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WOLF CREEK NUCLEAR
OPERATION CORPORATION

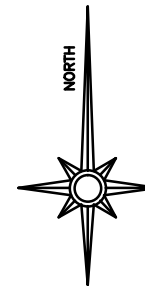
CESSNA OFFICE BUILDING (BUILDING STRUCTURE #Z017A) 1550 OXEN LANE NE BURLINGTON, KS 66839

PROJECT
LOCATION



LOCATION MAP

(NOT TO SCALE)



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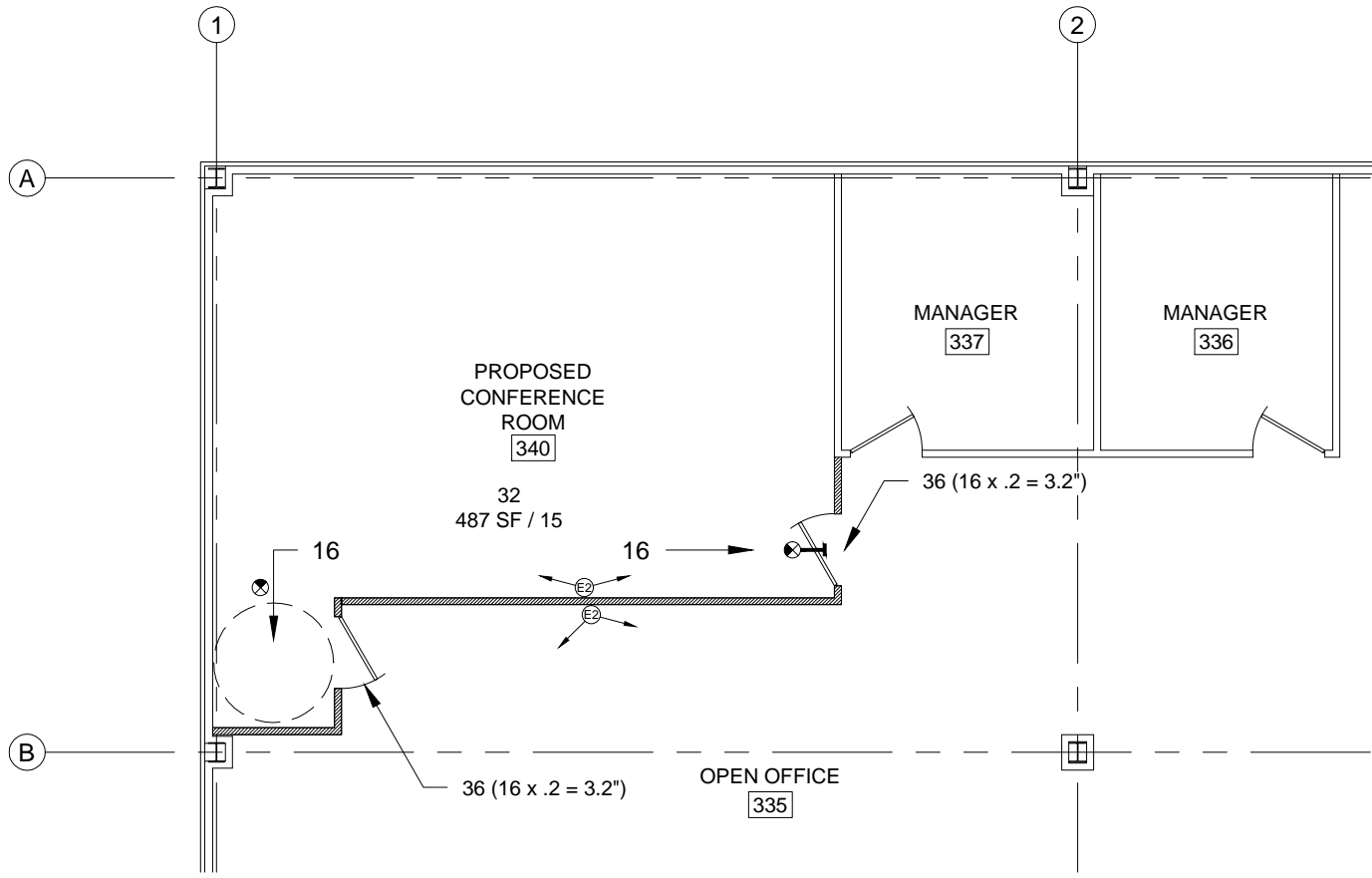
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TITLE SHEET
WCNOC CESSNA BUILDING
STRUCTURE #Z017A

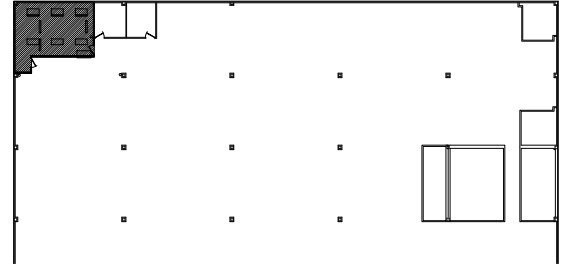
Date: 09/04/14
Designed: DWO
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Proj. No. 2013.034
Sheet No:

CVR

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1 **CODE PLAN**
SCALE: 1/8" = 1'-0"



2 **KEY PLAN**
SCALE: NTS

BUILDING LOCATION: WOLF CREEK NUCLEAR OPERATING CORPORATION
WOLF CREEK GENERATING STATION
CESNA OFFICE BUILDING
1550 OXEN LANE
BURLINGTON, KANSAS

LEGEND	
	EMERGENCY LIGHT
	EXIT SIGN

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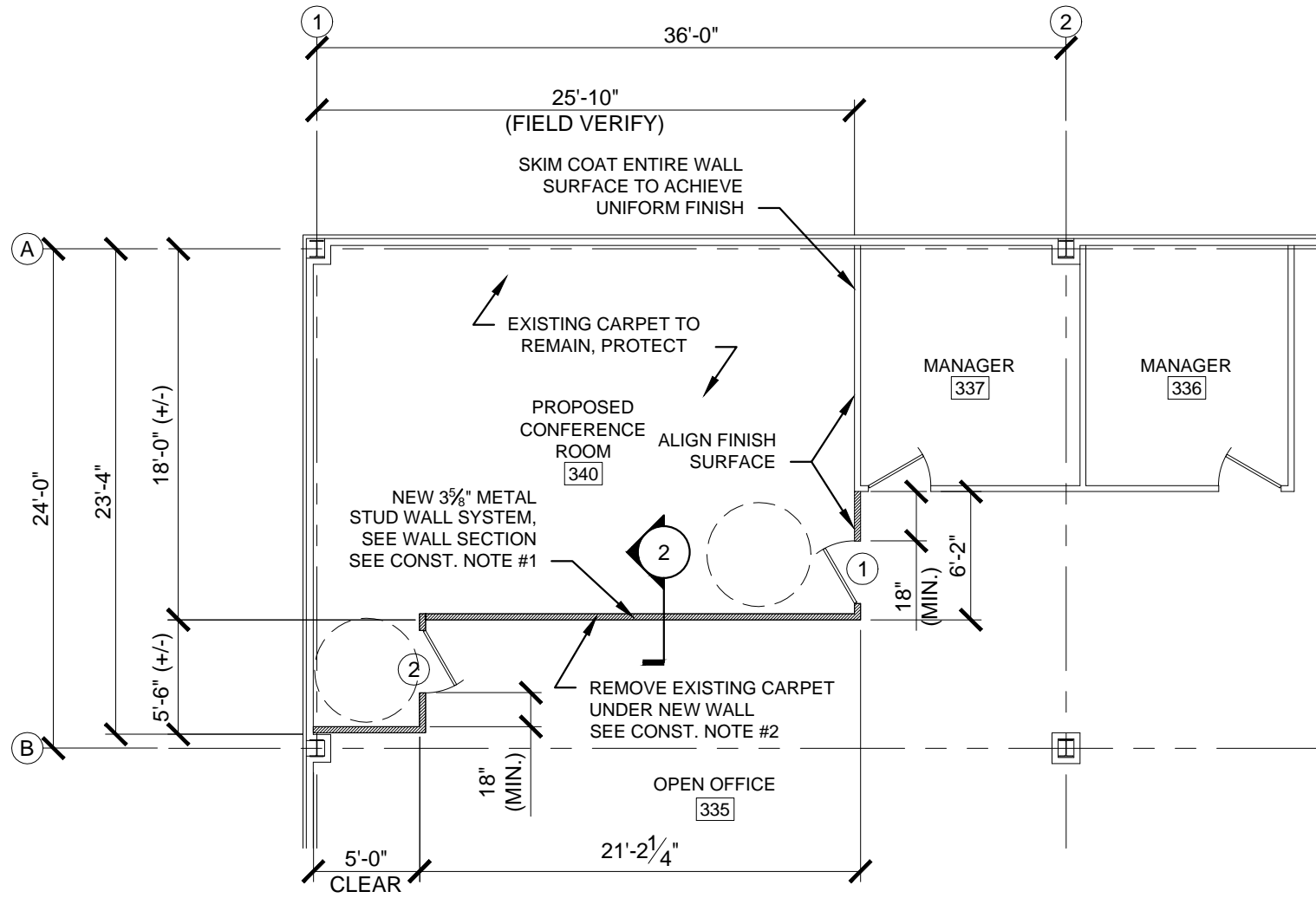
CODE PLAN
WCNOC CESSNA BUILDING
PROPOSED CONFERENCE ROOM

Date: 12/05/14
Designed: DWO
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A100

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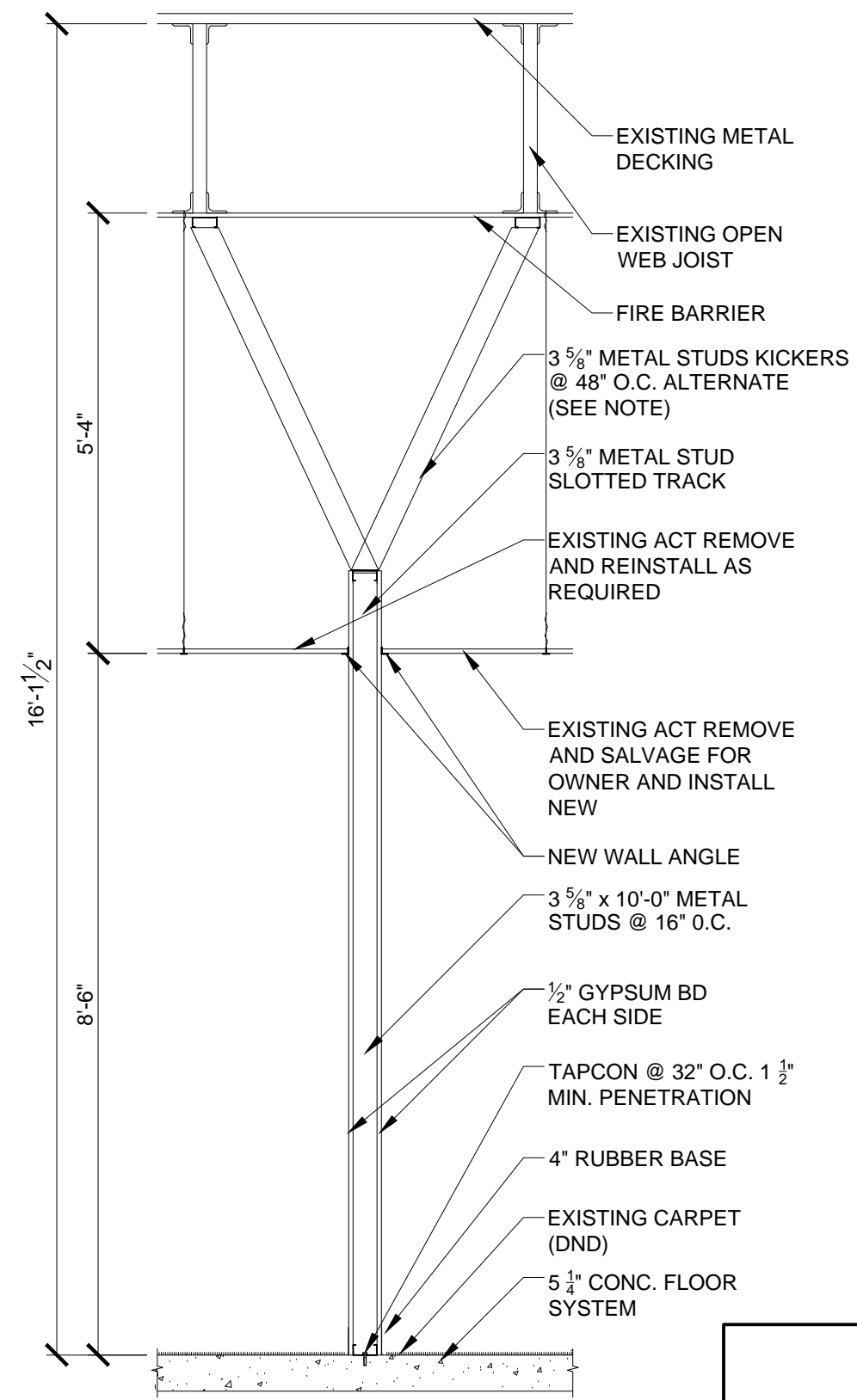
1 FLOOR PLAN
SCALE: 1/8" = 1'-0"

CONSTRUCTION NOTE:

1. CONTRACTOR TO ALIGN WITH EXISTING CEILING TILE GRID.
2. REMOVE CARPET UNDER WALL ONLY, DO NOT DISTURB REMAINING CARPET FLOORING.

NOTE:

1. ENSURE ACCESS TO FT-301 IS NOT IMPEDED FOR MAINTENANCE PURPOSES.



2 3 5/8" METAL STUD WALL
SCALE: 1/2" = 1'-0"

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CK

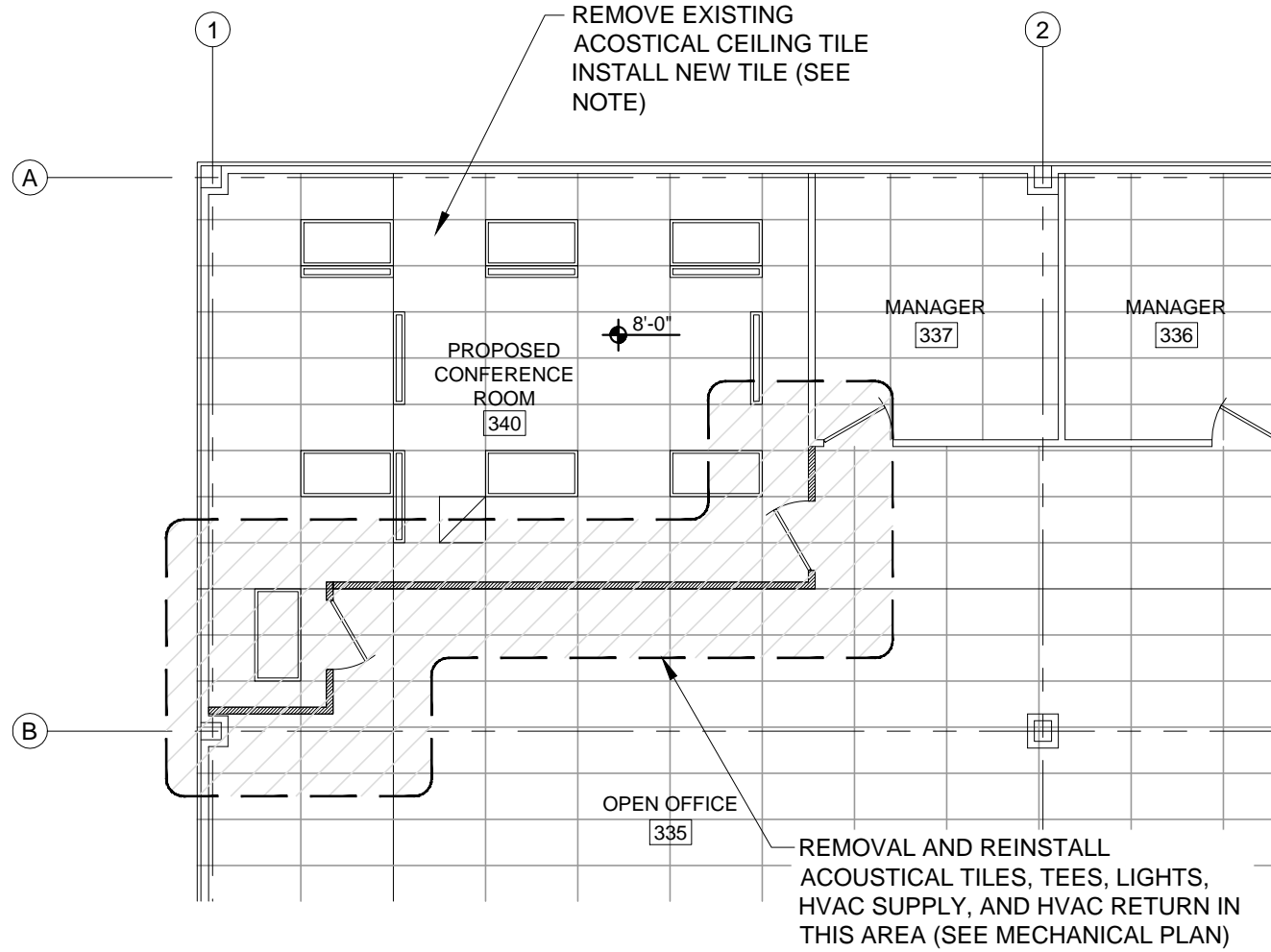
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FLOOR PLAN
WCNOC CESSNA BUILDING
PROPOSED CONFERENCE ROOM

Date: 12/05/14
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Drawn: KHG
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1 REFLECTIVE CEILING

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

NOTE:
 NEW TILE TO BE INSTALLED IN CONFERENCE ROOM, MATCH EXISTING TILE AS CLOSE AS POSSIBLE. SALVAGE EXISTING TILE FOR FUTURE USE BY OWNER.

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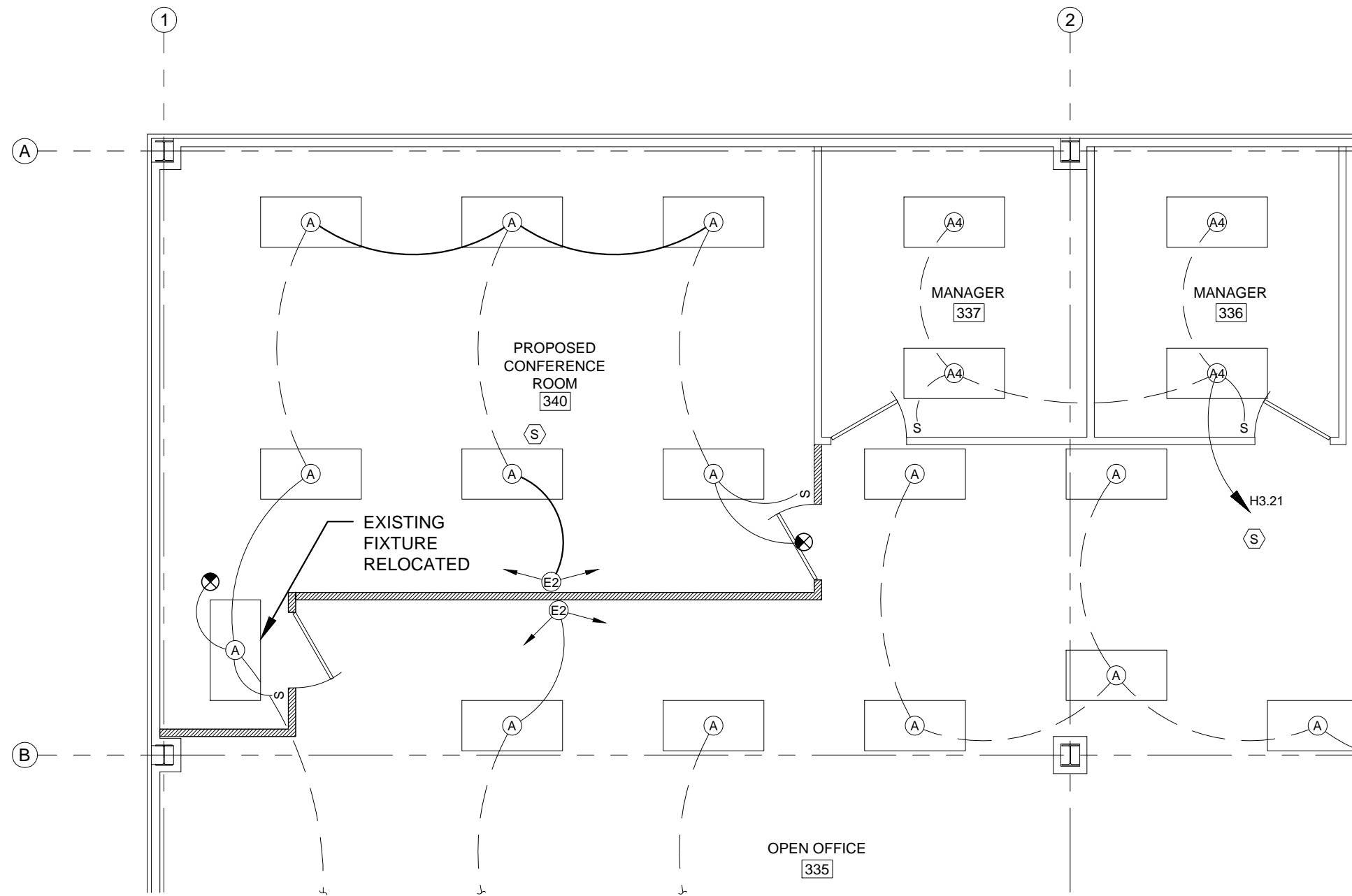


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REFLECTIVE CEILING
WCNOC CESSNA BUILDING
PROPOSED CONFERENCE ROOM

Date: 12/05/14
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 Proj. No. 2013.034
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1 LIGHTING PLAN

SCALE: 3/16" = 1'-0"

NOTES:

- NO NEW FLUORESCENT FIXTURE SHALL BE REQUIRED, CONFERENCE ROOM LIGHTS ARE POWERED FROM EXISTING CIRCUIT H3.5.
- SEE SHEET E1-5 AS BUILT DRAWINGS BY SKC ELECTRIC, INC DATED 10-6-94 FOR L3 PANEL SCHEDULE.
- SEE SHEET E1-1 AS BUILT DRAWINGS BY SKC ELECTRIC, INC DATED 10-6-94 FOR FIXTURE SCHEDULE.

LEGEND

SYMBOL	DESCRIPTION	MOUNTING
	FLUORESCENT FIXTURE & FIXTURE LETTER	CEILING
	EXIT LIGHT (SHADING DENOTES EXIT FACE SIDE)	CEILING
	EMERGENCY BATTERY LIGHT FIXTURE	CEILING
	ISOLATED GROUND RECEPTACLE	1'-6" AFF
	DUPLEX GROUNDED RECEPTACLE	1'-6" AFF
	SWITCHES (1-POLE, 3-WAY, 4-WAY)	4'-0" AFF
	P.A. SPEAKER	CEILING
	CONDUIT RUN 2#12 & 1#12 GRD.- 1/2" C.	CEIL/WALL
	CONDUIT RUN 2#12 & 1#12 GRD.- 1/2" C.	CEIL/WALL
	DATA JACK	1'-6" AFF
	PHONE JACK	1'-6" AFF

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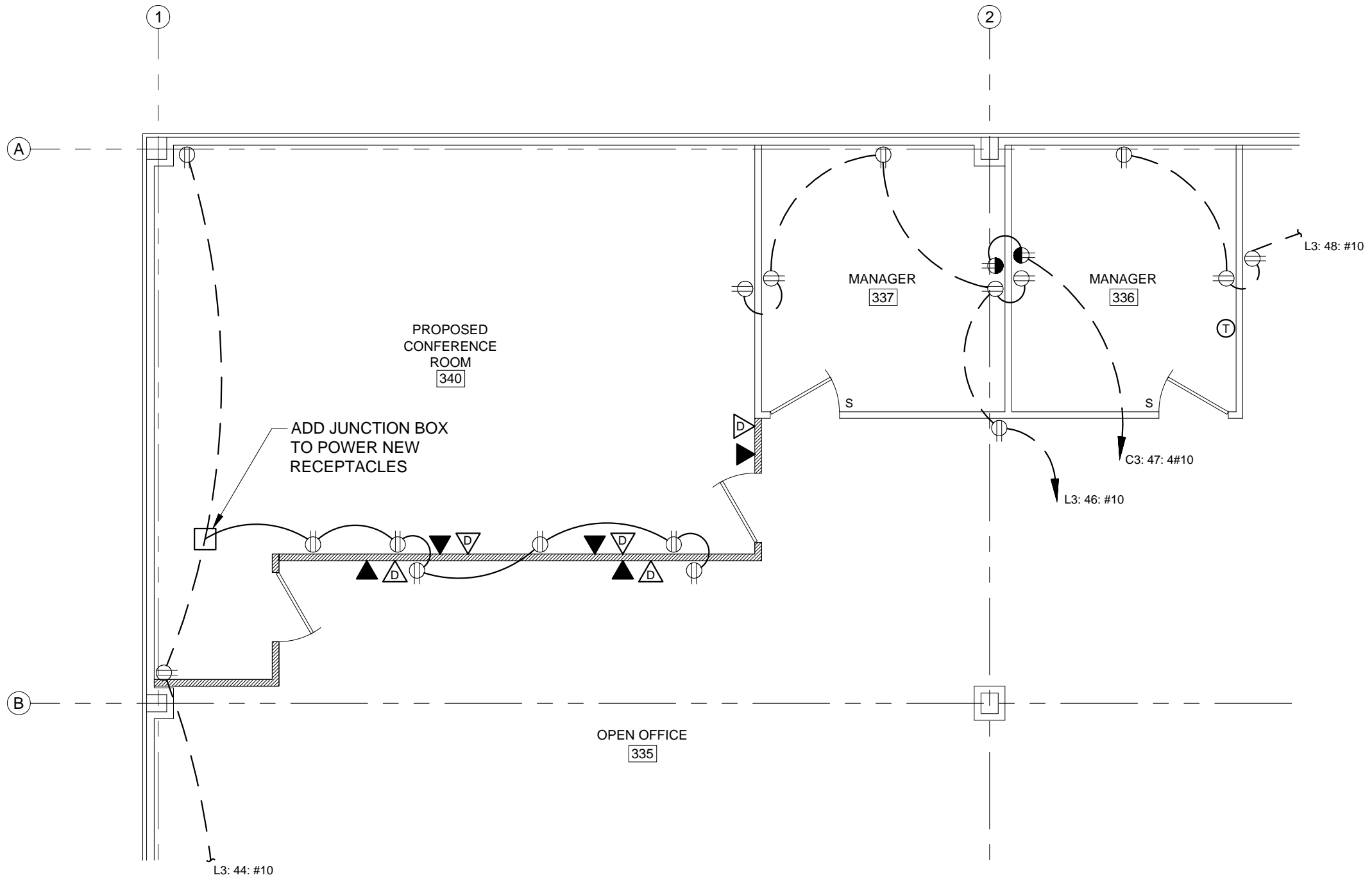
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LIGHTING PLAN
WCNOC CESSNA BUILDING
PROPOSED CONFERENCE ROOM

Date: 12/05/14
Designed: DWO
Drawn: KHG
Checked: DWO
Approved:
Proj. No. 2013.034
Sheet No:

E101

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NOTES:

1. NEW DUPLEX GROUNDED RECEPTACLES SHALL BE POWERED FROM EXISTING CIRCUIT L3: 44: #10.
2. SEE SHEET E1-5 DATED 3-16-94 FOR PANEL L3 SCHEDULE.

1

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

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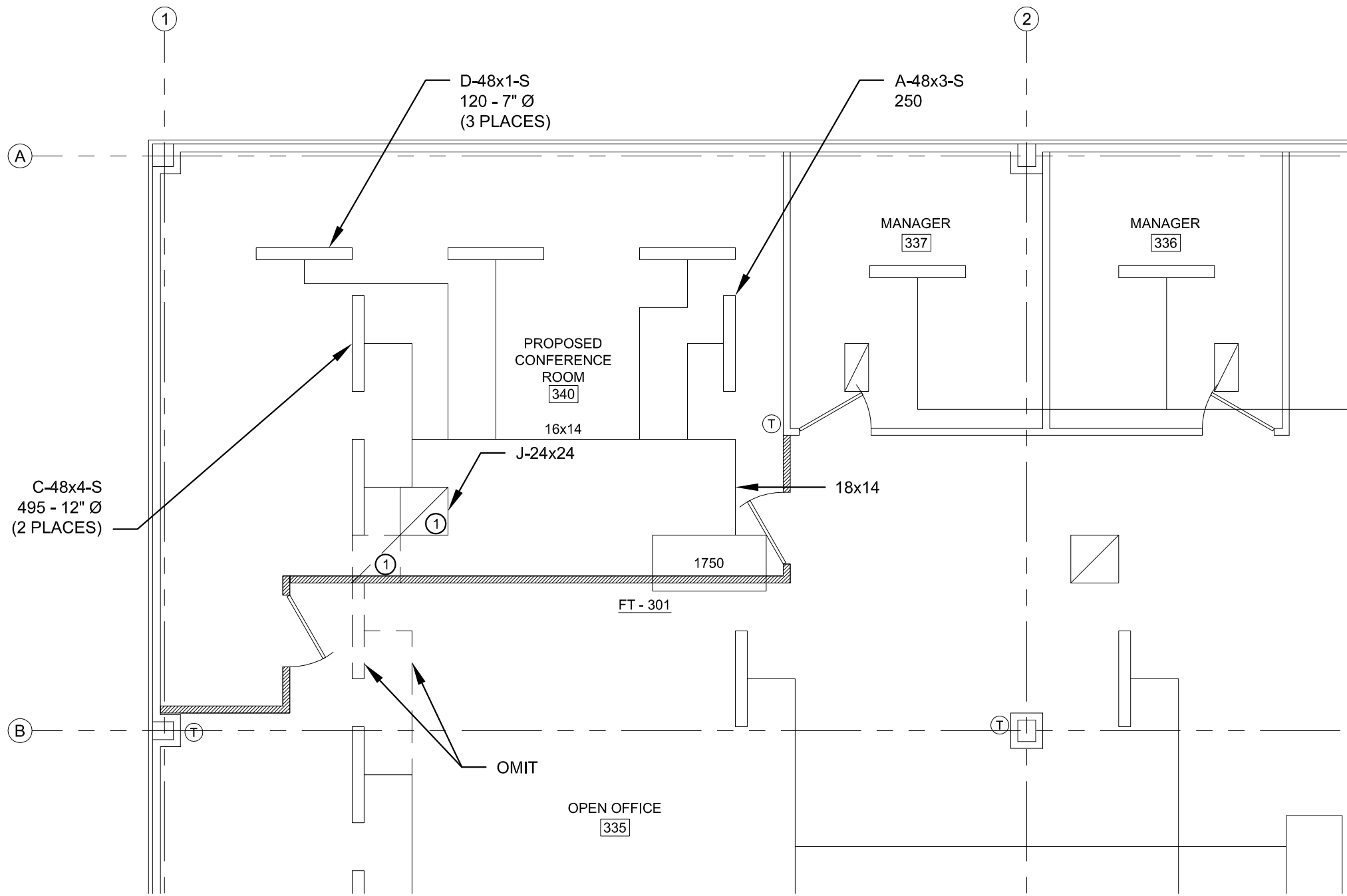
NO.	DATE	BY	REVISIONS

POWER PLAN
WCNOC CESSNA BUILDING
PROPOSED CONFERENCE ROOM

Date:	12/05/14
Designed:	DWO
Drawn:	KHG
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E102

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NOTES:

- EXISTING SYSTEM FT - 301 SERVES THE CURRENT AREA THAT SHALL BE ENCLOSED FOR THE PROPOSED CONFERENCE ROOM.

CONSTRUCTION NOTES:

- RELOCATE RETURN AIR GRILLE

1 MECHANICAL PLAN

SCALE: 3/16" = 1'-0"

NOTES:

- EXISTING SPRINKLER SHALL BE MODIFIED AS REQUIRED TO BE IN COMPLIANCE WITH THE KANSAS FIRE PREVENTION CODE.
- COORDINATE AND VERIFY ANY MODIFICATIONS WITH SIMPLEX GRINNEL, OVERLAND PARK, KANSAS (PH 913.894.0010)
- MODIFICATIONS IF NECESSARY SHALL BE SUBMITTED TO ENGINEER FOR AS BUILT DRAWINGS.



NO.	REV.	DATE	BY	APP.

MECHANICAL PLAN
WCNOC CESSNA BUILDING
PROPOSED CONFERENCE ROOM

Date: 12/05/14
 Designed: DWO
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 Checked: DWO
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 Sheet No:

SECTION 02 41 19 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

- Demolition and removal of selected portions of building or structure.
- Salvage of existing items to be reused.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
- Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 PREDEMOLITION CONFERENCES

- A. Predemolition Conferences: Conduct conferences at Project site.
- Conduct separate conferences prior to beginning work on new addition; prior to beginning work on 1951 & 1983 additions; prior to beginning work on first floor original building renovation; and prior to beginning work on second floor original building renovation.
 - Inspect and discuss condition of construction to be selectively demolished.
 - Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - Review areas where existing construction is to remain and requires protection.

1.5 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit plan listing measures proposed for protecting individuals and property, dust control, and noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
- Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - Interruption of utility services. Indicate how long utility services will be interrupted.
 - Coordination for shutoff, capping, and continuation of utility services.
 - Use of stairs.
 - Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.
- D. Predemolition Photographs or Video: At Contractor's option as a means to define damage prior to construction activities, provide predemolition photographs or video indicating construction area conditions. Submit before Work begins.
- E. Warranties: Documentation indicating that existing roof warranty is still in effect after completion of selective demolition.

1.6 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.7 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition areas. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Hazardous materials are present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
- Do not disturb hazardous materials, items suspected of containing hazardous materials, or items which will dislodge hazardous or suspected hazardous materials.
 - Hazardous material remediation will be provided by the Owner under a separate contract. Coordinate and cooperate with the Owner's scheduling for removal of hazardous materials and items which will dislodge hazardous materials.
- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
- Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
- Coordinate with Owner to arrange to shut off services/systems when necessary for selective demolition.
 - Arrange to shut off indicated utilities with utility companies.
 - If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - Disconnect, demolish, and remove plumbing, HVAC systems, equipment, and components indicated to be removed.
- C. Refrigerant: Remove refrigerant from mechanical equipment to be selectively demolished according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - Cover and protect furniture, furnishings, and equipment that have not been removed.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
- Strengthen or add new supports when required during progress of selective demolition.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
- Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - Do not use cutting torches without securing Hot Work Permit. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations. Maintain adequate ventilation when using cutting torches.
 - Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - Dispose of demolished items and materials promptly.
- B. Removed and Reinstalled Items:

- Pack or crate items. Identify contents of containers.
 - Protect items from damage during transport and storage.
 - Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Acoustic Ceiling Tile & Grid work: Remove area of ceiling tile and store safely shore remaining ceiling tile as required. After new wall installation, install new ceiling grid and cut existing ceiling tile into new grid layout.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
- Do not allow demolished materials to accumulate on-site.
 - Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.



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NO.	REV.	DATE	BY	CHK.

SPECIFICATIONS
WCNOC CESSNA BUILDING
CONFERENCE ROOM ADDITION

Date: 12/05/14
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- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02 41 19

SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 1. Standard hollow metal doors and frames.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, fire-resistance rating, temperature-rise ratings, and finishes.
- B. Shop Drawings: Include the following:
 1. Elevations of each door design.
 2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
 4. Locations of reinforcement and preparations for hardware.
 5. Details of each different wall opening condition.
 6. Details of anchorages, joints, field splices, and connections.
 7. Details of accessories.
 8. Details of removable stops, and glazing.
 9. Details of conduit and preparations for power, signal, and control systems.
- C. Schedule: Provide a schedule of hollow metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with door hardware schedule.
- D. Samples:
 1. Fabricated joint for borrow light member intersection.

1.3 QUALITY ASSURANCE

- A. Source Limitations: Obtain hollow metal work from single source from single manufacturer.
- B. Smoke-Control Door Assemblies: Comply with NFPA 105 and UL 1784.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow metal work under cover at Project site.
 1. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch-high wood blocking.
 2. Do not store in a manner that traps excess humidity.
 3. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of existing openings by field measurements before fabrication.

1.6 COORDINATION

- A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

2.2 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum A60 metallic coating.
- D. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z coating designation; mill phosphatized.
 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- F. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.

2.3 STANDARD HOLLOW METAL DOORS

- A. General: Provide doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8.
 1. Design: Flush panel.
 2. Core Construction: Manufacturer's standard polyisocyanurate or mineral-board core.
 - a. Thermal-Rated (Insulated) Doors: Except at fire-rated doors, provide doors fabricated with thermal-resistance value (R-value) of not less than R-10 when tested according to ASTM C 1363.
 3. Vertical Edges for Single-Acting Doors: Beveled edge.
 - a. Beveled Edge: 1/8 inch in 2 inches.
 4. Vertical Edges for Double-Acting Doors: Round vertical edges with 2-1/8-inch radius.
 5. Top and Bottom Edges: Closed flush with 0.042-inch-thick closures.
 6. Tolerances: Comply with SDI 117, "Manufacturing Tolerances for Standard Steel Doors and Frames."
- B. Interior Doors: Face sheets fabricated from cold-rolled steel sheet. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
 1. Level 3 and Physical Performance Level A (Extra Heavy Duty), Model 2 (Seamless).
- C. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.
- D. Fabricate concealed stiffeners and hardware reinforcement from either cold- or hot-rolled steel sheet.

2.4 STANDARD HOLLOW METAL FRAMES

- A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.
- B. Exterior Frames: Fabricated from metallic-coated steel sheet.
 1. Fabricate frames with mitered or coped corners.
 2. Fabricate frames as full profile welded unless otherwise indicated.
 3. Frames for Level 3 Steel Doors: 0.067-inch-thick steel sheet.
- C. Interior Frames: Fabricated from metallic-coated sheet.
 1. Fabricate frames with mitered or coped corners.
 2. Fabricate frames as full profile welded at all new openings.
 3. At existing concrete, masonry, or masonry/plaster openings provide one of the following:
 - a. Fabricate frames as full profile welded.
 - b. Fabricate frames as knocked down with full profile weld after frame installation.
 4. Frames for Level 3 Steel Doors: 0.053-inch-thick steel sheet.
 5. Frames for Level 4 Steel Doors: 0.067-inch-thick steel sheet.
 6. Frames for Wood Doors: 0.053-inch-thick steel sheet.
 7. Frames for Borrowed Lights: 0.053-inch-thick steel sheet.

- D. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same material as frames.

2.5 FRAME ANCHORS

- A. Jamb Anchors:
 1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
 2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch thick.
 3. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch-diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

2.6 STOPS AND MOLDINGS

- A. Moldings for Glazed Lites in Doors: Minimum 0.032 inch thick, fabricated from same material as door face sheet in which they are installed.
- B. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch high unless otherwise indicated.
- C. Loose Stops for Glazed Lites in Frames: Minimum 0.032 inch thick, fabricated from same material as frames in which they are installed.

2.7 ACCESSORIES

- A. Ceiling Struts: Minimum 1/4-inch-thick by 1-inch-wide steel.
- B. Grout Guards: Formed from same material as frames, not less than 0.016 inch thick.

2.8 FABRICATION

- A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117.
- C. Hollow Metal Doors:
 1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
 2. Glazed Lites: Factory cut openings in doors.
- D. Hollow Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
 1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
 - a. Fabricate frames with no visible curl, cup, warp, or twist at intersecting members.
 2. Sidelight Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
 3. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
 4. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
 5. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Masonry Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
 - 1) Two anchors per jamb up to 60 inches high.
 - 2) Three anchors per jamb from 60 to 90 inches high.
 - 3) Four anchors per jamb from 90 to 120 inches high.



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NO.	REV.	DATE	BY	CHK.

SPECIFICATIONS
 WCNOC CESSNA BUILDING
 CONFERENCE ROOM ADDITION

Date: 12/05/14
 Designed: DWO
 Drawn: KHG
 Checked: DWO
 Approved:
 Proj. No. 2013.034
 Sheet No.



- b. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:
 - 1) Three anchors per jamb up to 60 inches high.
 - 2) Four anchors per jamb from 60 to 90 inches high.
 - 3) Five anchors per jamb from 90 to 96 inches high.
 - 4) Two anchors per head for frames above 42 inches wide and mounted in metal-stud partitions.
- c. Postinstalled Expansion Type: Locate anchors not more than 6 inches from top and bottom of frame. Space anchors not more than 26 inches o.c.
- 6. Door Silencers: Except on weather-stripped doors, drill stops to receive door silencers as follows. Keep holes clear during construction.
 - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
- E. Fabricate concealed stiffeners, edge channels, and hardware reinforcement from either cold- or hot-rolled steel sheet.
- F. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
 - 1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
 - 2. Reinforce doors and frames to receive non-templated, mortised and surface-mounted door hardware.
 - 3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
 - 4. Coordinate locations of conduit and wiring boxes for electrical connections.
- G. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints.
 - 1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow metal work.
 - 2. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
 - 3. Provide loose stops and moldings on inside of hollow metal work.
 - 4. Coordinate rabbet width between fixed and removable stops with type of glazing and type of installation indicated.

2.9 STEEL FINISHES

- A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pretreating.
 - 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- C. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

- B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware. Do not use self-tapping fasteners.

3.3 INSTALLATION

- A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.
- B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11.
 - 1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. At fire-protection-rated openings, install frames according to NFPA 80.
 - b. Where frames are knock-down, weld profile joint continuously after installation; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - c. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding profile joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - d. Install frames with removable glazing stops located on secure side of opening.
 - e. Install door silencers in frames before grouting.
 - f. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - g. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 - h. Do not distort frame faces by bending frames to fit over existing construction.
 - 2. Metal-Stud Partitions: Solidly pack mineral-fiber insulation behind frames.
 - 3. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
 - 4. Ceiling Struts: Extend struts vertically from top of frame at each jamb to overhead structural supports or substrates above frame unless frame is anchored to masonry or to other structural support at each jamb. Bend top of struts to provide flush contact for securing to supporting construction. Provide adjustable wedged or bolted anchorage to frame jamb members.
 - 5. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.
- C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
 - 1. Non-Fire-Rated Standard Steel Doors:
 - a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.
 - b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
 - c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
 - d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.
 - 2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
 - 3. Smoke-Control Doors: Install doors according to NFPA 105.

- D. Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with hollow metal manufacturer's written instructions.
 - 1. Secure stops with countersunk oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.

3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable when fully finished including painting.
- B. Remove grout and other bonding material from hollow metal work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- D. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 08 11 13

SECTION 09 22 16 - NON-STRUCTURAL METAL FRAMING

1.1 SUMMARY

- A. Section Includes:
 - 1. Non-load-bearing steel framing systems for interior gypsum board assemblies.
 - 2. Suspension systems for interior gypsum ceilings and soffits.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.3 INFORMATION SUBMITTALS

- A. Evaluation Reports: For dimpled steel studs, dimpled steel runners, and firestop tracks, from ICC-ES.

PART 2 - PRODUCTS

2.1 DESCRIPTION

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 FRAMING SYSTEMS

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 - 2. Protective Coating: Coating with equivalent corrosion resistance of ASTM A 653, G40, hot-dip galvanized.
- B. Studs and Runners: ASTM C 645. Use either steel studs and runners or dimpled steel studs and runners.
 - 1. Steel Studs and Runners:
 - a. Minimum Base-Metal Thickness: 0.033 inch.
 - b. Depth: 3 5/8 inches.

2.3 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
 - 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

NO	REV	DATE	BY	APP

SPECIFICATIONS
WCNOC CESSNA BUILDING
CONFERENCE ROOM ADDITION

Date:	12/05/14
Designed:	DWO
Drawn:	KHG
Checked:	DWO
Approved:	
Proj. No.:	2013.034
Sheet No.:	

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754, except comply with framing sizes and spacing indicated.
 - 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.
- D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.3 INSTALLING FRAMED ASSEMBLIES

- A. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- B. Install studs so flanges within framing system point in same direction.
 - 1. Space studs at 16 inches o.c. unless otherwise indicated.
- C. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
 - 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 - 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb.
 - b. Install cripple studs at head adjacent to one jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.
 - 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 - 4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.
 - 5. Sound-Rated Partitions: Install framing identical to firestop track to comply with sound-rated assembly indicated.
- D. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.
- E. Install bridging at mid-height of all partitions over 5 feet in height.

3.4 INSTALLING SUSPENSION SYSTEMS

- A. Install suspension system components in sizes and spacings required by referenced installation standards for assembly types and other assembly components indicated.
- B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.

C. Suspend hangers from building structure as follows:

- 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
 - a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
- 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
 - a. Size supplemental suspension members and hangers to support ceiling loads.
- 3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
- 4. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
- 5. Do not attach hangers to steel roof deck.
- 6. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
- 7. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- D. Seismic Bracing: Sway-brace suspension systems with hangers used for support.
- E. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.
- F. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION 09 22 16

SECTION 09 29 00 - GYPSUM BOARD

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 gypsum board.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

- A. Manufacturers: Subject to compliance with requirements, provide available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. American Gypsum.
 - 2. CertainTeed Corp.
 - 3. Georgia-Pacific Gypsum LLC.
 - 4. Lafarge North America Inc.
 - 5. National Gypsum Company.
 - 6. PABCO Gypsum.
 - 7. Temple-Inland.
 - 8. USG Corporation.

- B. Gypsum Wallboard: ASTM C 1396/C 1396M.
 - 1. Thickness: 1/2 inch (12.7 mm).
 - 2. Long Edges: Tapered.
- C. Gypsum Board, Type X: ASTM C 1396/C 1396M.
 - 1. Thickness: 5/8 inch (15.9 mm).
 - 2. Long Edges: Tapered.
- D. Gypsum Ceiling Board: Type X: ASTM C 1396/C 1396M.
 - 1. Thickness: 5/8 inch (15.9 mm).
 - 2. Long Edges: Tapered.

E. Moisture- and Mold-Resistant Gypsum Board:

- ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
 - 1. Core: 1/2 inch (12.7 mm), regular type & 5/8 inch (15.9 mm), Type X.
 - 2. Long Edges: Tapered.
 - 3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.4 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
 - 1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet
 - 2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - d. L-Bead: L-shaped; exposed long flange receives joint compound.
 - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - f. Expansion (control) joint.
 - g. Curved-Edge Cornerbead: With notched or flexible flanges.

2.5 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 - 1. Interior Gypsum Board: Paper.
 - 2. Exterior Gypsum Soffit Board: Paper.
 - 3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
 - 4. Tile Backing Panels: As recommended by panel manufacturer.

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NO.	DATE	BY	REVISIONS

SPECIFICATIONS
WCNOC CESSNA BUILDING
CONFERENCE ROOM ADDITION

Date: 12/05/14
 Designed: DWO
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 Sheet No:

Drawing Path: E:\C\CEC\Projects\2013\034_WCNOC_Cessna Off Bldg Conference Room\DWG\Plans\dwg
 Plotted at: Dec 05, 2014 - 10:09am

3.6 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 09 29 00

SECTION 09 51 13 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes acoustical panels and exposed suspension systems for ceilings.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
- B. Coordinate existing light fixtures and supports to meet this specification

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Suspended ceiling components
 - 2. Structural members to which suspension systems will be attached.
 - 3. Size and location of initial access modules for acoustical panels.
 - 4. Items penetrating finished ceiling including the following:
 - a. Lighting fixtures.
 - b. Air outlets and inlets.
 - c. Access panels.
 - 5. Perimeter moldings.

- B. Evaluation Reports: For each acoustical panel ceiling suspension system and anchor and fastener type, from ICC-ES.

- C. Field quality-control reports.

1.5 CLOSEDOUT SUBMITTALS

- A. Maintenance Data: For finishes to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Acoustical Ceiling Panels: 20 Full-size panels.
 - 2. Suspension-System Components: Quantity of each exposed component equal to 2 percent of quantity installed.

1.7 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to NVLAP for testing indicated.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical panels, suspension-system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

1.9 FIELD CONDITIONS

- A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
 - 1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical panel ceiling installation.

PART 2 - PRODUCTS

2.1 ACOUSTICAL PANELS, GENERAL

- A. Source Limitations:
 - 1. Acoustical Ceiling Panel: Obtain each type from single source from single manufacturer.
 - 2. Suspension System: Obtain each type from single source from single manufacturer.
- B. Source Limitations: Obtain each type of acoustical ceiling panel and supporting suspension system from single source from single manufacturer.
- C. Glass-Fiber-Based Panels: Made with binder containing no urea formaldehyde.
- D. Acoustical Panel Standard: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances unless otherwise indicated.
 - 1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches (400 mm) away from test surface according to ASTM E 795.
- E. Acoustical Panel Colors and Patterns: Match appearance characteristics indicated for each product type.
 - 1. Where appearance characteristics of acoustical panels are indicated by referencing pattern designations in ASTM E 1264 and not manufacturers' proprietary product designations, provide products selected by Architect from each manufacturer's full range that comply with requirements indicated for type, pattern, color, light reflectance, acoustical performance, edge detail, and size.

2.2 ACOUSTICAL PANELS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Fissured 755 as manufactured by Armstrong World Industries, Inc. or comparable product by one of the following:
 - 1. Armstrong World Industries, Inc.
 - 2. CertainTeed Corp.
 - 3. Chicago Metallic Corporation.
 - 4. Tectum Inc.
 - 5. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Classification: Provide panels complying with ASTM E 1264 for type, form, and pattern as follows:
 - 1. Composition Mineral Fiber
 - 2. Surface Texture: Medium
 - 3. Pattern: Fissured
- C. Color: White
- D. LR: Not less than 0.80
- E. NRC: Not less than 0.55.
- F. CAC: Not less than 30
- G. Edge/Joint Detail: Square.
- H. Flame Spread: ASTM E 1264; Class A (UL)

- I. Emissions Testing: Section 01350 Protocol, < 13.5 ppb of formaldehyde when used under typical conditions required by ASHRAE Standard 62.1-2004, 'Ventilation for Acceptable Indoor Air Quality'
- J. Thickness: 5/8 inch (15 mm)
- K. Modular Size: 24 by 48 inches (610 by 1220 mm)

2.3 METAL SUSPENSION SYSTEMS, GENERAL

- A. Metal Suspension-System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635/C 635M.
- B. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
- C. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
 - 1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641, Class 1 zinc coating, soft temper.
 - 2. Stainless-Steel Wire: ASTM A 580/A 580M, Type 304, nonmagnetic.
 - 3. Nickel-Copper-Alloy Wire: ASTM B 164, nickel-copper-alloy UNS No. N04400.
 - 4. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 12 gauge diameter wire.

2.4 METAL SUSPENSION SYSTEM

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Prelude ML 15/16+Exposed Tee or comparable product by one of the following:
 - 1. Armstrong World Industries, Inc.
 - 2. CertainTeed Corp.
 - 3. Chicago Metallic Corporation.
 - 4. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Wide-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653; with prefinished 15/16-inch- (24-mm-) wide metal caps on flanges.
 - 1. Structural Classification: Heavy duty system, ASTM C 635 HD.
 - 2. Cap Finish Color: White and match the actual color of the selected ceiling tile, unless noted otherwise.
 - 3. Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.
 - 4. End Condition of Cross Runners: Override stepped or butt-edge type.
 - 5. Face Design: Flat, flush.
 - 6. Cap Material: Steel or aluminum cold-rolled sheet.

2.5 METAL EDGE MOLDINGS AND TRIM

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong World Industries, Inc. standard moldings and trim profile or comparable product by one of the following:
 - 1. Armstrong World Industries, Inc.
 - 2. CertainTeed Corp.
 - 3. Chicago Metallic Corporation.
 - 4. Fry Reglet Corporation.
 - 5. Gordon, Inc.
 - 6. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Edge Moldings and Trim: Metal or extruded aluminum of types and profiles matching, manufacturer's standard moldings for edges and penetrations, including light fixtures, that fit type of edge detail and suspension system indicated. See Metal Suspension System above. Provide moldings with exposed flange of the same width as exposed runner.

2.6 ACOUSTICAL SEALANT

- A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Acoustical Sealant for Exposed and Concealed Joints:
 - a. Pecora Corporation; AC-20 FTR Acoustical and Insulation Sealant.
 - b. USG Corporation; SHEETROCK Acoustical Sealant.

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NO.	DATE	BY	REVISIONS

SPECIFICATIONS
WCNOC CESSNA BUILDING
CONFERENCE ROOM ADDITION

Date: 12/05/14
 Designed: DWO
 Drawn: KHG
 Checked: DWO
 Approved:
 Proj. No. 2013.034
 Sheet No:

Drawing Path: E:\CCKC\Projects\2013\034_WCNOC_Cessna Off Bldg Conference Room\DWG\Plans\dwg
 Plotted at: Dec 05, 2014 - 10:09am

- b. Alkyd Systems (Alternate System) (Waterbased Acrylic-Alkyd)
 - 1) Semi-Gloss Finish
 - a) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series (5-10 mils wet, 2.0 - 4.0 mils dry)
 - b) 2nd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series
 - c) 3rd Coat: S-W ProMar 200 Waterbased Acrylic-Alkyd Semi-Gloss, B34-8200 Series (4 mils wet, 1.7 mils dry per coat)

2.2 PAINT, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."
- B. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- C. Colors: Match existing walls of facility.

2.3 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
 - 1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 - 2. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Wood: 15 percent.
 - 2. Gypsum Board: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Plaster Substrates: Verify that plaster is fully cured.
- E. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- F. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.
- G. WARNING
 - 1. Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify the Owner immediately if lead based paints are encountered.

- 2. Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority. Removal must be done in accordance with EPA Renovation, Repair and Painting Rule and all related state and local regulations. Care should be taken to follow all state and local regulations which may be more strict than those set under the federal RRP Rule.
- 3. Verify the existence of lead based paints on the project. Buildings constructed after 1978 are less likely to contain lead based paints. If lead based paints are suspected on the project, all removal must be done in accordance with the EPA Renovation, Repair and Painting rule and all applicable state and local regulations. State and local regulations may be more strict than those set under the federal regulations.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer:
 - 1. SSPC-SP 2, "Hand Tool Cleaning."
 - 2. SSPC-SP 3, "Power Tool Cleaning."
- E. Wood Substrates:
 - 1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
 - 2. Sand surfaces that will be exposed to view, and dust off.
 - 3. Prime edges, ends, faces, undersides, and backsides of wood.
 - 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
 - 6. Protect existing finish materials in the project.
 - 7. Regardless of number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.
 - 8. Apply coatings at spreading rate required to achieve the manufacturers recommended dry film thickness.

- B. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- C. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- D. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work: None.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE (See 2.1, B this specification)

END OF SECTION 09 91 23

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NO	DATE	BY

SPECIFICATIONS
WCNOC CESSNA BUILDING
CONFERENCE ROOM ADDITION

Date: 12/05/14
 Designed: DWO
 Drawn: KHG
 Checked: DWO
 Approved:
 Proj. No. 2013.034
 Sheet No:

Drawing Path: E:\CEC\Projects\2013\034_WCNOC_Cessna Off Bldg Conference Room\DWG\Plans.dwg
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