



State of Utah

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Addendum No. 2

Date: April 3, 2013
To: Contractors
From: Matthias Mueller – Program Director
Reference: Bachelor Enlisted Quarters Facility
Utah National Guard – Camp Williams, Utah
DFCM Project No. 10281480
Subject: **Addendum No. 2**

Pages	Addendum Cover Sheet	1 pages
	<u>Architect's Addendum 2</u>	<u>90 pages</u>
	Total	91 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. Failure to do so may subject the Bidder to Disqualification.

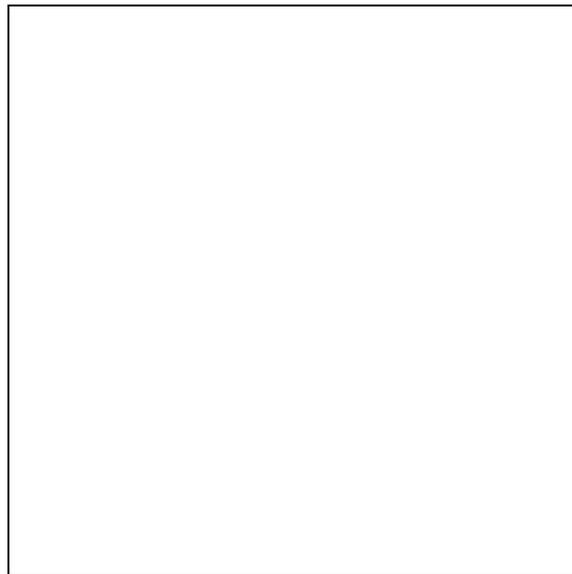
- 2.1 **SCHEDULE CHANGES:** There are no Project Schedule changes.
- 2.2 **GENERAL ITEMS:** See attached Architect's Addendum 2 dated March 29, 2013.

ADDENDUM TWO

**BEQ FACILITY
CAMP WILLIAMS, UTAH
FY13-PN 490076**



**STATE OF UTAH
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT
DFCM PROJECT NO. 10281480
MARCH 29, 2013**



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ADDENDUM TWO

MARCH 29, 2013



DFCM PROJECT No. 10281480

FY 13 PROJECT No. 490076

EFT ARCHITECTS PROJECT No. 11007

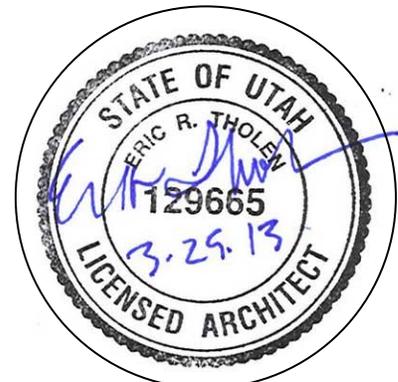
BACHELORS ENLISTED QUARTERS FACILITY

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DFCM - UNG Bachelors Enlisted Quarters Facility
DFCM Project No: 10281480
Addendum 2

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated February 15, 2013, as noted below. Acknowledge receipt of this Addendum in the space provided on the Proposal. Failure to do so may subject Bidder to disqualification.

This Addendum consists of Ninety (90) addendum pages including the cover, Eight (8) Description of the Addendum pages, Eight (8) specification sections totaling Fifty (50) pages, Fifteen (15) 8.5 x 11 inch drawings, One (1) 11 x 17 inch drawing and Fifteen (15) 30 x 42 inch drawings.

CHANGES TO SPECIFICATIONS

SPECIFICATIONS

Section 000110 - TABLE OF CONTENTS

1. Replace existing Section 000100 with revised Section 000110 AD2.

Section 012300 - ALTERNATES

1. Replace existing Section 012300 with revised Section 012300 AD2.

Section 017700 - CLOSEOUT PROCEDURES

1. Replace existing Section 017700 with revised Section 017700 AD2.
2. Delete existing Section 017700A - NG APPENDIX L.
3. Change number of Appendix 017700B to 017700A.

Section 017823 - OPERATION AND MAINTENANCE DATA

1. Replace existing Section 017823 with revised Section 017823 AD2.

Section 019113 - GENERAL COMMISSIONING REQUIREMENTS

1. At 1.3, add the following:

F. The five levels of commissioning are defined as follows:

1. Pre-Design: Includes development of the Owner's Project Requirements (OPR), Basis of Design (BoD), and similar activities necessary for defining the scope of the project.
2. Design: Includes design, CxA design review, and Level 2 Contractor factory witness testing activities.
3. Construction: Includes the actual construction of the project, Contractor completion of the Level 3 Pre-Functional Construction Checklists, completion of contractor startups, and contractor point to point verification.

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4. Acceptance: Includes the completion of construction activities, contractor completion and CxA witnessing of Level 4 Functional Performance Testing, and final system verification.
5. Post Acceptance: Includes Level 5 Integrated Systems Testing, final system checkout, and warranty review.

2. At PART 3 - EXECUTION, add the following:

3.1 SCHEDULE OF SYSTEMS TO BE COMMISSIONED

A. Systems to be commissioned shall include the following:

1. HVAC Pumps.
2. Fluid to Air Heat Pumps.
3. Fans.
4. Split System Air Conditioning Equipment.
5. Boilers.
6. Fan Coil Units.
7. Heat Exchangers.
8. Expansion Tanks.
9. Intake Hoods.
10. Hot Water Unit Heaters.
11. Electric Unit Heaters.
12. Cooling Towers.
13. Air Separators.
14. Building Automation System.
15. Lighting controls.
16. Fire alarm and mass notification system.
17. Power meter interface with building automation system.

3.2 TESTING DOCUMENTATION TRACKING

- A. All CxA testing documentation (PFCC's, FPT's, and IST's) shall be tracked on a matrix provided by the CxA. This matrix shall be referred to as the Test Manager Matrix (TMM). The CxA and contractor shall be responsible for updating the TMM to reflect testing progress. A blank TMM has been included as an attachment to this specification for reference only.

3. Add new Appendix 019113A - TEST MANAGER MATRIX

Section 019115 - BUILDING ENCLOSURE COMMISSIONING REQUIREMENTS

1. Add new Section 019115 AD2.

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Section 019117 AD2 - BECx FUNCTIONAL PERFORMANCE TESTING REQUIREMENTS

1. Add new Section 019117 AD2.

Section 034500 - PRECAST ARCHITECTURAL CONCRETE

1. At 1.6.B.1, revise paragraph to read "Designated as a PCI-certified plant for Group A, Category A1 - Architectural Cladding and Load Bearing Units, or designated as an APA-certified plant for production of architectural precast concrete products, at time of bidding."

Section 077200 - ROOF ACCESSORIES

1. At 2.3.A.1 add "e. Precision Ladders, LLC."
2. At 2.3.D.1, revise paragraph to read "Finish: High-Solar Reflectance Index (SRI) baked enamel or powder coat."
3. At 2.3.H.5 delete "high-Solar Reflectance Index (SRI)."

Section 079500 - EXPANSION CONTROL

1. Replace existing Section 079500 with revised Section 079500 AD2.

Section 081416 - FLUSH WOOD DOORS

1. At 2.1.A, add "4. Oshkosh Door Company." Renumber remaining paragraph.

CHANGES TO DRAWINGS

GENERAL

- 2.G01 Replace sheet G006 with enclosed revised sheet G006. The following are the updates made:
- Under the Special Inspection Form – Steel Construction: Floor & Roof deck welds are now marked Continuous.
 - Under the Nonstructural Component Checklist - Architectural Components: Cabinets are now marked under deferred submittal. Added to the comments of this item: As part of deferred submittal No. 1
 - Under Deferred Submittals: Added item 6: Metal Stairs
 - Under Deferred Submittals Estimated Submittal Date: Added for item 6 row: June 2013

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LANDSCAPE

2.LS01 The entire content of sheets LS101, LS102, LS103, LS201, LS202, LS203, LS501, LS502, LS503, and LS504 is now part of Alternate Bid Item No. 1, as defined by alternate description notes under all updated architectural overall level plans included within this addendum.

STRUCTURAL

2.S01 Replace sheet SB101 with enclosed updated SB101. The following are the updates made:

- Added a note referring to structural fill requirements for the areas of demolition.

2.S02 Replace sheet SB101A with enclosed updated SB101A. The following are the updates made:

- Renumbered Alternates.

2.S03 Replace sheet SF101A with enclosed updated SF101A. The following are the updates made:

- Renumbered Alternates.

2.S04 Replace sheet SF102A with enclosed updated SF102A. The following are the updates made:

- Renumbered Alternates.

2.S05 Replace sheet SF103A with enclosed updated SF103A. The following are the updates made:

- Renumbered Alternates.

ARCHITECTURAL

2.A01 Replace sheet A101 with enclosed updated A101. The following are the updates made:

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- Renumbered Alternates.
 - General Notes update.
 - Alternates Description Notes update.
- 2.A02 Modify on sheet A101A the exterior wall detail callout per the enclosed AD2-A01 sketch.
- 2.A03 Modify on sheet A101A the exterior wall detail callout per the enclosed AD2-A02 sketch.
- 2.A03 Modify on sheet A101B the exterior wall detail callout per the enclosed AD2-A03 sketch.
- 2.A04 Replace sheet A102 with enclosed updated A102. The following are the updates made:
- Renumbered Alternates.
 - General Notes update.
 - Alternates Description Notes update.
- 2.A05 Modify on sheet A102A the exterior wall detail callout per the enclosed AD2-A04 sketch.
- 2.A06 Modify on sheet A102A the exterior wall detail callout per the enclosed AD2-A05 sketch.
- 2.A07 Modify on sheet A102B the exterior wall detail callout per the enclosed AD2-A06 sketch.
- 2.A08 Modify on sheet A102B the exterior wall detail callout per the enclosed AD2-A07 sketch.
- 2.A09 Modify on sheet A102B the exterior wall detail callout per the enclosed AD2-A08 sketch.
- 2.A10 Replace sheet A103 with enclosed updated A103. The following are the updates made:
- Renumbered Alternates.
 - General Notes update.
 - Alternates Description Notes update.

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- 2.A11 Modify on sheet A103A the exterior wall detail callout per the enclosed AD2-A09 sketch.
- 2.A12 Modify on sheet A103A the exterior wall detail callout per the enclosed AD2-A10 sketch.
- 2.A13 Modify on sheet A103B the exterior wall detail callout per the enclosed AD2-A11 sketch.
- 2.A14 Modify on sheet A103B the exterior wall detail callout per the enclosed AD2-A12 sketch.
- 2.A15 Replace sheet A106 with enclosed updated A106. The following are the updates made:
- Renumbered Alternates.
 - General Notes update.
 - Alternates Description Notes update.
- 2.A16 Replace sheet A107 with enclosed updated A107. The following are the updates made:
- Renumbered Alternates.
 - General Notes update.
 - Alternates Description Notes update.
- 2.A17 Replace sheet A108 with enclosed updated A108. The following are the updates made:
- Renumbered Alternates.
 - General Notes update.
 - Alternates Description Notes update.
- 2.A18 Replace sheet A111 with enclosed updated A111. The following are the updates made:
- Renumbered Alternates.
 - General Notes update.
 - Alternates Description Notes update.
- 2.A19 Modify key note 25 of Interior Elevation Keynotes included on sheets A208 and A210 per the enclosed updated keynote shown on AD2-A13 sketch.

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- 2.A20 Replace sheet A508 with enclosed updated A508. The following are the updates made:
- Updated expansion joint details D1/A508, E1/A508, E2/A508, E3/A508 and E6/A508.
 - Moved details A2 and B2 to sheet A510.
 - Added new expansion joint details A2/A508 and B2/A508.
- 2.A21 Add to sheet A510 the detail D4 per enclosed AD2-A14 sketch (detail moved from sheet A508).
- 2.A22 Add to sheet A510 the detail E4 per enclosed AD2-A15 sketch (detail moved from sheet A508).
- 2.A23 Replace sheet A520 with enclosed updated A520. The following are the updates made:
- Updated detail B5/A520
 - Updated detail C3/A520
 - Updated detail D3/A520
 - Added detail D4/A520
 - Added detail E6/A520
- 2.A24 Add General Notes to sheet A523. General Notes to read: " 1. STAIR DETAILS ARE FOR REFERENCE ONLY. THE DESIGNS OF STAIRS AND LANDINGS ARE A DEFERRED SUBMITTAL".
- 2.A25 Add General Notes to sheet A524. General Notes to read: " 1. STAIR DETAILS ARE FOR REFERENCE ONLY. THE DESIGNS OF STAIRS AND LANDINGS ARE A DEFERRED SUBMITTAL".
- 2.A26 Add Notes to sheet A525 as follows: At detail B6/A525, note to read: "SEISMIC BRACING FOR CABINETRY IS A DEFERRED SUBMITTAL". At detail D1/A525, note to read: "SEISMIC BRACING FOR CABINETRY IS A DEFERRED SUBMITTAL". At detail D3/A525, note to read: "SEISMIC BRACING FOR CABINETRY IS A DEFERRED SUBMITTAL".
- 2.A27 Modify callout for detail E4/A526 per the enclosed AD2-A16 sketch.

END OF ADDENDUM No. 2

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*FOR INFORMATION ONLY AND NOT A PART OF THE CONTRACT DOCUMENTS

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PROCUREMENT AND CONTRACTING REQUIREMENTS WILL BE PROVIDED BY OWNER

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END SECTION 000110 AD2

SECTION 012300 AD2 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost for each alternate is the net addition to the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A schedule of alternates is included at the end of this Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Additive Alternate No. 1 - Landscaping and Flexible Asphalt Pavement for Main Parking Area and Entrances: All work associated and in connection with the landscape site treatment, site planting, site irrigation systems not included within other provisions of the main bid, and all work associated and in connection with furnishing and installing the top finish layer of the flexible asphalt pavement for the main parking area on the east side of the project including its entrances and marking paint.
- B. Additive Alternate No. 2 - Twelve Billet Units: All work in connection with building and finishing 12 Billet units, including all associated work within, around and included grid lines C to D between grid lines 1 to 4 of the construction documents.
- C. Additive Alternate No. 3 - Solar Panels: All work in connection with furnishing and installing solar panels to provide 30 percent of the annual domestic hot water use, including all associated other elements and accessories to complete the work in place, ready for service and in accordance with the construction documents.
- D. Additive Alternate No. 4 - Twelve Billet Units: All work in connection with building and finishing 12 Billet units, including all associated work within, around and included grid lines B to C between grid lines 9 to 12 of the construction documents.
- E. Additive Alternate No. 5 - Twelve Billet Units: All work in connection with building and finishing 12 Billet units, including all associated work within, around and included grid lines B to C between grid lines 1 to 4 of the construction documents

END OF SECTION 012300 AD2

SECTION 017700 AD2 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- B. Related Requirements:
 - 1. Section 017300 "Execution" for progress cleaning of Project site.
 - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
 - 4. Section 017900 "Demonstration and Training" for requirements for instructing Owner's personnel.
- C. At Project closeout, coordinate with and assist Owner in completing DD Form 1354 "Transfer and Acceptance of DoD Real Property".

1.3 ACTION SUBMITTALS

- A. Contractor's Punchlist: Submittal at Substantial Completion.

1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Refer to General Conditions including Article "Substantial Completion Inspection" for requirements related to Substantial Completion.

- B. Contractor's Punchlist: Prepare and submit a list of items to be completed and corrected, indicating the value of each item on the list and reasons why the Work is incomplete.

- C. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, and operation and maintenance manuals.
3. Submit closeout submittals specified in individual Sections, including specific warranties, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
5. Submit test/adjust/balance records.
6. Submit sustainable design submittals required in Section 018113.13 "Sustainable Design Requirements - LEED for New Construction and Major Renovations," and in individual Sections.
7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

- D. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.

2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.
4. Perform preventive maintenance on equipment used prior to Substantial Completion.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
6. Advise Owner of changeover in heat and other utilities.
7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Complete final cleaning requirements, including touchup painting.
10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
11. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection. Refer to General Conditions including Article "Substantial Completion Inspection" for additional requirements.

1.7 FINAL COMPLETION PROCEDURES

- A. Refer to General Conditions including Article "Final Completion Inspection" for requirements related to Final Completion.
- B. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
 1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 2. Punchlist Verification: Verify completion of punchlist items and state that each item on punchlist has been corrected, completed, or otherwise resolved for acceptance.
 3. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection. Refer to General Conditions including Article "Final Completion Inspection" for additional requirements.

1.8 CONTRACTOR'S PUNCHLIST

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.

2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Page number.
4. Submit list of incomplete items in the following format:
 - a. PDF electronic file. Architect will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 4. Include summary list including specification section numbers and titles, manufacturers, warranty periods, and expiration dates.
 5. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-

obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.

- k. Remove labels that are not permanent.
 - l. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
 - p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
 - q. Leave Project clean and ready for occupancy.
- C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.
- D. Construction Waste Disposal: Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
- 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
 - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700 AD2

SECTION 017823 AD2 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory.
 - 2. Emergency manuals.
 - 3. Operation manuals for systems, subsystems, and equipment.
 - 4. Product maintenance manuals.
 - 5. Systems and equipment maintenance manuals.
- B. Related Requirements:
 - 1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
 - 2. Section 019113 "General Commissioning Requirements" for verification and compilation of data into operation and maintenance manuals.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect and Commissioning Authority will comment on whether content of operations and maintenance submittals are acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

- B. Format: Submit operations and maintenance manuals in the following formats:
1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.
 - a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
 - b. Enable inserted reviewer comments on draft submittals.
 2. Paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves.
- C. Manual Submittal: Submit each manual in final form, in PDF electronic file format only, prior to requesting inspection for Substantial Completion and before commencing demonstration and training. Architect and Commissioning Authority will return electronic file with comments within 15 days.
1. Correct or revise each manual to comply with Architect's and Commissioning Authority's comments.
 2. Submit 3 paper copies and 3 compact discs in PDF electronic file format of each corrected manual within 15 days of receipt of Architect's and Commissioning Authority's comments and prior to requesting Substantial Completion and commencing demonstration and training.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
1. List of documents.
 2. List of systems.
 3. List of equipment.
 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name and contact information for Contractor.
 - 6. Name and contact information for Architect.
 - 7. Name and contact information for Commissioning Authority.
 - 8. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 - 9. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
 - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.
1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf or post-type binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
 4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include summary list including specification section numbers and titles, manufacturers, warranty periods, and expiration dates.
 - 2. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.

4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.

2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
1. Do not use original project record documents as part of operation and maintenance manuals.
 2. Comply with requirements of newly prepared record Drawings in Section 017839 "Project Record Documents."
- G. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823 AD2



Project Name / Number:	Utah National Guard - BEQ
Date Updated:	2/25/2013
Updated By:	S. Thomas

Purpose:
 The purpose of this document is to track the progress of submissions, approvals, executions and verifications of Cx forms and tests.

Directions for use:
 The CxA lists each piece of equipment to be commissioned under "Equipment Tag/Type" column.
 For the listed equipment, the CxA creates document ID#'s for applicable Equipment Checklists, Start-up Forms, and Functional-Performance Tests
 The CxA attempts to assign a person responsible (sub-contractor) for each document. Ultimately, this is the Division 1 contractor's decision.
 Either CxA or Division 1 contractor can update the "Status" columns as the project progresses with each issue, using the abbreviations below.

Abbreviations for Person Responsible (PR) Column		Abbreviations for Status Column	
BAS	Controls Contractor	ACCF	Awaiting Contractor Completed Form
Ven	Vendor	Rec'd	Received Appropriate Form, No Further Action by Contractor
CxA	Commissioning Authority (exp)	CC-A	Contractor Completed form Approved by CxA
EC	Electrical Contractor	CC-IFA	Contractor Completed form Issued for Approval to CxA
GC	General Contractor	CC-NA	Contractor Completed form Not Approved, re-test/resubmit
MC	Mechanical Contractor	IFA	Preliminary form Issued for Approval to CxA
None	No Team Member Responsibility	NR	Not Required
PC	Plumbing Contractor	ACCF	ACCFing, will be provided by CxA (Testing has not started)
TAB	Test, Adjust & Balance Contractor	RR	Returned for re-issue
FPC	Fire Protection Contractor	VER-P	CxA Verified - Pass
EMCS	Energy Management Control System Contractor	VER-IP	CxA Verified - In Progress
		VER-F	CxA Verified - Fail

No.	Equipment Category	Equipment Tag/Type	Model# / Serial # / Type	LEVEL 3				LEVEL 4							
				Pre-Functional Const. Checklist			Task Date	Contractor Start-up Forms			Task Date	Functional-Performance Test			
				Doc. ID	PR	Status		Doc. ID	PR	Status		Doc. ID	PR	Status	
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SECTION 019115 AD2 - BUILDING ENCLOSURE COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes the commissioning requirements for the Building Enclosure systems.
 - 1. The commissioning requirements for the Building Enclosure systems given in this section are entirely separate from, and in addition to, the General Commissioning Requirements for this project. The General Contractor (GC), Subcontractors, and Suppliers are required to participate in both commissioning processes as required any supplemental General Commissioning requirements.
 - 2. The Commissioning Agent and Building Enclosure Commissioning Agent will provide separate documentation for each commissioning process.
- B. Related Requirements:
 - 1. Refer to Section 019117 "Building Enclosure Functional Performance Testing".

1.3 DESCRIPTION

- A. Building Enclosure Commissioning (BECx) is a systematic process of ensuring all building enclosure systems responsible for environment separation perform interactively according to the Owner's Project Requirements and the Architect's Basis of Design. The BECx process is intended to achieve the following specific objectives according to the Contract Documents:
 - 1. Verify and document proper installation and performance of building enclosure materials and systems.
 - 2. Provide Owner with functional building enclosure systems with minimal performance problems at project completion.
- B. Commissioning does not take away from, or reduce responsibility of, system designers or installing contractors to provide a finished and fully functioning product.
- C. This section shall in no way diminish the responsibility of Division 03, 04, 07, 08, and 09 Contractors, Subcontractors, and Suppliers in performing all aspects of work and testing as outlined in the Contract Documents. Any requirements outlined in this section are in addition to requirements outlined in Division 03, 04, 07, 08, and 09.

1.4 ABBREVIATIONS

- A. The following are common abbreviations used in the Specifications (definitions are found further in this Section):
1. A/E - Architect and Design Engineers.
 2. BECA – Building Enclosure Commissioning Agent.
 3. CxA - Commissioning Agent - Refer to Section 019113 “General Commissioning Requirements”.
 4. GC - General Contractor.
 5. CT - Commissioning Team.
 6. Cx – Commissioning.
 7. Cx Plan - Commissioning Plan.
 8. FPT - Functional Performance Test.
 9. OR - Owner’s Representative.
 10. O&M - Operations & Maintenance.
 11. RFI - Request for Information.

1.5 DEFINITIONS

- A. Approval: Acceptance that a material or system has been properly installed and is functioning in tested modes according to the Contract Documents.
- B. Architect/Engineer (A/E): Prime consultant (architect) and sub-consultants who comprise the design team, generally the Architect of Record and any Design Sub-consultants.
- C. Basis of Design (BOD): Documentation of primary thought processes and assumptions behind design decisions made to meet design intent. Describes systems, components, conditions, and methods chosen to meet intent.
- D. Building Enclosure Commissioning Agent (BECA): Contracted to Owner through the CxA. BECA directs and coordinates day-to-day building enclosure commissioning activities independently from CxA.
- E. Commissioning Agent (CxA): Contracted to Owner. CxA directs and coordinates day-to-day commissioning activities excluding BECx activities. CxA reports directly to Owner.
- F. Commissioning Plan: Overall plan developed after bidding that provides structure, schedule, and coordination planning for commissioning process. A specific building enclosure section will be added into the project’s commissioning plan.
- G. Contract Documents: Documents binding on parties involved in construction of this project (drawings, specifications, change orders, amendments, contracts, etc.).

- H. Deficiency: Condition of a building enclosure material or system that is not in compliance with Contract Documents (that is, does not perform properly or is not complying with design intent).
- I. Functional Performance Test (FPT): Test of performance of building enclosure materials and systems. Systems are tested under various simulated environmental conditions, such as air leakage under pressure differential and water leakage under pressure differential with water spray.
- J. Owner's Project Requirements (OPR): A written document that details the functional requirements of a project and the expectations of how it will be used and operated. This includes project and design goals, measurable performance criteria, budgets, schedules, success criteria, and supporting information.
- K. Simulated Condition: Condition created for testing component or system (e.g., applying pressure differential across the building enclosure concurrent with water spray to simulate a wind driven rain).
- L. Specifications: Construction specifications of Contract Documents.
- M. Mock-up: The activities where systems or materials are initially constructed and tested. Mock-ups are to be free standing and approved prior to commencing full scale construction.
- N. Sub-contractor: Contractors of GC, and their Sub-contractors, who provide and install building enclosure components and systems.

1.6 RELATED WORK

- A. Specific building enclosure commissioning requirements are given in this specification. The following specification sections are related to the commissioning work specified in this section:
 - 1. General Commissioning Requirements: Refer to Section 019113 "General Commissioning Requirements".
 - 2. Building Enclosure Functional Performance Testing: Refer to Section 019117 "Building Enclosure Commissioning Requirements".
 - 3. Basic Concrete Requirements: Refer to Division 03.
 - 4. Basic Masonry Requirements: Refer to Division 04.
 - 5. Basic Waterproofing, Roofing, Air Barrier and Insulation Requirements: Refer to Division 07.
 - 6. Basic Fenestrations Requirements: Refer to Division 08.
 - 7. Basic Finishing Requirements: Refer to Division 09.

1.7 COORDINATION

- A. Commissioning Team: Members of the Commissioning Team (CT) will consist of:

1. Commissioning Agent (CxA).
2. Building Enclosure Commissioning Agent (BECA).
3. Building Enclosure Testing Agent (BETA).
4. Owner's Representative(s) (OR).
5. General Contractor (GC).
6. Architect and Design Engineers (A/E).
7. Building Enclosure Subcontractors.

B. Management: Owner will contract services of the BECA directly. The BECA will direct and coordinate commissioning activities and report to the OR. All members of the Commissioning Team shall cooperate to fulfill contracted responsibilities and objectives of the Contract Documents.

C. Scheduling:

1. BECA will work with commissioning team to establish required commissioning activities to incorporate in preliminary commissioning schedule. The GC will integrate commissioning activities into master construction schedule. Necessary notifications are to be made in a timely manner in order to expedite commissioning.

1.8 SUBMITTALS

A. A/E or General Contractor shall provide BECA with documentation required for commissioning work. At minimum, documentation shall include: General Commissioning Requirements and performance data and any performance test procedures. In addition, installation and checkout materials shall be submitted to BECA.

B. BECA shall review submittals concurrent with the A/E for conformance as it relates to commissioning.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SYSTEMS TO BE COMMISSIONED

A. Building Enclosure:

1. Below Grade Systems, Roofing Systems, Opaque Wall/Cladding Systems, Fenestration Systems responsible for providing the following functions:
 - a. Air barrier.
 - b. Vapor barrier.
 - c. Insulation.
 - d. Waterproofing.

3.2 RESPONSIBILITIES OF COMMISSIONING TEAM MEMBERS DURING CONSTRUCTION PHASE

A. Architect/Engineer (A/E):

1. Document design intent of systems.
2. Review and incorporate building enclosure commissioning specification and functional performance test specification into the construction documents.
3. Provide construction documents electronically.
4. Review BECA comments on construction document and shop drawings.
5. Assist in dispute resolution regarding building enclosure items.
6. Review BECA reports.

B. Building Enclosure Commissioning Agent (BECA):

1. Participate in an initial team conference call to identify the OPR.
2. Develop BECx plan.
3. Develop BECx Requirements specification.
4. Develop Building Enclosure Functional Performance Test specification.
5. Review architectural drawings and specifications pertinent to the building enclosure.
6. Review shop drawings and submittals prior to or concurrent with the A/E reviews
7. Observe the construction of the mock-up and perform testing on the mock-up.
8. Attend the construction BECx kick-off meeting.
9. Finalize the commissioning plan.
10. Field monitor installation of exterior enclosure components against construction documents and manufacturer's instructions. Includes site visits to observe the testing of building enclosure components and assemblies.
11. Building enclosure mock-up and field testing.
12. Finalize commissioning records and close-out documents.

C. General Contractor (GC):

1. Attend commissioning kick-off meeting and other commissioning team meetings.
2. Incorporate commissioning activities into the construction schedule.
3. Periodically update commissioning activities in the construction schedule.
4. Facilitate cooperation of Sub-contractors in commissioning work.
5. Submit copies of initial and final A/E approved submittals for commissioned system equipment to BECA for review.
6. Review BECA submittal comments.
7. Verify building enclosure materials and assemblies are ready for functional testing.
8. Submit maintenance logs of all interim maintenance or repair tasks performed by Sub-contractors.
9. Insure resolution of non-compliance and deficiencies in construction or test results. Obtain written documentation of completion from the appropriate Sub-contractors.
10. Provide letters of compatibility for adjacent building enclosure materials and assemblies.

11. Facilitate all repairs and retesting of failed condition and pay for all associated costs.
12. Provide all warrantee information to BECA.

D. Subcontractors/Vendors:

1. Review Commissioning Plan and FPT specification.
2. Attend commissioning kick-off meeting and other commissioning team meetings.
3. Notify GC and BECA of work completion.
4. Attend all required material and systems testing.
5. Execute all periodic maintenance or repairs required on started systems from initial mock-up of equipment to final acceptance by Owner to prevent material warranties from being voided.
6. Ensure installation work is complete, is in compliance with Contract Documents, and is ready for Functional Performance Testing. Notify GC that equipment and systems are ready for Functional Performance Testing. FPT test results will be documented by BECA.
7. Provide all warrantee information to GC.

E. Building Enclosure Testing Agency (BETA):

1. Attend commissioning kick-off meeting and other commissioning team meetings.
2. Provide on-site technician and equipment to complete mock-up and field Functional Performance Testing.
3. Prepare and submit reports at the conclusion of all testing.
4. Perform retesting and prepare corresponding reports.

3.3 BUILDING ENVELOP COMMISSIONING TEAM (BECx) MEETINGS

- A. BECx meetings will be held periodically as determined by the BECA.
- B. Discussions held in BECx meetings shall include, but not be limited to, system/materials, mock-up/field, progress, scheduling, testing, documentation, deficiencies, and problem resolution.

3.4 REPORTING

- A. BECA will provide status reports to GC, CxA, A/E, and Owner as needed.
- B. BECA shall submit non-compliance and deficiency reports to GC, CxA, A/E, and Owner as needed.
- C. BECA shall provide a final summary report to CxA and Owner.

3.5 MOCK-UP AND FINAL CONSTRUCTION

- A. GC and Subcontractors shall verify completion of assemblies compliant with project documents and deficiency log items prior to functional performance testing or concealment of functional performance layers within the building enclosure.

3.6 FUNCTIONAL PERFORMANCE TESTING

A. Objectives and Scope:

1. The objective of Functional Performance Testing is to demonstrate each system is operating according to documented design intent and Contract Documents. Functional Performance Testing facilitates bringing systems from a state of substantial completion to fully operational. Additionally, during Functional Performance Testing, areas of deficient performance are identified and corrected, improving operation and functioning of systems.

B. Development of Test Procedures:

1. The purpose of a specific test is to verify and document compliance of the installed enclosure systems with the OPR. The BECA shall develop specific test procedures for inclusion in Specification Section 019117 - "Building Enclosure Functional Performance Testing."

C. Coordination and Scheduling:

1. **GC will provide sufficient notice to BECA regarding completion schedule for materials and systems. GC will schedule Functional Performance Tests with CT. BECA shall witness and document functional testing of equipment and systems. BETA shall execute tests under direction of BECA. BETA may be the same entity as the BECA if deemed the best value to the project.**
2. Successful completion of mock-up functional performance testing shall occur prior to full production installation of building enclosure materials and systems.

3.7 DOCUMENTATION, NON-CONFORMANCE, AND APPROVAL OF TESTS

A. Documentation:

1. BECA will witness and document results of FPT.

B. Non-Conformance:

1. **BECA will record results of functional testing. Deficiency or non-conformance issues will be noted and reported to GC, CxA and Owner.**
2. **Corrections of minor deficiencies identified may be made during tests at discretion of BECA. In such cases, deficiency and resolution will be documented.**
3. **Every effort will be made to expedite testing and minimize unnecessary delays, while not compromising integrity of tests. BECA shall not overlook**

deficient work or loosen acceptance criteria to satisfy scheduling or cost issues unless directed to do so by the Owner.

4. Deficiencies are handled in the following manner:
 - a. When there is no dispute on deficiency and Sub-contractor accepts responsibility for remedial action:
 - 1) **BECA documents deficiency and Sub-contractors response and intentions and they go on to another test or installation. BECA submits deficiency report to GC, CxA and Owner. Copy is provided to Sub-contractor by GC. Sub-contractor corrects deficiency and certifies that material or assembly is ready to be retested. GC informs CT of retesting schedule.**
 - 2) GC reschedules test with BECA and BETA.
 - b. When there is a dispute about a deficiency, regarding whether it is a deficiency or who is responsible:
 - 1) **BECA documents deficiency and Contractor's response. BECA submits deficiency report to GC, CxA and Owner. Copy is provided to Sub-contractor by GC.**
 - 2) **GC facilitates resolution of deficiency. Other parties are brought into discussions as needed. Final interpretive authority is with A/E. Final acceptance authority is with the Owner.**
 - 3) **GC documents resolution process.**
 - 4) Once interpretation and resolution has been decided, appropriate party corrects deficiency, GC reschedules test, and test is repeated until satisfactory performance is achieved.

C. Cost of Retesting:

1. Costs for all retesting will be the full responsibility of the GC and Subcontractors. These costs include all access, equipment, labor, and materials required to complete the retesting.

3.8 COMMISSIONING DOCUMENTATION

A. Final Report Details:

1. Final commissioning report will include an executive summary, list of participants and roles, brief building description, overview of commissioning and testing scope, and general description of testing and verification methods. Report will contain evaluation regarding:
 - a. Conformance to specifications and design intent.
 - b. Material/system installation.
 - c. Functional performance.

2. **All outstanding non-compliance items will be specifically listed.**
3. Recommendations for improvement to system or operations, future actions, etc. will also be listed.

END OF SECTION 019115 AD2

SECTION 019117 AD2 - BECx FUNCTIONAL PERFORMANCE TESTING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section. Division 04, 07 and 08 Sections also apply to this section. Where conflicts arise regarding building enclosure testing, this Section shall supersede other Sections where contradictions occur.

1.2 SUMMARY

- A. This section includes the functional performance testing requirements for the Building Enclosure systems.
- B. Related Requirements:
 - 1. Refer to Section 019115 "Building Enclosure Commissioning Requirements".

1.3 TESTING AGENCY

- A. The BETA can be and is often the same entity as the BECA.

1.4 ABBREVIATIONS

- A. The following are common abbreviations used in the Specifications (definitions are found further in this Section):
 - 1. A/E - Architect and Design Engineers.
 - 2. BECA – Building Enclosure Commissioning Agent.
 - 3. CxA - Commissioning Agent - Refer to Section 019113 "General Commissioning Requirements".
 - 4. GC - General Contractor.
 - 5. CT - Commissioning Team.
 - 6. Cx – Commissioning.
 - 7. Cx Plan - Commissioning Plan.
 - 8. FPT - Functional Performance Test.
 - 9. OR - Owner's Representative.
 - 10. O&M - Operations & Maintenance.
 - 11. RFI - Request for Information.
 - 12. BETA – Building Enclosure Testing Agency.

1.5 DEFINITIONS

- A. See Section 019115 "Building Enclosure Commissioning Requirements" for definitions.

1.6 RELATED WORK

- A. Specific building enclosure commissioning requirements are given in this specification. The following specification sections are related to the commissioning work specified in this section:
 - 1. General Commissioning Requirements: Refer to Section 019113 "General Commissioning Requirements".
 - 2. Building Enclosure Commissioning Requirements: Refer to Section 019115 "Building Enclosure Commissioning Requirements"
 - 3. Basic Masonry Requirements: Refer to Division 04.
 - 4. Basic Waterproofing, Roofing, Air Barrier and Insulation Requirements: Refer to Division 07.
 - 5. Basic Fenestrations Requirements: Refer to Division 08.

1.7 COORDINATION

- A. Functional Performance Team Members will consist of:
 - 1. Commissioning Agent (CxA).
 - 2. Building Enclosure Commissioning Agent (BECA).
 - 3. Building Enclosure Testing Agent (BETA).
 - 4. Owner's Representative(s) (OR).
 - 5. General Contractor (GC).
 - 6. Architect and Design Engineers (A/E).
 - 7. Building Enclosure Sub-contractors.
- B. Management: The BETA can be and is often the same entity as the BECA.
- C. Scheduling:
 - 1. BECA/BETA will work with the GC to establish a functional performance testing schedule.

1.8 REPORTING

- A. BECA/BETA shall submit all test reports to the GC, CxA, A/E and Owner as needed.
- B. BECA shall submit non-compliance and deficiency reports to GC, CxA, A/E and Owner as needed.

1.9 DOCUMENTATION, NON-CONFORMANCE, AND APPROVAL OF TESTS

A. Documentation

1. BECA/BETA will witness/perform and document results of FPT.

B. Non-Conformance

1. BECA/BETA will record results of functional testing. Deficiency or non-conformance issues will be noted and reported to GC, CxA and Owner.
2. Corrections of minor deficiencies identified may be made during tests at discretion of BECA. In such cases, deficiency and resolution will be documented.
3. Every effort will be made to expedite testing and minimize unnecessary delays, while not compromising integrity of tests. BECA shall not overlook deficient work or loosen acceptance criteria to satisfy scheduling or cost issues unless directed to do so by the Owner.
4. Deficiencies are handled in the following manner:
 - a. When there is no dispute on deficiency and Sub-contractor accepts responsibility for remedial action:
 - 1) BECA documents deficiency and Sub-contractors response and intentions and they go on to another test or installation. BECA submits deficiency report to GC, CxA and Owner. Copy is provided to Sub-contractor by GC. Sub-contractor corrects deficiency and certifies that material or assembly is ready to be retested. GC informs CT of retesting schedule.
 - 2) GC reschedules test with BECA/ BETA.
 - b. When there is a dispute about a deficiency, regarding whether it is a deficiency or who is responsible:
 - 1) BECA documents deficiency and Contractor's response. BECA submits deficiency report to GC, CxA and Owner. Copy is provided to Sub-contractor by GC.
 - 2) GC facilitates resolution of deficiency. Other parties are brought into discussions as needed. Final interpretive authority is with A/E. Final acceptance authority is with the Owner.
 - 3) GC documents resolution process.
 - 4) Once interpretation and resolution has been decided, appropriate party corrects deficiency, GC reschedules test, and test is repeated until satisfactory performance is achieved.

C. Cost of Testing

1. Costs for the initial testing located within this specification sections shall be the responsibility of the Owner. The contractor is to provide access to the test specimens to the CT.

D. Cost of Retesting

1. Costs for all retesting will be the full responsibility of the GC and Sub-contractors. These costs include all access, equipment, labor, and materials required to complete the retesting.

1.10 PERFORMANCE REQUIREMENTS

- A. The performance criteria below apply to all mock-up and field testing of exterior enclosure components.
- B. Air and water performance criteria summary table according to each component:

Component	Performance Criteria	
	Air	Water
Fenestrations	ASTM E 1186 (4.2.7) – No major air leaks. A major leak is defined as air and smoke are visible and easily detectable by hand within one inch of the leak location(s)	AAMA 501.1/ ASTM E 1105 - No uncontrolled water leakage when tested under a pressure difference of 8.0 lbf/sq. ft
	ASTM E 783 – Maximum air leakage of 0.09 cfm/ft at an air pressure differential of 6.24 psf	
Air Barrier Assemblies	ASTM E 1186 (4.2.6) – Pass/fail criteria shall be no bubbles observed in the leak detection liquid.	AAMA 501.1/ ASTM E 1105 - No uncontrolled water leakage when tested under a pressure difference of 8.0 lbf/sq. ft
	ASTM E 783 – Maximum air leakage of 0.04 cfm/ft at an air pressure differential of 1.57 psf	
	ASTM E 1186 (4.2.7) – No major air leaks. A major leak is defined as air and smoke are visible and easily detectable by hand within one inch of the leak location(s)	
Roofing Systems	ASTM E 1186 (4.2.6) – Pass/fail criteria shall be no bubbles observed in the leak detection liquid.	

- C. Water leakage is only acceptable if ALL of the following conditions are satisfied:
 1. Water is contained and drained to the exterior.
 2. There is no wetting of a surface that is visible to the building occupants.
 3. There would be no staining or other damage to the completed building or finishes.

- D. Where testing indicates that performance requirements are not met, the contractor shall repair or replace the failed section and a re-test conducted. Any repairs should be conducted with inspection by the BECA. Retesting shall be conducted by the BECA/BETA. All costs associated with the repair and re-testing shall be the responsibility of the contractor.
- E. In addition to retesting, failed tests will typically result in testing of an additional specimen at the discretion of the owner and at the cost of the contractor. Testing will be concluded only when satisfactory results are achieved.

1.11 MOCK-UP TEST REQUIREMENTS

- A. A building enclosure mock-up shall be constructed and tested prior to commencement of installation of building enclosure components responsible for providing environmental separation. Testing will be conducted on the installed fenestration, air barrier, and any terminations or penetrations through the air barrier such as fasteners but prior to the installation of any exterior claddings. Interior finishes, interior gypsum wall board, or insulation should not be installed prior to mock-up testing. The mock-up shall include at minimum a junction with the roofing membrane, a building corner condition, and foundation wall intersection. The mock-up shall employ no less than 100 sq. ft. of opaque wall and a fenestration assembly. For certain building components that are not included in the free standing mock-up, separate mini mock-ups that are the first installed on the building to remain are acceptable.
- B. The coordination, construction and completion of the mock-up construction are the responsibility of the General Contractor. It is the responsibility of the General Contractor to construct and repair the test chamber/enclosure as necessary to create an air-tight chamber. Mock-up test chambers/enclosures are typically constructed of wood or steel framing, exterior sheathing, and a sheet applied air barrier. Prior to testing, the BETA will pressurize the test chamber while simultaneously supplying smoke to the chamber. Any voids in the chamber air barrier will be identified and sealed to create an air-tight chamber. The General Contractor shall permit inspections of the mock-up to the BECA and BETA and any member of the building enclosure commissioning team throughout construction and testing as required.
- C. It is left to the discretion of the O, OR and/or A/E to have all exterior insulation, claddings, etc. installed after the completion of mock-up performance testing.
- D. The following test protocol shall be completed after installation of air barriers including all flashings, fenestration assemblies, and all penetrations through the air barrier, but prior to installation of exterior cladding and interior finishes.
 - 1. ASTM E 1186-03 method 4.2.7, Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems; Use pressurization and smoke tracers to identify leak locations through the mock-up chamber and the face of the mock-up. All leaks through the mock-up chamber must be sealed prior to commencing ASTM E 283 testing.
 - 2. ASTM E 1186-03 method 4.2.6, Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems; Use chamber

depressurization and site detection liquid at penetrations through the air barrier (e.g. fastener penetrations). Pass/fail criteria shall be no bubbles observed in the leak detection liquid. A minimum of 5 locations at each type of fastener (fasteners at masonry anchors, girts, or other cladding receptors) shall be tested. Testing may require special installation of any continuous girts or cladding receptors such that dome can be placed completely around girt or receptor (Dome has diameter or approximately 18 in.) This is typically accomplished by installing and fastening a 12 in. portion of the girt or receptor (may not be required dependent on cladding type).

3. ASTM E 283-04, Standard Test Method for Determining the rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
 4. ASTM E 331-00, Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
 - a. In the event of water leakage through the test, additional isolation testing shall be conducted to best determine the location of the water infiltration as required.
 5. AAMA 501.1, Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors using Dynamic Pressure;
 - a. In the event of water leakage through the test, additional isolation testing shall be conducted to best determine the location of the water infiltration as required.
 6. ASTM D 4541-09, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers; Measured air barrier adhesion strength shall not be less than 16 lbf/sq. inch. (Test only conducted after all other tests listed above have been successfully performed since test method is destructive).
- E. Where testing indicates that performance requirements are not met, the contractor shall repair or replace the failed section and a re-test conducted. Any repairs should be conducted with inspection and documentation by the BECA. Retesting shall be conducted by the BETA. All costs associated with the repair, retesting and re-inspection shall be the responsibility of the contractor.

1.12 FIELD TEST REQUIREMENTS

- A. All functional performance tests shall be conducted to project performance requirements as set forth in this specification above.
- B. Unless specifically noted below, all costs to complete the initial testing shall be borne by the Owner and the costs of all retesting shall be borne by the Contractor.
- C. Where testing indicates that performance requirements are not met, the contractor shall repair or replace the failed section and a re-test conducted. Any

repairs should be conducted with inspection by the BECA. Re-testing shall be conducted by the BETA/BECA. All costs associated with the repair and re-testing shall be the responsibility of the contractor.

- D. In addition to re-testing, failed tests will typically result in testing of an additional specimen at the cost of the contractor. Testing will be concluded only when satisfactory results are achieved. Refer to Section 019115 "Building Enclosure Commissioning Requirements".
- E. The following shall be performed during the construction phase:
1. ASTM E 1186-03, Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems, method 4.2.6; Use chamber depressurization and site detection liquid at penetrations through the air barrier (e.g. masonry tie fastener penetrations) and at laps and other critical locations within the roofing membrane. Pass/fail criteria shall be no bubbles observed in the leak detection liquid. A minimum of 30 locations shall be tested
 2. ASTM E 1186-03, Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems, method 4.2.7; Use pressurization and smoke tracers to identify leak locations through the test specimen. Pass/fail criteria shall be no major air leaks. A major leak is defined as air and smoke are visible and easily detectable by hand within one inch of the leak location(s). Testing shall be performed at 4 locations as deemed critical and representative by the project team.
 3. AAMA 501.1, Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors using Dynamic Pressure. Testing shall be performed at 8 locations as deemed critical and representative by the project team.
 4. ASTM D 4541-09, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers Measured air barrier adhesion strength shall not be less than 16 lbf/sq. inch. Testing performed at a minimum of 4 randomly selected areas.
 5. ASTM E 783, Quantitative air testing of at least 1 opaque wall and 1 fenestration assembly.
 6. ASTM E779, Standard Test Method for Determining Air Leakage Rate by Fan Pressurization.
 - a. Preparation of the building by the General Contractor prior to whole building air testing:
 1. Close/seal all air intakes or exhaust louvers
 2. Close/seal all dampers and louvers
 3. Close/seal all dryer and exhaust vents
 4. Fill all drain traps with water
 5. All exterior windows and doors are to be closed and locked (no additional means of isolation is allowed at fenestrations.
 6. HVAC system must be shut down for duration of test

7. All interior doors that access the building enclosure (roof, walls, fenestrations, floor) must be open during test to allow for uniform pressure throughout the entire building
 8. Buildings with a dropped ceiling must have ceiling tiles removed at a rate of one per every 500 sq. ft.
 9. Combustion equipment must be disabled or in the pilot position
7. ASTM E1186, Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems 4.2.1 (in conjunction with whole building air testing)
- F. Failure of any tests listed above shall result in subsequent repair and retesting of the failed specimen and the Owner's option to test an additional specimen.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 019117 AD2

SECTION 079500 AD2 - EXPANSION CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Interior expansion control systems.
- 2. Exterior wall expansion control systems.

B. Related Requirements:

- 1. Section 078446 "Fire-Resistive Joint Systems" for liquid-applied joint sealants in fire-resistive building joints.
- 2. Section 079200 "Joint Sealants" for liquid-applied joint sealants and for elastomeric sealants without metal frames.

1.3 ACTION SUBMITTALS

- A. Shop Drawings: For each expansion control system specified. Include plans, elevations, sections, details, splices, blockout requirement, attachments to other work, and line diagrams showing entire route of each expansion control system. Where expansion control systems change planes, provide isometric or clearly detailed drawing depicting how components interconnect.
- B. Samples: For each exposed expansion control system and for each color and texture specified, full width by 6 inches long in size.
- C. Samples for Initial Selection: For each type of expansion control system indicated.
 - 1. Include manufacturer's color charts showing the full range of colors and finishes available for each exposed metal and elastomeric seal material.
- D. Product Schedule: Prepared by or under the supervision of the supplier. Include the following information in tabular form:
 - 1. Manufacturer and model number for each expansion control system.
 - 2. Expansion control system location cross-referenced to Drawings.
 - 3. Nominal joint width.
 - 4. Movement capability.

5. Classification as thermal.
6. Materials, colors, and finishes.
7. Product options.
8. Fire-resistance ratings.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each fire barrier provided as part of an expansion control system, for tests performed by a qualified testing agency.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. General: Provide expansion control systems of design, basic profile, materials, and operation indicated. Provide units with capability to accommodate variations in adjacent surfaces.
 1. Furnish units in longest practicable lengths to minimize field splicing. Install with hairline mitered corners where expansion control systems change direction or abut other materials.
 2. Include factory-fabricated closure materials and transition pieces, T-joints, corners, curbs, cross-connections, and other accessories as required to provide continuous expansion control systems.
- B. Coordination: Coordinate installation of exterior wall expansion control systems with roof expansion control systems to ensure that wall transitions are watertight. Roof expansion joint assemblies are specified elsewhere.
- C. Source Limitations: Obtain expansion control systems from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: Where indicated, provide expansion control systems with fire barriers identical to those of systems tested for fire resistance per UL 2079 or ASTM E 1966 by a testing and inspecting agency acceptable to authorities having jurisdiction.
 1. Hose Stream Test: Wall-to-wall systems shall be subjected to hose stream testing.

2.3 INTERIOR EXPANSION CONTROL SYSTEMS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Construction Specialties, Inc.
 2. MM Systems Corporation.
 3. Nystrom, Inc.
- B. Floor-to-Floor XC-1:
1. Design Criteria:
 - a. Nominal Joint Width: As indicated on Drawings.
 - b. Movement Capability: -50 percent/+50 percent.
 - c. Type of Movement: Thermal.
 - d. Load Capacity:
 - 1) Uniform Load: 150 lb/sq. ft..
 - 2) Concentrated Load: 2000 lb.
 - 3) Maximum Deflection: 0.5 inch.
 - e. Fire-Resistance Rating: Provide expansion control system and fire-barrier assembly with a rating not less than 1 hour.
 2. Type: Center plate.
 - a. Cover-Plate Design: Recessed to accept field-applied finish materials.
 - 1) Cover-Plate Recess Depth: As required to accommodate adjacent flooring.
 - b. Metal: Aluminum.
 - 1) Finish: Mill.
- C. Floor-to-Wall XC-2:
1. Design Criteria:
 - a. Nominal Joint Width: As indicated on Drawings.
 - b. Movement Capability: -50 percent/+50 percent.
 - c. Type of Movement: Thermal.
 - d. Fire-Resistance Rating: Provide expansion control system and fire-barrier assembly with a rating not less than 1 hour.
 2. Type: Center plate.
 - a. Cover-Plate Design: Recessed to accept field-applied finish materials.

- b. Metal: Aluminum.
 - 1) Finish: Mill.
- D. Wall-to-Wall XC-3:
 - 1. Design Criteria:
 - a. Nominal Joint Width: As indicated on Drawings.
 - b. Movement Capability: -50 percent/+50 percent.
 - c. Type of Movement: Thermal.
 - d. Fire-Resistance Rating: Provide expansion control system and fire-barrier assembly with a rating not less than 1 hour.
 - 2. Type: Accordion.
 - a. Metal: Aluminum.
 - 1) Finish: Mill.
 - b. Seal Material: Manufacturer's standard.
 - 1) Color: As selected by Architect from manufacturer's full range.
- E. Wall-to-Wall XC-3A:
 - 1. Design Criteria:
 - a. Nominal Joint Width: As indicated on Drawings.
 - b. Movement Capability: -50 percent/+50 percent.
 - c. Type of Movement: Thermal.
 - 2. Type: Accordion.
 - a. Metal: Aluminum.
 - 1) Finish: Mill.
 - b. Seal Material: Manufacturer's standard.
 - 1) Color: As selected by Architect from manufacturer's full range.
- F. Wall-to-Ceiling XC-4:
 - 1. Design Criteria:
 - a. Nominal Joint Width: As indicated on Drawings.
 - b. Movement Capability: -50 percent/+50 percent.
 - c. Type of Movement: Thermal.
 - 2. Type: Accordion.

- a. Seal Material: Manufacturer's standard.
 - 1) Color: As selected by Architect from manufacturer's full range.

G. Ceiling-to-Ceiling XC-5:

- 1. Design Criteria:
 - a. Nominal Joint Width: As indicated on Drawings.
 - b. Movement Capability: -50 percent/+50 percent.
 - c. Type of Movement: Thermal.
- 2. Type: Accordion.
 - a. Seal Material: Manufacturer's standard.
 - 1) Color: As selected by Architect from manufacturer's full range.

2.4 EXTERIOR WALL EXPANSION CONTROL SYSTEMS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- 1. Construction Specialties, Inc.
- 2. MM Systems Corporation.
- 3. Nystrom, Inc.

B. Wall-to-Wall XC-6:

- 1. Design Criteria:
 - a. Nominal Joint Width: As indicated on Drawings.
 - b. Movement Capability: -50 percent/+50 percent.
 - c. Type of Movement: Thermal.
- 2. Type: Accordion.
 - a. Metal: Aluminum.
 - b. Seal Material: Manufacturer's standard.
 - 1) Color: As selected by Architect from manufacturer's full range.
 - c. Provide manufacturer's standard base closure.

2.5 MATERIALS

A. Aluminum: ASTM B 221, Alloy 6063-T5 for extrusions; ASTM B 209, Alloy 6061-T6 for sheet and plate.

1. Apply manufacturer's standard protective coating on aluminum surfaces to be placed in contact with cementitious materials.
- B. Elastomeric Seals: ASTM E 1783; preformed elastomeric membranes or extrusions to be installed in metal frames.
- C. Fire Barriers: Any material or material combination, when fire tested after cycling, designated to resist the passage of flame and hot gases through a movement joint and to meet performance criteria for required fire-resistance rating.
- D. Accessories: Manufacturer's standard anchors, clips, fasteners, set screws, spacers, and other accessories compatible with material in contact, as indicated or required for complete installations.

2.6 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.7 ALUMINUM FINISHES

- A. Mill finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces where expansion control systems will be installed for installation tolerances and other conditions affecting performance of work.
 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to expansion control system manufacturer's written instructions.
- B. Coordinate and furnish anchorages, setting drawings, and instructions for installing expansion control systems. Provide fasteners of metal, type, and size to suit type of construction indicated and to provide for secure attachment of expansion control systems.

- C. Cast-In Frames: Coordinate and furnish frames to be cast into concrete.

3.3 INSTALLATION

- A. Comply with manufacturer's written instructions for storing, handling, and installing expansion control systems and materials unless more stringent requirements are indicated.
- B. Metal Frames: Perform cutting, drilling, and fitting required to install expansion control systems.
 - 1. Install in true alignment and proper relationship to joints and adjoining finished surfaces measured from established lines and levels.
 - 2. Adjust for differences between actual structural gap and nominal design gap due to ambient temperature at time of installation. Notify Architect where discrepancies occur that will affect proper expansion control system installation and performance.
 - 3. Cut and fit ends to accommodate thermal expansion and contraction of metal without buckling of frames.
 - 4. Repair or grout blockout as required for continuous frame support using nonmetallic, shrinkage-resistant grout.
 - 5. Install frames in continuous contact with adjacent surfaces.
 - a. Shimming is not permitted.
 - 6. Locate anchors at interval recommended by manufacturer, but not less than 3 inches from each end and not more than 24 inches o.c.
- C. Seals in Metal Frames: Install elastomeric seals and membranes in frames to comply with manufacturer's written instructions. Install with minimum number of end joints.
 - 1. Provide in continuous lengths for straight sections.
 - 2. Seal transitions according to manufacturer's written instructions. Vulcanize or heat-weld field-spliced joints as recommended by manufacturer.
 - 3. Installation: Mechanically lock seals into frames or adhere to frames with adhesive or pressure-sensitive tape as recommended by manufacturer.
- D. Terminate exposed ends of expansion control systems with field- or factory-fabricated termination devices.
- E. Fire-Resistance-Rated Assemblies: Coordinate installation of expansion control system materials and associated work so complete assemblies comply with assembly performance requirements.
 - 1. Fire Barriers: Install fire barriers to provide continuous, uninterrupted fire resistance throughout length of joint, including transitions and field splices.

3.4 PROTECTION

- A. Do not remove protective covering until finish work in adjacent areas is complete. When protective covering is removed, clean exposed metal surfaces to comply with manufacturer's written instructions.
- B. Protect the installation from damage by work of other Sections. Where necessary due to heavy construction traffic, remove and properly store cover plates or seals and install temporary protection over expansion control systems. Reinstall cover plates or seals prior to Substantial Completion of the Work.

END OF SECTION 079500 AD2

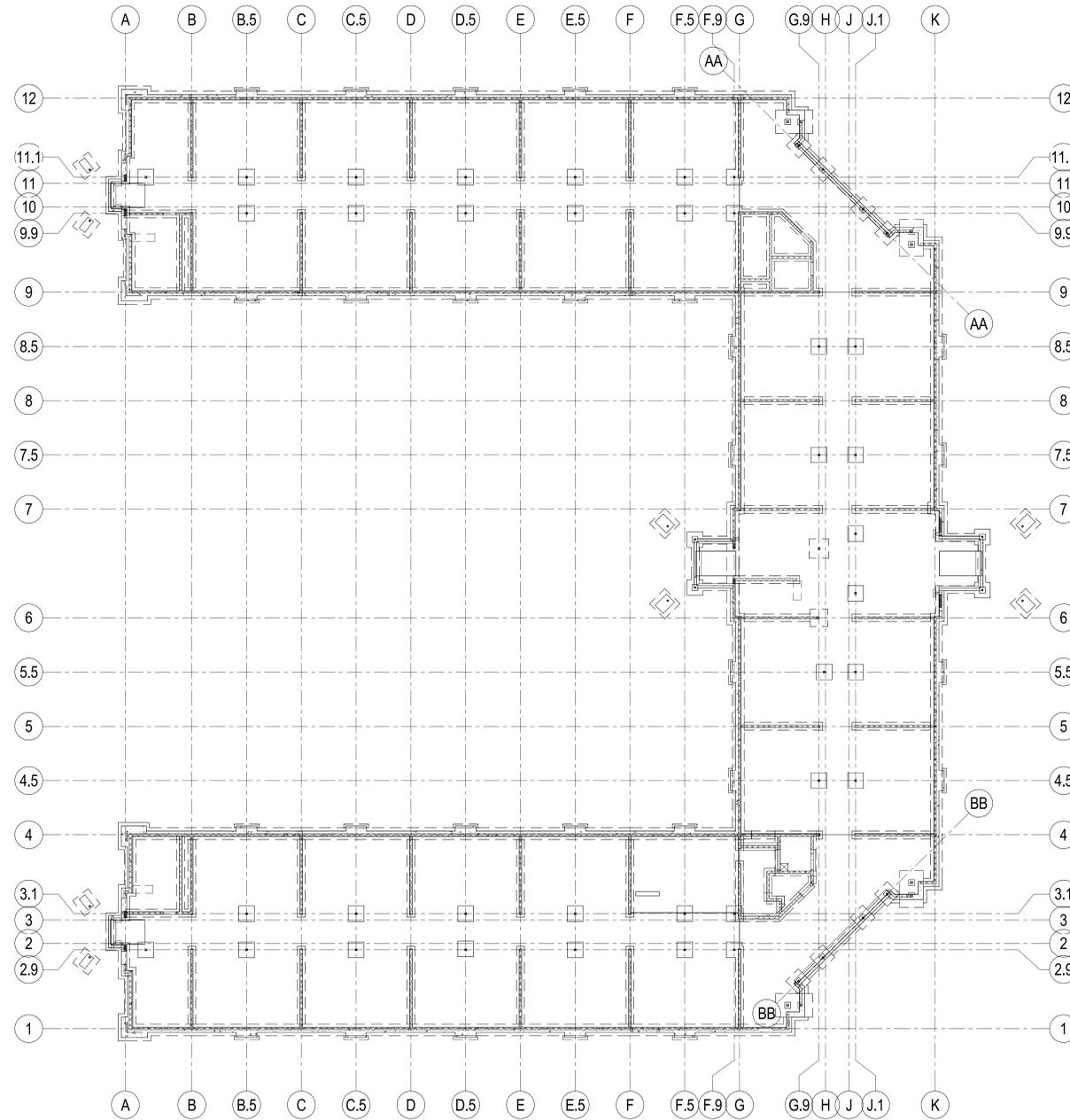
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 Salt Lake City, Utah 84143
 www.reaveley.com

02/15/13



B2
 SEE 'SF401' FOR DUMPSTER
 ENCLOSURE FOOTING &
 FOUNDATION PLAN

NOTE:
 DUE TO THE DEMOLITION OF EXISTING
 BUILDINGS AND THE PRESENCE OF
 UNDOCUMENTED FILL, THE REQUIRED
 EXTENT AND THE PLACEMENT OF
 STRUCTURAL FILL SHALL BE
 DETERMINED AND OBSERVED BY THE
 GEOTECHNICAL ENGINEER.

E4 OVERALL FOOTING & FOUNDATION PLAN
 SB101 SCALE: 1/16" = 1'-0"

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UTAH NATIONAL GUARD
 CAMP WILLIAMS
 BACHELOR ENLISTED
 QUARTERS
 RIVERTON, UT 84062

OVERALL FOOTING & FOUNDATION PLAN

#	DATE	BY	DESCRIPTION
1	03/29/13		Addendum No. #2

DRAWN BY: YW CHECKED BY: RM
 PROJECT NO: 11007 DRAWING NO: SB101
 DATE: 02/15/2013

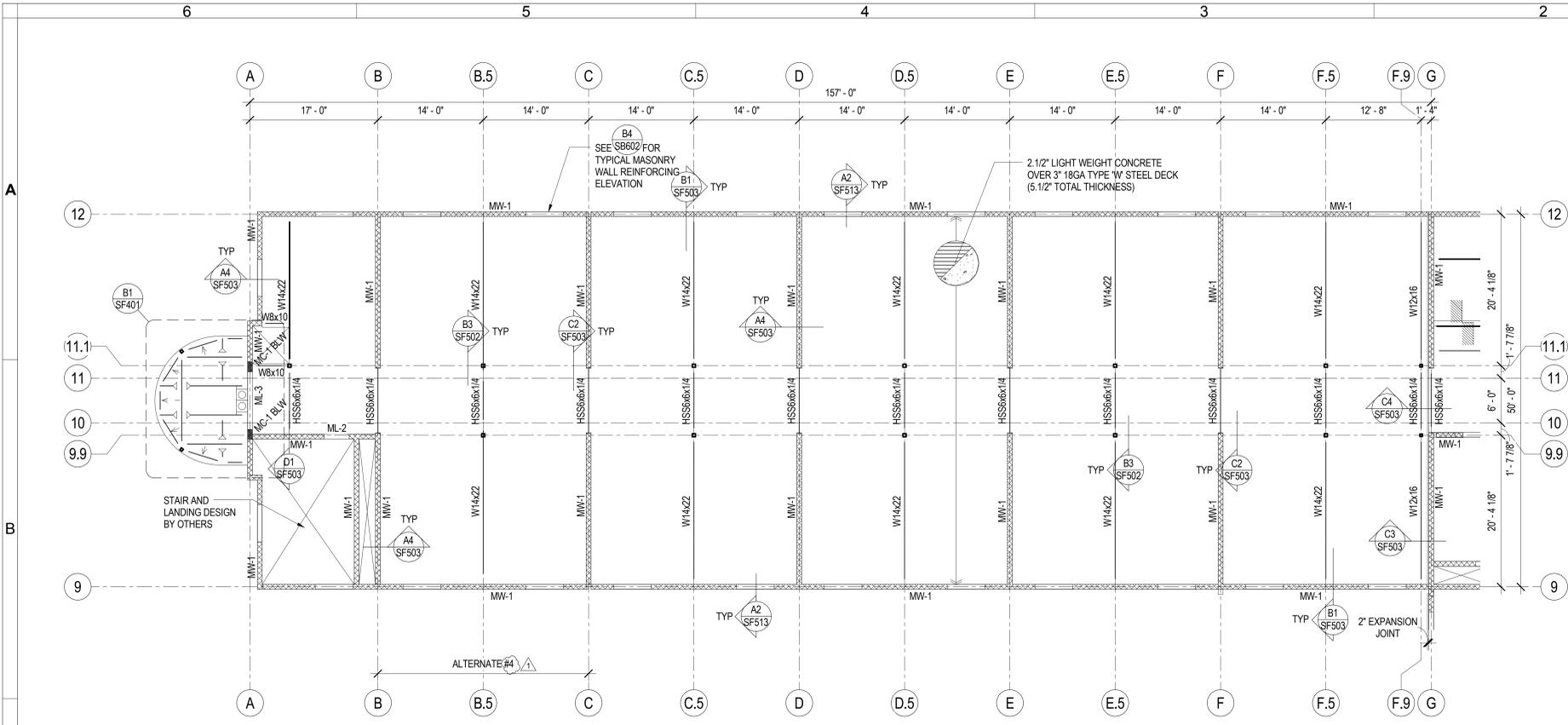
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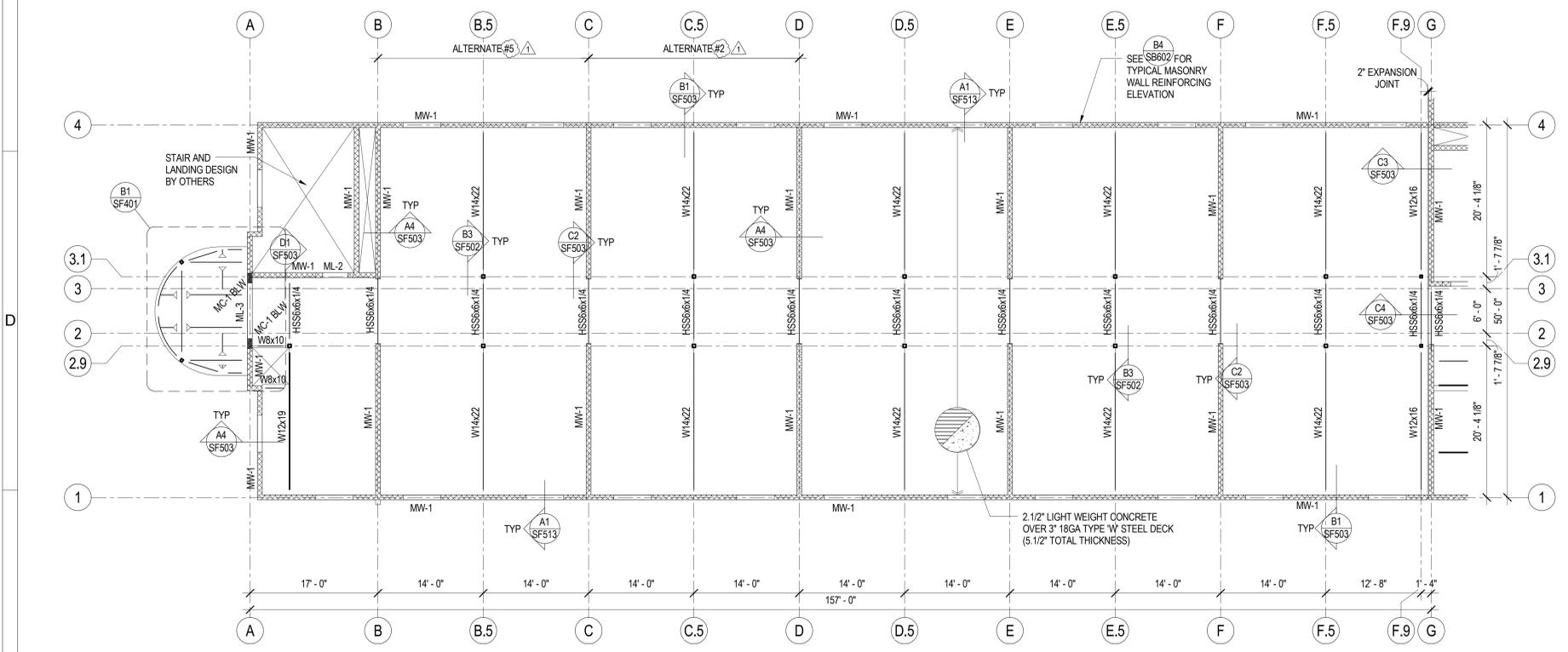
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 ENGINEERS + ASSOCIATES
 Consulting Structural Engineers

- FLOOR FRAMING PLAN LEGEND**
- MASONRY WALL
 - MASONRY LINTEL IN MASONRY WALL
 - MASONRY COLUMN IN MASONRY WALL
 - STEEL COLUMN - TUBE
 - CANTILEVER MOMENT CONNECTION
 - STEEL BEAM OR GIRDER
 - STEEL JOIST OR PURLIN
 - CHANGE IN ELEVATION
 - CONCRETE ON METAL DECK
 - ROOF DECK
 - SPECIAL DECK AREA
 - RECESSED/DEPRESSED SLAB ON METAL DECK
 - OPENING

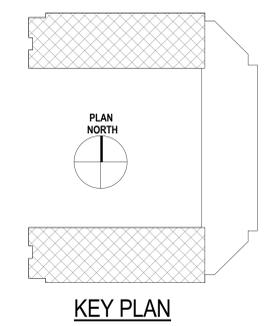
- FLOOR FRAMING PLAN NOTES**
- SEE DETAILS A4/SF501 FOR MISCELLANEOUS FLOOR OPENINGS.
 - SEE GENERAL STRUCTURAL NOTE (V.I.7) FOR STEEL DECK REQUIREMENTS WHERE 3-SPAN CONDITIONS ARE NOT POSSIBLE.
 - SEE B4/SB602 FOR TYPICAL EXTERIOR MASONRY WALL REINFORCING ELEVATION.



B4 SECOND LEVEL FLOOR FRAMING PLAN NORTH WING
 SF101A SCALE: 1/8" = 1'-0" PLAN NORTH



D4 SECOND LEVEL FLOOR FRAMING PLAN SOUTH WING
 SF101A SCALE: 1/8" = 1'-0" PLAN NORTH



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SECOND FLR FRMNG PLAN NORTH & SOUTH WINGS

#	DATE	BY	DESCRIPTION
1	03/29/13		Addendum No. #2

DRAWN BY: YW CHECKED BY: RM
 PROJECT NO: 11007 DRAWING NO: SF101A
 DATE: 02/15/2013

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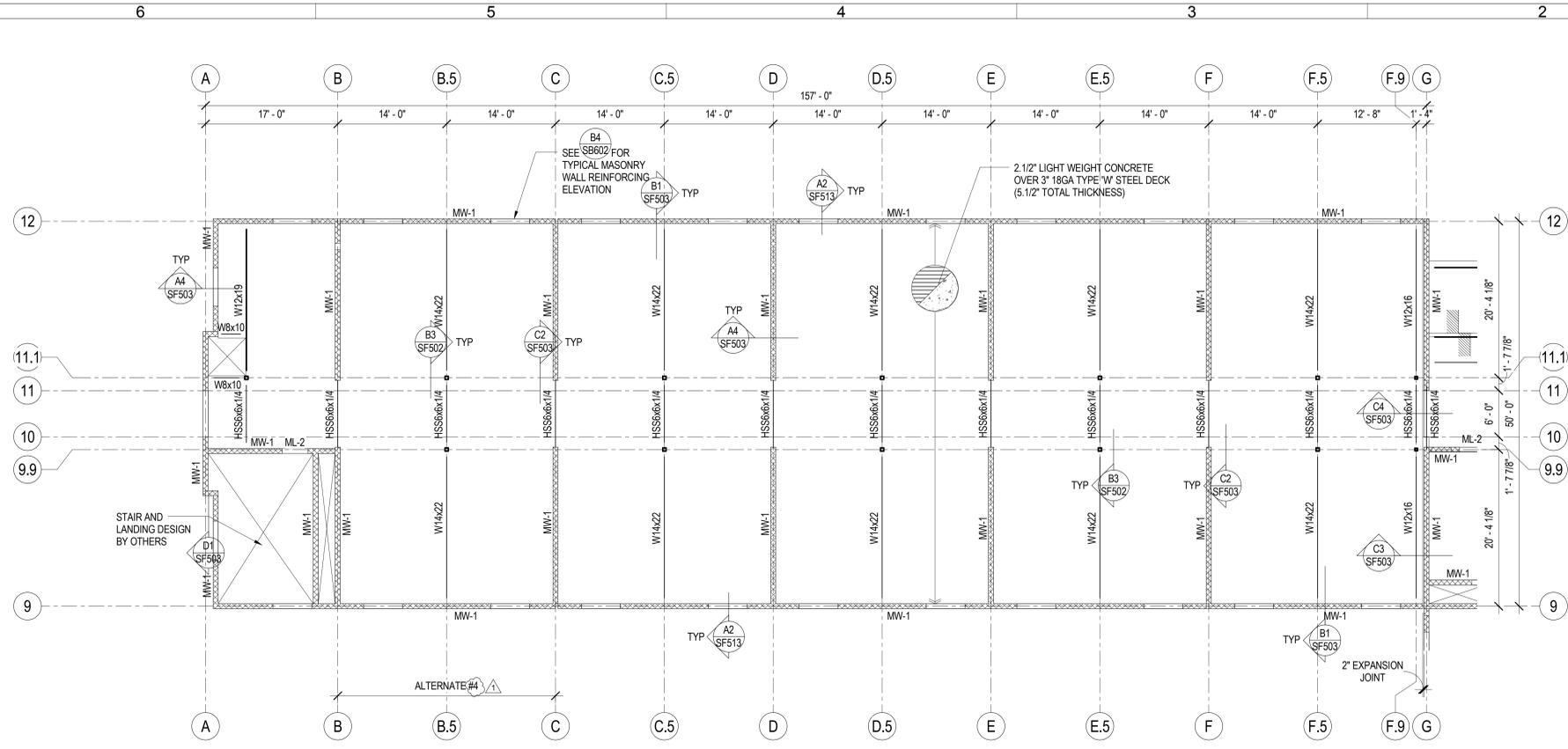
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FLOOR FRAMING PLAN LEGEND

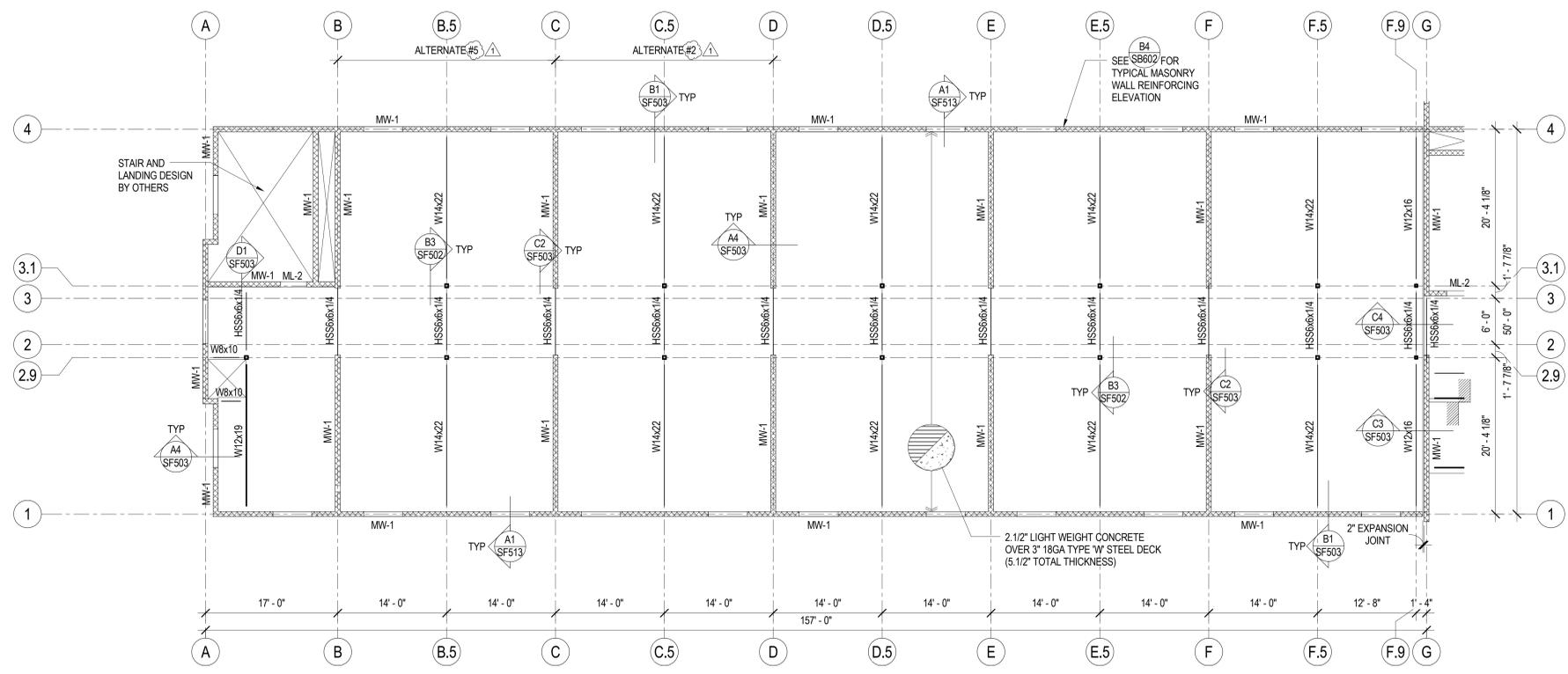
- MASONRY WALL
- MASONRY LINTEL IN MASONRY WALL
- MASONRY COLUMN IN MASONRY WALL
- STEEL COLUMN - TUBE
- CANTILEVER MOMENT CONNECTION
- STEEL BEAM OR GIRDER
- STEEL JOIST OR PURLIN
- CHANGE IN ELEVATION
- CONCRETE ON METAL DECK
- ROOF DECK
- SPECIAL DECK AREA
- RECESSED/DEPRESSED SLAB ON METAL DECK
- OPENING

FLOOR FRAMING PLAN NOTES

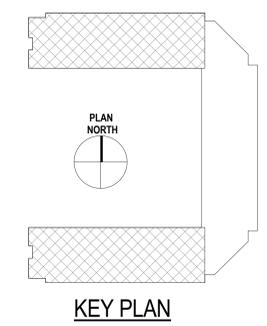
- SEE DETAILS A4/SF501 FOR MISCELLANEOUS FLOOR OPENINGS.
- SEE GENERAL STRUCTURAL NOTE (V.J.7) FOR STEEL DECK REQUIREMENTS WHERE 3-SPAN CONDITIONS ARE NOT POSSIBLE.
- SEE B4/SB602 FOR TYPICAL EXTERIOR MASONRY WALL REINFORCING ELEVATION.



A4 THIRD LEVEL FLOOR FRAMING PLAN NORTH WING
 SF102A SCALE: 1/8" = 1'-0" PLAN NORTH



D4 THIRD LEVEL FLOOR FRAMING PLAN SOUTH WING
 SF102A SCALE: 1/8" = 1'-0" PLAN NORTH



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THIRD FLOOR FRAMING PLAN NORTH & SOUTH WINGS

DATE	BY	DESCRIPTION
1	03/29/13	Addendum No. #2

DRAWN BY: YW CHECKED BY: RM
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 DATE: 02/15/2013

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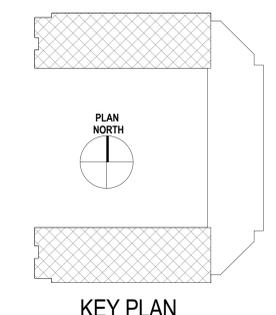
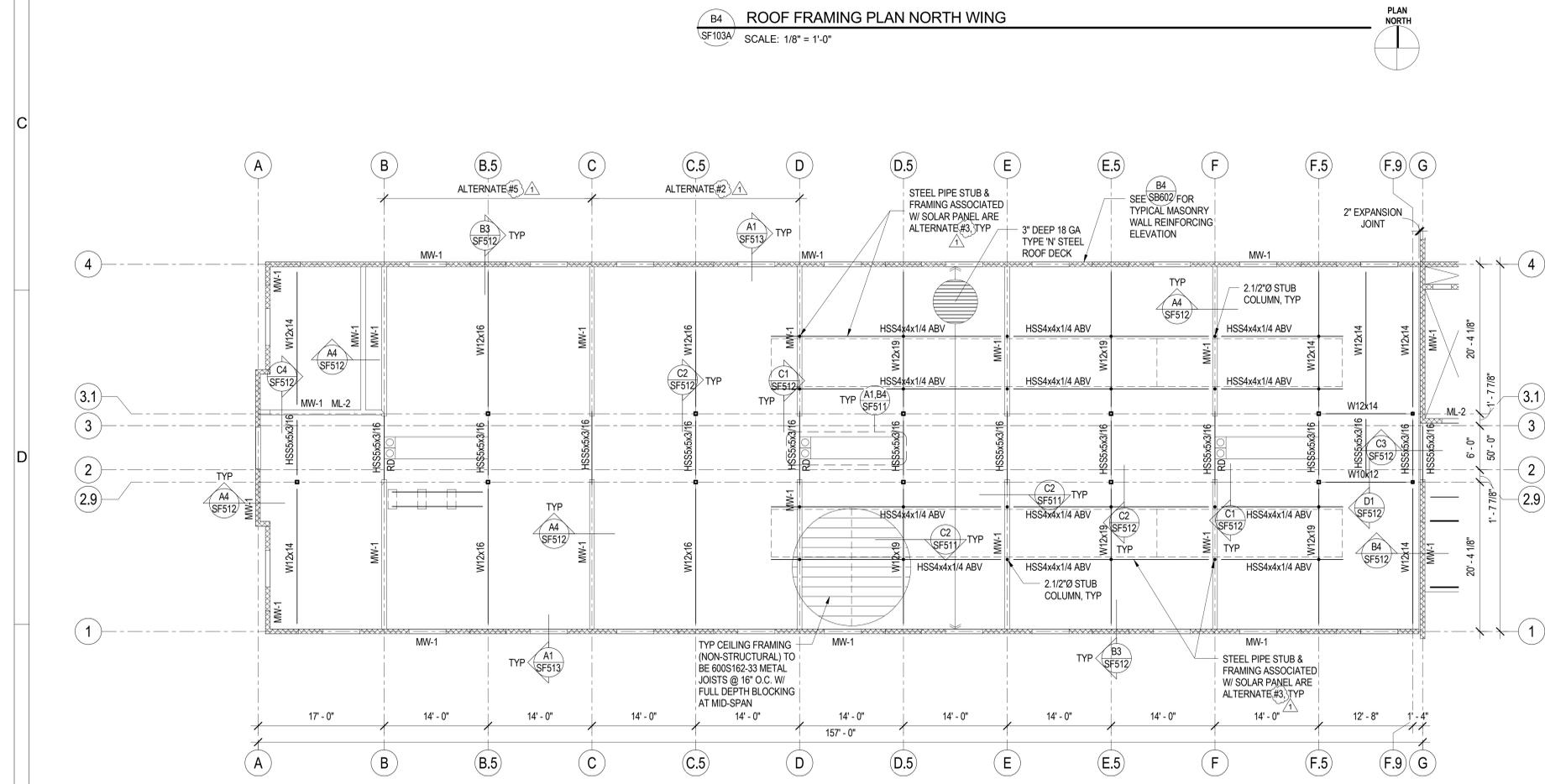
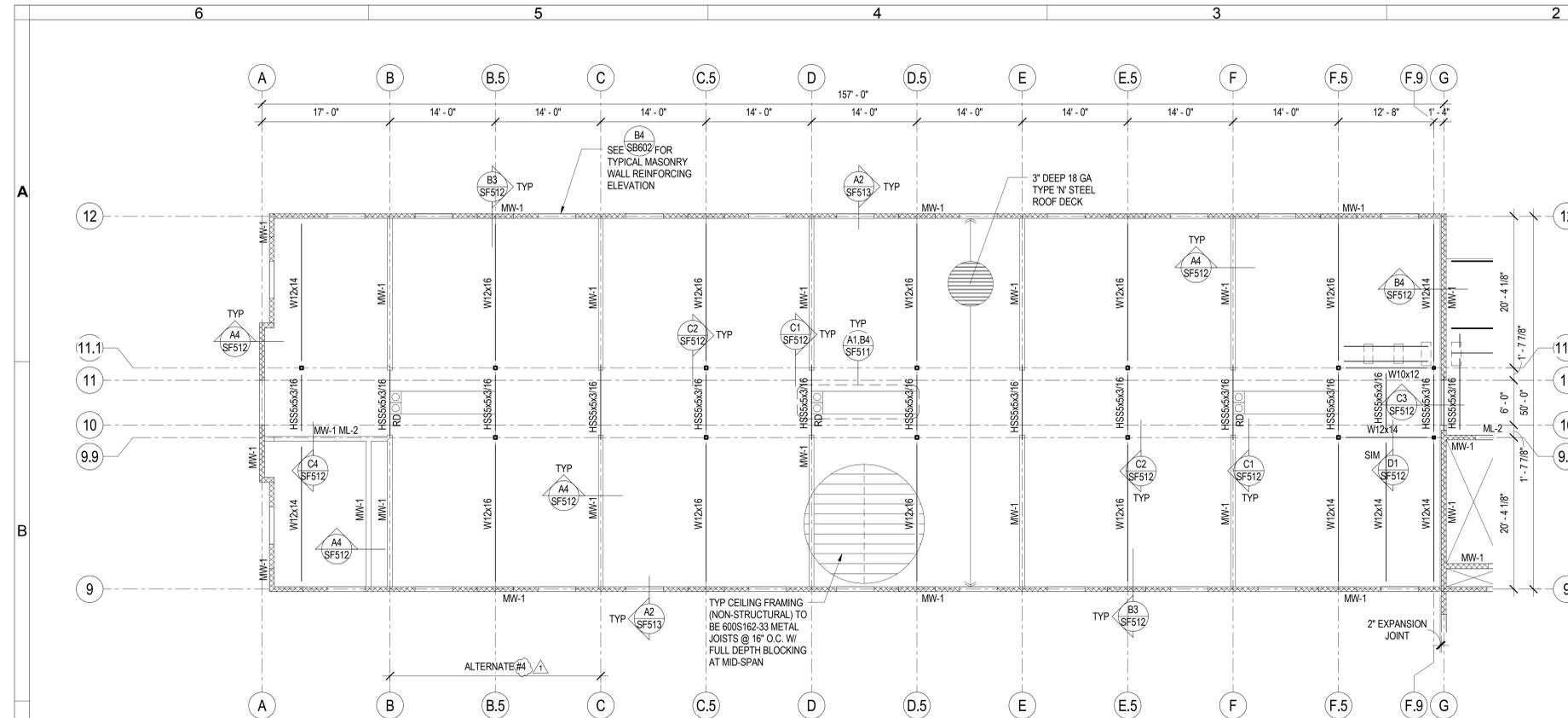
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ROOF FRAMING PLAN LEGEND

- MASONRY WALL
- MASONRY LINTEL IN MASONRY WALL
- MASONRY COLUMN IN MASONRY WALL
- STEEL COLUMN - TUBE
- CANTILEVER MOMENT CONNECTION
- STEEL BEAM OR GIRDER
- STEEL JOIST OR PURLIN
- CHANGE IN ELEVATION
- ROOF DECK
- SPECIAL DECK AREA
- OPENING

ROOF FRAMING PLAN NOTES

1. VERIFY SIZE, WEIGHT, LOCATION AND CONFIGURATION OF ALL ROOF TOP EQUIPMENT WITH ARCHITECT AND MECHANICAL ENGINEER. PROVIDE STEEL FRAMES FOR SUPPORT OF ROOF TOP EQUIPMENT AS INDICATED IN DETAIL A2/SF511 COORDINATE OPENINGS WITH MECHANICAL AND ELECTRICAL AND GENERAL CONTRACTORS.
2. ALL ROOF OPENINGS SHALL BE FRAMED AS INDICATED IN DETAIL A3/SF511. FOR ROUND OPENINGS WHICH ARE LESS THAN 12" DIA. SEE DETAIL A4/SF511.
3. SEE ARCHITECTURAL FOR ROOF SLOPES AND DRAINS. SEE A1/SF511 OR B4/SF511 FOR ROOF DRAIN OPENING FRAME.
4. SEE B4/SB602 FOR TYPICAL EXTERIOR MASONRY WALL REINFORCING ELEVATION.



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ROOF FRAMING PLAN NORTH & SOUTH WINGS

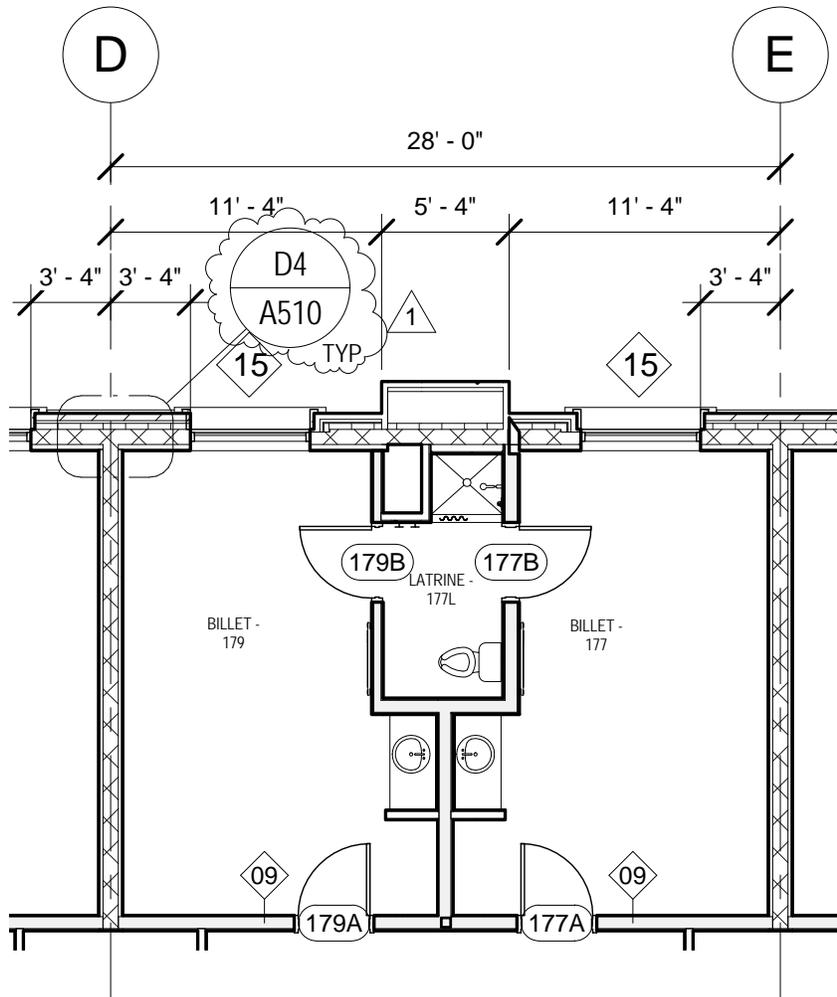
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PROJECT NO: **11007** DRAWING NO: **SF103A**

DATE: **02/15/2013**

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C6 ADD02-A01
1/8" = 1'-0"

EFT ARCHITECTS ■■■
265 EAST 100 SOUTH SUITE 350
SALT LAKE CITY, UTAH 84111-1604
801.521.8564 WWW.EFTARCH.COM

CONSULTANT:

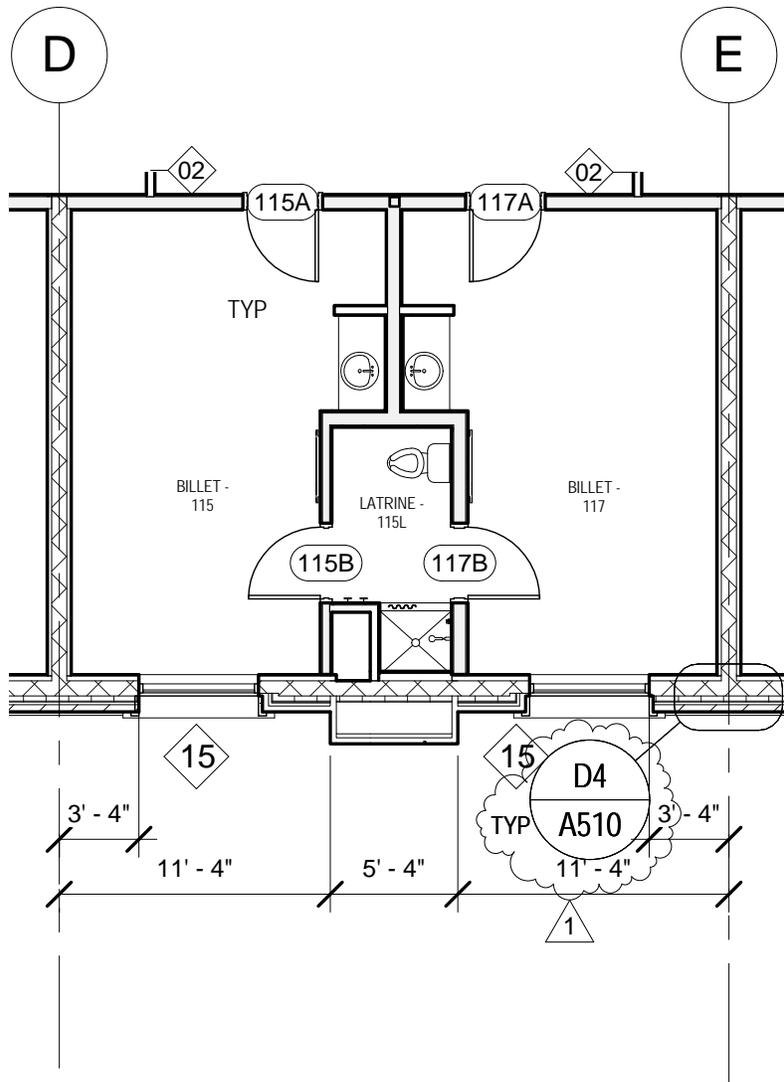
PROJECT:
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ENLISTED QUARTERS**
17800 SOUTH CAMP WILLIAMS ROAD
RIVERTON, UTAH 84065
DFCM PROJECT NO. 10281480
FY 13 PROJECT NO. 490076

TITLE:
**EXTERIOR WALL DETAIL
CALLOUT**

REFERENCE SHEET: A101A	SCALE: AS NOTED
DATE: 03/29/2013	CHECKED/DRAWN: CR CS CO

ADDENDUM NUMBER:
ADD02

DRAWING NUMBER:
AD2-A01



E6 ADD02-A02
 1/8" = 1'-0"

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 801.521.8564 WWW.EFTARCH.COM

CONSULTANT:

PROJECT:

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17800 SOUTH CAMP WILLIAMS ROAD
 RIVERTON, UTAH 84065
 DFCM PROJECT NO. 10281480
 FY 13 PROJECT NO. 490076

TITLE:

**EXTERIOR WALL DETAIL
 CALLOUT**

REFERENCE SHEET:

A101A

SCALE:

AS NOTED

DATE:

03/29/2013

CHECKED/DRAWN:

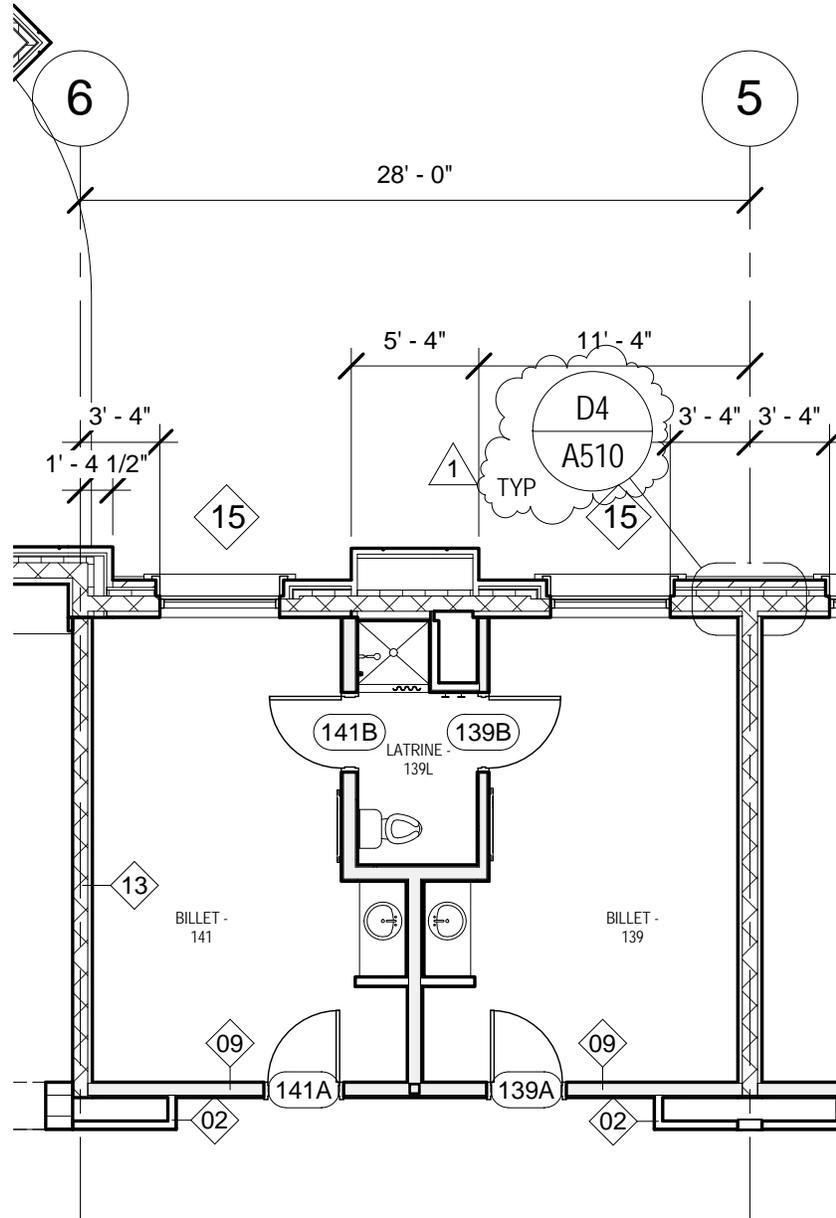
CR CS CO

ADDENDUM NUMBER:

ADD02

DRAWING NUMBER:

AD2-A02



D6 ADD02-A03
 1/8" = 1'-0"

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PROJECT:

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 RIVERTON, UTAH 84065
 DFCM PROJECT NO. 10281480
 FY 13 PROJECT NO. 490076

TITLE:

**EXTERIOR WALL DETAIL
 CALLOUT**

ADDENDUM NUMBER:

ADD02

REFERENCE SHEET:

A101B

SCALE:

AS NOTED

DRAWING NUMBER:

AD2-A03

DATE:

03/29/2013

CHECKED/DRAWN:

CR CS CO

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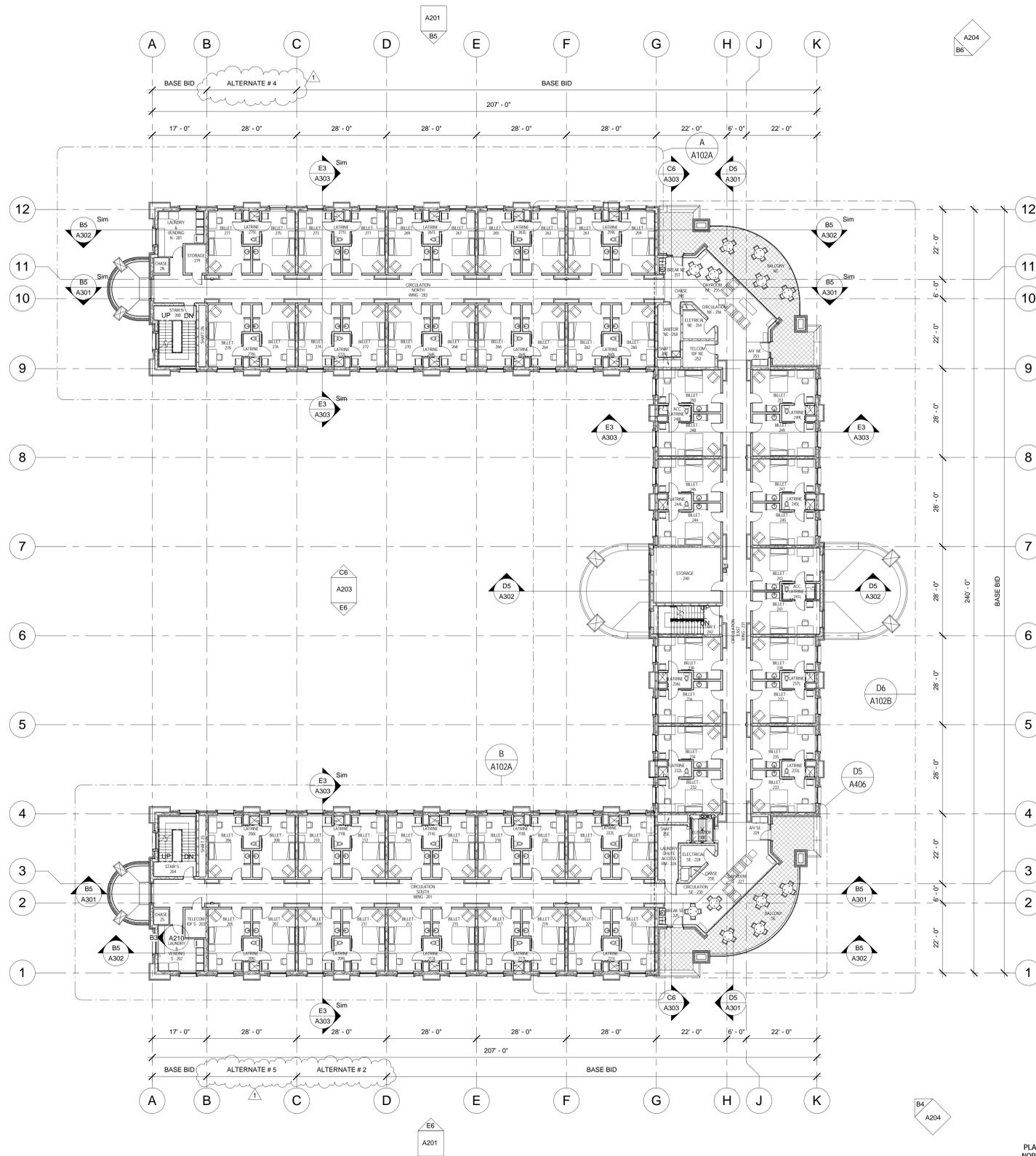


GENERAL NOTES

- REFER TO THE CODE PLAN FOR FIRE RATED ASSEMBLIES.
- CONSTRUCTION WITHIN GRIDS A TO B IS PART OF THE BASE BID OF THE PROJECT AND IT NEEDS TO BE BUILT IN ACCORDANCE WITH THE FOLLOWING OPTIONS:
 - WITHOUT ALTERNATES: CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN GRID LINES 1 TO 4 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE D, AND CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN 9 TO 12 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C.
 - WITH ALTERNATE #1: CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN GRID LINES 1 TO 4 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE D, AND CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN 9 TO 12 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C.
 - WITH ALTERNATES #1 AND #2: CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN GRID LINES 1 TO 4 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C, AND CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN 9 TO 12 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C.
 - WITH ALTERNATES #1, #2 AND #3: CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN GRID LINES 1 TO 4 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C, AND CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN 9 TO 12 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C. REFER TO NOTE 6 FOR THE DESCRIPTION OF ALTERNATE #3.
- WITH ALTERNATES #1, #2, #3 AND #4: CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN GRID LINES 1 TO 4 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C, REFER TO NOTE 6 FOR THE DESCRIPTION OF ALTERNATE #3.
- WITH ALTERNATES #1, #2, #3, #4 AND #5: CONSTRUCTION WILL BE BUILT AS PER SHOWN ON CONSTRUCTION DOCUMENTS WITHOUT MOVING THE PORTIONS OF THE BUILDING BETWEEN GRID LINES A AND B (INCLUDING CANOPIES). REFER TO NOTE 6 FOR THE DESCRIPTION OF ALTERNATE #3.
- REFER ALSO TO SITE PLAN, DETAILS, CIVIL AND STRUCTURAL DRAWINGS FOR CONSTRUCTION OF EXTERIOR SITE WALLS.
- CONTRACTOR IS RESPONSIBLE FOR PROPER COORDINATION OF BOUNDARIES AND SCOPE OF WORK INVOLVED WITH AND WITHOUT ALTERNATE CONSTRUCTION.
- KEYNOTES SHOWN ARE THE KEYNOTES USED PER THE DRAWINGS SHOWN PER SHEET (TYP).
- ALTERNATE #3 IS: SOLAR PANELS TO PROVIDE 30% OF THE ANNUAL DOMESTIC HOT WATER USE. SOLAR PANELS ARE LOCATED ON THE SOUTH BASE BID ROOFS - REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- CONTRACTOR IS RESPONSIBLE FOR PROPER COORDINATION AND VERIFICATION IN THE FIELD OF ALL THE DISTRIBUTION LINES OF UTILITIES AND PROPER SLOPES PRIOR TO POURING, INCLUDING CIVIL, MECHANICAL AND ELECTRICAL ENGINEERS REVIEW AND APPROVAL (TYP), WITH AND WITHOUT ALTERNATES (TYP).

ALTERNATES DESCRIPTION

- ALTERNATE BID ITEM No. 1- LANDSCAPING AND FLEXIBLE ASPHALT PAVEMENT FOR MAIN PARKING AREA AND ITS ENTRANCES; ALL WORK ASSOCIATED AND IN CONNECTION WITH THE LANDSCAPE SITE TREATMENT, SITE PLANTING, SITE IRRIGATION SYSTEMS NOT INCLUDED WITHIN OTHER PROVISIONS OF THE MAIN BID, AND ALL WORK ASSOCIATED AND IN CONNECTION WITH FURNISHING AND INSTALLING THE TOP FINISH LAYER OF THE FLEXIBLE ASPHALT PAVEMENT FOR THE MAIN PARKING AREA ON THE EAST SIDE OF THE PROJECT INCLUDING ITS ENTRANCES AND MARKING PAINT.
- ALTERNATE BID ITEM No. 2- TWELVE BILLET UNITS: ALL WORK IN CONNECTION WITH BUILDING AND FINISHING 12 BILLET UNITS, INCLUDING ALL ASSOCIATED WORK WITHIN, AROUND AND INCLUDED GRID LINES C TO D BETWEEN GRID LINES 1 TO 4 OF THE CONSTRUCTION DOCUMENTS. THIS BID ITEM NEEDS TO DEDUCT THE WORK ASSOCIATED WITH SITE PREPARATION, GRADING, SIDEWALKS/WALKWAYS, SECURITY LIGHTING, LANDSCAPING AND MISCELLANEOUS NOT REQUIRED BECAUSE OF THE CONSTRUCTION OF THIS BID ALTERNATE.
- ALTERNATE BID ITEM No. 3- SOLAR PANELS: ALL WORK IN CONNECTION WITH FURNISHING AND INSTALLING SOLAR PANELS TO PROVIDE 30% OF THE ANNUAL DOMESTIC HOT WATER USE, INCLUDING ALL ASSOCIATED OTHER ELEMENTS AND ACCESSORIES TO COMPLETE THE WORK IN PLACE AND READY FOR SERVICE AND IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
- ALTERNATE BID ITEM No. 4- TWELVE BILLET UNITS: ALL WORK IN CONNECTION WITH BUILDING AND FINISHING 12 BILLET UNITS, INCLUDING ALL ASSOCIATED WORK WITHIN, AROUND AND INCLUDED GRID LINES B TO C BETWEEN GRID LINES 9 TO 12 OF THE CONSTRUCTION DOCUMENTS. THIS BID ITEM NEEDS TO DEDUCT THE WORK ASSOCIATED WITH SITE PREPARATION, GRADING, SIDEWALKS/WALKWAYS, SECURITY LIGHTING, LANDSCAPING AND MISCELLANEOUS NOT REQUIRED BECAUSE OF THE CONSTRUCTION OF THIS BID ALTERNATE.
- ALTERNATE BID ITEM No. 5- TWELVE BILLET UNITS: ALL WORK IN CONNECTION WITH BUILDING AND FINISHING 12 BILLET UNITS, INCLUDING ALL ASSOCIATED WORK WITHIN, AROUND AND INCLUDED GRID LINES B TO C BETWEEN GRID LINES 1 TO 4 OF THE CONSTRUCTION DOCUMENTS. THIS BID ITEM NEEDS TO DEDUCT THE WORK ASSOCIATED WITH SITE PREPARATION, GRADING, SIDEWALKS/WALKWAYS, SECURITY LIGHTING, LANDSCAPING AND MISCELLANEOUS NOT REQUIRED BECAUSE OF THE CONSTRUCTION OF THIS BID ALTERNATE.



OVERALL SECOND LEVEL PLAN
 1/16" = 1'-0"

ACCESSIBLE BILLET UNITS ARE BILLET NUMBERS: 241, 243, 248, 250



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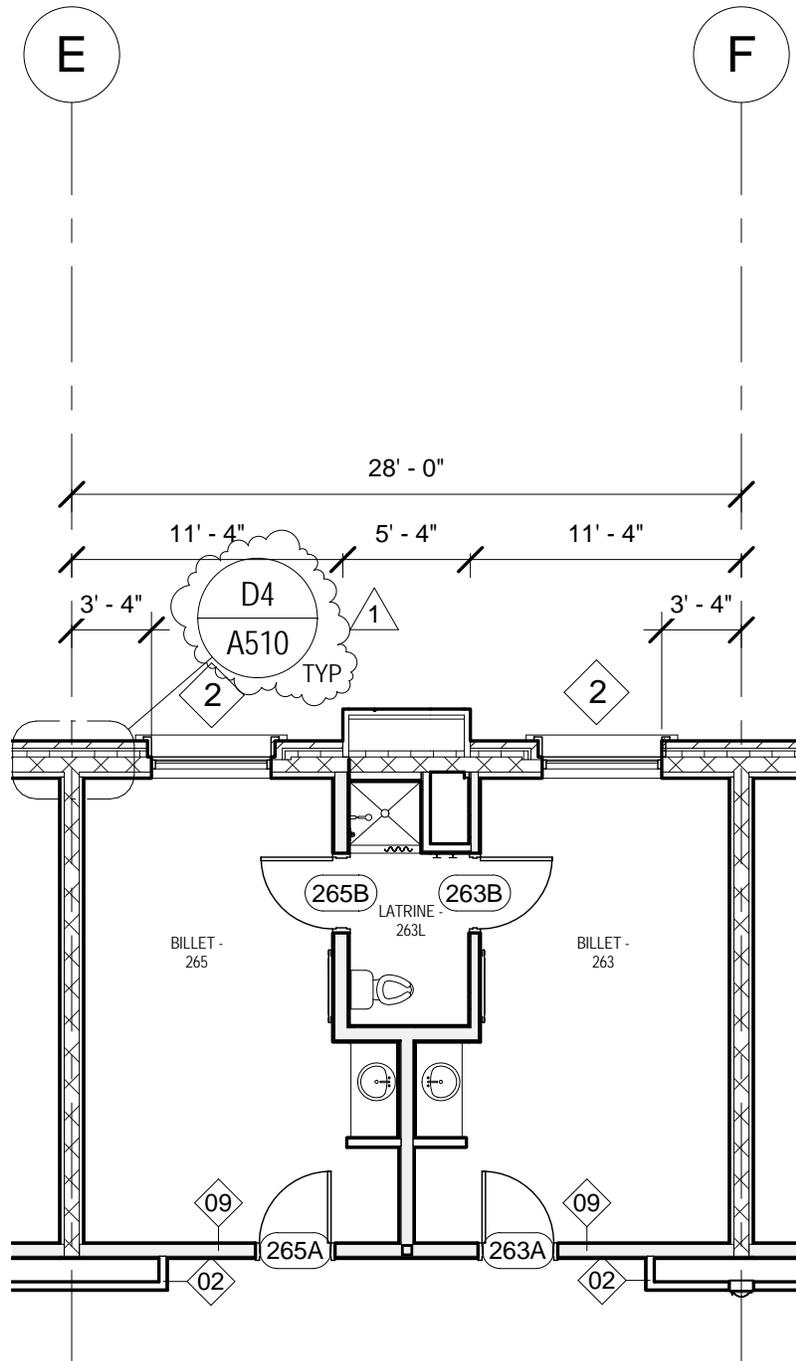
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 RIVERTON, UT 84062

OVERALL SECOND LEVEL PLAN

DATE	BY	DESCRIPTION
03/29/2013	CR	ADDENDUM #2

DRAWN BY	CO CS CR	CHECKED BY	CR MM
PROJECT NO.	11007	DRAWING NO.	A102
DATE	02/15/2013		

UTAH NATIONAL GUARD - CAMP WILLIAMS - BACHELOR ENLISTED QUARTER - CONSTRUCTION DOCUMENTS



A ADD02-A04
1/8" = 1'-0"

EFT ARCHITECTS ■■■
265 EAST 100 SOUTH SUITE 350
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CONSULTANT:

PROJECT:

**UTAH NATIONAL GUARD
BACHELOR
ENLISTED QUARTERS**

17800 SOUTH CAMP WILLIAMS ROAD
RIVERTON, UTAH 84065
DFCM PROJECT NO. 10281480
FY 13 PROJECT NO. 490076

TITLE:

**EXTERIOR WALL DETAIL
CALLOUT**

REFERENCE SHEET:

A102A

SCALE:

AS NOTED

DATE:

03/29/2013

CHECKED/DRAWN:

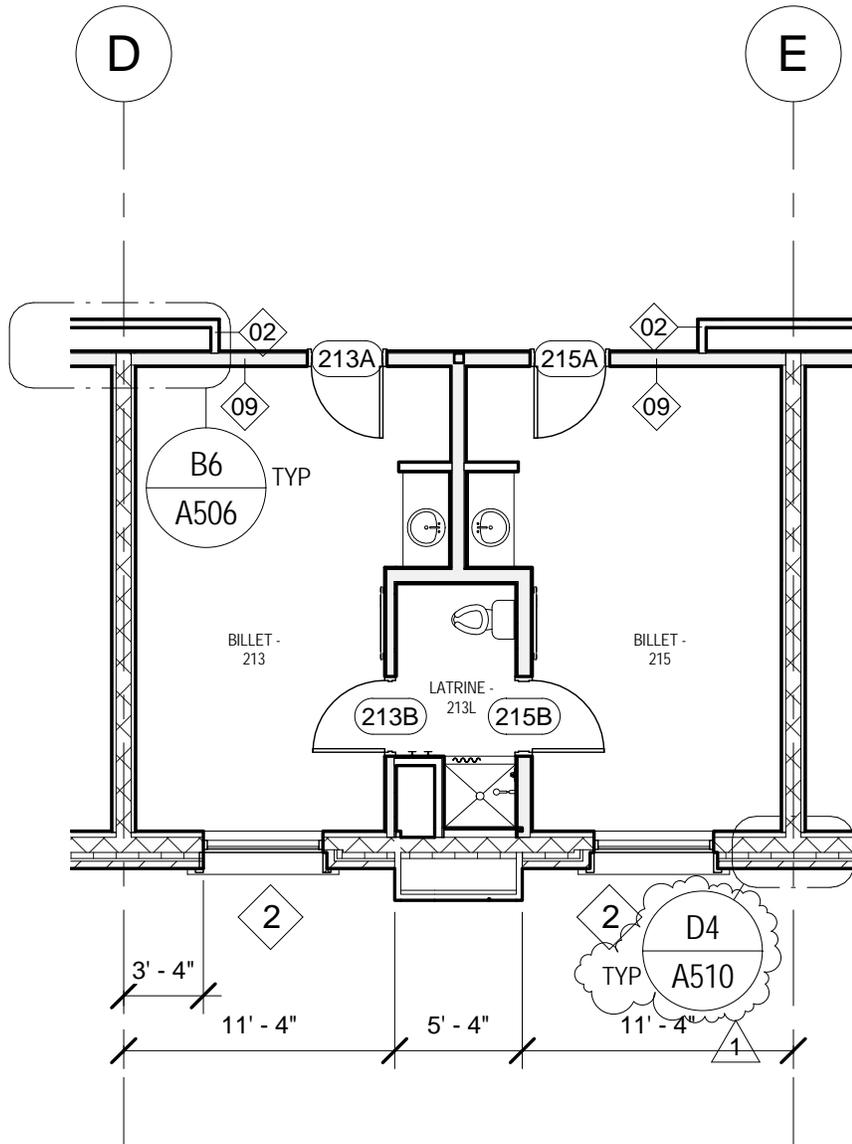
CR CS CO

ADDENDUM NUMBER:

ADD02

DRAWING NUMBER:

AD2-A04



1 ADD02-A05
1/8" = 1'-0"

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ENLISTED QUARTERS**

17800 SOUTH CAMP WILLIAMS ROAD
RIVERTON, UTAH 84065
DFCM PROJECT NO. 10281480
FY 13 PROJECT NO. 490076

TITLE:

**EXTERIOR WALL DETAIL
CALLOUT**

ADDENDUM NUMBER:

ADD02

REFERENCE SHEET:

A102A

SCALE:

AS NOTED

DRAWING NUMBER:

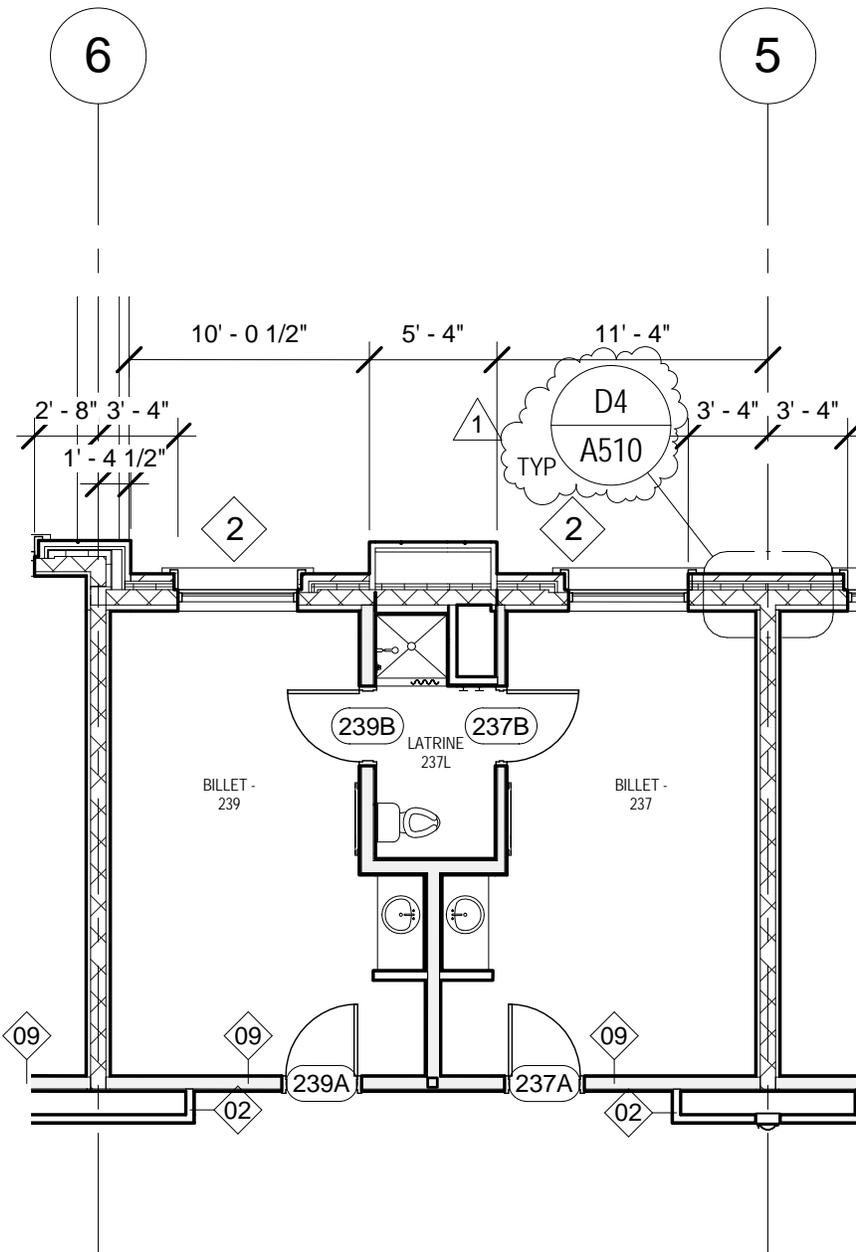
AD2-A05

DATE:

03/29/2013

CHECKED/DRAWN:

CR CS CO



D6 ADD02-A06
 1/8" = 1'-0"

EFT ARCHITECTS ■ ■ ■ ■
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CONSULTANT:

PROJECT:

**UTAH NATIONAL GUARD
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 ENLISTED QUARTERS**

17800 SOUTH CAMP WILLIAMS ROAD
 RIVERTON, UTAH 84065
 DFCM PROJECT NO. 10281480
 FY 13 PROJECT NO. 490076

TITLE:

**EXTERIOR WALL DETAIL
 CALLOUT**

ADDENDUM NUMBER:

ADD02

REFERENCE SHEET:

A102B

SCALE:

AS NOTED

DRAWING NUMBER:

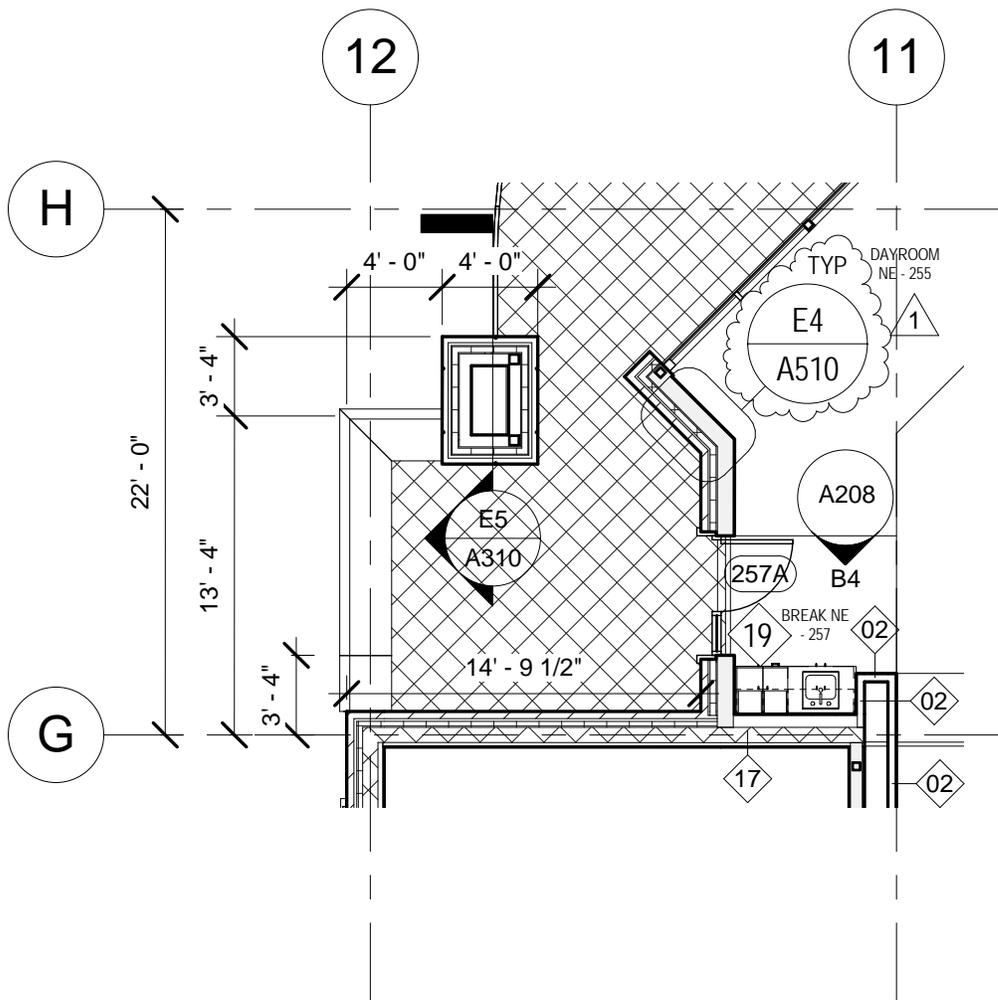
AD2-A06

DATE:

03/29/2013

CHECKED/DRAWN:

CR CS CO



D6 ADD02-A07
1/8" = 1'-0"

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CONSULTANT:

PROJECT:

**UTAH NATIONAL GUARD
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17800 SOUTH CAMP WILLIAMS ROAD
RIVERTON, UTAH 84065
DFCM PROJECT NO. 10281480
FY 13 PROJECT NO. 490076

TITLE:

**EXTERIOR WALL DETAIL
CALLOUT**

ADDENDUM NUMBER:

ADD02

REFERENCE SHEET:

A102B

SCALE:

AS NOTED

DRAWING NUMBER:

AD2-A07

DATE:

03/29/2013

CHECKED/DRAWN:

CR CS CO

SEAL & SIGNATURE

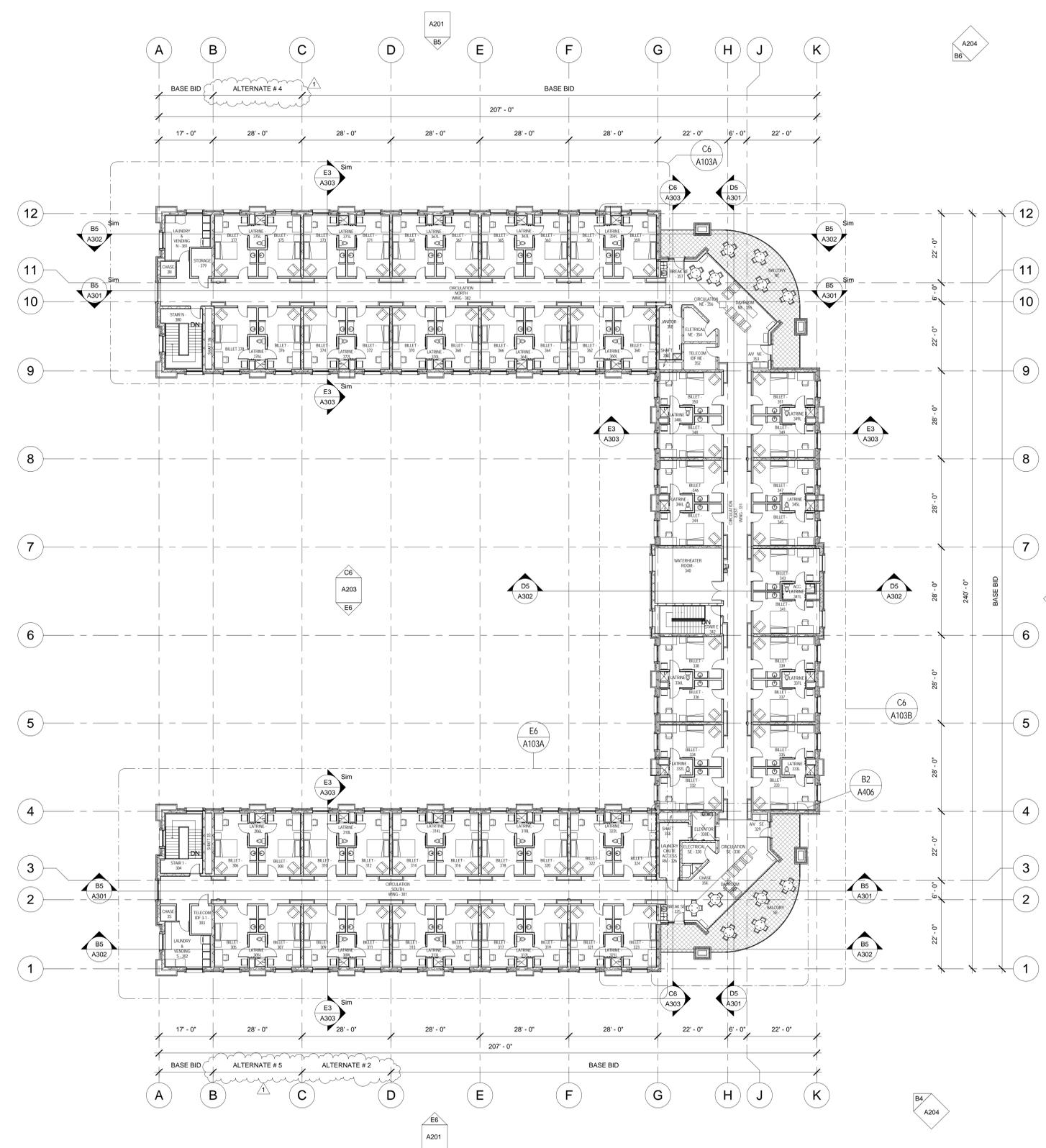


ALTERNATES DESCRIPTION

1. ALTERNATE BID ITEM No. 1- LANDSCAPING AND FLEXIBLE ASPHALT PAVEMENT FOR MAIN PARKING AREA AND ITS ENTRANCES: ALL WORK ASSOCIATED AND IN CONNECTION WITH THE LANDSCAPE SITE TREATMENT, SITE PLANTING, SITE IRRIGATION SYSTEMS NOT INCLUDED WITHIN OTHER PROVISIONS OF THE MAIN BID, AND ALL WORK ASSOCIATED AND IN CONNECTION WITH FURNISHING AND INSTALLING THE TOP FINISH LAYER OF THE FLEXIBLE ASPHALT PAVEMENT FOR THE MAIN PARKING AREA ON THE EAST SIDE OF THE PROJECT INCLUDING ITS ENTRANCES AND MARKING PAINT.
2. ALTERNATE BID ITEM No. 2- TWELVE BILLET UNITS: ALL WORK IN CONNECTION WITH BUILDING AND FINISHING 12 BILLET UNITS, INCLUDING ALL ASSOCIATED WORK WITHIN, AROUND AND INCLUDED GRID LINES C TO D BETWEEN GRID LINES 1 TO 4 OF THE CONSTRUCTION DOCUMENTS. THIS BID ITEM NEEDS TO DEDUCT THE WORK ASSOCIATED WITH SITE PREPARATION, GRADING, SIDEWALKS/WALKWAYS, SECURITY LIGHTING, LANDSCAPING AND MISCELLANEOUS NOT REQUIRED BECAUSE OF THE CONSTRUCTION OF THIS BID ALTERNATE.
3. ALTERNATE BID ITEM No. 3- SOLAR PANELS: ALL WORK IN CONNECTION WITH FURNISHING AND INSTALLING SOLAR PANELS TO PROVIDE 30% OF THE ANNUAL DOMESTIC HOT WATER USE, INCLUDING ALL ASSOCIATED OTHER ELEMENTS AND ACCESSORIES TO COMPLETE THE WORK IN PLACE AND READY FOR SERVICE AND IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
4. ALTERNATE BID ITEM No. 4- TWELVE BILLET UNITS: ALL WORK IN CONNECTION WITH BUILDING AND FINISHING 12 BILLET UNITS, INCLUDING ALL ASSOCIATED WORK WITHIN, AROUND AND INCLUDED GRID LINES B TO C BETWEEN GRID LINES 9 TO 12 OF THE CONSTRUCTION DOCUMENTS. THIS BID ITEM NEEDS TO DEDUCT THE WORK ASSOCIATED WITH SITE PREPARATION, GRADING, SIDEWALKS/WALKWAYS, SECURITY LIGHTING, LANDSCAPING AND MISCELLANEOUS NOT REQUIRED BECAUSE OF THE CONSTRUCTION OF THIS BID ALTERNATE.
5. ALTERNATE BID ITEM No. 5- TWELVE BILLET UNITS: ALL WORK IN CONNECTION WITH BUILDING AND FINISHING 12 BILLET UNITS, INCLUDING ALL ASSOCIATED WORK WITHIN, AROUND AND INCLUDED GRID LINES B TO C BETWEEN GRID LINES 1 TO 4 OF THE CONSTRUCTION DOCUMENTS. THIS BID ITEM NEEDS TO DEDUCT THE WORK ASSOCIATED WITH SITE PREPARATION, GRADING, SIDEWALKS/WALKWAYS, SECURITY LIGHTING, LANDSCAPING AND MISCELLANEOUS NOT REQUIRED BECAUSE OF THE CONSTRUCTION OF THIS BID ALTERNATE.

GENERAL NOTES

1. REFER TO THE CODE PLAN FOR FIRE RATED ASSEMBLIES.
2. CONSTRUCTION WITHIN GRIDS A TO B IS PART OF THE BASE BID OF THE PROJECT AND IT NEEDS TO BE BUILT IN ACCORDANCE WITH THE FOLLOWING OPTIONS:
 - 2a- WITHOUT ALTERNATES: CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN GRID LINES 1 TO 4 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE D, AND CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN 9 TO 12 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C.
 - 2b- WITH ALTERNATE #1: CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN GRID LINES 1 TO 4 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE D, AND CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN 9 TO 12 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C.
 - 2c- WITH ALTERNATE #1 AND #2: CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN GRID LINES 1 TO 4 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C, AND CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN 9 TO 12 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C.
 - 2d- WITH ALTERNATES #1, #2 AND #3: CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN GRID LINES 1 TO 4 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C, AND CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN 9 TO 12 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C. REFER TO NOTE 6 FOR THE DESCRIPTION OF ALTERNATE #3.
 - 2e- WITH ALTERNATES #1, #2, #3 AND #4: CONSTRUCTION WITHIN AND INCLUDED GRID LINES A TO B BETWEEN GRID LINES 1 TO 4 MOVES (INCLUDING CANOPIES) TO ALIGN GRID LINE B WITH GRID LINE C. REFER TO NOTE 6 FOR THE DESCRIPTION OF ALTERNATE #3.
 - 2f- WITH ALTERNATES #1, #2, #3, #4 AND #5: CONSTRUCTION WILL BE BUILT AS PER SHOWN ON CONSTRUCTION DOCUMENTS WITHOUT MOVING THE PORTIONS OF THE BUILDING BETWEEN GRID LINES A AND B (INCLUDING CANOPIES). REFER TO NOTE 6 FOR THE DESCRIPTION OF ALTERNATE #3.
3. REFER ALSO TO SITE PLAN, DETAILS, CIVIL AND STRUCTURAL DRAWINGS FOR CONSTRUCTION OF EXTERIOR SITE WALLS
4. CONTRACTOR IS RESPONSIBLE FOR PROPER COORDINATION OF BOUNDARIES AND SCOPE OF WORK INVOLVED WITH AND WITHOUT ALTERNATE CONSTRUCTION
5. KEYNOTES SHOWN ARE THE KEYNOTES USED PER THE DRAWINGS SHOWN PER SHEET (TYP)
6. ALTERNATE # 3 IS: SOLAR PANELS TO PROVIDE 30% OF THE ANNUAL DOMESTIC HOT WATER USE. SOLAR PANELS ARE LOCATED ON THE SOUTH BASE BID ROOFS - REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
7. CONTRACTOR IS RESPONSIBLE FOR PROPER COORDINATION AND VERIFICATION IN THE FIELD OF ALL THE DISTRIBUTION LINES OF UTILITIES AND PROPER SLOPES PRIOR TO POURING, INCLUDING CIVIL, MECHANICAL AND ELECTRICAL ENGINEERS REVIEW AND APPROVAL (TYP), WITH AND WITHOUT ALTERNATES (TYP).



OVERALL THIRD FLOOR PLAN
 1/16" = 1'-0"

ACCESSIBLE BILLET UNITS ARE BILLET NUMBERS: 341 & 343



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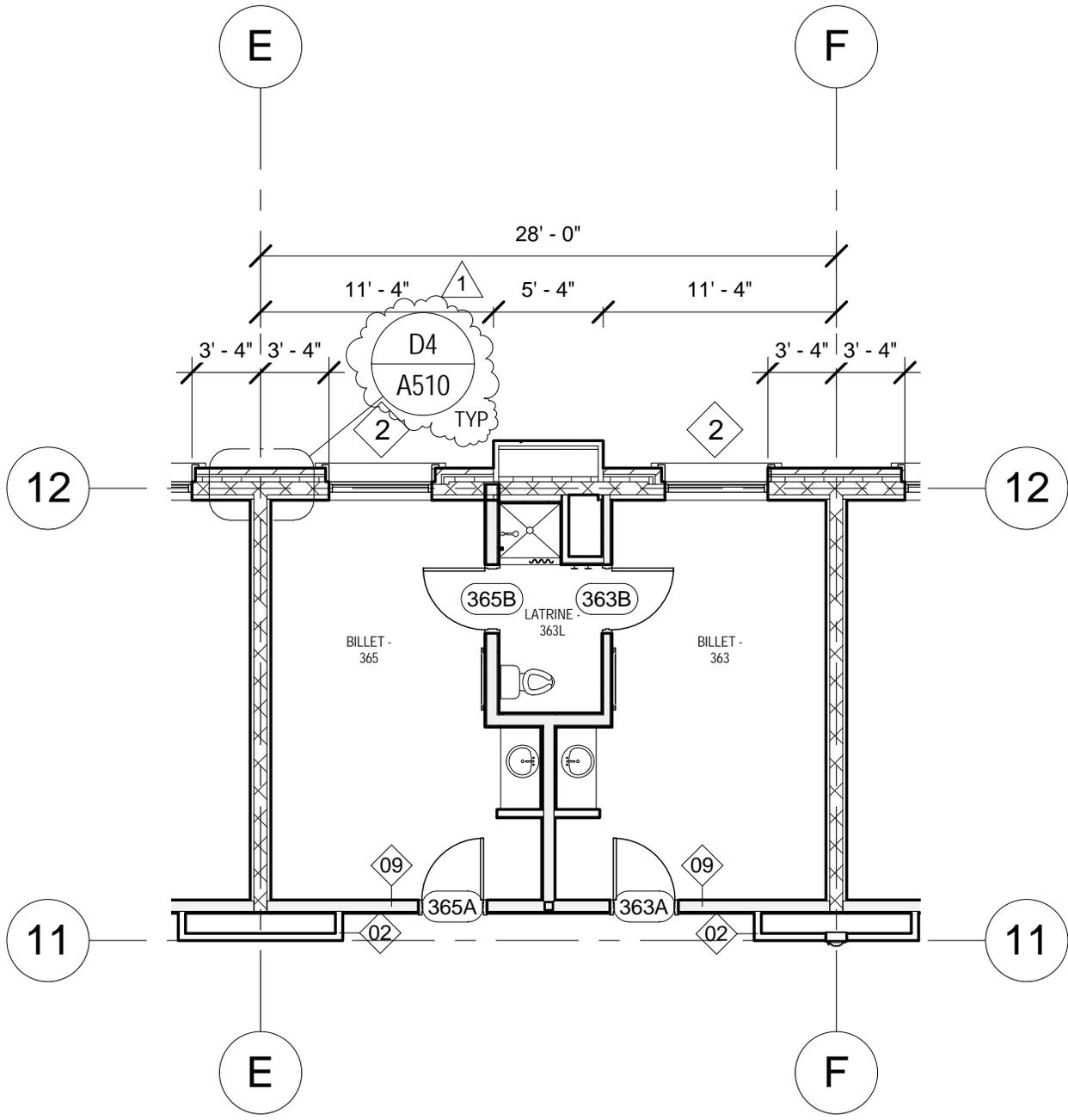
UTAH NATIONAL GUARD
 CAMP WILLIAMS
 BACHELOR ENLISTED
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OVERALL THIRD LEVEL FLOOR PLAN

DATE	BY	DESCRIPTION
03/29/2013	CR	ADDENDUM #2

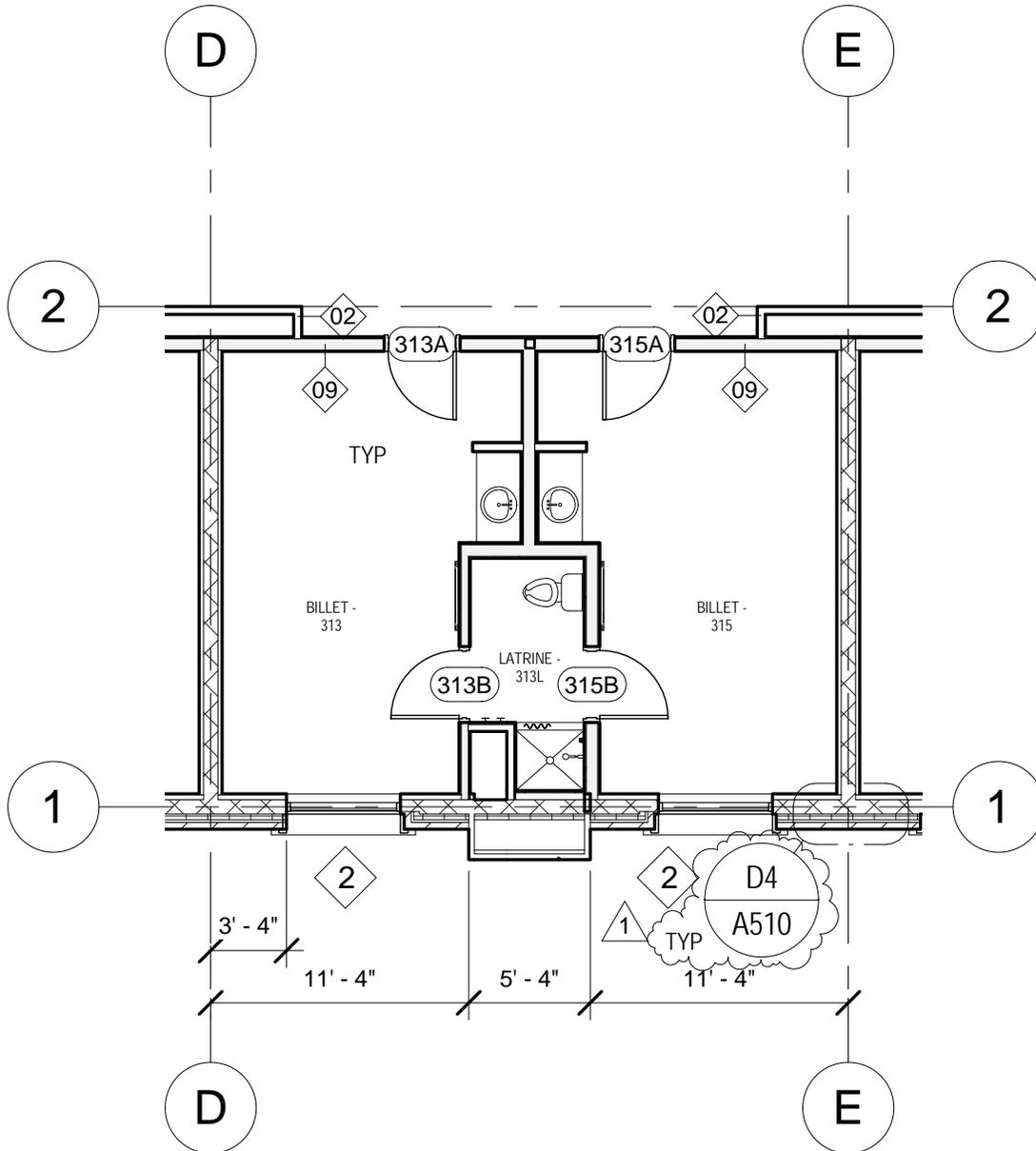
DRAWN BY	CO CS CR	CHECKED BY	CR MM
PROJECT NO.	11007	DRAWING NO.	A103
DATE	02/15/2013		

UTAH NATIONAL GUARD - CAMP WILLIAMS - BACHELOR ENLISTED QUARTER - CONSTRUCTION DOCUMENTS



C6 ADD02-A09
 1/8" = 1'-0"

EFT ARCHITECTS ■■■ 265 EAST 100 SOUTH SUITE 350 SALT LAKE CITY, UTAH 84111-1604 801.521.8564 WWW.EFTARCH.COM	CONSULTANT:	PROJECT:	TITLE:	ADDENDUM NUMBER:	
		UTAH NATIONAL GUARD BACHELOR ENLISTED QUARTERS	EXTERIOR WALL DETAIL CALLOUT	ADD02	
		17800 SOUTH CAMP WILLIAMS ROAD RIVERTON, UTAH 84065 DFCM PROJECT NO. 10281480 FY 13 PROJECT NO. 490076	REFERENCE SHEET: A103A	SCALE: AS NOTED	DRAWING NUMBER: AD2-A09
			DATE: 03/29/2013	CHECKED/DRAWN: CR CS CO	



E6 ADD02-A10
 1/8" = 1'-0"

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 265 EAST 100 SOUTH SUITE 350
 SALT LAKE CITY, UTAH 84111-1604
 801.521.8564 WWW.EFTARCH.COM

CONSULTANT:

PROJECT:

**UTAH NATIONAL GUARD
 BACHELOR
 ENLISTED QUARTERS**

17800 SOUTH CAMP WILLIAMS ROAD
 RIVERTON, UTAH 84065
 DFCM PROJECT NO. 10281480
 FY 13 PROJECT NO. 490076

TITLE:

**EXTERIOR WALL DETAIL
 CALLOUT**

ADDENDUM NUMBER:

ADD02

REFERENCE SHEET:

A103A

SCALE:

AS NOTED

DRAWING NUMBER:

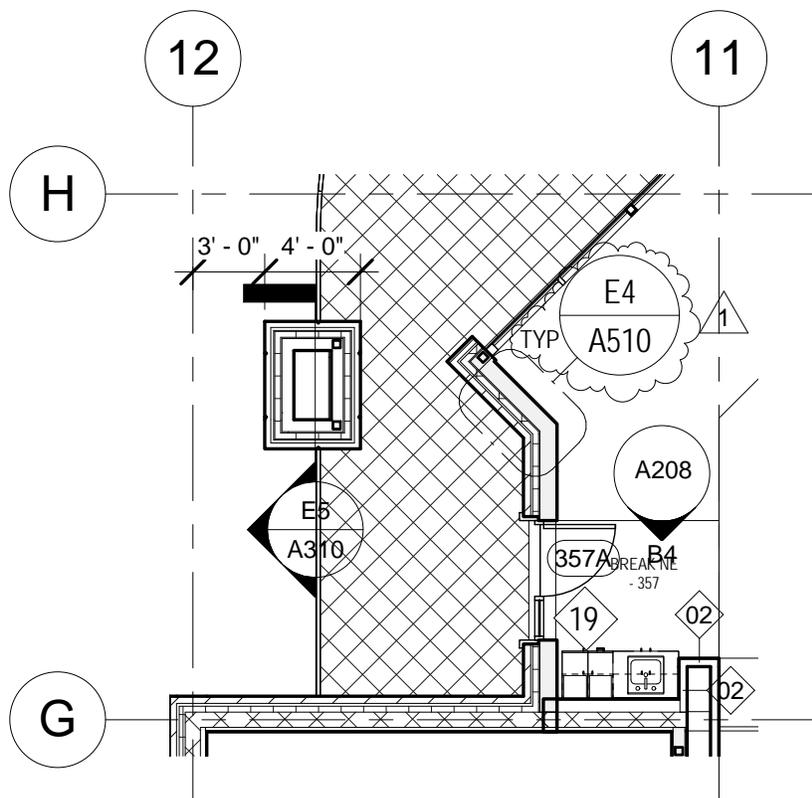
AD2-A10

DATE:

03/29/2013

CHECKED/DRAWN:

CR CS CO



C6 ADD02-A11
1/8" = 1'-0"

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ARCHITECTS ■ ■ ■ ■
265 EAST 100 SOUTH SUITE 350
SALT LAKE CITY, UTAH 84111-1604
801.521.8564 WWW.EFTARCH.COM

CONSULTANT:

PROJECT:

**UTAH NATIONAL GUARD
BACHELOR
ENLISTED QUARTERS**

17800 SOUTH CAMP WILLIAMS ROAD
RIVERTON, UTAH 84065
DFCM PROJECT NO. 10281480
FY 13 PROJECT NO. 490076

TITLE:

**EXTERIOR WALL DETAIL
CALLOUT**

ADDENDUM NUMBER:

ADD02

REFERENCE SHEET:

A103B

SCALE:

AS NOTED

DRAWING NUMBER:

AD2-A11

DATE:

03/29/2013

CHECKED/DRAWN:

CR CS CO

SEAL & SIGNATURE



GENERAL NOTES

1. REFER TO THE CODE PLAN FOR FIRE RATED ASSEMBLIES.
2. CONSTRUCTION WITHIN GRIDS A TO B IS PART OF THE BASE BID OF THE PROJECT AND IT NEEDS TO BE BUILT IN ACCORDANCE WITH THE DESCRIPTION SHOWN ON OVERALL PLAN DRAWINGS & NOTES WITH AND WITHOUT ALTERNATES.
3. CONTRACTOR IS RESPONSIBLE FOR PROPER COORDINATION OF BOUNDARIES AND SCOPE OF WORK INVOLVED WITH AND WITHOUT ALTERNATE CONSTRUCTION.
4. KEYNOTES SHOWN ARE THE KEYNOTES USED PER THE DRAWINGS SHOWN PER SHEET (TYP)

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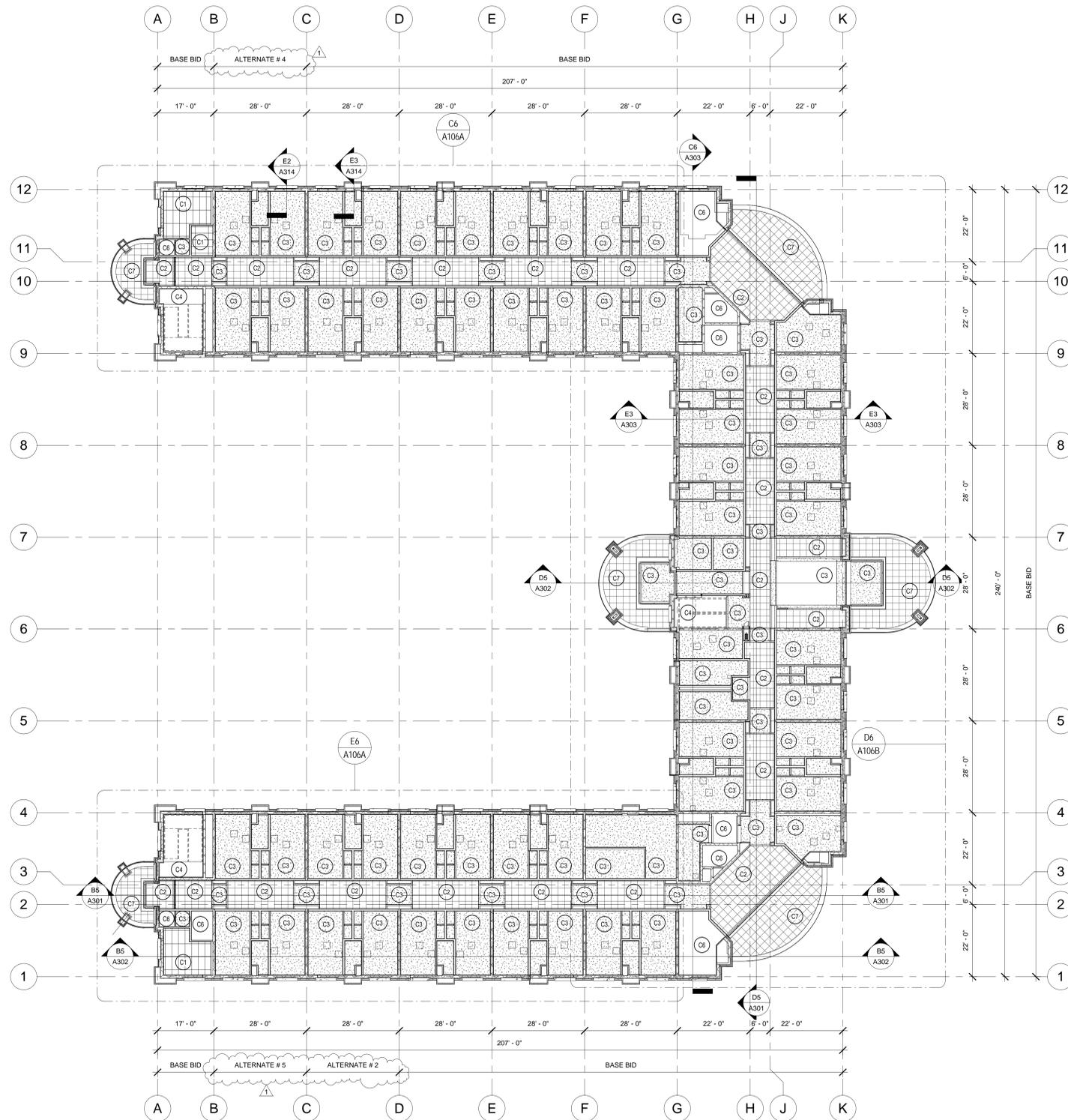
**OVERALL FIRST LEVEL
 CEILING PLAN**

NO.	DATE	BY	DESCRIPTION
1	03/29/2013	CR	ADDENDUM #2

DRAWN BY	CO CS CR	CHECKED BY	CR MM
PROJECT NO.	11007	DRAWING NO.	A106
DATE	02/15/2013		

RCP LEGEND

- C1 2 X 4' SUSPENDED GRID / ACOUSTICAL TILE SYSTEM - APC-2
 - C2 2 X 2' SUSPENDED GRID / ACOUSTICAL TILE SYSTEM - APC-1
 - C3 SUSPENDED GYP. BOARD CEILING (PAINTED)
 - C4 EXPOSED STRUCTURE, MECHANICAL, ELECTRICAL & PLUMBING, PAINTED.
 - C5 2 X 4' SUSPENDED GRID / VINYL COVERED LAY-IN PANELS - APC-3
 - C6 EXPOSED STRUCTURE, MECHANICAL, ELECTRICAL & PLUMBING, NOT PAINTED.
 - C7 2 X 2' EXTERIOR METAL SUSPENDED GRID / ACOUSTICAL METAL PAN SYSTEM.
-
- EXIT SIGN / WALL MOUNTED EXIT SIGN
 - O.T.S. OPEN TO STRUCTURE - SEE FINISH SCHEDULE
 - * MOTION SENSOR
 - HORN STROBE
 - MASS NOTIFICATION HORN STROBE
 - SMOKE DETECTOR
 - SUPPLY AIR DIFFUSER
 - RETURN AIR GRILLE
 - ACCESS HATCH
 - PENDANT LIGHT FIXTURE
 - 2X4' RECESSED LIGHT FIXTURE
 - 2X2' RECESSED LIGHT FIXTURE
 - PENDANT UTILITY LIGHT FIXTURE
 - WALL MOUNTED LIGHT FIXTURE
 - RECESSED LIGHT FIXTURE
 - SURFACE MOUNTED LIGHT FIXTURE
 - SURFACE MOUNTED LIGHT FIXTURE
 - COVE LIGHT FIXTURE



E5 OVERALL FIRST LEVEL CEILING PLAN
 1/16" = 1'-0"

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SEAL & SIGNATURE



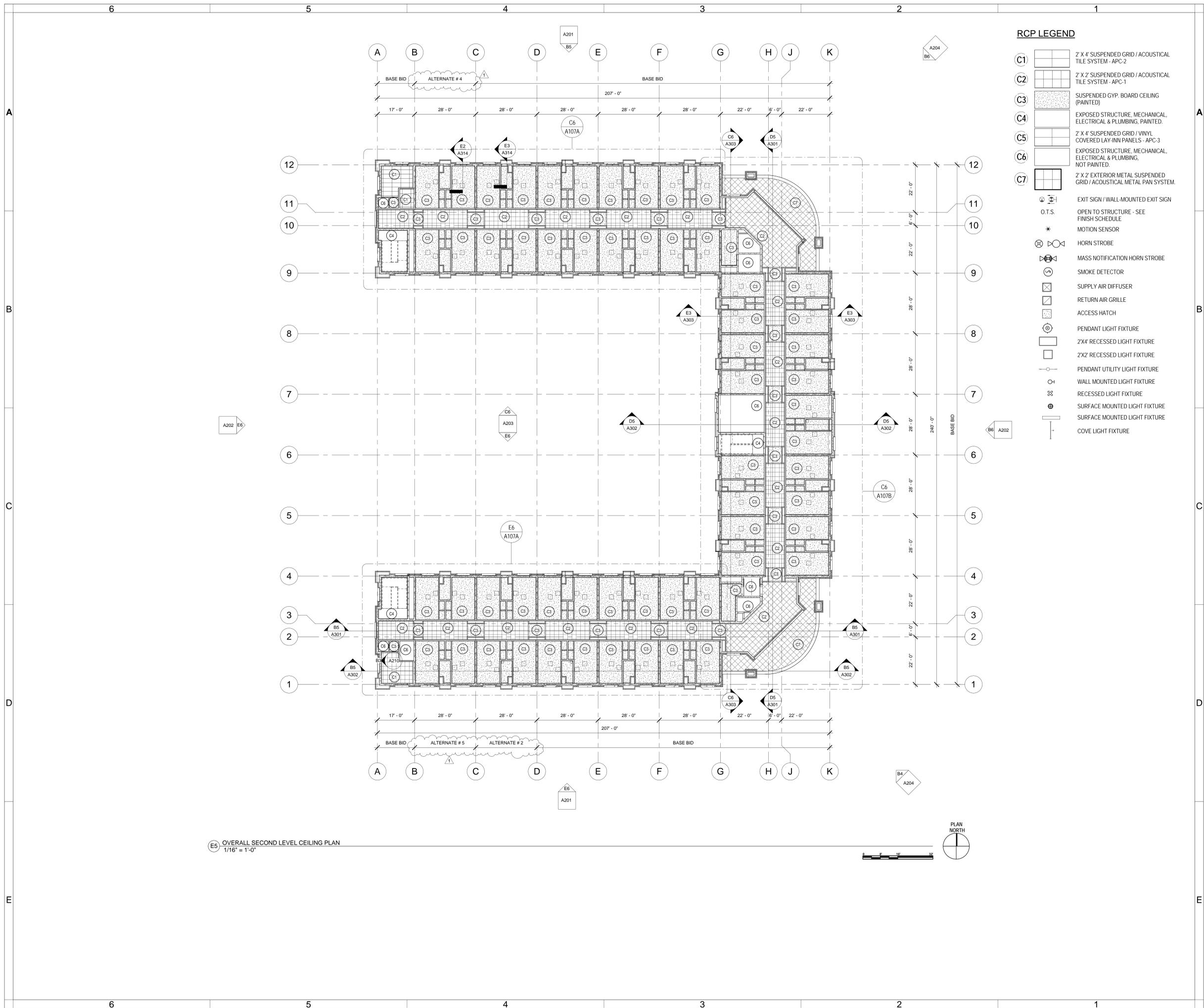
GENERAL NOTES

1. REFER TO THE CODE PLAN FOR FIRE RATED ASSEMBLIES.
2. CONSTRUCTION WITHIN GRIDS A TO B IS PART OF THE BASE BID OF THE PROJECT AND IT NEEDS TO BE BUILT IN ACCORDANCE WITH THE DESCRIPTION SHOWN ON OVERALL PLAN DRAWINGS & NOTES WITH AND WITHOUT ALTERNATES.
3. CONTRACTOR IS RESPONSIBLE FOR PROPER COORDINATION OF BOUNDARIES AND SCOPE OF WORK INVOLVED WITH AND WITHOUT ALTERNATE CONSTRUCTION.
4. KEYNOTES SHOWN ARE THE KEYNOTES USED PER THE DRAWINGS SHOWN PER SHEET (TYP)

RCP LEGEND

- C1** 2' X 4' SUSPENDED GRID / ACOUSTICAL TILE SYSTEM - APC-2
 - C2** 2' X 2' SUSPENDED GRID / ACOUSTICAL TILE SYSTEM - APC-1
 - C3** SUSPENDED GYP. BOARD CEILING (PAINTED)
 - C4** EXPOSED STRUCTURE, MECHANICAL, ELECTRICAL & PLUMBING, PAINTED.
 - C5** 2' X 4' SUSPENDED GRID / VINYL COVERED LAY-IN PANELS - APC-3
 - C6** EXPOSED STRUCTURE, MECHANICAL, ELECTRICAL & PLUMBING, NOT PAINTED.
 - C7** 2' X 2' EXTERIOR METAL SUSPENDED GRID / ACOUSTICAL METAL PAN SYSTEM
- EXIT SIGN / WALL-MOUNTED EXIT SIGN
 - O.T.S. OPEN TO STRUCTURE - SEE FINISH SCHEDULE
 - MOTION SENSOR
 - HORN STROBE
 - MASS NOTIFICATION HORN STROBE
 - SMOKE DETECTOR
 - SUPPLY AIR DIFFUSER
 - RETURN AIR GRILLE
 - ACCESS HATCH
 - PENDANT LIGHT FIXTURE
 - 2'X4' RECESSED LIGHT FIXTURE
 - 2'X2' RECESSED LIGHT FIXTURE
 - PENDANT UTILITY LIGHT FIXTURE
 - WALL MOUNTED LIGHT FIXTURE
 - RECESSED LIGHT FIXTURE
 - SURFACE MOUNTED LIGHT FIXTURE
 - COVE LIGHT FIXTURE

E5 OVERALL SECOND LEVEL CEILING PLAN
 1/16" = 1'-0"



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OVERALL SECOND LEVEL CEILING PLAN

DATE	BY	DESCRIPTION
03/29/2013	CR	ADDENDUM #2

DRAWN BY	CO CS CR	CHECKED BY	CR MM
PROJECT NO.	11007	DRAWING NO.	A107
DATE	02/15/2013		

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SEAL & SIGNATURE



GENERAL NOTES

- REFER TO THE CODE PLAN FOR FIRE RATED ASSEMBLIES.
- CONSTRUCTION WITHIN GRIDS A TO B IS PART OF THE BASE BID OF THE PROJECT AND IT NEEDS TO BE BUILT IN ACCORDANCE WITH THE DESCRIPTION SHOWN ON OVERALL PLAN DRAWINGS & NOTES WITH AND WITHOUT ALTERNATES.
- CONTRACTOR IS RESPONSIBLE FOR PROPER COORDINATION OF BOUNDARIES AND SCOPE OF WORK INVOLVED WITH AND WITHOUT ALTERNATE CONSTRUCTION.
- KEYNOTES SHOWN ARE THE KEYNOTES USED PER THE DRAWINGS SHOWN PER SHEET (TYP)

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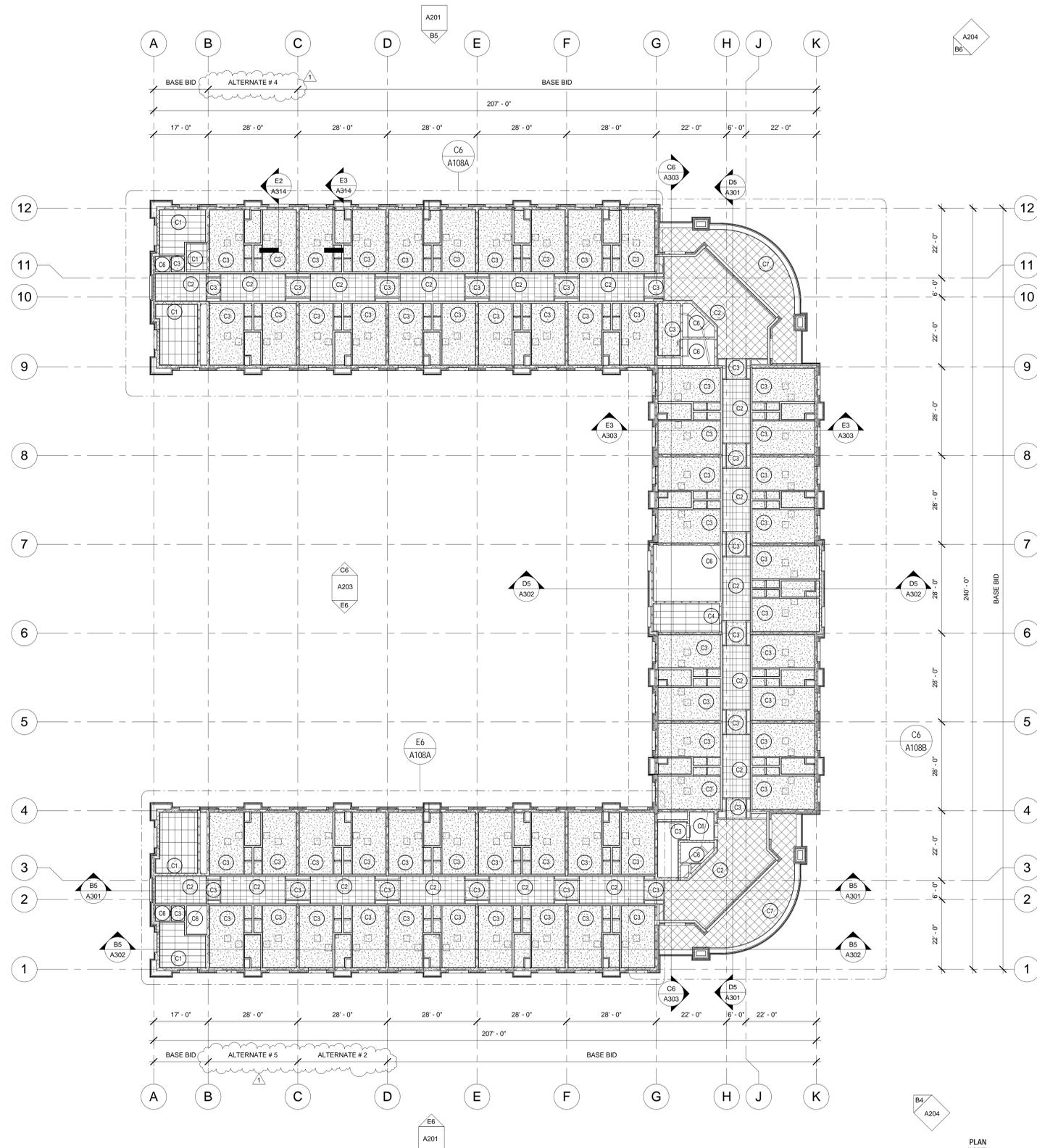
**OVERALL THIRD LEVEL
 CEILING PLAN**

DATE	BY	DESCRIPTION
03/29/2013	CR	ADDENDUM #2

DRAWN BY	CO CS CR	CHECKED BY	CR MM
PROJECT NO.	11007	DRAWING NO.	A108
DATE	02/15/2013		

RCP LEGEND

- (C1) 2 X 4' SUSPENDED GRID / ACOUSTICAL TILE SYSTEM - APC-2
 - (C2) 2 X 2' SUSPENDED GRID / ACOUSTICAL TILE SYSTEM - APC-1
 - (C3) SUSPENDED GYP. BOARD CEILING (PAINTED)
 - (C4) EXPOSED STRUCTURE, MECHANICAL, ELECTRICAL & PLUMBING, PAINTED.
 - (C5) 2 X 4' SUSPENDED GRID / VINYL COVERED LAY-INN PANELS - APC-3
 - (C6) EXPOSED STRUCTURE, MECHANICAL, ELECTRICAL & PLUMBING, NOT PAINTED.
 - (C7) 2 X 2' EXTERIOR METAL SUSPENDED GRID / ACOUSTICAL METAL PAN SYSTEM.
-
- EXIT SIGN / WALL-MOUNTED EXIT SIGN
 - O.T.S. OPEN TO STRUCTURE - SEE FINISH SCHEDULE
 - * MOTION SENSOR
 - HORN STROBE
 - MASS NOTIFICATION HORN STROBE
 - SMOKE DETECTOR
 - SUPPLY AIR DIFFUSER
 - RETURN AIR GRILLE
 - ACCESS HATCH
 - PENDANT LIGHT FIXTURE
 - 2X4' RECESSED LIGHT FIXTURE
 - 2X2' RECESSED LIGHT FIXTURE
 - PENDANT UTILITY LIGHT FIXTURE
 - WALL MOUNTED LIGHT FIXTURE
 - RECESSED LIGHT FIXTURE
 - SURFACE MOUNTED LIGHT FIXTURE
 - SURFACE MOUNTED LIGHT FIXTURE
 - COVE LIGHT FIXTURE



(E5) OVERALL THIRD LEVEL CEILING PLAN
 1/16" = 1'-0"



UTAH NATIONAL GUARD - CAMP WILLIAMS - BACHELOR ENLISTED QUARTER - CONSTRUCTION DOCUMENTS

SEAL & SIGNATURE



GENERAL NOTES

1. ALL TOP OF DECK, TOP OF WALL, & TOP OF MASONRY ELEVATIONS ARE RELATIVE TO FINISH FLOOR ELEVATION OF 0'-0" SLAB ON GRADE.
2. CONSTRUCTION WITHIN GRIDS A TO B IS PART OF THE BASE BID OF THE PROJECT AND IT NEEDS TO BE BUILT IN ACCORDANCE WITH THE DESCRIPTION SHOWN ON OVERALL PLAN DRAWINGS & NOTES WITH AND WITHOUT ALTERNATES.
3. CONTRACTOR IS RESPONSIBLE FOR PROPER COORDINATION OF BOUNDARIES AND SCOPE OF WORK INVOLVED WITH AND WITHOUT ALTERNATE CONSTRUCTION.
4. REFER TO STRUCTURAL DRAWINGS FOR FRAMING REQUIREMENTS AT OPENINGS AND LARGE PENETRATIONS.
5. ATTACHMENT OF ANY OVERBUILT TO STRUCTURE IS TO ACCOMMODATE DEFLECTION PER STRUCTURAL REQUIREMENTS.
6. CONTRACTOR SHALL NOT PERFORATE THE DECK UNLESS AUTHORIZED BY STRUCTURAL ENGINEER.
7. ROOF STRUCTURE IS SLOPED. REFER TO STRUCTURAL DRAWINGS.
8. MAINTAIN MINIMUM 6" OF INSIDE FACE EXPOSED PARAPET HEIGHT ABOVE ROOF SYSTEMS & CRICKETS BEFORE STARTING THE FLASHING & WALL CAP (TYP).
9. TAPERED CRICKETS ARE OVERBUILT ON TOP OF MAIN ROOF ASSEMBLY.
10. PIPE PENETRATIONS AT ROOF SHALL COMPLY WITH REQUIREMENTS STATED IN MECHANICAL, PLUMBING, ELECTRICAL AND STRUCTURAL DRAWINGS - REFER TO ARCHITECTURAL ROOF DETAILS FOR PROPER FLASHING AND ROOF MEMBRANE TERMINATION.
11. MECHANICAL EQUIPMENT ON ROOF SHALL COMPLY WITH REQUIREMENTS STATED IN MECHANICAL, PLUMBING, ELECTRICAL AND STRUCTURAL DRAWINGS - REFER TO ARCHITECTURAL ROOF DETAILS FOR PROPER FLASHING AND ROOF MEMBRANE TERMINATION.
12. ROOFING MEMBRANE SEAMS SHALL NOT RUN THROUGH DRAIN SUMPS.
13. ALTERNATE ROOF PLANS FOR SPECIFIC ROOF CONSTRUCTION SHALL APPLY BASED ON APPROVED ALTERNATE CONSTRUCTION - REFER TO STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION CONCERNING ALTERNATE ROOF CONSTRUCTION.
14. ALTERNATE # 3 IS: SOLAR PANELS TO PROVIDE 30% OF THE ANNUAL DOMESTIC HOT WATER USE. SOLAR PANELS ARE LOCATED ON THE NORTH AND SOUTH BASE BID ROOFS - REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION (NOT SHOWN ON DRAWINGS FOR CLARITY).
15. FOR LOWER ROOFS CONSTRUCTION INFORMATION, REFER TO SECOND FLOOR WING PLANS.
16. KEYNOTES SHOWN ARE THE KEYNOTES USED PER THE DRAWINGS SHOWN PER SHEET (TYP).

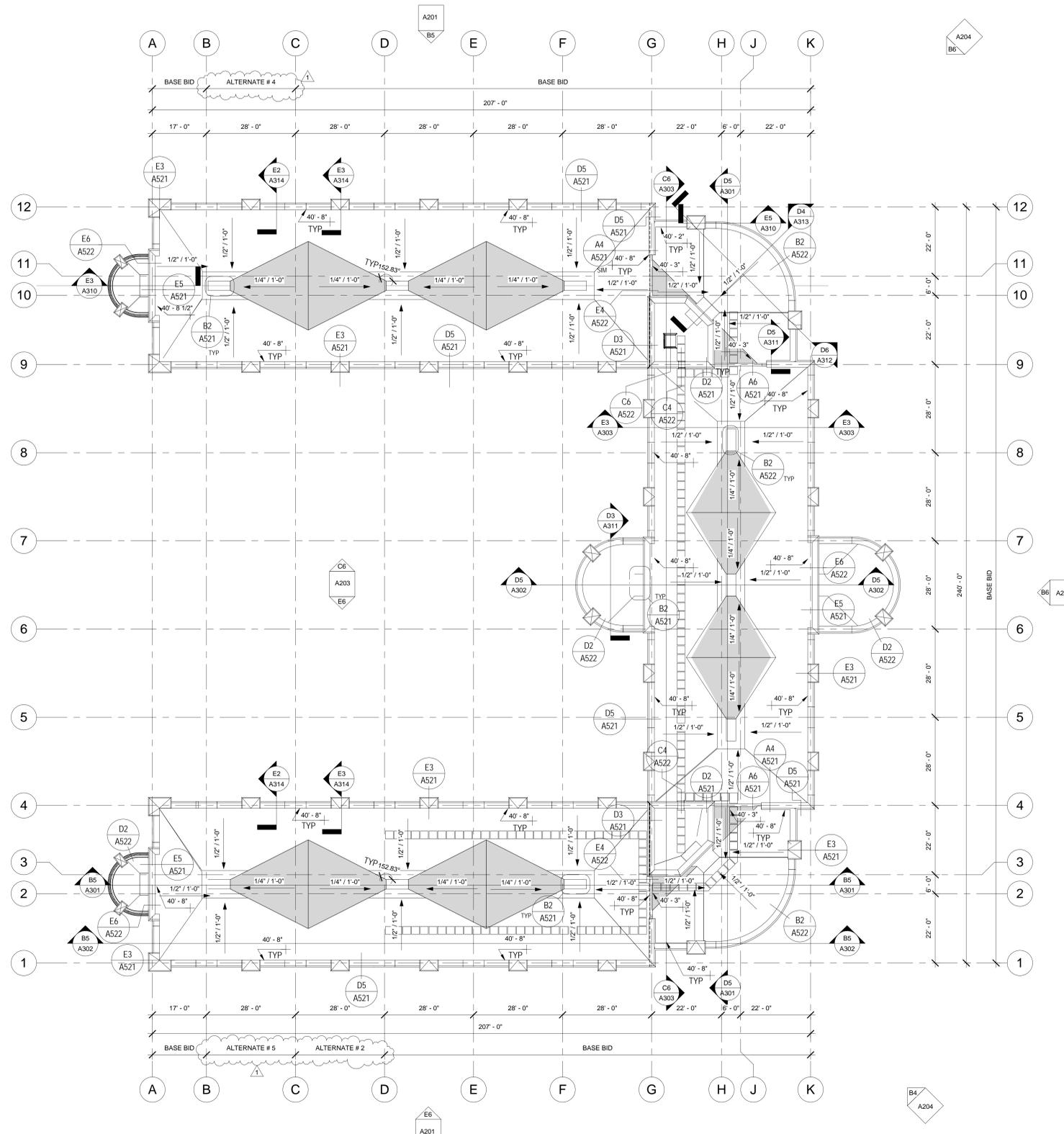
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 BACHELOR ENLISTED
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 RIVERTON, UT 84062

MAIN BUILDING ROOF PLAN

DATE	BY	DESCRIPTION
03/29/2013	CR	ADDENDUM #2

DRAWN BY	CO CS CR	CHECKED BY	CR MM
PROJECT NO.	11007	DRAWING NO.	A111
DATE	02/15/2013		



E5 ROOF AND PARAPET
 1/16" = 1'-0"

PLAN NORTH



ROOF LEGEND

- SINGLE PLY ROOF SYSTEM OVER STEEL DECK ON RIGID INSULATION SLOPED TO DRAIN PER INDICATED
- RIGID INSULATION CRICKET & SADDLE SLOPED TO DRAIN PER INDICATED
- WALKWAY PADS
- ROOF DRAINS
- SOLAR PANEL TO HEAT DOMESTIC WATER OF THE BUILDING - REFER TO ALTERNATE # 3 INFORMATION AND MECHANICAL DRAWINGS

UTAH NATIONAL GUARD - CAMP WILLIAMS - BACHELOR ENLISTED QUARTER - CONSTRUCTION DOCUMENTS

INTERIOR ELEVATION KEYNOTES

- 1 SCHEDULED WALL FINISH - SEE FINISH SCHEDULE
- 2 SCHEDULED BASE - SEE FINISH SCHEDULE
- 3 SCHEDULED DOOR -SEE DOOR SCHEDULE
- 4 CHAIR RAIL - SEE FINISH SCHEDULE
- 5 8'-10"Lx2'-0"D SOLID SURFACE COUNTERTOP W/4" BACKSPLASH
- 6 STAINLESS STEEL BRACKET - SEE DETAILS
- 7 EQUIPMENT - OWNER FURNISHING, CONTRACTOR INSTALLING
- 8 EQUIPMENT - OWNER FURNISHING AND INSTALLING
- 9 WINDOW SYSTEM - REFER TO FLOOR PLANS & WINDOW ELEVATIONS
- 10 HAND RAIL - REFER TO STAIR DETAILS
- 11 EXTINGUISHER FURNISH BY OWNER & INSTALLED BY CONTRACTOR- SEE MOUNTING HEIGHTS
- 12 GUARDRAIL - SEE STAIR DETAILS
- 13 SCHEDULED FLOOR - REFER TO FINISH SCHEDULE
- 14 IDENTIFICATION SIGNAGE- SEE MOUNTING HEIGHTS
- 15 ELECTRICAL / MECHANICAL DEVICE- SEE ELECTRICAL / MECHANICAL DRAWINGS
- 16 FRONT DESK COUNTER
- 17 FRONT DESK FRONT PANEL
- 18 FRONT DESK BACK PANEL
- 19 SCHEDULED CEILING SOFFIT - SEE CEILING DETAILS
- 20 INTERIOR PRECAST CONCRETE PANELS-SEE DETAILS
- 21 COLORED HONED CMU WALL
- 22 SCHEDULED CEILING- SEE CEILING DETAILS
- 23 DIRECTIONAL SIGNAGE- SEE MOUNTING HEIGHTS
- 24 DIRECTORY SIGNAGE- SEE MOUNTING HEIGHTS
- 25 PLAQUE SIGNAGE (NIC)- SEE DETAILS
- 26 DEDICATION SIGNAGE- SEE DETAILS

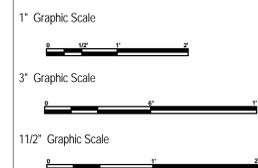
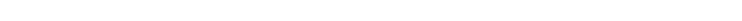
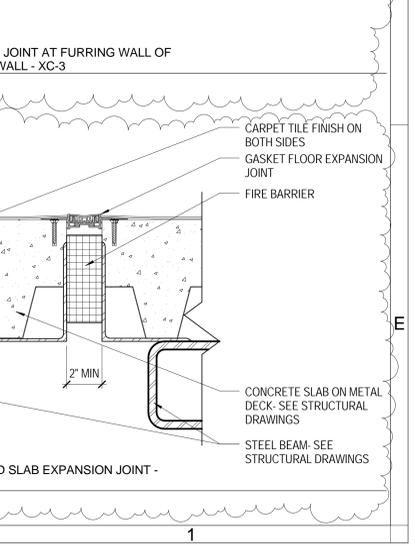
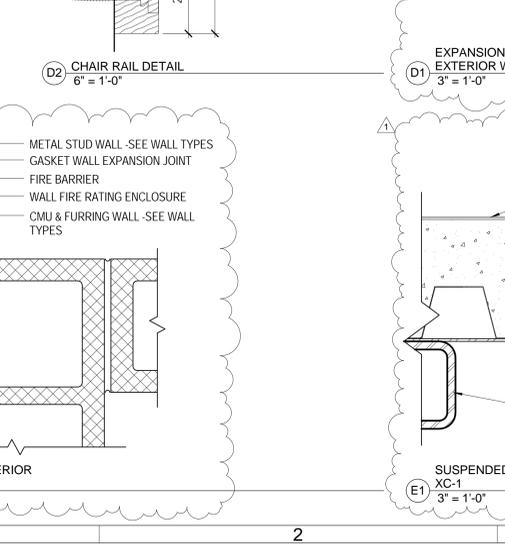
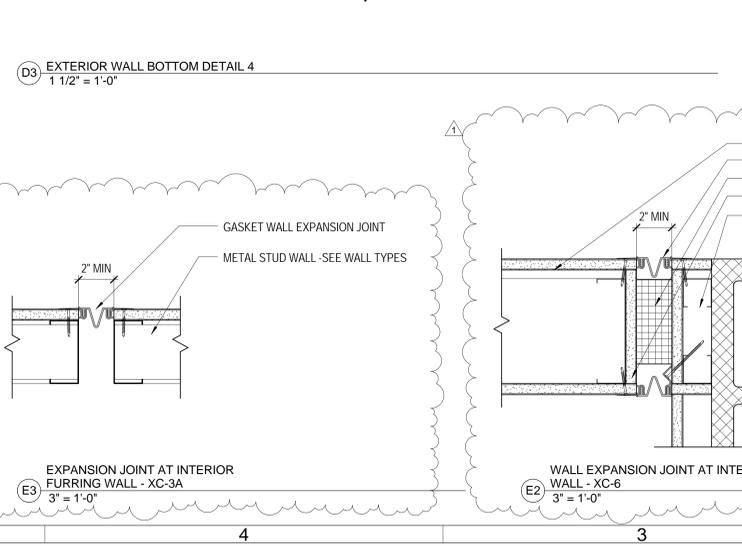
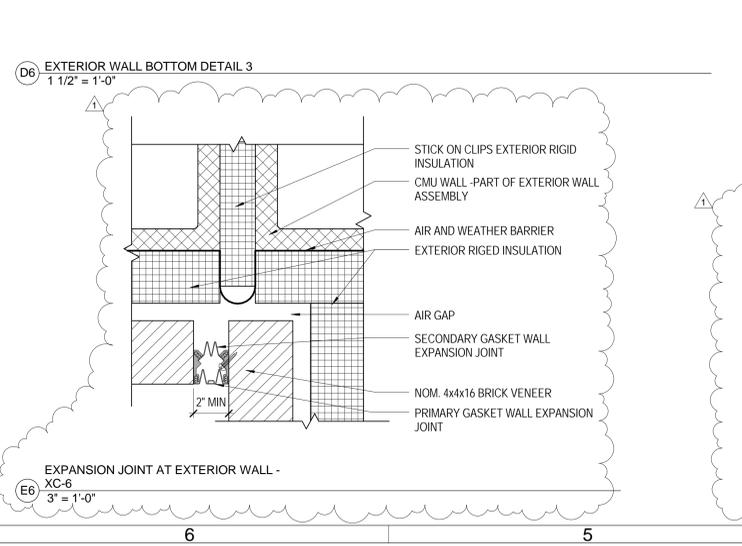
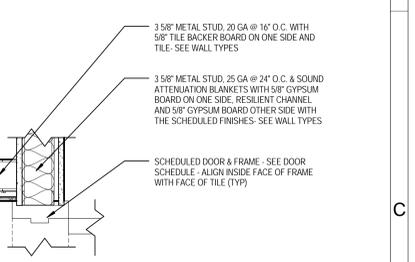
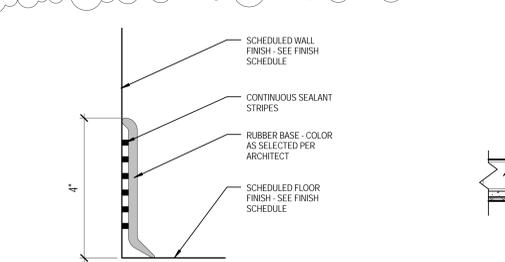
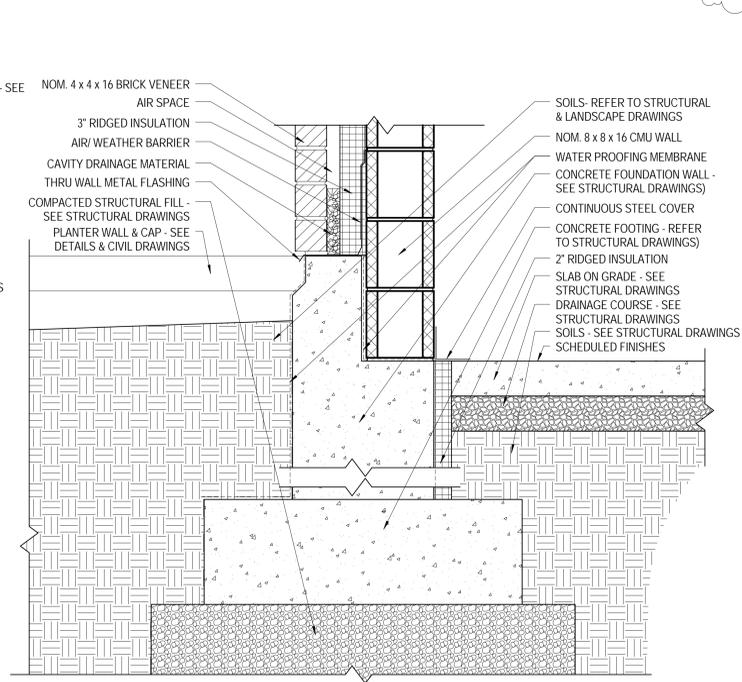
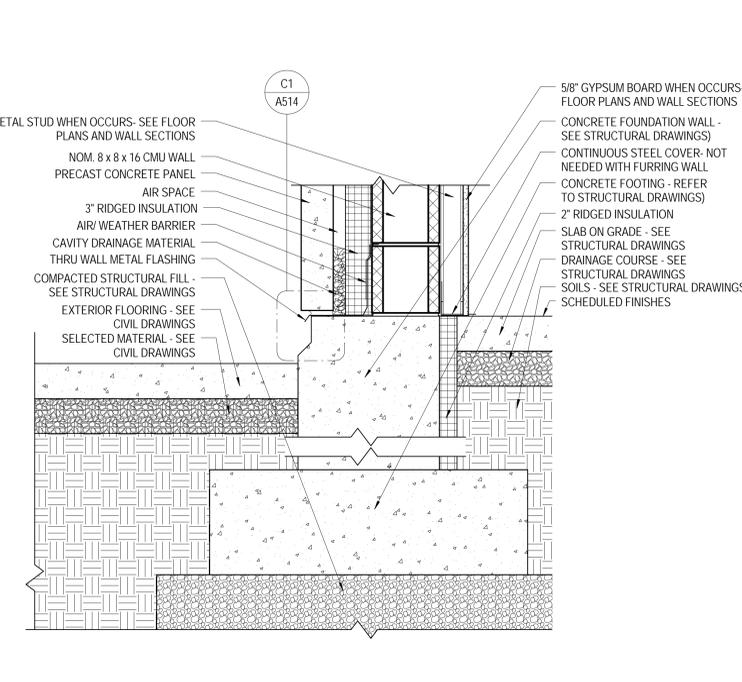
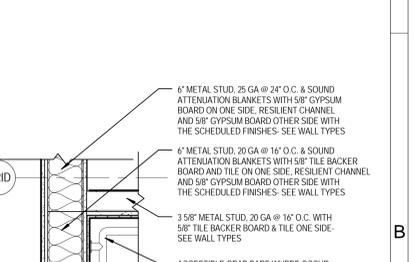
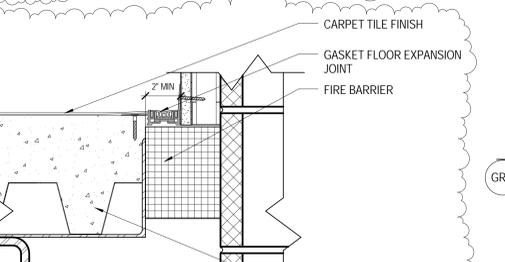
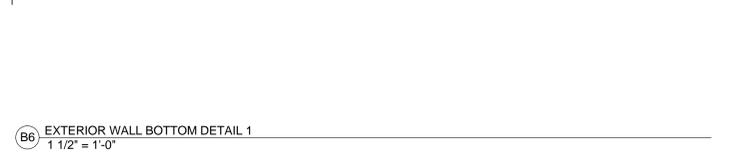
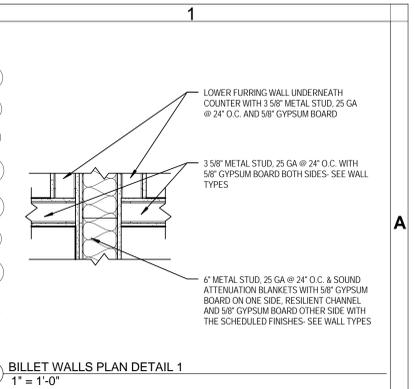
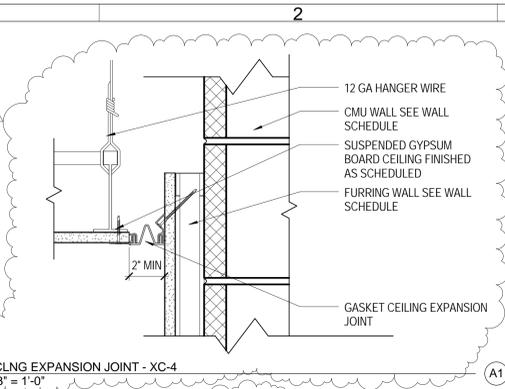
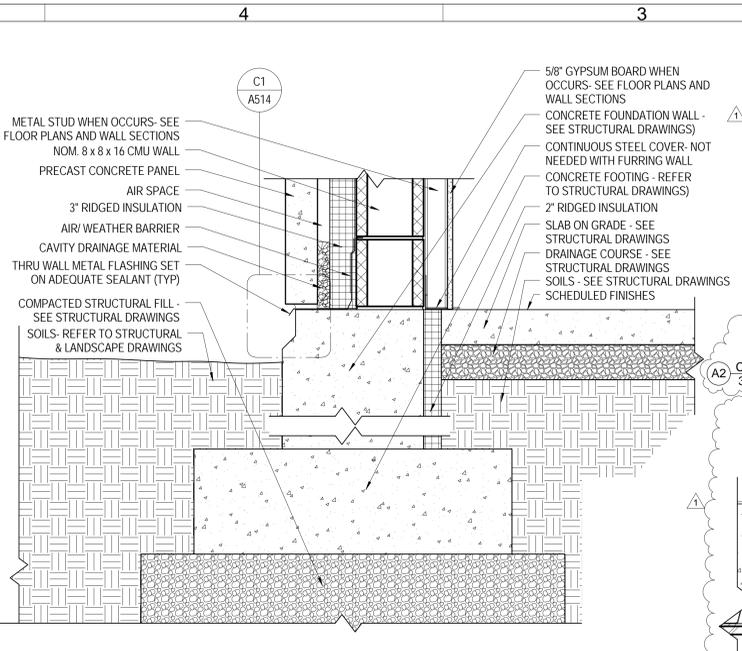
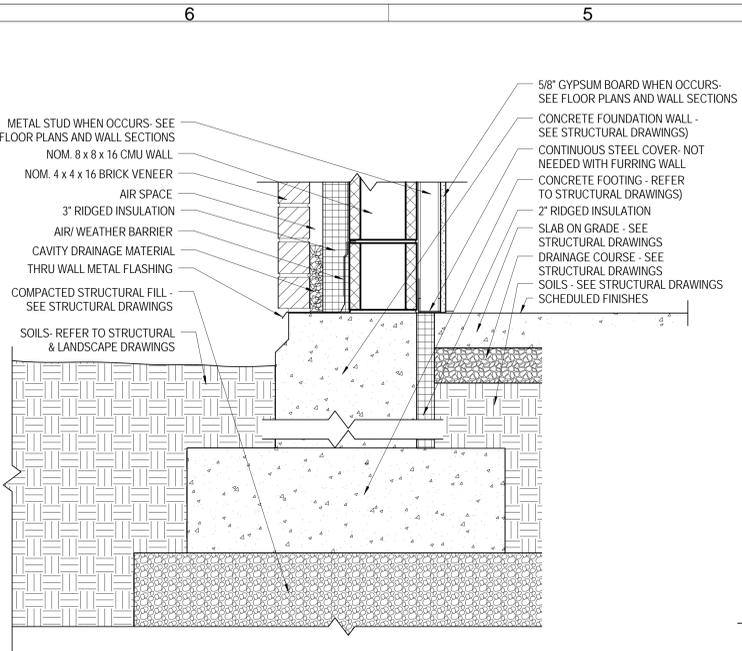
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SEAL & SIGNATURE



ENVELOPE NOTES

- GENERAL CONTRACTOR MUST COORDINATE APPROPRIATELY WITH THE FENESTRATION AND AIR BARRIER CONTRACTORS TO ENSURE CONTINUOUS PRIMARY SEALANT JOINT (INTERFACE) BETWEEN THE REQUIREMENTS OF FENESTRATION AND AIR BARRIER MANUFACTURERS (TYPICAL).
- GENERAL CONTRACTOR MUST ENSURE AND PROVIDE EXTERIOR AESTHETIC SEALANT JOINTS BETWEEN ALL SIDES OF THE FENESTRATION AND THE CLADDING OF THE BUILDING AS NEEDED TO COMPLETELY CONCEAL THE AIR BARRIER (TYPICAL).
- GENERAL CONTRACTOR MUST ENSURE A CONTINUOUS AIR BARRIER IS PROVIDED INTO ALL FENESTRATION ROUGH OPENINGS INCLUDING ALL HEAD, JAMB AND SILL CORNERS WITH INTERIOR SEALANT JOINT INSTALLED CONTINUOUSLY BETWEEN FENESTRATION AND AIR BARRIER, AND IN ACCORDANCE WITH FENESTRATION AND AIR BARRIER MANUFACTURERS INSTALLATION PROCEDURES (TYPICAL).
- USE VAPOR-RETARDING MEMBRANE AIR BARRIERS, MEETING ALL REQUIREMENTS STATED WITHIN THE SPECIFICATION MANUAL, OVER MASONRY SUBSTRATES (TYPICAL).
- USE VAPOR PERMEABLE MEMBRANE AIR BARRIERS, MEETING ALL REQUIREMENTS STATED WITHIN THE SPECIFICATION MANUAL, OVER METAL STUD WITH EXTERIOR SHEATHING SUBSTRATES (TYPICAL).
- INSTALL VAPOR RETARDER, MEETING ALL REQUIREMENTS STATED WITHIN THE SPECIFICATION MANUAL, AT ALL WALLS USING VAPOR PERMEABLE MEMBRANE AIR BARRIERS ONLY (TYPICAL).



BUILDING OFFICIAL APPROVAL



INTERIOR & EXTERIOR DETAILS

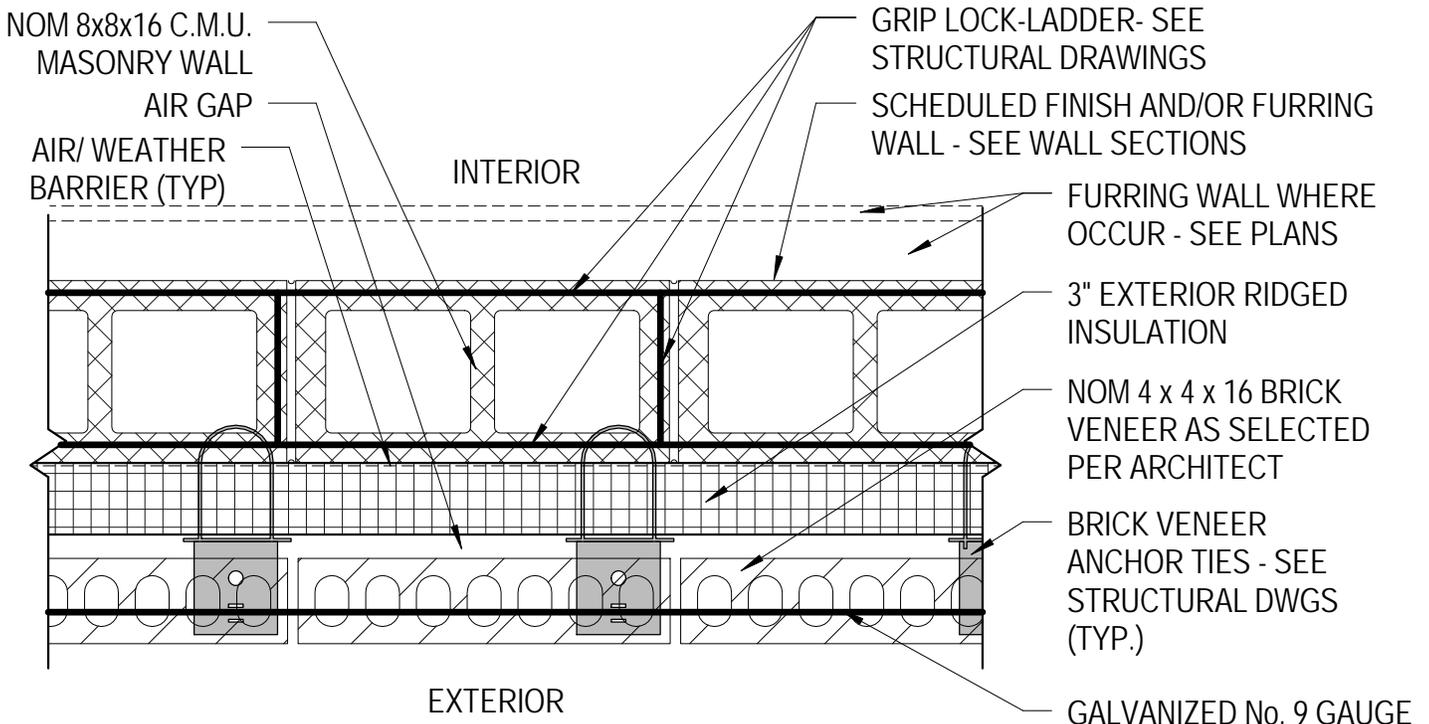
DATE	BY	DESCRIPTION
03/29/2013	CR	ADDENDUM #2

DATE	11007	DATE	02/15/2013
CHECKED BY	CR MM	DRAWING NO.	A508

UTAH NATIONAL GUARD - CAMP WILLIAMS - BACHELOR ENLISTED QUARTER - CONSTRUCTION DOCUMENTS

1

NOTE: DETAIL HAS BEEN MOVED FROM SHEET 508 TO SHEET 510



NOTES:
 1. FIRE RATING: 1 HOUR WHERE REQUIRED - SEE CODE PLANS - CONSTRUCTION TO SATISFY UL ASSEMBLY OR APPROVED EQUAL

**EXTERIOR CMU WALL & VENEER PLAN
 DETAIL**

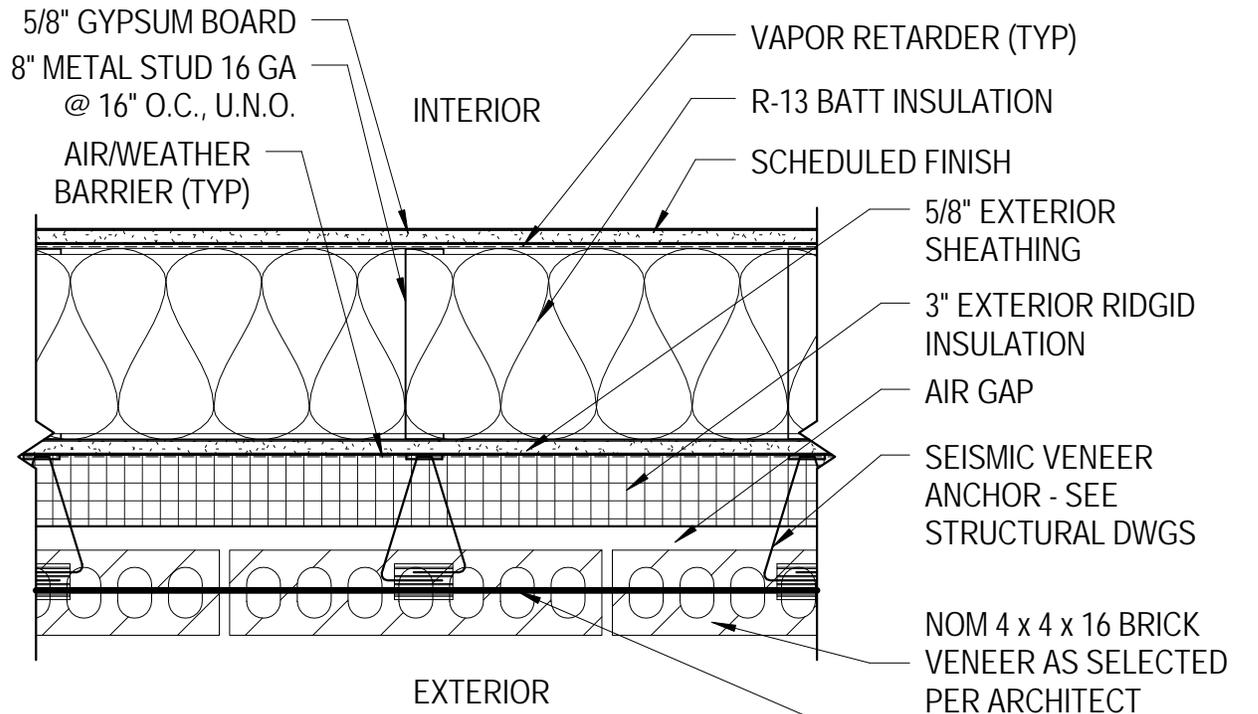
1 1/2" = 1'-0"

D4
 1

EFT ARCHITECTS ■ ■ ■ 265 EAST 100 SOUTH SUITE 350 SALT LAKE CITY, UTAH 84111-1604 801.521.8564 WWW.EFTARCH.COM	CONSULTANT:	PROJECT:	TITLE:	ADDENDUM NUMBER:
		UTAH NATIONAL GUARD BACHELOR ENLISTED QUARTERS	EXTERIOR CMU WALL & VENEER PLAN DETAIL	ADD02
		17800 SOUTH CAMP WILLIAMS ROAD RIVERTON, UTAH 84065 DFCM PROJECT NO. 10281480 FY 13 PROJECT NO. 490076	REFERENCE SHEET: A510	SCALE: AS NOTED
			DATE: 03/29/2013	CHECKED/DRAWN: CR CS CO

1

NOTE: DETAIL HAS BEEN MOVED FROM SHEET 508 TO SHEET 510



NOTES:

1. FIRE RATING: 1 HOUR WHERE REQUIRED - SEE CODE PLANS - CONSTRUCTION TO SATISFY UL ASSEMBLY OR APPROVED EQUAL

NOM 4 x 4 x 16 BRICK VENEER AS SELECTED PER ARCHITECT
 GALVANIZED No. 9 HORIZONTAL WALL REINFORCEMENT WIRE ON CENTER OF VENEER

E4
1

EXTERIOR MTL STUD WALL & BRICK VENEER PLAN DETAIL

1 1/2" = 1'-0"

EFT ARCHITECTS ■■■ 265 EAST 100 SOUTH SUITE 350 SALT LAKE CITY, UTAH 84111-1604 801.521.8564 WWW.EFTARCH.COM	CONSULTANT:	PROJECT:	TITLE:	ADDENDUM NUMBER:	
		UTAH NATIONAL GUARD BACHELOR ENLISTED QUARTERS	EXTERIOR MTL STUD WALL & BRICK VENEER PLAN DETAIL	ADD02	
		17800 SOUTH CAMP WILLIAMS ROAD RIVERTON, UTAH 84065 DFCM PROJECT NO. 10281480 FY 13 PROJECT NO. 490076	REFERENCE SHEET: A510	SCALE: AS NOTED	DRAWING NUMBER:
			DATE: 03/29/2013	CHECKED/DRAWN: CR CS CO	AD2-A15

CONSULTANT:

PROJECT:

**UTAH NATIONAL GUARD
 BACHELOR
 ENLISTED QUARTERS**

17800 SOUTH CAMP WILLIAMS ROAD
 RIVERTON, UTAH 84065

DFCM PROJECT NO. 10281480
 FY 13 PROJECT NO. 490076

REFERENCE SHEET:

A526

SCALE:

AS NOTED

DATE:

03/29/2013

CHECKED/DRAWN:

CR CS CO

TITLE:

**SIGNAGE DETAIL 6
 (PLAQUE) NIC**

ADDENDUM NUMBER:

ADD02

DRAWING NUMBER:

AD2-A16



RAISED PERMANENT
 TEXT 7/8" HIGH -
 HELVETICA BOLD FONT

- NOTES:**
 1. LOCATE TOP OF
 PLAQUE AT 5'-8" A.F.F.
 2. COORDINATE WITH
 OWNER THE NAMES AND
 TITLES LIST BEFORE
 FABRICATION

1" BRONZE
 CASTING SIGN

RAISED PERMANENT
 TEXT 3/4" HIGH -
 HELVETICA BOLD FONT

RAISED
 PERMANENT
 TEXT 1/2" HIGH -
 HELVETICA BOLD
 FONT, U.N.O.

1/8" RAISED BORDER

REFERENCE LINES
 ONLY

E4 SIGNAGE DETAIL 6 (PLAQUE) NIC
 3" = 1'-0"