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MISSOURI DEPARTMENT
OF TRANSPORTATION

FLAT, MISSOURI
Radio Tower Equipment Shelter
Central District
2.3 Miles West of Flat, Missouri on Route M
Phelps County

CODE REQUIREMENTS

- BUILDING CODE - CURRENT IBC
- PLUMBING CODE - CURRENT IBC
- MECHANICAL CODE - CURRENT IBC
- ELECTRICAL CODE - CURRENT N.E.C.

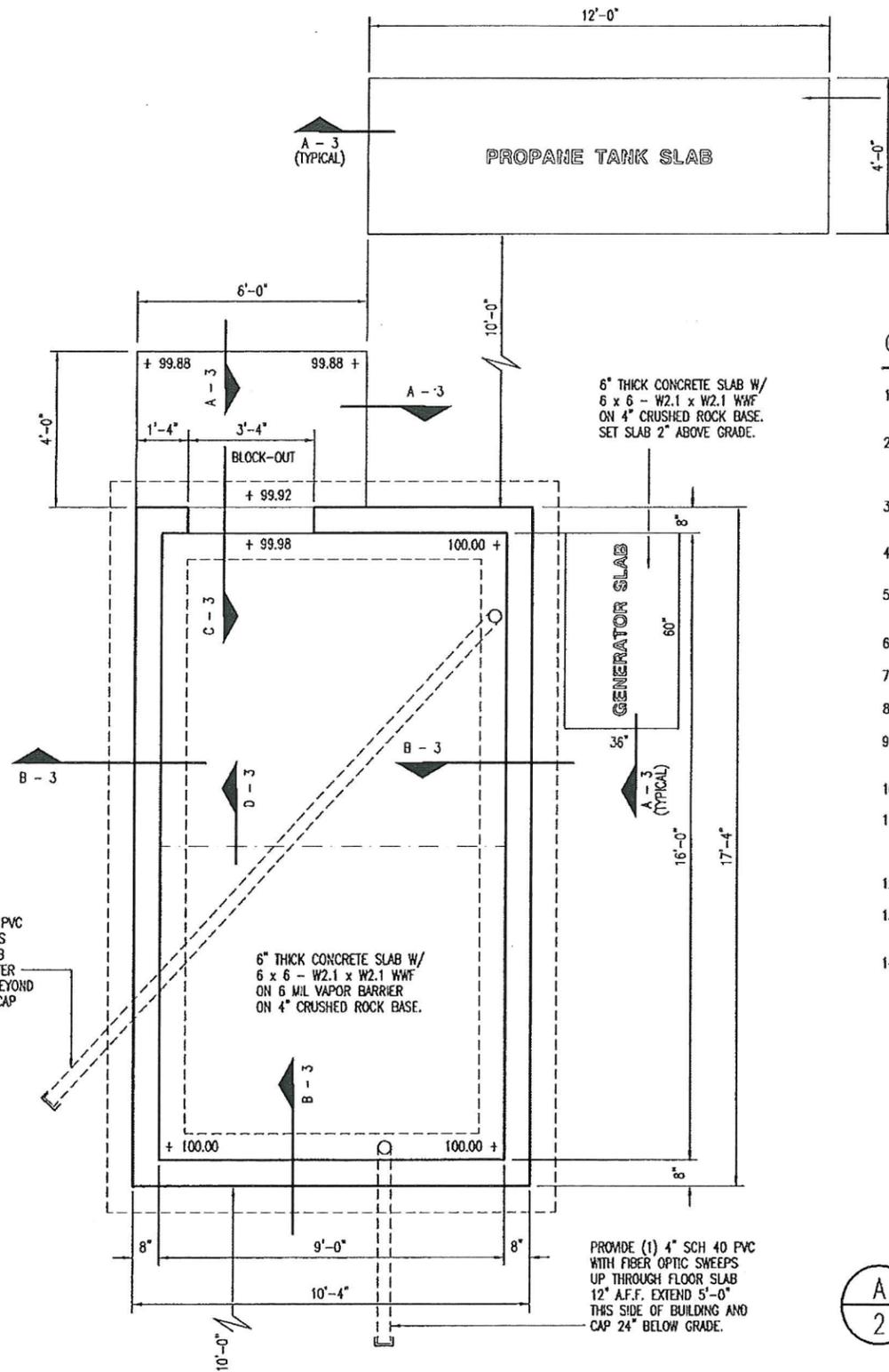


Gregory E. Brunkhorst
AR006265
10/27/2014
COVER SHEET

MISSOURI DEPARTMENT
OF TRANSPORTATION
DIVISION OF GENERAL SERVICES
FACILITIES MANAGEMENT

FLAT, MISSOURI
Radio Tower Equipment Shelter
2.3 Miles West of Flat, Missouri on Route M
Central District - Phelps County

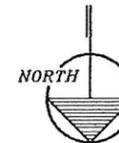
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DATE: 10-27-14
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CONCRETE NOTES

1. CONCRETE WORK SHALL BE EXECUTED IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE (A.C.I.) MANUAL OF CONCRETE PRACTICE.
2. FOUNDATION DESIGN IS BASED UPON AN ASSUMED SOIL BEARING CAPACITY OF 2,000 PSF. IF WET OR UNUSUAL SOIL CONDITIONS ARE ENCOUNTERED, NOTIFY THE DESIGNER AND CONSTRUCTION INSPECTOR BEFORE PROCEEDING WITH THE WORK.
3. IF CONDITIONS REQUIRING ROCK EXCAVATION ARE ENCOUNTERED, NOTIFY THE DESIGNER AND CONSTRUCTION INSPECTOR BEFORE PROCEEDING WITH THE WORK.
4. ALL CONCRETE SHALL BE TYPE 1 CEMENT WITH A COMPRESSIVE STRENGTH OF 4,000 PSI @ 28 DAYS WITH 4" TO 5" SLUMP.
5. FOUNDATION PIERS AND FOOTINGS SHALL BEAR A MINIMUM OF 12 INCHES INTO UNDISTURBED SOIL AND 36 INCHES MINIMUM BELOW FINISH GRADE.
6. DEFORMED STEEL REINFORCING BARS SHALL BE: #4 AND LARGER ASTM A615 GRADE 60.
7. SEE SPECIFICATION SECTION 03300 CONCRETE FOR ADDITIONAL INFORMATION.
8. CONCRETE EXPOSED TO THE EXTERIOR SHALL RECEIVE AIR ENTRAINMENT 6% +/- 2%.
9. PROVIDE CORNER REINFORCING BARS WITH 12" MINIMUM LAP EQUAL IN SIZE AND GRADE TO CONNECTING BARS.
10. EXTERIOR CONCRETE FLATWORK SHALL HAVE A LIGHT BROOM FINISH.
11. COORDINATE WORK OF OTHER TRADES REQUIRED TO BE INSTALLED IN, UNDER, OR THROUGH CONCRETE PRIOR TO PLACEMENT OF CONCRETE. INSTALL ALL ANCHORAGES AND SLEEVES REQUIRED FOR THE INSTALLATION OF WORK BY OTHER TRADES.
12. ENTIRE PERIMETER OF BUILDING TO RECEIVE 2" POLYSOCYANURATE RIGID INSULATION BOARD.
13. SAWED CONTROL JOINTS SHALL BE CLEANED FREE OF ALL DEBRIS AND FILLED WITH SEALANT. SEE SECTION 07900.
14. ALL EXPOSED INTERIOR CONCRETE FLOORS SHALL RECEIVE A CURING/SEALING FINISH PER SPECIFICATION SECTION 03346.

A FOUNDATION PLAN
2 SCALE: 1/4" = 1'-0"



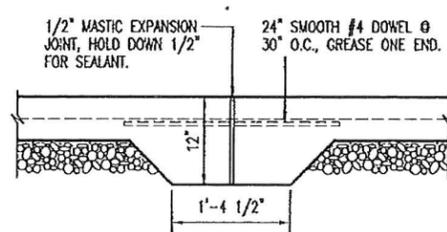
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 AR006265
 10/27/2014

FOUNDATION PLAN

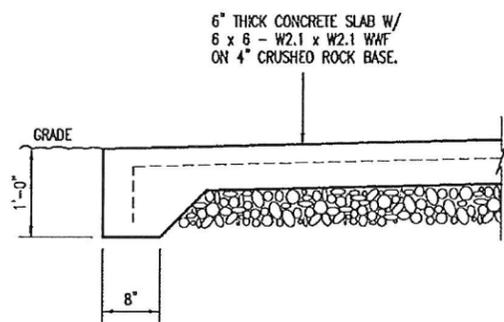
MISSOURI DEPARTMENT
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FLAT, MISSOURI
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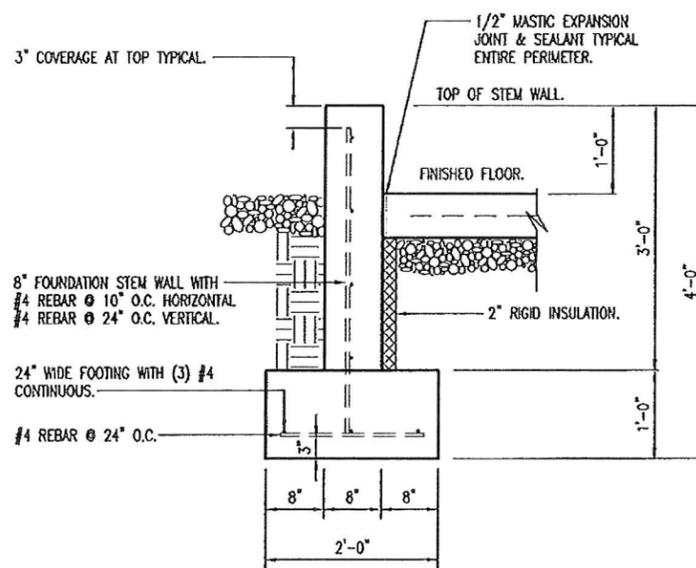
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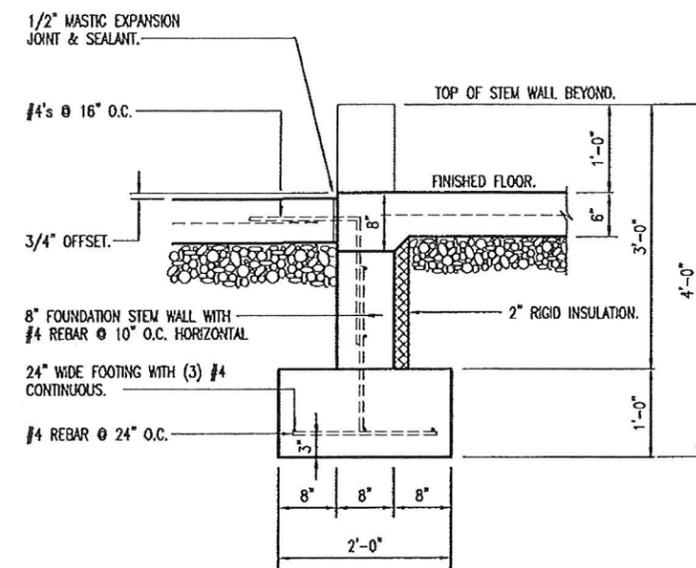
D EXPANSION JOINT
3 SCALE: 1/2" = 1'-0"



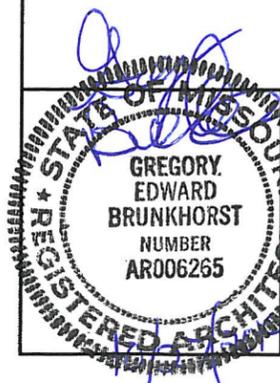
A SIDEWALK SECTION
3 SCALE: 1/2" = 1'-0"



B STEM WALL
3 SCALE: 1/2" = 1'-0"



C EXTERIOR STEM WALL @ DOOR
3 SCALE: 1/2" = 1'-0"



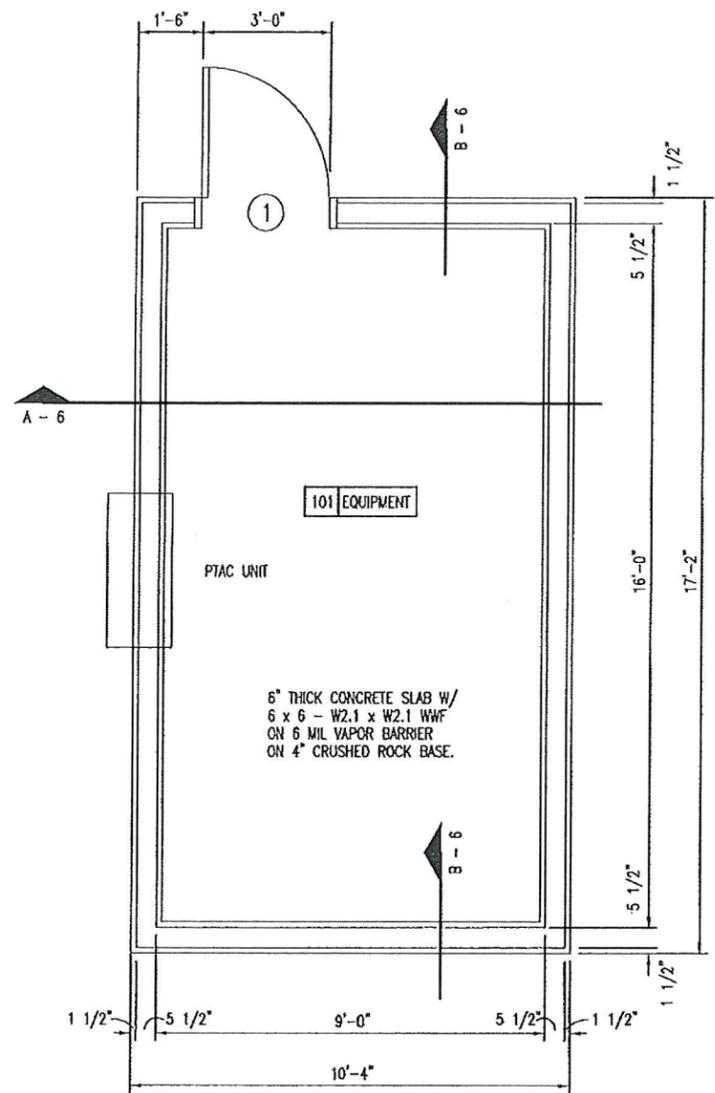
Gregory E. Brunkhorst
AR006265
10/27/2014

FOUNDATION DETAILS

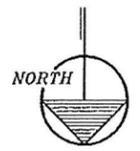
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A FLOOR PLAN
4 SCALE: 1/4" = 1'-0"



DOOR SCHEDULE							
NO.	SIZE	SWING	DR. TYPE	FRM. TYPE	DETAIL	DEPTH	HWDR. GRP.
1	3'-0" x 7'-0" x 1-3/4"	LHR	A	1	B-4	6-1/2"	1

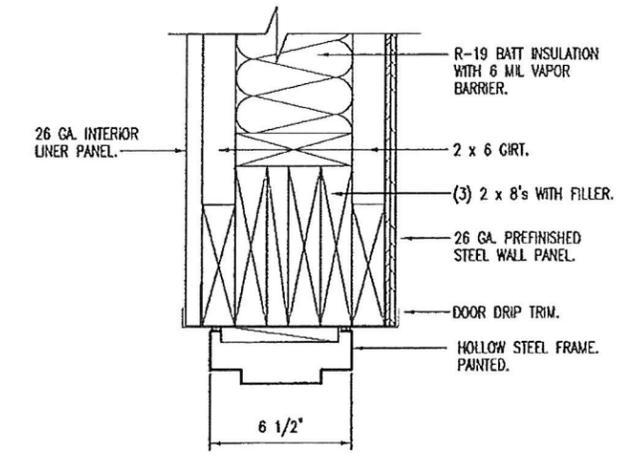
3'-0" x 7'-0" x 1-3/4"
HOLLOW METAL INSULATED
DOOR. PAINTED. REINFORCED
FOR CLOSER.

TYPE A

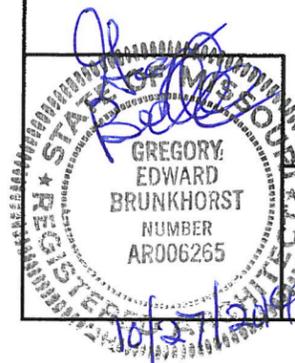
3'-0" 2" 7'-0" 2"
16 GA. WELDED
H.M. FRAME
PAINTED.

TYPE I

FINISH SCHEDULE					
NO.	ROOM	FLOOR	WALLS	BASE	CEILING
101	EQUIPMENT	CURE AND SEALER ON CONCRETE.	1/2" AC PLYWOOD PAINTED.	4" VINYL	1/2" AC PLYWOOD PAINTED.



B DOOR HEADER/JAMB
4 SCALE: 1-1/2" = 1'-0"



Gregory E. Brunkhorst
AR006265
10/27/2014

FLOOR PLAN

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RAT GUARDS AT ENDS. (TYP.)

CONTINUOUS VENTED RIDGE CAP.

WOOD TRUSSES @ 24" O.C.

26 GAUGE PREFINISHED ROOF PANELS ON 30 lb. FELT PAPER ON TWO LAYERS OF 3/4" MARINE GRADE PLYWOOD.

INSULATION BAFFLE. (TYP.)

2 x 4 BLOCKING. (TYPICAL)

26 GAUGE PREFINISHED FASCIA TRIM OVER 2x FASCIA BOARD.

CONTINUOUS 12" WIDE ALUMINUM VENTED SOFFIT.

R-30 BATT INSULATION.

1/2" AC PLYWOOD PAINTED.

2 x 6 GIRTS @ 2'-2"± O.C. HORIZONTALLY BOTH SIDES ON 2 x 6 STUD WITH STUDS @ 16" O.C. (TYPICAL)

26 GAUGE PREFINISHED EXTERIOR METAL PANELS.

BOTTOM PLATE 1/2" EXPANSION ANCHORS @ 32" O.C. WITH 3" MINIMUM EMBEDMENT.

CLOSER DRIP EDGE TRIM WITH RAT GUARD. (TYP.)

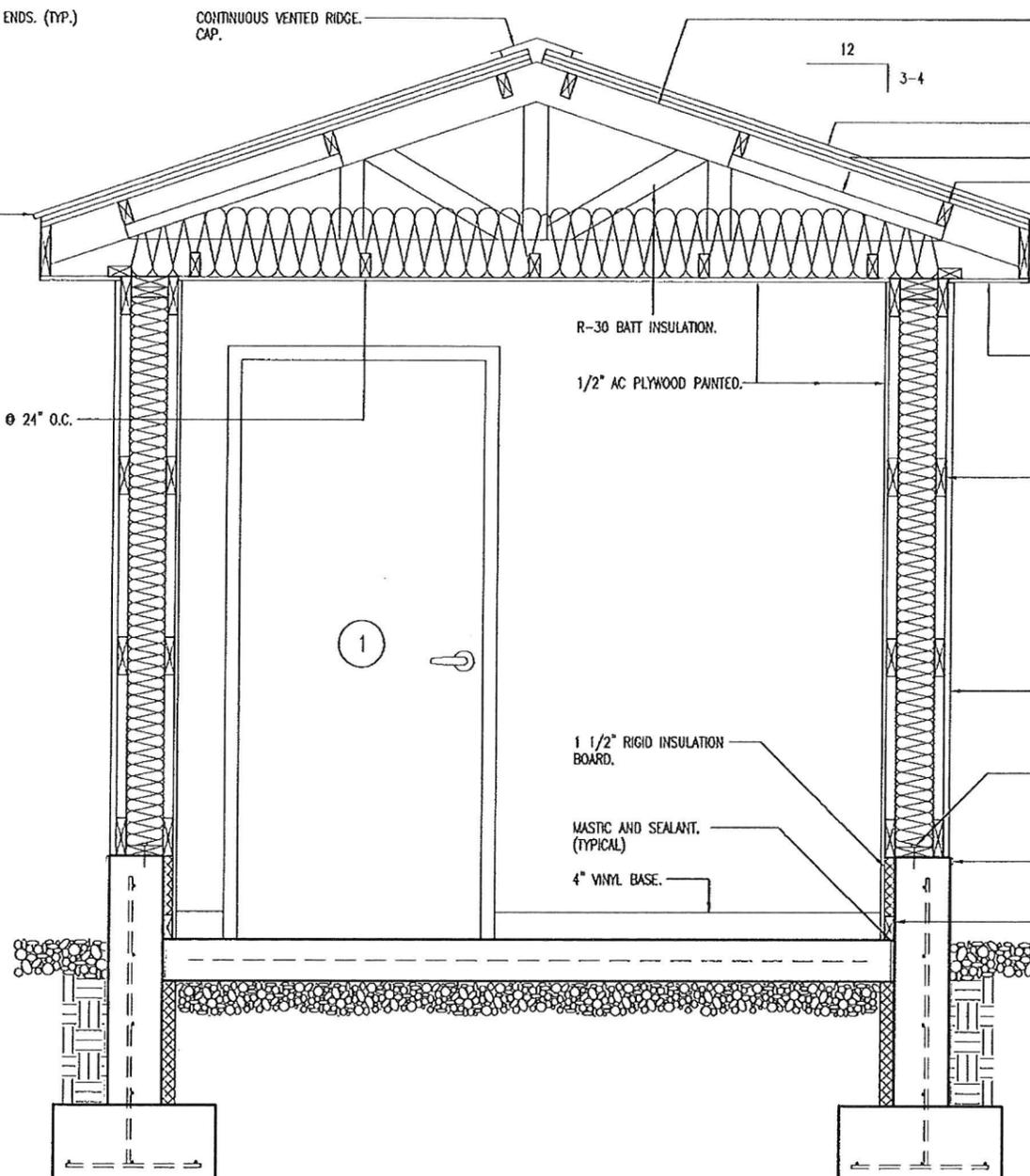
2 x 3 SHOT ANCHOR TO FOUNDATION WALL.

1 1/2" RIGID INSULATION BOARD.

MASTIC AND SEALANT. (TYPICAL)

4" VINYL BASE.

2 x 4 BLOCKING @ 24" O.C. (TYPICAL)



A BUILDING SECTION
5 SCALE: 1/2" = 1'-0"

WOOD TRUSSES @ 24" O.C.

26 GAUGE PREFINISHED ROOF PANELS ON 30 lb. FELT PAPER ON TWO LAYERS OF 3/4" MARINE GRADE PLYWOOD.

26 GAUGE PREFINISHED RAKE TRIM.

FASTEN TRUSS BEARING TO TOP PLATE WITH SIMPSON-TIE HURRICANE ANCHORS. (TYP.)

R-30 BATT INSULATION.

1/2" AC PLYWOOD PAINTED.

2 x 6 GIRTS @ 2'-2"± O.C. HORIZONTALLY BOTH SIDES ON 2 x 6 STUD WITH STUDS @ 16" O.C. (TYPICAL)

R-19 BATT INSULATION WITH 6 MIL VAPOR BARRIER.

26 GAUGE PREFINISHED EXTERIOR METAL PANELS.

1 1/2" RIGID INSULATION BOARD.

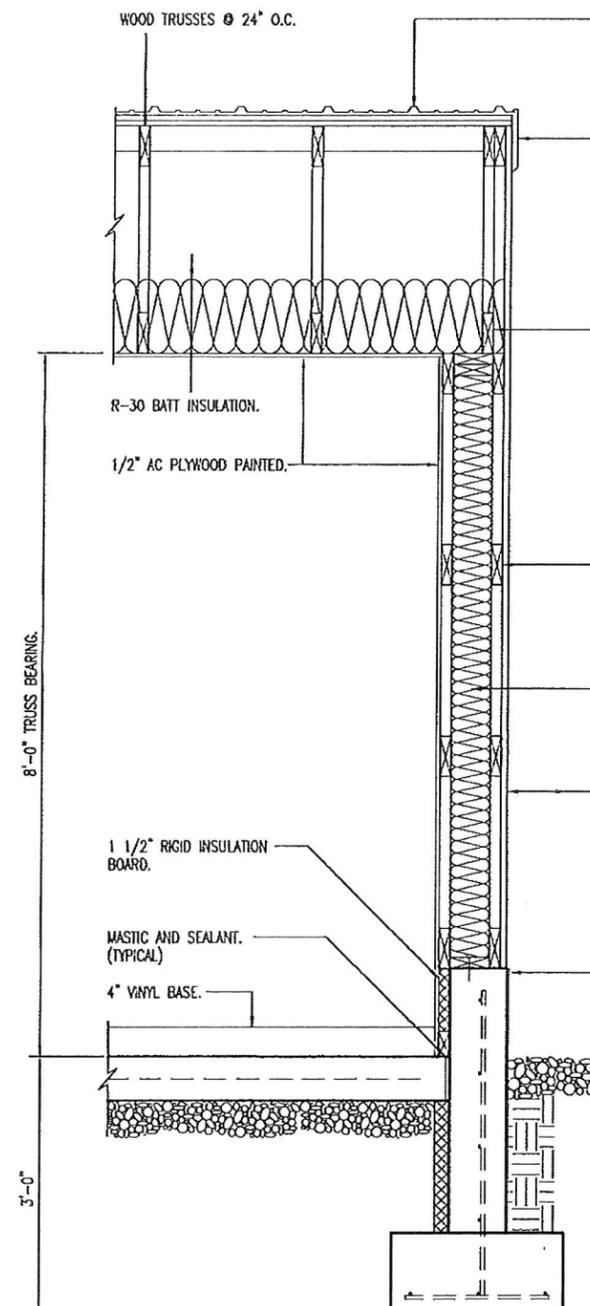
MASTIC AND SEALANT. (TYPICAL)

4" VINYL BASE.

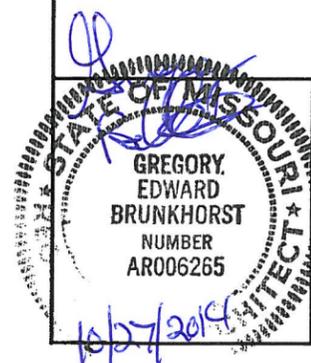
CLOSER TRIM WITH RAT GUARD. (TYPICAL)

8'-0" TRUSS BEARING.

3'-0"



B WALL SECTION
5 SCALE: 1/2" = 1'-0"



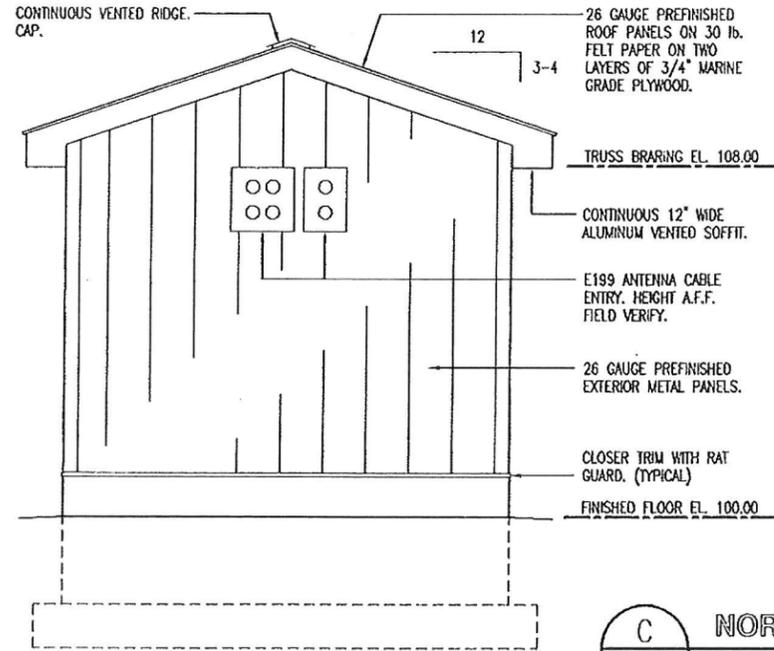
Gregory E Brunkhorst
AR006265
10/27/2014

BUILDING & WALL SECTIONS

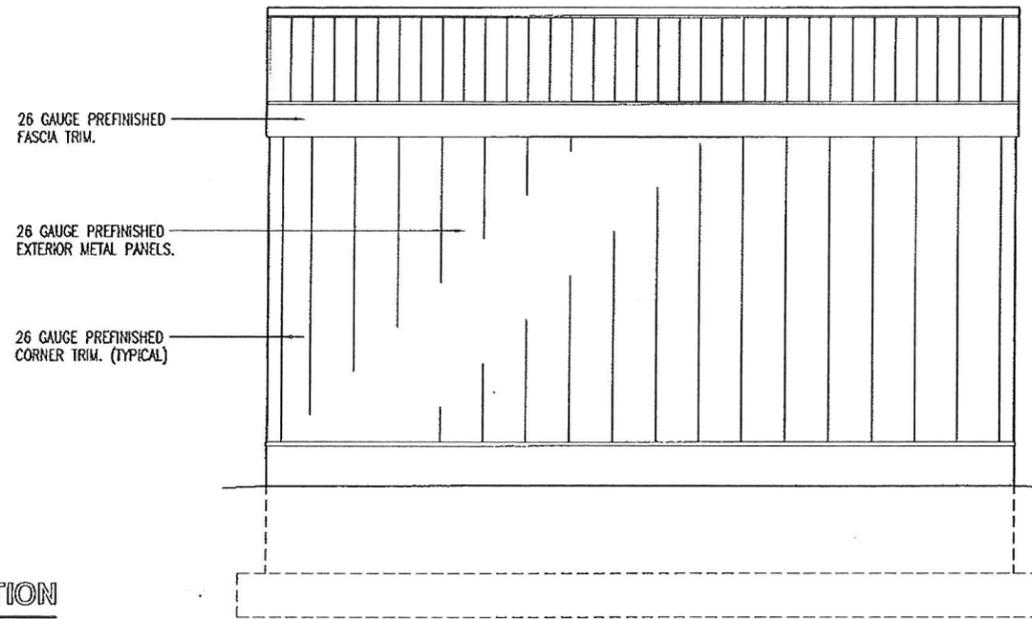
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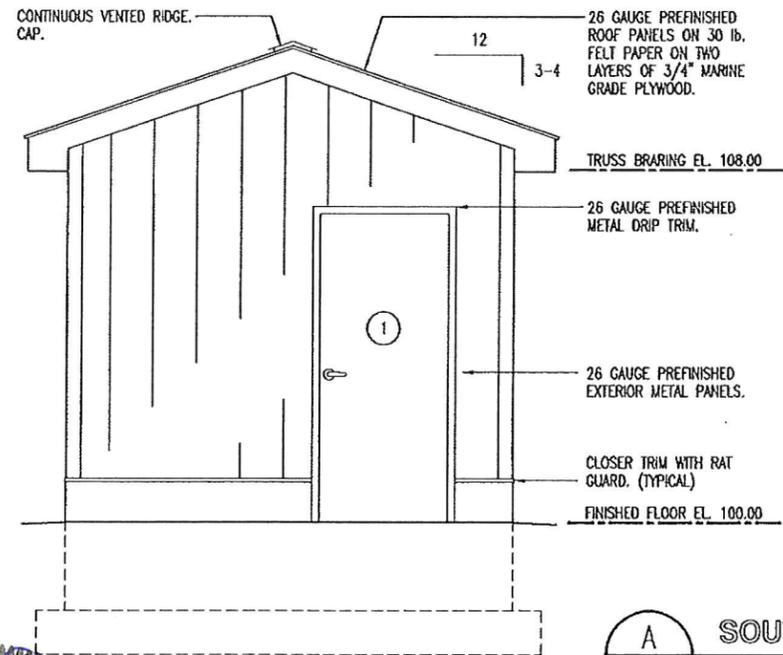
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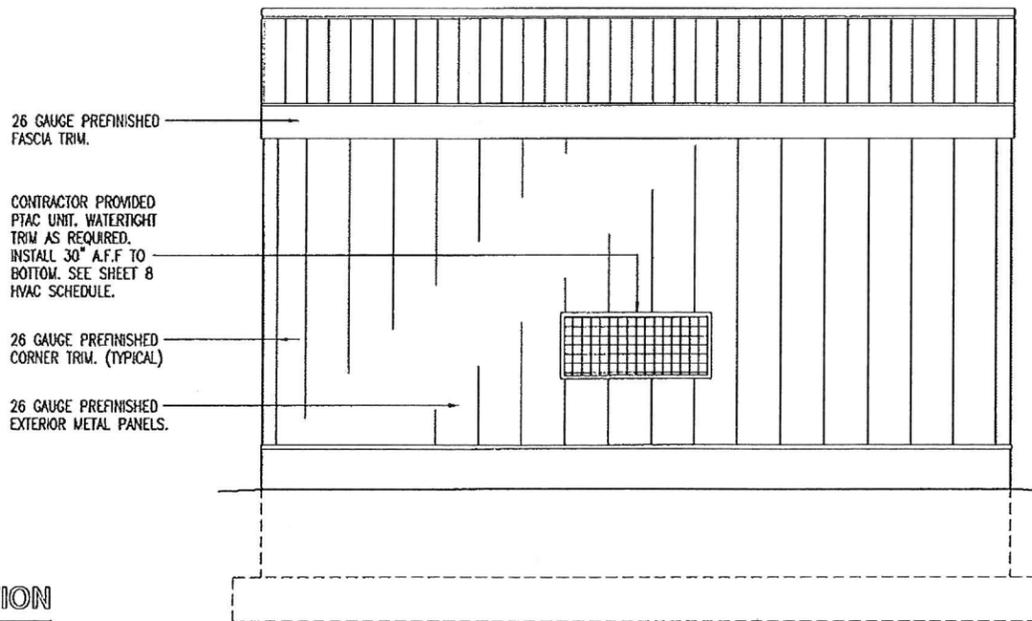
C NORTH ELEVATION
SCALE: 1/4" = 1'-0"



D WEST ELEVATION
SCALE: 1/4" = 1'-0"



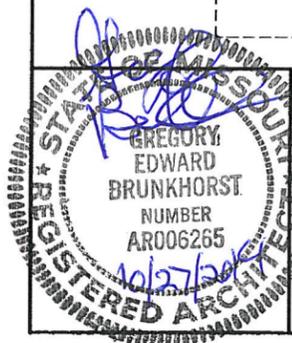
A SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



B EAST ELEVATION
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

CONTRACTOR TO FURNISH ALL NECESSARY FLASHING AND TRIM TO PROVIDE A NEAT, WEATHERPROOF FIT AT ALL DOORS, COLUMNS & WALL PENETRATIONS AND AT ANY LOCATION WHERE THE METAL PANELS MAY BE CUT.

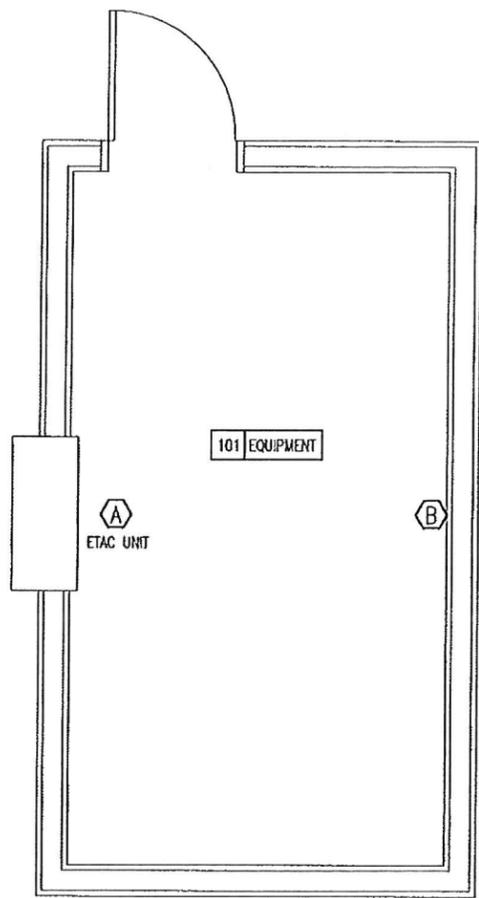


Gregory E Brunkhorst
AR006265
10/27/2014
ELEVATIONS

MISSOURI DEPARTMENT
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FLAT, MISSOURI
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HVAC SCHEDULE						
SYM.	UNIT	MODEL	BTU OUTPUT	FUEL	VOLTAGE	REMARKS
A	GREE ETAC HEAT PUMP WITH BACKUP ELECT. HEAT	(WHITE) 12HP230V20A-A 20 AMP FUSE.	COOL 12K HEAT 10.3K HEAT P 10.7K	ELECTRIC	208/230	INCLUDE WALL SLEEVE & ALUMINUM GRILLE COOL 5.1 AMPS, HEAT PUMP 13.2 AMPS. ELECTRIC HEATER 3.0 KW. DRAIN OUTSIDE.
B	GREE DIGITAL PROGRAMMABLE THERMOSTAT	TT-P-421	-	-	-	7-DAY PROGRAMMABLE.

GENERAL NOTES:

CONTRACTOR TO FURNISH ALL NECESSARY FLASHING AND TRIM TO PROVIDE A NEAT, WEATHERPROOF FIT AT ALL DOORS, COLUMNS & WALL PENETRATIONS AND AT ANY LOCATION WHERE THE METAL PANELS MAY BE CUT.



Michelle Smith
#PE-028700
10/27/2014
MECHANICAL PLAN

MISSOURI DEPARTMENT
OF TRANSPORTATION
DIVISION OF GENERAL SERVICES
FACILITIES MANAGEMENT

FLAT, MISSOURI
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ELECTRIC SCHEDULE

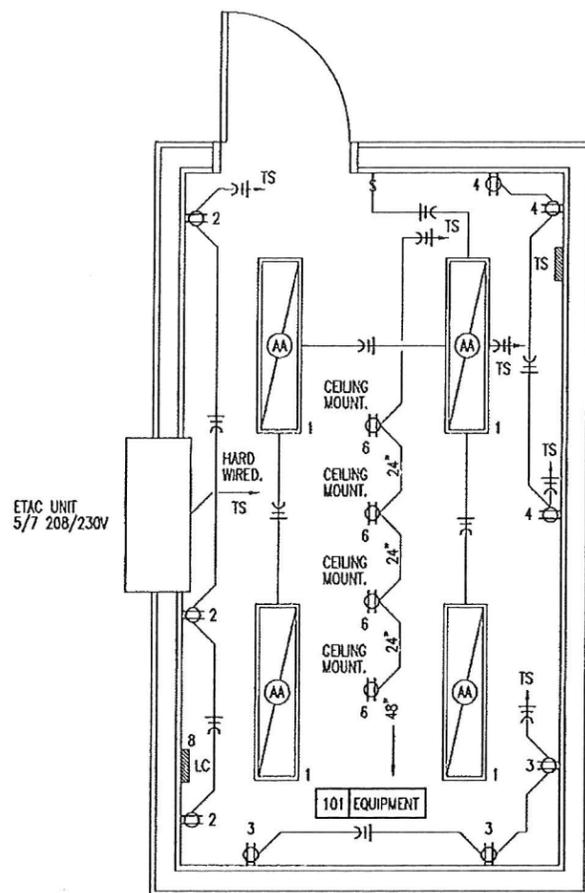
MANUF.	MODEL	#	LAMPS TYPE	W	MNT	REMARKS
WILLIAMS (AA)	15-4-2-28T5S-F-A19156 EB2-120	2	FLUORESCENT	28	SURFACE	12" x 48" .050" ALUMINUM FRAME WITH LUMINUS SIDES. PROVIDE BLOCKING AS REQUIRED.
ELECTRICAL FIXTURES AND EQUIPMENT ARE SCHEDULED BY MANUFACTURER AND MODEL NUMBER FOR DESIGN INTENT ONLY, APPROVED EQUALS MAY BE SUBSTITUTED.						

LEGEND

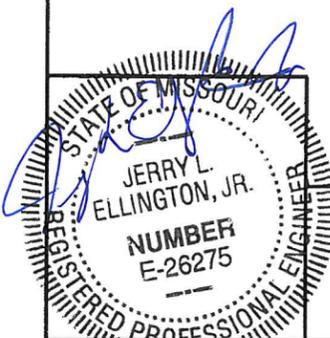
- § SINGLE POLE SWITCH, FLUSH MOUNTED IN FINISHED AREAS Ø 48" A.F.F.
- ⊕ DUPLEX RECEPTACLE FLUSH MOUNTED IN FINISHED AREAS Ø 18" A.F.F. TO BOTTOM OF OUTLET OR AS NOTED.
- #12 COPPER NEUTRAL CONDUCTOR UNLESS NOTED.
- #12 COPPER PHASE CONDUCTORS UNLESS NOTED.
- 1/2" EMT UNLESS NOTED.
- #12 COPPER GROUNDING CONDUCTOR UNLESS NOTED.
- TS REUSE EXISTING GENERAC GUARDIAN TRANSFER SWITCH & BREAKERS. IT HAS TWELVE EXISTING 20 AMP BREAKERS.
- LC PROVIDE AND INSTALL NEW LIGHTING CONTROLLER. SEE TOWER SPECIFICATIONS.

ELECTRICAL NOTES

1. DRAWINGS AND DIAGRAMS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
2. ELECTRICAL WORK SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (N.E.C.).
3. PROVIDE ELECTRICAL EQUIPMENT AND ACCESSORIES REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS AND DIRECTIONS FOR SYSTEMS SPECIFIED.
4. SWITCHES AND RECEPTACLES SHALL BE EQUAL TO THE AMPERE RATING SHOWN IN THE PANEL SCHEDULE.
5. SEE HVAC SCHEDULE FOR EQUIPMENT TO BE HARD WIRED, PROVIDE SERVICE DISCONNECT AT EACH.
6. COORDINATE WORK WITH OTHER TRADES PRIOR TO COMMENCING WITH ELECTRICAL WORK.
7. CONDUCTOR AND BREAKER SIZE MAY VARY PER MANUFACTURER ON THE EQUIPMENT SPECIFIED. ELECTRIC CONTRACTOR TO VERIFY SIZES WITH EXACT EQUIPMENT ORDERED PRIOR TO PURCHASING ELECTRICAL SUPPLIES.
8. FIXTURE LOCATIONS ARE APPROXIMATE, EXACT LOCATIONS TO BE DETERMINED AFTER COLLABORATION WITH THE OWNER AND OTHER TRADES.
9. CONTRACTOR SHALL PROVIDE SERVICE DISCONNECTS AS REQUIRED AT EXTERIOR OF BUILDING.
10. PROVIDE BLOCKING FOR ELECTRICAL DEVICES AS REQUIRED FOR A SECURE APPLICATION.
11. THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW, CONTINUOUS UNDERGROUND 4/0 USE SERVICE CABLE AND CONDUIT FROM THE EXISTING SERVICE DISCONNECT LOCATED ON THE SAME POLE AS UTILITY METER. THE SERVICE CABLE SHALL CONFORM TO NEC, ANY LOCAL CODES AND THE UTILITY COMPANY REQUIREMENTS. NO CABLE SPLICES WILL BE ALLOWED. A SCHEDULE 40 CONDUIT SHALL BE PROVIDED AND INSTALLED AS SHOWN ON THE EQUIPMENT SHELTER DRAWINGS. THIS CONDUIT MAY BE SPLICED TO THE EXISTING CONDUIT WITH A PROPER SCHEDULE 40 COUPLER AND ADHESIVE. THE EXISTING CONDUIT LEFT IN PLACE SHALL BE UNDAMAGED. THE CONTRACTOR SHALL EXCAVATE AND REMOVE THE CONDUIT AS FAR AS NECESSARY TO MAKE THE CONNECTION TO CONDUIT THAT IS IN GOOD CONDITION.



A
9
ELECTRICAL PLAN
 SCALE: 1/4" = 1'-0"



Jerry L. Ellington Jr
 E-26275
 10/28/2014

10/28/2014

ELECTRICAL PLAN

**MISSOURI DEPARTMENT
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FACILITIES MANAGEMENT

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