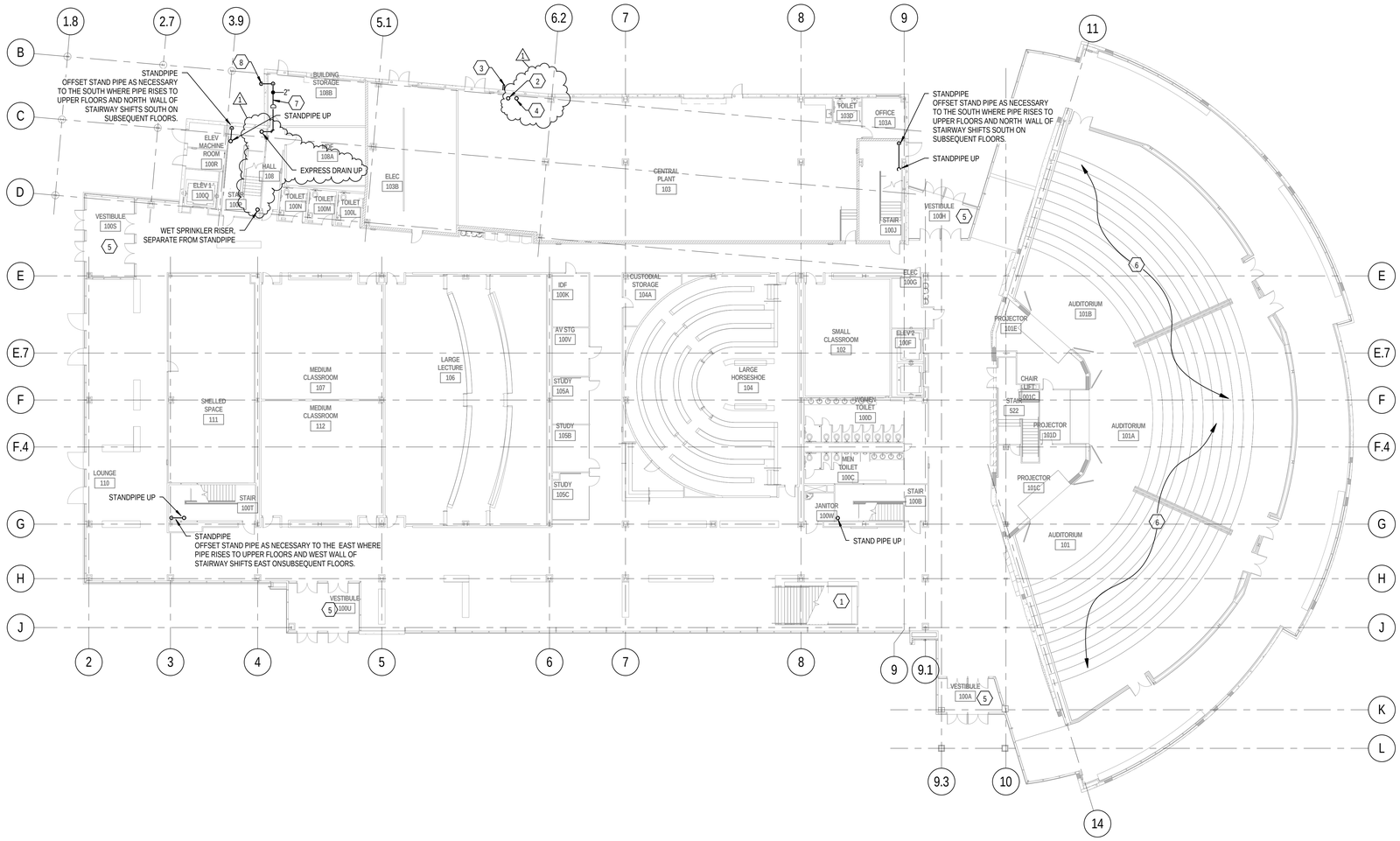
C. Pipe drain to floor sink with Type M hard-drawn copper with wrought copper solder fittings.

3.6 **DIRECT EVAPORATIVE COOLING MEDIA**

A. Provide make-up water piping from approved back flow device.

B. Provide balance valve with locking stop to limit makeup flowrate to less than overflow piping flowrate so unit cannot overflow if float valve fails to open. Balance to maintain non-overflow condition with both make-up and flush valves open.

END OF SECTION 235700



1 LEVEL 1 FIRE PROTECTION FLOOR PLAN

SCALE: 1/16" = 1'-0"

12' 0' 8' 16' 24' 32'

KEYED NOTES

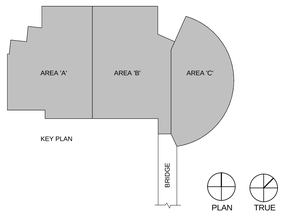
1. PROTECT UNDERSIDE OF EXPOSED STAIRWAY WITH UPRIGHT SPRINKLERS. INSTALL AS TIGHT TO UNDERSIDE OF STAIRWAY AS POSSIBLE. PIPE AND SPRINKLER HEADS WILL BE VISIBLE - INSTALL AS STRAIGHT AS POSSIBLE, WITH THE LEAST NUMBER OF OFFSETS AND FITTINGS SO AS TO PROVIDE A CLEAN, FIRST-CLASS APPEARANCE.
2. FIRE SPRINKLER SERVICE ENTRANCE TERMINATED BY SITE UTILITY CONTRACTOR AT BLIND FLANGE 12" ABOVE FINISHED FLOOR. PROVIDE FIRE SPRINKLER SYSTEM RISER ASSEMBLY ABOVE FLANGE.
3. PROVIDE SYSTEM DRAIN AND TEST PORT THROUGH EXTERIOR WALL.
4. REMOTE FIRE DEPARTMENT CONNECTION ENTRANCE TERMINATED BY SITE UTILITY CONTRACTOR AT BLIND FLANGE 12" ABOVE FINISHED FLOOR. THE FDC IS REMOTE TO THE WEST OF THE NORTHWEST ENTRANCE. SEE CIVIL FOR LOCATION.
5. PROVIDE FREEZE PROTECTED SPRINKLERS IN VESTIBULE.
6. FULLY CONCEALED HEADS TO BE INSTALLED IN METAL COVERS IN CEILING SLOTS. REFER TO ARCHITECTURAL DETAIL B3/AE523. HEAD COVER TO BE PAINTED FLAT BLACK. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR PROPOSED HEAD LAYOUT. ADD HEADS AS NECESSARY TO OBTAIN ARCHITECT APPROVAL.
7. ROUTE SPRINKLER SYSTEM EXPRESS DRAIN TO NW CORNER OF STORAGE ROOM. KEEP ABOVE HALL CEILING.
8. EXPRESS DRAIN TO EXIT BUILDING 18" ABOVE FINISHED GRADE AND IS TO EMPTY INTO STORM SYSTEM CATCH BASIN.

GENERAL NOTES

A. COORDINATE VERTICAL SPACE ABOVE CEILINGS WITH ALL OTHER TRADES. REFER TO VERTICAL SPACE ALLOCATON DIAGRAMS ON SHEET METAL AND HVAC PIPING FLOOR PLANS.

B. PROVIDE EXPRESS DRAIN AND FLOOR CONTROL VALVE ON EACH FLOOR.

KEY PLAN:



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COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvinengineering.com

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UTAH VALLEY UNIVERSITY

State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:
UVU Classroom Building

800 University Way
Orem, UT 84058

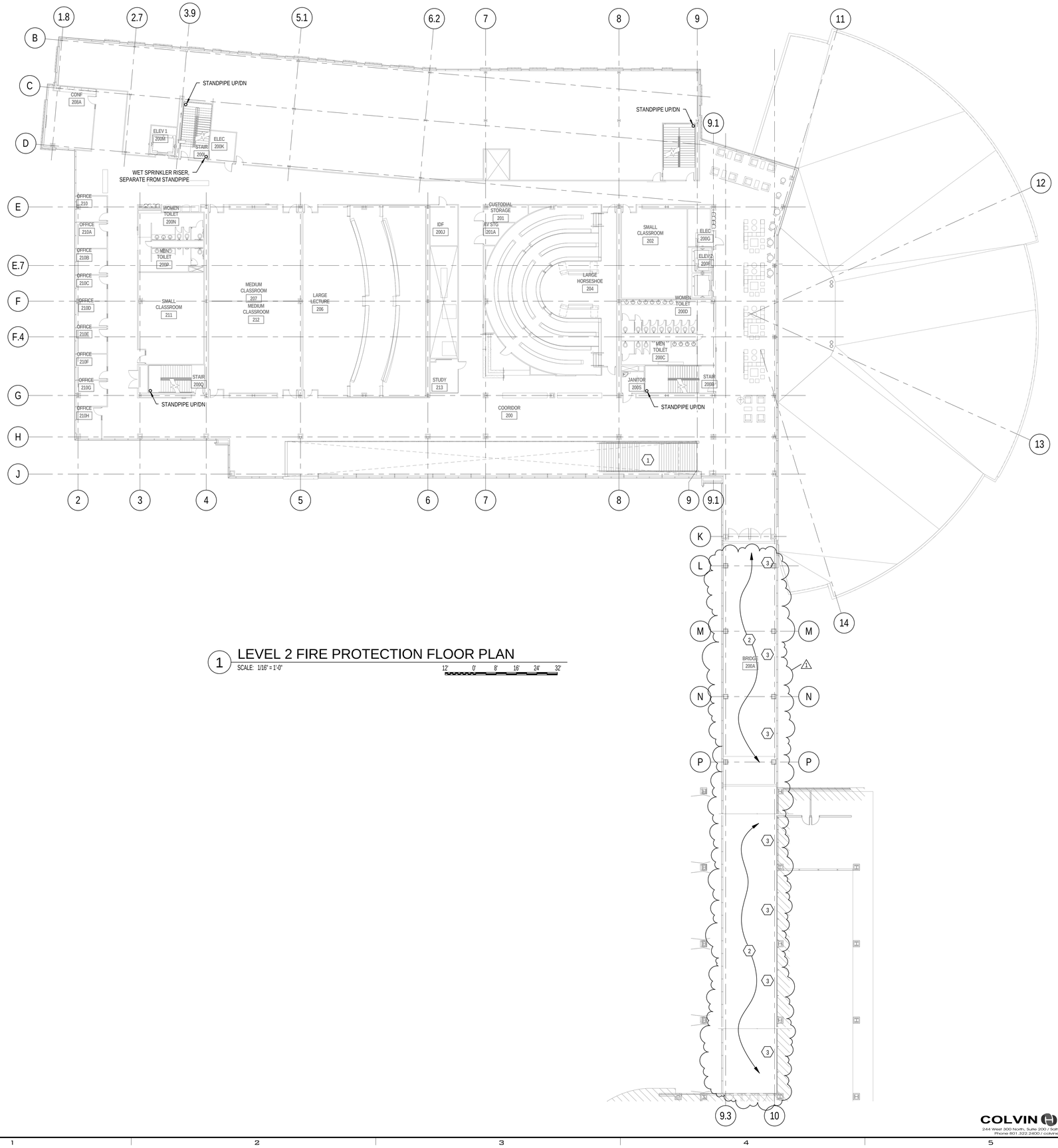
project#: DFCM #12192790
date: APRIL 30, 2013

revisions:
1 ADDENDUM #3 5.22.2013

title:
LEVEL 1 FIRE PROTECTION FLOOR PLAN

sheet:
FF101

BID DOC



1 LEVEL 2 FIRE PROTECTION FLOOR PLAN

SCALE: 1/16" = 1'-0"

KEYED NOTES

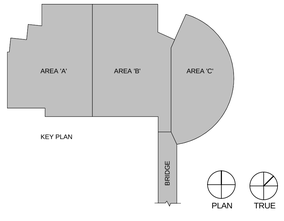
1. PROVIDE UNDERSIDE OF EXPOSED STAIRWAY AS DESCRIBED ON SHEET FF101.
2. PROVIDE SPRINKLERS ALONG ENTIRE LENGTH OF PEDESTRIAN BRIDGE.
3. PROVIDE FIRE SPRINKLER HEADS 6 FEET ON CENTER AND 4 TO 12 INCHES FROM WALL OR GLASS SO THAT ENTIRE WALL AND GLASS SURFACE IS WETTED UPON SPRINKLER ACTIVATION, IN ACCORDANCE WITH IBC SECTION 3104.5, EXCEPTION 1.1, AND 903.3.1.1. REFER TO SHEET GI103 FOR EXTENT OF WALLS THAT REQUIRE THIS PROTECTION.

GENERAL NOTES

A. COORDINATE VERTICAL SPACE ABOVE CEILINGS WITH ALL OTHER TRADES. REFER TO VERTICAL SPACE ALLOCATON DIAGRAMS ON SHEET METAL AND HVAC PIPING FLOOR PLANS.

B. PROVIDE EXPRESS DRAIN AND FLOOR CONTROL VALVE ON EACH FLOOR.

KEY PLAN:



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COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvineng@eng.com

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UTAH VALLEY UVU UNIVERSITY

State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:
UVU Classroom Building

800 University Way
Orem, UT 84058

project#: DFCM #12192790
date: APRIL 30, 2013

revisions:
1 ADDENDUM #3 5.22.2013

title:
LEVEL 2 FIRE PROTECTION FLOOR PLAN

sheet:
FF102

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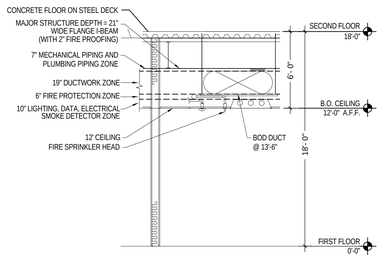
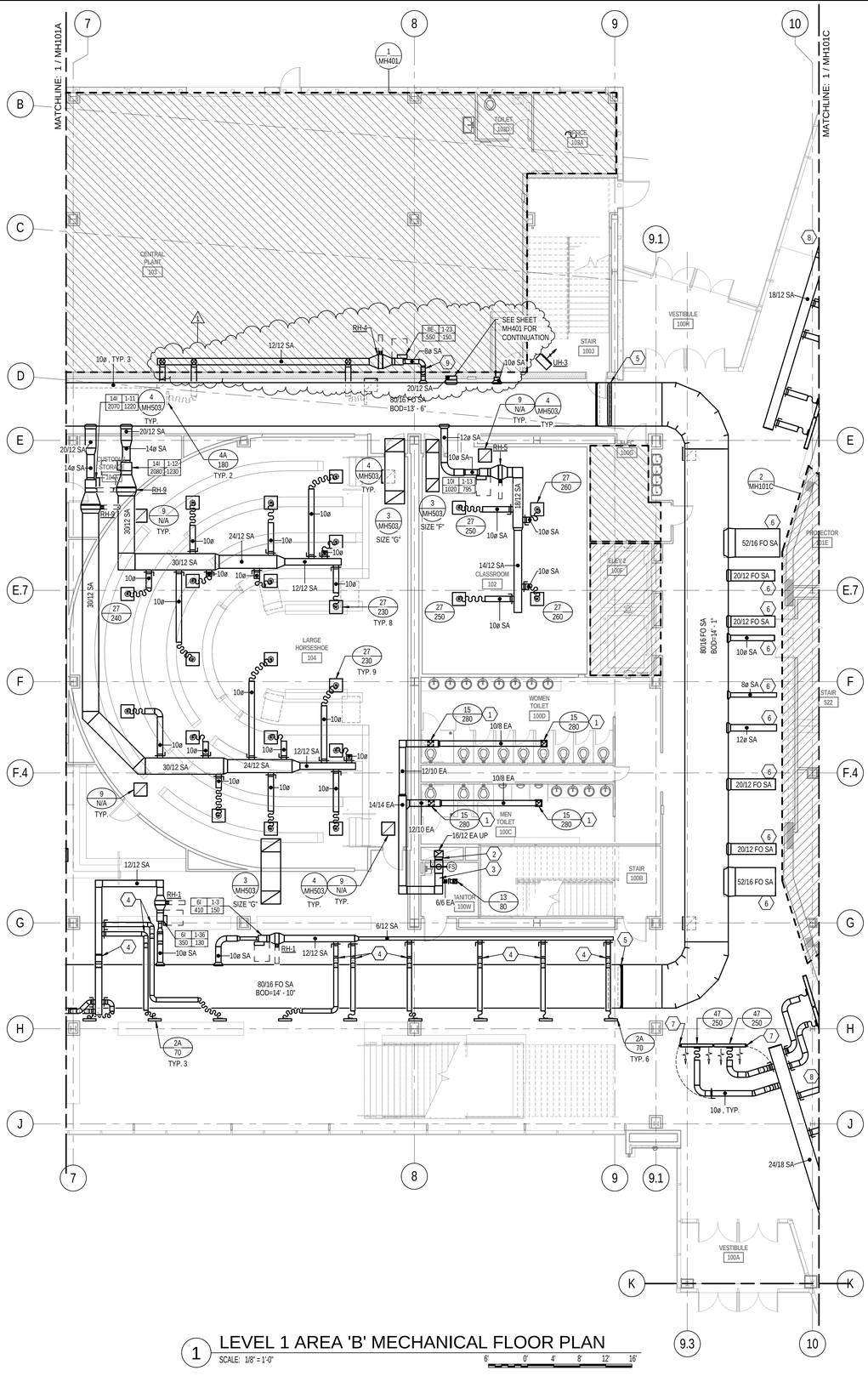


NOTE: EXTREMELY LIMITED SPACE IS AVAILABLE FOR TRADES TO INSTALL THEIR WORK. CAREFUL COORDINATION IS REQUIRED TO ASSURE THAT CROSS-OVER LINES ACTUALLY FIT IN ZONES ALLOTTED. ON OCCASION "FIRE PROTECTION ZONE" AND/OR "ELECTRICAL ZONE" MAY NEED TO TRANSITION UP INTO "STRUCTURAL ZONE" BETWEEN BEAMS AND GIRDERS. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE OF EACH TRADE TO PREVENT UTILITY LINE CONFLICTS. ** NOTE - DUCT TRAPEZE HANGER IS LOCATED IN THE FIRE PROTECTION PIPING ZONE. DO NOT ROUTE FIRE PROTECTION PIPING PARALLEL TO DUCT IN THE AREA DIRECTLY BELOW THE DUCT.

LEVEL 1 - VERTICAL SPACE ALLOCATION SECTION



1 LEVEL 1 AREA 'B' MECHANICAL FLOOR PLAN

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

KEYED NOTES

1. PROVIDE BALANCING DAMPER IN VERTICAL DUCT OFF OF EXHAUST GRILLE.
2. PROVIDE HIGH EFFICIENCY TAKE-OFF AT EXHAUST DUCT CONNECTION TO RISER.
3. PROVIDE 12"X12" DUCT ACCESS DOOR IN BOTTOM OF DUCT. LOCATE SO THAT FIRE/SMOKE DAMPER POSITION IS VISIBLE WHEN DOOR IS OPENED. FIRE/SMOKE DAMPERS SHALL BE RUSKIN MODEL FSD60-3, OR EQUAL.
4. OFFSET DUCT WITH TWO 45º ELBOWS ABOVE SUPPLY DUCT WORK AT THIS APPROXIMATE LOCATION.
5. OFFSET DUCT WITH TWO 45º ELBOWS TO MEET ELEVATION AS CALLED OUT ON PLAN.
6. SEE VIEW 2 SHEET MH101C FOR CONTINUATION OF DUCT.
7. REMOTE DAMPER CONTROL TO BE PROVIDED FOR THIS DIFFUSER. BALANCING DAMPER TO BE LOCATED AS FAR UPSTREAM FROM GRILLE AS POSSIBLE BUT MUST ACCOMODATE THE STANDARD 8' LONG DAMPER CONTROL CABLE. REMOTE CONTROL RECEPTACLE TO BE MOUNTED IN BLANK OFF PLATE IN CEILING NEXT TO DIFFUSER PER ARCHITECTURAL DETAIL B3/AE523. RECEPTACLE COVER TO BE PAINTED FLAT BLACK.
8. SEE VIEW 1 SHEET MH101C FOR CONTINUATION OF DUCT.
9. OFFSET DUCT UP AND RUN TIGHT TO STRUCTURE.

GENERAL NOTES

A. DUCTWORK ELEVATION IS PER VERTICAL SPACE ALLOCATION SECTION ON EACH SHEET UNLESS NOTED OTHERWISE ON THE PLAN. PROVIDE OFFSETS AS NECESSARY.

B. DO NOT ROUTE ANY DUCTWORK ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

C. ALL EXHAUST DUCTWORK INSIDE RATED SHAFT SHALL BE PROVIDED WITH 1/2" DUCT LINER. ALL OTHER RECTANGULAR EXHAUST DUCTWORK UPSTREAM FROM THE RISER TAKE-OFF SHALL BE PROVIDED WITH 1" DUCT LINER.

D. PROVIDE A SOUND BOOT ATOP ALL RETURN AIR GRILLES IN ACCORDANCE WITH DETAIL 4/MH503.

E. THE DASHED LINES NEXT TO THE VAV BOX INDICATE REQUIRED SERVICE CLEARANCES FOR THE BOX. CLEARANCES SHALL COMPLY WITH NETA 110.26 REQUIREMENTS. PROVIDE 30" X 36" CLEAR IN FRONT OF BOXES DOWN TO CEILING. THIS AREA MUST BE KEPT CLEAR OF ALL EQUIPMENT FROM ALL TRADES TO ALLOW ACCESS TO SERVICE THE BOX. THIS IS TYPICAL FOR ALL VAV BOXES AND RE-HEAT COILS.

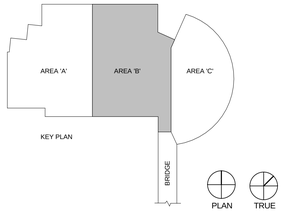
F. SUPPLY AIR DUCT FROM AIR HANDLER IN PENTHOUSE IS DOUBLE-WALL FROM THE POINT IT CONNECTS TO THE AIR HANDLER, ALONG ITS ENTIRE LENGTH IN THE SHAFT, TO A POINT APPROXIMATELY 8'-0" BEYOND FIRE/SMOKE DAMPER AT EACH LEVEL.

G. INSTALL VAV BOXES IN ACCORDANCE WITH DETAIL 1 ON SHEET MH503.

H. INSTALL DUCT MOUNTED HEATING COIL IN ACCORDANCE WITH DETAIL 9 ON MH502.

J. TRANSFER AIR DUCTS ARE TO BE INSTALLED IN ALL OFFICES AND CLASSROOMS WHERE WALLS EXTEND UP TO DECK. SEE DETAIL 3 ON SHEET MH503 FOR SIZES. INSTALL TRANSFER DUCTS ABOVE SUPPLY DUCT ELEVATION SO THAT THE OPENINGS IN THE TOP ARE NO LESS THAT 12" BELOW DECK UNLESS OTHERWISE NOTED.

KEY PLAN:



COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
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4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHODSTUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

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LEVEL 1 AREA 'B' MECHANICAL FLOOR PLAN

sheet:
MH101B

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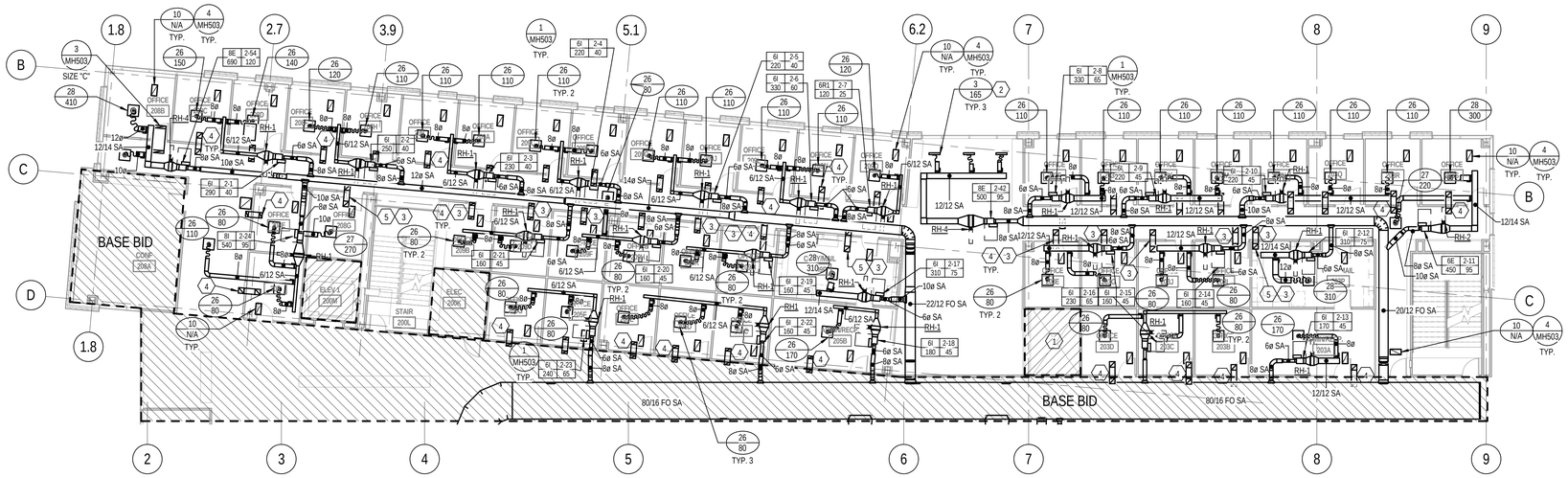
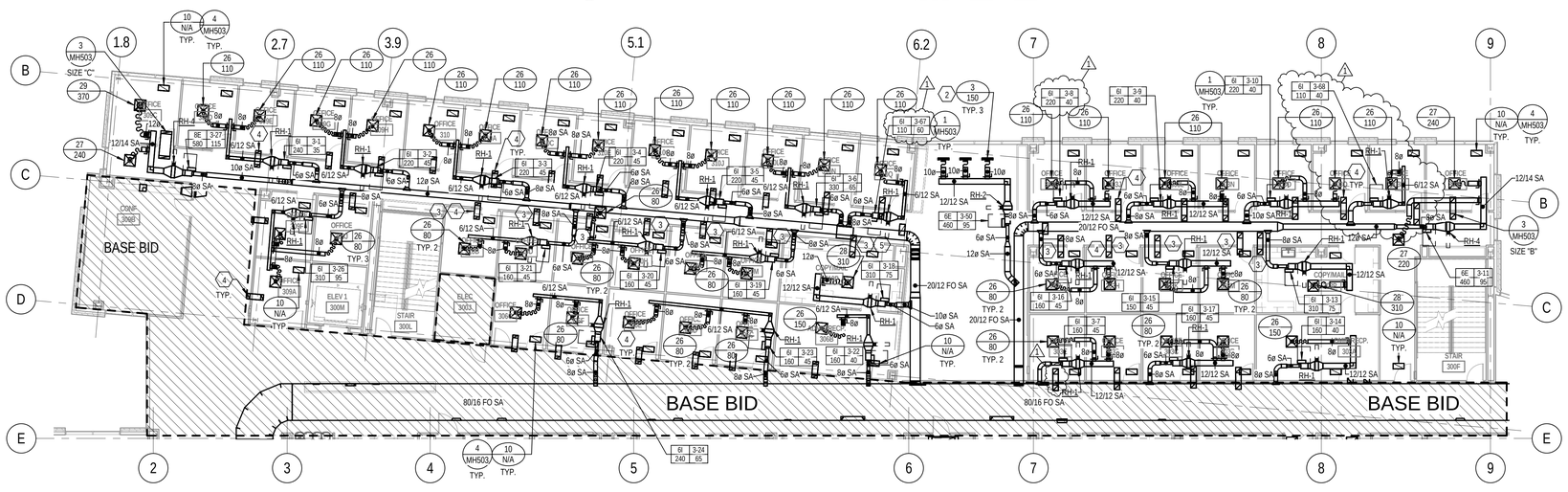


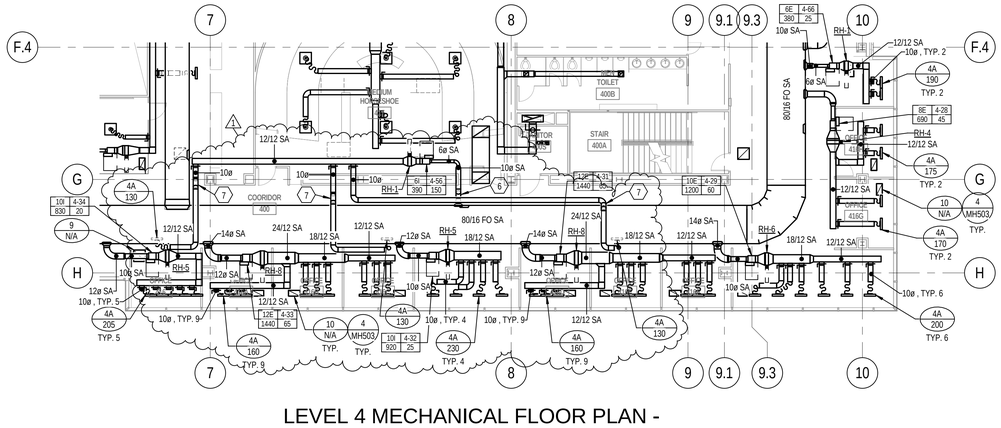
LEVEL 2 MECHANICAL FLOOR PLAN - ALTERNATE

1 SCALE: 3/32" = 1'-0"



LEVEL 3 MECHANICAL FLOOR PLAN - ALTERNATE

2 SCALE: 3/32" = 1'-0"



LEVEL 4 MECHANICAL FLOOR PLAN - ALTERNATE

3 SCALE: 3/32" = 1'-0"

KEYED NOTES

1. DO NOT ROUTE ANY DUCT OR PLUMBING PIPING IN THIS SHAFT/OPENING.
2. DIRECT ONE SLOT TOWARDS THE WINDOW AND ALL OTHER SLOTS TOWARDS THE SPACE AT THIS LOCATION.
3. TRANSFER AIR DUCT IS TO BE INSTALLED TIGHT TO STRUCTURE AT THIS APPROXIMATE LOCATION. COORDINATE WITH STRUCTURE AND SUPPLY AIR DUCT IN THIS AREA. OPENINGS IN THE TOP OF TRANSFER DUCT ARE TO BE ON EITHER SIDE OF THE BEAM SO THAT THE BEAM DOES NOT OBSTRUCT AIR FLOW INTO OR OUT OF THE DUCT.
4. ALL TRANSER AIR DUCT IN BID ALTERNATE TO BE SIZE 'A' UNLESS OTHERWISE NOTED. SEE DETAIL 3, SIZE 'A' ON SHEET MH503 FOR TRANSFER AIR DUCT SIZES.
5. SEE DETAIL 3, SIZE 'B' ON SHEET MH503 FOR TRANSFER AIR DUCT SIZES.
6. OFFSET MEDIUM PRESSURE DUCT UP WITH TWO 45º ELBOWS TO AVOID LIGHT COVE AT PERIMETER OF CORRIDOR.
7. OFFSET DUCT WITH TWO 45º ELBOWS ABOVE SUPPLY DUCT WORK AT THIS APPROXIMATE LOCATION.

GENERAL NOTES

A. DUCTWORK ELEVATION IS PER VERTICAL SPACE ALLOCATION SECTION ON EACH SHEET UNLESS NOTED OTHERWISE ON THE PLAN. PROVIDE OFFSETS AS NECESSARY.

B. DO NOT ROUTE ANY DUCTWORK ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

C. ALL EXHAUST DUCTWORK INSIDE RATED SHAFT SHALL BE PROVIDED WITH 1/2" DUCT LINER. ALL OTHER RECTANGULAR EXHAUST DUCTWORK UPSTREAM FROM THE RISER TAKE-OFF SHALL BE PROVIDED WITH 1" DUCT LINER.

D. PROVIDE A SOUND BOOT ATOP ALL RETURN AIR GRILLES IN ACCORDANCE WITH DETAIL 4/MH503.

E. THE DASHED LINES NEXT TO THE VAV BOX INDICATE REQUIRED SERVICE CLEARANCES FOR THE BOX. CLEARANCES SHALL COMPLY WITH NETA 110.26 REQUIREMENTS. PROVIDE 30" X 36" CLEAR IN FRONT OF BOXES DOWN TO CEILING. THIS AREA MUST BE KEPT CLEAR OF ALL EQUIPMENT FROM ALL TRADES TO ALLOW ACCESS TO SERVICE THE BOX. THIS IS TYPICAL FOR ALL VAV BOXES AND RE-HEAT COILS.

F. SUPPLY AIR DUCT FROM AIR HANDLER IN PENTHOUSE IS DOUBLE-WALL FROM THE POINT IT CONNECTS TO THE AIR HANDLER, ALONG ITS ENTIRE LENGTH IN THE SHAFT, TO A POINT APPROXIMATELY 8'-0" BEYOND FIRE/SMOKE DAMPER AT EACH LEVEL.

G. INSTALL VAV BOXES IN ACCORDANCE WITH DETAIL 1 ON SHEET MH503.

H. INSTALL DUCT MOUNTED HEATING COIL IN ACCORDANCE WITH DETAIL 9 ON MH502.

J. TRANSFER AIR DUCTS ARE TO BE INSTALLED IN ALL OFFICES AND CLASSROOMS WHERE WALLS EXTEND UP TO DECK. SEE DETAIL 3 ON SHEET MH503 FOR SIZES. INSTALL TRANSFER DUCTS ABOVE SUPPLY DUCT ELEVATION SO THAT THE OPENINGS IN THE TOP ARE NO LESS THAT 12" BELOW DECK UNLESS OTHERWISE NOTED.

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title:
LEVELS 2, 3 & 4 ALTERNATE MECHANICAL FLOOR PLANS

sheet:
MH102.1

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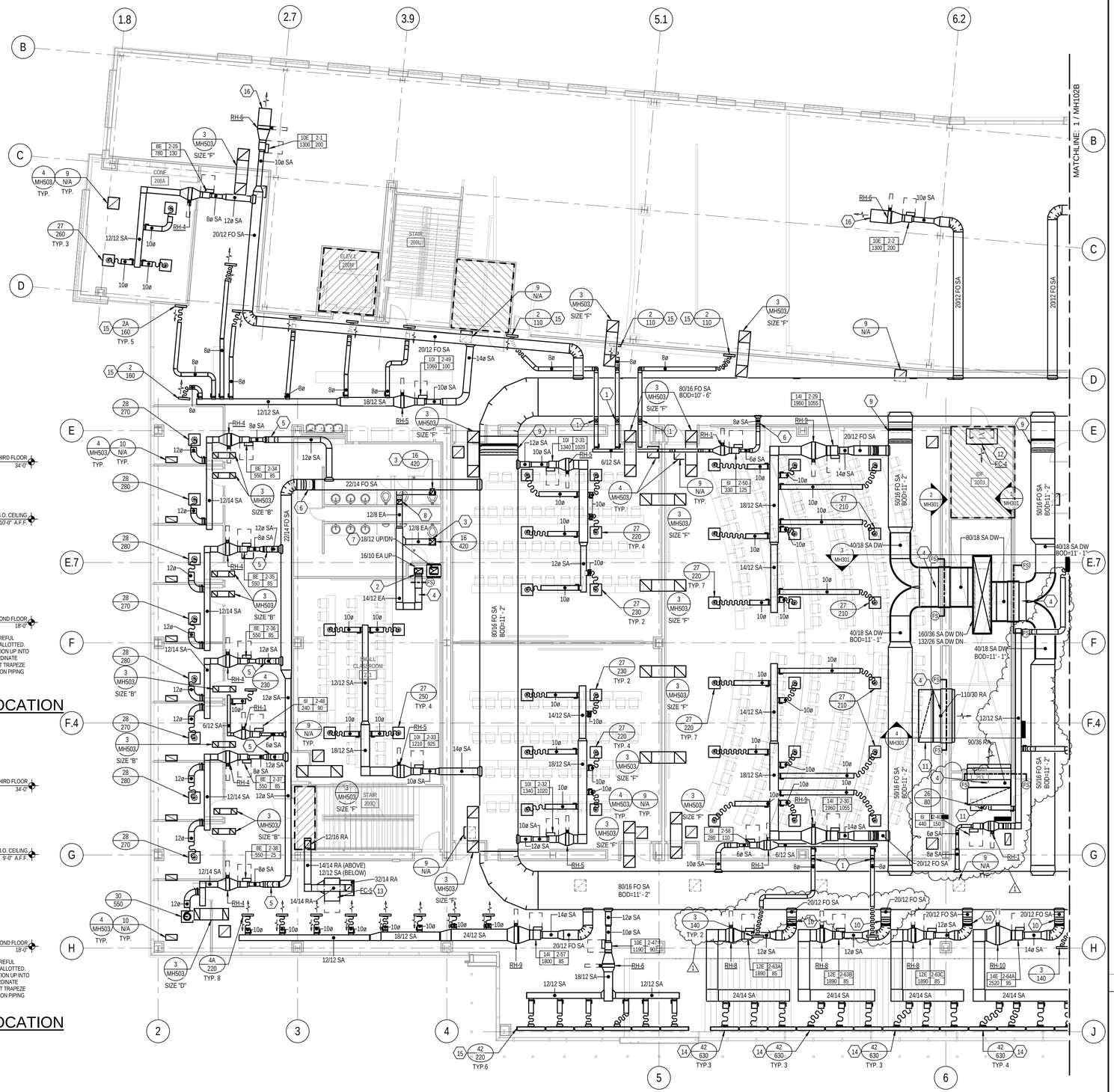
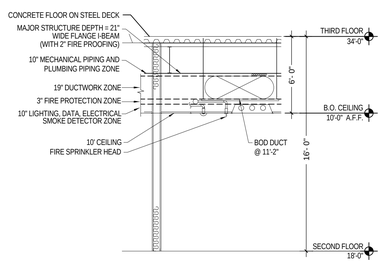


1 LEVEL 2 AREA 'A' MECHANICAL FLOOR PLAN

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



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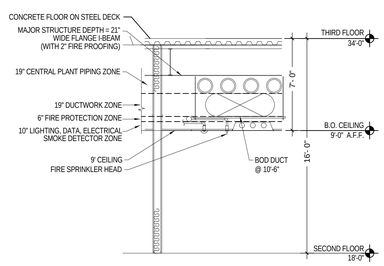
LEVEL 2 - VERTICAL SPACE ALLOCATION SECTION



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LEVEL 2 - VERTICAL SPACE ALLOCATION IN NORTH HALLWAY SECTION

KEYED NOTES

1. OFFSET DUCT WITH TWO 45º ELBOWS ABOVE SUPPLY DUCT WORK AT THIS APPROXIMATE LOCATION.
2. PROVIDE HIGH EFFICIENCY TAKE-OFF AT EXHAUST DUCT CONNECTION TO RISER.
3. PROVIDE BALANCING DAMPER IN VERTICAL DUCT OFF OF EXHAUST GRILLE.
4. PROVIDE 12"X12" DUCT ACCESS DOOR IN BOTTOM OF DUCT. LOCATE SO THAT FIRE/SMOKE DAMPER POSITION IS VISIBLE WHEN DOOR IS OPENED. FIRE/SMOKE DAMPERS SHALL BE RUSKIN MODEL FSD60-3, OR EQUAL.
5. OFFSET DUCT WITH TWO 45º ELBOWS BELOW MECHANICAL PIPING AT THIS APPROXIMATE LOCATION. LOW PRESSURE DUCT, VAV BOXES AND RE-HEAT COILS ARE TO BE INSTALLED BELOW NEW CAMPUS MECHANICAL PIPES.
6. OFFSET MEDIUM PRESSURE DUCT UP WITH TWO 45º ELBOWS TO AVOID LIGHT COVE AT PERIMETER OF CORRIDOR.
7. GREASE EXHAUST DUCT RISER.
8. OFFSET DUCT WITH TWO 45º ELBOWS BELOW SUPPLY DUCT AT THIS APPROXIMATE LOCATION.
9. OFFSET DUCT WITH TWO 45º ELBOWS TO MEET ELEVATION AS CALLED OUT ON PLAN.
10. OFFSET DUCT WITH TWO 45º ELBOWS BELOW STRUCTURE AT THIS APPROXIMATE LOCATION.
11. CAP END OF RETURN AIR DUCT AND CREATE OPENING IN TOP OF DUCT THE SAME SIZE AS DUCT. PROVIDE MANUAL BALANCING DAMPER FOR ALL RETURN AIR DUCT PENETRATIONS INTO THE MECHANICAL SHAFT. LOCATE DAMPER ON TOP OF HORIZONTAL RETURN AIR DUCT. DAMPER TO BE SAME SIZE AS OPENING IN TOP OF DUCT. DAMPER IS PROVIDED FOR USE BY THE BALANCING CONTRACTOR TO BALANCE THE RETURN AIR FLOWS AND PRESSURES.
12. EXPOSED CABINET FAN COIL TO BE LOCATED ABOVE DOOR WITH BOTTOM OF EQUIPMENT AT 10' - 0" ABOVE FINISHED FLOOR.
13. FAN COIL TO BE LOCATED ABOVE CEILING WITH BOTTOM OF EQUIPMENT AT 11' - 0" ABOVE FINISHED FLOOR. PROVIDE RETURN AIR PLENUM AT INLET OF FAN COIL SAME SIZE AS RETURN AIR CONNECTION. TAP RETURN AIR DUCT IN TO TOP OF RETURN AIR PLENUM AND ROUTE ABOVE FAN COIL AND SUPPLY AIR DUCT IN TO IDF CLOSET. CAP END OF RETURN AIR DUCT AND CREATE 12" X 16" OPENING IN TOP OF DUCT INSIDE IDF CLOSET. SECURE OPENING WITH GALVANIZED WIRE MESH. CENTER OF SA DUCT TO BE AT 11' 10" AND CENTER OF RA TO BE AT 13' 6", PROVIDE GALVANIZED WIRE MESH SCREEN AT END OF SA DUCT AND SECURE FLUSH TO WALL WITH SCREWED FLANGED FRAME.
14. SLOTS ARE TO BE DIRECTED STRAIGHT DOWN TO WASH THE WINDOW AT THIS LOCATION.
15. DIRECT ALL SLOTS TOWARDS THE OPPOSITE WALL AT THIS LOCATION.
16. PROVIDE 36" OF DUCTWORK DOWN STREAM OF THE RE-HEAT COIL. DUCT SIZE TO MATCH COIL SIZE. LEAVE END OF DUCT OPEN.

GENERAL NOTES

A. DUCTWORK ELEVATION IS PER VERTICAL SPACE ALLOCATION SECTION ON EACH SHEET UNLESS NOTED OTHERWISE ON THE PLAN. PROVIDE OFFSETS AS NECESSARY.

B. DO NOT ROUTE ANY DUCTWORK ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

C. ALL EXHAUST DUCTWORK INSIDE RATED SHAFT SHALL BE PROVIDED WITH 1/2" DUCT LINER. ALL OTHER RECTANGULAR EXHAUST DUCTWORK UPSTREAM FROM THE RISER TAKE-OFF SHALL BE PROVIDED WITH 1" DUCT LINER.

D. PROVIDE A SOUND BOOT ATOP ALL RETURN AIR GRILLES IN ACCORDANCE WITH DETAIL 4/MH503.

E. THE DASHED LINES NEXT TO THE VAV BOX INDICATE REQUIRED SERVICE CLEARANCES FOR THE BOX. CLEARANCES SHALL COMPLY WITH NETA 110.26 REQUIREMENTS. PROVIDE 30" X 36" CLEAR IN FRONT OF BOXES DOWN TO CEILING. THIS AREA MUST BE KEPT CLEAR OF ALL EQUIPMENT FROM ALL TRADES TO ALLOW ACCESS TO SERVICE THE BOX. THIS IS TYPICAL FOR ALL VAV BOXES AND RE-HEAT COILS.

F. SUPPLY AIR DUCT FROM AIR HANDLER IN PENTHOUSE IS DOUBLE-WALL FROM THE POINT IT CONNECTS TO THE AIR HANDLER, ALONG ITS ENTIRE LENGTH IN THE SHAFT, TO A POINT APPROXIMATELY 8'-0" BEYOND FIRE/SMOKE DAMPER AT EACH LEVEL.

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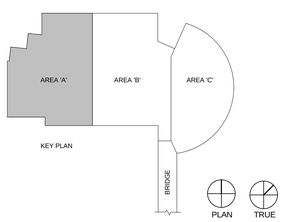

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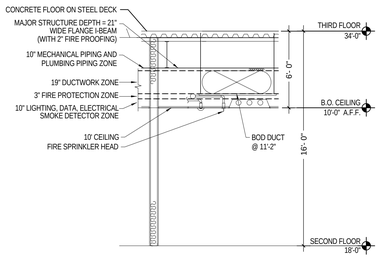

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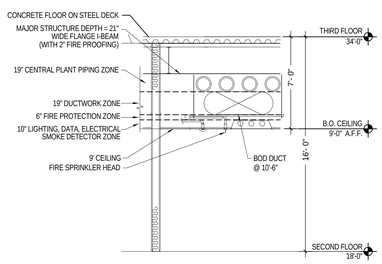

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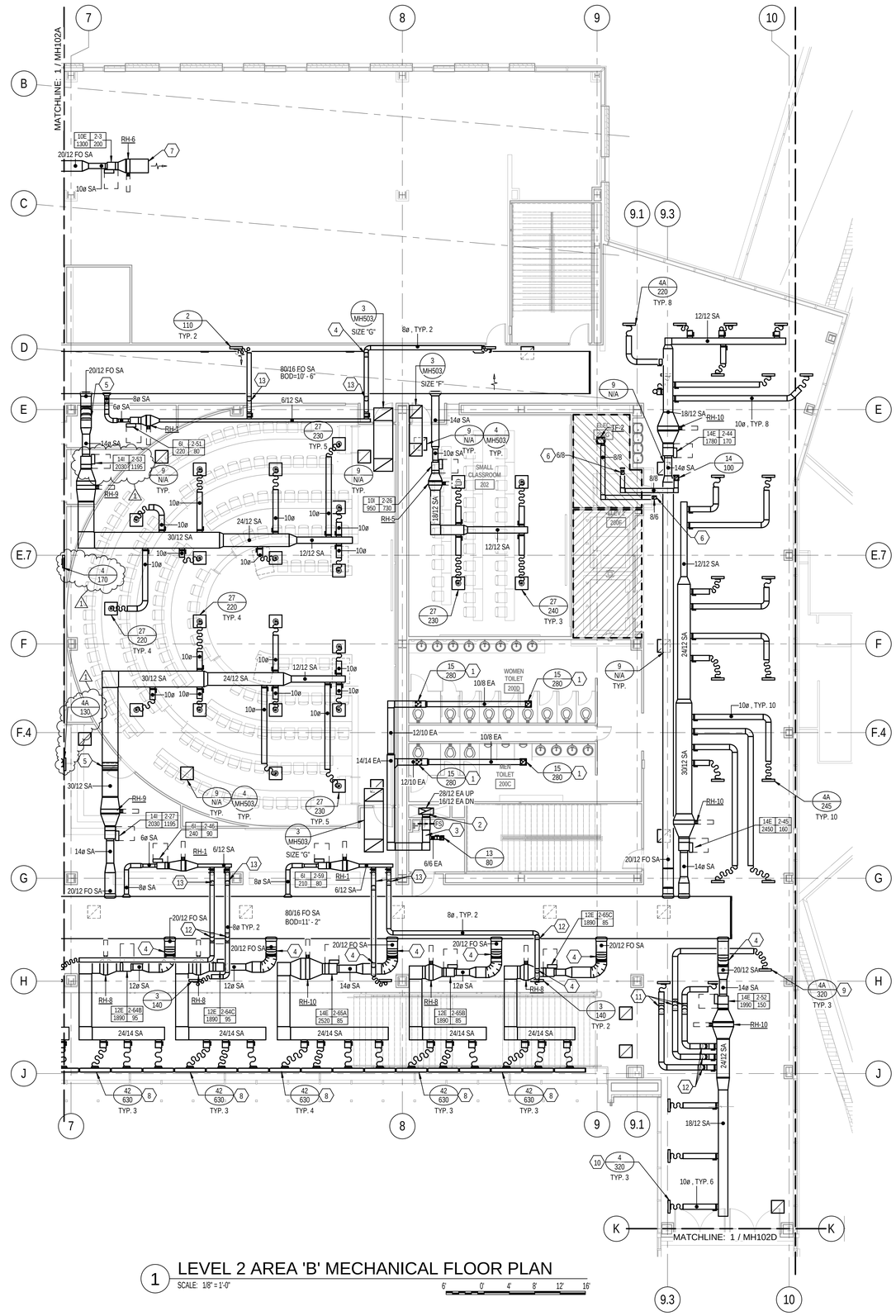
LEVEL 2 - VERTICAL SPACE ALLOCATION IN NORTH HALLWAY SECTION



1 LEVEL 2 AREA 'B' MECHANICAL FLOOR PLAN

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

KEYED NOTES

1. PROVIDE BALANCING DAMPER IN VERTICAL DUCT OFF OF EXHAUST GRILLE.
2. PROVIDE HIGH EFFICIENCY TAKE-OFF AT EXHAUST DUCT CONNECTION TO RISER.
3. PROVIDE 12"X12" DUCT ACCESS DOOR IN BOTTOM OF DUCT. LOCATE SO THAT FIRE/SMOKE DAMPER POSITION IS VISIBLE WHEN DOOR IS OPENED. FIRE/SMOKE DAMPERS SHALL BE RUSKIN MODEL FSD60-3, OR EQUAL.
4. OFFSET DUCT WITH TWO 45º ELBOWS BELOW STRUCTURE AT THIS APPROXIMATE LOCATION.
5. OFFSET DUCT UP HIGH ABOVE HIGH CEILING IN CLASSROOM WITH TWO 45º ELBOWS.
6. OPENING IN TOP OF DUCT. SECURE WIRE MESH OVER OPENING IN DUCT.
7. PROVIDE 36" OF DUCTWORK DOWN STREAM OF THE RE-HEAT COIL. DUCT SIZE TO MATCH COIL SIZE. LEAVE END OF DUCT OPEN.
8. SLOTS ARE TO BE DIRECTED STRAIGHT DOWN TO WASH THE WINDOW AT THIS LOCATION.
9. DIRECT TWO SLOTS ONE WAY AND TWO SLOTS THE OTHER WAY AT THIS LOCATION.
10. DIRECT ONE SLOT TOWARDS THE WINDOW AND ALL OTHER SLOTS TOWARDS THE SPACE AT THIS LOCATION.
11. OFFSET DUCT WITH TWO 45º ELBOWS ABOVE/BELOW ROOF/OVERFLOW DRAINS AT THIS APPROXIMATE LOCATION.
12. OFFSET DUCT WITH TWO 45º ELBOWS TO AVOID MECHANICAL PIPING. FIELD COORDINATE.
13. OFFSET DUCT WITH TWO 45º ELBOWS ABOVE SUPPLY DUCT WORK AT THIS APPROXIMATE LOCATION.

GENERAL NOTES

A. DUCTWORK ELEVATION IS PER VERTICAL SPACE ALLOCATION SECTION ON EACH SHEET UNLESS NOTED OTHERWISE ON THE PLAN. PROVIDE OFFSETS AS NECESSARY.

B. DO NOT ROUTE ANY DUCTWORK ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

C. ALL EXHAUST DUCTWORK INSIDE RATED SHAFT SHALL BE PROVIDED WITH 1/2" DUCT LINER. ALL OTHER RECTANGULAR EXHAUST DUCTWORK UPSTREAM FROM THE RISER TAKE-OFF SHALL BE PROVIDED WITH 1" DUCT LINER.

D. PROVIDE A SOUND BOOT ATOP ALL RETURN AIR GRILLES IN ACCORDANCE WITH DETAIL 4/MH503.

E. THE DASHED LINES NEXT TO THE VAV BOX INDICATE REQUIRED SERVICE CLEARANCES FOR THE BOX. CLEARANCES SHALL COMPLY WITH NETA 110.26 REQUIREMENTS. PROVIDE 30" X 36" CLEAR IN FRONT OF BOXES DOWN TO CEILING. THIS AREA MUST BE KEPT CLEAR OF ALL EQUIPMENT FROM ALL TRADES TO ALLOW ACCESS TO SERVICE THE BOX. THIS IS TYPICAL FOR ALL VAV BOXES AND RE-HEAT COILS.

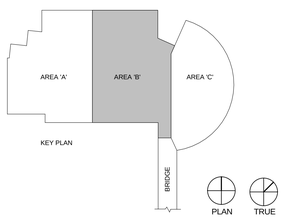
F. SUPPLY AIR DUCT FROM AIR HANDLER IN PENTHOUSE IS DOUBLE-WALL FROM THE POINT IT CONNECTS TO THE AIR HANDLER, ALONG ITS ENTIRE LENGTH IN THE SHAFT, TO A POINT APPROXIMATELY 8'-0" BEYOND FIRE/SMOKE DAMPER AT EACH LEVEL.

G. INSTALL VAV BOXES IN ACCORDANCE WITH DETAIL 1 ON SHEET MH503.

H. INSTALL DUCT MOUNTED HEATING COIL IN ACCORDANCE WITH DETAIL 9 ON MH502.

J. TRANSFER AIR DUCTS ARE TO BE INSTALLED IN ALL OFFICES AND CLASSROOMS WHERE WALLS EXTEND UP TO DECK. SEE DETAIL 3 ON SHEET MH503 FOR SIZES. INSTALL TRANSFER DUCTS ABOVE SUPPLY DUCT ELEVATION SO THAT THE OPENINGS IN THE TOP ARE NO LESS THAT 12" BELOW DECK UNLESS OTHERWISE NOTED.

KEY PLAN:



COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvinengineering.com

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4110 State Office Building
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Phone: (801) 538 - 3018
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649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

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project:
UVU Classroom Building

800 University Way
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project#: DFCM #12192790
date: APRIL 30, 2013

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title:
LEVEL 2 AREA 'B' MECHANICAL FLOOR PLAN

sheet:
MH102B

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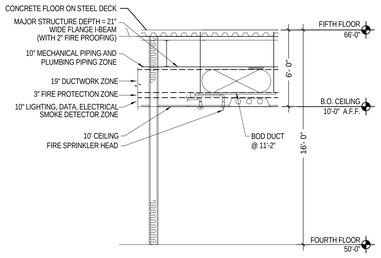
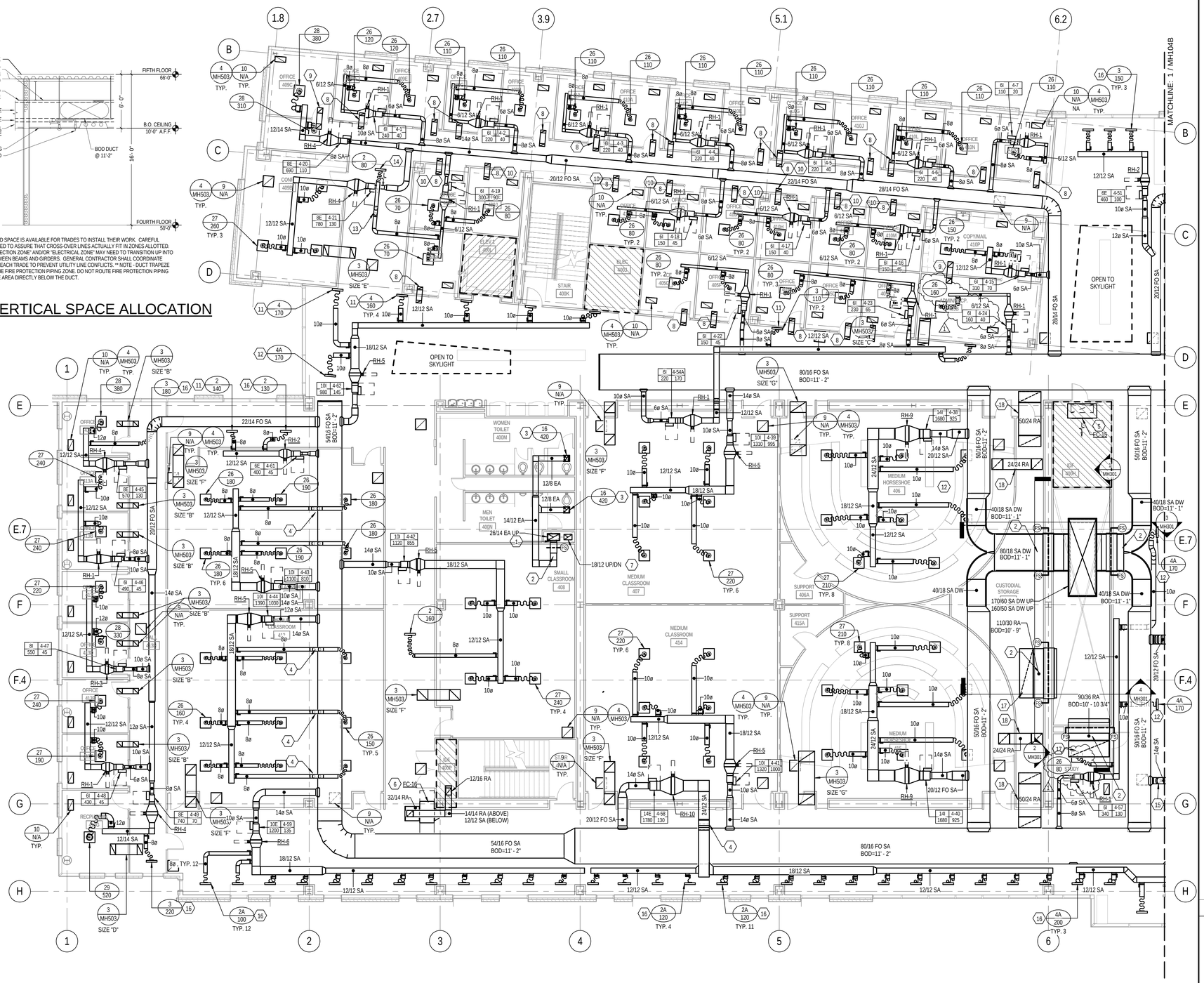


NOTE: EXTREMELY LIMITED SPACE IS AVAILABLE FOR TRADES TO INSTALL THEIR WORK. CAREFUL COORDINATION IS REQUIRED TO ASSURE THAT CROSS-OVER LINES ACTUALLY FIT IN ZONES ALLOTTED. ON OCCASION "FIRE PROTECTION ZONE" AND/OR "ELECTRICAL ZONE" MAY NEED TO TRANSITION UP INTO "STRUCTURAL ZONE" BETWEEN BEAMS AND GIRDERS. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE OF EACH TRADE TO PREVENT UTILITY LINE CONFLICTS. ** NOTE - DUCT TRAPEZE HANGER IS LOCATED IN THE FIRE PROTECTION PIPING ZONE. DO NOT ROUTE FIRE PROTECTION PIPING PARALLEL TO DUCT IN THE AREA DIRECTLY BELOW THE DUCT.

LEVEL 4 - VERTICAL SPACE ALLOCATION SECTION



1 LEVEL 4 AREA 'A' MECHANICAL FLOOR PLAN

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

KEYED NOTES

1. PROVIDE HIGH EFFICIENCY TAKE-OFF AT EXHAUST DUCT CONNECTION TO RISER.
2. PROVIDE 12"X12" DUCT ACCESS DOOR IN BOTTOM OF DUCT. LOCATE SO THAT FIRE/SMOKE DAMPER POSITION IS VISIBLE WHEN DOOR IS OPENED. FIRE/SMOKE DAMPERS SHALL BE RUSKIN MODEL FSD60-3, OR EQUAL.
3. PROVIDE BALANCING DAMPER IN VERTICAL DUCT OFF OF EXHAUST GRILLE.
4. OFFSET DUCT WITH TWO 45º ELBOWS ABOVE SUPPLY DUCT WORK AT THIS APPROXIMATE LOCATION.
5. EXPOSED CABINET FAN COIL TO BE LOCATED ABOVE DOOR WITH BOTTOM OF EQUIPMENT AT 10' - 0" ABOVE FINISHED FLOOR.
6. FAN COIL TO BE LOCATED ABOVE CEILING WITH BOTTOM OF EQUIPMENT AT 11' - 0" ABOVE FINISHED FLOOR. PROVIDE RETURN AIR PLENUM AT INLET OF FAN COIL SAME SIZE AS RETURN AIR CONNECTION. TAP RETURN AIR DUCT IN TO TOP OF RETURN AIR PLENUM AND ROUTE ABOVE FAN COIL AND SUPPLY AIR DUCT IN TO IDF CLOSET. CAP END OF RETURN AIR DUCT AND CREATE 12" X 16" OPENING IN TOP OF DUCT INSIDE IDF CLOSET. SECURE OPENING WITH GALVANIZED WIRE MESH. CENTER OF SA DUCT TO BE AT 11' 10" AND CENTER OF RA TO BE AT 13' 6". PROVIDE GALVANIZED WIRE MESH SCREEN AT END OF SA DUCT AND SECURE FLUSH TO WALL WITH SCREWED FLANGED FRAME.
7. GREASE EXHAUST DUCT RISER.
8. SEE DETAIL 3, SIZE 'A' ON SHEET MH503 FOR TRANSFER AIR DUCT SIZES.
9. SEE DETAIL 3, SIZE 'B' ON SHEET MH503 FOR TRANSFER AIR DUCT SIZES.
10. TRANSFER AIR DUCT IS TO BE INSTALLED TIGHT TO STRUCTURE AT THIS APPROXIMATE LOCATION. COORDINATE WITH STRUCTURE AND SUPPLY AIR DUCT IN THIS AREA. OPENINGS IN THE TOP OF TRANSFER DUCT ARE TO BE ON EITHER SIDE OF THE BEAM SO THAT THE BEAM DOES NOT OBSTRUCT AIR FLOW INTO OR OUT OF THE DUCT.
11. DIRECT ALL SLOTS TOWARDS THE OPPOSITE WALL AT THIS LOCATION.
12. DIRECT TWO SLOTS ONE WAY AND TWO SLOTS THE OTHER WAY AT THIS LOCATION.
13. OFFSET DUCT UP WITH TWO 45º ELBOWS OVER VAV BOX AND REHEAT COIL CLEARANCE AREAS.
14. DIRECT ALL SLOTS THE SAME DIRECTION AT THIS LOCATION. SEE FLOW ARROW.
15. OFFSET MEDIUM PRESSURE DUCT UP WITH TWO 45º ELBOWS TO AVOID LIGHT COVE AT PERIMETER OF CORRIDOR.
16. DIRECT ONE SLOT TOWARDS THE WINDOW AND ALL OTHER SLOTS TOWARDS THE SPACE AT THIS LOCATION.
17. CAP END OF RETURN AIR DUCT AND CREATE OPENING IN TOP OF DUCT THE SAME SIZE AS DUCT. PROVIDE MANUAL BALANCING DAMPER FOR ALL RETURN AIR DUCT PENETRATIONS INTO THE MECHANICAL SHAFT. LOCATE DAMPER ON TOP OF HORIZONTAL RETURN AIR DUCT. DAMPER TO BE SAME SIZE AS OPENING IN TOP OF DUCT. DAMPER IS PROVIDED FOR USE BY THE BALANCING CONTRACTOR TO BALANCE THE RETURN AIR FLOWS AND PRESSURES.
18. CAP ENDS OF RETURN AIR DUCT AND CREATE OPENING IN TOP OF DUCT THE SAME SIZE AS DUCT AT EACH END.

GENERAL NOTES

A. DUCTWORK ELEVATION IS PER VERTICAL SPACE ALLOCATION SECTION ON EACH SHEET UNLESS NOTED OTHERWISE ON THE PLAN. PROVIDE OFFSETS AS NECESSARY.

B. DO NOT ROUTE ANY DUCTWORK ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

C. ALL EXHAUST DUCTWORK INSIDE RATED SHAFT SHALL BE PROVIDED WITH 1/2" DUCT LINER. ALL OTHER RECTANGULAR EXHAUST DUCTWORK UPSTREAM FROM THE RISER TAKE-OFF SHALL BE PROVIDED WITH 1" DUCT LINER.

D. PROVIDE A SOUND BOOT ATOP ALL RETURN AIR GRILLES IN ACCORDANCE WITH DETAIL 4/MH503.

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F. SUPPLY AIR DUCT FROM AIR HANDLER IN PENTHOUSE IS DOUBLE-WALL FROM THE POINT IT CONNECTS TO THE AIR HANDLER, ALONG ITS ENTIRE LENGTH IN THE SHAFT, TO A POINT APPROXIMATELY 8'-0" BEYOND FIRE/SMOKE DAMPER AT EACH LEVEL.

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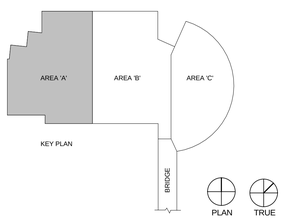

COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvingineering.com

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CRSA ARCHITECTS
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salt lake city, utah 84102
phone:(801) 355-5915

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LEVEL 4 MECHANICAL FLOOR PLAN AREA A

sheet:
MH104A

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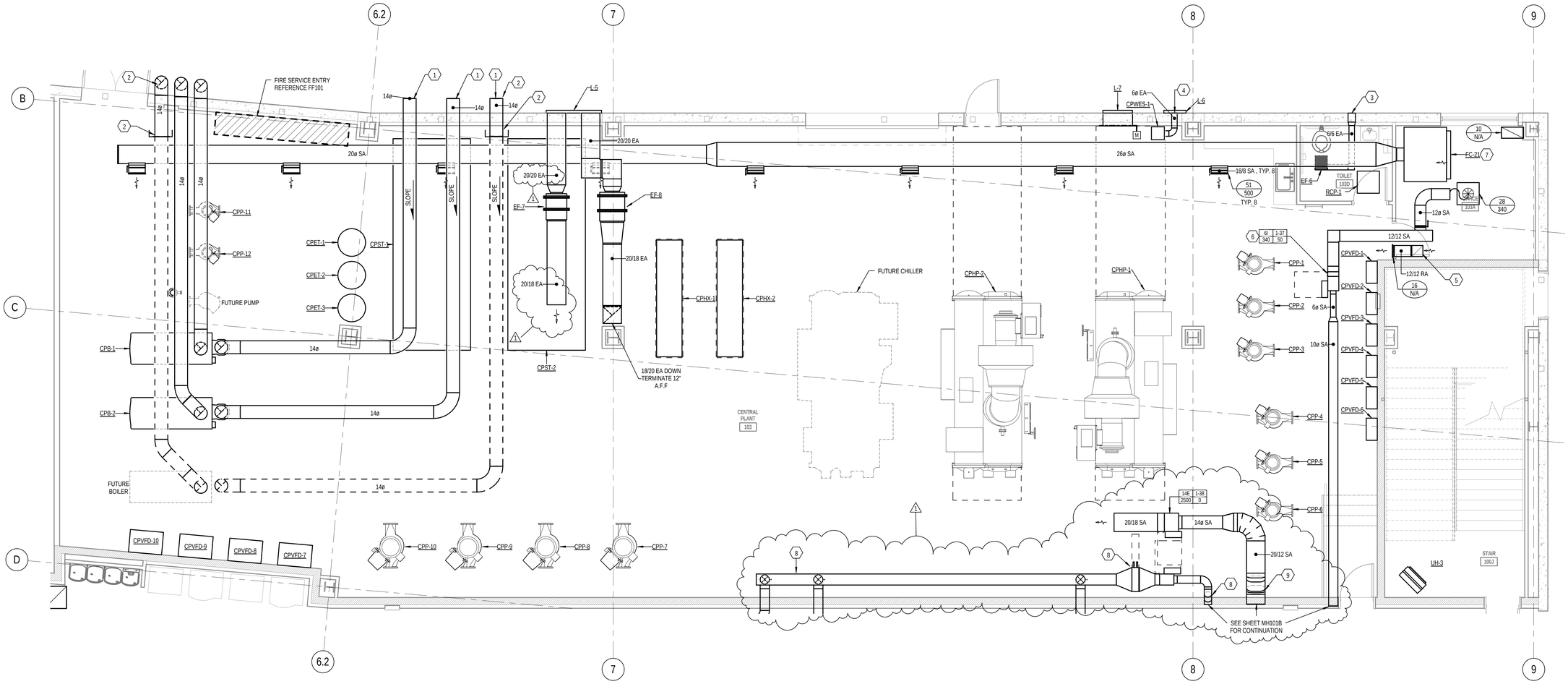


1 ENLARGED MECHANICAL CENTRAL PLANT

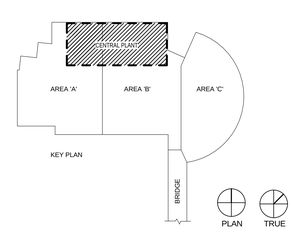
SCALE: 1/4" = 1'-0"

3' 0' 2' 4' 6' 8'

KEYED NOTES

1. SLOPE FLUE PIPE 1/4" PER 1' TOWARD BOILERS. USE TYPE 304 STAINLESS STEEL FOR OUTER JACKET OF FLUE FOR EXTERIOR PORTION, STARTING 1 FOOT INSIDE THE EXTERIOR WALL.
2. CAP ENDS OF FLUE AND COMBUSTION INTAKE. CAPS TO BE REMOVED UPON INSTALLATION OF FUTURE BOILER.
3. PROVIDE WALL CAP COOK MODEL WCG-2 WITH BIRD SCREEN.
4. PROVIDE SECURED GALVANIZED WIRE MESH SCREEN AT END OF DUCT.
5. LOCATE TRANSFER GRILLE AND DUCT AT 12' AFF. CAP END OF DUCT AND CREATE OPENING IN TOP OF DUCT WITH SAME DIMENSIONS AS DUCT SIZE. SECURE WIRE MESH OVER OPENING. ALL DUCT TO BE LINED WITH 1" LINER.
6. LOCATE VAV-1-37 WITH BOTTOM OF BOX AT 10' AFF.
7. FC-21 TO BE MOUNTED ABOVE OFFICE 103A ON MEZZANINE. RETURN OPENING IN TO FAN COIL UNIT TO REMAIN OPEN TO CENTRAL PLANT MR.
8. DUCTWORK, VAV, AND REHEAT COIL SHOWN HERE SERVING NORTH CORRIDOR ON LEVEL 1. SEE SHEET MH101B FOR LOCATION.
9. OFFSET DUCT UP AND RUN TIGHT TO STRUCTURE.

KEY PLAN:



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ENLARGED MECHANICAL CENTRAL PLANT

sheet:
MH401

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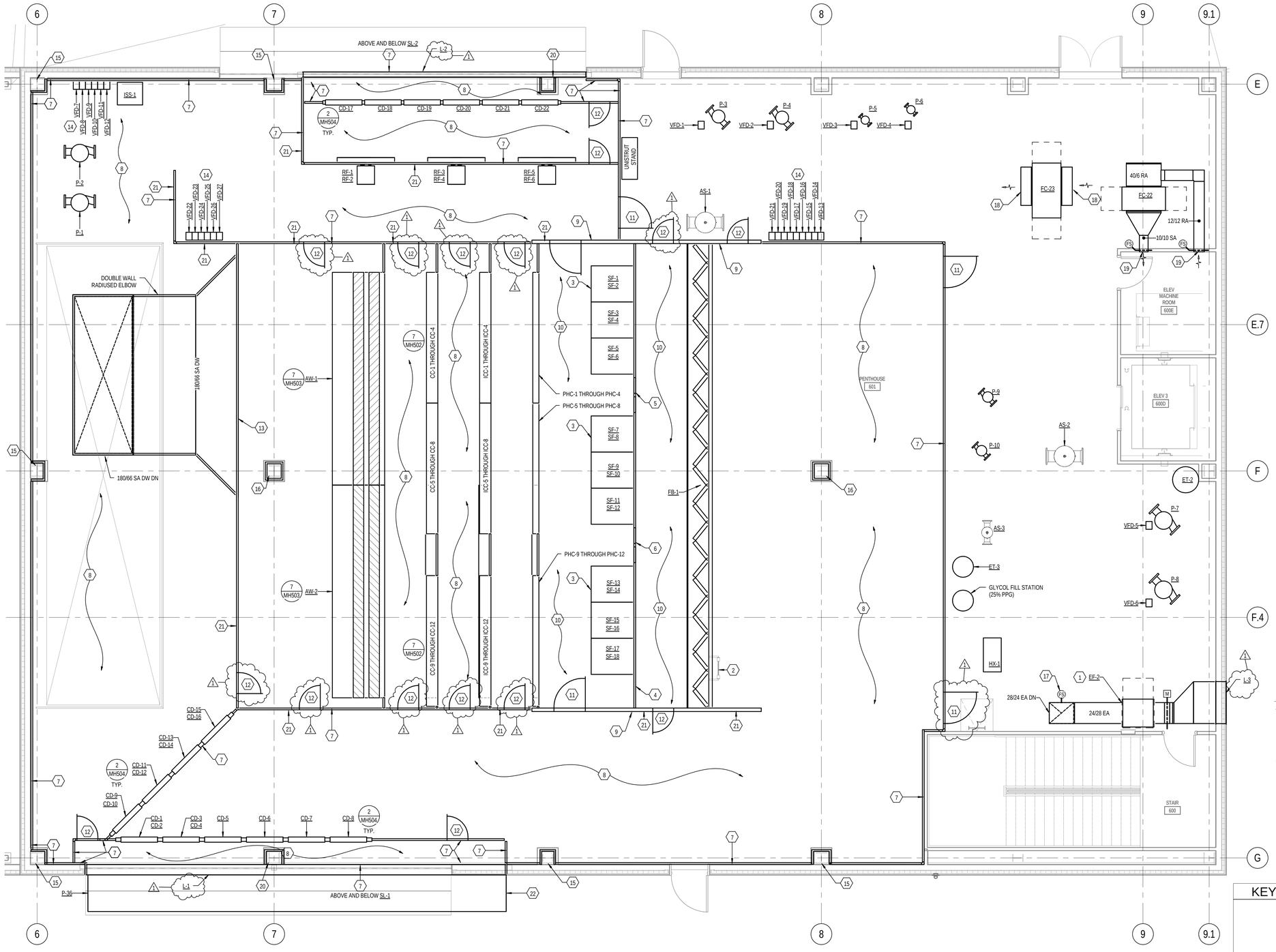


1 ENLARGED PENTHOUSE MECHANICAL PLAN

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

3' 0' 2' 4' 6' 8'

KEYED NOTES

1. MOUNT EXHAUST FAN UP HIGH, SUSPENDED FROM STRUCTURE IN PENTHOUSE. PROVIDE FLEXIBLE DUCT FITTINGS AT FAN CONNECTIONS. ROUTE EXHAUST DUCT TO STORM LOUVER AT EXTERIOR WALL OF PENTHOUSE. BOTTOM OF STORM LOUVER IS AT 13'1" ABOVE FINISHED PENTHOUSE FLOOR. COORDINATE EXACT LOCATION WITH GENERAL CONTRACTOR.
2. PROVIDE LADDER ON ROLLERS TO ACCESS ALL ROWS OF FILTERS. INSTALL STEEL CHANNEL 12" BELOW LID OF AH-1 AND FASTEN LADDER TO CHANNEL WITH UNISTRUT TROLLEY ROLLERS, ALSO PROVIDE CASTERS AT BOTTOM OF LADDER, AND SET LADDER AT 15º FROM HORIZONTAL. MAINTENANCE PERSONNEL SHALL ROLL LADDER FROM ONE SIDE OF AH-1 TO OPPOSITE SIDE SO AS TO POSITION IT AS NECESSARY TO REPLACE ANY FILTER IN THE RACK.
3. INSTALL FAN ARRAYS ON 4" TALL HOUSEKEEPING PADS.
4. 2" THICK DOUBLE-WALL CASING WITH PERFORATED SHEET METAL WALL FACING DOWNSTREAM/TOWARDS COILS SHALL BE PROVIDED FOR FAN PLENUM SEPTUM WALL.
5. PROVIDE TEN INDIVIDUAL 18" X 18" PRESSURE RELIEF DOORS WITH END SWITCHES. LOCATE BETWEEN THE NORTH AND MIDDLE GROUPS OF FAN ARRAYS AND STACK TWO WIDE BY FIVE TALL, WITH BOTTOM OF LOWEST DOOR 24" ABOVE FINISHED FLOOR.
6. PROVIDE NINE INDIVIDUAL18" X 18" PRESSURE RELIEF DOORS WITH END SWITCHES. LOCATE BETWEEN THE MIDDLE AND SOUTH GROUPS OF FAN ARRAYS, CONFIGURED IN TWO COLUMNS WITH 5 DOORS IN ONE COLUMN AND 4 IN THE OTHER. SET BOTTOM OF LOWEST ROW OF DOORS 24" ABOVE FINISHED FLOOR.
7. 2"THICK SINGLE-WALL CASING VERTICAL WALL.
8. 2" THICK SINGLE-WALLL CASING LID TO AIR HANDLER, INSTALL WTH BOTTOM OF CASING 186" ABOVE FINISHED FLOOR.
9. 4" THICK DOUBLE-WALL CASING VERTICAL WALL.
10. 4" THICK DOUBLE-WALL CASING LID TO AIR HANDLER, INSTALL WITH BOTTOM OF CASING 186" ABOVE FINISHED FLOOR.
11. 36"W X 72" TALL DOUBLE WALL ACCESS DOOR. INSTALL BOTTOM OF DOOR 12" ABOVE FINISHED FLOOR.
12. 24"W X 72" TALL DOUBLE WALL ACCESS DOOR. INSTALL BOTTOM OF DOOR 12" ABOVE FINISHED FLOOR.
13. 276" X 66" DISCHARGE AIR OPENING AT END OF AIR HANDLER. SET TOP OF OPENING AT 184" ABOVE FINISHED FLOOR.
14. PROVIDE UNISTRUT STANDS THAT EXTEND FROM FLOOR TO OVERHEAD STRUCTRUE AND MOUNT VFDS TO STANDS. DO NOT FASTEN STANDS TO AIR HANDLER CASING.
15. OFFSET CASING AROUND STRUCTURAL STEEL COLUMN AT THIS LOCATION.
16. ENVELOPE STRUCTURAL STEEL COLUMN WITH 2" SINGLE WALL CASING. LEAVE 2" GAP FROM COLUMN, LEAVE ACOUSTICAL LINER FACING AWAY FROM COLUMN, AND SHEET METAL FACING TOWARDS COLUMN.
17. PROVIDE COMBINATION FIRE/SMOKE DAMPER AT FLOOR PENETRATION WITH ACTUATOR LOCATED ON NORTH SIDE OF DUCT, ABOVE THE FLOOR.
18. SECURE WIRE MESH TO OPEN END OF DUCT.
19. LOCATE CENTER OF DUCT AT 12'-0" ABOVE FINISHED FLOOR. PROVIDE GALVANIZED WIRE MESH SCREEN AT END OF DUCT. SECURE WITH SCREWED FLANGED FRAME. DUCT TO BE FLUSH WITH INTERIOR WALL.
20. BREAK AIR PLENUM WALL AT VERTICAL STEEL STRUCTURE. SEAL AIR-TIGHT TO STRUCTURE.
21. PROVIDE AN ADDITIONAL 1" THICK ACOUSTIC LINER ON SHEET METAL SIDE OF 2" AND 4" CASING WALLS IN ORDER TO MINIMIZE SYSTEM NOISE REFLECTED ALONG THE PLENUM. THIS RESULTS IN LINER AND/OR PERFORATED METAL WALL ON BOTH SIDES OF WALL.
22. FOUR WEATHER HOODS INSTALLED IN FRONT OF STORM LOUVER SL-1.

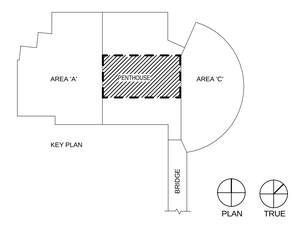
GENERAL NOTES

A. BLANK OFF ALL GAPS BETWEEN AIR HANDLER COMPONENTS AND CASING WALLS AIR-TIGHT SO ALL AIR MOVED THROUGH AIR HANDLER PASSES THROUGH COMPONENTS AND DOES NOT BYPASS AROUNT THE COMPONENTS.

B. PROVIDE INTERMEDIATE SUPPORTS FOR THE AIR HANDLER PLENUM LID AS NECESSARY.

C. EXTENT OF 4" DOUBLE WALL CASING BEGINS UPSTREAM OF FILTER BANK FB-1 WHERE SHOWN ON DRAWING, EXTENDS TO 6" DOWNSTREAM OF THE PREHEAT COILS PHC-1 THROUGH PHC-12, AND INCLUDES THE AIR HANDLER CEILING/LID.

KEY PLAN:



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title:
ENLARGED PENTHOUSE MECHANICAL PLAN

sheet:
MH402

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AIR DEVICE SCHEDULE

PLAN CODE — GRILLE CFM

PLAN CODE	TYPE & DUTY	FACE SIZE	NECK SIZE	CEILING TYPE (2)	MAX CFM	MAX TP (IN WC)	NC LEVEL MAX	MIN THROW (FT) (T50)	4-WAY MIN THROW (T50)	2-WAY MIN THROW (T50)	MANUFACTURER & MODEL NO	REMARKS
1	LINEAR-SUPPLY	24"L	6"Ø	MATCH CEILING	60	0.04	28	10	-	-	TEMPO L.D.	1 @ 1" SLOT
2	LINEAR-SUPPLY	24"L	8"Ø	MATCH CEILING	120	0.05	29	11	-	-	TEMPO L.D.	2 @ 1" SLOT
2A	LINEAR-SUPPLY	24"L	8"Ø	MATCH CEILING	120	0.05	29	10	-	10	TEMPO L.D.	2 @ 1" SLOT, 2-WAY THROW
3	LINEAR-SUPPLY	24"L	8"Ø	MATCH CEILING	180	0.06	30	12	-	-	TEMPO L.D.	3 @ 1" SLOT
4	LINEAR-SUPPLY	24"L	10"Ø	MATCH CEILING	240	0.06	31	13	-	-	TEMPO L.D.	4 @ 1" SLOT
4A	LINEAR-SUPPLY	24"L	10"Ø	MATCH CEILING	240	0.06	31	13	-	-	TEMPO L.D.	4 @ 1" SLOT, 2-WAY THROW
9	PERFORATED RETURN	24" X 24"	22" X 22"	MATCH CEILING	1200	0.05	17	-	-	-	TITUS PAR	-
10	PERFORATED RETURN	24" X 12"	22"X 10"	MATCH CEILING	600	0.06	10	-	-	-	TITUS PAR	-
13	PERFORATED EXHAUST GRILLE	8" X 8"	6" X 6"	MATCH CEILING	120	0.12	10	-	-	-	TITUS 8F	-
15	PERFORATED EXHAUST GRILLE	12" X 12"	10" X 10"	MATCH CEILING	360	0.12	14	-	-	-	TITUS 8F	-
16	PERFORATED EXHAUST GRILLE	14" x 14"	12" X 12"	MATCH CEILING	550	0.12	16	-	-	-	TITUS 8F	-
21	RADIAL BLADE DIFFUSER	12"Ø	8"Ø	SURFACE	170	0.10	22	8 (1)	-	-	AIR DIFFUSION PRODUCTS DNR	-
22	RADIAL BLADE DIFFUSER	15"Ø	10"Ø	SURFACE	270	0.10	23	10 (1)	-	-	AIR DIFFUSION PRODUCTS DNR	-
23	RADIAL BLADE DIFFUSER	18"Ø	12"Ø	SURFACE	390	0.10	24	12 (1)	-	-	AIR DIFFUSION PRODUCTS DNR	-
26	RADIAL BLADE DIFFUSER	24" X 24"	8"Ø	GRID	170	0.10	22	8 (1)	-	-	AIR DIFFUSION PRODUCTS DNR	-
27	RADIAL BLADE DIFFUSER	24" X 24"	10"Ø	GRID	270	0.10	23	10 (1)	-	-	AIR DIFFUSION PRODUCTS DNR	-
28	RADIAL BLADE DIFFUSER	24" X 24"	12"Ø	GRID	390	0.10	24	12 (1)	-	-	AIR DIFFUSION PRODUCTS DNR	-
29	RADIAL BLADE DIFFUSER	24" X 24"	14"Ø	GRID	540	0.10	25	14 (1)	-	-	AIR DIFFUSION PRODUCTS DNR	-
30	RADIAL BLADE DIFFUSER	24" X 24"	16"Ø	GRID	700	0.10	26	15 (1)	-	-	AIR DIFFUSION PRODUCTS DNR	-
42	LINEAR SUPPLY	60"	12"	MATCH CEILING	660	0.16	29	35	-	-	PRICE AS230	1@ 3" SLOT W/ ENGINEERED PLENUM (3)
43	LINEAR SUPPLY	48"	8"	SURFACE	120	0.04	20	25 (MAX)	-	-	PRICE AS210	1@ 1" SLOT W/ ENGINEERED PLENUM (8)
44	LINEAR SUPPLY	48"	8"	SURFACE	200	0.04	20	25 (MAX)	-	-	PRICE AS220	1@ 2" SLOT W/ ENGINEERED PLENUM (8)
45	LINEAR SUPPLY	60"	8"	SURFACE	200	0.04	20	21 (MAX)	-	-	PRICE AS220	1@ 2" SLOT W/ ENGINEERED PLENUM (8)
46	LINEAR SUPPLY	60"	10" OVAL	SURFACE	260	0.04	20	21 (MAX)	-	-	PRICE AS220	1@ 2" SLOT W/ ENGINEERED PLENUM (9)
47	LINEAR SUPPLY	60"	10" OVAL	SURFACE	260	0.04	20	26 (MAX)	-	-	PRICE AS220	1@ 2" SLOT W/ ENGINEERED PLENUM (8)
48	LINEAR SUPPLY	60"	10" OVAL	SURFACE	250	0.04	20	21 (MAX)	-	-	PRICE AS225	1@ 2.5" SLOT W/ ENGINEERED PLENUM (8)
49	PERFORATED RETURN	12" X 12"	10" X 10"	SURFACE	210	0.05	15	-	-	-	TITUS PAR	BORDER TYPE 1 - SURFACE MOUNT
50	LOUVERED SUPPLY	12" X 12"	10" X 10"	SURFACE	400	0.03	20	20	-	-	TITUS TDC	
51	LOUVERED SUPPLY	12" X 12"	10" X 10"	SIDEWALL	500	0.15	25	30	-	-	TITUS 300RL	

1. RECOMMENDED MINIMUM DISTANCE BETWEEN DIFFUSERS IN 9' CEILING.
2. VERIFY FRAME TYPE OF ALL AIR DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN BEFORE ORDERING.
3. SEE NOTES ON DRAWINGS FOR LOCATIONS WHERE SLOT DIFFUSERS MUST HAVE A CONTINUOUS FRAME.
4. SEE NOTES ON DRAWINGS FOR DIRECTIONS ON CUSTOM PLENUM BOXES. CONTRACTOR IS RESPONSIBLE TO PROVIDE AN ADEQUATELY SIZED PLENUM.
5. COMPATIBLE WITH TECHZONE CEILINGS AS REQUIRED.
6. GRILLE IS 8" WIDE AND APPROXIMATELY 96" LONG. CONTRACTOR MUST FIELD VERIFY EXACT LENGTH OF GRILLE AND COORDINATE WITH OTHER DISCIPLINES. SEE BENCH DETAIL ON AE-506
7. CONTRACTOR TO VERIFY CUSTOM COLOR WITH ARCHITECT.
8. PROVIDE WITH TYPE 22 CONCEALED FRAME AND ZY END CAPS. ANY PORTION OF EXPOSED FRAME TO BE WHITE. PAIRED DIFFUSERS TO APPEAR CONTINUOUS.
9. PROVIDE WITH TYPE 51F FRAME AND ZZ END CAPS. FRAME TO BE PAINTED MATTE BLACK.

EXHAUST FAN SCHEDULE (EF)

PLAN CODE	AREA SERVED	TYPE	CFM @ ELEV	ESP @ ELEV	FAN RPM	MOTOR BHP	MOTOR HP	MOTOR EFFICIENCY %	MOTOR VOLT/ PH	SONES	DAMPER (GRAVITY OR MOTOR)	METHOD OF CONTROL	OPENING SIZE	MAX OPERATING WT (LBS)	MANUFACTURER & MODEL NO	REMARKS
EF-1	LEVELS 2-5 WEST RESTROOMS	UPBLAST CENTRIFUGAL	3360	1.0	1217	1.06	1.0	PREMIUM	460/3	16.0	MOTOR	ATC	30"X30"	250	COOK ACRU-B 180RTB	-
EF-2	LEVELS 1-5 EAST RESTROOMS	INLINE CENTRIFUGAL	6000	1.5	1393	3.16	3.0	PREMIUM	460/3	32.0	MOTOR	ATC	32"X32"	400	COOK SQN-B 210SQN-B	-
EF-3	TOILET 100N	CEILING CABINET	80	0.25	1000	47 WATTS	FRACTIONAL	PREMIUM	115/1	1.9	MOTOR	ATC	12"X14"	25	COOK GEMINI GC-142	-
EF-4	TOILET 100M	CEILING CABINET	80	0.25	1000	47 WATTS	FRACTIONAL	PREMIUM	115/1	1.9	MOTOR	ATC	12"X14"	25	COOK GEMINI GC-142	-
EF-5	TOILET 100L	CEILING CABINET	80	0.25	1000	47 WATTS	FRACTIONAL	PREMIUM	115/1	1.9	MOTOR	ATC	12"X14"	25	COOK GEMINI GC-142	-
EF-6	TOILET 103D	CEILING CABINET	80	0.25	1000	47 WATTS	FRACTIONAL	PREMIUM	115/1	1.9	MOTOR	ATC	12"X14"	25	COOK GEMINI GC-142	-
EF-7	CENTRAL PLANT	INLINE DUCT BLOWER	2500	0.25	818	0.693	3/4	PREMIUM	208/3	15.4	MOTOR	ATC	20" X 20"	80	COOK DB-10	-
(1) EF-8	CENTRAL PLANT	INLINE DUCT BLOWER	3600	0.25	758	1.04	1	PREMIUM	208/3	20	MOTOR	ATC	20" X 20"	108	COOK DB-13	-

RELIEF FAN SCHEDULE (RF)

PLAN CODE	SYSTEM SERVED	TYPE	CFM @ ELEV	ESP @ ELEV (IN WC)	FAN RPM	MOTOR HP	MOTOR MAX BHP	MOTOR EFF %	MOTOR VOLTAGE/ PHASE	OCTAVE BAND HZ	SOUND PERFORMANCE DATA 1	2	3	4	5	6	7	8	AIR VOLUME CONTROL	FAN DIAMETER (IN)	OPERATING WEIGHT (LBS)	MANUFACTURER & MODEL NO	REMARKS
RF-1 THRU RF-6	BUILDING RELIEF	BELT DRIVE PROPELLER	32,400	0.5	496	5	4.7	PREM.	460/3	INLET	92	92	94	88	83	80	78	73	DIFFERENTIAL PRESSURE	60	820	COOK 60XMWH	PROVIDE WITH INLET AND DISCHARGE SAFETY SCREENS

TRANSFER FAN SCHEDULE (TF)

PLAN CODE	AREA SERVED	TYPE	CFM @ ELEV	ESP @ ELEV	FAN RPM	MOTOR WATTS	MOTOR AMPS	MOTOR VOLT/ PH	SONES	METHOD OF CONTROL	MAX OPERATING WT (LBS)	MANUFACTURER & MODEL NO	REMARKS
TF-1	ELECTRICAL ROOM 103	INLINE	550	0.5	1288	180	3.9	115/1	2.0	TSTAT	40	COOK GEMINI GN-720	(1)(2)
TF-2	ELECTRICAL ROOM 200G	INLINE	100	0.5	1098	65	1.7	115/1	2.5	TSTAT	20	COOK GEMINI GC-162	(1)(2)

(1) PROVIDE WITH FACTORY WIRED SOLID STATE SPEED CONTROLLER (2) THIS UNIT MUST BE ON EMERGENCY POWER.

FIELD ERECTED INDOOR AIR HANDLER SCHEDULE (AH)

PLAN CODE	AREA SERVED	TOTAL SUPPLY (CFM) (1)	FILTER BANK	SUPPLY FANS	PREHEAT COILS	INDIRECT EVAPORATIVE COOLING COILS	CHILLED WATER COOLING COILS	DIRECT EVAP COOLER	MAX OUTSIDE DIMENSIONS (IN) (4) LENGTH	WIDTH	HEIGHT	REMARKS
AH-1	ENTIRE BUILDING	243,000	FB-1	SF-1 THRU SF-18	PHC-1 THRU PHC-12	ICC-1 THRU ICC-12	CC-1 THRU CC-12	AW-1 AW-2	600	528	190	CLEAR INSIDE DIMENSIONS 210" W x 146" H x 618"L (2)(3)

(1) 243,000 CFM VOLUMETRIC FLOW RATE AT 54°F DRY BULB AND 53.8°F WET BULB IS EQUAL TO A MASS FLOW RATE OF 15,650 LBS/MIN.
(2) PROVIDE 4" DOUBLE WALL AIR HANDLER CASING FROM 1'-0" UPSTREAM OF FILTER FRAME TO 6" BEYOND FIRST COIL DOWNSTREAM OF FAN. ALL OTHER SECTIONS OF THE AIR HANDLER SHALL BE 2" SINGLE WALL.
(3) PROVIDE HORIZONTAL CASING LID OVER ENTIRE AIR HANDLER AT SCHEDULED HEIGHT.
(4) SEE DRAWINGS FOR EXTEND OF RETURN, RELIEF, OUTDOOR AIR, AND MIXED AIR PLENUMS.

SUPPLY AIR FAN SCHEDULE (SF)

PLAN CODE	SYSTEM SERVED	TYPE	CFM @ ELEV (1)	TSP @ ELEV (INWC)	MOTOR HP	MOTOR BHP (MAX)	MOTOR EFF %	MOTOR RPM	MOTOR VOLTAGE/ PHASE	OCTAVE BAND HZ	SOUND PERFORMANCE DATA (MAX) 1	2	3	4	5	6	7	8	AIR VOLUME CONTROL	METHOD OF CONTROL	FAN DIAMETER (IN)	OPERATING WEIGHT (LBS)	MANUFACTURER & MODEL NO	REMARKS
SF-1 THRU SF-18	AH-1	PLENUM / ARRAY	14,500 PER FAN	5.0	20	19.03	PREMIUM	2195	480/3	INLET	97	99	100	107	93	92	90	86	1 VFD PER TWO FANS	DUCT STATIC	24.5	-	LAU SF245-12-120	CONTRACTOR SHALL PROVIDE TWO INLET BLANK-OFF PLATES FOR FANS THAT HAVE FAILED, HANG ON AH-1 WALL
										OUTLET	102	105	106	109	101	98	93	90						

(1) BASED ON 98°F ENTERING AIR TEMPERATURE, SAME MASS AIRFLOW RATE LEAVING AH-1 AT 54°F DB.
(2) MULTIPLE FAN ARRAY. TWO FANS SHALL BE WIRED TO A COMMON VFD. COORDINATE WITH DIV 26 CONTRACTOR TO INCLUDE OVERLOADS ON EACH FAN MOTOR SO ONE FAN CAN CONTINUE TO OPERATE WITH COMMON VFD IF SECOND FAN FAILS.

PREHEAT COIL SCHEDULE (PHC)

PLAN CODE	SYSTEM SERVED	CFM PER COIL (ALT)	TOTAL CAPACITY PER COIL (MBH)	AIR SIDE EAT (°F)	AIR SIDE LAT (°F)	AIR SIDE MAX FACE VELOCITY (FPM)	AIR SIDE MAX PD (IN WC)	WATER SIDE EWT / LWT (°F)	WATER SIDE GPM / COIL	WATER SIDE MAX PD (FT HD)	WATER SIDE PPG %	ROWS	MAX FINS PER INCH	CIRCUIT	FINNED AREA SIZE (IN) FIN WIDTH	FIN HEIGHT	DEPTH	MANUFACTURER & MODEL NO	REMARKS
PHC-1 THROUGH PHC-12	AH-1	5,070	235.7	11	56	120	0.01	90 / 65.6	20	10.0	25	2	7	CUSTOM	150	40.5	6.5	TEMTROL 5WC-6-40.5X150X2-7AL	SERPENTINE = 0.3333 -

INDIRECT EVAPORATIVE COOLING COIL SCHEDULE (ICC)

PLAN CODE	SYSTEM SERVED	CFM PER COIL (ALT) (1)	TOTAL CAPACITY PER COIL SENS MBH	TOTAL MBH	AIR SIDE EAT (°F) db/wb	AIR SIDE LAT (°F) db/wb	AIR SIDE MAX FACE VELOCITY (FPM)	AIR SIDE MAX PD (IN WC)	WATER SIDE EWT/ LWT (°F)	WATER SIDE GPM PER COIL	WATER SIDE MAX PD (FT HD)	WATER SIDE PPG %	ROWS	FINS PER INCH	PASSES	FINNED AREA SIZE (IN) FIN WIDTH	FIN HEIGHT	DEPTH	MANUFACTURER & MODEL NO	REMARKS
ICC-1 THROUGH ICC-12	AH-1	22,037	558.3	558.3	98/63.9	68.9/54.2	523	0.59	66/72.4	175	15.0	NONE	8	8	4	150	40.5	13	TEMTROL 5WC-4-40.5x150x8-8AL	SERPENTINE = 2.0000

(1) VOLUMETRIC AIRFLOW RATE AT SCHEDULED ENTERING COIL CONDITIONS IS BASED ON AH-1 DESIGN MASS FLOW RATE OF 15,650 LBS/MIN.

CHILLED WATER COOLING COIL SCHEDULE (CC)

PLAN CODE	SYSTEM SERVED	CFM PER COIL (ALT) (1)	TOTAL CAPACITY PER COIL SENS MBH	TOTAL MBH	AIR SIDE EAT (°F) db/wb	AIR SIDE LAT (°F) db/wb	AIR SIDE MAX FACE VELOCITY (FPM)	AIR SIDE MAX PD (IN WC)	WATER SIDE EWT / LWT (°F)	WATER SIDE GPM/ COIL	WATER SIDE MAX PD (FT HD)	WATER SIDE PPG %	ROWS	FINS PER INCH	PASSES	FINNED AREA SIZE FIN WIDTH	FIN HEIGHT	DEPTH	MANUFACTURER & MODEL NO	REMARKS
CC-1 THRU CC-12	AH-1	20,380	333.5	482.5	71.8/ 62.5	53.9/ 53.7	483	0.71	48/59.3	85	10.8	NONE	8	8	6	150	40.5	13	TEMTROL 5WC-6-40.5x150x8-8AL	SERPENTINE = 1.3333

(1) VOLUMETRIC AIRFLOW RATE AT SCHEDULED ENTERING COIL CONDITIONS IS BASED ON AH-1 DESIGN MASS FLOW RATE OF 15,650 LBS/MIN.

AIR WASHER COOLING MEDIA SCHEDULE (AW)

PLAN CODE	SYSTEM SERVED	AIR WASHER CFM (ALT)	MAX FACE VELOCITY (FPM)	MAX AIR PD (INWC)	MEDIA THICKNESS (IN)	NUMBER OF PUMPS	PUMP GPM	HP	VOLTAGE/ PHASE	AIR WASHER DIM (IN) WIDTH	HEIGHT	TOTAL ACTIVE MEDIA SIZE (IN) MINIMUM WIDTH	MINIMUM HEIGHT	REMARKS
AW-1	AH-1	124,390	505	0.22	12	2	30	0.5 EACH	120/1	244	178	240	2 X 74	STACK MEDIA TWO SETS HIGH AND OFFSET
AW-2	AH-1	124,390	505	0.22	12	2	30	0.5 EACH	120/1	244	178	240	2 X 74	STACK MEDIA TWO SETS HIGH AND OFFSET

(1) VOLUMETRIC AIRFLOW RATE AT SCHEDULED ENTERING COIL CONDITIONS IS BASED ON AH-1 DESIGN MASS FLOW RATE OF 15,650 LBS/MIN.

CONTROL VALVE (V)

PLAN CODE	DUTY	FLOW GPM	PRESSURE DROP (PSI)	TYPE	NOTES
V-1	ISS-1 BLOWDOWN	NA	LINE SIZE	2-WAY 2-POSITION	BALL VALVE (1)
V-2	CW MAKE-UP	NA	LINE SIZE	2-WAY 2-POSITION	BALL VALVE (2)
V-3	AIR HANDLER AH-1 CHILLED COILS	1,020	5	2-WAY MODULATING	
V-4	CHW PUMPS P-3/P-4 SERVE AH-1 COILS	1,020	LINE SIZE	2-WAY MODULATING	(3)
V-5	FAN COIL UNITS	100	5	2-WAY MODULATING	
V-6	CHW PUMPS P-5/P-6 SERVE FAN COILS	100	LINE SIZE	2-WAY MODULATING	(3)
V-7	HX-1 HOT SIDE	380	5	2-WAY MODULATING	

(1) VALVE FURNISHED BY 232500 CONTRACTOR, WIRED BY 230900 CONTRACTOR TO 232500 TDS CONTROLLER.
(2) PROVIDE TWO-POSITION ACTUATOR WITH ADJUSTABLE OPENING/CLOSING SPEED, SET THE OPENING/CLOSING SPEED TO ELIMINATE WATER HAMMER.
(3) VALVE IS LINE-SIZED BECAUSE IT WILL TYPICALLY BE USED IN THE FULL-OPEN POSITION, BUT MUST BE CAPABLE OF MODULATING FLOW DURING SOME OPERATING CONDITIONS.

FILTER BANK (FB)

PLAN CODE	SYSTEM SERVED	ASHRAE 52 EFFICIENCY	FILTER SIZE (IN) HEIGHT	WIDTH	THICK	NO OF FILTERS	MAX INITIAL PD (IN WC)	MAX FACE VELOCITY (FPM)	MANUFACTURER & MODEL NO
FB-1	AH-1	MERV 13 (85%)	24	24	4	175 (7H X 25W)	0.17	373	FLANDERS PREPLEAT M13

AIR SEPARATOR (AS)

PLAN CODE	SYSTEM SERVED	CONNECTION SIZE	MAX GPM	PD (FT)	MAX DIMENSIONS (IN) DIAMETER	HEIGHT	FLANGE TO FLANGE	DRY WT (LBS)	MAX OPER WT (LBS)	MANUFACTURER & MODEL NO (2)
AS-1	CHILLED WATER	12"	1210	.5	24	54.2	42.5	823	1530	SPIROVENT SENIOR
AS-2	HEATING WATER	12"	1210	.5	24	54.2	42.5	823	1530	SPIROVENT SENIOR
AS-3	AH-1 PREHEAT	6"	286	.5	12.8	30.3	27.7	145	245	SPIROVENT SENIOR

EXPANSION TANK SCHEDULE (ET)

PLAN CODE	SYSTEM SERVED	WATER TEMP (°F)	% GLYCOL	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	PRE-CHARGE (PSI)	MAX DIMENSIONS DIA (IN)	HEIGHT (IN)	OPERATING WT (LBS)	MANUFACTURER & MODEL NO
ET-1	CHILLED WATER		NONE							
ET-2	HEATING WATER		NONE							
ET-3	AH-1 PREHEAT		25							

JOB SITE ELEVATION = 4,500 FT
JOB SITE PRESSURE = 12.32 PSI
SELECT ALL EQUIPMENT FOR OPERATION AT JOB SITE ELEVATION

ALL MOTORS TO BE PREMIUM EFFICIENCY

COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvinengineering.com

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UTAH VALLEY UNIVERSITY

State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:
UVU Classroom Building

800 University Way
Orem, UT 84058

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BID DOC

FAN COIL UNIT SCHEDULE (FC)

PLAN CODE	AREA SERVED	CFM	MIN OA (CFM)	ESP (IN WC)	FAN HP	VOLT/ PH	HEATING COIL						COOLING COIL							MAX DIMENSIONS				MANUFACTURER & MODEL NO	ACCESSORIES
							CAPACITY (MBH)	EAT/ LAT (°F)	EWT/ LWT (°F)	GPM	WATER PD (FT)	AIR PD (IN WC)	CAPACITY (MBH)	EAT (DB/ WB) (°F)	LAT (DB/ WB) (°F)	EWT/ LWT (°F)	GPM	WATER PD (FT)	AIR PD (IN WC)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	OPERATING WT (LBS)		
FC-1	A/V 001B	1862	N/A	0.3	2 @ 1/3	208/1/60	N/A	N/A	N/A	N/A	N/A	N/A	30.0	72/55	54.5/48.4	48/60	4.90	4.28	0.14	32	65	18	250	ENVIRO-TEC HPE20	PROVIDE WITH ECM MOTOR BOTTOM RETURN (1)
FC-2	IDF 100K	1862	N/A	0.3	2 @ 1/3	208/1/60	N/A	N/A	N/A	N/A	N/A	N/A	30.0	72/55	54.5/48.4	48/60	4.90	4.28	0.14	32	65	18	250	ENVIRO-TEC HPE20	PROVIDE WITH ECM MOTOR BOTTOM RETURN (1)
FC-3	MDF 108A	3000	N/A	0.5	1 1/2	208/3/60	N/A	N/A	N/A	N/A	N/A	N/A	50.0	72/55	54.1/48.0	48/60	8.10	2.98	0.26	46	59	30	600	ENVIRO-TEC H30	BLOWER COIL - (1)
FC-4	IDF 200J	1862	N/A	0.3	2 @ 1/3	208/1/60	N/A	N/A	N/A	N/A	N/A	N/A	30.0	72/55	54.5/48.4	48/60	4.90	4.28	0.14	32	65	18	250	ENVIRO-TEC HPE20	PROVIDE WITH ECM MOTOR BOTTOM RETURN (1)
FC-5	IDF 200R	674	N/A	0.75	2 @ 1/3	208/1/60	N/A	N/A	N/A	N/A	N/A	N/A	10.0	72/55	55.7/48.7	48/60	1.70	1.08	0.05	33	48	17	200	ENVIRO-TEC HPP12	PROVIDE WITH ECM MOTOR - (1)
FC-6	BRIDGE 200A	1800	150	0.25	3/4	208/3/60	22.0	67.9/81.2	100/85	3.0	0.79	0.07	44.4	73.2/63.1	54.5/54.2	48/60	7.40	4.38	0.28	40	50	21	400	ENVIRO-TEC H20	BLOWER COIL -
FC-7	BRIDGE 200A	1800	150	0.25	3/4	208/3/60	22.0	67.9/81.2	100/85	3.0	0.79	0.07	44.4	73.2/63.1	54.5/54.2	48/60	7.40	4.38	0.28	40	50	21	400	ENVIRO-TEC H20	BLOWER COIL -
FC-8	BRIDGE 200A	1800	150	0.25	3/4	208/3/60	22.0	67.9/81.2	100/85	3.0	0.79	0.07	44.4	73.2/63.1	54.5/54.2	48/60	7.40	4.38	0.28	40	50	21	400	ENVIRO-TEC H20	BLOWER COIL -
FC-9	BRIDGE 200A	1800	150	0.25	3/4	208/3/60	22.0	67.9/81.2	100/85	3.0	0.79	0.07	44.4	73.2/63.1	54.5/54.2	48/60	7.40	4.38	0.28	40	50	21	400	ENVIRO-TEC H20	BLOWER COIL -
FC-10	BRIDGE 200A	1800	150	0.25	3/4	208/3/60	22.0	67.9/81.2	100/85	3.0	0.79	0.07	44.4	73.2/63.1	54.5/54.2	48/60	7.40	4.38	0.28	40	50	21	400	ENVIRO-TEC H20	BLOWER COIL -
FC-11	BRIDGE 200A	1,800	150	0.25	3/4	208/3/60	22.0	67.9/81.2	100/85	3.0	0.79	0.07	44.4	73.2/63.1	54.5/54.2	48/60	7.40	4.38	0.28	40	50	21	400	ENVIRO-TEC H20	BLOWER COIL -
FC-12	IDF 300G	1,862	N/A	0.3	2 @ 1/3	208/1/60	N/A	N/A	N/A	N/A	N/A	N/A	30.0	72/55	54.5/48.4	48/60	4.90	4.28	0.14	32	65	18	250	ENVIRO-TEC HPE20	PROVIDE WITH ECM MOTOR BOTTOM RETURN (1)
FC-13	IDF 300Q	674	N/A	0.75	2 @ 1/3	208/1/60	N/A	N/A	N/A	N/A	N/A	N/A	10.0	72/55	55.7/48.7	48/60	1.70	1.08	0.05	33	48	17	200	ENVIRO-TEC HPP12	PROVIDE WITH ECM MOTOR - (1)
FC-14	LAB IDF 300T	1,862	N/A	0.3	2 @ 1/3	208/1/60	N/A	N/A	N/A	N/A	N/A	N/A	30.0	72/55	54.5/48.4	48/60	4.90	4.28	0.14	32	65	18	250	ENVIRO-TEC HPE20	PROVIDE WITH ECM MOTOR BOTTOM RETURN (1)
FC-15	IDF 400H	1,862	N/A	0.3	2 @ 1/3	208/1/60	N/A	N/A	N/A	N/A	N/A	N/A	30.0	72/55	54.5/48.4	48/60	4.90	4.28	0.14	32	65	18	250	ENVIRO-TEC HPE20	PROVIDE WITH ECM MOTOR BOTTOM RETURN (1)
FC-16	IDF 400P	674	N/A	0.75	2 @ 1/3	208/1/60	N/A	N/A	N/A	N/A	N/A	N/A	10.0	72/55	55.7/48.7	48/60	1.70	1.08	0.05	33	48	17	200	ENVIRO-TEC HPP12	PROVIDE WITH ECM MOTOR - (1)
FC-17	IDF 500H	1,862	N/A	0.3	2 @ 1/3	208/1/60	N/A	N/A	N/A	N/A	N/A	N/A	30.0	72/55	54.5/48.4	48/60	4.90	4.28	0.14	32	65	18	250	ENVIRO-TEC HPE20	PROVIDE WITH ECM MOTOR BOTTOM RETURN (1)
FC-18	IDF 500P	674	N/A	0.75	2 @ 1/3	208/1/60	N/A	N/A	N/A	N/A	N/A	N/A	10.0	72/55	55.7/48.7	48/60	1.70	1.08	0.05	33	48	17	200	ENVIRO-TEC HPP12	PROVIDE WITH ECM MOTOR - (1)
FC-19	ELEV. MACHINE RM. 100R	279	N/A	0.32	1/15	208/1/60	2.9	60	100/88.2	0.50	0.28	0.01	4.9	75/56	55.7/48.6	48/60	0.80	2.24	0.03	33	46	12	171	ENVIRO-TEC HLE25	- - (1)
FC-20	- -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- -	NOT USED
FC-21	CENTRAL PLANT 103	4,000	0	0.5	2.0	208/3/60	36.6	75	100/85	4.9	1.0	0.1	79.0	75/56	53.4/47.7	48/60	13.10	6.07	0.27	46	68	30	800	ENVIRO-TEC H40	- - (1)
FC-22	ELEV. MACHINE RM. 600E	391	N/A	0.45	1/6	208/1/60	3.6	70	100/85	0.50	0.09	0.02	7.5	75/56	54.1/48	48/60	1.20	1.1	0.04	27	42	12	138	ENVIRO-TEC HLP40	- - (1)
FC-23	PENTHOUSE 601	813	N/A	0.68	2 @ 1/3	208/1/60	22.7	60	100/85	3.00	0.39	0.03	15.0	75/56	54.9/48.3	48/59.9	2.50	2.01	0.03	33	63	17	260	ENVIRO-TEC HPP18	PROVIDE WITH ECM MOTOR - (1)

(1) THIS UNIT MUST BE ON EMERGENCY POWER

CONTROL DAMPER SCHEDULE (CD)

PLAN CODE	SERVICE	TYPE	AIR FLOW VOLUME (CFM)	DIMENSIONS		MAX FACE VELOCITY (FPM)	METHOD OF CONTROL	BLADE ORIENTATION	MANUFACTURER & MODEL NO
				WIDTH (IN)	HEIGHT (IN)				
CD-1 THROUGH CD-8	AH-1 OUTSIDE AIR	MOTORIZED/ MODULATING	30,375	42	72	1,450	ATC	PARALLEL BLADE - UP	RUSKIN CD60 (1)
CD-9 THROUGH CD-16	AH-1 RETURN AIR	MOTORIZED/ MODULATING	30,375	42	72	1,450	ATC	PARALLEL BLADE - DOWN	RUSKIN CD60
CD-17 THROUGH CD-22	BUILDING RELIEF AIR	MOTORIZED/ 2-POSITION	32,400	42	72	1,550	ATC	OPPOSED BLADE	RUSKIN CD60

(1) INSTALL VOLU-FLO/OAM STATION IMMEDIATELY UPSTREAM OF EACH OUTDOOR AIR CONTROL DAMPER.

PLATE AND FRAME HEAT EXCHANGER SCHEDULE (HX)

PLAN CODE	SYSTEM SERVED	HOT WATER SIDE				COLD WATER SIDE					MIN. PLATE SURFACE AREA S.F.	FOULING RESISTANCE	MANUFACTURER & MODEL NO
		GPM	EWT (°F) / LWT (°F)	MAX PD (FT)	% GLYCOL	CAP (MBH)	EWT (°F) / LWT (°F)	GPM	MAX PD (FT)	% GLYCOL			
HX-1	AH-1 PREHEAT	375	100 / 85	12.0	NONE	2,797.4	65.6 / 90	240	5.5	25	196.3	0 x 0	B&G P21

JOB SITE ELEVATION = 4,500 FT
JOB SITE PRESSURE = 12.32 PSI
SELECT ALL EQUIPMENT FOR OPERATION AT JOB SITE ELEVATION

ALL MOTORS TO BE PREMIUM EFFICIENCY

COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvinengineering.com

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Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

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project:
UVU Classroom Building

800 University Way
Orem, UT 84058

project#: DFCM #12192790
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MECHANICAL SCHEDULES

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MH603

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CENTRAL PLANT HEAT PUMP CHILLER (CPHP)

PLAN CODE		COOLING CAPACITY (TONS)	HEATING CAPACITY (MBH)	MAX KW/ TON	CHILLED WATER EWT (°F)	CHILLED WATER LWT (°F)	CHILLED WATER GPM	CHILLED WATER PD (FT)	FOULING FACTOR	CONDENSER WATER EWT (°F)	CONDENSER WATER LWT (°F)	CONDENSER WATER GPM	CONDENSER WATER PD (FT)	FOULING FACTOR	ELECTRICAL MIN CIR AMPAC	ELECTRICAL VOLT/ PH	MAX DIMENSIONS (IN) LENGTH	MAX DIMENSIONS (IN) WIDTH	MAX DIMENSIONS (IN) HEIGHT	MAX OPERATING WT (LBS)	VIBRATION ISOLATION
CPHP-1	HEATING	880	13,000	.67	57	44	1,625	12.4	0.0001	92.5	107	1,800	23.3	0.00025	120	4160/3	204	110	121	32,600	SHEAR PAD
	COOLING	681	9,750	.64	52	42	1,625	12.4	0.0001	85	98	1,500	17.2	0.00025							
CPHP-2	HEATING	880	13,000	.67	57	44	1,625	12.4	0.0001	92.5	107	1,800	23.3	0.00025	120	4160/3	204	110	121	32,600	SHEAR PAD
	COOLING	681	9,750	.64	52	42	1,625	12.4	0.0001	85	98	1,500	17.2	0.00025							

PLAN CODE	PERFORMANCE DATA OCTAVE BAND	1	2	3	4	5	6	7	TOTAL	MANUFACTURER & MODEL NO	REMARKS
	HZ	63	125	250	500	1000	2000	4000	-		
CPHP-1	ACTUAL	75.5	78.5	77	82	83	79.5	72	-	TRANE CVHF 0760	PROVIDE ACOUSTIC BLANKETS ACCORDING TO SPECIFICATION
	A SCALE	-	-	-	-	-	-	-	-		
CPHP-2	ACTUAL	75.5	78.5	77	82	83	79.5	72	-	TRANE CVHF 0760	PROVIDE ACOUSTIC BLANKETS ACCORDING TO SPECIFICATION
	A SCALE	-	-	-	-	-	-	-	-		

CENTRAL PLANT WATER STORAGE TANK (CPST)

PLAN CODE	SYSTEM SERVED	MINIMUM CAPACITY (GAL)	ASME PRESSURE RATING	MAXIMUM SIZE DIAMETER (IN)	MAXIMUM SIZE LENGTH (IN)	MAXIMUM SIZE HEIGHT (IN)	MAXIMUM SIZE OPERATING WT. (LBS)	REMARKS
CPST-1	HEATING WATER	5,000	150	90	230	100	50,200	1 2 3
CPST-2	CHILLED WATER	5,000	150	90	230	100	50,200	1 2 3

1. MANWAY REQUIRED.
2. LOCATE SHUT OFF VALVES ON BOTH PIPES ABOVE THE HEIGHT OF THE TANK.
3. PROVIDE AUTOMATIC AIR VENT AND PRESSURE RELIEF VALVE, BOTH ROUTED TO FLOOR SINK.

CENTRAL PLANT CONDENSING BOILER (CPB)

PLAN CODE	MBH CAPACITY OUTPUT @ ELEV	MBH CAPACITY INPUT @ ELEV	ASME PRESS RATING	OPERATING PRESSURE (PSIG)	FULL FIRE EFFICIENCY	FLUE TYPE	FLUE SIZE	LWT °F	EWT °F	GPM	PD (FT HD)	MAX SIZE LENGTH (IN)	MAX SIZE WIDTH (IN)	MAX SIZE HEIGHT (IN)	MAX SIZE OPERATING WT (LBS)	BURNER VOLT/ PH	BURNER GAS PRESSURE	MAXIMUM dBA AT FULL FIRE	MANUFACTURER & MODEL NO	REMARKS
CPB-1	5,310	6,000	150	80	94.5	AL29-4C	14	110	92.3	600	4.5	108	36	80	3,920	460/3	14" WC	80	AERCO BMK 6000	1 2 3
CPB-2	5,310	6,000	150	80	94.5	AL29-4C	14	110	92.3	600	4.5	108	36	80	3,920	460/3	14" WC	80	AERCO BMK 6000	1 2 3

1. GAS CAPACITIES AT 4500 FT ELEVATION. PROVIDE WITH FACTORY INSTALLED REGULATOR TO ACCEPT UP TO 5 PSI OF GAS PRESSURE.
2. PERFORMANCE BASED ON 890 BTU/CF GAS.
3. PROVIDE WITH COMBUSTION AIR FILTER, FAN VFD, UL RATED ASSEMBLY, AND 120V CONTROLS TRANSFORMER.

CENTRAL PLANT HEAT EXCHANGER (CPHX)

PLAN CODE	SYSTEM SERVED		SOURCE SIDE GPM	SOURCE SIDE EWT (°F) / LWT (°F)	SOURCE SIDE PD (FT)	LOAD SIDE CAP (MBH)	LOAD SIDE EWT (°F) / LWT (°F)	LOAD SIDE GPM	LOAD SIDE PD (FT)	MAXIMUM OPERATING WT (LBS)	TYPE	MANUFACTURER & MODEL NO
CPHX-1	REJECTION TO WELL	HEATING	1250	62/45.1	16	10,584	44/57	1,625	16	9,000	PLATE & FRAME	ARMSTRONG S-96-3000-317
		COOLING		77/95.7		11,650	98/85	1,800	16			
CPHX-2	REJECTION TO WELL	HEATING	1250	62/45.1	16	10,584	44/57	1,625	16	9,000	PLATE & FRAME	ARMSTRONG S-96-3000-317
		COOLING		77/95.7		11,650	98/85	1,800	16			

CENTRAL PLANT WELDING EXHAUST SYSTEM (CPWES)

PLAN CODE	TYPE	CFM @ ELEV.	MOTOR HP	MOTOR EFFICIENCY (%)	MOTOR VOLTAGE & PHASE	METHOD OF CONTROL	OUTLET SIZE	MAXIMUM OPERATING WT (LBS)	MANUFACTURER & MODEL NO	REMARKS
CPWES-1	WALL MOUNT	1,140	1 1/2"	STANDARD	460/3	MANUALLY CONTROLLED VARIABLE SPEED FAN	6"	75	KEMPER -	PROVIDE WITH KEMPER WALL MOUNTING BRACKET, KEMPER 92 105 14 FAN, AND KEMPER 79 003 10' EXHAUST ARM.

CENTRAL PLANT PUMP (CPP)

PLAN CODE	TYPE	DUTY	FLOW (GPM)	PRESSURE (FT)	PUMP SPEED (RPM)	MIN EFF (%)	FLUID	MOTOR LOAD (BHP)	MOTOR SIZE (HP)	MOTOR EFF (%)	MOTOR VOLT/ PH	PUMP & MOTOR WT (LBS)	MANUFACTURER & MODEL NO	REMARKS
CPP-1	VERTICAL INLINE	HEATING WATER PRIMARY	1,800	65	1,800	83	WATER	36	40	82.8	460/3	997	ARMSTRONG 4300 - 8x8x10	PROVIDE VFD
CPP-2	VERTICAL INLINE	HEATING WATER PRIMARY	1,800	65	1,800	83	WATER	36	40	82.8	460/3	997	ARMSTRONG 4300 - 8x8x10	PROVIDE VFD
CPP-3	VERTICAL INLINE	HEATING WATER PRIMARY	1,800	65	1,800	83	WATER	36	40	82.8	460/3	997	ARMSTRONG 4300 - 8x8x10	PROVIDE VFD
CPP-4	VERTICAL INLINE	CHILLED WATER PRIMARY	1,625	65	1,800	83	WATER	36	40	82.8	460/3	997	ARMSTRONG 4300 - 8x8x10	PROVIDE VFD
CPP-5	VERTICAL INLINE	CHILLED WATER PRIMARY	1,625	65	1,800	83	WATER	36	40	82.8	460/3	997	ARMSTRONG 4300 - 8x8x10	PROVIDE VFD
CPP-6	VERTICAL INLINE	CHILLED WATER PRIMARY	1,625	65	1,800	83	WATER	36	40	82.8	460/3	997	ARMSTRONG 4300 - 8x8x10	PROVIDE VFD
CPP-7	VERTICAL INLINE	HEATING WATER SECONDARY	3,600	230	1,800	84	WATER	249	250	84.1	460/3	3,214	ARMSTRONG 4300 - 10x10x15	PROVIDE VFD
CPP-8	VERTICAL INLINE	HEATING WATER SECONDARY	3,600	230	1,800	84	WATER	249	250	84.1	460/3	3,214	ARMSTRONG 4300 - 10x10x15	PROVIDE VFD
CPP-9	VERTICAL INLINE	CHILLED WATER SECONDARY	3,600	230	1,800	84	WATER	249	250	84.1	460/3	3,214	ARMSTRONG 4300 - 10x10x15	PROVIDE VFD
CPP-10	VERTICAL INLINE	CHILLED WATER SECONDARY	3,600	230	1,800	84	WATER	249	250	84.1	460/3	3,214	ARMSTRONG 4300 - 10x10x15	PROVIDE VFD
CPP-11	VERTICAL INLINE	BOILER CIRCULATION	600	25	1,200	67	WATER	5.6	7.5	67	460/3	670	ARMSTRONG 4300 - 8x8x10	1 PROVIDE SECOND BUTTERFLY VALVE ON DISCHARGE
CPP-12	VERTICAL INLINE	BOILER CIRCULATION	600	25	1,200	67	WATER	5.6	7.5	67	460/3	670	ARMSTRONG 4300 - 8x8x10	1 PROVIDE SECOND BUTTERFLY VALVE ON DISCHARGE

1. SELECT PUMP BODY AND MOTOR TO PROVIDE SCHEDULE FLOW AT SCHEDULED PRESSURE, AS WELL AS 120% OF SCHEDULE PRESSURE WITH IMPELLER CHANGE ONLY. PROVIDE PUMP CURVE FOR BOTH CONDITIONS IN SUBMITTAL PACKAGE.

CENTRAL PLANT VARIABLE FREQUENCY DRIVE (CPVFD)

PLAN CODE	SERVICE	CONTROL OF VFD METHOD	CONTROL OF VFD MAXIMUM RESPONSE TIME	CONTROL OF VFD CONTROLLER INPUT	CONTROL SYS INTERFACE	HARMONICS ISOLATION	MANUFACTURER & MODEL NO	REMARKS
CPVFD-1	HW PUMP CPP-1	ATC	<150 MILLISECONDS	DIFFERENTIAL PRESSURE	LON AND HARD WIRED	INPUT REACTORS	ABB ACH550	PASSWORD PROTECTED KEYPAD, LOCKING DISCONNECT
CPVFD-2	CHW PUMP CPP-2	ATC	<150 MILLISECONDS	DIFFERENTIAL PRESSURE	LON AND HARD WIRED	INPUT REACTORS	ABB ACH550	PASSWORD PROTECTED KEYPAD, LOCKING DISCONNECT
CPVFD-3	CHW PUMP CPP-3	ATC	<150 MILLISECONDS	DIFFERENTIAL PRESSURE	LON AND HARD WIRED	INPUT REACTORS	ABB ACH550	PASSWORD PROTECTED KEYPAD, LOCKING DISCONNECT
CPVFD-4	CHW PUMP CPP-4	ATC	<150 MILLISECONDS	DIFFERENTIAL PRESSURE	LON AND HARD WIRED	INPUT REACTORS	ABB ACH550	PASSWORD PROTECTED KEYPAD, LOCKING DISCONNECT
CPVFD-5	HW PUMP CPP-5	ATC	<150 MILLISECONDS	DIFFERENTIAL PRESSURE	LON AND HARD WIRED	INPUT REACTORS	ABB ACH550	PASSWORD PROTECTED KEYPAD, LOCKING DISCONNECT
CPVFD-6	HW PUMP CPP-6	ATC	<150 MILLISECONDS	DIFFERENTIAL PRESSURE	LON AND HARD WIRED	INPUT REACTORS	ABB ACH550	PASSWORD PROTECTED KEYPAD, LOCKING DISCONNECT
CPVFD-7	CPP-7	ATC	<150 MILLISECONDS	DIFFERENTIAL PRESSURE	LON AND HARD WIRED	INPUT REACTORS	ABB ACH550	PASSWORD PROTECTED KEYPAD, LOCKING DISCONNECT
CPVFD-8	CPP-8	ATC	<150 MILLISECONDS	DIFFERENTIAL PRESSURE	LON AND HARD WIRED	INPUT REACTORS	ABB ACH550	PASSWORD PROTECTED KEYPAD, LOCKING DISCONNECT
CPVFD-9	CPP-9	ATC	<150 MILLISECONDS	DIFFERENTIAL PRESSURE	LON AND HARD WIRED	INPUT REACTORS	ABB ACH550	PASSWORD PROTECTED KEYPAD, LOCKING DISCONNECT
CPVFD-10	CPP-10	ATC	<150 MILLISECONDS	DIFFERENTIAL PRESSURE	LON AND HARD WIRED	INPUT REACTORS	ABB ACH550	PASSWORD PROTECTED KEYPAD, LOCKING DISCONNECT

CENTRAL PLANT EXPANSION TANK (CPET)

PLAN CODE	SYSTEM SERVED	WATER TEMP (°F)	% GLYCOL	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	PRE-CHARGE (PSI)	MAX DIMENSIONS DIA (IN)	MAX DIMENSIONS HEIGHT (IN)	MAX DIMENSIONS OPERATING WT (LBS)	MANUFACTURER & MODEL NO
CPET-1	CHILLED WATER	44	NONE	150	110	12	30	64	1700	AMTROL 600-L
CPET-2	HEATING WATER	107	NONE	210	170	12	30	82	2300	AMTROL 800-L
CPET-3	HEATING WATER	107	NONE	210	170	12	30	82	2300	AMTROL 800-L

JOB SITE ELEVATION = 4,500 FT
JOB SITE PRESSURE = 12.32 PSI
SELECT ALL EQUIPMENT FOR OPERATION AT JOB SITE ELEVATION

ALL MOTORS TO BE PREMIUM EFFICIENCY

COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvinengineering.com

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1 ADDENDUM #3 5.22.2013

title:
MECHANICAL SCHEDULES

sheet:
MH604

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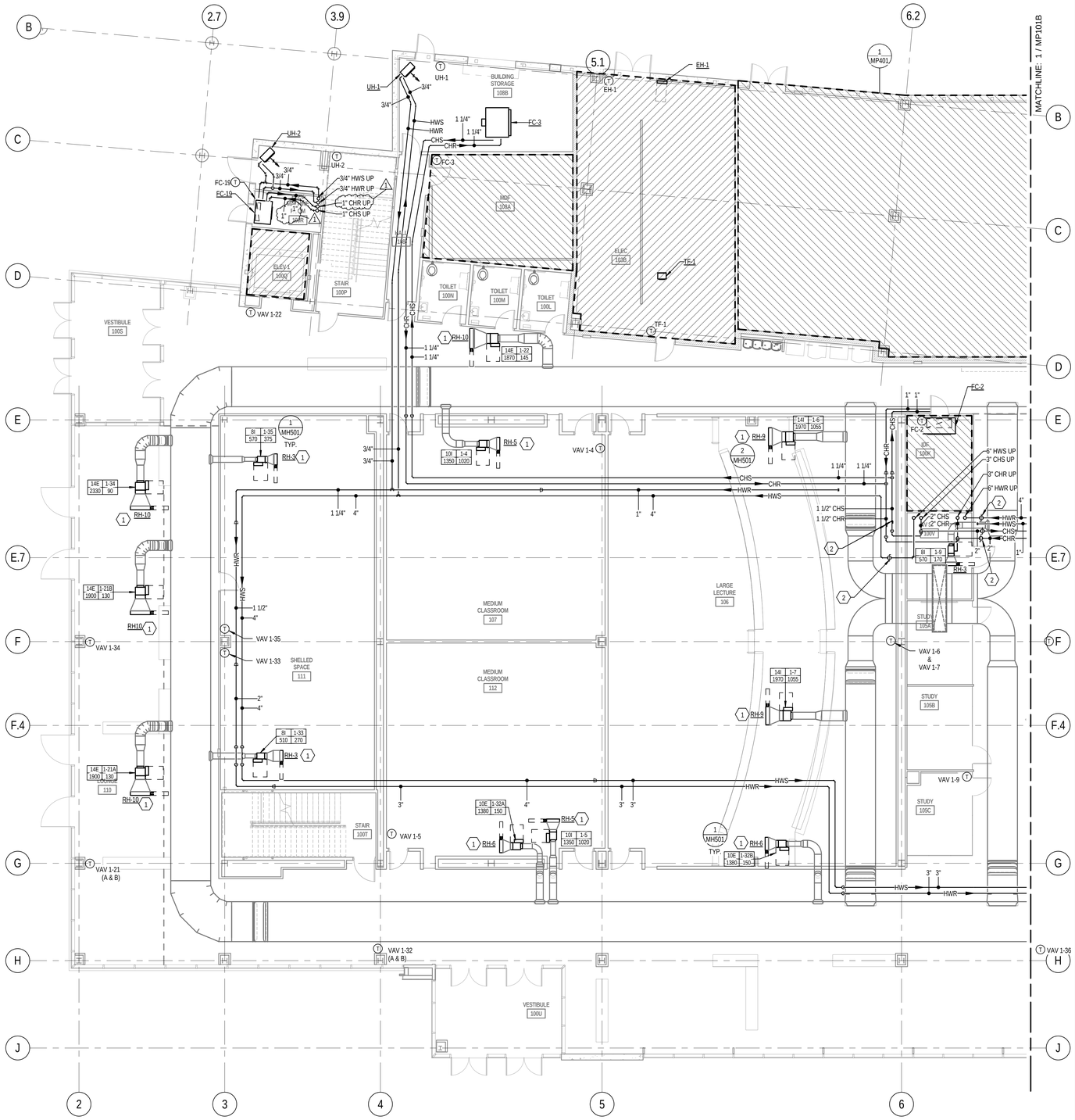
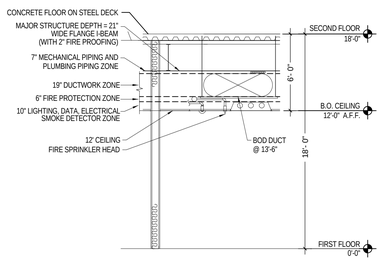




NOTE: EXTREMELY LIMITED SPACE IS AVAILABLE FOR TRADES TO INSTALL THEIR WORK. CAREFUL COORDINATION IS REQUIRED TO ASSURE THAT CROSS-OVER LINES ACTUALLY FIT IN ZONES ALLOTTED. ON OCCASION "FIRE PROTECTION ZONE" AND/OR "ELECTRICAL ZONE" MAY NEED TO TRANSITION UP INTO "STRUCTURAL ZONE" BETWEEN BEAMS AND GIRDERS. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE OF EACH TRADE TO PREVENT UTILITY LINE CONFLICTS. ** NOTE - DUCT TRAPEZE HANGER IS LOCATED IN THE FIRE PROTECTION PIPING ZONE. DO NOT ROUTE FIRE PROTECTION PIPING PARALLEL TO DUCT IN THE AREA DIRECTLY BELOW THE DUCT.

LEVEL 1 - VERTICAL SPACE ALLOCATION SECTION

LEVEL 1 AREA 'A' MECHANICAL PIPING FLOOR PLAN

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

KEYED NOTES

1. PROVIDE HEATING WATER SUPPLY AND RETURN PIPING FROM THE REVERSE RETURN HEATING WATER MAINS TO THE REHEAT COIL. PROVIDE ALL PIPING SPECIALTIES IN ACCORDANCE WITH DETAIL 1/MH501, EXCEPT FOR THE REHEAT COIL SERVED OFF THE END OF THE HEATING MAIN, WHICH SHALL BE PIPED IN ACCORDANCE WITH DETAIL 2/MH501. SEE SHEET MP202 FOR THE FLOW RATE THROUGH THE BYPASS LEG OFF THE 3-WAY VALVE. PIPE SIZES PER THE HEATING WATER RUNOUT PIPE SIZES SCHEDULE ON SHEET MH602. REHEAT COIL FLOW RATES ARE FOUND ON THE REHEAT BOXES SCHEDULES ON SHEET MH602.
2. PROVIDE ISOLATION VALVES IN AN ACCESSIBLE LOCATION.

GENERAL NOTES

A. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

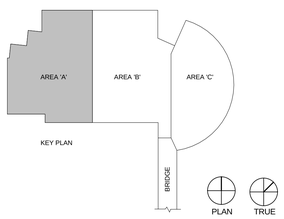
B. ALL MANUAL VALVES, AUTOMATIC CONTROL VALVES, STRAINERS AND CIRCUIT SETTERS SHALL BE INSTALLED WHERE ACCESSIBLE ABOVE LAY-IN CEILING. COORDINATE WITH LATEST ARCHITECTURAL REFLECTED CEILING PLAN.

C. KEEP CONTROLS ACCESS ZONE OFF SIDE OF VAV BOX CLEAR OF ALL PIPING. PIPING MAY BE ROUTED ABOVE THE ELEVATION OF THE TOP OF THE VAV BOX, AVOIDING THE CONTROLS ACCESS ZONE.

D. REFER TO VERTICAL SPACE ALLOCATION SECTION ON CORRESPONDING MH SERIES SHEET FOR TYPICAL PIPING ELEVATION. ALL MECHANICAL PIPING SHALL BE INSTALLED PER THE VERTICAL SPACE ALLOCATION SECTION UNLESS OTHERWISE NOTED.

E. BRANCH PIPING TO INDIVIDUAL VAV BOXES IS NOT SHOWN. REFER TO THE HEATING WATER RUNOUT PIPE SIZES SCHEDULE ON SHEET MH602 FOR SIZING OF THE BRANCH PIPING.

KEY PLAN:



COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvineng.com

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1 ADDENDUM #3 5.22.2013

title:
LEVEL 1 AREA 'A' MECHANICAL PIPING FLOOR PLAN

sheet:
MP101A

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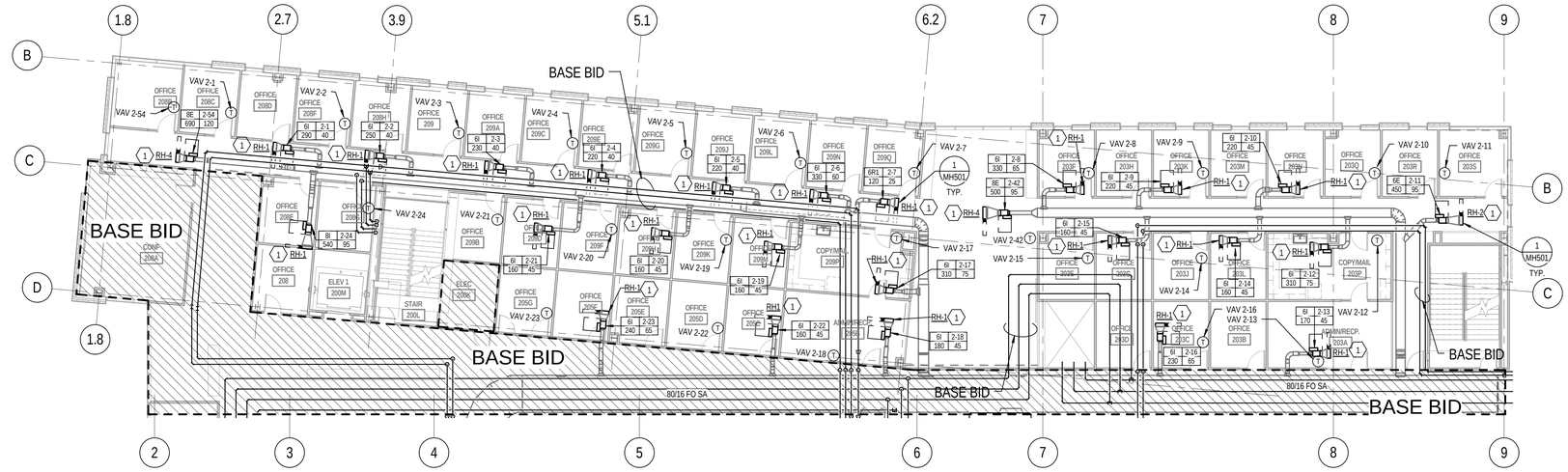
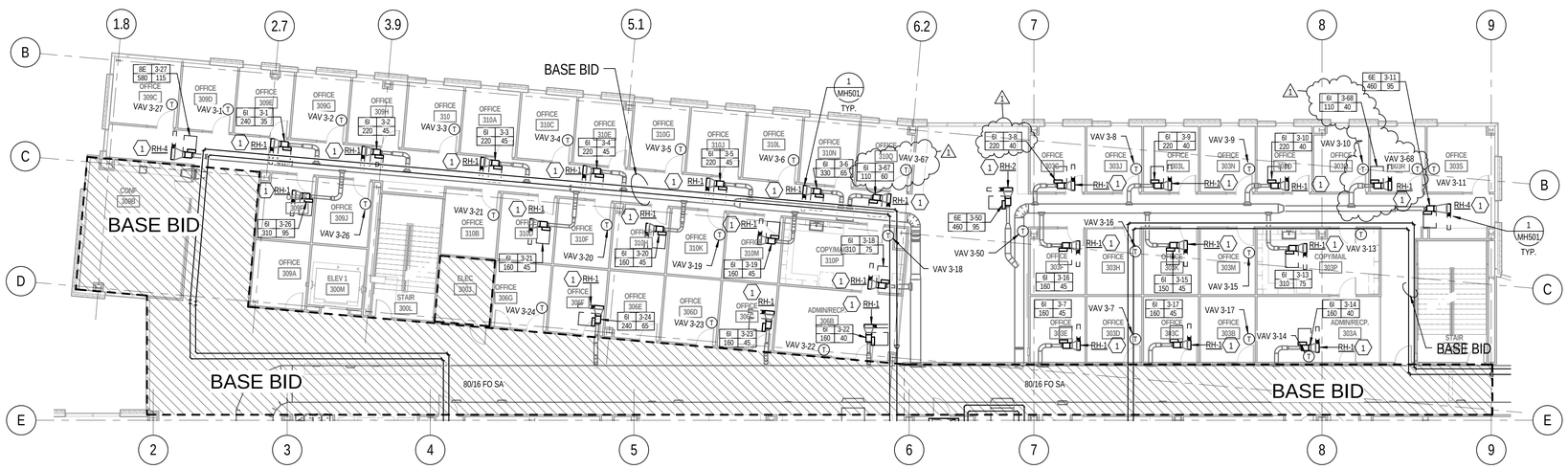


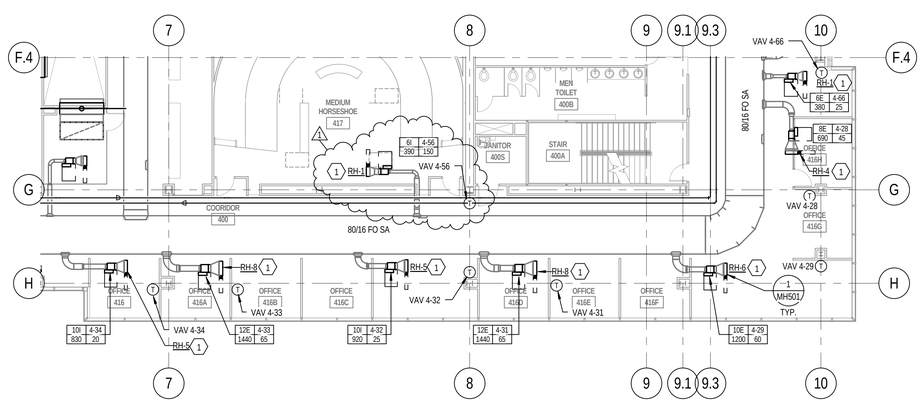
1 LEVEL 2 MECHANICAI PIPING FLOOR PLAN - ALTERNATE

SCALE: 3/32" = 1'-0"



2 LEVEL 3 MECHANICAL PIPING FLOOR PLAN - ALTERNATE

SCALE: 3/32" = 1'-0"



3 LEVEL 4 MECHANICAL PIPING FLOOR PLAN - ALTERNATE

SCALE: 3/32" = 1'-0"

KEYED NOTES

1 PROVIDE HEATING WATER SUPPLY AND RETURN PIPING FROM THE REVERSE RETURN HEATING WATER MAINS TO THE REHEAT COIL. PROVIDE ALL PIPING SPECIALTIES IN ACCORDANCE WITH DETAIL 1/MH501, EXCEPT FOR THE REHEAT COIL SERVED OFF THE END OF THE HEATING MAIN, WHICH SHALL BE PIPED IN ACCORDANCE WITH DETAIL 2/MH501. SEE SHEET MP202 FOR THE FLOW RATE THROUGH THE BYPASS LEG OFF THE 3-WAY VALVE. PIPE SIZES PER THE HEATING WATER RUNOUT PIPE SIZES SCHEDULE ON SHEET MH602. REHEAT COIL FLOW RATES ARE FOUND ON THE REHEAT BOXES SCHEDULES ON SHEET MH602.

GENERAL NOTES

A. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

B. ALL MANUAL VALVES, AUTOMATIC CONTROL VALVES, STRAINERS AND CIRCUIT SETTERS SHALL BE INSTALLED WHERE ACCESSIBLE ABOVE LAY-IN CEILING. COORDINATE WITH LATEST ARCHITECTURAL REFLECTED CEILING PLAN.

C. KEEP CONTROLS ACCESS ZONE OFF SIDE OF VAV BOX CLEAR OF ALL PIPING. PIPING MAY BE ROUTED ABOVE THE ELEVATION OF THE TOP OF THE VAV BOX, AVOIDING THE CONTROLS ACCESS ZONE.

D. REFER TO VERTICAL SPACE ALLOCATION SECTION ON CORRESPONDING MH SERIES SHEET FOR TYPICAL PIPING ELEVATION. ALL MECHANICAL PIPING SHALL BE INSTALLED PER THE VERTICAL SPACE ALLOCATION SECTION UNLESS OTHERWISE NOTED.

E. BRANCH PIPING TO INDIVIDUAL VAV BOXES IS NOT SHOWN. REFER TO THE HEATING WATER RUNOUT PIPE SIZES SCHEDULE ON SHEET MH602 FOR SIZING OF THE BRANCH PIPING.

COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvingineering.com

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State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:
UVU Classroom Building

800 University Way
Orem, UT 84058

project#: DFCM #12192790
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title:
LEVEL 2, 3 & 4 ALTERNATE MECH PIPING FLOOR PLANS

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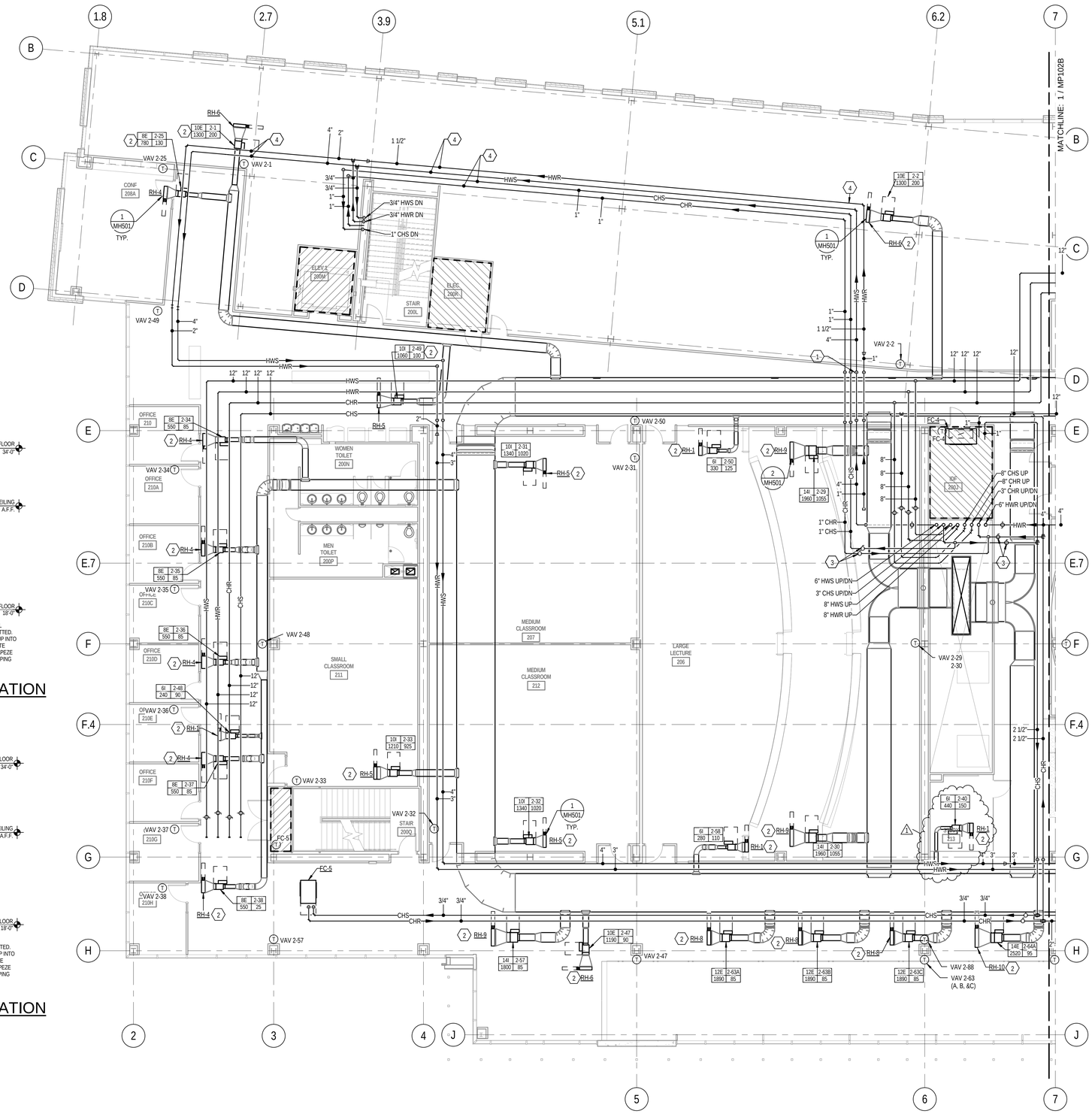

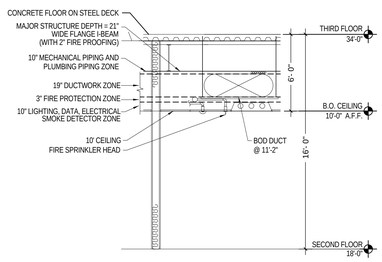

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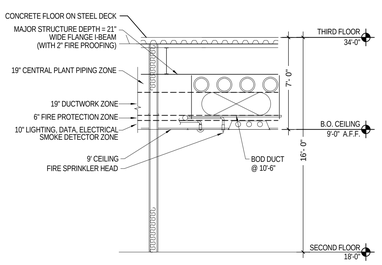
LEVEL 2 - VERTICAL SPACE ALLOCATION SECTION



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LEVEL 2 - VERTICAL SPACE ALLOCATION IN NORTH HALLWAY SECTION

1 LEVEL 2 AREA 'A' MECHANICAL PIPING FLOOR PLAN

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

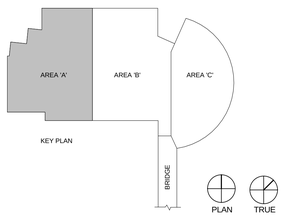
KEYED NOTES

1. OFFSET TO ROUTE BUILDING PIPING UP OVER CAMPUS PIPING AT THIS APPROXIMATE LOCATION. FIELD COORDINATE BEST LOCATION FOR OFFSETS.
2. PROVIDE HEATING WATER SUPPLY AND RETURN PIPING FROM THE REVERSE RETURN HEATING WATER MAINS TO THE REHEAT COIL. PROVIDE ALL PIPING SPECIALTIES IN ACCORDANCE WITH DETAIL 1/MH501. EXCEPT FOR THE REHEAT COIL SERVED OFF THE END OF THE HEATING MAIN, WHICH SHALL BE PIPED IN ACCORDANCE WITH DETAIL 2/MH501. SEE SHEET MP202 FOR THE FLOW RATE THROUGH THE BYPASS LEG OFF THE 3-WAY VALVE. PIPE SIZES PER THE HEATING WATER RUNOUT PIPE SIZES SCHEDULE ON SHEET MH602. REHEAT COIL FLOW RATES ARE FOUND ON THE REHEAT BOXES SCHEDULES ON SHEET MH602.
3. PROVIDE ISOLATION VALVES IN AN ACCESSIBLE LOCATION.
4. OFFSET PIPING AS REQUIRED TO COORDINATE WITH OTHER DISCIPLINES.

GENERAL NOTES

A. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.
B. ALL MANUAL VALVES, AUTOMATIC CONTROL VALVES, STRAINERS AND CIRCUIT SETTERS SHALL BE INSTALLED WHERE ACCESSIBLE ABOVE LAY-IN CEILING. COORDINATE WITH LATEST ARCHITECTURAL REFLECTED CEILING PLAN.
C. KEEP CONTROLS ACCESS ZONE OFF SIDE OF VAV BOX CLEAR OF ALL PIPING. PIPING MAY BE ROUTED ABOVE THE ELEVATION OF THE TOP OF THE VAV BOX, AVOIDING THE CONTROLS ACCESS ZONE.
D. REFER TO VERTICAL SPACE ALLOCATION SECTION ON CORRESPONDING MH SERIES SHEET FOR TYPICAL PIPING ELEVATION. ALL MECHANICAL PIPING SHALL BE INSTALLED PER THE VERTICAL SPACE ALLOCATION SECTION UNLESS OTHERWISE NOTED.
E. BRANCH PIPING TO INDIVIDUAL VAV BOXES IS NOT SHOWN. REFER TO THE HEATING WATER RUNOUT PIPE SIZES SCHEDULE ON SHEET MH602 FOR SIZING OF THE BRANCH PIPING.

KEY PLAN:



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Phone 801.322.2400 / colvineng.com

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Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

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UVU Classroom Building

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project#: DFCM #12192790
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LEVEL 2 AREA 'A' MECHANICAL PIPING FLOOR PLAN

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MP102A

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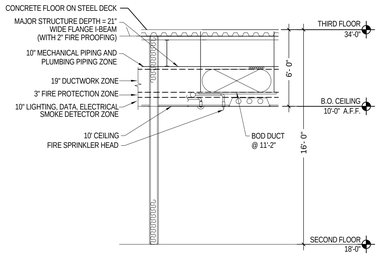

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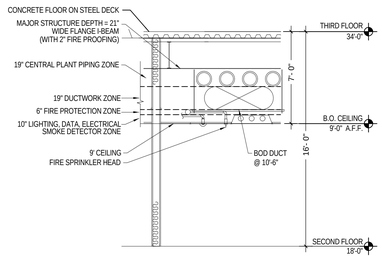
LEVEL 2 - VERTICAL SPACE ALLOCATION SECTION



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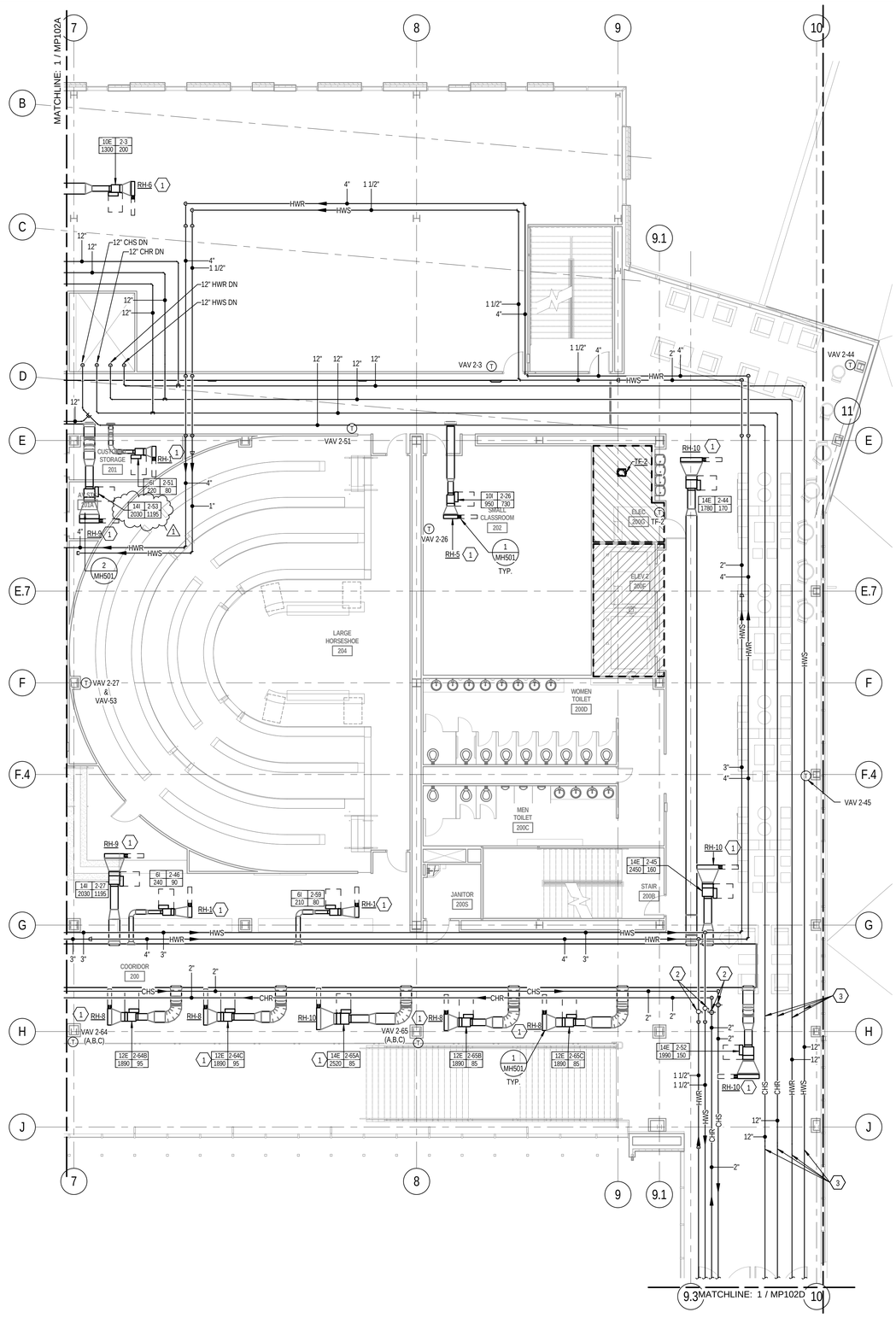
LEVEL 2 - VERTICAL SPACE ALLOCATION IN NORTH HALLWAY SECTION



1 LEVEL 2 AREA 'B' MECH. PIPING FLOOR PLAN

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

KEYED NOTES

1. PROVIDE HEATING WATER SUPPLY AND RETURN PIPING FROM THE REVERSE RETURN HEATING WATER MAINS TO THE REHEAT COIL. PROVIDE ALL PIPING SPECIALTIES IN ACCORDANCE WITH DETAIL 1/MH501, EXCEPT FOR THE REHEAT COIL SERVED OFF THE END OF THE HEATING MAIN, WHICH SHALL BE PIPED IN ACCORDANCE WITH DETAIL 2/MH501. SEE SHEET MP202 FOR THE FLOW RATE THROUGH THE BYPASS LEG OFF THE 3-WAY VALVE. PIPE SIZES PER THE HEATING WATER RUNOUT PIPE SIZES SCHEDULE ON SHEET MH602. REHEAT COIL FLOW RATES ARE FOUND ON THE REHEAT BOXES SCHEDULES ON SHEET MH602.
2. PROVIDE ISOLATION VALVES IN AN ACCESSIBLE LOCATION.
3. OFFSET PIPING BELOW STRUCTURE WITH TWO 45º ELBOWS AT THIS APPROXIMATE LOCATION. FIELD COORDINATE.

GENERAL NOTES

A. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

B. ALL MANUAL VALVES, AUTOMATIC CONTROL VALVES, STRAINERS AND CIRCUIT SETTERS SHALL BE INSTALLED WHERE ACCESSIBLE ABOVE LAY-IN CEILING. COORDINATE WITH LATEST ARCHITECTURAL REFLECTED CEILING PLAN.

C. KEEP CONTROLS ACCESS ZONE OFF SIDE OF VAV BOX CLEAR OF ALL PIPING. PIPING MAY BE ROUTED ABOVE THE ELEVATION OF THE TOP OF THE VAV BOX, AVOIDING THE CONTROLS ACCESS ZONE.

D. REFER TO VERTICAL SPACE ALLOCATION SECTION ON CORRESPONDING MH SERIES SHEET FOR TYPICAL PIPING ELEVATION. ALL MECHANICAL PIPING SHALL BE INSTALLED PER THE VERTICAL SPACE ALLOCATION SECTION UNLESS OTHERWISE NOTED.

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COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvinengineering.com

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CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

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UVU Classroom Building

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project#: DFCM #12192790
date: APRIL 30, 2013

revisions:
1 ADDENDUM #3 5.22.2013

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LEVEL 2 AREA 'B' MECHANICAL PIPING FLOOR PLAN

sheet:
MP102B

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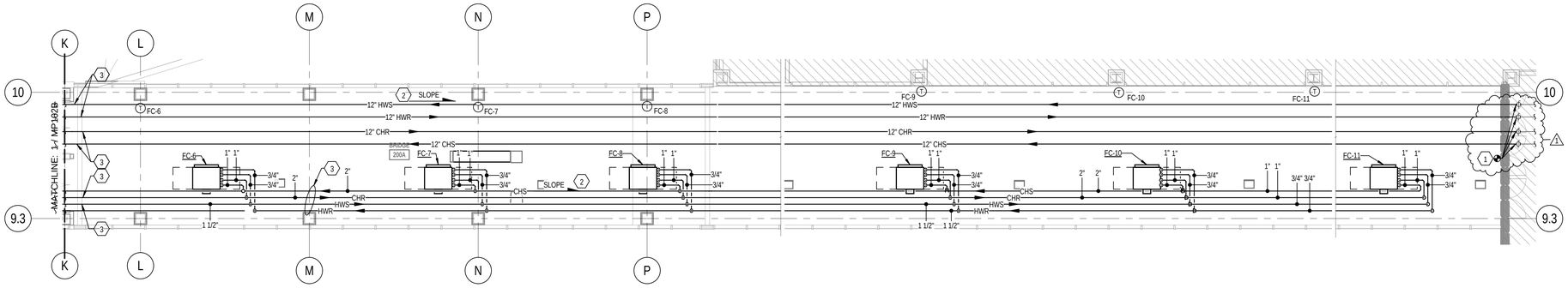


1 LEVEL 2 BRIDGE MECHANICAL PIPING PLAN

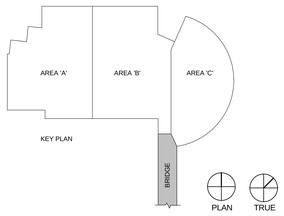
SCALE: 1/8" = 1'-0"

6' 0' 4' 8' 12' 16'

KEYED NOTES

1. CONNECT NEW 12" MECHANICAL PIPING TO EXISTING STUB-OUTS IN EXISTING LIBRARY. OFFSET PIPES BELOW EXISTING STRUCTURE AT LIBRARY WALL, THEN RISE UP ON SOUTH SIDE OF STRUCTURE. REMOVE EXISTING PIPE AND REPLACE AS NECESSARY TO CREATE SPACE TO INSTALL OFFSET.
2. SLOPE HEATING AND CHILLED MECHANICAL PIPING WITH SLOPE OF STRUCTURE. FIELD COORDINATE.
3. OFFSET PIPING BELOW STRUCTURE WITH TWO 45º ELBOWS AT THIS APPROXIMATE LOCATION. FIELD COORDINATE.

KEY PLAN:



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649 east south temple
salt lake city, utah 84102
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LEVEL 2 BRIDGE MECHANICAL PIPING FLOOR PLAN

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MP102D

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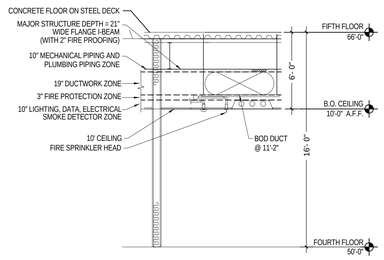

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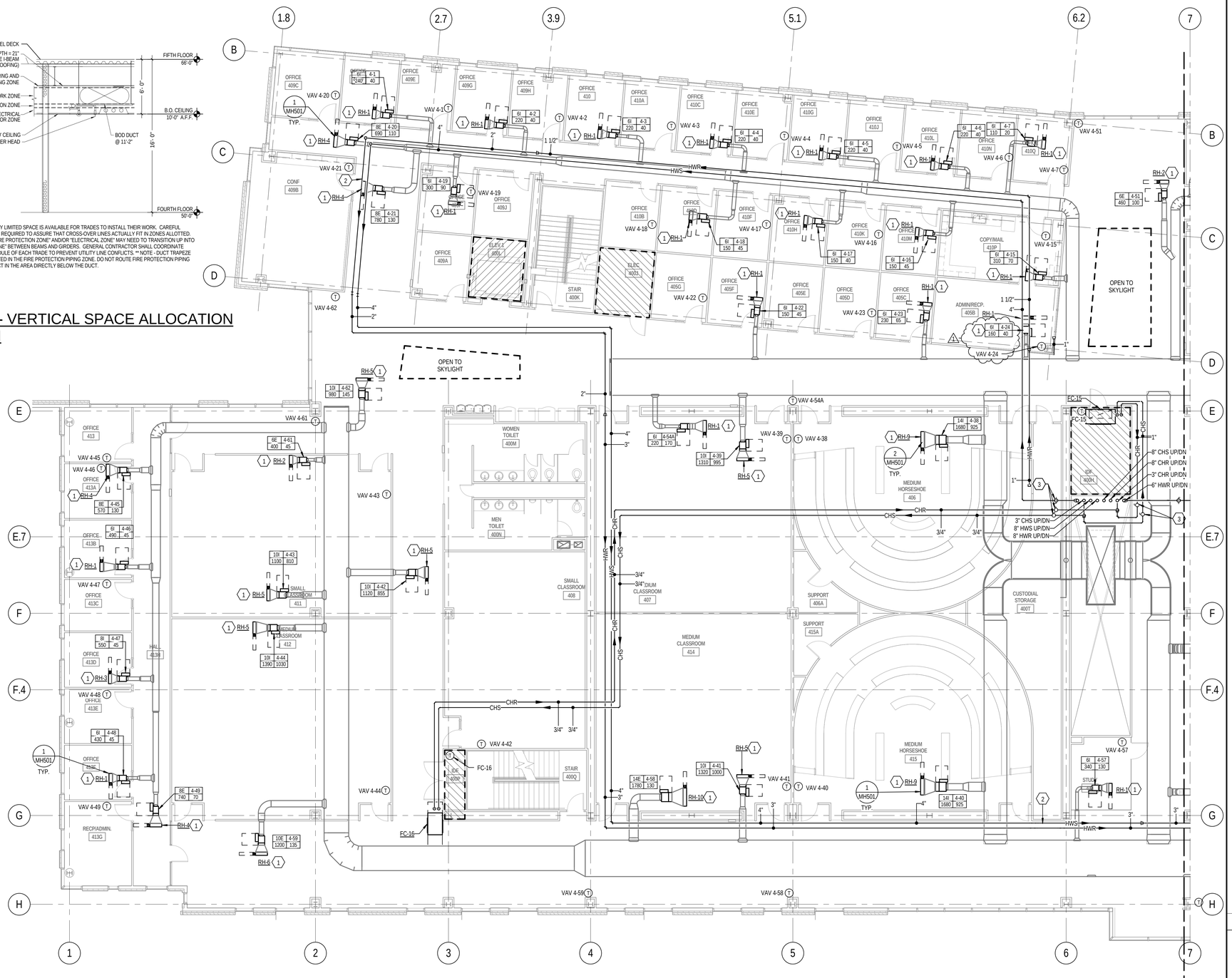
LEVEL 4 - VERTICAL SPACE ALLOCATION SECTION



LEVEL 4 AREA 'A' MECHANICAL PIPING FLOOR PLAN

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

KEYED NOTES

1. PROVIDE HEATING WATER SUPPLY AND RETURN PIPING FROM THE REVERSE RETURN HEATING WATER MAINS TO THE REHEAT COIL. PROVIDE ALL PIPING SPECIALTIES IN ACCORDANCE WITH DETAIL 1/MH501, EXCEPT FOR THE REHEAT COIL SERVED OFF THE END OF THE HEATING MAIN, WHICH SHALL BE PIPED IN ACCORDANCE WITH DETAIL 2/MH501. SEE SHEET MP202 FOR THE FLOW RATE THROUGH THE BYPASS LEG OFF THE 3-WAY VALVE. PIPE SIZES PER THE HEATING WATER RUNOUT PIPE SIZES SCHEDULE ON SHEET MH602. REHEAT COIL FLOW RATES ARE FOUND ON THE REHEAT BOXES SCHEDULES ON SHEET MH602.
2. OFFSET PIPING AS REQUIRED TO COORDINATE WITH OTHER DISCIPLINES.
3. PROVIDE ISOLATION VALVES IN AN ACCESSIBLE LOCATION.

GENERAL NOTES

A. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, ADMIN OR ELEVATOR MACHINE ROOMS.
B. ALL MANUAL VALVES, AUTOMATIC CONTROL VALVES, STRAINERS AND CIRCUIT SETTERS SHALL BE INSTALLED WHERE ACCESSIBLE ABOVE LAY-IN CEILING. COORDINATE WITH LATEST ARCHITECTURAL REFLECTED CEILING PLAN.
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E. BRANCH PIPING TO INDIVIDUAL VAV BOXES IS NOT SHOWN. REFER TO THE HEATING WATER RUNOUT PIPE SIZES SCHEDULE ON SHEET MH602 FOR SIZING OF THE BRANCH PIPING.

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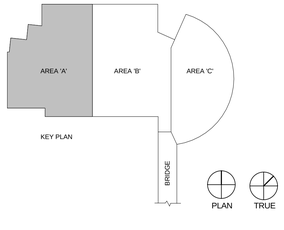

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LEVEL 4 AREA 'A' MECHANICAL PIPING FLOOR PLAN

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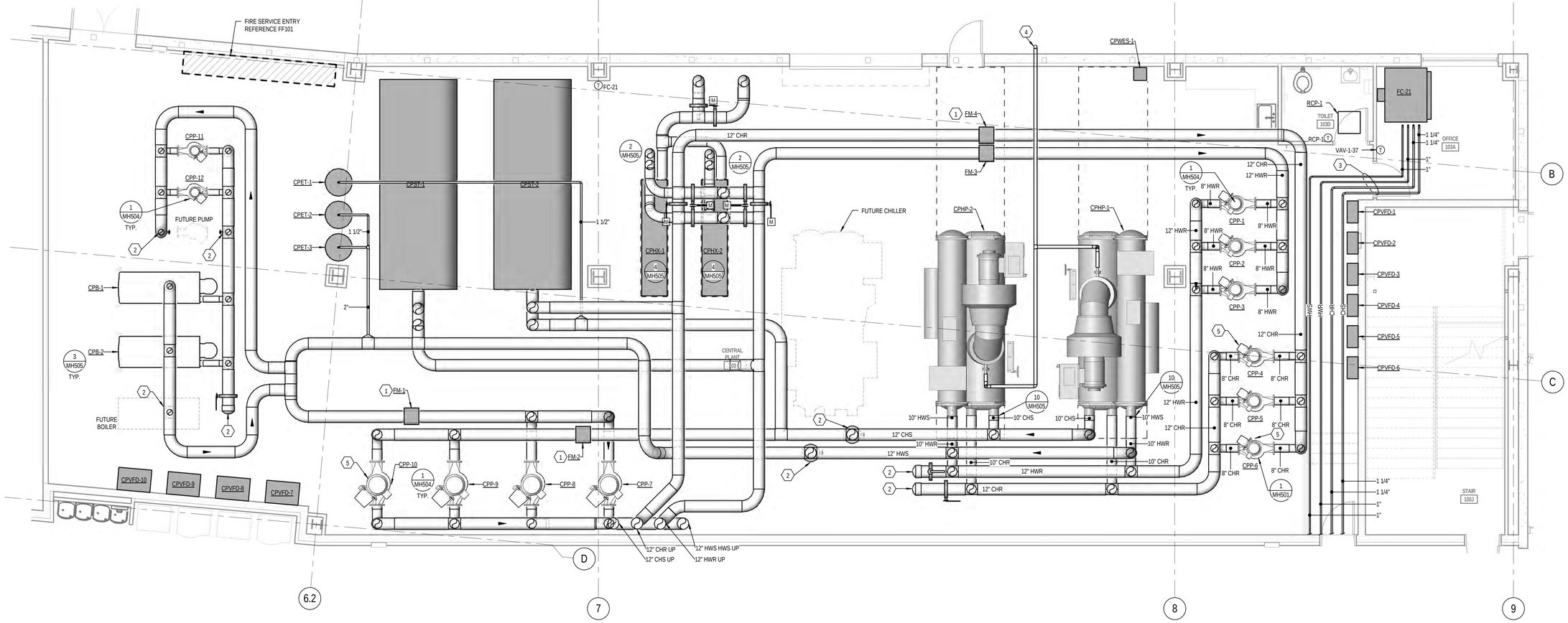


ENLARGED MECHANICAL PIPING CENTRAL PLANT

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

3' 0' 2' 4' 6' 8'

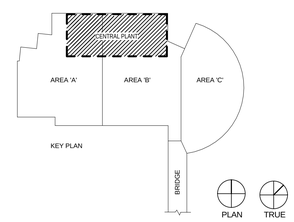
GENERAL NOTES

A. ALL HVAC PIPING 3"Ø AND LARGER SHALL BE WELDED. DO NOT USE GROOVED COUPLINGS ON THESE PIPES INSIDE CENTRAL PLANT. GROOVED COUPLINGS CAN BE USED ON THESE PIPE SIZES WHERE PIPE EXISTS OUTSIDE OF CENTRAL PLANT.

KEYED NOTES

1. PROVIDE STRAIGHT LENGTHS OF PIPE, 12 FEET UPSTEAM, 8 FEET DOWNSTREAM.
2. VALVE AND CAP FOR FUTURE EQUIPMENT.
3. ROUTE PIPING TIGHT TO STRUCTURE TO PROVIDE MAINTENANCE ACCESS TO FAN COILS.
4. DOWNTURN 90°. PROVIDE GALVANIZED WIRE MESH INSECT SCREEN. USE GALVANIZED STEEL FOR EXTERIOR PORTION, STARTING 1 FOOT INSIDE THE EXTERIOR WALL.
5. PROVIDE I-BEAM RAIL ABOVE PUMP MOTORS TO FACILITATE MOTOR REMOVAL. EXTEND RAIL AT LEAST 3 FEET BEYOND END OF LINE PUMPS.

KEY PLAN:



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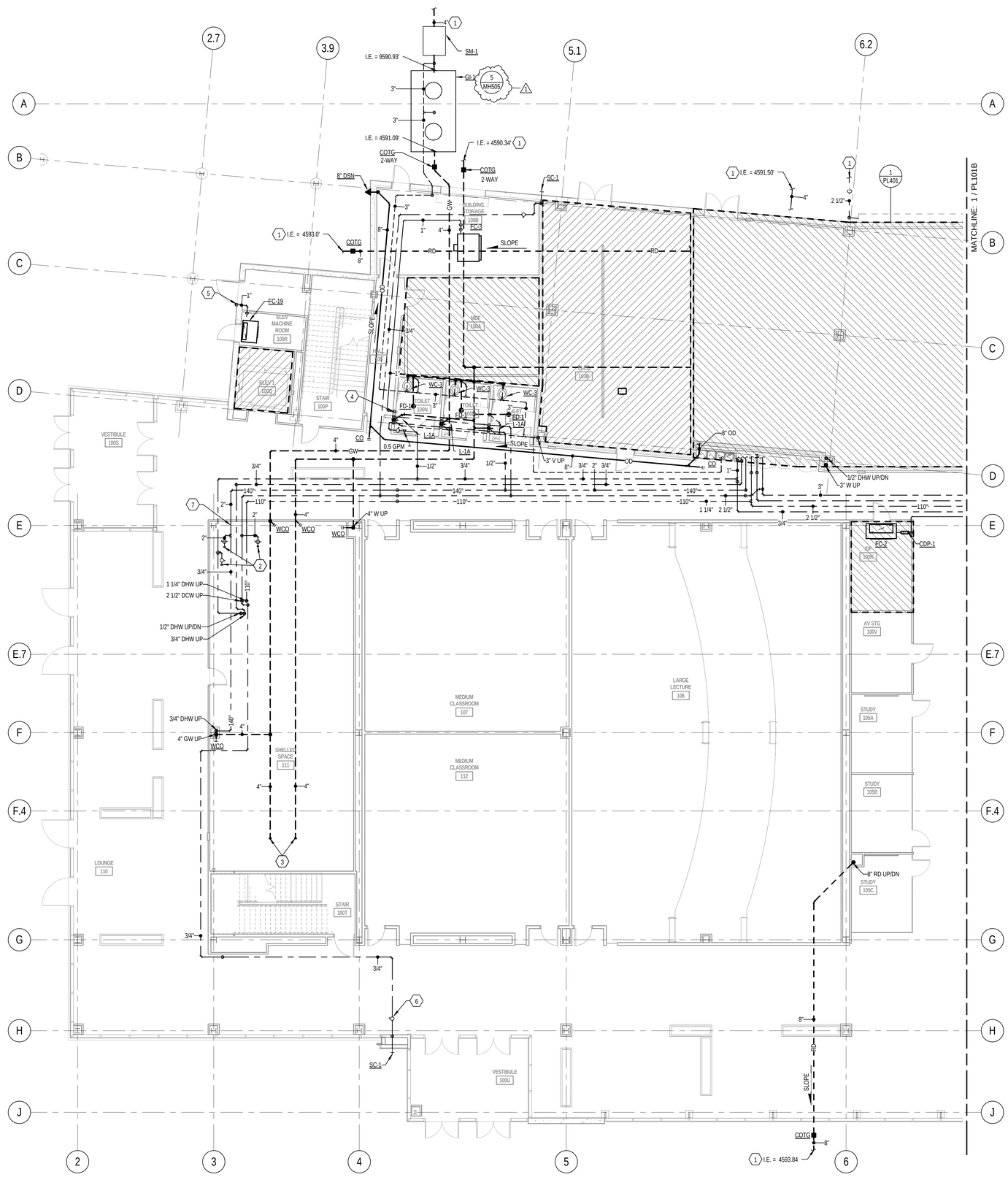


1 LEVEL 1 AREA 'A' PLUMBING FLOOR PLAN

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

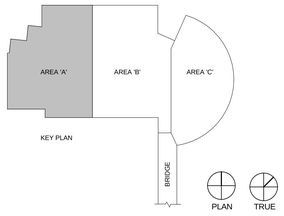
KEYED NOTES

1. REFER TO CIVIL DRAWINGS FOR PIPE CONTINUATION.
2. PROVIDE SHUT OFF VALVE IN DOMESTIC HOT AND COLD WATER, AND HOT WATER RECIRC AND CAP FOR FUTURE CONNECTION.
3. CAP 4" GREASE WASTE AND 4" SANITARY WASTE PIPING FOR FUTURE CONNECTION.
4. ROUTE 3/4" CONDENSATE DRAIN DOWN IN WALL AND CONNECT TO TAIL PIECE OF LAVATORY.
5. ROUTE 1" CONDENSATE DRAIN LINE DOWN ALONG WALL AND TURN AND PENETRATE EXTERIOR WALL AND TURN DOWN AND TERMINATE 6" ABOVE FINISHED GRADE AND DAYLIGHT TO OUTSIDE. PROVIDE INSECT SCREEN AT END OF PIPE.
6. PROVIDE SILLCOCK SHUTOFF VALVE IN DOMESTIC COLD WATER LINE ABOVE CEILING.
7. OFFSET DOMESTIC WATER PIPING BELOW STRUCTURE, OFFSET DOMESTIC WATER PIPING UP TO SET HEIGHT AFTER CLEARING STRUCTURE.

GENERAL NOTES

A. INVERT ELEVATIONS SHOWN ARE TO BOTTOM OF PIPE FLOW. ELEVATIONS ARE BASED ON FINISHED SLAB AT 100'-0"
B. DOWNSPOUT NOZZLES TO BE INSTALLED AT 24" ABOVE FINISHED GRADE. ALL DOWNSPOUT NOZZLES TO DISCHARGE INTO STORM CATCH BASIN. REFER TO CIVIL DRAWING, SHEET C104, FOR CATCH BASIN DETAILS.
C. ALL HORIZONTAL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.
D. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.
E. ROUTE ALL WASTE PIPING 2 1/2" AND SMALLER AT 1/4" PER FOOT SLOPE, ROUTE ALL WASTE PIPING 3" AND LARGER AT 1/8" PER FOOT SLOPE.

KEY PLAN:



COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvinengineering.com

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State of Utah
Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3016
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:
UVU Classroom Building

800 University Way
Orem, UT 84058

project#: DFCM #12192790
date: APRIL 30, 2013

revisions:
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title:
LEVEL 1 AREA 'A' PLUMBING FLOOR PLAN

sheet:
PL101A

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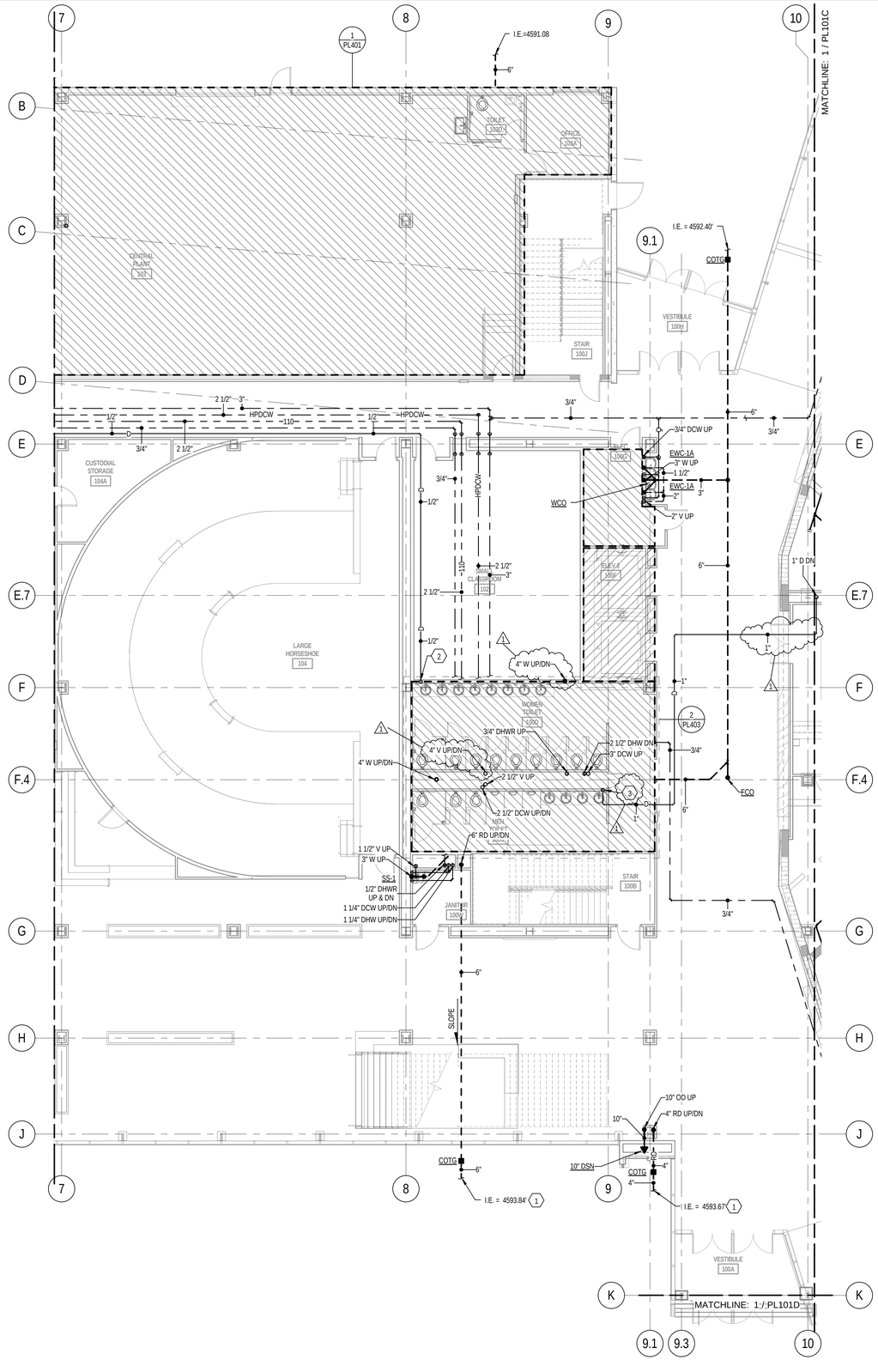


1 LEVEL 1 AREA 'B' PLUMBING FLOOR PLAN

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

KEYED NOTES

1. REFER TO CIVIL DRAWINGS FOR PIPE CONTINUATION.
2. ROUTE 1/2" CONDENSATE DRAIN PIPING DOWN TO LAVATORY TAIL PIECE.
3. ROUTE 1" CONDENSATE DRAIN PIPING DOWN TO LAVATORY TAIL PIECE.

GENERAL NOTES

A. INVERT ELEVATIONS SHOWN ARE TO BOTTOM OF PIPE FLOW. ELEVATIONS ARE BASED ON FINISHED SLAB AT 100'-0"

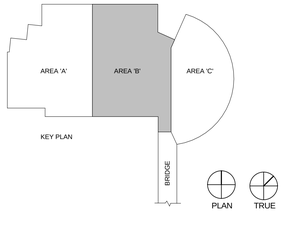
B. DOWNSPOUT NOZZLES TO BE INSTALLED AT 24" ABOVE FINISHED GRADE. ALL DOWNSPOUT NOZZLES TO DISCHARGE INTO STORM CATCH BASIN. REFER TO CIVIL DRAWING, SHEET C104, FOR CATCH BASIN DETAILS.

C. ALL HORIZONTAL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.

D. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

E. ROUTE ALL WASTE PIPING 2 1/2" AND SMALLER AT 1/4" PER FOOT SLOPE, ROUTE ALL WASTE PIPING 3" AND LARGER AT 1/8" PER FOOT SLOPE.

KEY PLAN:



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Phone 801.322.2400 / colvineng.com

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Department of Administrative Services
Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

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LEVEL 1 AREA 'B' PLUMBING FLOOR PLAN

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PL101B

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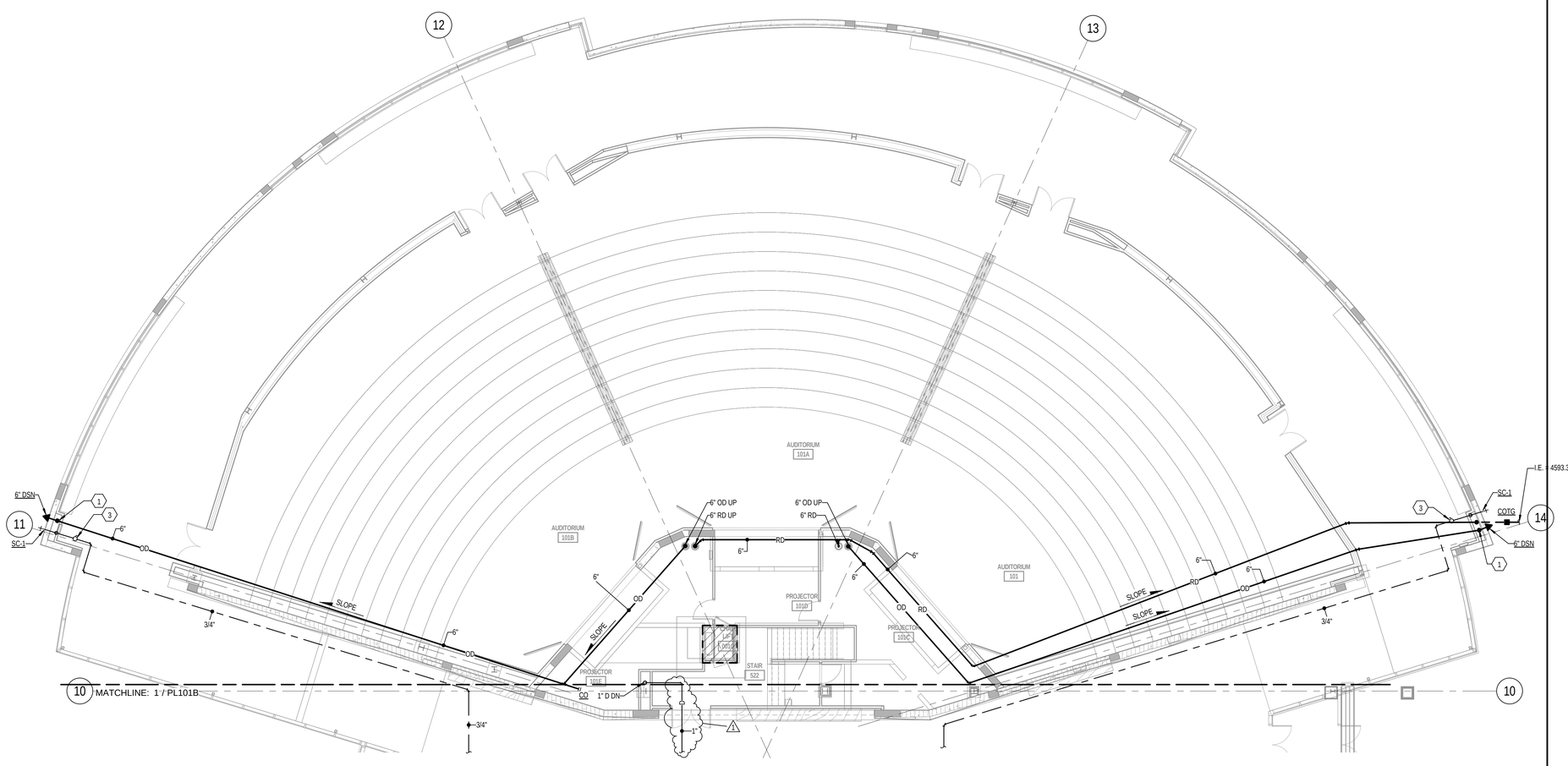


LEVEL 1 AREA 'C' PLUMBING FLOOR PLAN

1 SCALE: 6' 0' 4' 8' 12' 16'

KEYED NOTES

1. ROOF DRAIN PIPING TO DROP DOWN FROM ABOVE CEILING INSIDE FURRED SPACE. PIPING MUST BE ON WARM SIDE OF WALL.
2. REFER TO CIVIL DRAWINGS FOR PIPE CONTINUATION.
3. PROVIDE SILLCOCK SHUTOFF VALVE IN DOMESTIC COLD WATER LINE ABOVE CEILING.

GENERAL NOTES

A. INVERT ELEVATIONS SHOWN ARE TO BOTTOM OF PIPE FLOW. ELEVATIONS ARE BASED ON FINISHED SLAB AT 100'-0"

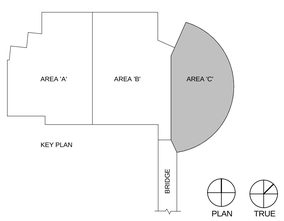
B. DOWNSPOUT NOZZLES TO BE INSTALLED AT 24" ABOVE FINISHED GRADE. ALL DOWNSPOUT NOZZLES TO DISCHARGE INTO STORM CATCH BASIN. REFER TO CIVIL DRAWING, SHEET C104, FOR CATCH BASIN DETAILS.

C. ALL HORIZONTAL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.

D. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

E. ROUTE ALL WASTE PIPING 2 1/2" AND SMALLER AT 1/4" PER FOOT SLOPE, ROUTE ALL WASTE PIPING 3" AND LARGER AT 1/8" PER FOOT SLOPE.

KEY PLAN:



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Department of Administrative Services
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4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

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LEVEL 1 AREA 'C' PLUMBING FLOOR PLAN

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PL101C

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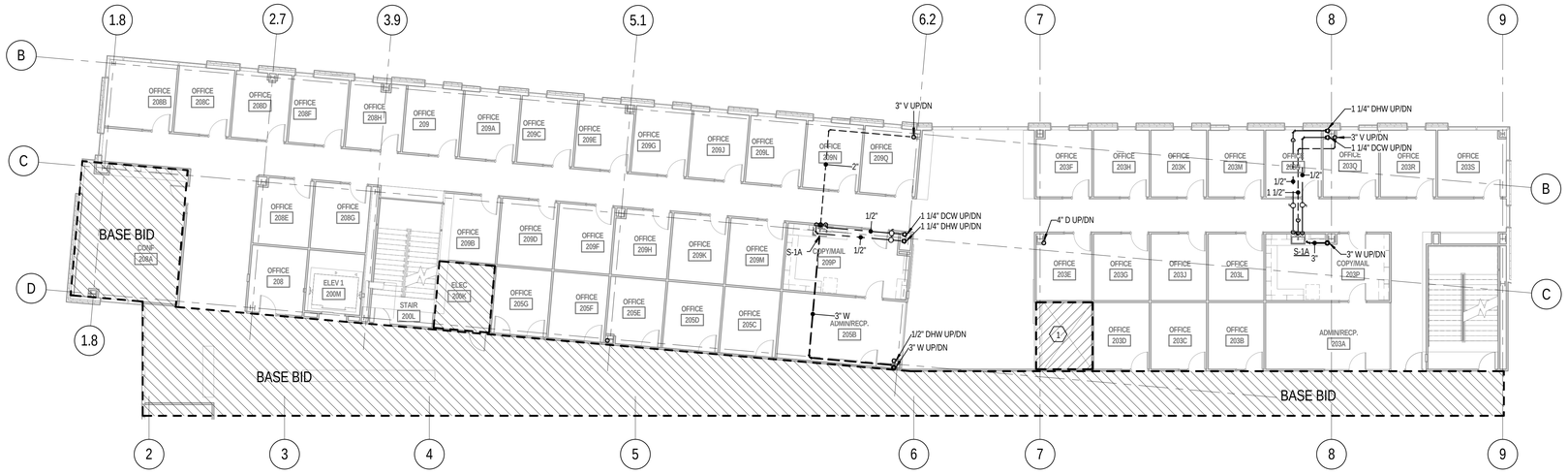
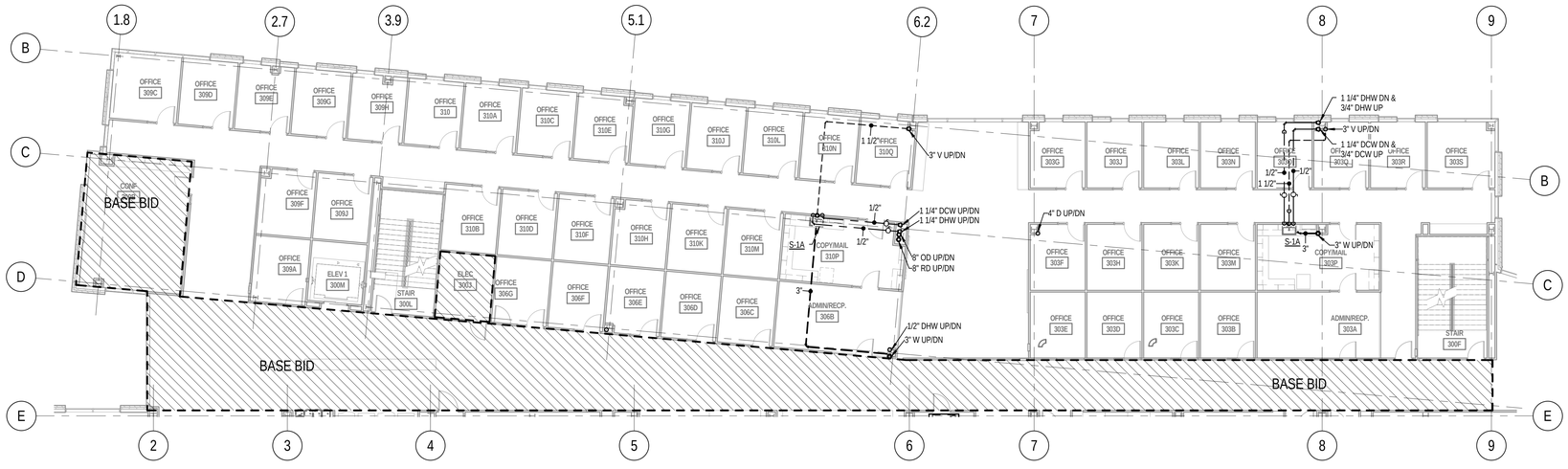


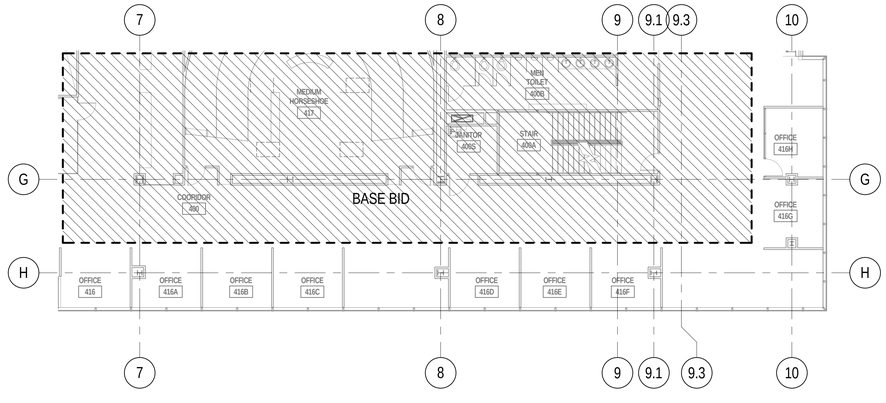
1 LEVEL 2 PLUMBING FLOOR PLAN - ALTERNATE

SCALE: 3/32" = 1'-0"



2 LEVEL 3 PLUMBING FLOOR PLAN - ALTERNATE

SCALE: 3/32" = 1'-0"



3 LEVEL 4 PLUMBING FLOOR PLAN - ALTERNATE

SCALE: 3/32" = 1'-0"

KEYED NOTES

1 DO NOT ROUTE ANY DUCT OR PLUMBING PIPING IN THIS SHAFT/OPENING.

GENERAL NOTES

A. INVERT ELEVATIONS SHOWN ARE TO BOTTOM OF PIPE FLOW. ELEVATIONS ARE BASED ON FINISHED SLAB AT 100'-0"

B. DOWNSPOUT NOZZLES TO BE INSTALLED AT 24" ABOVE FINISHED GRADE. ALL DOWNSPOUT NOZZLES TO DISCHARGE INTO STORM CATCH BASIN. REFER TO CIVIL DRAWING, SHEET C104, FOR CATCH BASIN DETAILS.

C. ALL HORIZONTAL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.

D. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

E. ROUTE ALL WASTE PIPING 2 1/2" AND SMALLER AT 1/4" PER FOOT SLOPE, ROUTE ALL WASTE PIPING 3" AND LARGER AT 1/8" PER FOOT SLOPE.

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244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvinengineering.com

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Department of Administrative Services
Division of Facilities Construction & Management
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Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

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LEVEL 2, 3 & 4 ALTERNATE PLUMBING FLOOR PLANS

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PL102.1

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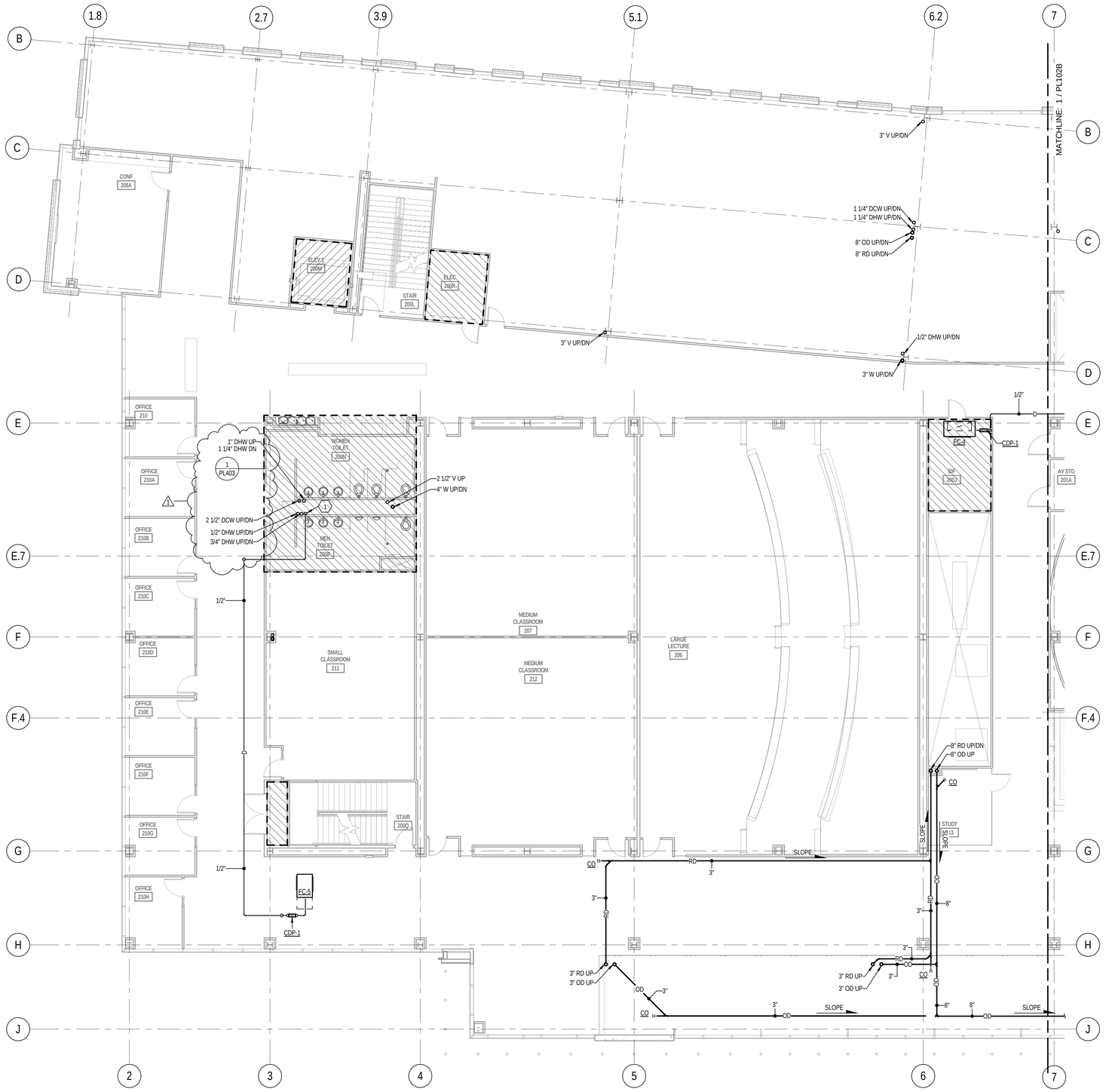

1 LEVEL 2 AREA 'A' PLUMBING FLOOR PLAN

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

KEYED NOTES

1. ROUTE 1/2" CONDENSATE DRAIN PIPING DOWN TO LAVATORY TAIL PIECE.

GENERAL NOTES

A. INVERT ELEVATIONS SHOWN ARE TO BOTTOM OF PIPE FLOW. ELEVATIONS ARE BASED ON FINISHED SLAB AT 100'-0"

B. DOWNSPOUT NOZZLES TO BE INSTALLED AT 24" ABOVE FINISHED GRADE. ALL DOWNSPOUT NOZZLES TO DISCHARGE INTO STORM CATCH BASIN. REFER TO CIVIL DRAWING, SHEET C104, FOR CATCH BASIN DETAILS.

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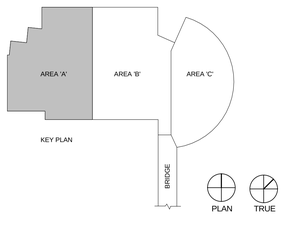
E. ROUTE ALL WASTE PIPING 2 1/2" AND SMALLER AT 1/4" PER FOOT SLOPE. ROUTE ALL WASTE PIPING 3" AND LARGER AT 1/8" PER FOOT SLOPE.

KEY PLAN:



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Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHOD STUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

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project:
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800 University Way
Orem, UT 84058

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title:
LEVEL 2 AREA 'A' PLUMBING FLOOR PLAN

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PL102A

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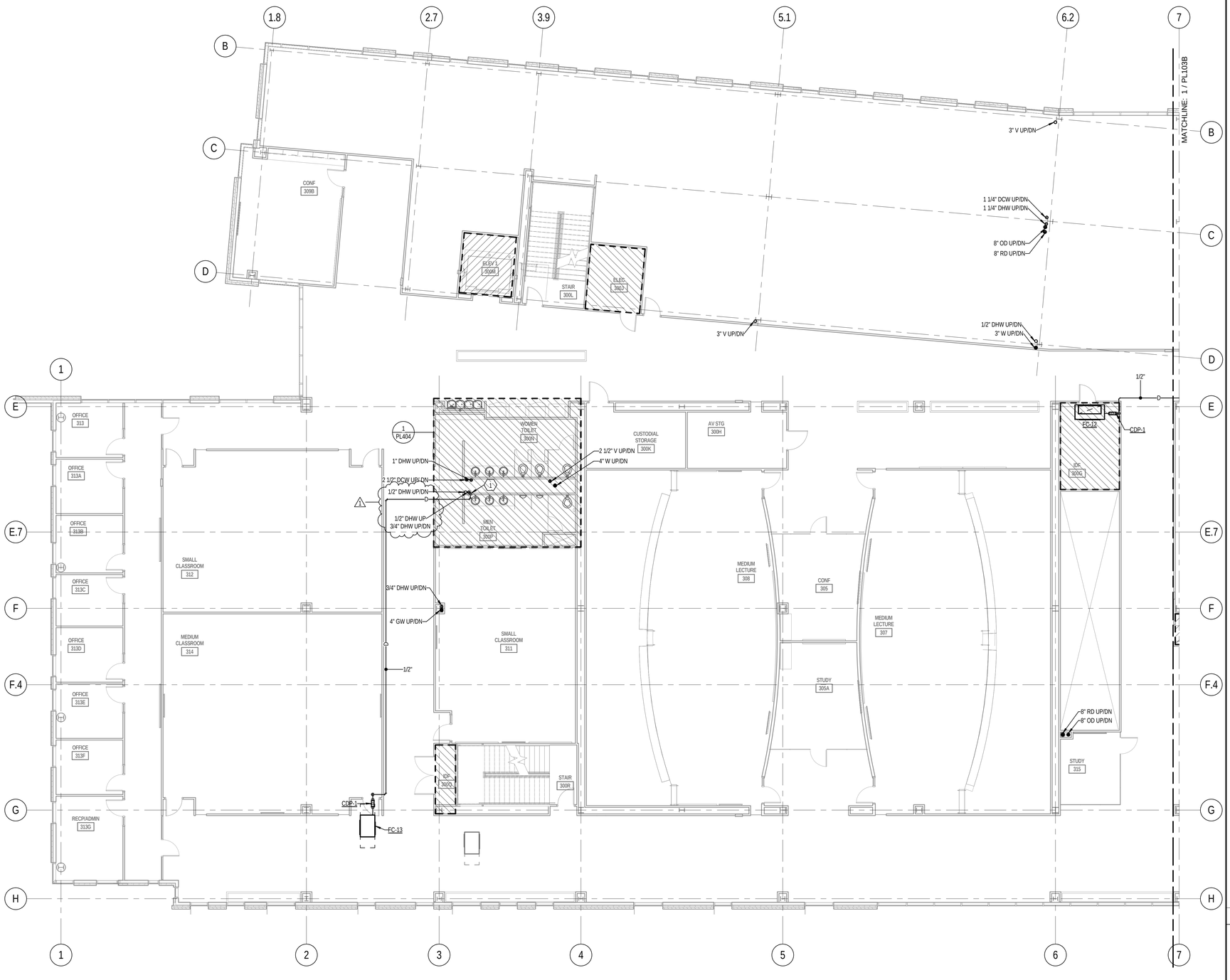


1 LEVEL 3 AREA 'A' PLUMBING FLOOR PLAN

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

6' 0' 4' 8' 12' 16'

KEYED NOTES

1 ROUTE 1/2" CONDENSATE DRAIN PIPING DOWN TO LAVATORY TAIL PIECE.

GENERAL NOTES

A. INVERT ELEVATIONS SHOWN ARE TO BOTTOM OF PIPE FLOW. ELEVATIONS ARE BASED ON FINISHED SLAB AT 100'-0"

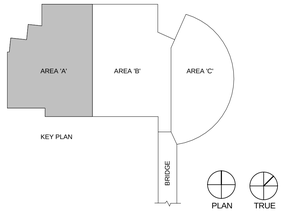
B. DOWNSPOUT NOZZLES TO BE INSTALLED AT 24" ABOVE FINISHED GRADE. ALL DOWNSPOUT NOZZLES TO DISCHARGE INTO STORM CATCH BASIN. REFER TO CIVIL DRAWING, SHEET C104, FOR CATCH BASIN DETAILS.

C. ALL HORIZONTAL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.

D. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

E. ROUTE ALL WASTE PIPING 2 1/2" AND SMALLER AT 1/4" PER FOOT SLOPE. ROUTE ALL WASTE PIPING 3" AND LARGER AT 1/8" PER FOOT SLOPE.

KEY PLAN:



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244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
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Division of Facilities Construction & Management
4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
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salt lake city, utah 84101
phone:(801) 532-4422

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LEVEL 3 AREA 'A' PLUMBING FLOOR PLAN

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PL103A

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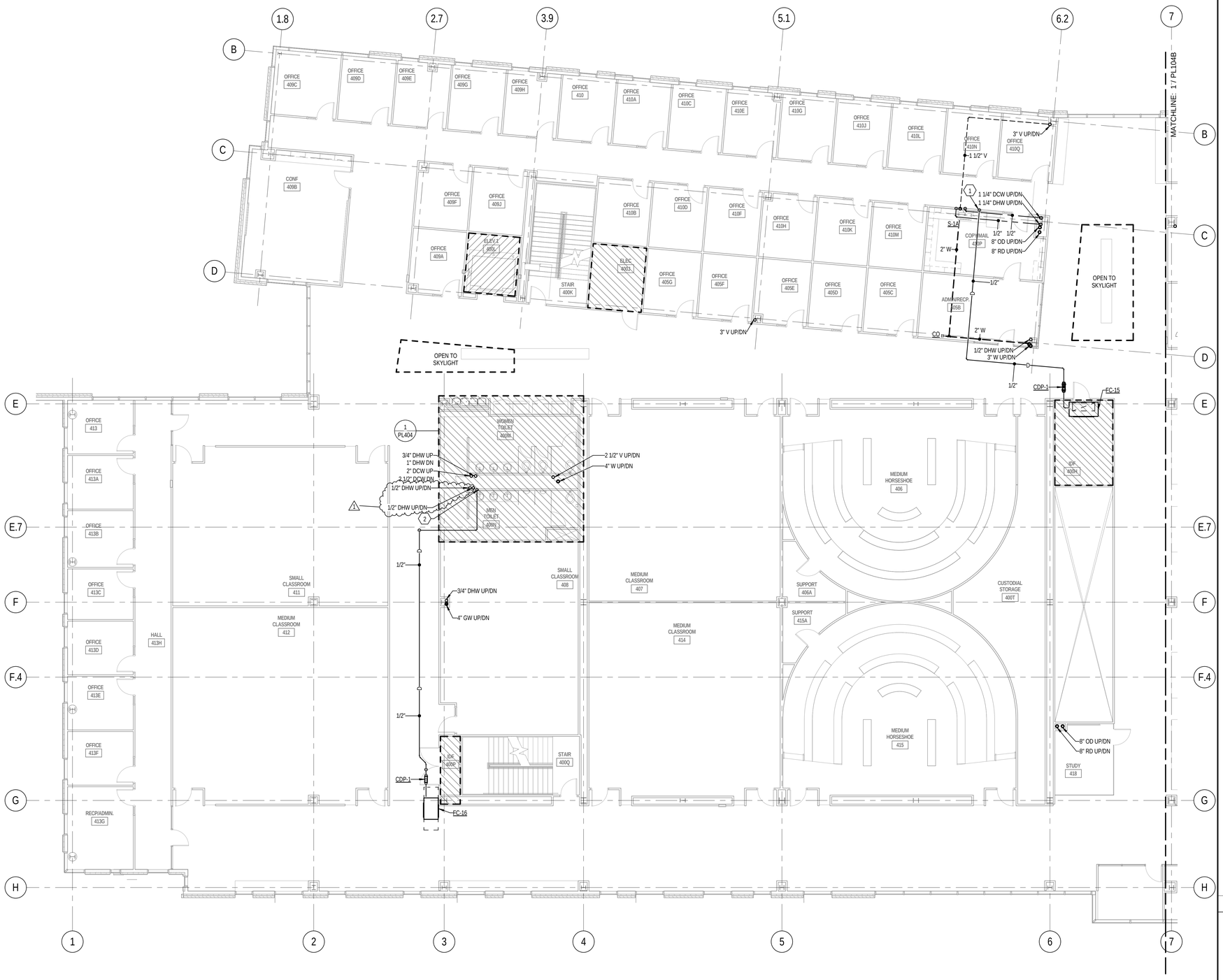


1 LEVEL 4 AREA 'A' PLUMBING FLOOR PLAN

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

6' 0' 4' 8' 12' 16'

KEYED NOTES

1. ROUTE 1/2" CONDENSATE DRAIN LINE DOWN IN WALL AND CONNECT TO SINK TAIL PIECE.
2. ROUTE 1/2" CONDENSATE DRAIN PIPING DOWN TO LAVATORY TAIL PIECE.

GENERAL NOTES

A. INVERT ELEVATIONS SHOWN ARE TO BOTTOM OF PIPE FLOW. ELEVATIONS ARE BASED ON FINISHED SLAB AT 100'-0"

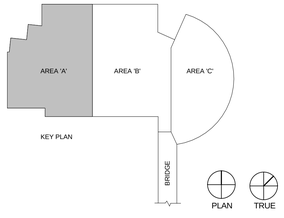
B. DOWNSPOUT NOZZLES TO BE INSTALLED AT 24" ABOVE FINISHED GRADE. ALL DOWNSPOUT NOZZLES TO DISCHARGE INTO STORM CATCH BASIN. REFER TO CIVIL DRAWING, SHEET C104, FOR CATCH BASIN DETAILS.

C. ALL HORIZONTAL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.

D. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

E. ROUTE ALL WASTE PIPING 2 1/2" AND SMALLER AT 1/4" PER FOOT SLOPE, ROUTE ALL WASTE PIPING 3" AND LARGER AT 1/8" PER FOOT SLOPE.

KEY PLAN:



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CRSA ARCHITECTS
649 east south temple
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LEVEL 4 AREA 'A' PLUMBING FLOOR PLAN

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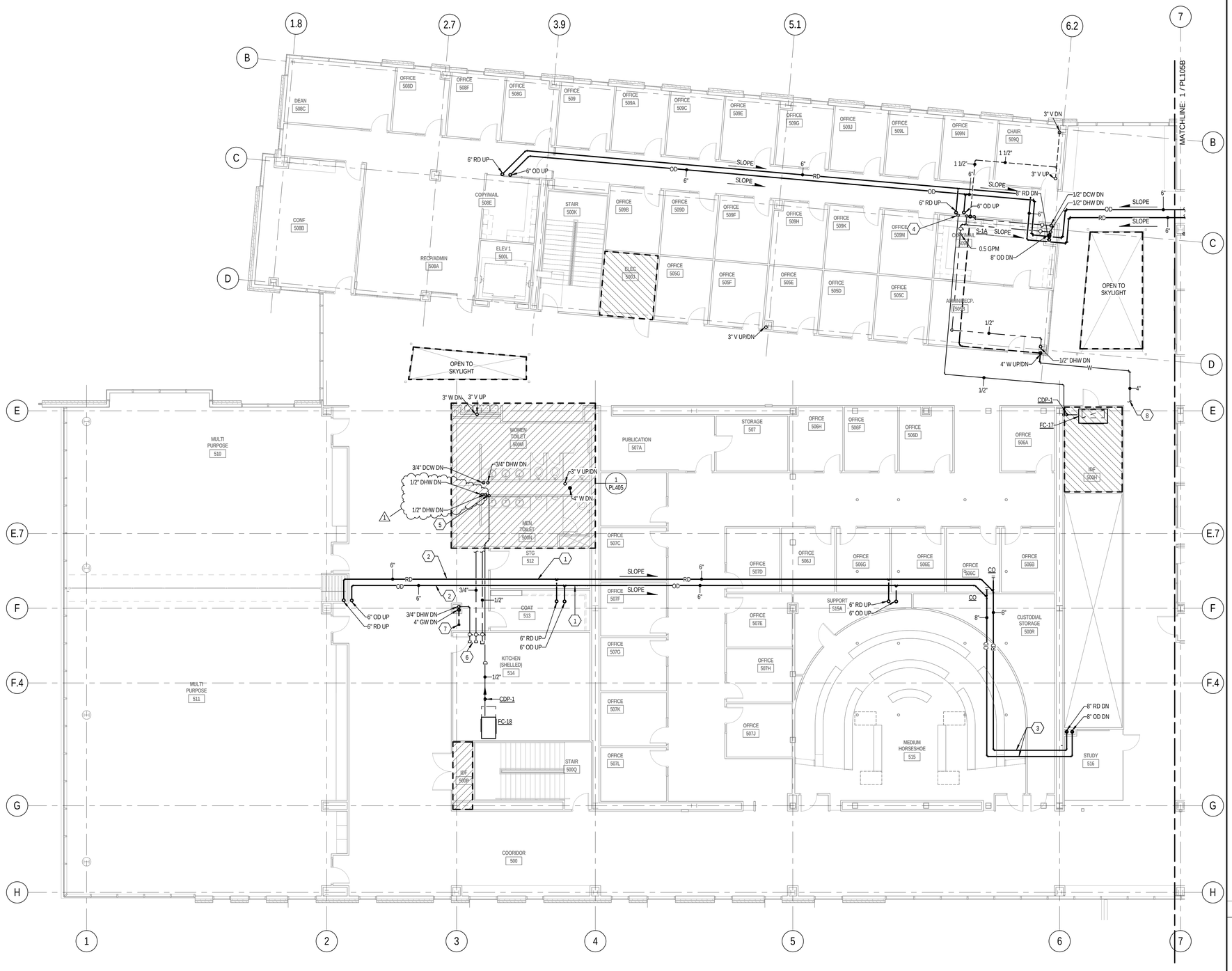


1 LEVEL 5 AREA 'A' PLUMBING FLOOR PLAN

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

KEYED NOTES

1. DROP ROOF DRAIN AND OVERFLOW DRAIN PIPING FROM INSIDE WEB TO BELOW STRUCTURE IN THIS LOCATION. ROUTE PIPING AS HIGH AS POSSIBLE BELOW STRUCTURE WHILE MAINTAINING PROPER SLOPE.
2. ROUTE ROOF DRAIN AND OVERFLOW DRAIN PIPING INSIDE OPEN WEB OF JOIST IN THIS LOCATION.
3. ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE ROUTED BELOW MAIN SUPPLY DUCT LOOP IN THIS LOCATION.
4. ROUTE 1/2" CONDENSATE DRAIN LINE DOWN IN WALL AND CONNECT TO SINK TAIL PIECE.
5. ROUTE 1/2" CONDENSATE DRAIN PIPING DOWN TO LAVATORY TAIL PIECE.
6. PROVIDE SHUT OFF VALVE IN DOMESTIC HOT AND COLD WATER, AND HOT WATER RECIRC AND CAP FOR FUTURE CONNECTION.
7. CAP 4" GREASE WASTE LINE FOR FUTURE CONNECTION.
8. REFER TO DRAWING 2/PL402 FOR CONTINUATION.

GENERAL NOTES

A. INVERT ELEVATIONS SHOWN ARE TO BOTTOM OF PIPE FLOW. ELEVATIONS ARE BASED ON FINISHED SLAB AT 100'-0"

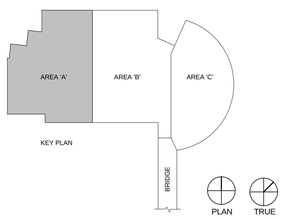
B. DOWNSPOUT NOZZLES TO BE INSTALLED AT 24" ABOVE FINISHED GRADE. ALL DOWNSPOUT NOZZLES TO DISCHARGE INTO STORM CATCH BASIN. REFER TO CIVIL DRAWING, SHEET C104, FOR CATCH BASIN DETAILS.

C. ALL HORIZONTAL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.

D. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL, IDF OR ELEVATOR MACHINE ROOMS.

E. ROUTE ALL WASTE PIPING 2 1/2" AND SMALLER AT 1/4" PER FOOT SLOPE, ROUTE ALL WASTE PIPING 3" AND LARGER AT 1/8" PER FOOT SLOPE.

KEY PLAN:



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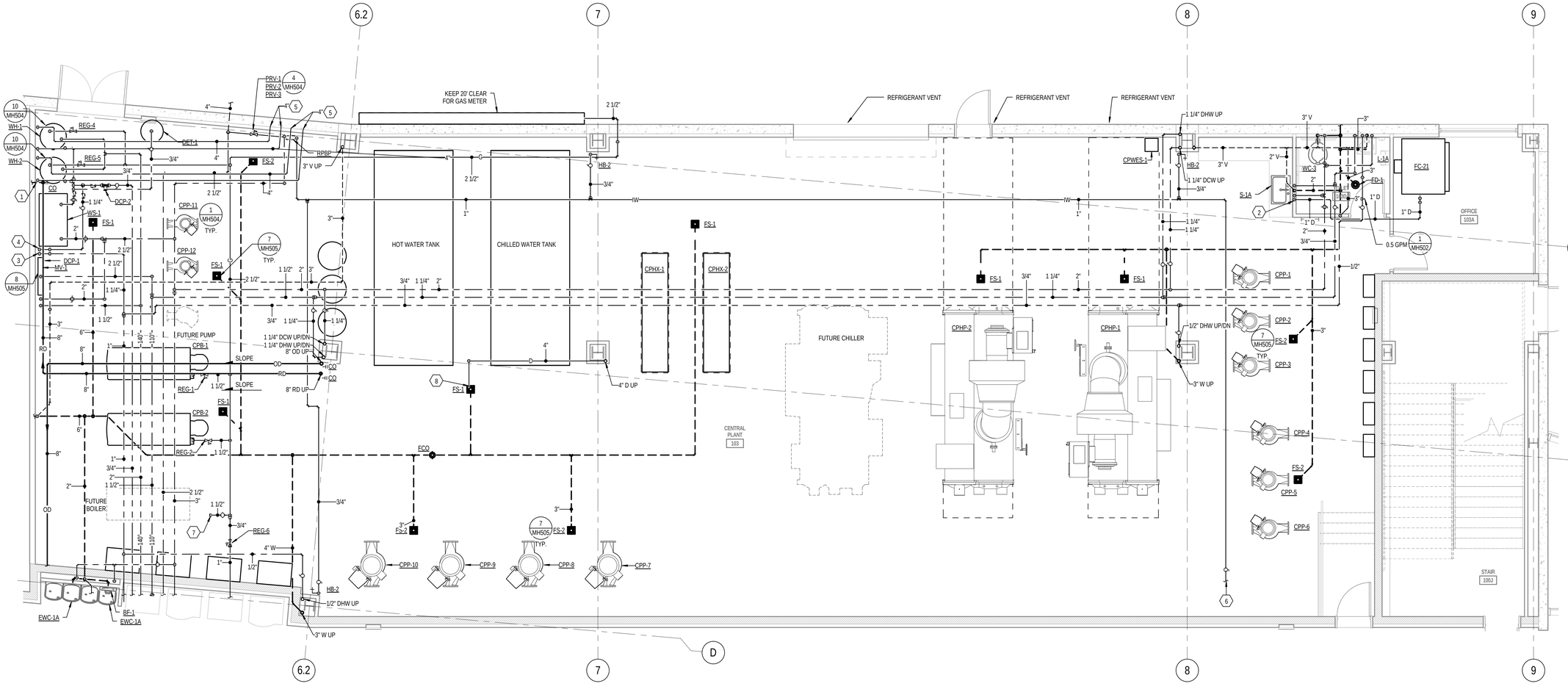
revisions:
1 ADDENDUM #3 5.22.2013

title:
LEVEL 5 AREA 'A' PLUMBING FLOOR PLAN

sheet:
PL105A

BID DOC



1 ENLARGED PLUMBING CENTRAL PLANT

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

3' 0' 2' 4' 6' 8'

KEYED NOTES

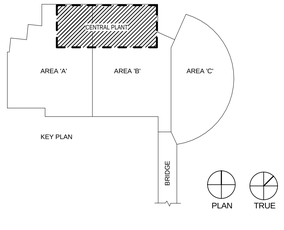
1. ROUTE 8" ROOF DRAIN PIPING AS HIGH AS POSSIBLE ALONG WEST WALL OF CENTRAL PLANT. DROP PIPING IN LOCATION SHOWN AND PENETRATE THROUGH WALL TO SPACE BELOW THE ELECTRICAL ROOM SLAB.
2. ROUTE 1" CONDENSATE DRAIN LINE DOWN IN WALL AND CONNECT TO SINK TAIL PIECE.
3. ROUTE 1" DOMESTIC HOT WATER RECIRC. DOWN TO DOMESTIC HOT WATER RECIRC. INLET CONNECTION ON MASTER MIXING VALVE.
4. ROUTE 1" DOMESTIC HOT WATER RECIRC. FROM MASTER MIXING VALVE OUTLET TO DOMESTIC COLD WATER PIPING DOWNSTREAM OF WATER SOFTENER TO HOT WATER HEATERS.
5. TERMINATE WATER HEATER 4" COMBUSTION AIR/FLUE WITH CONCENTRIC VENT KIT THROUGH WALL. KEEP 10' MINIMUM FROM ANY OPENING.
6. SEE SHEET 1/PL101 FOR PIPE CONTINUATION FOR GREEN ROOF IRRIGATION.
7. PROVIDE SHUTOFF VALVE AND CAP GAS PIPING FOR FUTURE CONNECTION.
8. ROUTE CONDENSATE DRAIN FROM PENTHOUSE AIR HANDLER COOLING COIL FLOOR SINK. PROVIDE AIR GAP AS REQUIRED.

GENERAL NOTES

A. ALL HORIZONTAL ROOF DRAIN AND OVERFLOW DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.

B. ROUTE ALL WASTE PIPING 21/2" AND SMALLER AT 1/4" PER FOOT SLOPE, ROUTE ALL WASTE PIPING 3" AND LARGER AT 1/8" PER FOOT SLOPE.

KEY PLAN:



COLVIN ENGINEERING ASSOCIATES
244 West 300 North, Suite 200 / Salt Lake City, Utah 84103
Phone 801.322.2400 / colvinengineering.com

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Department of Administrative Services
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4110 State Office Building
Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:
UVU Classroom Building

800 University Way
Orem, UT 84058

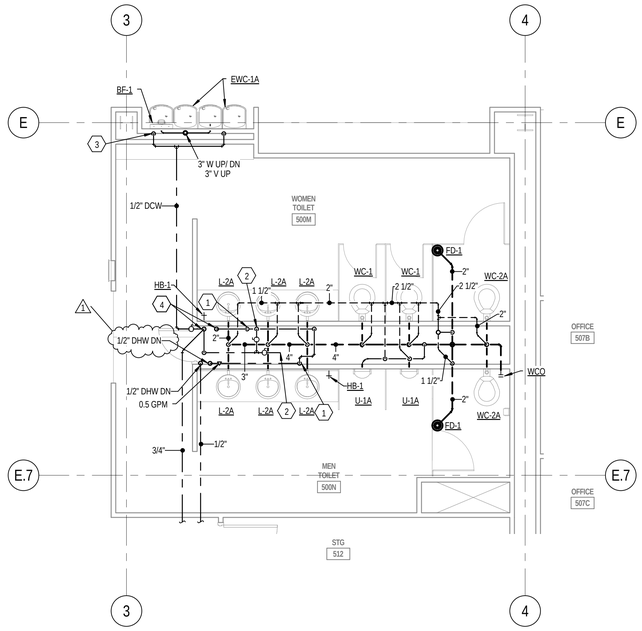
project#: DFCM #12192790
date: APRIL 30, 2013

revisions:
1 ADDENDUM #3 5.22.2013

title:
ENLARGED PLUMBING CENTRAL PLANT

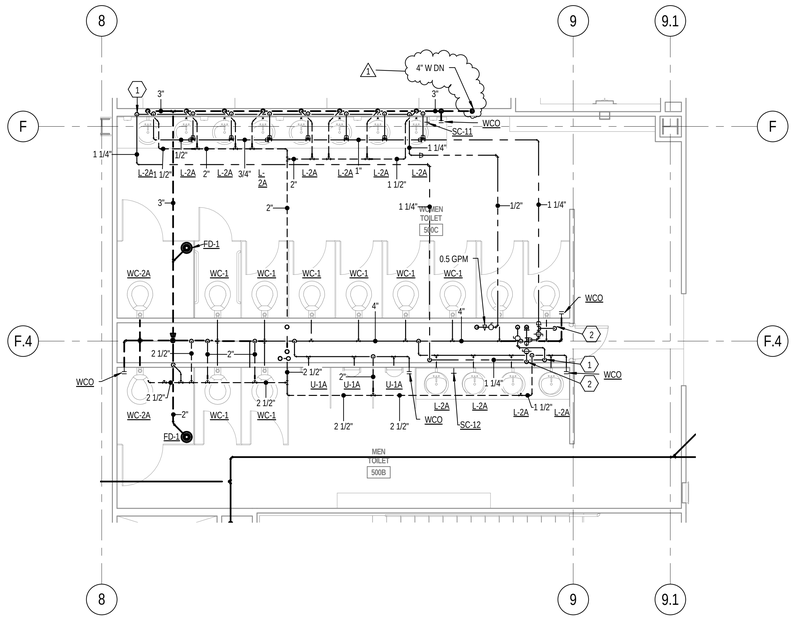
sheet:
PL401

BID DOC



LEVEL 5 AREA 'A' ENLARGED RESTROOM PLUMBING FLOOR PLAN

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



LEVEL 5 AREA 'B' ENLARGED RESTROOM PLUMBING FLOOR PLAN

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

KEYED NOTES

1. ROUTE DOMESTIC HOT WATER DOWN WALL AND BEHIND LAVATORIES. PROVIDE ASSE 1070 MIXING DEVICE AT EACH LAVATORY.
2. ROUTE DOMESTIC COLD WATER PIPING UP HIGH IN PLUMBING CHASE AND BRANCH OFF TO EACH FIXTURE, REFER TO PLUMBING SCHEDULE FOR DOMESTIC COLD WATER PIPE SIZES TO FIXTURES.
3. ROUTE 1/2" DOMESTIC COLD WATER DOWN IN WALL TO ELECTRIC WATER COOLER AND BOTTLE FILLING STATION.
4. REFER TO PLUMBING FLOOR PLANS FOR RISER PIPE SIZES.

GENERAL NOTES

A. ROUTE ALL WASTE PIPING 2 1/2" AND SMALLER AT 1/4" PER FOOT SLOPE, ROUTE ALL WASTE PIPING 3" AND LARGER AT 1/8" PER FOOT SLOPE.

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Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

DFCM APPROVAL STAMP

project:
UVU Classroom Building

800 University Way
Orem, UT 84058

project#: DFCM #12192790
date: APRIL 30, 2013

revisions:
1 ADDENDUM #3 5.22.2013

title:
ENLARGED RESTROOM PLUMBING PLANS

sheet:
PL405

BID DOC

SPECTRUM
ENGINEERS

Addendum #03

Job: UVU Classroom Building
Job Number: 20120354
Date: May 22, 2013

ELECTRICAL – DIV 26

GENERAL

1. Modifications to the medium-voltage system will be issued in the next addendum, including responses to bidder's questions.

DRAWINGS

SHEET - EP101a, EP101b, EP102a, EP102b, EP103a, EP103b, EP104a, EP104b, EP105a, EP105b

1. Refer to attached sheets for additional floor boxes and circuiting in each classroom.

SHEET - EP101a, EP106b

1. Refer to attached sheets for elevator power connections.

SPECIFICATIONS

SECTION - 264113 – Lightning Protection for Structures

1. 2.1.B.1: Add the following manufacturers:
   A. National Lightning Protection Corporation
   B. Robbins Lightning, Inc.

END OF ADDENDUM

DISCIPLINES
Mechanical Engineering
Electrical Engineering
Technology Design
Acoustical Engineering
Lighting Design
Theatre Design
Fire Protection Engineering
Building Commissioning

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phone: 801-328-5151
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1501 W. Fountainhead Parkway
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Tempe, AZ 85282
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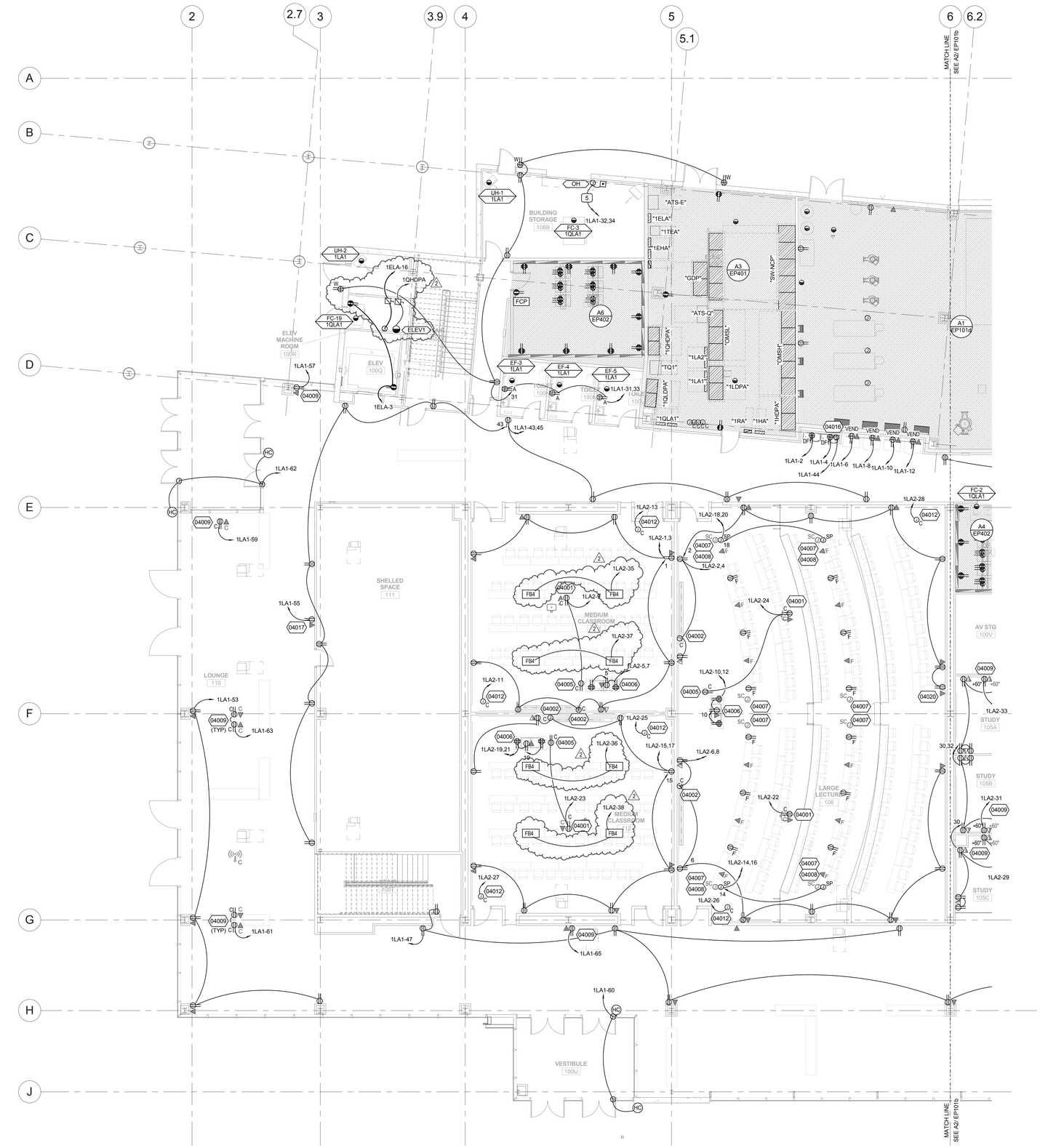


Level 1 Area 'A' Power Plan

A2 / EP101a

1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF ALL FLOORBOXES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

SHEET KEYNOTES

04001 PROVIDE FLUSH CEILING OR WALL OUTLET FOR A/V PROJECTOR. COORDINATE EXACT LOCATION WITH A/V INSTALLER. RIGIDLY SUPPORT OUTLET INDEPENDENT OF CEILING SYSTEM.

04002 PROVIDE ELECTRICAL CONNECTIONS TO MOTORIZED SCREEN WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT CONTROL SWITCH IN LOCATION APPROVED BY ARCHITECT. INTERFACE WITH A/V CONTROLS PWER A/V DRAWINGS.

04005 PROVIDE OUTLET OR J-BOX FOR CEILING MOUNTED DOCUMENT CAMERA. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.

04006 MOUNT QUADRAPLEX OUTLETS IN SMART LECTURN AND DUPLEX RECEPTACLE ON TOP OF LECTURN ACCORDING TO ARCHITECTURAL AND A/V DETAILS. VERIFY LOCATIONS WITH ARCHITECT AND FURNITURE INSTALLER PRIOR TO INSTALLATION.

04007 STUB 1.25" CND TO DATA CLOSET FOR DATA CABLING IN THIS ROW OF SEATS. VERIFY EXACT STUB LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

04008 PROVIDE ELECTRICAL CONNECTIONS TO POWERED SYSTEMS FURNITURE. BASIS OF DESIGN IS A 4-CIRCUIT/8-WIRE SYSTEM. VERIFY ELECTRICAL REQUIREMENTS AND EXACT STUB LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

04009 PROVIDE OUTLET OR J-BOX FOR A/V MONITOR DEPENDING ON ACTUAL FIELD CONDITIONS. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER. VERIFY DEVICE ELEVATION WITH UVU MEDIA PRIOR TO INSTALLATION.

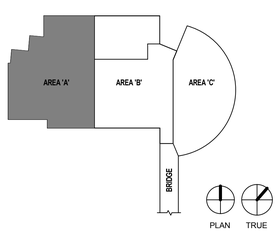
04012 PROVIDE SPARE 20A/1P CIRCUIT WITH CONDUCTORS TO THIS POINT FOR FUTURE USE. CAP BOX AND LABEL PER SPECIFICATIONS.

04016 PROVIDE ELECTRICAL CONNECTIONS TO BOTTLE FILLING STATIONS. COORDINATE EXACT LOCATION WITH PLUMBERS PRIOR TO ROUGH-IN OR INSTALLATION.

04017 ELECTRICAL RECEPTACLE AND DATA OUTLET FOR FUTURE ATM. COORDINATE EXACT LOCATION WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN OR INSTALLATION.

04020 PROVIDE ELECTRICAL RECEPTACLE AND DATA OUTLET FOR AV CAMERA. COORDINATE EXACT LOCATION WITH UVU MEDIA PRIOR TO ROUGH IN.

KEYPLAN:



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TYLER SQUIRE
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Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

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649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

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phone:(801) 532-4422

SPECTRUM ENGINEERS
324 S. State St., Suite 400
Salt Lake City, UT 84111
800-678-7077
801-328-5151
fax: 801-328-5155
www.spectrum-engineers.com

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

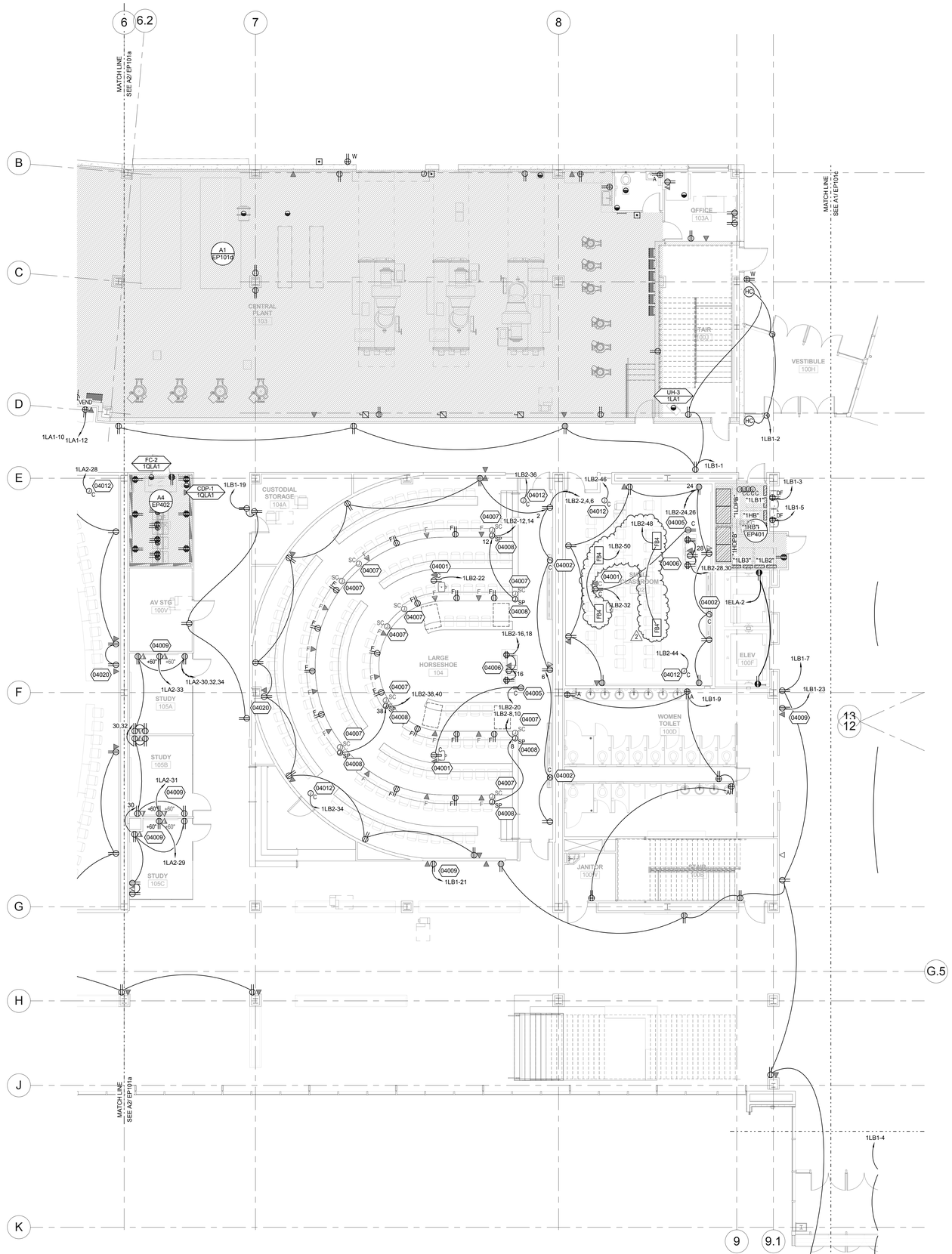
revisions :

1	Addendum #2	May 16, 2013
2	Addendum #3	May 22, 2013

title:
Level 1 Area 'A' Power Plan

sheet:
EP101a

BID DOC



Level 1 Area 'B' Power Plan

A2 EP101b

1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF ALL FLOORBOXES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

SHEET KEYNOTES

04001 PROVIDE FLUSH CEILING OR WALL OUTLET FOR A/V PROJECTOR. COORDINATE EXACT LOCATION WITH A/V INSTALLER. RIGIDLY SUPPORT OUTLET INDEPENDENT OF CEILING SYSTEM.

04002 PROVIDE ELECTRICAL CONNECTIONS TO MOTORIZED SCREEN WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT CONTROL SWITCH IN LOCATION APPROVED BY ARCHITECT. INTERFACE WITH A/V CONTROLS PWER A/V DRAWINGS.

04005 PROVIDE OUTLET OR J-BOX FOR CEILING MOUNTED DOCUMENT CAMERA. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.

04006 MOUNT QUADRAPLEX OUTLETS IN SMART LECTURN AND DUPLEX RECEPTACLE ON TOP OF LECTURN ACCORDING TO ARCHITECTURAL AND A/V DETAILS. VERIFY LOCATIONS WITH ARCHITECT AND FURNITURE INSTALLER PRIOR TO INSTALLATION.

04007 STUB 1.25" CND TO DATA CLOSET FOR DATA CABLING IN THIS ROW OF SEATS. VERIFY EXACT STUB LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

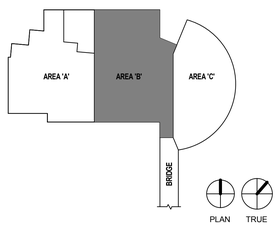
04008 PROVIDE ELECTRICAL CONNECTIONS TO POWERED SYSTEMS FURNITURE. BASIS OF DESIGN IS A 4-CIRCUIT/8-WIRE SYSTEM. VERIFY ELECTRICAL REQUIREMENTS AND EXACT STUB LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

04009 PROVIDE OUTLET OR J-BOX FOR A/V MONITOR DEPENDING ON ACTUAL FIELD CONDITIONS. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER. VERIFY DEVICE ELEVATION WITH UVU MEDIA PRIOR TO INSTALLATION.

04012 PROVIDE SPARE 20A/1P CIRCUIT WITH CONDUCTORS TO THIS POINT FOR FUTURE USE. CAP BOX AND LABEL PER SPECIFICATIONS.

04020 PROVIDE ELECTRICAL RECEPTACLE AND DATA OUTLET FOR A/V CAMERA. COORDINATE EXACT LOCATION WITH UVU MEDIA PRIOR TO ROUGH IN.

KEYPLAN:



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Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

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CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

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UVU Classroom Building - Volume 1

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project#: DFCM# 12192790
date: April 30, 2013

revisions :

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2	Addendum #3	May 22, 2013

title:

Level 1 Area 'B' Power Plan

sheet:

EP101b

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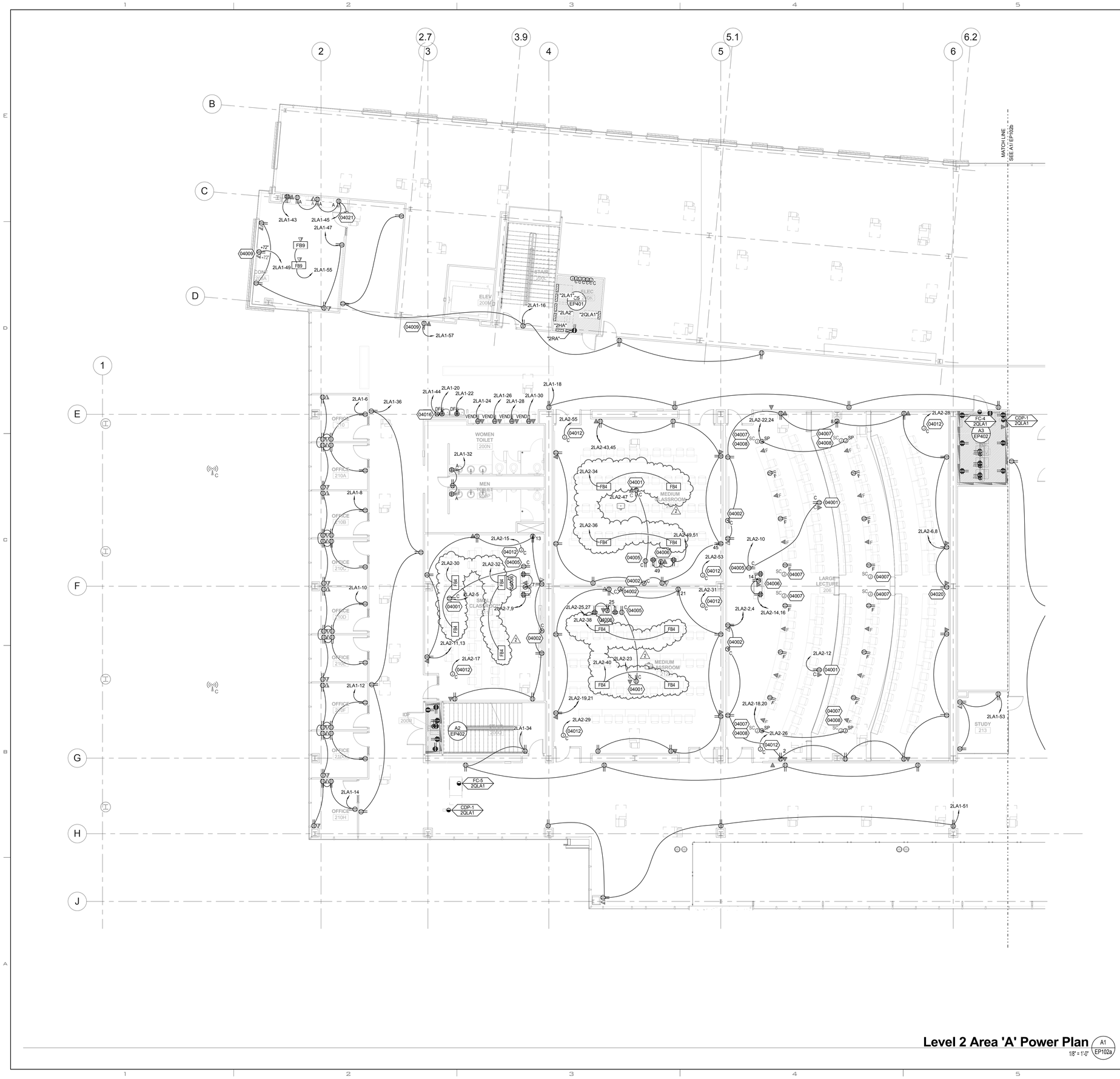

Level 2 Area 'A' Power Plan (A1 / EP102a)
1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF ALL FLOORBOXES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

SHEET KEYNOTES

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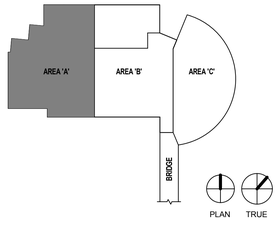
04020 PROVIDE ELECTRICAL RECEPTACLE AND DATA OUTLET FOR AV CAMERA. COORDINATE EXACT LOCATION WITH UVU MEDIA PRIOR TO ROUGH IN.

04021 CIRCUIT TO UNDERCABINET LIGHTS ABOVE.

KEYPLAN:



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DFCM APPROVAL STAMP

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UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

revisions :

1	Addendum #2	May 16, 2013
2	Addendum #3	May 22, 2013

title:
Level 2 Area 'A' Power Plan

sheet:
EP102a

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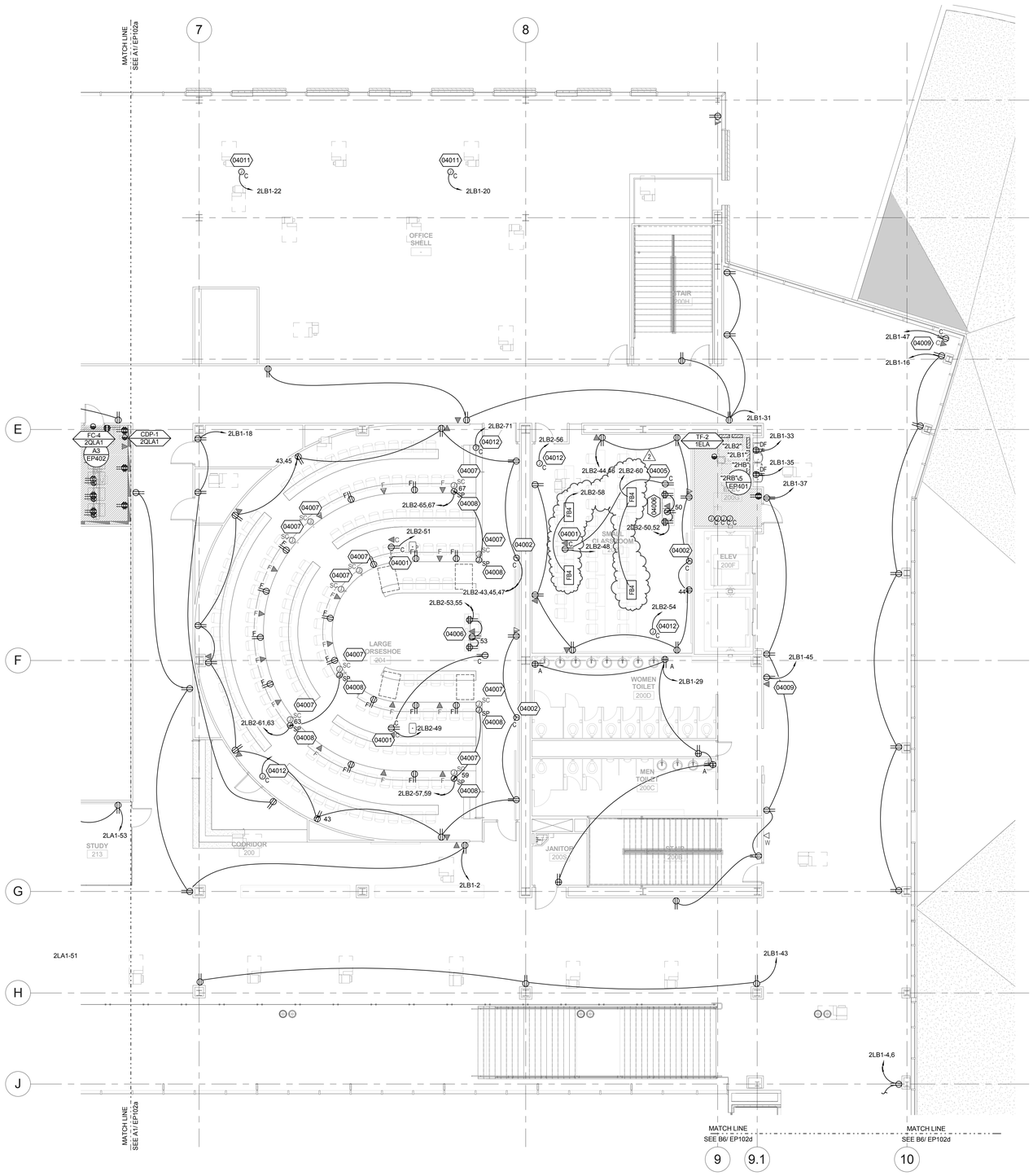

Level 2 Area 'B' Power Plan

A1 EP102b

1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF ALL FLOORBOXES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

SHEET KEYNOTES

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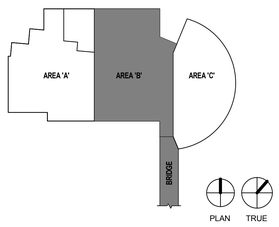
04009 PROVIDE OUTLET OR J-BOX FOR A/V MONITOR DEPENDING ON ACTUAL FIELD CONDITIONS. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER. VERIFY DEVICE ELEVATION WITH UVU MEDIA PRIOR TO INSTALLATION.

04011 PROVIDE ELECTRICAL CONNECTIONS TO VAV BOXES. COORDINATE EXACT LOCATION OF ELECTRICAL CONNECTION WITH MECHANICAL EQUIPMENT PRIOR TO ROUGH-IN.

04012 PROVIDE SPARE 20A/1P CIRCUIT WITH CONDUCTORS TO THIS POINT FOR FUTURE USE. CAP BOX AND LABEL PER SPECIFICATIONS.

04020 PROVIDE ELECTRICAL RECEPTACLE AND DATA OUTLET FOR AV CAMERA. COORDINATE EXACT LOCATION WITH UVU MEDIA PRIOR TO ROUGH IN.

KEYPLAN:



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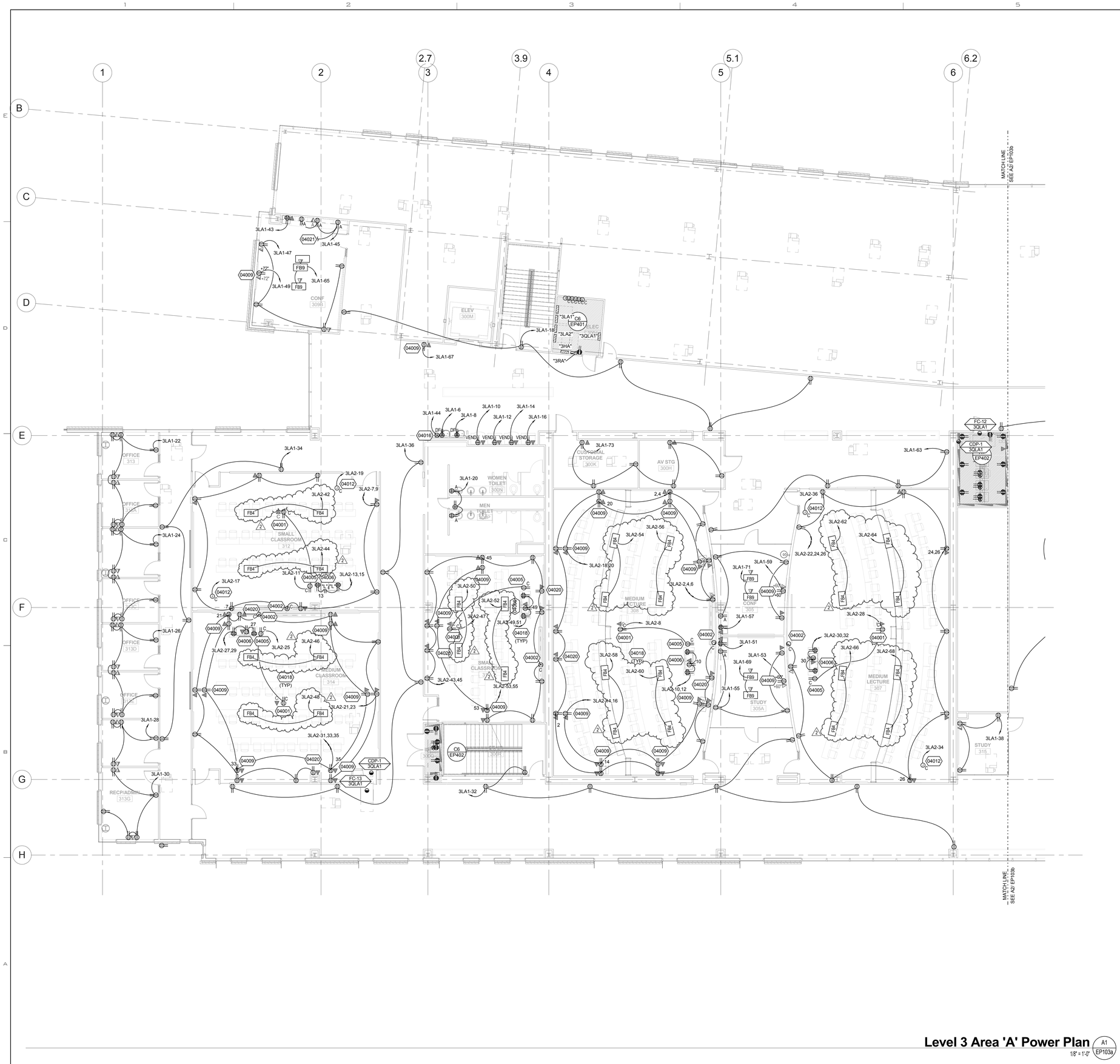
title:
Level 2 Area 'B' Power Plan

sheet:
EP102b

BID DOC



Level 3 Area 'A' Power Plan (A1 / EP103a)
1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF ALL FLOORBOXES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

SHEET KEYNOTES

04001 PROVIDE FLUSH CEILING OR WALL OUTLET FOR A/V PROJECTOR. COORDINATE EXACT LOCATION WITH A/V INSTALLER. RIGIDLY SUPPORT OUTLET INDEPENDENT OF CEILING SYSTEM.

04002 PROVIDE ELECTRICAL CONNECTIONS TO MOTORIZED SCREEN WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT CONTROL SWITCH IN LOCATION APPROVED BY ARCHITECT. INTERFACE WITH A/V CONTROLS PWER A/V DRAWINGS.

04005 PROVIDE OUTLET OR J-BOX FOR CEILING MOUNTED DOCUMENT CAMERA. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.

04006 MOUNT QUADRAPLEX OUTLETS IN SMART LECTURN AND DUPLEX RECEPTACLE ON TOP OF LECTURN ACCORDING TO ARCHITECTURAL AND A/V DETAILS. VERIFY LOCATIONS WITH ARCHITECT AND FURNITURE INSTALLER PRIOR TO INSTALLATION.

04009 PROVIDE OUTLET OR J-BOX FOR A/V MONITOR DEPENDING ON ACTUAL FIELD CONDITIONS. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER. VERIFY DEVICE ELEVATION WITH UVU MEDIA PRIOR TO INSTALLATION.

04012 PROVIDE SPARE 20A/1P CIRCUIT WITH CONDUCTORS TO THIS POINT FOR FUTURE USE. CAP BOX AND LABEL PER SPECIFICATIONS.

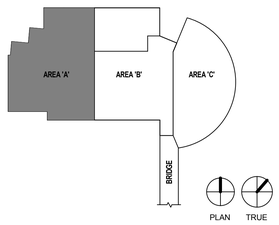
04016 PROVIDE ELECTRICAL CONNECTIONS TO BOTTLE FILLING STATIONS. COORDINATE EXACT LOCATION WITH PLUMBERS PRIOR TO ROUGH-IN OR INSTALLATION.

04018 COORDINATE FINAL POWER LOCATIONS IN THIS ROOM WITH UVU MEDIA PRIOR TO ROUGH-IN OR INSTALLATION.

04020 PROVIDE ELECTRICAL RECEPTACLE AND DATA OUTLET FOR AV CAMERA. COORDINATE EXACT LOCATION WITH UVU MEDIA PRIOR TO ROUGH IN.

04021 CIRCUIT TO UNDERCABINET LIGHTS ABOVE.

KEYPLAN:



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Salt Lake City, Utah 84114
Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

SPECTRUM ENGINEERS
324 S. State St., Suite 400
Salt Lake City, UT 84111
800-678-7077
801-328-5151
fax: 801-328-5155
www.spectrum-engineers.com

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

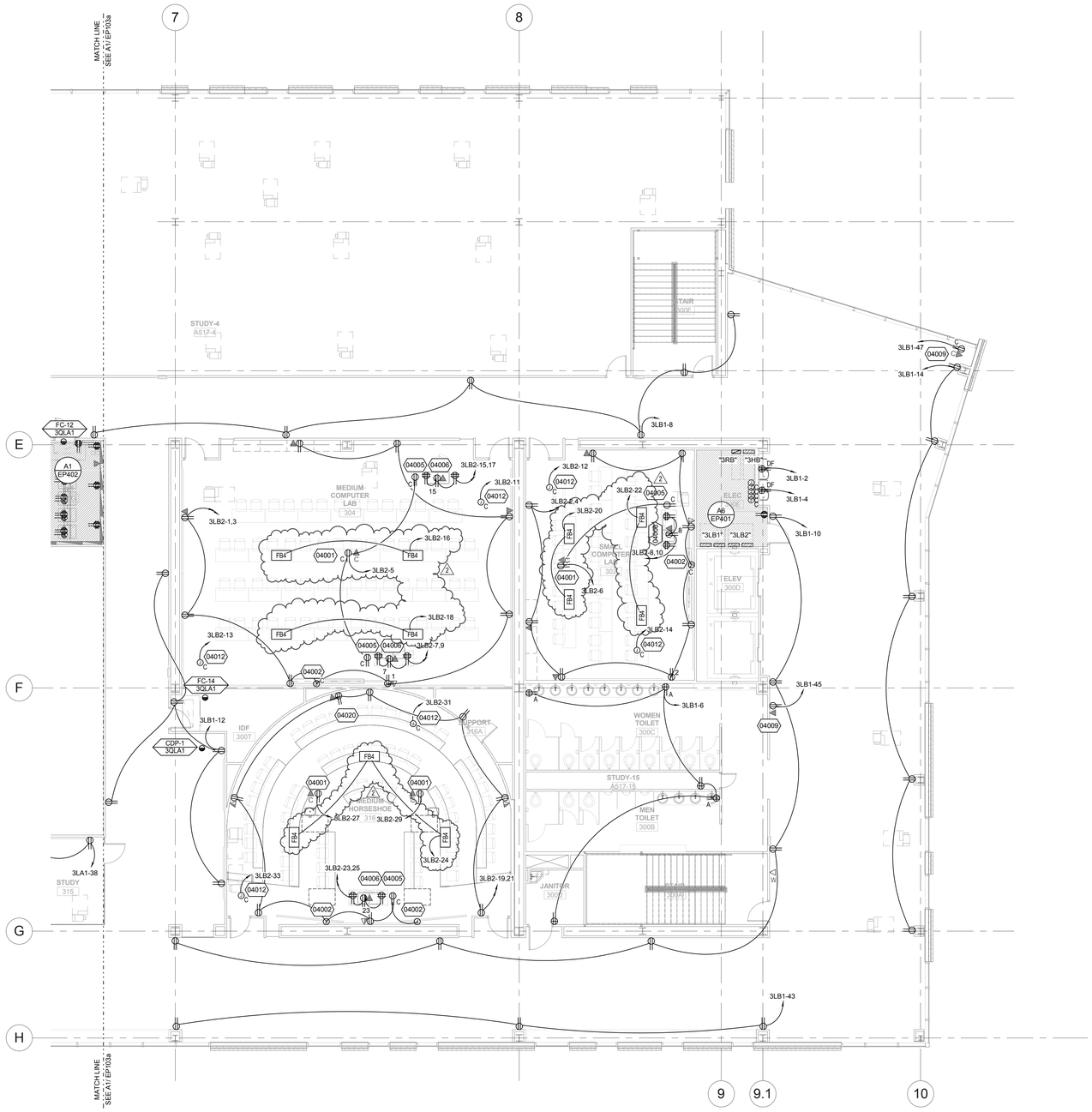
revisions :

1	Addendum #2	May 16, 2013
2	Addendum #3	May 22, 2013

title:
Level 3 Area 'A' Power Plan

sheet:
EP103a

BID DOC



Level 3 Area 'B' Power Plan

A2 EP103b

1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF ALL FLOORBOXES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

SHEET KEYNOTES

04001 PROVIDE FLUSH CEILING OR WALL OUTLET FOR A/V PROJECTOR. COORDINATE EXACT LOCATION WITH A/V INSTALLER. RIGIDLY SUPPORT OUTLET INDEPENDENT OF CEILING SYSTEM.

04002 PROVIDE ELECTRICAL CONNECTIONS TO MOTORIZED SCREEN WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT CONTROL SWITCH IN LOCATION APPROVED BY ARCHITECT. INTERFACE WITH A/V CONTROLS PWER A/V DRAWINGS.

04005 PROVIDE OUTLET OR J-BOX FOR CEILING MOUNTED DOCUMENT CAMERA. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.

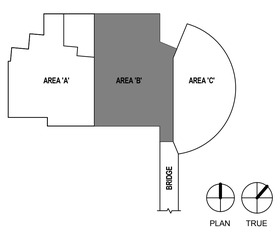
04006 MOUNT QUADRAPLEX OUTLETS IN SMART LECTURN AND DUPLEX RECEPTACLE ON TOP OF LECTURN ACCORDING TO ARCHITECTURAL AND A/V DETAILS. VERIFY LOCATIONS WITH ARCHITECT AND FURNITURE INSTALLER PRIOR TO INSTALLATION.

04009 PROVIDE OUTLET OR J-BOX FOR A/V MONITOR DEPENDING ON ACTUAL FIELD CONDITIONS. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER. VERIFY DEVICE ELEVATION WITH UVU MEDIA PRIOR TO INSTALLATION.

04012 PROVIDE SPARE 20A/1P CIRCUIT WITH CONDUCTORS TO THIS POINT FOR FUTURE USE. CAP BOX AND LABEL PER SPECIFICATIONS.

04020 PROVIDE ELECTRICAL RECEPTACLE AND DATA OUTLET FOR A/V CAMERA. COORDINATE EXACT LOCATION WITH UVU MEDIA PRIOR TO ROUGH IN.

KEYPLAN:



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649 east south temple
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UVU Classroom Building - Volume 1
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project#: DFCM# 12192790
date: April 30, 2013

revisions:

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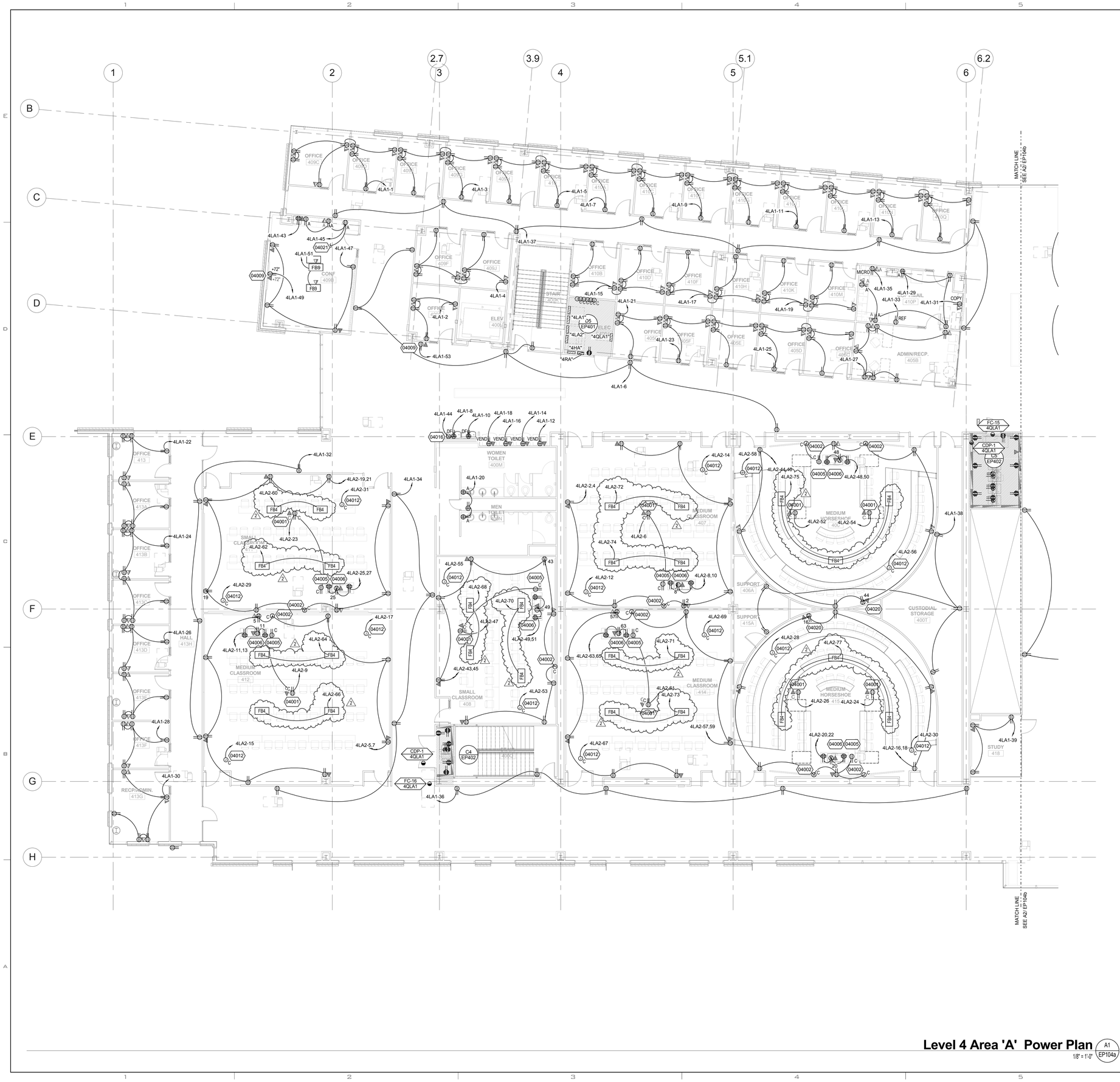
2	Addendum #3	May 22, 2013

title:
Level 3 Area 'B' Power Plan

sheet:
EP103b

BID DOC



Level 4 Area 'A' Power Plan

A1 / EP104a

1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF ALL FLOORBOXES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

SHEET KEYNOTES

04001 PROVIDE FLUSH CEILING OR WALL OUTLET FOR A/V PROJECTOR. COORDINATE EXACT LOCATION WITH A/V INSTALLER. RIGIDLY SUPPORT OUTLET INDEPENDENT OF CEILING SYSTEM.

04002 PROVIDE ELECTRICAL CONNECTIONS TO MOTORIZED SCREEN WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT CONTROL SWITCH IN LOCATION APPROVED BY ARCHITECT. INTERFACE WITH A/V CONTROLS PWER A/V DRAWINGS.

04005 PROVIDE OUTLET OR J-BOX FOR CEILING MOUNTED DOCUMENT CAMERA. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.

04006 MOUNT QUADRAPLEX OUTLETS IN SMART LECTURN AND DUPLEX RECEPTACLE ON TOP OF LECTURN ACCORDING TO ARCHITECTURAL AND A/V DETAILS. VERIFY LOCATIONS WITH ARCHITECT AND FURNITURE INSTALLER PRIOR TO INSTALLATION.

04009 PROVIDE OUTLET OR J-BOX FOR A/V MONITOR DEPENDING ON ACTUAL FIELD CONDITIONS. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER. VERIFY DEVICE ELEVATION WITH UVU MEDIA PRIOR TO INSTALLATION.

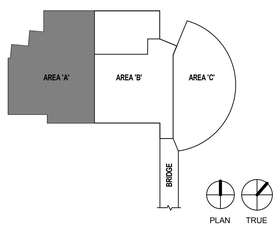
04012 PROVIDE SPARE 20A/1P CIRCUIT WITH CONDUCTORS TO THIS POINT FOR FUTURE USE. CAP BOX AND LABEL PER SPECIFICATIONS.

04016 PROVIDE ELECTRICAL CONNECTIONS TO BOTTLE FILLING STATIONS. COORDINATE EXACT LOCATION WITH PLUMBERS PRIOR TO ROUGH-IN OR INSTALLATION.

04020 PROVIDE ELECTRICAL RECEPTACLE AND DATA OUTLET FOR AV CAMERA. COORDINATE EXACT LOCATION WITH UVU MEDIA PRIOR TO ROUGH IN.

04021 CIRCUIT TO UNDERCABINET LIGHTS ABOVE.

KEYPLAN:



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DFCM APPROVAL STAMP

project:

UVU Classroom Building - Volume 1

800 West University Parkway
Orem, UT 84058

project#: DFCM# 32192790
date: April 30, 2013

revisions:

1	Addendum #2	May 16, 2013
2	Addendum #3	May 22, 2013

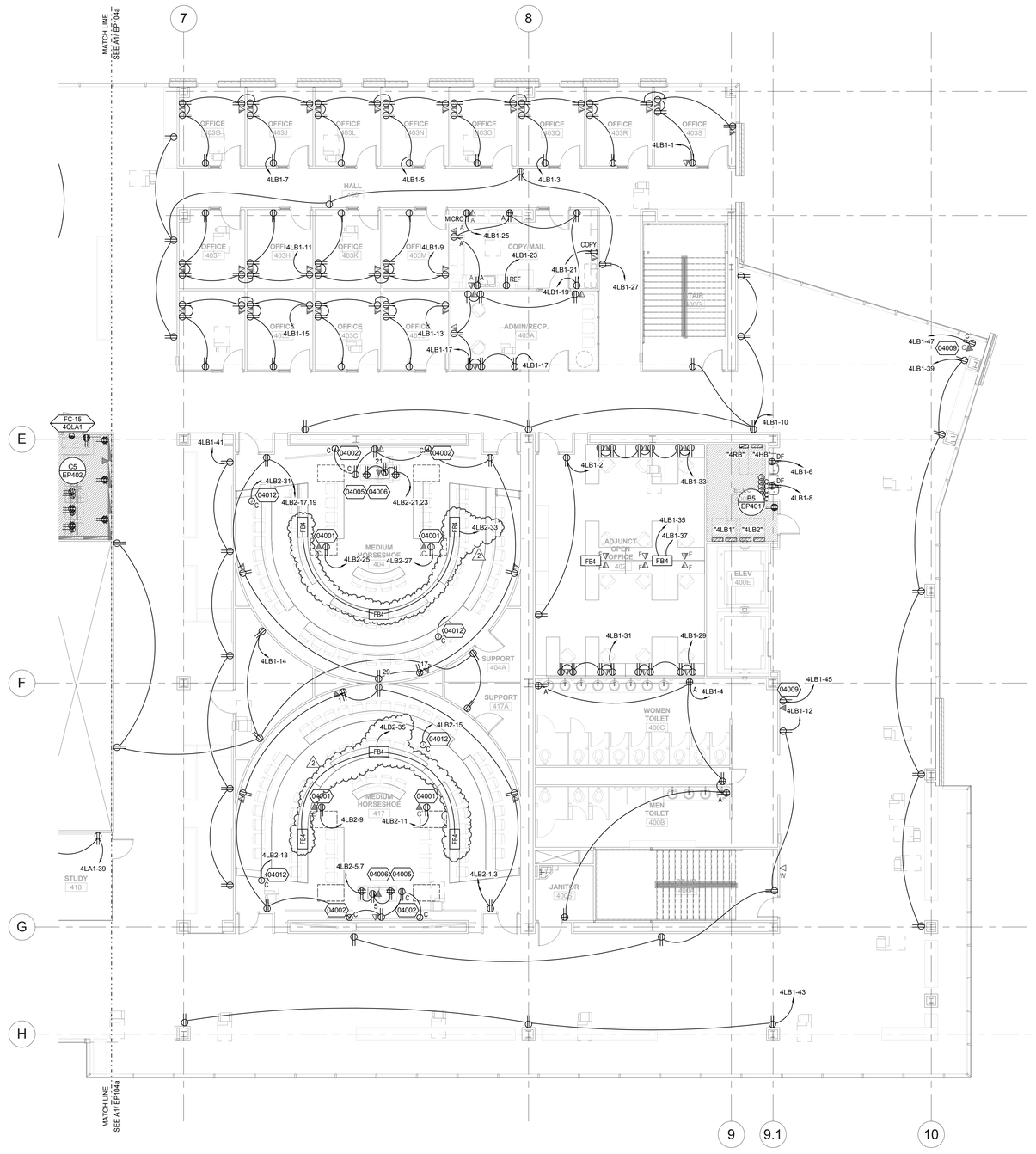
title:

Level 4 Area 'A' Power Plan

sheet:

EP104a

BID DOC



Level 4 Area 'B' Power Plan

A2 / EP104b

1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF ALL FLOORBOXES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

SHEET KEYNOTES

04001 PROVIDE FLUSH CEILING OR WALL OUTLET FOR A/V PROJECTOR. COORDINATE EXACT LOCATION WITH A/V INSTALLER. RIGIDLY SUPPORT OUTLET INDEPENDENT OF CEILING SYSTEM.

04002 PROVIDE ELECTRICAL CONNECTIONS TO MOTORIZED SCREEN WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT CONTROL SWITCH IN LOCATION APPROVED BY ARCHITECT. INTERFACE WITH A/V CONTROLS PWER A/V DRAWINGS.

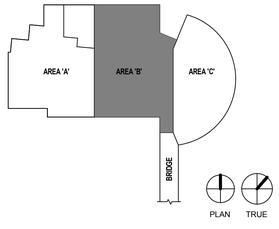
04005 PROVIDE OUTLET OR J-BOX FOR CEILING MOUNTED DOCUMENT CAMERA. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.

04006 MOUNT QUADRAPLEX OUTLETS IN SMART LECTURN AND DUPLEX RECEPTACLE ON TOP OF LECTURN ACCORDING TO ARCHITECTURAL AND A/V DETAILS. VERIFY LOCATIONS WITH ARCHITECT AND FURNITURE INSTALLER PRIOR TO INSTALLATION.

04009 PROVIDE OUTLET OR J-BOX FOR A/V MONITOR DEPENDING ON ACTUAL FIELD CONDITIONS. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER. VERIFY DEVICE ELEVATION WITH UVU MEDIA PRIOR TO INSTALLATION.

04012 PROVIDE SPARE 20A/1P CIRCUIT WITH CONDUCTORS TO THIS POINT FOR FUTURE USE. CAP BOX AND LABEL PER SPECIFICATIONS.

KEYPLAN:



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Phone: (801) 538 - 3018
Fax: (801) 538 - 3267

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649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

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salt lake city, utah 84101
phone:(801) 532-4422

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Salt Lake City, UT 84111
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801-328-5151
fax: 801-328-5155
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DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

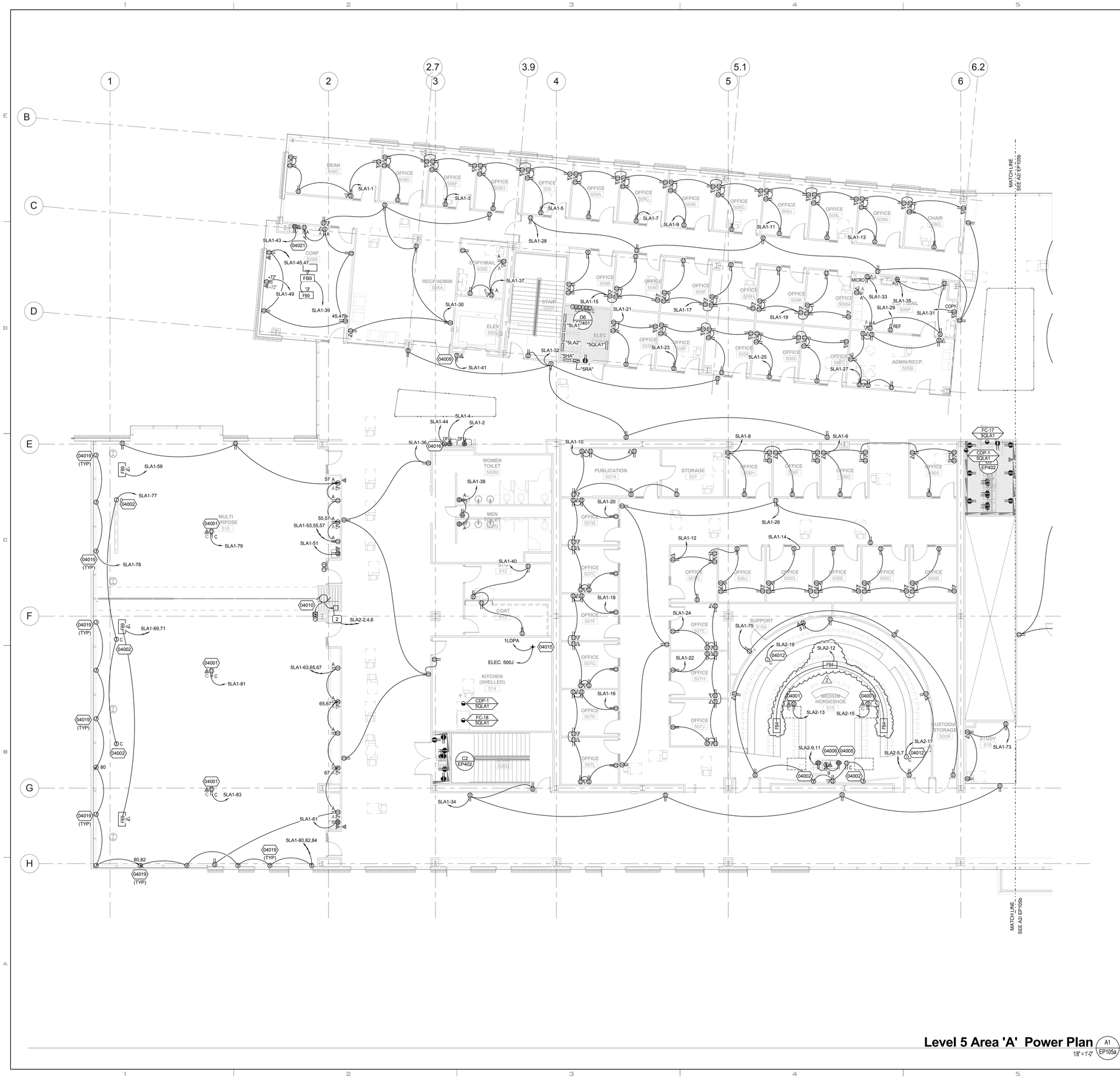
revisions:

1	Addendum #2	May 16, 2013
2	Addendum #3	May 22, 2013

title:
Level 4 Area 'B' Power Plan

sheet:
EP104b

BID DOC



Level 5 Area 'A' Power Plan

A1 EP105a

1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF ALL FLOORBOXES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

SHEET KEYNOTES

04001 PROVIDE FLUSH CEILING OR WALL OUTLET FOR A/V PROJECTOR. COORDINATE EXACT LOCATION WITH A/V INSTALLER. RIGIDLY SUPPORT OUTLET INDEPENDENT OF CEILING SYSTEM.

04002 PROVIDE ELECTRICAL CONNECTIONS TO MOTORIZED SCREEN WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT CONTROL SWITCH IN LOCATION APPROVED BY ARCHITECT. INTERFACE WITH A/V CONTROLS PWER A/V DRAWINGS.

04005 PROVIDE OUTLET OR J-BOX FOR CEILING MOUNTED DOCUMENT CAMERA. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.

04006 MOUNT QUADRAPLEX OUTLETS IN SMART LECTURN AND DUPLEX RECEPTACLE ON TOP OF LECTURN ACCORDING TO ARCHITECTURAL AND A/V DETAILS. VERIFY LOCATIONS WITH ARCHITECT AND FURNITURE INSTALLER PRIOR TO INSTALLATION.

04009 PROVIDE OUTLET OR J-BOX FOR A/V MONITOR DEPENDING ON ACTUAL FIELD CONDITIONS. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER. VERIFY DEVICE ELEVATION WITH UVU MEDIA PRIOR TO INSTALLATION.

04010 PROVIDE ELECTRICAL CONNECTIONS FOR MOVABLE PARTITION. PROVIDE DISCONNECT AND CONTROL WIRING PER MANUFACTURER'S WRITTEN SPECIFICATION. COORDINATE EXACT LOCATION OF DISCONNECT AND POINT OF CONNECTION WITH EQUIPMENT AND CONTROL SWITCH WITH ARCHITECT PRIOR TO ROUGH-IN.

04012 PROVIDE SPARE 20A/1P CIRCUIT WITH CONDUCTORS TO THIS POINT FOR FUTURE USE. CAP BOX AND LABEL PER SPECIFICATIONS.

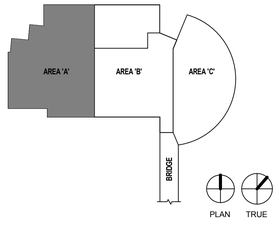
04015 PROVIDE 2.5" CONDUIT TO DISTRIBUTION PANELBOARD "1LDPA" FOR FUTURE KITCHEN PANEL. PROVIDE (5) EA. 1" CONDUITS TO ELEC. 500J FOR FUTURE USE.

04016 PROVIDE ELECTRICAL CONNECTIONS TO BOTTLE FILLING STATIONS. COORDINATE EXACT LOCATION WITH PLUMBERS PRIOR TO ROUGH-IN OR INSTALLATION.

04019 PROVIDE ELECTRICAL CONNECTIONS TO MOTORIZED BLINDS WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE RS232 CONTROL WIRING FROM BLIND CONTROLLER TO A/V CABINET. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLERS.

04021 CIRCUIT TO UNDERCABINET LIGHTS ABOVE.

KEYPLAN:



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DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

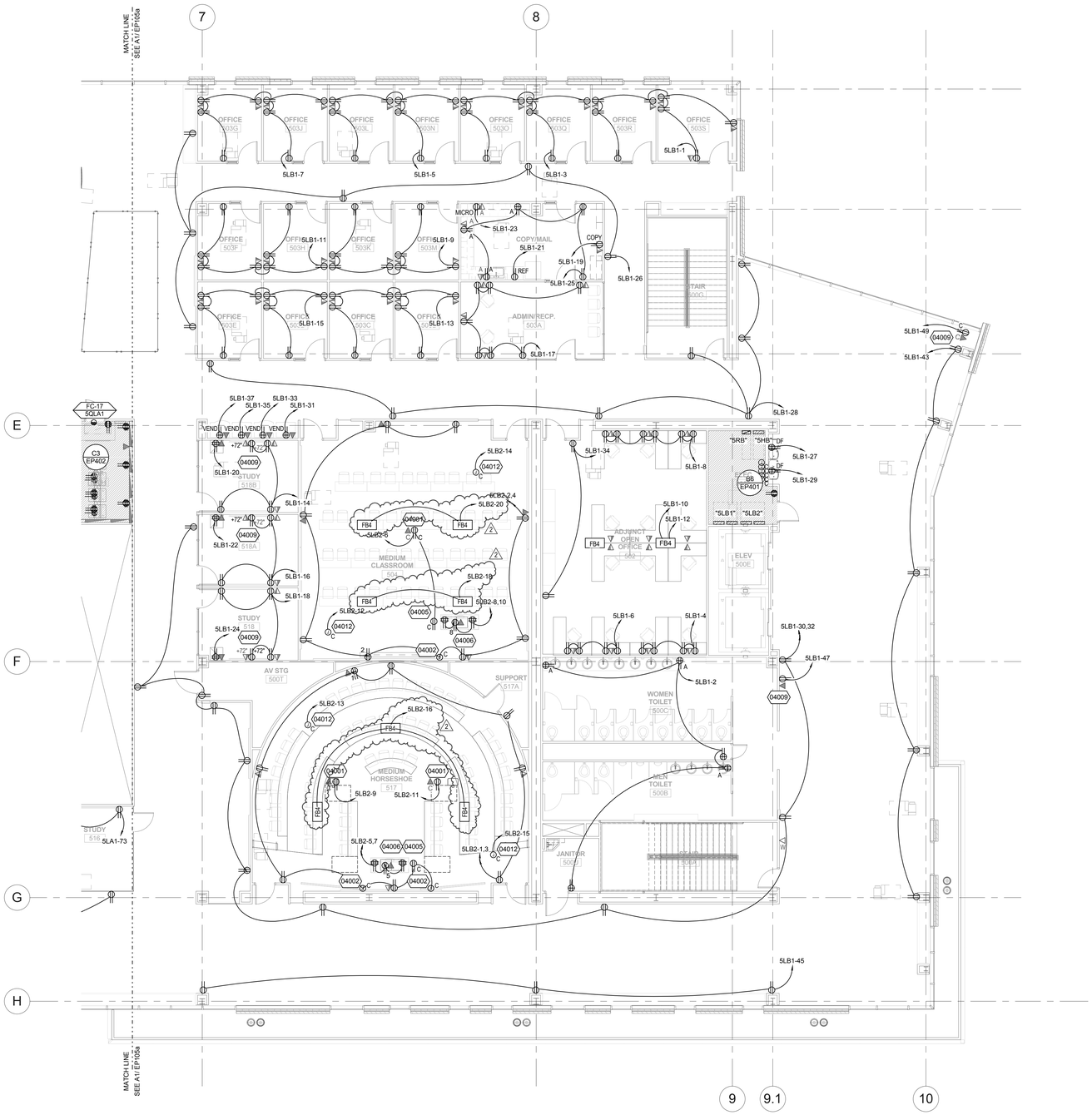
revisions :

1	Addendum #2	May 16, 2013
2	Addendum #3	May 22, 2013

title:
Level 5 Area 'A' Power Plan

sheet:
EP105a

BID DOC



Level 5 Area 'B' Power Plan

A2 / EP105b

1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF ALL FLOORBOXES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

SHEET KEYNOTES

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04002 PROVIDE ELECTRICAL CONNECTIONS TO MOTORIZED SCREEN WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT CONTROL SWITCH IN LOCATION APPROVED BY ARCHITECT. INTERFACE WITH A/V CONTROLS PWER A/V DRAWINGS.

04005 PROVIDE OUTLET OR J-BOX FOR CEILING MOUNTED DOCUMENT CAMERA. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.

04006 MOUNT QUADRAPLEX OUTLETS IN SMART LECTURN AND DUPLEX RECEPTACLE ON TOP OF LECTURN ACCORDING TO ARCHITECTURAL AND A/V DETAILS. VERIFY LOCATIONS WITH ARCHITECT AND FURNITURE INSTALLER PRIOR TO INSTALLATION.

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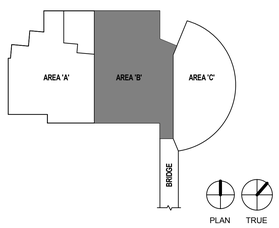
04012 PROVIDE SPARE 20A/1P CIRCUIT WITH CONDUCTORS TO THIS POINT FOR FUTURE USE. CAP BOX AND LABEL PER SPECIFICATIONS.

KEYPLAN:



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project#: DFCM# 12192790
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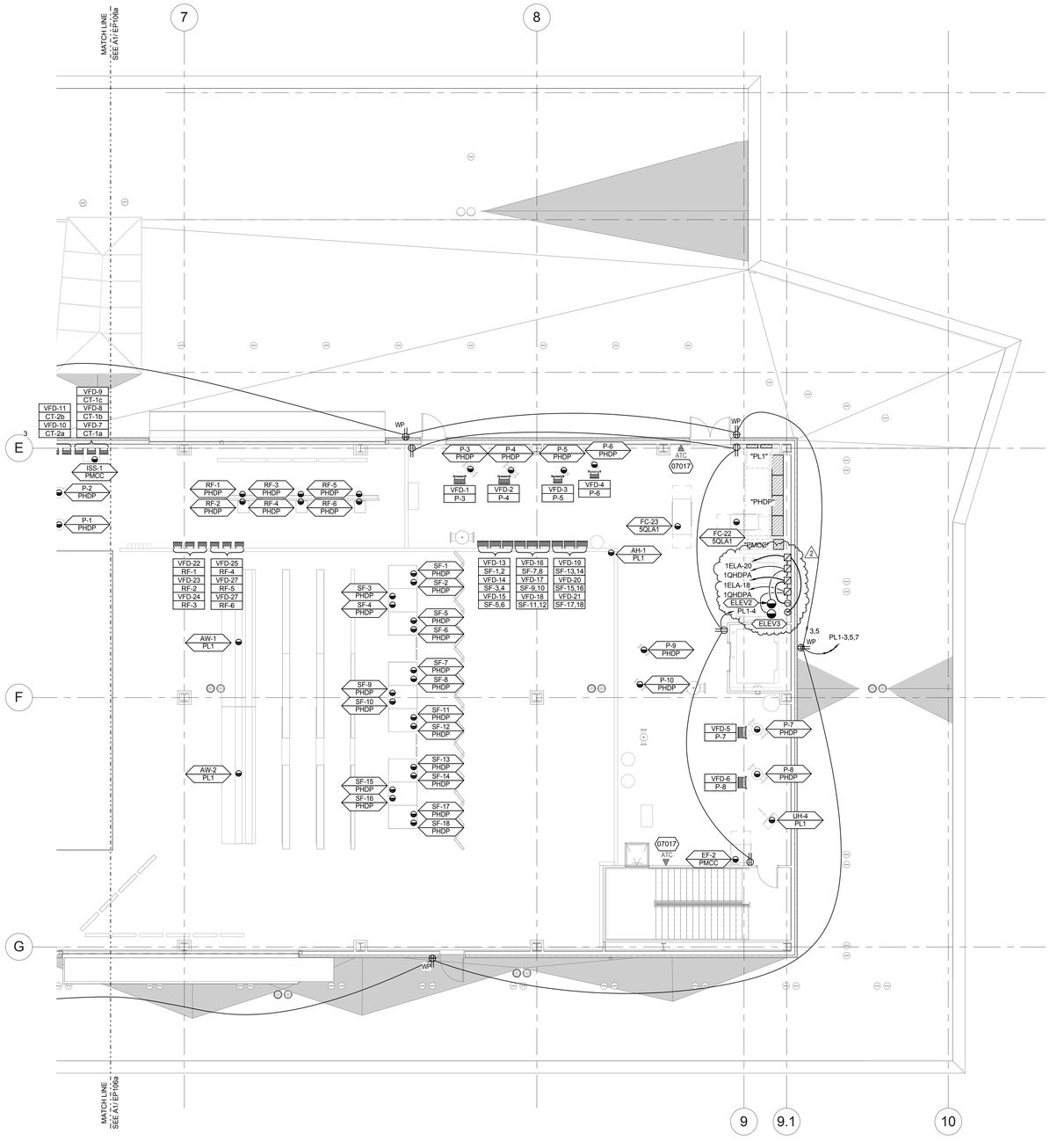
2	Addendum #3	May 22, 2013

title:
Level 5 Area 'B' Power Plan

sheet:
EP105b

BID DOC



Level 6 Area 'B' Roof/Penthouse Power Plan

A2 / EP106b

1/8" = 1'-0"

GENERAL SHEET NOTES

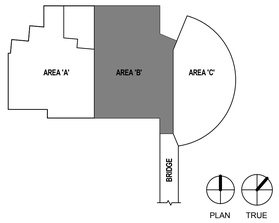
1 COORDINATE EXACT LOCATION OF ALL FLOORBOXES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO ROUGH-IN OR INSTALLATION.

SHEET KEYNOTES

04023 PROVIDE ELECTRICAL CONNECTIONS TO HEAT TRACE ALONG ALL OUTDOOR CONDENSER WATER PIPING. COORDINATE WITH MECHANICAL INSTALLER. CIRCUIT TO 30A GFI CB WITH 30 MILLI-AMP TRIP.

07017 MOUNT DATA DEVICE FOR ATC PANEL IN LOCATION AS INSTRUCTED BY CONTROLS CONTRACTOR. ALL DATA CABLING FOR ATC OUTLETS SHALL TERMINATE IN IDF 300G.

KEYPLAN:



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Fax: (801) 538 - 3267

CRSA METHODSTUDIO INC.

CRSA ARCHITECTS
649 east south temple
salt lake city, utah 84102
phone:(801) 355-5915

METHOD STUDIO INC.
925 south west temple
salt lake city, utah 84101
phone:(801) 532-4422

SPECTRUM ENGINEERS
324 S. State St., Suite 400
Salt Lake City, UT 84111
800-678-7077
801-328-5151
fax: 801-328-5155
www.spectrum-engineers.com

DFCM APPROVAL STAMP

project:
UVU Classroom Building - Volume 1
800 West University Parkway
Orem, UT 84058

project#: DFCM# 12192790
date: April 30, 2013

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1	Addendum #2	May 16, 2013
2	Addendum #3	May 22, 2013

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Level 6 Area 'B' Power Plan

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