

CONTACT INFORMATION

OWNER

OWNER: CITY OF WENTZVILLE
 REPRESENTATIVE: BILLY ROLL
 ADDRESS: 310 WEST PEARCE BLVD
 PHONE: 636-332-9236

ARCHITECTURAL/STRUCTURAL



8 E. Main
 Wentzville, MO 63387
 (636) 332-4574
 (636) 327-0760
 Contact: Joe McGowan

MECHANICAL / ELECTRICAL / PLUMBING

AEDIFICA CASE ENGINEERING
 796 Merus CT
 Fenton, Missouri 63026
 (636) 349-1600
 Contact: Jim Eyre

ROTARY PARK RESTROOMS

CITY OF WENTZVILLE

Wentzville, Missouri

DRAWING INDEX

ARCHITECTURAL

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- A3.1 INTERIOR ELEVATIONS / SCHEDULES
- A4.1 SECTIONS & DETAILS

MECHANICAL

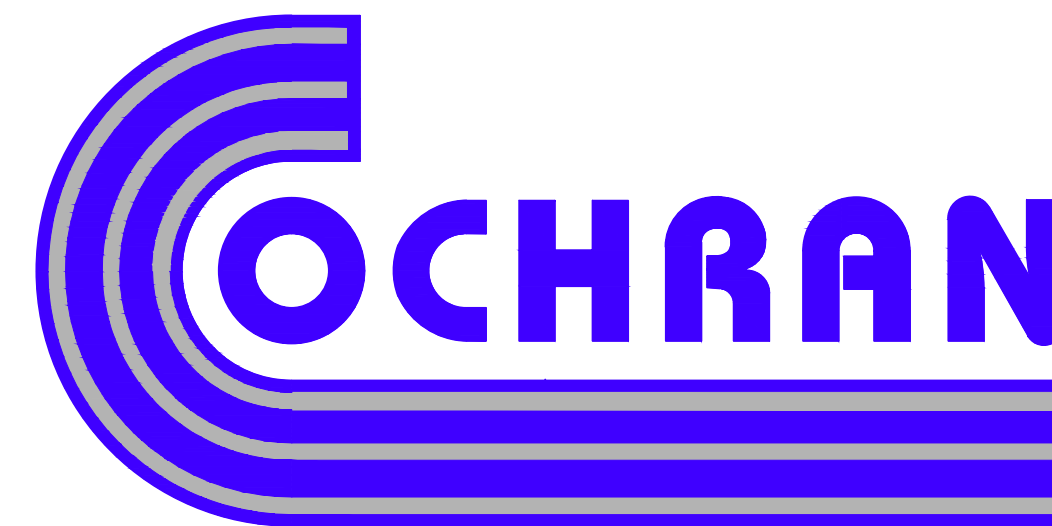
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ELECTRICAL

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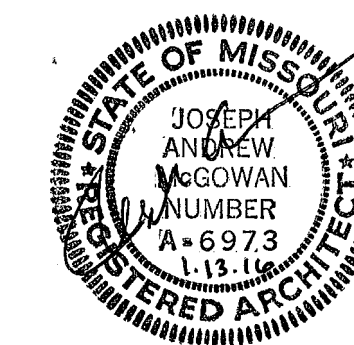
PLUMBING

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- P2.0 PLUMBING PLAN
- P3.0 DETAILS & RISERS



- CIVIL ENGINEERING
- LAND SURVEYING
- ARCHITECTURE
- SITE DEVELOPMENT
- MASTER PLANNING
- GENERAL CONSULTING

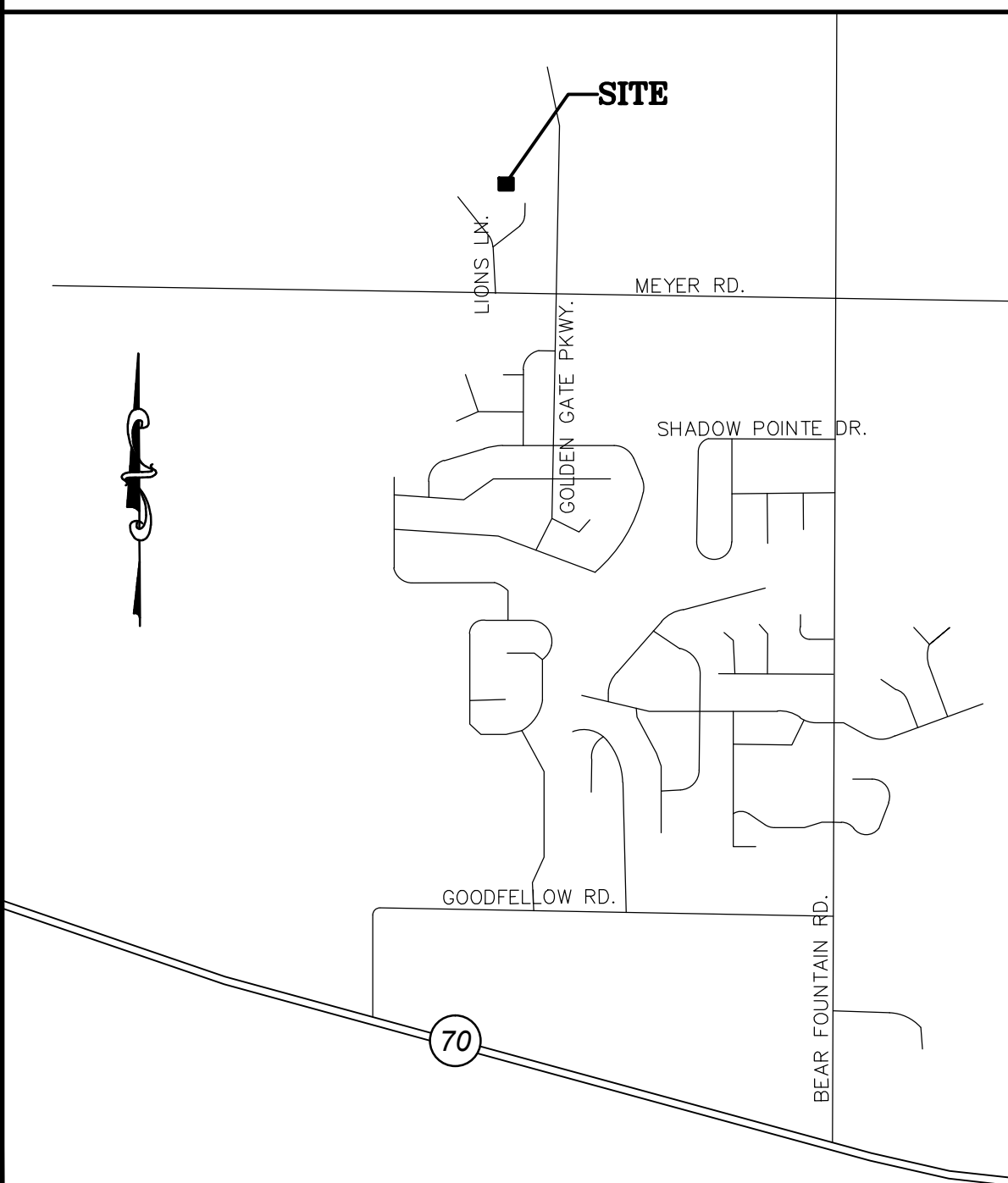
8 E. MAIN, WENTZVILLE, MO 63387
 TELEPHONE (636) 584-0540
 FAX (636) 584-0512
 mail@cochraneng.com



Joseph A. McGowan No. A-6973
 Registered Architect
 State of Missouri
 Cochran

Two working days prior to the start of any excavation on this site, contractor shall call 1-800-DIG-RITE for utility location information.

All OSHA rules & regulations established for the type of construction required by these plans shall be strictly followed (ie. Trenching, Blasting, etc.)

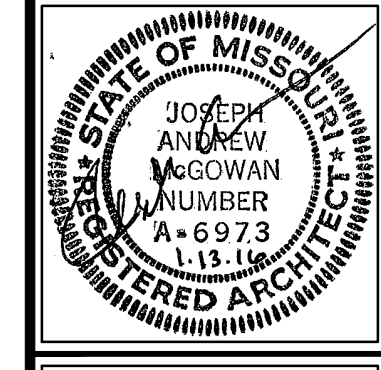


VICINITY MAP
 NO SCALE

COVER SHEET					DATE:
					1/13/16
					SCALE:
					N.T.S.
					PROJ. NO:
					M14-7119
					(15-6060)
					DWG. NO:
					CS

Two working days prior to the start of any excavation call 1-800-368-RTRE for utility location information.

All OSHA rules & regulations and applicable codes of practice shall be strictly followed (e.g. Trenching, Blasting, etc.)



NEW RESTROOMS
CITY OF WENTZVILLE
ROTARY PARK
WENTZVILLE, MISSOURI

FLOOR PLAN / CEILING PLAN

DATE:	DATE:
DRAWN BY: AKL	APPROVED BY: JAM
DATE: Jan 13, 2016	
SCALE: AS NOTED	
PROJ. NO: M14-7119	
(15-6060)	
DWG. NO:	

A1.1

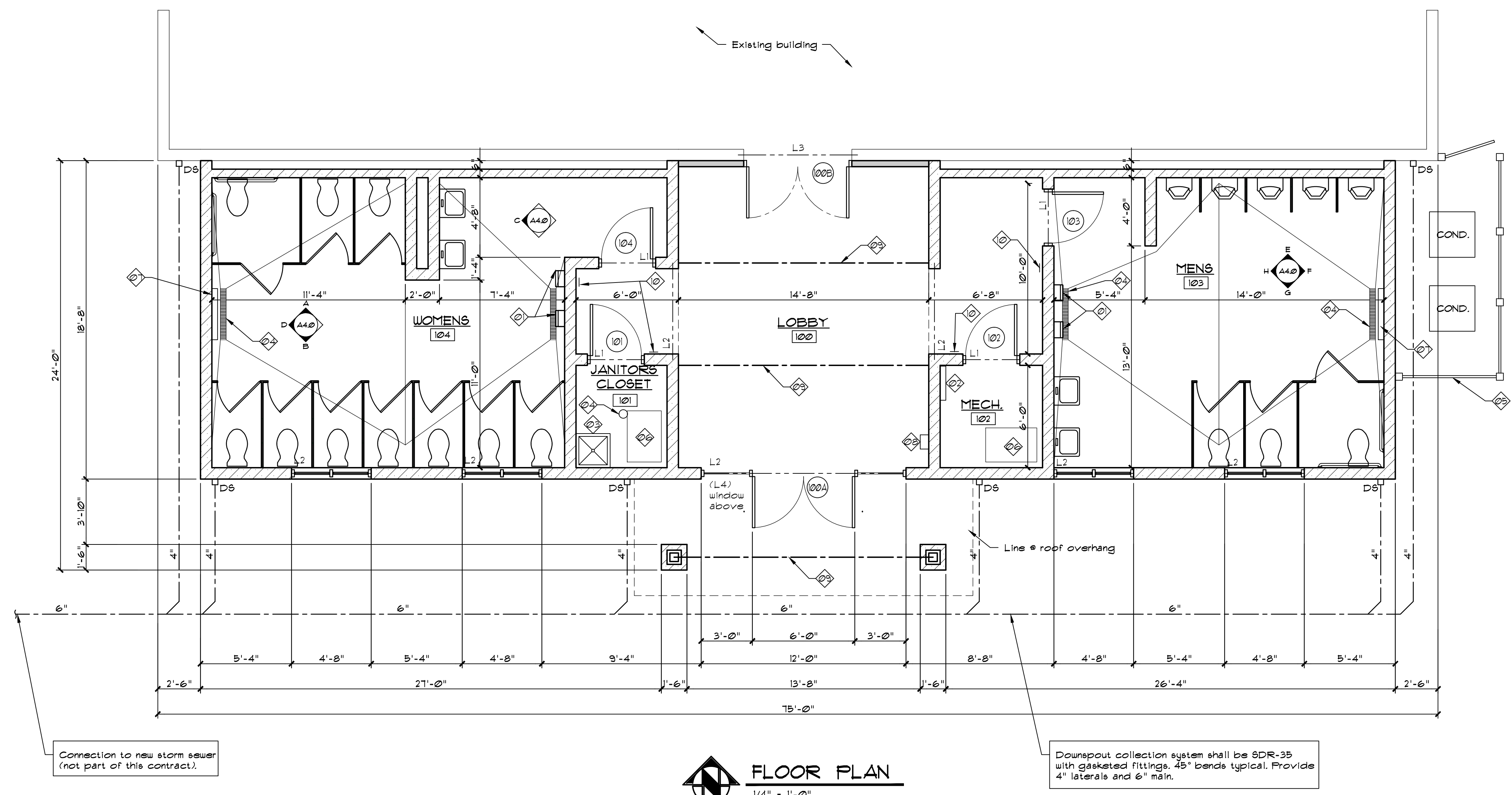
KEY NOTES

- Handi dryer - see Interior Elevations
- Electric panel - see Electrical Drawings
- Mop sink - see Plumbing Drawings
- Floor drain - see Plumbing Drawings
- 4' tall cedar screening maintain 3'-0" clearance around condensing unit.
- Mechanical unit - see Mechanical Drawings
- Baby changing station - see Interior Elevations
- Fire extinguisher cabinet
- Timber truss - see Details
- Sign - see Schedule

LINTEL SCHEDULE

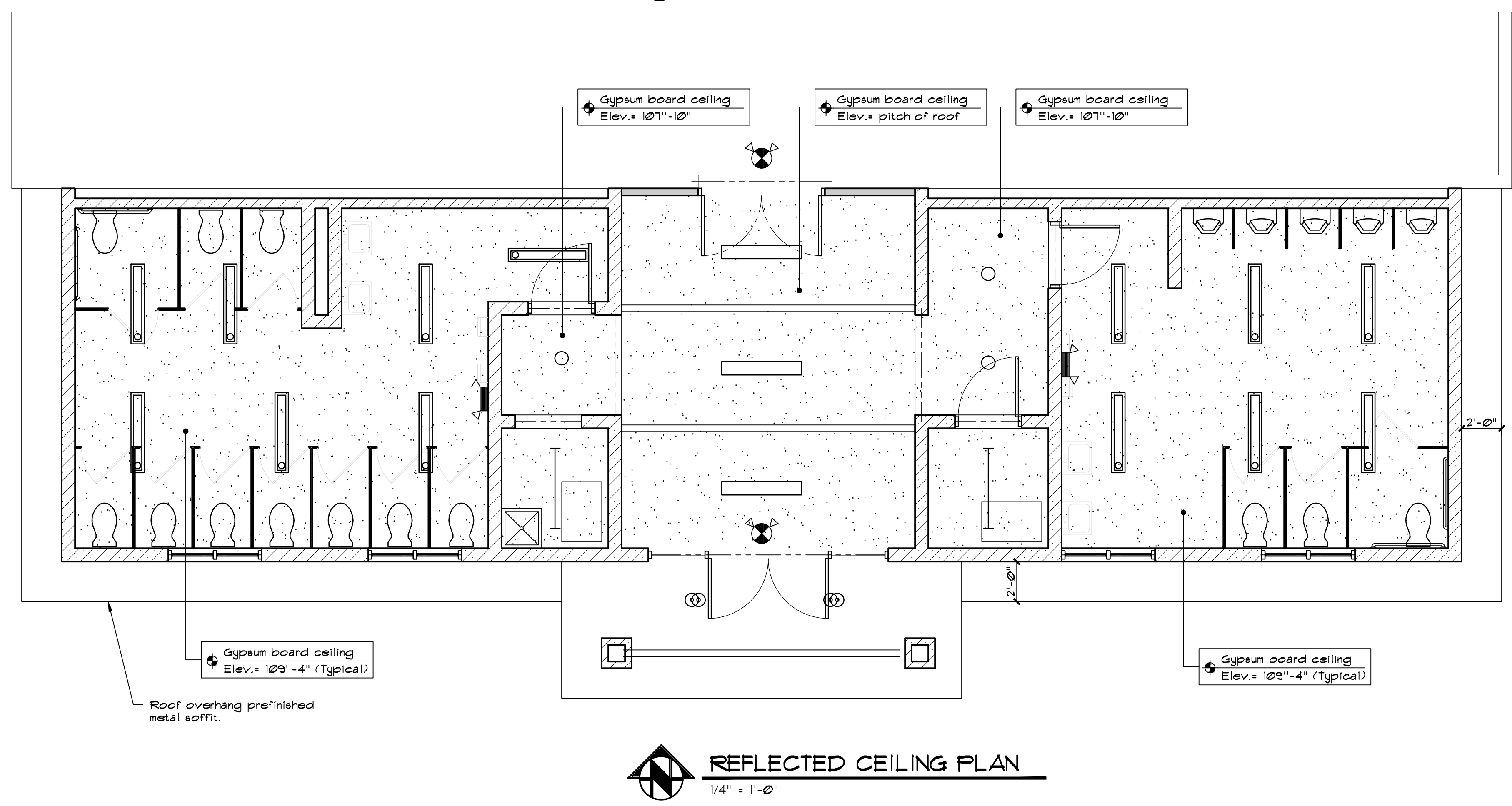
MARK	DESCRIPTION	DETAILS
L1	(2) L 3 1/2x3 1/2x5/16"	
L2	W8x18 with 1"x5/16" plate	
L3	(2) L 4x6x1/4"	
L4	(2) L 3 1/2x3 1/2x1/4"	

Notes:
1. Field paint exposed lintels.
2. See Typical Lintel Bearing Detail on Sheet A4.1.
3. L4 steel angle welded back to back follow slope of window with 8" horizontal ends.



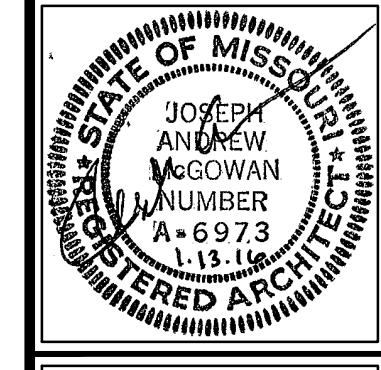
CEILING LEGEND

- EMERGENCY LIGHT
- EMERGENCY/EXIT LIGHT
- LINEAR FLUORESCENT
- OUTDOOR PENDANT FIXTURE
- GYP BOARD
- STRIP FLUORESCENT
- CAN LIGHT



Two working days prior to the start of any excavation call 1-800-368-RTRE for utility location information.

All OSHA rules & regulations and applicable codes of practice shall be strictly followed (e.g. Trenching, Blasting, etc.)



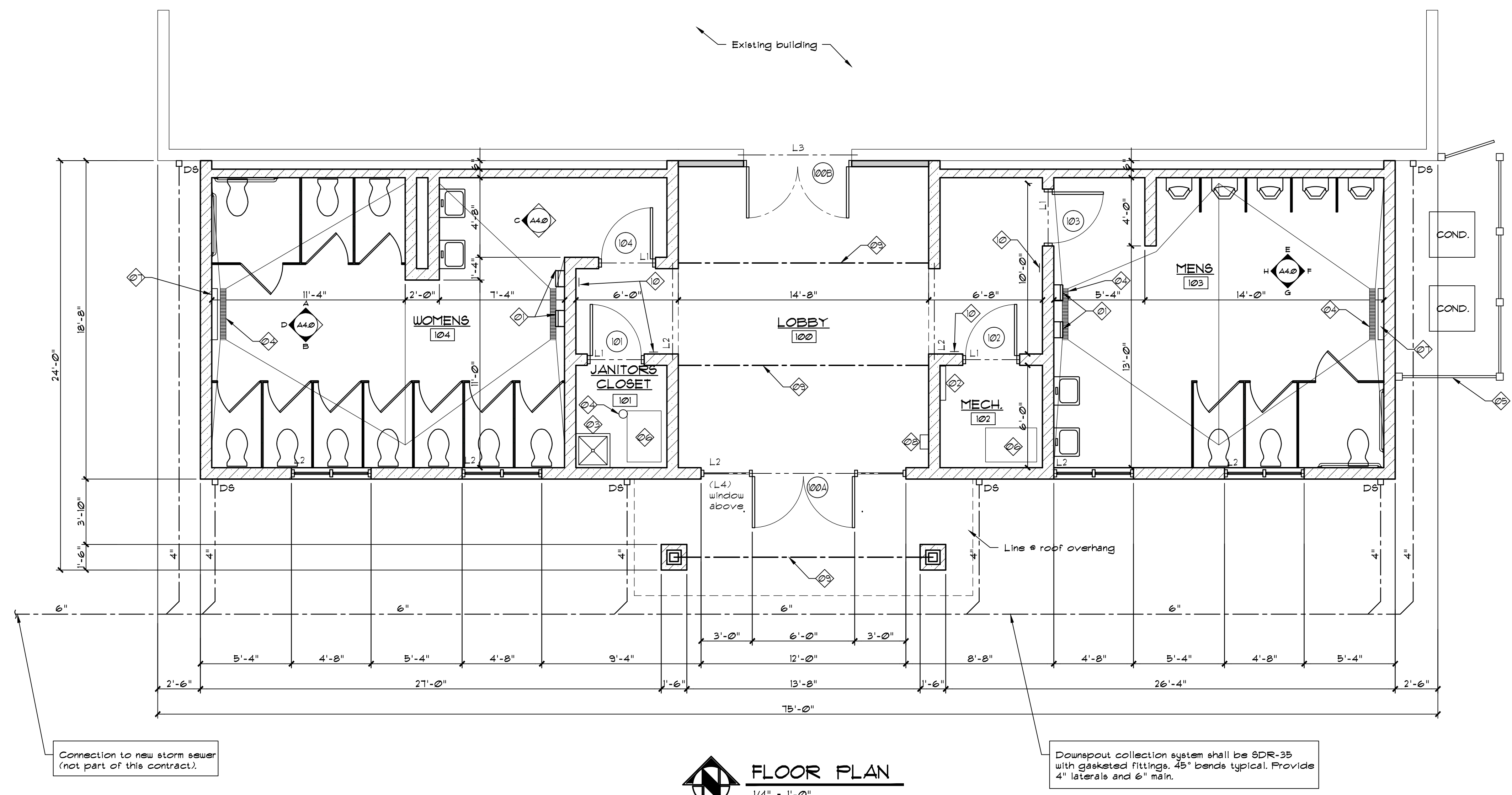
NEW RESTROOMS
CITY OF WENTZVILLE
ROTARY PARK
WENTZVILLE, MISSOURI

DATE:	DATE:
DESIGN BY: AKL	APPROVED BY: JAM
DATE: Jan 13, 2016	
SCALE: AS NOTED	
PROJ. NO: M14-7119	
(15-6060)	
DRWG. NO:	

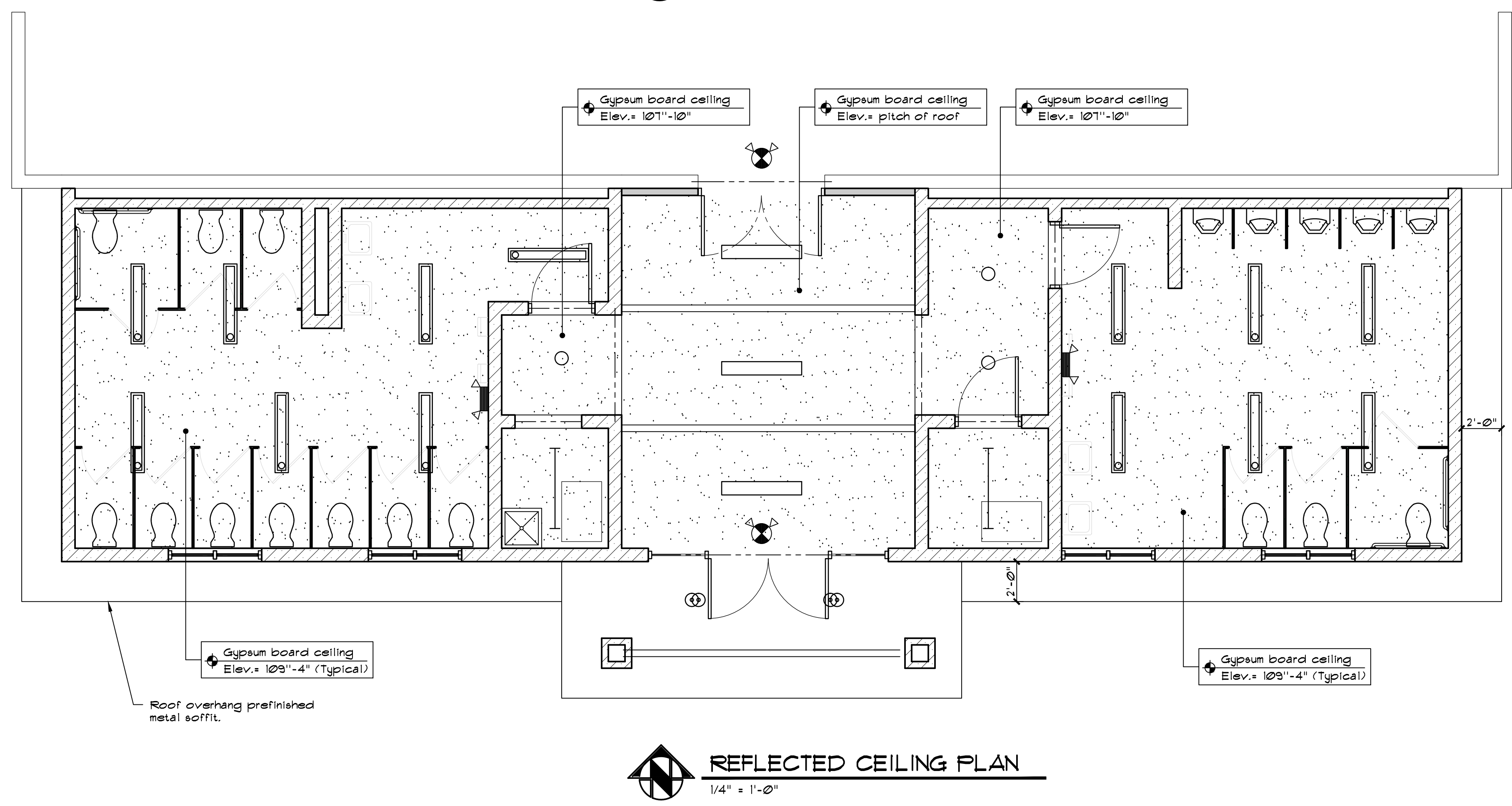
KEY NOTES	
⊕	Handi dryer - see Interior Elevations
⊕	Electric panel - see Electrical Drawings
⊕	Mop sink - see Plumbing Drawings
⊕	Floor drain - see Plumbing Drawings
⊕	4' tall cedar screening maintain 3'-0" clearance around condensing unit.
⊕	Mechanical unit - see Mechanical Drawings
⊕	Baby changing station - see Interior Elevations
⊕	Fire extinguisher cabinet
⊕	Timber truss - see Details
⊕	Sign - see Schedule

LINTEL SCHEDULE		
MARK	DESCRIPTION	DETAILS
L1	(2) L 3 1/2x3 1/2x5/16"	
L2	W8x18 with 1"x5/16" plate	
L3	(2) L 4x6x1/4"	
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Notes:
1. Field paint exposed lintels.
2. See Typical Lintel Bearing Detail on Sheet A4.1.
3. L4 steel angle welded back to back follow slope of window with 8" horizontal ends.



CEILING LEGEND	
EMERGENCY LIGHT	
EMERGENCY/EXIT LIGHT	
LINEAR FLUORESCENT	
OUTDOOR PENDANT FIXTURE	
GYP BOARD	
STRIP FLUORESCENT	
CAN LIGHT	



ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS				CEILING		REMARKS
				NORTH	EAST	WEST	SOUTH	MATL.	HEIGHT	
100	LOBBY	CONC	-	F2	F2	F2	F2	GB	Varies	
101	JANITORS CLOSET	CONC	-	PI	PI	PI	PI	GB	9'-6"	
102	MECHANICAL	CONC	-	PI	PI	PI	PI	GB	9'-6"	
103	MENS RESTROOM	CONC	-	PI	PI	PI	PI	GB	9'-6"	
104	WOMENS RESTROOM	CONC	-	PI	PI	PI	PI	GB	9'-6"	

ROOM FINISH SCHEDULE NOTES:
1. See Paint Schedule this sheet.

ABBREVIATION LEGEND

CONC Concrete
GB Gypsum Board
P Paint

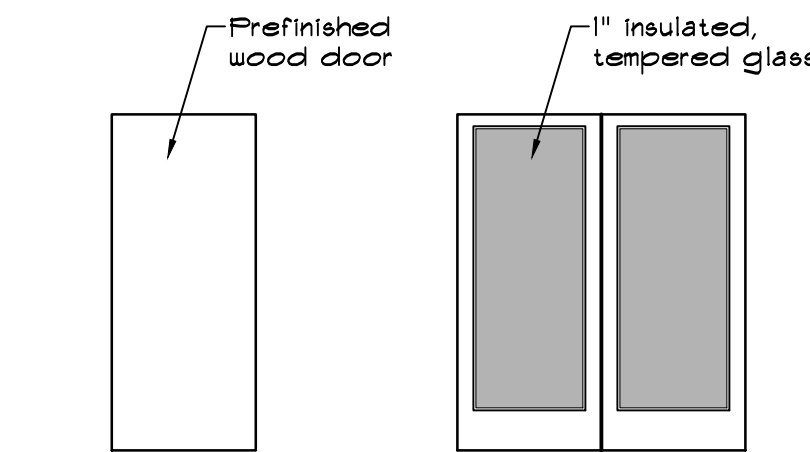
TOILET ACCESSORY SCHEDULE

NO.	DESCRIPTION	MANUF.	CATALOG NO.	MATERIAL	FINISH	REMARKS
1	Mirror - Made to order					Attach with vandal - proof anchors
2	Toilet Paper Dispenser	Bobrick	B-2032			Surface mount
3	Grab Bar, 1 1/2" x 36"	Bobrick	B-6006x36	stainless steel	satn	36" mounting height
4	Grab Bar, 1 1/2" x 42"	Bobrick	B-6006x42	stainless steel	satn	36" mounting height
5	Urinal Screen	Scranton	-	solid HDPE	orange peel	Wall mounted, support post to floor
Plumbing fixture - See PLUMBING DRAWINGS.						
Handicapped Accessible Plumbing Fixture - See PLUMBING DRAWINGS.						
6	Toilet Partition	Scranton	-	solid HDPE	orange peel	color to be selected by Owner
7	Sanitary Napkin Dispenser	Bobrick	B-210	stainless steel	satn	
8	Hand Dryer	World Dryer	L-914	White Enamel	White	
9	Foam Soap Dispenser	U-line	H-3416	Plastic	White	
10	Baby Changing Station	U-line	H-1669	Plastic	White	
11	Vertical Grab bar, 1 1/2" x 18"	Bobrick	B-6006x18	stainless steel	satn	40" mounting height.

NOTES
1. Provide solid blocking where toilet partitions, grab bars, dispensers, lavatories, etc., are mounted to walls.
2. Soap & paper towel dispensers shall be mounted such that access point is located 44" above the finish floor.
3. Owner shall provide soap dispensers, paper towel dispensers, and trash receptacles.

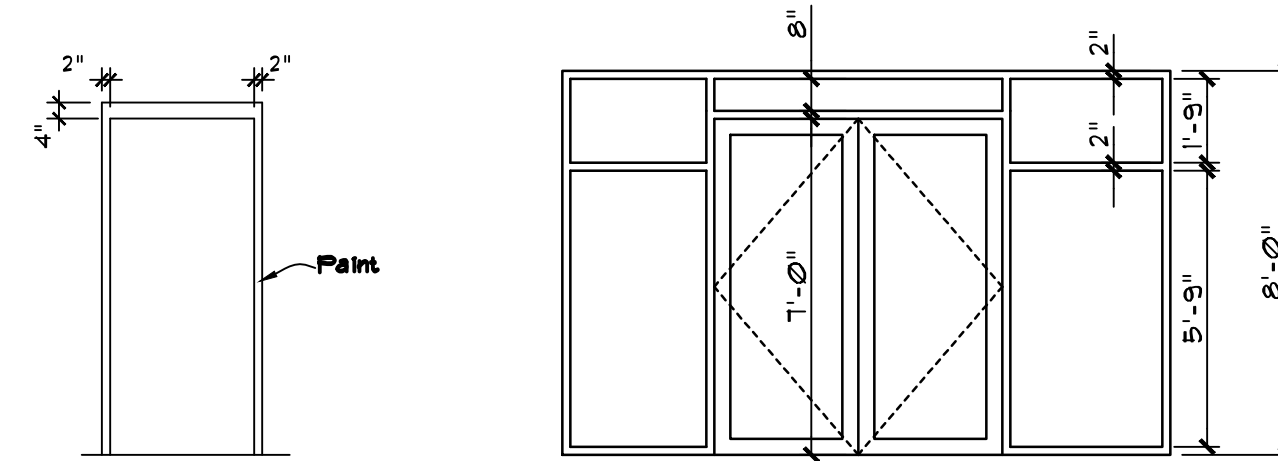
DOOR SCHEDULE

Door Number	Door Type	Door Size	HDUE Group	Frame Type	UL Rating	Notes:
100A	B	3'-0" x 7'-0" x 1 3/4" (pair)	A1	2	-	
100B	A	3'-0" x 7'-0" x 1 3/4" (pair)	3	1	-	
101	A	3'-0" x 7'-0" x 1 3/4"	2	1	-	
102	A	3'-0" x 7'-0" x 1 3/4"	2	1	-	
103	A	3'-0" x 7'-0" x 1 3/4"	1	1	-	
104	A	3'-0" x 7'-0" x 1 3/4"	1	1	-	



"A" Solid Core Wood Door
"B" Aluminum Door Medium Style

DOOR TYPES



"1" Hollow Metal Frame
"2" Aluminum Storefront Frame

HARDWARE SCHEDULE

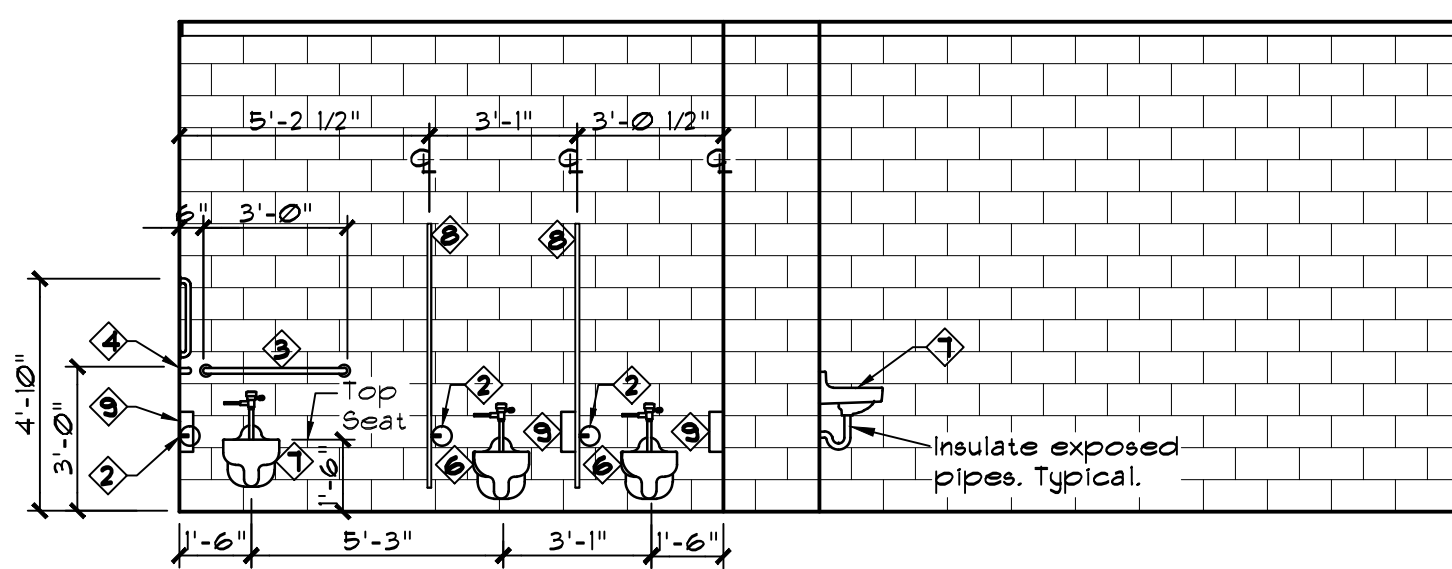
Group	Description	Manufacturer
Group 1	3 Butt hinges 5-PB-1-HU-45x45-652 1 Push plate 8200-6-US32D-4x16 1 Full plate 8303-10-US32D-4x16-G 1 Closer 401ix1CxTBUMS 1 Wall stop U540CCVX-US26D 1 Dead lock B660F 1 Weatherstripping 332CR 1 Door sweep 315CN 2 Kick plates	Ives Ives Ives LCN Ives Schlage Femko Rockwood
Group 2	3 Butt hinges 5-PB-1-HU-45x45-630 1 Storeroom lock ND80PDxATHx626 1 Wall stop U540CCV-US26D	Ives Schlage Ives
Group 3	6 Butt hinges 5-PB-1-HU-45x45-652 NRP 1 Automatic opener Magic Force LE pair 1 Electrified panic EL3341A-TL-L-TRIM US26D 1 Electrified panic EL3341A-EO US26D 1 Power supply F8914-2RS-4RL 2 Power transfer EPT10 2 Wall stop U540TCCV x 652 2 Full BF158 US26D 1 Mortise cylinder 80-302 US26D 2 Wireless push plates 10FB51 1 Door bottom seal 1 Set weatherstripping	Ives Stanley Von Duprin Von Duprin Von Duprin Von Duprin Von Duprin Rockwood Schlage BEA Mfr. Std Mfr. Std

NOTES:
1. All hardware to be lever type, handicap accessible.
2. All hardware shall be heavy-duty.
3. Coordinate keying with the owner.
4. See Specifications for additional requirements.

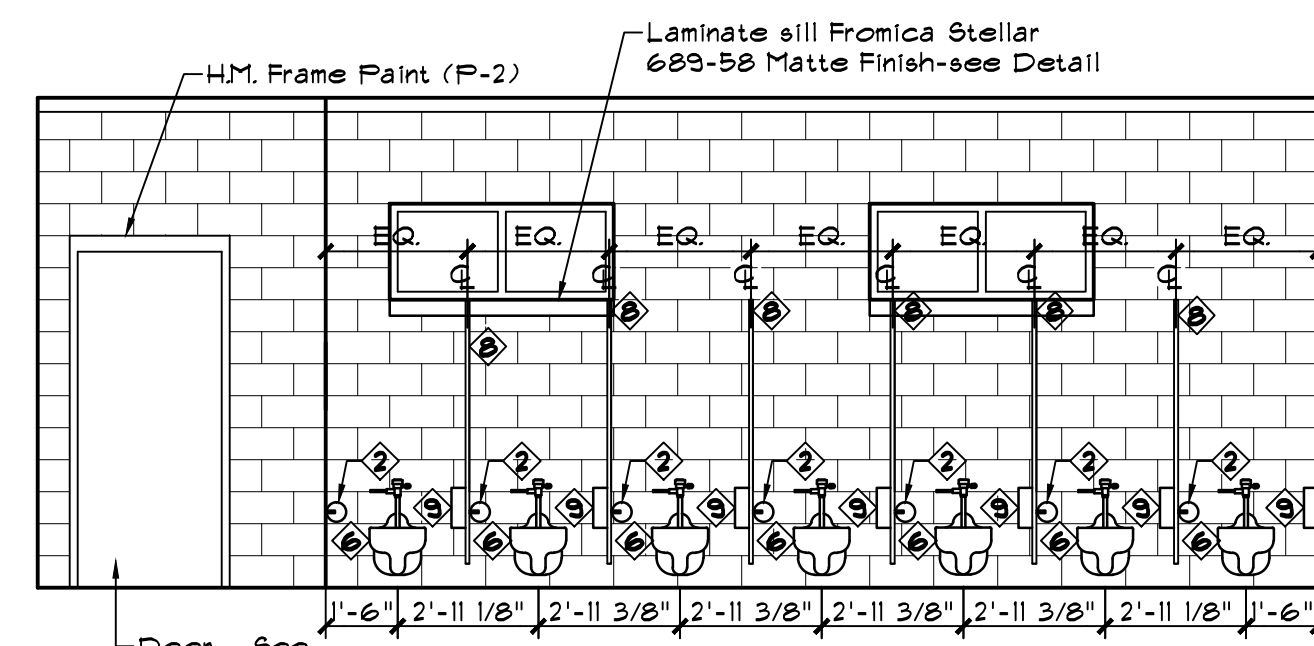
INTERIOR FINISH SCHEDULE

P1	BATHROOMS PAINT COLOR SHERWIN WILLIAMS FINISH: SEMI-GLOSS COLOR: BISCUIT 612
P2	LOBBY PAINT WALL COLOR SHERWIN WILLIAMS FINISH: EGG-SHELL COLOR: COMFORT GRAY 6205
P3	LOBBY CEILING SHERWIN WILLIAMS FINISH: FLAT COLOR: INTERACTIVE CREAM 613
P4	BATHROOM CEILING SHERWIN WILLIAMS FINISH: FLAT COLOR: CEILING WHITE
TOILET PARTITIONS GLOBAL BLACK CONFETTI 9211	

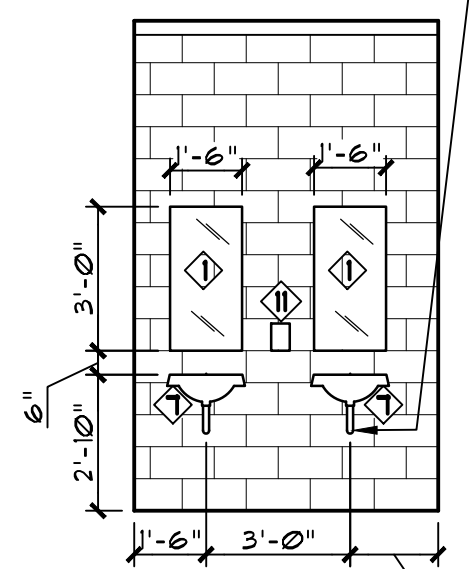
NOTE: ALL COLORS AND PATTERNS TO BE FIELD-VERIFIED WITH OWNER



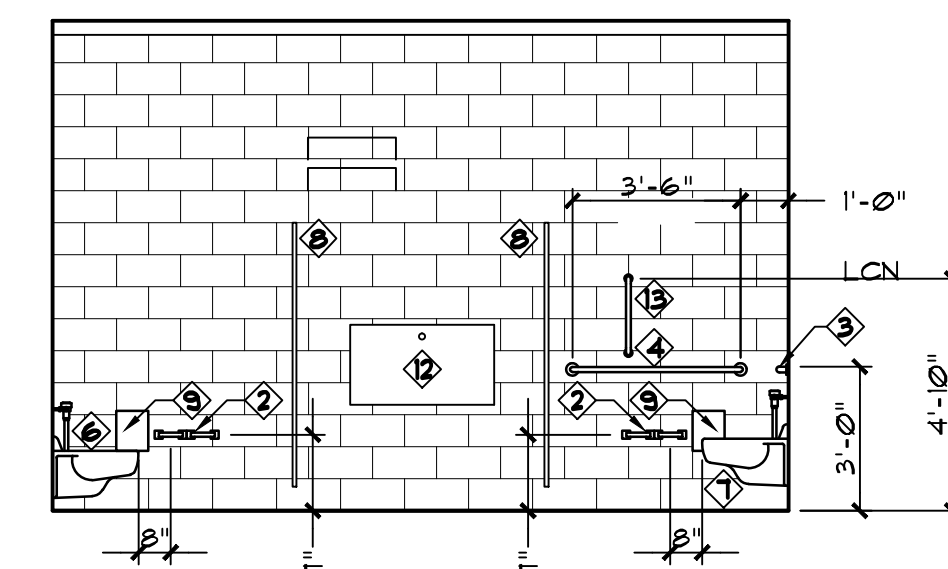
"A"



"B"



"C"



"D"

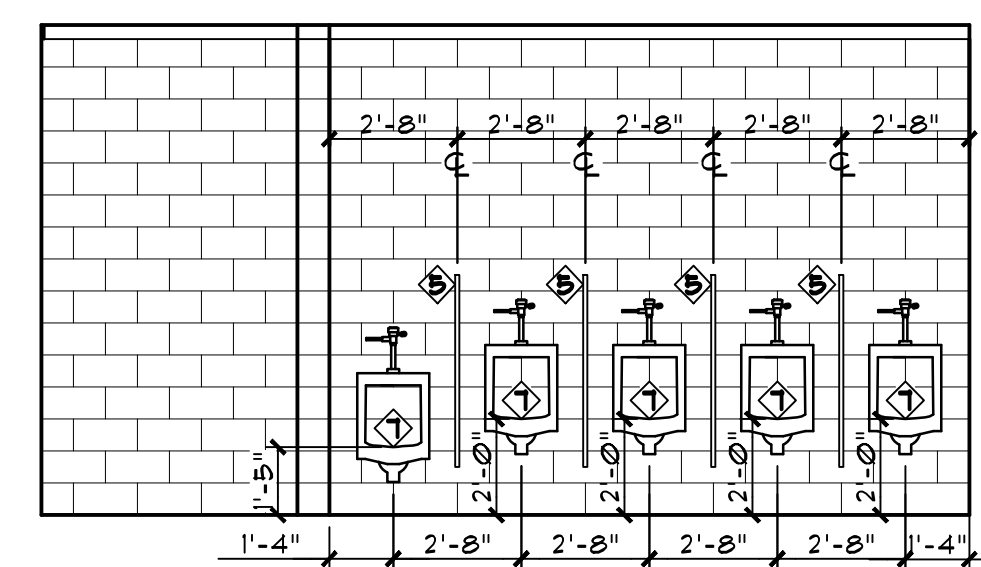
ALUMINUM ENTRANCE DOOR

Group	Description	Manufacturer
Group A1	2 Pieces continuous hinges 780-224HD-ano alum 1 Automatic opener Magic Force LE pair 1 Electrified panic EL3341WDC-TL-L-TRIM US26D 1 Electrified panic EL3341WDC-EO US26D 1 Power supply F8914-2RS-4RL 2 Power transfer EPT10 2 Wall stop U540TCCV x 652 2 Full BF158 US26D 1 Mortise cylinder 80-302 US26D 2 Wireless push plates 10FB51 1 Set weatherstripping 1 Door bottom seal 1 Thermally broken accessible threshold	Roton Von Duprin Von Duprin Von Duprin Von Duprin Von Duprin Ives Rockwood Schlage BEA Mfr. Std Mfr. Std

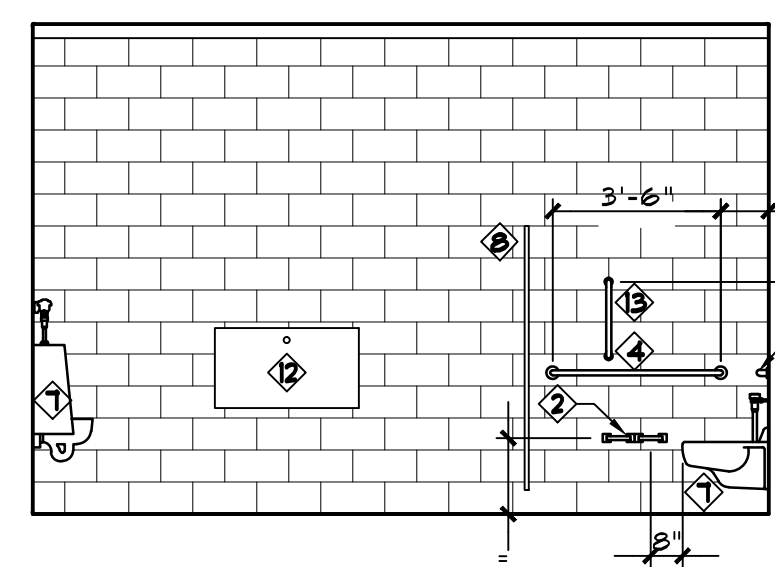
NOTES:
1. All hardware shall be lever type, handicap accessible.
2. Locksets with keys shall be keyed as directed by the Owner. The hardware supplier shall coordinate keying with the Owner.
3. See Specifications for additional requirements and acceptable alternate manufacturer's.
4. All hardware shall be heavy duty.

ELEVATIONS - WOMENS RESTROOM

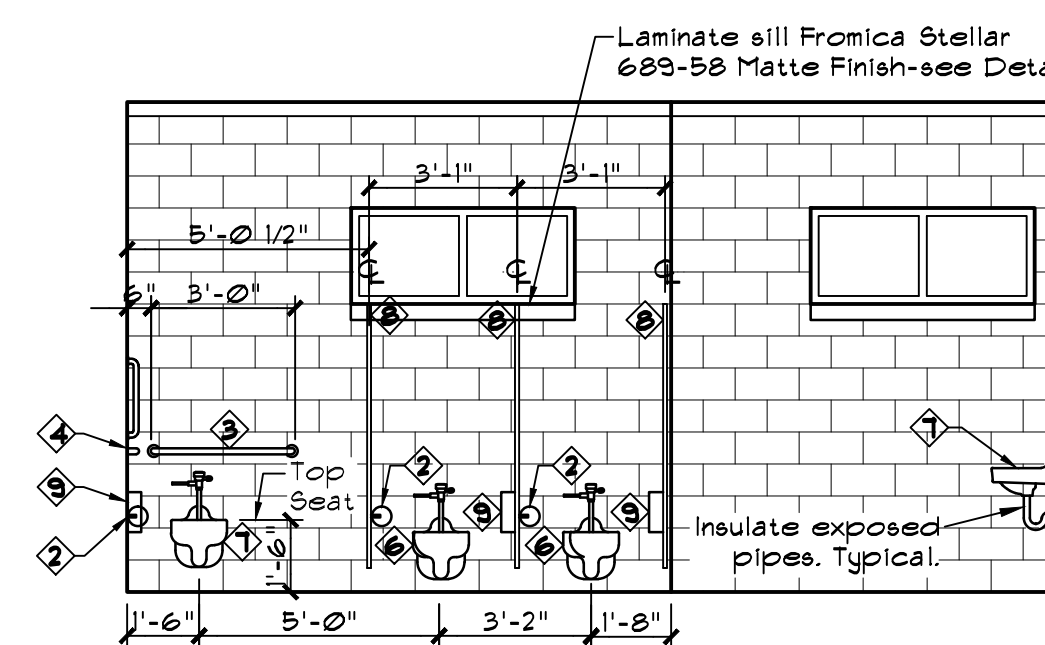
1/4" = 1'-0"



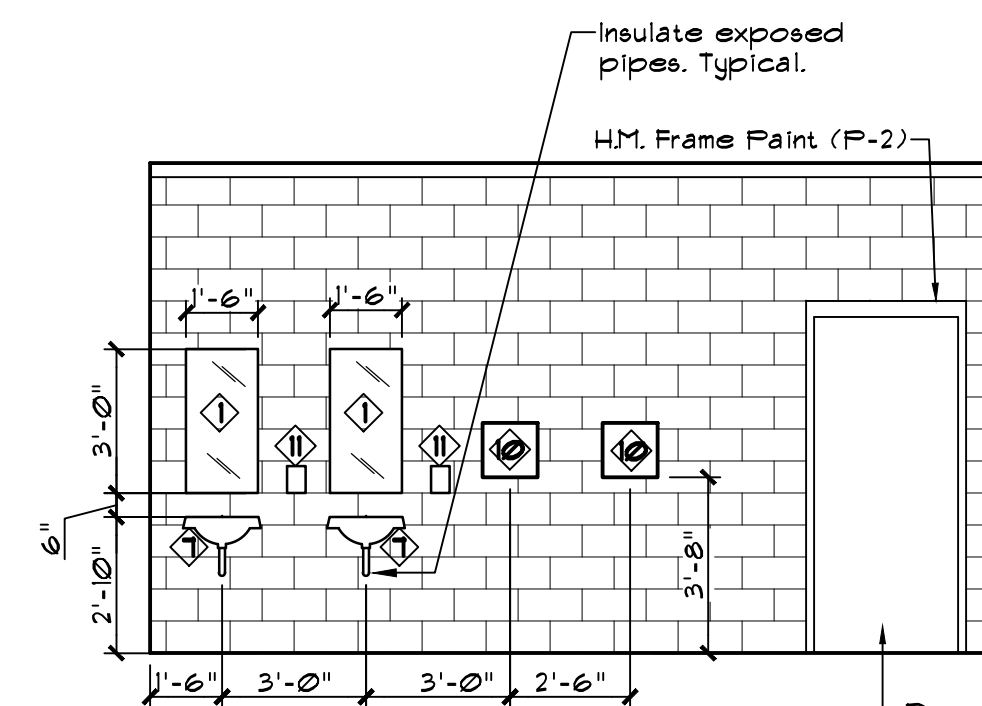
"E"



"F"



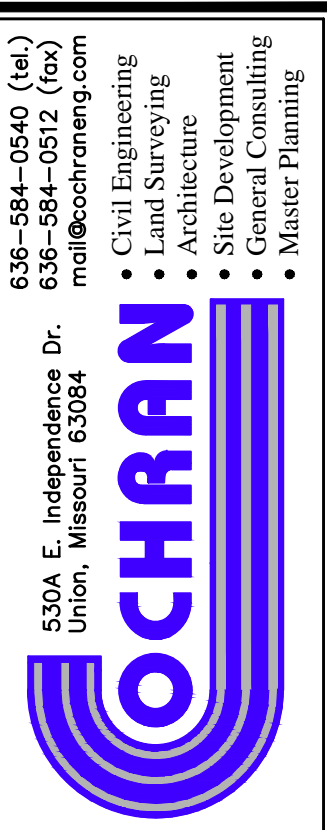
"G"



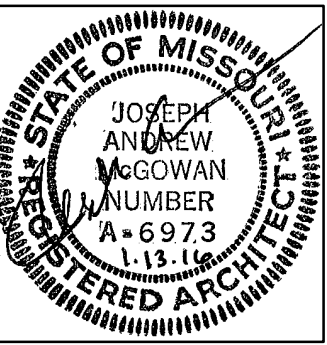
"H"

ELEVATIONS - MENS RESTROOM

1/4" = 1'-0"

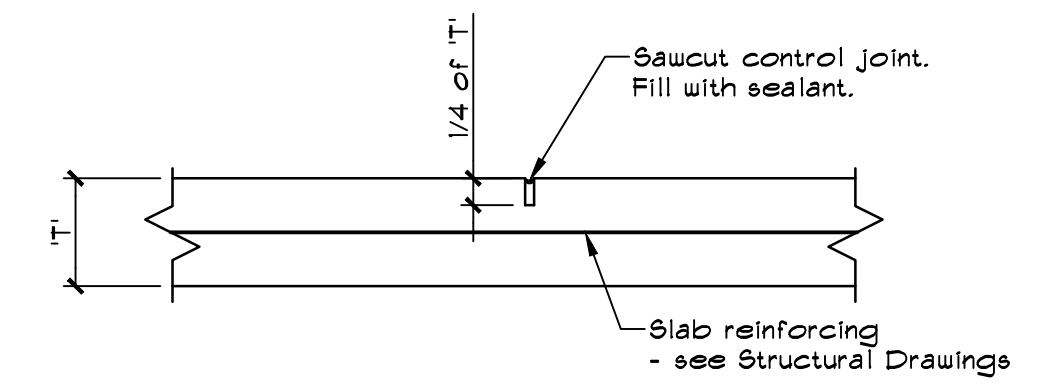


Two working days prior to the start of any excavation call 1-800-UG-RITE for utility location information.
All OSHA rules & regulations construction required by these plans shall be strictly followed (i.e. Trenching, Blasting, etc.)

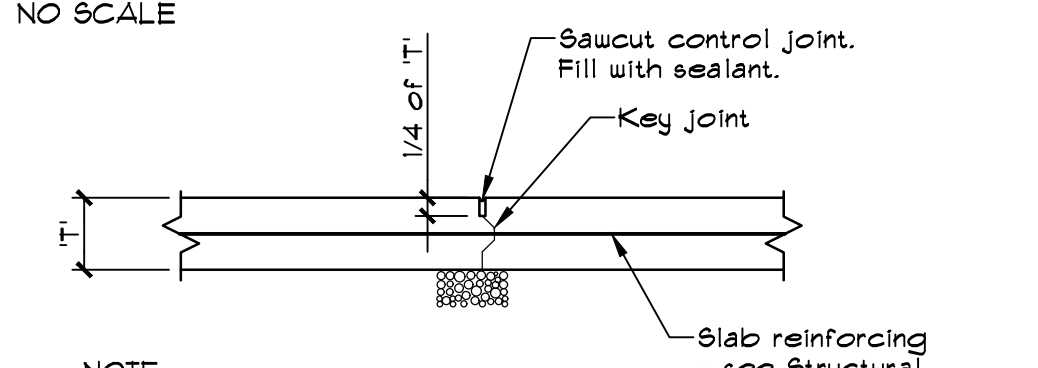


NEW RESTROOMS
CITY OF WENTZVILLE
ROTARY PARK
WENTZVILLE, MISSOURI

DATE	BY	APP'D BY
	NAP	JAM
Jan 13, 2016		
SCALE	AS NOTED	
PROJ. NO.	M14-7119	
	(15-6060)	
DWG. NO.	A3.1	

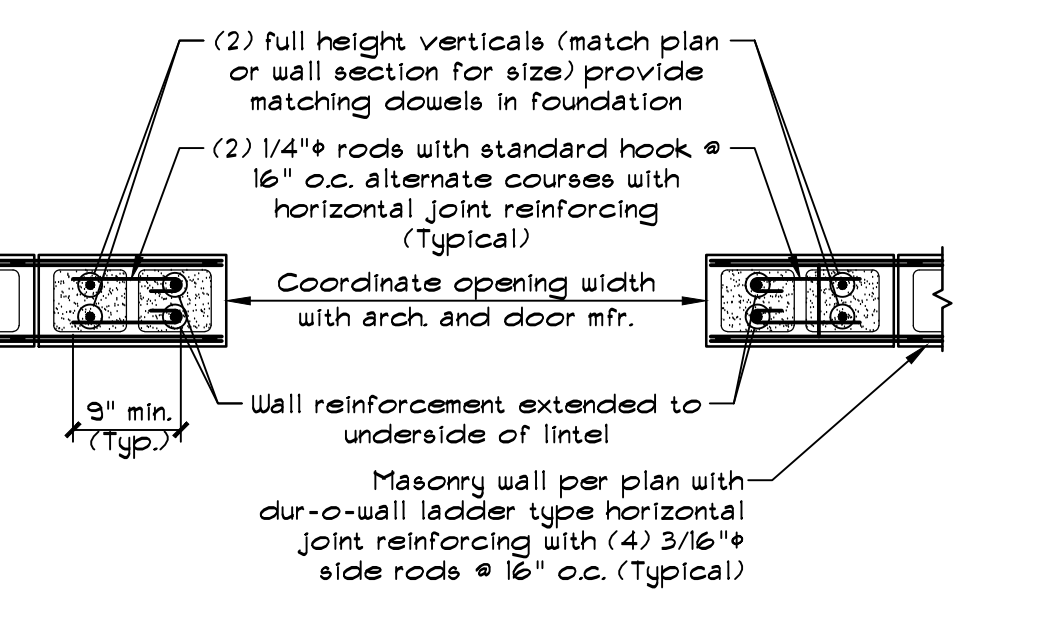


TYPICAL INTERIOR SLAB-ON-GRADE CONTROL JOINT DETAIL
NO SCALE

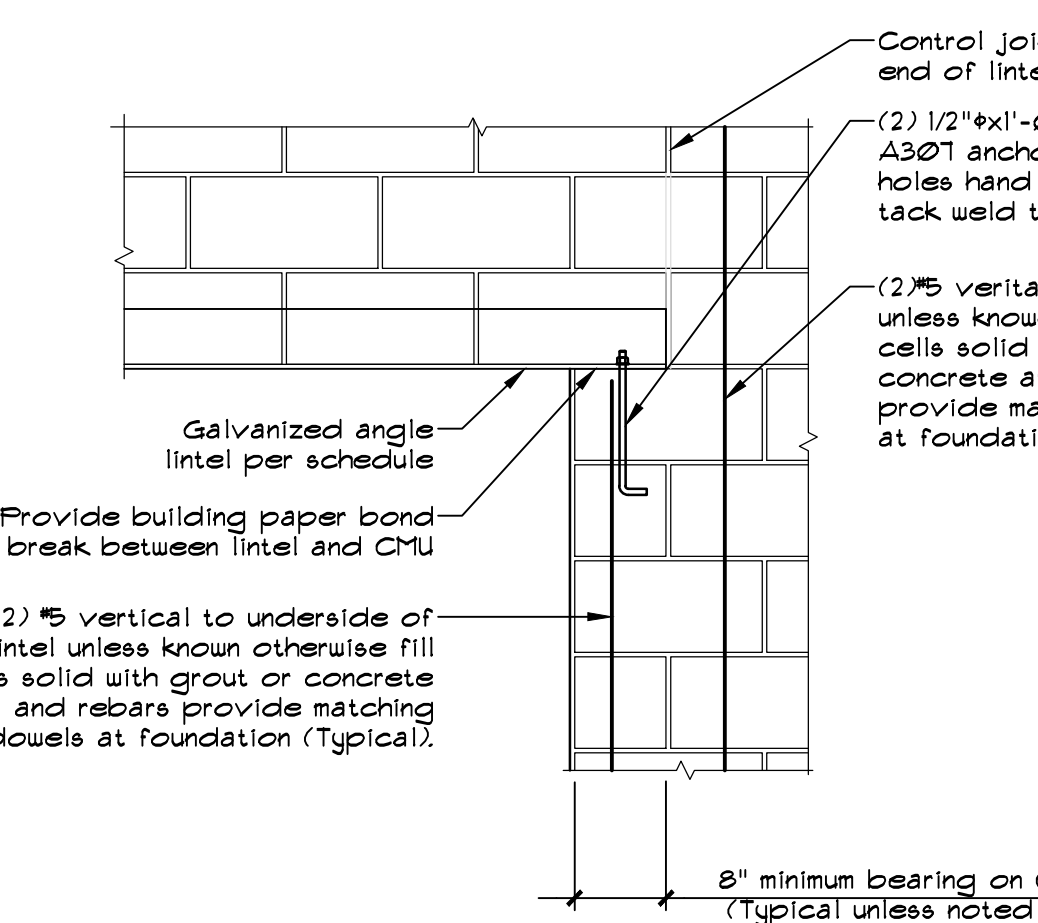


NOTE: Contractor may use 1"x1'-6" long smooth dowels at 1'-0" o.c. with "Speed Dowel Sleeve" in lieu of passing slab reinforcing thru joint.

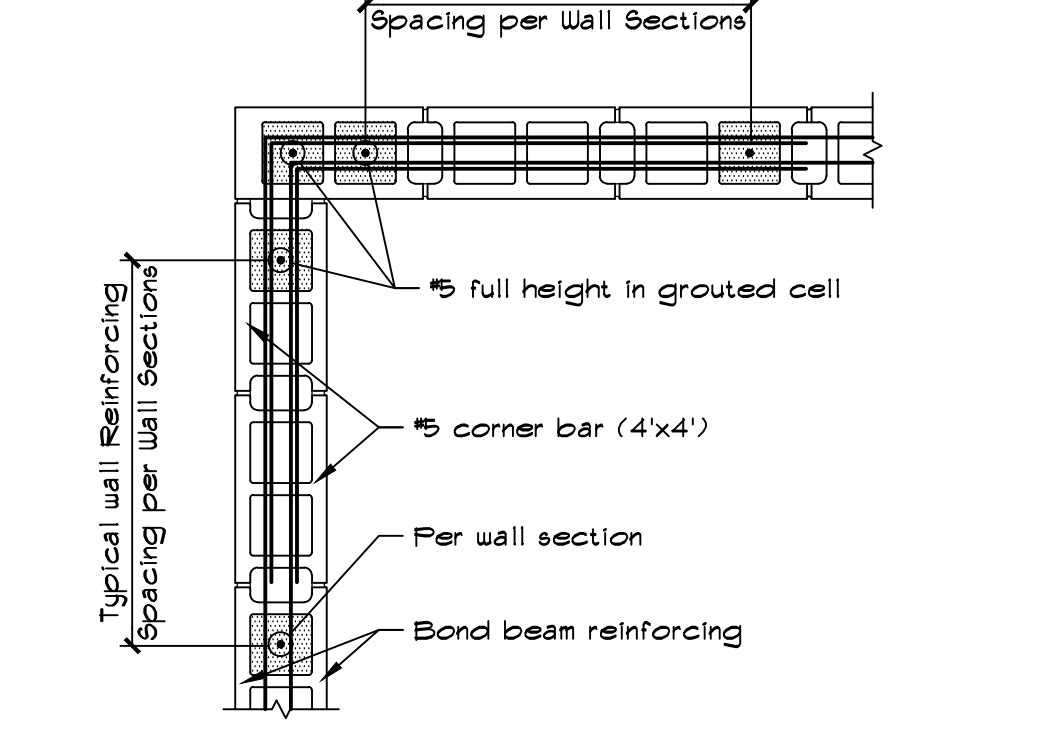
TYPICAL SLAB-ON-GRADE CONSTRUCTION JOINT
NO SCALE



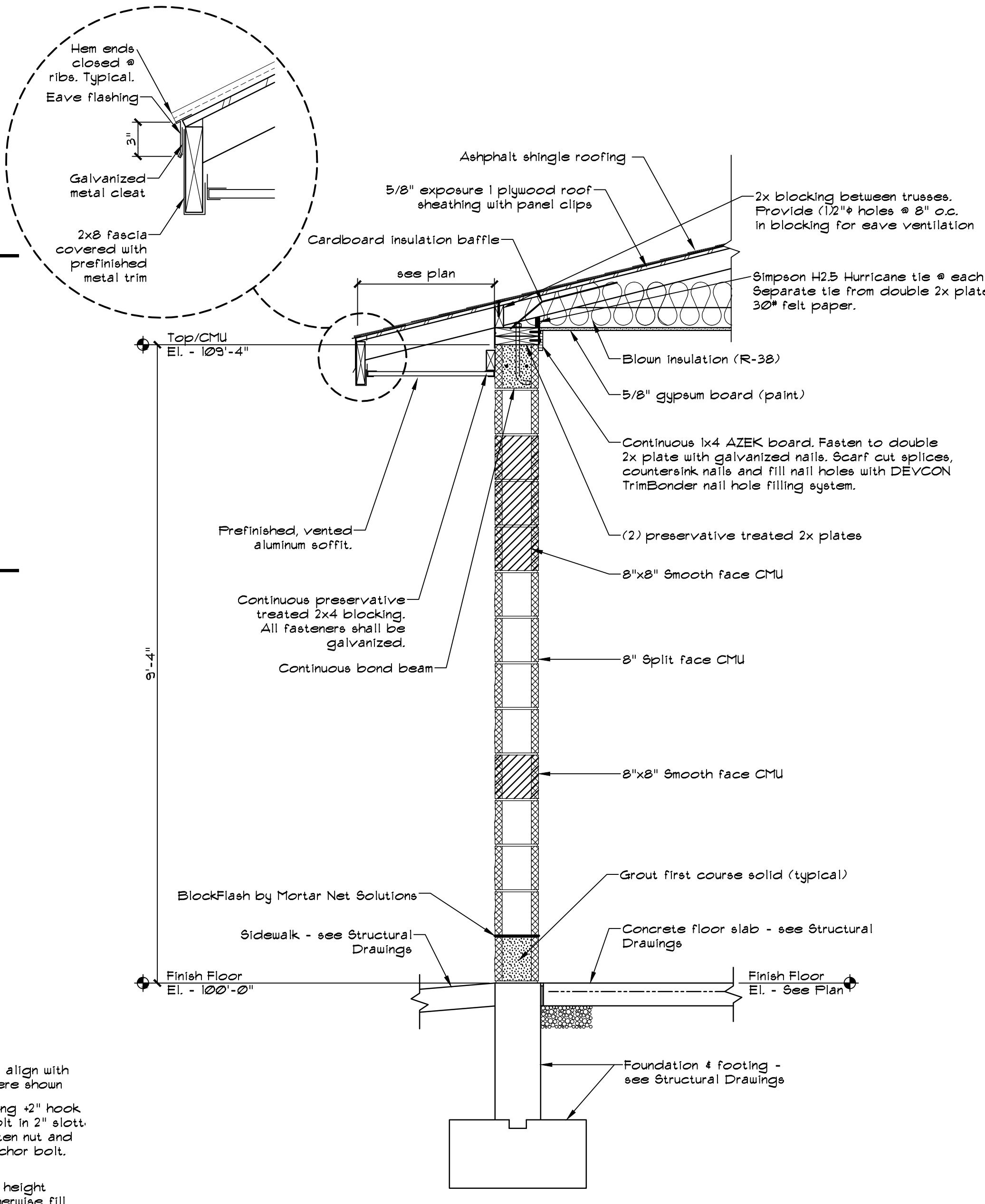
TYPICAL REINFORCEMENT FOR OPENING IN CMU WALL
NO SCALE



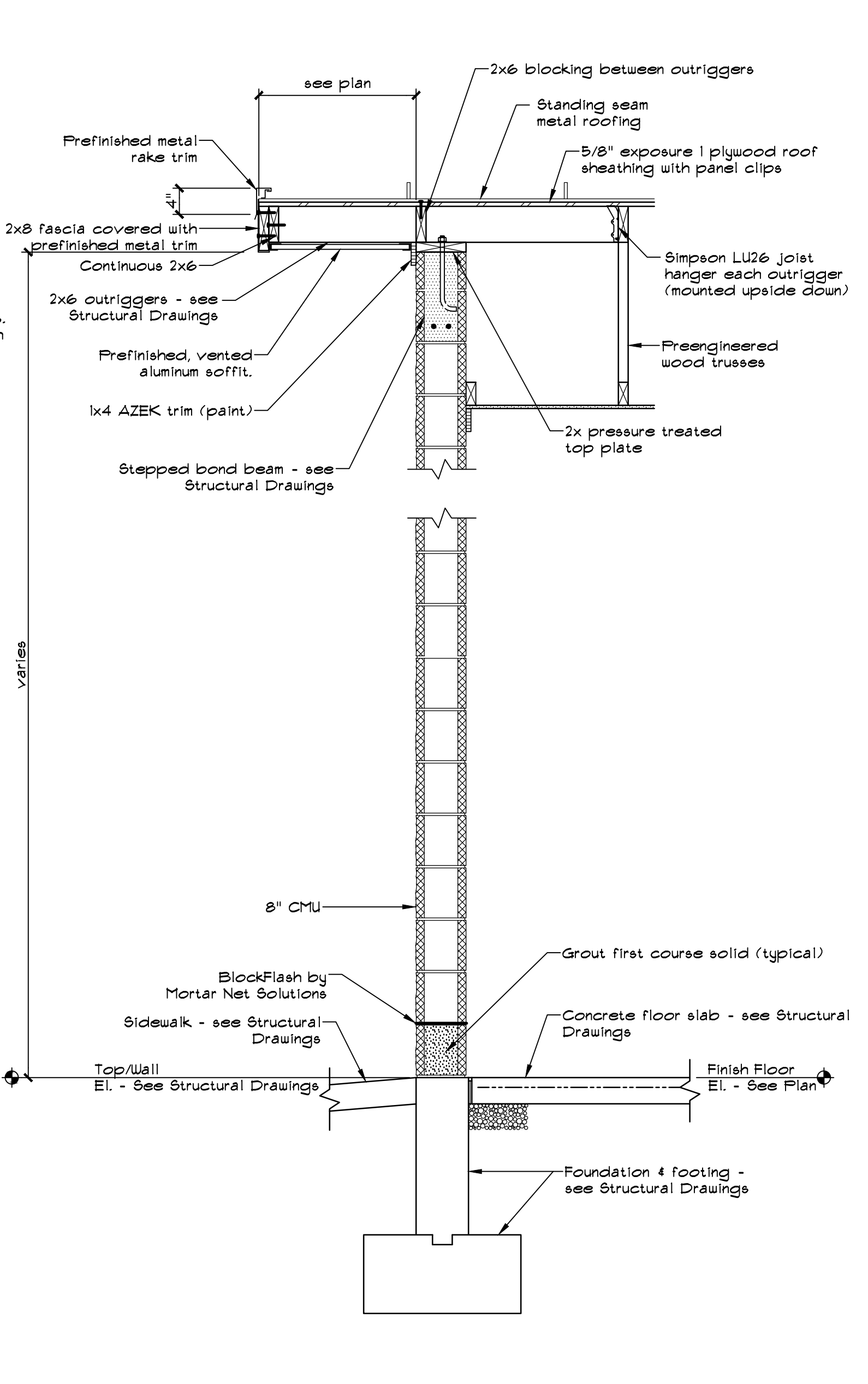
TYPICAL STEEL ANGLE LINTEL DETAIL
NO SCALE



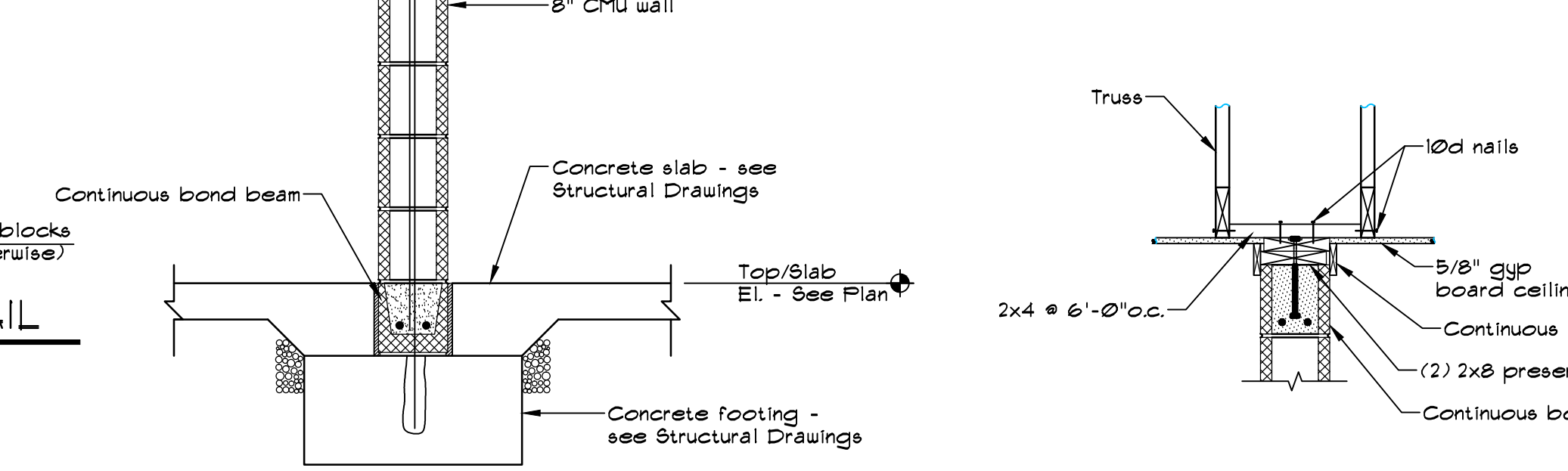
TYPICAL CMU CORNER REINFORCING DETAIL
3/4" = 1'-0"



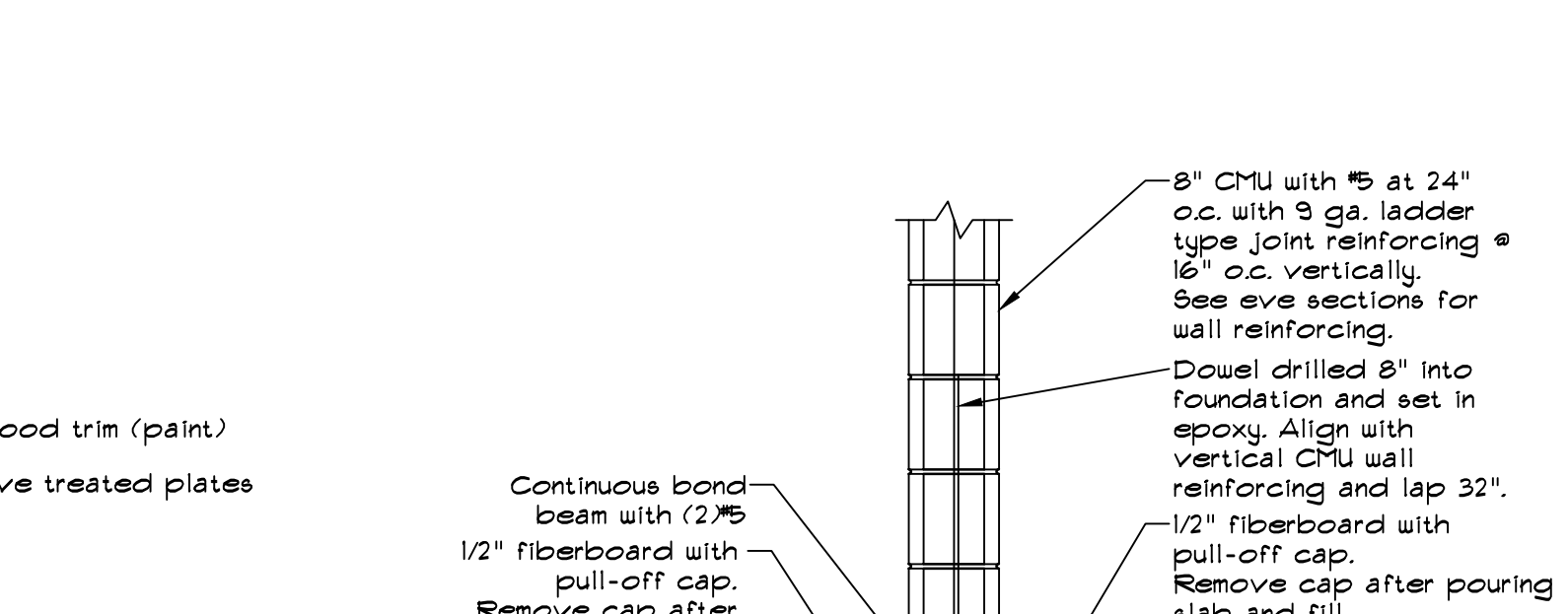
1 TYPICAL EAVE WALL SECTION
3/4" = 1'-0"



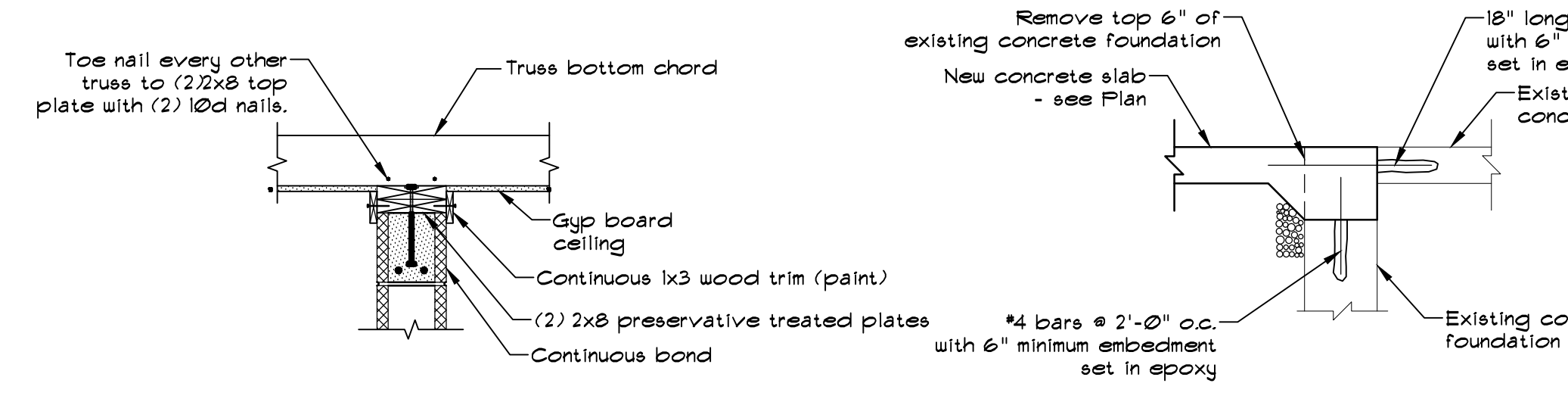
2 TYPICAL RAKE WALL SECTION
3/4" = 1'-0"



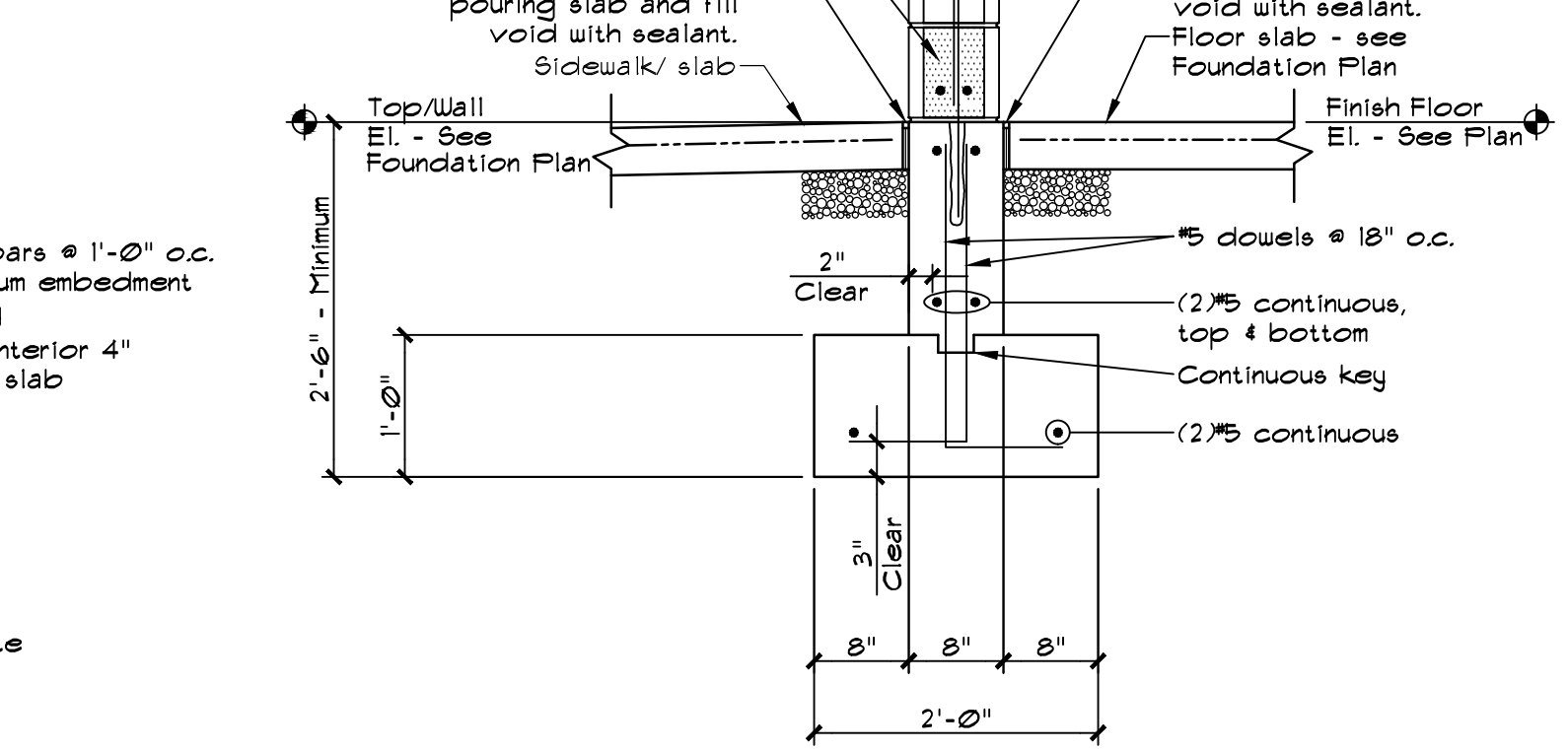
3 SECTION THRU INTERIOR WALL (TYPICAL)
3/4" = 1'-0"



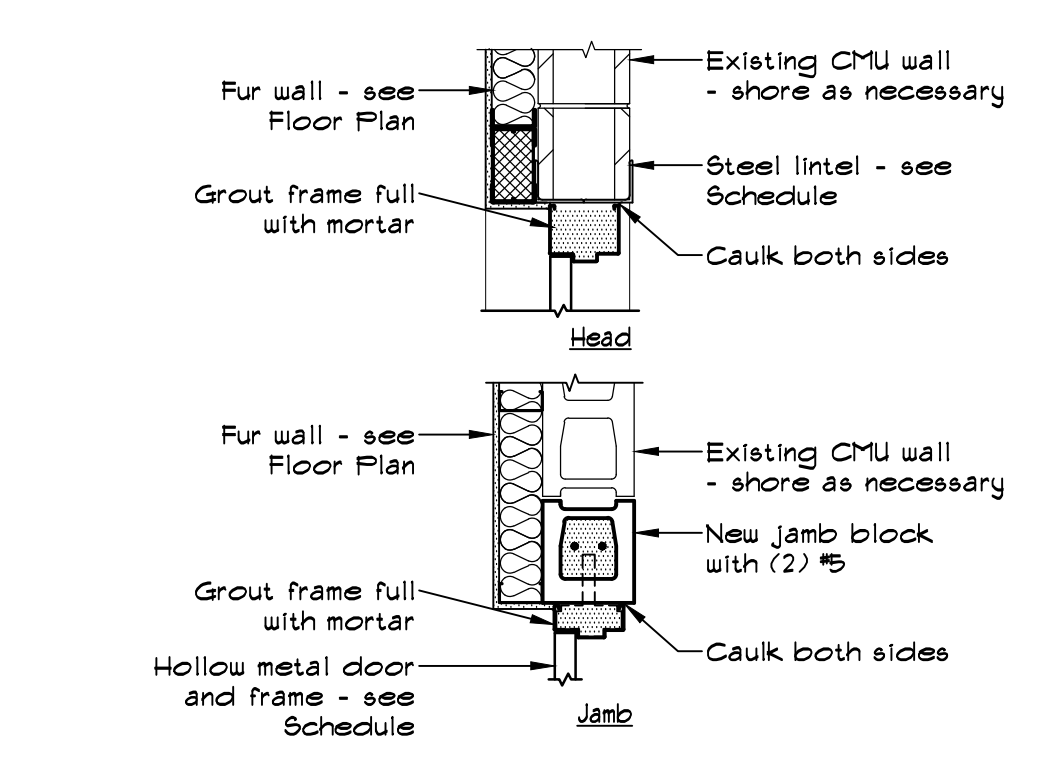
5 DETAIL
3/4" = 1'-0"



4 DETAIL
3/4" = 1'-0"



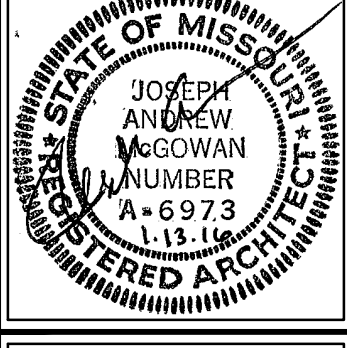
7 FOUNDATION SECTION
3/4" = 1'-0"



8 DOOR DETAIL
3/4" = 1'-0"

Two working days prior to the start of any excavation call 1-800-368-ARISE for utility location information.

All OSHA rules & regulations apply. Construction required by these plans shall be strictly followed (i.e. Trenching, Blasting, etc.)



**NEW RESTROOMS
CITY OF WENTZVILLE
ROTARY PARK
WENTZVILLE, MISSOURI**

SECTIONS & DETAILS

DATE:	DATE:
DRAWN BY:	APPROV. BY:
NAP	JAM
DATE:	DATE:
Jan 13, 2016	
SCALE:	SCALE:
AS NOTED	
PROJ. NO. M14-7119	
(15-6060)	
DWG. NO.:	
A4.1	

ELECTRICAL SPECIFICATIONS

A. BASIC REQUIREMENTS

1. WORK INCLUDED

FURNISH ALL LABOR, MATERIAL, EQUIPMENT, TOOLS, SERVICES AND SKILLED SUPERVISION NECESSARY FOR THE CONSTRUCTION, ERECTION, INSTALLATION, CONNECTIONS, TESTING AND ADJUSTMENT OF ALL EQUIPMENT SPECIFIED HEREINAFTER, OR SHOWN OR NOTED ON THE DRAWINGS, AND ITS DELIVERY TO THE OWNER COMPLETE IN ALL RESPECTS AND READY FOR USE, PROVIDE ALL MINOR INCIDENTAL ITEMS REQUIRED AS PART OF THE WORK EVEN THOUGH NOT SPECIFIED OR SHOWN.

2. COORDINATION OF WORK:

PLAN AND COORDINATE ALL WORK SO THAT IT PROCEEDS WITH A MINIMUM OF INTERFERENCE WITH OTHER TRADES. CONFLICTS ARISING FROM LACK OF COORDINATION SHALL BE THIS CONTRACTOR'S RESPONSIBILITY. PROVIDE ALL SPECIAL FRAMES, SLEEVES AND ANCHOR BOLTS AS REQUIRED. COORDINATE THE ELECTRICAL WORK WITH THE MECHANICAL INSTALLATION.

3. EQUIPMENT AND FIXTURES:

EQUIPMENT AND FIXTURES SHALL BE CONNECTED PROVIDING CIRCUIT CONTINUITY IN ACCORDANCE WITH APPLICABLE CODES, WHETHER OR NOT EACH PIECE OF CONDUCTOR, CONDUIT, OR PROTECTIVE DEVICE IS SHOWN BETWEEN SUCH ITEMS OF EQUIPMENT OR FIXTURES, AND THE POINT OF CIRCUIT ORIGIN.

ONLY NEW AND UNDAMAGED PRODUCTS SHALL BE UTILIZED FOR PERMANENT CONSTRUCTION.

4. APPLICABLE DOCUMENTS:

DESIGN, MANUFACTURE, TESTING AND METHOD OF INSTALLATION OF ALL APPARATUS AND MATERIALS FURNISHED UNDER THE REQUIREMENTS OF THESE SPECIFICATIONS SHALL CONFORM TO THE LATEST AND/OR APPLICABLE PUBLICATIONS OR STANDARD RULES OF THE FOLLOWING:

NATIONAL ELECTRICAL CODE - NEC
 INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS - IEEE
 NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION - NEMA
 UNDERWRITERS' LABORATORIES, INC.
 NATIONAL FIRE PROTECTION ASSOCIATION - NFPA
 AMERICAN SOCIETY FOR TESTING AND MATERIALS - ASTM
 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION - OSHA
 AMERICAN STANDARDS INSTITUTE, INC. - ANSI
 NATIONAL ELECTRICAL SAFETY CODE - NESC
 INSULATED POWER CABLE ENGINEERS ASSOCIATION - IPCEA
 ELECTRICAL INSTITUTE ASSOCIATION - EIA
 AMERICANS WITH DISABILITIES ACT - ADA
 BOCA - NATIONAL BUILDING CODE
 BOCA - SEISMIC REQUIREMENTS

PROVIDE THE DESIGN, FABRICATION, AND ERECTION OF SUPPLEMENTARY STRUCTURAL FRAMING REQUIRED FOR ATTACHMENT OF HANGERS OR OTHER DEVICES SUPPORTING ELECTRICAL EQUIPMENT. PROVIDE MEMBERS WELDED TO STRUCTURAL MEMBERS EQUAL TO THE SPECIFICATION FOR THE MAIN STRUCTURAL MEMBER. PROVIDE "SIMPLE BEAM" TYPE FRAMING WITH END CONNECTIONS WELDED OR BOLTED FOR SHEAR LOADS. USE CANTILEVERS ONLY WHEN SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. THE ENGINEER'S APPROVAL IS ALSO REQUIRED FOR LOCATION OF SUPPLEMENTARY FRAMING. WHEN SUPPLEMENTARY FRAMING IS REQUIRED, DESIGN-FRAMING MEMBERS FOR THEIR ACTUAL LOADS, WITH ALLOWABLE STRESSES SPECIFIED BY AISC. VERIFY THAT DIMENSIONS ARE SUITABLE FOR THE EQUIPMENT FURNISHED. PROVIDE ADDITIONAL STRENGTH WHEN EQUIPMENT FURNISHED IS HEAVIER THAN THAT SPECIFIED.

5. FEES AND PERMITS

ELECTRICAL CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY FEES ASSOCIATED WITH THIS INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING INSPECTIONS WITH THE APPROPRIATE BUILDING OFFICIALS.

6. SUBMITTAL DATA

INFORMATION ON ALL MATERIALS, EQUIPMENT AND APPURTENANCES TO BE FURNISHED UNDER THIS CONTRACT SHALL BE SUBMITTED AND APPROVED PRIOR TO RELEASE FOR FABRICATION AND/OR SHIPMENT TO THE JOBSITE. ALLOW 14 DAYS AFTER RECEIPT FOR RETURN. SUBMIT TEN COMPLETE COPIES. SIX COPIES WILL BE RETURNED. SUBMITTAL DATA SHALL INCLUDE MANUFACTURERS LITERATURE AND DATA SHEETS SHOWING QUANTITY, MODEL NUMBERS, DIMENSIONS, WEIGHTS, CAPACITIES, MATERIALS AND COMPLETE PERFORMANCE INFORMATION SHALL BE PROVIDED. CONTRACTOR SHALL SUBMIT TO THE ELECTRICAL CONSTRUCTION MANAGER FOUR COPIES OF DESCRIPTIVE LITERATURE COVERING INSTALLATION, MAINTENANCE AND OPERATION DATA AND PARTS LIST FOR EQUIPMENT FURNISHED UNDER THIS CONTRACT.

7. PROTECTION AND CLEANING

EQUIPMENT FURNISHED UNDER THIS CONTRACT SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION BY THE INSTALLING CONTRACTOR. EQUIPMENT OR MATERIALS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT NO COST TO THE OWNER. INSTALLING CONTRACTOR SHALL ASSUME CUSTODY AND CONTROL OF OWNER FURNISHED EQUIPMENT ONCE IT ARRIVES AT THE JOBSITE.

AT THE COMPLETION OF THE INSTALLATION, THIS CONTRACTOR SHALL CLEAN ALL EQUIPMENT AND SHALL REMOVE ALL RUBBISH, CRATING, DEVICES, MATERIALS OR ANY OTHER DEBRIS OCCASIONED BY THIS INSTALLATION.

8. OUTLET LOCATION

POSITION OF OUTLETS: CENTER ALL OUTLETS WITH REGARD TO PANELING FURRING AND TRIM. SYMMETRICALLY ARRANGE OUTLETS IN THE ROOM. SATISFACTORILY CORRECT OUTLETS IMPROPERLY LOCATED OR INSTALLED. MOUNTED HEIGHTS ARE TO BE TO THE CENTER OF BOX ABOVE FINISH FLOOR.

9. SPECIAL CONSIDERATIONS:

WHEN CUTTING AND PIERCING IS REQUIRED, OBTAIN WRITTEN PERMISSION OF THE STRUCTURAL ENGINEER BEFORE CUTTING OR PIERCING STRUCTURAL MEMBERS. SLEEVES SHALL BE GALVANIZED SHEET METAL, GALVANIZED RIGID STEEL CONDUIT OR PLASTIC SLEEVES, PROPERLY SIZED TO ACCOMMODATE THE RACEWAY. ALL SLEEVES MUST BE SEALED AND MADE TO A FIRE RATED PROTECTION STANDARD AFTER CONDUIT OR CABLES HAVE BEEN INSTALLED. SEAL EQUIPMENT OR COMPONENTS EXPOSED TO THE WEATHER AND MAKE WATERTIGHT AND INSECT-PROOF.

10. ALTERATIONS:

VERIFICATION OF EXISTING CONDITIONS PRIOR TO ORDERING OR FABRICATING MATERIALS AND EQUIPMENT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. THE OWNER INTENDS TO MAKE CONTINUED USE OF EXISTING FACILITIES, UTILITIES AND SERVICES TO EXISTING FACILITIES SHALL NOT BE INTERRUPTED WITHOUT THE OWNER'S APPROVAL AS TO THE TIME AND DURATION. THE OWNER WILL CONTINUE TO OCCUPY THE EXISTING FACILITIES THROUGHOUT THE CONSTRUCTION OPERATIONS. ELECTRICAL CONTRACTOR SHALL SO ORGANIZE HIS WORK AS TO CAUSE A MINIMUM OF INTERFERENCE WITH THE NORMAL ROUTINE ACTIVITIES OF THE FACILITIES. ALL INTERRUPTION SHALL BE SCHEDULED AT THE CONVENIENCE OF THE OWNER.

ALL CONCEALED CONDUIT FOR CIRCUITS, WHICH ARE PARTIALLY OR COMPLETELY ABANDONED, MAY REMAIN IN PLACE. EXPOSED CONDUIT FOR ABANDONED CIRCUITS SHALL BE REMOVED UNLESS OTHERWISE NOTED.

WIRING FOR EXISTING CIRCUITS WHICH MUST BE RE-ROUTED, OR WHICH ARE PARTIALLY ABANDONED, SHALL BE RECONNECTED TO SERVE THE REMAINING OUTLETS ON THE CIRCUIT.

THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER AND SHALL TURN OVER TO THE OWNER ALL REMOVED ELECTRICAL EQUIPMENT THAT THE OWNER DESIGNATES. ALL OTHER EQUIPMENT THAT IS REMOVED SHALL BECOME THE PROPERTY OF THE ELECTRICAL CONTRACTOR AND SHALL BE REMOVED FROM THE JOB SITE.

11. IDENTIFICATION OF EQUIPMENT

NAMEPLATES / IDENTIFICATION SHALL BE PROVIDED FOR ALL SAFETY SWITCHES, AND INDIVIDUAL MOTOR CONTROL EQUIP. THE NAMEPLATE SHALL INCLUDE THE EQUIPMENT NAME/NUMBER, VOLTAGE, AMPERES AND THE FEEDER OR THE EQUIPMENT THAT IT FEEDS. ALL EXISTING PANELBOARDS MODIFIED UNDER THIS CONTRACT SHALL INCLUDE NEW TYPED DIRECTORIES WITH ALL EXISTING AND NEW LOADS VERIFIED AND IDENTIFIED. PROVIDE SHOP DRAWINGS AND SUBMITTALS INCLUDING SYSTEM-WIRING DIAGRAMS. PARTIAL OR STANDARD WIRING DIAGRAMS WILL NOT BE ACCEPTABLE. THE WIRING DIAGRAMS SHALL BE FOR THE COMPLETE INSTALLED SYSTEM.

PROVIDE "DYMO TAPE" IDENTIFICATION FOR ALL EQUIPMENT NOT COVERED ABOVE, WHICH SHALL INCLUDE: DISCONNECT SWITCHES, MOTOR STARTERS, CONTROL PANELS, ETC.

ALL PANEL DIRECTORY CARDS SHALL BE TYPED AND INDICATE AREA AND DEVICES SERVED BY THE RENOVATION. PROVIDE NEW DIRECTORIES IN ALL EXISTING PANELS AFFECTED.

12. EQUIPMENT, CONNECTIONS, STARTERS, AND CONTROLS

THE EC SHALL FURNISH AND INSTALL ALL CONDUIT, WIRING AND MATERIAL REQUIRED TO PROVIDE CIRCUIT AND DISCONNECTING MEANS FOR ALL EQUIPMENT. HE SHALL INSTALL AND SET ALL BELT-DRIVEN MOTORS AND ALL STARTERS AND CONTROL DEVICES AS FURNISHED WITH, AND AS A PART OF THE EQUIPMENT FURNISHED BY OTHERS. EC SHALL ASSIST IN EQUIPMENT UNLOADING AND HANDLING AS ESTABLISHED BY LOCAL LABOR CUSTOM AND PROCEDURES.

THE EC SHALL PROVIDE FVNR MAGNETIC AND/OR COMBINATION STARTERS AS INDICATED. STARTERS SHALL BE PROVIDED WITH START-STOP, HOA, PILOT LIGHT, AUXILIARY CONTACTS AND CONTROL TRANSFORMER.

ALL CONNECTION AND WIRING REQUIRED FOR INTERLOCK AND/OR TEMPERATURE CONTROL WILL BE BY THE MECHANICAL SUBCONTRACTOR.

13. GROUNDING SYSTEM

FURNISH AND INSTALL A GROUNDING SYSTEM INCLUDING ALL FITTINGS, CLAMPS, CONDUIT AND WIRE OF THE PROPER SIZE TO MAKE GROUND CONNECTIONS BETWEEN ALL APPARATUS, CONDUITS, ETC. AS REQUIRED BY THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ACCORDING TO THE REQUIREMENTS OF THE UTILITY COMPANY AND LOCAL AUTHORITIES.

13. LIGHTING FIXTURE INSTALLATION

FURNISH AND INSTALL LIGHT FIXTURES OF TYPES AND QUANTITIES SHOWN ON THE PLANS. FINAL FIXTURE SELECTION AND COLORS TO BE DETERMINED BY OWNER.

THE EC SHALL PROVIDE ALL MOUNTING HARDWARE, FITTINGS AND ACCESSORIES REQUIRED. DO NOT DEPEND ON CEILING GRID FOR SUPPORT OF FIXTURES.

REMOVE, RETAIN AND RE-INSTALL, WHERE APPLICABLE ANY FIXTURES REQUIRED TO BE TEMPORARILY REMOVED TO COMPLETE DEMOLITION AND CONSTRUCTION WORK. EC SHALL SERVICE/TEST EXISTING BATTERY LIGHTING UNITS AND EXIT LIGHT FIXTURES AFFECTED BY THIS WORK.

UPON COMPLETION OF JOB, ALL FIXTURES SHALL BE LAMPED AND LEFT IN FIRST-CLASS CONDITION AND COMPLETELY CLEANED OF ALL PLASTER, PAINT AND SMUDGES.

B. BASIC MATERIALS AND METHODS

1. RACEWAYS, FITTINGS AND BOXES

CONDUITS RUN ABOVE CEILINGS, IN WALLS OR EXPOSED SHALL BE ELECTRICAL METALLIC TUBING WITH STEEL SET SCREW FITTINGS. TYPE AC AND /OR MC CABLE MAY BE USED FOR LIGHTING AND RECEPTACLE CIRCUITS, AS PERMITTED BY CODE. HOME RUNS TO PANELS SHALL BE EMT.

CONDUITS IN DIRECT CONTACT WITH EARTH OR BELOW VAPOR BARRIER SHALL BE HEAVY WALL GALVANIZED STEEL OR SCHEDULE 40PVC.

PROVIDE HEAVY WALL GALVANIZED STEEL ELBOWS FOR PVC CONDUIT SERVING PANELS AND EQUIPMENT.

PROVIDE GROUND WIRE, PER NEC IN ALL PVC CONDUIT. OUTLET BOXES FOR ALL INTERIOR OUTLETS SHALL BE STANDARD, GALVANIZED PRESSED STEEL WITH SUITABLE FRAMES TO SERVE PURPOSE INDICATED AND TO FIT SPACE ALLOTTED.

ALL OUTDOOR LIGHTS, SWITCHES AND OUTLETS SHALL BE PROVIDED WITH APPROVED WEATHERPROOF OUTLET BOXES.

FURNISH AND INSTALL JUNCTION BOXES WHERE SHOWN ON THE DRAWINGS OR WHERE REQUIRED FOR THE PROPER INSTALLATION OF THE SYSTEMS.

WHERE FLUSH COVER PLATES ARE REQUIRED, THEY SHALL BE PAINTED TO MATCH ADJACENT WALL OR CEILING FINISHES.

ALL JUNCTION BOXES, OTHER THAN FOR POWER OR LIGHTING SHALL BE IDENTIFIED AS TO THEIR USAGE ON THE INSIDE OF THE COVER PLATE.

2. CONDUCTORS/CABLE ASSEMBLIES

UNLESS OTHERWISE SPECIFIED, PROVIDE SOLID COPPER CONDUCTORS TYPE THWN (75C WET OR DRY) OR THHN (90C DRY ONLY) FOR ALL CONDUCTORS NO. 10 AWG AND SMALLER.

UNLESS OTHERWISE SPECIFIED, PROVIDE STRANDED COPPER CONDUCTORS THYPER THW, THWN, XHHW (75C WET OR DRY), THHN OR XHHW (90C DRY ONLY) FOR ALL CONDUCTORS NO. 10 AWG AND LARGER.

CABLE ASSEMBLIES SUCH AS TYPE AC, MAC ETC., AS PERMITTED BY CODE, ARE ACCEPTABLE.

COLOR- CODE ALL CONDUCTOR INSULATION WITH THE STANDARD COLORS, OR TAPE AT EACH TERMINATION AND JUNCTION BOX. EACH VOLTAGE, PHASE, NEUTRAL AND GROUND SHALL BE IDENTIFIED WITH A SEPARATE COLOR AND SHALL BE USED CONSISTENTLY THROUGHOUT.

NO SPLICING OR JOINTS WILL BE PERMITTED IN EITHER FEEDER OR BRANCH CIRCUITS EXCEPT AT OUTLET OR ACCESSIBLE JUNCTION BOXES. UTILIZE COMPRESSION TYPE SOLDER LESS CONNECTORS, SIMILAR TO THOMAS AND BETTS TYPE 545 WITH 3M, 8400 SERIES SPLICE KITS AND COLD SHRINK CONNECTORS WHEN MAKING SPLICES OR TAPS IN CONDUCTORS NO. 8 AWG OR LARGER. UTILIZE PREINSULATED CONNECTORS 3M COMPANY "SCOTCHLOK" OR IDEAL INDUSTRIES, INC. "SUPER NUT", FOR SPLICES AND TAPS IN CONDUCTORS NO. 10AWG AND SMALLER. ALL OTHER TWIST-ON CONNECTORS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ALSO, UTILIZE THIS TYPE OF CONNECTOR FOR FACTORY-MADE SPLICES IN FIXTURES AND EQUIPMENT.

3. SAFETY SWITCHES

ACCEPTABLE MANUFACTURERS ARE SIEMENS, G.E., SQUARE D, WESTINGHOUSE OR APPROVED EQUAL.

SAFETY SWITCHES SHALL BE HEAVY DUTY, SIZE AND TYPE AND AS REQUIRED FOR THE PURPOSE INTENDED. PROVIDE MINIMUM NEMA 3R CONSTRUCTION FOR SWITCHES LOCATED OUTDOORS.

4. WIRING DEVICES AND PLATES

ALL SWITCHES AND RECEPTACLES SHALL BE 20A COMMERCIAL GRADE. DEVICES SHALL BE STANDARD COLORS AS APPROVED BY THE ARCHITECT. PLATES SHALL MATCH DEVICE COLOR AND BE HIGH IMPACT, THERMOPLASTIC FOR ALL FLUSH MOUNTED DEVICES.

5. SHOP DRAWINGS

ELECTRICAL CONTRACTOR SHALL SUBMIT FOR APPROVAL ± TEN COPIES EACH OF DESCRIPTIVE LITERATURE FOR ALL PANELS, LIGHTING FIXTURES, ELECTRICAL EQUIPMENT, BOXES, CONDUITS, CABLES, CONDUCTORS, DEVICES, ETC. PRIOR TO INSTALLATION. ALL ELECTRICAL WORK INSTALLED PRIOR TO APPROVAL AND DEEMED UNACCEPTABLE SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.

6. OPERATION AND MAINTENANCE MANUALS:

BEFORE FINAL APPROVAL OF THE ELECTRICAL INSTALLATION, SUBMIT FOUR (4) COPIES OF DESCRIPTIVE LITERATURE, MAINTENANCE, RECOMMENDATIONS FROM THE EQUIPMENT MANUFACTURER, DATE OF INITIAL OPERATION, WIRING DIAGRAMS AND PARTS LIST OF EACH ITEM OF ELECTRICAL EQUIPMENT INSTALLED UNDER THIS CONTRACT.

7. WARRANTIES

THE ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP SUPPLIED BY HIM TO BE FREE OF DEFECT FOR THE PERIOD OF ONE YEAR AFTER THE ACCEPTANCE DATE OF WORK, AND SHALL BE REQUIRED TO REPLACE OR MAKE ADJUSTMENTS FOR ANY DEFECTS DUE TO FAULTY MATERIAL OR POOR WORKMANSHIP. ALL GUARANTEES AND WARRANTIES PROVIDED BY MANUFACTURERS OR OTHERS FOR LONGER PERIODS SHALL BE IDENTIFIED AND PASSED THROUGH TO THE OWNER. A COMPLETE LIST OF WARRANTIES SHALL BE SUBMITTED WITH CONTRACT NAMES, AND ADDRESSES AND PHONE NUMBERS PRIOR TO PROJECT COMPLETION.

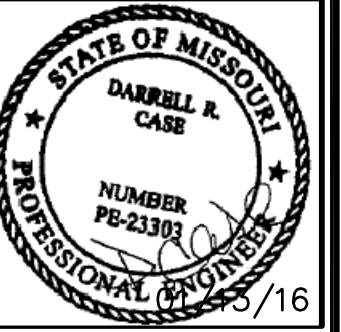
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 engineering

Adifica Case Engineering
 706 Merus Court
 St. Louis, MO 63026
 CERTIFICATE OF AUTHORITY NO. E-2000155319-D

T 636.349.1600
 F 636.349.1730

ELECTRICAL SPECIFICATIONS

A. BASIC REQUIREMENTS

1. WORK INCLUDED

FURNISH ALL LABOR, MATERIAL, EQUIPMENT, TOOLS, SERVICES AND SKILLED SUPERVISION NECESSARY FOR THE CONSTRUCTION, ERECTION, INSTALLATION, CONNECTIONS, TESTING AND ADJUSTMENT OF ALL EQUIPMENT SPECIFIED HEREINAFTER, OR SHOWN OR NOTED ON THE DRAWINGS, AND ITS DELIVERY TO THE OWNER COMPLETE IN ALL RESPECTS AND READY FOR USE, PROVIDE ALL MINOR INCIDENTAL ITEMS REQUIRED AS PART OF THE WORK EVEN THOUGH NOT SPECIFIED OR SHOWN.

2. COORDINATION OF WORK:

PLAN AND COORDINATE ALL WORK SO THAT IT PROCEEDS WITH A MINIMUM OF INTERFERENCE WITH OTHER TRADES. CONFLICTS ARISING FROM LACK OF COORDINATION SHALL BE THIS CONTRACTOR'S RESPONSIBILITY. PROVIDE ALL SPECIAL FRAMES, SLEEVES AND ANCHOR BOLTS AS REQUIRED. COORDINATE THE ELECTRICAL WORK WITH THE MECHANICAL INSTALLATION.

3. EQUIPMENT AND FIXTURES:

EQUIPMENT AND FIXTURES SHALL BE CONNECTED PROVIDING CIRCUIT CONTINUITY IN ACCORDANCE WITH APPLICABLE CODES, WHETHER OR NOT EACH PIECE OF CONDUCTOR, CONDUIT, OR PROTECTIVE DEVICE IS SHOWN BETWEEN SUCH ITEMS OF EQUIPMENT OR FIXTURES, AND THE POINT OF CIRCUIT ORIGIN.

ONLY NEW AND UNDAMAGED PRODUCTS SHALL BE UTILIZED FOR PERMANENT CONSTRUCTION.

4. APPLICABLE DOCUMENTS:

DESIGN, MANUFACTURE, TESTING AND METHOD OF INSTALLATION OF ALL APPARATUS AND MATERIALS FURNISHED UNDER THE REQUIREMENTS OF THESE SPECIFICATIONS SHALL CONFORM TO THE LATEST AND/OR APPLICABLE PUBLICATIONS OR STANDARD RULES OF THE FOLLOWING:

NATIONAL ELECTRICAL CODE - NEC
 INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS - IEEE
 NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION - NEMA
 UNDERWRITERS' LABORATORIES, INC.
 NATIONAL FIRE PROTECTION ASSOCIATION - NFPA
 AMERICAN SOCIETY FOR TESTING AND MATERIALS - ASTM
 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION - OSHA
 AMERICAN STANDARDS INSTITUTE, INC. - ANSI
 NATIONAL ELECTRICAL SAFETY CODE - NESC
 INSULATED POWER CABLE ENGINEERS ASSOCIATION - IPCEA
 ELECTRICAL INSTITUTE ASSOCIATION - EIA
 AMERICANS WITH DISABILITIES ACT - ADA
 BOCA - NATIONAL BUILDING CODE
 BOCA - SEISMIC REQUIREMENTS

PROVIDE THE DESIGN, FABRICATION, AND ERECTION OF SUPPLEMENTARY STRUCTURAL FRAMING REQUIRED FOR ATTACHMENT OF HANGERS OR OTHER DEVICES SUPPORTING ELECTRICAL EQUIPMENT. PROVIDE MEMBERS WELDED TO STRUCTURAL MEMBERS EQUAL TO THE SPECIFICATION FOR THE MAIN STRUCTURAL MEMBER. PROVIDE "SIMPLE BEAM" TYPE FRAMING WITH END CONNECTIONS WELDED OR BOLTED FOR SHEAR LOADS. USE CANTILEVERS ONLY WHEN SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. THE ENGINEER'S APPROVAL IS ALSO REQUIRED FOR LOCATION OF SUPPLEMENTARY FRAMING. WHEN SUPPLEMENTARY FRAMING IS REQUIRED, DESIGN-FRAMING MEMBERS FOR THEIR ACTUAL LOADS, WITH ALLOWABLE STRESSES SPECIFIED BY AISC. VERIFY THAT DIMENSIONS ARE SUITABLE FOR THE EQUIPMENT FURNISHED. PROVIDE ADDITIONAL STRENGTH WHEN EQUIPMENT FURNISHED IS HEAVIER THAN THAT SPECIFIED.

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6. SUBMITTAL DATA

INFORMATION ON ALL MATERIALS, EQUIPMENT AND APPURTENANCES TO BE FURNISHED UNDER THIS CONTRACT SHALL BE SUBMITTED AND APPROVED PRIOR TO RELEASE FOR FABRICATION AND/OR SHIPMENT TO THE JOBSITE. ALLOW 14 DAYS AFTER RECEIPT FOR RETURN. SUBMIT TEN COMPLETE COPIES. SIX COPIES WILL BE RETURNED.

SUBMITTAL DATA SHALL INCLUDE MANUFACTURERS LITERATURE AND DATA SHEETS SHOWING QUANTITY, MODEL NUMBERS, DIMENSIONS, WEIGHTS, CAPACITIES, MATERIALS AND COMPLETE PERFORMANCE INFORMATION SHALL BE PROVIDED.

CONTRACTOR SHALL SUBMIT TO THE ELECTRICAL CONSTRUCTION MANAGER FOUR COPIES OF DESCRIPTIVE LITERATURE COVERING INSTALLATION, MAINTENANCE AND OPERATION DATA AND PARTS LIST FOR EQUIPMENT FURNISHED UNDER THIS CONTRACT.

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AT THE COMPLETION OF THE INSTALLATION, THIS CONTRACTOR SHALL CLEAN ALL EQUIPMENT AND SHALL REMOVE ALL RUBBISH, CRATING, DEVICES, MATERIALS OR ANY OTHER DEBRIS OCCASIONED BY THIS INSTALLATION.

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WHEN CUTTING AND PIERCING IS REQUIRED, OBTAIN WRITTEN PERMISSION OF THE STRUCTURAL ENGINEER BEFORE CUTTING OR PIERCING STRUCTURAL MEMBERS. SLEEVES SHALL BE GALVANIZED SHEET METAL, GALVANIZED RIGID STEEL CONDUIT OR PLASTIC SLEEVES, PROPERLY SIZED TO ACCOMMODATE THE RACEWAY. ALL SLEEVES MUST BE SEALED AND MADE TO A FIRE RATED PROTECTION STANDARD AFTER CONDUIT OR CABLES HAVE BEEN INSTALLED. SEAL EQUIPMENT OR COMPONENTS EXPOSED TO THE WEATHER AND MAKE WATERTIGHT AND INSECT-PROOF.

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FURNISH AND INSTALL A GROUNDING SYSTEM INCLUDING ALL FITTINGS, CLAMPS, CONDUIT AND WIRE OF THE PROPER SIZE TO MAKE GROUND CONNECTIONS BETWEEN ALL APPARATUS, CONDUITS, ETC. AS REQUIRED BY THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND ACCORDING TO THE REQUIREMENTS OF THE UTILITY COMPANY AND LOCAL AUTHORITIES.

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REMOVE, RETAIN AND RE-INSTALL, WHERE APPLICABLE ANY FIXTURES REQUIRED TO BE TEMPORARILY REMOVED TO COMPLETE DEMOLITION AND CONSTRUCTION WORK. EC SHALL SERVICE/TEST EXISTING BATTERY LIGHTING UNITS AND EXIT LIGHT FIXTURES AFFECTED BY THIS WORK.

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UNLESS OTHERWISE SPECIFIED, PROVIDE SOLID COPPER CONDUCTORS TYPE THWN (75C WET OR DRY) OR THHN (90C DRY ONLY) FOR ALL CONDUCTORS NO. 10 AWG AND SMALLER.

UNLESS OTHERWISE SPECIFIED, PROVIDE STRANDED COPPER CONDUCTORS THYPER THW, THWN, XHHW (75C WET OR DRY), THHN OR XHHW (90C DRY ONLY) FOR ALL CONDUCTORS NO. 10 AWG AND LARGER.

CABLE ASSEMBLIES SUCH AS TYPE AC, MAC ETC., AS PERMITTED BY CODE, ARE ACCEPTABLE.

COLOR- CODE ALL CONDUCTOR INSULATION WITH THE STANDARD COLORS, OR TAPE AT EACH TERMINATION AND JUNCTION BOX. EACH VOLTAGE, PHASE, NEUTRAL AND GROUND SHALL BE IDENTIFIED WITH A SEPARATE COLOR AND SHALL BE USED CONSISTENTLY THROUGHOUT.

NO SPLICING OR JOINTS WILL BE PERMITTED IN EITHER FEEDER OR BRANCH CIRCUITS EXCEPT AT OUTLET OR ACCESSIBLE JUNCTION BOXES. UTILIZE COMPRESSION TYPE SOLDER LESS CONNECTORS, SIMILAR TO THOMAS AND BETTS TYPE 545 WITH 3M, 8400 SERIES SPLICING KITS AND COLD SHRINK CONNECTORS WHEN MAKING SPLICES OR TAPS IN CONDUCTORS NO. 8 AWG OR LARGER. UTILIZE PREINSULATED CONNECTORS 3M COMPANY "SCOTCHLOK" OR IDEAL INDUSTRIES, INC. "SUPER NUT", FOR SPLICES AND TAPS IN CONDUCTORS NO. 10AWG AND SMALLER. ALL OTHER TWIST-ON CONNECTORS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ALSO, UTILIZE THIS TYPE OF CONNECTOR FOR FACTORY-MADE SPLICES IN FIXTURES AND EQUIPMENT.

3. SAFETY SWITCHES

ACCEPTABLE MANUFACTURERS ARE SIEMENS, G.E., SQUARE D, WESTINGHOUSE OR APPROVED EQUAL.

SAFETY SWITCHES SHALL BE HEAVY DUTY, SIZE AND TYPE AND AS REQUIRED FOR THE PURPOSE INTENDED. PROVIDE MINIMUM NEMA 3R CONSTRUCTION FOR SWITCHES LOCATED OUTDOORS.

4. WIRING DEVICES AND PLATES

ALL SWITCHES AND RECEPTACLES SHALL BE 20A COMMERCIAL GRADE. DEVICES SHALL BE STANDARD COLORS AS APPROVED BY THE ARCHITECT. PLATES SHALL MATCH DEVICE COLOR AND BE HIGH IMPACT, THERMOPLASTIC FOR ALL FLUSH MOUNTED DEVICES.

5. SHOP DRAWINGS

ELECTRICAL CONTRACTOR SHALL SUBMIT FOR APPROVAL ± TEN COPIES EACH OF DESCRIPTIVE LITERATURE FOR ALL PANELS, LIGHTING FIXTURES, ELECTRICAL EQUIPMENT, BOXES, CONDUITS, CABLES, CONDUCTORS, DEVICES, ETC. PRIOR TO INSTALLATION. ALL ELECTRICAL WORK INSTALLED PRIOR TO APPROVAL AND DEEMED UNACCEPTABLE SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.

6. OPERATION AND MAINTENANCE MANUALS:

BEFORE FINAL APPROVAL OF THE ELECTRICAL INSTALLATION, SUBMIT FOUR (4) COPIES OF DESCRIPTIVE LITERATURE, MAINTENANCE, RECOMMENDATIONS FROM THE EQUIPMENT MANUFACTURER, DATE OF INITIAL OPERATION, WIRING DIAGRAMS AND PARTS LIST OF EACH ITEM OF ELECTRICAL EQUIPMENT INSTALLED UNDER THIS CONTRACT.

7. WARRANTIES

THE ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP SUPPLIED BY HIM TO BE FREE OF DEFECT FOR THE PERIOD OF ONE YEAR AFTER THE ACCEPTANCE DATE OF WORK, AND SHALL BE REQUIRED TO REPLACE OR MAKE ADJUSTMENTS FOR ANY DEFECTS DUE TO FAULTY MATERIAL OR POOR WORKMANSHIP. ALL GUARANTEES AND WARRANTIES PROVIDED BY MANUFACTURERS OR OTHERS FOR LONGER PERIODS SHALL BE IDENTIFIED AND PASSED THROUGH TO THE OWNER. A COMPLETE LIST OF WARRANTIES SHALL BE SUBMITTED WITH CONTRACT NAMES, AND ADDRESSES AND PHONE NUMBERS PRIOR TO PROJECT COMPLETION.

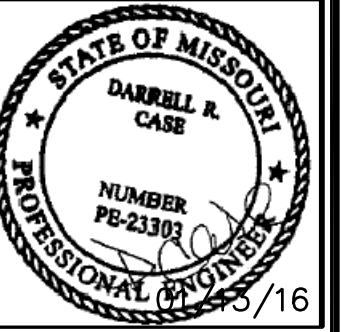
636-584-0540 (tel)
 636-584-0512 (fax)
 mail@edificacase.com
 5300A E. Independence Dr.
 Union, Missouri 63084

EDIFICACASE

- Civil Engineering
- Land Surveying
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- Site Development
- General Consulting
- Master Planning

Two working days prior to the start of any excavation, call 1-800-368-RITE for utility location information.

All OSHA rules & regulations must be strictly followed (e.g. trenching, shoring, etc.)



NEW RESTROOMS
 CITY OF WENTZVILLE
 ROTARY, PARK
 WENTZVILLE, MISSOURI

DATE:	JAN 13, 2016
SCALE:	AS NOTED
PROJ. NO.:	15-6060
DWG. NO.:	E2.0

Edifica case
 engineering

Edifica Case Engineering
 706 Merus Court
 St. Louis, MO 63026
 CERTIFICATE OF AUTHORITY NO. E-2000155319-D

T 636.349.1600
 F 636.349.1730

NEW PANELBOARD MSB

BUS	<u>800</u>	TYPE	<u>NEMA 1</u>	AIC	<u>10,000</u>
VOLTAGE	<u>240 /120</u>	PHASE	<u>Single</u>	SECTIONS	<u>1</u>
ML/M. BKR	<u>MLO</u>	LOCATION	<u>Elec room</u>	FEED	<u>BOTTOM</u>
MTG	<u>SURFACE</u>	DOOR	<u>YES</u>	FINISH	<u>GRAY</u>
GND. BUS	<u>YES</u>	MATERIAL	<u>ALUMINUM</u>		

CKT. NO.	BREAKER FRAME		TRIP SETTING		CONN. AMPS	KVA				LOAD SERVED		
	AMPS	P	AMPS			CONN.		FACTOR			DEMAND	
						S	W	S	W		S	W
1	400	2	400		352.7	73.36	73.36	1	1	73.36	73.36	Wireway (Pnl's A,B,C,DK)
2	200	2	200		27.7	5.76	5.76	1	1	5.76	5.76	Pnl E
3	400	2	400		300.0	72.00	72.00	1	1	72.00	72.00	Pnl G
4	200	2	200			2.88	2.88	1	1	2.88	2.88	200A C/B (REMOTE PANEL)
5										0	0	
6										0	0	

153.9959	153.9959	153.9959	153.9959
153.9959 KVA			

LOAD SUMMARY

DEMAND AMPS	=	<u>641.6</u>
<u>0</u> % SPARE	=	<u>0.0</u>
TOTAL	=	<u>641.6</u> AMPS

WENTZVILLE ROTARY PARK
 VOLTS (L-L): 240
 VOLTS (L-N): 120
 PHASE: 1
 WIRE: 4
 MLO: 400
 MCB: NO
 SOURCE: MSB

NEW PANEL G
 MOUNTING: SURFACE
 TYPE: NEMA1
 FEED THRU LUGS (Y/N): NO
 SERIES RATED (Y/N): NO
 SHUNT TRIP MAIN (Y/N): NO
 MINIMUM AIC RATING: 10,000
 SOURCE FEEDER AMPS: 400

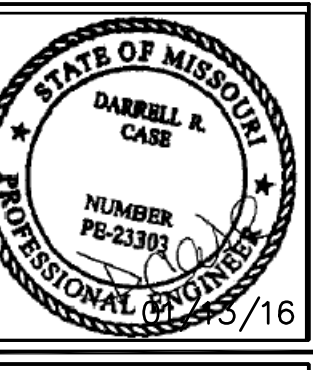
BUS MATERIAL: ALUM
 TOP OR BOTTOM FEED?: BOTTOM
 GROUND BUS: YES
 BRANCH BKRS.: BOLT-ON
 S. E. RATED (Y/N): YES
 NEUTRAL RATING (%): 100
 LOCATION: ELEC ROOM

CKT. #	AMP	POLES	WIRE & CONDUIT	LOAD SERVED	KVA	PHASE LOADS			KVA	LOAD SERVED	WIRE & CONDUIT	POLES	AMP	CKT. #
						aA	aB	aC						
1	60	2	2#6, 1#10gnd	Condensing Unit CU1	4.03	4.8			0.75	Restroom lights	#12 awg	1	20	2
3					4.03		4.8		0.81	Restroom rcpts & canopy light	#12 awg	1	20	4
5	60	2	2#6, 1#10gnd	Condensing Unit CU2	4.03			5.1	1.10	Restroom exhaust fans	#12 awg	1	20	6
7					4.03	5.1			1.10	Automatic door operator	#12 awg	1	20	8
9	60	2	2#6, 1#10gnd	Air Handler AHU1 HTR#1	5.71			6.8	1.10	Automatic door operator	#12 awg	1	20	10
11					5.71			5.7		Spare		1	20	12
13	60	2	2#6, 1#10gnd	Air Handler AHU1 HTR#2	4.80	7.3			2.50	Duct Heater DH1	2#10, 1#12gnd	2	30	14
15					4.80		7.3		2.50					16
17	30	2	2#6, 1#10gnd	Air Handler AHU1 HTR#3	2.40			4.9	2.50	Duct Heater DH2	2#10, 1#12gnd	2	30	18
19					2.40	4.9			2.50					20
21	60	2	2#6, 1#10gnd	Air Handler AHU2 HTR#1	5.71			8.9	3.22	Sewage Lift Pump 5HP	2#8, 1#10gnd	2	40	22
23					5.71			8.9	3.22					24
25	60	2	2#6, 1#10gnd	Air Handler AHU2 HTR#2	4.80	5.8			0.95	Restroom Hand dryer	#12 awg	1	20	26
27					4.80		5.8		0.95	Restroom Hand dryer	#12 awg	1	20	28
29	30	2	2#6, 1#10gnd	Air Handler AHU2 HTR#3	2.40			3.4	0.95	Restroom Hand dryer	#12 awg	1	20	30
31					2.40	3.4			0.95	Restroom Hand dryer	#12 awg	1	20	32
33							0.0							34
35								0.0						36
37						0.0								38
39								0.0						40
41								0.0						42

CONNECTED KVA: 31.2 aA, 33.6 aB, 28.0 aC
 CONNECTED AMPS: 75.1 aA, 80.9 aB, 67.4 aC
 FURNISH SWITCH RATED BREAKER FOR LIGHTING LOADS



Two working days prior to the start of any excavation call 1-800-90-CRTE for utility location information.
 All OSHA rules & regulations apply. All excavation work shall be strictly followed (ie. trenching, shoring, etc.).



NEW RESTROOMS
 CITY OF WENTZVILLE
 ROTARY, PARK
 WENTZVILLE, MISSOURI

DATE:	JAN 13, 2016
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GENERAL

- A. THE GENERAL CONDITIONS OF THE GENERAL SPECIFICATIONS, ALONG WITH ALL APPLICABLE INSTRUCTIONS TO BIDDERS SHALL FORM A PART OF THIS SECTION OF THE SPECIFICATIONS.
B. REFERENCE IS MADE TO REQUISITES FOR BIDDERS AND CONTRACTORS UNDER OTHER SECTIONS OF THESE SPECIFICATIONS, WHICH SHALL BE CONSIDERED BINDING, UNLESS OTHERWISE NOTED UNDER THIS SECTION.

SCOPE

EACH CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH THE CONSTRUCTION DETAILS, BOTH AS ON TENANT CONSTRUCTION DRAWINGS AND LANDLORD'S AS REFERRED TO, BEFORE SUBMITTING HIS BID AS NO ALLOWANCES WILL BE MADE BECAUSE OF THE CONTRACTOR'S UNFAMILIARITY WITH THESE DETAILS. ALL PERFORMANCE OF CONSTRUCTION SHALL BE AS REQUIRED BY THE FACE OF THE GENERAL CONSTRUCTION.

INSPECTION OF SITE

ALL PROPOSALS SHALL PRECLUDE THAT CONTRACTOR IS FAMILIAR WITH JOB SITE CONDITIONS AND UTILITY LOCATIONS AND THE LACK OF SPECIFIC INFORMATION ON THE DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY.

PERMITS

ALL PERMITS AND LICENSES NECESSARY FOR THE PROPER EXECUTION OF THE WORK SHALL BE SECURED AND PAID FOR BY THE SUBCONTRACTOR INVOLVED.

CODE REQUIREMENTS

ALL WORK UNDER THIS CONTRACT SHALL COMPLY WITH THE PROVISIONS OF THE SPECIFICATIONS, DRAWINGS OR AS DIRECTED BY THE OWNER, AND SHALL SATISFY ALL APPLICABLE CODES, ORDINANCES, OR REGULATIONS OF THE GOVERNING BODIES, WHETHER SO SHOWN OR NOT, AND ALL MODIFICATIONS REQUIRED BY SUCH AUTHORITIES SHALL BE MADE BY THE CONTRACTOR WITHOUT ANY ADDITIONAL COST TO THE OWNER.

MATERIALS AND WORKMANSHIP

- A. ALL MANUFACTURED ARTICLES, MATERIALS, AND EQUIPMENT SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURERS, AND UNLESS OTHERWISE SPECIFIED SHALL BE NEW, AND FREE FROM ANY DEFECTS. ALL LIKE MATERIALS USED SHALL BE OF THE SAME MANUFACTURE AND QUALITY UNLESS OTHERWISE SPECIFIED.
B. ALL WORK UNDER THIS CONTRACT SHALL BE PERFORMED BY COMPETENT WORKMEN AND EXECUTED IN A NEAT AND WORKMANLIKE MANNER. WORK SHALL BE PROPERLY PROTECTED DURING CONSTRUCTION, AND ON COMPLETION, THE INSTALLATION SHALL BE THOROUGHLY CLEANED AND ALL DEBRIS PRESENT AS A RESULT OF THIS CONTRACT SHALL BE REMOVED FROM THE PREMISES, DO NOT JUST ABANDON.

CODES AND REGULATIONS

EACH SUBCONTRACTOR SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES AND REGULATIONS BEARING ON THE CONDUCT OF THE WORK AS DRAWN OR SPECIFIED. IF A SUBCONTRACTOR OBSERVES THAT THE DRAWINGS AND SPECIFICATIONS ARE AT A VARIANCE, HE SHALL PROMPTLY NOTIFY THE GENERAL CONTRACTOR AND THE TENANT IN WRITING. IF ANY SUBCONTRACTOR PERFORMS ANY WORK KNOWING IT TO BE CONTRARY TO LAWS, ORDINANCES, RULES AND REGULATIONS AND WITHOUT GIVING SUCH NOTICE, THE SUBCONTRACTOR SHALL BEAR ALL COSTS ARISING THEREFROM.

PROTECTION OF WORK AND PROPERTY

- A. EACH SUBCONTRACTOR SHALL CONTINUOUSLY MAINTAIN ADEQUATE PROTECTION OF ALL HIS WORK FROM DAMAGE AND SHALL PROTECT THE OWNER'S PROPERTY FROM INJURY OR LOSS ARISING FROM HIS WORK. HE SHALL MAKE GOOD ANY SUCH DAMAGE, INJURY, OR LOSS, EXCEPT SUCH AS MAY BE DIRECTLY DUE TO CAUSES BEYOND HIS CONTROL AND NOT TO HIS FAULT OR NEGLIGENCE. HE SHALL ADEQUATELY PROTECT ADJACENT PROPERTY AS WELL.
B. EACH SUBCONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE SAFETY OF THEIR EMPLOYEES ON THE WORK AND SHALL COMPLY WITH ALL PROVISIONS OF FEDERAL, STATE AND LOCAL BUILDING CODES AND SAFETY LAWS TO PREVENT ACCIDENTS OR INJURY TO PERSONS ON OR ADJACENT TO THE PREMISES WHERE THE WORK IS BEING PERFORMED. EACH SUBCONTRACTOR SHALL MAINTAIN ALL INSURANCE REQUIRED TO PROTECT HIMSELF, OWNER AND TENANT FOR THE DURATION OF THE WORK AGAINST PROPERTY DAMAGE AND PUBLIC LIABILITY.

CHANGES IN THE WORK

THE TENANT, WITHOUT INVALIDATING THE CONTRACT, MAY ORDER EXTRA WORK OR MAKE CHANGES BY ALTERING, ADDING TO OR DEDUCTING FROM THE WORK, THE CONTRACT SUM BEING ADJUSTED ACCORDINGLY.

COOPERATION

ALL WORK UNDER THESE SPECIFICATIONS SHALL BE ACCOMPLISHED IN CONJUNCTION WITH OTHER CONTRACTORS AND TRADES OF THIS PROJECT IN A MANNER WHICH WILL ALLOW EACH CONTRACTOR AND TRADE ADEQUATE TIME AT THE PROPER STAGE OF CONSTRUCTION TO FULFILL HIS CONTRACTS. REFERENCE SHALL BE MADE TO THE OWNER FOR INSTRUCTIONS SHOULD ANY QUESTIONS ARISE BETWEEN TRADES AS TO THE PLACING OF LINES, DUCTS, CONDUITS, FIXTURES, OR EQUIPMENT, OR SHOULD IT APPEAR DESIRABLE TO REMOVE ANY GENERAL CONSTRUCTION WHICH WOULD AFFECT THE APPEARANCE OR STRENGTH OF THE STRUCTURE.

SUBSTITUTION OF MATERIALS

MANUFACTURER'S NAMES ARE LISTED HEREIN TO ESTABLISH A STANDARD. THE PRODUCTS OF OTHER MANUFACTURERS WILL BE ACCEPTABLE, IF IN THE OPINION OF THE TENANT, THE SUBSTITUTE MATERIAL IS OF A QUALITY AS GOOD OR BETTER THAN THE MATERIAL SPECIFIED, AND WILL SERVE WITH EQUAL EFFICIENCY AND DEPENDABILITY, THE PURPOSE FOR WHICH THE ITEMS SPECIFIED WERE INTENDED.

SHOP DRAWINGS

SHOP DRAWINGS AND CATALOG DATA ON ALL MAJOR ITEMS OF EQUIPMENT AND SYSTEMS, AND SUCH OTHER ILLUSTRATIVE MATERIAL AS MAY BE CONSIDERED NECESSARY BY THE TENANT, SHALL BE SUBMITTED BY THIS CONTRACTOR IN ADEQUATE TIME TO PREVENT DELAY AND CHANGES DURING CONSTRUCTION.

DRAWINGS AND SPECIFICATIONS

- A. THE DRAWINGS SHOW DIAGRAMMATICALLY THE LOCATIONS OF THE VARIOUS LINES, DUCTS, CONDUITS, FIXTURES, AND EQUIPMENT AND THE METHOD OF CONNECTING AND CONTROLLING THEM. IT IS NOT INTENDED TO SHOW EVERY CONNECTION IN DETAIL AND ALL FITTINGS REQUIRED FOR A COMPLETE SYSTEM.
B. SHOULD ANY CHANGES BE DEEMED NECESSARY BY THE CONTRACTOR IN ITEMS SHOWN ON CONTRACT DRAWINGS, THE SHOP DRAWINGS, DESCRIPTIONS, AND THE REASON FOR THE PROPOSED CHANGES SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL.

RESPONSIBILITY

- A. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE SATISFACTORY AND COMPLETE EXECUTION OF ALL WORK INCLUDED IN HIS CONTRACT. HE SHALL PRODUCE COMPLETE FINISHED OPERATING SYSTEMS AND PROVIDE ALL INCIDENTAL ITEMS REQUIRED AS PART OF HIS WORK, REGARDLESS OF WHETHER SUCH ITEM IS PARTICULARLY SPECIFIED OR INDICATED.
B. CONTRACTOR SHALL SUPPLY TO LANDLORD AND TENANT A CERTIFIED BALANCE REPORT AT COMPLETION OF PROJECT. THIS IS REQUIRED FOR BOTH REMODELED AND NEW STORES.

GENERAL PROVISIONS

1. SCOPE: PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT IN ACCORDANCE WITH THESE SPECIFICATIONS AND THE ACCOMPANYING DRAWINGS TO PROVIDE A COMPLETE AND PROPERLY OPERATING PLUMBING SYSTEM FOR THE BUILDING. OBTAIN WATER, SEWER, GAS TAPS, AND ANY OTHER REQUIRED UTILITIES AND EXTEND SERVICE FROM SAME TO BUILDING AS SHOWN ON DRAWINGS. VISIT THE SITE FOR UNDERSTANDING OF THE WORK TO BE DONE BEFORE SUBMITTING BID.

COORDINATE THIS WORK WITH THE WORK OF THE OTHER TRADES ON THE PROJECT. ALL PLUMBING IS TO BE ROUGHED IN WHILE THE BUILDING IS BEING CONSTRUCTED AT SUCH TIMES AS NOT TO DELAY THE GENERAL CONTRACTOR ON THE BUILDING.

2. GENERAL REQUIREMENTS: COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS, CODES, RULES, AND ORDINANCES GOVERNING WORK OF THIS CHARACTER. PAY FOR AND OBTAIN NECESSARY CONSTRUCTION PERMITS AND CERTIFICATES OF INSPECTION.

- A. DRAWINGS: THE LOCATION OF THE PIPING RUNS ARE APPROXIMATE AND THE CONTRACTOR MUST MAKE ANY NECESSARY CHANGES IN THE PIPING RUNS, ETC., AT NO ADDITIONAL COST TO THE OWNER. OUTLET LOCATIONS ARE CRITICAL AND MUST BE LOCATED EXACTLY ACCORDING TO THE PLUMBING PLAN. COORDINATE THIS WORK WITH THE INSTALLERS OF EQUIPMENT FURNISHED AND INSTALLED BY OTHERS. REFER TO THE OTHER DRAWINGS FOR DETAILS OF THE BUILDING CONSTRUCTION AND THE OTHER MECHANICAL, ELECTRICAL, AND EQUIPMENT FEATURES.
B. COORDINATION AND WORKMANSHIP: SCHEDULE THIS WORK SO THAT IT WILL BE PROPERLY COORDINATED WITH ALL OTHER TRADES. WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE BEST PRACTICE FOR THE CLASS OF WORK INVOLVED. WORKMANSHIP SHALL ALLOW THE APPLIANCE TO OPERATE AS INTENDED AND BE INSTALLED TO BEST PROTECT THE PUBLIC AND OPERATORS FROM INJURY OR DAMAGE, AND TO PRESENT A NEAT, PLEASING, AND ORDERLY APPEARANCE.

MATERIALS AND PERFORMANCE

1. MATERIALS: ALL MATERIALS SHALL BE NEW AND OF THE QUALITY INDICATED BY THE SPECIFIED BRAND NAMES. SUBSTITUTIONS OF MATERIAL OF EQUAL QUALITY BY OTHER FIRST-LINE MANUFACTURERS MAY BE ACCEPTABLE PROVIDED A LIST OF SUCH SUBSTITUTIONS IS APPROVED IN WRITING. A SUBSTITUTION LIST SHALL BE SUBMITTED IN TRIPPLICATE WITHIN FIVE (5) DAYS AFTER THE CONTRACT IS LET.

2. BACKFILLING: PERFORM ALL NECESSARY EXCAVATING AND BACKFILLING REQUIRED FOR THIS INSTALLATION. PREPARE A PROPER BED OF SAND OR GRAVEL OR EQUIVALENT IN ROCK SCREENINGS SO AS TO ELIMINATE SHIMMING AND VOID SPACES UNDER ANY OF THE UTILITY SERVICE PIPES. BENDING OF ANY HARD PIPE WILL NOT BE PERMITTED. WHERE A CHANGE IN DIRECTION IS NECESSARY ON PRESSURE PIPES, "COMPATIBLE" COUPLINGS OR EQUAL SHALL BE USED AND BENDS MAY NOT EXCEED 90 DEGREES. ALL EXCAVATION BELOW THE BOTTOM OF FOOTINGS SHALL BE BACKFILLED WITH 2000 PSI CONCRETE. OTHER BACKFILL SHALL CONSIST OF 2" OR 3" OF SAND OR ROCK SCREENINGS AND EARTH TO A FINAL LEVEL EQUAL TO ITS ORIGINAL CONDITION. IN THE EVENT THE BACKFILL SHOULD SETTLE BEFORE THE FINAL TOP SURFACE IS APPLIED, APPLY ADDITIONAL BACKFILL TO SUSTAIN THE ORIGINAL LEVEL. CARE SHOULD BE TAKEN TO MINIMIZE THE DUST LEVEL WHEN EXCAVATING AND BACKFILLING SO AS TO COMPLY WITH FEDERAL AND STATE E.P.A. REGULATIONS RELATING TO THIS TYPE OF WORK (FUGITIVE DUST).

4. PIPING INSTALLATION: CLEAN-OUTS MUST BE INSTALLED ON MINIMUM DRAIN LINES EVEN THOUGH NOT SHOWN ON THE BLUEPRINTS. USE REDUCING FITTINGS IN MAKING REDUCTIONS IN SIZE OF PIPE. CLEAN ALL PIPE AFTER CUTTING, THEN TURN PIPES ON END AND KNOCK OUT ALL LOOSE DIRT AND SCALE BEFORE INSTALLING. MAKE CHANGES IN HORIZONTAL DIRECTION OF SOIL AND WASTE PIPES WITH LONG RADIUS FITTINGS OR WITH "Y" BRANCHES AND 1/8 OR 1/16 BENDS. CONNECT SOIL STACKS AT BASE TO HORIZONTAL RUNS WITH "Y" CONNECTIONS.

WATER SUPPLY PIPES TO FIXTURES AND WASTE PIPES FROM FIXTURES SHALL BE CENTERED IN THE PROPER PLACE RELATIVE TO THE CENTER LINE OF THE FIXTURE. NO OFFSETS WILL BE ALLOWED. ALL PIPES SHALL BE RUN MECHANICALLY STRAIGHT AND SQUARE WITH BUILDING LINES, EXCEPT FOR REQUIRED PITCH ON HORIZONTAL LINES, AND ALL CHANGES IN DIRECTION SHALL BE MADE WITH FITTINGS. WATER PIPING TO BE ROUTED IN WALLS, UNDER THE FLOOR SLAB, AND ABOVE SUSPENDED CEILINGS AS NOTED. WHERE ROUTED UNDER FLOOR SLAB, NO MECHANICAL JOINTS SHALL BE MADE UNDER THE SLAB EXCEPT AS LISTED BELOW. WATER PIPING SHALL BE INSTALLED NOT TO EXERT VERTICAL NOR HORIZONTAL STRESSES ON THE SEATING OF UNIONS. UNIONS SHALL BE COPPER TYPE NIBCO #733 OR EQUAL.

NO WAX, PUTTY, OR VARNISH WILL BE PERMITTED. CRACKED FITTINGS SHALL BE REMOVED AND REPLACED WITH NEW FITTINGS. MAKE FURNISHED AND INSTALLED PIPE AND FITTINGS WITH PIPE THREADING TO THE SHOULDER OF THE FITTINGS. NO SLIP JOINTS OR COUPLING JOINTS IN BRASS PIPE WILL BE PERMITTED, EXCEPT ON THE FIXTURE SIDE OF THE TRAP.

5. NATURAL GAS PIPING: FOR ABOVEGROUND INSTALLATIONS, ALL FITTINGS TO BE JOINED WITH TEFLON TAP SEAL OR OTHER SUITABLE SEAL. JOINTS MADE IN CONFORMANCE WITH THE BEST PRACTICES OF AGA AND NFPA. UNIONS SHALL BE CAST BLACK IRON AND INSTALLED IN A MANNER SUCH THAT NO STRESS WILL BE PLACED ON THE MALE-FEMALE SEALING SURFACES. PROPER ALIGNMENT WILL BE MADE AT TIME OF INSTALLATION. ALL JOINTS AND CONNECTIONS SHALL BE THOROUGHLY CLEANED OF OIL, THREAD CUTTINGS AND RESIDUALS TO ACCEPT ENAMEL PAINT. ROUGH OR SHARP EXPOSED THREAD SURFACES SHALL BE FILED SMOOTH.

6. WATER PIPE: JOINTS SHALL BE CLEANED AND DEBURRED AS RECOMMENDED BY THE MANUFACTURER AND FEDERAL, STATE, AND LOCAL CODES AND SOLDERED AS LISTED BELOW. FLUX SHALL BE NON-CORROSIVE.

ABOVE GRADE - WHERE FITTINGS ARE SOLDERED BOTH FITTINGS AND TUBING SHALL BE CLEANED AS DESCRIBED ABOVE. UNDER NO CIRCUMSTANCES SHALL DISSIMILAR METALS COME INTO DIRECT CONTACT WITH COPPER TUBING; E.G., GALVANIZED STRAPPING, HANGERS, OR CLAMPS TO SECURE THE TUBING.

BELOW GRADE, OR FLOOR SLAB ON EARTH OR STONE FILL - HIGH TEMPERATURE, SOLDER, 1200 DEG. F OR GREATER MELTING POINT.

NOTE: WATER PIPE TO BE PROPERLY SECURED AND ALIGNED SO AS NOT TO EXERT VERTICAL OR HORIZONTAL STRESSES ON THE SEATING OF THE MATING (MALE AND FEMALE) SURFACES OF THE UNIONS.

- A. MATERIALS - UNDERGROUND: TYPE "L" COPPER TUBE, SOFT TEMPER
B. MATERIALS - ABOVEGROUND: TYPE "L" COPPER TUBE, HARD DRAWN.
C. INSULATION: INSULATION FOR HOT AND COLD PIPING SHALL BE 1/2" (1" ON 1ST 8 FT. FROM HEATER) THICK ARMAFLEX UL LABELED OR FIBERGLASS 25 WITH ASJ/SSL FOIL/VINYL JACKET OR EQUAL. INSULATE ALL PIPING AND FITTINGS.

7. GAS PIPING

A. UNDERGROUND GAS PIPING: ASTM A53, SCHEDULE 40 BLACK STEEL PIPE WITH LONG RADIUS STEEL WELDING FITTINGS INCLUDING CATHODIC PROTECTION OR POLYETHYLENE AS APPROVED BY LOCAL GAS COMPANY AND AUTHORITY HAVING JURISDICTION.

B. GAS PIPING ABOVE GROUND: ASTM A53, SCHEDULE 40 BLACK STEEL WITH 125 POUND BLACK MALLEABLE IRON SCREWED FITTINGS. INSTALL MOISTURE TRAPS ON HVAC UNITS, WATER HEATER, AND KITCHEN EQUIPMENT.

C. GAS PIPING COMPOUND AT JOINTS: IN COMPLIANCE WITH NFPA BULLETIN #54 AND LOCAL APPLICABLE CODES AND SUITABLE FOR NATURAL GAS SERVICE.

8. WASTE PIPING: INSTALL HORIZONTAL DRAIN AND WASTE PIPES WITH 1/4"/FT. SLOPE.

MATERIALS: PIPING SHALL NOT BE EXPOSED, CAST IRON - HUB TYPE WITH NEOPRENE JOINTS - WITH STAINLESS STEEL CONNECTORS WHEN PVC IS NOT ALLOWED PER LOCAL CODE.

9. PIPE SLEEVES/ESCUTCHEONS: PROVIDE CHROME-PLATED ESCUTCHEONS ON ALL PIPES PASSING THROUGH WALLS, FLOORS, OR CEILINGS OF FINISHED ROOMS. ESCUTCHEONS TO BE BEATON & CADWELL #10, #0, #A OR EQUIVALENT WITH SET-SCREWS. PROVIDE ESCUTCHEONS ON ALL WASTE LINES FROM PLUMBING FIXTURES, WHETHER THROUGH WALLS, FLOORS, AND WHETHER CONCEALED BEHIND COUNTERS OR EXPOSED. PIPE SLEEVES SHALL BE PROVIDED WHEN PIPES PENETRATE FOUNDATION AND SHALL BE 1" LARGER THAN PIPE, SEAL SLEEVE W/CAULKING.

10. PLUMBING FIXTURES: FURNISH AND INSTALL PLUMBING FIXTURES AS SHOWN ON DRAWINGS WITH ALL ACCESSORIES AND TRIM AS LISTED. ALL FIXTURES SHALL BE PROTECTED THROUGH THE COURSE OF THE CONSTRUCTION. ANY FIXTURE DAMAGED SHALL BE REPLACED WITHOUT ADDITIONAL EXPENSE TO THE OWNER.

11. CONNECTION TO OTHER FIXTURES: CONNECT BUILDING SERVICE PIPING, INCLUDING BUT NOT LIMITED TO WATER, DRAIN, AND GAS PIPES TO FOOD SERVICE EQUIPMENT AS INDICATED IN EQUIPMENT SPECIFICATIONS. PROVIDE BACKFLOW PROTECTION ON ICE MACHINES AND BEVERAGE EQUIPMENT SUPPLY CONNECTIONS.

12. TESTS:

A. DRAINAGE AND VENT PIPING - DRAINAGE AND VENT PIPING SHALL BE TESTED BEFORE THE PLUMBING FIXTURES ARE INSTALLED BY CAPPING THE OPENINGS AND FILLING THE ENTIRE SYSTEM WITH WATER AND ALLOWING IT TO STAND THUS FILLED NOT LESS THAN ONE (1) HOUR. INSPECT WATER LEVEL TO DETERMINE IF PIPING IS TIGHT.

B. WATER PIPING - THE WATER SUPPLY PIPING LINES SHALL BE TESTED BEFORE THE PLUMBING FIXTURES ARE CONNECTED BY FILLING THE ENTIRE SYSTEM WITH POTABLE WATER AND APPLYING HYDROSTATIC PRESSURE OF 100 PSI AND ALLOWING TO STAND FOR NOT LESS THAN FOUR (4) HOURS AT THIS PRESSURE TO PROVE PLUMBING INTEGRITY.

C. GAS PIPING - IN LIEU OF LOCAL REQUIREMENTS, GAS PIPING SHALL BE FILLED WITH COMPRESSED AIR TO 150 PSI AND HELD FOR PERIOD OF FOUR (4) HOURS. EACH JOINT SHALL BE CHECKED BY LIQUID SOAP OR SPECIAL LIQUID CHEMICAL FOR LEAKS. NOTE: REMOVE ALL GAS VALVES AND PROTECT FROM DAMAGE BEFORE TESTING SYSTEM.

13. DISINFECTON OF POTABLE WATER SYSTEM: UPON COMPLETION OF INSTALLATION DISINFECT THE WATER SYSTEM BY FILLING SO WITH SOLUTION CONTAINING 50 PARTS PER MILLION OF CHLORINE AND ALLOW IT TO STAND FOR NOT LESS THAN SIX (6) HOURS BEFORE FLUSHING THOROUGHLY AND RETURNING TO SERVICE. FURNISH CLEAN WATER SAMPLES TO THE LOCAL AUTHORITY FOR TESTING AFTER THE LINES HAVE BEEN DISINFECTED. THIS PROCEDURE TO BE IN ACCORDANCE WITH STATE PLUMBING CODE.

14. CLEANUP: CLEAN ALL PLUMBING FIXTURES AND EQUIPMENT THOROUGHLY BEFORE FINAL INSPECTION, LEAVING ALL READY FOR USE.

15. GUARANTEE: MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. DEFECTIVE WORK AND ALL DAMAGES CAUSED THEREBY WHICH MAY OCCUR DURING THE TERM OF THE AFOREMENTIONED GUARANTEE WILL BE REPAIRED AND/OR REPLACED AT NO EXPENSE TO THE OWNER.

16. OWNER'S MANUAL: PROVIDE THE OWNER, AT THE COMPLETION OF THIS CONTRACT, WITH AN "OWNER'S MANUAL" SO LABELED. THE MANUAL SHALL CONSIST OF A THREE-RING LOOSE-LEAF BINDER CONTAINING ALL PRINTED MATTER SUCH AS: GUARANTEE CARDS, CLEANING INSTRUCTIONS, NOTICES TO OWNER, OPERATING MANUALS, AND MAINTENANCE INSTRUCTIONS THAT MAY BE CONTAINED IN THE SHIPPING CARTONS OR EQUIPMENT HOUSINGS.

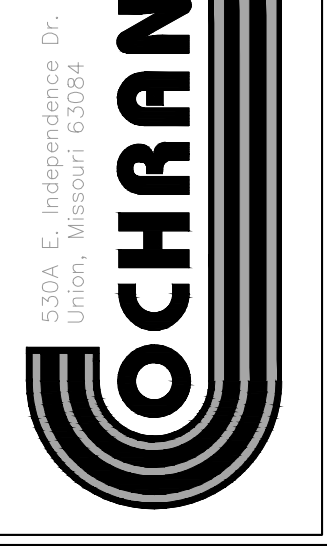
PLUMBING SYMBOLS LEGEND

Table with 2 columns: Symbol and Description. Includes symbols for Natural Gas Piping, Condensate Drain Piping, Pump Discharge (Forced Main), Cold Water Piping, Hot Water Piping (120F), Hot Water Return Piping, Sanitary Drain Piping, Underground Sanitary Piping, Sanitary Vent Piping, Vent Through Roof, Pipe Turning Down, Pipe Turning Up, Check Valve, Union, Above Finished Floor, Clean Out, Pressure Regulating Valve (PRV) (50 PSI), Ball Valve, Compressed Air, Filtered Water, Grade Clean Out, Point of Connection, Balance Valve.

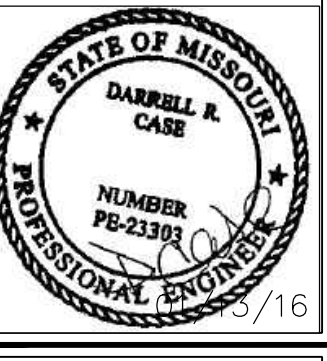
PLUMBING FIXTURE SCHEDULE

Table with 7 columns: MARK, FIXTURE, SAN., VENT, C.W., H.W., REMARKS. Lists fixtures such as Floor Drain, Floor Cleanout, Wall Cleanout, Floor Mounted Water Closet, Lavatory, Urinal, Mop Sink, Water Heater, Thermostatic Mixing Valve, Reduced Pressure Zone Backflow Preventer, and Trench Drain.

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1-800-90-RETE (or rite) location information.



All OSHA rules & regulations construction required by these plans shall be strictly followed (ie. trenching, shoring, etc.)



NEW RESTROOMS
CITY OF WENTZVILLE
ROTARY, PARK
WENTZVILLE, MISSOURI

Table for PLUMBING SPECIFICATIONS with columns for DATE, DRAWN BY, APP'D BY, DATE, REVISION, DATE, DRAWN BY, APP'D BY.

DATE: JAN 13, 2016
SCALE: AS NOTED
PROJ. NO: 15-6060
DRWG. NO: P1.0

Edifica case engineering logo and contact information: Edifica Case Engineering, 796 Menus Court, St. Louis, MO 63026. T 636.349.1600, F 636.349.1730. CERTIFICATE OF AUTHORITY NO. E.2000155319-D

