

BUILDING ADDITION FOR: (NOTE CIVIL / SITE IMPROVEMENT DRAWING PACKAGE SUBMITTED SEPARATELY)

WINTECH WINDOW TECHNOLOGY, INC.

201 INDUSTRIAL DRIVE
BARRY COUNTY, MONETT, MISSOURI 65708

ARCHITECT:

R. E. WERNER ARCHITECT, LLC

MISSOURI STATE CERTIFICATE
OF AUTHORITY NO. 2012011837
15435 L. C. ROAD 2225
VERONA, MISSOURI 65769
417-860-3284



RICHARD EUGENE WERNER ARCHITECT
MISSOURI LICENSE NO. A-006634

CIVIL ENGINEERING:

ANDERSON ENGINEERING

CONSULTING ENGINEERS & LAND SURVEYORS
218 5TH STREET
MONETT, MISSOURI 65708
417-236-0112

STRUCTURAL ENGINEERING

MILLER ENGINEERING, P.C.

3827 SOUTH TIMBERCREEK AVENUE, SUITE A
SPRINGFIELD, MISSOURI 65807
417-866-6664

MECHANICAL, ELECTRICAL, & PLUMBING ENGINEERING:

POND CREEK DESIGNS

229 HIGHWAY 60 WEST
REPUBLIC, MISSOURI 65738
417-732-2845

DATE: APRIL 29, 2016

STORM WATER DETENTION:

SEE CIVIL DRAWINGS

SET NUMBER:

BUILDING CODE DATA

GOVERNING CODES

2006 INTERNATIONAL BUILDING CODE
2005 NEC
2006 INTERNATIONAL MECHANICAL CODE
2006 INTERNATIONAL PLUMBING CODE
2006 INTERNATIONAL FUEL GAS CODE
2006 INTERNATIONAL FIRE CODE
2009 ICC A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

ZONING - ZONE D (INDUSTRIAL DISTRICT)

SEE SHEET A-1.2 FOR BUILDING CODE DATA

PRE-ENGINEERED BUILDING SYSTEM - DEFERRED SUBMITTAL:

PRE-ENGINEERED BUILDING SYSTEM DESIGN, DESIGN REACTIONS
ANCHOR BOLT LAYOUT, & SHOP DRAWINGS WILL BE PROVIDED WHEN AVAILABLE
SEALED BY AN ENGINEER LICENSED IN THE STATE OF MISSOURI

SPRINKLER SYSTEM SHOP DRAWINGS WILL BE PROVIDED - DEFERRED SUBMITTAL:

SEALED BY AN ENGINEER LICENSED IN THE STATE OF MISSOURI
(SPRINKLER SYSTEM WILL BE INSTALLED BY THE OWNER'S SPRINKLER CONTRACTOR
AND IS NOT PART OF THIS CONSTRUCTION CONTRACT)

SPECIAL TESTING:

THE THIRD PARTY TESTING CONSULTANT WILL BE PROVIDED - DEFERRED SUBMITTAL:

BUILDING CODE DATA

PARKING:

SEE CIVIL DRAWINGS

GOVERNING CODES

2006 INTERNATIONAL BUILDING CODE
2005 NEC
2006 INTERNATIONAL MECHANICAL CODE
2006 INTERNATIONAL PLUMBING CODE
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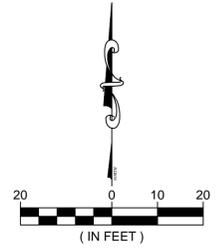
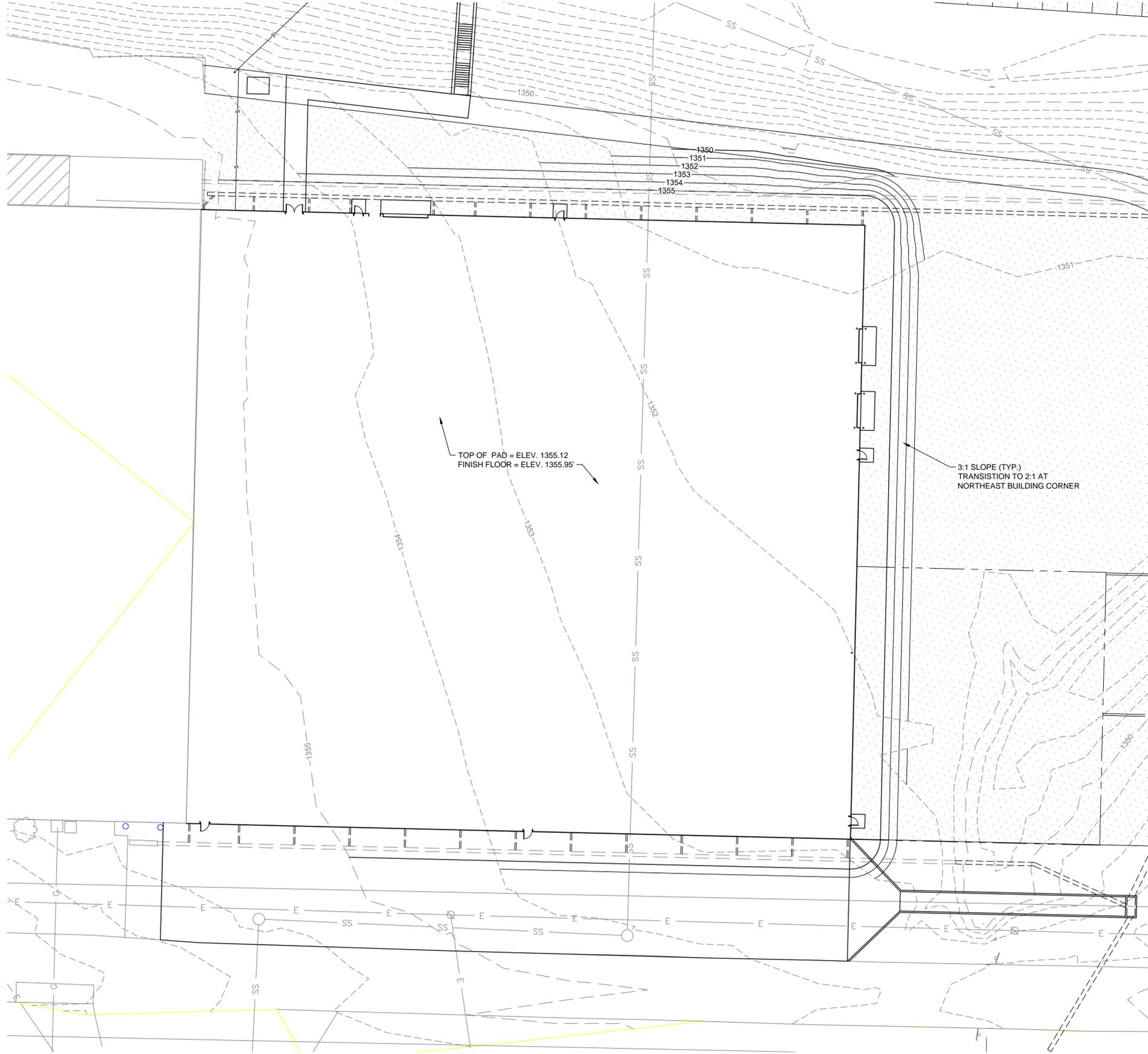
SPECIAL TESTING:

THE THIRD PARTY TESTING CONSULTANT WILL BE PROVIDED - DEFERRED SUBMITTAL:

SHEET INDEX

CIVIL	STRUCTURAL	ARCHITECTURAL	MECHANICAL / ELECTRICAL / PLUMBING
C-1.0 REMOVAL PLAN	S0.0 STRUCTURAL GENERAL NOTES	A-1.0 GENERAL NOTES	M-1.1 MECHANICAL PLAN
C-2.0 SITE PLAN	S1.0 FOUNDATION PLAN	A-1.1 CLEARANCE & MOUNTING HEIGHT DETAILS	M-2.1 MECHANICAL SCHEDULES & NOTES
C-3.0 SITE GRADING PLAN	S2.0 FOUNDATION DETAILS	A-1.2 EGRESS PLAN & BUILDING CODE DATA	M-3.1 MECHANICAL DETAILS
	S3.0 MASONRY & CONCRETE LID DETAILS	A-2.0 OVERALL FLOOR PLAN	E-1.1 ELECTRICAL LIGHTING PLAN
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			P-5.2 MECHANICAL SPECIFICATIONS

GENERAL CONTRACTORS PLEASE NOTE THESE
DRAWINGS ARE INCLUDED IN THIS DRAWING
FOR INFORMATIONAL REASONS ONLY - NOT IN
THE SCOPE OF THIS DRAWING PACKAGE CONTRACT
FOR CONSTRUCTION - SHEETS C-1.0, C-2.0, & C-3.0



T.B.M. = EL. 1334.29'
 CHISELED SQUARE ON SOUTHWEST CORNER OF
 CONCRETE OUTLET STRUCTURE IN DETENTION BASIN.
 APPROXIMATELY 350' NORTH OF NORTH WALL OF
 PROPOSED BUILDING

LEGEND

- 1354 --- EXISTING CONTOUR (1' INTERVAL)
- 1355 --- EXISTING CONTOUR (5' INTERVAL)
- 1354 — PROPOSED CONTOUR (1' INTERVAL)
- 1355 — PROPOSED CONTOUR (5' INTERVAL)

**ANDERSON
ENGINEERING**
EMPLOYEE OWNED

ENGINEERS - SURVEYORS - LABORATORIES - DRILLING
 218 W. MONNETT AVENUE, SUITE 100
 ANDERSON, MISSOURI 64402 • KEVIN R. SPRINKLE, P.E. #22069

REVISIONS		DRAWING INFO.			
NO.	DESCRIPTION	BY	DATE	FIELD BY:	SHIF
				DRAWN BY:	KRS
				CHECK BY:	4/29/16
				DATE:	
				FIELD BOOK:	
				JOB NUMBER:	

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FINISH GRADING PLAN
 PLANT EXPANSION & RENOVATION
 WINTech WINDOW TECHNOLOGY, INC.
 201 INDUSTRIAL DRIVE
 MONETT, MISSOURI

SHEET NUMBER
C-3.0
 OF _____

GENERAL NOTES

- G1. IN CASES OF DISCREPANCIES IN DIMENSIONS AND ELEVATIONS BETWEEN STRUCTURAL AND ARCHITECTURAL DRAWINGS, CONTRACTOR SHALL COORDINATE WITH ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION.
- G2. CONTRACTOR SHALL PROVIDE TEMPORARY GUYS AND BRACING AS REQUIRED DURING CONSTRUCTION. STRUCTURE IS NOT STABLE UNTIL ALL STRUCTURAL MEMBERS, CONNECTIONS, AND DECKING ARE IN PLACE.
- G3. FIELD VERIFY ALL EXISTING CONDITIONS. NOTIFY ARCHITECT/ENGINEER WHEN EXISTING CONDITIONS ARE IN CONFLICT WITH THE CONSTRUCTION DOCUMENTS.
- G4. CONTRACTOR SHALL VERIFY ANCHOR BOLT LAYOUT AND BUILDING DIMENSIONS WITH PRE-ENGINEERED METAL BUILDING MANUFACTURER'S SHOP DRAWINGS BEFORE BEGINNING CONSTRUCTION.

FOUNDATION NOTES

- F1. IN THE AREA OF THE BUILDING, EXISTING ORGANIC MATERIAL, UNSUITABLE SOIL, ABANDONED FOOTINGS, PAVEMENT AND OTHER DELETERIOUS MATERIALS SHALL BE REMOVED.
- F2. ALL UNDERCUTTING, SITE PREPARATION, FILL SELECTION, BACKFILLING AND COMPACTION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE SOILS ENGINEER.
- F3. TESTING OF CONTROLLED STRUCTURAL FILL SHALL BE PERFORMED BY A QUALIFIED TESTING LABORATORY RETAINED BY THE GENERAL CONTRACTOR AND APPROVED BY THE OWNER. SOIL COMPACTION TESTING SHALL BE AS DIRECTED BY THE ARCHITECT/ENGINEER OR AS NECESSARY TO ENSURE PROPER COMPACTION.
- F4. EXCAVATION FOR FOOTINGS SHALL BE CUT TO ACCURATE SIZE AND DIMENSIONS AS SHOWN ON PLANS. ALL SOIL BELOW SLABS AND FOOTINGS SHALL BE PROPERLY COMPACTED AND SUBGRADE BROUGHT TO A REASONABLE TRUE AND LEVEL PLANE BEFORE PLACING CONCRETE.
- F5. AFTER EXCAVATION FOR FOUNDATIONS AND PRIOR TO PLACEMENT OF STEEL REINFORCEMENT OR CONCRETE, NOTIFY SOILS ENGINEER FOR INSPECTION OF SOIL CONDITIONS.
- F6. FOOTINGS SHALL BEAR AT MINIMUM DEPTHS AS NOTED IN FOOTING SECTIONS AND PLANS, 2'-0" MIN. BELOW EXTERIOR GRADE, OR INTO APPROVED BEARING STRATA, WHICHEVER DEPTHS IS GREATER. NOTE THAT FOOTING BEARING ELEVATIONS GIVEN ON THE PLANS ARE ESTIMATED DEPTHS ONLY. WHERE UNSUITABLE SOIL IS ENCOUNTERED OR WHERE FINISHED EXTERIOR GRADE VARIES FROM THE ASSUMED EXTERIOR GRADE, FOOTING DEPTHS MAY VARY.
- F7. CONTINUOUS SPREAD FOOTINGS AND ISOLATED FOOTINGS ARE DESIGNED FOR A NET ALLOWABLE SOIL BEARING OF 2000 PSF. FOR EITHER NATURALLY OCCURRING SOIL OR COMPACTED ENGINEERED FILL. AFTER FOOTING EXCAVATIONS HAVE BEEN MADE TO DESIGN ELEVATIONS, THE INDEPENDENT TESTING AGENCY EMPLOYED BY THE CONTRACTOR SHALL INSPECT AND TEST THE BEARING SOIL. WHEN SOIL OF INADEQUATE STRENGTH IS NOTED, CONTRACTOR SHALL FURTHER DEEPEN EXCAVATIONS UNTIL SUITABLE BEARING CONDITIONS ARE VERIFIED BY TESTING. OVER EXCAVATIONS MAY BE BACKFILLED WITH SUITABLE COMPACTED ENGINEERED FILL, SUITABLE GRANULAR BASE, LEAN CONCRETE OR STRUCTURAL CONCRETE BACKFILL.

CONCRETE NOTES

- C1. CONCRETE WORK SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318) AND SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 308), LATEST EDITION.
- C2. CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED AND PLACED UNDER THE SUPERVISION OF AN APPROVED CONCRETE TESTING AGENCY. SEE THE SPECIAL INSPECTION NOTES FOR ADDITIONAL INFORMATION.
- C3. CONCRETE FOR FOOTINGS HAVE A 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI. THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.52 BY WEIGHT. A MINIMUM OF 4 BAGS OF CEMENT SHALL BE USED PER CUBIC YARD WITH A SLUMP OF 4" +/- 1".
- C4. CONCRETE FOR FOUNDATION WALLS, INTERIOR SLABS ON GRADE AND ELEVATED STRUCTURAL SLABS SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI. THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.50 BY WEIGHT. A MINIMUM OF 5 1/2 BAGS OF CEMENT SHALL BE USED PER CUBIC YARD WITH A SLUMP OF 4" +/- 1".
- C5. CONCRETE FOR EXTERIOR USES, SIDEWALKS, EXTERIOR SLABS ON GRADE, ETC. SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI AND SHALL BE AIR-ENTRAINED TO 6% +/- 1% WITH AN AIR-ENTRAINING ADMIXTURE CONFORMING TO ASTM C209. A MINIMUM OF 5 3/4 BAGS OF CEMENT SHALL BE USED PER CUBIC YARD WITH A SLUMP OF 4" +/- 1". THE MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.45 BY WEIGHT.
- C6. CONCRETE SLABS SHALL BE FINISHED TO THE FOLLOWING TOLERANCES:
 - A. SPECIFIED OVERALL VALUE $F_c \geq 38$ $F_c \geq 25$ MINIMUM LOCAL VALUE $F_c \geq 19$ $F_c \geq 13$
 - B. FLOOR TOLERANCE MEASUREMENTS FOR LEVELNESS AND FLATNESS SHALL BE TESTED IN ACCORDANCE WITH ASTM E 1155. ACTUAL OVERALL F-NUMBERS SHALL BE CALCULATED USING THE INFERIOR/SUPERIOR AREA METHOD.
 - C. ALL FLOOR TOLERANCE MEASUREMENTS SHALL BE MADE BY THE CONTRACTOR WITHIN 24 HOURS AFTER SLAB INSTALLATION AND BEFORE SAW CUTTING OF CONTROL JOINTS. IN ALL CASES, TOLERANCE MEASUREMENTS SHALL PRECEDE THE REMOVAL OF SHORES AND FORMS. RESULTS OF ALL FLOOR PROFILE TESTS SHALL BE PROVIDED TO THE CONTRACTOR WITHIN 48 HOURS OF EACH SLAB INSTALLATION. SECTIONS OF FLOOR NOT MEETING THE MINIMUM TOLERANCES HEREIN SHALL BE REMOVED OR REPAIRED AT THE DISCRETION OF THE ARCHITECT/ENGINEER.
- C7. IF ADDITIONAL FLOWABILITY IS REQUIRED FOR PLACEMENT OF ANY CONCRETE MIX, A WATER-REDUCING ADMIXTURE CONFORMING TO ASTM C494, TYPE A, SHALL BE USED. NO ADDITIONAL WATER MAY BE ADDED TO THE MIX.
- C8. FLY ASH MAY BE USED AS A ONE TO ONE REPLACEMENT FOR THE CEMENT UP TO 20% OF THE TOTAL CEMENT CONTENT AS LONG AS THE AMBIENT TEMPERATURE IS ABOVE 50 DEGREES FAHRENHEIT.
- C9. DO NOT AIR ENTRAIN CONCRETE TO BE USED FOR FLOORS WITH A TROWELED FINISH. DO NOT ALLOW ENTRAPPED AIR CONTENT TO EXCEED 3%.
- C10. FINE AND COARSE AGGREGATE SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR GRADING SIZE, PARTICLE DISTRIBUTION, DELETERIOUS CONTENT, SOUNDNESS AND CHERT. COURSE AGGREGATES SHALL MEET THE REQUIREMENTS OF ASTM C33 TABLE 3 CLASS 4S. FINE AGGREGATE MAY BE NATURAL OR MANUFACTURED SAND FROM QUARRIES OR PITS WHICH HAVE GIVEN SATISFACTORY SERVICE PERFORMANCE WHEN EXPOSED IN A SIMILAR MANNER TO THAT TO BE ENCOUNTERED.
- C11. ALL REINFORCING STEEL SHALL CONFORM TO ASTM #616, GRADE 60. LAP ALL SPLICES 30 BAR DIAMETERS. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. LAP FABRIC 6" ON SIDES AND ENDS. MAINTAIN WIRE 1" TO 2" BELOW TOP SURFACE OF SLABS ON GRADE.
- C12. WHERE FOOTINGS, WALLS, OR OTHER STRUCTURAL ELEMENTS INTERSECT, CORNER OR TEE, PROVIDE CORNER BARS WITH REQUIRED LAP LENGTHS TO PROVIDE CONTINUITY OF HORIZONTAL REINFORCING UNLESS NOTED OTHERWISE.
- C13. COLD-WEATHER PLACEMENT: COMPLY WITH ACI 308.1
- C14. HOT-WEATHER PLACEMENT: PLACE CONCRETE ACCORDING TO RECOMMENDATIONS IN ACI 308R.

CONCRETE MASONRY UNIT NOTES

- M1. CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO "SPECIFICATION FOR CONCRETE MASONRY CONSTRUCTION" (ACI 531.1) AND TO THE NATIONAL CONCRETE MASONRY ASSOCIATION "SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF LOAD BEARING CONCRETE MASONRY" (TR75B).
- M2. SEE THE SPECIAL INSPECTION NOTES FOR THE REQUIRED TESTING AND INSPECTIONS OF THE CONCRETE MASONRY CONSTRUCTION.
- M3. CONCRETE MASONRY UNITS (CMU) SHALL COMPLY WITH ASTM C-90, GRADE N, TYPE I, F_m = 1500 PSI. STANDARD WEIGHT CONCRETE BLOCK SHALL BE USED BELOW GRADE, HADITE OR APPROVED MEDIUM WEIGHT AGGREGATE SHALL BE USED ABOVE GRADE. SIZES AS INDICATED ON PLANS.
- M4. MORTAR SHALL BE TYPE 'S' WITH F_m = 1900 PSI. EXCEPT BELOW GRADE TYPE 'M' SHALL BE USED, UNLESS NOTED OTHERWISE. MIX MORTAR FROM TYPE I PORTLAND CEMENT (TYPE III MAY BE USED FOR COLD WEATHER CONSTRUCTION), HYDRATED LIME (ASTM C-207), AND AGGREGATE (ASTM C-144).
- M5. ALL CELLS BELOW GRADE AND ALL CELLS TO RECEIVE STEEL REINFORCING SHALL BE GROUTED SOLID. ADDITIONAL CELLS TO RECEIVE GROUT ARE SHOWN IN DETAILS AND NOTES.
- M6. CONCRETE GROUT USED TO FILL VOIDS SHALL CONFORM TO ASTM C-476 AND SHALL BE AS FOLLOWS (DO NOT USE MORTAR):
 - A. USE MINIMUM 5 1/2 BAGS OF CEMENT PER CUBIC YARD.
 - B. MAXIMUM WATER/CEMENT RATIO BY WEIGHT SHALL BE 0.54.
 - C. WATER-REDUCING ADMIXTURE MEETING ASTM C-494 SHALL BE USED TO PROVIDE SUFFICIENT FLOWABILITY TO READILY FILL VOIDS WITH A REASONABLE AMOUNT OF RODDING. NO ADDITIONAL WATER WILL BE ALLOWED TO IMPROVE FLOWABILITY.
 - D. AGGREGATE SHALL BE WELL-GRADED, 3/8" SIZE AND SMALLER.
- M7. ALTERNATE MIX DESIGNS WILL BE CONSIDERED IF SUBMITTED TO ARCHITECT/ENGINEER FOR APPROVAL. ALTERNATE MIX DESIGNS MUST SHOW SUFFICIENT FLOWABILITY CHARACTERISTICS AND 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
- M7. WHERE VERTICAL REINFORCING INTERSECTS HORIZONTAL REINFORCING, BOTH SHALL BE CONTINUOUS.
- M8. HORIZONTAL REINFORCING SHALL BE CONTINUOUS AT CORNERS WITH BEND OR SHALL HAVE CORNER BARS WITH EACH LEG EQUAL TO REQUIRED LAP LENGTH.
- M9. VERTICAL DOWEL BARS SHALL BE PLACED INTO FOUNDATION AT ALL LOCATIONS WHERE VERTICAL REINFORCING IS SPECIFIED FOR WALLS OR COLUMNS. DOWELS SHALL BE SAME SIZE AS VERTICAL REINFORCING AND SHALL BE EMBEDDED INTO FOOTING, 6" MINIMUM WITH STANDARD HOOK AND 12" EXTENSION. WHERE SPLICES ARE REQUIRED, USE 3/8 BAR DIAMETERS OR 1-2" MINIMUM LAP FOR ALL BARS EXCEPT JAMB REINFORCING VERTICAL REINFORCING IN END CELLS OF WALLS AND NEXT TO OPENINGS) WHICH SHALL LAP 40 BAR DIAMETERS OR 2'-0".
- M10. HORIZONTAL BOND BEAMS WITH 2-#6'S SHALL BE PROVIDED AT TOP AND BOTTOM OF WALL OPENINGS, AT STRUCTURALLY CONNECTED FLOOR LEVELS OR WALLS AND AS CALLED FOR IN PLANS AND NOTES. BOND BEAMS ABOVE AND BELOW WALL OPENINGS SHALL EXTEND 2'-0" MINIMUM BEYOND THE FACE OF OPENING UNLESS NOTED OTHERWISE.
- M11. MAXIMUM HEIGHT OF GROUT POUR SHALL NOT EXCEED 4'-0" UNLESS CLEANOUT AND INSPECTION HOLE IS PROVIDED AT BOTTOM OF VOID.
- M12. GROUT AND REINFORCE WITH 1-#5 ALL VERTICAL CORNER CELLS, ALL VERTICAL END CELLS, ONE CELL EACH SIDE OF CONTROL JOINTS AND ONE CELL EACH SIDE OF ALL OPENINGS UNLESS SPECIFICALLY NOTED OTHERWISE.
- M13. TYPICAL MASONRY WALLS SHALL HAVE HORIZONTAL JOINTS REINFORCED WITH 9-GAUGE TRUSS-TYPE JOINT REINFORCEMENT EQUAL TO "DURORWALL" AT 16" ON CENTER. PRE-FABRICATED CORNER OR TEE PIECES SHALL BE USED AT ALL INTERSECTING WALLS AND CORNERS.
- M14. THE FABRICATOR SUPPLYING THE REINFORCING STEEL FOR THE MASONRY SHALL PROVIDE SHOP DRAWINGS WHICH INCLUDE FULL ELEVATION VIEWS OF ALL REINFORCED WALLS. THE FEES FOR THE SHOP DRAWING PRODUCTION SHALL BE INCLUDED IN THE FABRICATOR'S BID PROVIDED TO THE MASONRY SUBCONTRACTOR OR GENERAL CONTRACTOR.

METAL BUILDING NOTES

- MB1. METAL BUILDING MANUFACTURER SHALL SUBMIT CALCULATIONS AND SHOP DRAWINGS, STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MISSOURI, FOR REVIEW PRIOR TO FABRICATION.
- MB2. METAL BUILDING SHALL BE DESIGNED TO RESIST THE LOADS SPECIFIED IN THE LOAD TABLE IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2006 INTERNATIONAL BUILDING CODE AND THE LATEST EDITION OF THE MBMA METAL BUILDING SYSTEMS MANUAL.
- MB3. METAL BUILDING VERTICAL BRACING SHALL CONSIST OF PORTAL FRAMES OR X-BRACING AS INDICATED AT LOCATIONS SHOWN ON PLANS. IF BRACING IS NOT SHOWN, METAL BUILDING MANUFACTURER SHALL COORDINATE LOCATION OF ALL BRACES TO MINIMIZE INTERFERENCE WITH ARCHITECTURAL FEATURES, MECHANICAL EQUIPMENT AND DUCTS. ROD OR CABLE BRACES MAY NOT BE SUBSTITUTED WHERE PORTAL FRAMES ARE SHOWN.
- MB4. MAXIMUM PURLIN LIVE LOAD DEFLECTION SHALL NOT EXCEED SPAN/240 IN AREAS THAT SUPPORT CEILINGS OR FUTURE CEILINGS. MAXIMUM PURLIN LIVE LOAD DEFLECTION SHALL NOT EXCEED SPAN/180 IN OTHER AREAS.
- MB5. FRAME LIVE LOAD DEFLECTION SHALL NOT EXCEED SPAN/240 IN AREAS THAT SUPPORT CEILINGS OR FUTURE CEILINGS. FRAME LIVE LOAD DEFLECTION SHALL NOT EXCEED SPAN/180 IN OTHER AREAS.
- MB6. MAXIMUM GIRT LATERAL DEFLECTION FROM WIND OR SEISMIC LOADS SHALL NOT EXCEED SPAN/180 FOR GIRTS PROVIDING LATERAL SUPPORT FOR METAL SIDING ONLY.
- MB7. MAXIMUM BUILDING SIDE SWAY (DRIFT) FROM WIND OR SEISMIC LOADS SHALL NOT EXCEED WALL HEIGHT/80.
- MB8. TYPICAL ANCHOR BOLTS SHALL BE HEADED BOLTS WITH A MINIMUM EMBEDMENT OF 16". SEE METAL BUILDING MANUFACTURER DRAWINGS FOR ANCHOR BOLT SIZE AND LOCATION.
- MB9. VERIFY COLUMN PEDESTAL SIZES WITH METAL BUILDING MFR. PROVIDE FULL BEARING UNDER BASE PLATES AND 2" MIN. CONCRETE COVER AROUND ANCHOR BOLTS AND LOCATE HORIZONTAL REINFORCEMENT AND TIES TO THE OUTSIDE FOR ANCHOR BOLT CONTAINMENT.
- MB10. CONCENTRATED LOADS THAT ARE TO BE ATTACHED TO THE ROOF STRUCTURE SUCH AS CEILINGS, PIPE HANGERS, MECHANICAL DUCT WORK, ELECTRICAL FIXTURES, ETC. SHALL BE ATTACHED TO PURLINS OR BEAMS. CONNECTIONS SHALL BE THRU WEB OF PURLINS - DO NOT DRILL HOLES IN THE FLANGES. DO NOT SUSPEND FROM CEILING OR METAL DECK.

SPECIAL INSPECTION NOTES

- SP1. SPECIAL INSPECTIONS SHALL BE REQUIRED IN ACCORDANCE WITH CHAPTER 17 OF THE 2006 IBC. THE CONTRACTOR SHALL EMPLOY A THIRD PARTY TESTING AGENCY APPROVED BY THE OWNER FOR ALL TESTING STATED HEREIN. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS WITH SAID INSPECTION AGENCY.
- SP2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE TO PERFORM THE REQUIRED INSPECTION TO THE SATISFACTION OF THE BUILDING OFFICIAL.
- SP3. THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF INSPECTIONS. INSPECTION REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
- SP4. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
- SP5. A FINAL REPORT OF INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES SHALL BE SUBMITTED TO THE OWNER, BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AT THE COMPLETION OF THE STRUCTURAL PORTION OF THE WORK.
- SP6. THE THIRD PARTY TESTING AGENCY SHALL CONTACT THE STRUCTURAL ENGINEER OF RECORD PRIOR TO INITIATION OF CONSTRUCTION.
- SOIL TESTING AND INSPECTION**
- SP7. SEE FOUNDATION NOTES
- CONCRETE CONSTRUCTION INSPECTION**
- SP8. INSPECT REINFORCING STEEL PRIOR TO PLACING CONCRETE. CHECK REINFORCING SIZE, SPACING AND LOCATION.
- SP9. CYLINDERS SHALL BE MADE FOR DETERMINING THE CONCRETE STRENGTH FROM EACH CLASS OF CONCRETE TO BE PLACED. SAMPLES SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5,000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS.
- SP10. EACH TIME THE CYLINDERS ARE MADE THE SLUMP, AIR CONTENT AND TEMPERATURE OF THE CONCRETE SHALL ALSO BE CHECKED.
- SP11. THE CONTRACTOR'S METHOD OF MAINTAINING THE MINIMUM CURING TEMPERATURE AND CURING TECHNIQUE SHALL BE REVIEWED.
- MASONRY CONSTRUCTION INSPECTION**
- SP12. ALL MASONRY WALLS FOR STORM HARDENED AREA SHALL HAVE PERIODIC INSPECTION OF REINFORCING SPACING, GRADE AND SIZE AND IT SHALL BE VERIFIED THAT ALL VERTICAL CELLS ARE FILLED.
- STEEL CONSTRUCTION INSPECTION**
- SP13. PERIODICALLY VERIFY THE ERECTION BOLTS ARE SNUG TIGHT.
- SP14. WELDING PROCEDURES, MATERIALS AND WELDER QUALIFICATIONS FOR ALL FIELD WELDING SHALL BE VERIFIED PRIOR TO THE START OF WORK.

LOAD TABLE

(2006 IBC)	
DEAD LOADS	
SLAB ON GRADE	= 75 PSF
SLAB ON DECK	= 75 PSF
ROOF	= PER MTL BLDG MFR
METAL BLDG SELF WEIGHT	= PER MTL BLDG MFR
COLLATERAL LOAD	= 5 PSF
LIVE LOADS	
FLOOR	= 150 PSF
SLAB ON DECK	= 125 PSF
ROOF (NO LIVE LOAD REDUCTIONS)	= 20 PSF
RISK CATEGORY	= II LESS THAN 300 PEOPLE
ROOF SNOW LOAD	
GROUND SNOW LOAD	$P_g = 20.0$ PSF
FLAT ROOF SNOW LOAD	$P_f = 14.0$ PSF
SNOW EXPOSURE FACTOR	$C_e = 1.0$
THERMAL FACTOR	$C_t = 1.0$
SNOW LOAD IMPORTANCE FACTOR	$I_s = 1.0$
WIND DESIGN DATA	
ULTIMATE DESIGN WIND SPEED	$V = 90.0$ MPH
WIND IMPORTANCE FACTOR	= 1.00
EXPOSURE CATEGORY	= C
INTERNAL PRESSURE COEFFICIENT	= +/- 0.18
EARTHQUAKE DESIGN DATA	
SEISMIC IMPORTANCE FACTOR	$I_e = 1.00$
MAPPED SPECTRAL RESPONSE	$S_s = 0.16$
ACCELERATIONS	$S_1 = 0.10$
SITE CLASS	= D
SPECTRAL RESPONSE	$S_{ms} = 0.17$
COEFFICIENTS	$S_{D1} = 0.15$
SEISMIC DESIGN CATEGORY	= C
BASIC SEISMIC-FORCE-RESISTING SYSTEM	= PER MTL BLDG MFR
RESPONSE MODIFICATION FACTOR	$R =$ PER MTL BLDG MFR
SEISMIC RESPONSE COEFFICIENT	$C_s =$ PER MTL BLDG MFR
DESIGN BASE SHEAR	$V =$ PER MTL BLDG MFR

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 MISSOURI STATE CERTIFICATE
 OF AUTHORITY #2004058653

REVISIONS	DATE

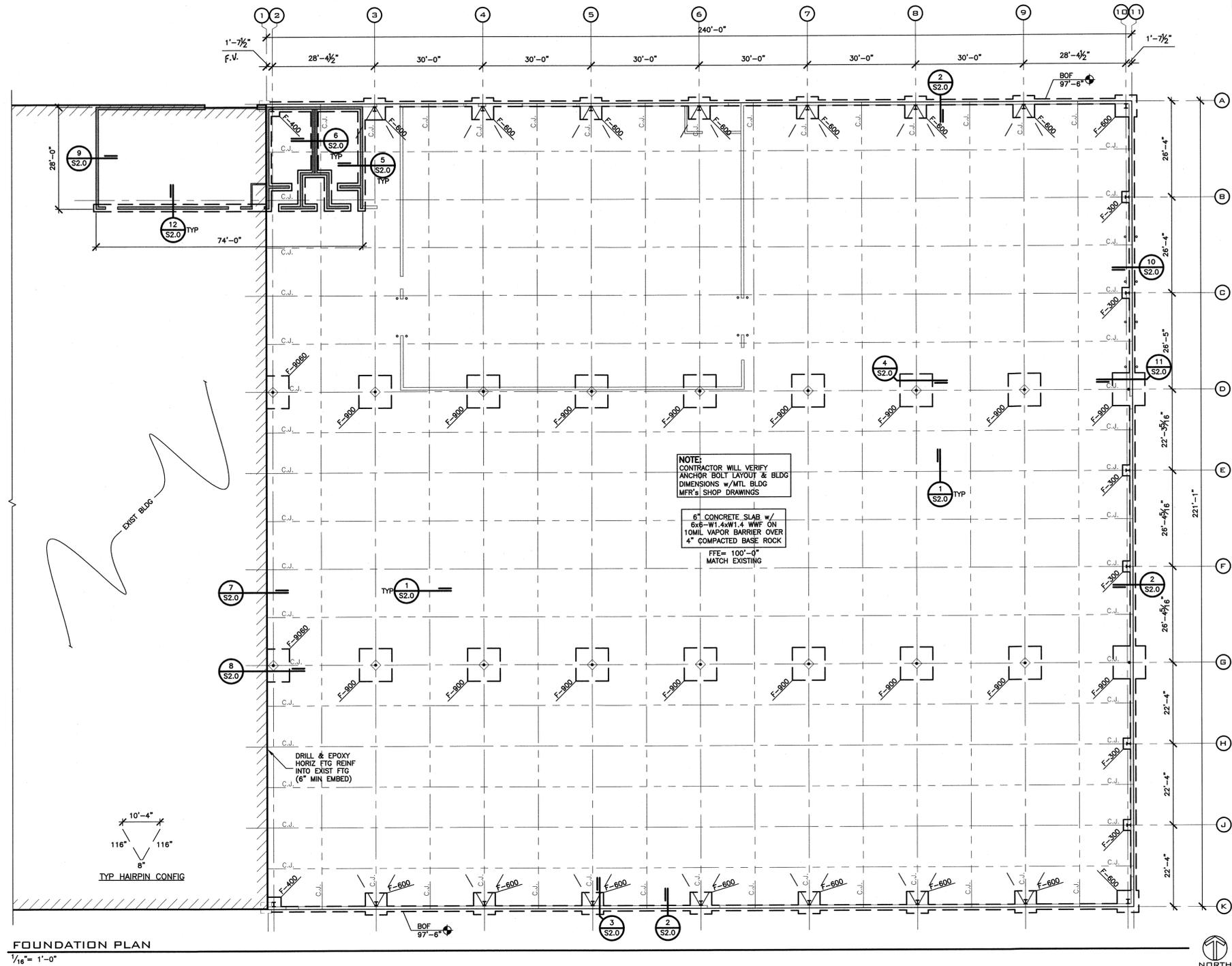


R. E. WERNER ARCHITECT, LLC
 15435 LAWRENCE COUNTY ROAD 2225
 VERONA, MISSOURI 65769
 417-860-3284 - wernerar@yahoo.com
 MISSOURI STATE CERTIFICATE
 OF AUTHORITY NO. 2012011837

WINTech WINDOW TECHNOLOGY, INC.
 201 INDUSTRIAL DRIVE
 MONETT, MISSOURI
 65708

DRAWN
 L. STEPHENS
 DATE
 APRIL 29, 2016
 CHECKED
 T. MILLER
 SCALE
 AS SHOWN
 JOB. NO
 4183
 SHEET

S0.0



FOUNDATION PLAN
1/16" = 1'-0"

PAD FTG SCHEDULE					
PAD FOOTING MARK					
MARK	PAD SIZE			REINF EACH WAY	BTM ELEV
	"W"	"L"	"T"		
F-300	3'-0"	3'-0"	1'-10"	4- #5's T&B	97'-6"
F-400	4'-0"	4'-0"	1'-10"	5- #5's T&B	97'-6"
F-600	6'-0"	6'-0"	1'-10"	7- #5's T&B	97'-6"
F-900	9'-0"	9'-0"	1'-10"	10- #5's T&B	97'-6"
F-9060	6'-0"	9'-0"	MATCH EXIST	SEE 8/S2.0	MATCH EXIST

- NOTES:
- CENTER ALL FOOTINGS UNDER COLUMNS
 - TOP (3) TIES ARE AT 4" O.C. - REMAINDER AT 8" O.C. (TYP UNO)
 - PROVIDE FULL BEARING UNDER BASE PLATE AND 2" MINIMUM CONCRETE COVER OVER ANCHOR BOLTS
 - VERTICAL REINFORCING SHALL HAVE A 90 DEGREE HOOK WITH AN 8" EXTENSION @ BOTTOM

MILLER
ENGINEERING, P.C.
STRUCTURAL AND FORENSIC

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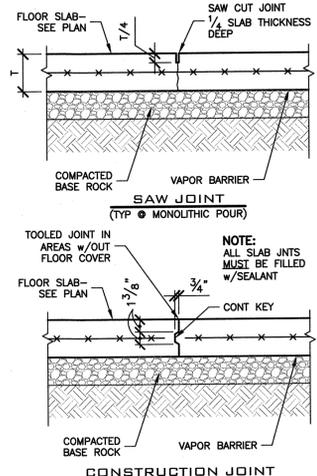


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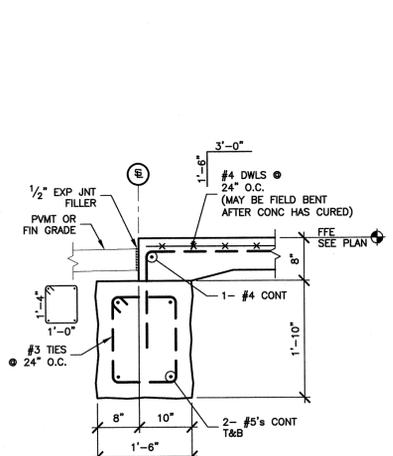
PLANT EXPANSION & RENOVATION:
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201 INDUSTRIAL DRIVE
MONETT, MISSOURI
65708

DRAWN	L. STEPHENS
DATE	APRIL 29, 2016
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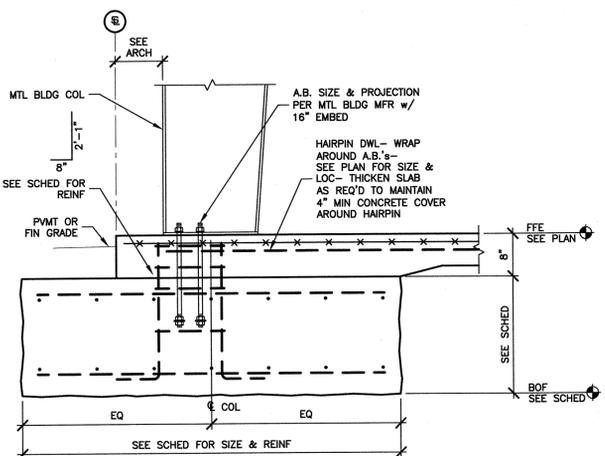
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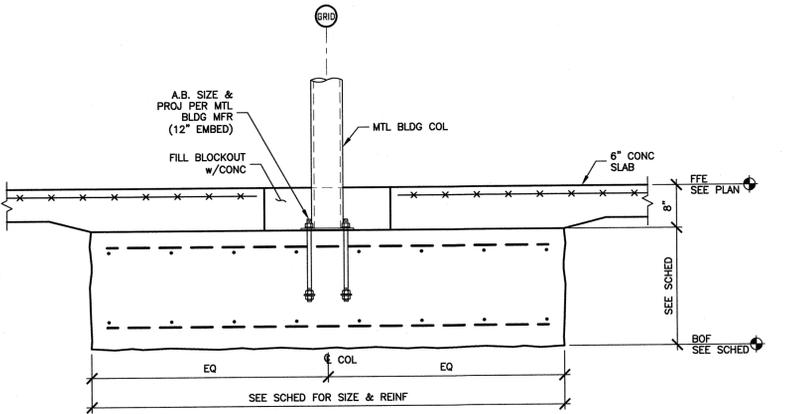
1 CONTRACTION JOINT
NTS



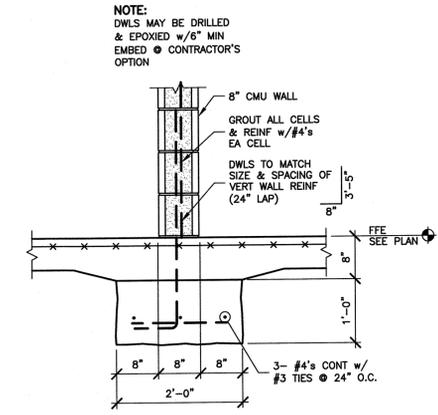
2 TYP FTG SECTION
3/4" = 1'-0"



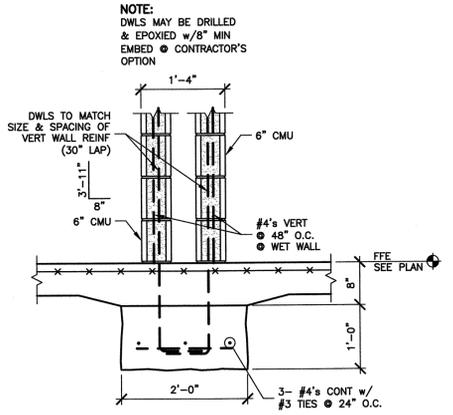
3 COL FTG SECTION
3/4" = 1'-0"



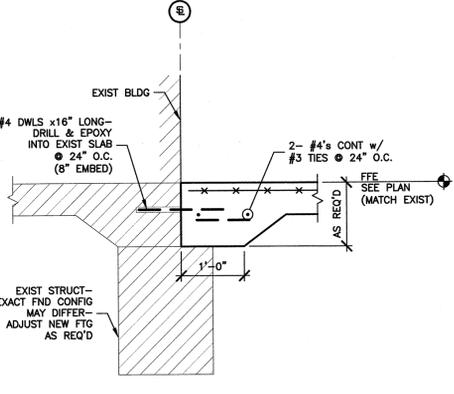
4 COL FTG SECTION
3/4" = 1'-0"



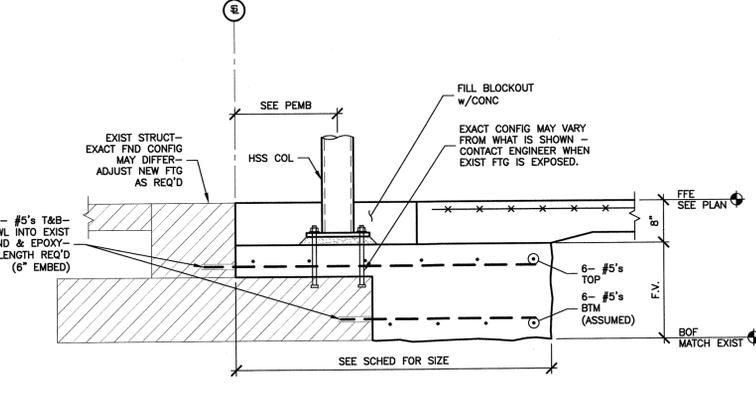
5 SECTION
3/4" = 1'-0"



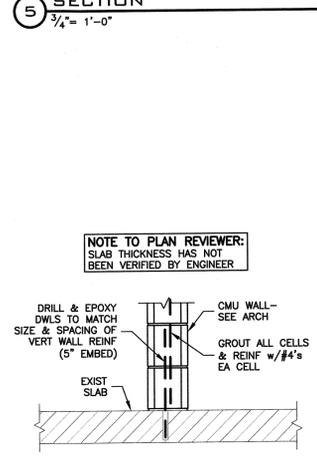
6 SECTION
3/4" = 1'-0"



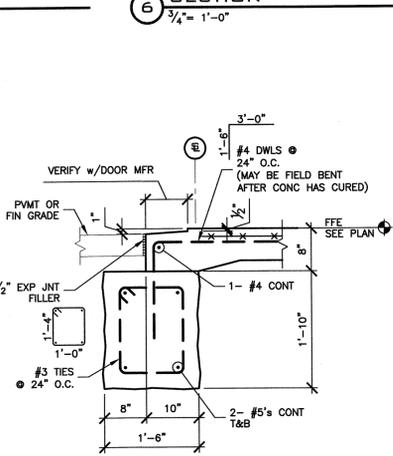
7 THICKENED SLAB @ EXIST
3/4" = 1'-0"



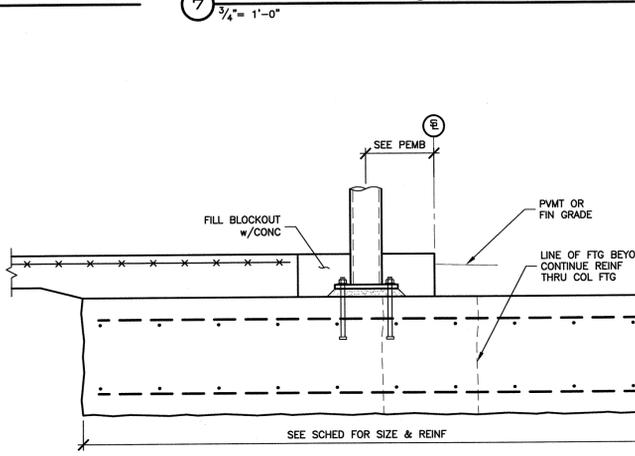
8 COL FTG SECTION
3/4" = 1'-0"



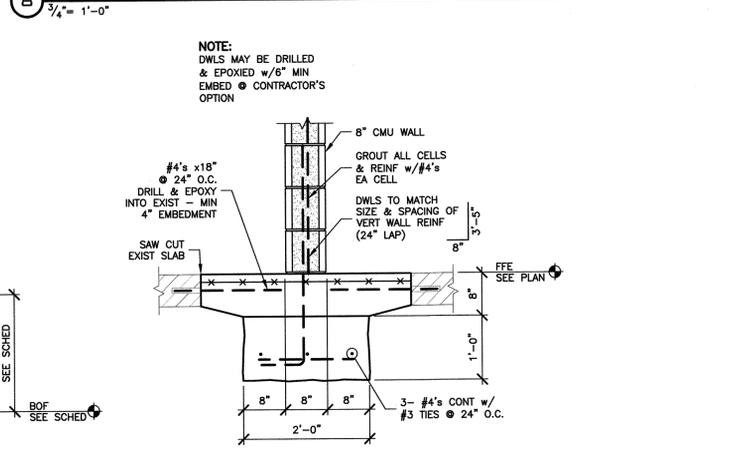
9 SECTION
3/4" = 1'-0"



10 TYP FTG SECTION @ O.H. DOOR
3/4" = 1'-0"



11 COL FTG SECTION
3/4" = 1'-0"



12 SECTION
3/4" = 1'-0"

REVISIONS	DATE



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WINTech WINDOW TECHNOLOGY, INC.
201 INDUSTRIAL DRIVE
MONETT, MISSOURI 65708

DRAWN	L. STEPHENS
DATE	APRIL 29, 2016
CHECKED	T. MILLER
SCALE	AS SHOWN
JOB. NO	4183
SHEET	

S2.0
OF SHEETS

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MISSOURI STATE CERTIFICATE OF AUTHORITY #2004005653

REVISIONS	DATE



JERRY TRAVIS MILLER, ENGINEER
MISSOURI LICENSE #2003023627

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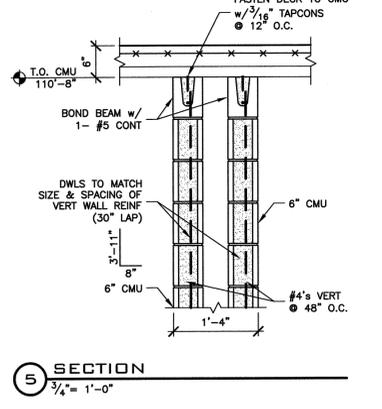
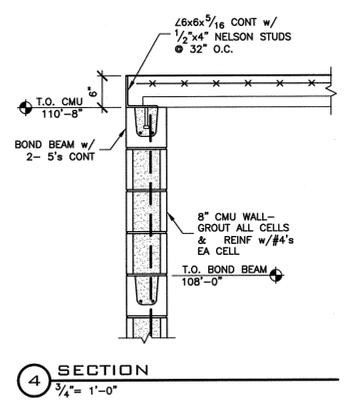
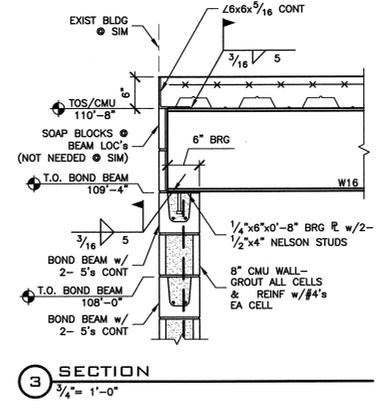
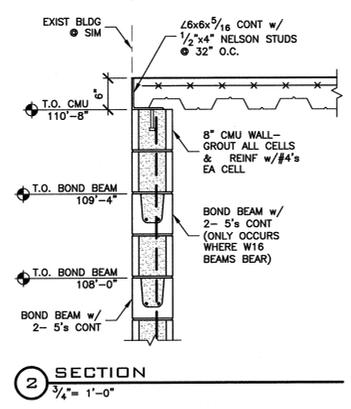
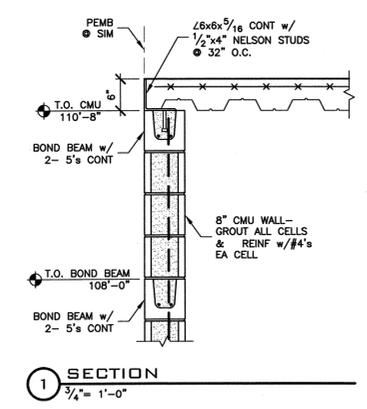
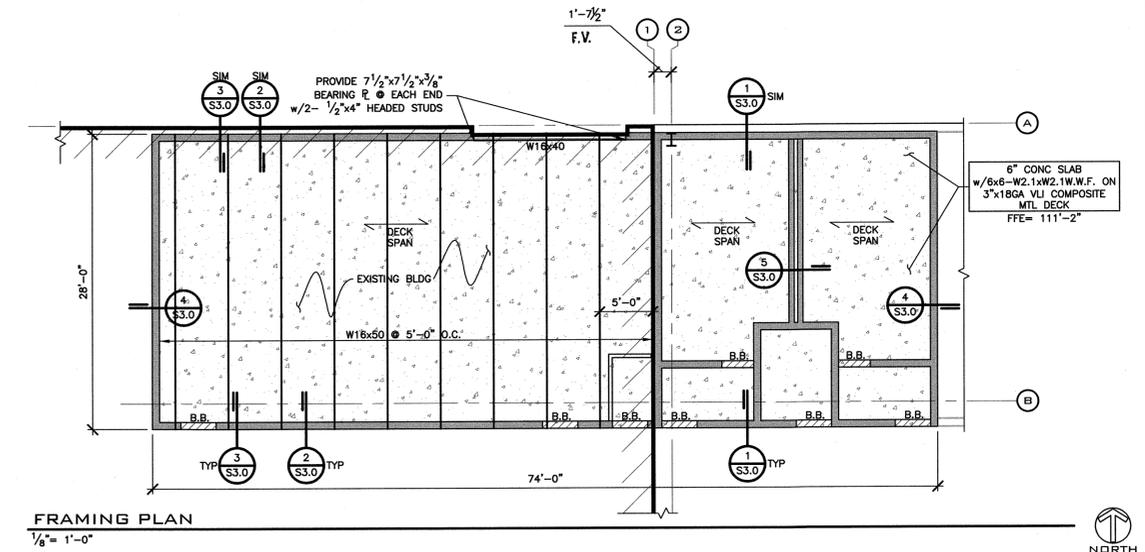
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MISSOURI STATE CERTIFICATE OF AUTHORITY #2004005653

GENERAL NOTES:

GENERAL CONDITIONS
DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT INCLUDING 'AIA DOCUMENT A201
- GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION' (LATEST EDITION)
APPLY TO ALL AREAS OF THESE CONSTRUCTION DOCUMENTS.

- ALL APPLICABLE INDUSTRY STANDARDS, ASTM CLASSIFICATIONS, MANUFACTURERS SPECIFICATIONS, INSTITUTE CRITERIA CODE REQUIREMENTS, AND CURRENT PUBLISHED MANUFACTURER OR INSTITUTE INSTALLATION INSTRUCTIONS AND SPECIFICATIONS SHALL BE APPLICABLE TO MATERIALS SPECIFIED IN THE FOLLOWING HEADINGS.
- EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS FOR ACCURACY AND CONFIRMING THAT ALL WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH CONSTRUCTION. IF THERE ARE ANY DISCREPANCIES OR OMISSIONS WHICH WOULD INTERFERE WITH SATISFACTORY COMPLETION OF THE WORK, THE SUBCONTRACTOR SHALL OBTAIN A CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING WITH THE WORK IN QUESTION.
- EACH SUBCONTRACTOR SHALL VISIT THE SITE, THOROUGHLY REVIEW THE DRAWINGS AND SPECIFICATIONS, SO AS TO BE SURE ALL ANCILLARY COSTS HAVE BEEN COVERED IN HIS BID. THE OWNER WILL NOT ENTERTAIN REQUESTS FOR EXTRA COMPENSATION FOR WORK THAT SHOULD HAVE REASONABLY BEEN ANTICIPATED OR OBSERVED.
- EACH SUBCONTRACTOR IS RESPONSIBLE FOR THE MEANS, METHODS AND TECHNIQUES OF CONSTRUCTION, SAFETY PRECAUTIONS IN CONNECTION WITH THEIR WORK, AND FOR THEIR ACTS OR OMISSIONS.
- EACH SUBCONTRACTOR SHALL NOT SCALE THE DRAWINGS TO DETERMINE ANY DIMENSION. USE ONLY THE DIMENSIONS AS SHOWN ON THE DRAWINGS. SHOULD THERE BE A CRITICAL DIMENSION OMITTED OR AN UNCERTAINTY WITH THE DIMENSIONS SHOWN, VERIFY WITH THE ARCHITECT BEFORE PROCEEDING.
- EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS, FEE INSPECTIONS AND APPROVALS REQUIRED FOR CONSTRUCTION BY ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES. EACH SUBCONTRACTOR SHALL COORDINATE ALL WORK WITH THE GENERAL CONTRACTOR. EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR PERMITS, FEES, ETC. AS RELATED TO THEIR SPECIFIC PORTION OF THE WORK.
- THE VARIOUS MECHANICAL, ELECTRICAL AND PLUMBING SUBCONTRACTORS SHALL BE RESPONSIBLE FOR ALL MECHANICAL, PLUMBING AND ELECTRICAL REQUIREMENTS REQUIRED BY LOCAL, STATE AND FEDERAL CODES.
- EACH SUBCONTRACTOR SHALL PURCHASE AND MAINTAIN CERTIFICATIONS OF INSURANCE WITH RESPECT TO WORKMEN'S COMPENSATION, PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE LIMITS AS REQUIRED BY LAW, OR OWNER. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS IN CONNECTION WITH THEIR WORK.
- EACH SUBCONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS (UNLESS NOTED OTHERWISE), EQUIPMENT, TOOLS, UTILITIES, INSURANCE, TAXES, TRANSPORTATION AND MISCELLANEOUS SERVICES REQUIRED FOR THE COMPLETE INSTALLATION & OPERATION OF THEIR PORTION OF THE SUBCONTRACT FOR THIS PROJECT AS INDICATED IN THESE DOCUMENTS, WHETHER TEMPORARY OR PERMANENT.
- ALL SUBCONTRACTORS MUST COMPLY WITH RULES AND REGULATIONS OF AGENCIES HAVING JURISDICTION AND SHALL CONFORM TO ALL CITY, STATE AND FEDERAL CONSTRUCTION SAFETY AND SANITARY LAWS, CODES, STATUTES AND ORDINANCES.
- ALL INSTALLED PLUMBING, MECHANICAL AND ELECTRICAL EQUIPMENT SHALL OPERATE QUIETLY AND FREE FROM EXCESS VIBRATION.
- ALL ROOF PENETRATIONS, EQUIPMENT SUPPORTS, PITCH PANS, FLASHING, CURBING AND ROOFING REPAIRS SHALL BE ENGINEERED AND INSTALLED IN ACCORDANCE WITH STANDARD PROJECT ROOFING DETAILS, FACTORY MUTUAL INSURANCE ASSOCIATION'S SPECIFICATIONS, & GUIDELINES PUBLISHED BY THE NATIONAL ROOFING CONTRACTORS ASSOC.
- THE GENERAL CONTRACTOR SHALL NOTIFY SUBCONTRACTORS WHEN TELEPHONE SERVICE IS REQUIRED AT JOB SITE FOR WIRING OF PHONE EQUIPMENT.

PORTABLE FIRE EXTINGUISHERS (DURING CONSTRUCTION)

STRUCTURES UNDER CONSTRUCTION, ALTERATION OR DEMOLITION SHALL BE PROVIDED WITH NOT LESS THAN ONE 5 LB. 2A-10BC UL APPROVED PORTABLE FIRE EXTINGUISHER. EXTINGUISHERS SHALL BE LOCATED IN CONSPICUOUS LOCATIONS WHERE THEY WILL BE READILY ACCESSIBLE AND IMMEDIATELY AVAILABLE FOR USE. THESE LOCATIONS SHALL BE ALONG NORMAL PATHS OF TRAVEL. ADDITIONAL LOCATIONS INCLUDE EACH STAIRWAY ON ALL FLOOR LEVELS, IN EVERY STORAGE AND CONSTRUCTION SHED AND WHERE SPECIAL HAZARDS EXIST INCLUDING, BUT NOT LIMITED TO, THE STORAGE AND USE OF FLAMMABLE AND COMBUSTIBLE LIQUIDS. INSTALL ONE PORTABLE FIRE EXTINGUISHER FOR EVERY 3,000 S.F. OF BUILDING FLOOR AREA WITH A MAXIMUM TRAVEL DISTANCE TO THE EXTINGUISHER OF 75 FEET. PORTABLE FIRE EXTINGUISHERS HAVING A GROSS WEIGHT NOT EXCEEDING 40 LBS. SHALL BE INSTALLED SO THAT ITS TOP IS NOT MORE THAN 5 FEET ABOVE THE FLOOR.

- ALL MATERIALS SHALL BE NEW, UNUSED AND OF THE HIGHEST QUALITY IN EVERY RESPECT, UNLESS OTHERWISE NOTED OR TO BE USED FOR FORMS AND/OR TEMPORARY STRUCTURES.
- ALL SURFACES SHALL BE PROPERLY PREPARED BEFORE THE APPLICATION OF FINISH MATERIALS.
- TO BEGIN THE APPLICATION OF A FINISH MATERIAL MEANS THAT THE SUBCONTRACTOR ACCEPTS THE SURFACE AND SUBSEQUENT RESPONSIBILITY FOR THE APPEARANCE OF THE FINAL FINISH.
- ALL MATERIALS, FINISHES AND EQUIPMENT REQUIRED FOR THE COMPLETION OF THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS, AS WELL AS GUIDELINES SET FORTH IN THESE DOCUMENTS.
- IT SHALL BE EACH SUBCONTRACTORS RESPONSIBILITY TO OBTAIN AND SUBMIT TO THE GENERAL CONTRACTOR TO FORWARD TO THE ARCHITECT FOR REVIEW 6 SETS OF SHOP DRAWINGS, MATERIAL SAMPLES AND MANUFACTURER'S PRINTED MATERIAL NECESSARY FOR AN ACCURATE COMPARISON TO BE MADE ON ANY ITEM SUBMITTED FOR INSTALLATION AND/OR SUBSTITUTION. ALL FINAL SELECTIONS SHALL BE MADE BY THE ARCHITECT.
- MILLWORK CONSTRUCTION TO CONFORM WITH AWI STANDARDS FOR PREMIUM MILLWORK. DRAWINGS SHALL INDICATE MILLWORK DESIGN INTENT ONLY. FABRICATOR IS RESPONSIBLE FOR PROPER EXECUTION AND SHALL SUBMIT SHOP DRAWINGS FOR DESIGN REVIEW.
- EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING THE ARCHITECT AND THE OWNER WITH ALL MAINTENANCE AND OPERATION MANUALS, WARRANTIES AND GUARANTEES ON ALL EQUIPMENT AND MATERIALS.
- ALL MATERIALS, EQUIPMENT AND LABOR SHALL CARRY A MINIMUM OF ONE (1) YEAR WRITTEN WARRANTY/GUARANTEE AGAINST DEFECT STARTING FROM THE DATE OF APPROVAL FOR FINAL PAYMENT.
- THE CONSTRUCTION SITE SHALL AT ALL TIMES BE KEPT FREE FROM DEBRIS, WASTE AND RUBBISH. THE PREMISES SHALL BE MAINTAINED IN A MANNER TO PROVIDE A SAFE ENVIRONMENT FOR WORKERS AND THE PUBLIC. CONDUCT CLEANING AND DISPOSAL OPERATIONS TO COMPLY WITH ALL LOCAL ORDINANCES AND ANTI-POLLUTION LAWS.
- UPON COMPLETION OF WORK, REMOVE ALL WASTE MATERIALS, EQUIPMENT, DEBRIS AND CLEAN ALL SIGHT-EXPOSED SURFACES. TOUCH-UP PAINTING OF MARRED SURFACES AND REPAIR OF ALL DAMAGES LEAVING THE PROJECT READY FOR OCCUPANCY. TRASH SHALL BE REMOVED FROM PROJECT SITE AT SUBCONTRACTORS EXPENSE. IF THE SUBCONTRACTOR FAILS TO HAVE THE SITE READY FOR OCCUPANCY, THE GENERAL CONTRACTOR MAY HIRE AN OUTSIDE AGENCY FOR THIS SERVICE AND THE COST MAY BE CHARGED TO THE SUBCONTRACTOR.
- UPON COMPLETION OF THE PROJECT, A "PUNCH LIST" WILL BE COMPILED BY THE ARCHITECT & OWNERS WHICH WILL CONSIST OF ITEMS IN NEED OF CORRECTION AND UNSATISFACTORY AND/OR INCOMPLETE WORK. FINAL PAYMENT WILL BE CONTINGENT UPON THE CORRECTION AND SUBSEQUENT APPROVAL OF THESE ITEMS.
- THE GENERAL CONTRACTOR SHALL OBTAIN CERTIFICATE FOR OCCUPANCY FROM THE APPROPRIATE REGULATORY AGENCY BUILDING DEPARTMENT. ONE (1) COPY OF THIS CERTIFICATE WILL BE SUBMITTED TO THE ARCHITECT WITH FINAL APPLICATION FOR PAYMENT.
- ALL CHANGES, OMISSIONS OR ADDITIONS TO THE SCOPE OF WORK DESCRIBED IN THESE CONTRACT DRAWINGS AND SPECIFICATIONS MUST BE APPROVED IN WRITING BY THE ARCHITECT & OWNER.
- UNLESS NOTED OTHERWISE, ALL WORK SHALL INCLUDE NECESSARY APPURTENANCES AND ACCESSORIES TO PROVIDE COMPLETE OPERATING ASSEMBLIES, WHETHER OR NOT SHOWN OR DETAILED.
- CONTRACTOR/SUBCONTRACTORS ARE RESPONSIBLE FOR BRINGING ANY ERRORS OR OMISSIONS FOUND ON THE PLANS TO THE ARCHITECT'S ATTENTION FOR CLARIFICATIONS OF THE INTENT OF THE DRAWINGS OR FOR CLARIFICATION AS TO WHO FURNISHES AND AND INSTALLS MATERIALS AND LABOR TO COMPLETE THE JOB.

R. E. WERNER ARCHITECT, LLC

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OWNERSHIP AND USE OF DOCUMENTS

ALL PLANS, DRAWINGS, SPECIFICATIONS, DESIGNS, IDEAS AND ARRANGEMENTS INDICATED, REPRESENTED OR REFERRED TO BY THESE ORIGINAL DRAWINGS OR SPECIFICATIONS ARE AN INSTRUMENT OF SERVICE AND SHALL REMAIN THE PROPERTY OF R. E. WERNER ARCHITECT, LLC WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED OR DISCLOSED TO ANY PERSON, FIRM OR CORPORATION FOR ANY OTHER PROJECT, FOR ADDITIONS TO THIS PROJECT, OR FOR COMPLETION OF THIS PROJECT BY OTHERS EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO R. E. WERNER ARCHITECT, LLC. SUBMISSION OR DISTRIBUTION TO MEET OFFICIAL REGULATORY REQUIREMENTS OR FOR OTHER PURPOSES IN CONNECTION WITH THE PROJECT IS NOT TO BE CONSTRUED AS PUBLICATION IN DEROGATION OF THE ARCHITECT'S RIGHTS.

NOTICE TO OWNER:

FAILURE OF THIS CONTRACTOR TO PAY THOSE PERSONS SUPPLYING MATERIALS OR SERVICES TO COMPLETE THIS CONTRACT CAN RESULT IN THE FILING OF A MECHANIC'S LIEN ON THE PROPERTY WHICH IS THE SUBJECT OF THIS CONTRACT PURSUANT CHAPTER 429, RSMO. TO AVOID THIS RESULT YOU MAY ASK THIS CONTRACTOR FOR "LIEN WAIVERS" FROM ALL PERSONS SUPPLYING MATERIAL OR SERVICES FOR THE WORK DESCRIBED IN THIS CONTRACT. FAILURE TO SECURE LIEN WAIVERS MAY RESULT IN YOUR PAYING FOR LABOR AND MATERIALS TWICE.

STATE OF MISSOURI LIMITATION:

I HEREBY CERTIFY THAT THESE ARCHITECTURAL DOCUMENTS WERE PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MISSOURI. I HEREBY SPECIFY, PURSUANT TO RSMo. §327.441 THAT THE DOCUMENTS INTENDED TO BE AUTHENTICATED BY MY SEAL ARE LIMITED TO THE SHEETS AND PROJECT SPECIFICATIONS NOTED BELOW. I HEREBY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OF INSTRUMENTS RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL, ENGINEERING, OR SURVEY.

MISSOURI STATE CERTIFICATE OF AUTHORITY: NO. 2012011837

PAGES OR SHEETS COVERED BY THE SEAL:
COVER SHEET, A-1.0, A-1.1, A-1.2, A-2.0, A-2.1, A-2.2, A-2.3, A-2.4, A-2.5, A-2.6, A-3.0, & A-4.0

THE ABOVE-STATED DRAWINGS ARE VALID AND AUTHENTIC ONLY IF EACH COPIED SHEET BEARS THE SEAL SIGNATURE, AND DATE AFFIXED TO THE ORIGINAL DRAWING BY THE ARCHITECT.

THE AUTHORSHIP AND COPYRIGHT OF THE ABOVE STATED DRAWINGS AND SPECIFICATIONS REMAIN WITH R. E. WERNER, ARCHITECT LLC NO CHANGES BY OTHERS ARE AUTHORIZED. THEY ARE AN INSTRUMENT OF SERVICE AND ARE INTENDED FOR USE ON THE INDICATED PROJECT ONLY. THEY SHALL NOT BE REPRODUCED OR USED FOR ANY OTHER WORK WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT

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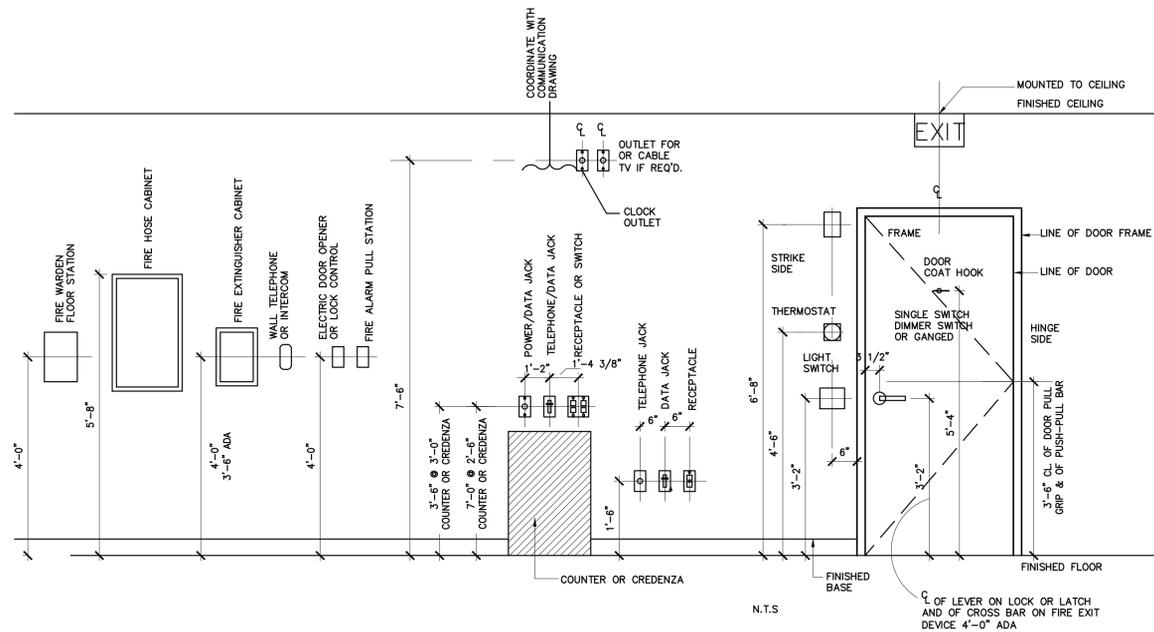
RICHARD EUGENE WERNER-ARCHITECT
MISSOURI LICENSE NO. 006634



R. E. WERNER
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MISSOURI STATE CERTIFICATE OF AUTHORITY NO. 2012011837

PLANT EXPANTION & RENOVATION:
WINTTECH WINDOW TECHNOLOGY, INC.
201 INDUSTRIAL DRIVE
BARRY COUNTY
MONETT, MISSOURI 65708

DRAWN WERNER
DATE APRIL 29, 2016
CHECKED WERNER
SCALE
JOB. NO
SHEET
A-1.0
OF SHEETS



STANDARD EQUIPMENT INSTALLATION DIMENSIONS

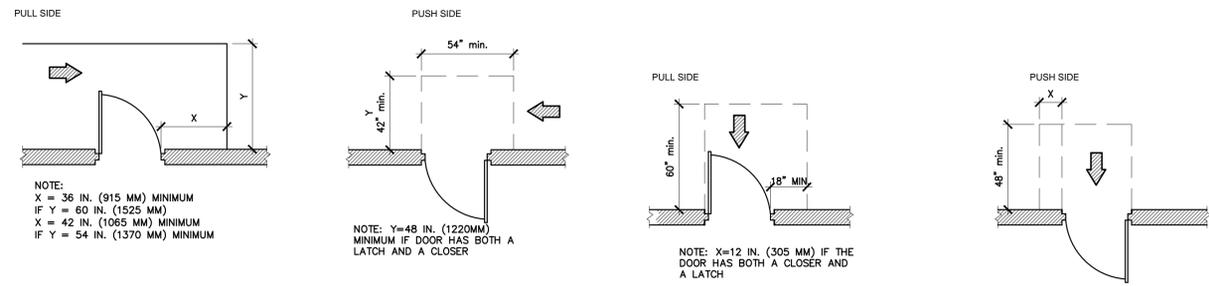
MOUNTING HEIGHT SCHEDULE		
ITEM	HEIGHT A.F.F.	REMARKS
36" L. REAR GRAB BAR	34"	MOUNT 6" MAX. FROM SIDE WALL
42" L. SIDE GRAB BAR	34"	MOUNT 12" MAX. FROM REAR WALL
18" L. VERTICAL GRAB BAR	39"-41"	MOUNT 39" - 41" FROM REAR WALL
PAPER TOWEL DISPENSER	48" MAX.	TO TOWEL DISPENSING LOCATION
SANITARY NAPKIN DISPENSER	54" MAX.	TO OPERATING MECHANISM
MIRROR	40" MAX.	TO BOTTOM OF MIRROR
SOAP DISPENSER	48"	TO OPERATING MECHANISM
URINAL	17" MAX.	
TOILET SEAT	14" - 16"	
TOILET PAPER DISPENSER	20"	TO CENTER LINE OF ROLL

KNOX KEY BOX -
 A MASTER KEY SHALL BE PROVIDED FOR THE ENTIRE BUILDING FOR ACCESS DURING LIFE-SAVING OR FIREFIGHTING PURPOSES. (IF SOE.1) - COORDINATE WITH LOCAL FIRE DEPARTMENTS REQUIREMENTS FOR MANUFACTURE. SEE SHEET A-1.2 FOR LOCATION AT ENTRY DOOR

ADDRESS NUMBERS NOTES -
 THE ADDRESS POSTED ON THE BUILDINGS SHALL BE VISIBLE FROM THE STREET ACCORDANCE WITH THE INTERNATIONAL FIRE CODE AND AMENDMENTS:
 (A) ALL NUMBERS TO FACE STREET, TO BE OF CONTRASTING COLOR TO THE BACKGROUND, SHALL BE NO LESS THAN FOUR INCHES HIGH WHEN 50'-0" OR LESS FROM THE STREET, SHALL BE IN PLAIN ARABIC TYPE, SHALL BE MADE WITH A WIDTH EQUIVALENT TO AT LEAST A HALF OF AN INCH WIDE.
 (B) IF THE NUMBER IS MORE THAN 50'-0" FROM THE STREET, THE NUMBERS SHALL BE A MINIMUM OF SIX INCHES IN HEIGHT, EXCEPT IN NO EVENT SHALL SUCH NUMBER BE MORE THAN 100 FEET FROM THE STREET.

EXIT SIGNAGE
 PROVIDE A TACTILE SIGN STATING "EXIT" COMPLYING WITH ICC A117.1 ADJACENT TO EACH DOOR MARKED EXIT. REFER SIGN SUPPLIER TO ICC/ANSI A117.1 1998 FOR COMPLETE SIGN REQUIREMENTS. MOUNTING HEIGHT CHARACTERS WILL BE MIN. 48" AND MAX. 60" ABOVE FINISHED FLOOR LEVEL. SEE SHEET A-1.2 FOR LOCATIONS

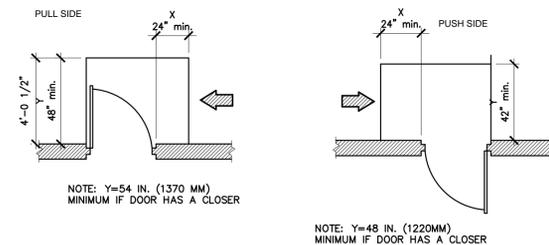
TOILET ROOM SIGNAGE
 PROVIDE SIGNAGE AT TOILET ROOMS ON THE LATCH SIDE OF THE DOOR TO THE ENTRANCE OF THE TOILET ROOM. PROVIDE A TACTILE SIGN STATING "TOILET" COMPLYING WITH ICC A117.1 ADJACENT TO THE LATCH SIDE OF THE DOOR. REFER SIGN SUPPLIER TO ICC / ANSI A117.1 1998 FOR COMPLETE SIGN REQUIREMENTS. MOUNTING HEIGHT FOR CHARACTERS WILL BE MINIMUM 48" AND MAXIMUM OF 60" ABOVE FINISHED FLOOR LEVEL. SEE SHEET A-1.2 FOR LOCATIONS



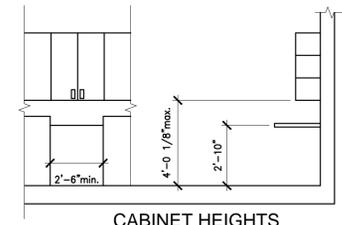
HINGE-SIDE APPROACHES - SWINGING DOORS

FRONT APPROACHES - SWINGING DOORS

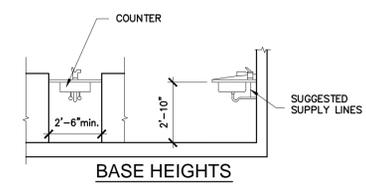
NOTE: ALL DOORS IN ALCOVES SHALL COMPLY WITH CLEARANCES FOR FRONT APPROACHES.



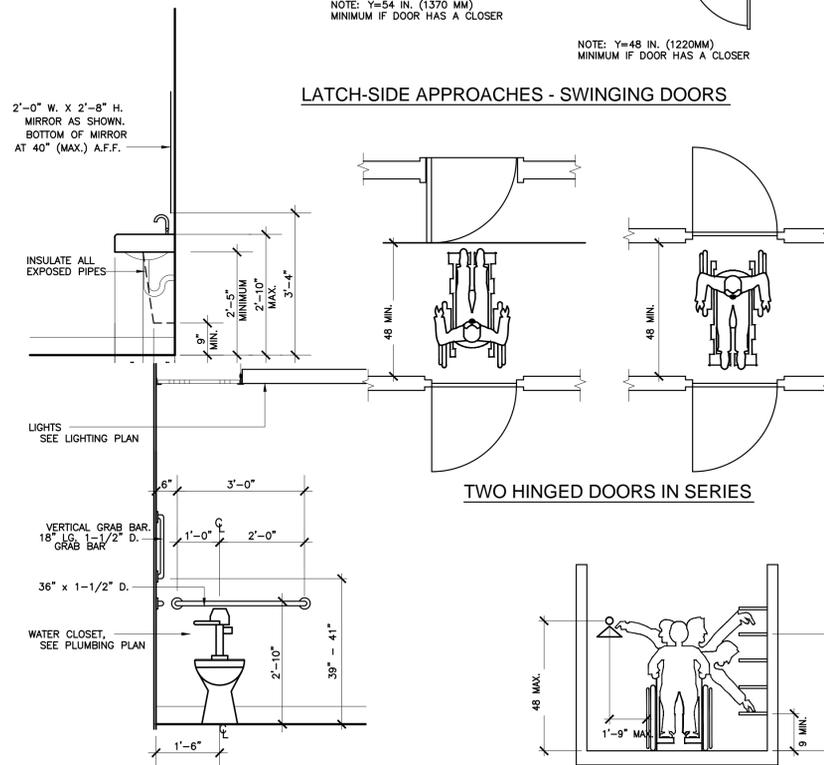
LATCH-SIDE APPROACHES - SWINGING DOORS



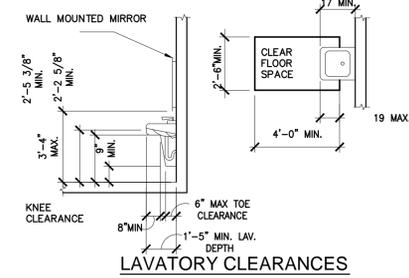
CABINET HEIGHTS



BASE HEIGHTS

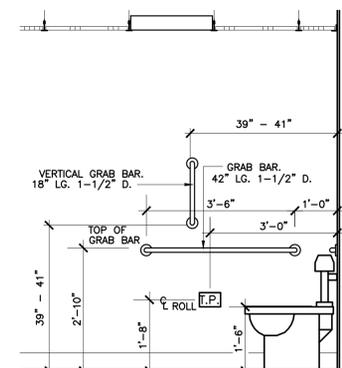


TWO HINGED DOORS IN SERIES

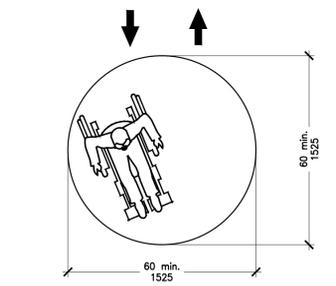


LAVATORY CLEARANCES

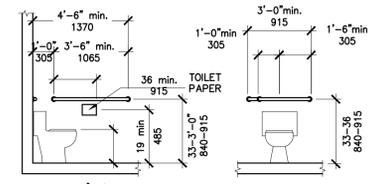
TOILET ACCESSORIES MOUNTING HEIGHTS



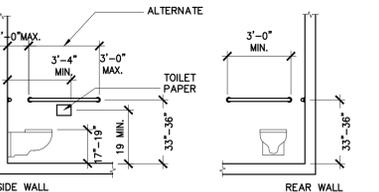
TOILET ACCESSORIES MOUNTING HEIGHTS



ACCESSIBILITY CLEARANCES



TOILETS



TOILET CLEARANCES

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PLANT EXPANTION & RENOVATION:
WINTech WINDOW TECHNOLOGY, INC.
 201 INDUSTRIAL DRIVE
 BARRY COUNTY
 MONETT, MISSOURI 65708

DRAWN R. WERNER
DATE APRIL 29, 2016
CHECKED R. WERNER
SCALE
JOB. NO
SHEET

A-1.1

REVISIONS	BY

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OF SHEETS

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USE GROUP:

- MIXED USE NON SEPARATED OCCUPANCIES
- B - BUSINESS (EXISTING OFFICES NO WORK)
- F1 - FACTORY (WINDOW MANUFACTURE EXISTING PLANT NO WORK)
- F1 - FACTORY (WINDOW MANUFACTURE PLANT ADDITION)

TABLE 503 HEIGHT AND AREA

EXISTING PLAN AND PLANT ADDITION:
25'-0" LOW EAVE, 27'-0" AT RIDGE LINE
TWO STORIES ALLOWED - EXISTING & ADDITION ONE STORY

B - BUSINESS (EXISTING)	5,435 S.F.
F1 - FACTORY (WINDOW MANUFACTURE EXISTING PLANT)	63,419 S.F.
F1 - FACTORY (WINDOW MANUFACTURE PLANT ADDITION)	53,040 S.F.
TOTAL BUILDING S.F.	121,894 S.F.

CONSTRUCTION TYPE 2B

SECTION 508.3.1 - NON SEPARATED OCCUPANCIES MOST RESTRICTIVE
PER CHAPTER 9 & TABLE 503

F1 - FACTORY MOST RESTRICTIVE USE GROUP
TO BE USED FOR AREA & FIRE PROTECTION TABLE 503 AREA = 15,500 S.F.
F1 FIRE AREA EXCEED 12,000 S.F. MUST PROVIDE FIRE PROTECTION
EXISTING SYSTEM IS A NFPA 13, & ESFR TYPE SYSTEM (AT MATERIAL RACKING LOCATIONS)
(EARLY SUPPRESSION FAST RESPONSE TYPE SYSTEM)

THE EXISTING BUILDING & ADDITION IS COMPLETELY SPRINKLED - MEETS THE REQUIREMENTS OF SECTION 507.3 SPRINKLED ONE STORY UNLIMITED AREA BUILDING
FIRE FLOW TABLE B105.1:

CONSTRUCTION TYPE 2B TOTAL S.F. = 121,894 S.F. < 126,700 = 5,000 GPM FIRE FLOW FOR 4 HOURS
BUILDING COMPLETELY SPRINKLED TAKE 75% REDUCTION OF FIRE FLOW B105.2 EXCEPTION
5,000 GMP X 75% = REDUCTION OF 3,750 GPM = FIRE FLOW REQUIRED OF 1,250 GPM
FIRE FLOW SHALL NOT BE LESS THAN 1,500 GPM FIRE FLOW = 1,500 GPM, FLOW DURATION 2 HOURS
BUILDING ADDITION WILL TIE INTO THE EXISTING SPRINKLER SYSTEM - NFPA 13 SYSTEM FOR THE EXISTING BUILDING AND BUILDING ADDITION - ESFR (EARLY SUPPRESSION FAST RESPONSE TYPE SYSTEM) AT MATERIAL RACKING LOCATIONS

OCCUPANCY PER TABLE 1004.1.2:

B - BUSINESS (EXISTING OFFICES)	5,435 S.F. / 100 S.F. PER PERSON = 55 PERSONS
F1 - FACTORY (WINDOW MANUFACTURE)	LARGEST SHIFT PER OWNER = 120 PERSONS

TOTAL OCCUPANCY OFFICE AREA - EXISTING NO CHANGE 55 PERSONS
TWO EXITS REQUIRED TWO EXITS PROVIDED PER TABLE 1015.1

TOTAL OCCUPANCY F1 - EXISTING PLANT NO CHANGE, SEE EGRESS PLAN THIS SHEET FOR ADDITION 120 PERSONS
TWO EXITS REQUIRED SIX EXITS PROVIDED PER TABLE 1015.1 & 1016.2

PLUMBING FIXTURE REQUIREMENTS:

TOILET FIXTURES BUSINESS AREA - EXISTING NO CHANGE:
55 TOTAL OCCUPANTS / 2 = 28 MALE AND 28 FEMALE OCCUPANTS
1 WATER CLOSET REQUIRED FIRST 25 FOR THE FIRST 50 B USE GROUP
MALE - 2 WATER CLOSETS REQUIRED & PROVIDED EXISTING
FEMALE - 2 WATER CLOSETS REQUIRED & PROVIDED EXISTING
1 LAVATORY REQUIRED PER 40 FOR THE FIRST 80 B USE GROUP
MALE - 1 LAVATORIES REQUIRED & PROVIDED EXISTING
FEMALE - 1 LAVATORY REQUIRED & PROVIDED EXISTING

TOILET FIXTURES F1 AREA:
120 TOTAL OCCUPANTS / 2 = 60 MALE AND 60 FEMALE OCCUPANTS
1 WATER CLOSET REQUIRED PER 100 F2 USE GROUP
MALE - 1 WATER CLOSETS REQUIRED
FEMALE - 1 WATER CLOSET REQUIRED
1 LAVATORY REQUIRED PER 100 F2 USE GROUP
MALE - 1 LAVATORIES REQUIRED
FEMALE - 1 LAVATORY REQUIRED

TOTAL TOILET FIXTURES REQUIRED:
WATER CLOSETS:
MALE - 1 WATER CLOSETS REQUIRED, 3 PROVIDED + 2 URINALS
FEMALE - 1 WATER CLOSET REQUIRED, 5 PROVIDED
LAVATORIES:
MALE - 1 LAVATORIES REQUIRED, GANG SINK PROVIDED
FEMALE - 1 LAVATORIES REQUIRED, GANG SINK PROVIDED

SERVICE SINK:

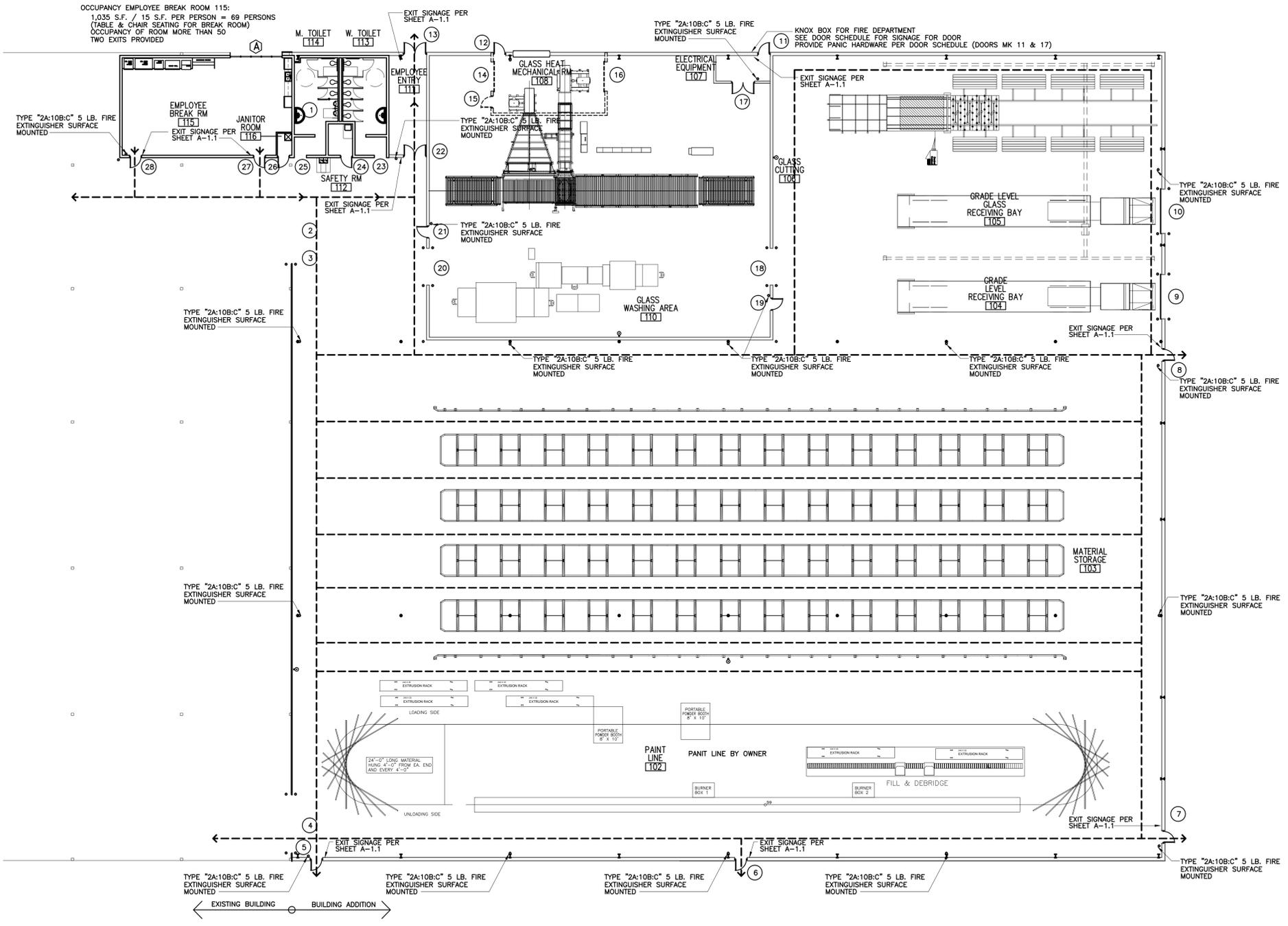
ONE REQUIRED ONE PROVIDED

DRINKING FOUNTAIN:

ONE REQUIRED TWO PROVIDED (ACCESSIBLE HIGH / LOW UNIT)

TOILET ROOM SIGNAGE:

PROVIDE THE APPROPRIATE SEX (MALE / FEMALE) TOILET ROOM SIGNAGE PER SHEET A-1.1 @ ALL ADDITION TOILET ROOMS



EGRESS, CODE, FIRE EXTINGUISHER, & REQUIRED SIGNAGE PLAN - SEE ELECTRICAL FOR LIGHTED EXIT & EMERGENCY LIGHTING

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



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REVISIONS		

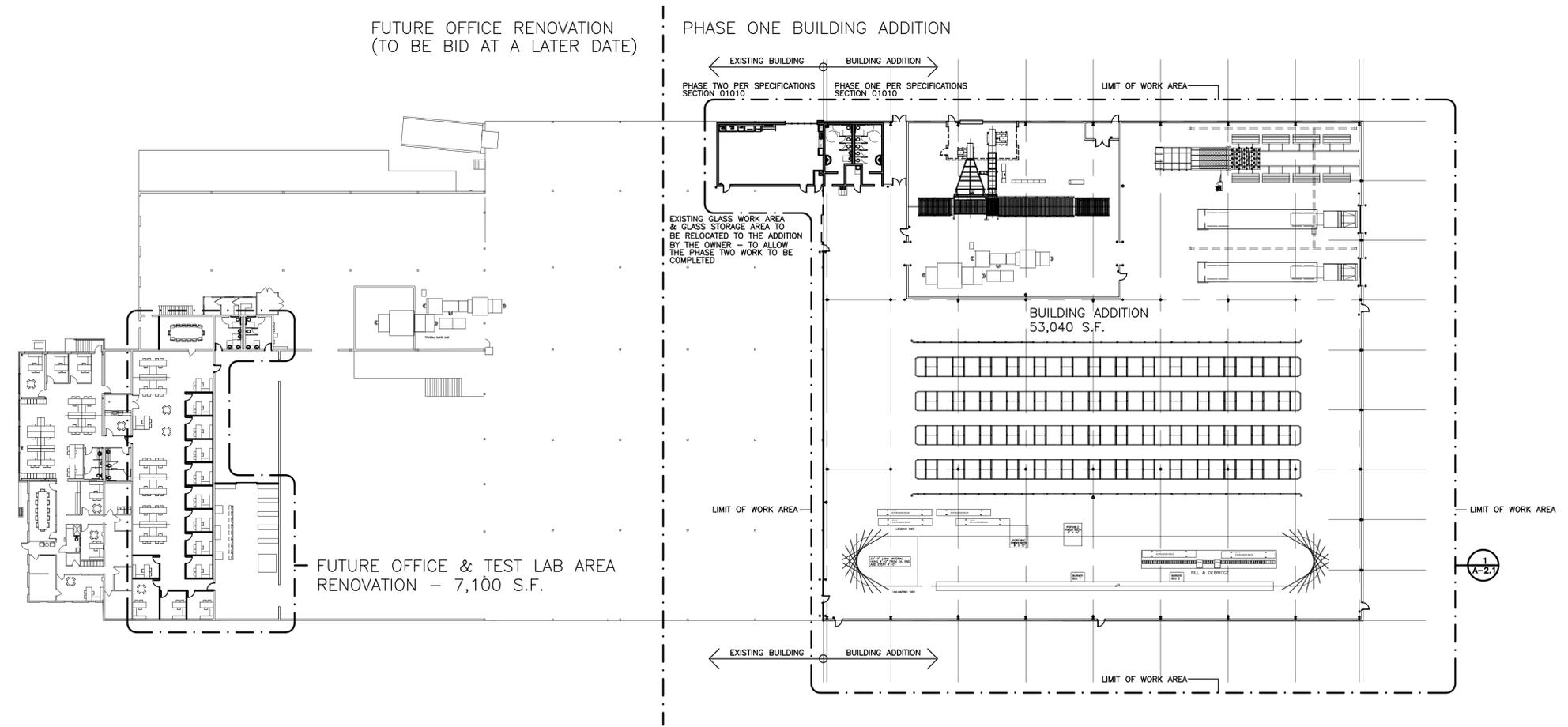
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SCALE	
JOB. NO	
SHEET	
A-2.0	
OF	SHEETS



OVER ALL PLANT FLOOR PLAN
SCALE: 1" = 30'
NORTH

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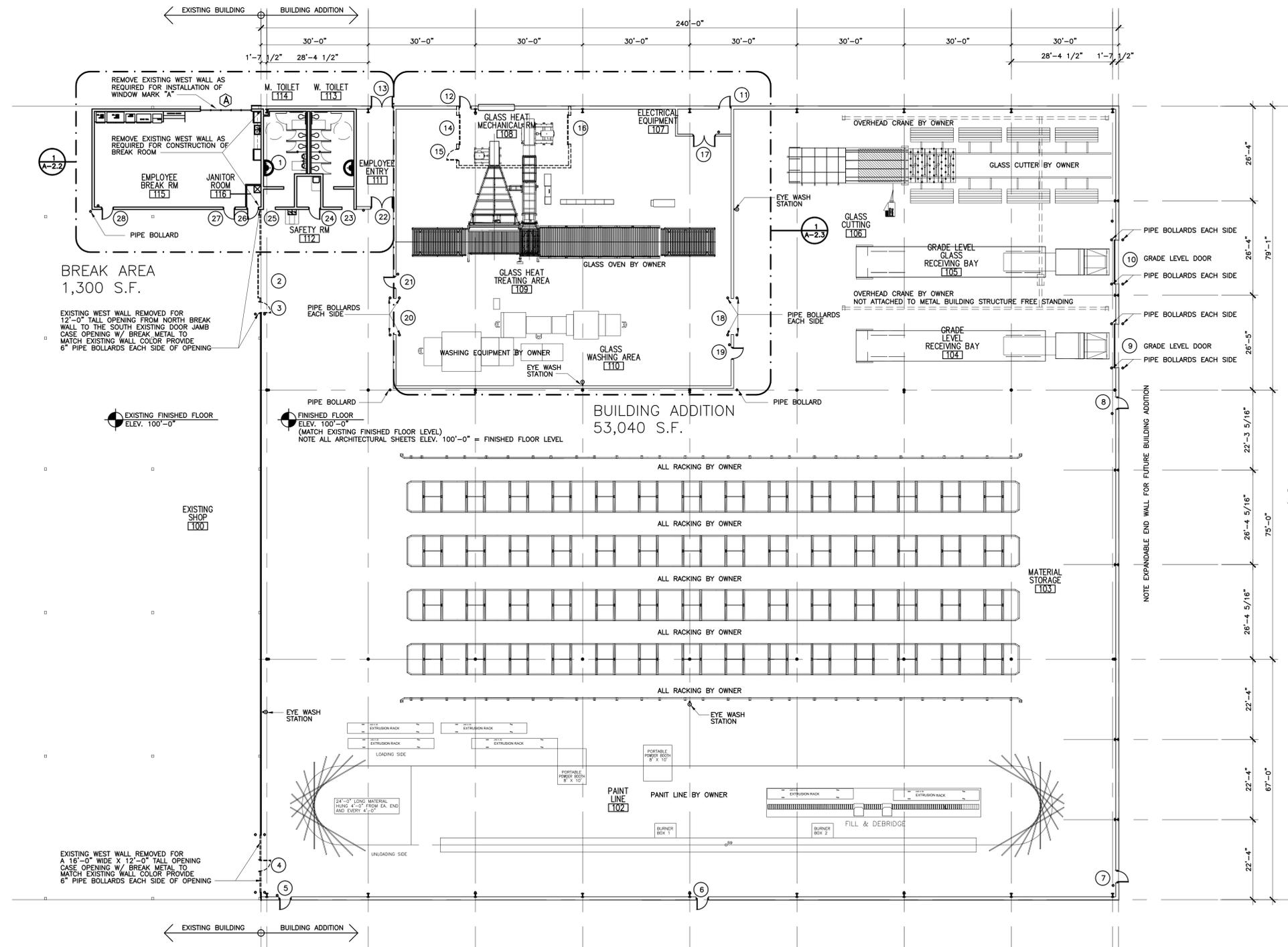
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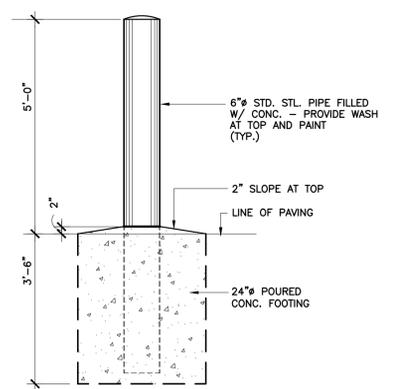
OF SHEETS

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BREAK AREA
 1,300 S.F.
 EXISTING WEST WALL REMOVED FOR 12'-0" TALL OPENING FROM NORTH BREAK WALL TO THE SOUTH EXISTING DOOR JAMB CASE OPENING W/ BREAK METAL TO MATCH EXISTING WALL COLOR PROVIDE 6" PIPE BOLLARDS EACH SIDE OF OPENING

BUILDING ADDITION
 53,040 S.F.



6" STEEL PIPE BOLLARD DETAIL
 SCALE: 1/2" = 1'-0"

BUILDING ADDITION FLOOR PLAN
 SCALE: 1/16" = 1'-0"



INTERIOR FINISH NOTES:

1. FINISH ALL HOLLOW METAL DOORS AND FRAMES WITH PRIMER IF NOT PRIMERED, TWO COATS OF SEMI-GLOSS ENAMEL PAINT. SEE FINISH PLAN FOR LOCATIONS OF EPOXY PAINT, TOILET ROOMS
2. FINISH ALL EXTERIOR STEEL GUARD POST (BOLLARDS) WITH PRIMER IF NOT PRIMERED, TWO COATS OF SEMI-GLOSS ENAMEL PAINT.
3. VERIFY ALL FINISH SELECTIONS W/ OWNER
4. SEE REFLECTED CEILING PLAN FOR EXPOSED TO VIEW STRUCTURE FINISHES.
5. ALL INTERIOR FINISH MATERIALS WILL MEET CLASS A, ASTM E 84, OR UL 724 REQUIREMENTS
6. EXPOSED FACED METAL BUILDING INSULATION WILL HAVE A FLAME SPREAD INDEX OF 25 OR LESS, AND A SMOKE DEVELOPED INDEX OF 450 OR LESS
7. FINISH ALL INTERIOR STEEL COLUMNS NOT AT A WALL LOCATION WITH TWO COATS OF SEMI-GLOSS ENAMEL PAINT CAUTION YELLOW UP TO 6'-0" ABOVE FINISHED FLOOR.
8. SEE REFLECTED CEILING PLAN FOR CEILING & EXPOSED CEILING STRUCTURE AREAS TO BE PAINTED
9. ALL MILLWORK FLUSH OVER LAY TYPE CONSTRUCTION COVER ALL EXPOSED AREA W/ PLASTIC LAMINATE
10. SEAL ALL CONCRETE FLOORS WITH CURE & SEAL ONE COAT, VERIFY WILL BE COMPATIBLE WITH OWNER'S FLOOR FINISHES

FINISH SCHEDULE:

- PAINT:**
- NOTE: PAINT COLOR WILL BE SELECTED FOR PAINT MARKS, PAINT 1, & PAINT 2, TO BE SELECTED BY THE OWNER - PAINT MARKS INDICATE PAINT TYPE & SUBSTRATE FOR PRIMER
- PAINT 1 BLOCK FILLER & PAINT FROM FLOOR TO TOP OF BLOCK PLANT SIDE - TO 2'-0" FROM CEILING STRUCTURE (AREA PAINTED BLACK) COLOR TO BE SELECTED BY OWNER (TOILET ROOM & LOCKER LOBBY)
- PAINT 2 BLOCK FILLER & EPOXY PAINT FROM FLOOR TO 2'-0" FROM CEILING STRUCTURE (AREA PAINTED BLACK) COLOR TO BE SELECTED BY OWNER (ALL TOILET ROOM AND SAFETY ROOM AREAS)
- PFMWP-1 PREFINISHED METAL WALL PANEL BY METAL BUILDING MANUF. FROM FLOOR TO 7'-6" A.F.F. WITH WHITE FACED INSULATION ABOVE
- PFMWP-2 PREFINISHED METAL WALL PANEL BY METAL BUILDING MANUF. (FLOOR TO CEILING)
- FLOORING:**
- FL-1 SEALED CONCRETE - FLOOR FINISH BY OWNER
- WALL BASE:**
- B-1 4" TALL VINYL COVE BASE ALL MASONRY AREAS
NO BASE AT TOILET ROOM AREAS, EPOXY PAINTED BLOCK FROM FLOOR TO CEILING
NO BASE AT AREAS WHERE METAL PANEL IS AT FLOOR LEVEL

CEILING FINISH:

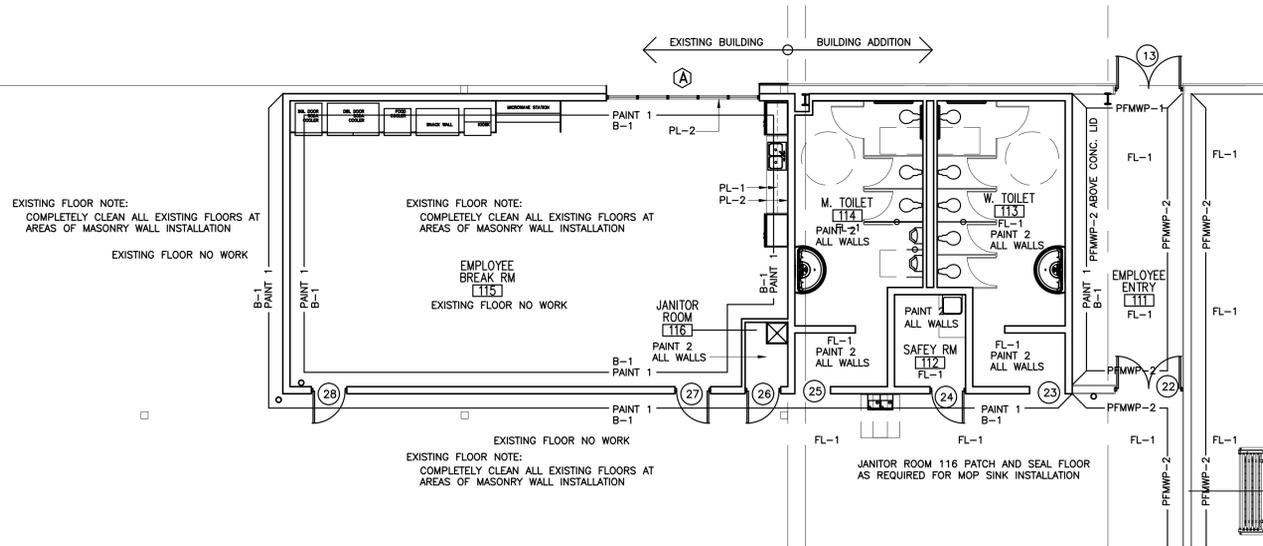
- CEILING A CEILING STRUCTURE PAINTED BLACK, WITH BLACK TURNED FROM CEILING 2'-0" (DRY FALL PAINT TYPE)
- CEILING B STEEL STRUCTURE ABOVE PRIMER & EXPOSED WHITE INSUL. FROM MANUFACTURE (MAIN BUILDING ADDITION METAL BUILDING STRUCTURE EXPOSED AREAS)

TOILET & URINAL PARTITIONS:

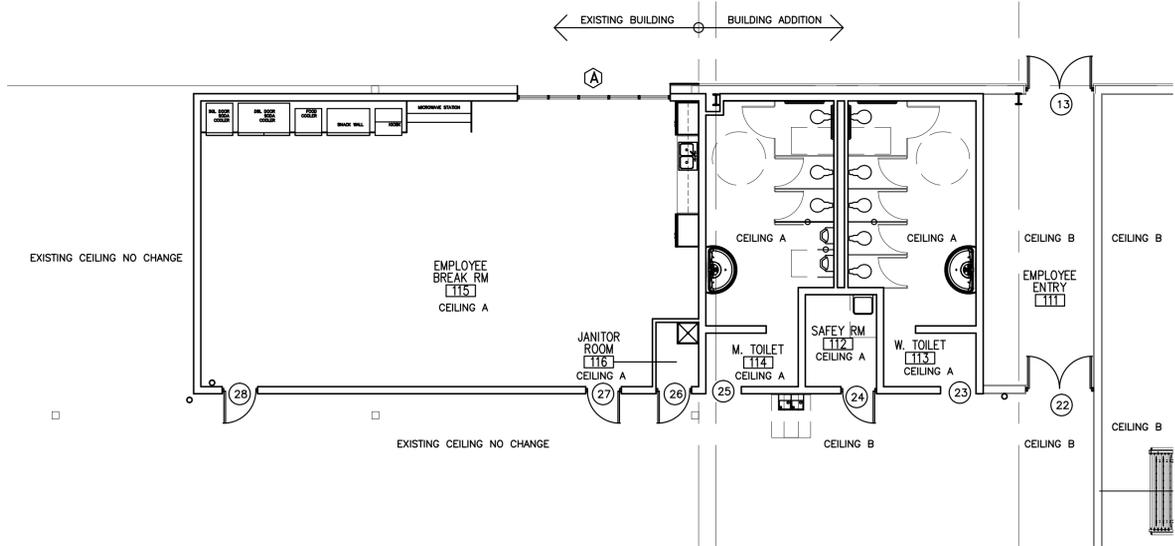
- BAKED ON FINISH BY MANUFACTURE, COLOR SELECTED BY OWNER FROM MANUFACTURE'S STANDARD SELECTIONS
- ALTERNATE ONE - ADD FOR SOLID PLASTIC POLYMER RESIN TOILET COMPARTMENTS
- URINAL SCREENS SUPPORT AT FLOOR LEVEL WITH PLASTER & UP TO OVERHEAD BRACING

PLASTIC LAMINATE FOR MILLWORK:

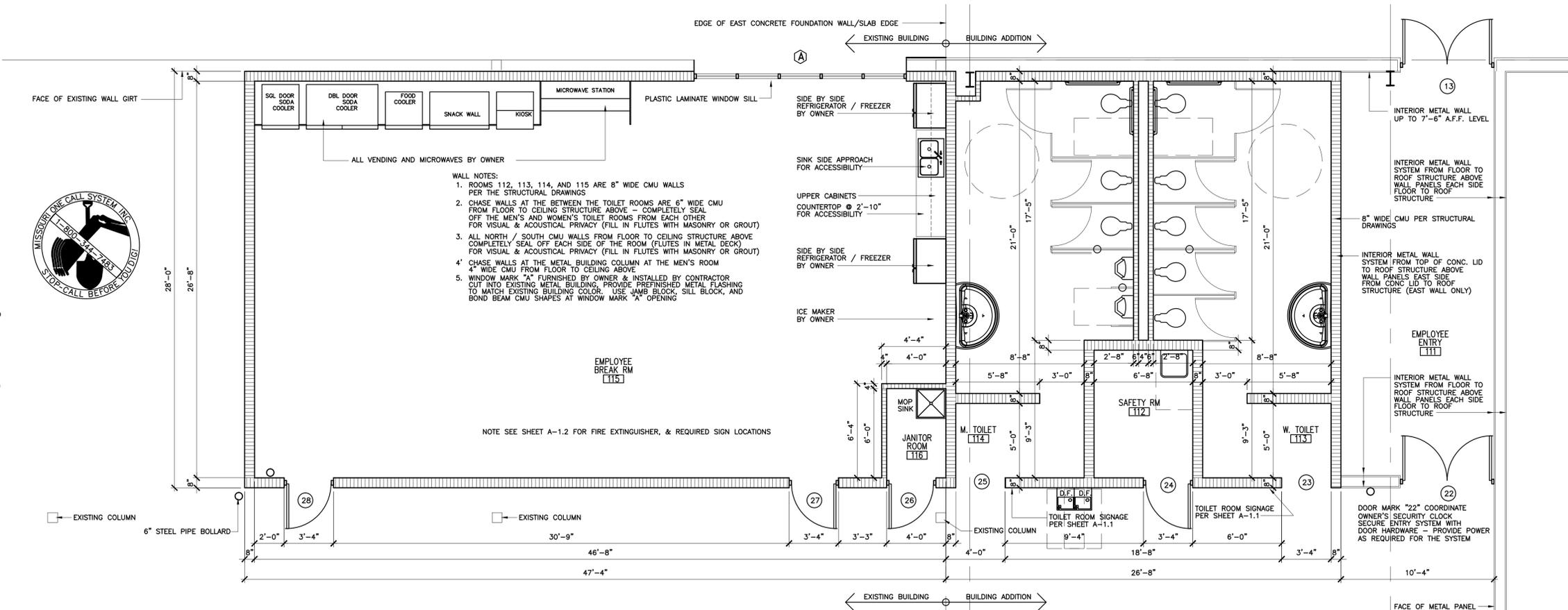
- PL-1 VERTICAL FACES - COLOR TO BE SELECTED BY OWNER
- PL-2 HORIZONTAL FACES - (COUNTER TOPS, BACK SPLASHES, & WINDOW SILL) COLOR TO BE SELECTED BY OWNER
- PROVIDE SHOP DRAWINGS TO CONFIRM DOOR AND DRAWER LOCATIONS WITH THE OWNER



3 BREAK ROOM & TOILET ROOM AREA FINISH PLAN
SCALE: 1/8" = 1'-0"



2 BREAK & TOILET ROOM AREA REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"



1 TOILET ROOM AREA ENLARGED PLAN
SCALE: 1/4" = 1'-0"

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- PFMWP-2 PREFINISHED METAL WALL PANEL BY METAL BUILDING MANUF. (FLOOR TO CEILING)

FLOORING:

- FL-1 SEALED CONCRETE - FLOOR FINISH BY OWNER

WALL BASE:

- B-1 4" TALL VINYL COVE BASE ALL MASONRY AREAS
NO BASE AT TOILET ROOM AREAS, EPOXY PAINTED BLOCK FROM FLOOR TO CEILING
NO BASE AT AREAS WHERE METAL PANEL IS AT FLOOR LEVEL

CEILING FINISH:

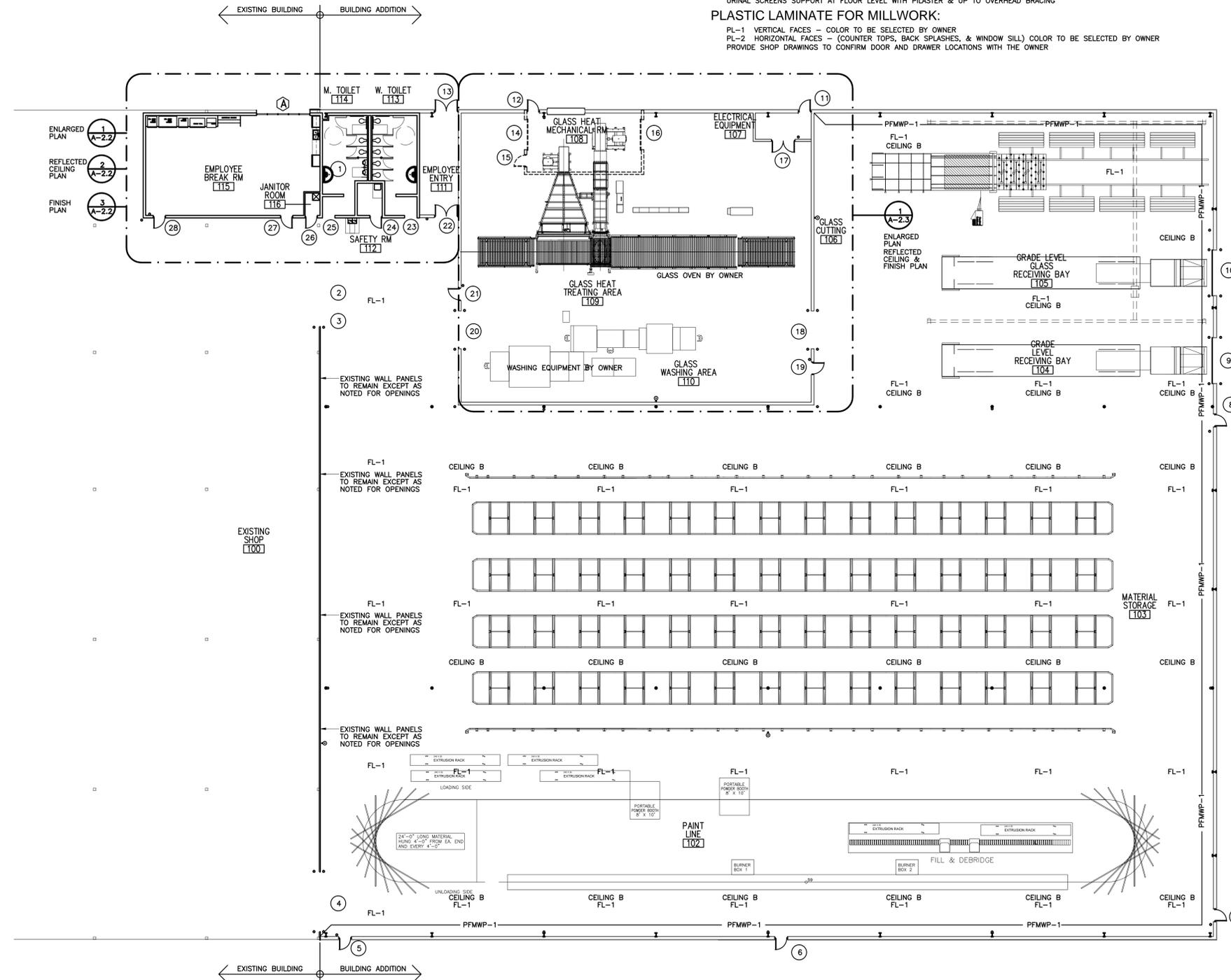
- CEILING A CEILING STRUCTURE PAINTED BLACK, WITH BLACK TURNED FROM CEILING 2'-0" (DRY FALL PAINT TYPE)
CEILING B STEEL STRUCTURE ABOVE PRIMER & EXPOSED WHITE INSUL. FROM MANUFACTURE (MAIN BUILDING ADDITION METAL BUILDING STRUCTURE EXPOSED AREAS)

TOILET & URINAL PARTITIONS:

- BAKED ON FINISH BY MANUFACTURE, COLOR SELECTED BY OWNER FROM MANUFACTURE'S STANDARD SELECTIONS
ALTERNATE ONE - ADD FOR SOLID PLASTIC POLYMER RESIN TOILET COMPARTMENTS
URINAL SCREENS SUPPORT AT FLOOR LEVEL WITH PILASTER & UP TO OVERHEAD BRACING

PLASTIC LAMINATE FOR MILLWORK:

- PL-1 VERTICAL FACES - COLOR TO BE SELECTED BY OWNER
PL-2 HORIZONTAL FACES - (COUNTER TOPS, BACK SPLASHES, & WINDOW SILL) COLOR TO BE SELECTED BY OWNER
PROVIDE SHOP DRAWINGS TO CONFIRM DOOR AND DRAWER LOCATIONS WITH THE OWNER



1 BUILDING ADDITION PLANT AREA FINISH & REFLECTED CEILING PLAN
A-2.4 SCALE: 1/16" = 1'-0"

REVISIONS	DATE	DESCRIPTION

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BARRY COUNTY
MONETT, MISSOURI 65708

DRAWN	WERNER
DATE	APRIL 29, 2016
CHECKED	WERNER
SCALE	
JOB. NO	
SHEET	

A-2.4
OF SHEETS

CAUTION:

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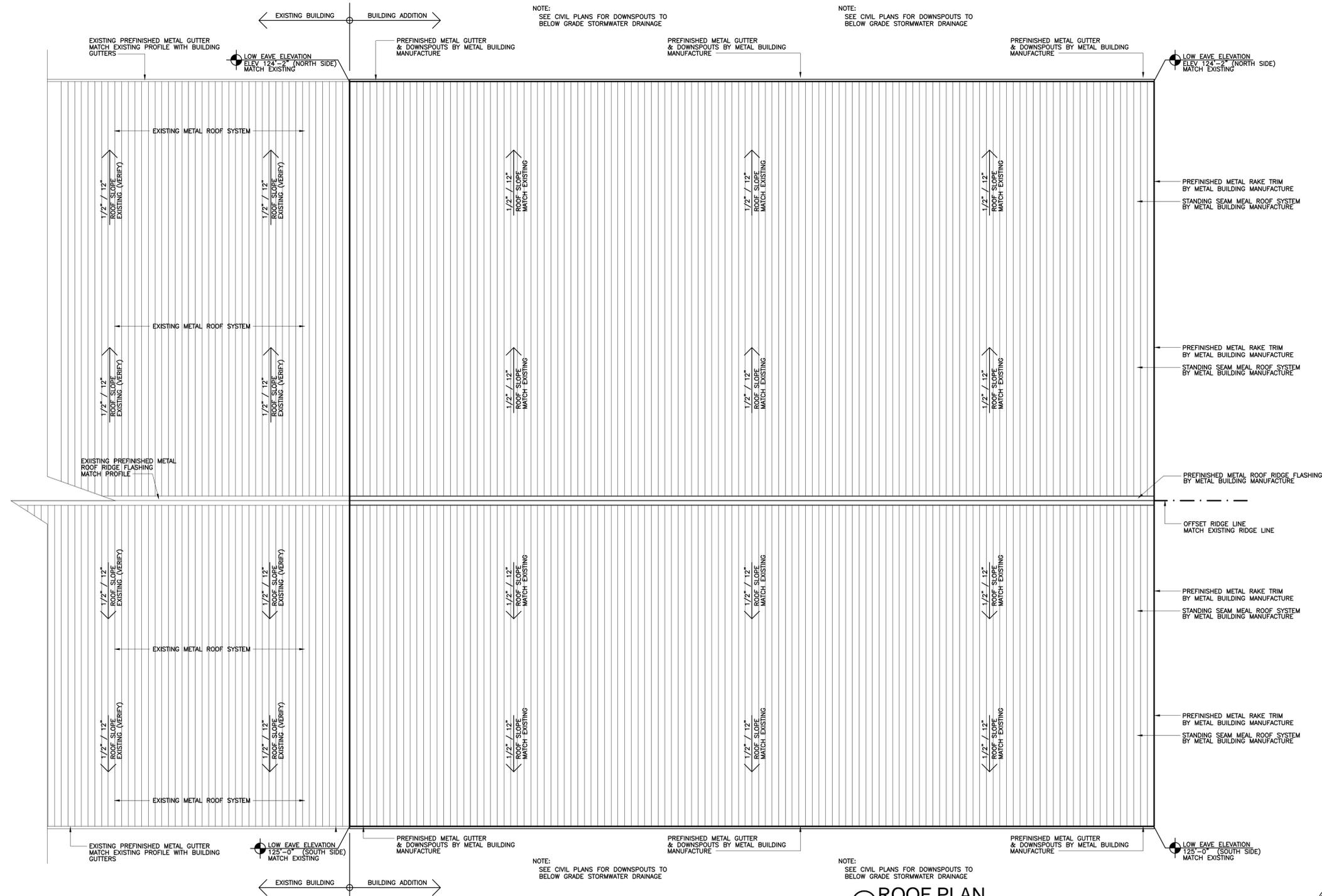
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DRAWN
WERNER
DATE
APRIL 29, 2016
CHECKED
WERNER
SCALE
JOB. NO
SHEET

A-2.5

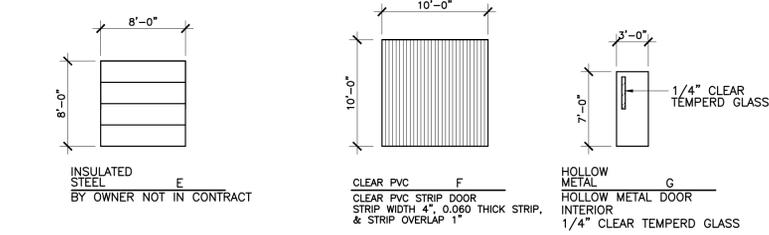
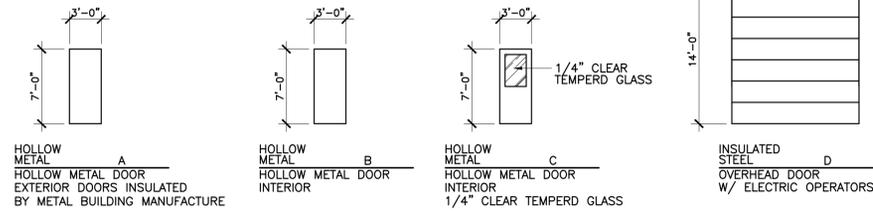
OF SHEETS
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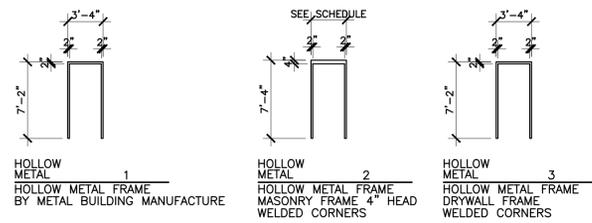
ROOF PLAN
SCALE: 1/16" = 1'-0"



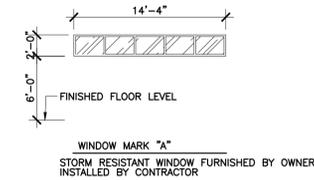
DOOR TYPES



FRAME TYPES



WINDOW TYPES:



NOTE: FIELD VERIFY ALL DOOR & FRAME OPENINGS PRIOR TO FABRICATION.

DOOR SCHEDULE													
DOOR							FRAME				REMARKS		
NUMBER	TYPE	MAT'L	WIDTH	HEIGHT	THICK	FIRE RATING DR./FRAME	HDW	TYPE	MAT'L	THICK		JAMB	HEAD
MECHANICS SHOP ADDITION													
1	EXISTING	TO BE COMPLETELY REMOVED	DOOR AND DOOR										EXISTING TO BE COMPLETELY REMOVED DOOR AND DOOR FRAME
2	EXISTING	TO BE COMPLETELY REMOVED	DOOR AND DOOR										EXISTING TO BE COMPLETELY REMOVED DOOR AND DOOR FRAME
3	EXISTING	TO BE COMPLETELY REMOVED	DOOR AND DOOR										EXISTING TO BE COMPLETELY REMOVED DOOR AND DOOR FRAME
4	EXISTING	TO BE COMPLETELY REMOVED	DOOR AND DOOR										EXISTING TO BE COMPLETELY REMOVED DOOR AND DOOR FRAME
5	A	H. METAL INSUL.	3'-0"	7'-0"		NONE	ENTRY	1	H. METAL				DOOR, FRAME & HARDWARE BY METAL BUILDING MANUFACTURE W/ WEATHER STRIP KIT, THRESHOLD, HEAD DRIP STRIP, & CLOSURE
6	A	H. METAL INSUL.	3'-0"	7'-0"		NONE	ENTRY	1	H. METAL				DOOR, FRAME & HARDWARE BY METAL BUILDING MANUFACTURE W/ WEATHER STRIP KIT, THRESHOLD, HEAD DRIP STRIP, & CLOSURE
7	A	H. METAL INSUL.	3'-0"	7'-0"		NONE	ENTRY	1	H. METAL				DOOR, FRAME & HARDWARE BY METAL BUILDING MANUFACTURE W/ WEATHER STRIP KIT, THRESHOLD, HEAD DRIP STRIP, & CLOSURE
8	A	H. METAL INSUL.	3'-0"	7'-0"		NONE	ENTRY	1	H. METAL				DOOR, FRAME & HARDWARE BY METAL BUILDING MANUFACTURE W/ WEATHER STRIP KIT, THRESHOLD, HEAD DRIP STRIP, & CLOSURE
9	D	INSUL. STEEL	12'-0"	14'-0"		NONE							ALL DOOR HARDWARE BY DOOR MANUFACTURE, HIGH LIFT TRACK, FLUSH PANELS, MANUFACTURE STANDARD FINISH - 3 BUTTON ELECTRIC OPERATORS
10	D	INSUL. STEEL	12'-0"	14'-0"		NONE							ALL DOOR HARDWARE BY DOOR MANUFACTURE, HIGH LIFT TRACK, FLUSH PANELS, MANUFACTURE STANDARD FINISH - 3 BUTTON ELECTRIC OPERATORS
11	A	H. METAL INSUL.	3'-0"	7'-0"		NONE	MECHANICAL	1	H. METAL				PROVIDE PANIC HARDWARE ROOM SIDE, KNOX BOX @ EXTERIOR, & EXTERIOR SIGNAGE STATING - IN RED LETTERS "ELECTRICAL EQUIPMENT ROOM"
12	A	H. METAL INSUL.	3'-0"	7'-0"		NONE	MECHANICAL	1	H. METAL				PROVIDE PANIC HARDWARE ROOM SIDE, KNOX BOX @ EXTERIOR, & EXTERIOR SIGNAGE STATING - IN RED LETTERS "HIGH VOLTAGE EQUIPMENT ROOM"
13	C	H. METAL INSUL.	3'-0" PAIR	7'-0"		NONE	ENTRY	1	H. METAL				PROVIDE KICK PLATES EACH SIDE, CONTINUOUS GEAR HINGES, PANIC BAR DEVICES SIDE W/ WEATHER STRIP KIT, THRESHOLD, HEAD DRIP STRIP, & CLOSURE
14	E	INSUL. STEEL	8'-0"	8'-0"		NONE							FURNISHED & INSTALLED BY OWNER NOT IN CONTRACT
15	B	H. METAL INSUL.	3'-0"	7'-0"		NONE	MECHANICAL	2	H. METAL MASONRY				PROVIDE PANIC HARDWARE ROOM SIDE, & EXTERIOR ROOM SIGNAGE STATING - IN RED LETTERS "HIGH VOLTAGE EQUIPMENT ROOM" FURNISHED & INSTALLED BY OWNER NOT IN CONTRACT
16	E	INSUL. STEEL	8'-0"	8'-0"		NONE							FURNISHED & INSTALLED BY OWNER NOT IN CONTRACT
17	A	H. METAL INSUL.	3'-0" PAIR	7'-0"		NONE	MECHANICAL	1	H. METAL				PROVIDE PANIC HARDWARE ROOM SIDE, ONE LEAF W/ FLUSH BOLT & INTERIOR SIGNAGE STATING - IN RED LETTERS "ELECTRICAL EQUIPMENT ROOM"
18	F	PVC PLASTIC	10'-0"	10'-0"	0.060"	NONE			CASED H. METAL				CLEAR PVC STRIP DOOR
19	C	H. METAL	3'-0"	7'-0"		NONE	PASSAGE	3	H. METAL				HOLLOW METAL DOOR AND FRAME W/ 1/4" CLEAR TEMPERED VISION LITE KICK PLATES EACH SIDE, & CLOSURE
20	F	PVC PLASTIC	10'-0"	10'-0"	0.060"	NONE			CASED H. METAL				CLEAR PVC STRIP DOOR
21	C	H. METAL	3'-0"	7'-0"		NONE	PASSAGE	3	H. METAL				HOLLOW METAL DOOR AND FRAME W/ 1/4" CLEAR TEMPERED VISION LITE KICK PLATES EACH SIDE, & CLOSURE
22	G	H. METAL	3'-0" PAIR	7'-0"		NONE			3 H. METAL				HOLLOW METAL DOOR AND FRAME W/ 1/4" CLEAR TEMPERED VISION LITE, CONTINUOUS GEAR HINGES KICK PLATES EACH SIDE, & CLOSURE-SECURITY CONTROLS BY OWNER'S VENDOR
23	-	NONE	3'-0"	7'-0"		NONE	TOILET ROOM	-	MASONRY				MASONRY OPENING PROVIDE JAMB BLOCK WITH RAD. "EASED" CORNERS
24	G	H. METAL	3'-0"	7'-0"		NONE	OFFICE	2	H. METAL MASONRY				KICK PLATES EACH SIDE, & CLOSURE
25	-	NONE	3'-0"	7'-0"		NONE	TOILET ROOM	-	MASONRY				MASONRY OPENING PROVIDE JAMB BLOCK WITH RAD. "EASED" CORNERS
26	B	H. METAL	3'-0"	7'-0"		NONE	JANITOR RM	2	H. METAL MASONRY				KICK PLATES EACH SIDE
27	G	H. METAL	3'-0"	7'-0"		NONE	PASSAGE	2	H. METAL MASONRY				CONTINUOUS GEAR HINGE - 12 GAUGE FRAME AND DOOR WITH KICK PLATES EACH SIDE, CLOSURE, & 1/4" CLEAR TEMPERED VISION LITE
28	G	H. METAL	3'-0"	7'-0"		NONE	PASSAGE	2	H. METAL MASONRY				CONTINUOUS GEAR HINGE - 12 GAUGE FRAME AND DOOR WITH KICK PLATES EACH SIDE, CLOSURE, & 1/4" CLEAR TEMPERED VISION LITE

DOOR NOTES:

1. VERIFY ALL FINISH WALL THICKNESS (DIMENSION) TO COORDINATE WITH ALL HOLLOW METAL DOOR AND WINDOW FRAME SHOP DRAWINGS.
2. PRIME AND 2 COATS OF PAINT FOR ALL HOLLOW METAL DOOR FRAMES AND DOORS.
3. HOLLOW METAL DOOR LEAFS WILL BE 20 GAUGE STEEL.
4. FINISH FOR DOOR HARDWARE WILL BE US26D-BHMA 625 (BRIGHT CHROMIUM PLATED) VERIFY FINISH WITH OWNER
5. ALL HOLLOW METAL DOOR FRAMES WELDED CORNERS
6. PROVIDE WALL DOOR STOPS ALL DOORS
7. ALL EXTERIOR DOORS PROVIDE WEATHER STRIPING, HEAD, JAMBS, & SILL. PROVIDE THRESHOLDS, & RAIN DRIP @ DOOR HEAD.
8. ALL EXTERIOR DOORS OVERHEAD DOORS 24 GA. EXTERIOR, 26 GA. INTERIOR METAL SKIN PROTECTING POLYURETHANE FOAM INSULATION CORE PANELS WILL BE 1 5/8" THICK WITH FOAM DENSITY OF 3.24 POUNDS PER FOOT 1/2 HP ELECTRIC OPERATORS W/ 3-BUTTON WALL MOUNTED CONTROL
9. EXTERIOR SWINGING DOORS WILL HAVE A MAXIMUM U VALUE OF 0.61 - WITH AN AIR INFILTRATION RATE OF 0.20 CFM/FT SQUARED OR LESS.
10. ALL EXTERIOR DOOR THRESHOLDS, SHALL MEET ANSI A117.1 - 2009, SECTION 404.2.4 ACCESSIBILITY SPECIFICATIONS FOR THRESHOLDS BY THE MANUFACTURE
11. EXTERIOR HOLLOW METAL DOORS & FRAMES - CONTRACTOR'S OPTION BY METAL BUILDING MANUFACTURE AS NOTED IN DOOR SCHEDULE OR SUPPLIED LOCALLY.
12. PROVIDE LATCH PROTECTION PLATE EXTERIOR SIDE OF ALL EXTERIOR DOORS.
13. PAIR OF DOORS MARK 22 COORDINATE WITH OWNER'S SECURITY SYSTEM FOR A CONTROLLED DOOR ACCESS, TIE INTO EXISTING SECURITY SYSTEM
14. DOORS AND FRAMES MARKS 27 & 28 PROVIDE 12 GAUGE STEEL FRAMES AND DOORS.

DOOR HARDWARE SCHEDULE:

1. ALL INTERIOR DOOR HARDWARE WILL BE MORTISE TYPE (HEAVY DUTY) ONE LEVER LATCH SETS TO MEET ADA REQUIREMENTS
2. PAIR OF DOORS MARK 22 COORDINATE WITH OWNER'S SECURITY SYSTEM FOR A CONTROLLED DOOR ACCESS, TIE INTO EXISTING SECURITY SYSTEM

KEYING SCHEDULE:

1. VERIFY ALL KEYING WITH THE OWNER. ALL LOCK SETS TO HAVE CHANABLE CORES
2. PAIR OF DOORS MARK 22 COORDINATE WITH OWNER'S SECURITY SYSTEM FOR A CONTROLLED DOOR ACCESS, TIE INTO EXISTING SECURITY SYSTEM

KNOX BOX SCHEDULE:

1. PROVIDE A SURFACE MOUNTED KNOX BOX AT ENTRY DOORS AT LOCATION DIRECTED AND APPROVED BY THE CITY FIRE CHIEF SEE SHEET A-1.2 FOR LOCATION, MOUNT @ 60" ABOVE FINISHED GRADE LEVEL

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BARRY COUNTY
MONETT, MISSOURI 65708

DRAWN R. WERNER
DATE APRIL 29, 2016
CHECKED R. WERNER
SCALE
JOB. NO
SHEET

A-2.6

REVISIONS	BY

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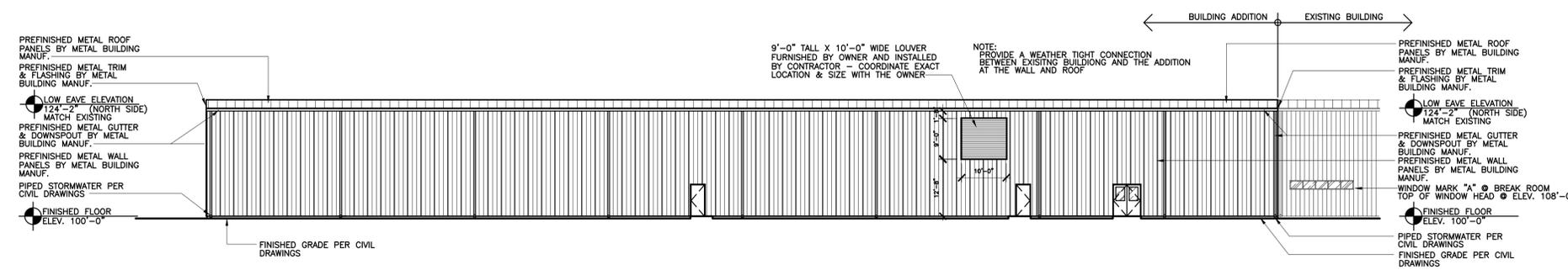


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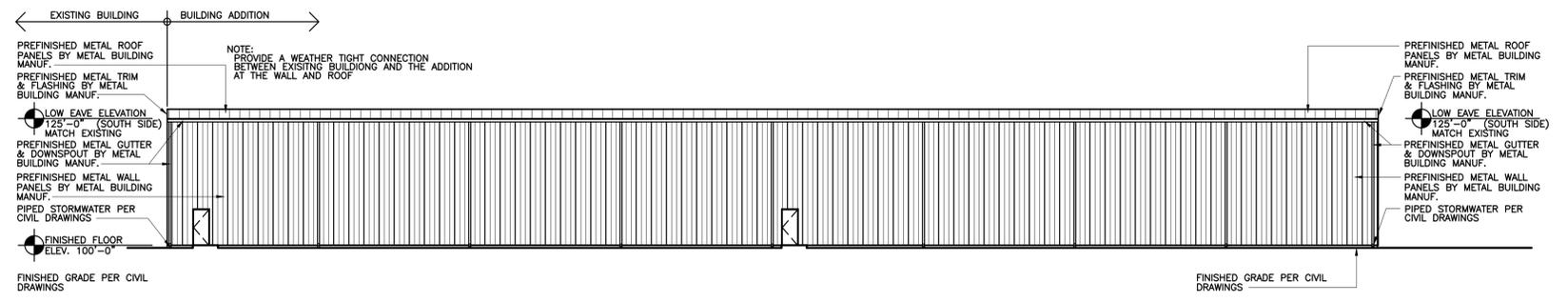
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WINTECH WINDOW TECHNOLOGY, INC.
201 INDUSTRIAL DRIVE
BARRY COUNTY
MONETT, MISSOURI 65708

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SCALE	
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SHEET	

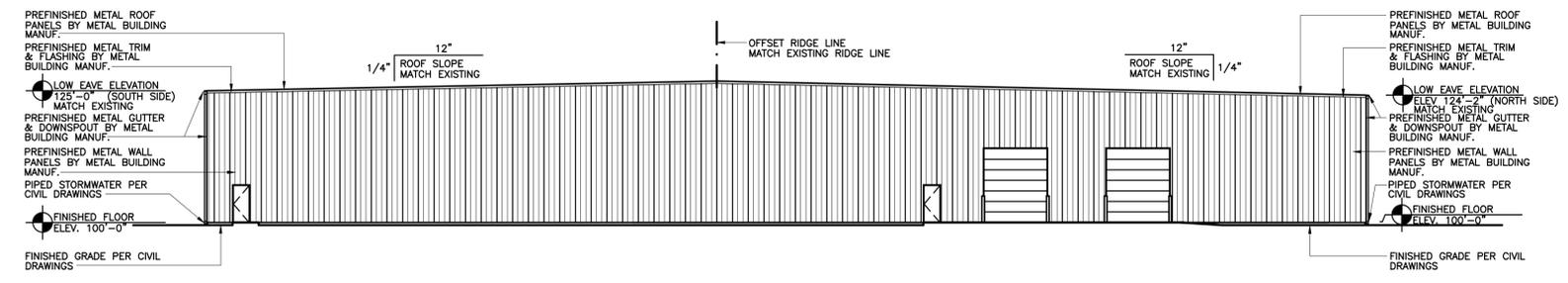
A-3.0
OF SHEETS



3 NORTH BUILDING ELEVATION
SCALE: 1/16" = 1'-0"



2 SOUTH BUILDING ELEVATION
SCALE: 1/16" = 1'-0"



1 EAST BUILDING ELEVATION
SCALE: 1/16" = 1'-0"



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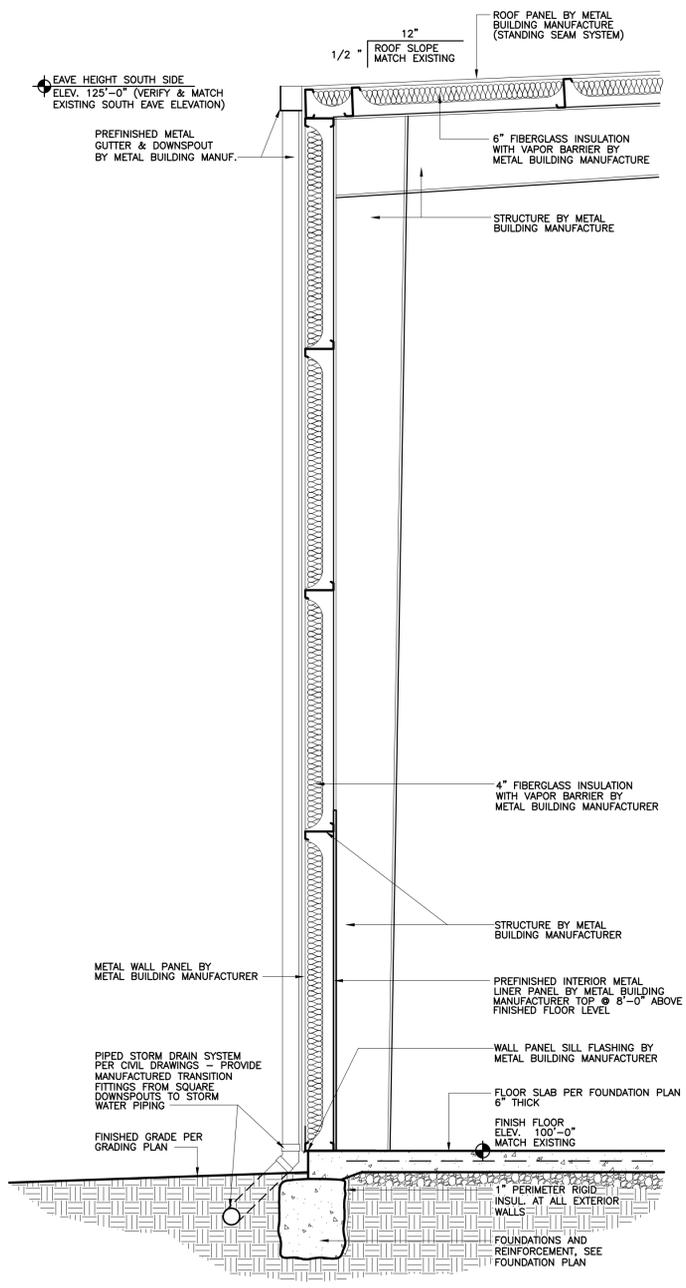


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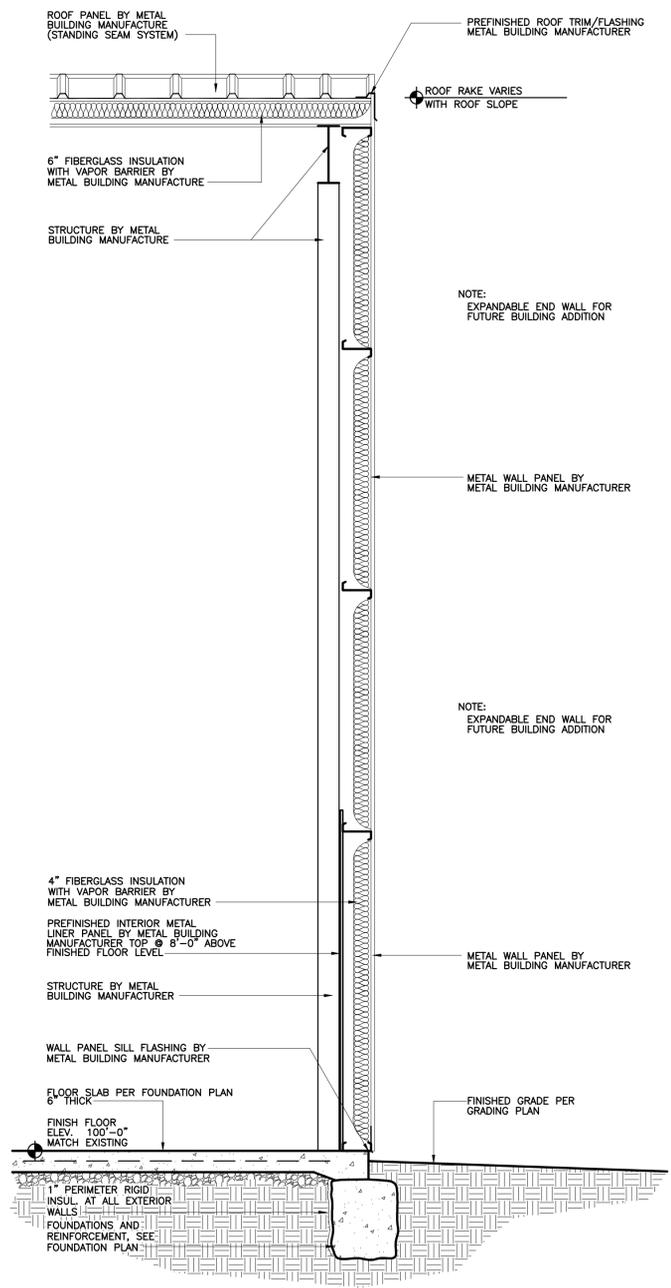
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JOB. NO	
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A-4.0
 OF SHEETS
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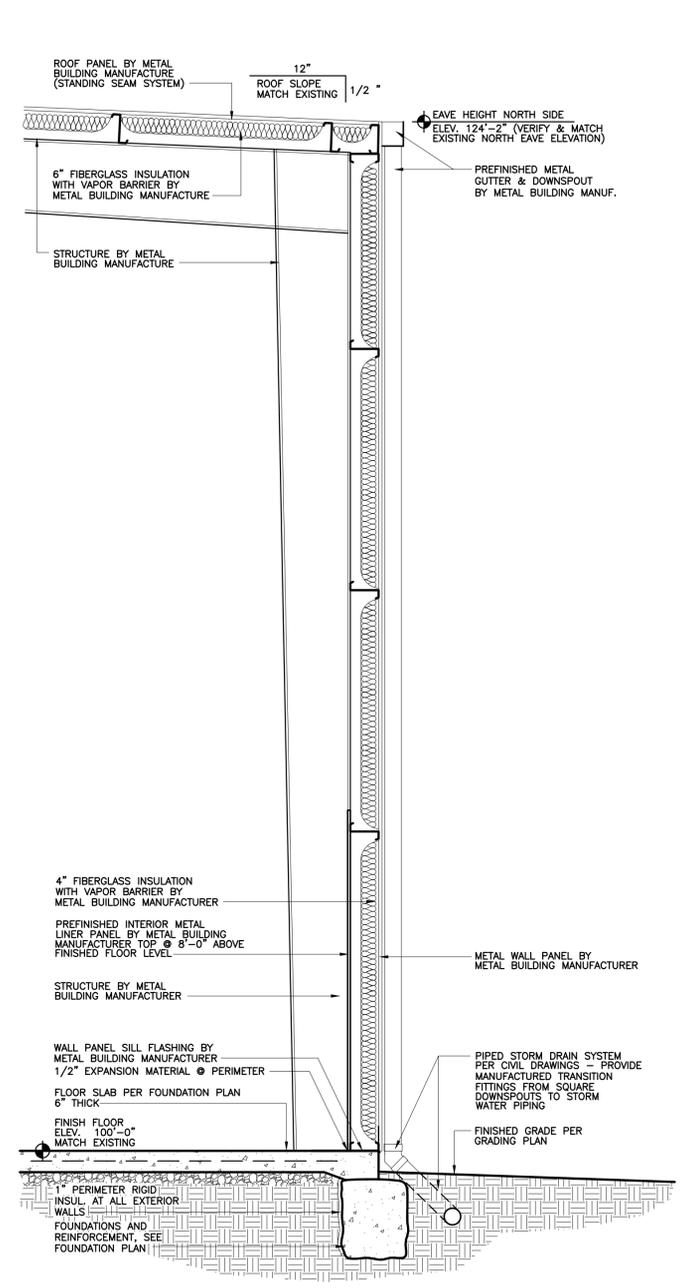
TREAT ALL AREAS UNDER BUILDING FOR TERMITES

3
 A-4.0
 TYPICAL SOUTH WALL SECTION
 SCALE: 1/2" = 1'-0"



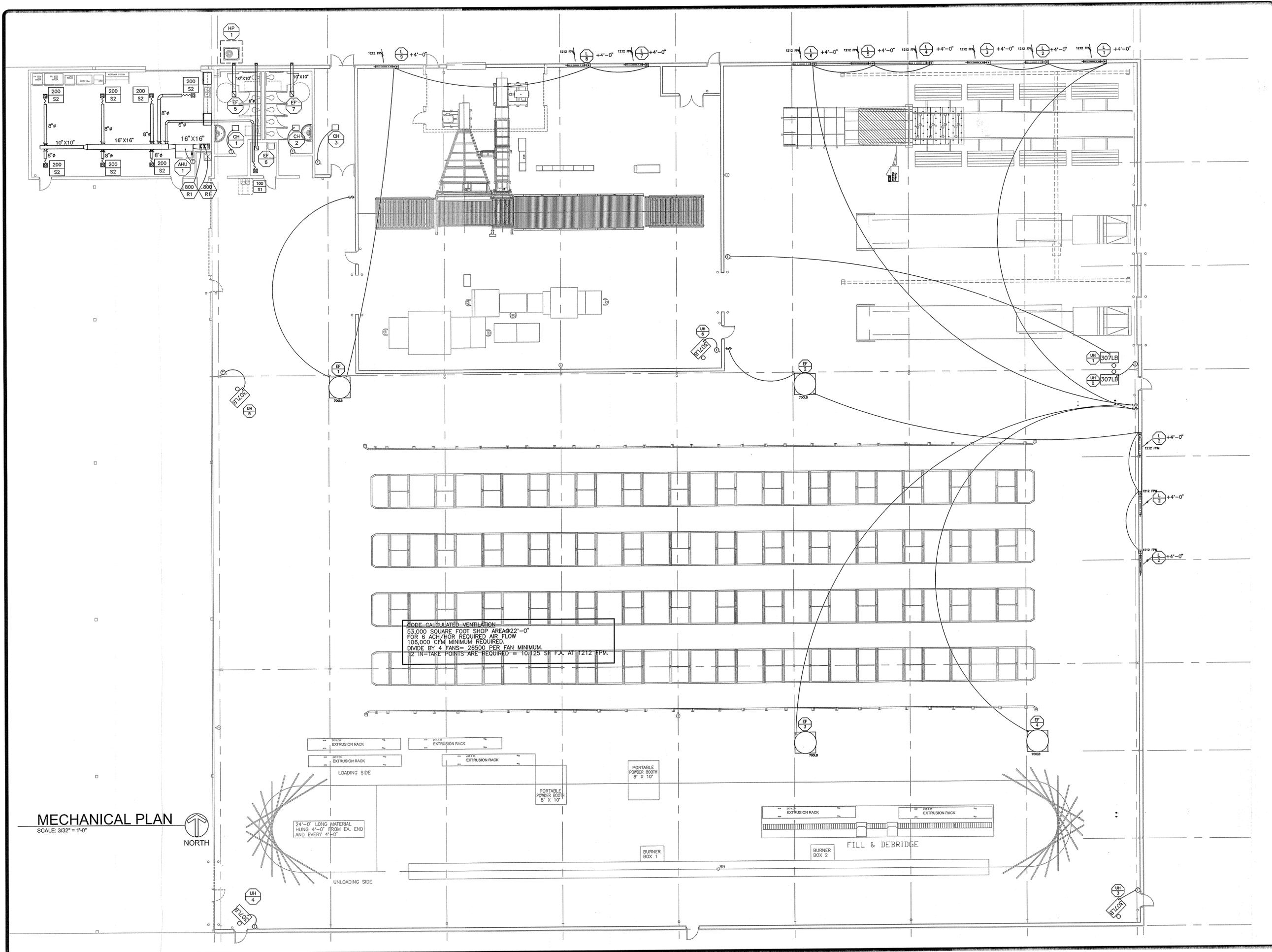
TREAT ALL AREAS UNDER BUILDING FOR TERMITES

2
 A-4.0
 TYPICAL EAST WALL SECTION
 SCALE: 1/2" = 1'-0"



TREAT ALL AREAS UNDER BUILDING FOR TERMITES

1
 A-4.0
 TYPICAL NORTH WALL SECTION
 SCALE: 1/2" = 1'-0"



NO.	REVISIONS

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MONETT, MISSOURI
65708

DRAWN	TCH
DATE	May 3, 2016
CHECKED	TCH
SCALE	
JOB. NO.	
SHEET	M-1.1
OF	SHEETS

GAS FIRED UNIT HEATER SCHEDULE										
PLAN DESIG	MFR.	MODEL	CFM	INPUT BTUH	OUTPUT BTUH	ELEC. DATA				REMARKS
						HP	FLA	VOLT	PHASE	
1	STERLING	TF300	5000	300,000	249,000	(2) 1/4	11	120	1	T,V,DN,SK,SI
2	STERLING	TF300	5000	300,000	249,000	(2) 1/4	11	120	1	T,V,DN,SK,SI
3	STERLING	TF300	5000	300,000	249,000	(2) 1/4	11	120	1	T,V,DN,SK,SI
4	STERLING	TF300	5000	300,000	249,000	(2) 1/4	11	120	1	T,V,DN,SK,SI
5	STERLING	TF300	5000	300,000	249,000	(2) 1/4	11	120	1	T,V,DN,SK,SI
6	STERLING	TF300	5000	300,000	249,000	(2) 1/4	11	120	1	T,V,DN,SK,SI

ACCESSORIES/REMARK ABBREVIATIONS
 LPG - LP GAS CONVERSION
 T - MECHANICAL SINGLE STAGE T-STAY
 V - VENT KIT AND CAP
 DN - 30° DOWNTURN AIR NOZZLE
 SK - 4-POINT SUSPENSION KIT
 SI - SPARK IGNITION

ELECTRIC CABINET UNIT HEATER SCHEDULE										
PLAN DESIG	MFR.	MODEL	CFM	MBH	KW HEATER	ELEC. DATA			REMARKS	
						AMP	VOLT	PHASE		
1	QMARK	552	300	13.7	4.0	14.4	277	1	277-24V TRANSFORMER & T-STAY	
2	QMARK	552	300	13.7	4.0	14.4	277	1	277-24V TRANSFORMER & T-STAY	
3	QMARK	552	300	13.7	4.0	14.4	277	1	277-24V TRANSFORMER & T-STAY	

ACCESSORIES/REMARK ABBREVIATIONS
 LA - LOW AMBIENT CONTROL
 CB - COMPRESSOR SOUND BLANKET
 CT - COMPRESSOR TIME DELAY CONTROL
 CP - CONCRETE PAD
 OT - OUTDOOR THERMOSTAT FOR ELECTRIC HEAT STAGING
 SV - SERVICE VALVES
 FD - FILTER DRIER

EXHAUST AND RETURN GRILLE SCHEDULE										
PLAN DESIG	MAX. CFM	MANUFACTURER	MODEL #	NECK SIZE	MODULE SIZE	FRAME	MAX N.C.	FINISH	ACCESSORIES/REMARKS	
R1	900	EH PRICE	MSD	14"φ	16"x16"	-	25	WHITE	SRA	

ACCESSORIES AND/OR REMARK ABBREVIATIONS:
 SRA - SQUARE TO ROUND ADAPTOR
 OBD - VOLUME DAMPER
 CTM - COLOR TO MATCH ADJACENT SURFACES
 NOTE: ALL DIFFUSER DESIGNATIONS MAY NOT BE USED ON THIS PROJECT. APPROVED MANUFACTURERS: TITUS, KRUEGER, CARNES, NAILOR

SUPPLY DIFFUSER SCHEDULE										
PLAN DESIG	MAX. CFM	MANUFACTURER	MODEL #	NECK SIZE	MODULE SIZE	FRAME	MAX N.C.	FINISH	ACCESSORIES/REMARKS	
S1	115	EH PRICE	MSD	6"φ	12"x12"	RECESSED	21	WHITE	SRA, OBD	
S2	245	EH PRICE	MSD	8"φ	12"x12"	RECESSED	30	WHITE	SRA, OBD	

ACCESSORIES AND/OR REMARK ABBREVIATIONS:
 AL - ALUMINUM, CN - CENTER NOTCH, CTM - COLOR TO MATCH CEILING FINISH (FOR CLG. MTD.) OR WALL FINISH (FOR WALL MTD.), IP - INSULATED PLENUM, PRF - PERFORATED, SRA - SQUARE TO ROUND ADAPTOR, OBD - OPPOSED BLADE DAMPER, VE - VOLUME EXTRACTOR (MODEL DT-2).
 NOTE: ALL DIFFUSER DESIGNATIONS MAY NOT BE USED ON THIS PROJECT. APPROVED MANUFACTURERS: TITUS, KRUEGER, CARNES, NAILOR

EXHAUST FAN SCHEDULE										
PLAN DESIG	SERVICE	MANUFACTURER	MODEL #	CFM	S.P.	MOTOR		WEIGHT	ROOF OPENING	ACCESSORIES/REMARKS
						HP	WATTS			
1	VENTILATION	GREENHECK	GBS40	26810	0.375	5.00	-	460/3	743	56.5X56.5 RC, BD, MS, DS
2	VENTILATION	GREENHECK	GBS40	26810	0.375	5.00	-	460/3	743	56.5X56.5 RC, BD, MS, DS
3	VENTILATION	GREENHECK	GBS40	26810	0.375	5.00	-	460/3	743	56.5X56.5 RC, BD, MS, DS
4	VENTILATION	GREENHECK	GBS40	26810	0.375	5.00	-	460/3	743	56.5X56.5 RC, BD, MS, DS
5	RESTROOM	GREENHECK	SPA-410	375	0.25	224	120/1	31		WV, BD, TD, VI, AG
6	RESTROOM	GREENHECK	SPA-110	110	0.25	132	120/1	15		WV, BD, TD, VI, AG
7	RESTROOM	GREENHECK	SPA-410	375	0.25	224	120/1	31		WV, BD, TD, VI, AG

ACCESSORIES/REMARK ABBREVIATIONS:
 RC - FACTORY ROOF CURB
 IS - INSECT SCREEN
 DS - PRE-WIRED DISCONNECT SWITCH
 RD - RADIATION FIRE DAMPER
 RW - ROOF JACK WITH BLACK BAKED ENAMEL FINISH
 TD - TIME DELAY SWITCH TO OPERATE EXHAUST FAN AND BATHROOM LIGHT.
 H - HUMIDITY SENSOR ACTIVATION
 MS - MOTOR STARTER AND CONTROL FOR FAN AND 120V LOUVERS

LOUVER SCHEDULE										
PLAN DESIG	QTY	MANUFACTURER	MODEL #	W x H	F.A. (SQ. FT.)	CFM	VELOCITY (FPM)	ACCESSORIES/REMARKS		
1	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		
2	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		
3	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		
4	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		
5	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		
6	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		
7	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		
8	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		
9	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		
10	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		
11	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		
12	1	RUSKIN	ELM811D	54"x54"	20.0	12,142	1212	BS, CTM, MO		

ABBREVIATIONS:
 BS - BIRD SCREEN
 CTM - COLOR PER ARCHITECT'S SPECIFICATIONS
 MO - MOTORIZED 120 VOLT OPERATOR. INTERLOCK FOR OPERATION WITH EXHAUST FAN SERVING AREA.
 IS - INSECT SCREEN
 APPROVED MANUFACTURERS: GREENHECK, NCA MANUFACTURING

HEAT PUMP AIR HANDLING UNIT SCHEDULE																
PLAN DESIG.	MANUFACTURER	MODEL #	CONFIGURATION	TONS	ELECTRIC HEAT			EVAPORATOR FAN			ELECTRICAL			O.A. CFM	WEIGHT	ACCESSORIES/REMARKS
					KW	CFM	ESP	VOLT-PH	MCA	MOCF	VOLT-PH	MCA	MOCF			
1	YORK	AHE W/ X13	HORIZONTAL/VERTICAL	4.0	10.0	1600	0.50	208/240-1	51.2/57.3	60	-	155	SK, DP, PT			

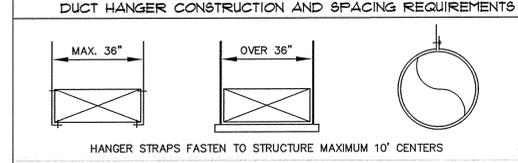
ABBREVIATIONS:
 SK - SUSPENSION KIT
 DP - DRAIN PAN WITH FLOAT SWITCH TO SHUT DOWN UNIT.
 PT - ELECTRONIC PROGRAMMABLE AUTO-CHANGOVER THERMOSTAT
 APPROVED ALTERNATE MANUFACTURERS:
 CARRIER
 TRANE
 LENNOX
 RUUD

HEAT PUMP SCHEDULE																	
PLAN DESIG.	MANUFACTURER	MODEL #	TONS	COOLING MBH		O.A. TEMP.	SEER/EER	HEATING MBH	HSPF	O.A. TEMP.	LINE SIZES		ELECTRICAL			WEIGHT	ACCESSORIES/REMARKS
				TOTAL	SENS.						LIQUID	SUCTION	VOLT-PH.	MCA	MOCF		
1	YORK	YHJD	4.0	45.0	35.4	95	15.0	29.6	8.1	17	3/8	7/8"	208/240-1	32.7	50	250	LA, CB, CT, CP, OT, SV, FD

ABBREVIATIONS:
 LA - LOW AMBIENT CONTROL
 CB - COMPRESSOR SOUND BLANKET
 CT - COMPRESSOR TIME DELAY CONTROL
 CP - CONCRETE PAD
 OT - OUTDOOR THERMOSTAT FOR ELECTRIC HEAT STAGING
 SV - SERVICE VALVES
 FD - FILTER DRIER
 APPROVED ALTERNATE MANUFACTURERS:
 CARRIER
 TRANE
 LENNOX
 RUUD

DUCT CONSTRUCTION SCHEDULE			
RECTANGULAR DUCT CONSTRUCTION MINIMUM METAL GAUGES			
MAXIMUM SIDE	GALVANIZED STEEL	PERIMETER HALF	HANGER STRAP
THROUGH 12"	26 GAUGE	P/2 = 30"	1"x22 GAUGE
13" THROUGH 30"	24 GAUGE	P/2 = 72"	1"x18 GAUGE
31" THROUGH 54"	22 GAUGE	P/2 = 96"	1"x16 GAUGE

ROUND DUCT CONSTRUCTION MINIMUM METAL GAUGES			
DIAMETER	LONGITUDINAL SEAM	SPIRAL SEAM	FITTINGS HANGER STRAP
THROUGH 12"	26 GAUGE	28 GAUGE	26 GAUGE 1"x22 GAUGE
13" THROUGH 30"	24 GAUGE	26 GAUGE	24 GAUGE 1"x18 GAUGE



HANGER STRAPS FASTEN TO STRUCTURE MAXIMUM 10' CENTERS
 RECTANGULAR DUCTWORK
 CONCEALED INSIDE THE CONDITIONED SPACE (ABOVE CEILING IN CHASE, PLENUM, ETC.)
 SUPPLY & OUTDOOR AIR: WRAP DUCTWORK WITH 1.5" THICK, 0.75 LB/CU FT DENSITY DUCT WRAP (R=4.2) EQUAL TO OWENS CORNING TYPE 75 FIBERGLASS ALL SERVICE DUCT WRAP.
 RETURN: NO INSULATION IS REQUIRED UNLESS OTHERWISE INDICATED.
 EXPOSED INSIDE THE CONDITIONED SPACE
 SUPPLY & OUTDOOR AIR: LINE DUCTWORK WITH 1" THICK DUCT LINER (R=4.2) EQUAL TO OWENS CORNING QUIET'R DUCT LINER.
 RETURN: NO INSULATION IS REQUIRED UNLESS OTHERWISE INDICATED.
 RETURN WHERE INDICATED ON PLANS
 RETURN: LINE DUCTWORK WITH 1/2" THICK DUCT LINER (R=2.2) EQUAL TO OWENS CORNING QUIET'R DUCT LINER.

ROUND DUCTWORK
 CONCEALED INSIDE THE CONDITIONED SPACE (ABOVE CEILING IN CHASE, PLENUM, ETC.)
 SUPPLY & OUTDOOR AIR: DUCT SHALL BE SNAPLOCK PIPE. WRAP DUCTWORK WITH 1.5" THICK, 0.75 LB/CU FT DENSITY DUCT WRAP (R=4.2) EQUAL TO OWENS CORNING TYPE 75 FIBERGLASS ALL SERVICE DUCT WRAP. FLEXIBLE DUCT SHALL HAVE AN EQUAL OR GREATER R-VALUE.
 RETURN: DUCT SHALL BE SNAPLOCK PIPE. NO INSULATION IS REQUIRED.
 EXPOSED INSIDE THE CONDITIONED SPACE
 SUPPLY & OUTDOOR AIR: DUCT SHALL BE SPIRAL DUCT WITH 1" OF FIBERGLASS INSULATION SEE SPECIFICATION THIS SHEET. DUCTWORK SHALL HAVE A PAINTORIP FINISH.
 RETURN: NO INSULATION IS REQUIRED.

SPECIAL DUCTWORK
 OUTDOOR DUCTWORK
 DUCTWORK SHALL BE LINED WITH 1.5" THICK DUCT LINER (R=6.3) EQUAL TO OWENS CORNING QUIET'R DUCT LINER. THE EXTERIOR OF THE DUCTWORK SHALL BE ENCLOSED WITH 2" THICK MINERAL FIBER BOARD INSULATION. THE ASSEMBLY SHALL BE ENCASED WITH A 28 GA. ALUMINUM JACKET MEETING STANDARD ASTM B209. ALL SEAMS SHALL BE SEALED WITH A UV RESISTANT SEALANT.

GENERAL REQUIREMENTS
 1. CONSTRUCTION: ALL DUCTWORK AND HANGERS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS. DUCT DIMENSIONS SHOWN ON THE PLANS ARE THE INSIDE CLEAR DIMENSIONS. UNLESS INDICATED OTHERWISE, ALL DUCTWORK SHALL BE GALVANIZED STEEL.
 2. SEALANT: ALL DUCT JOINTS AND SEAMS SHALL BE SEALED WITH A WATER-BASED BRUSH ON DUCT SEALER EQUAL TO UNITED MCGILL DUCT SEALER.
 3. TAPE: TAPE SHALL BE UL LISTED ALUMINUM DUCT TAPE.
 4. FLEXIBLE DUCTWORK: DUCT SHALL BE UL LISTED CLASS 1 PRE-INSULATED FLEX DUCT. FLEXIBLE DUCTWORK SHALL BE CONSTRUCTED WITH AN ACOUSTICALLY LOCKED HELIX. WIRE HELIX TYPE CORE SUPPORT NOT ACCEPTABLE. INSULATION SHALL BE COVERED WITH A REINFORCED ALUMINUM PIGMENTED VAPOR BARRIER. FLEXIBLE DUCT TO BE "FLEXMASTER USA" TYPE BM ONLY, OR SUBMIT A SAMPLE TO THE ENGINEER FOR AN ALTERNATE APPROVED EQUAL. FLEXIBLE DUCT SHALL NOT EXCEED 5'-0" IN LENGTH.
 5. FITTINGS: INSTALL TURNING VANES IN ALL RECTANGULAR ELBOWS GREATER THAN 45°. ALL BRANCH DUCTS SHALL HAVE A 45° ENTRY AT THE MAIN TRUNK DUCT.
 6. TAKE-OFF FITTINGS: BRANCH DUCT TAKE-OFF FITTINGS SHALL BE MINIMUM 26 GAUGE GALVANIZED STEEL WITH FLANGE CONNECTOR AND ADHESIVE NEOPRENE GASKET. FLANGE SHALL BE PRE-DRILLED FOR SECURING TO DUCT WITH SCREWS. BRANCH DUCT TAKE-OFF FITTINGS FOR SUPPLY AND EXHAUST DIFFUSERS/REGISTERS SHALL INCLUDE AN INTEGRAL MANUAL VOLUME DAMPER W/LOCKING QUADRANT DAMPER NOT REQUIRED ON RETURN AIR. TAKE-OFF FITTINGS TO BE "BUCKLEY" MODEL ATM & ATMO OR EQUAL. WHERE DUCT HEIGHT REQUIRES A RECTANGULAR TO ROUND TAKE-OFF, UTILIZE A "BUCKLEY" MODEL 3300 & 3300D OR EQUAL.
 7. EXHAUST DUCTWORK DOES NOT REQUIRE INSULATION.

GENERAL HVAC NOTES
 ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2012 EDITION OF THE INTERNATIONAL MECHANICAL CODE.
 DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL PLANS OR FIELD MEASUREMENTS FOR DIMENSIONS.
 ALL ROOF AND WALL PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PROVIDE ALL REQUIRED SLEEVES, FLASHINGS, CURBS, REINFORCING ANGLES, SUPPORTING FRAMES, ETC. UNLESS THEY ARE SPECIFICALLY CALLED OUT TO BE FURNISHED BY OTHERS.
 THE CONTRACTOR SHALL COOPERATE AND COORDINATE HIS WORK WITH THE WORK OF OTHER SUBCONTRACTORS OF THE PROJECT. COORDINATION DOES NOT MEAN "I WAS HERE FIRST".
 THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL DEVICES REQUIRED TO ACHIEVE THE SEQUENCE OF OPERATIONS. SEE SPECIFICATIONS FOR CONTROL SYSTEM DEVICE REQUIREMENTS.
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A COMPLETE AND FUNCTIONAL SYSTEM IN ACCORDANCE WITH THE INTENT OF THE PLANS, WHETHER OR NOT EVERY ELEMENT THEREOF IS SPECIFICALLY CALLED OUT.
 THE CONTRACTOR SHALL SCHEDULE AND EXECUTE ALL WORK WITH REGARD TO THE OWNER'S USE OF THE BUILDING DURING PERIOD OF CONSTRUCTION. VERIFY ALL POSSIBLE SCHEDULING CONFLICTS WITH THE OWNER'S REPRESENTATIVE.
 THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE COMPLETE SET OF PLANS FOR WORK PERTAINING TO HIS DISCIPLINE.

SEQUENCE OF OPERATIONS
 THERMOSTAT - OCCUPIED MODE
 THE EVAPORATOR FAN SHALL CYCLE AND THE BURNER(S)/COMPRESSOR(S) SHALL MODULATE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE.
 GENERAL
 1. CHANGEOVER BETWEEN HEATING AND COOLING SHALL BE AUTOMATIC IN THE OCCUPIED AND UNOCCUPIED MODES.
 2. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR INITIAL PROGRAMMING OF THE OCCUPANCY SCHEDULE AND NIGHT SETBACK TEMPERATURES.
 3. THE NIGHT SETBACK TEMPERATURE SHALL NOT VARY FROM THE OCCUPIED SETPOINT BY MORE THAN 10F (ADJUSTABLE).
 4. WHEN EQUIPPED THE UNIT SHALL SHUT DOWN IF THE DUCT SMOKE DETECTOR SENSES SMOKE IN THE RETURN AIR DUCT.

HVAC - SYMBOL LEGEND	
(ALL SYMBOLS MAY NOT BE USED ON THIS DRAWING)	
	SUPPLY DIFFUSER.
	BALANCED AIR FLOW (CFM).
	SUPPLY DIFFUSER DESIGNATION. SEE SCHEDULE.
	RETURN GRILLE. EXHAUST FAN OR GRILLE
	AIR FLOW (CFM) THROUGH RETURN OR EXHAUST GRILLE.
	RETURN OR EXHAUST GRILLE DESIGNATION. SEE SCHEDULE.
	EQUIPMENT TYPE. (I.E. F-FURNACE, CU-CONDENSING UNIT...)
	EQUIPMENT NUMBER DESIGNATION. SEE SCHEDULE.
	FLEXIBLE DUCTWORK.
	BALANCING DAMPER.
	ZONE DAMPER.
	MOTORIZED DAMPER.
	TURNING VANES.
	FIRE DAMPER.
	AIR FLOW INDICATOR.
	THERMOSTAT.
	SMOKE DETECTOR
	THERMOSTAT WITH PLASTIC COVER
	TIME CONTROL.
	BELLMOUTH FITTING WITH BALANCING DAMPER
	RECTANGULAR DUCTWORK W/FINISHED WIDTH X DEPTH DIMENSIONS INDICATED.
	ROUND DUCTWORK (RIGID OR FLEXIBLE) W/FREE AREA DIAMETER INDICATED.
	UNDERCUT DOOR (DIMS)
	B.O.D. = BOTTOM OF DUCT/DIFFUSER

REVISIONS	

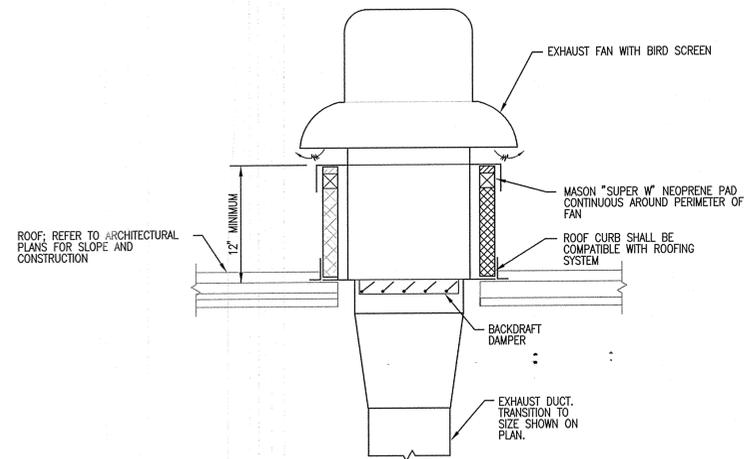
RICHARD EUGENE WERNER-ARCHITECT
 MISSOURI LICENSE NO. 006953



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 MISSOURI STATE CERTIFICATE OF AUTHORITY NO. 201201837

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 201 INDUSTRIAL DRIVE
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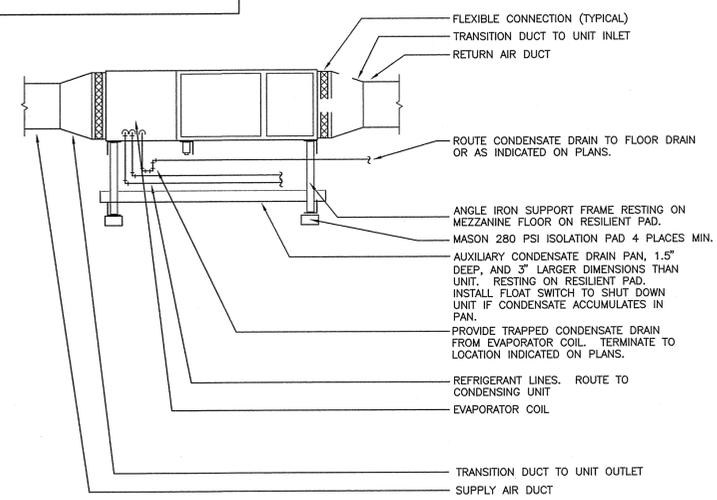
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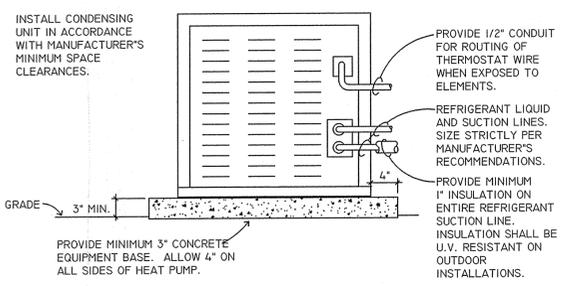
ROOF MOUNTED EXHAUST FAN DETAIL
SCALE: NONE

NOTES:
SUPPORT AIR HANDLING UNIT VIA VIBRATION ISOLATORS FROM MEZZANINE FLOOR WHILE MAINTAINING MANUFACTURER'S RECOMMENDED CLEARANCES.
CONNECT DUCT TO UNIT WITH FLEXIBLE CONNECTION AND TRANSITION TO DUCT SIZE SHOWN ON PLAN.
SEE HVAC PLAN FOR OUTSIDE AIR DUCT SIZE AND TERMINATION POINT.
PROVIDE DRAIN PAN BENEATH UNIT WITH SECONDARY DRAIN TERMINATING IN A NORMALLY OCCUPIED ROOM. TERMINATE AT A LOCATION THAT WILL NOT DRIP ON FURNITURE.

CONCENTRIC FLUE VENT/COMBUSTION AIR INTAKE FITTING. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND ROUTE THROUGH ROOF TO RAIN PROOF ROOF TERMINATION. PROVIDE FLASHING CAP AND ALL ASSOCIATED TERMINATION PARTS INCLUDING CONDENSATE DRAIN.

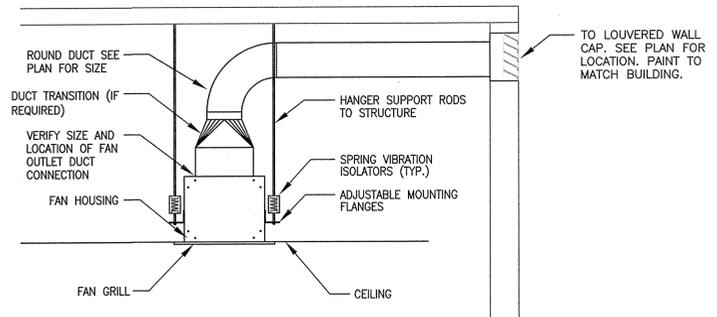


HORIZONTAL AIR HANDLING UNIT DETAIL
NO SCALE



NOTE: AS AN ALTERNATE THE HEAT PUMP MAY BE INSTALLED ON A 3\"/>

GROUND MOUNTED HEAT PUMP DETAIL
NO SCALE



CEILING MOUNTED EXHAUST FAN DETAIL
SCALE: NONE

REVISIONS

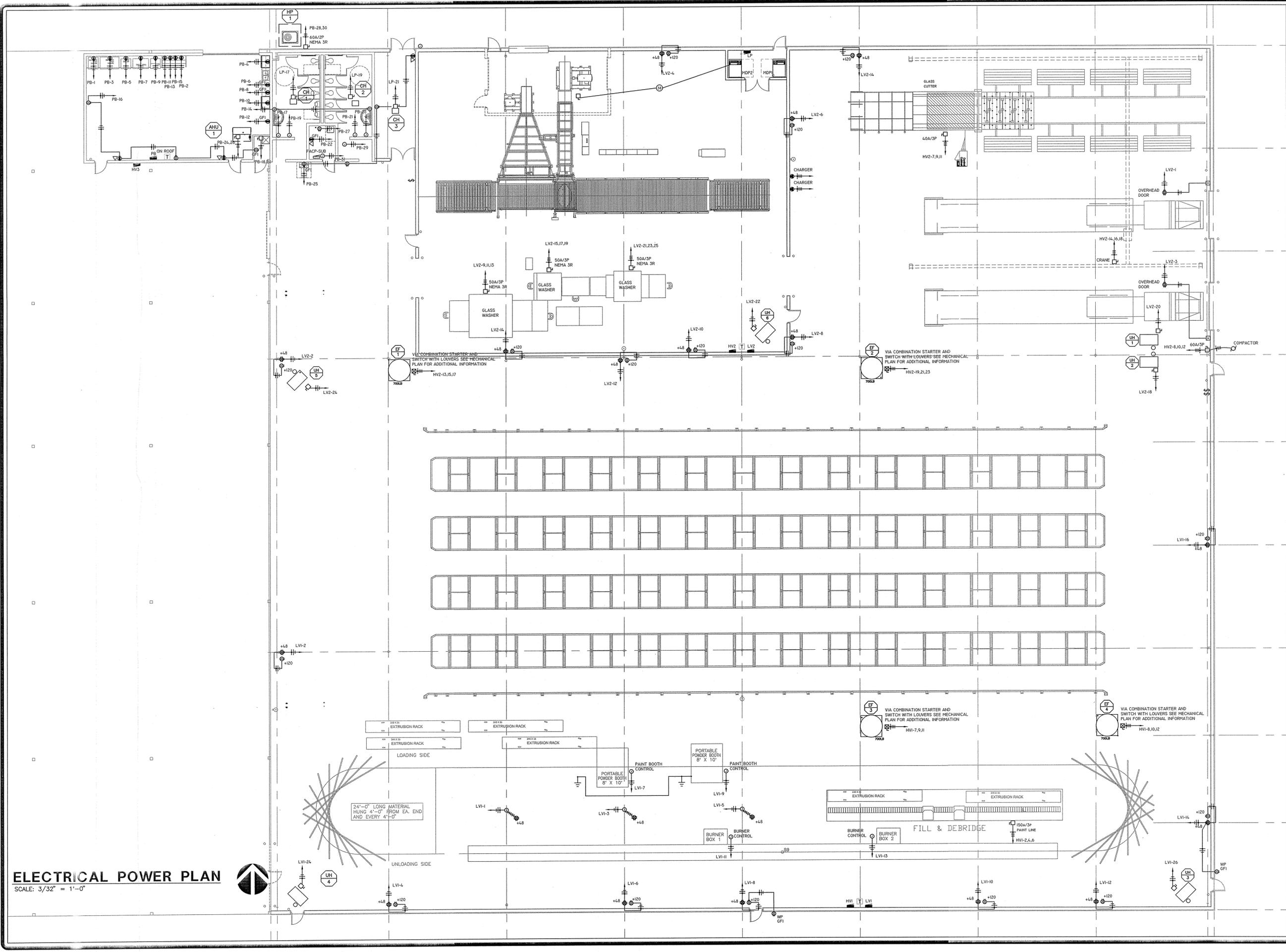
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65708

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ELECTRICAL POWER PLAN
SCALE: 3/32" = 1'-0"



NO.	REVISIONS

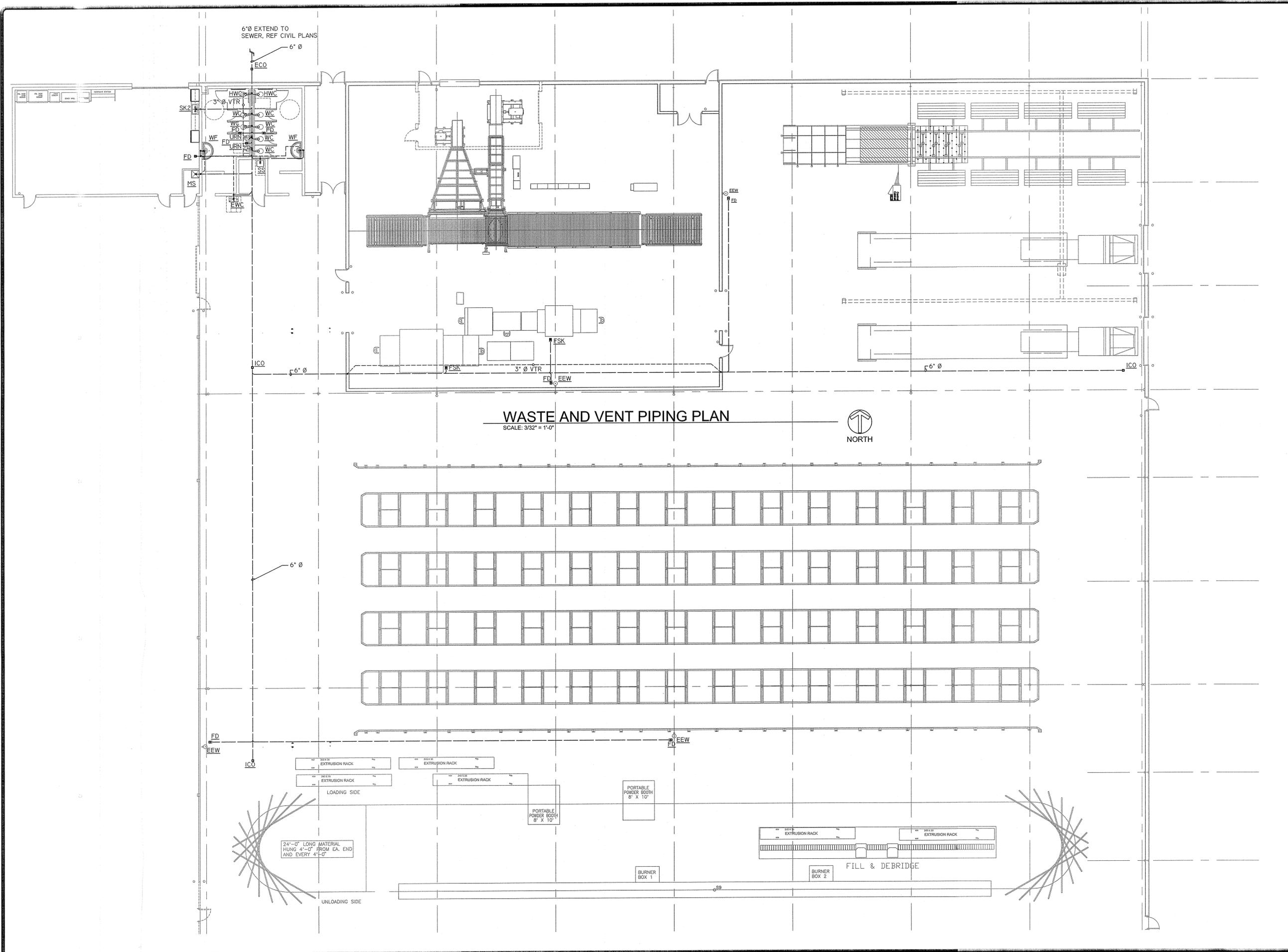
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SHEET	E-2.1
OF	
SHEETS	



WASTE AND VENT PIPING PLAN

SCALE: 3/32" = 1'-0"



NO.	REVISIONS

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DRAWN	TCH
DATE	May 3, 2016
CHECKED	TCH
SCALE	
JOB. NO	
SHEET	P-1.1
OF	SHEETS

PLUMBING FIXTURE SCHEDULE								
MARK	DESCRIPTION	MANUFACTURER & CATALOG NUMBER	ACCESSORIES	PIPING REQUIREMENTS				REMARKS
				WASTE	VENT	CW	HW	
WC	FLOOR MOUNT 1.6 GPF 14-1/8" RIM HEIGHT ELONGATED FLUSH VALVE TOILET	AMERICAN STANDARD 'MADERA' 2234.001	SENSOR OPERATED SELECTONIC DC 6065.161.002 SENSOR OPERATED FLUSH VALVE, OLSONITE NO. 95 SEAT LESS COVER.	4"	2"	1"	-	-
HWC	FLOOR MOUNT 1.6 GPF 17" RIM HEIGHT ELONGATED FLUSH VALVE TOILET	AMERICAN STANDARD 'MADERA' 3461.160	SENSOR OPERATED SELECTONIC DC 6065.161.002 SENSOR OPERATED FLUSH VALVE, OLSONITE NO. 95 SEAT LESS COVER.	4"	2"	1"	-	MOUNT PER ADA REQUIREMENTS FOR ACCESSIBILITY (17"-19" FROM FLOOR TO TOP OF SEAT, FLUSH CONTROLS NO MORE THAN 44" AFF, FLUSH CONTROL ON WIDE SIDE OF STALL).
URN	1.0 GPF FLUSHING RIM SIPHON JET WALL HUNG URINAL	AMERICAN STANDARD 'DECORUM' 6042.005	SELECTONIC DC POWERED 6063.051.002 ADA FLUSH VALVE	2"	1-1/2"	3/4"	-	-
WLAV	WALL HUNG VITREOUS CHINA LAVATORY	AMERICAN STANDARD 'LUCERNE' 0356.921	SELECTONIC MODEL 7055.105 ADA FAUCET, CHROME PLATED ANGLE STOPS AND SUPPLIES, 0.50 GPM FLOW RESTRICTOR, CHROME PLATED P-TRAP, TRUEBRO INC. LAV GUARD UNDER SINK PIPE INSULATION, AND MIXING VALVE FOR 110' MAX.	1-1/2"	1-1/2"	1/2"	1/2"	-
SK2	33"x19"-3"x6"-2" DEEP, 18 GA. STAINLESS STEEL SELF-RIMMING DOUBLE BOWL ADA SINK	ELKAY LRAD3319-65-4	MODEL 6532.170 FAUCET WITH SPRAYER HOSE AND 10" SWING SPOUT, CHROME PLATED ANGLE STOPS & SUPPLIES, 17 GA. TUBULAR BRASS P-TRAP.	1-1/2"	1-1/2"	1/2"	1/2"	-
FSK	8-1/2" SQUARE TOP 6" DEEP ACID RESISTANT COATED FLOOR SINK	JAY R. SMITH #3100Y-U-12	HALF GRATE, WITH VANDAL PROOF SCREWS	3"	1-1/2"	-	-	-
EWS	EYEWASH STATION	BRADLEY 'S19-214DC' LESS DRENCH SHOWER	-	-	-	1-1/4"	1-1/4"	INCLUDE FLOOR DRAIN FOR DRAIN.
MS	FLOOR MOUNTED 24"x24" SQUARE TERRAZZO SERVICE SINK	STERN-WILLIAMS MTB-2424	STERN-WILLIAMS MODEL T-10VB (DELTA 28T2383 EQUAL SERVICE SINK FAUCET WITH VACUUM BREAKER, ADJUSTABLE TOP BRACE, 3/4" HOSE THREAD SPOUT WITH BUCKET HOOK, V-70 VINYL BUMPER GUARD, AND T-40 STAINLESS STEEL MOP HANGER W/ (3) SPRING LOADED GRIPS.	3"	2"	3/4"	3/4"	-
EWG	TWO STATION HI-LOW WALL MOUNT BARRIER FREE ELECTRIC WATER COOLER	ELKAY EZSTL8C WITH EZH2O BOTTLE FILLER	FRONT AND SIDE PUSHBARS, TWO TONE GRAY COLOR.	1-1/2"	1-1/2"	1/2"	-	120V/1Ø, 3.7 AMPS, 89 LBS.
IMB	ICE MAKER BOX	GUY GREY #BIM875	-	-	-	1/2"	-	-
ED	5" DIAMETER ROUND TOP FLOOR DRAIN	JAY R. SMITH #2005YA02-A-05-NB-U	POLISHED NICKEL BRONZE STRAINER, VANDAL PROOF SCREWS	2"	1-1/2"	-	-	-
SS	NSF APPROVED 20 GAUGE 304 STAINLESS STEEL WALL MOUNT HAND SINK, 14"x10"x5"	TRADE ADVANTAGE INC. MODEL #MKS1-H	SPLASH MOUNTED 4" O.C. GOOSENECK FAUCET CHROME WITH FOOT PEDAL CONTROL PLATED FURNISHED WITH AERATOR, 2-1/2" STAINLESS STEEL BASKET STRAINER, 1-1/2" CHROME PLATED P-TRAP	1-1/2"	1-1/2"	1/2"	1/2"	-
HR	ANTI-SIPHON FREEZELESS FLUSH MOUNTED CHROME FINISHED WALL HYDRANT	WOODFORD MODEL B65	REMOVEABLE TEE KEY HANDLE	-	-	3/4"	-	-
WF	54" SEMI CIRCULAR WASH FOUNTAIN	BRADLEY WF2604	WITH INFRARED CONTROL, SOAP DISPENSER AND HOSE BIBB ATTACHMENT	1-1/2"	1-1/2"	3/4"	1/2"	-
ICQ/ECCO	TAPERED THREAD SCORATED NICKEL BRONZE TOP FLOOR CLEANOUT	JAY R. SMITH #4023S-U	VANDAL PROOF SCREWS	-	-	-	-	SAME SIZE AS LINE

NOTE:
COORDINATE ROUGH-IN OF ALL PLUMBING FIXTURES WITH ARCHITECTURAL DRAWINGS.

PIPING MATERIAL SCHEDULE													
SYSTEM	SIZE	TYPE	SCHED.	GRADE	ASTM	MAT.	FITTINGS		MAX. WORKING		FIELD TEST		
							MAT.	TYPE	PRESS. (PSI)	TEMP (F)	PRESS. (PSI)	TIME	
WASTE & VENT BELOW GRADE	ALL	DWV	4.0	--	2665	PVC	PVC	DWV/SO	10 FT	50-110	10 FT	1 HR	
WASTE & VENT ABOVE GRADE	ALL	DWV	4.0	--	2665	PVC	PVC	DWV/SO	10 FT	50-110	10 FT	1 HR	
DOMESTIC WATER PIPING ABOVE GRADE	ALL	CU	L	--	B88	CU	CU	SJ	60-80	40-180	100	1 HR	
DOMESTIC WATER PIPING BELOW GRADE	ALL	CU	K	--	B88	CU	CU	BR	60-80	40-180	100	1 HR	
CONDENSATE DRAIN ABOVE GRADE	ALL	DWV	4.0	--	2665	PVC	PVC	DWV/SO	10 FT	50-110	10 FT	1 HR	
TEMPERATURE/PRESSURE RELIEF DRAIN	ALL	M	--	--	B88	CU	CU	DWV/SJ	10 FT	40-75	10 FT	1 HR	
NATURAL GAS ABOVE GRADE	3/4"-2"	CS	4.0	A	A120	CS/BLK	MI	THR	1	--	100	1 HR	
NATURAL GAS ABOVE GRADE	2 1/2"-6"	CS	4.0	A	A120	CS/BLK	MI	WLD	1	--	100	1 HR	
NATURAL GAS BELOW GRADE	3/4"-2"	CS	4.0	A	A120	CS/CTD	MI	THR	1	--	100	1 HR	
REFRIGERANT LIQUID AND SUCTION	ALL	CU	--	--	B280	CU	CU	BR	--	--	--	--	
DOMESTIC WATER SERVICE BELOW GRADE	ALL	PVC	4.0	--	B1785	PVC	PVC	SO	120	40-75	150	1 HR	
STORM/OVERFLOW DRAIN	ALL	DWV	4.0	--	2665	PVC	PVC	DWV/SO	10 FT	50-110	10 FT	1 HR	

ABBREVIATIONS:
 ARC - XXXXX
 BLK - BLACK
 BR - BRAZED JOINT - SILVER BRAZING ALLOY
 BS - BELL & SPIGOT
 CI - CAST IRON
 CS - CARBON STEEL
 CTD - PIPELINE SERVICE COMPANY X-TRU-COAT HIGH DENSITY POLYETHYLENE COATING EXTRUDED OVER PIPE
 CU - COPPER
 CW - CONTINUOUS WELD
 DWV - DRAIN, WASTE, AND VENT
 GLV - GALVANIZED
 MI - MALLEABLE IRON
 MJ - MECHANICAL JOINT
 NG - NEOPRENE GASKET
 NH - NO-HUB
 PE - POLYETHYLENE
 PVC - POLYVINYL CHLORIDE
 SF - SILL FOSS
 SJ - SOLDER JOINT - 95/5 TIN/ANTIMONY
 SL - SEAMLESS STEEL
 SW - SOLVENT WELD
 SW - STANDARD STRENGTH SERVICE WEIGHT
 THR - THREADED
 VCP - VITRIFIED CLAY PIPE
 WLD - WELDED
 XH - EXTRA HEAVY

* - ALL PIPING IN CONCEALED SPACE (SPACE REQUIRING THE REMOVAL OF PERMANENT CONSTRUCTION TO ACCESS) SHALL HAVE WELDED JOINTS & CONNECTIONS.

WATER SOFTENER SCHEDULE						
MARK	MFG & MODEL	FLOW (GPM)	GRAIN CAPACITY	DIMS. BRINE TANK MINERAL TANK	SHIP WT. (LBS)	NOTES
WS 1	CULLIGAN HCE-150-2	60/75	150,000	24"Øx48" (2) 21"Øx88"	1060	2" CONTROL VALVE

ELECTRIC WATER HEATER SCHEDULE											
MARK	MFG & MODEL	STORAGE (GAL)	ELECTRICAL					RECOVERY (GPH)	DIMS. (Ø x H)	OP. WT. (LBS)	NOTES
			KW	VOLT	PH.	HZ	FLA				
WH 1	A.O. SMITH DEL-40	40	3.0	208	1	60	60	14	20-1/2"x34-1/2"	457	WITH EXPANSION TANK & DRAIN PAN

REVISIONS	

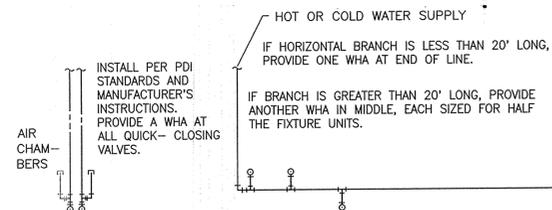
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PLANT EXPANSION & RENOVATION:
WINTech WINDOW TECHNOLOGY, INC.
201 INDUSTRIAL DRIVE
MONETT, MISSOURI
65708

DRAWN TCH
DATE May 3, 2016
CHECKED TCH
SCALE
JOB. NO
SHEET
P-3.1
OF SHEETS



SINGLE/DOUBLE FIXTURE

PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	154-330

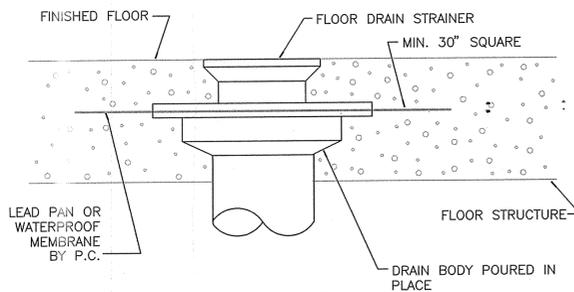
MULTIPLE FIXTURES

FIXTURE UNIT TABULATION			
FIXTURE	COLD	HOT	
VALVE WATER CLOSET	10	---	
TANK WATER CLOSET	5	---	
URINAL	5	---	
LAVATORY/SINK	1.5	1.5	
JANITOR'S SINK	3	3	
SHOWER/BATHTUB	2	2	

FOR BATTERIES OF FIXTURES, PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI # WH-201, ASSE # 1010 AND ANSI # A112.6.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE. PROVIDE ACCESSIBILITY TO "WHA" WHERE REQUIRED BY LOCAL CODE.

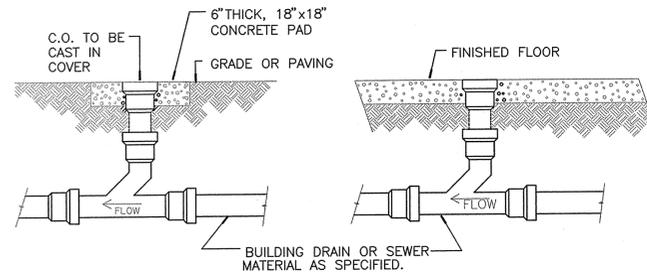
WATER HAMMER ARRESTORS

NOT TO SCALE



FLOOR DRAIN DETAIL

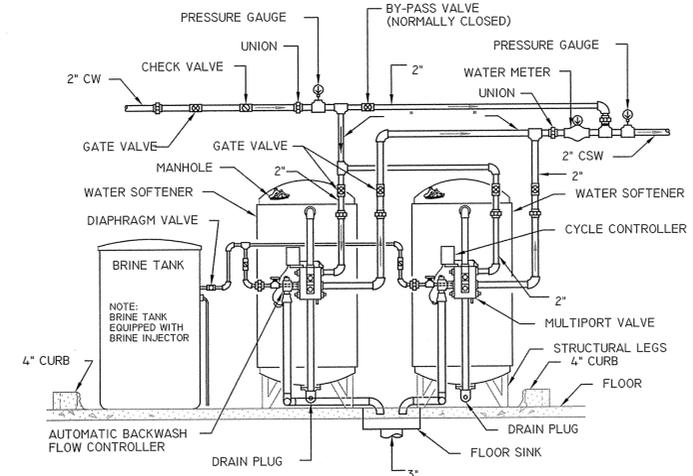
N.T.S.



EXTERIOR CLEANOUT INTERIOR FLOOR CLENOT

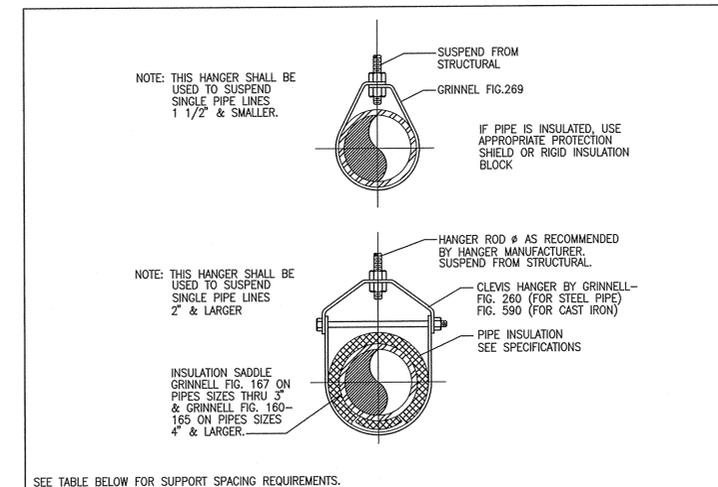
GRADE CLEANOUT DETAIL

NO SCALE



WATER SOFTENER DETAIL

SCALE: NTS



SEE TABLE BELOW FOR SUPPORT SPACING REQUIREMENTS.

IPC TABLE 308.5

MATERIAL	HORIZONTAL SPACING	VERTICAL SPACING
CAST IRON	ALL SIZES: 5 FEET, EXCEPT MAY BE 10 FEET WHEN 10 FOOT PIPE LENGTHS ARE INSTALLED	BASE, EACH FLOOR, AND EVERY 15 FEET
ABS PIPE	ALL SIZES: 4 FEET	BASE, EACH FLOOR, EVERY 10 FEET AND PROVIDE MID-STORY GUIDES EVERY 30 FEET FOR 2" AND SMALLER
COPPER OR COPPER ALLOY PIPE	ALL SIZES: 12 FEET	BASE, EACH FLOOR, AND EVERY 10 FEET
COPPER OR COPPER-ALLOY TUBING 1-1/2" AND SMALLER	6 FEET	BASE, EACH FLOOR, AND EVERY 10 FEET
COPPER OR COPPER-ALLOY TUBING 1-3/4" AND LARGER	10 FEET	BASE, EACH FLOOR, AND EVERY 10 FEET
CHROSS-LINKED POLYETHYLENE (PEX) PIPE & TUBING	ALL SIZES: 32 INCHES WITH MANUFACTURER APPROVED AND RECOMMENDED SUPPORTS/HANGERS.	BASE, EACH FLOOR, AND EVERY 10 FEET WITH MANUFACTURER APPROVED AND RECOMMENDED SUPPORTS/HANGERS.
CPVC PIPE OR TUBING 1" OR SMALLER	3 FEET	BASE, EACH FLOOR, EVERY 10 FEET AND PROVIDE MID-STORY GUIDES EVERY 30 FEET FOR 2" AND SMALLER
CPVC PIPE OR TUBING 1-1/2" OR LARGER	4 FEET	BASE, EACH FLOOR, EVERY 10 FEET AND PROVIDE MID-STORY GUIDES EVERY 30 FEET FOR 2" AND SMALLER
STEEL PIPE	ALL SIZES: 12 FEET	BASE, EACH FLOOR, AND EVERY 15 FEET
PVC PIPE	ALL SIZES: 4 FEET	BASE, EACH FLOOR, EVERY 10 FEET AND PROVIDE MID-STORY GUIDES EVERY 30 FEET FOR 2" AND SMALLER

NOTES APPLYING TO ALL:

- SUPPORT CAST IRON PIPES ADJACENT TO JOINTS, NOT TO EXCEED EIGHTEEN (18) INCHES (457 MM).
- SUPPORT AT EACH HORIZONTAL BRANCH CONNECTION
- HANGERS SHALL NOT BE PLACED ON JOINTS.

PIPE SUPPORT DETAIL

SCALE: NONE

WALL LINE TYPICAL FIT WITH CHROME ESCUTCHEON TYP.

HW SUPPLY

C.W. SUPPLY

DIELECTRIC UNION

SHUT-OFF VALVE
THERMAL EXPANSION TANK. INSTALL PER MFR'S INSTRUCTIONS

3/4" FACTORY INSTALLED T & P RELIEF VALVE

ROUTE T & P RELIEF AND DRAIN APPROVED LOCATION AS INDICATED ON THE PLAN. TERMINATE WITH 1/8" BEND AND AIR GAP.

NOTES:

- INSULATE ALL HOT WATER PIPING

DRAIN PAN

MEZZANINE WATER HEATER DETAIL

N.T.S.

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PIPING LEGEND	
— WS —	WATER SERVICE
—	COLD WATER
—	HOT WATER
—	HOT WATER RETURN
— MPG —	MEDIUM PRESSURE GAS
— G —	LOW PRESSURE GAS (< 14" WC)
—	WASTE BELOW FLOOR
—	WASTE ABV FLOOR
— GW —	GREASE WASTE BEL FLR
— GW —	GREASE WASTE ABV FLR
—	VENT
(E)	EXISTING
WHA	WATER HAMMER ARRESTOR
FDC	FIRE DEPARTMENT CONENCTION
	BALANCING VALVE
SOV	SHUT OFF VALVE
VTR	VENT THROUGH ROOF
FD	FLOOR DRAIN
FSK	FLOOR SINK
ico	CLEANOUT (INTERIOR)
eco	CLEANOUT (EXTERIOR)
wco	WALL CLEANOUT
POC	POINT OF CONNECTION
—	RISE
—	DROP

PLUMBING GENERAL NOTES

- THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2012 EDITION OF THE INTERNATIONAL PLUMBING CODE, REQUIREMENTS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AND ANY OTHER APPLICABLE STATE AND LOCAL JURISDICTION AMMENDMENTS, CODES, AND REGULATIONS.
- THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PLUMBING WORK INDICATED ON THE PLUMBING PLANS, MECHANICAL PLANS AND ELSEWHERE WHERE INDICATED IN THE CONSTRUCTION DOCUMENTS.
- PLUMBING QUALITY AND WEIGHTS OF MATERIALS, ALTERNATE METHODS OF CONSTRUCTION SHALL CONFORM TO CHAPTER 3 OF THE CURRENT EDITION OF THE PLUMBING CODE. ALL MATERIAL AND FIXTURES SHALL BE NEW, UNLESS OTHERWISE NOTED, AND OF THE BEST GRADE OF THE RESPECTIVE KIND AND FREE FROM ALL DEFECTS. MATERIALS FOR SIMILAR USE SHALL BE OF THE SAME TYPE AND MANUFACTURER UNLESS OTHERWISE SPECIFIED.
- ALL PLUMBING FIXTURE LOCATIONS AND PIPE ROUTING ARE DIAGRAMMATIC. ROUTING INDICATED AVOIDS MAJOR KNOWN OBSTRUCTIONS. ALL NEW PIPING WORK SHOULD BE ROUTED AND/OR OFFSET TO AVOID INTERFERENCES. ALL PLUMBING WORK SHALL BE INSTALLED SO AS TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING.
- PLUMBING SUBCONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS, MOUNTING HEIGHTS, AND COLORS OF ALL FIXTURES.
- PLUMBING SUBCONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTAL OF BID AND FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS. SUBMITTAL OF BID WILL VERIFY THAT THE PLUMBING SUBCONTRACTOR HAS VISITED THE SITE.
- PLUMBING SUBCONTRACTOR SHALL ASSUME LIABILITY FOR LOCATION OF POINTS OF CONNECTION WITHIN A TEN (10) FOOT RADIUS FROM THOSE SHOWN ON PLANS. THE PLUMBING SUBCONTRACTOR SHALL VERIFY THE EXACT LOCATION, SIZE AND ELEVATION OF ALL EXISTING LINES, WYES, ETC., BEFORE STARTING ANY WORK, AND SHALL NOTIFY THE GENERAL PLUMBING SUBCONTRACTOR IF SAID LOCATIONS ARE NOT IN THE LOCATIONS SHOWN ON THE PLANS OR ARE NOT OF SUFFICIENT SIZE OR DEPTH TO MAKE CONNECTION IN COMPLIANCE WITH THE PLANS.
- THE PLUMBING SUBCONTRACTOR SHALL INSTALL ALL PIPING CONCEALED WHERE POSSIBLE. RUN PIPING PARALLEL AND PERPENDICULAR TO BUILDING LINES. ALL WALL AND FLOOR PENETRATIONS SHALL BE SLEEVED, CAULKED, AND PROVIDED WITH ESCUTCHEONS. AT PENETRATIONS THROUGH FIRE RATED CONSTRUCTION, PROVIDE UL LISTED FIRE CAULKING AS REQUIRED BY RATING OF CONSTRUCTION. FLASH AND WEATHER SEAL ALL ROOF PENETRATIONS. DO NOT INSTALL PIPING ABOVE ELECTRICAL EQUIPMENT AND PROVIDE CLEARANCES AS REQUIRED BY THE NATIONAL ELECTRIC CODE.
- THE PLUMBING SUBCONTRACTOR SHALL LUBRICATE PIPE THREADS WITH TEFLON THREAD SEALANT AND LUBRICATING COMPOUND APPLIED AT FULL STRENGTH TO THE MALE PIPE THREADS.
- ALL SOIL, WASTE, AND VENT PIPING SHALL BE TESTED WITH WATER. THE WATER SHALL MAINTAIN A CONSTANT LEVEL AT THE HIGHEST POINT OR AT LEAST TEN (10) FEET ABOVE THE MEAN ELEVATION OF PIPING UNDER TEST FOR AT LEAST ONE (1) HOUR. IF LEAKS APPEAR, LINES SHALL BE DRAINED, LEAKS REPAIRED AND TEST REPEATED. NO PIPING SHALL BE CONCEALED IN ANY MANNER BEFORE BEING TESTED AND APPROVED.
- ALL WATER PIPING SHALL BE TESTED WITH WATER AT 100PSI OR 1/2" TIMES THE MAXIMUM WORKING PRESSURE WHICHEVER IS GREATER. PRESSURE SHALL BE MAINTAINED FOR A PERIOD OF ONE HOUR. IF LEAKS APPEAR, LINES SHALL BE DRAINED, LEAKS REPAIRED, AND TEST REPEATED. NO PIPING SHALL BE CONCEALED IN ANY MANNER BEFORE TESTS ARE APPROVED.
- THE PLUMBING SUBCONTRACTOR SHALL INSULATE ALL DOMESTIC WATER PIPING WITH 1" FIBERGLASS OR 1/2" ARMACELL AP ARMAFLEX FLEXIBLE ELASTOMERIC INSULATION WITH WHITE FIRE RETARDANT, ALL SERVICE JACKET. INSULATE VALVES AND FITTINGS WITH REMOLDED FITTING COVERS SPECIFICALLY DESIGNED FOR THE PURPOSE. ALL INSULATION MATERIALS SHALL HAVE A FLAME SPREAD RATING NO GREATER THAN 25 AND A SMOKE DEVELOPED RATING NO GREATER THAN 50. THE PIPE INSULATION SHALL BE APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. PLASTIC POSITIVE CLOSURE "STAPLES" SHALL BE USED AT 12" INTERVALS TO POSITIVELY HOLD THE CLOSURE JOINTS TOGETHER. COMPARABLE FOAMED PLASTIC PIPE INSULATION BY THERMA-CEL OR RUBATX WILL BE ACCEPTABLE. ALL EXISTING INSULATED PIPING WHICH IS RENOVATED, OR WHERE PIPING IS CONNECTED TO EXISTING WHICH HAS BEEN DAMAGED, SHALL BE REINSULATED TO THICKNESS AND WITH SAME MATERIAL TO MATCH EXISTING INSULATION. COMPARABLE PIPE INSULATION BY KNAUF OR SCHILLING WILL BE ACCEPTABLE.
- THE PLUMBING SUBCONTRACTOR SHALL PROVIDE SHUTOFF VALVES AND UNIONS AT EQUIPMENT CONNECTIONS TO ALLOW FOR MAINTENANCE. ACCESS PANELS SHALL BE PROVIDED WHERE REQUIRED FOR ACCESS TO CONCEALED VALVES AND SPECIALTIES. PROVIDE PROPER BACKFLOW PREVENTION DEVICES WHERE REQUIRED BY APPLICABLE CODES AND ORDINANCES. PROVIDE THERMOMETERS ON THE HOT WATER PIPING LEAVING WATER HEATERS. PROVIDE WATER HAMMER ARRESTERS RATED FOR INSTALLATION IN CONCEALED LOCATIONS IN LOCATIONS AS INDICATED ON THE DRAWINGS. DISINFECT THE DOMESTIC WATER SYSTEM AS REQUIRED BY APPLICABLE LOCAL CODES.
- EACH FIXTURE REQUIRING WATER SUPPLY SHALL BE SEPARATELY VALVED. ALL VALVES SHALL BE LOCATED AS TO BE EASILY ACCESSIBLE WITH ACCESS PANELS AS NECESSARY. BALL VALVES 3" AND SMALLER SHALL BE CONBRACO INDUSTRIES, INC. "APOLLO" MODEL 77-103-01 THROUGH 77-109-01 FULL PORT BALL VALVES WITH BRONZE THREADED ENDS, CHROME PLATED BALL, TEFLON SEATS AND STUFFING BOX RING, AND BLOWOUT PROOF STEM. THE VALVES SHALL BE RATED AT 400PSI NON-SHOCK COLD WATER.
- THE PLUMBING SUBCONTRACTOR SHALL PROVIDE MANUAL AIR VENTS AT ALL HIGH POINTS TO ALLOW BLEEDING OF AIR FROM THE SYSTEM, AND HOSE END DRAIN VALVES AT ALL LOW POINTS TO ALLOW DRAINING THE SYSTEM.
- THE PLUMBING SUBCONTRACTOR SHALL LOCATE AND PROVIDE PIPE HANGERS CAPABLE OF SUPPORTING PIPING IN ALL OPERATING CONDITIONS. PROVIDE SUFFICIENT HANGERS TO ADEQUATELY SUPPORT PIPING SYSTEMS AT THE SPACING SPECIFIED IN THE IPC, AT CHANGES IN PIPING DIRECTION, AND AT CONCENTRATED LOADS. PROVIDE ALL-THREAD HANGER RODS TO SUPPORT HANGERS. HANGERS FOR COPPER PIPE, EXCEPT WHERE OTHERWISE NOTES SHALL BE GRINNELL CO. OR APPROVED EQUAL FIG. CT-99 COPPER PLATED ADJUSTABLE WROUGHT PIPE RING HANGERS. HANGERS ON ALL PIPING WITH INSULATION SHALL BE SIZED TO FIT ON THE OUTSIDE OF THE INSULATION. COMPARABLE HANGERS BY B-LINE SYSTEMS WILL BE ACCEPTABLE.
- ALL DOMESTIC SYSTEMS SHALL BE CHLORINATED IN ACCORDANCE WITH PROCEDURES DESCRIBED IN AWWA C501-68, AND IN ACCORDANCE WITH APPLICABLE LOCAL CODES. THE SYSTEM SHALL BE FLUSHED PRIOR TO CHLORINATION AS THOROUGHLY AS POSSIBLE. A VELOCITY IN THE SYSTEM OF AT LEAST 2.5FPS SHOULD BE DEVELOPED. CHLORINE SHALL BE ADDED TO THE SYSTEM AT A RATE SUFFICIENT TO PRODUCE A CHLORINE CONCENTRATION OF 50MG/L AVAILABLE CHLORINE AND HELD IN THE SYSTEM FOR A 24-HOUR PERIOD. AFTER CHLORINATION, THE SYSTEM SHALL BE FLUSHED UNTIL THE CHLORINE RESIDUAL IS LESS THAN 1.0PPM AT FOUR WIDELY SPACED CHECK POINTS. THE PLUMBING SUBCONTRACTOR SHALL SUBMIT A LETTER TO THE ENGINEER STATING TIME AND DATE THE DOMESTIC WATER SYSTEM WAS CHLORINATED, FLUSHED, AND READY FOR USE BY THE OWNER.
- THE PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL PLUMBING FIXTURES IN ACCORDANCE WITH THE ARCHITECTURAL, MECHANICAL, AND PLUMBING DRAWINGS AND THE FOLLOWING SCHEDULE. ALL WALL-MOUNTED FIXTURES SHALL BE SEALED AT THE WALL WITH CLEAR SILICONE SEALANT. WHERE FIXTURES ARE COUNTER-MOUNTED, THE PLUMBING PLUMBING SUBCONTRACTOR SHALL FURNISH TO THE CASEWORK PLUMBING SUBCONTRACTOR TEMPLATES. THE PLUMBING PLUMBING SUBCONTRACTOR SHALL ROUGH-IN, SET THE SINK, AND MAKE FINAL CONNECTIONS.
- THE PLUMBING SUBCONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING OR WALL ACCESS PANELS WITH THE ARCHITECTURAL PLANS AND THE ELECTRICAL LIGHTING LAYOUT.
- CLEANOUTS SHALL BE PROVIDED FOR EACH 100 FEET OF DRAINAGE PIPE WITH ADDITIONAL CLEANOUTS PROVIDED FOR EACH AGGREGATE CHANGE OF DIRECTION EXCEEDING 45° PER IPC. ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. THE PLUMBING SUBCONTRACTOR SHALL COORDINATE ALL CLEANOUT LOCATIONS WITH EQUIPMENT, CABINETS, ETC., AND THE ARCHITECT PRIOR TO ANY INSTALLATION. TO ALL VALVES, UNIONS, ETC. TO BE LINE SIZE UNLESS OTHERWISE INDICATED ON DRAWINGS.
- UNIONS SHALL BE PROVIDED AND INSTALLED AFTER EACH THREADED TYPE VALVE AND PRIOR TO EQUIPMENT CONNECTIONS.
- THE PLUMBING SUBCONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR ALL POINTS OF CONNECTION WITH THE GENERAL PLUMBING SUBCONTRACTOR AND OTHER TRADES PRIOR TO BID.
- ALL SANITARY SEWER PIPING 2-1/2" OR LESS IN SIZE SHALL SLOPE AT 2% MINIMUM, 3"-6" AT 1% MINIMUM UNLESS OTHERWISE INDICATED ON PLANS.
- VERIFY EXACT LOCATION AND SIZE OF ALL EXISTING UTILITIES TO WHICH CONNECTIONS ARE REQUIRED.
- PLUMBING SUBCONTRACTOR SHALL PATCH AND REPAIR ALL SURFACE AREAS DAMAGED BY HIS OPERATION.
- FIRE SAFE ALL PIPE PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS WITH U.L. LISTED FIRE SAFING APPROVED BY THE GOVERNING JURISDICTION. INSTALL IN ACCORDANCE WITH THE PRODUCTS LISTING AND MANUFACTURERS REQUIREMENTS.
- FIXTURE MOUNTING HEIGHTS FOR THE PHYSICALLY DISABLED SHALL CONFORM TO THE ADA ACCESSIBILITY STANDARDS.
- ALL EQUIPMENT AND APPLIANCES ARE TO BE LISTED PRODUCTS AND INSTALLED IN ACCORDANCE WITH THEIR LISTING. ALL LISTING INFORMATION IS TO BE MADE AVAILABLE FOR INSPECTION.
- PLUMBING SUBCONTRACTOR IS TO VERIFY THE TERMINATION POINTS OF ALL PLUMBING VENTS AND MECHANICAL EQUIPMENT AND ROUTE VENTS AS REQUIRED SO THAT NO PLUMBING VENT SHALL TERMINATE LESS THAN 3'-0" ABOVE ANY FRESH AIR INTAKE LOCATED WITHIN 10'-0" OR LESS THAN 4'-0" FROM ANY PROPERTY LINE EXCEPT A PUBLIC WAY. SUBMITTALS
- PRODUCT DATA: WITHIN 7 CALENDAR DAYS AFTER THE PLUMBING SUBCONTRACTOR HAS A. RECEIVED THE OWNER'S NOTICE TO PROCEED, SUBMIT THE FOLLOWING:
 - MATERIALS LIST OF ALL ITEMS PROPOSED TO BE PROVIDED UNDER THIS SECTION WITH PER UNIT COSTS.
 - MANUFACTURER'S SPECIFICATIONS AND OTHER DATA NEEDED TO PROVE COMPLIANCE WITH THE SPECIFIED REQUIREMENTS.
 - MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES WHICH, WHEN APPROVED BY THE ARCHITECT, WILL BECOME THE BASIS FOR ACCEPTING OR REJECTING ACTUAL INSTALLATION PROCEDURES USED ON THE WORK.
 MANUAL: UPON COMPLETION OF THIS OPERATION OF THE WORK AND AS A CONDITION OF ITS ACCEPTANCE, DELIVER TO THE ARCHITECT TWO COPIES OF AN OPERATION AND MAINTENANCE MANUAL OF ALL MECHANICAL EQUIPMENT INSTALLED. INCLUDE WITHIN EACH MANUAL:
 - A COPY OF THE APPROVED RECORD DOCUMENTS FOR THIS PORTION OF THE WORK.
 - A COPY OF ALL WARRANTIES AND GUARANTEES.
- ANY EQUIPMENT OR MATERIAL INSTALLED WHICH HAS NOT BEEN SPECIFICALLY APPROVED IN WRITING BY THE ARCHITECT, ENGINEER, OR OWNER MAY BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE PLUMBING SUBCONTRACTOR'S EXPENSE

REVISIONS		

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MECHANICAL SPECIFICATIONS:

GENERAL PROVISIONS 15010

- 1.01 Furnish all labor, materials, equipment, fixtures, apparatus, special or occasional services, and other appurtenances required for complete installation of operating heating, ventilating, air conditioning (HVAC) and plumbing systems as indicated in the drawings and as described in these specifications. This work shall include all materials, apparatus, and appliances not specifically mentioned herein or noted on the Drawings as being furnished and installed under another section.

- 1.02 Work Included: This work includes but is not limited to the following systems: Sanitary sewer and vent, domestic water, natural gas, plumbing fixtures and trim, supply and return HVAC, and temperature controls.
1.03 Related Requirements: Prime and protective painting is included in this section; finish painting is specified elsewhere. Temperature controls including low voltage wiring and components are included in this section. Power for temperature controls, interlocks and line voltage electrical power is specified elsewhere. Duct mounted access doors are included in this section; access doors in gypsum board walls, ceilings, etc., is specified elsewhere.

- Concrete mounting slabs and structural steel reinforcing is specified elsewhere.
Miscellaneous fittings, brackets, supports, etc. are included in this section; other metal work is specified elsewhere. Flashings, counter flashings, caulking, sealants, etc. as required for weatherproofing mechanical penetrations through walls, floors, and roofs are included in this section; other waterproofing is specified elsewhere.

- 1.04 Coordination with Other Trades: These drawings are diagrammatic in nature and show certain physical relationships which shall be established by the contractor. Install the system within the constraints of the building in an approved manner and coordinate with other trades to ensure harmonious working conditions and proper installation.
1.05 Permits and Inspections: Obtain all permits and inspections and pay all fees for completion of this work.

- 1.06 Codes and Standards: Comply with the 2003 International Building Code, 2003 International Mechanical, 2003 International Plumbing Codes, and 2005 National Electrical Code, applicable sections of the NFPA, and other applicable current laws, codes, ordinances, etc. of all Federal, State, and Local authorities whether included or not in the contract documents. All mechanical equipment shall be labeled by UL, ETL, AGA, or other approved independent testing authority. Air conditioning equipment shall be ARI certified.

- 1.07 Guarantees and Warranties: Provide a one year warranty starting at the date of acceptance by the owner for all systems and equipment installed under this contract.
1.08 Product Delivery, Storage and Handling: Protect all fixtures, material, equipment and appurtenances from physical and weather damage. All damaged items will be restored to original condition or replaced at owner's option before final acceptance.

- 1.09 Temporary Services: Provide temporary services and utilities as required.
1.10 Provide access doors where indicated on drawings and/or as required to properly operate, adjust and maintain all equipment. Coordinate exact location with architect prior to installation.

- 1.12 Caulking and Flashing: Seal all floor, wall and roof penetrations water tight with suitable sealant. Seal penetrations through fire rated assemblies with minimum 1" thickness 3M brand fire barrier caulk CP-25 (or other approved manner) to maintain rating of assembly.

- 1.13 Openings, Cutting and Patching: Place all equipment in time to avoid cutting new construction. Coordinate required openings with other trades. Undertake no cutting without architect's approval. All patching shall be structurally and aesthetically equal to the surface surrounding the area patched.

- 1.14 Field verify exact location, size, routing, and availability of HVAC and plumbing systems. Verify sufficient space is available to install new equipment and systems as indicated on drawings. If changes are necessary, notify engineer as soon as possible and modify systems as instructed. Coordinate exact location of ceiling diffusers and recessed equipment with light fixtures, ceiling grid, etc.

- 1.15 Cleaning and Sterilization: Remove all construction debris from site and clean all mechanical equipment. Clean and disinfect all plumbing fixtures and trim. Disinfect domestic hot and cold water systems with 50 ppm chlorine, allow to stand 24 hours, thoroughly flush system, refill system and ensure residual chlorine content of less than .20 ppm.

- 1.16 Testing of Piping: All piping shall be tested with hydrostatic or pneumatic pressure, or other means as directed, and shall be proved tight as hereinafter specified in the presence of the local building inspector before it is concealed or covered in any way.
This Contractor shall furnish and install all plugs and make all temporary connections necessary to perform these tests. He shall furnish all labor, tools and equipment necessary to perform such tests.
Duration of tests shall be sufficient time to permit inspection of all joints by the local building inspector, and generally holding test pressure for a period of not less than 12 hours continuously without loss of any pressure.

- Individual System Tests:
1. Domestic water piping tested under 100 PSI hydrostatic pressure.
2. Soil, waste, vent tested under a 12" head of water pressure.
3. Gas piping tested under a 30 PSI air pressure.

- 1.17 Mounting Heights: Unless noted otherwise, minimum mounting height for exposed equipment and piping is 7'-0" above finished floor. Conceal piping and equipment unless indicated otherwise.

- 1.18 Freeze Protection: Piping and equipment located in areas subject to freezing shall be installed in a manner to prevent freezing. Install all piping on warm side of building insulation to prevent freezing.

- 1.19 Start-up Instructions: Start-up equipment in accordance with manufacturer's instructions. Review equipment and instruct owner in proper operation of the equipment.

- 1.20 Equipment and Systems Installation: Install equipment and systems in accordance with manufacturer's printed installation instructions and in accordance with accepted industry standards and all applicable codes. Meet all required clearances and provide all necessary equipment accessories, bases, supports, shields, etc. for a complete installation.

- 1.21 All mechanical equipment shall be labeled with the equipment identification number.
1.22 Pipe Identification: Install pipe identification markers and direction arrows on all piping that is exposed and above ceilings. Markers to be color coded and identified per ANSI specifications. Install at valves and no further than thirty (30) feet apart along any run of pipe, except equipment rooms where spacing will be twenty (20) feet.

- 1.23 Balancing and Adjusting: The mechanical contractor shall adjust and balance the mechanical systems and check every operational piece of equipment. System shall be balanced to airflow quantities as indicated on drawings. Check, adjust and balance to provide a complete and operational system. A type written final balance report shall be provided to the engineer for record purposes.

PIPING SYSTEMS 15060

- 1.01 Work Included: Installation of all piping systems.
1.02 Water Service: The water department will provide the water main tap and furnish the central water meter, costs of such will be charged to the mechanical contractor. The mechanical contractor will provide meter vault per Monett, Missouri requirements and details. Extend water service to building as shown on plans. Install a building shut-off valve at entrance of new building.
Where local water pressure is in excess of eighty (80) pounds per square inch (PSI), an approved type pressure regulator preceded by an adequate strainer shall be installed. Regulator with integral by-pass is acceptable.

- The water service shall be Type 'L' copper or schedule 40 PVC installed a minimum of 48" below finish grade or below ground freeze level.
The depth of the water service piping shall be at least 48" below finished grade. Install concrete thrust blocks at all elbows, tees, and changes of direction.

- 1.03 Domestic Water: Type "L" hard copper ASTM B88 pipe. Wrought copper ASTM B16.22 fittings. Sweet 95-5 tin antimony solder joints. Use type "K" copper below grade. Plumbing installer shall minimize piping joints below floor. Where joints are necessary, all joints shall be brazed with silver bearing solder.

- 1.04 Sanitary Sewer Main: Schedule 40 PVC gravity sewer piping with solvent welded joints and drainage pattern fittings. Install pipe in a straight line and grade uniformly to slopes indicated by flow line elevations at the building and connection to sanitary sewer main. Plug open ends of piping when pipe laying is not in progress.

- Install pipe with barrel on firm undisturbed material for the entire length. Refer to Division 2 for excavation, trenching, and backfilling requirements.
1.05 Soil, Waste and Vent:
Above Grade - PVC Pipe: ASTM D2665, Schedule 40 DWV PVC pipe with ASTM D3311, PVC fittings. Joints to be ASTM D2855, solvent weld with ASTM D2564 solvent cement.

- 1.06 Gas Service: Springfield City Utilities to furnish and install gas main extension, service line and meter set as shown on plans. Mechanical Contractor to pay for all work billed by City Utilities. Plumbing Contractor to provide gas service from gas meter to buildings as shown on plans.
A lubricated plug valve shall be installed outside of the building for quick and easy gas shut-off to the building.

- 1.07 Natural Gas Piping: Schedule 40 black steel ASTM A53, 120 pipe. Class 150 black malleable ANSI B16.3 fittings. Threaded, flanged or welded joints. Screwed fittings for pipe sizes 2" and smaller. Welded fittings for pipe sizes 2 1/2" and larger. Provide a quarter turn lubricated cut-off cock at each piece of equipment. Teflon tape is not allowed in natural gas system piping. Gas piping exposed on exterior of building shall be primed and painted with (2) coats of Rustoleum paint.
NOTE: Contractor may substitute polyethylene piping in lieu of coated black steel for the underground piping, if allowed by local code officials. Piping installation shall conform to all code requirements and include necessary tracer wire (18 ga. copper), and steel pipe risers.

- 1.08 Pipe Hangers and Supports: Provide pipe hangers and supports designed to carry the load with a safety factor of 5 or larger. Hangers over sized to fit pipe and insulation on insulated lines. Copper hangers shall be used for support of copper piping.
Pipe Hanger Spacing:
5'-0" for cast iron soil pipe, ABS & PVC plastic pipe.
8'-0" for copper, iron and steel piping up to 1" size.
10'-0" for copper, iron and steel piping above 1" size.

- 1.09 Valves & Cocks:
A. General: All valves of a given type shall be of one manufacturer. Provide all valves where required for operation, service and maintenance of systems and equipment. 150 PSIG working pressure or for pressure and service specified herein. All valves shall be of a suitable type for intended service.
Sweet joints valves in copper piping. Protect valves from heat during installation. All valves in insulation piping system will be installed with operating handles above insulation through use of extension stems, extended necks or rising stems.
B. Ball Valves: Bronze, swing-away design, full port, chrome plated bronze ball with teflon seats, 125 SFR, 400 WOG screwed or soldered ends.
C. Drain Valves: Bronzes, compression stop with nipple and cap or hose thread.

- 1.10 Floor Drain: General Floor Drain equal to Zurn ZH-415. Adjustable nickel/brass strainer - deep seal cast iron P-trap. Furnish with trap primer connection to all floor drain traps.

- 1.11 Trap Primer: San-guard automatic trap primer equal to Zurn Z-1022. Chrome plated bronze body with integral vacuum breaker. Differentiated pressure operation with non-liming actuator. 1/2" solder female connections with unions. Install in accessible locations and/or provide access panels as required.

- 1.12 Cleanouts: Full size of pipe up to 4". Locate at base of vertical stacks, ends of mains, changes in directions greater than 135 degrees. Install cleanouts at a maximum of every 100 linear feet in all waste piping inside and outside of building.
Finished walls: Zurn Z-1468 stainless steel wall access cover complete with securing screw and bronze raised hex head plug.
Finished floors - Zurn Z-1400 - Floor level cleanout - polished bronze top.

- Carpeted floors - Zurn Z-1400 floor level cleanout - polished bronze top - carpet retainer.
Outside building - cast iron cleanout extension with bronze plug - set in cast iron meter box with cover - cleanout plug 6" below cover set in concrete.

- 1.13 Traps: Furnish and install all traps required for fixtures or equipment, including traps not supplied with fixture or equipment.
Separately trap fixtures having waste connection as close to the fixture as possible. Deep seal traps where required and/or shown.
Chromium plated cast brass exposed traps in finished areas.

- 1.14 Exterior Wall Hydrant: Non-freeze "anti-siphon" automatic draining - Integral backflow preventor - chrome finish on brass casing - removable tee key - bronze interior parts with stainless steel stem - wall clamp - length to suit wall thickness. Equal to Zurn Model Z-1321 or Woodford Model 67.

- 1.15 Piping Installation: Piping Installation: Evenly spaced - run harmoniously with the building walls and ceilings. Install in the desired location as indicated on drawings. Certain branch piping may be rerouted, providing rerouting does not alter intended design. Takeoffs from water mains shall be typically from bottom of piping (unless plans show differently). Installed in strict accordance with best piping practice. Piping not sized on drawings shall be sized by the Engineer. Reduction in pipe size made with eccentric thrust blocks at all elbows, tees, and changes of direction.
Provide unions and isolation valves at all equipment to facilitate removal. Use non-conducting fittings where joints are subject to removal. All drainage piping 1/4" per foot (1/8" per foot for DWV piping 4" and larger). Arrange piping in a manner to allow for expansion and contraction. Thoroughly clean before installing - no sand, dirt, filings, etc.

- 1.16 PEX: Cross linked polyethylene plastic. PEX Distribution System: ASTM F 877, SDR 9 tubing.
Fittings for PEX Tube: ASTM F 1807, metal-insert type with copper crimp rings and matching PEX tube dimensions.
Manifolds: Multiple-outlet, plastic or corrosion-resistant - metal assembly complying with ASTM F 877 and with plastic or corrosion-resistant-metal valve for each outlet. Install manifolds in accessible location.

- INSULATION 15250
1.01 Work Included: All piping and duct system insulation and acoustical liner.
1.02 Acceptable Manufacturers:
A. Fiberglass Insulation
1. Owens Corning
2. Johns-Manville
3. Knaut
4. Certainteed

- 1.03 Domestic Cold Water and Hot Water Piping: Insulate all domestic hot water and cold water piping with fiberglass SSK-11 ASJ pipe insulation with self sealing lap.
All insulation shall be continuous through wall and ceiling openings and sleeves. Insulation on all cold surfaces where vapor barrier jackets are used, will be applied with a continuous, unbroken vapor seal. Hangers, supports, anchors, etc., which are secured directly to cold surfaces must be adequately insulated and vapor-sealed to prevent condensation. Crushing of insulation at hangers is not permitted and will require pipe saddles or insulation inserts. Insulation inserts shall be insulated as required to complete a continuous unbroken insulation of pipe as specified for the piping being supported. Specified adhesives mastics and coatings shall be applied at the manufacturer's recommended minimum coverage per gallon.

- Fittings: All fittings, valves, flanges, shall be covered with PVC pre-molded one piece fitting covers utilizing factory supplied hi-lo temperature insulation insert. Insulation insert shall be applied to the fitting with ends of insert tucked snugly into throat of fitting and edges adjacent to pipe. No gaps shall occur between fitting insulation and pipe insulation. Secure PVC pre-molded cover to insulated fitting by stapling and taping edges of cover with Zeston color matching Z-tape. Cold water systems, fittings, valves, flanges, PVC pre-molded fitting cover shall be secured with Zeston Vapor Barrier Adhesive or Equal (Fosters 85-20). Circumferential edges of cover shall be wrapped with Zeston color matching Z-tape. The tape shall extend over adjacent pipe insulation and overlap itself at least 2" on the downward side.
Preparation: All testing of piping shall be completed and all leaks repaired prior to application of insulation.
Installation: All insulation shall have composite (insulation, jacket or facing, and adhesive used to adhere the facing or jacket to fitting) fire and smoke hazard ratings as tested by procedure ASTM E-84, NFPA 255 and Underwriters' Laboratories, Inc. Standard #723, not to exceed:
Flame Spread 25
Smoke Developed 50
Fuel Contributed 50

- Accessories, such as adhesives, mastics, cements, tapes and glass cloth for fitting shall have the same component ratings as listed above. All products or their shipping cartons shall bear a label indicating flame and smoke ratings in compliance with the listed ratings maximum. Any treatment of jackets or facings to impart flame and smoke-safety shall be permanent. The use of water-soluble treatments is prohibited. The insulation Contractor shall certify, in writing, prior to installation, that all products to be used will meet the above criteria.

- Edges of insulation and butt joints shall be taped with joint sealing tape. The vapor barrier for cold or dual temperature equipment and piping shall be secure at all times; no staples shall be used to close or secure jacket in these systems.
Adhesives, Sealers, Facings, and Vapor Barrier Coatings shall be compatible with materials to which applied and shall not corrode, soften, or otherwise attack the pipe or insulation materials in either the wet or dry state. Use only adhesives, sealers, facings, and vapor barrier coatings recommended by the approval manufacturer's of insulation materials.

Insulation Thickness System
1" Domestic Hot Water
1/2" Domestic Cold Water

PLUMBING SYSTEMS/PLUMBING FIXTURES 15400

- 1.01 Work Included: All plumbing systems and plumbing fixtures and trim.
1.02 Plumbing Installation: Provide traps at all fixture waste connections. Provide stops at all individual plumbing fixtures and equipment. All exposed stops, wall escutcheons, and supplies shall be chrome plated. Install chrome plated escutcheons at all piping penetrations to finished materials. Install additional wall support framing for all wall hung fixtures (where carriers are not provided). Install offset P-traps from handicapped lavatories and sinks back at wall to allow maximum clearance for wheelchair access. Countertop handicapped sinks shall be supplied with rear center drain connection. Securely anchor all flush valves behind or within walls to be absolutely rigid and not subject to movement due to push or pull action of valve. All vitreous china fixtures shall be standard white color.

- Certain fixtures are installed for handicapped and will have different rough-in requirements. See the drawings for locations and mounting heights. All fixtures and accessories designated as handicapped shall conform to the American With Disabilities Act.

- 1.03 Domestic Hot Water Heater:
Water Heater shall be direct vent type. Heater shall be glass-lined, gas-fired, equipped to burn natural gas, design certified to meet the latest ANSI Standard by the American Gas Association. Gas control shall totally regulate the gas supply to main and pilot burners. Heater shall have a maximum working pressure of 150 psi, a 3/4 in. relief valve opening and factory installed anode rod for maximum cathodic protection. Internal surfaces of the heater exposed to water shall be glass-lined with a alkaline borosilicate composition fused-to-steel. Heater shall also be equipped with an A.G.A. certified coaxial vent pipe with vent cap. Tank shall be foam insulated. Outer jacket shall have a baked enamel finish.
Install a ASME rated temperature and pressure relief valve piped full size to discharge into approved floor drain.

- 1.11 Domestic Hot Water Recirculating Pumps: See schedule on drawings. Bronze construction - quiet motor built for booster application - sleeve bearings mechanical seal - enclosed impeller - oil bath and circulation system - flanged connections - built-in thermal overload.
Electrical to provide disconnect switch and all wiring.

REVISIONS table with columns for date, description, and initials.

RICHARD EUGENE WERNER-ARCHITECT MISSOURI LICENSE NO. 006634



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MISSOURI STATE CERTIFICATE OF AUTHORITY NO. 201201837

PLANT EXPANSION & RENOVATION:
WINTech WINDOW TECHNOLOGY, INC.
201 INDUSTRIAL DRIVE
MONETT, MISSOURI
65708

Table with project details: DRAWN TCH, DATE May 3, 2016, CHECKED TCH, SCALE, JOB NO, SHEET P-5.2, SHEETS.