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CADD CODE: MB13EP14

FUSELAGE TRAINER
DEFINITIVE DESIGN
(PROJECT NO. AMC140001-FUT)
BASE X, CONUS

COUNTY

STATE

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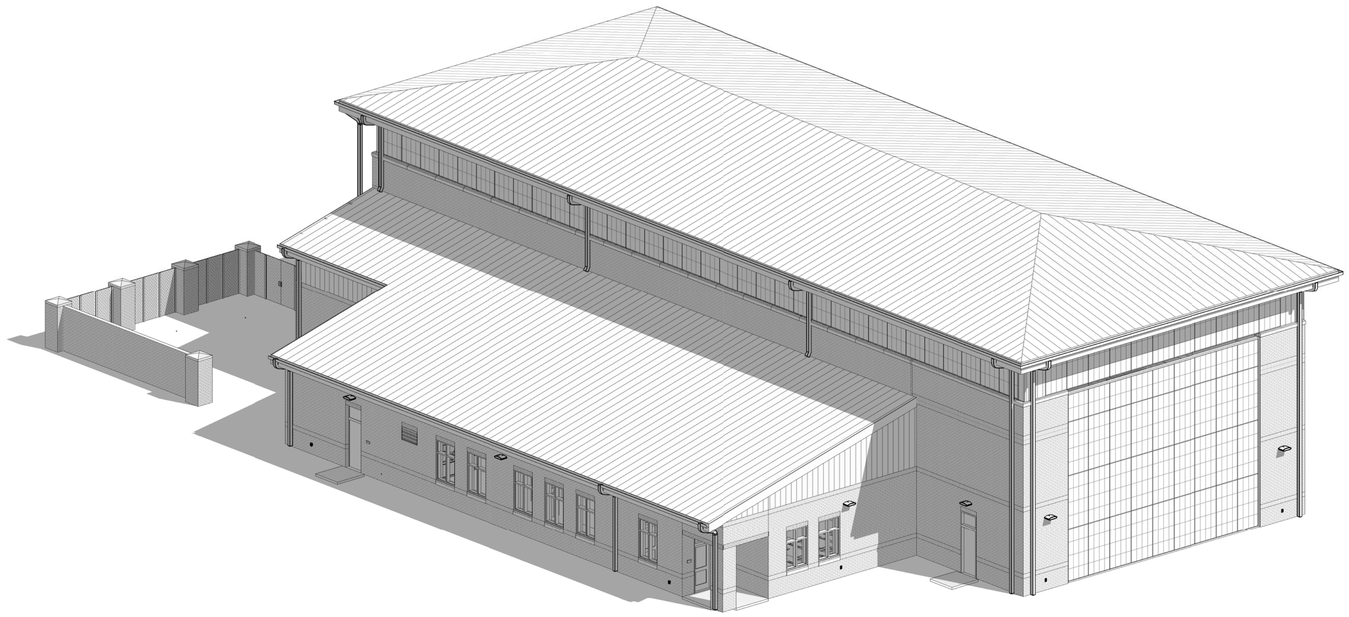

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

4/17/2013

US Army Corps of Engineers®

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BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
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CS100	CONCEPT SITE PLAN

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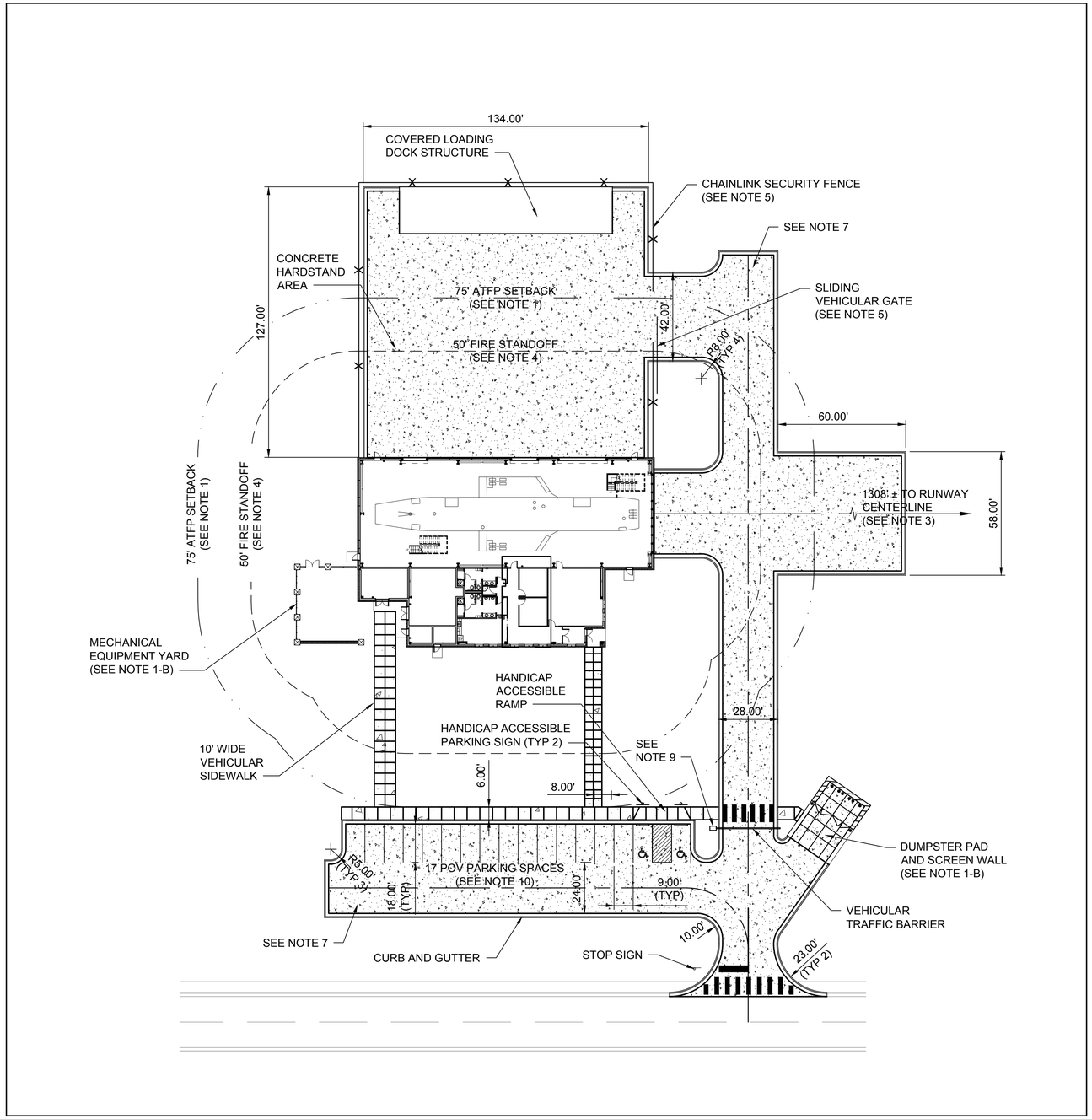

1 CONCEPT SITE PLAN

N

0 30' 60'

SCALE:1"= 30'

DEFINITIVE DESIGN NOTES

1. CONCEPTUAL SITE PLAN BASED UPON ATFP REQUIREMENTS DESCRIBED IN UFC 4-010-01 (FEB 2012).
   A. SITE ATFP SETBACK IS BASED UPON A INHABITED GATHERING FACILITY WITH METAL STUDS/BRICK VENEER NON LOAD BEARING WALLS.
   B. ALL SCREEN WALLS OR FENCING IN MECHANICAL EQUIPMENT YARDS AND TRASH ENCLOSURES SHALL BE REVIEWED AND COORDINATED WITH BASE STANDARDS UPON SITE SELECTION.
2. CONCEPTUAL DOES NOT INCLUDE STORM WATER DETENTION. THIS SHALL BE REVIEWED AND COORDINATED UPON SITE SELECTION.
3. IMAGINARY SURFACE DISTANCE BASED ON A 44' TALL BUILDING HEIGHT AT 7:1 SLOPE RATIO. 1000' FROM CLASS B RUNWAY CENTERLINE PER UFC 3-260-01, TRANSVERSE SECTION: FIGURE 3-15 (NOV 2008).
4. FIRE STANDOFF OF EXISTING BUILDING ADJACENT TO THE SITE MUST BE EVALUATED AS PART OF THE SITE SELECTION PER UFC 3-600-01 (SEPT 2006). BASE AHJ SHALL DETERMINE FINAL FIRE SETBACKS AND CLEARANCES.
5. SECURITY FENCE LIMITS AND REQUIREMENTS SHALL BE BY BASE SECURITY FORCES.
6. APPROXIMATE 2.75 ACRE SITE FOOTPRINT.
7. PAVEMENT SHOWN AS PORTLAND CEMENT CONCRETE FOR ALL PARKING LOTS AND ROADWAYS FOR HEAT ISLAND EFFECTS PER UFC 1-200-02 (MARCH 2013). FINAL PAVEMENT TYPE SHALL BE COORDINATED UPON SITE SELECTION.
8. PROVIDE EXTERIOR LED LIGHTING FOR ALL FACILITY PARKING AND VEHICLE AREAS IN ACCORDANCE WITH UFC 3-530-01, AFETL 12-15 AND SECTION 26 56 00. EXTERIOR LIGHTING POWER DENSITIES SHALL BE AT LEAST 30% LESS THAN REQUIRED BY ASHRAE 90.1 (PER EPACT 2005). EXTERIOR LIGHTS SHALL BE 277 VOLTS AND POWERED FROM A PANELBOARD INSIDE THE FIRST FLOOR MAIN ELECTRICAL ROOM. EXTERIOR LIGHTING CIRCUITS SHALL BE PHOTOCELL CONTROLLED VIA THE BUILDING RELAY CONTROL PANEL. PROVIDE 2-INCH MINIMUM PVC CONDUIT BURIED 18-INCHES BELOW GRADE FOR EXTERIOR LIGHTING CIRCUITS.
9. AT THE TRAFFIC ARM, PROVIDE A PEDESTAL FOR INTERCOM AND CARD READER ON DRIVER SIDE OF ROADWAY. PEDESTAL INTERCOM STATION SHALL INCLUDE PUSH-TO-TALK BUTTON WITH MICROPHONE/SPEAKER AND CAMERA AT PEDESTAL. REMOTE INTERCOM STATION SHALL INCLUDE PUSH-TO-TALK BUTTON WITH MICROPHONE/SPEAKER AND CAMERA DISPLAY. DETERMINE REMOTE INTERCOM STATION LOCATION WITH BASE SECURITY. PROVIDE A CONDUIT FROM THE REMOTE INTERCOM STATION TO THE PEDESTAL INTERCOM STATION. PROVIDE A SEPARATE CONDUIT FROM THE ACCESS CONTROL PANEL LOCATION IN THE MAIN ELECTRICAL ROOM TO THE PEDESTAL. CONDUITS SHALL BE 1 1/2-INCH PVC CONDUIT BURIED 18-INCHES BELOW GRADE. ROUTE ALL CONDUITS TO COMMON HANDHOLE NEAR PEDESTAL. CONFIRM REQUIREMENTS WITH BASE SECURITY.
10. BOLLARDS AND BARRIERS SHALL MEET REQUIREMENTS DESCRIBED IN UFC 4-010-01 (FEB 2012).
11. ALL PARKING SHALL MEET REQUIREMENTS DESCRIBED IN MIL-HDBK-1190, TABLE 3.1 (SEPT 1987).
12. SEE DESIGN ANALYSIS FOR ADDITIONAL DETAILS.

LEGEND:

- CURB AND GUTTER
- CONCRETE PARKING LOT AND ROADWAY
- CONCRETE SIDEWALK
- CHAINLINK SECURITY FENCE
- REMOVABLE BOLLARD
- TRAFFIC SIGN

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US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: A. MASHEK
DRAWN BY: C. FRANZEN
CHECKED BY: R. BARUTH
DSG
PROJECT ENGINEER/ARCHITECT DATE
Date Signed
DATE: 4/17/2013
SCALE: AS INDICATED
DRAWING CODE: EP14CS100

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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CONCEPT SITE PLAN

SHEET REFERENCE NUMBER:
CS100
SHEET ____ OF ____

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GENERAL NOTES:

1. GENERAL:
   - A. THESE NOTES, AND OTHER DRAWING NOTES CONTAINED WITHIN, ARE PROVIDED TO MEET SPECIFIC REQUIREMENTS AND TO SUPPLEMENT THE CONTRACT SPECIFICATIONS. THESE NOTES NEITHER REPLACE NOR OVERRIDE THE PROVISIONS AND REQUIREMENTS OF THE CONTRACT SPECIFICATIONS.
   - B. CONTRACTOR SHALL COORDINATE ALL STRUCTURAL WORK WITH WORK SHOWN ON ALL OTHER DRAWINGS.
   - C. CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF EXISTING CONSTRUCTION AND REPORT ANY DISCREPANCIES FROM THE CONTRACT DRAWINGS TO THE CONTRACTING OFFICER PRIOR TO COMMENCING WITH WORK. SCALING OF WORKING DIMENSIONS FROM THE STRUCTURAL DRAWINGS IS PROHIBITED.
   - D. CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, SHORING AND TEMPORARY BRACING. CONTRACTOR SHALL UNDERTAKE ALL NECESSARY MEASURES TO ENSURE SAFETY OF ALL PERSONS AND STRUCTURES AT THE SITE AND ADJACENT TO THE SITE. VISITS TO THE SITE BY THE CONTRACTING OFFICER OR THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF SUCH RESPONSIBILITY.
   - E. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE CONTRACT DRAWINGS OR SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR CALLED FOR, WITH THE APPROVAL OF THE CONTRACTING OFFICER. WHERE SECTIONS VARY, CONTRACTOR SHALL PROVIDE FOR SMOOTH TRANSITIONS BETWEEN THEM, UNLESS NOTED OTHERWISE.
   - F. ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' WRITTEN INSTRUCTIONS AND RECOMMENDATIONS, UNLESS NOTED OTHERWISE.
   - G. ELEVATION 100'-0" CORRESPONDS TO MSL ELEVATION PER CIVIL DRAWINGS.

2. DESIGN STANDARDS
   - A. PRINCIPAL CODE OF RECORD: INTERNATIONAL BUILDING CODE 2009 AS MODIFIED BY UFC 1-200-01 AND UFC 3-301-01.
   - B. ASCE 7, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2005.
   - C. ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2008.
   - D. ACI 530/ASCE 5/TMS 402, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES, 2008.
   - E. AISC STEEL CONSTRUCTION MANUAL, 13th EDITION, 2005.
   - F. AISI COLD-FORMED STEEL DESIGN MANUAL, 2007.
3. SPECIAL INSPECTIONS: SEE STATEMENT OF SPECIAL INSPECTIONS ON DRAWING S-004.
4. DESIGN LOADS
   - A. OCCUPANCY CLASSIFICATION : CATEGORY III PER UFC 3-301-01.
   - B. ESTIMATED COLLATERAL LOADS
     1. CEILINGS: 3 PSF.
     2. DUCTWORK: 4PSF.
     3. FIRE PROTECTION PIPING: 3PSF.
     4. LIGHTING AND ELECTRICAL: 2PSF.
   - C. LIVE LOADS
     1. FLOOR LIVE LOAD
        - a. UNIFORM: 100PSF.
        - b. 3-TON FORK LIFT IN FUSELAGE BAY.
     2. ROOF LIVE LOAD
        - a. UNIFORM, ELSEWHERE: 20 PSF.
        - b. CONCENTRADED, CONCURRENT WITH UNIFORM LOAD: 300 LBS AT ANY POINT.
     3. FLOOR AND ROOF LIVE LOAD REDUCTION IS PERMITTED IN ACCORDANCE WITH IBC AND ASCE 7.
   - D. EQUIPMENT LOADS
     1. AS INDICATED FOR EQUIPMENT WEIGHING IN EXCESS OF 250 LBS. FRAMING AND FOUNDATIONS ARE DESIGNED FOR EQUIPMENT WHICH SATISFIES THE CONTRACT SPECIFICATIONS.
     2. IF EQUIPMENT FURNISHED IS HEAVIER THAN THE WEIGHTS INDICATED, OR REQUIRES STRUCTURAL CHANGES FOR ANY OTHER REASON, CONTRACTOR SHALL PROVIDE ENGINEERING DESIGN CALCULATIONS AND ADDITIONAL STRUCTURAL WORK NECESSARY TO SUPPORT ALL LOADS IN ACCORDANCE WITH THE DESIGN STANDARDS SPECIFIED ABOVE, AT NO ADDITIONAL COST TO THE GOVERNMENT AND WITH NO INCREASE IN CONTRACT TIME.
   - E. SNOW LOAD
     1. GROUND SNOW LOAD: 25 PSF.
     2. SLOPED-ROOF SNOW LOAD: 20 PSF.
     3. EXPOSURE FACTOR: 0.9.
     4. IMPORTANCE FACTOR: 1.0.
     5. THERMAL FACTOR: 1.0.
   - F. WIND LOAD
     1. BASIC WIND SPEED: 90 MPH.
     2. IMPORTANCE FACTOR: 1.0.
     3. EXPOSURE CATEGORY: C.
     4. BUILDING CONDITION: ENCLOSED.
     5. TOPOGRAPHIC FACTOR: 1.0.
     6. DESIGN PRESSURES FOR COMPONENTS AND CLADDING OF ROOF ARE INDICATED ON DRAWING S-005.
   - G. SEISMIC LOAD
     1. MAXIMUM CONSIDERED EARTHQUAKE SPECTRAL RESPONSE ACCELERATIONS Ss = .140, S1 = .050.
     2. DESIGN EARTHQUAKE SPECTRAL RESPONSE ACCELERATIONS Sds = .094, Sd1 = .034.
     3. IMPORTANCE FACTOR: 1.0.
     4. SITE CLASS: C.
     5. SEISMIC DESIGN CATEGORY: A.
     6. BASIC SEISMIC FORCE RESISTING SYSTEM: STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE.
     7. RESPONSE MODIFICATION FACTOR: R = 3.
     8. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE.
5. GEOTECHNICAL INFORMATION
   - A. SOURCE: ESTIMATED.
   - B. SITE PREPARATION
     1. EXCAVATION, FILL, AND BACKFILL SHALL BE IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS, DIVISION 31.
     2. CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER WHEN LOOSE OR SOFT SOILS ARE EXPOSED WHERE SLABS, MATS, OR FOOTINGS ARE TO BE PLACED SO THAT A DETERMINATION MAY BE MADE REGARDING IMPROVEMENT OF THIS POTENTIALLY UNDESIRABLE CONDITION.
   - C. SOIL CHARACTERISTICS
     1. UNIT WEIGHT: 120 PCF.
     2. WATER TABLE DEPTH: 20 FT.
   - D. LATERAL EARTH PRESSURE
     1. AT-REST CONDITION, Ko: 65 PCF, EQUIVALENT FLUID.
     2. ACTIVE CONDITION, Ka: 50 PCF, EQUIVALENT FLUID.
     3. PASSIVE CONDITION, Kp: 200 PCF, EQUIVALENT FLUID.
   - E. SLAB, MAT, AND FOOTING DESIGN PARAMETERS
     1. MODULUS OF SUBGRADE REACTION: 100 PCI.
     2. ALLOWABLE BEARING CAPACITIES
        - a. GRAVITY LOADS: 2000 PSF.
        - b. TRANSIENT LOADS: 2500 PSF.
     3. FROST DEPTH: 38".
     4. CONCRETE-SOIL COEFFICIENT OF FRICTION: .35.
     5. MINIMUM STABILITY FACTORS OF SAFETY
        - a. OVERTURNING: 1.5.
        - b. UPLIFT: 1.5.
        - c. SLIDING: 1.5.
6. MATERIALS: SEE THE CONTRACT SPECIFICATIONS FOR COMPLETE REQUIREMENTS AND COMPLY WITH ALL APPLICABLE OSHA REGULATIONS
   - A. REINFORCED CONCRETE: SECTIONS 03 11 13.00 10, 03 15 00.00 10, 03 20 00.00 10, AND 03 30 00.00 10
     1. REINFORCED CONCRETE SHALL BE PREPARED AND PLACED IN ACCORDANCE WITH ACI MANUAL OF CONCRETE PRACTICE.
     2. CONCRETE
        - a. UNLESS NOTED OTHERWISE: MINIMUM 28-DAY COMPRESSIVE STRENGTH f'c = 4000 PSI, NORMAL WEIGHT.
     3. FORMWORK
        - a. CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, ENGINEERING, STRUCTURAL ADEQUACY, AND CONSTRUCTION OF ALL CONCRETE FORMWORK IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
        - b. COORDINATE ALL CONCRETE WORK WITH THE PLACEMENT OF PIPING, INSERTS, FLOOR DRAINS, AND OTHER EMBEDDED ITEMS INDICATED ON THE CONTRACT DRAWINGS OR IN THE CONTRACT SPECIFICATIONS.
        - c. ALL NEW OR EXISTING PIPING OR UTILITIES PASSING THROUGH NEW CONCRETE SHALL BE SLEEVED 1/2" CLEAR ALL AROUND, UNLESS NOTED OTHERWISE. (SEE OTHER DISCIPLINE DRAWINGS FOR SLEEVE DETAILS. CONTRACTOR SHALL PROVIDE MEASURES TO ENSURE THAT SLEEVES REMAIN FREE OF DEBRIS AND WATER DURING CONSTRUCTION.)
        - d. PROVIDE 3/4" CHAMFER STRIPS ON ALL EDGES OF EXPOSED CONCRETE, UNLESS NOTED OTHERWISE.
        - e. WITH THE EXPLICIT PRIOR APPROVAL IN WRITING OF THE CONTRACTING OFFICER, COLUMN AND WALL FOOTINGS MAY BE EARTH-FORMED USING UNDISTURBED NATIVE SOIL. PROVIDE A MINIMUM EXCAVATION WIDTH 4" GREATER THAN INDICATED, AND A DEPTH 2" GREATER THAN INDICATED.
   - 4. REINFORCING STEEL
     - a. BARS: ASTM A615 GRADE 60.
     - b. WELDED WIRE FABRIC: ASTM A185.
     - c. ALL CONCRETE SHALL BE REINFORCED UNLESS SPECIFICALLY MARKED "NOT REINFORCED" OR "UNREINFORCED".
     - d. CONTRACTOR SHALL DETAIL AND PLACE ALL REINFORCEMENT IN ACCORDANCE WITH ACI SP-66, ACI 301, ACI 318, AND CRSI MANUAL OF STANDARD PRACTICE.
     - e. MINIMUM CONCRETE CLEAR COVER OVER REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:
       - (1) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3".
       - (2) CONCRETE EXPOSED TO EARTH OR WEATHER: #6 THROUGH #11 BARS - 2"; #5 AND SMALLER BARS, WELDED WIRE FABRIC - 1 1/2".
       - (3) CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND: SLABS AND WALLS - 3/4"; BEAMS AND COLUMNS, PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS - 1 1/2".
     - f. EMBEDMENT AND LAP SPLICE LENGTHS FOR ALL REINFORCING STEEL BARS SHALL CONFORM TO THE FOLLOWING PROVISIONS, UNLESS NOTED OTHERWISE.
       - (1) MINIMUM STRAIGHT EMBEDMENT LENGTHS:

(a)	*#3 - 11"*	*#6 - 22"*	*#9 - 41"*
(b)	*#4 - 15"*	*#7 - 32"*	*#10 - 46"*
(c)	*#5 - 18"*	*#8 - 36"*	*#11 - 51"*

       - (2) MINIMUM LAP SPLICE LENGTHS:

(a)	*#3 - 14"*	*#6 - 28"*	*#9 - 53"*
(b)	*#4 - 19"*	*#7 - 41"*	*#10 - 59"*
(c)	*#5 - 24"*	*#8 - 47"*	*#11 - 66"*

       - (3) MINIMUM HOOK EMBEDMENT LENGTHS:

(a)	*#3 - 8"*	*#6 - 15"*	*#9 - 22"*
(b)	*#4 - 10"*	*#7 - 17"*	*#10 - 25"*
(c)	*#5 - 12"*	*#8 - 19"*	*#11 - 27"*

       - (4) HORIZONTAL BARS HAVING MORE THAN 12" OF CONCRETE PLACED BELOW THEM SHALL BE CONSIDERED TOP REINFORCEMENT AND SHALL HAVE MINIMUM STRAIGHT EMBEDMENT AND LAP SPLICE LENGTHS INCREASED BY NOT LESS THAN 30% OVER THOSE GIVEN ABOVE.
       - (5) HOOK EMBEDMENT IS THE MINIMUM STRAIGHT LINE DISTANCE FROM THE CRITICAL SECTION OF THE BAR TO THE FARTHEST EDGE OF THE HOOK.
       - (6) EPOXY GROUT: CONFORM TO ASTM C881, TYPE IV, GRADE 3, EXCEPT GEL TIMES. PROVIDE MINIMUM EMBEDMENT LENGTH REQUIRED TO DEVELOP ULTIMATE STRENGTH OF BAR.
     - g. PROVIDE ADDITIONAL REINFORCEMENT AT ALL OPENINGS AND CORNER BARS AT ALL INTERSECTING GRADE BEAMS, WALLS, AND CURBS IN ACCORDANCE WITH THE STANDARD DETAILS ON DRAWING S-007 AND S-008, UNLESS NOTED OTHERWISE.
6. MATERIALS: (CONT)
   - 5. JOINTS
     - a. LOCATE ALL CONSTRUCTION, CONTRACTION, ISOLATION, EXPANSION, AND OTHER JOINTS AS INDICATED OR SPECIFIED, OR OTHERWISE APPROVED BY THE CONTRACTING OFFICER.
     - b. SURFACES OF ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS SHALL BE CLEANED OF LAITANCE AND SHALL EXPOSE CLEAN COARSE AGGREGATE SOLIDLY EMBEDDED IN MORTAR MIX. JUST PRIOR TO DEPOSITING CONCRETE, SURFACE OF CONSTRUCTION JOINT SHALL BE THOROUGHLY CLEANED AND WETTED.
     - c. THESE PROVISIONS SHALL ALSO APPLY WHEN NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE. IN ADDITION, EXISTING CONCRETE SURFACE SHALL BE ADEQUATELY PREPARED BY APPLICATION OF A BONDING AGENT.
     - d. PROVIDE WATERSTOPS AT CONCRETE JOINTS WHERE INDICATED ON THE CONTRACT DRAWINGS.
   - B. PRECAST CONCRETE: SECTIONS 03 45 00
     1. PRECAST CONCRETE, CONNECTIONS, AND ACCESSORIES SHALL BE DESIGNED, DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH PCI HANDBOOKS AND MANUALS.
     2. CONCRETE
        - a. UNLESS NOTED OTHERWISE: MINIMUM 28-DAY COMPRESSIVE STRENGTH f'c = 5000 PSI, NORMAL WEIGHT.
     3. REINFORCING STEEL: COMPLY WITH REQUIREMENTS FOR REINFORCED CONCRETE GIVEN ABOVE.
   - C. REINFORCED MASONRY: SECTION 04 20 00 AND 04 21 13.13
     1. REINFORCED MASONRY SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACI/ASCE/TMS CODE AND SPECIFICATION.
     2. MASONRY
        - a. UNITS: ASTM C90 TYPE I, MINIMUM NET AREA COMPRESSIVE STRENGTH = 1900 PSI.
        - b. MORTAR: ASTM C270, TYPE S.
        - c. MINIMUM SPECIFIED COMPRESSIVE STRENGTH: f'm = 1500 PSI.
     3. REINFORCING STEEL
        - a. BARS: ASTM A615 GRADE 60.
        - b. MINIMUM CLEAR DISTANCE TO ANY FACE OF MASONRY UNIT OR FORMED SURFACE: 1/2".
        - c. MINIMUM LAP SPLICE LENGTH: 48 BAR DIAMETERS.
     4. GROUT
        - a. PROPERTIES: COARSE GROUT PER ASTM C476, MINIMUM COMPRESSIVE STRENGTH = 2000 PSI, SLUMP = 8" TO 11".
        - b. FULLY GROUT ALL CELLS CONTAINING REINFORCING STEEL AND ALL CELLS LOCATED BELOW GRADE. PROVIDE MASONRY UNITS WITH MINIMUM SPACE IN CELLS TO RECEIVE GROUT OF 3" x 3" AND ALIGN THESE CELLS TO PROVIDE UNOBSTRUCTED OPENINGS.
        - c. PLACE GROUT WITHIN 1 1/2 HOURS AFTER ADDING MIX-DESIGNED WATER AND PRIOR TO INITIAL SET. GROUT CONTINUOUSLY BETWEEN CONTROL JOINTS USING POUR HEIGHTS NOT EXCEEDING 12 FT AND LIFTS NOT EXCEEDING 5 FT, WITH NO INTERRUPTIONS EXCEEDING 1 HOUR.
        - d. CONSOLIDATE GROUT IN ASSEMBLED WALLS BY MECHANICAL VIBRATION AT THE TIME OF PLACEMENT. RECONSOLIDATE GROUT BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT HAS OCCURRED.
     5. VERTICAL REINFORCEMENT, UNLESS NOTED OTHERWISE
        - a. PROVIDE 1-#5 VERTICAL AT A MAXIMUM SPACING OF 48".
        - b. PROVIDE ADDITIONAL VERTICAL REINFORCEMENT AT EACH SIDE OF CONTROL JOINTS, AT INTERSECTIONS OF WALLS, AND AT EACH SIDE OF ANY MASONRY OPENING GREATER THAN 10" IN WIDTH.
        - c. ALL VERTICAL REINFORCEMENT SHALL BE CONTINUOUS FOR FULL HEIGHT OF WALL, EXCEPT WHERE A BAR IS INTERRUPTED BY A STEEL MEMBER, PROVIDE SAME SIZE BAR ON EACH SIDE OF OPENING WITH LAP SPLICES ABOVE AND BELOW.
        - d. PROVIDE FOUNDATION DOWEL OF THE SAME SIZE FOR EACH VERTICAL REINFORCING BAR. DOWELS SHALL BE CAST INTO SUPPORTING CONCRETE. LENGTH OF DOWEL EXTENDING INTO WALL SHALL BE A MINIMUM OF 2" GREATER THAN LAP SPLICE LENGTH SPECIFIED ABOVE.
     6. HORIZONTAL JOINT REINFORCEMENT
        - a. PROVIDE LADDER TYPE AT EVERY OTHER COURSE OR AT A MAXIMUM SPACING OF 16".
        - b. BEGIN AT TOP OF FIRST BLOCK COURSE.
     7. BOND BEAMS, UNLESS NOTED OTHERWISE
        - a. CONSTRUCT USING 2-#4 HORIZONTAL.
        - b. PROVIDE CONTINUOUSLY AT BOTTOM COURSE OF WALL, WITHIN 16" OF TOP OF WALL, AT EACH BEARING ELEVATION OF STEEL MEMBERS SUPPORTED BY WALL, AT OTHER LOCATIONS INDICATED, AND AT A MAXIMUM SPACING OF 48".
        - c. PROVIDE BELOW ALL MASONRY OPENINGS AND EXTEND A MINIMUM OF 24" BEYOND EACH SIDE OF OPENING.
     8. VERTICAL CONTROL JOINTS, UNLESS NOTED OTHERWISE
        - a. LOCATE AT CHANGES IN WALL HEIGHT OR THICKNESS, AT A MAXIMUM SPACING OF 24 FT OR 3 TIMES THE WALL HEIGHT, WHICHEVER IS LESS, AND AT APPROXIMATELY 1/2 THE MAXIMUM SPACING FROM WALL INTERSECTIONS. DO NOT LOCATE AT WALL OPENINGS OR IN ELEVATOR SHAFTS.
        - b. USE PREMOLDED CONTROL JOINT KEY INSERTS WITH SASH BLOCKS. USE CORRUGATED METAL SEPARATORS AT BOND BEAM LOCATIONS.
        - c. DISCONTINUE ALL HORIZONTAL REINFORCEMENT AT VERTICAL CONTROL JOINTS.

DEFINITIVE DESIGN NOTES:
THE DEFINITIVE STRUCTURAL DRAWINGS ARE BASED ON THE CODES, LOADINGS, GEOTECHNICAL PROPERTIES AND SYSTEMS, AND MATERIAL PROPERTIES AND SPECIFICATIONS AS NOTED IN THE GENERAL NOTES ABOVE. THE DESIGN WILL NEED TO BE ADAPTED TO THE APPROPRIATE CODES, LOADINGS, GEOTECHNICAL PARAMETER, AND MATERIAL PROPERTIES FOR THE SITE SPECIFIC LOCATION.

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 1:54:22 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
DATE: 4/17/2013
SCALE: 3/4" = 1'-0"
DRAWING CODE: EP14S-001 4/17/2013
B. BRETTMANN PROJECT ENGINEER/ARCHITECT DATE

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
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KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

GENERAL NOTES

SHEET REFERENCE NUMBER:
S-001
SHEET ____ OF ____

D. STRUCTURAL AND MISCELLANEOUS STEEL: SECTIONS 05 12 00 AND 05 50 13
1. STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL, 13th EDITION.
2. TEMPORARY ERECTION BRACING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR AS REQUIRED AND SHALL NOT BE REMOVED UNTIL ALL PERMANENT LATERAL-LOAD-RESISTING ELEMENTS AND CONNECTIONS ARE COMPLETELY INSTALLED.
3. WIDE FLANGE SHAPES AND TEES: ASTM A992, Fy = 50 KSI.
4. OTHER SHAPES, PLATES, AND THREADED RODS
   a. ASTM A36, Fy = 36 KSI, UNLESS NOTED OTHERWISE.
   b. ASTM A572 GRADE 50, Fy = 50 KSI, WHERE INDICATED AS "(50)".
5. SQUARE AND RECTANGULAR HOLLOW STRUCTURAL SECTIONS: ASTM A500 GRADE B, Fy = 46 KSI.
6. ROUND HOLLOW STRUCTURAL SECTIONS: ASTM A500 GRADE B, Fy = 42 KSI.
7. PIPE: ASTM A53 TYPE E OR S, GRADE B, Fy = 35 KSI.
8. BOLTS
   a. 3/4" DIAMETER ASTM A325, UNLESS NOTED OTHERWISE.
   b. FRAMING CONNECTIONS: SLIP CRITICAL JOINTS WITH STANDARD HOLES, UNLESS NOTED OTHERWISE.
   c. BRACING CONNECTIONS: SNUG-TIGHTENED JOINTS WITH STANDARD HOLES, UNLESS NOTED OTHERWISE.
   d. SLIP-CRITICAL JOINTS SHALL HAVE CLASS A FAYING SURFACES WITH SLIP CHECKED AT THE FACTORED LOAD LEVEL.
   e. ON ONE SIDE OF EACH DOUBLE CONNECTION OF BEAMS TO A COLUMN WEB OR A GIRDER WEB DIRECTLY OVER A COLUMN, PROVIDE A TEMPORARY SEAT ANGLE ATTACHED TO COLUMN OR GIRDER WEB AND TO BOTTOM FLANGE OF BEAM. MINIMUM SEAT CONNECTION SHALL BE L4x3x3/8 LLH WITH TWO 3/4" DIAMETER A307 OR A325-ST BOLTS EACH LEG. SINGLE AND DOUBLE STAGGERED CONNECTIONS ARE PROHIBITED WITHOUT THE EXPLICIT PRIOR APPROVAL IN WRITING OF THE STRUCTURAL ENGINEER OF RECORD.
9. WELDING: IN ACCORDANCE WITH AWS D1.1 USING E70 ELECTRODE WITH LOW HYDROGEN.
10. ALL DOUBLE ANGLE MEMBERS SHALL HAVE SPACER PLATES TO COMPLY WITH AISC PARAGRAPH E4.
   a. THICKNESS: TO MATCH END GUSSET PLATES.
   b. MINIMUM ATTACHMENT: CONNECT TO HEEL AND TOE OF EACH ANGLE USING 3/16" x 1" LONG FILLET WELDS.
11. HEADED STUDS
   a. COLD-FINISHED STEEL CONFORMING TO ASTM A108, GRADE 1015 OR 1020.
   b. ALL STUDS LOCATED SO AS TO OBSTRUCT WALKING SURFACES OF BEAMS OR JOISTS SHALL BE FIELD INSTALLED.
12. ANCHOR BOLTS
   a. ASTM F1554 GRADE 36 UNLESS SPECIFICALLY NOTED AS GRADE 55.
   b. LOCATE ANCHOR BOLTS ACCURATELY, SET WITH TEMPLATES, AND SECURELY HOLD IN POSITION WHILE PLACING CONCRETE. PROTECT IN-PLACE ANCHOR BOLTS FROM CONSTRUCTION ACTIVITY.
   c. THE FOLLOWING ARE PROHIBITED WITHOUT THE EXPLICIT PRIOR APPROVAL IN WRITING OF THE STRUCTURAL ENGINEER OF RECORD:
      (1) INSERTING ANCHOR BOLTS INTO FRESH OR PARTIALLY HARDENED CONCRETE.
      (2) SUBSTITUTING POST-INSTALLED ANCHORS WHERE EMBEDDED ANCHOR BOLTS ARE INDICATED.
      (3) REPAIRING, REPLACING, OR MODIFYING INSTALLED ANCHOR BOLTS.
13. POST-INSTALLED ANCHORS
   a. CONCRETE ANCHORS: CARBON STEEL MANUALLY EXPANDED WEDGE TYPE, UNLESS NOTED OTHERWISE.
   b. ADHESIVE ANCHORS: ASTM A36 CARBON STEEL THREADED ROD WITH VINYL URETHANE METHACRYLATE RESIN ADHESIVE, UNLESS NOTED OTHERWISE.
   c. MASONRY ANCHORS: ASTM A36 CARBON STEEL THREADED ROD WITH CYLINDRICAL WIRE MESH SCREEN TUBE AND INJECTABLE HYBRID ADHESIVE, UNLESS NOTED OTHERWISE.
14. GROUT: CEMENTITIOUS NONSHRINK.

E. STEEL JOISTS: SECTION 05 12 00
1. STEEL JOISTS, BRIDGING, AND ACCESSORIES SHALL BE DESIGNED, FABRICATED, AND ERECTED IN ACCORDANCE WITH SJI SPECIFICATIONS.
2. JOISTS CALLED OUT ON THE CONTRACT DRAWINGS ARE SIZED FOR EQUIVALENT UNIFORM GRAVITY LOADS ONLY. SUPPLIER SHALL FURTHER DESIGN AND MODIFY JOISTS AS REQUIRED FOR ALL ADDITIONAL DISTRIBUTED AND CONCENTRATED DEAD, LIVE, WIND INCLUDING UPLIFT, SNOW INCLUDING DRIFT, AND OTHER LOADS INDICATED ON THE CONTRACT DRAWINGS OR OTHERWISE PROVIDED BY EQUIPMENT VENDORS.
3. ALL JOISTS SHALL BE CAPABLE OF SUPPORTING A 300 LB CONCENTRATED LOAD AT ANY POINT ALONG THE TOP OR BOTTOM CHORD IN ADDITION TO ALL OTHER LOADS INDICATED OR SPECIFIED.
4. JOISTS SHALL BE ATTACHED TO SUPPORTING STRUCTURAL MEMBERS OR BEARING PLATES USING A MINIMUM 3/16" x 1 1/2" LONG FIELD FILLET WELD OR 1/2" DIAMETER ASTM A325-ST BOLT ON EACH SIDE OF THE JOIST SEAT, UNLESS NOTED OTHERWISE. BOLTS SHALL BE USED FOR ALL NON-PANELIZED JOISTS OF 40 FT OR GREATER SPAN.
5. JOISTS SUPPORTING STEEL DECK SHALL BE INSTALLED TO PROVIDE A FLAT PLANE FOR DECK ATTACHMENT. JOIST MODIFICATIONS AND SHIMS SHALL BE PROVIDED AS REQUIRED.
6. THE FOLLOWING ARE PROHIBITED WITHOUT THE EXPLICIT PRIOR APPROVAL IN WRITING OF THE STRUCTURAL ENGINEER OF RECORD:
   a. CHANGE OF JOIST DEPTH FROM THAT INDICATED.
   b. USE OF BOLTS LARGER THAN 1/2" DIAMETER FOR JOIST ATTACHMENT.
   c. ANY MODIFICATION OF JOISTS NOT DISCUSSED ABOVE.

F. STEEL DECK: SECTIONS 05 30 00
1. STEEL DECK, ATTACHMENTS, AND ACCESSORIES SHALL BE DESIGNED, FABRICATED, AND INSTALLED IN ACCORDANCE WITH SDI MANUALS AND AISI COLD-FORMED STEEL DESIGN MANUAL.
2. ROOF DECK
   a. 1 1/2", 20 GAGE, WIDE DEEP RIB WITH Fy = 33 KSI, Imin = .212 IN^4/FT, Smin = .234 IN^3/FT, GALVANIZED G90
3. ALL STEEL DECK AND DECK ATTACHMENTS SHALL BE CAPABLE OF RESISTING THE WIND UPLIFT LOADS INDICATED ON THE CONTRACT DRAWINGS AND A SERVICE DIAPHRAGM SHEAR OF 350 PLF.
4. ALL STEEL DECK SHALL CROSS A MINIMUM OF TWO SPANS. MINIMUM LENGTH OF END LAPS AND BEARING AT ALL SUPPORTS SHALL BE 2".
5. ALL STEEL DECK SHALL BE SUPPORTED AT EDGES OF OPENINGS AND AROUND COLUMNS. ADDITIONAL SUPPORT STEEL SHALL BE PROVIDED BY CONTRACTOR AS REQUIRED AND FABRICATED SO THAT DECK RUNS CONTINOUSLY OVER MINOR OPENINGS, WHICH SHALL NOT BE CUT UNTIL NEEDED BY OTHER TRADES.
6. MINIMUM STEEL DECK ATTACHMENT SHALL BE AS FOLLOWS:
   a. DECK SHALL BE FASTENED AT EACH END AND AT INTERMEDIATE SUPPORTS BY 5/8" DIAMETER PUDDLE WELDS OR #12 SCREWS, 6/36 PATTERN.
   b. SIDE LAP CONNECTIONS SHALL BE MADE AT SEAMS USING 5/8" DIAMETER PUDDLE WELDS OR #10 SCREWS, 2 PER SPAN.
   c. CONNECTIONS ALONG SIDE BOUNDARIES, RIDGE PLATES, AND ROOF SUB FRAMING SHALL BE MADE AT 12" ON CENTER MAXIMUM.
   d. PNEUMATIC FASTENERS AND/OR SCREWS SHALL NOT BE SUBSTITUTED WHERE WELDS ARE SPECIFIED, BUT MAY BE USED IN TEMPORARY ATTACHMENT OF STEEL DECK.

G. COLD-FORMED STEEL FRAMING: SECTION 05 40 00
1. COLD-FORMED STEEL FRAMING SHALL BE DESIGNED, FABRICATED, AND ERECTED IN ACCORDANCE WITH AISI COLD-FORMED STEEL DESIGN MANUAL AND SSMA OR LGSI PUBLICATIONS AS APPLICABLE.
2. SHAPE DESIGNATIONS
   a. STUDS, JOISTS, TRACK, CHANNELS, AND FURRING CHANNELS: PER SSMA PRODUCT TECHNICAL INFORMATION, INDICATING MEMBER DEPTH, STYLE, FLANGE WIDTH, AND MATERIAL THICKNESS.
   b. PURLINS, GIRTS, EAVE STRUTS, AND OTHER MEMBERS: PER LGSI LIGHT GAGE STRUCTURAL STEEL FRAMING SYSTEM DESIGN HANDBOOK, INDICATING MEMBER DEPTH, FLANGE WIDTH(S), SLOPE FOR EAVE STRUTS ONLY, STYLE, AND NOMINAL GAGE.
3. FRAMING MEMBERS
   a. ASTM A570 GRADE 33 OR A611 GRADE C, Fy = 33 KSI, UNLESS NOTED OTHERWISE.
   b. ASTM A570 GRADE 40 OR A611 GRADE D, Fy = 40 KSI, WHERE INDICATED AS "(40)".
   c. ASTM A570 GRADE 50, Fy = 50 KSI, FOR MATERIAL THICKNESS 54 MILS OR GREATER AND WHERE INDICATED AS "(50)".
   d. ALL LGSI SHAPES SHALL HAVE MINIMUM YIELD STRENGTH OF 55 KSI AND MINIMUM ULTIMATE STRENGTH OF 67.7 KSI.
4. FINISH
   a. STEEL CONFORMING TO ASTM A570 OR ASTM A611: CLEAN, PRETREAT, AND PRIME WITH BAKED-ON, LEAD- AND CHROMATE-FREE, RUST-INHIBITIVE PRIMER.
   b. STEEL CONFORMING TO ASTM A653: HOT-DIP GALVANIZE TO PROVIDE A COATING CLASS OF G90.
5. MECHANICAL FASTENERS: CORROSION-RESISTANT-COATED, SELF-DRILLING, SELF-THREADING STEEL DRILL SCREWS WITH LOW PROFILE HEADS BENEATH SHEATHING AND MANUFACTURER'S STANDARD HEADS ELSEWHERE.
6. BOLTS: ASTM A307.
7. WELDING: IN ACCORDANCE WITH AWS D1.1 OR D1.3, AS APPLICABLE.

H. STEEL BAR GRATING: SECTION 05 50 00
1. STEEL BAR GRATING SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH NAAMM MANUALS.
2. MATERIAL: ASTM A569.
3. CONSTRUCTION: WELDED.
4. MAIN BEARING BARS: 3/16" x 1" AT 1 3/16" CENTERS.
5. CROSS BARS: AT 4" CENTERS.
6. SURFACE: PLAIN.
7. FABRICATE GRATING IN SECTIONS NOT GREATER THAN 5 FT WIDE.

J. METAL BUILDING SYSTEMS: SECTION 13 34 19
1. METAL BUILDING SYSTEM SHALL BE PROVIDED BY A MANUFACTURER WHO IS MEMBER OF MBMA AND HOLDS AN AISC CATEGORY MB CERTIFICATION.
2. METAL BUILDING SYSTEM SHALL BE INSTALLED BY A QUALIFIED ERECTOR WHO IS ACCEPTABLE TO THE MANUFACTURER.
3. METAL BUILDING SYSTEM SHALL BE PROVIDED AS DELEGATE-ENGINEERED SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND COMPLETE STRUCTURAL DESIGN ANALYSIS OF THE METAL BUILDING SYSTEM, INCLUDING DEVELOPMENT OF LOADS, DESCRIPTION OF INDIVIDUAL AND COMBINED LOAD CASES, DESCRIPTION OF MATERIALS, COMPARISON OF PERMITTED STRESSES VERSUS COMPUTED STRESSES, CALCULATION OF DEFLECTIONS, ANCHOR BOLT LAYOUT, AND FOUNDATION REACTIONS. METAL BUILDING SYSTEM MANUFACTURER SHALL SUBMIT SERVICE (UNFACTORED) REACTIONS AT EACH COLUMN BASE ALL THREE PRINCIPLE DIRECTIONS (VERTICAL AND SHEAR) FOR EACH PRIMARY (NOT COMBINED) LOAD TYPE (SUCH AS, DEAD, LIVE, LIVE ROOF, COLLATERAL, WIND, SEISMIC) SO THE FOUNDATION DESIGNER CAN APPLY LOAD FACTORS AND FORM COMBINATIONS APPROPRIATE FOR CONCRETE DESIGN.
5. CALCULATIONS AND SHOP DRAWINGS SHALL BEAR THE SEAL OF A LICENSED PROFESSIONAL ENGINEER.
6. SHOP DRAWING APPROVAL SHALL BE OBTAINED PRIOR TO PLACING ANY FOUNDATIONS OR FABRICATION OF FOUNDATION REINFORCING STEEL.
7. METAL BUILDING SYSTEM MANUFACTURER SHALL DESIGN THE BUILDING STRUCTURE FOR THE LOADS SHOWN IN THE "DESIGN LOADS" NOTES IN ACCORDANCE WITH THE "DESIGN STANDARDS" LISTED. ALL LOADS SHOULD BE CONSIDERED MINIMUMS AND ARE SUBJECT TO VERIFICATION AND COORDINATION BY THE METAL BUILDING SYSTEM MANUFACTURER AND THE CONTRACTOR. IF ACTUAL LOADS OF THE ITEMS ARE HIGHER THAN THOSE SHOWN IN "DESIGN LOADS" NOTES, THE HIGHER LOADS SHALL BE USED.
8. COMPUTE AND APPLY WIND PRESSURES AS SPECIFIED IN "DESIGN LOADS".
9. FOUNDATIONS HAVE BEEN DESIGNED FOR ASSUMED METAL BUILDING SYSTEM COLUMN REACTIONS AND COLUMN BASE PLATE REQUIREMENTS. IF THE METAL BUILDING SYSTEM COLUMN REACTIONS ARE LARGER THAN THE ASSUMED REACTION, ANCHOR BOLTS DIFFER FROM THOSE ARE SUBJECT TO VERIFICATION AND COORDINATION BY THE METAL BUILDING SYSTEM MANUFACTURER AND THE CONTRACTOR. THE FOUNDATIONS NEED TO BE CHECKED AND POSSIBLY REDESIGNED.
10. METAL BUILDING SYSTEM SHALL BE A PIN-BASED STRUCTURE SO THAT ONLY VERTICAL AND HORIZONTAL FORCES ARE TRANSMITTED TO THE FOUNDATION. THE STRUCTURE SHALL NOT TRANSMIT MOMENTS IN ANY DIRECTION TO THE FOUNDATION.
11. PROVIDE ANCHOR BOLTS OF SIZE AND NUMBER AND AT LOCATIONS REQUIRED METAL BUILDING SYSTEM MANUFACTURER. OBTAIN PRIOR APPROVAL OF ENGINEER IF THESE ADJUSTMENTS REQUIRE CHANGING ANY STRUCTURAL DIMENSIONS OR DETAILS.
12. ALL PRIMARY FRAMING CONNECTIONS SHALL HAVE FULLY TENSIONED HIGH STRENGTH BOLTS.

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	REVISIONS DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DATE: 4/17/2013
DRAWN BY: C. MCGEE
SCALE: 3/4" = 1'-0"
CHECKED BY: -
DRAWING CODE: EP14S-002
B. BRETTMANN 4/17/2013
PROJECT ENGINEER/ARCHITECT DATE

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KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

GENERAL NOTES

SHEET REFERENCE NUMBER:
S-002
SHEET ____ OF ____

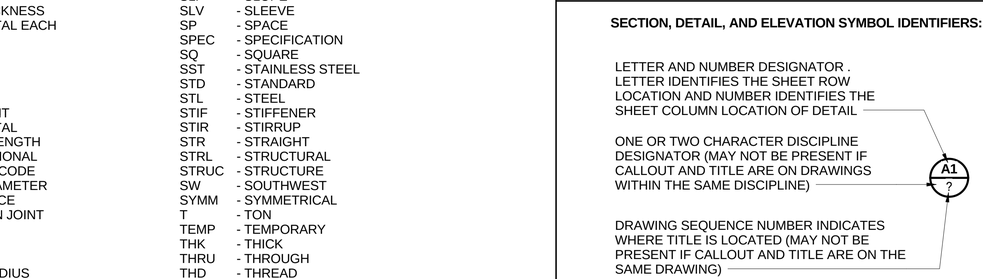
FILE:
DATE: 4/15/2013 1:54:25 PM

ABBREVIATIONS:

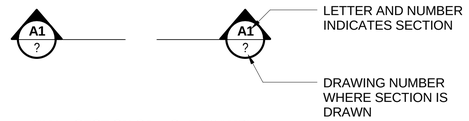
AA	- ALUMINUM ASSOCIATION
AB	- ANCHOR BOLT
ABT	- ABOUT
ACI	- AMERICAN CONCRETE INSTITUTE
ADH	- ADHESIVE
AGGR	- AGGREGATE
AHR	- ANCHOR
AISI	- AMERICAN IRON AND STEEL INSTITUTE
AISC	- AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL	- ALUMINUM
ALTN	- ALTERNATE
ANSI	- AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	- APPROXIMATE
ARCH	- ARCHITECT
ASTM	- AMERICAN SOCIETY FOR TESTING OF MATERIALS
AWS	- AMERICAN WELDING SOCIETY
BC	- BOLT CIRCLE
BETW	- BETWEEN
BLDG	- BUILDING
BM	- BEAM
BO	- BOTTOM OF
BOS	- BOTTOM OF STEEL
BOT	- BOTTOM
B/P	- BASE OF PIER
BRG	- BEARING
BRKT	- BRACKET
CAP	- CAPACITY
C/C	- CENTER TO CENTER
CL	- CENTER LINE
CF	- CUBIC FEET
CHKR	- CHECKER
CIR	- CIRCLE
CJ	- CONSTRUCTION JOINT
CLR	- CLEAR
CLJ	- CONTROL JOINT
CMU	- CONCRETE MASONRY UNIT
CO	- CONCRETE OPENING
COMP	- COMPRESSION
CONC	- CONCRETE
CONT	- CONTINUOUS
CONTR	- CONTRACT
COL	- COLUMN
CONN	- CONNECTION
COTR	- CONTRACTING OFFICER
COR	- CORNER
COORD	- COORDINATE
CRSI	- CONCRETE REINFORCING STEEL INSTITUTE
CTR	- CENTER
CTRD	- CENTERED
CY	- CUBIC YARD
DBL	- DOUBLE
DET	- DETAIL
DIAG	- DIAGONAL
DIA	- DIAMETER
DIM	- DIMENSION
DK	- DECKING
DL	- DEAD LOAD
DN	- DOWN
DWL	- DOWEL
DWG	- DRAWING
E	- EAST
EA	- EACH
ED	- EQUIPMENT DRAIN
EF	- EACH FACE
EJ	- EXPANSION JOINT
EL	- ELEVATION
ELEC	- ELECTRICAL
ELEV	- ELEVATOR
EMBED	- EMBEDMENT
EQ	- EQUAL
EQUIV	- EQUIVALENT
EQ SP	- EQUALLY SPACED
EQUIP	- EQUIPMENT
EXIST	- EXISTING
EXP	- EXPANSION
EXT	- EXTERIOR
EW	- EACH WAY
FAB	- FABRICATE
FD	- FLOOR DRAIN
FDN	- FOUNDATION
FTG	- FOOTING
FF	- FAR FACE
FL	- FLOOR
FLG	- FLANGE
FNSH	- FINISH
FS	- FAR SIDE
FT	- FEET
FUT	- FUTURE
GA	- GAGE
GALV	- GALVANIZE
GB	- GRADE BEAM
GND	- GROUND
GR	- GRADE
GRTG	- GRATING
H	- SLAB THICKNESS
HEF	- HORIZONTAL EACH FACE
HEX	- HEXAGON
HG	- HIGH
HK	- HOOK
HR	- HANDRAIL
HPT	- HIGH POINT
HORIZ	- HORIZONTAL
HS	- HIGH STRENGTH
IBC	- INTERNATIONAL BUILDING CODE
ID	- INSIDE DIAMETER
IF	- INSIDE FACE
IJ	- ISOLATION JOINT
IN	- INCHES
INTR	- INTERIOR
INVT	- INVERT
IR	- INSIDE RADIUS
JT	- JOINT
KB	- KNEE BRACE
KPL	- KICK PLATE
KSI	- KIPS PER SQUARE INCH
L	- ANGLE
LAD	- LADDER
LB	- POUND
LD	- DEVELOPMENT LENGTH
LG	- LONG
LL	- LIVE LOAD
LLH	- LONG LEG HORIZONTAL
LLO	- LONG LEG OUTSTANDING
LLV	- LONG LEG VERTICAL
LONG	- LONGITUDINAL
LPT	- LOW POINT
LNTL	- LINTEL
LS	- LAP SPLICE
MATL	- MATERIAL
MAX	- MAXIMUM
MC	- MOMENT CONNECTION
MECH	- MECHANICAL
MEZZ	- MEZZANINE
MFR	- MANUFACTURER
MH	- MANHOLE
MIN	- MINIMUM
MISC	- MISCELLANEOUS
MK	- MARK
MO	- MASONRY OPENING
N	- NORTH
NA	- NOT APPLICABLE
NE	- NORTHEAST
NF	- NEAR FACE
NOM	- NOMINAL
NW	- NORTHWEST
NIC	- NOT IN CONTRACT
NTS	- NOT TO SCALE
NO	- NUMBER
NS	- NEAR SIDE
OC	- ON CENTER
OD	- OUTSIDE DIAMETER
OF	- OUTSIDE FACE
OPNG	- OPENING
OPP	- OPPOSITE
OSHA	- OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OZ	- OUNCE
PCF	- POUNDS PER CUBIC FOOT
PED	- PEDESTAL
PEN	- PENETRATE
PEMP	- PRE-ENGINEERED METAL BUILDING
PERP	- PERPINDICULAR
PJNT	- PROJECTION
PL	- PLATE
PLC	- PLACES
PREFAB	- PREFABRICATED
PS	- PIPE SUPPORT
PSF	- POUNDS PER SQUARE FOOT
PSI	- POUNDS PER SQUARE INCH
PVC	- POLYVINYL CHLORIDE
R	- RISER
RAD	- RADIUS
RD	- ROOF DRAIN
REF	- REFERENCE
REINF	- REINFORCE
REQD	- REQUIRED
REV	- REVISION
RM	- ROOM
S	- SOUTH
SB	- SHEAR BAR
SCHED	- SCHEDULE
SE	- SOUTHEAST
SECT	- SECTION
SH	- SHEET
SIM	- SIMILAR
SF	- SWAY FRAME
SLO	- SHORT LEG OUTSTANDING
SLP	- SLOPE
SLV	- SLEEVE
SP	- SPACE
SPEC	- SPECIFICATION
SQ	- SQUARE
SST	- STAINLESS STEEL
STD	- STANDARD
STL	- STEEL
STIF	- STIFFENER
STIR	- STIRRUP
STR	- STRAIGHT
STRL	- STRUCTURAL
STRUC	- STRUCTURE
SW	- SOUTHWEST
SYMM	- SYMMETRICAL
T	- TON
TEMP	- TEMPORARY
THK	- THICK
THRU	- THROUGH
THD	- THREAD
T/	- TOP OF
TOB	- TOP OF BOLT
T/C OR	
TOC	- TOP OF CONCRETE
TOG	- TOP OF GRATING
T/STL OR	
TOS	- TOP OF STEEL
T/P	- TOP OF PIER
T&B	- TOP AND BOTTOM
TRD	- TREAD
TYP	- TYPICAL
UNO	- UNLESS NOTED OTHERWISE
VAR	- VARIES
VERT	- VERTICAL
VEF	- VERTICAL EACH FACE
W	- WEST
WD	- WIDE
W/	- WITH
W/O	- WITHOUT
WP	- WORK POINT
WS	- WATERSTOP
WT	- WEIGHT
WWF	- WELDED WIRE FABRIC
WDT	- WIDTH
@	- AT
&	- AND
#	- POUNDS OR NUMBER
%	- PERCENT

CALLOUT IDENTIFICATION

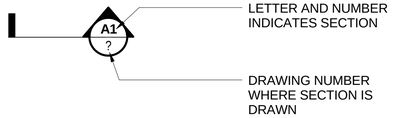
SECTION, DETAIL, AND ELEVATION SYMBOL IDENTIFIERS:



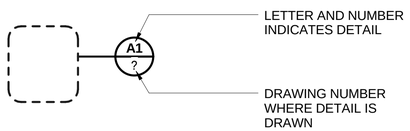
BUILDING SECTION CALLOUT EXAMPLE:



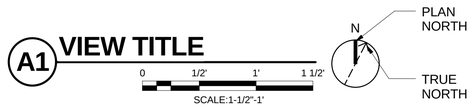
WALL SECTION CALLOUT EXAMPLE:



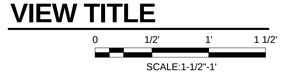
DETAIL CALLOUT EXAMPLE:



SECTION, DETAIL, AND ELEVATION TITLE EXAMPLE:



OVERALL AND AREA PLAN TITLE EXAMPLE:



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NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14S-003
DATE: 4/17/2013

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Burns & McDonnell
WHERE IDEAS MEET REALITY

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

LEGEND & ABBREVIATIONS

SHEET REFERENCE NUMBER:
S-003
SHEET ____ OF ____

STATEMENT OF SPECIAL INSPECTIONS

NOTES:

1. STATEMENT OF SPECIAL INSPECTIONS
   - A. THIS "STATEMENT OF SPECIAL INSPECTIONS" HAS BEEN PREPARED IN ACCORDANCE WITH IBC 2009, SECTION 1704.
   - B. CONTRACTOR SHALL EMPLOY ONE OR MORE PRE-COORDINATED AND GOVERNMENT-APPROVED SPECIAL INSPECTORS TO PROVIDE SPECIAL INSPECTIONS DURING CONSTRUCTION.
   - C. SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE CONTRACTING OFFICER'S REPRESENTATIVE, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
   - D. SPECIAL INSPECTION AGENCY SHALL SUBMIT INSPECTION REPORTS DURING CONSTRUCTION FOR VERIFICATION, INCLUDING FINAL REPORTS IN ACCORDANCE WITH SECTION 1704.1.2 OF IBC 2009.
   - E. SPECIAL INSPECTOR SHALL USE THE LATEST ISSUE OF THE STRUCTURAL DRAWINGS FOR THE INSPECTION OF THIS STRUCTURE. SHOP FABRICATION DRAWINGS SHALL NOT BE USED FOR INSPECTION PURPOSES.
   - F. THE FOLLOWING TABLES INDENTIFY THE MATERIALS, SYSTEMS, AND COMPONENTS FOR WHICH SPECIAL INSPECTION IS REQUIRED.
2. TESTING REQUIREMENTS
   - A. CONTRACTOR SHALL EMPLOY ONE OR MORE PRE-COORDINATED AND GOVERNMENT-APPROVED TESTING AGENCIES TO PROVIDE THE STRUCTURAL TESTING DURING CONSTRUCTION.
   - B. TESTING AGENCY SHALL SUBMIT TEST RESULTS DURING CONSTRUCTION FOR VERIFICATION INCLUDING A FINAL REPORT IN ACCORDANCE WITH SECTION 1704.1.2 OF IBC 2009.
   - C. TABLE 1 (BELOW) IDENTIFIES THE STRUCTURAL TESTS REQUIRED FOR THIS PROJECT.

TABLE 1704.3 REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD[a]	IBC REFERENCE
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:				
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	—	X	AISC 360,SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS	
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	—	X	—	—
2. INSPECTION OF HIGH-STRENGTH BOLTING:				
a. SNUG-TIGHT JOINTS.	—	X	AISC 360, SECTION M2.5	1704.3.3
b. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT W/ MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	—	X		
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
a. FOR STRUCTURAL STEEL, INDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	—	X	AISC 360, SECTION M5.5	—
b. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	—	X	APPLICABLE ASTM MATERIAL STANDARDS	
c. MANUFACTURERS' CERTIFIED TEST REPORTS.	—	X		
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	—	X	AISC 360, SECTION A3.5 AND APPLICABLE AWS A5 DOCUMENTS	—
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	—	X	—	—
5. INSPECTION OF WELDING:				
a. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
1) COMPLETE AND PARTIAL PENETRATION GROOVE WELDS.	X	—	AWS D1.1	1704.3.1
2) MULTIPASS FILLET WELDS AND SINGLE-PASS FILLET WELDS > 5/16".	X	—		
3) SINGLE-PASS FILLET WELDS NOT EXCEEDING 5/16" IN SIZE.	—	X		
4) FLOOR AND ROOF DECK WELDS.	—	X	AWS D1.3	
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:				
a. DETAILS SUCH AS BRACING AND STIFFENING.	—	X	—	1704.3.2
b. MEMBER LOCATIONS.	—	X		
c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	—	X		

a: SEE ALSO IBC 2009 SECTIONS 1705.3, 1707, AND 1708 FOR REQUIRED SPECIAL INSPECTIONS AND STRUCTURAL TESTING FOR SEISMIC RESISTANCE

TABLE 1704.4 REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT.	—	X	ACI 318: 3.5, 7.1-7.7	1913.4
2. INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED	X	—	ACI 318: 8.1.3, 21.2.8	1911.5, 1912.1
3. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.	—	X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1912.1
4. VERIFYING USE OF REQUIRED DESIGN MIX.	—	X	ACI 318: CH. 4, 5.2-5.4	1904.2.2, 1913.2, 1913.3
5. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TEST, AND DETERMINE THE TEMPATURE OF THE CONCRETE.	X	—	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1913.10
6. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	—	ACI 318: 5.9, 5.10	1913.6, 1913.7, 1913.8
7. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPATURE AND TECHNIQUES.	—	X	ACI 318: 5.11- 5.13	1913.9
8. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO REMOVAL OF FORMS FROM GRADE BEAMS AND STRUCTURAL SLABS.	—	X	ACI 318: 6.2	
9. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	—	X	ACI 318: 6.1.1	

a: EXCEPTIONS: ISOLATED SPREAD FOOTINGS, NONSTRUCTURAL SLABS ON GRADE.
b: X - INDICATES TYPE OF INSPECTION REQUIRED.

TABLE 1704.5.3 LEVEL 2 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION

VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA		
	CONTINUOUS	PERIODIC	IBC	TMS 402/ACI 530/ASCE 5[a]	TMS 602/ACI 530.1/ASCE 6[a]
1. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS.	—	X	—	—	ART. 1.5
2. VERIFICATION OF f'm PRIOR TO CONSTRUCTION AND FOR EVERY 5,000 SQUARE FEET DURING CONSTRUCTION.	—	X	—	—	ART. 1.4B
3. VERIFICATION OF PROPORTIONS OF MATERIALS IN PREMIXED OR PREBLENDED MORTAR AND GROUT AS DELIVERED TO THE SITE.	—	X	—	—	ART. 1.5B
4. THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:					
a. PROPORTIONS OF SITE-PREPARED MORTAR AND GROUT.	—	X	—	—	ART. 2.6A
b. PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS.	—	X	—	—	ART. 3.3B
c. PLACEMENT OF REINFORCEMENT.	—	X	—	SEC. 1.15	ART. 3.4, 3.6A
d. GROUT SPACE PRIOR TO GROUTING.	X	—	—	—	ART. 3.2D
e. PLACEMENT OF GROUT.	X	—	—	—	ART. 3.5
f. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.	—	X	—	—	ART. 3.3F
g. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.	X	—	—	SEC.1.2.2(e), 1.16.1	—
h. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT AND ANCHOR BOLTS.	—	X	—	SEC.1.15	ART.2.4,3.4
i. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 DEGREES F) OR HOT WEATHER (TEMPERATURE ABOVE 90 DEGREES F).	—	X	SEC. 2104.3, 2104.4	—	ART. 1.8C, 1.8D
5. PREPARATION OF ANY REQUIRED GROUT SPECIMENS AND/OR PRISMS SHALL BE OBSERVED.	X	—	SEC. 2105.2.2, 2105.3	—	ART. 1.4

FOR SI: °C = (°F) -32)/1.8, 1 SQUARE FOOT = 0.0929m².
a. THE SPECIFIC STANDARDS REFERENCED ARE THOSE LISTED IN CHAPTER 35 OF IBC 2009.

TABLE 1704.7 REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATION ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	—	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	—	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	—	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	—
5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	—	X

TABLE 1 SUMMARY OF REQUIRED STRUCTUAL TESTS

TEST	CONTINUOUS	PERIODIC	REFERENCE STANDARD	IBC REFERENCE
1. CONCRETE				
a. CYLINDER COMPRESSION TESTING	X	—	ASTM C39	SECTION 1905
2. MASONRY				
a. HOLLOW UNIT BLOCK COMPRESSION TESTS (UNIT STRENGTH METHOD)	X	—	ASTM C90	SECTION 2105
b. PRISM COMPRESSION TESTS (PRISM TEST METHOD)	X	—	ASTM C1314	SECTION 2105
3. POST-INSTALLED CONCRETE ANCHORS*				
a. EXPANSION ANCHORS	X	—	ICC-ES AC 193	SECTION 1912
b. ADHESIVE ANCHORS	X	—	ICC-ES AC 193	SECTION 1912

*WHEN DIRECTED BY THE CONTRACT DOCUMENTS TO PROVIDE POST-INSTALLED ANCHORAGES THE FOLLOWING GUIDELINES SHALL BE FOLLOWED:

1. A REPRESENTATIVE OF THE ANCHOR MANUFACTURER OR PROJECT SPECIAL INSPECTOR SHALL BE ON SITE TO OVERSEE THE INSTALLATION OF THE FIRST FOUR ANCHORS FOR EACH TYPE OF ANCHOR INSTALLED. THIS MEASURE SHALL BE TAKEN FOR EACH INSTALLER OF THE ANCHORS. THIS SERVICE IS TYPICALLY PROVIDED FREE BY THE LOCAL ANCHOR REPRESENTATIVE.
2. THE FIRST FOUR ANCHORS SHALL BE TENSION TESTED ONCE INSTALLATION IS COMPLETE FOR 200% OF THE SERVICE LEVEL LOAD CAPACITY AS SPECIFIED BY THE MANUFACTURER.

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DEFINITIVE DESIGN

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DATE: 4/15/2013 1:54:31 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: .
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN
DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14S-004
DATE: 4/17/2013

U.S. ARMY ENGINEER DISTRICT
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MOBILE, ALABAMA

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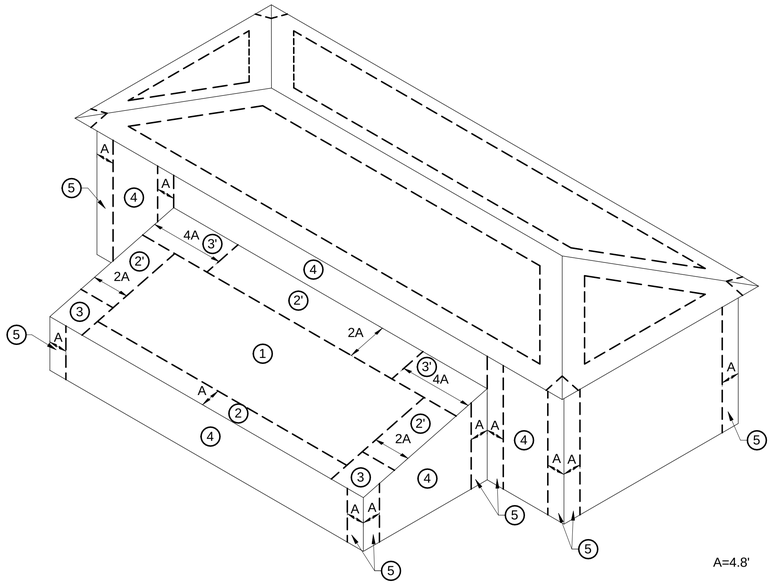
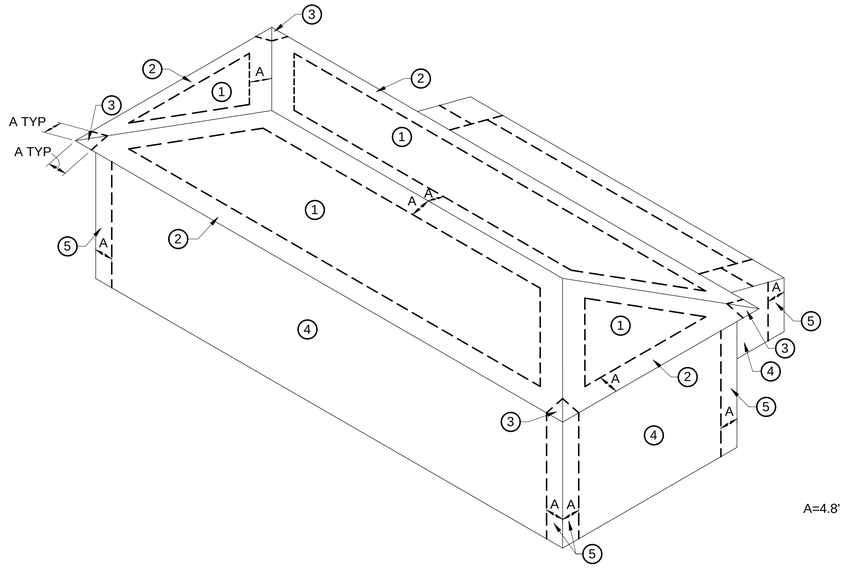
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

STATEMENT OF SPECIAL INSPECTIONS

SHEET REFERENCE NUMBER:
S-004
SHEET ____ OF ____

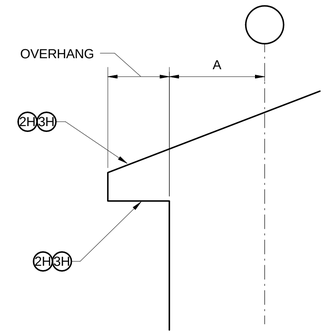


D1 WIND LOAD DIAGRAM SOUTHWEST



D5 WIND LOAD DIAGRAM NORTHEAST

DESIGN WIND PRESSURES						
WIND ZONE	COMPONENTS & CLADDING		PURLINS		GIRTS	
	MAX	MIN	MAX	MIN	MAX	MIN
1	+12.5	-23.6	+8.8	-23.6	-	-
2	+12.5	-34.6	+8.8	-25.4	-	-
3	+12.5	-47.9	+8.8	-40.1	-	-
4	+21.7	-23.6	-	-	+18.0	-19.9
5	+21.7	-29.1	-	-	+18.0	-22.7
2H	+12.5	-43.8	+12.5	-43.8	-	-
3H	+12.5	-68.1	+12.5	-49.3	-	-
2'	+8.8	-32.8	+7.0	-30.9	-	-
3'	+8.8	-51.2	+7.0	-32.8	-	-



APPLIED TO BOTH SIDES BUT NOT SIMULTANEOUSLY

A8 WIND ISO OVERHANG & NOTES

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DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

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SCALE: 3/4" = 1'-0"
DRAWING CODE: EP14S-005
4/17/2013

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KC-46A FUSELAGE TRAINER
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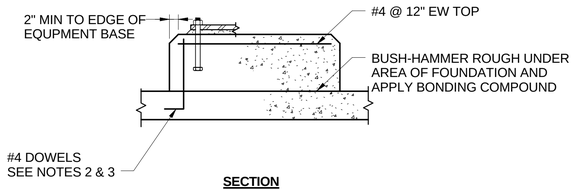
BASE X, CONUS

SNOW DRIFT AND WIND LOADING ISO DIAGRAM

SHEET REFERENCE NUMBER:
S-005
SHEET ____ OF ____

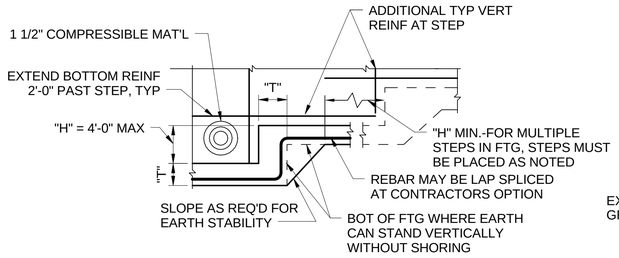
FILE:
DATE: 4/15/2013 1:54:35 PM



SECTION
EP-1
EQUIPMENT PAD FOUNDATION

NOTES:

1. PROVIDE EP-1 EQUIPMENT PAD FOR INTERIOR EQPT WHERE INDICATED ON OTHER DISCIPLINE DWGS.
2. PROVIDE NUMBER OF DOWELS TO MATCH TOTAL CROSS-SECTIONAL AREA OF ANCHOR BOLTS, EQUALLY SPACED AROUND PAD, EXCEPT THAT SPACING OF DOWELS SHALL NOT EXCEED 12".
3. IF FLOOR SLAB IS CONSTRUCTED BEFORE DOWELS ARE PLACED, DOWELS SHALL BE EPOXY GROUTED INTO FLOOR SLAB.
4. EQPT SHALL BE GROUTED IN PLACE W/ NON-SHRINK GROUT UNLESS OTHERWIES RECOMMENDED BY EQPT MFR.
5. EQPT ANCHOR BOLTS SHALL BE STANDARD TYPE V OR VI HOOKED BOLTS, UNLESS OTHERWISE RECOMMENDED BY EQPT MFR.
6. HEIGHT OF PAD ABOVE SURROUNDING FLOOR SLAB SHALL BE 4" MIN FOR PADS W/ 1" DIA OR SMALLER ANCHOR BOLTS OR 6" MIN FOR PADS W/ ANCHOR BOLTS LARGER THAN 1" DIA.

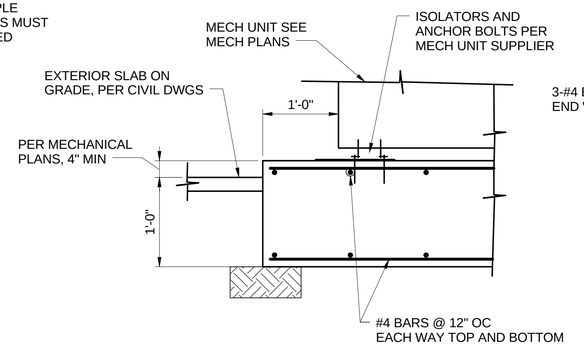


NOTES:

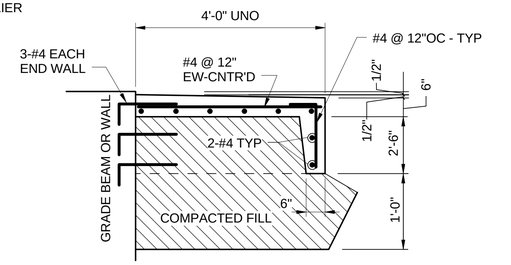
A. THIS DET TO BE USED AS REQ'D TO DEPRESS FTG TO FIRM BRG, OR TO GET BELOW UNDERGROUND PIPING OR WHEREVER CHANGE IN FTG ELEVATION OCCURS. SEE DETAIL "MAX SLOPES BTWN ADJACENT FTGS" THIS SHEET, WHICH MAY REQ LOWERING OF FTG ELEVATION.

B. PLACE ALL CONC AGAINST UNDISTURBED SOIL. IF SOIL IS DISTURBED DURING CONC PLACING, REPLACE DISTURBED SOIL WITH CONC.

STEP IN FOOTING
NOT TO SCALE

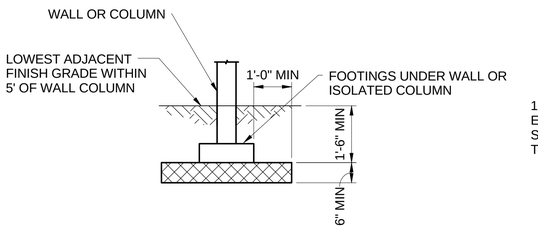


EXTERIOR EQUIPMENT PAD
NOT TO SCALE

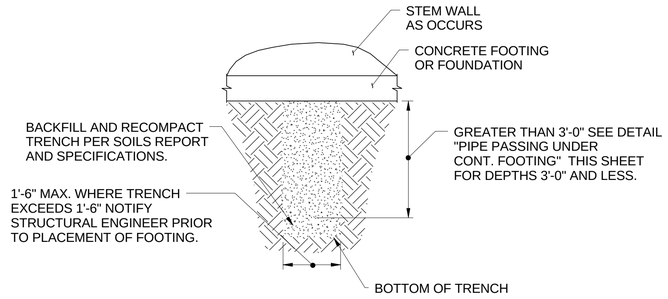


NOTE:
SEE CIVIL OR ARCHITECTURAL FOR WIDTHS AND LOCATIONS.
EXTEND 1'-6" EACH SIDE OF DOOR MINIMUM, UNO.

STOOP DETAIL
NOT TO SCALE



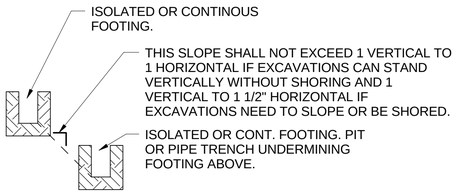
ZONE OF COMP. EARTH UNDER ALL FTGS
NOT TO SCALE



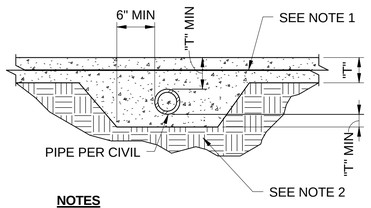
PIPE PASSING BELOW CONT. FOOTING
NOT TO SCALE

NOTE: PIPES SHALL NOT PASS THRU FOOTINGS NOR BE LOCATED BELOW ISOLATED COLUMN FOOTING.

PIPE PASSING UNDER CONT. FOOTING
NOT TO SCALE



MAX. SLOPES BETWEEN ADJ. EXCAVATIONS
NOT TO SCALE



NOTES

1. TYP SLAB OR FOOTING REINF PER PLAN
2. FIRM COMPACTED FILL PER SOILS REPORT

PIPE BELOW SLAB ON GRADE OR FOOTING
NOT TO SCALE

FILE:
DATE: 4/15/2013 1:54:40 PM

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REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

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DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14S-006
DATE: 4/17/2013

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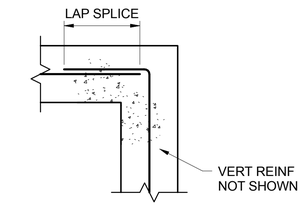
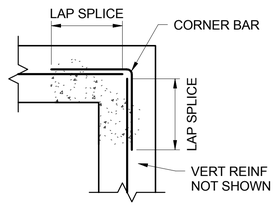
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

STANDARD FOUNDATION DETAILS

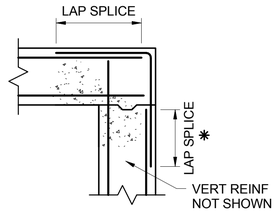
SHEET REFERENCE NUMBER:
S-006
SHEET ____ OF ____



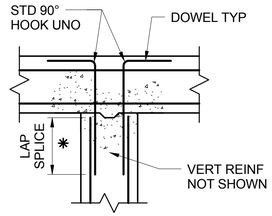
PLAN
OPTION #1



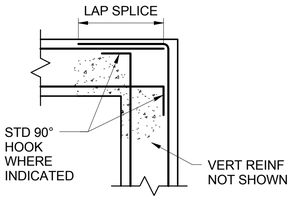
PLAN
OPTION #2



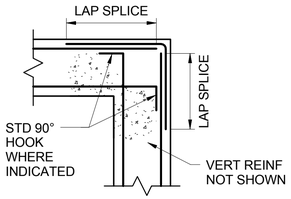
ELEVATION



ELEVATION

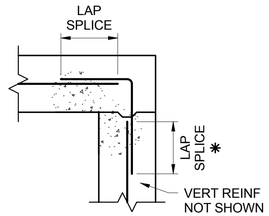


PLAN
OPTION #1

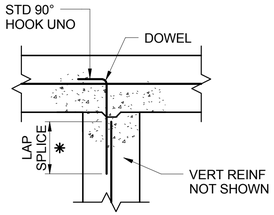


PLAN
OPTION #2

HORIZONTAL WALL REINFORCEMENT DETAILS
CORNERS
SEE CORNER REINFORCEMENT NOTE 1



ELEVATION



ELEVATION

VERTICAL WALL TO SLAB CORNER
AND INTERSECTION REINFORCEMENT DETAILS
SEE CORNER REINFORCEMENT NOTE 3

STANDARD REINFORCEMENT DETAILS

PLAN
WITHOUT CJ

PLAN
WITH CJ

PLAN
WITHOUT CJ

PLAN
WITH CJ

HORIZONTAL WALL REINFORCEMENT DETAILS
INTERSECTIONS
SEE CORNER REINFORCEMENT NOTE 2

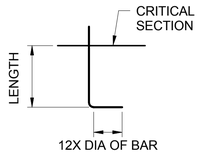
CORNER REINFORCEMENT NOTES:
1. UNLESS OTHERWISE INDICATED, THE CONTRACTOR HAS THE OPTION OF REINFORCING CORNERS IN ACCORDANCE WITH OPTION #1 OR OPTION #2.
2. UNLESS OTHERWISE INDICATED, THE CONTRACTOR HAS THE OPTION OF CONSTRUCTING INTERSECTIONS WITH OR WITHOUT CONSTRUCTION JOINTS. REINFORCE PER APPLICABLE DETAIL.
3. ✱ INDICATES CONTRACTOR OPTION: WITH OR WITHOUT LAP SPLICE AT THESE LOCATIONS.

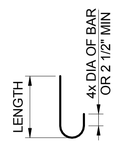
NOTE:
PROVIDE CONTROL JOINTS IN CONCRETE STEM WALLS AT 20'-0" MAX.
MAXIMUM LENGTH WALL POUR BETWEEN CONSTRUCTION JOINTS 100'-0"

TYP CONCRETE STEM WALL CONTROL JOINT
NOT TO SCALE

TYPICAL FLOOR DRAIN DETAIL

DEVELOPMENT LENGTHS HOOKED BARS (f'c = 4000psi)	
BAR SIZE	LENGTH OR MIN EMBEDMENT
#3	7"
#4	10"
#5	1'-0"
#6	1'-3"
#7	1'-5"
#8	1'-7"
#9	1'-10"
#10	2'-0"
#11	2'-3"

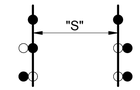




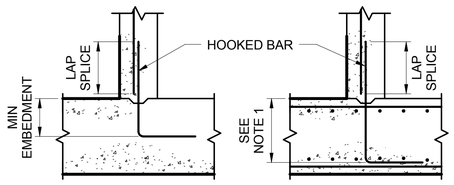
RADIUS OF HOOK:
4x DIA OF BAR - #3 TO #8 BARS
5x DIA OF BAR - #9 TO #11 BARS
6x DIA OF BAR - #14 & #18 BARS

REINFORCING DEVELOPMENT AND SPLICES f'c=4000psi				
BAR SIZE	DEVELOPMENT LENGTH		SPLICE LENGTH	
	OTHER	TOP	OTHER	TOP
#3	1'-3"	1'-7"	1'-7"	2'-0"
#4	1'-7"	2'-1"	2'-1"	2'-8"
#5	2'-0"	2'-7"	2'-7"	3'-4"
#6	2'-5"	3'-1"	3'-1"	4'-0"
#7	3'-6"	4'-6"	4'-6"	5'-10"
#8	4'-0"	5'-2"	5'-2"	6'-8"
#9	4'-6"	5'-10"	5'-10"	7'-7"
#10	5'-1"	6'-7"	6'-7"	8'-6"
#11	5'-7"	7'-3"	7'-3"	9'-5"

TYPICAL REINFORCING NOTES:
1. REINFORCING BAR DEVELOPMENT AND LAP SPLICE LENGTHS SHALL BE AS SHOWN IN THESE TABLES UNLESS NOTED OTHERWISE ON THE DRAWINGS.
2. THE LENGTHS SHOWN IN THE TABLES ARE BASED ON THE FOLLOWING CONCRETE COVERAGE AND REINFORCING C-C SPACING:
   BEAMS OR COLUMNS: COVER ≥ 1.0bd (BAR DIAMETER)
   CENTER TO CENTER (C-C) SPACING ≥ 2.0bd
   ALL OTHERS: COVER ≥ 1.0bd
   CENTER TO CENTER SPACING ≥ 3.0 bd
3. TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
4. THE DEVELOPMENT AND SPLICE LENGTHS SHOWN SHALL NOT APPLY IF ANY OF THE FOLLOWING CONDITIONS OCCUR:
   A) f'c < 4000 psi
   B) fy > 60,000 psi
   C) THE COVER OR C-C BAR SPACING IS NOT AS LISTED ABOVE.
   D) THE REINFORCING STEEL IS EPOXY COATED.
   E) LIGHT WEIGHT CONCRETE IS USED.
5. WHERE BAR SPLICES ARE STAGGERED SUCH THAT ONE-HALF OR LESS OF TOTAL REINFORCEMENT IS SPLICED WITHIN REQUIRED LAP LENGTH. SPLICE LENGTH MAY EQUAL DEVELOPMENT LENGTH.
6. CENTER TO CENTER SPACING(S) IS DEFINED AS BELOW:



● - MAIN REINF
○ - LAPPED REINF

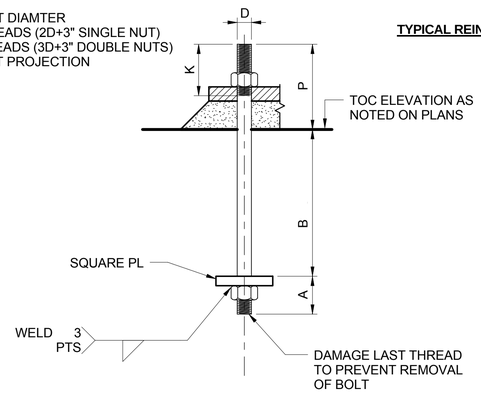


DETAIL 1 **DETAIL 2**

DEVELOPMENT LENGTH NOTES:
1. WHERE DWGS ARE DETAILED SIMILIAR TO DETAIL 2, EXTEND THE EMBEDMENT LENGTH SUCH THAT THE HOOKED BAR CONTACTS THE LAYER OF MAIN REINFORCING SHOWN.
2. EMBEDMENT LENGTHS IN CHART ARE TYPICAL EXCEPT AS NOTED IN DETAIL 2, OR AS INDICATED ON DRAWINGS.

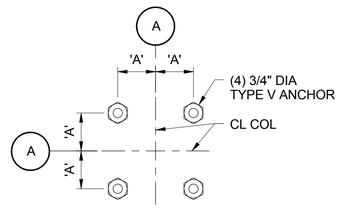
D = BOLT DIAMTER
K = THREADS (2D+3" SINGLE NUT)
= THREADS (3D+3" DOUBLE NUTS)
P = BOLT PROJECTION

TYPICAL REINFORCING DEVELOPMENT AND SPLICES



TYPE II ANCHOR BOLT
UNSLEEVED BOLT

SCHEDULE				
D	A	B	SQUARE PL	REMARKS
5/8"	2"	8"	PL 1/2"x2 1/2" SQ	P=5"
3/4"	2"	10"	PL 1/2"x3" SQ	P=5"
7/8"	3"	1'-0"	PL 5/8"x3 1/2" SQ	P=5"
1"	3"	1'-2"	PL 5/8"x3 1/2" SQ	P=5"
1 1/8"	3"	1'-4"	PL 3/4"x4" SQ	P=5"
1 1/4"	3"	1'-6"	PL 3/4"x4 1/2" SQ	P=5"
1 3/8"	4"	1'-8"	PL 7/8"x5" SQ	P=5"
1 1/2"	4"	1'-10"	PL 7/8"x5 1/2" SQ	P=5"



PATTERN A,B,C

	'A'	ANCHOR SIZE
PATTERN A	3 1/2"	3/4" DIA
PATTERN B	5 1/2"	3/4" DIA

ANCHOR BOLT PATTERN
NOT TO SCALE

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: ,
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14S-007
4/17/2013 DATE
B. BRETTMANN PROJECT ENGINEER/ARCHITECT

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
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KANSAS CITY, MO 64114
(816) 333-9400

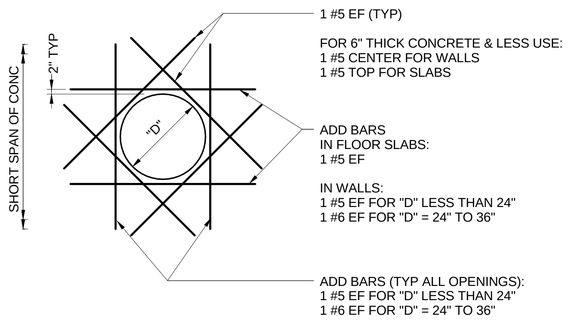
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

STANDARD CONCRETE DETAILS

SHEET REFERENCE NUMBER:
S-007
SHEET ____ OF ____

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

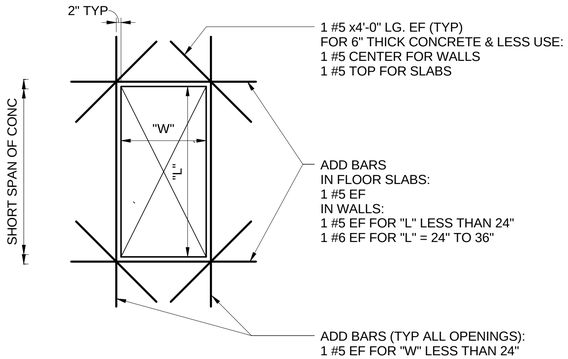
FILE:
DATE: 4/15/2013 1:54:44 PM



CO-1
UNSLEEVED OPENING

NOTES:

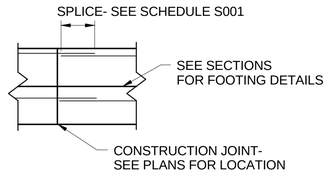
1. MINIMUM LENGTH OF ALL BARS SHALL BE "D" + 3'-6" WITH BARS CENTERED ON OPENING.
2. FOR OPENINGS LESS THAN 12" IN DIAMETER, THE ADD BARS ARE NOT REQUIRED IF NO REINFORCING IS CUT BY THE OPENING.
3. SHORT SPAN OF SLAB = LESSER DISTANCE BETWEEN SUPPORT MEMBERS.
4. REINFORCE OPENINGS WITH "D" LARGER THAN 3'-0" AS INDICATED ON THE DRAWINGS. IF NOT INDICATED, CONTACT THE ENGINEER.
5. FOR CONCRETE OPENINGS THROUGH STEEL DECKING, BLOCK OUT CONCRETE WITHIN OPENING WITH STYROFOAM OR OTHER APPROVED MATERIAL AND SEAL WITH DUCT TAPE. CUT DECK TO MATCH INSIDE DIMENSIONS OF OPENING AFTER CONCRETE HAS SET FOR 7 DAYS.
6. METAL DECKING HOLES AND OPENINGS SHALL NOT BE CUT UNTIL IMMEDIATELY PRIOR TO BEING PERMANENTLY FILLED WITH THE EQUIPMENT OR STRUCTURE INTENDED TO FULFILL ITS SPECIFIC USE OR SHALL BE IMMEDIATELY COVERED. SEE OSHA SECTION 29CFR1926 SUBPART R.
7. REINFORCING SHOWN REPRESENTS THE MINIMUM REQUIREED AT ALL CO-1 OPENINGS UNO.



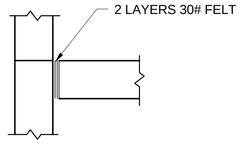
CO-2
UNSLEEVED OPENING

NOTES:

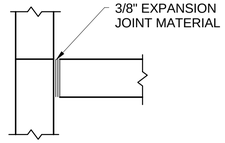
1. MINIMUM LENGTH OF ALL BARS SHALL BE ("L" OR "W") + 3'-6" WITH BARS CENTERED ON OPENING.
2. FOR OPENINGS ("L" OR "W") LESS THAN 12", THE ADD BARS ARE NOT REQUIRED IF NO REINFORCING IS CUT BY THE OPENING.
3. SHORT SPAN OF CONC = LESSER DISTANCE BETWEEN SUPPORT MEMBERS.
4. REINFORCE OPENINGS WITH "L" OR "W" LARGER THAN 3'-0" AS INDICATED ON THE DRAWINGS. IF NOT INDICATED, CONTACT THE ENGINEER.
5. FOR CONCRETE OPENINGS THROUGH STEEL DECKING, BLOCK OUT CONCRETE WITHIN OPENING WITH STYROFOAM OR OTHER APPROVED MATERIAL AND SEAL WITH DUCT TAPE. CUT DECK TCMATCH INSIDE DIMENSIONS OF OPENING AFTER CONCRETE HAS SET FOR 7 DAYS.
6. METAL DECKING HOLES AND OPENINGS SHALL NOT BE CUT UNTIL IMMEDIATELY PRIOR TO BEING PERMANENTLY FILLED WITH THE EQUIPMENT OR STRUCTURE INTENDED TO FULFILL ITS SPECIFIC USE OR SHALL BE IMMEDIATELY COVERED. SEE OSHA SECTION29CFR1926 SUBPART R.
7. REINFORCING SHOWN REPRESENTS THE MINIMUM REQUIREED AT ALL CO-2 OPENINGS UNO.



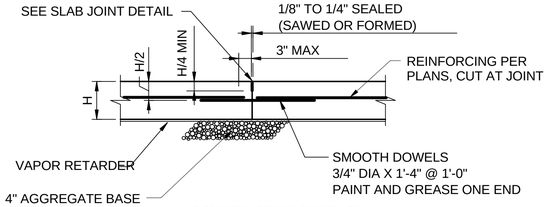
TYPICAL CONSTRUCTION JOINT (CJ)



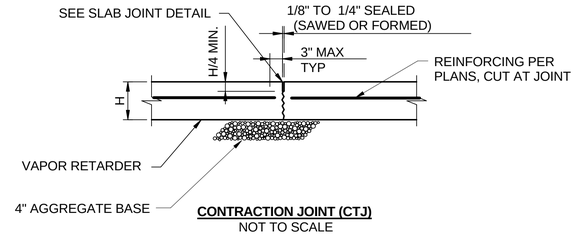
TYPICAL ISOLATION JOINT



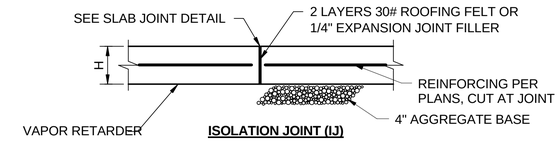
TYPICAL EXPANSION JOINT (EJ)



CONSTRUCTION JOINT (CJ)
NOT TO SCALE



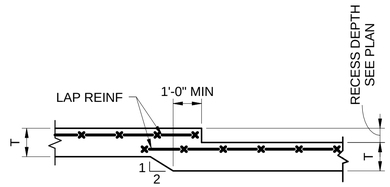
CONTRACTION JOINT (CTJ)
NOT TO SCALE



ISOLATION JOINT (IJ)
NOT TO SCALE

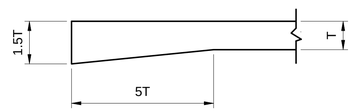
TYPICAL SLAB ON GRADE JOINTS

NOTE: DISCONTINUE REINFORCEMENT AT JOINT UNO

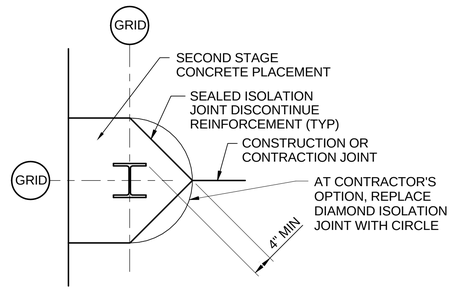


NOTE:
PROVIDE DIAGONAL #4x3'-0" TOP OR #4 CORNER BAR TOP AT ALL CORNERS OF RECESS.

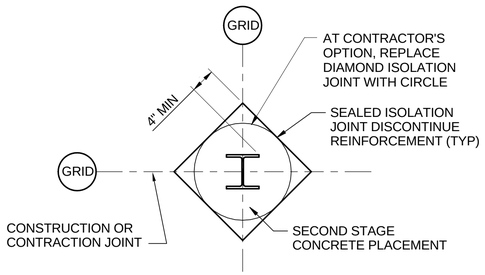
TYPICAL DETAIL AT SLAB RECESS
NOT TO SCALE



TYPICAL SLAB EDGE
NOT TO SCALE



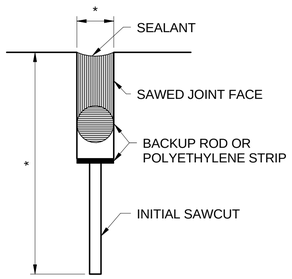
EXTERIOR



INTERIOR

NOTE:
USE CIRCULAR OPTION WHERE NO FLOOR JOINTS INTERSECT.

COLUMN ISOLATION JOINTS
NOT TO SCALE



* SEE SLAB JOINT DETAIL

TYPICAL SLAB JOINT SEALANT DETAIL

FILE:
DATE: 4/15/2013 1:54:50 PM

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	DESCRIPTION	DATE	APPR.
	REVISIONS		

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14S-008
4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
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Burns & McDonnell
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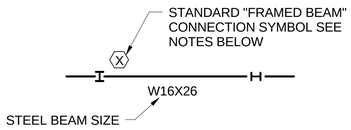
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

STANDARD SLAB ON GRADE DETAILS

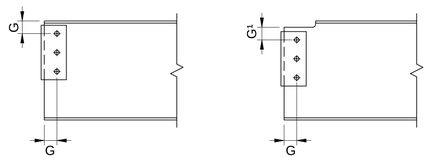
SHEET REFERENCE NUMBER:
S-008
SHEET ____ OF ____

STANDARD FRAMED BEAM CONNECTIONS



NOTES:

1. UNLESS NOTED OTHERWISE ALL BEAMS ON COLUMN ROW SHALL BE IN ACCORDANCE WITH TABLE 10-2 CASE 1 WITH SHOP WELDS.
2. THE NUMBER INDICATES THE MINIMUM NUMBER OF ROWS OF HIGH STRENGTH BOLTS FOR THAT END CONNECTION. END CONNECTIONS SHALL BE STANDARD "FRAMED BEAM" SLIP CRITICAL CONNECTIONS PER TABLE 10-1 CASE 1 OF AISC STEEL CONSTRUCTION MANUAL 13TH EDITION. AT CONTRACTORS OPTION UNLESS OTHERWISE INDICATED THE FOLLOWING MINIMUMS APPLY TO TABLE 10-1 CONNECTIONS.

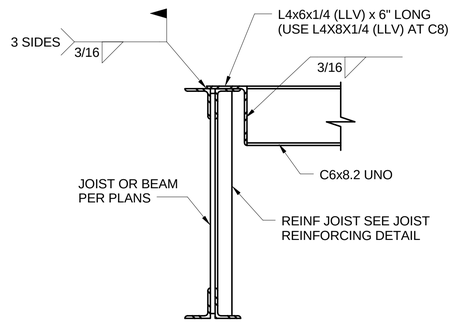


G & G¹ = 2" MIN FOR STD HOLES (G¹ = 1 1/4" MIN FOR BEAMS LESS THAN A W12).
G & G¹ = 2 1/4" MIN FOR OVERSIZED AND SHORT SLOTTED HOLES (G¹ = 1 3/8" MIN FOR BEAMS LESS THAN A W12).
MINIMUM CLIP ANGLE THICKNESS SHALL BE 5/16" BEAM TO BEAM CONNECTION.
MINIMUM CLIP ANGLE THICKNESS SHALL BE 3/8" BEAM TO COLUMN CONNECTION.
TABLE 10-2 CASE 1 WELDS TO BE 3/16"

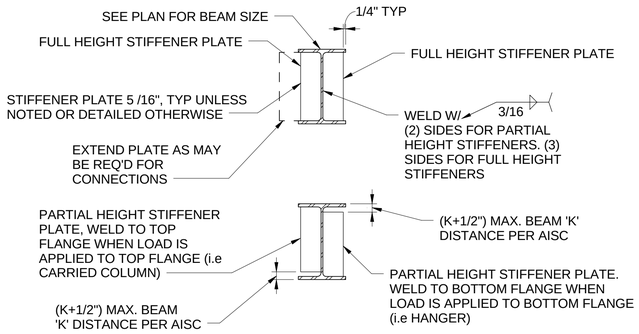
3. WHERE NO STANDARD "FRAMED BEAM" CONNECTIONS SYMBOL (X) IS INDICATED BEAM END CONNECTIONS SHALL BE IN ACCORDANCE WITH THESE NOTES AND WITH THE FOLLOWING MINIMUM NUMBER OF HIGH STRENGTH BOLTS:

C6, W6, OR LESS	= 2 ROWS	W21	= 4 ROWS
C8 OR W8	= 2 ROWS	W24	= 5 ROWS
C10 OR W10	= 2 ROWS	W27	= 6 ROWS
C12 OR W12	= 2 ROWS	W30	= 7 ROWS
W14	= 3 ROWS	W33	= 8 ROWS
C15 OR W16	= 3 ROWS	W36	= 8 ROWS
W 18	= 4 ROWS		

4. THE NUMBER OF BOLTS AND NUMBER OF ROWS OF BOLTS INDICATED OR STATED IS THE MINIMUM NUMBER OF BOLTS OR ROWS. PROVIDE ADDITIONAL BOLTS OR CONNECTION DEVICES, IF NECESSARY, TO COMPLY WITH OSHA REGULATION 29CFR1926 SUBPART R-STEEL ERECTION.
5. ROWS OF BOLTS: THE NUMBER OF FASTENERS IN A VERTICAL ROW.
6. BEAM CONNECTIONS ARE BASED ON THE USE OF STANDARD, OVERSIZED OR SHORT-SLOTTED HOLES AS DEFINED BY AISC STEEL CONSTRUCTION MANUAL 13TH EDITION. LONG-SLOTTED HOLES ARE NOT PERMITTED.
7. BEAM CONNECTIONS GAGE SHALL BE 5 1/2" MAX GAGE MAY BE REDUCED AT FABRICATORS OPTION.
8. ON ONE SIDE OF EACH DOUBLE CONNECTION OF BEAMS TO A COLUMN WEB OR A GIRDER WEB DIRECTLY OVER A COLUMN. PROVIDE TEMPORARY SEAT ANGLE ATTACHED TO COLUMN OR GIRDER WEB AND BOTTOM FLANGE OF BEAM. MINIMUM SEAT CONNECTION SHALL BE L4x3x3/8 LLH WITH 2 - 3/4"Ø A325-ST BOLTS EACH LEG. SINGLE AND DOUBLE STAGGERED CONNECTIONS ARE PROHIBITED WITHOUT THE EXPLICIT PRIOR APPROVAL IN WRITING OG THE STRUCTURAL ENGINEER OF RECORD.

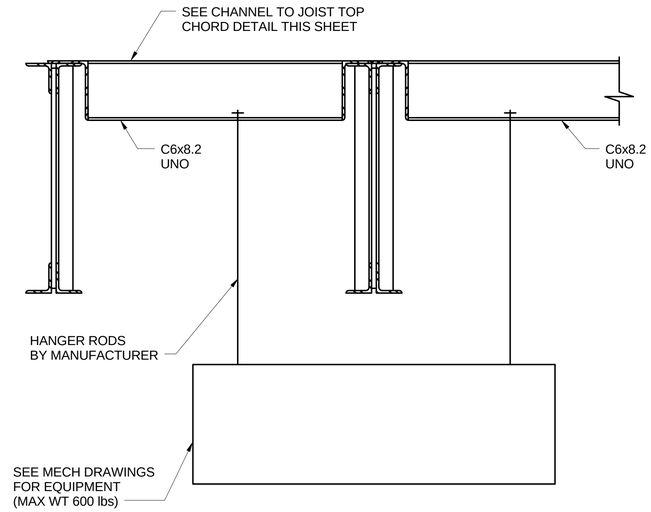


CHANNEL TO JOIST TOP CHORD DETAIL
NOT TO SCALE



NOTE: A.) USE LARGER PLATE AND WELD AS MAY BE REQ.'D BY BEAM CONNECTION SCHEDULE
B.) USE FULL HEIGHT STIFFENER PLATE, TYP UNLESS NOTED OR DETAILED OTHERWISE

STIFFENER PLATES
NOT TO SCALE



TYPICAL UNDERHUNG MECHANICAL/ELECTRICAL EQUIPMENT
NOT TO SCALE

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 1:54:55 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14S-009
DATE: 4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

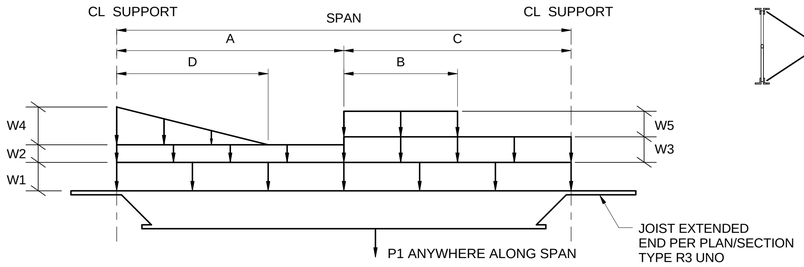
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

STANDARD STEEL DETAILS

SHEET REFERENCE NUMBER:
S-009
SHEET ____ OF ____

ROOF JOIST NOTES:

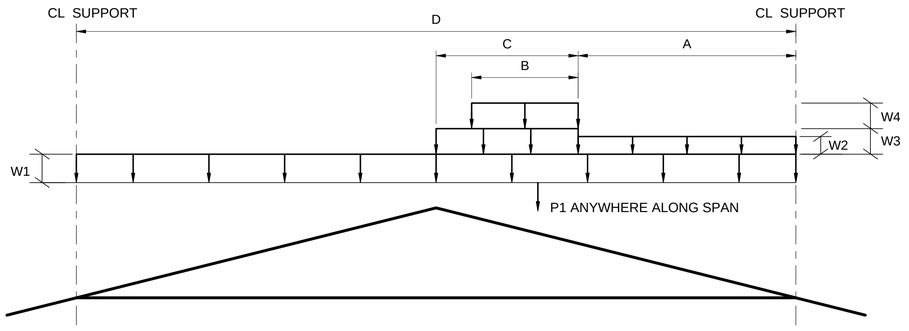
1. ALL JOISTS SHALL BE CAPABLE OF SUPPORTING AN ADDITIONAL 300# CONCENTRATED LIVE LOAD LOCATED AT ANY POINT ON THE TOP OR BOTTOM CHORDS WITHOUT THE JOIST REINFORCING DETAIL IN ADDITION TO ALL LOADS SHOWN IN LOADING DIAGRAM.
2. DEAD LOADS TABULATED DO NOT INCLUDE AN ALLOWANCE FOR JOIST SELF-WEIGHT.
3. JOIST DEFLECTION SHALL NOT EXCEED 1/240 OF THE SPAN DUE TO TOTAL LOAD NOR 1/360 OF THE SPAN DUE TO LIVE LOAD.
4. STEEL JOISTS HAVE BEEN PRELIMINARY SIZED FOR GRAVITY LOADS ONLY. CONTRACTOR SHALL CHECK AND RESIZE JOISTS AND PROVIDE ADDITIONAL BRIDGING AS REQUIRED FOR ALL UPLIFT LOADS INDICATED ON DRAWING S-005. CONTRACTOR SHALL ALSO DESIGN ALL BRIDGING MEMBERS AND CONNECTIONS FOR STEEL JOISTS, END CONDITIONS, AND BRIDGING.
5. STEEL JOISTS SHALL BE INSTALLED TO FORM A FLAT PLANE FOR ROOF DECK ATTACHMENT. PROVIDE JOIST MODIFICATIONS AND SHIMS AS REQUIRED.
6. UNLESS NOTED OTHERWISE, ALL JOISTS SUPPORTING THE ROOF DECK SHALL BE FIELD WELDED TO SUPPORTING MEMBERS. THESE WELDS SHALL BE VERIFIED BY THE JOIST MANUFACTURER. FOR DESIGN WIND PRESSURES SEE DRAWING S-005.
7. DISTRIBUTED LOAD VALUES ARE PER UNIT AREA. CONTRACTOR SHALL DETERMINE TRIBUTARY WIDTH AND CORRESPONDING LOAD PER UNIT LENGTH FOR EACH JOIST SHOWN ON DRAWINGS AND SHALL DESIGN JOISTS ACCORDINGLY.
8. W2, W3, AND W5 SNOW LOADS SHALL BE APPLIED SIMULTANEOUSLY BUT NOT IN COMBINATION WITH W1 SNOW LOADS.



LOADING DIAGRAM FOR K SERIES JOIST
NOT TO SCALE

ALL JOISTS ARE DESIGNATED "SP"

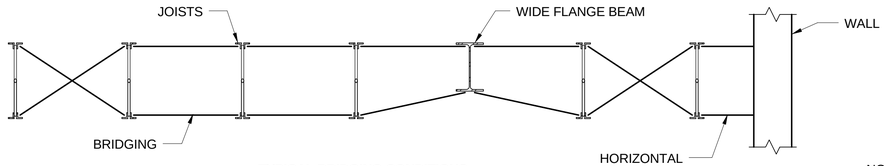
JOIST SCHEDULE														
		W1												
JOIST TYPE	SPAN (MAX)	DEAD LOAD (PSF)	LIVE LOAD (PSF)	SNOW LOAD (PSF)	COLLATERAL LOAD (PSF)	W2 SNOW LOAD (PSF)	W3 SNOW LOAD (PSF)	W4 SNOW LOAD (PSF)	W5 SNOW LOAD (PSF)	P1 (LB)	"A" (FT)	"B" (FT)	"C" (FT)	"D" (FT)	COMMENTS
10K1SP	10' - 4"	12	20	25	8	25	-	-	-	300	5'-2"	-	-	-	
12K1SP	15' - 6"	12	20	25	8	25	-	-	-	300	7'-9"	-	-	-	
14K1SP	18' - 4"	12	20	25	8	10	-	27.6	-	300	15'-0"	-	-	6'-5"	
16K4SP	20' - 8"	12	20	25	8	7.5	25	-	13	300	10'-4"	8'-0"	10'-4"	-	SEE NOTE 8
18K9SP	25' - 10"	12	20	25	8	7.5	25	-	13	300	12'-11"	8'-0"	12'-11"	-	SEE NOTE 8
26K6SP	36' - 8"	12	20	25	8	10	-	27.6	-	300	15'-0"	-	-	6'-5"	



LOADING DIAGRAM FOR DOUBLE PITCHED ROOF JOIST
NOT TO SCALE

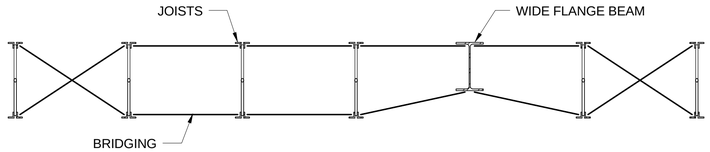
DOUBLE PITCHED ROOF JOIST SCHEDULE												
	W1											
SPAN (MAX)	DEAD LOAD (PSF)	LIVE LOAD (PSF)	SNOW LOAD (PSF)	COLLATERAL LOAD (PSF)	W2 SNOW LOAD (PSF)	W3 SNOW LOAD (PSF)	W4 SNOW LOAD (PSF)	P1 (LB)	"A" (FT)	"B" (FT)	"C" (FT)	"D" (FT)
48' - 4"	12	20	25	8	7.5	25	13	300	12'-1"	8'-0"	12'-1"	48'-4"

NOTE: W2, W3, AND W4 SNOW LOADS SHALL BE USED SIMULTANEOUSLY BUT NOT IN COMBINATION WITH W1 SNOW LOADS.



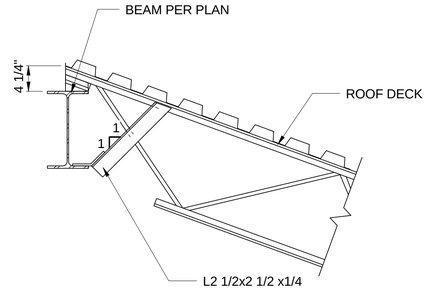
TYPICAL BRIDGING CONDITIONS
NOT TO SCALE

NOTE:
"K" SERIES JOIST BRIDGING SHOWN, "LH" JOISTS REQUIRE BOLTED DIAGONAL BRIDGING.
BRIDGING SHALL BE PER SJI SPECIFICATIONS

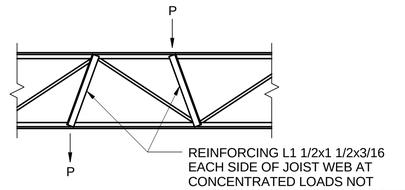


TYPICAL BRIDGING CONDITIONS
NOT TO SCALE

NOTE:
"K" SERIES JOIST BRIDGING SHOWN, "LH" JOISTS REQUIRE BOLTED DIAGONAL BRIDGING.
BRIDGING SHALL BE PER SJI SPECIFICATIONS

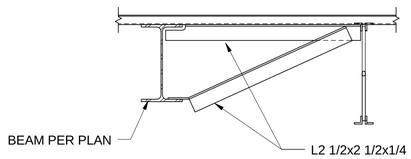


BEAM STABILITY BRACING DETAIL
NOT TO SCALE



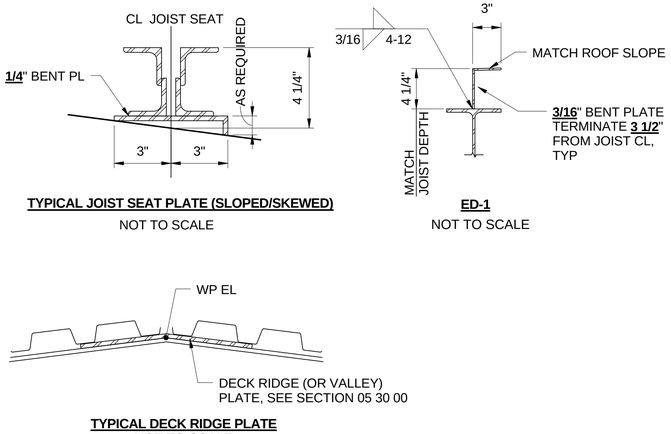
NOTE:
USE FOR LOADS FROM BRACING, PIPING, MECH DUCTS, MECH UNITS, ETC, WHEN "P" IS GREATER THAN 300#

JOIST REINFORCING DETAIL
NOT TO SCALE



MIN BRACE LOAD = 500LB (FACTORED).
SEE PLAN FOR TYP ARRANGEMENT

BEAM STABILITY BRACING DETAIL
NOT TO SCALE

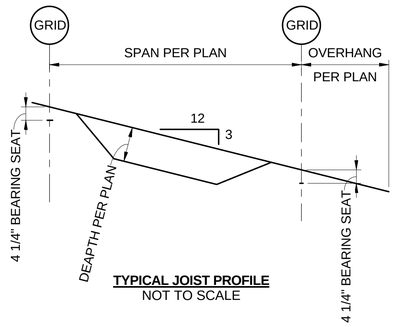


TYPICAL JOIST SEAT PLATE (SLOPED/SKEWED)
NOT TO SCALE

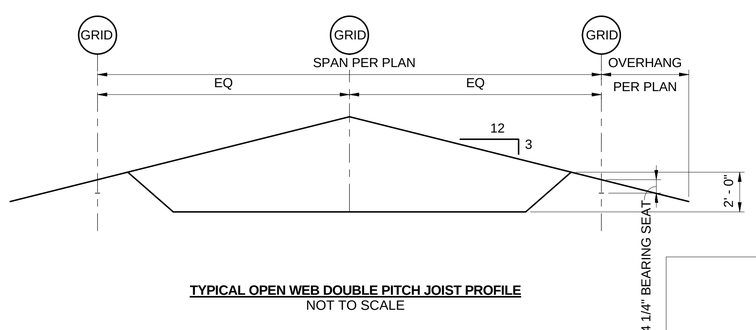
ED-1
NOT TO SCALE

MIN BRACE LOAD = 500LB (FACTORED).
SEE PLAN FOR TYP ARRANGEMENT

TYPICAL DECK RIDGE PLATE
NOT TO SCALE



TYPICAL JOIST PROFILE
NOT TO SCALE



TYPICAL OPEN WEB DOUBLE PITCH JOIST PROFILE
NOT TO SCALE

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
DRAWING CODE: EP14S-010
DATE: 4/17/2013
SCALE: As Indicated
DATE: 4/17/2013
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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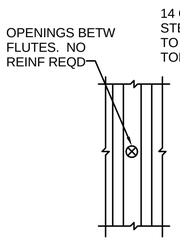
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

STANDARD JOIST DETAILS

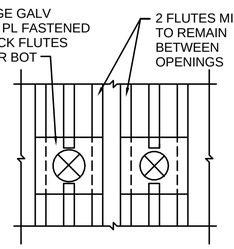
SHEET REFERENCE NUMBER:
S-010
SHEET ____ OF ____

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

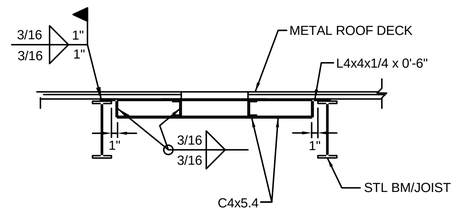
FILE:
DATE: 4/15/2013 1:55:03 PM



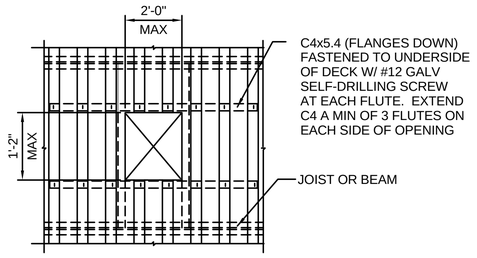
OPENING BETWEEN FLUTES



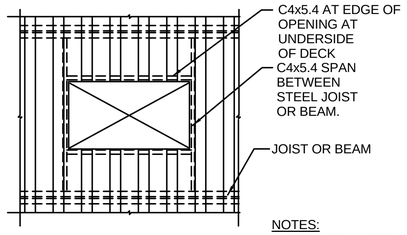
OPENING CUTTING ONE FLUTE ONLY



STANDARD OPENING SECTION



UP TO 24" OPENING PERPINDICULAR TO DECK



OPENING GREATER THAN 24" AND UP TO 60"

ROOF DECK OPENING DETAILS
NOT TO SCALE

NOTES:
1. SEE ARCH, MECH, AND ELEC DWGS FOR LOCATIONS AND SIZES OF OPENINGS.
2. SEE STRL PLANS FOR FRAMING AT OPENINGS GREATER THAN 5'-0" IN ANY DIRECTION.

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 1:56:21 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	REVISIONS: DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT B. BRETTMANN

DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14S-011
4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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9400 WARD PARKWAY
KANSAS CITY, MO 64114
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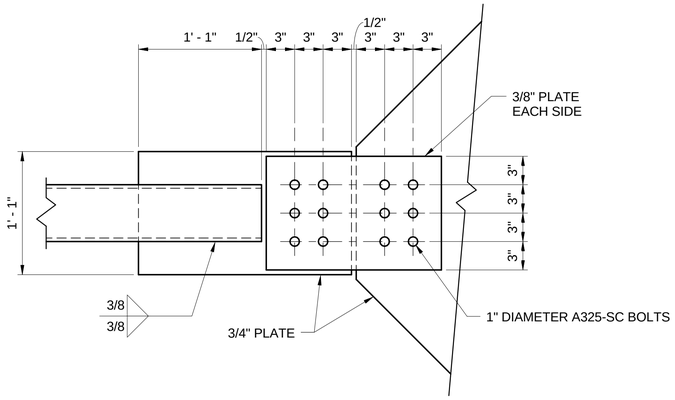
Burns & McDonnell
9454-1419

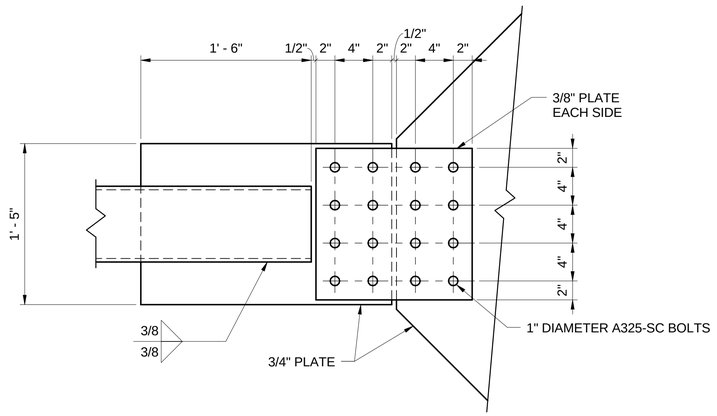
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

STANDARD ELEVATED DECK DETAILS

SHEET REFERENCE NUMBER:
S-011
SHEET ____ OF ____



HSS6x6x3//8 BRACE END CONNECTION
NOT TO SCALE



HSS8x8x3/8 BRACE END CONNECTION
NOT TO SCALE

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 1:56:25 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	REVISIONS DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN
DATE: 4/17/2013
SCALE: 1 1/2" = 1'-0"
DRAWING CODE: EP14S-012
DATE: 4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

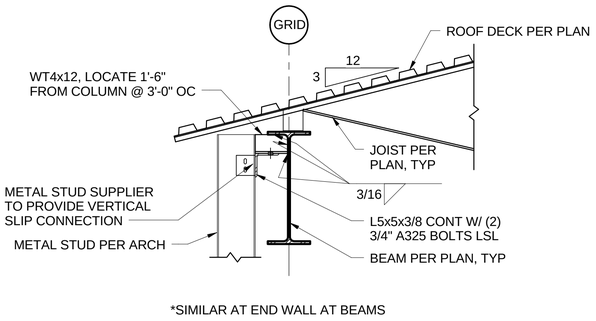
STANDARD BRACING DETAILS

SHEET REFERENCE NUMBER:
S-012
SHEET ____ OF ____

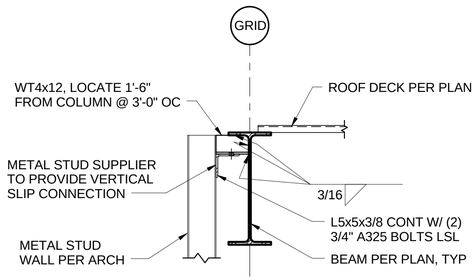
STRUCTURAL STEEL STUD WALL NOTES

1. STRUCTURAL STUDS ARE DEFINED AS STEEL STUDS USED IN EXTERIOR WALL FRAMING, AND FASCIA/SOFFIT FRAMING.
2. STRUCTURAL STUDS SHALL BE AS FOLLOWS:
   a. ALL EXTERIOR NON LOAD-BEARING WALL FRAMING : PER SCHEDULE
   b. FASCIA & SOFFIT FRAMING: PER SCHEDULE
3. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF AWS D1.1 AND ANSI/AWS D1.3 - 98. WHERE THE WELD THROAT IS NOT SHOWN ON THE DRAWINGS, THE WELD THROAT SHALL BE AT LEAST AS LARGE AS THE THICKNESS OF THE THINNEST SHEET JOINED. ALL WELDS SHALL PROVIDE COMPLETE FUSION OF THE SHEETS WITHOUT "BLOWOUTS".
4. AT TRACK BUTT JOINTS, ABUTTING PIECES OF TRACK SHALL BE SECURELY ANCHORED TO A COMMON STRUCTURAL ELEMENT OR THEY SHALL BE SPLICE WELDED TOGETHER.
5. ALL STRUCTURAL STUD WALLS SHALL HAVE ROWS OF HORIZONTAL BRIDGING INSTALLED AT A MAXIMUM OF 4'-0" O.C., SEE TYPICAL DETAIL.
6. ALL TRACK OF ALL STRUCTURAL STUD WALLS SHALL BE 16 GAGE MINIMUM.
7. WALL SLIDE CLIPS AT EXTERIOR WALL STUDS TO SUPPORT 750 POUND MINIMUM UNFACTORED WORKING LOAD.
8. ALL CONNECTOR AND CONNECTOR COMPONENTS SHALL HAVE CURRENT ICBO ESR REPORTS.

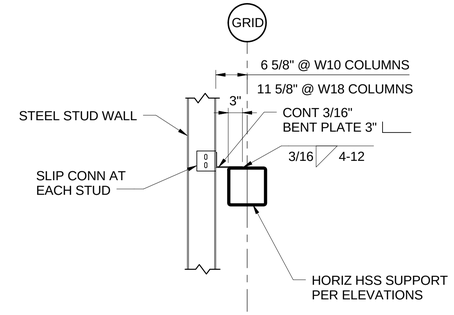
STUD SCHEDULE (MIN STUD PROPERTIES)						
LOCATION	STUD	Fy (ksi) MINIMUM	MINIMUM SECTION MODULUS (in^3)	MINIMUM MOMENT OF INERTIA (in^4)	SPACING	MAXIMUM HEIGHT/ LENGTH
EXTERIOR WALLS	600S200-54	50	1.106	3.319	16"	14' - 0"
SOFFIT	400S162-33	33	0.918	0.322	16"	6' - 0"



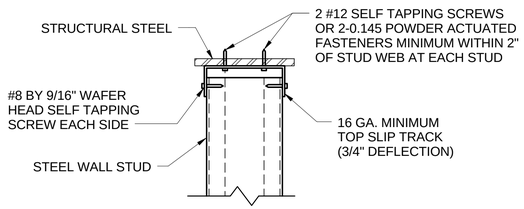
TYPICAL STUD WALL AT ROOF JOIST



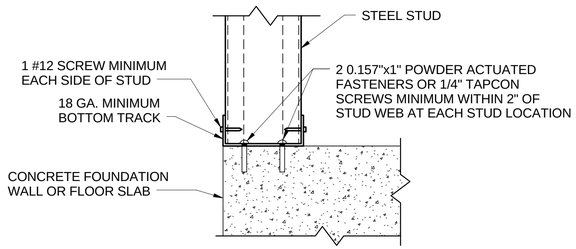
TYPICAL STUD WALL AT ROOF BEAM



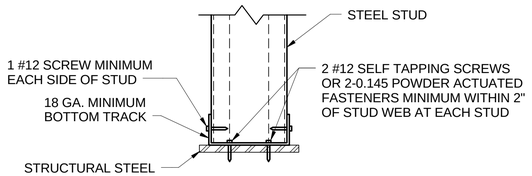
TYPICAL STUD WALL AT HSS SUPPORT



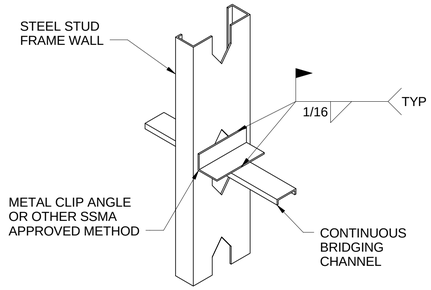
TYPICAL TOP SLIP TRACK CONNECTION TO STEEL



TYPICAL BOTTOM TRACK CONNECTION TO CONCRETE



TYPICAL BOTTOM TRACK CONNECTION TO STEEL



TYPICAL BRIDGING

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 1:56:28 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS: SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14S-013
B. BRETTMANN 4/17/2013
PROJECT ENGINEER/ARCHITECT DATE

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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9400 WARD PARKWAY
KANSAS CITY, MO 64114
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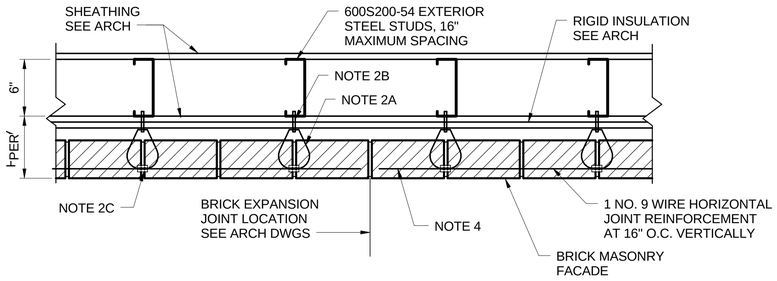
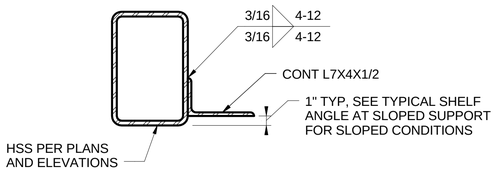
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

EXTERIOR STUD WALL WALL DETAILS

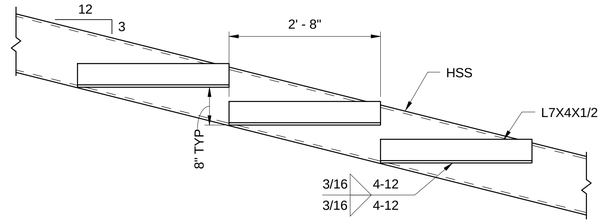
SHEET REFERENCE NUMBER:
S-013
SHEET ____ OF ____



TYPICAL BRICK MASONRY FACADE EXPANSION JOINT DETAIL



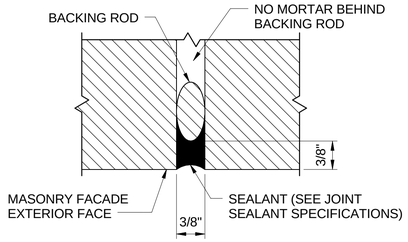
TYPICAL MASONRY SHELF ANGLE AT HSS DETAIL



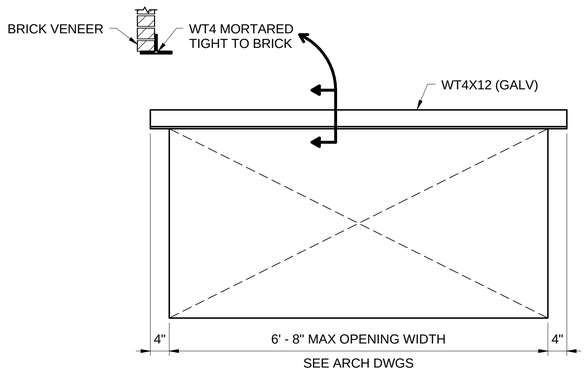
TYPICAL MASONRY SHELF ANGLE AT SLOPED SUPPOR DETAIL

NOTES:

1. DETAIL IS FOR USE WHERE BRICK MASONRY FACADE IS REQUIRED. SEE ARCHITECTURAL SHEETS FOR MASONRY FACADE TYPE.
2. HOHMANN & BARNARD OR APPROVED EQUAL MASONRY VENEER ANCHOR PRODUCTS:
   2A. VBT - VEE BYRNA TIE
   2B. X-SEAL VENEER ANCHOR WITH SCREWS TO STUD
   2C. SEISMICLIP
3. MASONRY VENEER ANCHORS TO BE SPACED AT EACH STUD HORIZONTALLY AND AT 16" MAXIMUM VERTICAL SPACING.
4. TERMINATE JOINT REINFORCEMENT 2" EACH SIDE OF JOINT.



TYPICAL EXPANSION JOINT DETAIL



ELEVATION

TYPICAL LOOSE LINTEL

NOTES:

1. ALL SHELF ANGLES FOR EXTERIOR BRICK VENEER SHALL BE GALVANIZED. PROVIDE IN 10'-0" MAXIMUM LENGTHS WITH 1/16" GAP BETWEEN SEGMENTS. AT CORNERS, LENGTH SHALL NOT BE LESS THAN 4'-0"

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DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14S-014
DATE: 4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

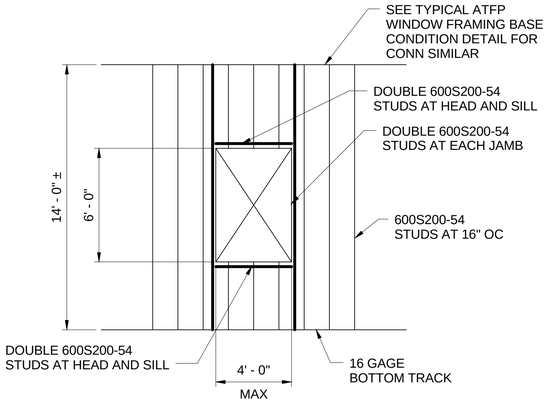
BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

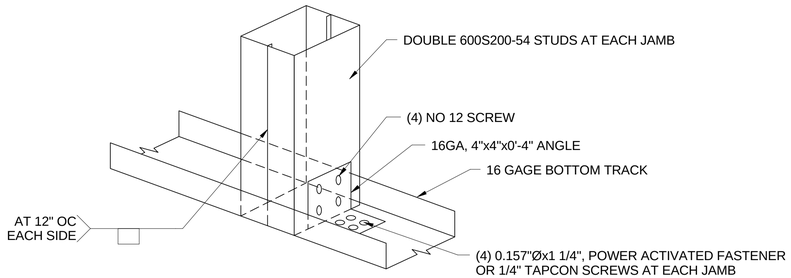
STANDARD MASONRY VENEER DETAILS

SHEET REFERENCE NUMBER:
S-014
SHEET ____ OF ____

FILE:
DATE: 4/15/2013 1:56:31 PM



ATFP 4X6 OPENING



ATFP WINDOW FRAMING CONDITION - STUD WALL

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DATE: 4/15/2013 1:56:35 PM

US ARMY CORPS OF ENGINEERS ®
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SYMBOL	REVISION'S: DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
B. BRETTMANN PROJECT ENGINEER/ARCHITECT DATE

DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14S-015
4/17/2013

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CORPS OF ENGINEERS
MOBILE, ALABAMA

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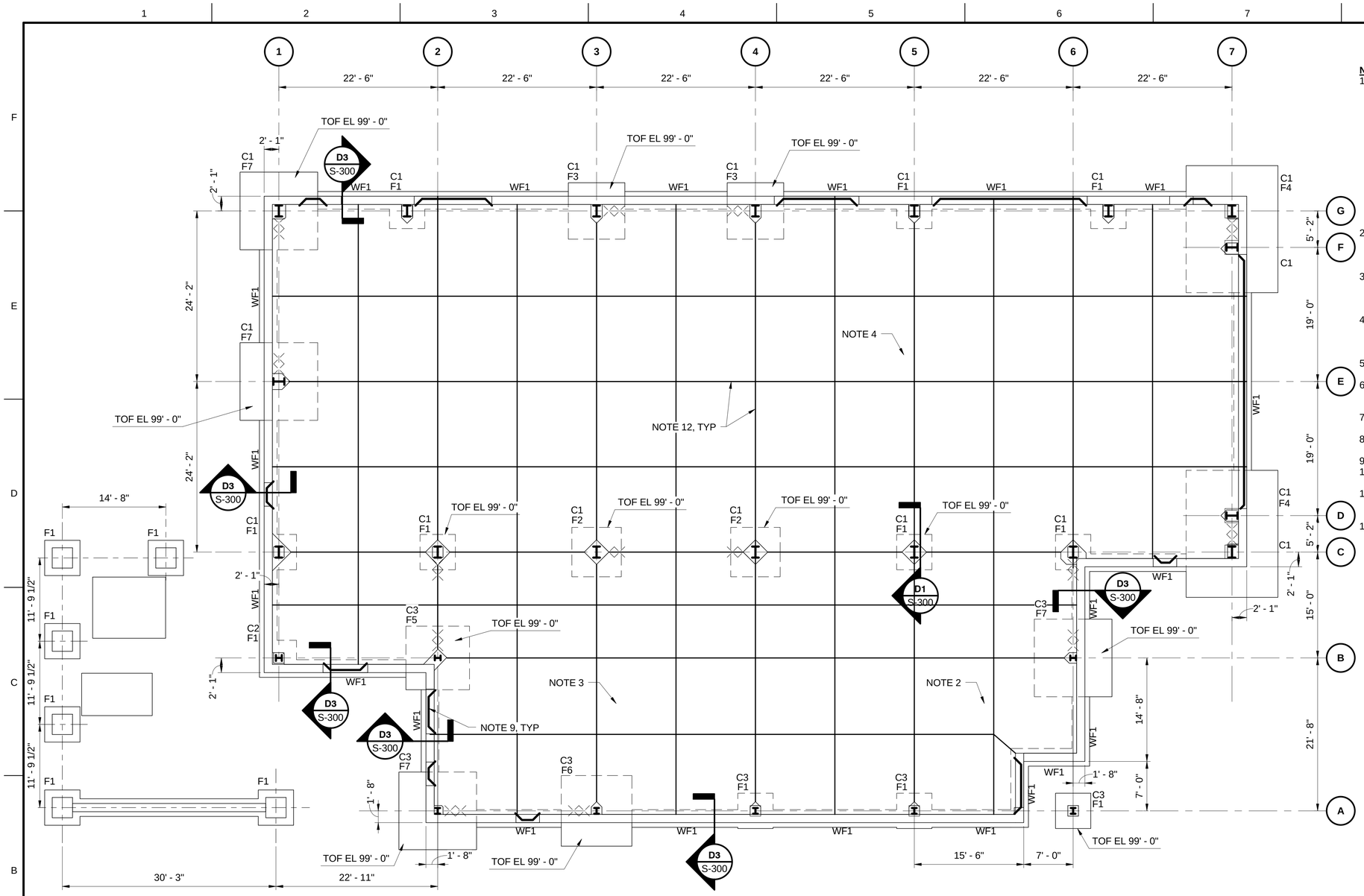
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

TYPICAL ATFP

SHEET REFERENCE NUMBER:
S-015
SHEET ____ OF ____



B1 FOUNDATION PLAN

0 4' 8' 16'

SCALE:1/8"=1'

NOTES:

1. SEE DWG S-001 AND S-002 FOR GENERAL STRUCTURAL NOTES, SEE DWG S-003 FOR ABBREVIATIONS AND KEY, SEE DWG S-004 FOR SPECIAL INSPECTION REQUIREMENTS, SEE DWG S-005 FOR WIND AND SNOW ISO, SEE DWG S-006 FOR TYPICAL FOUNDATION DETAILS, SEE DWG S-007 FOR TYPICAL CONCRETE DETAILS, SEE DWG S-008 FOR TYPICAL SLAB ON GRADE DETAILS, SEE DWG S-009 FOR TYPICAL STEEL FRAMING DETAILS, SEE DWG S-010 FOR TYPICAL JOIST DETAILS, SEE DWG S-011 FOR TYPICAL ELEVATED DECK DETAILS, SEE DWG S-012 FOR TYPICAL BRACING DETAILS. SEE DWG S-013 FOR TYPICAL METAL STUD DETAILS, SEE DWG S-014 FOR TYPICAL MASONRY VENEER DETAILS, SEE DWG S-015 FOR TYPICAL ATFP WINDOW DETAILS.
2. SLAB ON GRADE AT OFFICE/CLASSROOM/COMPUTER ROOM SHALL BE 4 INCH THICK CONCRETE SLAB REINFORCED WITH 6X6:W2.9XW2.9 WWF ON 10 MIL VAPOR BARRIER ON 4 INCH THICK AGGREGATE BASE COURSE.
3. SLAB ON GRADE AT MECHANICAL/ELECTRICAL ROOMS ROOM SHALL BE 6 INCH THICK CONCRETE SLAB REINFORCED WITH 6X6:W2.9XW2.9 WWF ON 10 MIL VAPOR BARRIER ON 4 INCH THICK AGGREGATE BASE COURSE.
4. FUSELAGE TRAINER ROOM. ROOM SHALL BE 8 INCH THICK CONCRETE SLAB REINFORCED WITH #4 BARS AT 18 INCHES ON CENTER EACH WAY ON 10 MIL VAPOR BARRIER ON 4 INCH THICK AGGREGATE BASE COURSE.
5. XX INDICATES BRACES BAY LOCATIONS. SEE BUILDING ELEVATIONS FOR GEOMETRY.
6. F#, WF#, AND C# INDICATES FOOTING TYPE, WALL FOOTING TYPE, AND COLUMN, SEE FOUNDATION SCHEDULES AND FOR COLUMN SCHEDULE THIS DRAWING.
7. GROUND FLOOR DATUM ELEVATION 100.00. TOP OF FOOTING ELEVATION 97'-6" TYPICAL UNO.
8. PROVIDE #4 X 4'-0" CENTERED IN SLAB AT RE-ENTRANT CONRERS AND DISCONTINUOUS JOINTS.
9. AT EXTERIOR DOORS, USE #4 BARS 1'-4" 1'-4" AT SLAB.
10. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR EXTERIOR SIDEWALKS, PAVING, AND STOOPS.
11. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES OF EQUIPEMENT PADS, SEE DRAWING S-004 FOR TYPICAL PAD DETAIL.
12. SLAB ON GRADE CONTROL JOINTS AND CONSTRUCTION JOINTS, SEE TYPICAL DETAILS ON DRAWING S-006. SLAB ON GRADE CONSTRUCTION JOINT LAYOUTS TO BE DETERMINED BY THE CONTRACTOR AND REVIEWD AND APPROVED BY THE CONTRACTING OFFICER. COORDINATE JOINTS AROUND FINAL IN-SLAB UTILITY TRENCH LAYOUTAND SIMULATOR FOUNDATIONS. CONTRACTOR TO SUBMIT SLAB PLACEMENT PLAN AND PROCEDURES FOR REVIEW AND APPROVAL.

ISOLATED FOOTING SCHEDULE				
ID	WIDTH	LENGTH	THICKNESS	REINFORCING
F1	5' - 0"	5' - 0"	1' - 0"	5-#7 EW BOTT
F2	7' - 0"	7' - 0"	3' - 0"	7-#7 EW
F3	8' - 0"	8' - 0"	3' - 0"	8-#7 EW BOTT
F4	18' - 0"	13' - 0"	4' - 0"	#7 @ 12" OC
F5	9' - 0"	9' - 0"	3' - 0"	9-#7 EW
F6	10' - 0"	10' - 0"	3' - 0"	10-#7 EW
F7	11' - 0"	11' - 0"	3' - 0"	11-#7 EW

COLUMN SCHEDULE			
ID	COLUMN SIZE	ANCHORAGE	BASE PLATE TYPE
C1	W18X106		
C2	W10X49		
C3	W10X33		
C4	HSS8X8X1/4		

WALL FOOTING SCHEDULE			
ID	WIDTH	THICKNESS	REINFORCING
WF1	2' - 6"	1' - 0"	3-#5 CONT

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

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DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
B. BRETTMANN
PROJECT ENGINEER/ARCHITECT

DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14S-100
4/17/2013 DATE

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

Burns & McDonnell

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

FOUNDATION AND SLAB ON GRADE PLAN

SHEET REFERENCE NUMBER:
S-100
SHEET ____ OF ____

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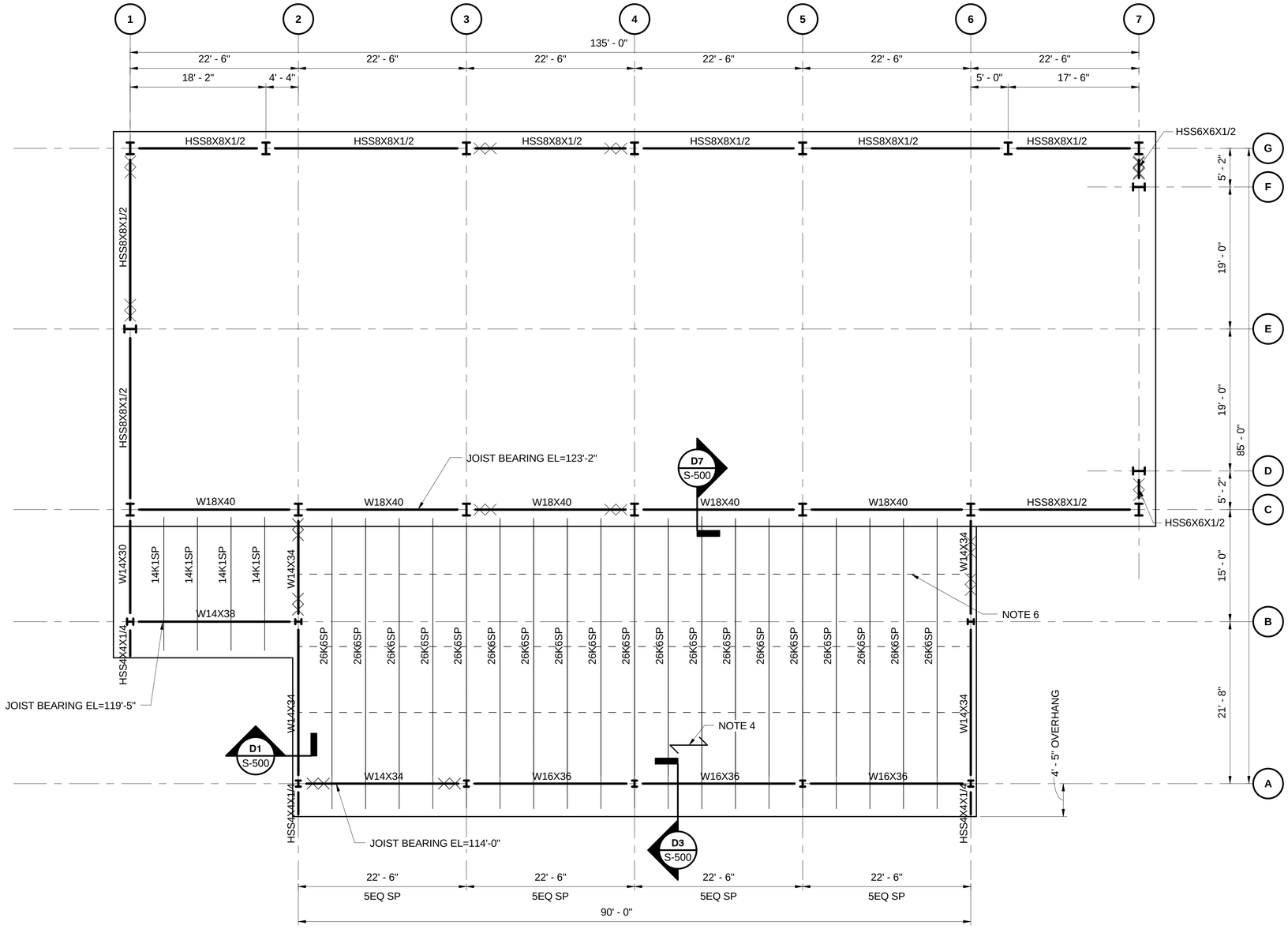
DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 1:56:38 PM



B1 ROOF FRAMING PLAN

SCALE:1/8"=1'

NOTES

1. SEE DWG S-001 AND S-002 FOR GENERAL STRUCTURAL NOTES,
   SEE DWG S-003 FOR ABBREVIATIONS AND KEY,
   SEE DWG S-004 FOR SPECIAL INSPECTION REQUIREMENTS,
   SEE DWG S-005 FOR WIND AND SNOW ISO,
   SEE DWG S-006 FOR TYPICAL FOUNDATION DETAILS,
   SEE DWG S-007 FOR TYPICAL CONCRETE DETAILS,
   SEE DWG S-008 FOR TYPICAL SLAB ON GRADE DETAILS,
   SEE DWG S-009 FOR TYPICAL STEEL FRAMING DETAILS,
   SEE DWG S-010 FOR TYPICAL JOIST DETAILS,
   SEE DWG S-011 FOR TYPICAL ELEVATED DECK DETAILS,
   SEE DWG S-012 FOR TYPICAL BRACING DETAILS.
   SEE DWG S-013 FOR TYPICAL METAL STUD DETAILS,
   SEE DWG S-014 FOR TYPICAL MASONRY VENEER DETAILS,
   SEE DWG S-015 FOR TYPICAL ATFP WINDOW DETAILS.
2. GROUND FLOOR DATUM ELEVATION 100.000. TOP OF ROOF VARIES WITH SLOPE, SEE PLANS AND ELELVATIONS FOR JOIST BEARING AND STEEL ELEVATIONS.
3. XX INDICATES BRACES BAY LOCATIONS. SEE BUILDING ELEVATIONS FOR GEOMETRY.
4. ROOF DECK IS 1-1/2 INCH DEEP BY 20 GAGE TYPE B ROOF DECK, SEE GSN.
5. SEE DRAWING S-011 FOR TYPICAL ROOF OPENING FRAMING.
6. JOIST BRIDGING PER MANUFACTURERS REQUIREMENTS, TYPICAL. THE STEEL JOIST SUPPLIER SHALL PROVIDE ALL NECESSARY JOIST BRIDING AND MEANS OF ATTACHMENT.

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:
SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14S-101
4/17/2013 DATE
B. BRETTMANN PROJECT ENGINEER/ARCHITECT

U.S. ARMY ENGINEER DISTRICT
CONTRACTING OFFICERS
MOBILE, ALABAMA

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9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

ROOF FRAMING PLAN

SHEET REFERENCE NUMBER:
S-101
SHEET ____ OF ____

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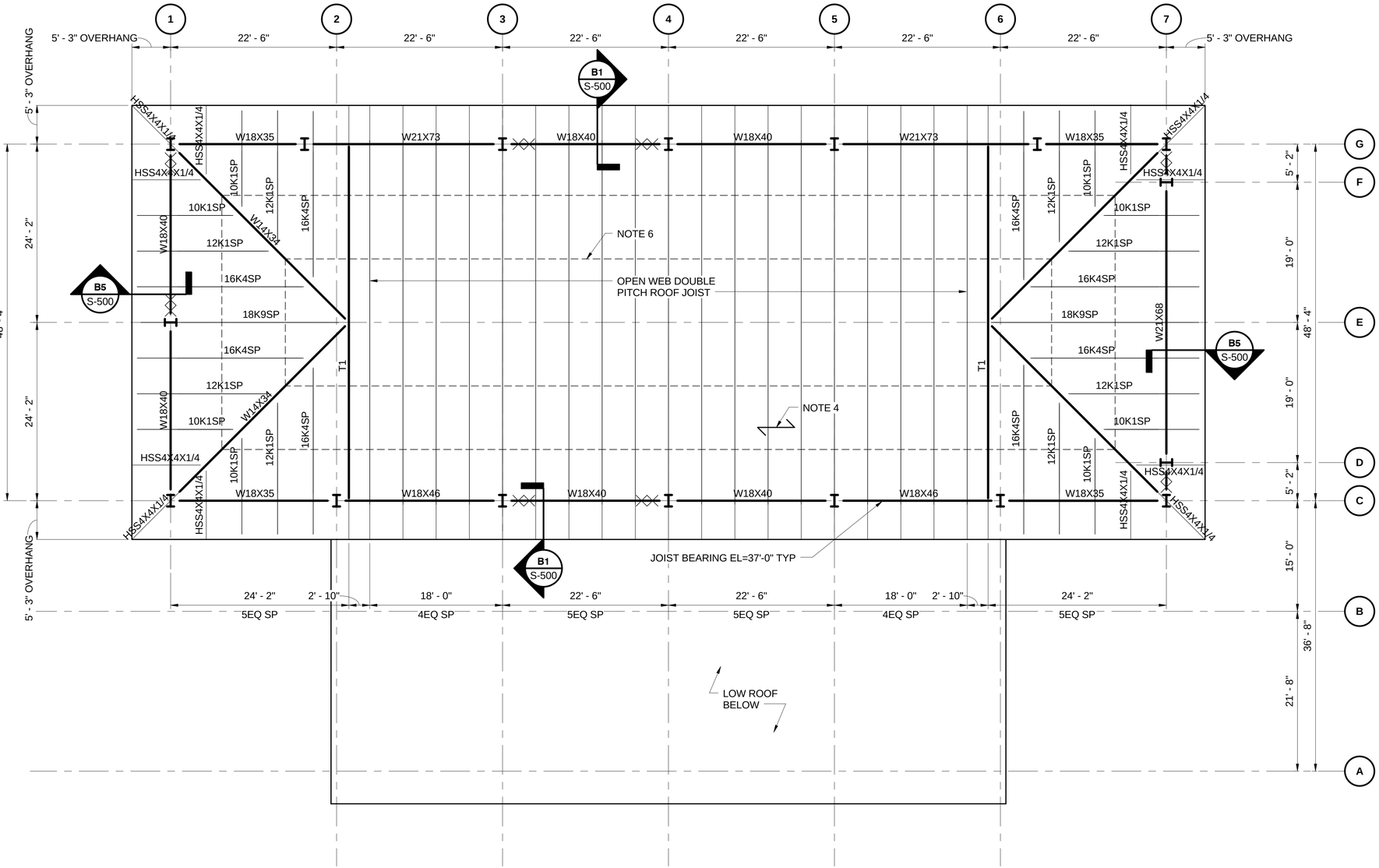

B1 HIGH ROOF FRAMING PLAN

SCALE:1/8"=1'

NOTES

1. SEE DWG S-001 AND S-002 FOR GENERAL STRUCTURAL NOTES,
   SEE DWG S-003 FOR ABBREVIATIONS AND KEY,
   SEE DWG S-004 FOR SPECIAL INSPECTION REQUIREMENTS,
   SEE DWG S-005 FOR WIND AND SNOW ISO,
   SEE DWG S-006 FOR TYPICAL FOUNDATION DETAILS,
   SEE DWG S-007 FOR TYPICAL CONCRETE DETAILS,
   SEE DWG S-008 FOR TYPICAL SLAB ON GRADE DETAILS,
   SEE DWG S-009 FOR TYPICAL STEEL FRAMING DETAILS,
   SEE DWG S-010 FOR TYPICAL JOIST DETAILS,
   SEE DWG S-011 FOR TYPICAL ELEVATED DECK DETAILS,
   SEE DWG S-012 FOR TYPICAL BRACING DETAILS.
   SEE DWG S-013 FOR TYPICAL METAL STUD DETAILS,
   SEE DWG S-014 FOR TYPICAL MASONRY VENEER DETAILS,
   SEE DWG S-015 FOR TYPICAL ATFP WINDOW DETAILS.
2. GROUND FLOOR DATUM ELEVATION 100.000. TOP OF ROOF VARIES WITH SLOPE, SEE PLANS AND ELELVATIONS FOR JOIST BEARING AND STEEL ELEVATIONS.
3. XX INDICATES BRACES BAY LOCATIONS. SEE BUILDING ELEVATIONS FOR GEOMETRY.
4. ROOF DECK IS 1-1/2 INCH DEEP BY 20 GAGE TYPE B ROOF DECK, SEE GSN.
5. SEE DRAWING S-011 FOR TYPICAL ROOF OPENING FRAMING.
6. JOIST BRIDGING PER MANUFACTURERS REQUIREMENTS, TYPICAL. THE STEEL JOIST SUPPLIER SHALL PROVIDE ALL NECESSARY JOIST BRIDING AND MEANS OF ATTACHMENT.
7. SEE DRAWING S-XXX FOR TRUSS SECTIONS AND DETAILS.
8. T1 INDICATES TRUSS TYPE, SEE DRAWING ____.

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	REVISIONS: DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP145-102
DATE 4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
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KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

HIGH ROOF FRAMING PLAN

SHEET REFERENCE NUMBER:
S-102
SHEET ____ OF ____

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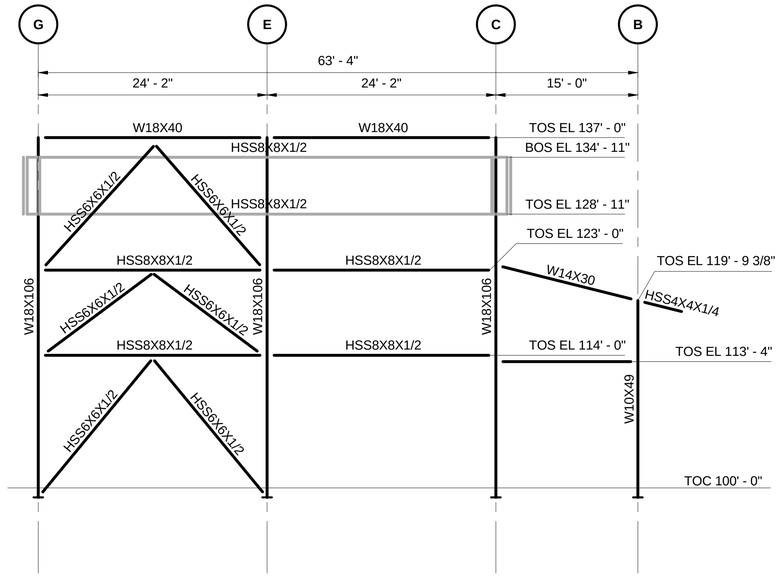
DEFINITIVE DESIGN

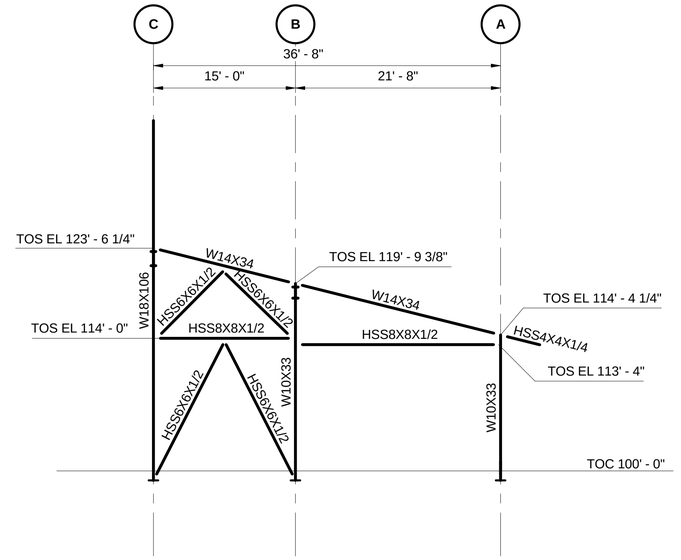
FILE:
DATE: 4/15/2013 1:56:44 PM



D1 ELEVATION GRID 1

0 4' 8' 16'

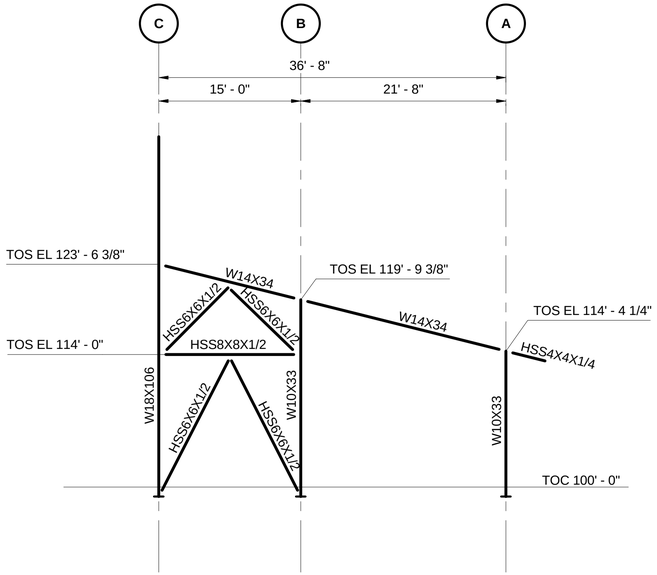
SCALE:1/8"=1'



D5 ELEVATION GRID 2

0 4' 8' 16'

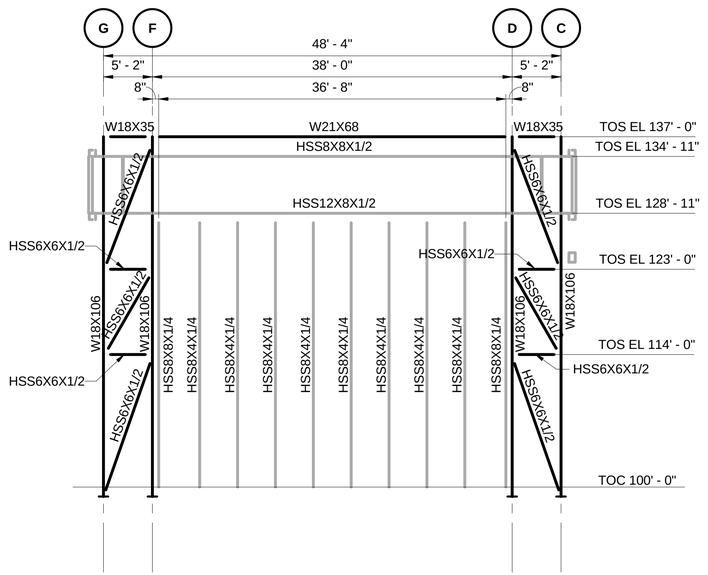
SCALE:1/8"=1'



A1 ELEVATION GRID 6

0 4' 8' 16'

SCALE:1/8"=1'



A5 ELEVATION GRID 7

0 4' 8' 16'

SCALE:1/8"=1'

FILE:
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US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

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DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN
DATE: 4/17/2013
SCALE: 1/8" = 1'-0"
DRAWING CODE: EP14S-200
4/17/2013

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KANSAS CITY, MO 64114
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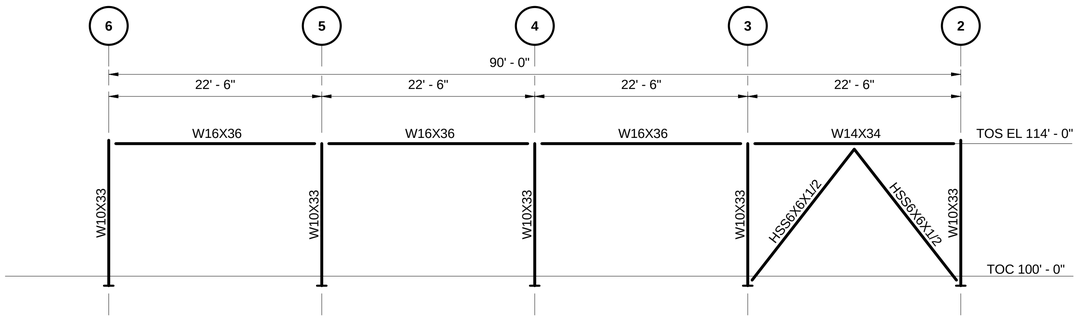
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

FRAMING ELEVATION

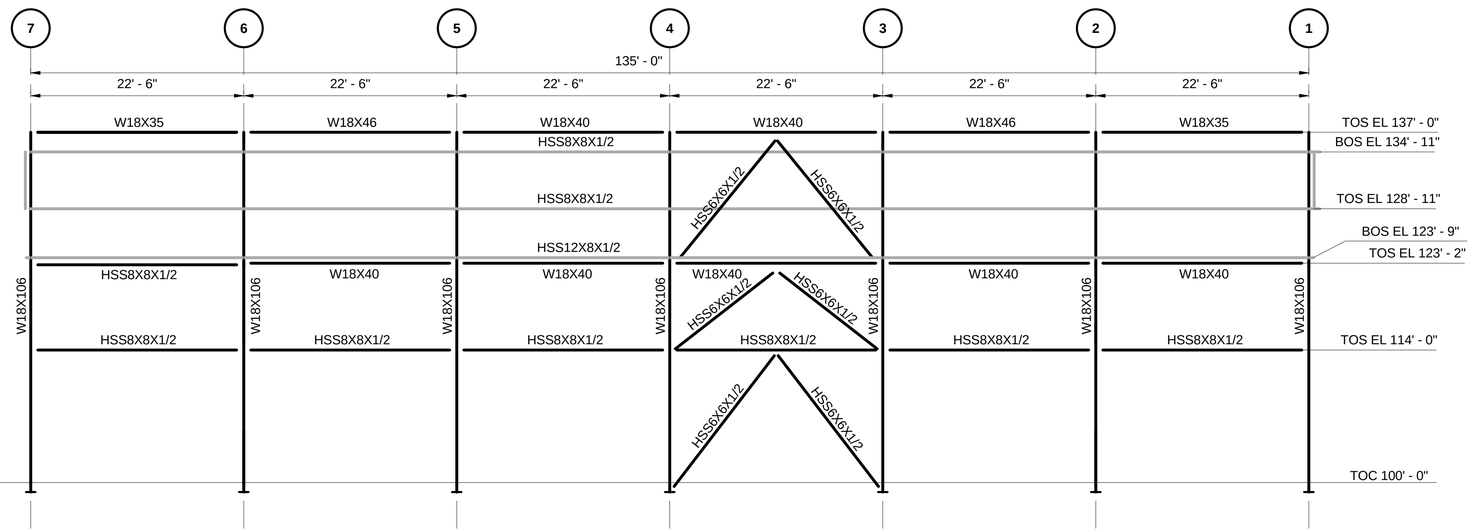
SHEET REFERENCE NUMBER:
S-200
SHEET ____ OF ____



E1 ELEVATION GRID A

0 4' 8' 16'

SCALE:1/8"=1'



A1 ELEVATION GRID C

0 4' 8' 16'

SCALE:1/8"=1'

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DATE: 4/15/2013 1:56:50 PM

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CHECKED BY: -
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN
DATE: 4/17/2013
SCALE: 1/8" = 1'-0"
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DATE 4/17/2013

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CORPS OF ENGINEERS
MOBILE, ALABAMA.

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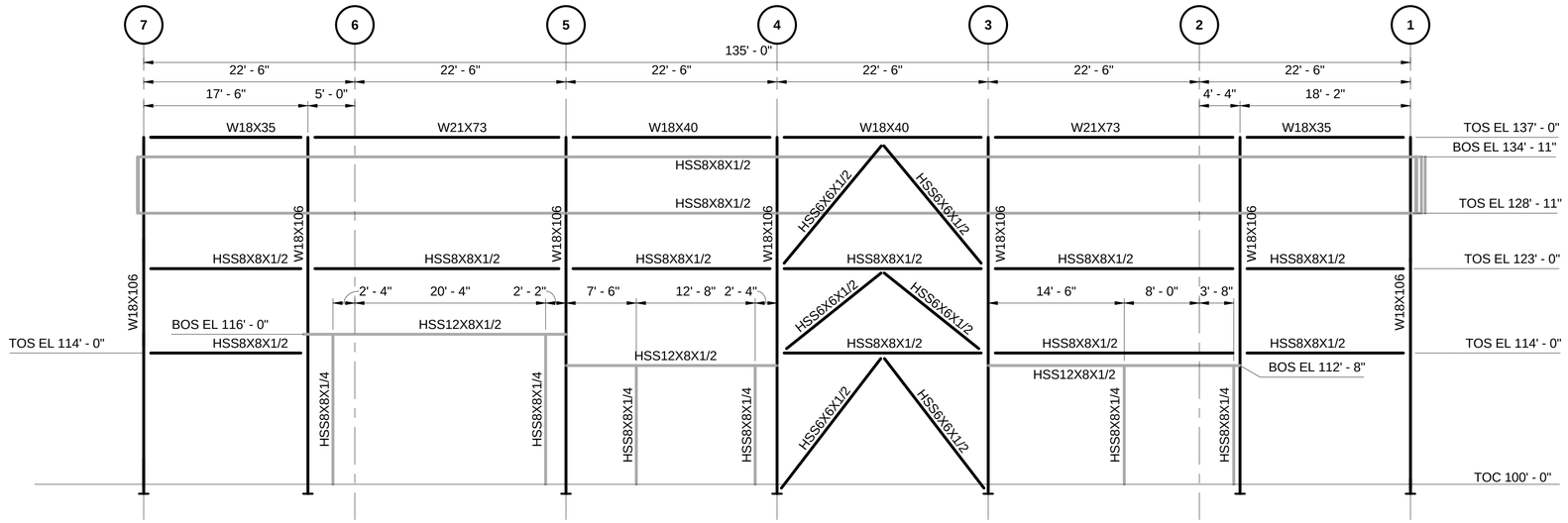
9161419

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

FRAMING ELEVATION

SHEET REFERENCE NUMBER:
S-201
SHEET ____ OF ____



D1 ELEVATION GRID G

0 4' 8' 16'

SCALE:1/8"=1'

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DEFINITIVE DESIGN

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DATE: 4/15/2013 1:56:53 PM

US ARMY CORPS OF ENGINEERS ®
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DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN
DATE: 4/17/2013
SCALE: 1/8" = 1'-0"
DRAWING CODE: EP14S-202
4/17/2013

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CORPS OF ENGINEERS
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KANSAS CITY, MO 64114
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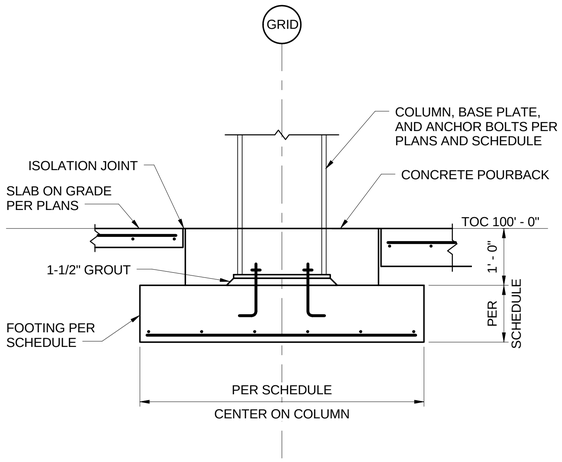
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

FRAMING ELEVATION

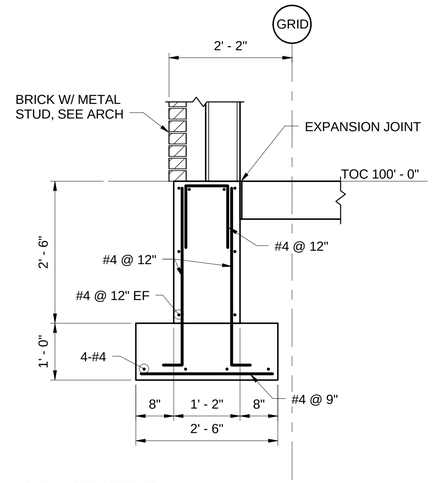
SHEET REFERENCE NUMBER:
S-202
SHEET ____ OF ____



D1 SECTION

0 1' 2' 3'

SCALE:3/4"=1'



D3 SECTION

0 1' 2' 3'

SCALE:3/4"=1'

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DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 1:56:57 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	REVISIONS: DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT B. BRETTMANN DATE 4/17/2013
DATE: 4/17/2013
SCALE: 3/4" = 1'-0"
DRAWING CODE: EP14S-300

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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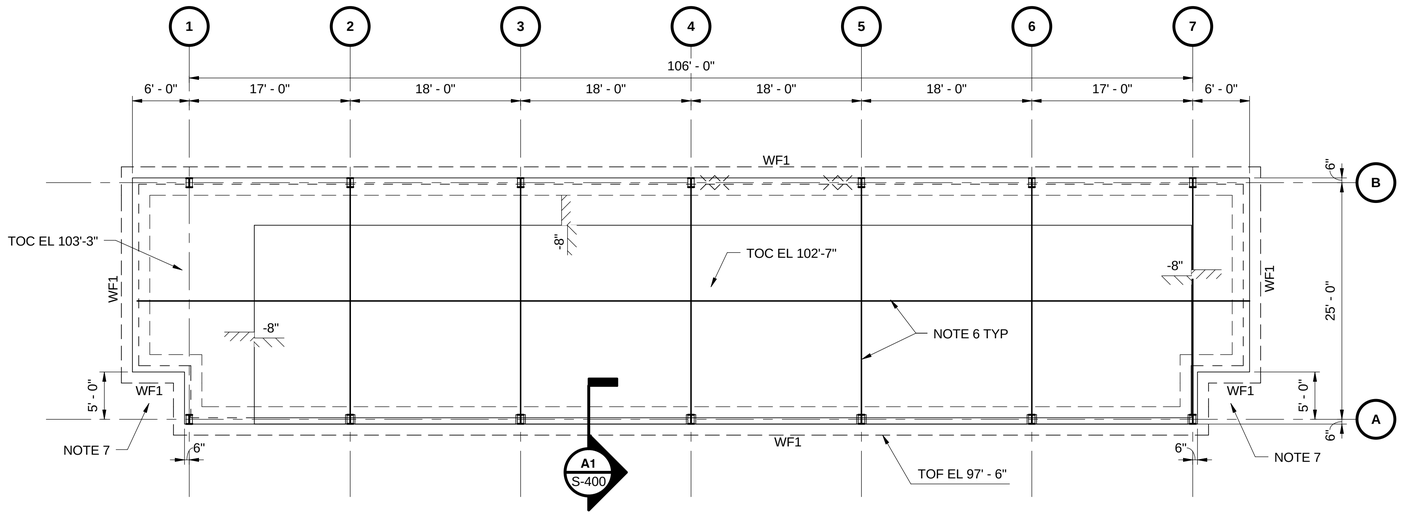
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

FOUNDATION DETAILS

SHEET REFERENCE NUMBER:
S-300
SHEET ____ OF ____



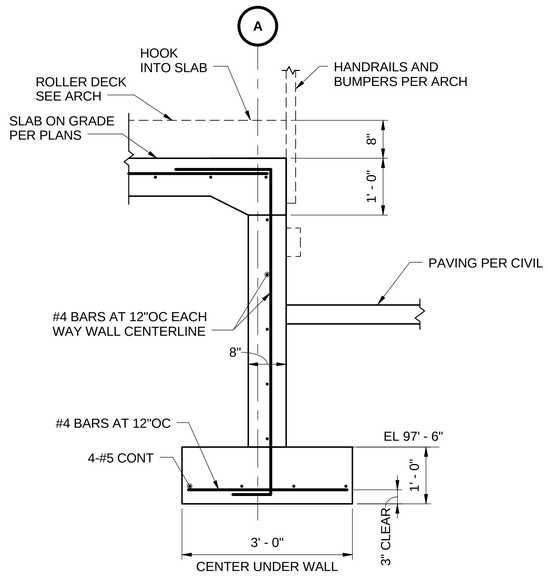
D1 FIRST FLOOR

SCALE:1/8"=1'

NOTES:

1. SEE DWG S-001 AND S-002 FOR GENERAL STRUCTURAL NOTES, SEE DWG S-003 FOR ABBREVIATIONS AND KEY, SEE DWG S-004 FOR SPECIAL INSPECTION REQUIREMENTS, SEE DWG S-005 FOR WIND AND SNOW ISO, SEE DWG S-006 FOR TYPICAL FOUNDATION DETAILS, SEE DWG S-007 FOR TYPICAL CONCRETE DETAILS, SEE DWG S-008 FOR TYPICAL SLAB ON GRADE DETAILS, SEE DWG S-009 FOR TYPICAL STEEL FRAMING DETAILS, SEE DWG S-010 FOR TYPICAL JOIST DETAILS, SEE DWG S-011 FOR TYPICAL ELEVATED SLAB DETAILS, SEE DWG S-012 FOR TYPICAL BRACING DETAILS. SEE DWG S-013 FOR TYPICAL METAL STUD DETAILS, SEE DWG S-014 FOR TYPICAL MASONRY VENEER DETAILS, SEE DWG S-015 FOR TYPICAL ATFP WINDOW DETAILS.
2. SLAB ON GRADE SHALL BE 8 INCH THICK CONCRETE SLAB REINFORCED WITH #4@12"OC EW ON 10 MIL VAPOR BARRIER ON 4 INCH THICK AGGREGATE BASE COURSE.
3. XX INDICATES BRACES BAY LOCATIONS. SEE BUILDING ELEVATIONS FOR GEOMETRY.
4. WF# WALL FOOTING TYPE, SEE FOUNDATION SCHEDULE FOR COLUMN SCHEDULE THIS DWG.
5. INDICATES ELEVATION CHANGE.
6. SLAB ON GRADE CONTROL JOINTS AND CONSTRUCTION JOINTS, SEE TYPICAL DETAILS ON DWG S-006. SLAB ON GRADE CONSTRUCTION JOINT LAYOUTS TO BE DETERMINED BY THE CONTRACTOR AND REVIEWED AND APPROVED BY THE CONTRACTING OFFICER.
7. STAIRS, SEE ARCHITECTURAL DWGS.

WALL FOOTING SCHEDULE			
ID	WIDTH	THICKNESS	REINFORCING
WF1	3' - 0"	1' - 0"	4-#5 CONT



A1 SECTION

SCALE:3/4"=1'

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 1:57:16 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN

DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14S-400
4/17/2013 DATE

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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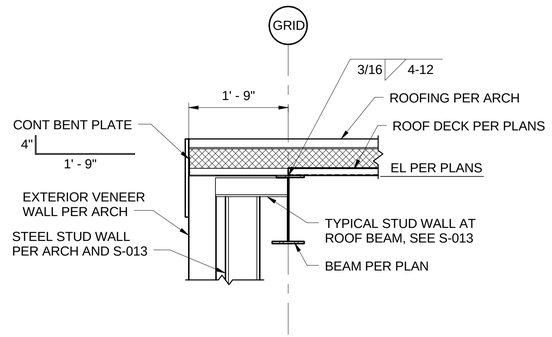
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

OUTDOOR CARGO SUPPORT FOUNDATION AND SLAB PLAN

SHEET REFERENCE NUMBER:
S-400
SHEET ____ OF ____



D1 SECTION

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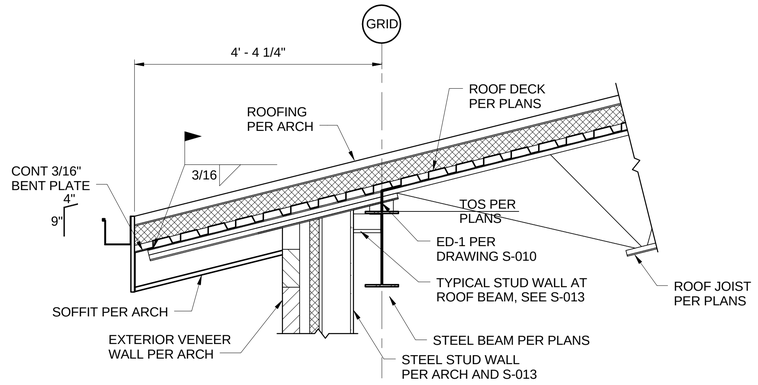

D3 SECTION

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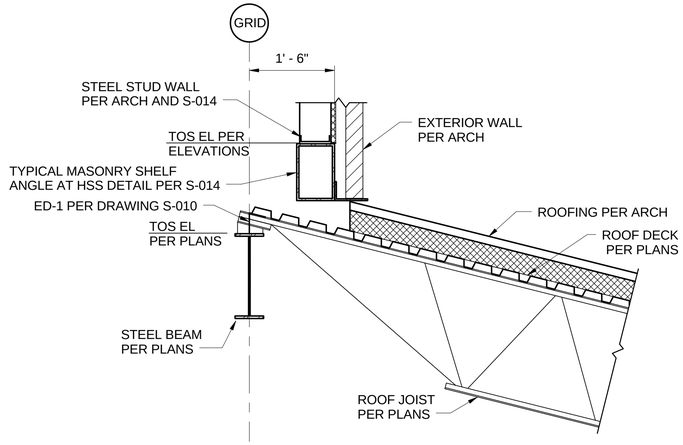

D7 SECTION

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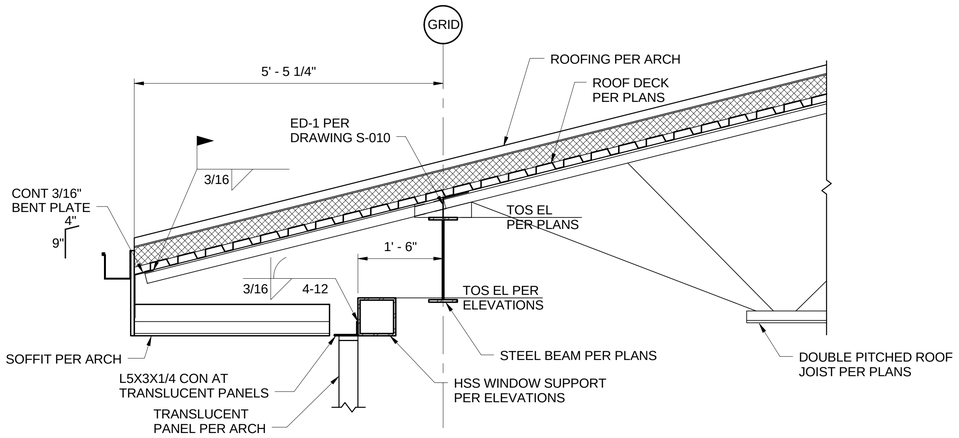
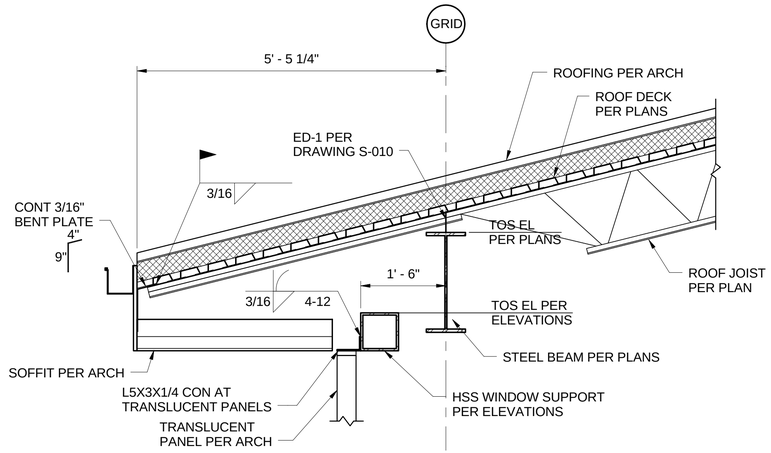


B1 SECTION

SCALE:3/4"=1'



B5 SECTION

SCALE:3/4"=1'

FILE:
DATE: 4/15/2013 1:57:04 PM

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:
SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: B. BRETTMANN
DRAWN BY: C. MCGEE
CHECKED BY: -
PROJECT ENGINEER/ARCHITECT: B. BRETTMANN
DATE: 4/17/2013
SCALE: 3/4" = 1'-0"
DRAWING CODE: EP14S-500
DATE: 4/17/2013

U.S. ARMY ENGINEER DISTRICT
CONTRACTING DIVISION
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

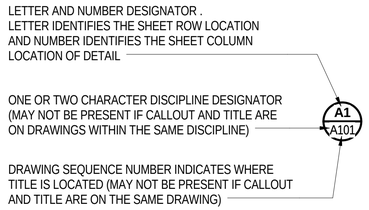
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

FRAMING DETAILS

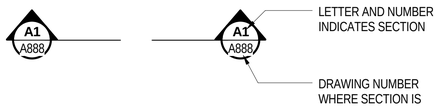
SHEET REFERENCE NUMBER:
S-500
SHEET ____ OF ____

CALLOUT IDENTIFICATION

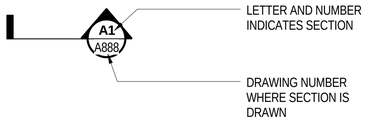
SECTION, DETAIL, AND ELEVATION SYMBOL IDENTIFIERS:



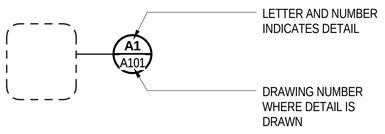
BUILDING SECTION CALLOUT EXAMPLE:



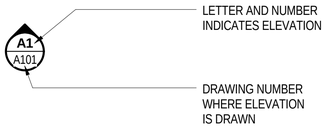
WALL SECTION CALLOUT EXAMPLE:



DETAIL CALLOUT EXAMPLE:

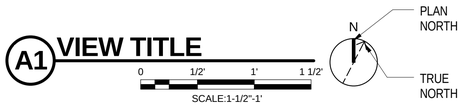


EXTERIOR ELEVATION CALLOUT EXAMPLE:

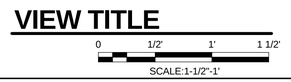


INTERIOR ELEVATION CALLOUT EXAMPLE:

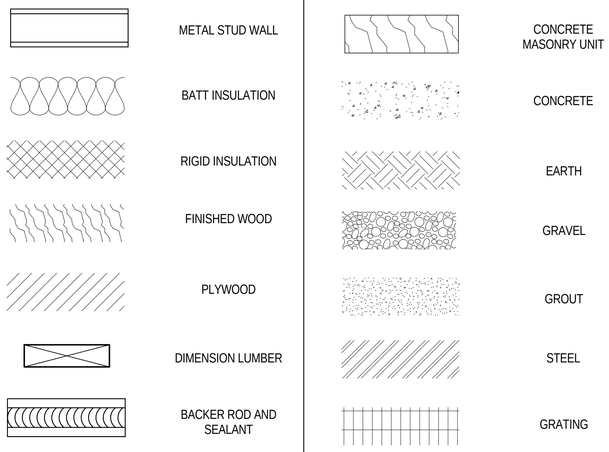
SECTION, DETAIL, AND ELEVATION TITLE EXAMPLE:



OVERALL AND AREA PLAN TITLE EXAMPLE:



MATERIAL SYMBOLS



GENERAL NOTES

THESE GENERAL NOTES SHALL APPLY TO ALL WORK AND ALL DRAWINGS IN THIS SET.

1. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND STANDARDS AS LISTED OR REFERENCED ON LIFE SAFETY PLAN AND LIFE SAFETY CRITERIA.
2. THE CONTRACTOR SHALL INCLUDE ALL WORK REQUIRED TO COMPLY WITH ALL APPLICABLE CODES AND STANDARDS AS LISTED OR REFERENCED ON LIFE SAFETY PLAN AND LIFE SAFETY CRITERIA.
3. DIMENSIONS SHALL GOVERN. DETAILS SHALL GOVERN OVER PLANS AND ELEVATIONS. LARGE SCALE DETAILS OR PLANS SHALL GOVERN OVER SMALL SCALE DETAILS OR PLANS.
4. THE GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL EXIT SIGNS, EMERGENCY LIGHTING SYSTEMS, ALARM SYSTEMS AND AUTOMATIC SPRINKLER SYSTEMS AS REQUIRED BY APPLICABLE CODES AND STANDARDS.
5. ALL FLOORS SHALL BE INSPECTED FOR DAMAGE, WARPING OR OTHER NOTICEABLE DEVIATIONS AND PATCHED AND LEVELED PRIOR TO COVERING WITH FLOOR FINISHES, INSTALLATION OF ACCESS FLOOR SYSTEM, OR ERECTION AND INSTALLATION OF COLD-FORMED FRAMING IN THE ATTIC.
6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MANUFACTURER'S RECOMMENDED MAINTENANCE PROCEDURES AND SCHEDULES.
7. ANY MANUFACTURER'S OR BRAND NAME PRODUCTS INDICATED OR SPECIFIED ARE DONE SO TO ESTABLISH A MINIMUM LEVEL OF QUALITY.
8. ALL CONSTRUCTION SHALL MEET OR EXCEED LOCAL INDUSTRY STANDARDS. DETAILS ARE PROVIDED TO INDICATE MINIMUM QUALITY AND TO GIVE STANDARDS OF CONSTRUCTION. IF A CONDITION IS NOT SPECIFICALLY DETAILED, SUBMIT A SIMILAR DETAIL FOR GUIDE AND APPROVAL.
9. THE LETTERS I, O, AND Q ARE NOT USED TO INDICATE DETAILS, SECTIONS OR ELEVATIONS.
10. PROVIDE PRESERVATIVE-TREATED WOOD AT ALL LOCATIONS WHERE WOOD IS IN DIRECT CONTACT WITH CONCRETE OR MASONRY.
11. PROVIDE 3/4" FIRE-RETARDANT TREATED PLYWOOD BACKING AT ALL ELECTRICAL, PHONE, AND SECURITY SYSTEM PANELS.
12. PROVIDE FIRE-RESISTANT TREATED WOOD BLOCKING FOR SECURE ANCHORAGE OF ALL SHELVES, RUNNING TRIM, RAILINGS, SUSPENDED ITEMS, DOOR-STOPS, GRAB-BARS, AND OTHER SIMILAR WOODWORK, HARDWARE, SPECIAL TIES, ACCESSORIES, FIXTURES, OR EQUIPMENT.
13. PROVIDE CEMENT BOARD SHEATHING AT ALL AREAS WHERE A TILE SURFACE IS TO BE INSTALLED ON METAL STUD WALL.
14. PROVIDE WATER-RESISTANT GYPSUM BOARD AT ALL WET OR UNCONDITIONED AREAS INCLUDING, BUT NOT LIMITED TO, PARTITIONS BEHIND SINKS. CONTRACTOR TO INSURE THAT FIRE RATING IS MAINTAINED.
15. PAINT, STAIN, OR COAT ALL EXPOSED SURFACES OF CONSTRUCTION UNLESS NOTED OTHERWISE OR IF SURFACES ARE PRE-FINISHED.
16. ALL OPENING DIMENSIONS ARE NOMINAL. THE CONTRACTOR SHALL FIELD MEASURE ALL OPENINGS AND COORDINATE WITH THE APPROPRIATE SUPPLIER FOR ALL DOORS AND WINDOWS.
17. ALL CONDUITS, PLUMBING, PIPING, DUCTWORK, AND OTHER EQUIPMENT EXPOSED TO VIEW SHALL BE LOCATED PARALLEL OR PERPENDICULAR TO THE STRUCTURAL FRAMING SYSTEM.
18. PROVIDE GALVANIC PROTECTION BETWEEN DISSIMILAR MATERIALS, WHERE REQUIRED.
19. CERAMIC TILE TO BE INSTALLED UP TO 4'-0" ABOVE FINISH FLOOR AND 1'-0" TO EITHER SIDE AT ALL MOP SINK LOCATIONS. EXTENT OF TILE VARIES BY LOCATION.
20. ARCHITECTURAL DETAILS ARE APPLICABLE WHERE INDICATED BY SECTION CUT, BY NOTE, OR BY DETAIL TITLE. PROVIDE SIMILAR DETAILS AT SIMILAR CONDITIONS UNLESS NOTED OTHERWISE. THE CONTRACTOR MAY REQUEST A CLARIFICATION IF REQUIRED, OTHERWISE THE MORE STRINGENT REQUIREMENTS SHALL CONTROL.
21. PROVIDE FIRE-STOPPING SYSTEMS AT TOP OF AND AT ALL PENETRATIONS THROUGH FIRE-RATED PARTITIONS.
22. SEAL ALL EXTERIOR BUILDING JOINTS AT BOTH THE EXTERIOR AND INTERIOR SURFACES AGAINST MOISTURE AND AIR INFILTRATION.
23. SEAL AROUND ALL DOOR AND WINDOW FRAMES, COUNTERTOPS, WALL-MOUNTED FIXTURES AND EQUIPMENT TO ADJACENT WALL SURFACES.
24. THE CONTRACTOR SHALL REVIEW THE DIMENSIONS OF ALL EQUIPMENT IN THE PROJECT REGARDLESS OF THE SOURCE AND COORDINATE ACCESS TO THE SPACE AND VERIFY CLEAR FLOOR SPACE IS PROVIDED AS REQUIRED TO ENSURE EASE OF INSTALLATION.
25. ALL WORK MUST BE OF GOOD QUALITY, FREE FROM DEFECTS, AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS.
26. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL PENETRATIONS IN THE STRUCTURE FOR THE PROPER INSTALLATION OF THE WORK. REFER TO STRUCTURAL DRAWING FOR SECONDARY FRAMING AND OR REINFORCING REQUIRED AT PENETRATIONS IN STEEL, CONCRETE OR MASONRY.
27. THE CONTRACTOR SHALL PROVIDE ACCESS DOORS OR PANELS AS REQUIRED FOR SERVICING OF PIPING, DUCTWORK, CABLE TRAYS, FIRE DAMPERS AND SIMILAR APPLICATIONS. ALL PROPOSED ACCESS DOOR LOCATIONS TO BE SUBMITTED FOR APPROVAL TO USCOE PRIOR TO INSTALLATION.
28. PROVIDE ALL HVAC, PLUMBING, GAS OR ELECTRIC SERVICE CONNECTIONS TO CASEWORK, FIXTURES, SIGNAGE, OR EQUIPMENT INDICATED (WHETHER UNITS ARE INSTALLED BY CONTRACTOR OR BY OTHERS).
29. BRACE PARTITIONS, SUSPENDED CEILINGS, SOFFITS, SUSPENDED ITEMS, ETC. ONLY TO STRUCTURAL ELEMENTS ABOVE. DO NOT ANCHOR TO ROOF DECK, PLUMBING / SPRINKLER PIPES, DUCTWORK, ELECTRICAL CONDUIT OR SIMILAR ELEMENTS.
30. EXTEND ALL FLOORING AND WALL-BASE COMPLETELY INTO RECESSES, UNDER OPEN COUNTERTOPS, AND BEHIND ALL EQUIPMENT.

ABBREVIATIONS

-SEE ADDITIONAL FINISH MATERIAL ABBREVIATIONS IN THE MATERIAL LEGEND, ON ROOM FINISH SCHEDULE

A	
ACOUST.	ACOUSTICAL
ACT	ACOUSTIC TILE
ADP	ART DISPLAY PANEL
ADT	ART DIPLAY TRACK
ADJ	ADJACENT, ADJUSTABLE
AFF	ABOVE FINISH FLOOR
AFP	ACCORDION FOLDING PARTITION
AFS	ACCESS FLOOR SYSTEM
AHU	AIR HANDLING UNIT
AL/GL	ALUMINUM / GLASS
ALUM	ALUMINUM
AFS	ACCESS FLOOR SYSTEM
APPROX	APPROXIMATE
ARCH	ARCHITECTURE, ARCHITECT
B	
B	BENCH
BM	BEAM
BD	BOARD, BLAST DOOR
BLDG	BUILDING
BLKG	BLOCKING
BOT	BOTTOM
BP	BULLIT PROOF
C	
CAB	CABINET
CID	COMPREHENSIVE INTERIOR DESIGN
CMU	CONCRETE MASONRY UNIT
CJ	CONTROL JOINT, CONSTRUCTION JOINT
℄	CENTER LINE
CLG	CEILING
COL	COLUMN
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACT, CONTRACTOR
COR	CONTRACTING OFFICER'S REPRESENTATIVE
CPT	CARPET OR COMMON PATH OF TRAVEL (LIFE SAFETY PLANS)
CR	CHAIR RAIL
CT	CARPET TILE
CUP	CENTRAL UTILITY PLANT
CR	CHAIR RAIL
D	
DBL	DOUBLE
DC	DISPLAY CASE
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DML	DEMOLITION
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DWG	DRAWING

E	
EA	EACH
EEWS	EMERGENCY EYEWASH & SHOWER
EF	EXHAUST FAN
EJ	EXPANSION JOINT
EL	ELEVATION
ELEV	ELEVATOR
EQUIP	EQUIPMENT
EQ.	EQUAL
ETC	AND SO FORTH (ETCETERA)
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXP	EXPANSION
EJ	EXPANSION JOINT
EXT	EXTERIOR
F	
FD	FLOOR DRAIN
FDN	FOUNDATION
FEB	FIRE EXTINGUISHER & WALL BRACKET
FEC	FIRE EXTINGUISHER CABINET
FFL	FINISH FLOOR LEVEL
FHC	FIRE HOSE CABINET (WITH EXSTINGUISHER & BRACKET)
FHR	FIRE HOSE REEL (WITH EXSTINGUISHER & BRACKET)
FIN	FINISHED, FINISH
FFEL	FINISHED FLOOR ELEVATION
FLR	FLOOR
FO	FACE OF
G	
GA	GAUGE
GALV	GALVANIZED
GEJ	GUTTER EXPANSION JOINT
GL	GRADE LINE, GLASS
GRTG	GRATING
GYP	GYPSUM
GYP BD	GYPSUM BOARD
H	
HD	HAND
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HT.	HEIGHT
HVAC	HEATING, VENTILATION & AIR CONDITIONING
I	
I.D.	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
J	
JC	JANITOR'S CLOSET
JT	JOINT

L	
LAM	LAMINATE
LAV	LAVATORY
LBL	LABEL
LVR	LOUVER
LVR LP	LOUVER LOW POINT
LP	LOW POINT
M	
MACH	MACHINE
MAINT	MAINTENANCE
MANUF	MANUFACTURE
MAS	MASONRY
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
M.R.	MIRRORED
MTD	MOUNTED
MTL	METAL
N	
NIC	NOT IN CONTRACT
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NO	NUMBER
NTS	NOT TO SCALE
O	
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OFF	OFFICE
OPP	OPPOSITE
OPP. HD.	OPPOSITE HAND
OPNG	OPENING
OTS	OPEN TO STRUCTURE
P	
P	PAINT (e.g. P-1)
PTD	PAINTED
PLAS. LAM.	PLASTIC LAMINATE
P.	PLATE
PNL	PANEL
PR	PAIR
PLYWD	PLYWOOD
R	
R OR RAD	RADIUS
RA	RETURN AIR
RCP	REFLECTIVE CEILING PLAN
RD	ROOF DRAIN
RE:	REFERENCE
RECP	RECEPTACLE
REG	REGULAR
REINF	REINFORCED
REQ'D	REQUIRED
RGH	ROUGH

S	
SCHED.	SCHEDULE
SCIF	SENSITIVE COMPARTMENTED INFORMATION FACILITY
SECT	SECTION
SHT	SHEET
SID	STRUCTURAL INTERIOR DESIGN
SIM	SIMILAR
SPEC	SPECIFICATION
SPS	SYNTHETIC PANEL SYSTEM
SS	STAINLESS STEEL
SSMA	STEEL STUD MANUFACTURERS ASSOCIATION WWW.SSMA.COM
STC	SOUND TRANSMISSION COEFFICIENT
STL	STEEL
STOR	STORAGE
STRUC	STRUCTURAL
SUPP.	SUPPORT
SUSP	SUSPENDED
T	
TD	TRAVEL DISTANCE
TECH	TECHNICAL
THK	THICK
THRU	THROUGH
TLT	TOILET
T & B	TOP & BOTTOM
T.O.P.	TOP OF PARAPET
T.O.S.	TOP OF STEEL
TYP	TYPICAL
U	
U.N.O.	UNLESS NOTED OTHERWISE
UL	UNDERWRITERS LABORATORY
V	
VENT	VENTILATE, VENTILATOR
VERT	VERTICAL
VOL	VOLUME
W	
W	WIDTH
W/	WITH
WD	WOOD
WT	WEIGHT

DEFINITIVE DESIGN NOTES

1. THIS DEFINITIVE DESIGN STANDARD IS TO DESIGN A NON-SITE SPECIFIC PROTOTYPICAL KC-46A TRAINING FACILITY THAT IS VERSATILE ENOUGH TO BE SITE ADAPTED AT ANY AIR FORCE, AIR GUARD, OR AIR RESERVE INSTALLATION ACROSS THE UNITED STATES.
2. THIS DEFINITIVE DESIGN STANDARD IS BASED ON THE AVAILABLE UFC'S DESIGN CRITERIA AS OF MARCH 2013.
3. ALL BUILDING SYSTEMS AND COMPONENTS SHALL BE REVIEWED AGAINST THE LOCAL CLIMATE, LOCAL BUILDING CODES AND ANY OTHER SPECIAL REQUIREMENTS UPON SITE SELECTION. SOME EXAMPLES OF BUILDING SYSTEMS INCLUDE R-VALUE OF INSULATION, VAPOR BARRIER LOCATION, NECESSITY OF PERIMETER INSULATION BELOW GRADE, GUTTER AND DOWNSPOUT DESIGN, STORM WATER DISCHARGE, SNOW GUARDS ON ROOF, AND EXTERIOR GLAZING LAY- UP. REFERENCE THE DRAWINGS, SPECIFICATIONS AND DESIGN NARRATIVE FOR FURTHER DIRECTION.
4. THE EXTERIOR WALL SYSTEM SHALL BE REVIEWED TO MEET "DOD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS" UPON SITE SELECTION.
5. THE NECESSITY OF A FIRE PUMP ROOM AND THE SIZE OF THE ROOM SHALL BE REVIEWED AND REVISED UPON SITE SELECTION.
6. THE MECHANICAL YARD SCREEN WALL DESIGN AND LOCATION SHALL BE CONFIRMED UPON SITE SECTION.
7. THE ARCHITECTURAL DESIGN AND EXTERIOR WALL MATERIAL SHALL BE REVIEWED AGAINST THE SELECTED SITE "DESIGN STANDARD" AND NEIGHBORING FACILITIES.
8. THE BUILDING SECURITY SYSTEM, INCLUDING DOOR HARDWARE SHALL BE REVIEWED WITH THE SELECTED SITE SECURITY REQUIREMENTS.
9. THE FINAL SPECIFICATION OF INTERIOR BUILDING FINISHES WILL BE REVIEWED AND ALIGNED WITH THE SELECTED SITE DESIGN THEME. FURNITURE LAYOUTS HAVE BEEN PROVIDED FOR INFORMATION AND SHALL BE VERIFIED. FINAL SELECTION OF FF&E AND DETAILED SPECIFICATIONS SHALL BE REVIEWED UPON SITE SELECTION.
10. REFERENCE THE DESIGN NARRATIVE FOR MORE INFORMATION.

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS: SYMBOL	DESCRIPTION	DATE	APPR.

DATE: 4/17/2013
SCALE: 1" = 1'-0"
DRAWING CODE: EP14A-001
4/17/2013 DATE
PROJECT ENGINEER/ARCHITECT

DESIGNED BY: TJ KIM
DRAWN BY: M. POLLMANN
CHECKED BY: TJ KIM

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

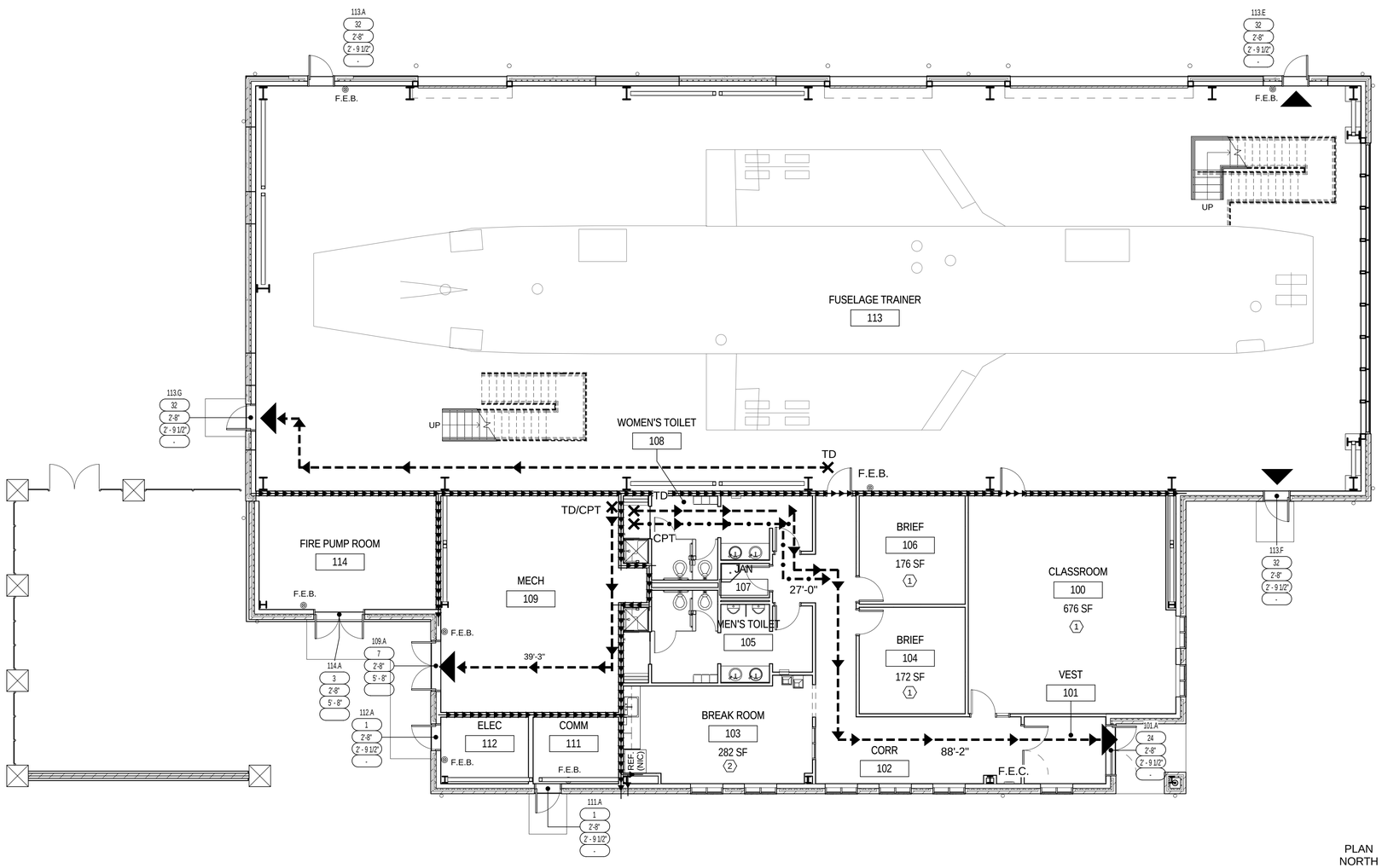
BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

ARCHITECTURAL LEGEND/ ABBREVIATIONS & GENERAL NOTES

SHEET REFERENCE NUMBER:
A-001
SHEET ___ OF ___

FILE:
DATE: 4/16/2013 8:29:11 AM



PLAN NORTH

0 4' 8' 16'

SCALE:1/8"=1'

LIFE SAFETY LEGEND

- Room name / 101 / 150 SF — ROOM NAME; AREA
- DOOR NUMBER / 32 / XXX / XXX / 1 HR — DOOR NUMBER; NUMBER OF OCCUPANTS; REQUIRED WIDTH; PROVIDED WIDTH; DOOR RATING
- CPT (xx ' - xx") — COMMON PATH OF TRAVEL DISTANCE
- TD (xx ' - xx") — EXIT ACCESS TRAVEL DISTANCE
- EXIT DOOR WITH EXIT SIGN
- SMOKE PARTITION
- 1 HR RATED FIRE BARRIER
- F.E.B. — FIRE EXTINGUISHER CLASS 4A:10B:C ON MOUNTING BRACKET
- F.E.C. — FIRE EXTINGUISHER CLASS 4A:10B:C IN SEMI-RECESSED CABINET

OCCUPANT LOAD PER NFPA 101

1. THIS BUILDING IS CLASSIFIED AS A 'B - BUSINESS' OCCUPANT LOAD; 100 SQ.FT. PER PERSON SHALL BE APPLIED, U.N.O.

2. (1) OCCUPANT LOAD CALCULATED AT 20 SQ.FT. PER PERSON

3. (2) OCCUPANT LOAD CALCULATED AT 15 SQ.FT. PER PERSON

OCCUPANT LOAD-LEVEL 01			
NAME	AREA	LOAD FACTOR SF/PERSON	NO. OF OCCUPANTS
ASSEMBLY	282 SF	15	19
BUSINESS	9684 SF	100	96
CLASSROOM	1042 SF	20	52
GROSS-BUILDING	11008 SF		**TOTAL OCCUPANTS** 167

LIFE SAFETY PLAN

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:00:41 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS
SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: C. CAHILL
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT: C. CAHILL
DATE: 2/19/2013
SCALE: As Indicated
DRAWING CODE: EP14A-101
DATE: 2/19/2013

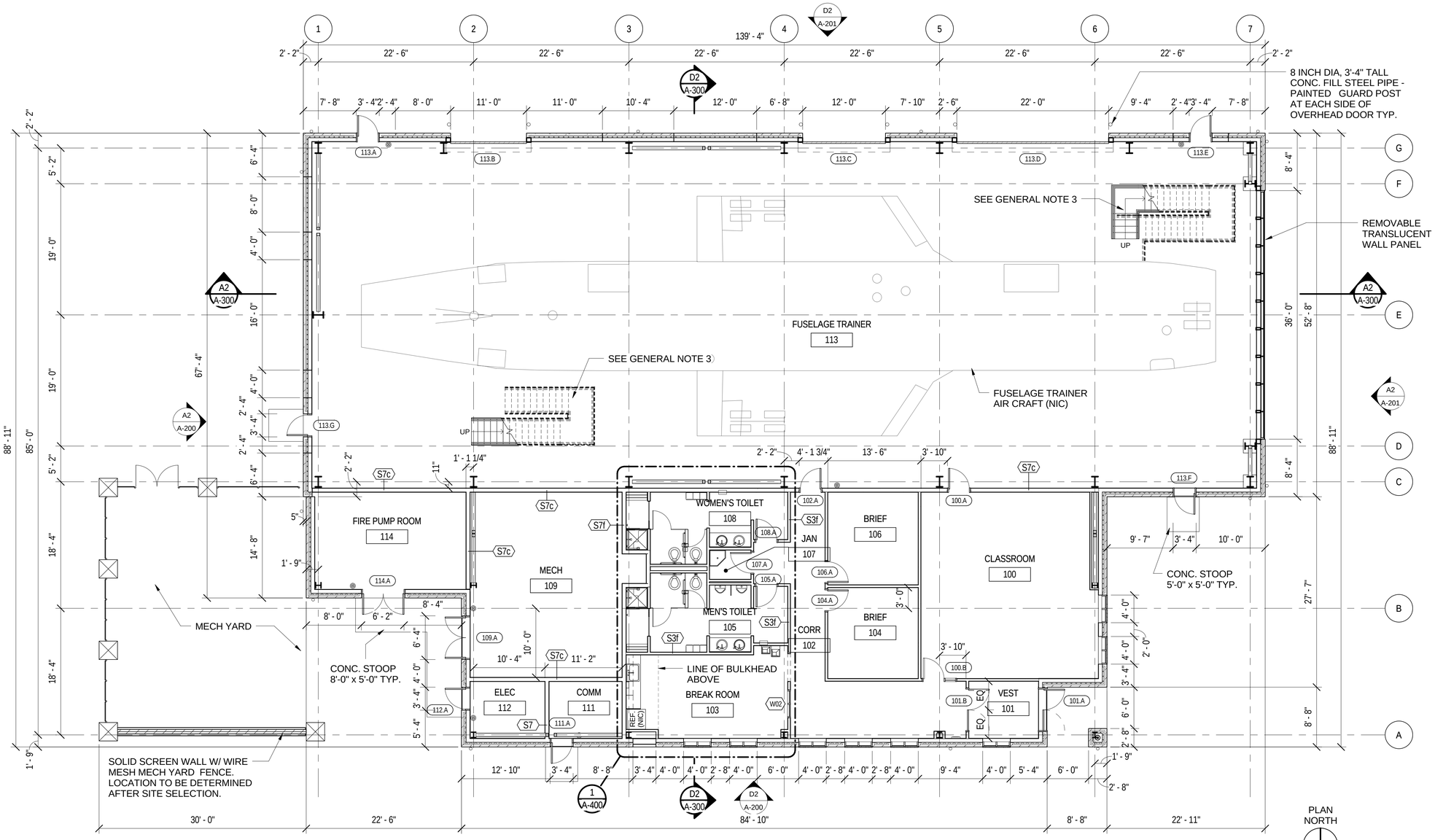
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

LIFE SAFETY PLAN

SHEET REFERENCE NUMBER:
A-101
SHEET ____ OF ____



FLOOR PLAN

0 4' 8' 16'
SCALE:1/8"=1'

GENERAL NOTES:

1. PARTITION TYPE IS S3 U.N.O.
RE: A-830 FOR PARTITION TYPES

2. ALL DOORS OFFSET 4" FROM ADJACENT WALL, U.N.O.

3. PAINTED GALVANIZED STEEL STAIR W/ GRATING TREAD. LOCATION AND SIZE SHALL BE DETERMINED BY FUSELAGE TRAINER AIRCRAFT MANUFACTUERER AND END USER. PROVIDE STAIR AFTER AIRCRAFT IS INSTALLED. STAIR SHALL BE REMOVABLE FOR FUTURE AIRCRAFT REPAIR & REPLACEMENT

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:00:23 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:
SYMBOL | DESCRIPTION | DATE | APPR.

DATE: 2/19/2013
SCALE: As Indicated
DRAWING CODE: EP14A-111
2/19/2013 DATE

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT

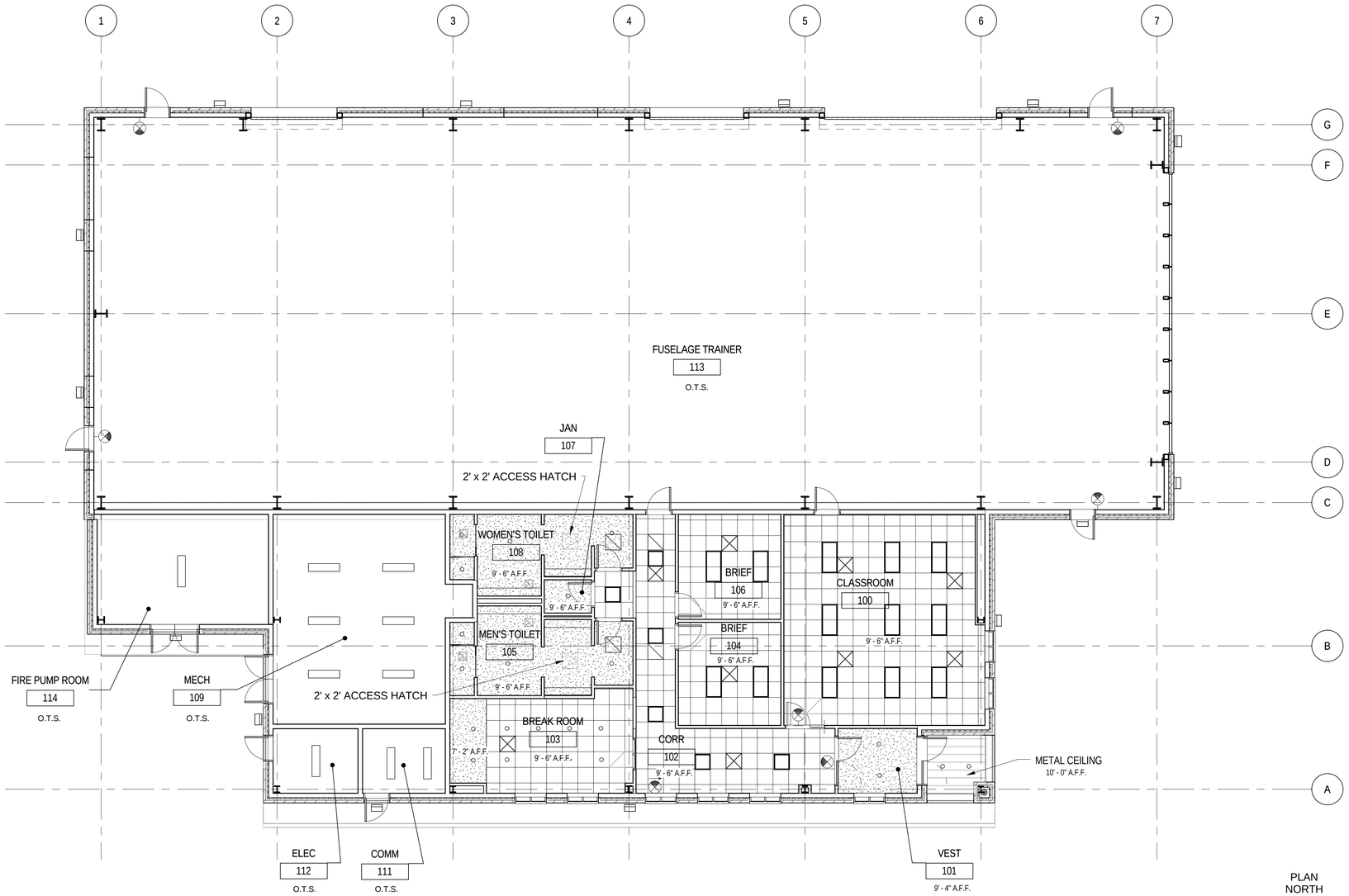
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

FLOOR PLAN

SHEET REFERENCE NUMBER:
A-111
SHEET ____ OF ____



REFLECTED CEILING PLAN

PLAN NORTH

0 4' 8' 16'

SCALE:1/8"=1'

CEILING LEGEND

- 2' x 2' ACOUSTICAL CEILING TILE
- GYPSUM BOARD CEILING - PAINT
- OTS — OPEN TO STRUCTURE - PAINTED
- METAIL CEILING
- STRUCTURAL STEEL BEAM
- 1' x 4' FLUORESCENT FIXTURE - SUSPENDED
- 1' x 4' FLUORESCENT FIXTURE - RECESSED
- 2' x 4' FLUORESCENT FIXTURE - RECESSED
- RECESSED LIGHT
- 1' - 0" A.F.F. — CEILING HEIGHT ABOVE FINISH FLOOR
- HVAC AIR SUPPLY GRILLE
- HVAC LINEAR AIR SUPPLY GRILLE
- HVAC EXHAUST OR RETURN GRILLE
- CABLE TRAY
- EXIT SIGN

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:00:36 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:
SYMBOL | DESCRIPTION | DATE | APPR.

DATE: 2/19/2013
SCALE: As Indicated
DRAWING CODE: EP14A-121
DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
2/19/2013 DATE
PROJECT ENGINEER/ARCHITECT

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
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KANSAS CITY, MO 64114
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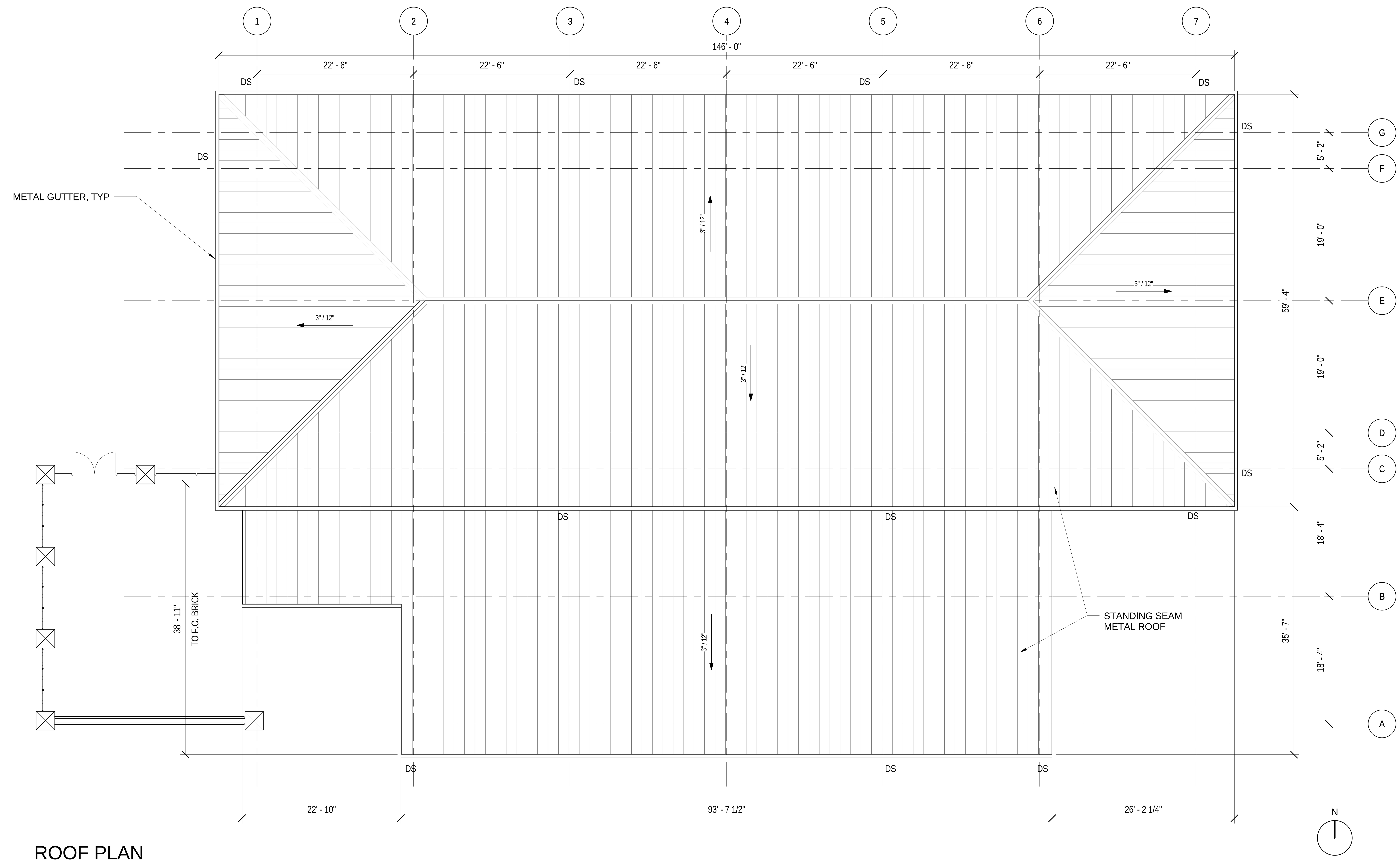
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

REFLECTED CEILING PLAN

SHEET REFERENCE NUMBER:
A-121
SHEET ____ OF ____



ROOF PLAN

US ARMY CORPS
OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	REVISIONS DESCRIPTION	DATE	APPR.

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
DATE: 2/19/2013
SCALE: 1/8" = 1'-0"
DRAWING CODE: EP14A-130
T.J. KIM 2/19/2013
PROJECT ENGINEER/ARCHITECT DATE

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

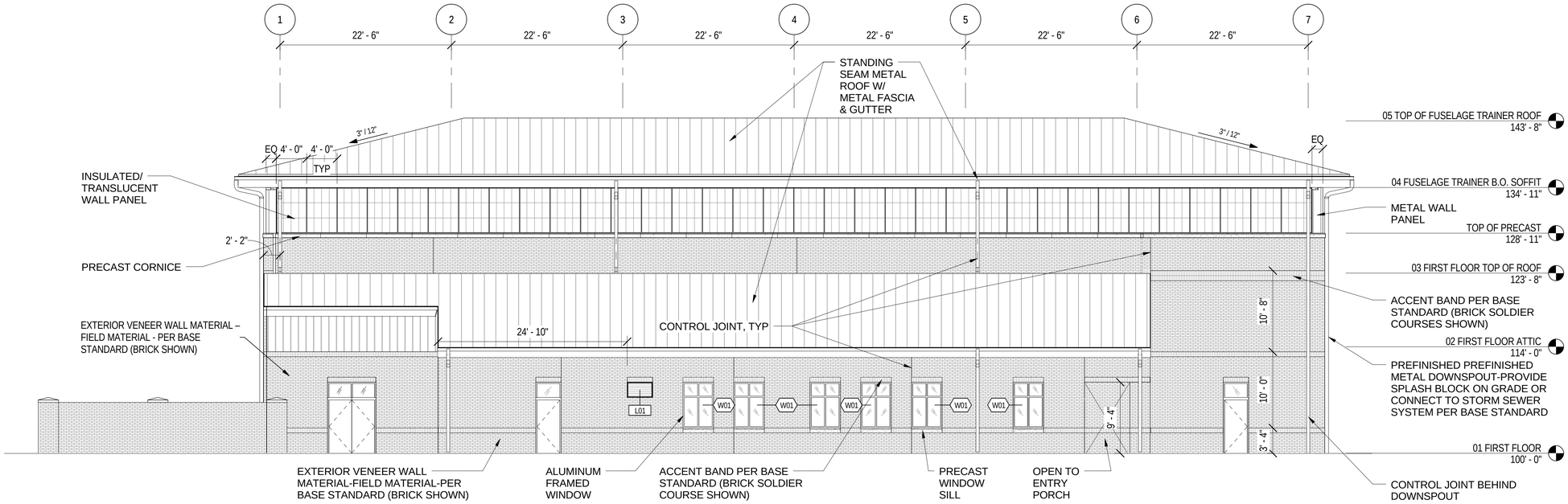
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

ROOF PLAN

SHEET
REFERENCE
NUMBER:
A-130
SHEET ____ OF ____

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

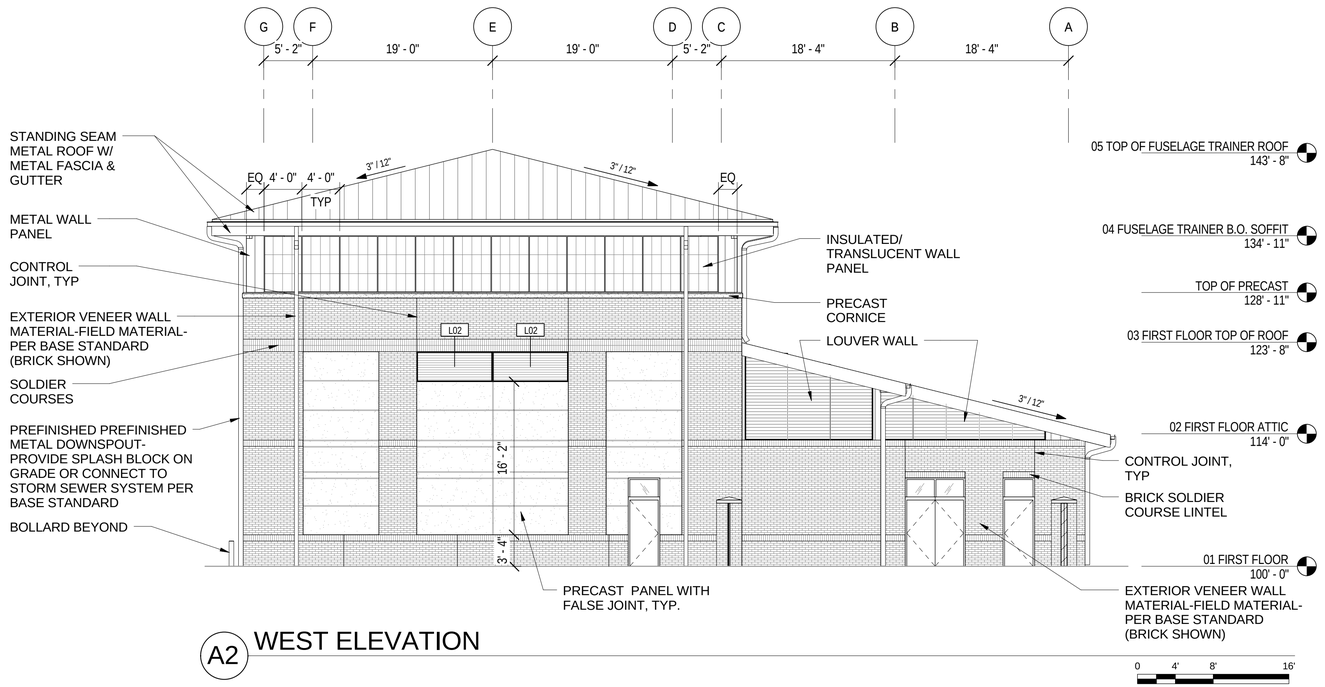
FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:00:47 PM



D2 SOUTH ELEVATION

0 4' 8' 16'

SCALE:1/8"=1'



A2 WEST ELEVATION

0 4' 8' 16'

SCALE:1/8"=1'

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 5:07:23 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	DESCRIPTION	DATE	APPR.

REVISIONS:

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT
DATE: 2/19/2013
SCALE: 1/8" = 1'-0"
DRAWING CODE: EP14A-200
2/19/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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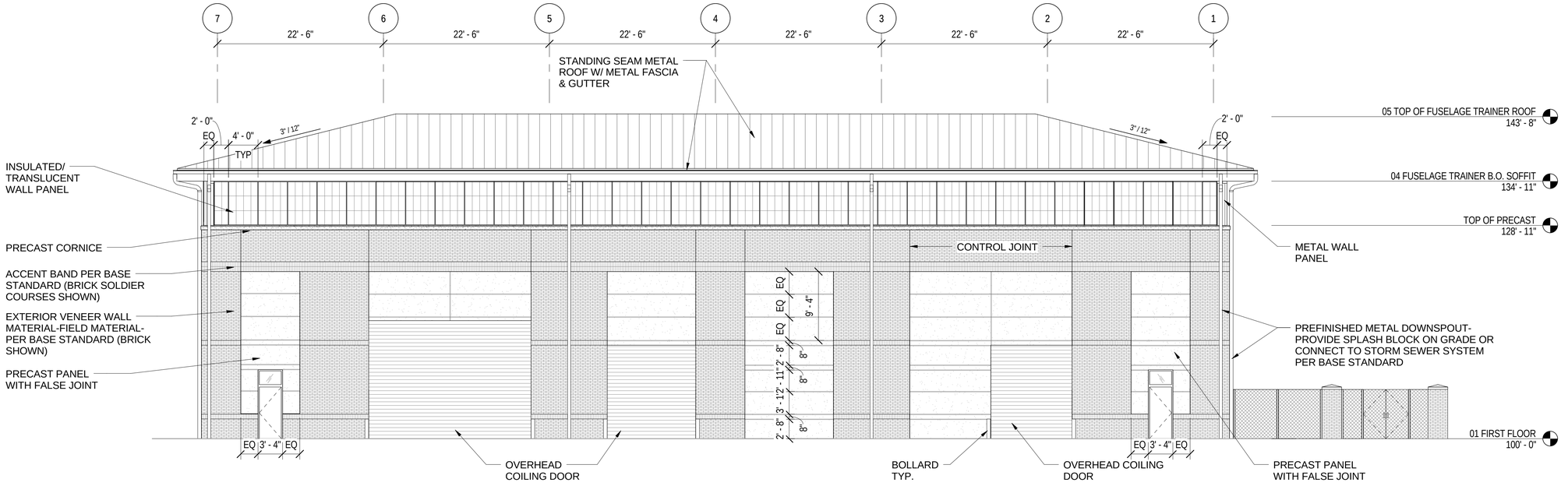
KANSAS CITY, MO 64114
(816) 333-9400

Burns & McDonnell
816.333.9400

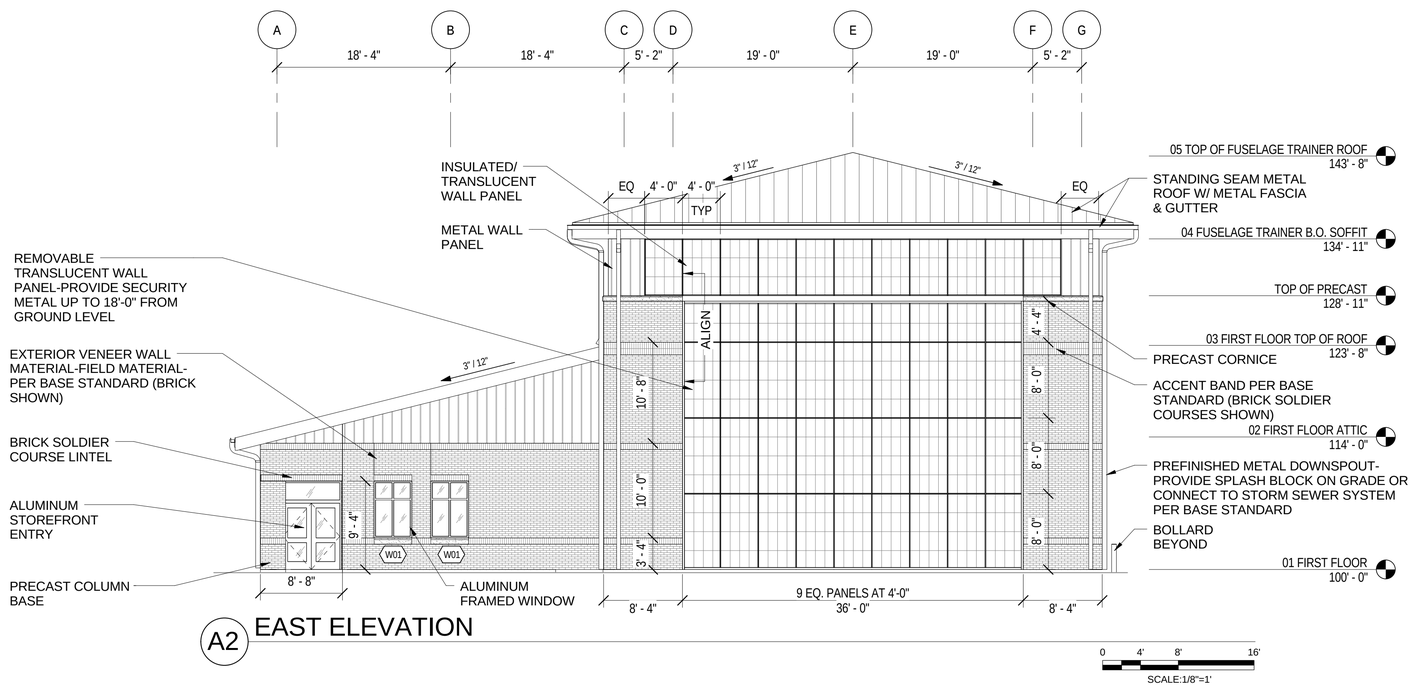
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

EXTERIOR BUILDING ELEVATIONS

SHEET REFERENCE NUMBER:
A-200
SHEET ____ OF ____



D2 NORTH ELEVATION



A2 EAST ELEVATION

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:00:53 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:
SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT
DATE: 2/19/2013
SCALE: 1/8" = 1'-0"
DRAWING CODE: EP14A-201
2/19/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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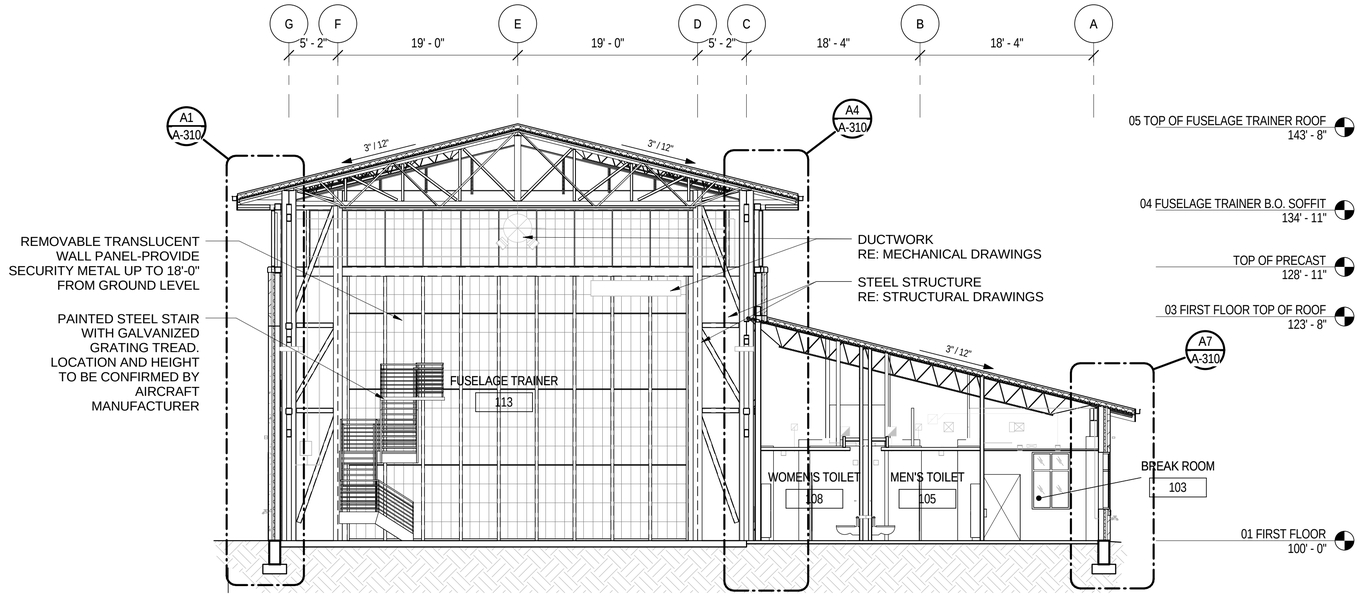
Burns & McDonnell
engineering | architecture | construction

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

EXTERIOR BUILDING ELEVATIONS

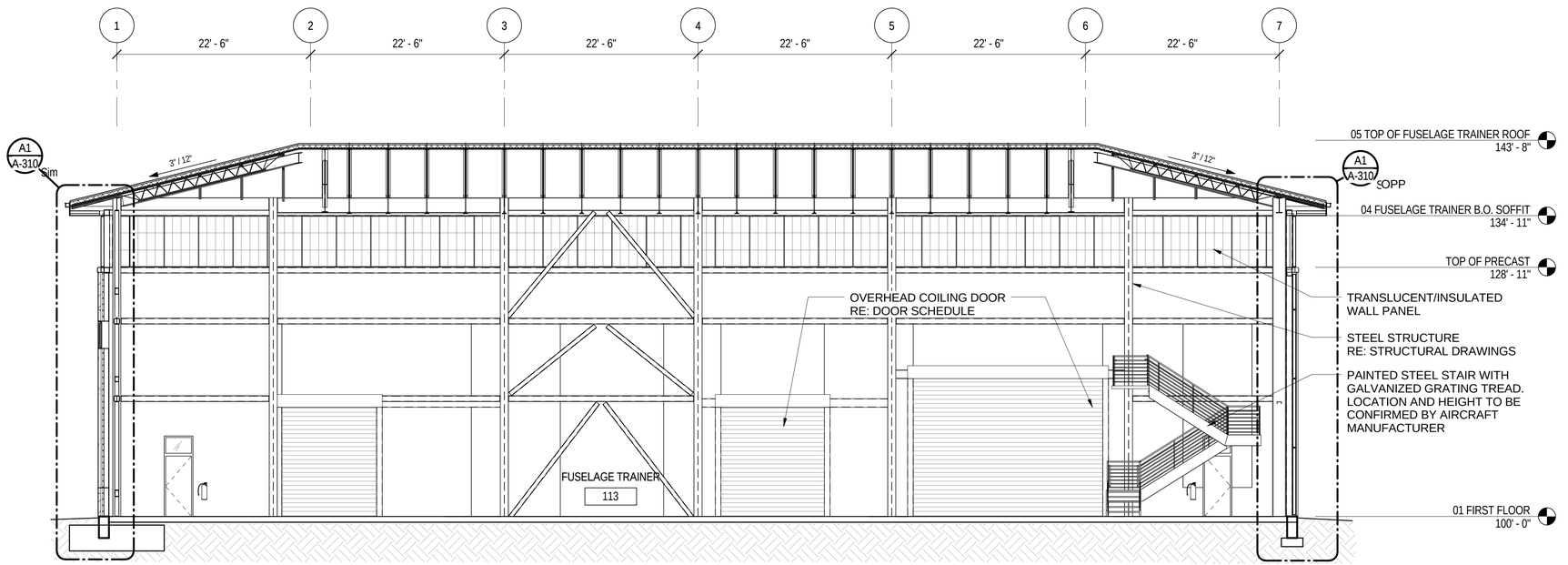
SHEET REFERENCE NUMBER:
A-201
SHEET ____ OF ____



D2 TRANSVERSE BUILDING SECTION

0 4' 8' 16'

SCALE:1/8"=1'



A2 LONGITUDINAL BUILDING SECTION

0 4' 8' 16'

SCALE:1/8"=1'

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:00:19 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	REVISIONS DESCRIPTION	DATE	APPR.

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT
DATE: 2/19/2013
SCALE: 1/8" = 1'-0"
DRAWING CODE: EP14A-300
2/19/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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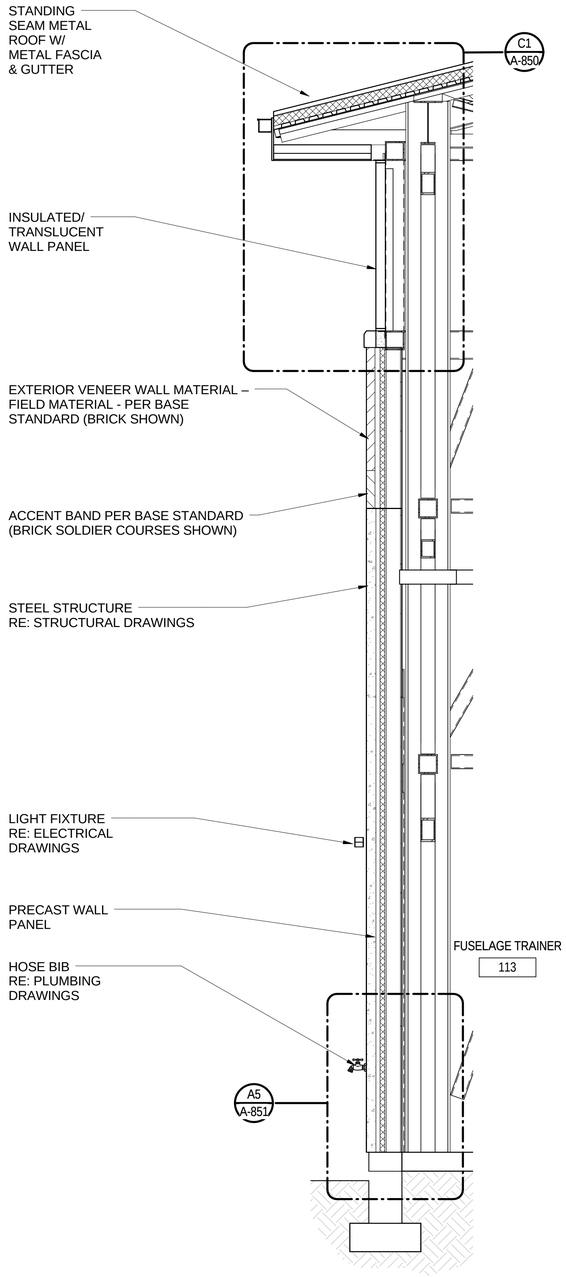
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

Burns & McDonnell
913.14.119

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

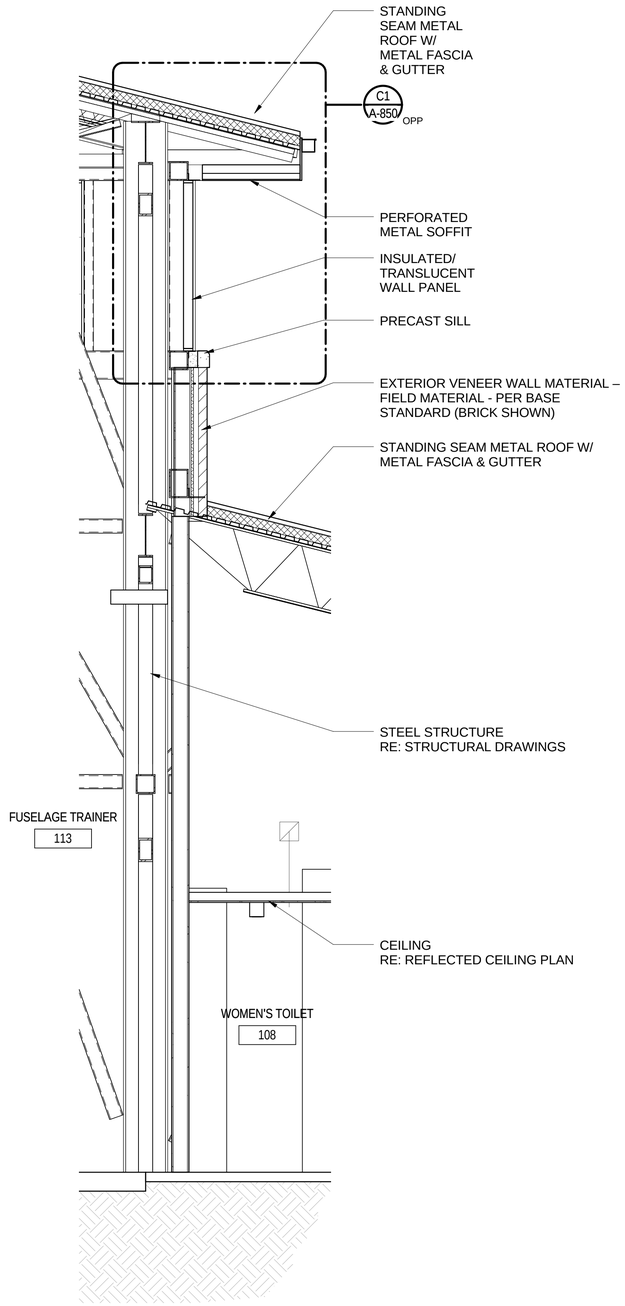
BUILDING SECTIONS

SHEET REFERENCE NUMBER:
A-300
SHEET ____ OF ____



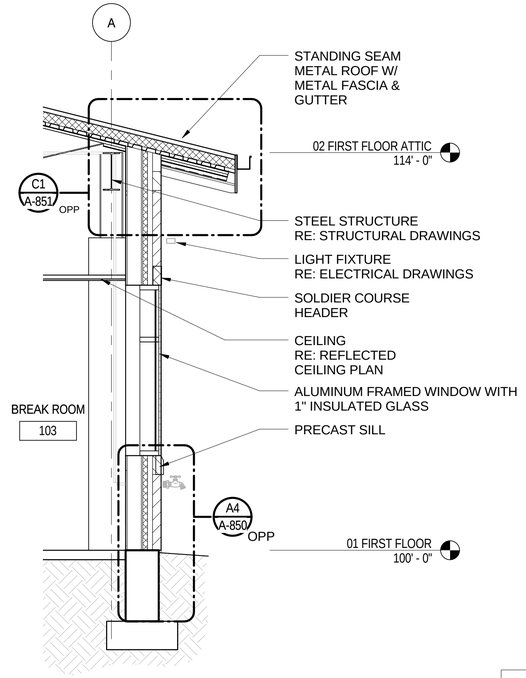
A1 WALL SECTION AT HIGH BAY

SCALE:3/8"=1'



A4 WALL SECTION AT HIGH BAY

SCALE:3/8"=1'



A7 WALL SECTION AT LOW ROOF

SCALE:3/8"=1'

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:00:28 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS
SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT: T.J. KIM
DATE: 2/19/2013
SCALE: 3/8" = 1'-0"
DRAWING CODE: EP14A-310
DATE: 2/19/2013

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9400 WARD PARKWAY
KANSAS CITY, MO 64114
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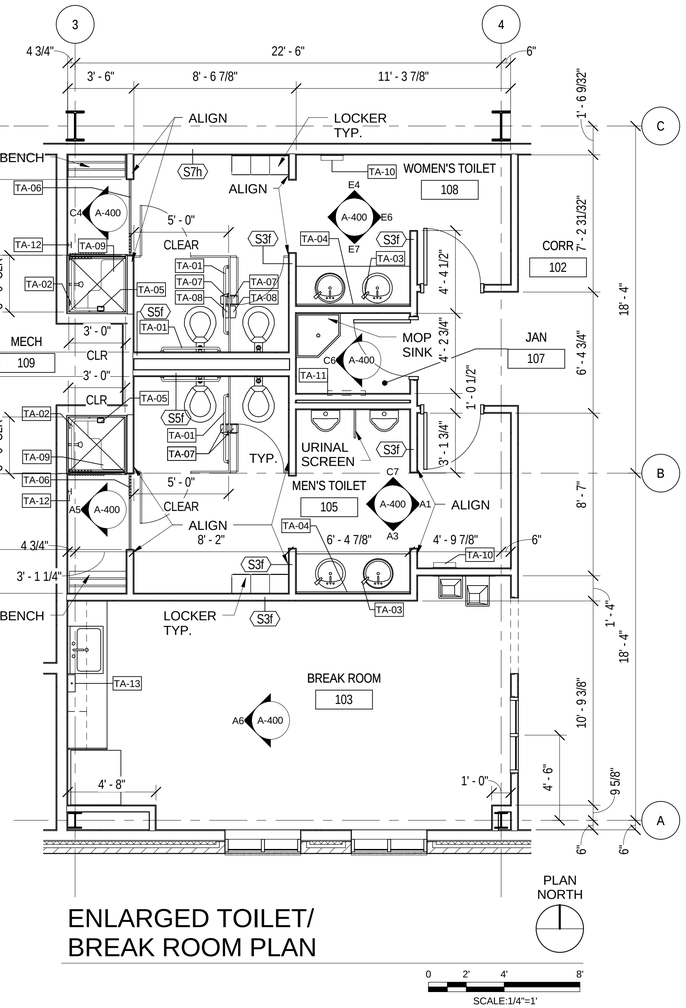
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

WALL SECTIONS

SHEET REFERENCE NUMBER:
A-310
SHEET ____ OF ____



ENLARGED TOILET/ BREAK ROOM PLAN

PLAN NORTH

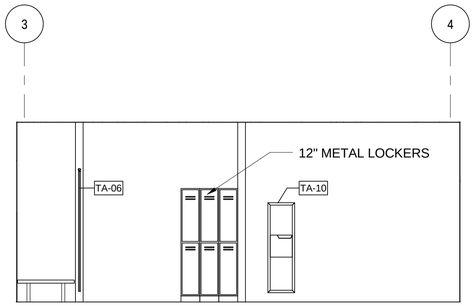
0 2' 4' 8'

SCALE:1/4"=1'

TOILET ACCESSORIES LEGEND	
TA-01	GRAB BAR, 36" REAR X 42" SIDE
TA-02	GRAB BAR, SHOWER STALL
TA-03	SOAP DISPENSER - COUNTER MOUNT
TA-04	MIRROR - SIZE AS NOTED ON ELEVATIONS
TA-05	SOAP HOLDER, SHOWER
TA-06	SHOWER CURTAIN ROD, HOOKS, AND CURTAIN
TA-07	TOILET PAPER DISPENSER
TA-08	SANITARY NAPKIN DISPOSAL
TA-09	FOLDING SHOWER SEAT
TA-10	COMBINATION PAPER TOWEL DISPENSER AND WASTE RECEPTACLE - SEMI RECESSED
TA-11	36" MOP AND BROOM HOLDER W/ UTILITY SHELF
TA-12	TOWEL PIN
TA-13	PAPER TOWEL DISPENSER SURFACE MOUNT
TA-14	NOT USED

NOTE:

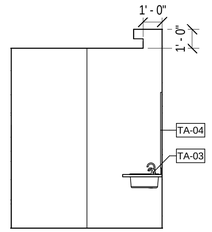
1. REFER TO A-820 FOR TOILET FIXTURE AND ACCESSORY MOUNTING HEIGHTS.
2. REFER TO A-830 FOR PARTITION TYPES.



E4 PLAN NORTH ELEVATION

0 2' 4' 8'

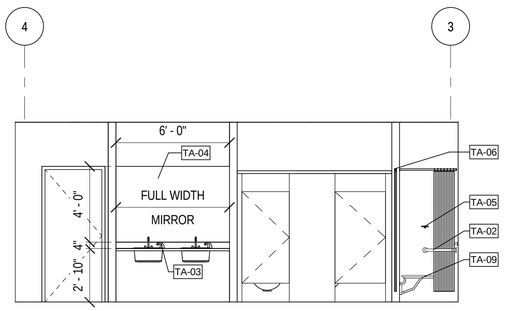
SCALE:1/4"=1'



E6 PLAN EAST ELEVATION

0 2' 4' 8'

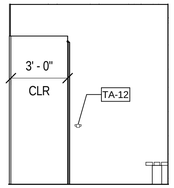
SCALE:1/4"=1'



E7 PLAN SOUTH ELEVATION

0 2' 4' 8'

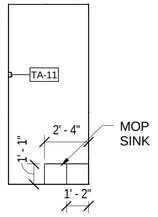
SCALE:1/4"=1'



C4 PLAN WEST ELEVATION

0 2' 4' 8'

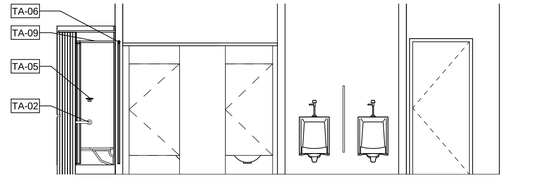
SCALE:1/4"=1'



C6 PLAN WEST ELEVATION

0 2' 4' 8'

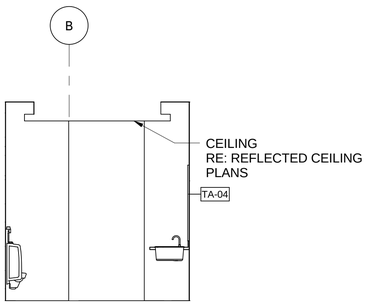
SCALE:1/4"=1'



C7 PLAN NORTH ELEVATION

0 2' 4' 8'

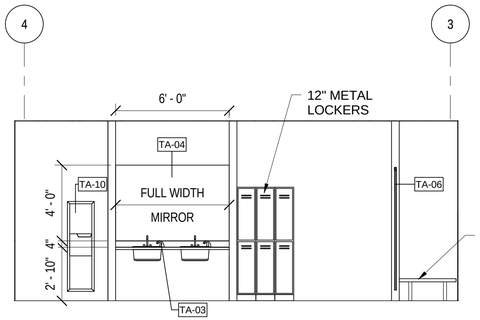
SCALE:1/4"=1'



A1 PLAN WEST ELEVATION

0 2' 4' 8'

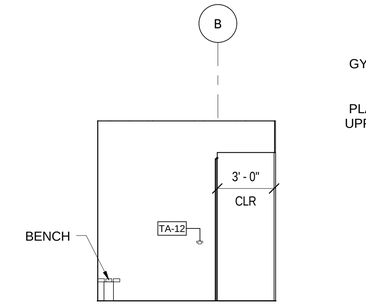
SCALE:1/4"=1'



A3 PLAN SOUTH ELEVATION

0 2' 4' 8'

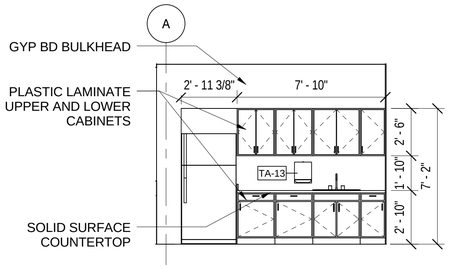
SCALE:1/4"=1'



A5 PLAN WEST ELEVATION

0 2' 4' 8'

SCALE:1/4"=1'



A6 PLAN WEST ELEVATION

0 2' 4' 8'

SCALE:1/4"=1'

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:00:04 PM

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DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	DESCRIPTION	DATE	APPR.
	REVISIONS		

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT: T.J. KIM
DATE: 2/19/2013
SCALE: 1/4" = 1'-0"
DRAWING CODE: EP14A-400
DATE: 2/19/2013

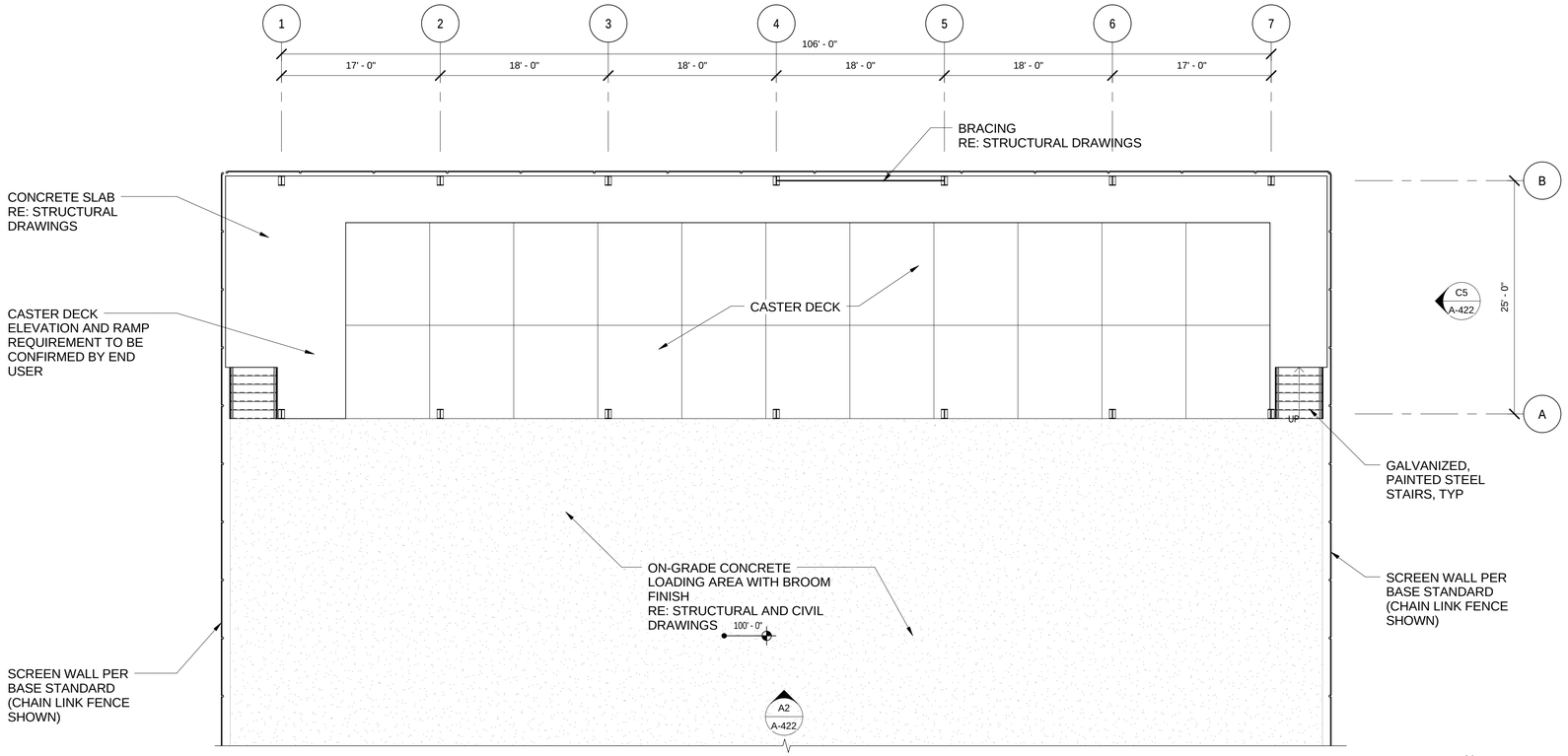
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

ENLARGED BREAK ROOM / TOILET PLAN & ELEVATIONS

SHEET REFERENCE NUMBER:
A-400
SHEET ____ OF ____



FLOOR PLAN

FILE: 71170_A_FUTOB.RVT
DATE: 4/15/2013 4:59:36 PM

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS
OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	REVISIONS: DESCRIPTION	DATE	APPR.

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINK
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT DATE: 2/19/2013
SCALE: 1/8" = 1'-0"
DRAWING CODE: EP14A-421
2/19/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
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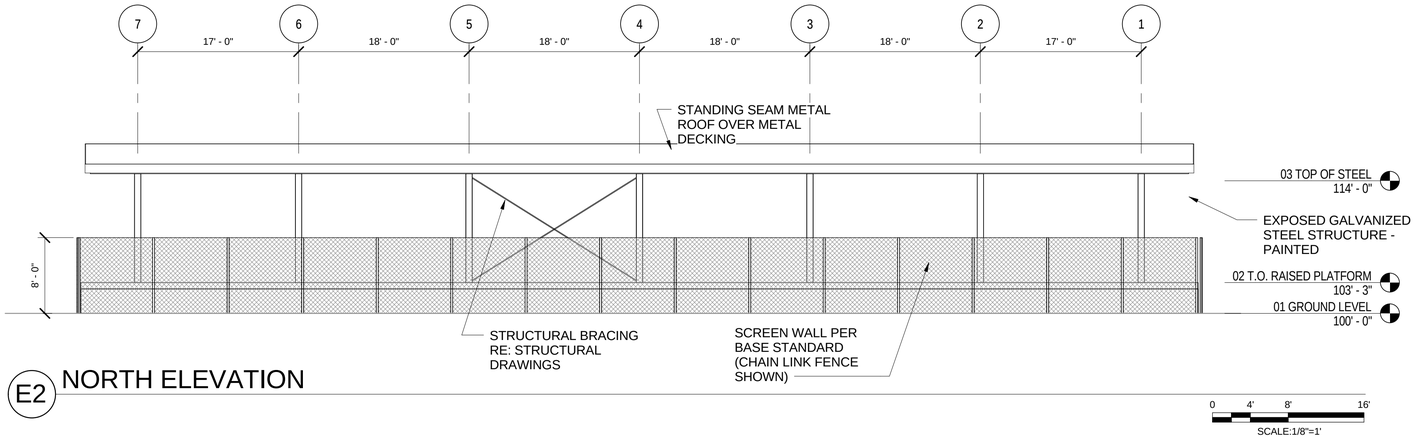
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

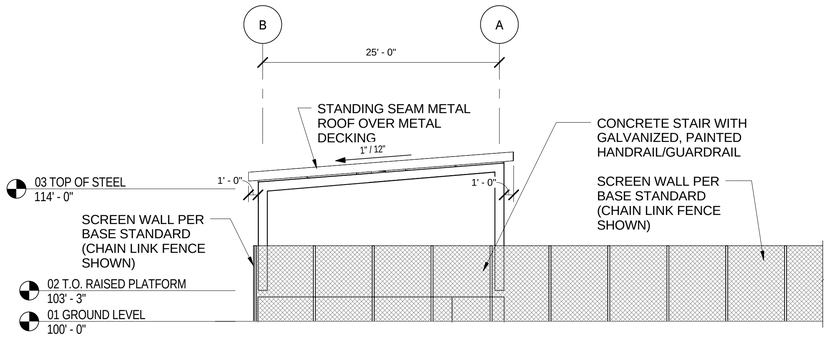
OUTDOOR CARGO SUPPORT STRUCTURE PLAN

SHEET REFERENCE NUMBER:
A-421
SHEET ____ OF ____



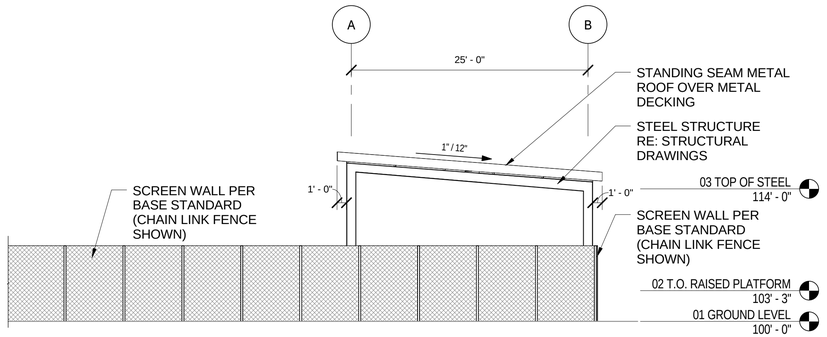
E2 NORTH ELEVATION

0 4' 8' 16'
SCALE:1/8"=1'



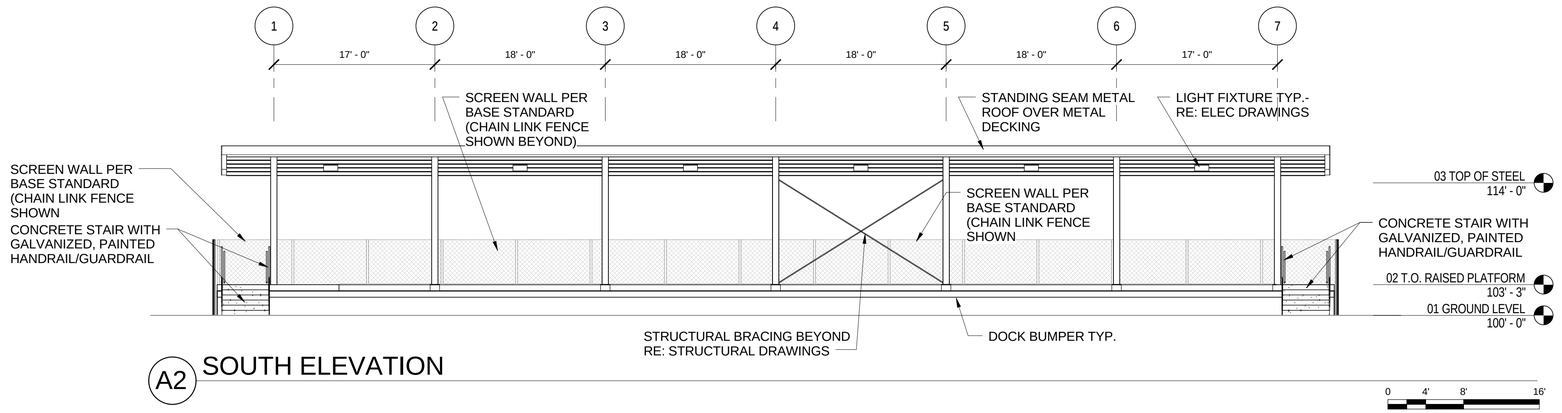
C1 WEST ELEVATION

0 4' 8' 16'
SCALE:1/8"=1'



C5 EAST ELEVATION

0 4' 8' 16'
SCALE:1/8"=1'



A2 SOUTH ELEVATION

0 4' 8' 16'
SCALE:1/8"=1'

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUTOB.RVT
DATE: 4/15/2013 4:59:38 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINK
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT
DATE: 2/19/2013
SCALE: 1/8" = 1'-0"
DRAWING CODE: EP14A-422
2/19/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

OUTDOOR CARGO SUPPORT STRUCTURE ELEVATIONS

SHEET REFERENCE NUMBER:
A-422
SHEET ____ OF ____

ROOM FINISH SCHEDULE-Working									
ROOM NUMBER	ROOM NAME	FLOOR	BASE		WALL				REMARKS
		FINISH	FINISH	HEIGHT	NORTH	EAST	SOUTH	WEST	
01 FIRST FLOOR									
100	CLASSROOM	CPT-1	RESB-2	4"	PCS	PCS	PCS	PCS	
101	VEST	MAT-1	RESB-1	4"	PCS	GLZ	PCS	GLZ	3.
102	CORR	CPT-1 / TILEP-1	RESB-2 / TILEPB-1	4"	PCS	PCS	PCS	PCS	
103	BREAK ROOM	TILEP-1	TILEPB-1	4"	PCS	PCS	PCS	PCS	
104	BRIEF	CPT-1	RESB-2	4"	PCS	PCS	PCS	PCS	
105	MEN'S TOILET	TILEP-1	TILEPB-1	4"	TILEP-1	TILEP-1	TILEP-1	TILEP-1	2.
106	BRIEF	CPT-1	RESB-2	4"	PCS	PCS	PCS	PCS	
107	JAN	RESVC-1	RESB-1	4"	PCS	PCS	TILEC-1	TILEC-1	2.
108	WOMEN'S TOILET	TILEP-1	TILEPB-1	4"	TILEP-1	TILEP-1	TILEP-1	TILEP-1	2.
109	MECH	CS	RESB-1	4"	PCS-2	PCS-2	PCS-2	PCS-2	3, 4, 5
111	COMM	CS	RESB-1	4"	PCS	PCS	PCS	PCS	
112	ELEC	CS	RESB-1	4"	PCS-2	PCS-2	PCS-2	PCS-2	3, 4, 5
113	FUSELAGE TRAINER	EF-1	EFB-1	8"	PCS-2	PCS-2	PCS-2	PCS-2	1.
114	FIRE PUMP ROOM	CS	RESB-1	4"	PCS-2	PCS-2	PCS-2	PCS-2	3, 4, 5

GENERAL NOTES

1. INTERIOR AND EXTERIOR FINISH MATERIALS AND COLORS SHALL BE AS REFERENCED IN THE SPECIFICATION SECTION 09 06 90 COLOR SCHEDULE. SPECIFICATION PROVIDES DETAILED INFORMATION OF THE FINISH CODES SHOWN ON FINISH LEGEND AND FINISH SCHEDULE AS THE BASIS OF DESIGN PRODUCT OR EQUIVALENT.
2. REFERENCE ROOM FINISH PLANS A-XXX THRU A-XXX FOR FLOOR PATTERNS/ CHANGES, AND WALL FINISH CHANGES.
3. REFERENCE REFLECTED CEILING PLAN FOR CEILING MATERIAL AND HEIGHTS. ALL GYPSUM BOARD CEILINGS TO BE PAINTED (PCS-), UNLESS OTHERWISED NOTED. ALL OTS CEILINGS TO BE PAINTED (PCS-), UNLESS OTHERWISE NOTED.
4. ALL HOLLOW METAL DOORS AND FRAMES TO BE PAINTED (PCS-)
5. WINDOW SILLS TO BE SOLID SURFACE MATERIAL (SSF-).
6. PROVIDE HORIZONTAL METAL BLINDS (HB-1) ON ALL WINDOWS TYPES W_, W_, & W_. REFERENCE A-111, A-200 THRU 201, AND A-620.

REMARKS

1. PROVIDE HIGH IMPACT RESISTENT/WATER RESISTENT GYPSUM WALL BOARD UP TO 8'-0" ABOVE FINISH FLOOR LEVEL. PROVIDE WATER RESISTENT GYPSUM WALL BOARD 8'-0" ABOVE FINISH FLOOR LEVEL TO BOTTOM OF STRUCTURE.
2. PROVIDE WATER RESISTENT GYPSUM WALL BOARD.
3. PROVIDE FULL HEIGHT GLASS MATT GYPSUM WALL BOARD.
4. PROVIDE VAPOR BARRIER BETWEEN ADJACENT CONDITIONED SPACE. VAPOR BARRIER LOCATION TO BE CONFIRMED UPON SITE SELECTION.
5. ADD BATT INSULATION (R-18 MIN) AT WALL BETWEEN ADJACENT CONDITIONED SPACE.

FINISH LEGEND - BASES	
MATL	DESCRIPTION
EPOXY	
EFB-1	EPOXY BASE - INTEGRAL 4" H
RUBBER	
RESB-1	RUBBER BASE - TOED 4" H
RESB-2	RUBBER BASE - STRAIGHT 4" H
TILE	
TILECB-1	CERAMIC TILE BASE - 6" H
TILEPB-1	PORCELAIN TILE BASE - 4" H

FINISH LEGEND - CEILINGS	
MATL	DESCRIPTION
ACOUSTICAL	
ACT	ACOUSTICAL TILE 2x2 -OFFICE
PAINT	
PCS	EXPOSED CEILING PAINT
PCS-1	GYPBOARD CEILING PAINT

FINISH LEGEND - FLOORS	
MATL	DESCRIPTION
ACCESS FLOORING	
AF-1	RESILIENT INTEGRAL FACE
CARPET TILE	
CPT-1	CARPET TILE
CONCRETE	
CS	SEALED
EPOXY	
EF-1	EPOXY FLOOR SYSTEM
RESILIENT FLOORING	
RESVC-1	VINYL COMPOSITION TILE
TILE	
TILEP-1	PORCELAIN TILE
WALK-OFF MAT	
MAT-1	WALK OFF MAT: (RECESSED ENTRY MAT SYSTEM)

FINISH LEGEND - WALLS	
MATL	DESCRIPTION
ACOUSTICAL FABRIC	
AWS-1	ACOUSTICAL FABRIC PANEL
GLAZING	
GLZ	CURTIAN WALL GLAZING
GRAPHICS	
EGS-1	GRAPHIC PANEL
PAINT	
PCS-1	PAINT
PCS-2	EPOXY WALL PAINT
TILE	
TILEC-1	CERAMIC
TILEP-1	PORCELAIN

FINISH LEGEND - MISCELLANEOUS	
MATL	DESCRIPTION
CORNER GUARD	
CG-1	CORNER GUARD - METAL
CG-2	CORNER GUARD - ACROVYN
LAMINATE	
PLAM-1	PLASTIC LAMINATE
PLAM-2	PLASTIC LAMINATE
SURFACES	
SSF-1	SOLID SURFACE

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:00:31 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS
SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: E. ALLEN
DRAWN BY: E. ALLEN
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT: E. ALLEN
DATE: 2/19/2013
SCALE:
DRAWING CODE: EP14A-600
DATE: 2/19/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

ROOM FINISH SCHEDULE

SHEET REFERENCE NUMBER:
A-600
SHEET ____ OF ____

DOOR SCHEDULE

DOOR NUMBER	DOOR SIZE	DOOR WIDTH	DOOR SIZE HEIGHT	DOOR TYPE	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	FIRE RATING	DETAIL HEAD	DETAIL JAMB	DETAIL SILL	REMARKS
100.A	-	3' - 0"	7' - 0"	NL	HM	1.1	HM	45 MIN.	E5/A-611	B5/A-611	A5/A-611	
100.B	-	3' - 0"	7' - 0"	NL	HM	3.1	HM	-	E5/A-611	B5/A-611	A5/A-611	
101.A	PR.	6' - 0"	7' - 0"	SL-IN	AL/GL	2.2	AL	-	D2/A-611	B2/A-611	A2/A-611	1
101.B	PR.	6' - 0"	7' - 0"	SL-IN	AL/GL	2.2	AL	-	D2/A-611	B2/A-611	A2/A-611	1
102.A	-	3' - 0"	7' - 0"	NL	HM	1.1	HM	45 MIN.	E5/A-611	B5/A-611	A5/A-611	
104.A	-	3' - 0"	7' - 0"	NL	HM	1.1	WD	-	E5/A-611	B5/A-611	A5/A-611	
105.A	-	3' - 0"	7' - 0"	F	HM	1.1	WD	-	E5/A-611	B5/A-611	A5/A-611	
106.A	-	3' - 0"	7' - 0"	NL	HM	1.1	WD	-	E5/A-611	B5/A-611	A5/A-611	
107.A	-	3' - 0"	7' - 0"	F	HM	1.1	WD	-	D7/A-611	B7/A-611	A7/A-611	
108.A	-	3' - 0"	7' - 0"	F	HM	1.1	WD	-	E5/A-611	B5/A-611	A5/A-611	
109.A	PR.	6' - 0"	7' - 0"	F-IN	HM	8.2	HM		D7/A-611	B7/A-611	A7/A-611	
111.A	-	3' - 0"	7' - 0"	F-IN	HM	2.2	HM	-	D7/A-611	B7/A-611	A7/A-611	
112.A	-	3' - 0"	7' - 0"	F-IN	HM	2.2	HM	-	D7/A-611	B7/A-611	A7/A-611	
113.A	-	3' - 0"	7' - 0"	F-IN	HM	2.2	HM	-	D7/A-611	B7/A-611	A7/A-611	
113.B		11' - 0"	12' - 8"	OH-C	HM	0	HM					
113.C		12' - 0"	12' - 8"	OH-C	HM	0	HM					
113.D		22' - 0"	16' - 0"	OH-C	HM	0	HM					
113.E	-	3' - 0"	7' - 0"	F-IN	HM	2.2	HM	-	D7/A-611	B7/A-611	A7/A-611	
113.F	-	3' - 0"	7' - 0"	F-IN	HM	2.2	HM	-	D7/A-611	B7/A-611	A7/A-611	
113.G	-	3' - 0"	7' - 0"	F-IN	HM	2.2	HM	-	D7/A-611	B7/A-611	A7/A-611	
114.A	PR.	6' - 0"	7' - 0"	F-IN	HM	8.2	HM		D7/A-611	B7/A-611	A7/A-611	

GENERAL NOTES

1. ALL EXTERIOR STEEL DOORS AND DOOR FRAMES ARE GALVANIZED AND PAINTED.
2. ALL EXTERIOR DOORS ARE INSULATED.
3. GLASS TRANSOM AT EXTERIOR DOOR SHALL BE GLASS TYPE 11

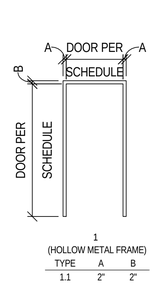
REMARKS

1 ONE DOOR LEAF ACTIVE WITH ONE INACTIVE LEAF

GLASS TYPES:

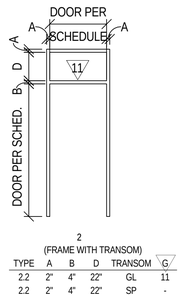
REFERENCE WINDOW SCHEDULE
FOR WINDOW TYPES

1 CLEAR FLOAT (1/4")
2 CLEAR TEMPERED (1/4")
3 TINTED FLOAT (1/4")
3A TINTED FLOAT TEMPERED (1/4")
4 CLEAR WIRED (1/4")
5 CLEAR LAMINATED (1/4")
6 DECORATIVE LAMINATED (1/4")
7 TRANSLUCENT LAMINATED (1/4")
8 INSULATED LOW E (1")
INNER 5, OUTER 3.
9 INSULATED LOW E, TRANSLUCENT (1")
INNER 7, OUTER 3.
10 INSULATED LOW E, DECORATIVE (1")
INNER 6, OUTER 3.
11 INSULATED LOW E, TEMPERED,
TRANSLUCENT (1")
INNER 7, OUTER 3A.
12 INSULATED LOW E, TEMPERED (1")
INNER 5, OUTER 3A.



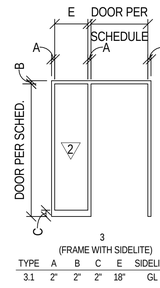
1
(HOLLOW METAL FRAME)

TYPE	A	B
1.1	2"	2"



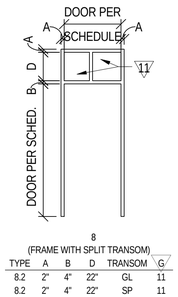
2
(FRAME WITH TRANSOM)

TYPE	A	B	D	TRANSOM	G
2.2	2"	4"	22"	GL	11
2.2	2"	4"	22"	SP	-



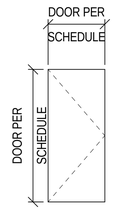
3
(FRAME WITH SIDELITE)

TYPE	A	B	C	E	SIDELITE	G
3.1	2"	2"	2"	18"	GL	2



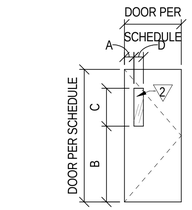
8
(FRAME WITH SPLIT TRANSOM)

TYPE	A	B	D	TRANSOM	G
8.2	2"	4"	22"	GL	11
8.2	2"	4"	22"	SP	11



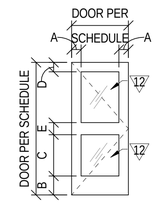
F
(FLUSH PANEL)

TYPE	DESCRIPTION
F-IN	FLUSH PANEL INSULATED
F	FLUSH PANEL



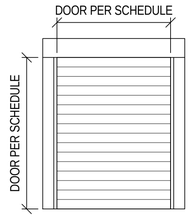
NL
(NARROW LIGHT)

TYPE	DESCRIPTION	A	B	C	D	G
NL				24"	4"	2



SL
(SPLIT LITE)

TYPE	DESCRIPTION	A	B	C	D	E	G
SL-IN	SPLIT LITE INSULATED	6"	10"	24"	6"	6"	-
SL-IN	SPLIT LITE INSULATED	6"	10"	24"	6"	6"	11



OH
(OVERHEAD)

TYPE	DESCRIPTION
OH-C	COILING DOOR

DOOR AND FRAME TYPES LEGEND

SP SOLID METAL PANEL
GL GLAZED PANEL

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: T.J. KIM
DRAWN BY: V. BORCHERS
CHECKED BY: T.J. KIM
DATE: 2/19/2013
SCALE: 1/4" = 1'-0"
DRAWING CODE: EP14A-610
2/19/2013 DATE
T.J. KIM PROJECT ENGINEER/ARCHITECT

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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Burns & McDonnell
engineers | architects | consultants

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

DOOR SCHEDULE

SHEET REFERENCE NUMBER:
A-610
SHEET ____ OF ____

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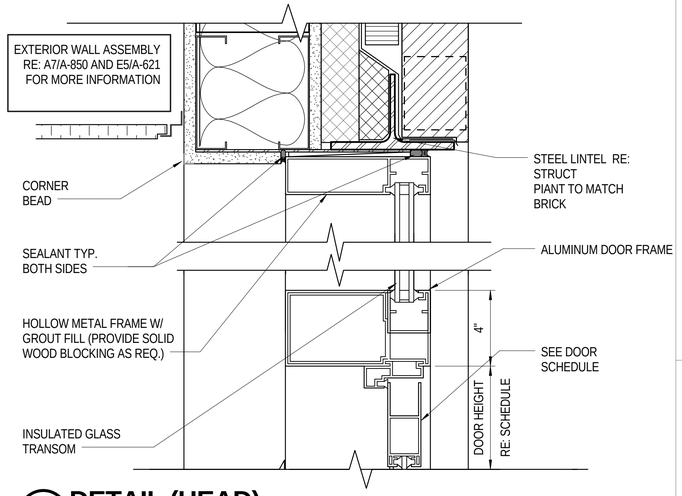
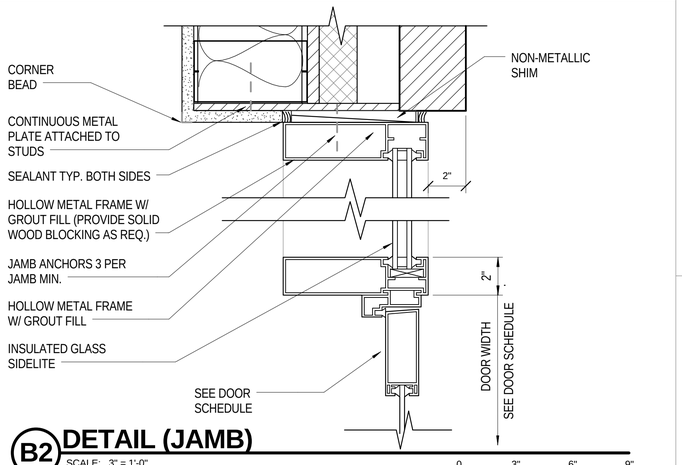


D2 DETAIL (HEAD)

SCALE: 3" = 1'-0"

0 3" 6" 9"

SCALE:3"=1'

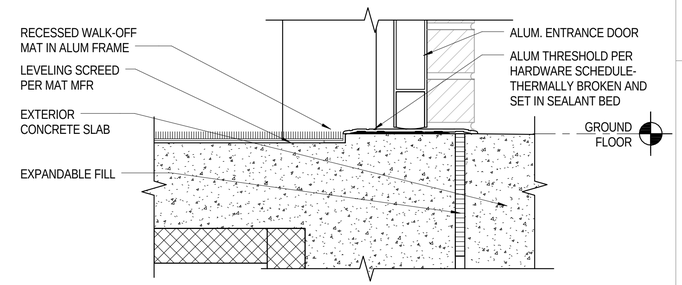


B2 DETAIL (JAMB)

SCALE: 3" = 1'-0"

0 3" 6" 9"

SCALE:3"=1'



A2 DETAIL (SILL)

SCALE: 3" = 1'-0"

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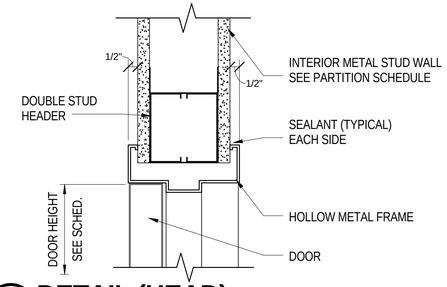
SCALE:3"=1'

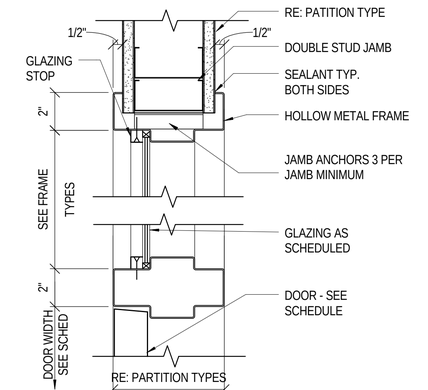


E5 DETAIL (HEAD)

SCALE: 3" = 1'-0"

0 3" 6" 9"

SCALE:3"=1'

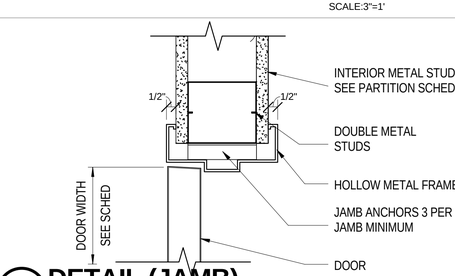


D5 DOOR (JAMB)

SCALE: 3" = 1'-0"

0 3" 6" 9"

SCALE:3"=1'

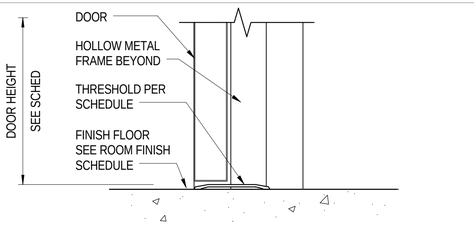


B5 DETAIL (JAMB)

SCALE: 3" = 1'-0"

0 3" 6" 9"

SCALE:3"=1'

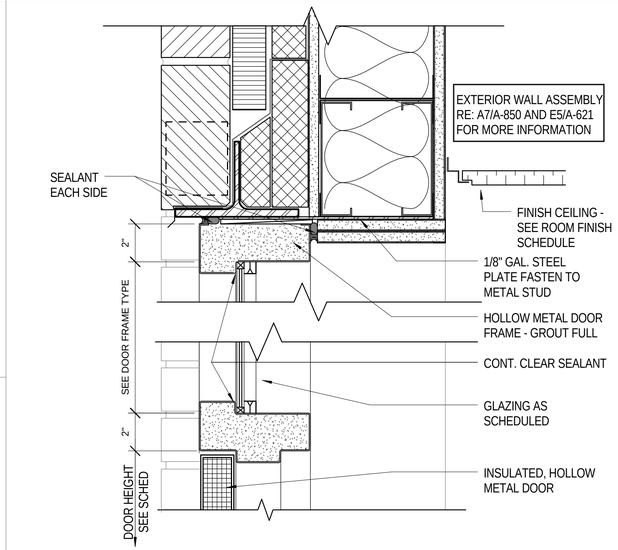


A5 DETAIL (SILL)

SCALE: 3" = 1'-0"

0 3" 6" 9"

SCALE:3"=1'

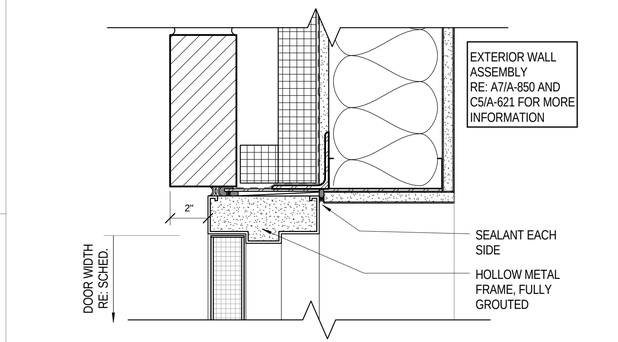


D7 DETAIL (HEAD)

SCALE: 3" = 1'-0"

0 3" 6" 9"

SCALE:3"=1'

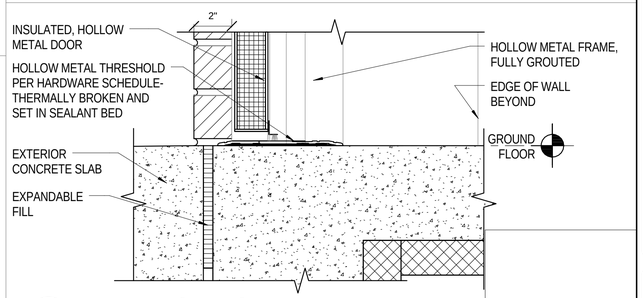


B7 DETAIL (JAMB)

SCALE: 3" = 1'-0"

0 3" 6" 9"

SCALE:3"=1'



A7 DETAIL (SILL)

SCALE: 3" = 1'-0"

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 9:27:37 AM

US ARMY CORPS
OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:
SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: TJ KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: TJ KIM
PROJECT ENGINEER/ARCHITECT
DATE: 4/17/2013
SCALE: 3" = 1'-0"
DRAWING CODE: EP14A-612
4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

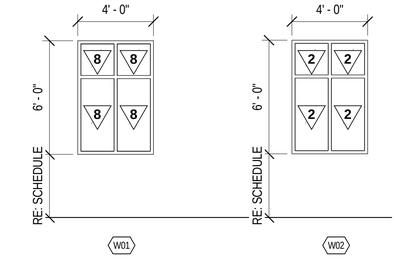
Burns & McDonnell
WHERE IDEAS BUILD

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

DOOR DETAILS

SHEET REFERENCE NUMBER:
A-611
SHEET ___ OF ___

WINDOW SCHEDULE								
TYPE	SIZE		HEAD HEIGHT	SILL HEIGHT	DETAILS			REMARKS
	WIDTH	HEIGHT			HEAD	JAMB	SILL	
W01	4' - 0"	6' - 0"	9' - 4"	3' - 4"	E5/A-621	C5/A-621	A5/A621	
W02	4' - 0"	6' - 0"	9' - 4"	3' - 4"	E7/A-621	D7/A-621	B7/A-621	



GLASS TYPES:

REFERENCE WINDOW SCHEDULE
FOR WINDOW TYPES

1. CLEAR FLOAT (1/4")
2. CLEAR TEMPERED (1/4")
3. TINTED FLOAT (1/4")
3A. TINTED FLOAT TEMPERED (1/4")
4. CLEAR WIRED (1/4")
5. CLEAR LAMINATED (1/4")
6. DECORATIVE LAMINATED (1/4")
7. TRANSLUCENT LAMINATED (1/4")
8. INSULATED LOW E (1")
   INNER 5, OUTER 3.
9. INSULATED LOW E, TRANSLUCENT (1")
   INNER 7, OUTER 3.
10. INSULATED LOW E, DECORATIVE (1")
    INNER 6, OUTER 3.
11. INSULATED LOW E, TEMPERED,
    TRANSLUCENT (1")
    INNER 7, OUTER 3A.
12. INSULATED LOW E, TEMPERED (1")
    INNER 5, OUTER 3A.

GENERAL NOTES

1. PROVIDE INSULATED AND LAMINATED GLASS PANEL AT ALL EXTERIOR WALL. GLASS SPECIFICATION AND GLAZING LAYUP SHALL BE CONFIRMED UPON SITE SELECTION.
2. PROVIDE SECURITY METAL MESH AT INTERIOR SIDE OF GLASS PANEL AT ALL WINDOWS AT OPEN STORAGE AREA. REFERENCE E.Y. DRAWINGS FOR OPEN STORAGE BOUNDARY.
3. PROVIDE BLINDS FOR ALL EXTERIOR WINDOWS. RE: SPECIFICATION SECTION 122100

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

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DATE: 4/15/2013 4:00:56 PM

US ARMY CORPS
OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	DESCRIPTION	DATE	APPR.
	REVISIONS		

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT

DATE: 2/19/2013
SCALE: 1/4" = 1'-0"
DRAWING CODE: EP14A-620
2/19/2013 DATE

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
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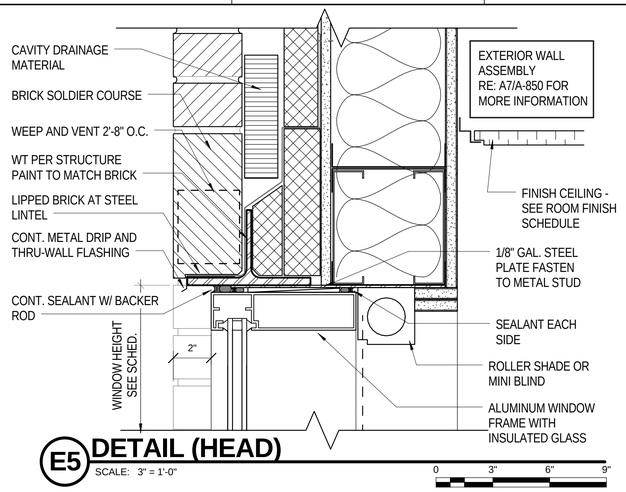
(816) 333-9400

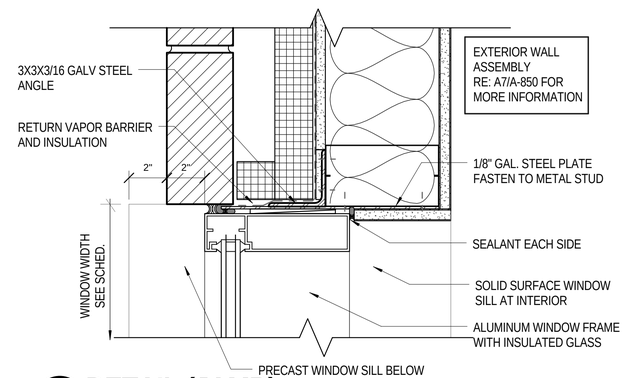
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

WINDOW SCHEDULE

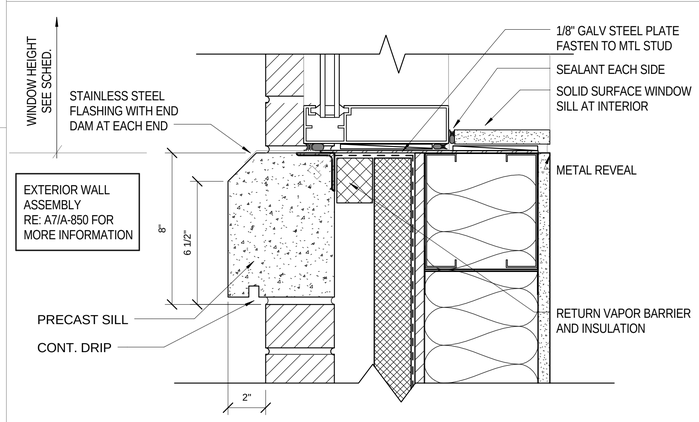
SHEET REFERENCE NUMBER:
A-620
SHEET ____ OF ____



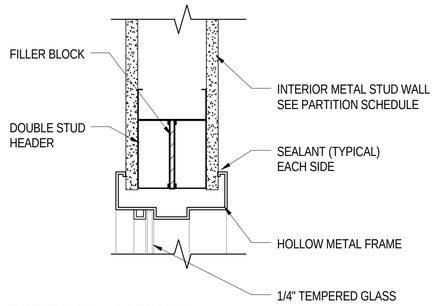
E5 DETAIL (HEAD)
SCALE: 3" = 1'-0"
0 3" 6" 9"
SCALE:3"=1'



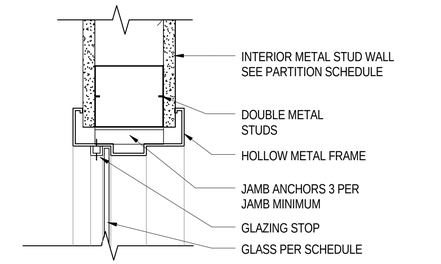
C5 DETAIL (JAMB)
SCALE: 3" = 1'-0"
0 3" 6" 9"
SCALE:3"=1'



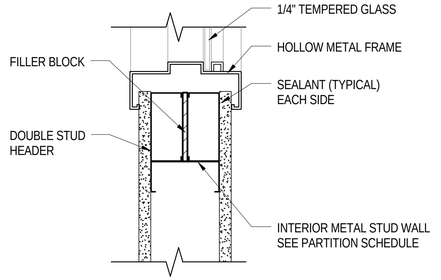
A5 WINDOW (SILL)
SCALE: 3" = 1'-0"
0 3" 6" 9"
SCALE:3"=1'



E7 DETAIL (HEAD)
SCALE: 3" = 1'-0"
0 3" 6" 9"
SCALE:3"=1'



D7 DETAIL (JAMB)
SCALE: 3" = 1'-0"
0 3" 6" 9"
SCALE:3"=1'



B7 DETAIL (SILL)
SCALE: 3" = 1'-0"
0 3" 6" 9"
SCALE:3"=1'

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 8:29:14 AM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	DESCRIPTION	DATE	APPR.
	REVISIONS:		

DESIGNED BY: TJ KIM
DRAWN BY: V. BORCHERS
CHECKED BY: TJ KIM
PROJECT ENGINEER: TJ KIM
DATE: 4/17/2013
SCALE: 3" = 1'-0"
DRAWING CODE: EP14A-621
4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

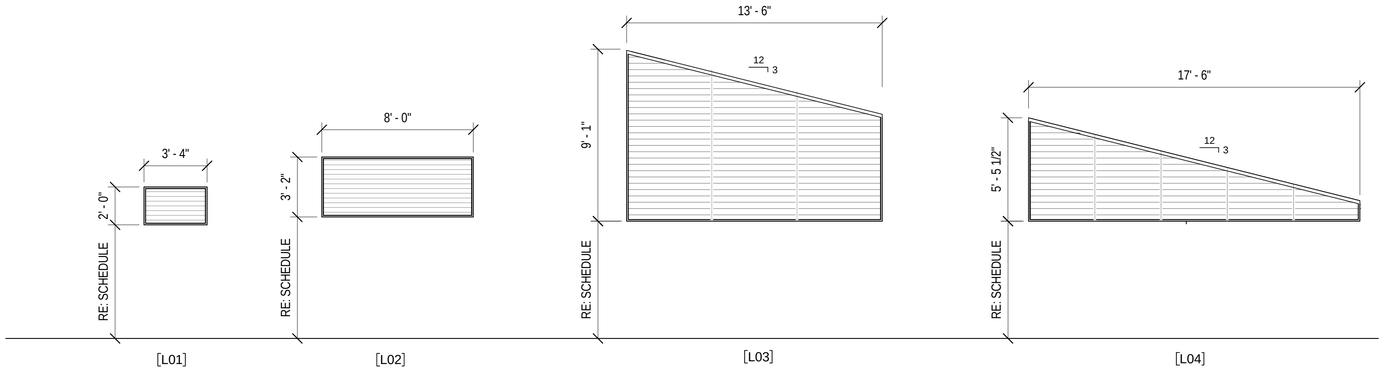
Burns & McDonnell since 1898

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

WINDOW DETAILS

SHEET REFERENCE NUMBER:
A-621
SHEET ___ OF ___

LOUVER SCHEDULE								
TYPE	SIZE		HEAD HEIGHT	SILL HEIGHT	DETAILS			REMARKS
	WIDTH	HEIGHT			HEAD	JAMB	SILL	
L01	3' - 4"	2' - 0"	9' - 4"	7' - 4"	D4/A-631	C4/A-631	A4/A-631	
L02	16' - 0"	3' - 2"	22' - 8"	19' - 6"	D4/A-631	C4/A-631	A4/A-631	
L03	13' - 6"	VARIES	VARIES	13' - 4"	D4/A-631	C4/A-631	A4/A-631	
L04	17' - 6"	VARIES	VARIES	13' - 4"	D4/A-631	C4/A-631	A4/A-631	



NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:00:58 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT

DATE: 2/19/2013
SCALE: 1/4" = 1'-0"
DRAWING CODE: EP14A-630
DATE: 2/19/2013

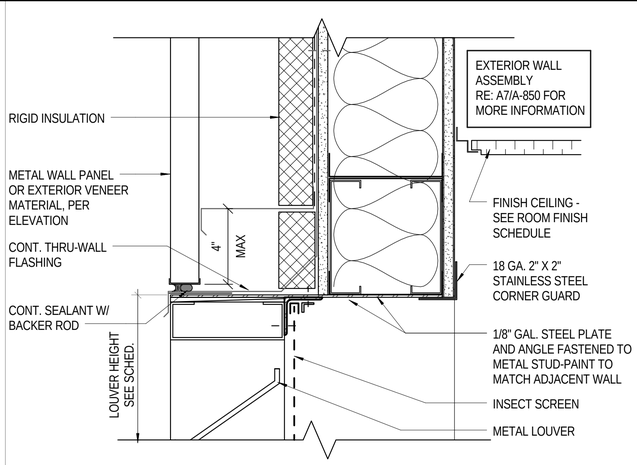
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA.

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

LOUVER SCHEDULE AND DETAILS

SHEET REFERENCE NUMBER:
A-630
SHEET ____ OF ____

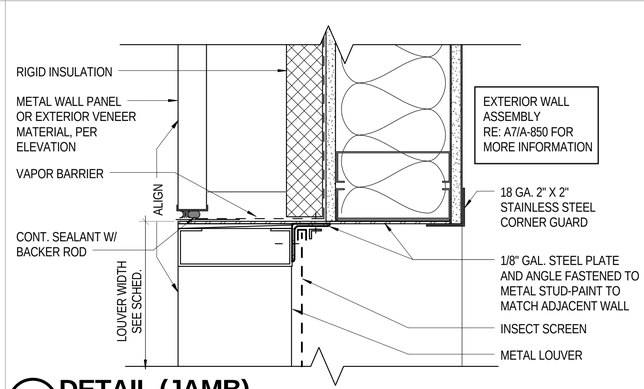


D4 DETAIL (HEAD)

SCALE: 3" = 1'-0"

0 3" 6" 9"

SCALE:3"=1'

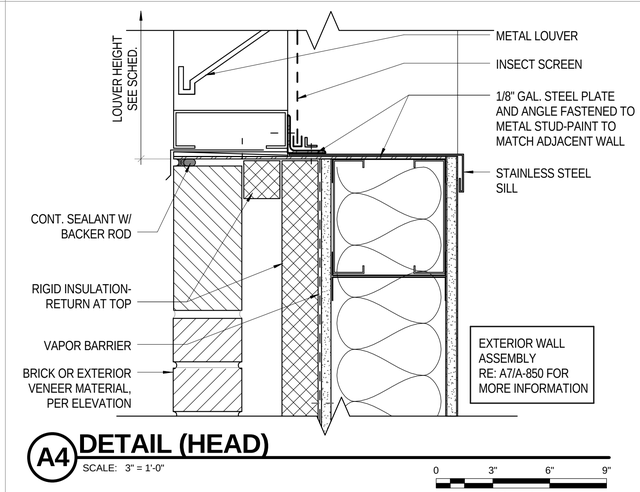


C4 DETAIL (JAMB)

SCALE: 3" = 1'-0"

0 3" 6" 9"

SCALE:3"=1'



A4 DETAIL (HEAD)

SCALE: 3" = 1'-0"

0 3" 6" 9"

SCALE:3"=1'

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 8:29:15 AM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: TJ KIM	DATE: 4/17/2013
DRAWN BY: M. POLLMANN	SCALE: 3" = 1'-0"
CHECKED BY: TJ KIM	DRAWING CODE: EP14A-631
PROJECT ENGINEER/ARCHITECT TJ KIM	DATE 4/17/2013

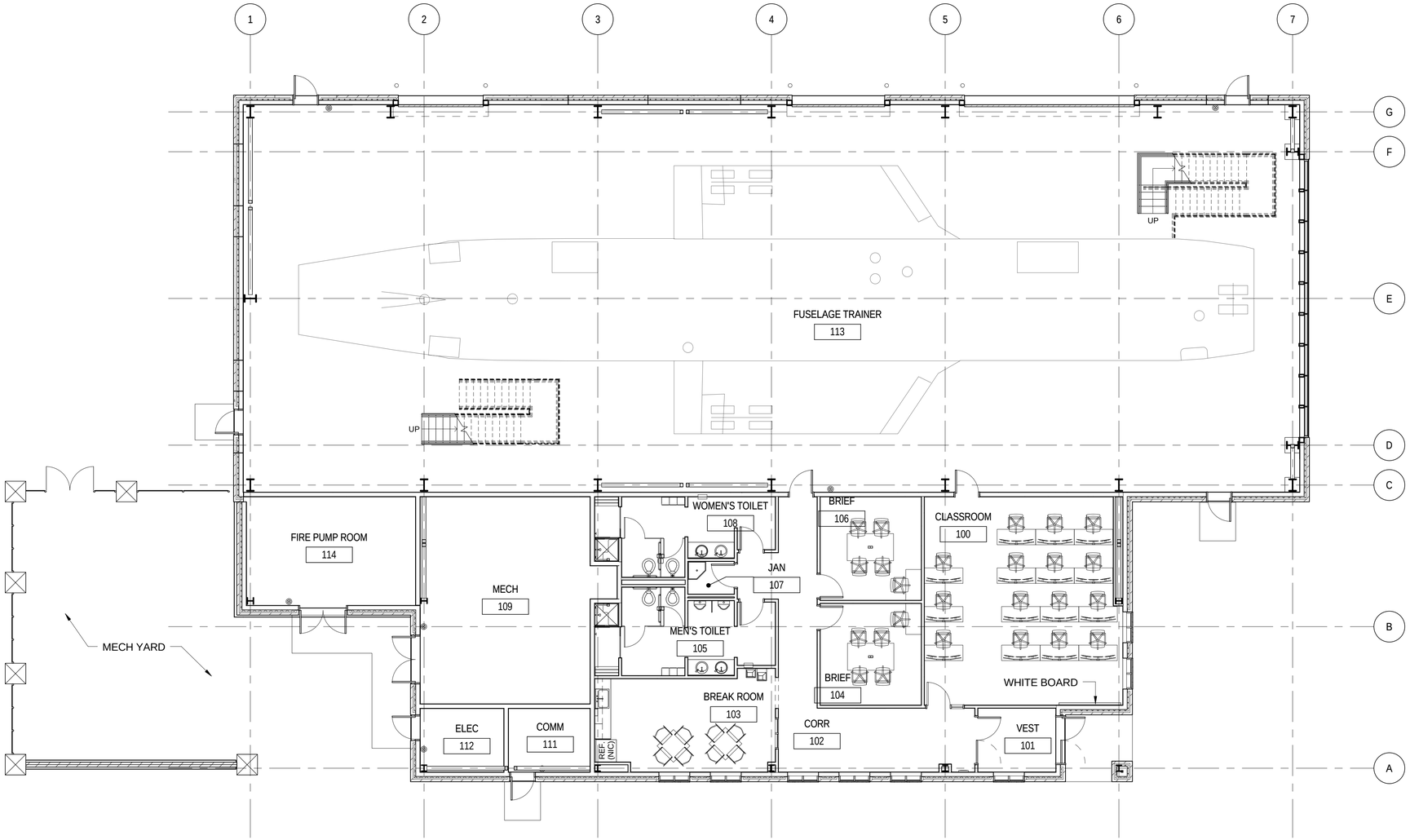
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

LOUVER DETAILS

SHEET REFERENCE NUMBER:
A-631
SHEET ___ OF ___



FURNITURE PLAN

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:01:02 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:
SYMBOL	DESCRIPTION	DATE	APPR.

DATE: 2/19/2013
SCALE: 1/8" = 1'-0"
DRAWING CODE: EP14A-701
2/19/2013 DATE

DESIGNED BY: E. ALLEN	PROJECT ENGINEER/ARCHITECT
DRAWN BY: E. ALLEN	E. ALLEN
CHECKED BY: T.J. KIM	

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

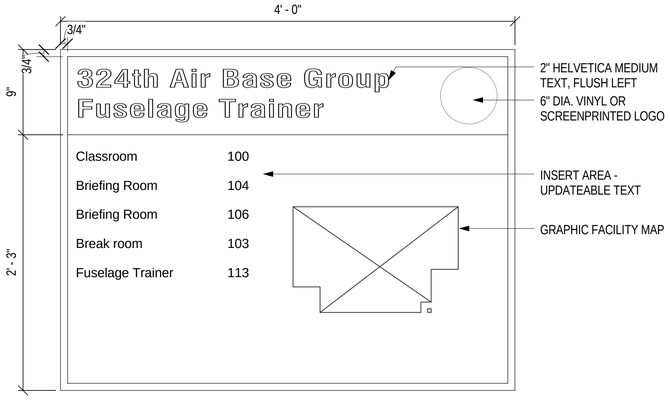
BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

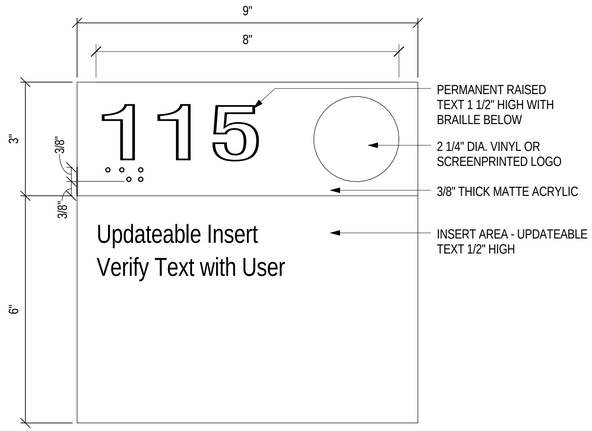
FURNITURE PLAN

SHEET REFERENCE NUMBER:
A-701
SHEET ____ OF ____

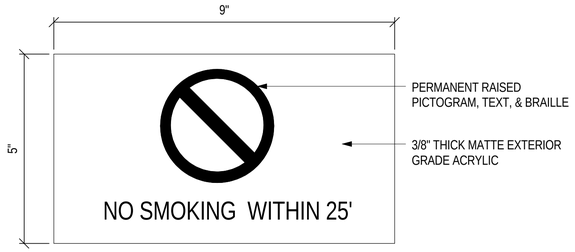
SIGNAGE SCHEDULE						
SIGN		DOOR NUMBER	ROOM NUMBER	MESSAGE		COMMENTS
TAG	TYPE			SIGN NUMBER	TEXT	
G100.1	BB2	100.A	100	100	CLASSROOM	
G100.2	BB2	100.B	100	100	CLASSROOM	
G101	DD	101.A	EXT	-	NO SMOKING WITHIN 25'	
G102	AA2	-	102	-	"DIRECTORY"	
G102.A	BB2	102.A	102	113	FUSELAGE TRAINING BAY	
G102.B	BB2	102A	113	102	TO BRIEFING ROOMS	
G103	BB2	103.A	103	103	BREAK ROOM	
G104	BB2	104.A	104	104	BRIEFING ROOM	
G105	BB7	105.A	105	-	MEN	
G106	BB2	106.A	106	106	BRIEFING ROOM	
G107	BB2	107.A	107	107	JANITOR	
G108	BB7	108.A	108	-	WOMEN	
G109	BB4	109.A	109	109	MECHANICAL	
G111	BB4	111.A	111	111	COMMUNICATIONS	
G112	BB4	112.A	112	112	ELECTRICAL	
G114	BB4	114.A	114	114	FIRE PUMP ROOM	



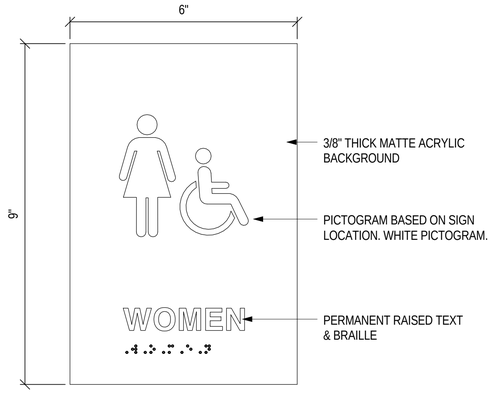
SIGN TYPE AA2



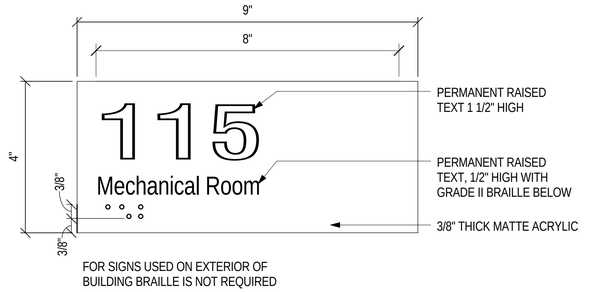
SIGN TYPE BB2



SIGN TYPE DD

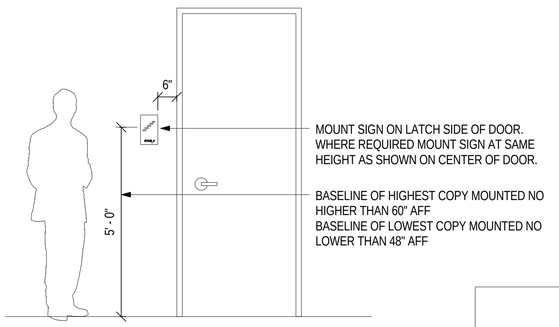


SIGN TYPE BB7



FOR SIGNS USED ON EXTERIOR OF BUILDING BRAILLE IS NOT REQUIRED

SIGN TYPE BB4



SIGNAGE MOUNTING HEIGHT

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 4:01:04 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS
SYMBOL | DESCRIPTION | DATE | APPR

DESIGNED BY: E. ALLEN
DRAWN BY: E. ALLEN
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT: E. ALLEN
DATE: 2/19/2013
SCALE: As Indicated
DRAWING CODE: EP14A-711
DATE: 2/19/2013

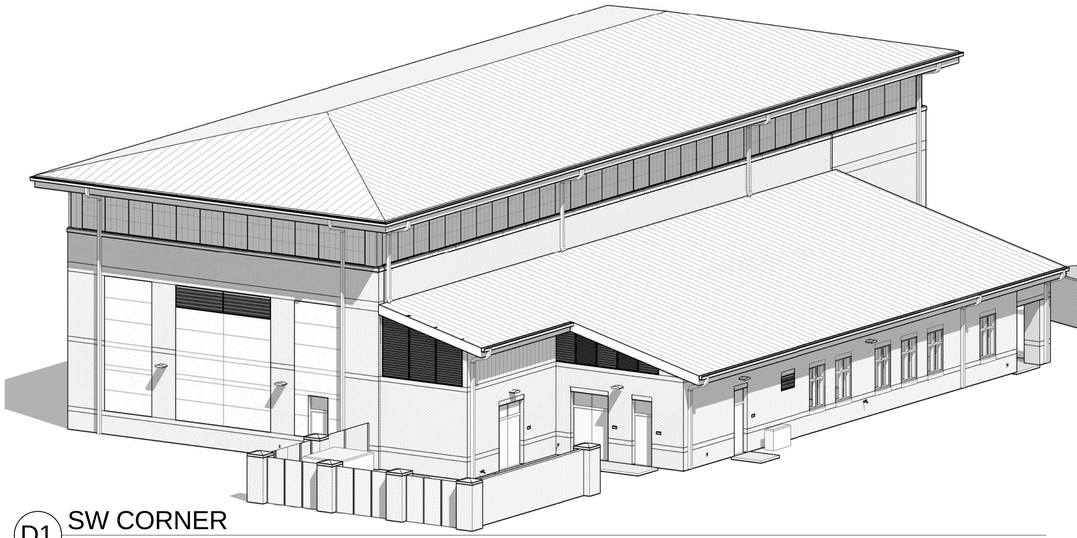
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

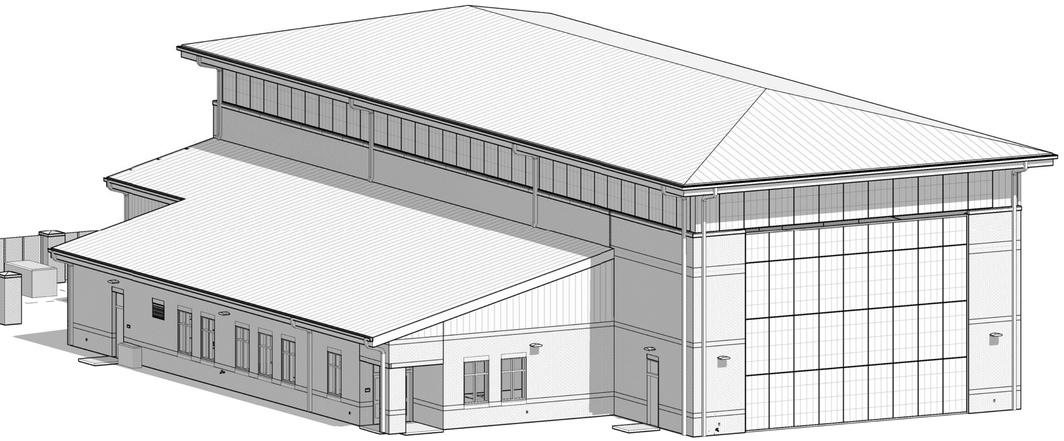
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

SIGNAGE SCHEDULE & DETAILS

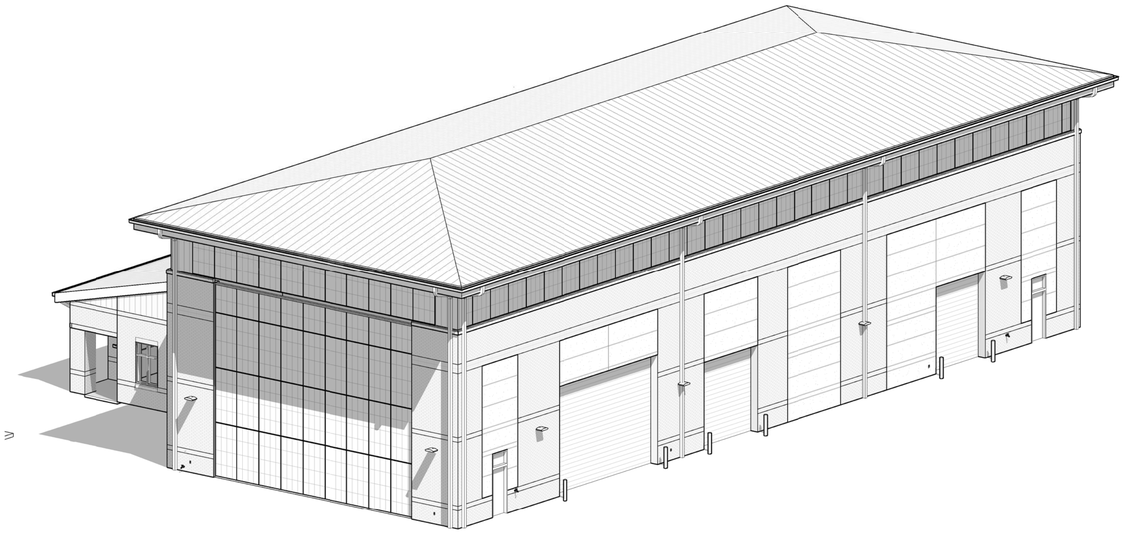
SHEET REFERENCE NUMBER:
A-711
SHEET ____ OF ____



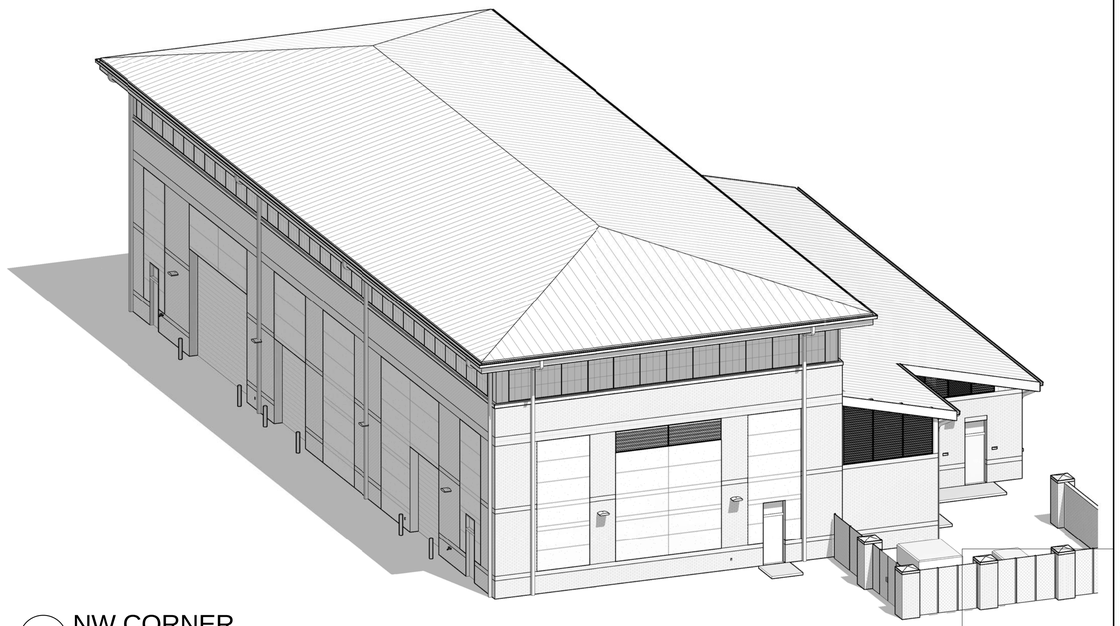
D1 SW CORNER



D5 SE CORNER



A1 NE CORNER



A5 NW CORNER

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	REVISIONS DESCRIPTION	DATE	APPR.

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT DATE
DATE: 2/19/2013
SCALE:
DRAWING CODE: EP14A-800
2/19/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

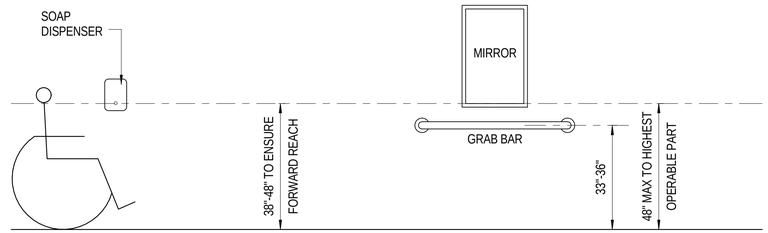
BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

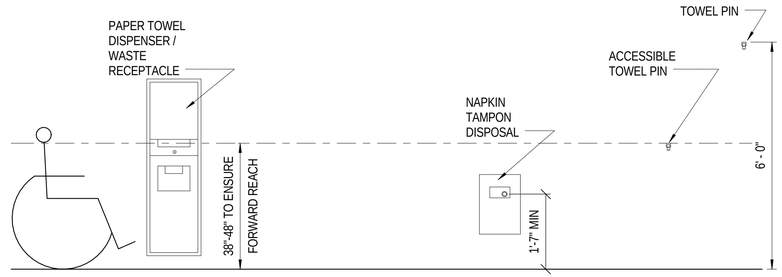
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

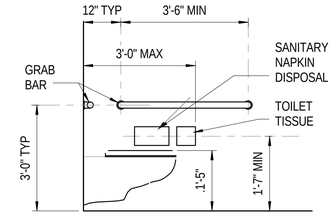
PERSPECTIVES

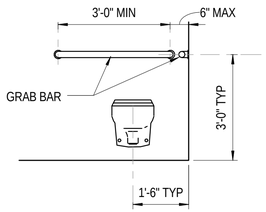
SHEET REFERENCE NUMBER:
A-800
SHEET ____ OF ____

FILE: 71170_A_FUT_Central.rvt
DATE: 4/15/2013 5:08:24 PM









NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 8:29:17 AM

US ARMY CORPS
OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	DESCRIPTION	DATE	APPR.

REVISIONS:

DESIGNED BY: TJ KIM
DRAWN BY: M. POLLMANN
CHECKED BY: TJ KIM
PROJECT ENGINEER/ARCHITECT: TJ KIM

DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14A-820
DATE 4/17/2013

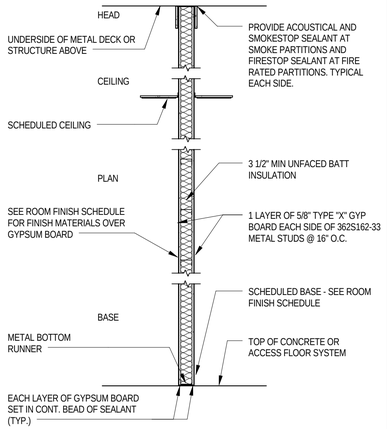
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

TYPICAL ACCESSIBILITY DETAILS

SHEET REFERENCE NUMBER:
A-820
SHEET ___ OF ___



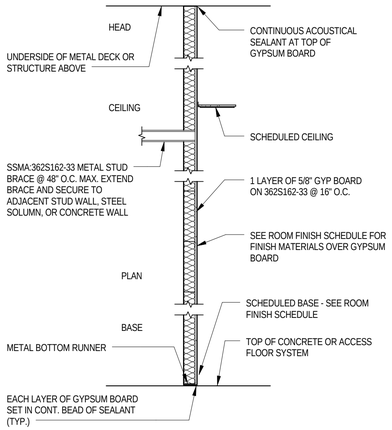
S3 PARTITION TYPE - NO FIRE RATING

S3a PARTITION TYPE - NO FIRE RATING (NOT USED)
SAME AS PARTITION TYPE S3 W/O BATT INSULATION

S3b PARTITION TYPE - SMOKE PARTITION (NOT USED)
SIMILAR TO UL DESIGN NO. U465

S3c PARTITION TYPE - 1 HR FIRE RATING (NOT USED)
SIMILAR TO UL DESIGN NO. U465

S3f PARTITION TYPE - NO FIRE RATING
SAME AS PARTITION TYPE S5 PROVIDE CEMENTITIOUS BACKER UNITS (AT SHOWER WALLS) OR WATER RESISTANT GYP. BD (AT ALL OTHER TOILET OR RESTROOM WALLS) ON WET SIDE WALL

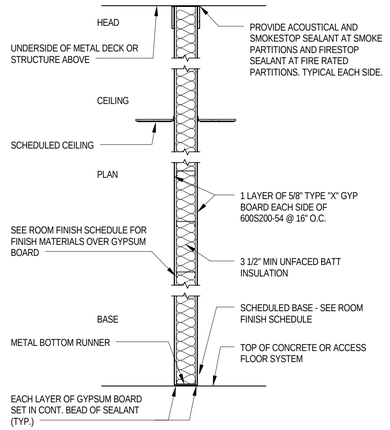


S5 PARTITION TYPE - NO FIRE RATING

S5a PARTITION TYPE - NO FIRE RATING (NOT USED)
SAME AS PARTITION TYPE S5 W/O BATT INSULATION

S5f PARTITION TYPE - NO FIRE RATING
SAME AS PARTITION TYPE S5 PROVIDE CEMENTITIOUS BACKER UNITS (AT SHOWER WALLS) OR WATER RESISTANT GYP. BD (AT ALL OTHER TOILET OR RESTROOM WALLS) ON WET SIDE WALL

S5g PARTITION TYPE - USE 250S125-33 (NOT USED)



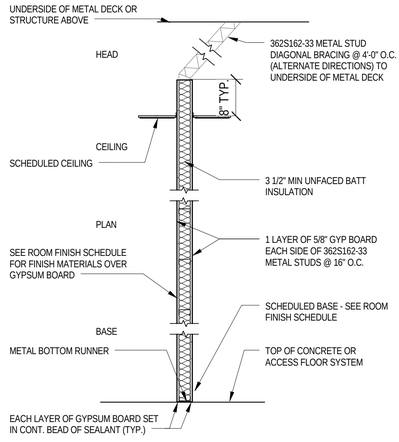
S7 PARTITION TYPE - NO FIRE RATING

S7b PARTITION TYPE - SMOKE PARTITION (NOT USED)
SIMILAR TO UL DESIGN NO U465

S7c PARTITION TYPE - 1 HR FIRE RATING
SIMILAR TO UL DESIGN NO. U465

S7f PARTITION TYPE - 1 HR FIRE RATING
SAME AS PARTITION TYPE S7. PROVIDE CEMENTITIOUS BACKER UNITS OVER GYP BOARD (AT SHOWER WALLS) OR WATER RESISTANT GYP BD (AT ALL OTHER TOILET OR RESTROOM WALLS) ON WET SIDE OF WALL

S7h PARTITION TYPE (NOT USED)
SAME AS PARTITION TYPE S7. PROVIDE CEMENTITIOUS BACKER UNITS (AT SHOWER WALLS) OR WATER RESISTANT GYP BD (AT ALL OTHER TOILET OR RESTROOM WALLS) ON WET SIDE OF WALL



S8 PARTITION TYPE - NO FIRE RATING (NOT USED)

S8a PARTITION TYPE - NO FIRE RATING (NOT USED)
SAME AS PARTITION TYPE S8 w/o BATT INSULATION

S8f PARTITION TYPE - NO FIRE RATING
SAME AS PARTITION TYPE S8. PROVIDE CEMENTITIOUS BACKER UNITS (AT SHOWER WALLS) OR WATER RESISTANT GYP BD (AT ALL OTHER TOILET OR RESTROOM WALLS) ON WET SIDE OF WALL

GENERAL NOTES

1. WHERE STRUCTURAL MEMBERS PENETRATE FIRE-RATED GYPSUM BOARD WALLS, TAPE AND SEAL WITH FIRE STOPPING SEALANT.
2. PROVIDE TREATED WOOD BLOCKING OR MINIMUM 20 GAUGE METAL BACKING AS REQUIRED FOR INSTALLATION OF FIRE EXTINGUISHER CABINETS. MESSAGE BOARDS, TOILET ACCESSORIES, TOILET PARTITIONS, WALL AND BASE CABINETS, ACCESS PANELS, ELECTRICAL AND FIRE PROTECTION SYSTEM PANELS, UNLESS NOTED OTHERWISE.
3. ALL METAL STUD AND FURRING DESIGNATIONS ARE THE STEEL STUD MANUFACTURER ASSOCIATIONS (SSMA) UNIVERSAL DESIGNATOR SYSTEM FOR LIGHT GAUGE STEEL FRAMING MEMBERS. ALL METAL STUDS AND BRACING SHALL BE 20 GAUGE UNLESS NOTED OTHERWISE.
4. REFERENCE FLOOR PLANS FOR PARTITION TYPE LOCATIONS.
5. PROVIDE 362S162-33 METAL STUD DIAGONAL BRACING @ 4'-0" O.C. (ALTERNATE DIRECTIONS) TO UNDERSIDE OF METAL DECK FOR ALL WALLS GREATER THAN 14'-0" IN HEIGHT

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

PARTITION TYPES-01
FILE: PARTITION TYPES-01.dgn
DATE: 4/15/2013 4:00:44 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	REVISIONS DESCRIPTION	DATE	APPR.

DESIGNED BY: T.J. KIM
DRAWN BY: V. BORCHERS
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT
DATE: 2/19/2013
SCALE: 1/2" = 1'-0"
DRAWING CODE: EP14A-830
2/19/2013

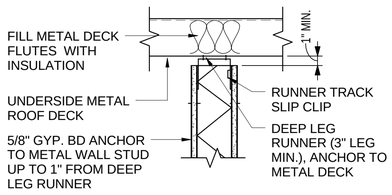
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

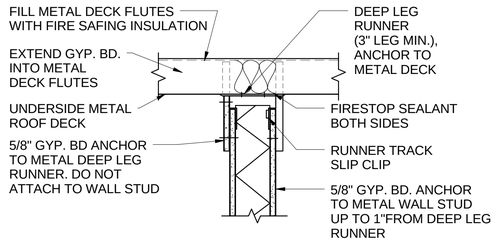
PARTITION TYPES

SHEET REFERENCE NUMBER:
A-830
SHEET ____ OF ____



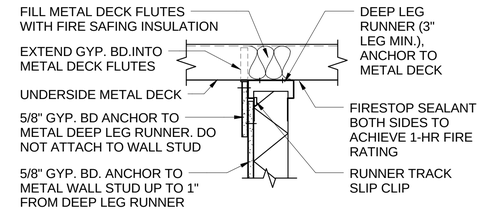
E1 SLIP TRACK DETAIL

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



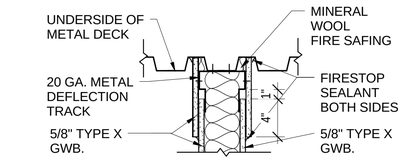
E3 SLIP TRACK DETAIL

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



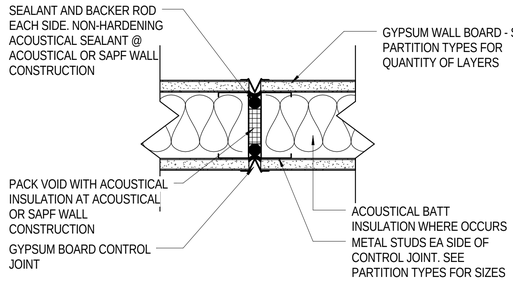
E5 SLIP TRACK DETAIL

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



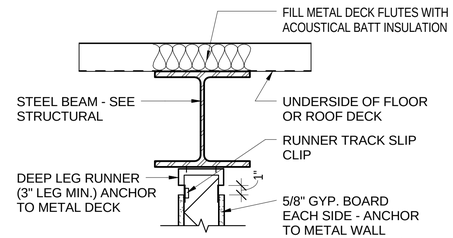
E8 SLIP TRACK DETAIL

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



C5 TYP GYP BD CONTROL JOINT

SCALE: 3" = 1'-0"



C8 SLIP TRACK DETAIL

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

FILE:
DATE: 4/16/2013 8:29:18 AM

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DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
T.J. KIM PROJECT ENGINEER/ARCHITECT DATE 4/17/2013
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14A-831

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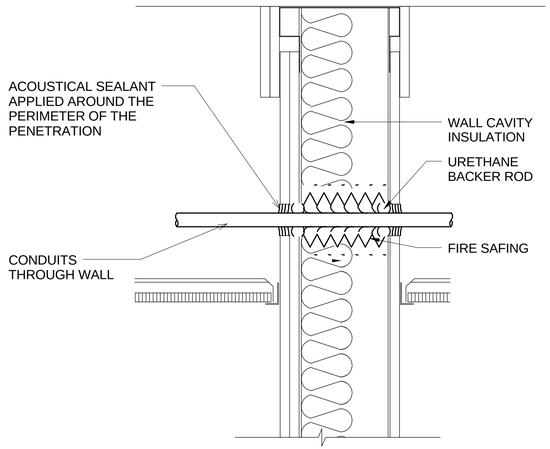
Burns & McDonnell
ESTD 1898

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

PARTITION TYPES DETAILS

SHEET REFERENCE NUMBER:
A-831
SHEET ___ OF ___

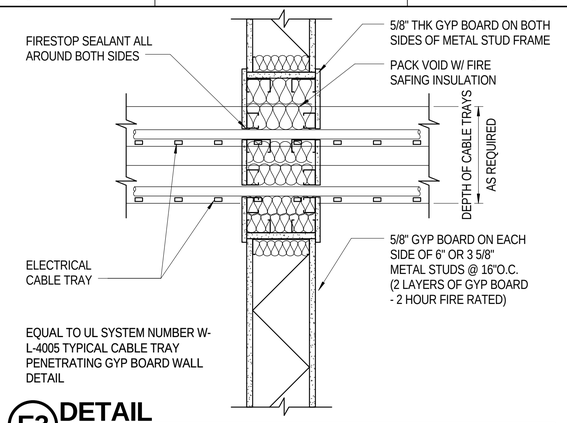


NOTES:

1. THIS DETAIL SHALL NOT PRECLUDE ANY REQUIREMENTS SHOWN ON THE ARCHITECTURAL DETAIL SHEETS FOR SOUND RATED OR FIRE RATED ASSEMBLIES. SUCH DETAILS SHALL OVERRIDE THIS DETAIL WHEN APPLICABLE.
2. THE REQUIREMENTS FOR A CONDUIT PASSING THROUGH A SECURE BOUNDARY SHOWN ON THIS SHEET SHALL BE IN ADDITION TO THE ACOUSTICAL TREATMENT SHOWN ON THIS DETAIL WHEN APPLICABLE.

A1 CONDUIT PENETRATION

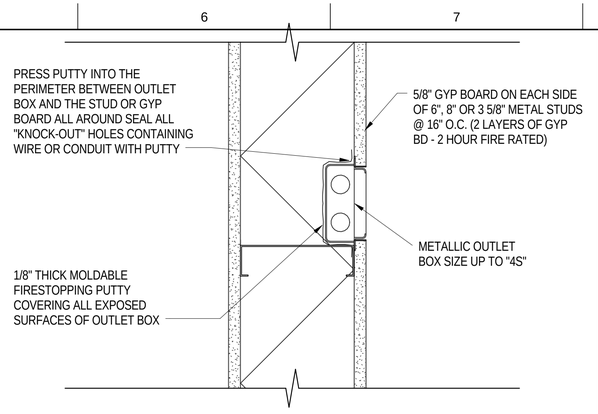
SCALE: 12" = 1'-0"



EQUAL TO UL SYSTEM NUMBER W-L-4005 TYPICAL CABLE TRAY PENETRATING GYP BOARD WALL DETAIL

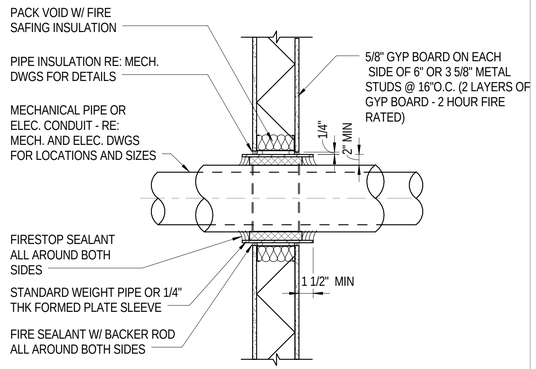
E3 DETAIL

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



E5 TYPICAL OUTLET FIRE STOPPING

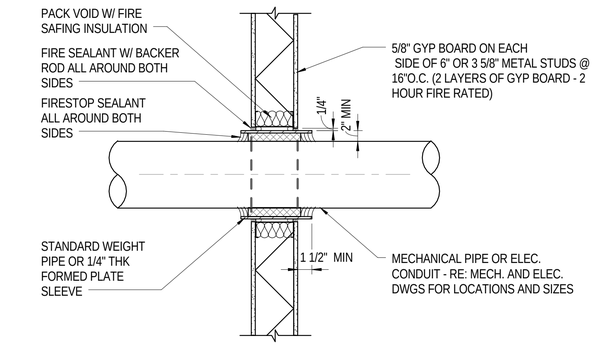
SCALE: 3" = 1'-0"



EQUAL TO UL SYSTEM NUMBER W-L-1003 TYP. PIPE OR CONDUIT PENETRATING GYP. BOARD WALL WITH SLEEVE DETAIL

C3 DETAIL

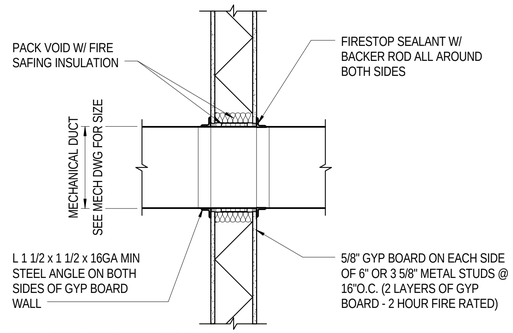
SCALE: 1 1/2" = 1'-0"



EQUAL TO UL SYSTEM NUMBER W-L-1003 TYP. PIPE OR CONDUIT PENETRATING GYP. BOARD WALL WITH SLEEVE DETAIL

C5 DETAIL

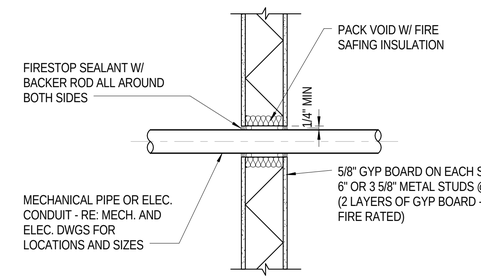
SCALE: 1 1/2" = 1'-0"



EQUAL TO UL SYSTEM NUMBER W-L-7040 OR W-L-7042 TYP. MECHANICAL DUCT PENETRATING GYP. BOARD WALL

A3 DETAIL

SCALE: 1" = 1'-0"



EQUAL TO UL SYSTEM NUMBER W-L-1001 TYP. PIPE OR CONDUIT PENETRATING GYP. BOARD WALL WITHOUT SLEEVE

A5 DETAIL

SCALE: 1" = 1'-0"

GENERAL NOTES

1. CAUTION: THE PURPOSE OF THIS SHEET IS TO DESCRIBE TYPICAL DETAILS USED IN CONJUNCTION WITH THE METAL FRAMED PARTITION SYSTEM. AS A DRAWING INTENDED TO ILLUSTRATE AN OVERALL SYSTEM OF CONSTRUCTION, THIS SHEET MAY SHOW DETAILS WICH DO NOT APPLY TO THE WORK OF THIS PROJECT. REFER TO THE FLOOR PLANS, REFLECTED CEILING PLANS, SECTIONS, AND DETAILS TO DETERMINE WHICH CONDITIONS EXIST AND WHICH DETAILS APPLY. NOT ALL DETAILS SHOWN ARE USED.
2. THE "PRIORITY" OF PARTITIONS OF DIFFERENT TYPES IS DETERMINED AS FOLLOWS:
   FIRE-RATED PARTITIONS HAVE PRIORITY OVER NON-RATED PARTITIONS.
   PARTITIONS WITH GREATER FIRE-RATINGS HAVE PRIORITY OVER PARTITIONS WITH LESSER FIRE-RATINGS.
3. PROVIDE OUTLET BOX MOLDABLE FIRESTOPPING PUTTY WHERE:
   AGGREGATE SURFACE AREA OF OUTLET BOXES EXCEEDS 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF CONTINUOUS WALL SURFACE.
   OUTLET BOXES ON OPPOSITE SIDES OF PARTITION SHALL BE SEPARATED (HORIZ DIM) BY LESS THAN 24 INCHES.

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 9:27:38 AM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: TJ KIM
DRAWN BY: A. BERKE
CHECKED BY: TJ KIM
PROJECT ENGINEER/ARCHITECT: TJ KIM
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14A-840
DATE: 4/17/2013

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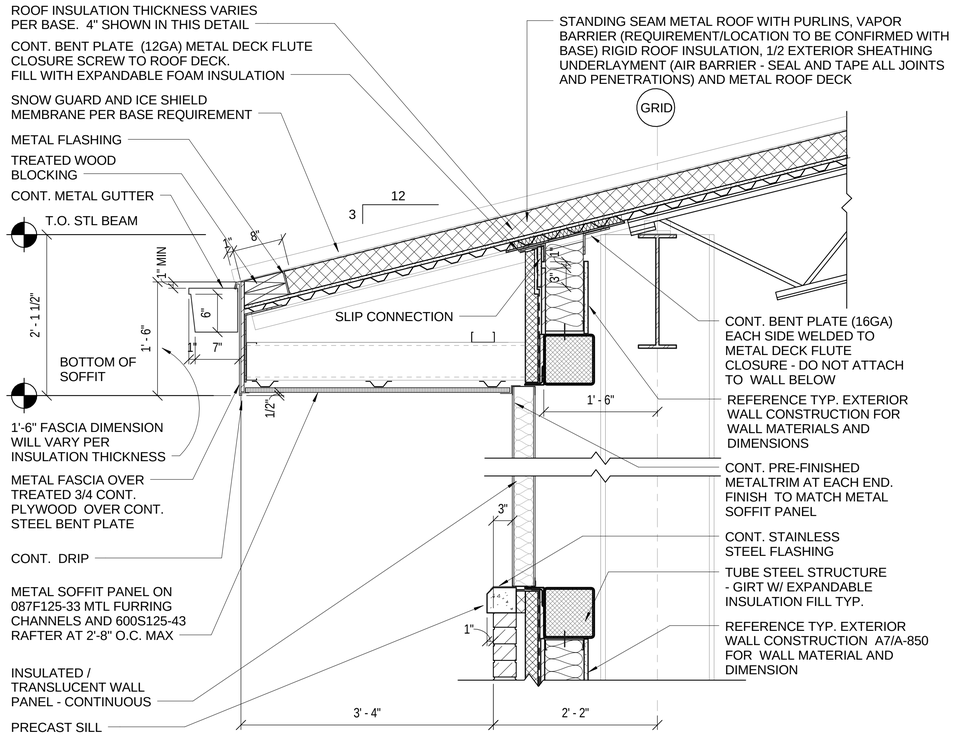
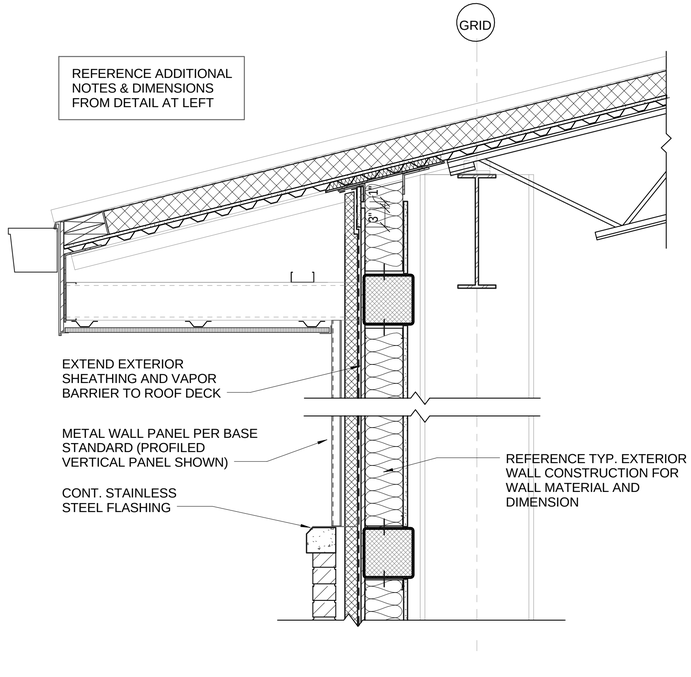
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

TYPICAL PENETRATION DETAILS

SHEET REFERENCE NUMBER:
A-840
SHEET ___ OF ___



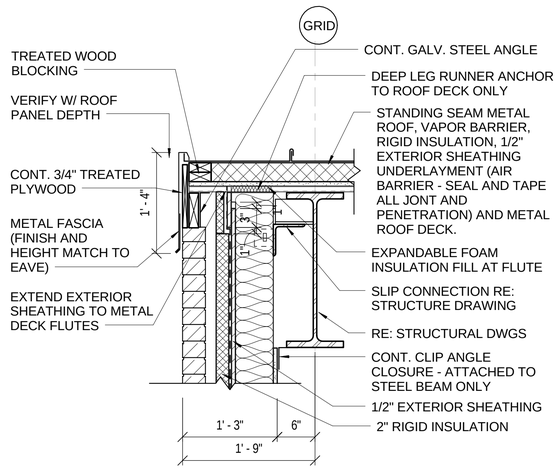
TRANSLUCENT WALL PANEL



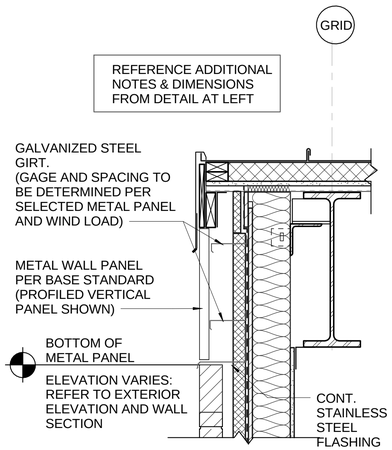
EXTERIOR METAL WALL PANEL

C1 TYP. SECTION @ SIM HIP ROOF

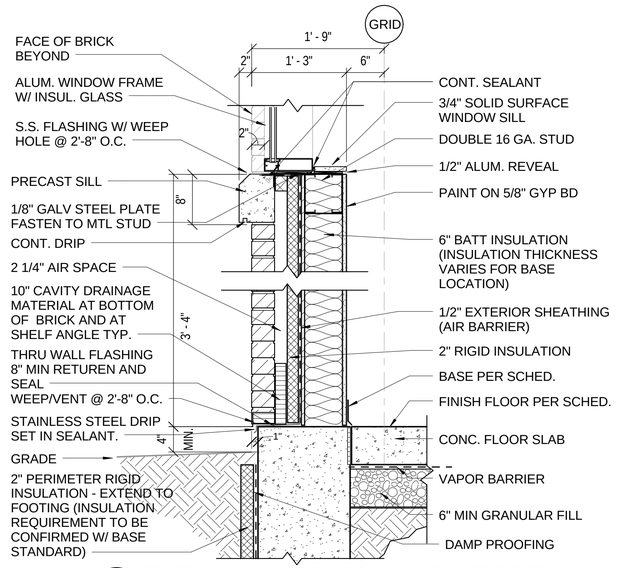
SCALE: 1" = 1'-0"



MASONRY VENEER WALL

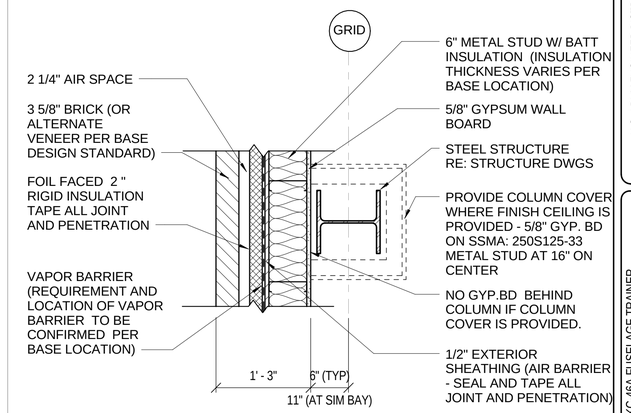


METAL WALL PANEL



A4 TYP. WALL SECTION AT GRADE

SCALE: 1" = 1'-0"



A7 TYP. EXT WALL CONSTRUCTION

SCALE: 1" = 1'-0"

A1 ROOF SECTION AT GABLE

SCALE: 1" = 1'-0"

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS
SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: TJ KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: TJ KIM
PROJECT ENGINEER/ARCHITECT
DATE: 4/17/2013
SCALE: 1" = 1'-0"
DRAWING CODE: EP14A-850
4/17/2013

U.S. ARMY ENGINEER DISTRICT
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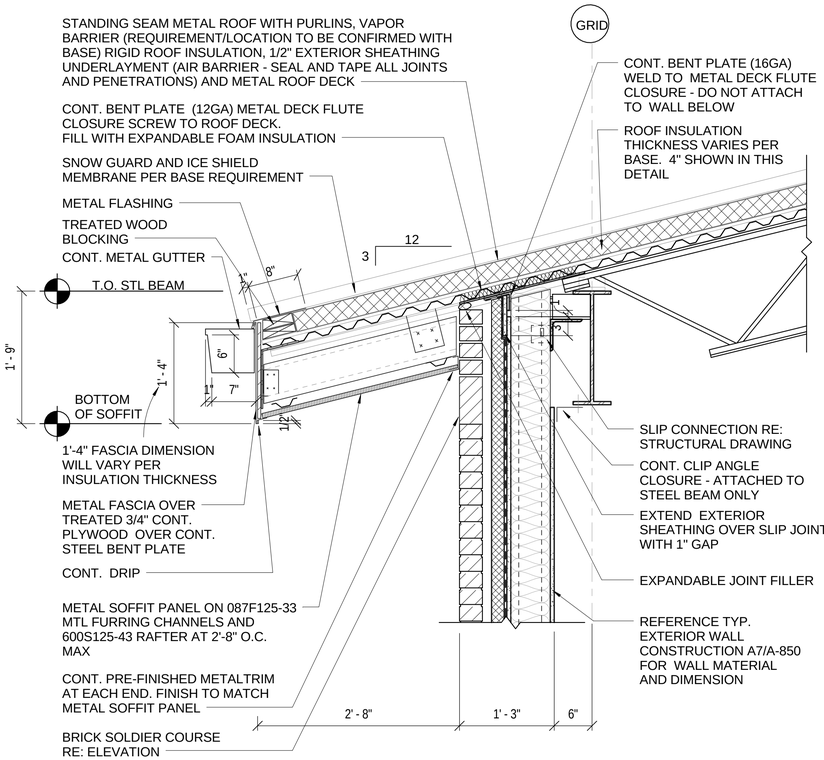
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

MISCELLANEOUS DETAILS

SHEET REFERENCE NUMBER:
A-850
SHEET ___ OF ___

FILE:
DATE: 4/16/2013 8:29:22 AM

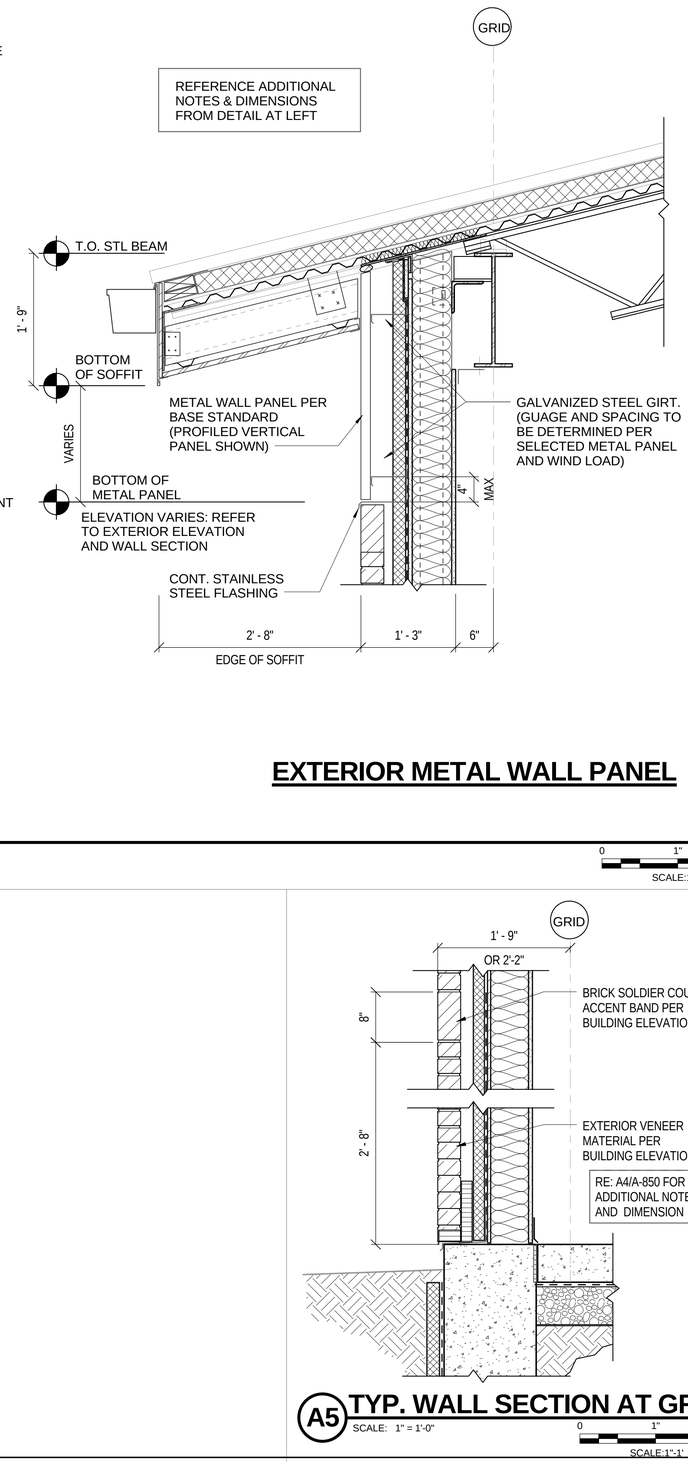


EXTERIOR BRICK WALL

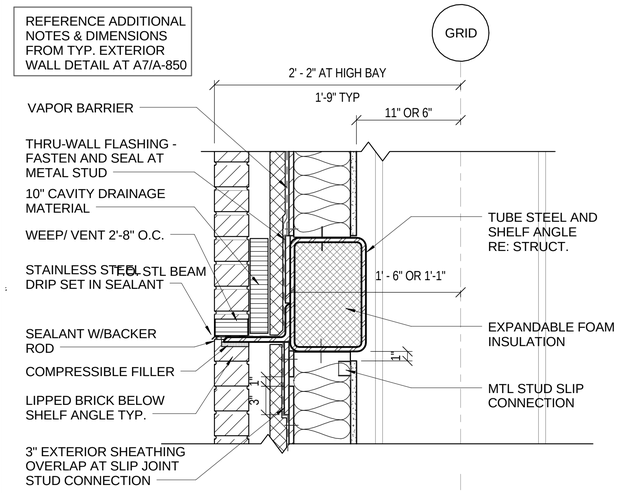
C1 TYP. SECTION @ GABLED ROOF

SCALE: 1" = 1'-0"

SCALE:1"-1'



EXTERIOR METAL WALL PANEL



D7 TYP. DETAIL AT MASONRY SHELF ANGLE

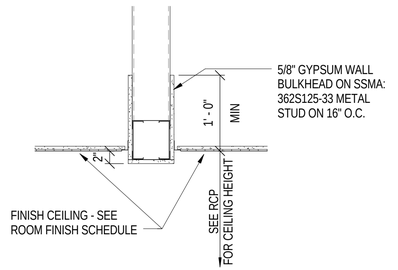
SCALE: 1 1/2" = 1'-0"

SCALE:1-1/2"-1'

A5 TYP. WALL SECTION AT GRADE

SCALE: 1" = 1'-0"

SCALE:1"-1'



A7 BULKHEAD DETAIL

SCALE: 1" = 1'-0"

SCALE:1"-1'

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DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
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SYMBOL	DESCRIPTION	DATE	APPR.

REVISIONS

U.S. ARMY ENGINEER DISTRICT
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Burns & McDonnell 1905 | 2015

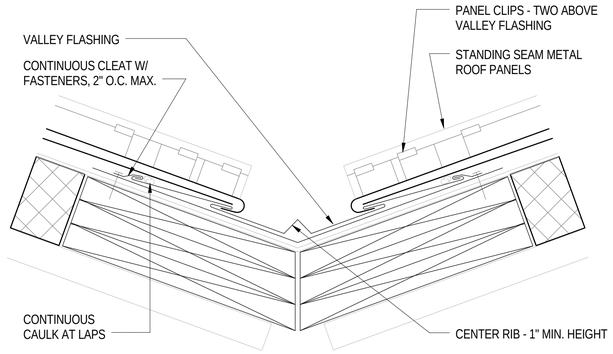
DESIGNED BY: TJ KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: TJ KIM
PROJECT ENGINEER/ARCHITECT
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14A-851
DATE 4/17/2013

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

MISCELLANEOUS DETAILS

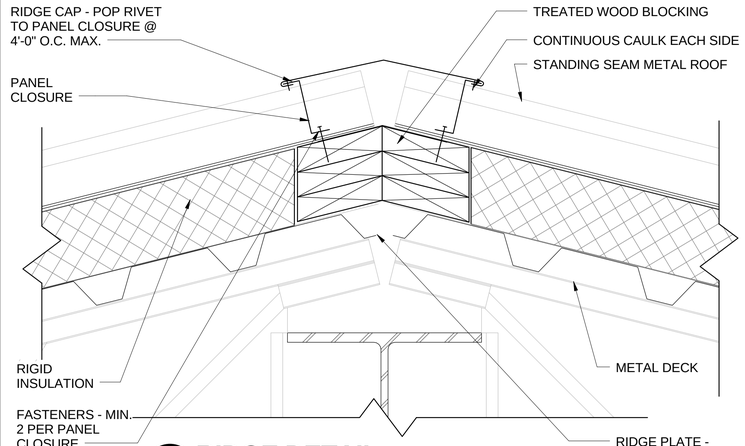
SHEET REFERENCE NUMBER:
A-851
SHEET ___ OF ___

FILE:
DATE: 4/16/2013 8:29:24 AM



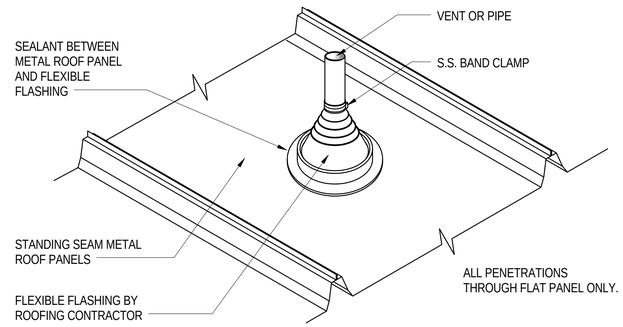
E4 ROOF VALLEY DETAIL

SCALE: 3" = 1'-0"



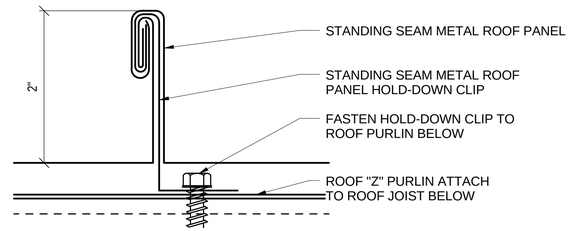
E7 RIDGE DETAIL

SCALE: 3" = 1'-0"



C7 PLUMBING VENT DETAIL

SCALE: 3" = 1'-0"



A7 TYPICAL 2" PANEL CRIMP DETAIL

SCALE: 12" = 1'-0"

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DEFINITIVE DESIGN

US ARMY CORPS
OF ENGINEERS ®
MOBILE DISTRICT

SYMBOL	DESCRIPTION	DATE	APPR.
	REVISIONS		

DESIGNED BY: T.J. KIM
DRAWN BY: C. SPRINKLE
CHECKED BY: T.J. KIM
PROJECT ENGINEER/ARCHITECT: T.J. KIM
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14A-852
DATE: 4/17/2013

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engineers | architects | consultants

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DEFINITIVE DESIGN
BASE X, CONUS

MISCELLANEOUS DETAILS

SHEET REFERENCE NUMBER:
A-852
SHEET ___ OF ___

FILE:
DATE: 4/16/2013 8:29:25 AM

PIPE LINE ABBREVIATIONS

COND	COOLING COIL CONDENSATE DRAIN
DR	DRAIN
MW	MAKE-UP WATER (AFTER BACKFLOW PREVENTER)

HVAC LEGEND

- CONTROL DAMPER, MOTOR OPERATED
- MANUAL BALANCE DAMPER
- BD — BACKDRAFT DAMPER
- AD / AD — ACCESS DOOR (AD), ACCESS PANEL (AP)
- SD / AD — DAMPERS: (SD) SMOKE- △ FIRE/SMOKE (F/SD)- ◭
- AD — MANBARS
- FLEXIBLE DUCT CONNECTION
- RECTANGULAR ELBOW W/TURNING VANES
- TEE W/TURNING VANES
- RECTANGULAR RADIUS ELBOW
- RISE IN RESPECT TO AIR-FLOW
- DROP IN RESPECT TO AIR-FLOW
- SQUARE OR RECTANGULAR TO ROUND TRANSITION
- SUPPLY OR OUTSIDE AIR DUCT SECTION
- RETURN OR EXHAUST AIR DUCT SECTION
- ROUND FLEXIBLE DUCT (5'-0" MAX LENGTH)
- SQUARE OR RECT. SUPPLY DIFFUSER
- RETURN AIR DIFFUSER
- EXHAUST AIR DIFFUSER
- T — THERMOSTAT
- CO2 — CARBON DIOXIDE MONITOR
- H — HUMIDISTAT
- LINEAR SLOT SUPPLY DIFFUSER
- VAV- — VARIABLE AIR VOLUME TERMINAL BOX
- (3'-0") — FINNED TUBE RADIATION. LENGTH OF ELEMENT SHOWN IN PARENTHESIS
- ESS — EMERGENCY SHUT-OFF SWITCH
- M — MOTOR

PIPE LINE ACCESSORIES

- GATE VALVE
- OS&Y — OUTSIDE SCREW & YOKE
- BUTTERFLY VALVE
- CHECK VALVE
- 3 - WAY VALVE
- BALL VALVE
- PDV — PUMP DISCHARGE VALVE
- BALANCING VALVE
- RELIEF, SAFETY OR THERMAL RELIEF VALVE
- CONTROL VALVE
- M — MOTORIZED CONTROL VALVE
- SUCTION DIFFUSER
- AV — AUTOMATIC AIR VENT ASSEMBLY
- MV — MANUAL AIR VENT - SEE SPECIFICATIONS FOR APPROPRIATE VALVE TYPE.
- FLEX CONNECTION
- THERMOMETER
- BP — BACKFLOW PREVENTION ASSEMBLY
- SELF CONTAINED PRESSURE REDUCING (REGULATING) VALVE
- PRESSURE GAUGE
- Y-TYPE STRAINER
- REMOVABLE CAP
- REDUCER (CONCENTRIC)
- REDUCER (ECCENTRIC)
- UNION
- BLIND FLANGE
- TEST CONNECTION
- * — COMPONENTS TO BE FURNISHED WITH EQUIPMENT
- M — METER
- PUMP

DETAIL/SECTION TITLE

NUMBER = DETAIL DESIGNATOR
LETTER = SECTION DESIGNATOR

DETAIL

DRAWING WHERE DETAIL/SECTION IS TAKEN

AIR DISTRIBUTION DEVICE IDENTIFICATION

SPEC. TYPE

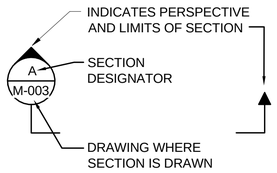
A

175 CFM

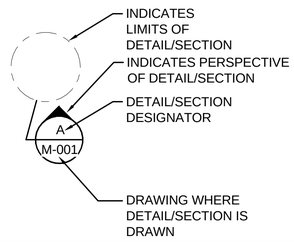
AIR FLOW

NOTE: NECK SIZE AS INDICATED ON PLANS

SECTION CUT SYMBOL



DETAIL/SECTION CALLOUT SYMBOL



MECHANICAL ABBREVIATIONS

24x12	RECTANGULAR DUCT DIMENSION (INCHES)
24x12 FO	FLAT OVAL DUCT DIMENSION (INCHES)
12"Ø	ROUND DUCT DIMENSION
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
BOD	BOTTOM OF DUCT
CUH	CABINET UNIT HEATER
DN	DOWN
EL	ELEVATION
ELL	ELBOW
EA	EXHAUST AIR
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
F	FAN
FCU	FAN COIL UNIT
FF	FLAT FACED
FO	FLAT OVAL
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
HHWS	HEATING HOT WATER SUPPLY
HHWR	HEATING HOT WATER RETURN
HWB	HOT WATER BOILER
HWP	HOT WATER PUMP
L	LOUVER
MA	MIXED AIR
NC	NORMALLY CLOSED (FAIL POSITION)
NO	NORMALLY OPEN (FAIL POSITION)
OA	OUTSIDE AIR
OB	OPPOSED BLADE
PB	PARALLEL BLADE
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
RA	RETURN AIR
RG	REFRIGERAT HOT GAS DISCHARGE
SCH	SCHEDULE
SA	SUPPLY AIR
SR	SUPPLY REGISTER
TOC	TOP OF CONCRETE
TOD	TOP OF DUCT
TOS	TOP OF STEEL
UH	UNIT HEATER
V	VENT
VAV	VARIABLE AIR VOLUME

DEFINITIVE DESIGN NOTES:

ASSUMPTIONS:

1. REDUNDANT SYSTEMS FOR HEATING AND COOLING THE BUILDING ARE NOT REQUIRED.
2. MULTIPLE SYSTEMS ARE USED FOR COMPUTER ROOMS AND COMM EQUIPMENT ROOMS THAT HAVE A HEAT LOAD OF OVER 5 TONS, BUT ARE NOT REDUNDANT.

BASIS OF DESIGN:

1. REFER TO THE DESIGN ANALYSIS FOR APPLICABLE STANDARDS AND CODES USED IN THE DEVELOPMENT OF THIS DEFINITIVE DESIGN.
2. THE DEFINITIVE MECHANICAL DESIGN IS BASED UPON A VARIABLE AIR VOLUME AIR SIDE SYSTEM FOR THE BUILDING WITH COOLING PROVIDED BY CONDENSING UNITS AND HEATING FROM HOT WATER BOILERS. MECHANICAL DESIGNER SHALL BASE FINAL SYSTEM DETERMINATION ON RESULTS OF A LIFE CYCLE COST ANALYSIS.
3. ESTIMATED LOADS HAVE BEEN USED FOR THE COMM ROOM EQUIPMENT. ACTUAL LOADS FROM THE EQUIPMENT PROVIDER ARE TO BE SUBSTITUTED.
4. GEOGRAPHICAL LOCATION, SCHEDULE OF BUILDING OPERATIONS, UTILITY RATES AND FINAL OCCUPANCY ARE UNKNOWN. THE SYSTEMS DEPICTED ARE BASED ON AN ASSUMED POPULATION AND USE PRELIMINARY HEATING AND COOLING EQUIPMENT LOADS FROM CLIMATE ZONE 7.
5. POTENTIAL MECHANICAL SYSTEMS FOR CONSIDERATION IN LIFE CYCLE COST ANALYSIS:
   a. VARIABLE AIR VOLUME (VAV)
      i. ENERGY RECOVERY
      ii. DEMAND CONTROL VENTILATION
   b. DEDICATED OUTDOOR AIR (DOAS)
   c. GROUND SOURCE HEAT PUMPS
   d. CHILLED WATER (AIR COOLED CHILLERS)
   e. HOT WATER HEATING
   f. ELECTRIC HEAT
   g. ECONOMIZER (AIR SIDE AND WATER SIDE)

GENERAL NOTES:

1. LEGEND IS GENERAL IN NATURE AND MAY INDICATE MORE INFORMATION THAN IS APPLICABLE TO PROJECT. SEE PLANS FOR SPECIFIC SYMBOLS AND ABBREVIATIONS.
2. PROVIDE ALL MATERIALS, VALVES, HANGERS, ETC. AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED BY CODE.
3. INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
4. COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
5. MAINTAIN A MINIMUM OF 6'-8" CLEARANCE TO UNDERSIDE OF PIPES, CONDUITS, ETC., THROUGHOUT ACCESS ROUTES AND IN MECHANICAL ROOMS.
6. LOCATE ALL MECHANICAL EQUIPMENT FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, CONTROLS, AND VALVING.
7. VERIFY DIMENSIONS AND CONNECTION SIZE WITH FURNISHED EQUIPMENT.
8. ALL ELEVATIONS ARE ABOVE FINISHED FLOOR TO BOTTOM OF DUCT, PIPE, OR PIPE INSULATION UNLESS NOTED OTHERWISE.
9. DUCT DIMENSIONS INDICATED REFER TO SHEET METAL DIMENSIONS. SHEET METAL SIZE SHALL BE AIR OPENING DIMENSION PLUS THE THICKNESS OF ACOUSTICAL LINER WHERE LINER IS INSTALLED. WHERE LINER IS NOT INSTALLED, AIR OPENING SIZE AND SHEET METAL SIZE SHALL BE THE SAME.
10. DUCT STATIC PRESSURE CLASSIFICATION: UNLESS OTHERWISE INDICATED, CONSTRUCT DUCTS ON THE DISCHARGE SIDE OF FANS AND VAV BOXES TO HAVE 1.0 IN. W.C. POSITIVE PRESSURE AND DUCTS ON THE INLET SIDE OF EQUIPMENT TO HAVE 1.0 IN. W.C. NEGATIVE PRESSURE CLASSIFICATIONS. DUCTS ON OUTLET SIDE OF AHU'S SHALL HAVE 3.0 INCH POSITIVE PRESSURE CLASS DUCT.
11. LOCATE TRANSFER AIR DUCTS AND OPENINGS 24" ABOVE HIGHEST CEILING ELEVATION UNLESS OTHERWISE NOTED.
12. COORDINATE ALL WALL AND ROOF PENETRATIONS WITH STRUCTURAL AND ARCHITECTURAL PLANS.
13. INSTALL TEMPERATURE CONTROLS AT 48" ABOVE FINISHED FLOOR AND COORDINATE WITH OTHER DEVICES LOCATED ON WALLS. COORDINATE WITH ARCHITECTURAL WALL FINISHES.
14. PROVIDE STRUCTURAL EQUIPMENT PADS IN ACCORDANCE WITH DETAIL IN STRUCTURAL DRAWINGS.

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS
SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: T. KARRE
DRAWN BY: K. HIMES
CHECKED BY: J. BURGER
PROJECT ENGINEER/ARCHITECT: T. KARRE
DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14M-001
DATE: 4/17/2013

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KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

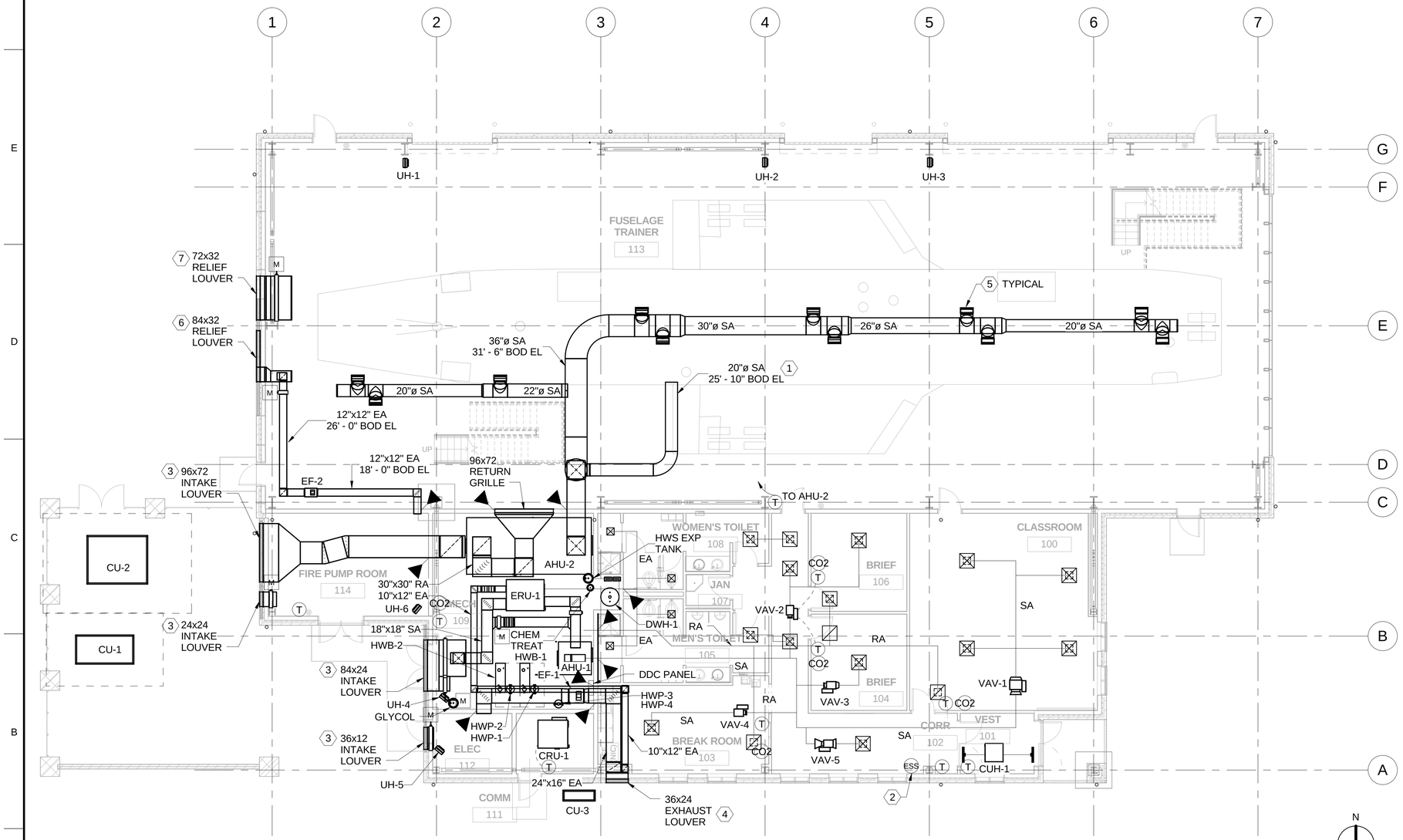
MECHANICAL LEGEND AND ABBREVIATIONS

SHEET REFERENCE NUMBER:
M-001
SHEET ____ OF ____

FILE:
DATE: 4/15/2013 12:07:41 PM

NOTES:
1. SEE DRAWING M-001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. SEE DEFINITIVE DESIGN NOTES ON M-001 FOR DESIGNER INSTRUCTIONS AND NOTES FOR HOW TO USE THIS DRAWING.
3. INDIVIDUAL ROOM AIRFLOWS TO BE DETERMINED AFTER SITE SELECTION. DUCTWORK SIZES SHOWN ARE PRELIMINARY.

KEYED NOTES:
1. COORDINATE SUPPLY DUCT CONNECTION TO FUSELAGE WITH EQUIPMENT PROVIDED.
2. HVAC EMEGENCY SHUTDOWN SWITCH.
3. BLANK OFF UNUSED LOUVER WITH INSULATED METAL PANEL.
4. CONNECT 24"x24" SECTION OF LOUVER TO DUCT FROM EF-1. CONNECT 12"x24" SECTION OF LOUVER TO DUCT FROM ERU-1.
5. SUPPLY AIR REGISTER ANGLED DOWNWARD.
6. CONNECT 24"x32" SECTION OF LOUVER TO EXHAUST DUCT FROM EF-2. 48"x32" SECTION OF LOUVER SHALL BE CONNECTED TO RELIEF DAMPER. SEE DETAIL A6 ON SHEET M-502 FOR RELIEF LOUVER WITH BOOT.
7. CONNECT 72"x32" SECTION OF LOUVER TO RELIEF DAMPER. SEE DETAIL A6 ON SHEET M-502 FOR RELIEF LOUVER WITH BOOT.



1 FIRST FLOOR HVAC PLAN

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 12:07:45 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

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SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: T. KARRE
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SCALE: 1/8" = 1'-0"
DRAWING CODE:
DATE: 4/17/2013

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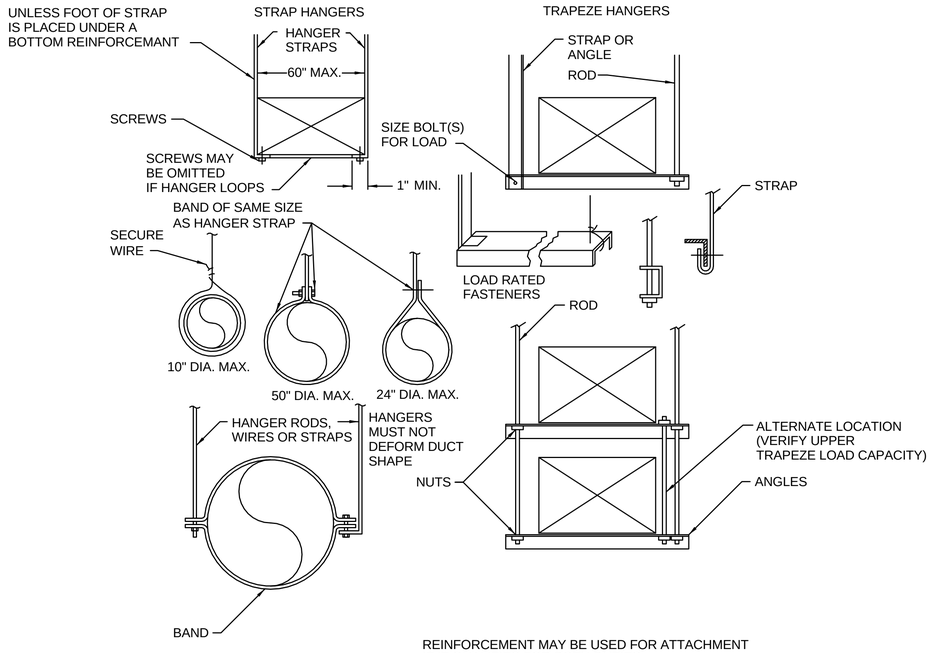
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

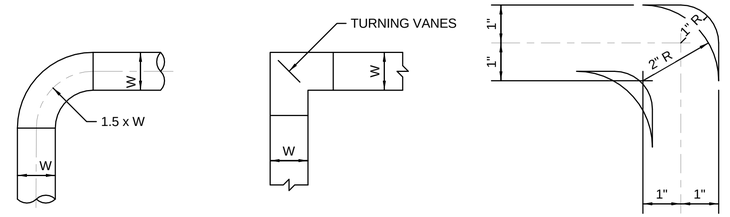
MECHANICAL HVAC PLAN

SHEET REFERENCE NUMBER:
M-101
SHEET ____ OF ____



D1 LOWER DUCT HANGAR ATTACHMENTS

SCALE: NTS

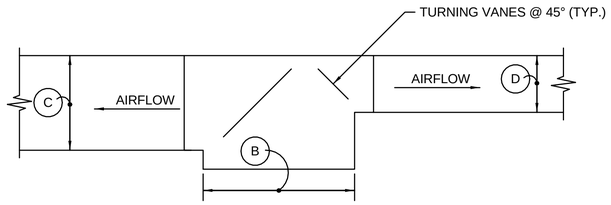


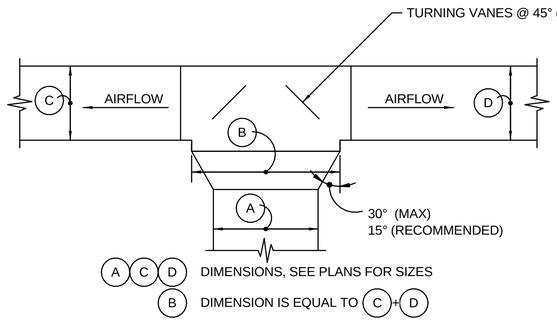
NOTE:

1. USE THIS DESIGN WHERE SQUARE 90°ELBOWS ARE SHOWN ON DRAWINGS OR IF SPACE DOES NOT PERMIT ROUND 90° ELBOWS.

D6 LOW VELOCITY DUCT LAYOUT

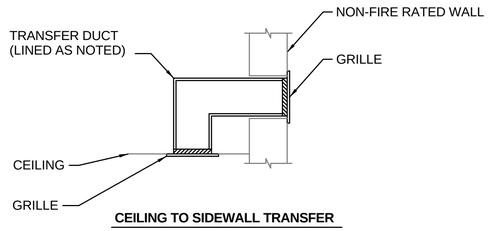
SCALE: NTS

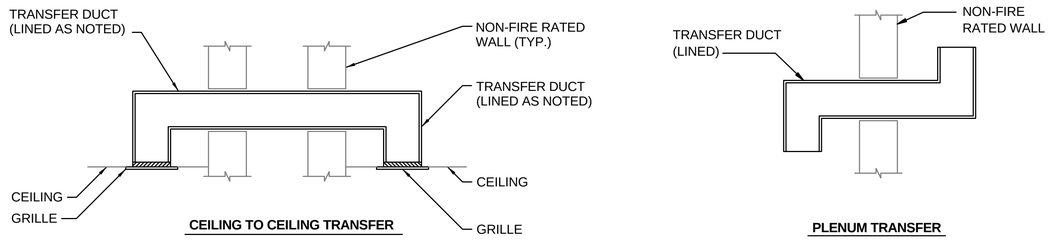




A1 LOW PRESSURE "TEE" DUCT FITTING

SCALE: NTS





A5 TRANSFER DUCTWORK - NON FIRE RATED

SCALE: NTS

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 3:32:14 PM

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DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14M-501
DATE: 4/17/2013

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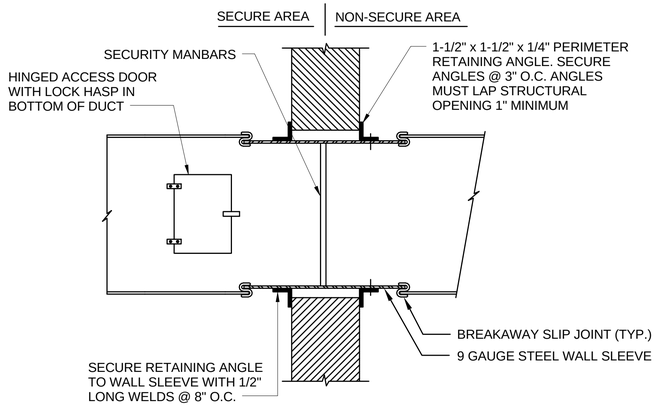
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

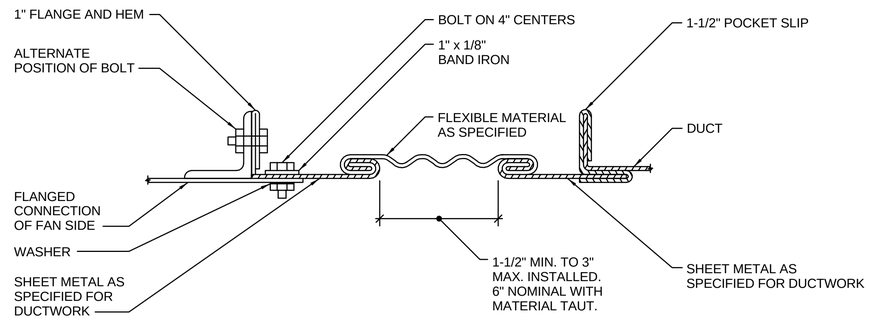
MECHANICAL DETAILS

SHEET REFERENCE NUMBER:
M-501
SHEET ___ OF ___



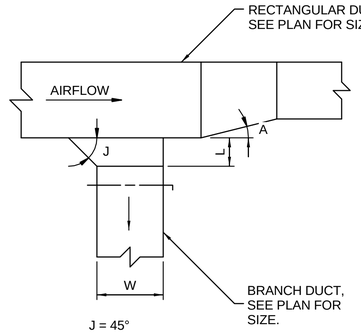
E1 DUCT PENETRATION AT SECURE WALL

SCALE: NTS



E5 RECTANGULAR FLEXIBLE CONNECTION

SCALE: NTS



J = 45°

L = 1/4" W, 4" MIN.

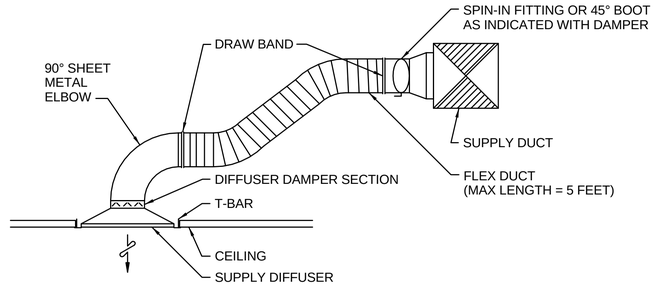
A = 20° MAX.

NOTES:

1. TAKEOFF ON BOTH SIDES OR SINGLE SIDE AS REQUIRED BY PLANS.
2. SEE SMACNA MANUAL FOR TAP-IN DETAILS.
3. WHEN FITTING HAS ONLY ONE SIDE SLOPED FOR A SINGLE SIDE TAKE-OFF, THE TAP-IN SHALL BE INSTALLED IN SLOPED SIDE.
4. CLINCH LOCK CONNECTION TO DUCT SHALL HAVE CORNER SEALS. (SEE SMACNA MANUAL).
5. EXTRACTORS, SCOOPS, DEFLECTORS OR DAMPERS THAT PROTRUDE INTO THE MAIN DUCT SHALL NOT BE USED. BALANCING DAMPERS SHALL BE LOCATED TO PREVENT PROTRUSION INTO THE MAIN DUCT AND TO PROVIDE STABLE AIR FLOW AND MINIMAL NOISE WHEN ADJUSTED.

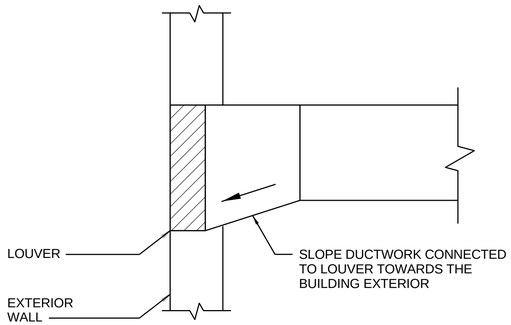
A1 BRANCH DUCT TAKE-OFF

SCALE: NTS



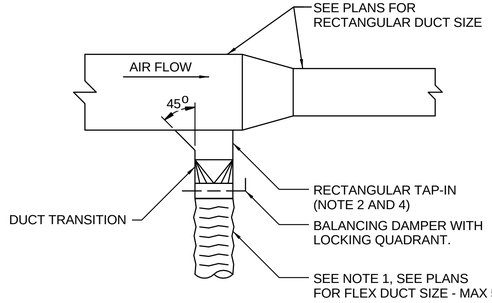
C3 FLEXIBLE DUCT AT DIFFUSER

SCALE: NTS



A3 DUCTWORK CONNECTED TO EXTERIOR LOUVER

SCALE: NTS

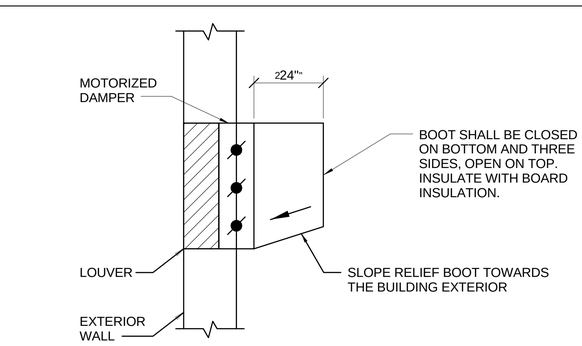


NOTES:

1. TAKEOFF ON BOTH SIDES OR SINGLE SIDE AS REQUIRED BY PLANS.
2. TAP-IN MAY BE RECTANGULAR OR ROUND. SEE SMACNA MANUAL FOR DETAILS.
3. WHEN FITTING HAS ONLY ONE SIDE SLOPED FOR A SINGLE SIDE TAKE-OFF, THE TAP-IN SHALL BE INSTALLED IN SLOPED SIDE.
4. CLINCH LOCK CONNECTION TO DUCT SHALL HAVE CORNER SEALS (SEE SMACNA MANUAL).

C7 DIFFUSER TAKE-OFF

SCALE: NTS



A6 DUCTWORK CONNECTED TO EXTERIOR LOUVER

SCALE: NTS

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DEFINITIVE DESIGN

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REVISIONS:
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SCALE: 12" = 1'-0"
DRAWING CODE: EP14M-502

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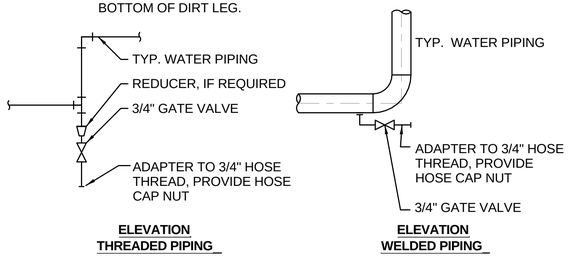
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

MECHANICAL DETAILS

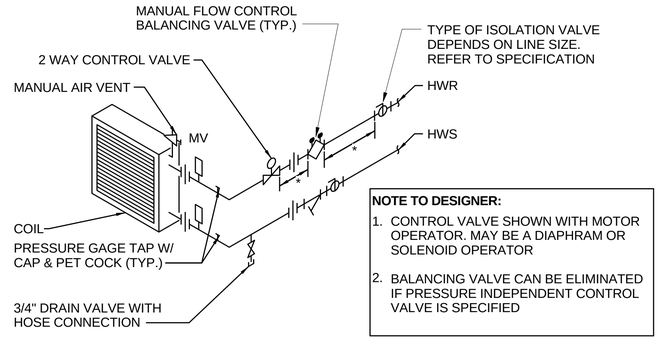
SHEET REFERENCE NUMBER:
M-502
SHEET ___ OF ___

NOTES:

1. DRAIN ALL LOW POINTS AS INDICATED BELOW.
2. WHERE DIRT LEGS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS LOCATE DRAIN AT BOTTOM OF DIRT LEG.



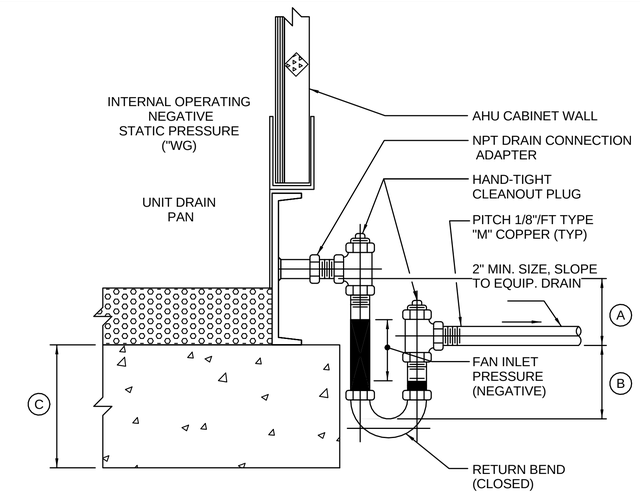
E1 DRAIN VALVE CONNECTION
SCALE: NTS



NOTE TO DESIGNER:

1. CONTROL VALVE SHOWN WITH MOTOR OPERATOR. MAY BE A DIAPHRAM OR SOLENOID OPERATOR
2. BALANCING VALVE CAN BE ELIMINATED IF PRESSURE INDEPENDENT CONTROL VALVE IS SPECIFIED

E4 HOT WATER SINGLE COIL W/ 2-WAY VALVE
SCALE: NTS

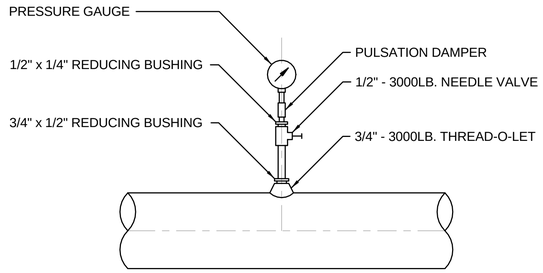


DRAW THRU UNIT

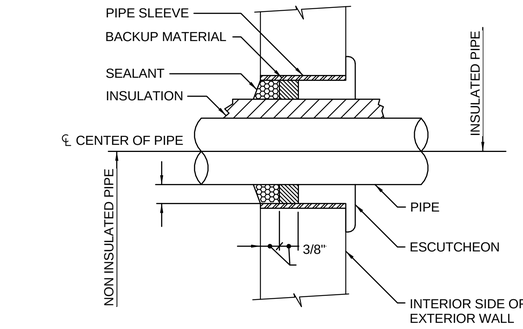
NOTES:

1. (A) DIMENSION EQUAL TO MAXIMUM FAN INLET PRESSURE (INCH WC) +1" MIN
2. (B) DIMENSION EQUAL TO (A) /2 (MIN.)
3. (C) INCREASE PAD THICKNESS AS REQUIRED TO ACHIEVE REQUIRED TRAP DEPTH (4" MINIMUM)

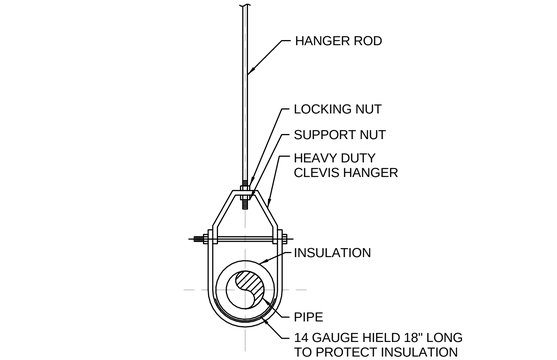
D7 HVAC CONDENSATE TRAP DETAIL
SCALE: NTS



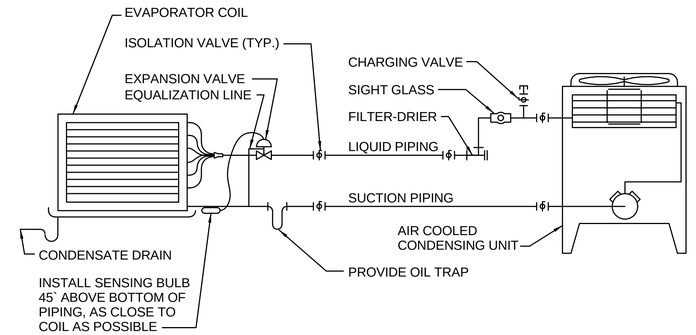
C1 PRESSURE GAUGE
SCALE: NTS



C4 PIPE PENETRATION THROUGH EXTERIOR WALL
SCALE: NTS



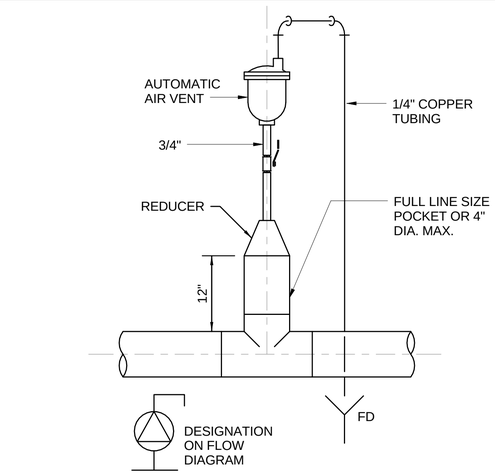
A4 PIPE HANGER - CLEVIS TYPE
SCALE: NTS



NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR COORDINATING REFRIGERANT LIQUID AND SUCTION PIPING, SIZES, ROUTING, AND ALL ACCESSORIES WITH EQUIPMENT MANUFACTURER. MAINTAIN UNIFORM SLOPE TO PREVENT OIL FROM POOLING IN LOW POINTS IN THE REFRIGERANT PIPING SYSTEM.

A7 DX SPLIT SYSTEM PIPING
SCALE: NTS



A1 AUTOMATIC AIR VENT
SCALE: NTS

FILE:
DATE: 4/15/2013 3:32:22 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: T. KARRE
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DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14M-503
4/17/2013

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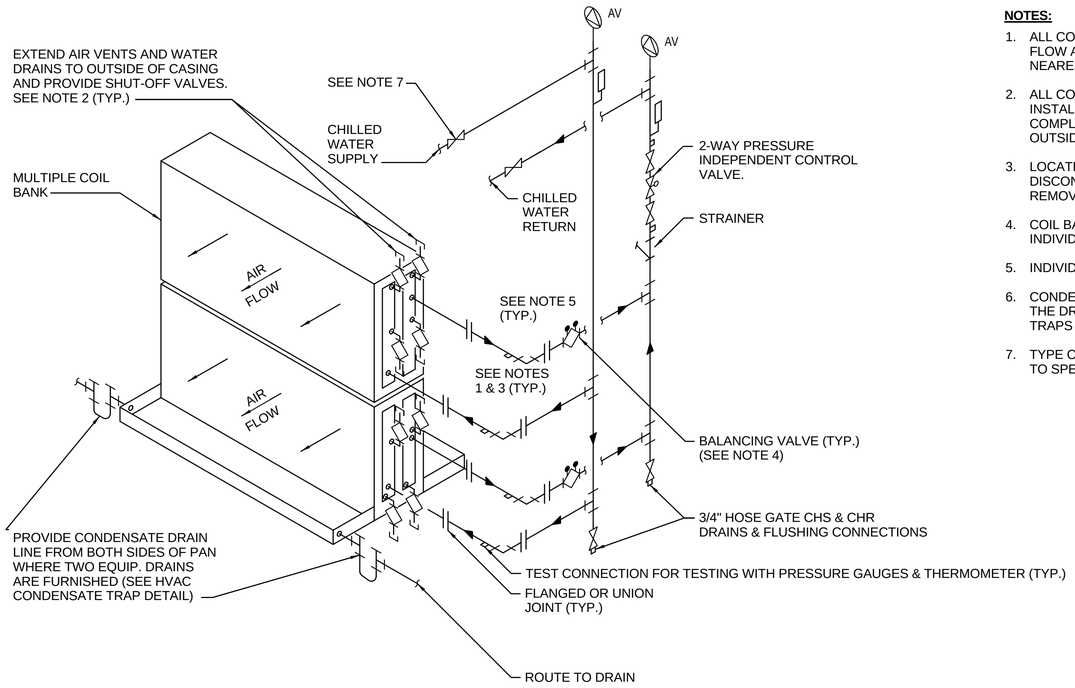
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

MECHANICAL DETAILS

SHEET REFERENCE NUMBER:
M-503
SHEET ___ OF ___

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

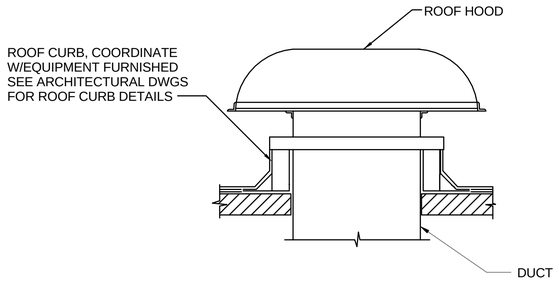


NOTES:

1. ALL COOLING COILS SHALL BE PIPED FOR COUNTER FLOW ARRANGEMENT. (CHILLED WATER ENTERS NEAREST COIL FACE WHERE COLD AIR LEAVES.)
2. ALL COIL DRAIN AND VENT CONNECTIONS TO BE INSTALLED THROUGH HVAC UNIT CASING TO PERMIT COMPLETE DRAINAGE AND VENTING OF COILS FROM OUTSIDE OF UNIT.
3. LOCATE VALVES & FLANGES SO THAT PIPING CAN BE DISCONNECTED AND COILS WITHDRAWN IN COIL REMOVAL SPACE.
4. COIL BANKS WITH A SINGLE COIL DO NOT REQUIRE INDIVIDUAL COIL BALANCING VALVE.
5. INDIVIDUAL LINES TO EACH COIL SHALL BE SAME SIZE.
6. CONDENSATE DRAIN PIPING SIZE SHALL BE EQUAL TO THE DRAIN PAN CONNECTION SIZE AND HAVE LOOP SEAL TRAPS AS INDICATED.
7. TYPE OF ISOLATION VALVE DEPENDS ON LINE SIZE. REFER TO SPECIFICATIONS.

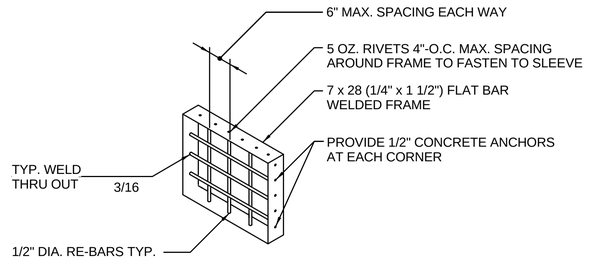
CHILLED WATER MULTIPLE COIL BANK WITH 2-WAY VALVE

C1 SCALE: NTS



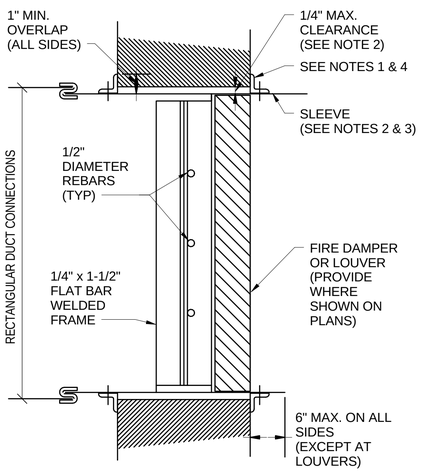
INTAKE OR EXHAUST ROOF HOOD

E7 SCALE: NTS



DETAIL OF SECURITY MANBARS AND FRAME

C7 SCALE: NTS

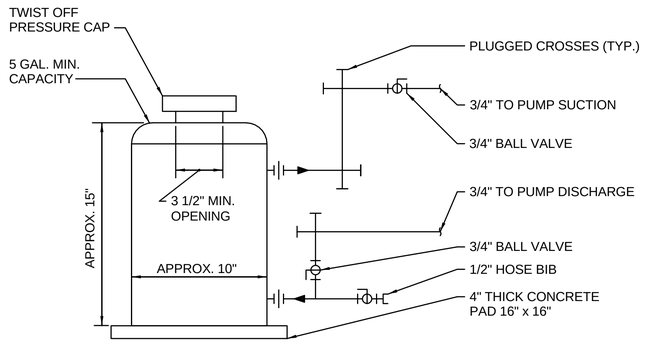


NOTES:

1. STEEL RETAINING ANGLES: MINIMUM 1 1/2" x 1 1/2" x 1/4". RETAINING ANGLES MUST LAP STRUCTURAL OPENING 1" MINIMUM AND COVER CORNERS OF OPENINGS.
2. CLEARANCE, MANBAR SLEEVE TO WALL OPENING: 1/4" MAXIMUM
3. STEEL SLEEVE: SLEEVE GAUGE SHALL BE MINIMUM 9 GAUGE.
4. SECURE RETAINING ANGLES TO SLEEVE ON 6" CENTER WITH: 1/2" LONG WELDS, 1/4" BOLTS AND NUTS, NO. 10 STEEL SCREWS OR MINIMUM 3/16" STEEL RIVETS, MINIMUM TWO CONNECTIONS IN EACH SIDE.
5. PROVIDE DUCT ACCESS DOOR ON SECURE SIDE OF MANBARS.

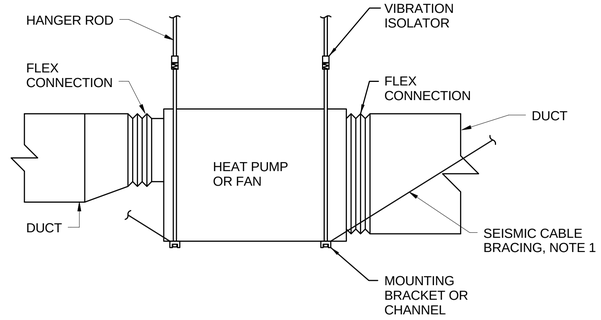
TYPICAL SECURITY MANBAR SLEEVE ASSEMBLY DETAIL

A1 SCALE: NTS



SHOT FEEDER

A4 SCALE: NTS



NOTES:

1. SEISMIC CABLE BRACING SHALL BE ATTACHED TO EACH CORNER OF EQUIPMENT PER UFC4-010-01 REQUIREMENTS.

HEAT PUMP OR INLINE FAN

A7 SCALE: NTS

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: T. KARRE
DRAWN BY: K. HIMES
CHECKED BY: J. BURGER
PROJECT ENGINEER/ARCHITECT: T. KARRE
DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14M-504
DATE 4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

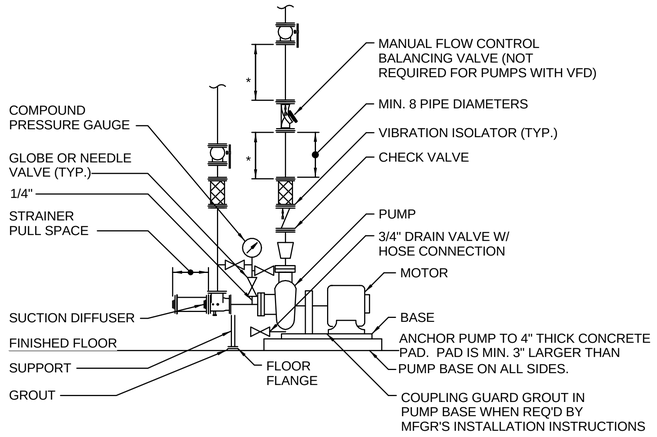
BURNS & McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

MECHANICAL DETAILS

SHEET REFERENCE NUMBER:
M-504
SHEET ___ OF ___

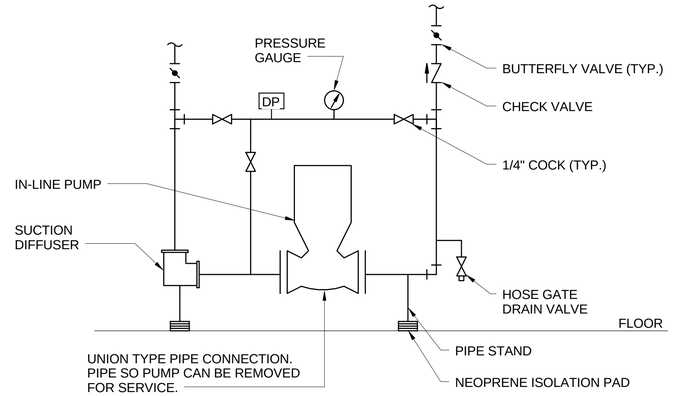
FILE:
DATE: 4/15/2013 3:32:26 PM



* STRAIGHT LENGTHS OF UNOBSTRUCTED PIPE WITHOUT INLINE APPURTENANCES SHALL BE INSTALLED UP/DOWNSTREAM OF FLOW CONTROL BALANCING VALVE PER MFGR'S INSTALLATION INSTRUCTIONS

D4 CENTRIFUGAL PUMP (END SUCTION)

SCALE: NTS

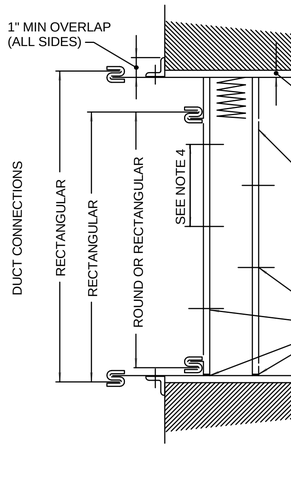


INSTALLATION NOTES:

1. INSTALL PUMP DEAD LEVEL.
2. PUMP SHALL NOT TOUCH OR REST ON ANY PART OF BUILDING STRUCTURE.
3. INSTALL PUMP SO THAT IT CAN BE REMOVED WITHOUT DISMANTLING OR FORCING ADJACENT PIPE.
4. BEFORE START-UP, LUBRICATE PUMP IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. (DO NOT RUN PUMP DRY.)

D7 INLINE PUMP

SCALE: NTS

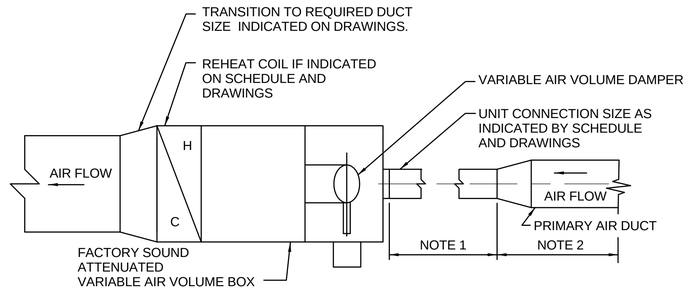


NOTES:

1. STEEL RETAINING ANGLES:
   MINIMUM 1 1/2 " X 1 1/2 " X 0.054"(16GA.). RETAINING ANGLES MUST LAP STRUCTURAL OPENING 1" MINIMUM AND COVER CORNERS OF OPENINGS.
2. CLEARANCE, DAMPER SLEEVE TO WALL OPENING:
   1/8 " PER LINEAR FOOT, 1/4 " MINIMUM.
3. STEEL SLEEVE:
   SLEEVE GAUGE SHALL BE AT LEAST EQUAL TO GAUGE OF THE CONNECTING DUCT WHEN USING BREAKAWAY CONNECTIONS (PLAIN "S" SLIP, HEMMED "S" SLIP, STANDING "S" SLIP, REINFORCED, STANDING "S" SLIP, INSIDE SLIP JOINT, OR DOUBLE "S" SLIP) FOR RIGID CONNECTIONS, SLEEVE SHALL BE MINIMUM 16 GAUGE FOR DAMPERS UP TO 36"W X 24"H OR 24" DIA. AND 14 GAUGE FOR DAMPER OVER 36"W, 24"H OR 24" DIA.
4. SECURE RETAINING ANGLES TO SLEEVE, DAMPER TO SLEEVE AND MULTIPLE DAMPERS ON 8" CENTER WITH:
   1/2 " LONG WELDS, 1/4 " BOLTS AND NUTS, NO.10 STEEL SCREWS OR MINIMUM 3/16 " STEEL RIVETS, MINIMUM TWO CONNECTIONS IN EACH SIDE.
5. THIS DETAIL SHOWN FOR REFERENCE ONLY, FIRE DAMPER MANUFACTURE'S INSTALLATION DETAILS AND INSTRUCTIONS AS TESTED AND APPROVED BY U.L. MUST BE USED IN LIEU OF THIS DETAIL WHERE APPLICABLE.

A3 FIRE DAMPER

SCALE: NTS



NOTES:

1. INLET DUCT TO BE UNIT CONNECTION SIZE WITH A MINIMUM OF 2 FEET LENGTH OF STRAIGHT DUCT.
2. BRANCH CONNECTING DUCT TO BE 2 SIZES LARGER THAN UNIT CONNECTION.
3. NO FLEXIBLE DUCTWORK ON UNIT INLET OR BRANCH CONNECTING DUCT IS ALLOWED.

A7 TYPICAL SHUT-OFF TYPE AIR TERMINAL UNIT DETAIL

SCALE: NTS

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

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PROJECT ENGINEER/ARCHITECT: T. KARRE
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KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

MECHANICAL DETAILS

SHEET REFERENCE NUMBER:
M-505
SHEET ___ OF ___

FILE:
DATE: 4/15/2013 3:32:45 PM

NOTES:
1. ALL SCHEDULED DATA SHALL BE VALIDATED BY THE DESIGNER OF RECORD. DATA INDICATED AS '0' WAS NOT DEEMED CRITICAL FOR DEVELOPMENT OF DEFINITIVE DESIGN.

AIR HANDLING UNIT SCHEDULE (AHU) 1/3

EQUIPMENT TAG	SERVICE	LOCATION	ALTITUDE (FT)	MAX. AIRFLOW (CFM)	MIN. AIRFLOW (CFM)	MINIMUM OUTSIDE AIRFLOW (CFM)	EXTERNAL STATIC PRESSURE (IN. W.C.)	INTERNAL STATIC PRESSURE (IN. W.C.)	TOTAL STATIC PRESSURE (IN. W.C.)	SUPPLY FAN							SUPPLY FAN MOTOR				
										MAX BHP	MAX OUTLET VELOCITY (FPM)	FAN RPM	TYPE	WHEEL DIAMETER (IN.)	CONSTRUCTION	VOLUME CONTROL	MIN. MOTOR HP / MIN. VFD	MOTOR RPM	MOTOR TYPE	VOLTS	PHASE
AHU-1	ADMIN AREAS	MECH ROOM	0	1700	1000	900	0	0	0	1.25	0	1255	BI AIRFOIL	18	CLASS I	VFD	2.3	2600	ECM	460	3
AHU-2	TRAINER BAY	MECH ROOM	0	12000	4000	800	0	0	0	13	0	1410	BI AIRFOIL	25	CLASS I	VFD	15	1750	ODP	460	3

AIR HANDLING UNIT SCHEDULE (AHU) 2/3

EQUIPMENT TAG	COOLING COIL										
	COIL AIR QUANTITY (CFM)	EAT DB (DEG. F.)	EAT WB (DEG. F.)	LAT DB (DEG. F)	LAT WB (DEG. F.)	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	MAX. FACE VELOCITY (FPM)	REFRIGERANT TYPE	MIN. ROWS / MAX. FPI	MAX. AIR PRESSURE DROP (IN. W.C.)
AHU-1	1700	0	0	55	54	0	0	500	R-410A	6	0
AHU-2	12000	0	0	55	54	0	0	500	R-410A	6	0

AIR HANDLING UNIT SCHEDULE (AHU) 3/3

EQUIPMENT TAG	HEATING COIL											PRE-FILTER			FINAL FILTER			DIRTY FILTER PRESSURE DROP (IN. W.C.)	WEIGHT (LBS)
	HEATING COIL TYPE	HEATING COIL AIRFLOW (CFM)	EAT (DEG. F.)	LAT (DEG. F.)	TOTAL CAPACITY (MBH)	EWT (DEG. F.)	LWT (DEG. F.)	HW FLOWRATE (GPM)	MIN. ROWS / MAX. FPI	AIR PRESSURE DROP (IN. W.G.)	MAX. WATER PRESSURE DROP (FT. W.C.)	TYPE	EFFICIENCY (MERV)	PRESSURE DROP (IN. W.C.)	TYPE	EFFICIENCY (MERV)	PRESSURE DROP (IN. W.C.)		
AHU-1	HOT WATER	1700	0	0	0	180	160	12	1	0	0.00	CARTRIDGE	8	0	CARTRIDGE	13	0	0	
AHU-2	HOT WATER	12000	0	0	0	180	160	35	1	0	0.00	CARTRIDGE	8	0	CARTRIDGE	13	0	0	

NOTES:
1. AIRFLOWS, LOADS, AND MOTOR INFORMATION IS PRELIMINARY AND SHALL BE VALIDATED BY THE DESIGNER OF RECORD.

COMPUTER ROOM UNIT SCHEDULE (CRU) 1/2

TAG NO.	LOCATION	FAN				COOLING COIL				
		TYPE	OUTSIDE AIRFLOW (CFM)	TOTAL AIRFLOW (CFM)	FAN MOTOR HP	FLUID	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EAT DB (DEG. F.)	EAT WB (DEG. F.)
CRU-1	COMM ROOM	HORIZONTAL SUSPENDED	0	885 CFM	0.5	R-410A	22	22	72	60

COMPUTER ROOM UNIT SCHEDULE (CRU) 2/2

TAG NO.	HEAT TYPE	ELECTRIC HEAT		HUMIDIFIER			FILTER				ELECTRICAL			REMARKS
		CAPACITY (KW)	HEAT CONTROL	TYPE	CAPACITY (LBS/HR)	KW	FILTER TYPE	EFFICIENCY (MERV)	PRESSURE DROP (IN. W.C.)	DIRTY FILTER PRESSURE DROP (IN. W.C.)	VOLTS	PHASE	FULL LOAD AMPS (AMPS)	
CRU-1	ELECTRIC	4.7	SCR	ELECTRIC	4.3	1.5	FLAT	8	0.35	1	208	1	34.2	1

NOTES:
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CONDENSING UNITS

TAG	SERVICE	COOLING CAPACITY (MBH)	COMPRESSOR		FANS		REFRIGERANT TYPE	ELECTRICAL			NOTES
			NUMBER	EFFICIENCY (EER)	QUANTITY	MOTOR HP		VOLTAGE	PHASE	FULL LOAD AMPS	
CU-1	AHU-1	73	2	11.1	2	0.75	R-410A	460	3	40	
CU-2	AHU-2	300	4	10.6	4	1	R-410A	460	3	85	
CU-3	CRU-1	22	1	0	1	0.2	R-410A	208	1	13.4	

ENERGY RECOVERY UNIT SCHEDULE (ERU)

TAG	LOCATION	TYPE	ORIENTATION	EXHAUST AIRFLOW	OUTSIDE AIR AIRFLOW	MINIMUM OA SUMMER EFFECTIVENESS (%)	MINIMUM OA WINTER EFFECTIVENESS (%)	PREHEAT COIL		VOLUME CONTROL	INTERLOCK	EXHAUST FAN			OUTSIDE AIR FAN			FILTERS				ELECTRICAL			REMARKS
								TYPE	CAPACITY (KW)			EXTERNAL STATIC PRESSURE (IN WC)	TOTAL STATIC PRESSURE (IN WC)	MIN MOTOR HP	EXTERNAL STATIC PRESSURE (IN WC)	TOTAL STATIC PRESSURE (IN WC)	MIN MOTOR HP	TYPE	EFFICIENCY (MERV)	PRESSURE DROP (IN WC)	DIRTY FILTER PRESSURE ALLOWANCE (IN WC)	VOLTAGE	PHASE	MCA	
ERU-1	MECH ROOM	ENERGY WHEEL	INDOOR, SUSPENDED	675 CFM	900 CFM	60	60	ELECTRIC		CONSTANT	AHU-1	0.3	0	0.5	0.3	0	0.5	CARTRIDGE	8	0	0	208	1	26.3	1

NOTES:
1. AIRFLOWS, LOADS, AND MOTOR INFORMATION IS PRELIMINARY AND SHALL BE VALIDATED BY THE DESIGNER OF RECORD.

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DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 12:07:47 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:
SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: T. KARRE
DRAWN BY: K. HIMES
CHECKED BY: J. BURGER
PROJECT ENGINEER/ARCHITECT: T. KARRE
DRAWING CODE:
DATE: 4/17/2013
SCALE:
DATE: 4/17/2013

U.S. ARMY ENGINEER DISTRICT
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KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

MECHANICAL SCHEDULES

SHEET REFERENCE NUMBER:
M-601
SHEET ____ OF ____

NOTES:
1. ALL SCHEDULED DATA SHALL BE VALIDATED BY THE DESIGNER OF RECORD. DATA INDICATED AS '0' WAS NOT DEEMED CRITICAL FOR DEVELOPMENT OF DEFINITIVE DESIGN.

HOT WATER BOILER SCHEDULE (HWB)

TAG	LOCATION	TYPE	FLUID	MINIMUM GROSS OUTPUT (MBH)	BURNER INPUT (CFH @ 1000 BTU/CF)	PRESSURE RATING (PSIG)	LVG. WATER TEMP (DEG. F.)	ENT. WATER TEMP (DEG. F.)	FLOWRATE (GPM)	PRESS LOSS (FT)	FUEL SOURCE	MIN. EFFICIENCY (%)	TURNDOWN	VOLTS	PHASE	REMARKS
HWB-1	MECH ROOM	TBD	NOTE 1	415	500	125	180	160	40	20	NATURAL GAS	88	5:1	120	1	2, 3
HWB-2	MECH ROOM	TBD	NOTE 1	415	500	125	180	160	40	20	NATURAL GAS	88	5:1	120	1	2, 3

NOTES:
1. PERCENTAGE SOLUTION OF GLYCOL TO BE DETERMINED AFTER SITE SELECTION.
2. BOILER SHOWN FOR SPACE PLANNING PURPOSES. BOILER HAS BEEN SIZED BASED ON ESTIMATED LOADS. DESIGNER TO RESIZE BASED UPON ACTUAL GEOGRAPHIC LOCATION.
3. WHERE CONDENSING BOILERS ARE USED, PROVIDE ACID NUETRALIZATION FOR BOILER CONDENSATE.

HVAC PUMP SCHEDULE

TAG	TYPE	LOCATION	SERVICE	MAXIMUM FLUID TEMP. - DEG. F.	MINIMUM FLUID TEMP. - DEG. F.	CAPACITY - GPM	PUMP HEAD (FT)	SUCTION SIZE - IN.	DISCHARGE SIZE - IN.	MOTOR - RPM	MOTOR - HP	MOTOR TYPE	STARTER / DISCONNECT PROVIDED BY`	SPEED CONTROL TYPE	ELECTRICAL		REMARKS
															VOLTS	PHASE	
HWP-1	CENT. INLINE	MECH ROOM	HWS - PRIMARY	180	50	40	30	1.5	1.5	1750	1	ODP	DIV 26	CONSTANT	460	3	
HWP-2	CENT. INLINE	MECH ROOM	HWS - PRIMARY	180	50	40	30	1.5	1.5	1750	1	ODP	DIV 26	CONSTANT	460	3	
HWP-3	CENT. INLINE	MECH ROOM	HWS - SECONDARY	180	50	80	70	2	2	1750	5	ODP	DIV 26	VFD	460	3	
HWP-4	CENT. INLINE	MECH ROOM	HWS - SECONDARY	180	50	80	70	2	2	1750	5	ODP	DIV 26	VFD	460	3	

VARIABLE AIR VOLUME BOXES SCHEDULE

TAG	LOCATION	TYPE	INLET SIZE (INCHES)	MIN INLET STATIC PRESSURE (IN WC)	MAX DESIGN AIRFLOW	MIN DESIGN AIRFLOW	VAV BOX HEATING AIRFLOW	HEATING COIL TYPE	REHEAT COIL CAPACITY (BTUH)	HEATING WATER FLOW	CONN PIPE SIZE (IN)	ELECTRICAL		REMARKS
												VOLTS	PHASE	
VAV-1	CLASSROOM	A	8	0	700	420	420	HOT WATER	0	0	1/2	24	1	1
VAV-2	BRIEFING ROOM	A	4	0	175	140	140	HOT WATER	0	0	1/2	24	1	1
VAV-3	BRIEFING ROOM	A	4	0	175	90	90	HOT WATER	0	0	1/2	24	1	1
VAV-4	BREAK ROOM	A	6	0.75	400	125	120	HOT WATER	0	0	1/2	24	1	1
VAV-5	LOBBY/CORRIDOR	A	6	0.75	250	150	50	HOT WATER	0	0	1/2	24	1	1

NOTES:
1. AIRFLOWS ARE PRELIMINARY AND SHALL BE VALIDATED BY THE DESIGNER OF RECORD. HEATING LOADS SHALL BE DETERMINED AFTER SITE SELECTION.

VAV TYPES: A - STANDARD SHUTOFF BOX; B - PARALLEL FAN POWERED BOX, HEAT ON INLET.

CABINET UNIT HEATER SCHEDULE

TAG	LOCATION	TYPE	POSITION	CFM	HEAT TYPE	HEAT LOAD (MBH)	VOLTS	PHASE	WEIGHT (LBS)	REMARKS
CUH-1	VESTIBULE	CONCEALED - DUCTED	HORIZONTAL	0 CFM	HOT WATER	10	120	1		1

NOTES:
1. HEATING LOADS SHALL BE VALIDATED AFTER SITE SELECTION.

UNIT HEATER SCHEDULE

TAG	LOCATION	POSITION AND TYPE	CFM	HEAT LOAD (MBH)	VOLTS	PHASE	WEIGHT (lbs)	REMARKS
UH-1	FUSELAGE TRAINER 113	SUSPENDED/HOT WATER	0 CFM	20	120	1		1, 2
UH-2	FUSELAGE TRAINER 113	SUSPENDED/HOT WATER	0 CFM	20	120	1		1, 2
UH-3	FUSELAGE TRAINER 113	SUSPENDED/HOT WATER	0 CFM	40	120	1		1, 2
UH-4	MECHANICAL ROOM 109	SUSPENDED/HOT WATER	0 CFM	15	120	1		1, 2
UH-5	ELECTRICAL ROOM 112	SUSPENDED/ELECTRIC	0 CFM	4	240	1		1, 2
UH-6	FIRE PUMP ROOM 114	SUSPENDED/HOT WATER	0 CFM	10	120	1		1, 2

NOTES:
1. PROVIDE WITH WALL MOUNTING KIT.
2. HEATING LOADS SHALL BE VALIDATED AFTER SITE SELECTION.

FAN SCHEDULE

TAG NO.	LOCATION	SERVICE	FAN TYPE	AIRFLOW (CFM)	FAN SPEED (RPM)	FAN SPEED CONTROL	EXTERNAL STATIC PRESSURE (IN. W.G.)	SOUND LEVEL (dba)	ELECTRICAL DATA						INTERLOCK WITH	DRIVE TYPE	WEIGHT (LBS)	REMARKS
									MIN. MOTOR HP	OPERATING BHP	MOTOR TYPE	STARTER / DISCONNECT PROVIDED BY	VOLTS	PHASE				
EF-1	ELECTRICAL ROOM	EXHAUST	INLINE CENT.	2200	0	CONSTANT	0		0.5	0	ODP	DIV 26	120	1		BELT	0	1
EF-2	FUSELAGE BAY	EXHAUST	INLINE CENT.	1000	0	CONSTANT	0		0.25	0	ODP	DIV 26	120	1		BELT	0	1

NOTES:
1. AIRFLOWS AND MOTOR INFORMATION IS PRELIMINARY AND SHALL BE VALIDATED BY THE DESIGNER OF RECORD.

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DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 12:07:48 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:
SYMBOL | DESCRIPTION | DATE | APPR.

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CHECKED BY: J. BURGER
PROJECT ENGINEER/ARCHITECT: T. KARRE
DRAWING CODE:
SCALE:
DATE: 4/17/2013
4/17/2013 DATE

U.S. ARMY ENGINEER DISTRICT
CONSTRUCTION OFFICE
MOBILE, ALABAMA

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KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

MECHANICAL SCHEDULES

SHEET REFERENCE NUMBER:
M-602
SHEET ____ OF ____

NOTES:

1. SEE DRAWING M-001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. INSTALL ALL CONTROLS WIRING AND CABLES IN CONDUIT PER SPECIFICATION 262000.

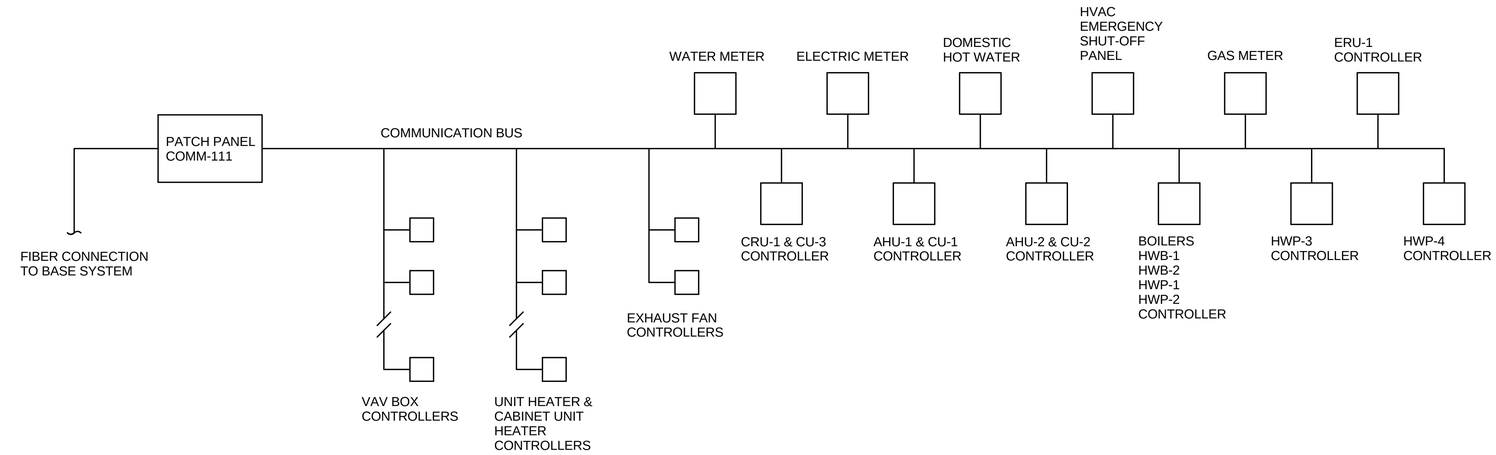
General Points	EMCS						
	AI	DI	AO	DO	Graphics	Alarm Reports	Trend Reports
HVAC System Emergency Shutdown		X			X	X	
Outside Air Temperature	X				X		X
Domestic Water Meter	X				X		X
Natural Gas Meter	X				X		X
Electric Meter	X				X		X

BUILDING DDC SYSTEM GENERAL SEQUENCE OF OPERATION:

THE HEATING VENTILATING AND AIR CONDITIONING (HVAC) SYSTEMS SHALL BE CONTROLLED AUTOMATICALLY FROM THE BASE WIDE SYSTEM USING A TEMPERATURE CONTROL SYSTEM. ALL SET POINTS SHALL BE ADJUSTABLE (ADJ.). EQUIPMENT IDENTIFIED AS BEING INTERLOCKED SHALL BE SOFTWARE INTERLOCKED THROUGH THE DDC SYSTEM UNLESS NOTED OTHERWISE OR INDICATED ON THE ELECTRICAL DRAWINGS.

THE DDC SYSTEM SHALL CONNECT AND MONITOR THE GAS METER, DOMESTIC WATER METER, AND THE ELECTRIC METER.

HVAC SYSTEM SHALL BE INSTALLED WITH AN EMERGENCY SHUT-DOWN SYSTEM. SYSTEM SHALL BE ACTIVATED BY PRESSING AN 'HVAC SYSTEM EMERGENCY SHUT-DOWN BUTTON' CLEARLY LABELED AND LOCATED WHERE SHOWN ON THE DRAWINGS. WHEN THE BUTTON IS PRESSED, ALL HVAC SYSTEMS SERVING OCCUPIED AREAS OF THE BUILDING SHALL GO INTO OFF MODE; FANS SHALL DE-ENERGIZE AND OUTSIDE AIR, INTAKE AIR, EXHAUST AIR, AND RELIEF AIR DAMPERS SHALL CLOSE. EMERGENCY SHUT-OFF SHALL COMMUNICATE TO ALL DEVICES. REFER TO DRAWING M-101 FOR LOCATION OF EMERGENCY SHUT-OFF SWITCH. CONTROL PANEL SHALL CONTAIN 'EMERGENCY SHUT-DOWN', AND 'SYSTEM RESET' BUTTONS AND BE PROVIDED WITH ALL RELAYS AND CONTACTS REQUIRED FOR COMPLETE SYSTEM OPERATION.



CONTROLS SYSTEM ARCHITECTURE

NOT TO SCALE

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FILE:
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MOBILE DISTRICT

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CHECKED BY: J. BURGER — DRAWING CODE:
PROJECT ENGINEER/ARCHITECT: T. KARRE — DATE: 4/17/2013

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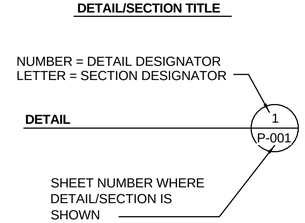
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

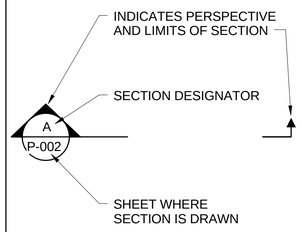
MECHANICAL CONTROL DIAGRAMS

SHEET REFERENCE NUMBER:
M-701
SHEET ____ OF ____

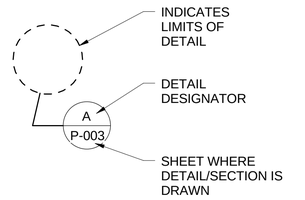
DETAIL/SECTION TITLE



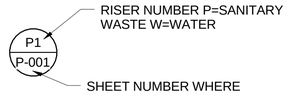
SECTION CUT SYMBOL



DETAIL CALLOUT SYMBOL



PLUMBING RISER IDENTIFICATION



PIPE LINE DESIGNATIONS

?" V	VENT
?" DCW	DOMESTIC COLD WATER (DCW)
?" DHW	DOMESTIC HOT WATER (DHW)
?" DHWR	DOMESTIC HOT WATER RECIRCULATION (DHWR)
?" SS	SANITARY SEWER (ABOVE GRADE)
?" SS	SANITARY SEWER (BELOW GRADE)
?" COND	CONDENSATE DRAIN
?" NG	NATURAL GAS
BP	BACKFLOW PREVENTION ASSEMBLY
M	WATER METER
	BACKFLOW PREVENTION ASSEMBLY
CO	CLEANOUT IN RISER
WCO	CLEANOUT IN WALL
FCO	CLEANOUT IN FLOOR

NOTE:

QUESTION MARKS (?) WILL BE REPLACED BY A PIPE SIZE ON DRAWINGS

RISER DIAGRAM LEGEND

CO	CLEANOUT (CO) IN RISER
FCO	CLEANOUT (FCO) IN FLOOR
	VENT THRU ROOF (VTR)
	FLOOR OR WALL PENETRATION
	PLUMBING FIXTURE TRAP
	FLOOR DRAIN/EQUIPMENT DRAIN
	PRESSURE GAUGE
WHA-A	WATER HAMMER ARRESTOR - SPEC. TYPE
WCO	CLEANOUT (WCO) IN WALL

DEFINITIVE DESIGN NOTES:

ASSUMPTIONS AND INSTRUCTIONS:

1. REFER TO THE DESIGN ANALYSIS FOR APPLICABLE STANDARDS AND CODES USED TO DEVELOP THE DEFINITIVE DESIGN.
2. PIPING SIZES ARE BASED ON AVAILABLE PRESSURE OF 35 PSIG AFTER METER, BACKFLOW PREVENTER AND STATIC LIFT LOSSES HAVE BEEN DEDUCTED.
3. UNDERGROUND PIPING NOT SHOWN AND TO BE COMPLETED BY DESIGNER OF RECORD AFTER SITE SELECTION.
4. RECOORDINATION OF FLOOR DRAINS, AND DESIGN OF ASSOCIATED SANITARY AND VENT PIPING IN MECHANICAL AND FIRE PUMP ROOMS TO BE COMPLETED BY DESIGNER OF RECORD AFTER FINAL SELECTION OF EQUIPMENT.
5. A LIFE CYCLE COST ANALYSIS (LCCA) SHALL BE PERFORMED DURING THE DESIGN PHASE FOR DOMESTIC HOT WATER SYSTEM SELECTION AND TO DEMONSTRATE COMPLIANCE WITH EISA 2007 ENERGY REDUCTION REQUIREMENTS. PERFORM THE LCCA AS SPECIFIED IN UFC 1-200-02. IF LIFE CYCLE COST EFFECTIVE, A MINIMUM 30 PERCENT OF THE HOT WATER DEMAND SHALL BE MET THROUGH THE INSTALLATION AND USE OF SOLAR HOT WATER HEATERS. ALSO CONSIDER SYSTEMS SUCH AS HEAT PUMP WATER HEATERS OR UTILIZING WASTE HEAT.

PLUMBING SYMBOLS LEGEND

WC-1	WATER CLOSET
WC-2	WATER CLOSET - ACCESSIBLE
U-1	URINAL
U-2	URINAL, ACCESSIBLE
LAV-1	LAVATORY, COUNTER MOUNTED
LAV-2	LAVATORY, WALL MOUNTED
MB-1	MOP BASIN
SK-1	SINK
EWC-1	DUAL ELECTRIC WATER COOLER
EEW	EMERGENCY EYEWASH
4" FD-A	SIZE - FLOOR DRAIN - SPEC. TYPE
	PRESSURE/TEMPERATURE RELIEF VALVE
HB	HOSE BIBB
WH	WALL HYDRANT
BV	BALL VALVE
	BALANCING VALVE

PLUMBING ABBREVIATIONS

AG	AIR GAP
AFF	ABOVE FINISHED FLOOR
AC	AIR COCK
ARV	AIR RELEASE VALVE
BF	BLIND FLANGE
BOP	BOTTOM OF PIPE
CH OP	CHAIN WHEEL OPERATOR
CPVC	CHLORINATED POLYVINYL CHLORIDE
CONC	CONCENTRIC
DN	DOWN
D	DRAIN
DI	DUCTILE IRON
ELL	ELBOW
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FOV	FLOAT OPERATED VALVE
FD	FLOOR DRAIN
FM	FLOW METER
FS	FORGED STEEL
HD	HUB DRAIN
I.E.	INVERT ELEVATION
LC	LOCK CLOSED
LO	LOCK OPEN
NRS	NON-RISING STEM
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
RD	ROOF DRAIN
SCH	SCHEDULE
TOC	TOP OF CONCRETE
TOP	TOP OF PIPE
TOG	TOP OF GRATING
TOS	TOP OF STEEL
TD	TRENCH DRAIN
VTR	VENT THROUGH ROOF

GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, THE CIVIL AND MECHANICAL INTERFACE POINT IS 5 FEET OUTSIDE OF THE BUILDING WALL.
2. COORDINATE ALL PIPE SLEEVE REQUIREMENTS WITH FOUNDATION SUBCONTRACTOR.
3. COORDINATE MECHANICAL ROOM FLOOR DRAINS WITH ACTUAL EQUIPMENT LOCATIONS AND DRAINAGE REQUIREMENTS.
4. LEGEND IS GENERAL IN NATURE AND NOT ALL ITEMS SHOWN MAY BE USED ON THIS PROJECT.
5. INSTALL SANITARY PIPING WITH 2% SLOPE DOWNWARD IN DIRECTION OF FLOW. INSTALL VENT PIPING WITH 1% SLOPE DOWNWARD TOWARD FIXTURE OR STACK.
6. ALL FIXTURES SHALL HAVE A P-TRAP INSTALLED.

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

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REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: T. KARRE
DRAWN BY: K. HIMES
CHECKED BY: J. BURGER
PROJECT ENGINEER: T. KARRE
DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14P-001
4/17/2013

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9.14.14 9:19

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
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PLUMBING LEGEND AND ABBREVIATIONS

SHEET REFERENCE NUMBER:
P-001
SHEET ___ OF ___

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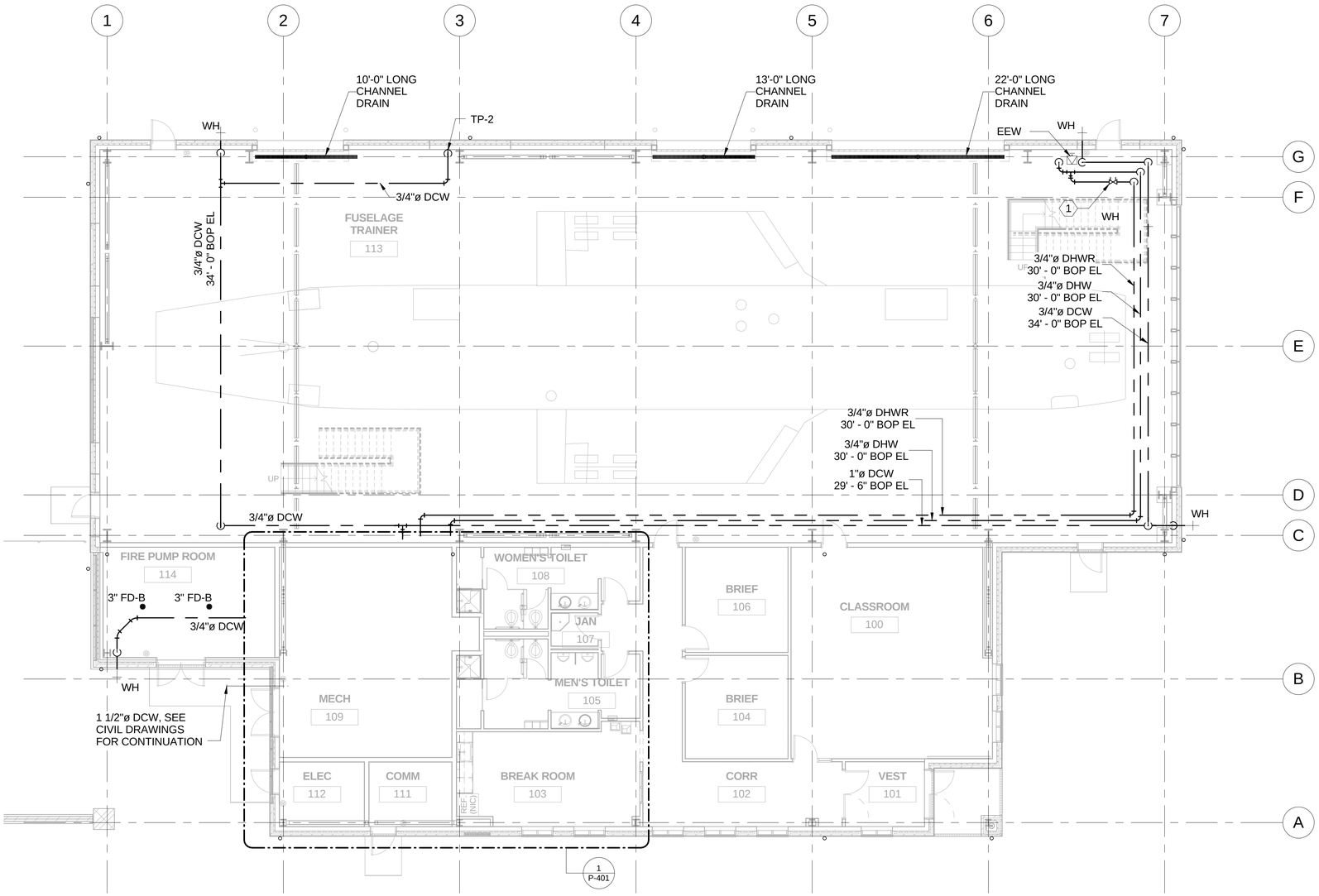

1 FIRST FLOOR PLUMBING PLAN

N

0 4' 8' 16'

SCALE:1/8"=1'

NOTES:

1. SEE DRAWING P-001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. FOR CONNECTION SIZES TO INDIVIDUAL FIXTURES SEE PLUMBING FIXTURE SCHEDULE ON P-601
3. ALL FLOOR DRAINS SHALL HAVE TRAP PRIMER CONNECTIONS.
4. SEE RISER DIAGRAMS FOR PIPING SIZES AND ROUTING NOT SHOWN ON PLAN DRAWINGS.
5. PROVIDE TRAPS AND TRAP PRIMER CONNECTIONS FOR CHANNEL DRAINS.

KEYED NOTES:

1 INSTALL CALIBRATED BALANCING VALVE ON WALL AT 8'-0" AFF. SET VALVE TO 1 GPM.

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SCALE: 1/8" = 1'-0"
DRAWING CODE:
DATE: 4/17/2013

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PLUMBING PLAN

SHEET REFERENCE NUMBER:
P-102
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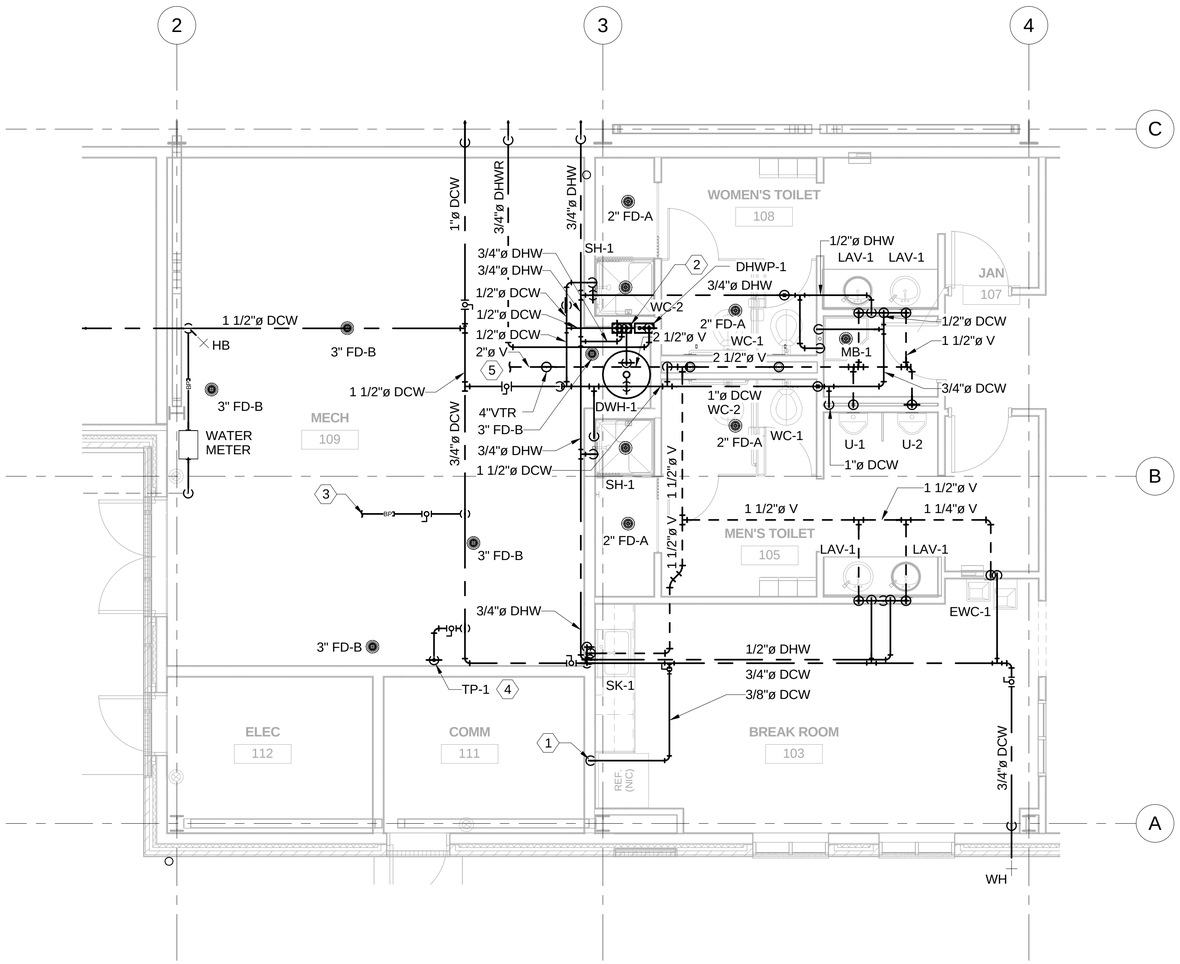

1 ENLARGED PLUMBING PLAN

N

0 2' 4' 8'

SCALE:1/4"=1'

NOTES:

1. SEE DRAWING P-001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. FOR CONNECTION SIZES TO INDIVIDUAL FIXTURES SEE PLUMBING FIXTURE SCHEDULE ON P-601
3. ALL FLOOR DRAINS SHALL HAVE TRAP PRIMER CONNECTIONS.
4. SEE RISER DIAGRAMS FOR PIPING SIZES AND ROUTING NOT SHOWN ON PLAN DRAWINGS.
5. COORDINATE FLOOR DRAIN LOCATIONS WITH FINAL MECHANICAL & PLUMBING EQUIPMENT LOCATIONS.

KEYED NOTES:

1. INSTALL ICE MAKER OUTLET BOX IN WALL AT 2'-0" AFF.
2. THERMOSTATIC MIXING VALVE.
3. 1"ø DCW TO HEATING WATER SYSTEM MAKE-UP CONNECTIONS. SEE MECHANICAL DRAWINGS FOR CONTINUATION.
4. ROUTE 3/4"ø DCW TO TRAP PRIMER TP-1.
5. SANITARY AND VENT SYSTEM IN MECHANICAL AND FIRE PUMP ROOMS TO BE DEVELOPED AFTER SITE SELECTION.

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DEFINITIVE DESIGN

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DATE: 4/17/2013
SCALE: 1/4" = 1'-0"
DRAWING CODE:
DATE: 4/17/2013

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KC-46A FUSELAGE TRAINER
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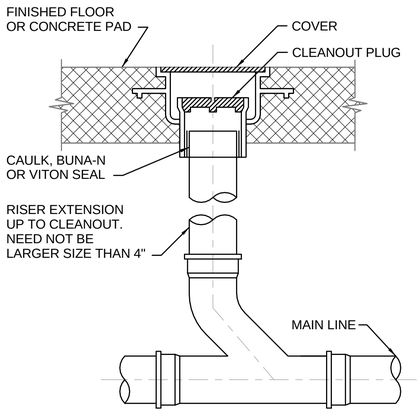
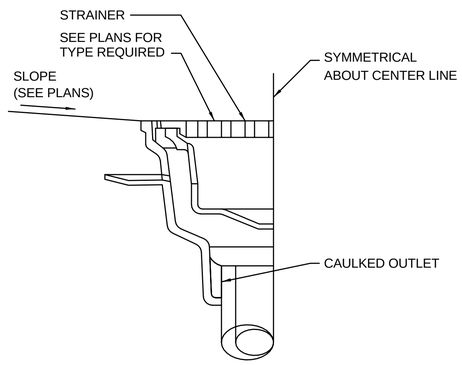
ENLARGED PLUMBING PLAN

SHEET REFERENCE NUMBER:
P-401
SHEET ____ OF ____



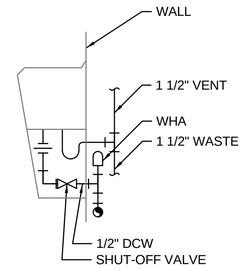
E1 CLEANOUT

SCALE: NTS



E3 FLOOR DRAIN INSTALLED IN GROUND FLOOR

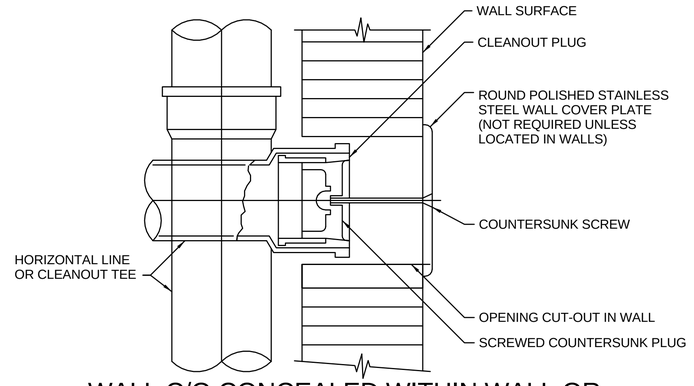
SCALE: NTS



WALL MOUNTED

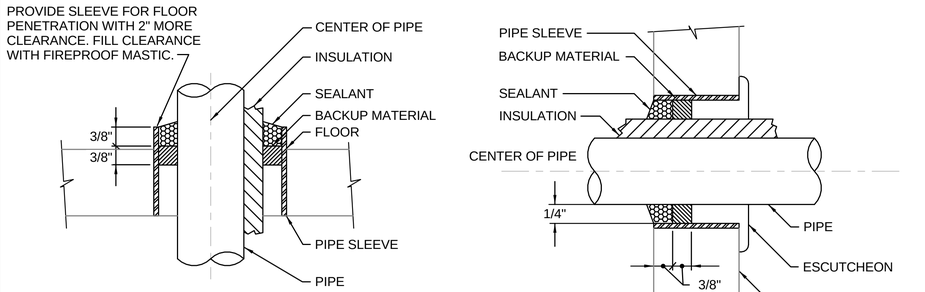
E5 ELECTRIC WATER COOLER CONNECTION DIAGRAM

SCALE: NTS



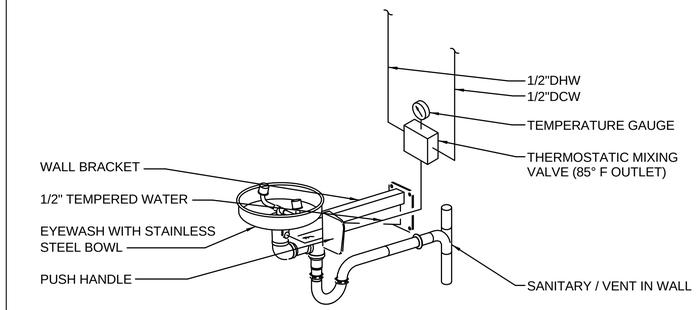
E7 WALL C/O CONCEALED WITHIN WALL OR END OF PIPE

SCALE: NTS



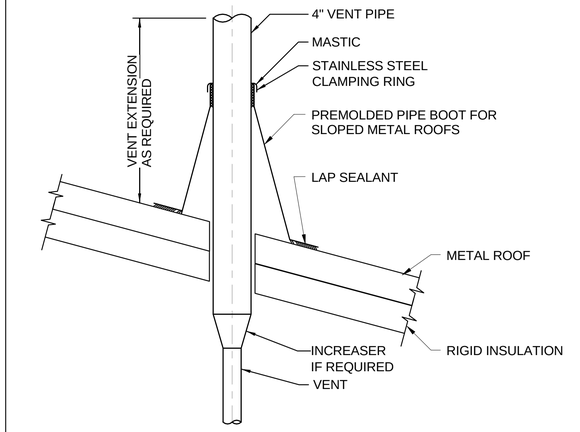
C1 PIPE PENETRATIONS THROUGH VARIOUS STRUCTURES

SCALE: NTS



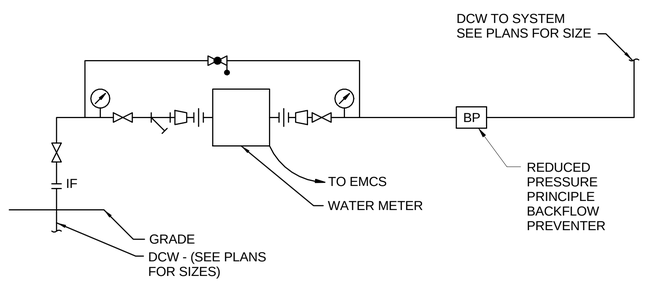
C5 EMERGENCY EYEWASH

SCALE: NTS



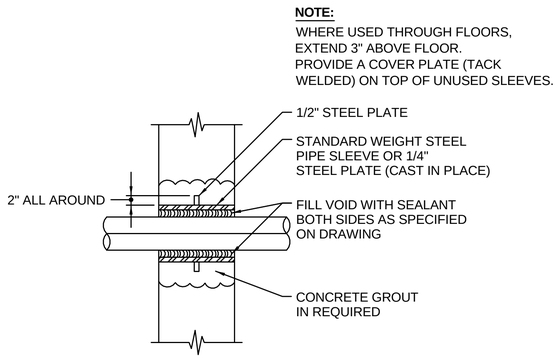
C8 VENT PIPE FLASHING

SCALE: NTS



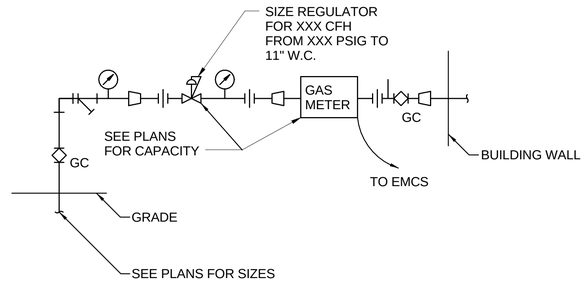
A1 WATER METER W/ BFP

SCALE: NTS



A4 WALL SLEEVE

SCALE: NTS



A7 NATURAL GAS PRESSURE REGULATOR/METER

SCALE: NTS

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SCALE: 12" = 1'-0"
DRAWING CODE: EP14P-501
4/17/2013

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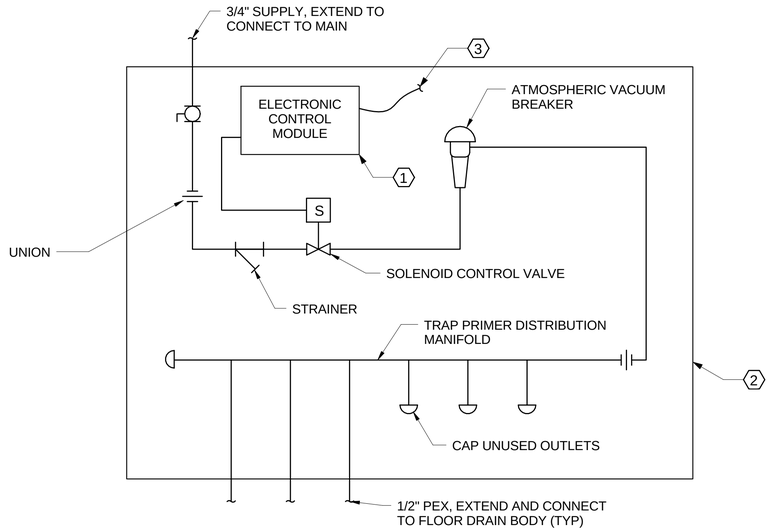
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

PLUMBING DETAILS

SHEET REFERENCE NUMBER:
P-501
SHEET ___ OF ___

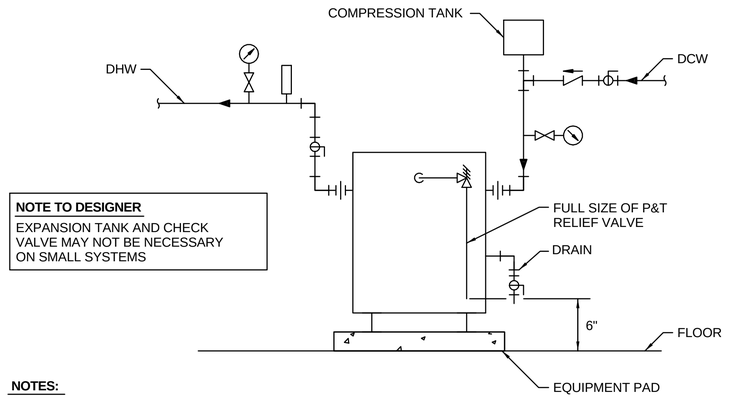


NOTES:
1. INSTALL TRAP PRIMER ASSEMBLY A MINIMUM OF 12" ABOVE FLOOR RIM ELEVATION OF HIGHEST DRAIN CONNECTED.
2. EACH OUTLET SHALL BE CONNECTED ONLY TO ONE FLOOR DRAIN OR FLOOR SINK.
3. TRAP PRIMER DISTRIBUTION PIPING SHALL BE BUBBLE TIGHT AND SEALED.

KEYED NOTES:

1. PROGRAM CONTROL MODULE TO OPEN SOLENOID CONTROL VALVE AT MANUFACTURER;S RECOMMENDED FREQUENCY AND DURATION.
2. GALVANIZED WALL BOX AND COVER PROVIDED BY TRAP PRIMER MANUFACTURER.
3. POWER CONNECTION, PROVIDED BY OTHERS.

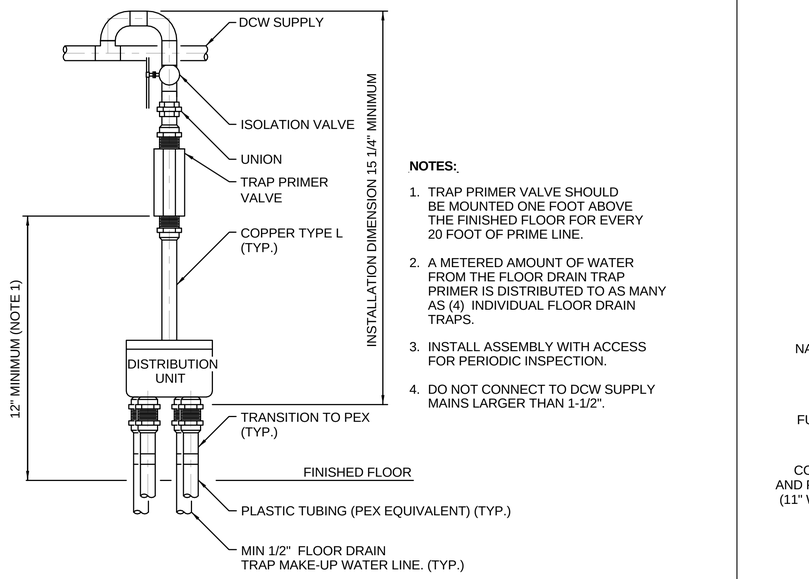
D1 ELECTRONIC TRAP PRIMER DETAIL
SCALE: NTS



NOTE TO DESIGNER
EXPANSION TANK AND CHECK VALVE MAY NOT BE NECESSARY ON SMALL SYSTEMS

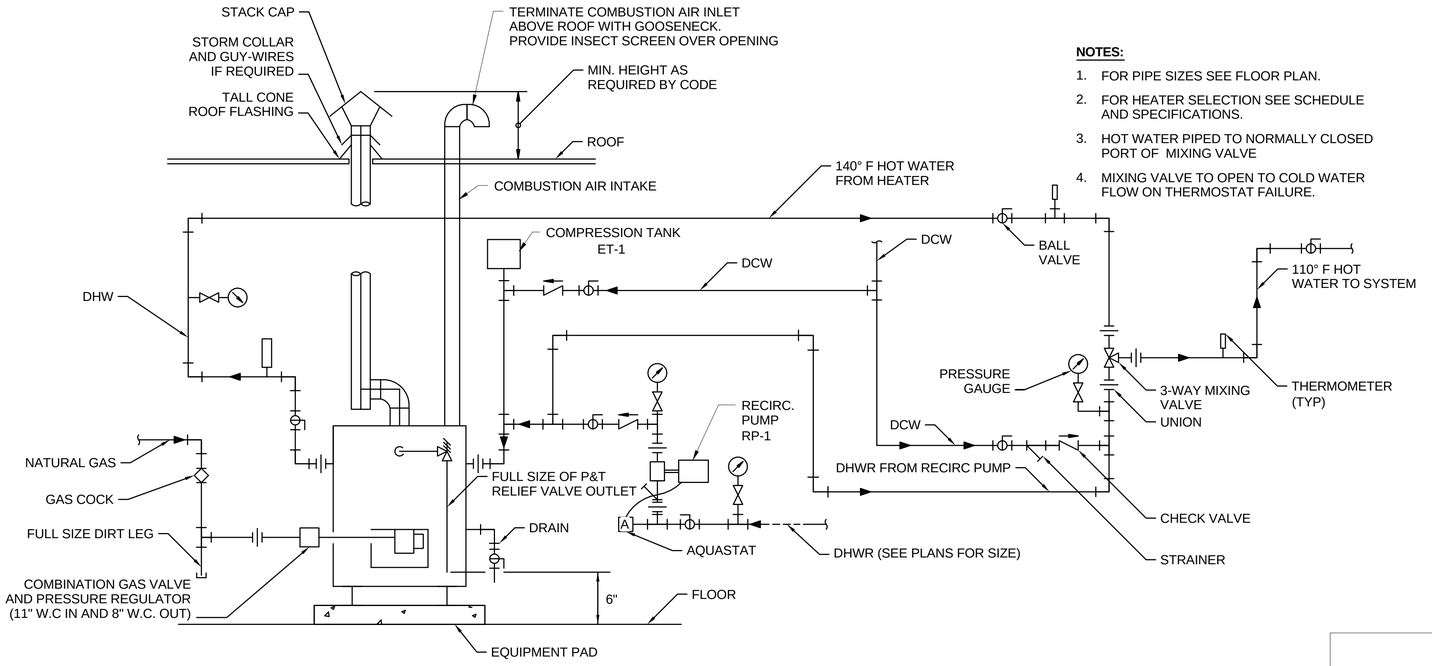
NOTES:
1. FOR PIPE SIZES SEE FLOOR PLAN.
2. FOR HEATER SELECTION SEE SCHEDULE AND SPECIFCATIONS.

D6 ELECTRIC WATER HEATER PIPING
SCALE: NTS



NOTES:
1. TRAP PRIMER VALVE SHOULD BE MOUNTED ONE FOOT ABOVE THE FINISHED FLOOR FOR EVERY 20 FOOT OF PRIME LINE.
2. A METERED AMOUNT OF WATER FROM THE FLOOR DRAIN TRAP PRIMER IS DISTRIBUTED TO AS MANY AS (4) INDIVIDUAL FLOOR DRAIN TRAPS.
3. INSTALL ASSEMBLY WITH ACCESS FOR PERIODIC INSPECTION.
4. DO NOT CONNECT TO DCW SUPPLY MAINS LARGER THAN 1-1/2".

A1 PRESSURE TYPE TRAP PRIMER
SCALE: NTS



NOTES:
1. FOR PIPE SIZES SEE FLOOR PLAN.
2. FOR HEATER SELECTION SEE SCHEDULE AND SPECIFICATIONS.
3. HOT WATER PIPED TO NORMALLY CLOSED PORT OF MIXING VALVE
4. MIXING VALVE TO OPEN TO COLD WATER FLOW ON THERMOSTAT FAILURE.

A4 GAS FIRED WATER HEATER W/ MIXING VALVE PIPING
SCALE: NTS

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

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REVISIONS			
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PROJECT ENGINEER/ARCHITECT: T. KARRE
DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14P-502
4/17/2013

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KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

PLUMBING DETAILS

SHEET REFERENCE NUMBER: P-502
SHEET ___ OF ___

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FLOOR DRAIN SCHEDULE			
Mark	TYPE	STRAINER	REMARKS
2" FD-A	FLOOR DRAIN (NOTE 1,2)	5" RND. ADJ. NICKEL-BRONZE (NOTE 3)	CAST IRON, TWO PIECE BODY INTEGRAL CLAMPING COLLAR, TRAP PRIMER CONNECTION
3" FD-B	FLOOR DRAIN (NOTE 1,2)	9" RND. DUCTILE IRON TRACTOR GRATE, HEAVY DUTY	CAST IRON, INTEGRAL CLAMPING COLLAR, PROVIDE WITH DEEP SEAL TRAP

NOTES:
1. SIZE AS INDICATED ON DRAWINGS
2. NEOPRENE GASKETED PUSH-ON OUTLET
3. FLOOR DRAINS SHALL HAVE SQUARE GRATE WHERE INSTALLED IN ROOMS WITH SQ. TILE.

PLUMBING FIXTURE SCHEDULE								
		FLOW OR FLUSHRATE			CONNECTION SIZES (INCHES)			
TAG	DESCRIPTION			MOUNTING HEIGHT	COLD WATER	HOT WATER	VENT	WASTE
EEW	EMERGENCY EYEWASH	6	GPM	33 INCHES AFF	0.5	0.5	1.5	1.25
EWC-1	ELECTRIC WATER COOLER	8	GPH	ORIFICE HEIGHT: 38-3/8" UPPER, 32-7/8" LOWER	0.5	N/A	1.25	1.5
HB	HOSE BIBB	5	GPM	36 INCHES AFF	0.5	N/A	N/A	N/A
LAV-1	COUNTER MOUNTED LAVATORY	0.5	GPM	SET BY COUNTER HEIGHT	0.5	0.5	1.25	1.5
MB-1	MOP BASIN	2.5	GPM	FLOOR MOUNTED	0.75	0.75	N/A	3
SH-1	ACCESSIBLE SHOWER	1.5	GPM	TOP OF HAND SPRAY BAR AT 66" ABOVE FLOOR	0.5	0.5	1.25	1.5
SK-1	BREAK ROOM SINK	1.5	GPM	SET BY COUNTER HEIGHT	0.5	0.5	1.25	1.5
U-1	URINAL	0.125	GPF	24 INCHES AFF RIM HEIGHT	0.75	N/A	1.5	2
U-2	ACCESSIBLE URINAL	0.125	GPF	17 INCHES AFF RIM HEIGHT - ACCESSIBLE	0.75	N/A	1.5	2
WC-1	WATER CLOSET	1.28	GPF	15 INCHES AFF RIM HEIGHT	1	N/A	2	4
WC-2	ACCESSIBLE WATER CLOSET	1.28	GPF	17 INCHES AFF RIM HEIGHT - ACCESSIBLE	1	N/A	2	4
WH	WALL HYDRANT	5	GPM	24 INCHES AFF	0.75	N/A	N/A	N/A

CLEANOUT SCHEDULE (FCO, WCO)			
SYMBOL	TYPE (NOTE 1)	COVER	REMARKS
CO-1	FLOOR CLEANOUT	ROUND NICKEL BRONZE SCORIATED OR OPTIONAL TOPS FOR FINISHED AREAS	CAST IRON, THREADED BRASS COUNTERSUNK PLUG, ADJUSTABLE HOUSING (NOTE 1)
CO-2	HEAVY DUTY FLOOR CLEANOUT	SCORIATED CAST IRON COVER, SPECIAL DUTY LOAD CLASS	CAST IRON, THREADED BRASS COUNTERSUNK PLUG, ADJUSTABLE HOUSING (NOTE 1)
WCO	WALL CLEANOUT	STAINLESS STEEL ACCESS COVER	CAST IRON, THREADED BRASS COUNTERSUNK PLUG (NOTE 1)

NOTES:
1. SIZE AS REQUIRED BY CODE.

TRAP PRIMER SCHEDULE								
TAG NO.	TRAP PRIMER TYPE	VOLTAGE	PHASE	TRAP PRIMER ROOM LOCATION	NUMBER OF DRAINS	PIPE SIZE	MIN. DIFF. PRESSURE (PSIG)	REMARKS
TP-1	AUTOMATIC	120	1	MECHANICAL ROOM 109	11	0.75	NA	1
TP-2	AUTOMATIC	120	1	FUSELAGE TRAINER 113	3	0.75	NA	1

NOTES:
1. 1/2 INCH PEX SUPPLY TUBING TO EACH DRAIN TRAP.

RECIRCULATION PUMP SCHEDULE																
														ELECTRICAL		
TAG	TYPE	LOCATION	SERVICE	MAXIMUM FLUID TEMP. - DEG. F.	MINIMUM FLUID TEMP. - DEG. F.	CAPACITY - GPM	PUMP HEAD (FT)	SUCTION SIZE - IN.	DISCHARGE SIZE - IN.	MOTOR - RPM	MOTOR - HP	MOTOR TYPE	STARTER / DISCONNECT PROVIDED BY	VOLTS	PHASE	REMARKS
DHWP-1	INLINE	MECH RM	DHW	140	100	1 GPM	13	0.75	0.75	3150	0.083	ODP	DIV 26	120	1	1

NOTES:
1. PROVIDE WITH AQUASTAT. SYSTEM SHALL BE ENABLED FROM DDC.

WATER HAMMER ARRESTOR SCHEDULE (WHA)									
TAG	PIPE SIZE	SUPPLY FIXTURE UNITS	MATERIAL	MANUFACTURER - 1	MODEL NO. - 1	MANUFACTURER - 2	MODEL NO. - 2	MANUFACTURER - 3	MODEL NO. - 3
WHA-A	3/4"	1 TO 11	STAINLESS STEEL	J.R. SMITH	5005	WADE	W-5	SIOUX CHIEF	652-A
WHA-B	1"	12 TO 32	STAINLESS STEEL	J.R.SMITH	5010	WADE	W-10	SIOUX CHIEF	653-B

DOMESTIC WATER HEATER SCHEDULE													
											ELECTRICAL	ELECTRICAL	
TAG	LOCATION	TYPE	SERVICE	HEATING SOURCE	INPUT (MBH)	THERMAL EFFICIENCY (%)	CAPACITY (GAL)	RECOVERY (GAL/HR)	HOT WATER TEMP SETTING (F)	WATER CONNECTION SIZE (IN)	GAS CONNECTION SIZE	VOLTS	PHASE	REMARKS
DWH-1	MECH ROOM	GAS FIRED STORAGE	DOMESTIC HW	NATURAL GAS	70	88	70	40	140	0.75	0.75	120	1	1,2,3

NOTES:
1. FURNISH WITH PRESSURE AND TEMPERATURE RELIEF VALVE.
2. PROVIDE WITH CONTROL MODULE TO CONNECT TO BUILDING DDC SYSTEM.
3. DIRECT VENT UNIT WITH SEALED COMBUSTION.

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PROJECT ENGINEER/ARCHITECT: T. KARRE
DRAWING CODE:
DATE: 4/17/2013
SCALE:
4/17/2013

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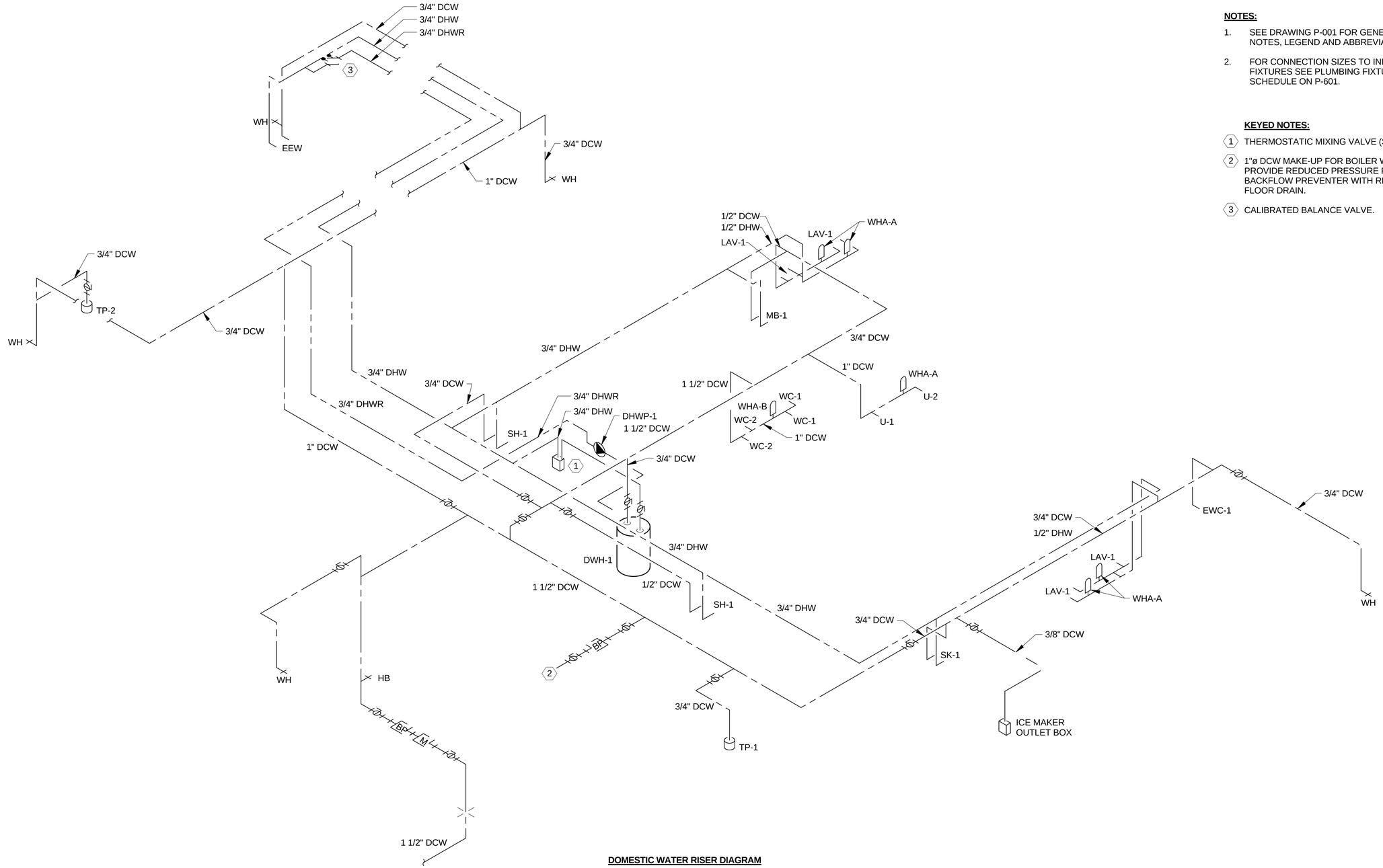
PLUMBING SCHEDULES

SHEET REFERENCE NUMBER:
P-601
SHEET ____ OF ____



DOMESTIC WATER RISER DIAGRAM
NOT TO SCALE

NOTES:

1. SEE DRAWING P-001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. FOR CONNECTION SIZES TO INDIVIDUAL FIXTURES SEE PLUMBING FIXTURE SCHEDULE ON P-601.

KEYED NOTES:

1. THERMOSTATIC MIXING VALVE (SET TO 110° F).
2. 1"ø DCW MAKE-UP FOR BOILER WATER SYSTEM. PROVIDE REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER WITH RELIEF PIPED TO FLOOR DRAIN.
3. CALIBRATED BALANCE VALVE.

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DATE: 4/17/2013
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DOMESTIC WATER RISER DIAGRAMS

SHEET REFERENCE NUMBER:
P-901
SHEET ____ OF ____

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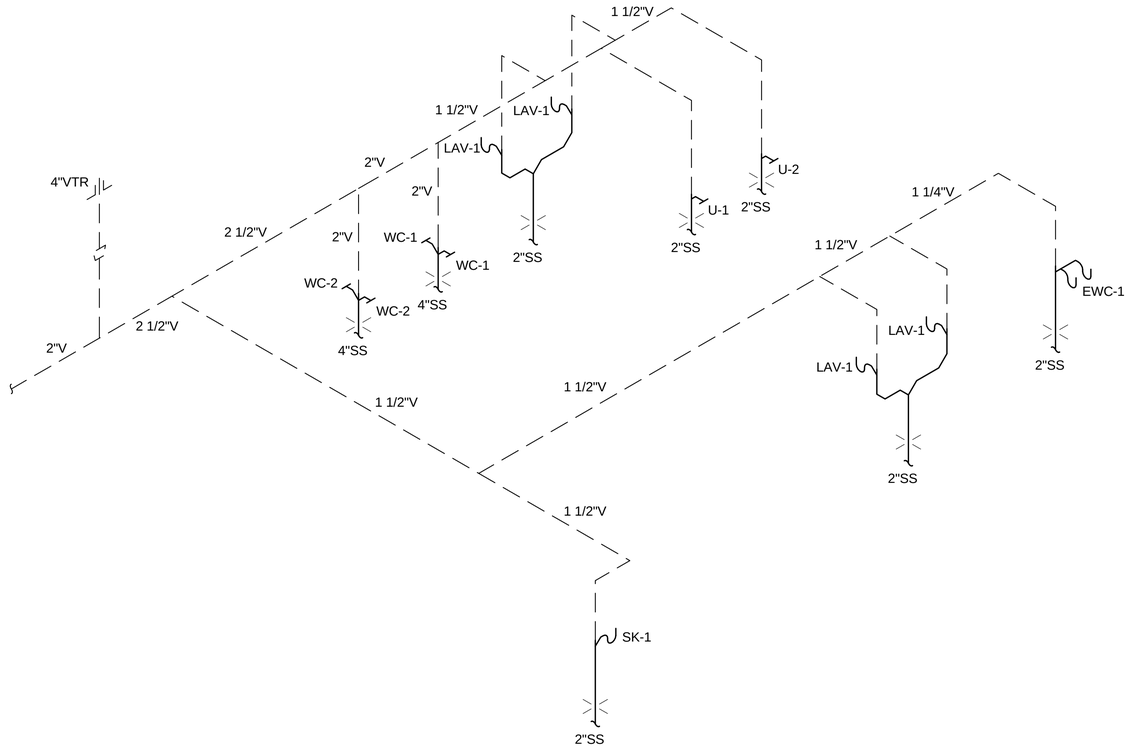
NOTES:

1. SEE DRAWING P-001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. FOR CONNECTION SIZES TO INDIVIDUAL FIXTURES SEE PLUMBING FIXTURE SCHEDULE ON P-601
3. DESIGNER OF RECORD TO COMPLETE DESIGN INCLUDING UNDERGROUND PIPING, FLOOR DRAINS, MOP BASINS, AND ASSOCIATED VENT PIPING UPON SITE LOCATION.



SANITARY WASTE AND VENT RISER DIAGRAM
NOT TO SCALE

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WASTE AND VENT RISER DIAGRAMS

SHEET REFERENCE NUMBER:
P-902
SHEET ____ OF ____

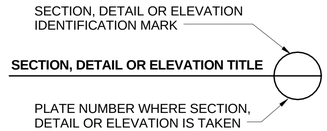
FIRE ALARM / MASS NOTIFICATION LEGEND

FACP	FIRE ALARM CONTROL PANEL
FTR MNS	MASS NOTIFICATION TRANSMITTER/TRANSCEIVER
MNS	MASS NOTIFICATION CONTROL PANEL
FPC	FIRE PUMP CONTROL (BY DIVISION 21)
MIC	MICROPHONE
LOC	LOCAL OPERATIONS CONSOLE
P	MANUAL FIRE ALARM PULL STATION
PS	PRESSURE SWITCH (BY DIVISION 23)
NAC	NOTIFICATION APPLIANCE CIRCUIT BOOSTER POWER SUPPLY
BATT	SECONDARY POWER SUPPLY (BATTERY)
AMP	AMPLIFIER
WF	WATER FLOW SWITCH
VS	TAMPER SWTICH
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
PACP	PREACTION RELEASING PANEL
ASFP	AIR SAMPLING CONTROL DETECTOR PANEL
ESR	ELEVATOR SYSTEM RECALL PANEL (BY DIVISION 14)
SIM	SIMULATOR CONTROL SYSTEM
SOL	SOLENOID
	SUPERVISED DISCONNECT
R	IN-DUCT PHOTOELECTRIC SMOKE DETECTOR R = RETURN S = SUPPLY
P	CEILING MOUNTED SMOKE DETECTOR P = PHOTOELECTRIC
WP	WALL MOUNTED LOUD SPEAKER WP = WEATHER PROOF
	SPEAKER / HORN
	SPEAKER / HORN STROBE COMBINATION
F	STROBE M = MASS NOTIFICATION, AMBER LABELED "ALERT" F = FIRE ALARM NOTIFICATION, CLEAR, LABELED "FIRE"
	ANTENNA
AIM	ADDRESSABLE INPUT MODULE
AOM	ADDRESSABLE OUTPUT MODULE
	GROUND

ABBREVIATIONS:

AHJ	AUTHORITY HAVING JURISDICTION
CFM	CUBIC FEET PER MINUTE
IDC	INITIATING DEVICE CIRCUIT
MNS	MASS NOTIFICATION SYSTEM
NAC	NOTIFICATION APPLIANCE CIRCUIT
NEC	NATIONAL ELECTRICAL CODE
SLC	SIGNALING LINE CIRCUIT
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES

DETAIL/SECTION TITLE



DEFINITIVE DESIGN NOTES

DESIGN CRITERIA:

1. AUDIBLE NOTIFICATION SHALL BE PROVIDED FOR ALL AREAS AND ROOMS THROUGHOUT THE FACILITY. THE FOLLOWING DESIGN CRITERIA SHALL BE ACCOMPLISHED WITH ALL DOORS, FIRE SHUTTERS, AND WINDOWS CLOSED. WHERE THIS DESIGN CRITERIA IS NOT ACCOMPLISHED DURING COMMISSIONING, THE CONTRACTOR SHALL PROVIDE ADDITIONAL DEVICES TO MEET THE MINIMUM DESIGN CRITERIA REQUIREMENTS AT NO ADDITIONAL COST. AS-BUILT DRAWINGS SHALL DEMONSTRATE THE ADDITIONAL DEVICES AND/OR MODIFICATIONS TO THE INSTALLED DEVICES DO NOT EXCEED THE LIMITATIONS OF THE FACP, NAC BOOSTER PANEL, OR AMP BOOSTER PANEL (PLUS ANY ADDITIONAL SAFETY FACTORS OR LIMITATION).
2. A SPEAKER/HORN IS NOT REQUIRED IN EVERY ROOM, HOWEVER SPEAKER PERFORMANCE MUST ADHERE TO THE SOUND POWER AND INTELLIGIBILITY CRITERIA WITHIN THE SPECIFICATIONS, CONTRACT DRAWINGS, NFPA 72, AND UFC 4-021-01.
3. THE SOUND POWER OF THE AUDIBLE NOTIFICATION SHALL BE A MINIMUM OF 70 DBA AND 15 DBA OVER THE AMBIENT CONDITIONS AT THE MOST REMOTE LOCATION WITHIN THE ROOM OR AREA. THE SOUND POWER SHALL BE MEASURED OFF THE TEMPORAL PATTERN PROCEEDING EACH VOICE MESSAGE. THE FOLLOWING CRITERIA SHALL BE UTILIZED FOR REVIEW AND APPROVAL OF SHOP DRAWINGS. THE ACTUAL PERFORMANCE AT FINIAL TESTING SHALL BE USED FOR SYSTEM ACCEPTANCE.
   A. THE SOUND POWER SHALL BE REDUCED BY 6 DBA EACH TIME THE DISTANCE BETWEEN THE APPLIANCE AND THE LISTENER IS DOUBLED. STARTING DISTANCE IS PER MANUFACTURER'S DATASHEET, TYPICALLY 10 FT.
   B. THE SOUND POWER SHALL BE REDUCED IN ACCORDANCE WITH THE MANUFACTURER'S DATASHEET FOR SOUND POWER DISTRIBUTION NOT PERPENDICULAR TO THE SPEAKER FACE. REFER TO MANUFACTURER'S TYPICAL SOUND OUTPUT DISTRIBUTION DIAGRAM.
   C. A 15 DBA LOSS SHALL BE ASSUMED THROUGH A STANDARD CLOSED DOOR.
4. INTELLIGIBILITY SHALL MEET THE FOLLOWING CRITERIA:
   A. NORMALLY UNOCCUPIED ROOMS SHALL BE CONSIDERED STORAGE ROOMS, MECHANICAL ROOMS, RISER ROOMS, ELECTRICAL ROOMS, JANITOR ROOMS, COMMUNICATION CLOSETS, ELEVATOR MACHINE ROOMS. ALL OTHER ROOMS SHALL BE CONSIDERED NORMALLY OCCUPIED.
   B. IN ROOMS WITH ACOUSTICAL CEILINGS, A CIS SCORE OF 0.80 SHALL BE ACHIEVED IN THE MOST REMOTE AREA OF THE ROOM AT 5 FT ABOVE FINISHED FLOOR.
   C. IN NORMALLY OCCUPIED ROOMS WITH HARD CEILINGS AND WALLS, AN OCCUPANT MAY TRAVEL UP TO 33 FT THROUGH UNRESTRICTED ACCESS TO REACH AN AREA OF 0.80 CIS.
   D. IN NORMALLY UNOCCUPIED ROOMS AN OCCUPANT MAY TRAVEL UP TO 50 FT THROUGH UNRESTRICTED ACCESS TO REACH AN AREA OF 0.80 CIS.
5. PROVIDE ON THE EXTERIOR WEATHER PROOF SPEAKER SERVING EXTERIOR COMMON AREAS SUCH AS COURTYARDS, BREAK AREAS, SMOKING AREA, SIDEWALKS LEADING TO A PUBLIC STREET. EXTERIOR SPEAKERS SHALL MEET A MINIMUM OF 70 DBA AND 15 DBA OVER AVERAGE AMBIENT CONDITIONS, WITH A CIS SCORE OF 0.80 AT 15 FT FROM THE DOOR.
6. LOCATE SMOKE DETECTOR OVER FACP, NAC, AMP, FTR AND PACP PANEL.

DEFINITIVE DESIGN NOTES

GENERAL FIRE ALARM AND MASS NOTIFICATION NOTES:

1. THIS SYSTEM SHALL BE A COMBINED FIRE ALARM / MASS NOTIFICATION SYSTEM.
2. THE FIRE ALARM / MASS NOTIFICATION DRAWINGS ARE SCHEMATIC IN NATURE AND SHOW A MINIMAL QUANTITY OF DEVICES. CONTRACTOR SHALL DETERMINE THE FINAL QUANTITY AND LOCATION OF ALL DEVICES IN ACCORDANCE WITH THE SPECIFICATIONS, CONTRACT DRAWINGS, AND MANUFACTURER'S WRITTEN RECOMMENDATIONS TO BE COMPLIANT WITH ALL APPLICABLE CODES AND STANDARDS. ADDITIONAL DEVICES SHALL BE PROVIDED FOR A FULLY FUNCTIONING FIRE ALARM SYSTEM AS REQUIRED BY NFPA 72, UFC 3-600-01, UFC 4-021-01, AFI 91-203.
3. ALL SYSTEMS WHICH REQUIRE COORDINATION BETWEEN TRADES SHALL BE TO THE SATISFACTION OF THE CONTRACTING OFFICER AND AHJ. ANY DEFICIENCIES, INCONSISTENCIES, AND POORLY COORDINATED INSTALLATIONS SHALL BE CORRECTED BY THE CONTRACTOR.
4. REFER TO FIRE SUPPRESSION DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION OF TAMPER SWITCHES, FLOW SWITCHES, PRESSURE SWITCHES, LEVEL SWITCHES, ETC…
5. REFER TO LIFE SAFETY PLAN FOR LOCATION OF FIRE RATED BARRIERS AND LOCATION OF DOORS ON HOLD OPENS. WHERE HOLD OPEN DOORS ARE NOTED ON THE LIFE SAFETY PLANS, PROVIDE SMOKE DETECTION AND DOOR RELEASE IN ACCORDANCE WITH NFPA 72.
6. AIR HANDLING UNITS OVER 2,000 CFM SHALL BE PROVIDED WITH SUPPLY AND RETURN DUCT SMOKE DETECTORS. EXHAUST FANS DO NOT REQUIRE DUCT SMOKE DETECTORS. REFER TO MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS AND LOCATIONS.
7. ALL ELECTRICAL WORK SHALL COMPLY WITH SPECIFICATIONS, CONTRACT DRAWINGS, NEC (NFPA 70), NFPA 72, NFPA 101, AND APPLICABLE CODES AND STANDARDS. ALL GROUNDING SHALL COMPLY WITH NEC ARTICLE 250.
8. ALL CONDUITS SHALL BE CONCEALED IN WALLS, FLOOR SLABS OR CEILINGS UNLESS OTHERWISE INDICATED. EXCEPTION: CONDUIT SHALL BE ALLOWED TO BE SURFACE MOUNTED ON BLOCK WALLS IN UNFINISHED AREAS (E.G. MECHANICAL ROOM, ELECTRICAL ROOM, RISER ROOM).
9. CONDUIT SHALL BE SUPPORTED IN STRICT ACCORDANCE WITH THE NEC (E.G.10 FT INTERVALS AND 3 FT FROM TERMINATION). TENSION ONLY HANGERS ARE NOT PERMITTED (E.G. BATWINGS). TYPE OF CONDUIT UTILIZED SHALL BE IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS UNLESS OTHERWISE NOTED. FLEXIBLE CONDUIT IS ONLY PERMITTED FOR TERMINATION AT DEVICES MOUNTED ON PIPING OR SUBJECTED TO REMOVAL (E.G. FLOW SWITCHES, TAMPER SWITCHES, SPEAKERS AND STROBES MOUNTED IN REMOVABLE CEILINGS).
10. ALL CONDUCTORS SHALL BE CONSISTENTLY COLOR COORDINATED THROUGH THE SYSTEM IN RELATION TO DEVICES THEY FEED (E.G. SLC - BLACK/RED, STROBE - YELLOW/BLUE, SPEAKER - BLACK/BROWN). SHIELDING SHALL BE GROUNDED AT ONE END OF THE CIRCUIT. ALL CIRCUITS SHALL BE PROVIDED WITH LABELING AT POINT OF TERMINATION.
11. FIRE ALARM EQUIPMENT PANELS SHALL NOT BE USED AS RACEWAY FOR ROUTING POWER WIRING OR LOW VOLTAGE WIRING. ONLY WIRING TERMINATING WITH THE PANEL SHALL BE ROUTED INTO THE PANEL. POWER WIRING AND POWER LIMITED WIRING SHALL BE SEPARATED BY A MINIMUM OF TWO INCHES WITHIN THE EQUIPMENT PANELS.
12. MOUNTING DEVICES IN THE FACP, FSCP, NAC BOOSTER PANELS, AMP BOOSTER PANELS, AND TRANSCEIVER PANELS WHICH ARE NOT UL LISTED AS PART OF THE PANEL IS PROHIBITED (E.G. MOUNTING AN ADDRESSABLE INPUT MODULE IN A FACP IS NOT PERMITTED.)
13. ALL POWER SUPPLIES TO FACP, FSCP, NAC BOOSTER PANELS, AMP BOOSTER PANELS, AND TRANSCEIVER PANELS SHALL BE PROVIDED WITH TVSS. ALL SLC, NAC, OR IDC CIRCUITS ENTERING OR LEAVING THE BUILDING SHALL BE PROVIDED WITH TVSS. EXCEPTION: CIRCUITS TO DEVICES MOUNTED DIRECTLY ON THE EXTERIOR OF THE BUILDING DO NOT REQUIRE TVSS (E.G. EXTERIOR ALARM BELL). TVSS SHALL BE MOUNTED IN A SEPARATE ENCLOSURE (E.G. MOUNTING THE TVSS IN THE FACP ENCLOSURE IS NOT PERMITTED).

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DATE: 4/17/2013
SCALE: NO SCALE
DRAWING CODE: EP14FA-001
DATE: 4/17/2013

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FIRE ALARM SYMBOLS, LEGEND AND ABBREVIATIONS

SHEET REFERENCE NUMBER:
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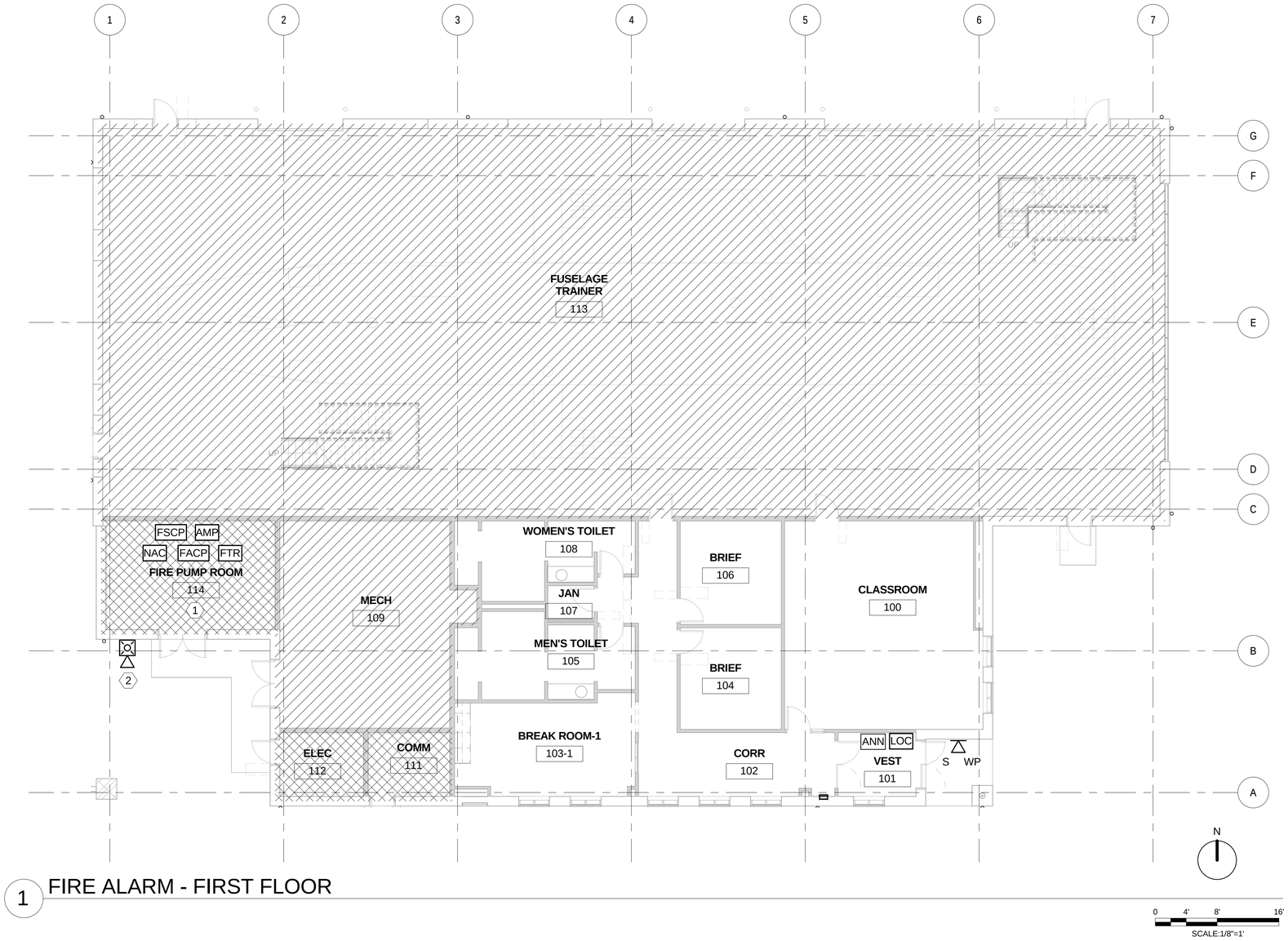
SHEET ____ OF ____



1 FIRE ALARM - FIRST FLOOR

NOTES:

1. REFER TO THE FIRE ALARM LEGEND FOR GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS AND SYMBOLS.

KEYED NOTES:

1. MONITOR FLOW SWITCHES AND TAMPER SWITCHES AS OUTLINED ON THE FIRE SUPPRESSION SINGLE LINE RISER DIAGRAM 3 ON SHEET FP-001.
2. HORN STROBE OVER FDC SEE FP-101 FOR FDC LOCATION

PROVIDE CEILING MOUNTED SPEAKERS AND STROBES THROUGHTOUT AREA TO ACHIVE DESIGN CRITERIA.

PROVIDE CEILING MOUNTED SPEAKERS AND WALL MOUNTED STROBES THROUGHOUT AREA TO ACHIVE DESIGN CRITERIA.

PROVIDE CEILING MOUNTED SPEAKER THROUGHOUT AREA TO ACHIVE DESIGN CRITERIA.

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PROJECT ENGINEER/ARCHITECT	DATE

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FIRE ALARM AND MASS NOTIFICATION PLAN

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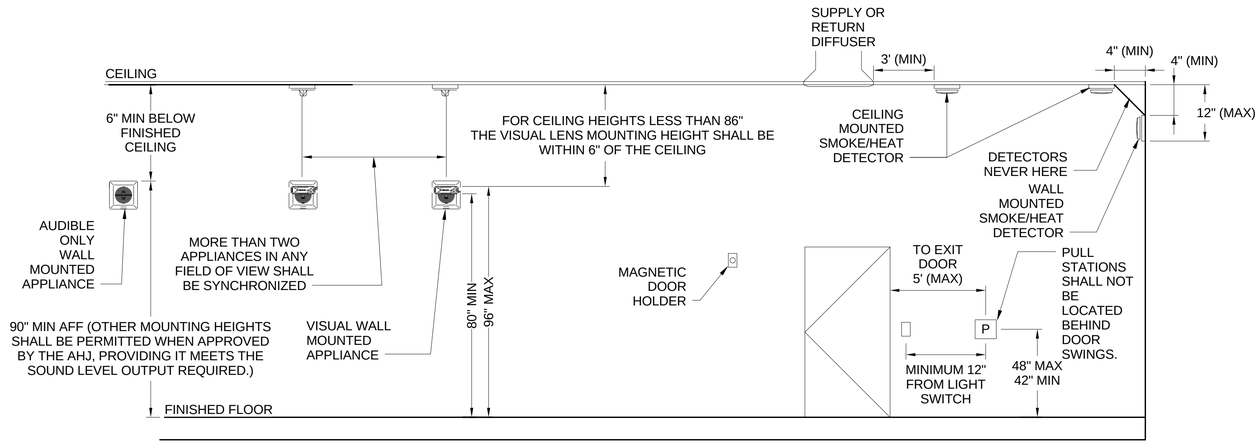

D1 TYPICAL DEVICE MOUNTING DETAIL

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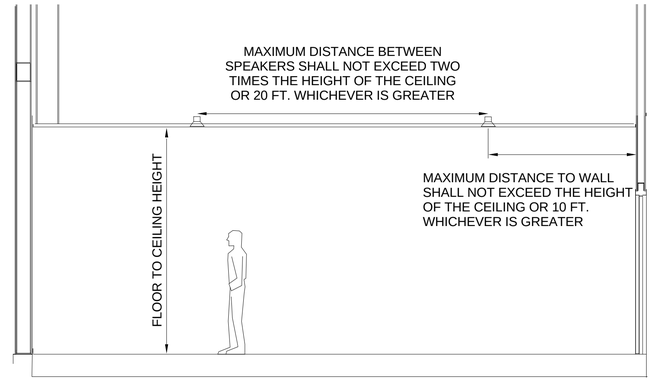

D7 TYPICAL MASS NOTIFICATION SPEAKER SPACING

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DATE: 4/17/2013
SCALE: NO SCALE
DRAWING CODE: EP14FA-501
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FIRE ALARM DETAILS

SHEET REFERENCE NUMBER:
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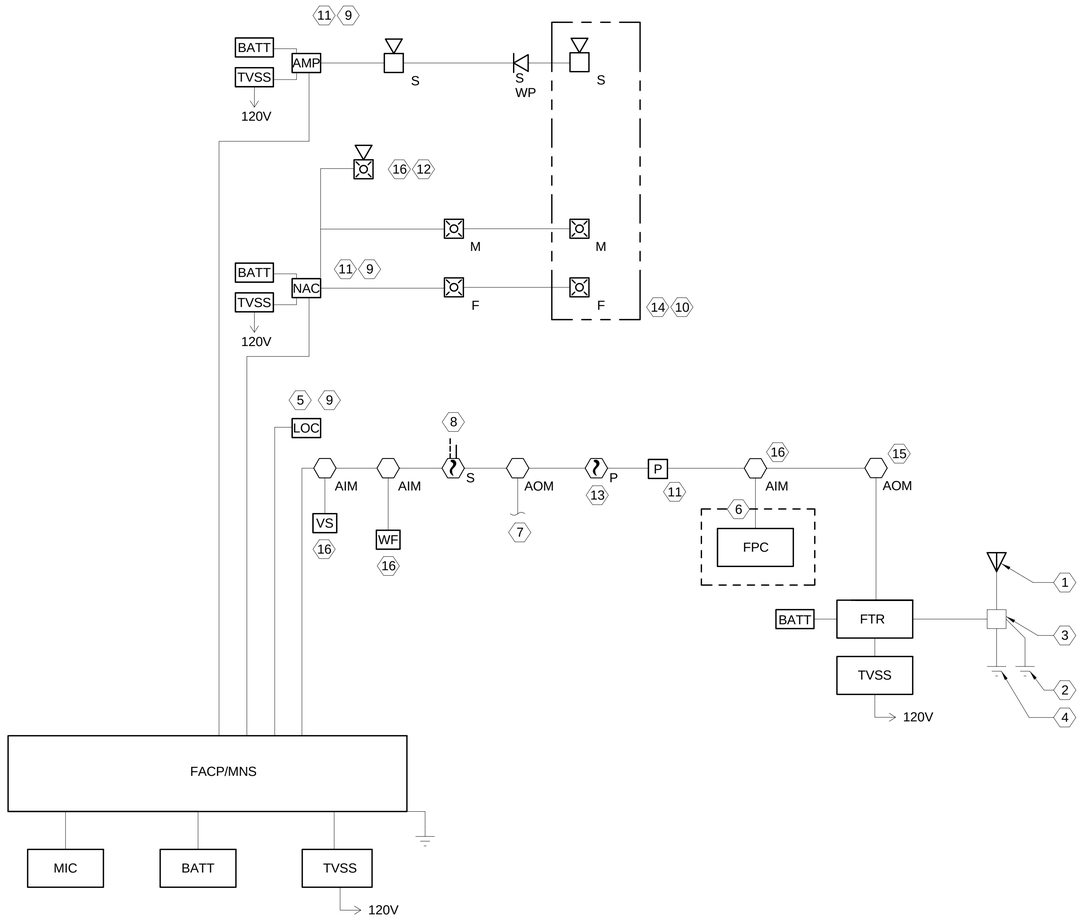
SHEET ____ OF ____



1 FIRE ALARM - MASS NOTIFICATION RISER

NOT TO SCALE

NOTES:

1. REFER TO THE FIRE ALARM LEGEND FOR GENERAL NOTES, DESIGN CRITERIA, ABBREVIATIONS, AND SYMBOLS.
2. THE FIRE ALARM RISER SHOWS THE INTENT OF THE FIRE ALARM INFRASTRUCTURE. NOT ALL DEVICES ARE SHOWN. CONTRACTOR SHALL PROVIDE THE QUANTITY OF DEVICES AS REQUIRED TO COMPLY WITH NFPA 72, UFC 3-600-01, UFC 4-021-01 AND CONTRACT DOCUMENTS.
3. EACH FLOW AND TAMPER SWITCH SHALL REPORT BACK TO THE ALARM CONTROL PANEL WITH A SEPARATE ADDRESS. GROUPED SWITCHES ON ONE ADDRESS ARE NOT ACCEPTABLE.

KEYED NOTES:

1. MOUNT RADIO TRANSCEIVER ANTENNA PER MANUFACTURERS RECOMMENDATION
2. COORDINATE GROUNDING METHOD WITH ELECTRICAL ENGINEER
3. LIGHTNING ARRESTOR KIT
4. PROVIDE #6 AWD TO BUILDING COUNTERPOISE
5. PROVIDE LOC PANEL AS SHOWN ON DRAWINGS
6. PROVIDED BY PUMP CONTRACTOR IF PUMP IS REQUIRED
7. PROVIDE DIRECT SHUTDOWN OF AIR HANDLING EQUIPMENT
8. PROVIDE SUPPLY AND RETURN SMOKE DETECTORS IN AIR HANDLING UNITS GREATER THAN 2000 CFM
9. REFER TO FIRE ALARM PLANS FOR QUANTITY AND/OR LOCATION
10. PROVIDED BY TRAINER CONTRACTOR
11. QUANTITY AND/OR LOCATION PER CONTRACTOR DESIGN TO MEET DESIGN CRITERIA
12. HORN STROBE OVER SPRINKLER FDC
13. SMOKE DETECTION AT ALL AMP, NAC, FACP, AND FTR.
14. TO TRAINER FIRE ALARM NOTIFICATION DEVICES
15. FINAL QUANTITY IN ACCORDANCE WITH FIRE ALARM MATRIX
16. REFER TO FIRE SUPPRESSION DRAWINGS FOR LOCATIONS

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PROJECT ENGINEER/ARCHITECT: C. CAHILL
DATE: 4/17/2013
SCALE: NO SCALE
DRAWING CODE: EP14FA-601
DATE: 4/17/2013

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FIRE ALARM RISER

SHEET REFERENCE NUMBER:
FA-601
SHEET ____ OF ____

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FIRE ALARM CONTROL PANEL (FACP) FUNCTIONAL MATRIX

	ZONE	ANNUNCIATION AT LOCAL PANEL			NOTIFICATION							AUXILIARY FUNCTION
ALARM CONDITIONS	UNIQUE ZONE COUNT TO BE TRANSMITTED THROUGH MONACO SYSTEM	AUDIO-VISUAL FIRE ALARM INDICATION BY DEVICE/ZONE	AUDIO-VISUAL TROUBLE INDICATION BY DEVICE/ZONE	AUDIO-VISUAL SUPERVISORY INDICATION BY DEVICE/ZONE	COMMON ALARM SIGNAL TO FIRE DEPARTMENT	COMMON TROUBLE CONDITION TO FIRE DEPARTMENT	COMMON SUPERVISORY SIGNAL TO FIRE DEPARTMENT	FACILITY FIRE ALARM AUDIO-VISUAL SIGNAL	ACTIVATE FDC HORN/STROBE	OVER RIDE FIRE ALARM AUDIO-VISUAL SIGNAL	MASS NOTIFICATION ANNOUNCEMENT	SHUT-DOWN ASSOCIATED AIR HANDLING EQUIPMENT
SMOKE DETECTOR OVER PANELS	1	X			X			X				
IN-DUCT SMOKE DETECTOR	3			X			X					X
MANUAL PULL STATION	1	X			X			X				
FLOW SWITCH - WET-PIPE SYSTEM	1	X			X			X	X			
MASS NOTIFICATION INPUT	3			X						X	X	
TROUBLE CONDITIONS												
AC POWER FAILURE	2		X			X						
LOW BATTERY	2		X			X						
OPEN CIRCUIT FAULT	2		X			X						
GROUND FAULT	2		X			X						
NOTIFICATION APPLIANCE COMMON TROUBLE	2		X			X						
AMPLIFIER COMMON TROUBLE	2		X			X						
COMPONENT COMMON TROUBLE	2		X			X						
SUPERVISORY SIGNALS												
SPRINKLER SYSTEM TAMPER SWITCH	3			X			X					
PUMP RUNNING*	3			X			X					
PUMP LOSS OF POWER*	3			X			X					
PUMP PHASE REVERSAL*	3			X			X					
PUMP ROOM TEMPERATURE MONITORING*	3			X			X					
NOTIFICATION APPLIANCE COMMON SUPERVISORY	3			X			X					
AMPLIFIER COMMON SUPERVISORY	3			X			X					
COMPONENT COMMON SUPERVISORY	3			X			X					

*IF PUMP IS REQUIRED

1 FIRE ALARM PANEL MATRIX

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CHECKED BY: M. RIVERS
PROJECT ENGINEER/ARCHITECT: C. CAHILL
DATE: 4/17/2013
SCALE: NO SCALE
DRAWING CODE: EP14FA-602
DATE: 4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

FIRE ALARM MATRIX

SHEET REFERENCE NUMBER:
FA-602
SHEET ____ OF ____

DEFINITIVE DESIGN NOTES

FIRE PROTECTION DESIGN CRITERIA

APPLICABLE CODES AND STANDARDS:

A.	NFPA 13	STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2013 EDITION
B.	NFPA 20	STANDARD FOR THE INSTALLATION OF STATIONARY FIRE PUMPS, 2013 EDITION
C.	NFPA 24	STANDARD FOR PRIVATE SERVICE MAINS AND THEIR APPURTENANCES, 2013 EDITION
D.	NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE, 2013 EDITION
E.	UFC 3-600-01	DESIGN: FIRE PROTECTION ENGINEERING FOR FACILITIES, 2013 EDITION CHANGE 3.
F.	AFI 91-203	AIR FORCE CONSOLIDATED OCCUPATIONAL SAFETY INSTRUCTION, (2012)

FIRE SUPPRESSION GENERAL NOTES

1. PROVIDE ALL NECESSARY COMPONENTS FOR A WET-PIPE AND DOUBLE INTERLOCK PREACTION SYSTEM. CONTRACTOR SHALL PROVIDE ADDITIONAL COMPONENTS AND MODIFICATIONS AS REQUIRED TO PROVIDE A FULLY FUNCTIONING FIRE SUPPRESSION SYSTEM.

2. ALL SYSTEMS WHICH REQUIRE COORDINATION BETWEEN TRADES SHALL BE TO THE SATISFACTION OF THE CONTRACTING OFFICER AND THE BASE FIRE MARSHAL. ANY DEFICIENCIES, INCONSISTENCIES, OR POORLY COORDINATED INSTALLATIONS SHALL BE CORRECTED BY THE CONTRACTOR AT NO EXTRA COST TO THE GOVERNMENT.

3. FINAL DESIGN REQUIREMENTS (DEVICE QUANTITY, SIZE, AND LOCATIONS) ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND DESIGNER OF RECORD (DOR). DRAWINGS INDICATE MINIMUM REQUIREMENTS; THE DOR WILL BE RESPONSIBLE FOR VERIFYING AND COORDINATING FINAL DESIGN REQUIREMENTS WITH APPLICABLE DOD DESIGN REFERENCE DOCUMENTS, CODES, AND USER REQUIREMENTS.

   FOR INFORMATION ONLY: FLOW TEST*

DATE:	DD/MM/YY14
TIME:	HH:MM
STATIC:	XX PSI
RESIDUAL:	XX PSI
FLOW:	XXXX GPM

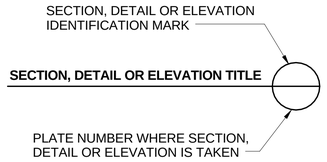
   *TO BE DETERMINED AFTER SITE SELECTION

4. THE FIRE PROTECTION CONTRACTOR SHALL PERFORM, AND SUBMIT, A HYDRANT FLOW TEST IN ACCORDANCE WITH NFPA 291 AND HYDRAULICALLY DESIGN THE SYSTEMS BASED ON THE MOST RESTRICTIVE FLOW TEST INFORMATION AVAILABLE. HYDRAULIC CALCULATIONS SHALL INCORPORATE A SAFETY FACTOR EQUAL TO 10% OF THE PRESSURE.

5. DESIGN AREAS SHALL BE INCREASED 30% WHERE CEILINGS SLOPE IS GREATER THE 1:10.

6. FIRE SERVICE SIZE, FIRE PUMP REQUIREMENT AS WELL AS ENTRANCE AND RISER LOCATION TO BE DETERMINED AFTER SITE SELECTION IS DETERMINED.

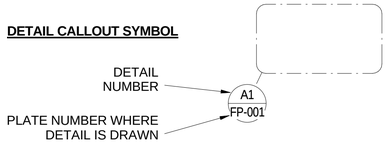
DETAIL/SECTION TITLE



FIRE PROTECTION ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AS	AUTOMATIC SPRINKLER
FL	FIRE LINE
(M)	MECHANICALLY SUPERVISE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
(S)	ELECTRICALLY SUPERVISED
SQ FT	SQUARE FOOT

DETAIL CALLOUT SYMBOL

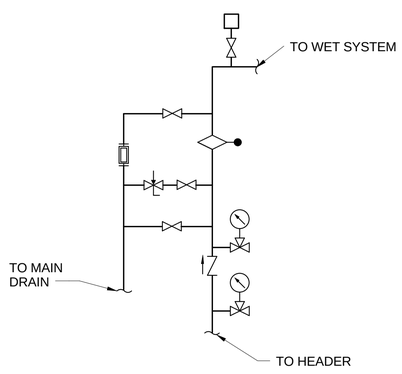


FIRE PIPE LINE DESIGNATIONS

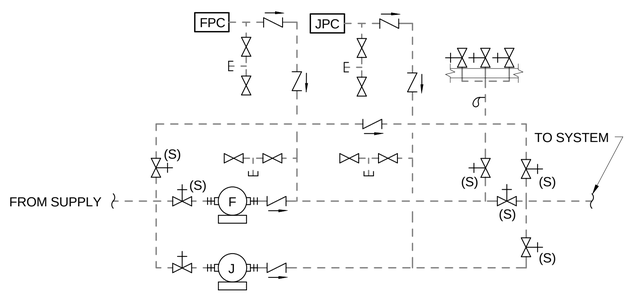
- FIRE PROTECTION PIPE
- UNDERGROUND FIRE PROTECTION PIPE
- SITE DEPENDENT PIPING

SYMBOL LEGEND

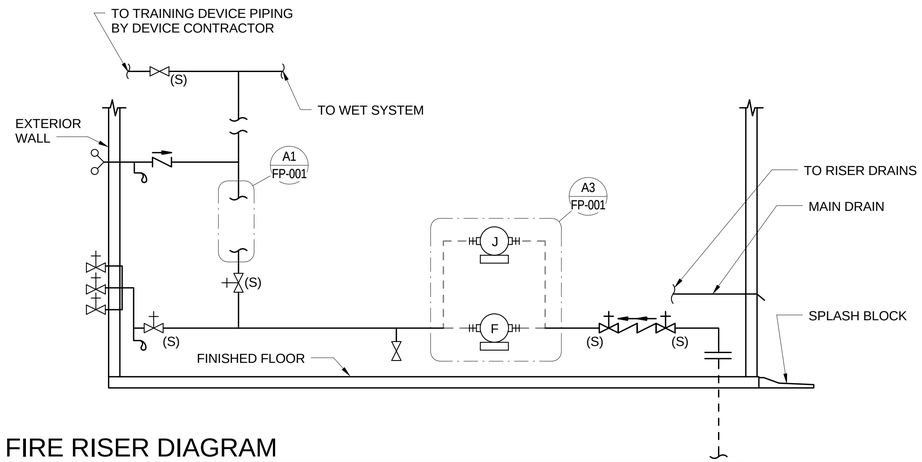
- AUTOMATIC AIR VENT
- OUTSIDE SCREW & YOKE VALVE (S)
- BACK FLOW PREVENTER
- CHECK VALVE
- PRESSURE GAUGE
- DRAIN VALVE
- BALL DRIP VALVE
- PRIMING SUPPLY RESTRICTION
- AUTOMATIC DRAIN VALVE
- PRESSURE RELIEF VALVE
- SIGHT GLASS
- FLOW DETECTOR/SWITCH
- PIPE CONTINUATION
- FIRE DEPARTMENT CONNECTION WITH 2 1/2" OUTLETS
- (3) 2 1/2" HOSE BACKFLOW OR PUMP HEADER CONNECTIONS
- JPC — JOCKEY PUMP CONTROLLER
- FPC — FIRE PUMP CONTROLLER
- PUMP J = JOCKEY PUMP F = FIRE PUMP



A1 WET RISER DIAGRAM
NOT TO SCALE



A3 FIRE PUMP DIAGRAM
NOT TO SCALE



A6 FIRE RISER DIAGRAM
NOT TO SCALE

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 1:29:42 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: C. CAHILL	DATE: 4/17/2013
DRAWN BY: D. PETERSON	SCALE:
CHECKED BY: M. RIVERS	DRAWING CODE: EP14FP-001
PROJECT ENGINEER/ARCHITECT C. CAHILL	DATE 4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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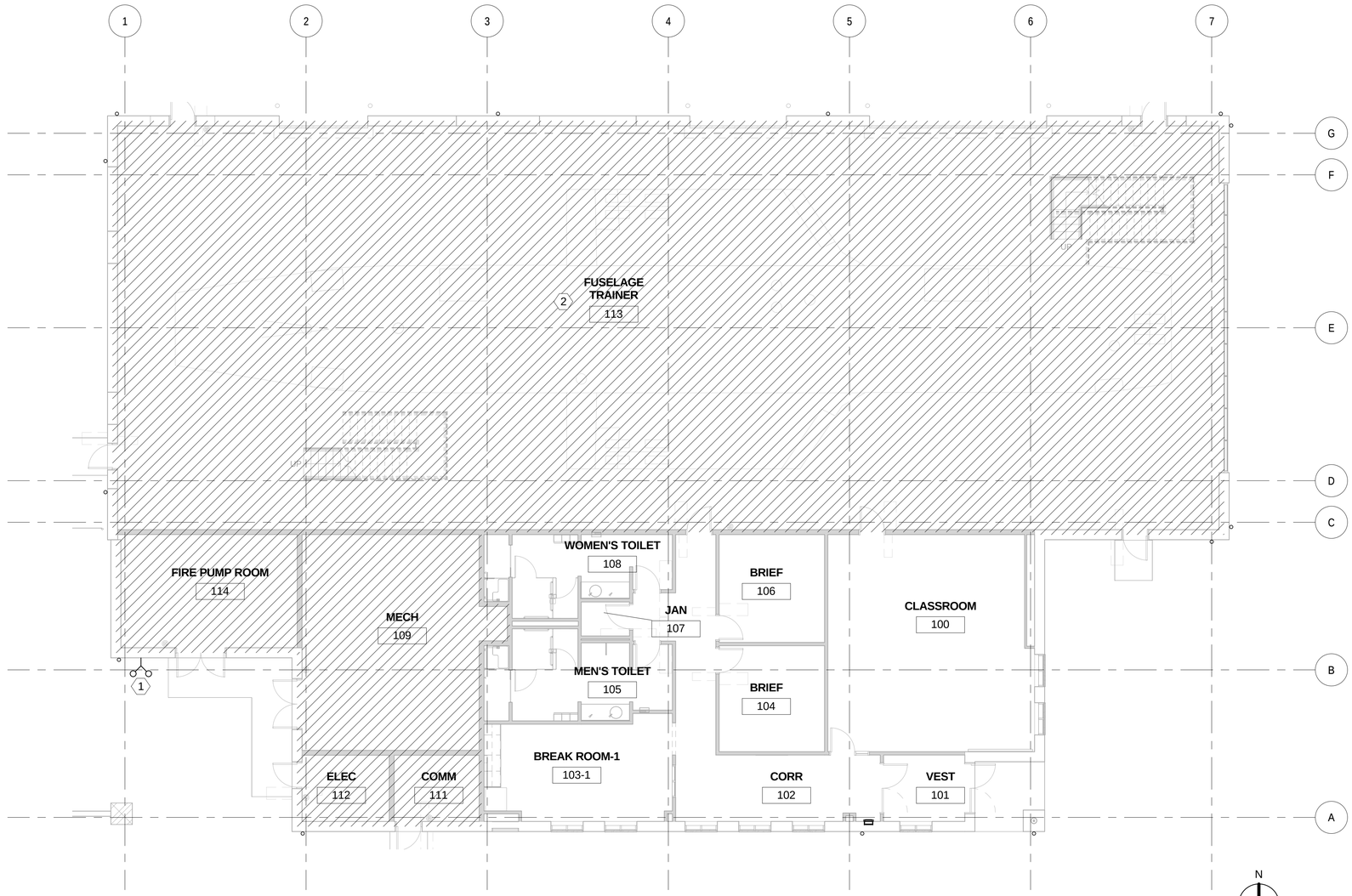
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

FIRE SUPPRESSION RISERS, NOTES AND SYMBOLS

SHEET REFERENCE NUMBER:
FP-001
SHEET ____ OF ____



1 FIRE PROTECTION - FIRST FLOOR

0 4' 8' 16'
SCALE:1/8"=1'

FIRE PROTECTION SPRINKLER SYSTEM DESIGN CRITERIA SCHEDULE

HATCH DESIGNATION	HAZARD CATEGORIES	SYSTEM TYPE	CEILING HEIGHT (FEET)	DENSITY GPM FT PER SPRINKLER	REMOTE AREA, SF	AREA MAX SQ FT PER SPRINKLER	HOSE DEMAND GPM	DURATION MIN
	HC-1	WET	0 - 30	0.10	1,500	225	250	60
	HC-2	WET	0 - 60	0.20	2,500	130	250	60

GENERAL NOTES

1. REFER TO DRAWING FP-000 FOR LEGEND, DETAILS AND ABBREVIATIONS.

KEYED NOTES

1. FIRE DEPARTMENT CONNECTION LOCATION TO BE DETERMINED BY LOCAL AHJ AFTER SITE SELECTION IS DETERMINED.
2. PROVIDED A VALVED CONNECTION FOR THE INSIDE AND UNDER BODY FUSELAGE COMPONENTS.

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 1:29:46 PM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: C. CAHILL	DATE: 4/17/2013	DRAWING CODE: EP14PP-101	4/17/2013
DRAWN BY: D. PETERSON	SCALE:	CHECKED BY: M. RIVERS	PROJECT ENGINEER/ARCHITECT: C. CAHILL

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
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KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

FIRE SUPPRESSION PLAN

SHEET REFERENCE NUMBER:
FP-101
SHEET ____ OF ____

CONDUIT

- WIRE IN CONDUIT, RUN CONCEALED ABOVE CEILING OR IN WALL (WHEN INDICATED)
- WIRE IN CONDUIT, ROUTE EXPOSED (WHEN INDICATED)
- WIRE IN CONDUIT ROUTE BELOW GRADE OR FLOOR SLAB
- EXISTING WIRE IN CONDUIT TO BE DEMOLISHED AND REPLACED WITH NEW
- E — ELECTRICAL DUCTBANK
- C — COMMUNICATIONS DUCTBANK

SYMBOL MODIFIERS

C	RECESSED IN CEILING
EP OR EXP	EXPLOSION PROOF
F	RECESSED IN FLOOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
IG	ISOLATED GROUND
P	PILOT LIGHT (INDICATING SWITCH IS ON)
W	WALL MOUNTED, 48" AFF
WPIU	WEATHERPROOF IN USE

SYMBOLS - LIGHTING PLAN

CLASSROOM — ROOM / SPACE TAG
101
CTRL: LC_ — LIGHTING CONTROL TYPE DESIGNATIONS

LC0: LOCAL ON/OFF SWITCH CONTROL ONLY.
LC1: LOCAL OCCUPANCY SENSOR CONTROL WITH ON/OFF SWITCH OVERRIDE.
LC2: LOCAL OCCUPANCY SENSOR CONTROL WITH FULL-RANGE DIMMING.
LC3: OCCUPANCY SENSOR WITH SENSOR CONNECTED TO RELAY PANEL.
LC4: DAYLIGHT SENSOR CONTROL WITH MULTI-LEVEL SWITCHING AND ON/OFF.AUTO SWITCH CONTROL.
LC5: ALWAYS ON, CONTROLLED BY CIRCUIT BREAKER ONLY.

LIGHTING FIXTURES (REFER TO DRAWINGS FOR SIZES)

LIGHTING FIXTURE SHAPES VARY ON DRAWINGS
REFER TO FIXTURE SCHEDULE FOR FIXTURE TYPE DIMENSIONS

- LINEAR FLUORESCENT FIXTURE
- EXTERIOR WALL-MOUNTED FIXTURE
- DOWNLIGHT OR PENDANT FIXTURE
- EXTERIOR POLE-MTD FIXTURE
- EXIT SIGNS, CEILING: ARROW INDICATES EGRESS
- EXIT SIGNS, WALL: ARROW INDICATES EGRESS

FIXTURE GENERAL INFORMATION

F1E — FIXTURE TYPE 'E' DENOTES EMERGENCY BALLAST
LP-1 a — LOWER CASE LETTER DENOTES SWITCH 'LEG'. THE SWITCH WITH SAME LETTER OPERATES THIS FIXTURE
PANELBOARD - CIRCUIT NUMBER

LIGHTING CONTROL DEVICES GENERAL INFORMATION

TOGGLE SWITCH — S (3 a)

DEMARCATION — SWITCH 'LEG' DESIGNATION
D: DIMMER
DL: DAY LIGHT CONTROL SWITCH
K: KEYED
TM: TIMER
OC: OCCUPANCY SENSOR
3: 3-WAY
4: 4-WAY

NOTE: NO DEMARCATION OR SWITCH 'LEG' INDICATES THAT THE SWITCH CONTROLS ALL OF THE FIXTURES WITHIN THE SAME ROOM

SYMBOLS - POWER PLAN

- START/STOP, MOMENTARY CONTACT PUSHBUTTON SWITCH

RECEPTACLES (NEMA 5-20R UON)

- RECESSED SIMPLEX
- RECESSED DUPLEX — TV=COORDINATE WITH TV LOCATION
- RECESSED QUAD
- DUPLEX, CEILING MTD
- SPECIAL (REFER TO DRAWINGS FOR NEMA CONFIGURATION)
- FLOORBOX: QUAD RECEPT. / COMM (REFER TO COMM DETAILS FOR FACEPLATE TYPE)
- SURFACE SIMPLEX
- SURFACE DUPLEX
- SURFACE QUAD

JUNCTION BOXES

- RECESSED JBOX, WALL MTD
- SURFACE JBOX, WALL MTD
- JBOX RECESSED IN FLOOR — D: INDICATES DOGHOUSE
- JBOX MTD ABOVE CEILING (UNLESS OTHERWISE INDICATED)
- MECHANICAL EQUIPMENT CONNECTION

DISCONNECT SWITCHES (NEMA 1, 30A/3P, 480V UON)

- FUSED DISCONNECT SWITCH
- COMBO MOTOR STARTER/DISCONNECT
- SM — MOTOR-RATED SWITCH (120V ONLY)

POWER DEVICES GENERAL INFORMATION

LP-x — PANELBOARD - CIRCUIT
(OR) J — ANY RECEPTACLE OR JBOX LISTED ABOVE
[EF-x] — EQUIPMENT IDENTIFICATION (JBOXES ONLY)
D30/F30 — FUSE SIZE (IF INDICATED)
AMPACITY
TYPE (D=DISCONNECT, S=STARTER, MS=MOTOR RATED SW)

GROUNDING DEVICES GENERAL INFORMATION

- GROUND ROD
- EXOTHERMIC WELD
- GROUNDING CONDUCTOR
- GROUND BUSBAR
- GROUND TEST WELL

SYMBOLS - ONE-LINE DIAGRAM

- CONNECTION
- SEPARABLE CONNECTOR OR CONNECTION FOR DRAWOUT ASSEMBLIES
- MH — MANHOLE
- FUSED DISCONNECT SWITCH
- TRANSFORMER
- GROUND
- Δ / Y — DELTA - WYE TRANSFORMER CONNECTION
- DM — DIGITAL METER
- SPD — SURGE PROTECTION DEVICE
- VFD — VARIABLE FREQUENCY DRIVE
- ST — SHUNT TRIP
- KWH — KILOWATT HOUR METER
- VS — VOLTMETER SELECTOR SWITCH
- AS — AMMETER SELECTOR SWITCH
- V — VOLTMETER
- A — AMMETER
- CIRCUIT BREAKER
- SWITCH
- DISCONNECT SWITCH
- SPECIAL RECEPTACLE
- P11 — PANELBOARD (PANELBOARD NAMED 'P11')

NAMING CONVENTION:

P11
- EQUIPMENT NUMBER
- BUILDING LEVEL
- EQUIPMENT TYPE:
  - H 480Y/277V GENERAL
  - P 208Y/120V GENERAL
  - T TRANSFORMER

MDP MAIN DISTRIBUTION PANEL

- LIGHTNING ARRESTOR

MATRIX OF RESPONSIBILITIES

	GFGI	CFCI	ELECTRIC UTILITY (SUB TO GC OR ES)
POWER			
SERVICE TRANSFORMER AND CONCRETE PAD		X	
MANHOLES AND HANDHOLES		X	
PRIMARY CABLES AND TERMINATIONS		X	
PRIMARY AND SECONDARY DUCTBANKS		X	
SECONDARY CABLES AND TERMINATIONS		X	

NOTES

1. NOT ALL SYSTEM COMPONENTS ARE LISTED ABOVE. CONTRACTOR SHALL FURNISH AND INSTALL ALL OTHER COMPONENTS AS INDICATED ON DRAWINGS AND IN SPECIFICATIONS. ONLY SYSTEM COMPONENTS WHICH COMMONLY REQUIRE CLARIFICATION ARE LISTED ABOVE.

ABBREVIATIONS

GFGI	GOVERNMENT-FURNISHED, GOVERNMENT-INSTALLED
CFCI	CONTRACTOR-FURNISHED, CONTRACTOR-INSTALLED
ES	ELECTRICAL SUBCONTRACTOR
GC	GENERAL CONTRACTOR

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 10:52:31 AM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: C. SANBORN
DRAWN BY: R.THOMPSON
CHECKED BY: T. TOD
PROJECT ENGINEER/ARCHITECT: C. SANBORN
DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14E-001
4/17/2013

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

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Burns & McDonnell
ESTABLISHED 1898

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

ELECTRICAL SYMBOLS LEGEND - 1 OF 2

SHEET REFERENCE NUMBER:
E-001
SHEET ____ OF ____

GENERAL NOTES

1. ALL CONDUCTORS SHALL BE RUN IN CONDUIT, AND ALL CONDUIT SHALL BE CONCEALED UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. ALL EXISTING AND NEW SWITCHBOARDS AND PANELBOARDS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARD IN ACCORDANCE WITH NFPA 70 AND 70E.
3. ELECTRICAL SUBCONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR REGARDING ELECTRICAL REQUIREMENTS OF ACTUAL EQUIPMENT PROVIDED.
4. MOUNTING HEIGHT FOR LIGHT FIXTURES SHALL BE FROM THE BOTTOM OF FIXTURES TO THE FINISHED FLOOR.
5. ALL SYSTEMS THAT REQUIRE COORDINATION BETWEEN TRADES SHALL BE TO THE SATISFACTION OF THE CONTRACTING OFFICER. ANY DEFICIENCIES, INCONSISTENCIES, OR POORLY COORDINATED INSTALLATIONS SHALL BE CORRECTED BY THE CONTRACTOR AT NO EXTRA COST TO THE GOVERNMENT.
6. ALL ELECTRICAL WORK SHALL COMPLY WITH NEC (NFPA 70), NFPA 72, NFPA 101, AND APPLICABLE MILITARY CODES OR TECHNICAL LETTERS, IN ADDITION TO LOCAL CODES AND ORDINANCES. ALL GROUNDING SHALL COMPLY WITH NFPA 70, ART. 250 AND AFI 32-1065.
7. PROVIDE A GREEN CONTINUOUS INSULATED EQUIPMENT GROUNDING CONDUCTOR TO ALL ELECTRICAL, TELECOMMUNICATIONS AND SECURITY EQUIPMENT SIZED PER NEC 250.122

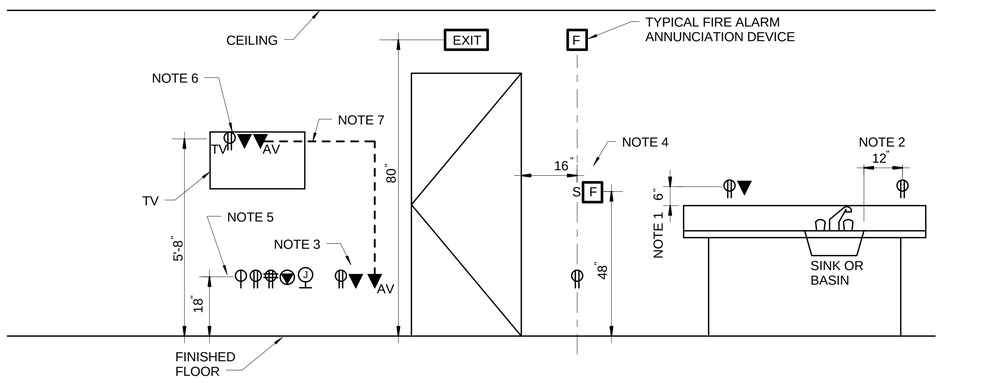
ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
AV	AUDIO/VIDEO
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
C	CONDUIT
CAT	CATEGORY
CATV	CABLE TELEVISION
CBP	COPPER BACKBONE PATCH PANEL
CCN	CLASSIFIED NETWORK (FIBER) FOR OTHERS
CCTV	CLOSED CIRCUIT TELEVISION
CL	CENTERLINE
COMM	COMMUNICATIONS
CPP	COPPER HORIZONTAL PATCH PANEL
CT	CABLE TRAY
CU	COPPER
DC	DIRECT CURRENT
EC	EMPTY CONDUIT
EGC	EQUIPMENT GROUNDING CONDUCTOR
EIA	ELECTRONICS INDUSTRIES ASSOCIATIONS
EMT	ELECTRICAL METALLIC TUBING
EPO	EMERGENCY POWER OFF
EX OR EXP	EXPLOSION PROOF
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FO	FIBER OPTIC
FPD	FLAT PANEL DISPLAY
FPP	FIBER OPTIC PATCH PANEL
FT	FEET OR FOOT
GB	GROUND BUS
GFGI	GOVERNMENT FURNISHED AND INSTALLED
GFI	GROUND FAULT INTERRUPTER
G OR GND	GROUND
GFE	GOVERNMENT FURNISHED EQUIPMENT
GFR	GROUND FAULT RELAY
GFP	GROUND FAULT PROTECTION
GRS	GALVANIZED RIGID STEEL CONDUIT
HID	HIGH INTENSITY DISCHARGE
HZ	HERTZ
IDS	INTRUSION DETECTION SYSTEM
IG	ISOLATED GROUND
K	KILO
KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT AMPERES
KWH	KILOWATT HOURS
LC	LIGHTING CONTACTOR
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MGB	MAIN GROUND BUS
MH	MANHOLE
MLO	MAIN LUGS ONLY
MM	MULTIMODE
MN/PA	MASS NOTIFICATION/PUBLIC ADDRESS
MTD	MOUNTED
N	NEUTRAL CONDUCTOR
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NIC	NOT IN CONTRACT
NIPR	NON-CLASSIFIED INTERNET PROTOCOL ROUTING
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
PDU	POWER DISTRIBUTION UNIT
PIV	POST INDICATOR VALVE
PR	PAIR
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL CONDUIT
RMC	RIGID METAL CONDUIT
SCCR	SHORT CIRCUIT CURRENT RATING
SCI	SENSITIVE COMPARTMENTALIZED INFORMATION
ScTP	SHIELDED TWISTED PAIR
SIPR	SECRET INTERNET PROTOCOL ROUTING
SM	SINGLE MODE
SPD	SURGE PROTECTION DEVICE
SPECS	CONTRACT SPECIFICATIONS
SPST	SINGLE POLE SINGLE THROW
SRG	STATIC REFERENCE GRID
TB	TELEPHONE BACKBOARD
TGB	TELECOMMUNICATIONS GROUND BUS
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS
TR	TELECOMMUNICATIONS ROOM
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UL	UNDERWRITERS' LABORATORIES
UON	UNLESS OTHERWISE NOTED
UTP	UNSHIELDED TWISTED PAIR
V	VOLTS
VA	VOLT AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE OR WATT
WP	WEATHERPROOF
XFMR	TRANSFORMER
Z	IMPEDANCE

DEFINITIVE DESIGN NOTES

1. THE FOLLOWING ARE DEFINITIVE DESIGN NOTES WHICH INCLUDE DESIGN ASSUMPTIONS AND CONSIDERATIONS WHICH ARE AFFECTED BY THE SELECTED SITE LOCATION FOR THE FACILITY.
2. SITE POWER AND COMMUNICATIONS REQUIREMENTS WILL BE BASED ON SELECTED SITE LOCATION AND ARE NOT INCLUDED IN THE DEFINITIVE DESIGN. BASE STANDARDS AND COORDINATION WILL BE INCORPORATED INTO THE SITE DESIGN FOR THE FACILITY.
3. SEISMIC REQUIREMENTS ARE NOT INCLUDED IN THE DEFINITIVE DESIGN. SEISMIC REQUIREMENTS WILL VARY BASED UPON SITE LOCATION. INCLUDE EQUIPMENT BRACING AND SEISMIC CONSTRUCTION WHERE REQUIRED.
4. ENVIRONMENTAL REQUIREMENTS WILL VARY BASED UPON SITE LOCATION. HVAC SYSTEM DESIGN WILL VARY BASED UPON SITE LOCATION ALONG WITH POWER REQUIREMENTS FOR THE EQUIPMENT. POWER DISTRIBUTION EQUIPMENT AND CONDUCTORS SHOULD BE SIZED BASED UPON THE FINAL HVAC SYSTEM DESIGN. CONDUCTORS WILL BE DERATED BASED ON OUTDOOR AMBIENT TEMPERATURE FOR OUTDOOR AND UNCONDITIONED SPACES.
5. LIGHTNING PROTECTION SYSTEM IS NOT INCLUDED IN THE DEFINITIVE DESIGN. THE NEED FOR A LIGHTNING PROTECTION SYSTEM, BASED ON SITE LOCATION, NFPA 780 RECOMMENDATION AND BASE STANDARDS SHALL BE CONSIDERED AND A LIGHTNING PROTECTION SYSTEM DESIGN SHALL BE ADDED IF REQUIRED. SURGE PROTECTION DEVICES ARE INCLUDED IN THE DEFINITIVE DESIGN.
6. THE DEFINITIVE DESIGN INCLUDES MATRIX OF RESPONSIBILITIES WHICH INDICATES CONTRACTOR AND GOVERNMENT RESPONSIBILITIES WITH RESPECT TO EACH SYSTEM. THESE RESPONSIBILITIES WILL VARY BASED UPON SITE LOCATION AND BASE STANDARDS. COORDINATE WITH THE BASE FOR ALL RESPONSIBILITIES TO ENSURE THE PROJECT IS ESTIMATED AND BID CORRECTLY.
7. SPECIFICATIONS INCLUDED WITH THE DEFINITIVE DESIGN ARE PARTIALLY EDITED BASED ON DEFINITIVE DESIGN ASSUMPTIONS. SPECIFICATIONS MUST BE ADDED AND EDITED AS REQUIRED TO INCORPORATE FINAL DESIGN BASED UPON SITE LOCATION.
8. ASSUMPTIONS HAVE BEEN MADE FOR THE SIMULATOR LOADS BASED ON SIMILAR PROJECTS. SIMULATOR LOADS WILL CHANGE BASED ON VENDOR SELECTION AND DESIGN. ADJUST DISTRIBUTION SYSTEM SIZING TO ACCOMMODATE ACTUAL SIMULATOR LOADS. SIZE AND QUANTITY OF UPS'S MAY CHANGE ALONG WITH REQUIRED FLOOR SPACE.

TYPICAL DEVICE MOUNTING DETAIL



DEVICE MOUNTING NOTES:

1. COORDINATE ABOVE COUNTER DEVICES AND RECEPTACLES WITH CASEWORK OR COUNTERS SUCH THAT THE DEVICES AND RECEPTACLES ARE LOCATED AT +42" AFF OR 6" ABOVE THE COUNTERTOP OR BACKSPLASH, WHICHEVER IS HIGHER.
2. ALL RECEPTACLES INSTALLED WITHIN 6'-0" OF ANY SINK OF BASIN SHALL HAVE GFI PROTECTION. DO NOT INSTALL RECEPTACLES WITHIN 12" OF THE EDGE OF A SINK OR BASIN.
3. COORDINATE WITH THE COMMUNICATIONS DRAWINGS TO ENSURE THAT A DUPLEX RECEPTACLE IS INSTALLED WITHIN 18" HORIZONTAL TO ALL VOICE/DATA DEVICE LOCATIONS.
4. SWITCHES AND OTHER FLUSH WALL-MOUNTED DEVICES SHALL BE MOUNTED WITHIN 16" OF DOORFRAME. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR DOORS WITH ADJACENT SIDELIGHTS. WHERE DEVICES ARE SHOWN ADJACENT TO THE DOOR ON THE HINGE-SIDE OF THE DOOR, AND THE DOOR SWINGS IN A MANNER THAT SHALL BLOCK THE DEVICE, MOUNT THE DEVICE 12" BEYOND THE DOOR SWING. COORDINATE ROUGH-IN LOCATIONS WITH DIV. 27 AND 28 DEVICES AS WELL. COORDINATE MOUNTING LOCATION WITH OTHER TRADES TO ENSURE A UNIFORM MOUNTING AND AESTHETICALLY-PLEASING APPEARANCE.
5. MOUNTING HEIGHT INDICATED IN LEGEND AND ON THE DRAWINGS SHALL BE THE DISTANCE MEASURED FROM THE CENTER OF THE DEVICE TO THE FINISHED FLOOR.
6. COORDINATE CATV AND POWER OUTLET LOCATIONS WITH TV LOCATIONS.
7. PROVIDE 2" CONDUIT BETWEEN TV AND WALL INPUT LOCATION FOR VIDEO CABLE.

TYPICAL DEVICE MOUNTING HEIGHTS:

REF	REFRIGERATOR, +48" AFF
VM	VENDING MACHINE, +24" AFF
CO	COPIER, +18" AFF
AC	ABOVE COUNTER, SEE "DEVICE MOUNTING NOTES", NOTE 1 ABOVE

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 10:52:32 AM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: C. SANBORN
DRAWN BY: R.THOMPSON
CHECKED BY: T. TOD
PROJECT ENGINEER/ARCHITECT: C. SANBORN
DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14E-002
DATE: 4/17/2013

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
MOBILE, ALABAMA

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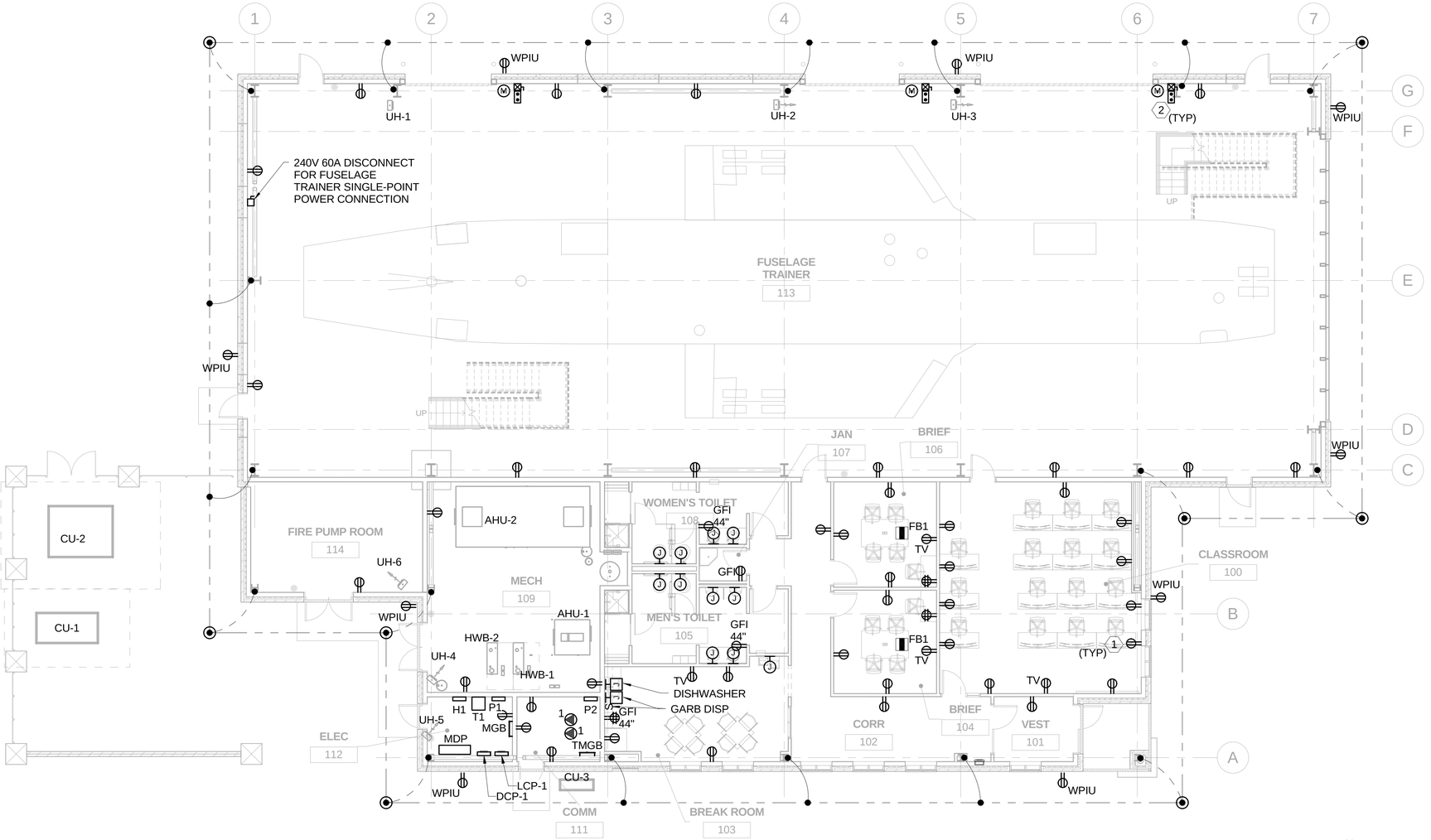
(816) 333-9400

KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

ELECTRICAL SYMBOLS LEGEND - 2 OF 2

SHEET REFERENCE NUMBER:
E-002
SHEET ____ OF ____



1 FIRST FLOOR POWER PLAN

NOTES:

1. SEE SHEET E-001 AND E-002 FOR SYMBOL LEGEND, ABBREVIATIONS, PROJECT GENERAL NOTES AND MATRIX OF RESPONSIBILITIES.
2. SEE E-600 SERIES SHEETS FOR PANELBOARD SCHEDULES.
3. SEE SHEET E-701 FOR ELECTRICAL ONE-LINE DIAGRAM.
4. PROVIDE FLOOR AND WALL PENETRATIONS ACCORDING TO PENETRATION DETAILS ON ARCHITECTURAL DETAIL SHEETS.
5. PROVIDE CONDUIT AND WIRING ACCORDING TO CIRCUIT NUMBER INDICATED ON PLAN AND ASSOCIATED PANELBOARD SCHEDULE OR ONE-LINE DIAGRAM.
6. COORDINATE ALL WIRING DEVICE AND POWER FEED LOCATIONS INDICATED ON PLANS WITH THE CONTRACTING OFFICER AND FINAL FURNITURE/EQUIPMENT LAYOUTS. COORDINATE ALL RECEPTACLE LOCATIONS WITH THE COMMUNICATION DRAWINGS TO ENSURE ADJACENT INSTALLATION.
7. MECHANICAL EQUIPMENT IS TAGGED ON THE POWER PLAN AND WILL BE FED FROM THE MDP AND PANEL H1. SEE MECHANICAL SCHEDULES ON MECHANICAL DRAWINGS FOR ELECTRICAL REQUIREMENTS.

KEYED NOTES:

1. EACH ROW OF SYSTEM FURNITURE SHALL PLUG INTO A DEDICATE CIRCUT SINGLE OUTLET.
2. PUSHBUTTON, DISCONNECT AND MOTOR PROVIDED WITH ROLLUP DOOR BY DIVISION 8.

US ARMY CORPS OF ENGINEERS ®
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DESIGNED BY: C. SANBORN
DRAWN BY: R.THOMPSON
CHECKED BY: T. TOD
PROJECT ENGINEER/ARCHITECT: C. SANBORN
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14E-101
4/17/2013

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ELECTRICAL POWER PLAN
FIRST FLOOR

SHEET REFERENCE NUMBER:
E-101
SHEET ____ OF ____

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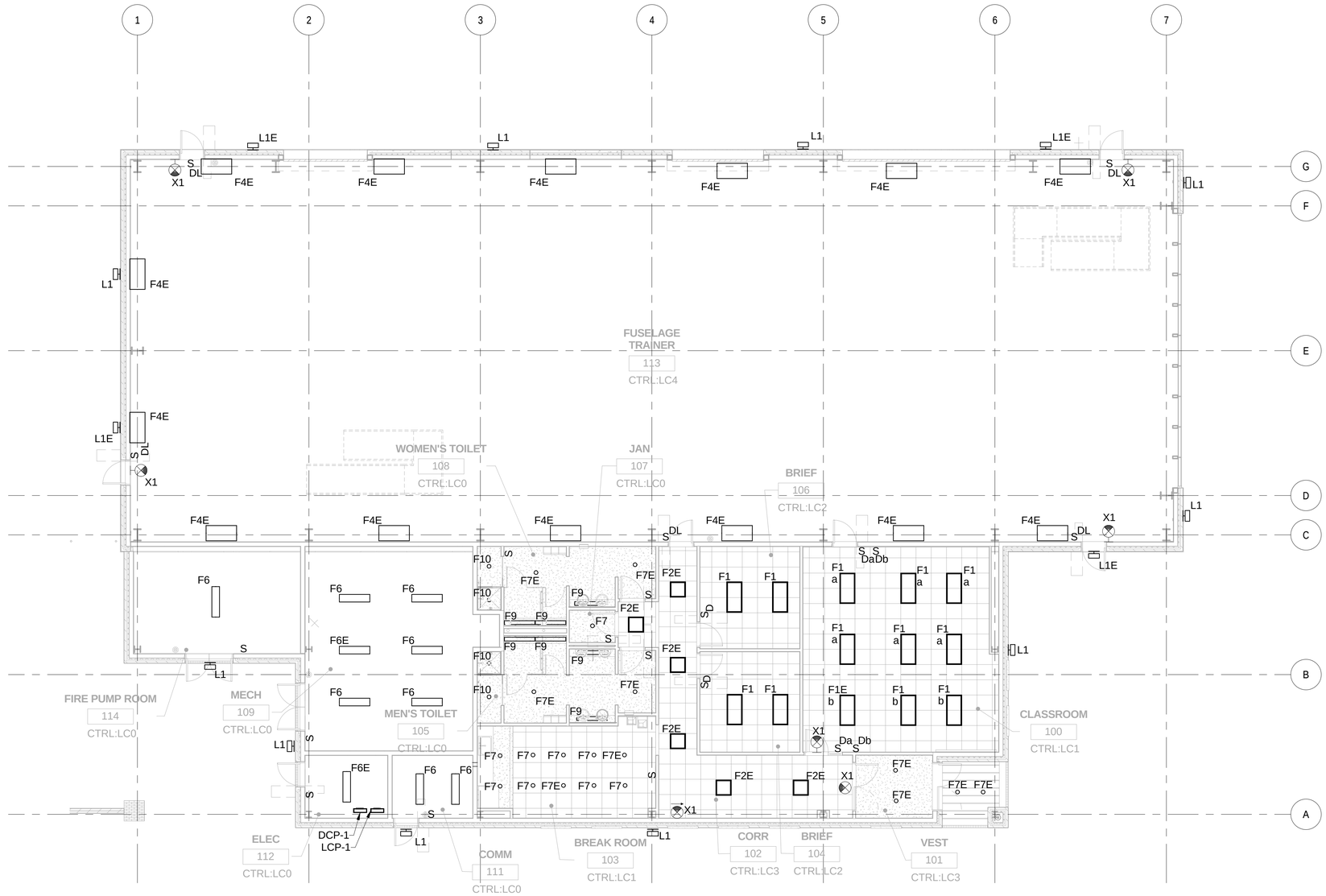

1 FIRST FLOOR LIGHTING PLAN

N

0 4' 8' 16'

SCALE:1/8"=1'

NOTES:

1. SEE SHEET E-001 AND E-002 FOR SYMBOL LEGEND, ABBREVIATIONS, PROJECT GENERAL NOTES AND MATRIX OF RESPONSIBILITIES.
2. SEE E-100 SERIES SHEETS FOR PANELBOARD DESIGNATIONS AND LOCATIONS.
3. SEE SHEET E-611 FOR LIGHTING FIXTURE SCHEDULE.
4. PROVIDE FLOOR AND WALL PENETRATIONS ACCORDING TO PENETRATION DETAILS ON ARCHITECTURAL DETAIL SHEETS.
5. ALL EXIT SIGNS SHALL BE WIRED UNSWITCHED TO DESIGNATED LIGHTING CIRCUIT.
6. SEE LEGEND ON SHEET E-001 FOR DESCRIPTION OF EMERGENCY BATTERY BALLAST DESIGNATIONS. EMERGENCY FIXTURES WHICH ARE NORMALLY SWITCHED SHALL BE PROVIDED WITH AN EMERGENCY BATTERY BALLAST WHICH ALLOWS THE FIXTURE TO BE SWITCHED (A SECOND PHASE CONDUCTOR SHALL BE PROVIDED TO THE FIXTURE). EMERGENCY FIXTURES WHICH ARE NORMALLY OFF SHALL BE PROVIDED WITH A REGULAR EMERGENCY BATTERY BALLAST.
7. SEE LEGEND FOR LIGHTING CONTROL TYPES INCLUDED WITH EACH ROOM NAME/NUMBER TAG ON THIS PLAN. LAYOUT OCCUPANCY SENSORS ACCORDING TO MANUFACTURER RECOMMENDATIONS. LOCATE THE SENSORS AND PROVIDE MASKING TO PREVENT DETECTION OF MOTION OUTSIDE THE ROOM. OCCUPANCY SENSORS SHALL BE CEILING-MOUNTED WHERE POSSIBLE TO AVOID CONFLICT WITH FURNITURE IN THE ROOM.

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SCALE: As Indicated
DRAWING CODE: EP14E-111
4/17/2013

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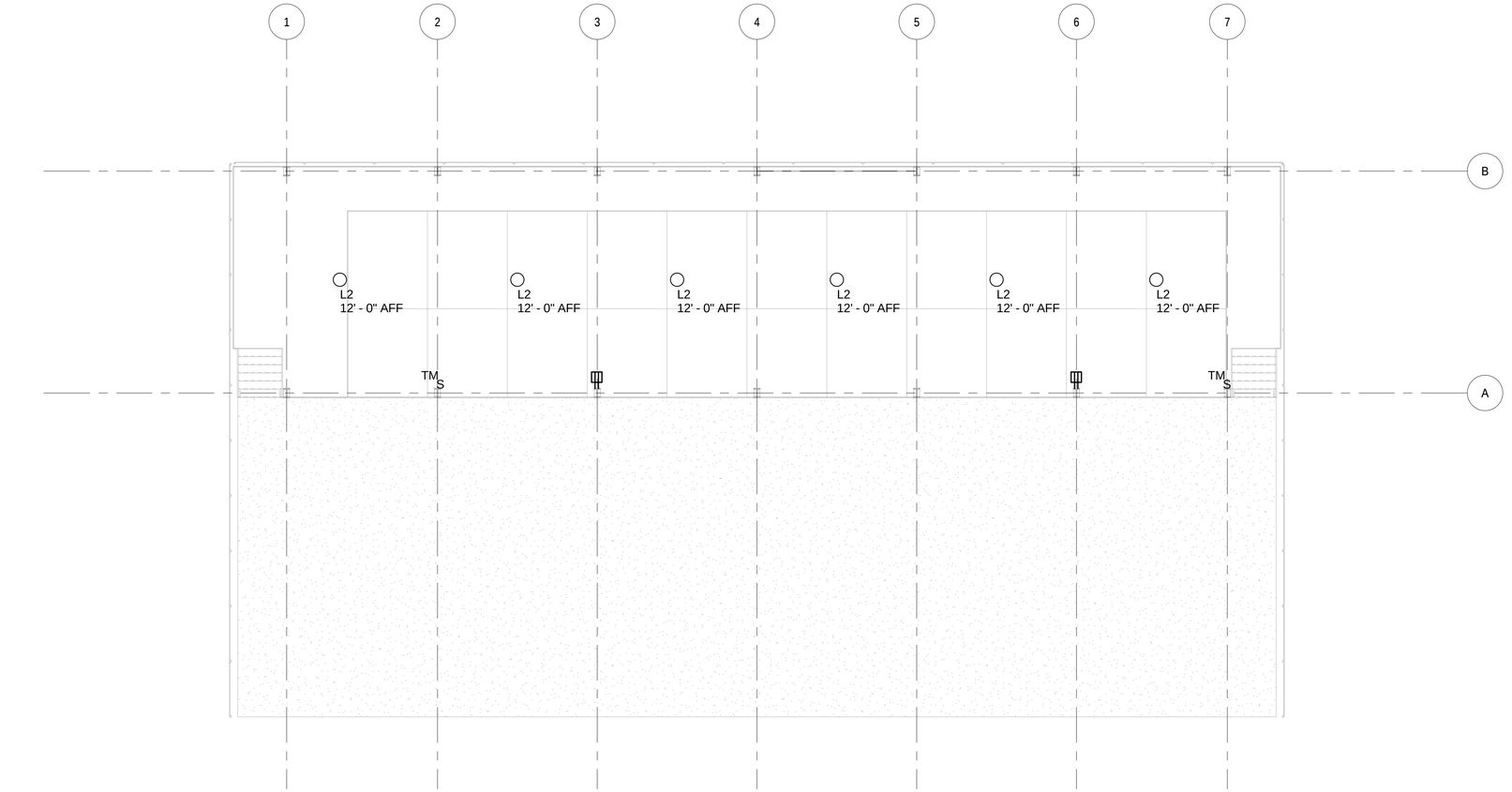
BASE X, CONUS

ELECTRICAL LIGHTING PLAN
FIRST FLOOR

SHEET REFERENCE NUMBER:
E-111
SHEET ____ OF ____

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 10:52:41 AM



CARGO SUPPORT STRUC. ENLARGED
POWER & LIGHTING

B1

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/15/2013 1:50:53 PM

US ARMY CORPS
OF ENGINEERS ®

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REVISIONS:			
SYMBOL	DESCRIPTION	DATE	APPR.

DATE: 4/17/2013
SCALE: 1/8" = 1'-0"
DRAWING CODE: EP14E-421
4/17/2013 DATE

DESIGNED BY: C. SANBORN
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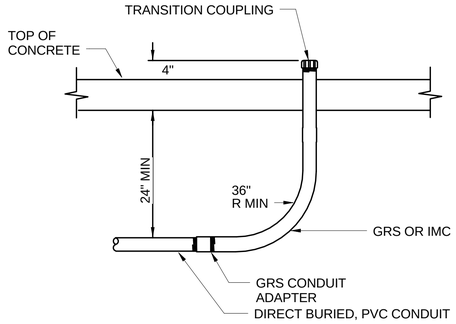
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

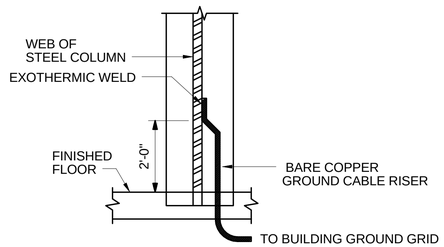
CARGO SUPPORT STRUC.
POWER & LIGHTING

SHEET REFERENCE NUMBER:
E-421
SHEET ____ OF ____



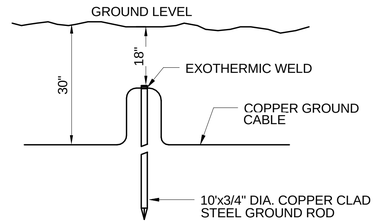
DETAIL E2

TYPICAL DIRECT BURIED STUBBED CONDUIT RISER



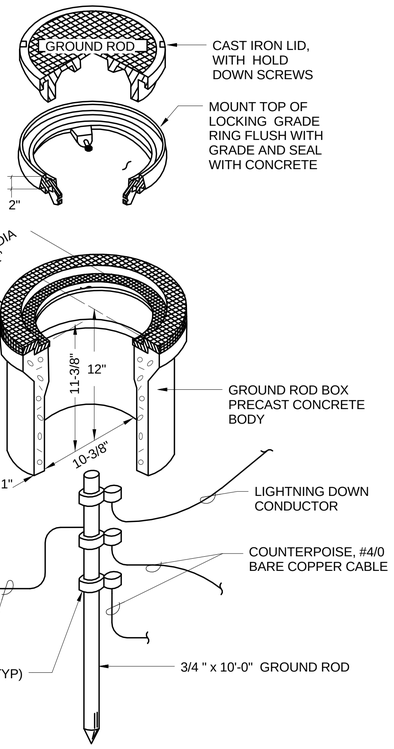
DETAIL E4

TYPICAL EXOTHERMIC CONNECTION TO STEEL



DETAIL E7

TYPICAL GROUND COUNTERPOISE AND GROUND ROD DEPTH

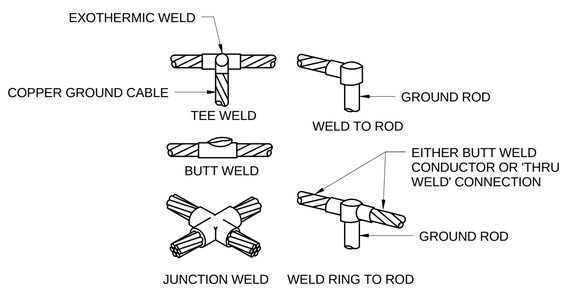


NOTES:

1. THE COUNTERPOISE GROUND RING OF THE FACILITY SHALL HAVE A RESISTANCE OF 5 OHMS OR LESS PER IEEE STANDARD #143, "GREEN BOOK". ADDITIONAL GROUND RODS SHALL BE DRIVEN AS REQUIRED TO ACHIEVE THE PROPER RESISTANCE.

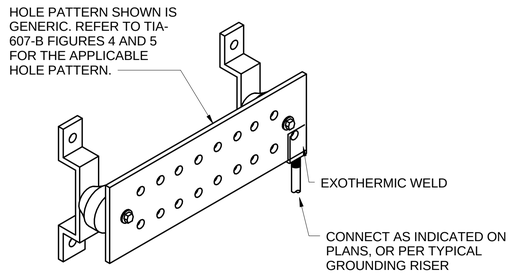
DETAIL A2

TYPICAL GROUND TEST WELL



DETAIL A5

TYPICAL EXOTHERMIC WELDS



NOTES:

1. TIA-607-B COPPER GROUND BAR WITH WALL MOUNTING BRACKETS AND INSULATORS. DIMENSIONS: 1/4" THICK, 4" HIGH, 12" LENGTH. AS MOUNT 24" AFF (UON).

DETAIL A8

TYPICAL GROUND BUSBAR

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DEFINITIVE DESIGN

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CHECKED BY: T. TOD
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DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14E-501
4/17/2013

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KC-46A FUSELAGE TRAINER
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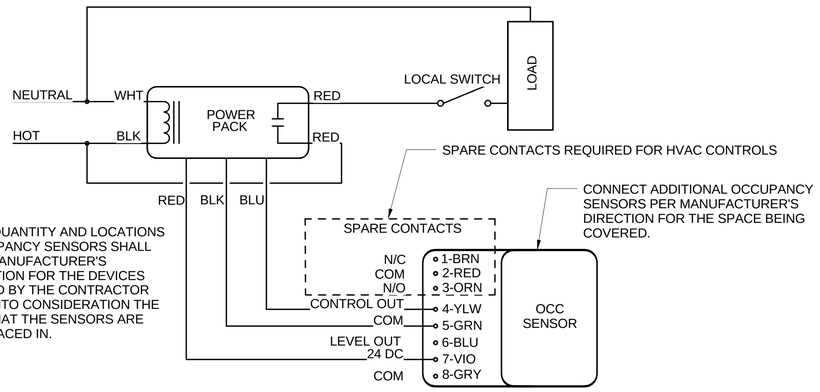
BASE X, CONUS

ELECTRICAL DETAILS

SHEET REFERENCE NUMBER:
E-501
SHEET ____ OF ____

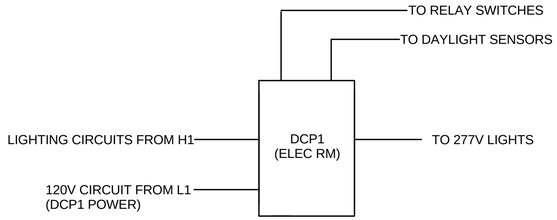


NOTES:

1. ACTUAL QUANTITY AND LOCATIONS OF OCCUPANCY SENSORS SHALL BE PER MANUFACTURER'S INSTRUCTION FOR THE DEVICES SELECTED BY THE CONTRACTOR TAKING INTO CONSIDERATION THE SPACE THAT THE SENSORS ARE BEING PLACED IN.

DETAIL D3

TYPICAL LOCAL OCCUPANCY SENSOR SCHEMATIC



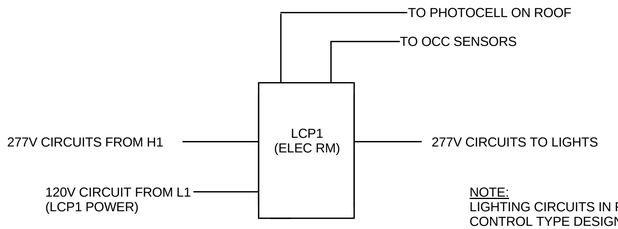
NOTE:
PROVIDE DAYLIGHT CONTROL SYSTEM FOR HIGHBAY AREA WITH CONTROL TYPE DESIGNATION OC4 ONLY. LAYOUT DAYLIGHT SENSORS ACCORDING TO MANUFACTURER RECOMMENDATIONS.

DAYLIGHT CONTROL PANEL SCHEDULE		
RELAY #	ZONE	2 STEP DIMMING BALLAST LEVEL
R1	NORTH WALL	50%
R2	NORTH WALL	100%
R3	EAST WALL	50%
R4	EAST WALL	100%
R5	SOUTH WALL	50%
R6	SOUTH WALL	100%
R7	WEST WALL	50%
R8	WEST WALL	100%

*DAYLIGHT CONTROL SYSTEM SHALL MAINTAIN AN AVERAGE FOOTCANDLE LEVEL OF 20FC IN HIGHBAY AREA

DETAIL D7

DAYLIGHT CONTROL PANEL DIAGRAM



NOTE:
LIGHTING CIRCUITS IN ROOMS WITH LIGHTING CONTROL TYPE DESIGNATION OC3 SHALL BE CONNECTED TO LCP1 PANEL. OCCUPANCY SENSORS ASSOCIATED WITH THESE CIRCUITS WILL BE CONNECTED DIRECTLY TO THE CONTROL PANEL TO ALLOW THE LIGHTS TO BE CONTROLLED WITH ANY COMBINATION OF OCCUPANCY SENSORS AND TIME SCHEDULE.

DETAIL B3

LIGHTING CONTROL PANEL DIAGRAM

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

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MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

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DRAWN BY: R.THOMPSON
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PROJECT ENGINEER/ARCHITECT: C. SANBORN
DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14E-502
4/17/2013

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

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KC-46A FUSELAGE TRAINER
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BASE X, CONUS

ELECTRICAL DETAILS

SHEET REFERENCE NUMBER:
E-502
SHEET ____ OF ____

FILE:
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LIGHT FIXTURE SCHEDULE										
FIXTURE	LAMP INFORMATION				FIXTURE INFORMATION					
TYPE	QTY	WATTAGE	TYPE	COLOR TEMP	VOLTAGE	WATTAGE	LOAD	DESCRIPTION	MOUNTING	MANUFACTURER
F1	2	28	T5	3500 K	277 V	56 W	59 VA	2'X4' FLUORESCENT RECESSED INDIRECT	CEILING-RECESSED	LITHONIA (2RT5 28T5)
F2E	2	14	T5	3500 K	277 V	28 W	30 VA	2'X2' FLUORESCENT RECESSED INDIRECT	CEILING, RECESSED	LITHONIA (2RT5 14T5)
F4	6	54	T5HO	3500 K	277 V	324 W	342 VA	FLOURESCENT HIGH BAY (SEE NOTE 2 BELOW)	WALL-KNUCKLE-ARM-ANGLE	LITHONIA (IBZ 654L)
F6	2	28	T5	3500 K	277 V	56 W	59 VA	1'X4" FLUORESCENT INDUSTRIAL	PENDANT	HEWILLIAMS (84 SERIES)
F7	1	26	CFL	3500 K	277 V	26 W	28 VA	6" FLUORESCENT DOWNLIGHT, HORIZONTAL LAMP, LOW IRRID REFL, BLACK BAFFLE	CEILING-RECESSED	CAPRI (CM6 F126 H65B)
F9	1	32	T8	3500 K	277 V	32 W	34 VA	FLUORESCENT STRIP (COVE IN RESTROOMS)	COVE	LITHONIA (C)
F10	1	26	CFL	3500 K	277 V	26 W	28 VA	6" FLUORESCENT SHOWER DOWNLIGHT (LENSED, NON-CONDUCTIVE)	CEILING-RECESSED	GOTHAM (LGFLP)
L1	20	0	LED	4000 K	277 V	26 W	33 VA	EXTERIOR WALL-MOUNTED LED FIXTURE (BUILDING PERIMETER)	WALL-SURFACE	BETA (SEC-EDG-2M-WM)
L2	60	75	LED	4000 K	277 V	75 W	79 VA	LED SURFACE MOUNT FIXTURE (CARGO STRUCTURE)	SURFACE ANGLE BRACE	KIM LIGHTING (PGL7-LED-60L-4K)
X1	1	0	LED	3200 K	277 V			EXIT SIGN (INTEGRAL BATTERY) CHLORIDE #E (SYMMETRY II) DUALLITE #LX (LITEFORMS)	WALL, SURFACE, CEILING	LITHONIA (LQM)

NOTES:

1. MANUFACTURER AND MODEL SHOWN ARE THE BASIS OF DESIGN. SUBSTITUTIONS ARE ALLOWED. ALL SUBSTITUTIONS SHALL HAVE THE SAME FEATURES, RATINGS, AND STYLE AS THE MODEL LISTED. ANY DEVIATIONS FROM FIXTURE RATINGS, INCLUDING INPUT VA AND LUMEN OUTPUT, SHALL REQUIRE THE CONTRACTOR TO PERFORM A LIGHTING ANALYSIS TO DETERMINE IF THE INSTALLATION MEETS THE DESIGN INTENT.
2. THIS PROJECT IS BEING LEED CERTIFIED. ALL FIXTURES HAVE BEEN SELECTED BASED ON THE CRITERIA REQUIRED TO MEET LEED. DEVIATIONS FROM THE SALIENT FEATURES OF THE BASIS OF DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CALCULATED VA RATINGS FOR THE FIXTURES ARE BASED ON COMMONLY AVAILABLE BALLAST ANSI INPUT WATTS.
4. SEE DRAWING E-001 FOR LEGEND AND GENERAL NOTES.
5. WHERE DIMMERS ARE SHOWN ON PLAN, PROVIDE A COMPATIBLE DIMMING BALLAST IN EACH LIGHT FIXTURE ASSOCIATED WITH THE DIMMER.
6. WHERE EMERGENCY LIGHTS ARE INDICATED ON PLAN, PROVIDE AN EMERGENCY BATTERY BALLAST WHICH ALLOWS THE FIXTURE TO BE NORMALLY SWITCHED. PROVIDE A SECOND PHASE CONDUCTOR TO THE FIXTURE. UPON LOSS OF NORMAL POWER, THE FIXTURE SHALL BE POWERED BY THE EMERGENCY BATTERY BALLAST REGARDLESS OF SWITCH POSITION.
7. TYPE F4 FIXTURES SHALL INCLUDE 2-STEP DIMMING BALLASTS AND SHALL BE KNUCKLE-WALL-MOUNT TO ALLOW THE FIXTURE TO BE ANGLED (DIRECTLY DOWN TO 90 DEGREES HORIZONTAL) TO THROW LIGHT TOWARDS THE CENTER OF THE ROOM. WHERE STRUCTURAL STEEL OBSTRUCTS LIGHT FIXTURE DISTRIBUTION, PROVIDE A 1'-0" MOUNTING ARM TO EXTEND FIXTURE BEYOND OBSTRUCTION. FIXTURES SHALL BE MOUNTED AT 20'-0" AFF UON. FIXTURES ARE MOUNTED LOW AROUND PERIMETER TO ALLOW EASY RELAMPING AND REPLACEMENT OF EMERGENCY BATTERY BALLASTS.

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DEFINITIVE DESIGN

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MOBILE DISTRICT

REVISIONS:

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: C. SANBORN
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PROJECT ENGINEER/ARCHITECT: C. SANBORN
DATE: 4/17/2013
SCALE:
DRAWING CODE: EP14E-611
4/17/2013

U.S. ARMY ENGINEER DISTRICT
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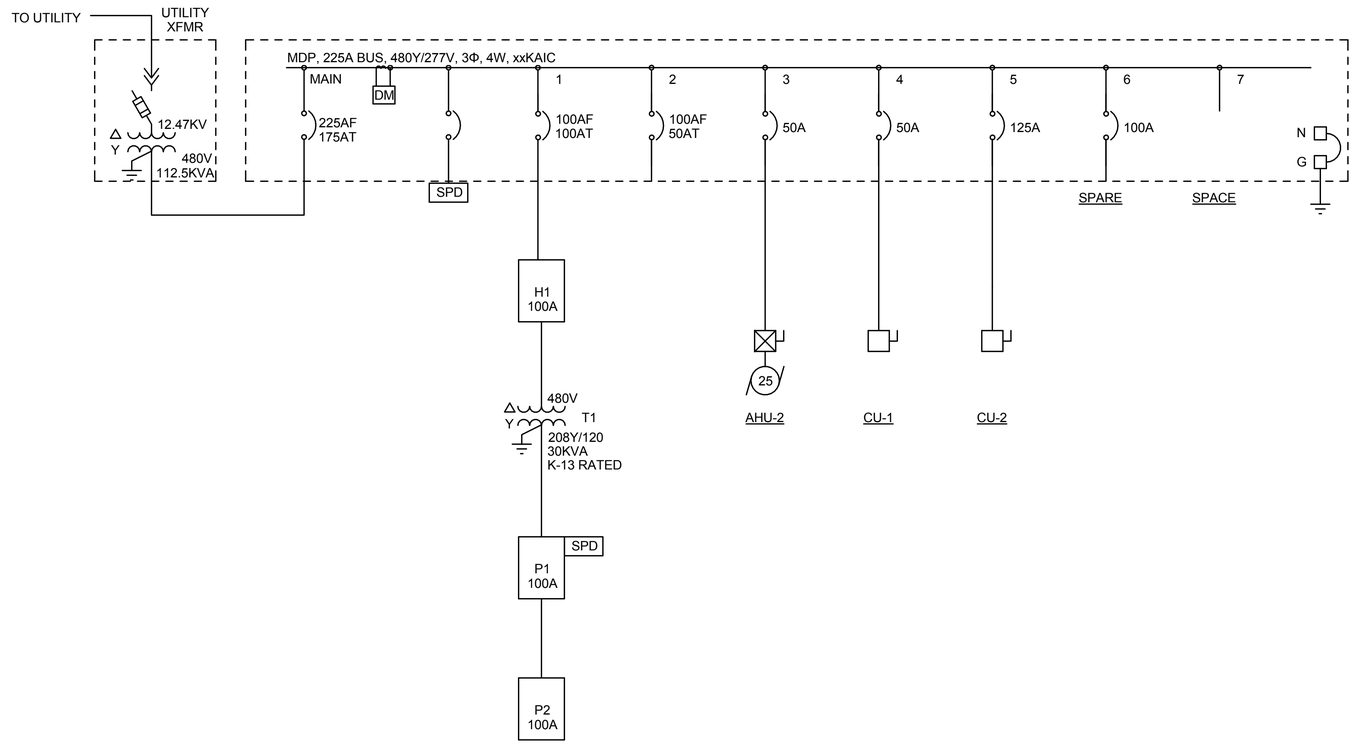
LIGHT FIXTURE SCHEDULE

SHEET REFERENCE NUMBER:
E-611
SHEET ____ OF ____



NOTES:

1. SEE ELECTRICAL LEGEND AND ABBREVIATIONS ON SHEETS E-001 AND E-002.
2. FEEDER SCHEDULE IS NOT INCLUDED IN DEFINITIVE DESIGN. EQUIPMENT AND CONDUCTOR SIZING WILL VARY BASED ON OUTDOOR AMBIENT TEMPERATURE, FINAL HVAC SYSTEM DESIGN LOAD AND FINAL FUSELAGE DESIGN LOAD.

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REVISIONS
SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: C. SANBORN
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DRAWING CODE: EP14E-701
DATE: 4/17/2013

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

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KC-46A FUSELAGE TRAINER
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BASE X, CONUS

ELECTRICAL ONE-LINE DIAGRAM

SHEET REFERENCE NUMBER:
E-701
SHEET ____ OF ____

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PLAN SYMBOLS - COMMUNICATION

- WIRE IN CONDUIT, RUN CONCEALED ABOVE CEILING OR IN WALL.
- WIRE IN CONDUIT ROUTE BELOW GRADE OR FLOOR SLAB.
- C — COMMUNICATION DUCTBANK
- E — ELECTRICAL DUCTBANK
- # — COMMUNICATIONS OUTLET. NUMBER INDICATES OUTLET TYPE. MOUNT 18" AFF UON. SEE T-500 SERIES SHEETS FOR DETAILS.
- CATV OUTLET. SEE T-500 SERIES SHEETS FOR DETAILS.
- D — WALL MOUNTED COMMUNICATIONS SYSTEM FURNITURE FEED, MOUNTED 18" AFF. SEE DETAIL _ ON T-50x. CABLING FOR COMMUNICATION OUTLETS SHOWN SHALL BE ROUTED THROUGH FURNITURE FEED. CABLING SHALL BE ROUTED THROUGH SYSTEMS FURNITURE CABLE WIRE MANAGEMENT TO OUTLET LOCATION ON SYSTEMS FURNITURE.
- CABLE TRAY. TYPE AND MOUNTING HEIGHT (TO BOTTOM OF TRAY) AS INDICATED ON COMMUNICATION PLANS. "BT" INDICATES TRAY TYPE.
  - 4"W X 12"D BT 11'-0" AFF
  - BT = BASKET TRAY
  - CR = CABLE RUNWAY
- J — JUNCTION BOX, WALL MOUNTED 18" AFF, UON.
- J — JUNCTION BOX, MOUNTED ABOVE CEILING, UON.
- FB1 — RECESSED STEEL FLOOR BOX, COMBINATION VOICE/DATA/POWER, 4-COMPARTMENT, HINGED LID (BLACK), FLOORING FLANGE KIT, PROVIDE (2) 1-INCH GRS CONDUITS TO BOX (POWER TO SOURCE, COMM TO CABLE TRAY)
  - FB1 = (4) NEMA 5-20R OUTLETS, (4) DATA
  - FB2 = (4) NEMA 5-20R OUTLETS, (8) DATA, (1) VOICE AND (1) VIDEO COMPARTMENT
  - FB3=RAISED ACCES FLOOR BOX WITH (2) NEMA 5-20R OUTLETS

SYMBOL MODIFIERS

AV	AUDIO/VIDEO
C	RECESSED IN CEILING
EP OR EXP	EXPLOSION PROOF
F	RECESSED IN FLOOR
GFCI,GFI	GROUND FAULT CIRCUIT INTERRUPTER
IG	ISOLATED GROUND
P	PILOT LIGHT (INDICATING SWITCH IS ON)
W	WALL MOUNTED, 48" AFF UON
WP	WEATHERPROOF
WPIU	WEATHERPROOF IN USE

LEGEND NOTES

1. EQUIPMENT IDENTIFIERS, MATCHING THOSE IN EQUIPMENT SCHEDULES, ARE DISPLAYED INSIDE OF BRACKETS [ ].
2. SYMBOL ORIENTATION DOES NOT IMPLY DEVICE OR EQUIPMENT ORIENTATION. UNLESS NOTED AS SUCH. SEE REFLECTED CEILING PLANS FOR LIGHT FIXTURE POSITIONS AND ORIENTATIONS.
3. SYMBOL SIZE DOES NOT IMPLY EQUIPMENT SIZE, UON.
4. MOUNTING HEIGHT INDICATED IN LEGEND AND ON THE DRAWINGS SHALL BE THE DISTANCE MEASURED FROM THE CENTER OF THE DEVICE TO THE FINISHED FLOOR.
5. NOT ALL SYMBOLS INDICATED ON THIS SHEET ARE USED IN THIS PROJECT.
6. REFER TO TYPICAL DETAILS ON T-500 SERIES DRAWINGS.

ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
AV	AUDIO/VIDEO
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BOT	BOTTOM OF CABLE TRAY
C	CONDUIT
CAT	CATEGORY
CATV	CABLE TELEVISION
CBP	COPPER BACKBONE PATCH PANEL
CCN	CONTRACTOR CLASSIFIED NETWORK (FIBER)
CCTV	CLOSED CIRCUIT TELEVISION
CH	CHILLED WATER
COMM	COMMUNICATIONS
COR	CONTRACTING OFFICER'S REPRESENTATIVE
CPP	COPPER HORIZONTAL PATCH PANEL
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CT	CABLE TRAY
CU	COPPER
CUCN	CONTRACTOR UNCLASSIFIED NETWORK (COPPER)
CUN	CONTRACTOR UNCLASSIFIED NETWORK (FIBER)
CW	CONDENSER WATER
DC	DIRECT CURRENT
EC	EMPTY CONDUIT
EGC	EQUIPMENT GROUNDING CONDUCTOR
EIA	ELECTRONICS INDUSTRIES ASSOCIATIONS
EMT	ELECTRICAL METALLIC TUBING
EPO	EMERGENCY POWER OFF
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FMS	FULL MOTION SIMULATOR
FO	FIBER OPTIC
FPD	FLAT PANEL DISPLAY
FPP	FIBER OPTIC PATCH PANEL
FSCP	FIRE SYSTEM CONTROL PANEL
FT	FEET OR FOOT
GFGI	GOVERNMENT FURNISHED AND INSTALLED
G OR GND	GROUND
GFE	GOVERNMENT FURNISHED EQUIPMENT
GFR	GROUND FAULT RELAY
GFP	GROUND FAULT PROTECTION
GRS	GALVANIZED RIGID STEEL CONDUIT
H	HOT CONDUCTOR
HID	HIGH INTENSITY DISCHARGE
HZ	HERTZ
IDS	INTRUSION DETECTION SYSTEM
IG	ISOLATED GROUND
IN	INCH OR INCHES
K	KILO
KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT AMPERES
KWH	KILOWATT HOURS
LC	LIGHTING CONTACTOR
LW	LOCKABLE WIREWAY
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MH	MANHOLE
MLO	MAIN LUGS ONLY
MM	MULTIMODE
MN/PA	MASS NOTIFICATION/PUBLIC ADDRESS
MTD	MOUNTED
N	NEUTRAL CONDUCTOR
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NIC	NOT IN CONTRACT
NIPR	NON-CLASSIFIED INTERNET PROTOCOL ROUTING
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
PDS	PROTECTIVE DISTRIBUTION SYSTEM
PDU	POWER DISTRIBUTION UNIT
PIV	POST INDICATOR VALVE
PR	PAIR
PVC	POLYVINYL CHLORIDE
QA	QUALITY ASSURANCE
RAD	REFRIGERATED AIR DRYER
RGS	RIGID GALVANIZED STEEL CONDUIT
RM	ROOM
RMC	RIGID METAL CONDUIT
RMS	ROOT MEAN SQUARE

ABBREVIATIONS - CONTINUED

SCCR	SHORT CIRCUIT CURRENT RATING
SCI	SENSITIVE COMPARTMENTALIZED INFORMATION
ScTP	SHIELDED TWISTED PAIR
SIPR	SECRET INTERNET PROTOCOL ROUTING
SM	SINGLE MODE
SPECS	CONTRACT SPECIFICATIONS
SPST	SINGLE POLE SINGLE THROW
SRG	STATIC REFERENCE GRID
STR	STRAND
SW	SWITCH
SWBD	SWITCHBOARD
SYM	SYMMETRICAL
TB	TELEPHONE BACKBOARD
TR	TELECOMMUNICATIONS ROOM
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UL	UNDERWRITERS' LABORATORIES
um	MICROMETER
UON	UNLESS OTHERWISE NOTED
UTP	UNSHIELDED TWISTED PAIR
V	VOLTS
VA	VOLT AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE OR WATT
XFMR	TRANSFORMER
Z	IMPEDANCE

PROJECT OUTSIDE PLANT GENERAL NOTES:

1. THIS PROJECT REQUIRES UNDERGROUND WORK INCLUDING A LARGE PORTION OF THE WORK BEING PERFORMED IN EXISTING ROADWAYS AND PAVEMENTS. THE CONTRACTOR SHALL REPAIR ALL EXISTING ROADWAYS AND PAVEMENTS TO MATCH EXISTING.
2. THE UNDERGROUND WORK FOR THIS PROJECT REQUIRES CLOSE COORDINATION WITH EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL NEW WORK WITH ALL EXISTING UTILITIES, EXISTING EQUIPMENT, AND EXISTING CONDITIONS.
3. PRIOR TO DIGGING, THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE DIGGING PERMITS. ALL UNDERGROUND UTILITIES IN THE WORK AREA MUST BE POSITIVELY IDENTIFIED BY A PRIVATE UTILITY LOCATING SERVICE IN ADDITION TO APPLICABLE BASE LOCATING SERVICE AND COORDINATED WITH THE BASE UTILITY DEPARTMENT. ALL MARKINGS MADE DURING THE UTILITY INVESTIGATION MUST BE MAINTAINED THROUGHOUT THE CONTRACT.
4. THE CONTRACTOR SHALL PHYSICALLY VERIFY UNDERGROUND UTILITY LOCATIONS BY HAND DIGGING AND/OR POT-HOLING USING WOOD OR FIBERGLASS HANDLED TOOLS WHEN ANY ADJACENT CONSTRUCTION WORK IS EXPECTED TO COME WITHIN 3 FEET OF THE UNDERGROUND SYSTEM. DIGGING WITHIN 2 FEET OF A KNOWN UTILITY SHALL NOT BE PERFORMED BY MEANS OF MECHANICAL EQUIPMENT; HAND DIGGING SHALL BE USED. IF CONSTRUCTION IS PARALLEL TO AN EXISTING UTILITY EXPOSE THE UTILITY BY HAND DIGGING EVERY 100 FEET IF PARALLEL WITHIN 5 FEET OF THE EXCAVATION.
5. CONTRACTOR SHALL COORDINATE ACCESS TO MANHOLES, HANDHOLES, AND BUILDINGS WITH COR.
6. PRIOR TO INSTALLATION OF NEW CABLES IN EXISTING DUCTBANKS, THE CONTRACTOR SHALL COORDINATE WITH THE COR TO DETERMINE WHICH DUCT(S) SHALL BE USED. THE CONTACTOR SHALL FIELD VERIFY (ROD & MANDREL) EACH PATHWAY INDENTIFIED TO ENSURE IT IS ADEQUATE FOR CABLE INSTALLATION. CONTRACTOR SHALL NOTIFY COR IF AN EXISTING DUCT IDENTIFIED TO BE USED IS NOT ADEQUATE FOR NEW CABLE INSTALLATION.
7. IN MANHOLES/HANDHOLES WHERE FIBER OR COPPER CABLES ARE TO BE SPLICED, PROVIDE MINIMUM 25' OF SLACK ON EITHER SIDE OF SPLICE CLOSURE FOR EACH FIBER AND COPPER CABLE. WHERE NEW FIBER OR COPPER CABLES ARE TO BE SPLICED WITH EXISTING FIBER OR COPPER CABLES, LEAVE MINIMUM 25' OF EXISTING FIBER AND COPPER CABLES.
8. IN MANHOLES/HANDHOLES WHERE CABLES ARE TO BE ROUTED THROUGH BUT NOT SPLICED, PROVIDE A MINIMUM OF 50' OF SLACK FOR EACH FIBER AND COPPER CABLE.
9. FIBER AND COPPER CABLES SHALL BE INSTALLED IN NEW AND EXISTING MANHOLES/HANDHOLES USING CABLE RACKS AND RACK HOOKS.
10. FIBER AND COPPER SPLICE CLOSURES SHALL BE SECURELY FASTENED TO MANHOLE/HANDHOLE CABLE RACKS AND RACKS HOOKS USING ADJUSTABLE STAINLESS STEEL STRAPS.

PROJECT OUTSIDE PLANT GENERAL NOTES - CONTINUED:

11. FIBER AND COPPER SPLICES ARE ONLY ALLOWED WHERE INDICATED. ADDITIONAL SPLICES ARE NOT ALLOWED WITHOUT WRITTEN DIRECTION FROM COR.
12. PROVIDE PULL STRINGS IN ALL NEW AND EXISTING CONDUITS, INCLUDING CONDUITS WHERE MULTICELL INNERDUCTS ARE TO BE INSTALLED.
13. MULTICELL INNERDUCTS SHALL BE INSTALLED IN CONDUITS WHERE INDICATED AND TERMINATED IN MANHOLES/HANDHOLES PER MANUFACTURER INSTRUCTIONS AND RECOMMENDATIONS.
14. CONTRACTOR SHALL PROVIDE THREE 3" 3-CELL INNERDUCTS IN ALL NEW 4" CONDUITS. IN ADDITION, CONTRACTOR SHALL INSTALL INNERDUCTS IN EXISTING CONDUITS WHERE INDICATED.

PROJECT INTERIOR GENERAL NOTES:

1. BACKBONE CABLING SHALL BE INSTALLED IN CONDUITS SHOWN. BACKBONE CABLING SHALL NOT BE INSTALLED USING J-HOOKS OR ANY OTHER METHOD.
2. COMMUNICATION ROOMS HAVE BEEN LOCATED TO ENSURE THE HORIZONTAL CABLING THROUGHOUT THE FACILITY DOES NOT EXCEED 295 FEET TO MEET EIA/TIA. CONTRACTOR SHALL ROUTE PATHWAYS AND CABLES TO ENSURE THIS DISTANCE IS NOT EXCEEDED. CONTACTOR SHALL NOTIFY COR PRIOR TO PATHWAY AND CABLE INSTALLATION IF THERE ARE AREAS WHERE THE EXPECTED DISTANCE MAY BE EXCEEDED.
3. HORIZONTAL CABLING SERVING WALL MOUNTED COMMUNICATIONS OUTLETS SHALL BE ROUTED FROM COMMUNICATIONS OUTLET IN MINIMUM 1" CONDUIT FROM EACH COMMUNICATIONS OUTLET TO AREA CABLE TRAY, AND IN AREA CABLE TRAY TO DESIGNATED COMMUNICATION ROOM. ROUTE CONDUITS IN FINISHED AREAS CONCEALED IN WALL. WHERE COMMUNICATION OUTLETS ARE INSTALLED IN EXPOSED UNFINISHED ROOMS, CONDUITS MAY BE SURFACE MOUNTED. CONDUITS ROUTED EXPOSED SHALL BE PAINTED TO MATCH ADJACENT SURFACES.

DEFINITIVE DESIGN NOTES:

1. THE FOLLOWING ARE DEFINITIVE DESIGN NOTES WHICH INCLUDE DESIGN ASSUMPTIONS AND CONSIDERATIONS WHICH ARE AFFECTED BY THE SELECTED SITE LOCATION FOR THE FACILITY.
2. COORDINATE WITH BASE COMMUNICATIONS SQUADRON ON BASE COMMUNICATIONS STANDARDS AND PREFERENCES WHICH MAY VARY FROM THE DEFINITIVE DESIGN.
3. SEISMIC REQUIREMENTS ARE NOT INCLUDED IN THE DEFINITIVE DESIGN. SEISMIC REQUIREMENTS WILL VARY BASED UPON SITE LOCATION. INCLUDE EQUIPMENT BRACING AND SEISMIC CONSTRUCTION WHERE REQUIRED.
4. ENVIRONMENTAL REQUIREMENTS WILL VARY BASED UPON SITE LOCATION.
5. THE DEFINITIVE DESIGN INCLUDES MATRIX OF RESPONSIBILITIES WHICH INDICATES CONTRACTOR AND GOVERNMENT RESPONSIBILITIES WITH RESPECT TO EACH SYSTEM. THESE RESPONSIBILITIES WILL VARY BASED UPON SITE LOCATION AND BASE STANDARDS. COORDINATE WITH THE BASE FOR ALL RESPONSIBILITIES TO ENSURE THE PROJECT IS ESTIMATED AND BID CORRECTLY.
6. SPECIFICATIONS INCLUDED WITH THE DEFINITIVE DESIGN ARE PARTIALLY EDITED BASED ON DEFINITIVE DESIGN ASSUMPTIONS. SPECIFICATIONS MUST BE ADDED AND EDITED AS REQUIRED TO INCORPORATE FINAL DESIGN BASED UPON SITE LOCATION.

MATRIX OF RESPONSIBILITIES

	GFGI	CFCI	CABLE TV SERVICE PROVIDER (SUB TO GC OR ES)
VOICE/DATA			
ACTIVE EQUIPMENT (SERVERS, SWITCHES, RACK-MOUNTED UPS'S, ETC.)	X		
PASSIVE EQUIPMENT (RACKS, CABINETS, CABLE MANAGEMENT, PATCH PANELS, PET'S, 110 BLOCKS, WALL PLATES, JACKS, CONNECTORS, RACEWAYS, BOXES, ETC.)		X	
INTERIOR CABLING		X	
CROSS-CONNECTS AND PATCH CABLING	X		
UNDERGROUND DUCTBANKS		X	
OSP CABLING		X	
CATV			
ACTIVE EQUIPMENT (SATELLITE, CABLE BOX, AMPLIFIERS, ETC.)			X
OSP CABLING TO DEMARCATION			X
UNDERGROUND DUCTBANKS		X	
INTERIOR CABLING, CONNECTORS, WALL PLATES, BOXES AND CONDUIT		X	
AUDIO/VIDEO			
ACTIVE EQUIPMENT (SWITCHES, DISPLAYS. SMARTBOARDS, PROJECTORS, VTC EQUIPMENT, ETC.)	X		
PASSIVE EQUIPMENT (RACKS, CABINETS, CABLE MANAGEMENT, RACEWAYS, BOXES, WALL PLATES, ETC.)		X	
CABLING AND CONNECTORS	X		

NOTES

1. NOT ALL SYSTEM COMPONENTS ARE LISTED ABOVE. CONTRACTOR SHALL FURNISH AND INSTALL ALL OTHER COMPONENTS AS INDICATED ON DRAWINGS AND IN SPECIFICATIONS. ONLY SYSTEM COMPONENTS WHICH COMMONLY REQUIRE CLARIFICATION ARE LISTED ABOVE.

ABBREVIATIONS

CATV	CABLE TELEVISION
CFCI	CONTRACTOR-FURNISHED, CONTRACTOR-INSTALLED
GC	GENERAL CONTRACTOR
GFGI	GOVERNMENT-FURNISHED, GOVERNMENT-INSTALLED
OSP	OUTSIDE PLANT
PET	PROTECTED ENTRANCE TERMINALS

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

REVISIONS

SYMBOL	DESCRIPTION	DATE	APPR.

DESIGNED BY: C. SANBORN
DRAWN BY: R.THOMPSON
CHECKED BY: T. TOD
PROJECT ENGINEER/ARCHITECT: C. SANBORN
DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14T-001
4/17/2013

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS MOBILE, ALABAMA

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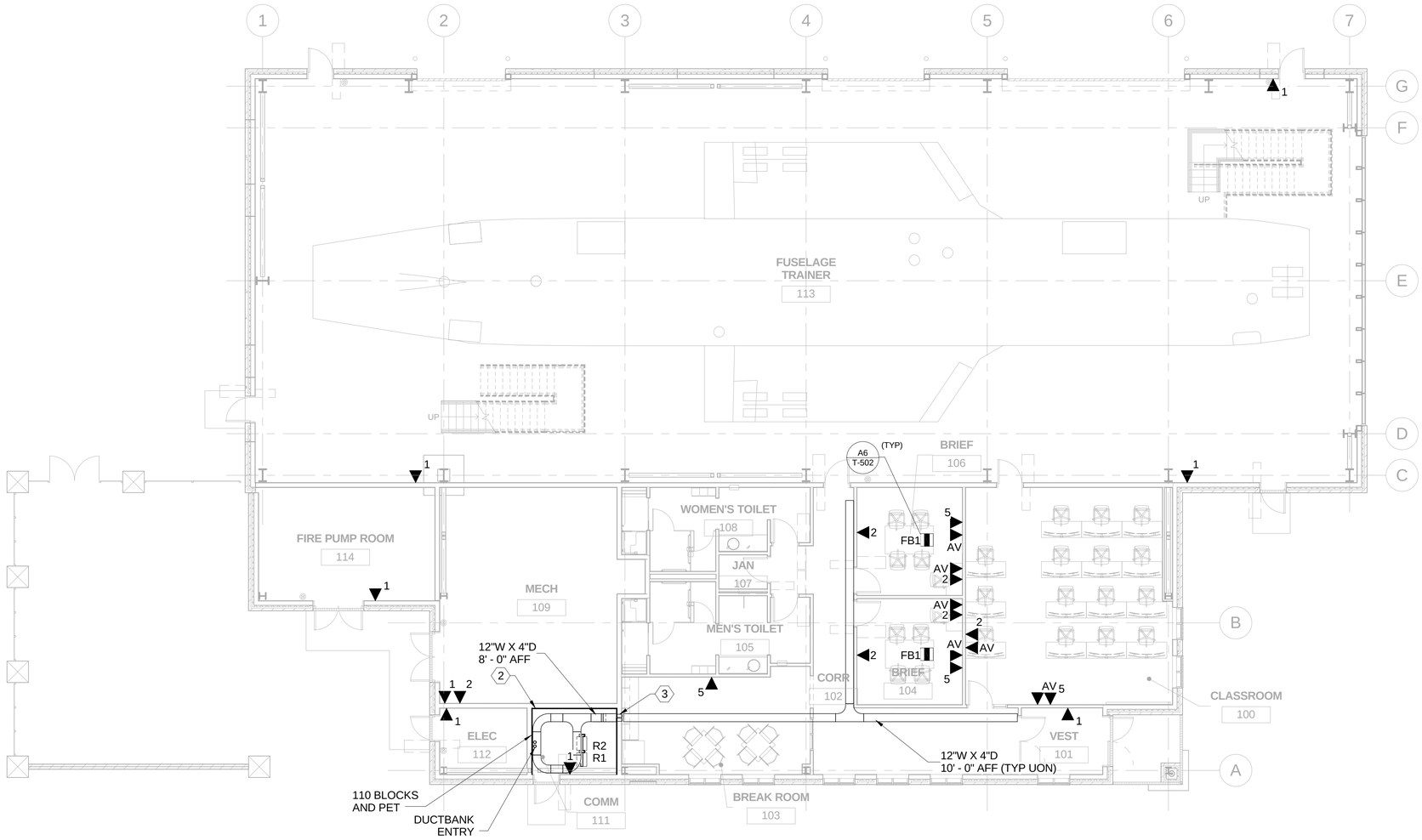
KC-46A FUSELAGE TRAINER DEFINITIVE DESIGN BASE X, CONUS

TELECOMMUNICATIONS LEGEND

SHEET REFERENCE NUMBER: T-001
SHEET ____ OF ____

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 10:52:46 AM



1 FIRST FLOOR COMM PLAN

N

0 4' 8' 16'

SCALE:1/8"=1'

NOTES:

1. SEE SHEET T-001 FOR SYMBOL LEGEND, ABBREVIATIONS, PROJECT GENERAL NOTES AND MATRIX OF RESPONSIBILITIES.
2. SEE T-500 SERIES SHEETS FOR TELECOMMUNICATION DETAILS.
3. SEE SHEET T-701 FOR TELECOMMUNICATIONS SCHEDULE AND RISERS.
4. PROVIDE FLOOR AND WALL PENETRATIONS ACCORDING TO PENETRATION DETAILS ON ARCHITECTURAL DETAIL SHEETS.
5. ALL HORIZONTAL CABLING SHALL BE ROUTED IN 1-INCH MINIMUM EMT CONDUIT FROM OUTLET TO CABLE TRAY ENROUTE TO THE COMMUNICATION ROOM.

KEYED NOTES:

1. PROVIDE 2" EMT CONDUIT BETWEEN AV WALLPLATE LOCATIONS INDICATED IN ROOM.
2. COVER THREE WALLS WITH RIGIDLY-FIXED, 3/4-INCH A-C PLYWOOD BACKBOARD. BACKBOARD SHALL BE VOID-FREE, FIRE-RATED (NO FIRE-RETARDANT PAINT) AND SHALL EXTEND FROM 0'-6" AFF TO 8'-6" AFF.
3. 4-4" DIAMETER SLEEVES

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

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CHECKED BY: T. TOD
PROJECT ENGINEER/ARCHITECT C. SANBORN
DATE: 4/17/2013
SCALE: As Indicated
DRAWING CODE: EP14T-101
4/17/2013

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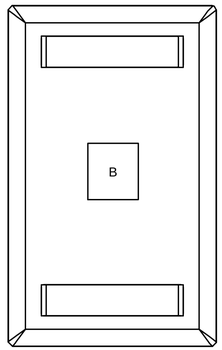
DEFINITIVE DESIGN
BASE X, CONUS

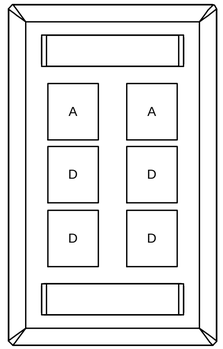
TELECOMMUNICATIONS PLAN FIRST FLOOR

SHEET REFERENCE NUMBER:
T-101
SHEET ____ OF ____



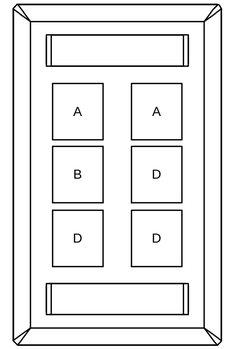
▼1 WALL PHONE FACEPLATE

D1 COMM OUTLET TYPE 1
SCALE: NTS



▼2 COMMUNICATIONS WALL FACEPLATE

D3 COMM OUTLET TYPE 2
SCALE: NTS



▼3 COMMUNICATIONS WALL FACEPLATE

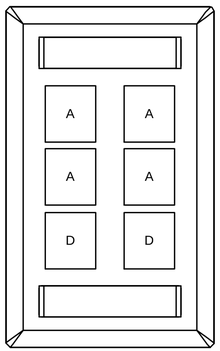
D5 COMM OUTLET TYPE 3
SCALE: NTS

NOTES:

1. SEE DRAWING T-001 FOR COMMUNICATIONS LEGEND, ABBREVIATIONS AND GENERAL NOTES.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS.
3. CONTRACTOR SHALL INSTALL ALL CONDUITS WITH PULL STRINGS TO FACILITATE FUTRE CABLE ADDITIONS.

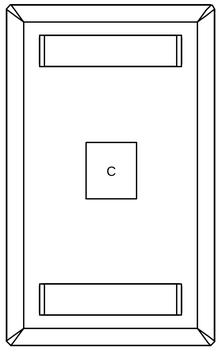
COMMUNICATIONS - MODULAR JACK AND CABLING FACEPLATE INFORMATION SCHEDULE

APPEARANCE	DESIGNATOR	MODULAR JACK	COLOR	CABLING	COLOR
	A	CAT 6 RJ-45 DATA	BLUE	4-PAIR CATEGORY 6 UTP	BLUE
	B	CAT 5 RJ-45 VOICE	WHITE	4-PAIR CATEGORY 5 UTP	WHITE
	C	CATV F-TYPE CONNECTOR	N/A	RG-6 COAX CABLING	BLACK
	D	BLANK PORT COVER	MATCH FACE PLATE	N/A	N/A
	E	CAT 6 RJ-45 DATA (SHIELDED)	RED	4-PAIR CATEGORY 6 (FOIL SHIELDED-TWISTED PAIR)	RED



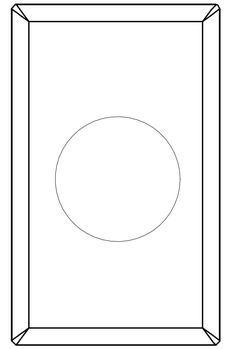
▼4 COMMUNICATIONS WALL FACEPLATE

A1 COMM OUTLET TYPE 4
SCALE: NTS



▼5 CATV WALL FACEPLATE

A3 COMM OUTLET TYPE 5
SCALE: NTS



▼AV AUDIO/VISUAL WALL FACEPLATE. REFER TO DETAIL A6 ON SHEET T-502 FOR MORE INFORMATION.

A7 COMM OUTLET TYPE AV
SCALE: NTS

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DEFINITIVE DESIGN

FILE:
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SYMBOL | DESCRIPTION | DATE | APPR.

DESIGNED BY: C. SANBORN
DRAWN BY: R.THOMPSON
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PROJECT ENGINEER/ARCHITECT: C. SANBORN
DATE: 4/17/2013
SCALE: 12" = 1'-0"
DRAWING CODE: EP14T-501
DATE: 4/17/2013

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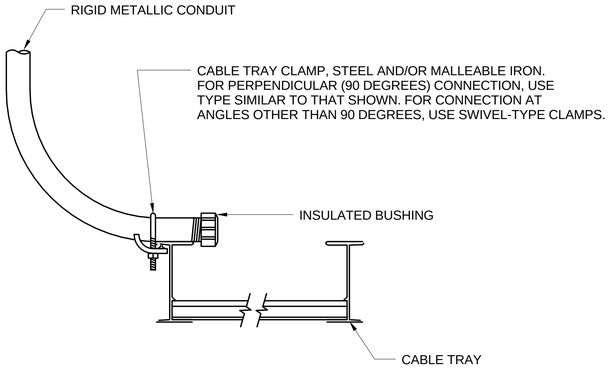
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

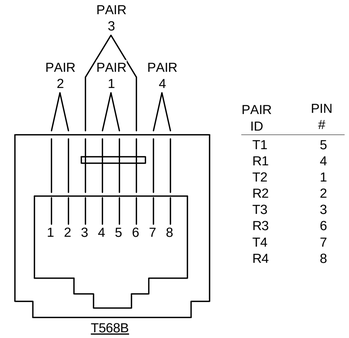
TELECOMMUNICATIONS DETAILS

SHEET REFERENCE NUMBER:
T-501
SHEET ____ OF ____



DETAIL D1

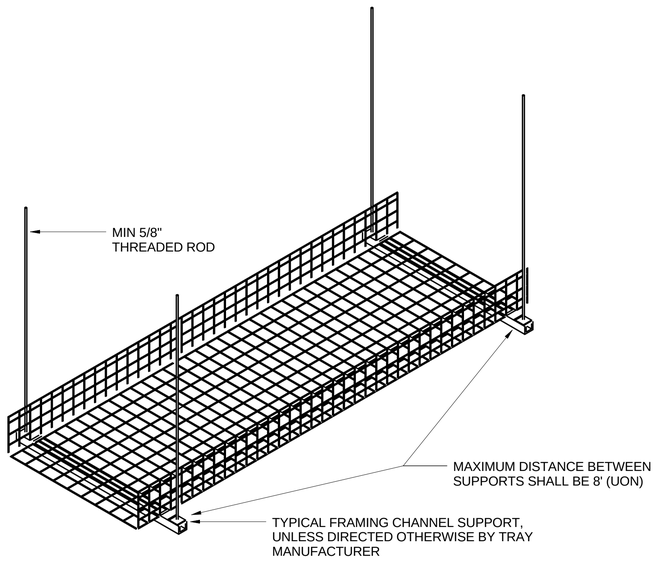
TYPICAL CONDUIT TO CABLE TRAY DETAIL



PAIR ID	PIN #
T1	5
R1	4
T2	1
R2	2
T3	3
R3	6
T4	7
R4	8

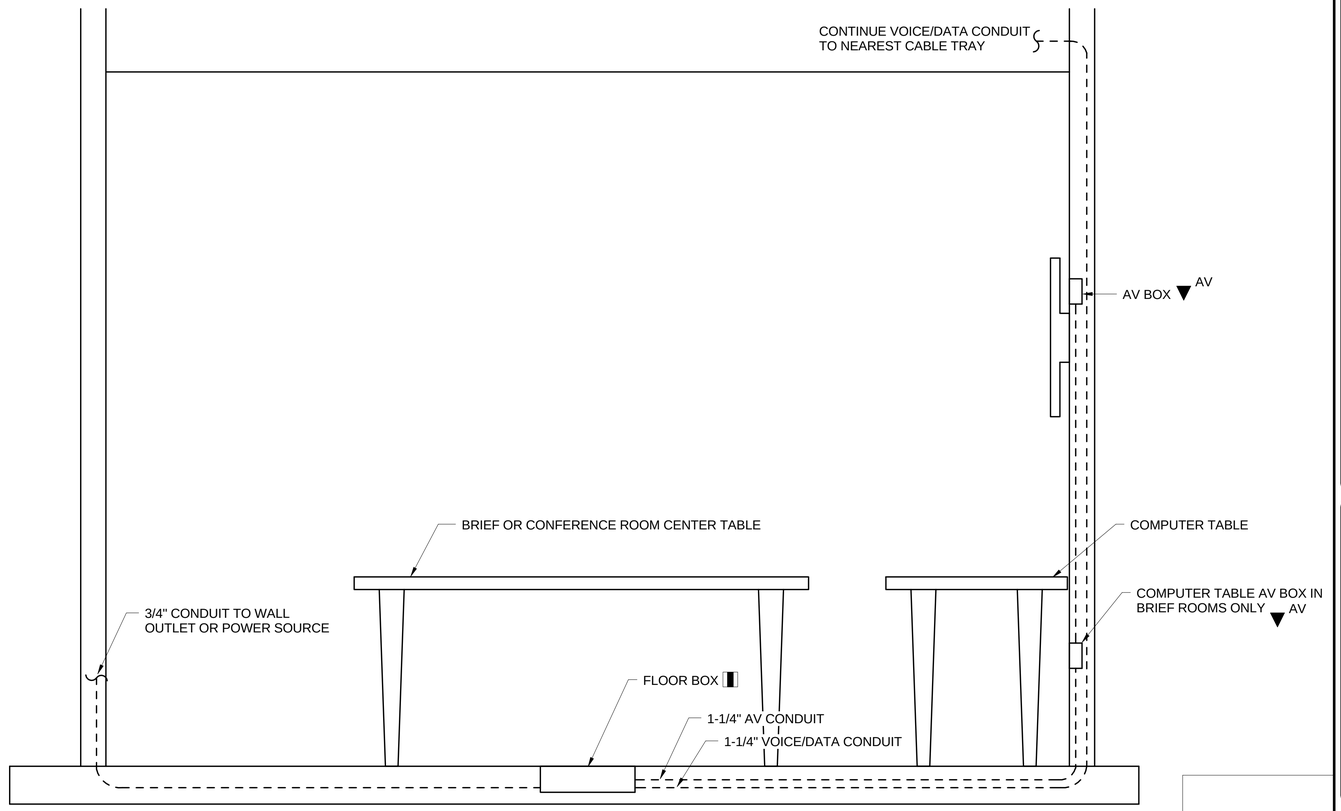
DETAIL D4

MODULAR CATEGORY 6 PLUG PIN-OUT T568B



DETAIL A1

TYPICAL BASKET CABLE TRAY DETAIL



DETAIL A6 T-101

BRIEF AND CONFRENCE ROOM CONDUIT AND BOX ROUGH-IN

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
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DRAWING CODE:	EP14T-502
DATE	4/17/2013

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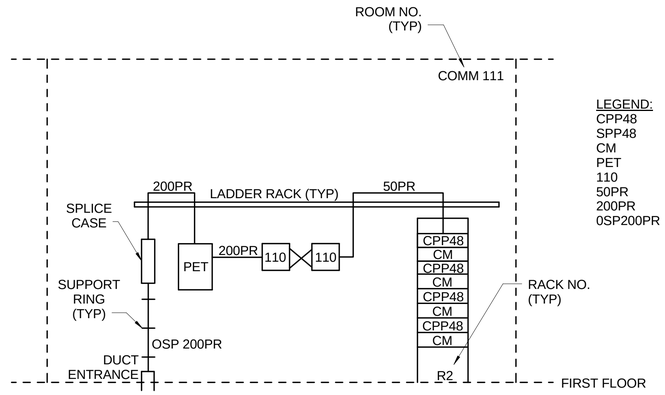
KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

TELECOMMUNICATIONS DETAILS

SHEET REFERENCE NUMBER:
T-502
SHEET ____ OF ____



LEGEND:

CPP48	48 PORT UTP CAT 6 PATCH PANEL
SPP48	48 PORT Sc CAT 6 PATCH PANEL
CM	2U HORIZONTAL CABLE MANAGEMENT
PET	PROTECTED ENTRANCE TERMINALS
110	TYPE 110 TERMINATION BLOCKS
50PR	50 PAIR CAT 3 CABLE
200PR	200 PAIR CAT 3 CABLE
0SP200PR	OUTSIDE PLANT 200 PAIR CABLE (ICEA S-80-576)

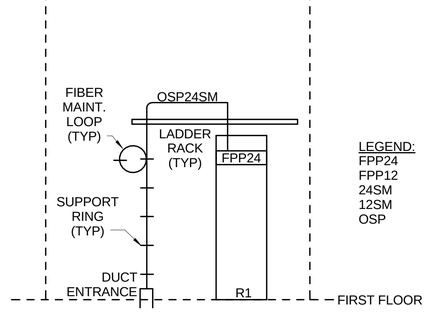
D3 COPPER BACKBONE RISER

NOT TO SCALE

COMM ROOM 111 OUTLET SCHEDULE			
ROOM NAME	ROOM NO.	OUTLET TYPE	COUNT
CLASSROOM	100	2	1
VEST	101	1	1
BRIEF	104	2	2
BRIEF	104	FB1	1
BRIEF	106	2	2
BRIEF	106	FB1	1
MECH	109	1	1
MECH	109	2	1
COMM	111	1	1
ELEC	112	1	1
FUSELAGE TRAINER	113	1	3
FIRE PUMP ROOM	114	1	1

CABLE TV OUTLET SCHEDULE			
ROOM NAME	ROOM NO.	OUTLET TYPE	COUNT
CLASSROOM	100	5	1
BREAK ROOM	103	5	1
BRIEF	104	5	1
BRIEF	106	5	1

NOTE: PROVIDE RG-6 COAXIAL CABLE IN 1-INCH EMT CONDUIT FROM EACH OUTLET BACK TO COMM 107 AND TERMINATE AT CABLE TV SERVICE PROVIDER DEMARCATION POINT.



LEGEND:

FPP24	24 PORT FIBER OPTIC PATCH PANEL
FPP12	12 PORT FIBER OPTIC PATCH PANEL
24SM	24-STRAND SINGLE-MODE FIBER OPTIC CABLE
12SM	12-STRAND SINGLE-MODE FIBER OPTIC CABLE
OSP	OUTSIDE PLANT

A3 FIBER BACKBONE RISER

NOT TO SCALE

NOT FOR CONSTRUCTION
DEFINITIVE DESIGN

FILE:
DATE: 4/16/2013 10:52:54 AM

US ARMY CORPS OF ENGINEERS ®
MOBILE DISTRICT

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CHECKED BY: T. TOD
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DRAWING CODE: EP14T-701
DATE: 4/17/2013

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KC-46A FUSELAGE TRAINER
DEFINITIVE DESIGN
BASE X, CONUS

TELECOMMUNICATIONS SCHEDULE/RISER

SHEET REFERENCE NUMBER:
T-701
SHEET ____ OF ____