Mount Pleasant High School -Gymnasium Wall Repair Mount Pleasant Public Schools

DIRECTORY

OWNER:

MOUNT PLEASANT PUBLIC SCHOOLS 720 NORTH KINNEY AVE MOUNT PLEASANT, MI 48858 P. (989) 775-2301

ARCHITECT & CIVIL ENGINEER: KINGSCOTT ASSOCIATES INC. 259 E MICHIGAN AVE, SUITE 308 KALAMAZOO, MI 49007

CONSTRUCTION MANAGER

WOLGST CORP. 4835 TOWNE CENTER RD. SAGINAW, MI 48604 P. (989) 790-9120

TEL. (800) 632-7815

STRUCTURAL ENGINEER:

JDH ENFINEERING 3000 IVANREST SW GRANDVILLE, MI 49418 P. (616) 531-6020

MEP ENGINEER

STATEGIC ENERGY SOLUTIONS 4000 WEST 11 MILE ROAD BERKLEY, MI 48072 (248) 399-1900

TECHNOLOGY:

COMMUNICATIONS BY DESIGN 4101 SPARKS DR. SE GRAND RAPIDS, MI 49546 P. (616) 676-4101

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1155 South Elizabeth St. Mount Pleasant, MI 48858 **CONSTRUCTION DRAWINGS** 03/27/2025



SHEET INDEX:

NO.	NAME
GENERAL GO.1	TITLE SHEET
ARCHITECTU	RAL
A1.1	GYM FLOOR PLAN, DEMOLITION PLAN, ELEVATION
5001 5101	STRUCTURAL NOTES & SCHEDULES WALL REPAIRS
MECHANICAL	
M0.00	MECHANICAL DATA SHEET
M1.1	FIRST FLOOR MECHANICAL PLAN
EO.O E1.1	ELECTRICAL GENERAL INFORMATION FIRDT FLOOR ELECTRICAL PLANS







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Mark	SIZE	HEIGHT	DOOR TYPE	DOOR MATERIAL	DOC GLA
908	6'-0"	7'-2"	F	AL	

DOOR SCHEDULE								
			FRAM					
RAME	FRAME	FRAME		DET	AILS			
TYPE	MATERIAL	GLASS	HEAD	JAMB	JAMB	SILL	FIRE RATING	REMARKS
AL								FIELD VERIFY, RE-USE EXISTING DOOR, FRAME & HARDWARE

NEW METAL ROOF EDGE
 TO MATCH EXISTING

HEADER COURSE EVERY 6TH CRS.
 TO MATCH EXISTING



FIRST FLOOR PLAN





KINGSCOTT ASSOCIATES INC.

KALAMAZOO,

STRUCTURAL SPECIAL INSPEC	TION SCHEDULE (2015 IBC - Cha	apter 17)		
ITEM	CONT ²	PERIODIC ²	REFERENCE STANDARD	NOTES
MASONRY CONSTRUCTION (1705.4)			TMS 402/ACI 530/ASCE 5	7, 8
Proportions of Site-Prepared Mortar / Grout		X	TMS 602 - ART. 2.1, 2.6A, 2.6B, 2.6C 2.4G.1.b	
Mortar Joint Construction		X	TMS 602 - ART. 3.3B	
Reinforcement / Connector Placement		X	TMS 402 - SEC. 6.1, 6.2.1, 6.2.6, 6.1.7 & TMS 602 - ART. 3.2E, 3.4, 3.6A	
Size & Location of Structural Elements		X	TMS 602 - ART. 3.3F	
Type, Size & Location of Anchors		X	TMS 402 - SEC. 1.2.1(a), 6.1.4.3, 6.2.1	
Size, Grade & Type of Reinforcement		X	TMS 402 - SEC. 6.1 & TMS 602 - ART. 2.4, 3.4	
Hot or Cold Weather Protection		Х	TMS 602 ART. 1.8C, 1.8D	
Verify Clean Grout Space		Х	TMS 602 ART 3.2D, 3.2F	
Grout Placement	X		TMS 602 ART 3.5, 3.6C	
Observe Preparation of: Test Specimens / Prisms		X	TMS 602 ART 1.4B.2.a.3, 1.4B.2.b.3, 1.4B.2.c.3, 1.4B.3, 1.4B.4	
Compliance w/ Const. Docs & Submittals		Х	TMS 602 ART 1.5	

STRUCTURAL SPECIAL INSPECTION SCHEDULE NOTES:

- Items marked with an 'X' shall be inspected in accordance with chapter 17 of the building code by a certified special inspector from an established testing agency. For material sampling and testing requirements, refer to the project specifications and the specific general notes sections. The testing agency shall send copies of all structural testing and inspection reports directly to the architect, engineer, contractor, and building official. Any items which fail to comply with the approved construction documents shall immediately be brought to the attention of the contractor for correction. If discrepancies are not corrected, they shall be brought to the attention of the building official, architect, and engineer prior to completion of that phase of the work. Special inspection testing requirements apply equally to all bidder designed components.
- Continuous special inspection means the full-time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed. Periodic special inspection means the part-time or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work has been or is being performed and at the completion of the work. (sect 1702)
- Special inspection is not required for work performed by an approved fabricator per section 1704.2.5.1. Inspection for pre-fabricated construction shall be the same as if the material used in the construction took place on site. Continuous inspection will not be required during pre-fabrication if the approved agency certifies the construction and furnishes evidence of compliance.
- Continuous special inspection is required for adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads in accordance with building code section 1705.3. Periodic special inspections is allowed for mechanical anchors and adhesive anchors not defined in the continuous special inspections requirements noted above. Post-installed anchors into masonry or concrete may be used only when approved by architect and/or engineer using an approved product with current published ICC-ES research report issued by an approved source in accordance with 17.8.2 in
- ACI318 or other qualification procedures. Any construction or material that has failed inspection shall be subject to removal and replacement.
- UNO, reference masonry standards are TMS 402/ACI 530/ASCE 5 and TMS 602/ACI 530.1/ASCE 6. MINIMUM TESTS:
- A. Verification of f'm and f'AAC in accordance with TMS 602 Specification Article 1.4B prior to construction and for every 5,000 sq. ft (465 sq. m) during construction. Verification of proportions of materials in premixed or preblended mortar, prestressing grout, and grout other than self-consolidating grout, as delivered to the project site. Verification of Slump flow and Visual Stability Index (VSI) as delivered to the project site in accordance with Article 1.5B.1.b.3 for self-consolidation grout. This table and notes represent code requirements for structural portions of the project and is not a complete representation of what may be required by chapter 17 of the building code. See chapter 17 and project specifications for additional requirements.

SECTION 042200 - SUPPLIMENTAL SPEC - CONCRETE UNIT MASONRY 3. PART 3 - EXECUTION 1. PART 1 - GENERAL A. INSTALLATION, GENERAL A. SUMMARY This specification is intended to address structural masonry components only. а. Coordinate with architect for all other aspects related to masonry construction. Section Includes: unless wetting of units is specified. Install cut units with cut surfaces and, Concrete masonry units. where possible, cut edges concealed. Steel reinforcing bars. B. TOLERANCES DEFINITIONS Dimensions and Locations of Elements: CMU(s): Concrete masonry unit(s). Reinforced Masonry: Masonry containing reinforcing steel in grouted cells. plus 1/2 inch or minus 1/4 inch. 2. For location of elements in plan, do not vary from that indicated by more C. ACTION SUBMITTALS Product Data: For each type of product. than plus or minus 1/2 inch. Shop Drawings: For reinforcing steel. Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315. D. INFORMATIONAL SUBMITTALS b. Lines and Levels: a. Material Certificates: For each type and size of product. For masonry units, include material test reports substantiating compliance with requirements. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients. Include test reports for mortar mixes required to comply with property in 20 feet, or 1/2-inch maximum. specification. Test according to ASTM C109/C109M for compressive strength, ASTM C1506 for water retention, and ASTM C91/C91M for air 2. Include test reports, according to ASTM C1019, for grout mixes required to comply with compressive strength requirement. E. FIELD CONDITIONS For lines and surfaces, do not vary from straight by more than 1/4 inch in

- a. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6. b. Hot-Weather Requirements: Comply with hot-weather construction
- requirements contained in TMS 602/ACI 530.1/ASCE 6. 2. PART 2 - PRODUCTS
 - A. UNIT MASONRY, GENERAL a. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents. Defective Units: Referenced masonry unit standards may allow a certain
 - percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed c. Fire-Resistance Ratings: Comply with requirements for fire-resistance-rated assembly designs indicated.
- 1. Where fire-resistance-rated construction is indicated, units shall be listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction. B. CONCRETE MASONRY UNITS
- a. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated. 1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions. Integral Water Repellent: Provide units made with integral water repellent
- if/where indicated. c. CMUs: ASTM C90. 1. Unit Compressive Strength: Provide units with minimum average netarea compressive strength as noted in plans.
- 2. Density Classification: As noted in plans. MORTAR AND GROUT MATERIALS a. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as
- required to produce mortar color indicated. Hydrated Lime: ASTM C207, Type S. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated
- lime containing no other ingredients. Masonry Cement: Do not use Masonry Cement e. Aggregate for Mortar: ASTM C144.
- White-Mortar Aggregates: Natural white sand or crushed white stone. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color. Aggregate for Grout: ASTM C404.
- Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C494/C494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.
- h. Water: Potable. D. REINFORCEMENT
- a. Uncoated-Steel Reinforcing Bars: ASTM A615/A615M or ASTM A996/A996M, Grade 60. b. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and to hold reinforcing bars in center of cells.
- Units are formed from 0.148-inch steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated. c. Masonry-Joint Reinforcement, General: ASTM A951/A951M.
- Interior Walls: Hot-dip galvanized, carbon steel. Exterior Walls: Hot-dip galvanized carbon steel
- Wire Size for Side Rods: 0.148-inch diameter. Wire Size for Cross Rods: 0.148-inch diameter.
- Spacing of Cross Rods: Not more than 16 inches o.c. Provide in lengths of not less than 10 feet, with prefabricated corner and G. REINFORCED UNIT MASONRY
- tee units E. TIES AND ANCHORS
- a. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated: 1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A82/A82M, with ASTM A153/A153M, Class B-2 coating.
- Steel Sheet, Galvanized after Fabrication: ASTM A1008/A1008M. Commercial Steel, with ASTM A153/A153M, Class B coating. Steel Plates, Shapes, and Bars: ASTM A36/A36M.
- Adjustable Anchors for Connecting to Structural Steel Framing: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall. 1. Anchor Section for Welding to Steel Frame: Crimped 1/4-inch- diameter,
- hot-dip galvanized-steel wire. Rigid Anchors: Fabricate from steel bars 1-1/2 inches wide by 1/4 inch thick by 24 inches long, with ends turned up 2 inches or with cross pins unless otherwise indicated.
- Corrosion Protection: Hot-dip galvanized to comply with ASTM A153/A153M. F. MORTAR AND GROUT MIXES
- a. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated. Do not use calcium chloride in mortar or grout.
- Use portland cement-lime mortar unless otherwise indicated. For exterior masonry, use portland cement-lime mortar. For reinforced masonry, use portland cement-lime mortar.
- Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent. Mortar for Unit Masonry: Comply with ASTM C270, Proportion Specification.
- Provide the following types of mortar for applications stated unless another type is indicated. I. For masonry below grade or in contact with earth, use Type M.
- For reinforced masonry, use Type S. c. Grout for Unit Masonry: Comply with ASTM C476. Use grout of type indicated or, if not otherwise indicated, of type (fine or
- coarse) that will comply with TMS 602/ACI 530.1/ASCE 6 for dimensions of grout spaces and pour height.
- Proportion grout in accordance with ASTM C476.

H. FIELD QUALITY CONTROL a. Special Inspections: Owner will engage a special inspector to perform special inspections as noted in the plans. Allow inspectors access to scaffolding and work areas as needed to perform b. requirements shall be done at Contractor's expense. Inspections: As noted in plans. I. PARGING a. Parge exterior faces of below-grade masonry walls, where indicated, in two coat, and scarify first coat to ensure full bond to subsequent coat. Use a steel-trowel finish to produce a smooth, flat, dense surface with a maximum surface variation of 1/8 inch per foot. Form a wash at top of parging and a cove at bottom.

c. Joints

C.

d.

b.

C. LAYING MASONRY WALLS

otherwise indicated.

rod mortar or grout into core.

bed joints or slush head joints.

MASONRY-JOINT REINFORCEMENT

parapet walls.

to structure.

TMS 602/ACI 530.1/ASCE 6.

pour height.

and 36 inches o.c. horizontally.

reinforcement a minimum of 6 inches

MORTAR BEDDING AND JOINTING

a. Lay hollow CMUs as follows:

than plus 3/8 inch or minus 1/4 inch.

footings where cells are not grouted.

than plus or minus 1/8 inch.

- Damp-cure parging for at least 24 hours and protect parging until cured. J. REPAIRING, POINTING, AND CLEANING a. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints. Final Cleaning: After mortar is thoroughly set and cured, clean exposed b. masonry as follows: 1. Test cleaning methods on sample wall panel; leave one-half of panel
 - uncleaned for comparison purposes. 2. Clean concrete masonry by applicable cleaning methods indicated in NCMA TEK 8-4A.
- END OF SECTION 042200

a. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying

For dimensions in cross section or elevation, do not vary by more than

3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.

1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet, or 1/2-inch maximum. 2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch

3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2-inch maximum. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2-inch maximum.

10 feet, 3/8 inch in 20 feet, or 1/2-inch maximum. 1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch. For head and collar joints, do not vary from thickness indicated by more

3. For exposed head joints, do not vary from thickness indicated by more

a. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movementtype joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed

masonry in running bond; do not use units with less-than-nominal 4-inch horizontal face dimensions at corners or jambs. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

Fill space between steel frames and masonry solidly with mortar unless Where built-in items are to be embedded in cores of hollow masonry units,

place a layer of metal lath, wire mesh, or plastic mesh in the joint below, and Fill cores in hollow CMUs with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

1. Bed face shells in mortar and make head joints of depth equal to bed Bed webs in mortar in all courses of piers, columns, and pilasters. Bed webs in mortar in grouted masonry, including starting course on

4. Fully bed entire units, including areas under cells, at starting course on Lay solid CMUs with completely filled bed and head joints; butter ends with

sufficient mortar to fill head joints and shove into place. Do not deeply furrow Tool exposed joints slightly concave when thumbprint hard, using a jointer

larger than joint thickness unless otherwise indicated. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

a. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap Space reinforcement not more than 16 inches o.c.

Space reinforcement not more than 8 inches o.c. in foundation walls and Provide reinforcement not more than 8 inches above and below wall

openings and extending 12 inches beyond openings. Interrupt joint reinforcement at control and expansion joints unless otherwise

Provide continuity at wall intersections by using prefabricated T-shaped units. Provide continuity at corners by using prefabricated L-shaped units. F. ANCHORING MASONRY TO STRUCTURAL STEEL AND CONCRETE

a. Anchor masonry to structural steel and concrete, where masonry abuts or faces structural steel or concrete, to comply with the following: 1. Anchor masonry with anchors embedded in masonry joints and attached

2. Space anchors as indicated, but not more than 24 inches o.c. vertically a. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

Placing Reinforcement: Comply with requirements in Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure. 1. Comply with requirements in TMS 602/ACI 530.1/ASCE 6 for cleanouts

and for grout placement, including minimum grout space and maximum

tests and inspections. Retesting of materials that fail to comply with specified

uniform coats to a total thickness of 3/4 inch. Dampen wall before applying first

STRUCT	URAL ABBREVIATION INDEX	
ABBREV.	ITEM	
/E	Architect/Engineer	
В	Anchor Bolt/Column Anchor Rod	
	Augered Cast In Place	
	Architecturally Exposed Structural Steel	
	Above Finished Floor	
	Anternate Anchor Plato	
	Anchor Plate	
	Rond Ream	
	Bottom Chord	
	Bottom Chord Extension	
	Below Finished Floor	
	Brick Ledge	
M	Beam	
0	Bottom of	
05	Bottom of Steel	
P	Bearing Plate	
RG	Bearing	
т	Bent	
;/C	Center-to-Center	
ANT	Cantilever	
BP	Column Base Plate	
FMF	Cold Formed Metal Framing	
FMT	Cold Formed Metal Truss	
;J	Construction Joint	
;J	Contraction Joint	
:J	Control Joint	
JP	Complete Joint Penetration Weld	
L	Centerline	
 LR	Clear	
MU	Concrete Masonry Unit	
OL	Column	1
ONC	Concrete	
ONN	Connection, Connect	
ONT	Continuous	
OORD	Coordinate	
A	Deck Angle	
В	Deck Bar	
BE	Deck Bearing Elevation	
IA, Ø	Diameter	
P	Deck Plate	
WG	Drawing(s)	
A	Each	
F	Each Face	
L	Elevation	
Q	Equal	
S	Each Side	
W	Each Way	
Х	Existing	
XP	Expansion	
XT	Exterior	
D	Floor Drain	
DN	Foundation	
F	Finished Floor	
FE	Finished Floor Elevation	
P	Foundation Pier	
S	Far Side	
TG, F	Footing	
V	Field Verify	
iΑ	Gauge	
IALV	Galvanized	
iB	Grade Beam	
S	Grout Solid	
Τ	Girder Truss	
ID	Hold Down Anchor	
IORZ	Horizontal	
IP	High Point	
IS	Headed Stud	
IT	Height	
)	Inside Diameter	
=	Inside Face	

ABBREV.ITEMNTInteriorBJoist Bearing ElevationLintelAngleATLateralDLoadFLinear FootGLongLHLong Leg HorizontalLVLong Leg VerticalOC'NLocationPLow PointTLightWLong WayWBLaminated Wood BeamIAXMaximumICJMasonry Control JointIECHMechanicalIINMinimumISNear SideITSNot To ScaleVOOut-to-OutOCOn-CenterDDOutside DiameterOFOutside FaceOFDOverflow DrainOHOpposite Hand*PierAFPower Actuated FastenerCPrecastEMBPre-Engineered Metal BuildingERPPerpendicularLPlateTPressure Treatedx, RADRadiusDRoof DrainEE:Reference, Refer toEINFReinforceEMRemainderEQ'DRequiredMWReinforced Masonry WallTURoof Top UnitXNReactionCSib On GradePCSSpacesSStainless SteelSTSimpson Strong TieTLSteel Ware	ΞX
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TL Steel	
&B Top and Bottom	
C Top Chord	
CX Top Chord Extension	
O Top of	
OB Top of Beam	
OF Top of Footing	
OL Top of Ledge	
OM Top of Masonry	
OS Top of Steel	
OW Top of Wall	
YP Typical	
NO Unless Noted Otherwise	
ERT Vertical	
VVith	
VO Without	
VF VVall Footing	
VP VVORKING POINT	

CONCRETE MASONRY NOTES

- 1. Concrete masonry units shall conform to ASTM C90, below grade units shall be medium or normal weight Mortar shall conform to ASTM C270, and shall be made with Type I portland cement/lime or mortar cement. Mortar shall be Type S. Grout shall conform to ASTM C476, with a minimum compressive strength of 2000 psi. Reinforcing bars shall conform to ASTM A615, Grade 60, unless noted. Provide layout shop drawings indicating lap splices, rebar spacing, bond beams, grout lifts,
- 6. Horizontal joint reinforcing (continuous wire reinforcing) shall be hot-dipped galvanized ladder type fabricated units with a single pair of 9 gage side rods and 9 gage cross rods at 16" oc fabricated from cold drawn steel wire complying with ASTM A82.
- Horizontal joint reinforcing shall be spaced at 16" oc in all masonry walls and shall be lapped 8", unless noted otherwise on the drawings. 8. No chases, risers, conduits or toothing of masonry shall occur in masonry walls within 18" of
- centerline of beam bearing. When a foundation dowel does not line up with a vertical block core it shall not be sloped more than 1 horizontal in 6 vertical. Dowels may be grouted into a cell adjacent to the vertical
- wall reinforcing. 10. Reinforcing shall be secured in place before grouting starts. 11. Vertical bars shall be held in position at top and bottom of grout lifts, and at intervals not
- exceeding 200 diameters of the reinforcing bar. 12. Vertical cells that will be grouted shall have a vertical alignment to maintain a continuous
- unobstructed cell area not less than 3" x 4". 13. If high lift grouting is selected, cleanouts shall be provided at the base of each reinforced cell and at intervals as prescribed by ACI 530.1 (Section 3.2F). 14. Consolidate grout lifts greater than 12" by mechanical means and reconsolidate by
- mechanical means after initial water loss and settlement. Lifts less than 12" may be consolidated by puddling or by mechanical means. 15. All bolts, anchors, etc. inserted into the walls shall be grouted solidly into position.
- 16. Joist and beam bearing plates shall be centered on the member that they support, within a tolerance of 1" on either side of the member centerline. 17. Provide "Dur-O-Stop" grout screens (or equal) to terminate grout pours over open cells below, such as at bond beams.
- 18. Coordinate bond beam locations with Architectural & Structural drawings. 19. The masonry has been engineered, and shall be inspected in accordance with chapter 1 of TMS 402/ACI 530/ASCE 5 (Building Code Requirements for Masonry Structures). A minimum Level B Quality Assurance program is required (Level C for essential facilities). Periodic inspection shall be performed daily with a minimum of one inspection for every 1,500
- square feet or portion thereof. 20. Masonry has been designed and shall be built in conformance to TMS 402/ACI 530/ASCE 5 (Building Code Requirements for Masonry Structures) and TMS 602/ACI 530.1/ASCE 6 (Specifications for Masonry Structures).
- 21. Contractor shall design and provide all temporary bracing required for strength and stability of the masonry throughout construction. At a minimum, comply with OSHA and local requirements for temporary bracing of walls.

CONCRETE MASONRY SPEC NOTES

- Provide vertical control joints in all CMU walls at a maximum spacing of 24' or two times the wall height, whichever is less. Coordinate joint locations with the bearing plate layout such that no joint is located within 16" from the centerline of a bearing plate. Joint reinforcing shall be stopped either side of vertical joints. Provide solid masonry or fill cores of block under all beam and lintel bearing points down to concrete wall or footing below.
- All reinforced cells shall be grouted solid. Spliced reinforcing shall be lapped 48 times the bar diameter, in inches.
- Vertical reinforcing bars shall have a minimum clearance of 3/4 of an inch from the masonry and not less than one bar diameter between bars. Grouting shall be stopped 1.5 inches below the top of a course so as to form a key at the
- Bond beams are intended to be open-cell with "Dur-O-Stop" or equivalent grout stop below
- Vertical reinforcing shall extend through or into bond beam. All bond beams shall be filled with grout. Refer to Architectural & Structural drawings for locations.

GENERAL STRUCTURAL NOTES 1. All work shall be performed in accordance with the contract documents. In case of a conflict within the contract documents, the more stringent condition shall govern, unless directed otherwise by the engineer of record. Prior to implementation, any discrepancies shall be reported to the architect for clarification. 2. In the event that certain details of construction are not indicated or noted in the drawings, details for similar conditions that are indicated or noted shall be utilized, subject to the structural engineer's approval. Openings and penetrations through structural elements, and items embedded in structural elements that are not indicated in the structural drawings shall be reviewed by the structural engineer prior to fabrication, erection and/or construction. Materials or equipment shall not be placed on unfinished floors or roofs in excess of 20 psf nor on finished floors in excess of the design live loads which are indicated in the structural drawings. Impact loading shall be avoided The structure has been designed for the in-service loads only. The methods, procedures and sequences of construction are the responsibility of the contractor. Contractor shall take all necessary precautions to maintain and ensure the integrity of the structure at all stages of construction. Contractor shall immediately notify the structural engineer of any condition which, in his opinion, might endanger the stability of the structure or cause distress in the All existing conditions and all related dimensions indicated in the contract documents shall be field verified prior to fabrication, erection and/or construction. Any condition that differs from that indicated in the contract documents shall be submitted to the architect for review prior to fabrication, erection and/or construction. The structure has been designed to meet or exceed serviceability requirements of section 1604.3 of the Michigan Building Code. All non-structural components & their connections that are anchored to the structure shall be designed to allow for the movement of the structure caused by wind, snow, live, thermal, shrinkage/creep and earthquake loads. Nonstructural components include items such as non-load bearing walls, MEP components, bulkheads, etc. Provide special inspection in accordance with chapter 17 of the Michigan Building Code and with project specifications. Unless noted otherwise, all loads specified in these documents are nominal loads and are to be entered into the appropriate strength or allowable stress design load combinations with appropriate factors, as defined by ASCE 7, by the building component engineer in the design of their product. Gravity load shear beam reactions on plan for steel framing represent the combined service load effect from allowable stress design load combinations. 10. Post installed anchors shall be the specific product indicated. Where product substitutions are desired, they shall be submitted to engineer for review & approval a minimum of 2 weeks prior to planned installation. Adhesive anchors shall be installed using products that are approved by the supplier for all temperature considerations. Installation shall be in accordance with suppliers published installation instructions. Copies or reproductions of architectural or structural drawings and details will not be accepted as shop drawings. Submittals received as such will not be reviewed and will be reiected. STEEL NOTES Structural steel shall be finished as follows: a rust inhibiting primer. Galvanized and prepared for paint necessary for building stability is complete. 3. Beam and lintel bearing on concrete and masonry wall shall be 8" unless otherwise shown. Provide beam bearing plates and wall anchors as required.

all bolted connections, etc.

place of missing or misplaced cast-in-place anchors. 2. Unless otherwise noted in the drawings all post installed anchors are based on Hilti Corporation product information. any applicable reduction factors anchor installation. details for specific use.

A. Concrete Anchors -A. Torque Control (TC) anchor - Hilti Kwik bolt TZ2 Sleeve anchor - Hilti HLC Sleeve anchor Screw anchor - Hilti Kwik HUS-EZ for application use. 13. All installations shall be done by an individual certified by the manufacturer. Certifications shall be submitted to the special inspector prior to commencement of work. undertake a method to locate such bars.

contract documents.

A. Non-fireproofed interior steel shall be shop painted with min. 1.5 mil dry film thickness of B. Unless noted otherwise, exterior exposed steel, including veneer relief angles, shall be 2. Erector is to provide temporary bracing sufficient to hold frame in position until all construction

STEEL SPEC NOTES

1. All steel shall be fabricated, detailed, and erected in accordance with AISC" Code of Standard Practice", ASTM A6 "Specification for General Requirements for Rolled Steel Plates, Shapes, Sheet Piling, and Bars for Structural Use", and Research Council on Structural Connections (RCSC) "Specifications for Structural Joints Using ASTM A325 or A490 Bolts." Provide shop drawing submittal laying out and detailing structural steel, bolts, and finishes. Inspect all steel in accordance with Michigan Building Code and AISC requirements. At a minimum visually inspect all fillet welds, non-destructively test all full penetration welds, inspect

GENERAL POST INSTALLED ANCHOR NOTES

1. Post installed anchors shall only be used where specified on the construction documents. The contractor shall obtain approval from the Architect prior to installing post installed anchors in

3. If the contractor wants to submit an alternate anchor they must provide sealed calculations atleast 2 weeks prior to product use. These calculations must show that the strength of the substituted anchor meets or exceeds the strength of the specified anchor at each application in the project where a substituted anchor is proposed, with consideration for combined stress and

4. Within contract documents adhesive anchors may be generically referred to as epoxy anchors, where this occurs substitute the word epoxy with adhesive. Adhesive anchors shall be installed in concrete having a minimum age of 21 days at time of

6. Mechanical anchors shall be installed in concrete having a minimum age of 7 days, and concrete having met minimum concrete compressive strength (fc). Anchorage to concrete shall be done by either expansion anchors or adhesive anchors. Anchorage to solid masonry shall be done by either adhesive anchors or screw anchors see

9. Anchorage to hollow or multi-wythe masonry shall be done with screen anchors. 10. Provide ICC approved adhesive anchors based on the following:

Automatic hole cleaning Hilti HIT-RE 500-V3 with HAS threaded rod or Hilti HIT HY 200 Safe Set with HY200 HAS threaded rod No hole cleaning - Hilti HIT HY 200 Safe Set with HIT-Z or HIT-Z-R threaded rods. Masonry anchor - Hilti HIT HY 270 with HAS-E rods 11. Provide ICC approved mechanical anchors based on the following:

12. See specifications for specific product information and installation instructions, and drawings

14. All anchors shall be inspected as described in specifications. 15. Anchor capacity is dependent on anchor spacing and edge distances. Install bolts as detailed. 16. If anchors cannot be installed as detailed notify Architect for alternate connection detail. 17. Existing reinforcing bars in the concrete may conflict with specific anchor locations. Unless noted otherwise those bars are not to be cut. The contractor shall review the drawings and

POST INSTALLED ANCHOR SPEC NOTES

1. All post installed anchors shall be done per ACI 318 & 355, ICC-ES AC01, ICC-ES AC58, ICC-ES AC60, ICC-ES AC106, ICC-ES AC193 and ICC-ES AC308 requirements, and as stated on

Provide submittals for Product Data, ICC reports, and installer certifications. All installations must be done by individuals certified by the manufacturer. For horizontal and upwardly inclined adhesive installations, the installer shall be certified by an ACI/CRSI Adhesive Anchor Installing Certification Program or equivalent. Unless otherwise specified, do not drill holes in concrete or masonry until concrete, mortar, or grout has met Manufacturer's specifications. Torque Controlled Anchors and Sleeve Anchors: Protect threads from damage during anchor

installation. Set anchors to manufacturer's recommended torque, using a torque wrench. Following attainment of 10% of the specified torque, 100% of the specified torque shall be reached within 7 or fewer complete turns of the nut. If the specified torque is not achieved within the required number of turns, the anchor shall be removed and replaced unless otherwise directed by the Engineer. Screw Anchors: Install screw anchors to a snug tight condition unless noted otherwise.

Adhesive anchors: Clean all holes per manufacturer instructions to remove loose material and drilling dust prior to installation of adhesive. Inject adhesive into holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive. Follow manufacturer recommendations to ensure proper mixing of adhesive components. Sufficient adhesive shall be injected in the hole to ensure that the annular gap is filled to the surface. Remove excess adhesive from the surface. Shim anchors with suitable device to center the anchor in the hole. Do not disturb or load anchors before manufacturer specified cure time has elapsed.

Continuous special Inspection of post-installed anchors shall be provided as required by ICC-ES evaluation reports. This service shall be performed by personnel independent of the Manufacturer or Contractor so as to prevent a conflict of interest. 10. The Engineer or Architect of Record may require pullout or shear tests, in addition to Special

Inspection, to determine the adequacy of anchors. A field testing program shall be established by the independent test laboratory and/or Engineer of Record and performed in accordance with appropriate ASTM test standards. Field tests shall be non-destructive whenever possible

Design soil bearing pressure

Footings and Foundations

Anchor bolts/Column anchor rods

Reinforcing steel

All other shapes

Structural bolts

Welding electrode

Ground snow load (Pg)

Flat roof snow load (Pf)

Snow load importance factor (I)

Ultimate design wind speed (3 sec)

Components & cladding (varies)

Seismic importance factor, le

Seismic design category

Design base shear

Analysis Procedure

Roofing (Adhered)

Basic seismic force resisting system:

Seismic response coefficient Cs

Response Modification Factor R

Ordinary reinforced masonry shear walls

Spectral response

Site class

Wall stud design pressure

Snow exposure (Ce)

Thermal factor (Ct)

Wind exposure category Internal pressure coeff (GCpi)

Concrete

Design stresses

Steel

Masonrv

СМU

Grout

Structural design requirements

Roof live load

Risk Category

Roof snow load

Wind Load

Earthquake

Specific Design Loads

Roof dead loads

Insulation

Metal deck

Structure

General building code

Fire protection

Ceiling

M/F/P

Misc

Design codes

Concrete

Steel

2000 psf

f'c = 3500 psi Fy = 60000 psi

Fy = 36000 psi ASTM A325 ASTM F 1554 - Grade 36 E70XX

f'm = 2000 psi f'c = 2000 psi

20 psf ш

35 psf 27 psf + Drift 1.0 1.1 1.0

120 mph 0.18 varies - per ASCE7

1.25 Ss = 0.060 S1 = 0.039SDs = 0.064 SD1 = 0.062

0.027 * Self wt 0.027 "Equivalent lateral force"

25 psf Total

Michigan Building Code 2015 ACI 318 AISC 360 - ASD TMS 402/ACI 530/ASCE 5



EXISTING BUILDING NOTE:

THIS PROJECT IS A RENOVATION/REPAIR OF AN EXISTING BUILDING. THE DRAWINGS REFLECT WHAT IS KNOWN ABOUT THE EXISTING BUILDING, BUT EXISTING CONDITIONS MUST BE VERIFIED BEFORE FABRICATION AND CONSTRUCTION, ABUTTING CONSTRUCTION MUST MATCH UP. VERIFY ALL SUCH CONDITIONS, AND NOTIFY A/E IF ACTUAL CONDITIONS DIFFER FROM THE CONTRACT DOCUMENTS. AN ATTEMPT HAS BEEN MADE TO ANTICIPATE CONDITIONS IN THE EXISTING STRUCTURE.





ISSUANCES Construction Drawing

DATE 03/27/202



C KINGSCOTT ASSOCIATES INC.

KALAMAZOO





TYPICAL MASONRY WALL OPENING DETAIL SCALE: 3/4" = 1'-0"









ADHÉSIVE ANCHORS

3

\S101



DETAIL @ TOP OF WALL

SCALE: 1" = 1'-0"

(3) #5 BARS







BRICK EJ ONLY, NO CJ IN CMU

16" DEEP CMU LINTEL w/ (2) #5 BARS & L5x3 1/2x5/16 (LLV)

- (3) #5 BARS ÌN CORNER











5

\S101,



1. COORDINATE PLACEMENT OF REINFORCEMENT WITH CMU SPECS, NOTES, AND DETAILS. PROVIDE MATCHING DOWELS TO FOUNDATION WALL OR FOOTING AS INDICATED ON FOUNDATION PLAN

ADDITIONAL JAMB REINFORCING INDICATED THE NUMBER OF VERTICAL BARS REQUIRED ON EACH SIDE OF OPENINGS IN WALL, UNO. NOTE THAT THERE IS AN EXTRA BAR AT CONTROL JOINT LOCATIONS.









C KINGSCOTT ASSOCIATES INC. MICHIGAN

KALAMAZOO,

BUILDING CO	DE INFORMATION	HVAC SYMBOLS
BUILDING CODF.	MICHIGAN BUILDING CODE 2015	- BALANCING DAMPER
		FIRE DAMPER (HORIZONTAL)
	MICHIGAN MECHANICAL CODE 2021	
ENERGY CODE:	MICHIGAN UNIFORM ENERGY CODE 2015	
CENERAL GY		
GLNLNAL SI		SMOKE DAMPER
EXIS	TING CONSTRUCTION	SUPPLY DIFFUSER
		RETURN DIFFUSER
	DTL. # BUILDING SEC	CTION
	ALTINOTE TAG	
	IOLITION KEYNOTE TAG	
	PLAN/SECTIC	N DETAIL
	IPMENT TAG	
TYPE NO		TION
NECK"Ø DIFF	USER TAG	PIPING VAI VEG ANT
CFM-NO.		ANGLE VALVE
MF	CHANICAL SHEET INDEX	BFP BACK FLOW PREVENTER
NO.		BALANCING VALVE
MECHANICAL MOO MECHANICAI	DATA SHEET	
M1.1 FIRST FLOO	R MECHANICAL PLAN - UNIT 900	CHECK VALVE
		OFCO CLEANOUT (FLOOR)

1100 CLEANOUT (INLINE)

||MCO CLEANOUT (WALL)

CONCENTRIC REDUCER

ECCENTRIC REDUCER

C- ELBOW DOWN

O- ELBOW UP

COMBINATION FLOW MEASURING AND BALANCING VALVE

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ABBREVIATIONS EXISTING (E) DEGREES °F PARALLEL BLADE OPPOSED BLADE DAMPER (MOTORIZED) DAMPER (MOTORIZED) 2D TWO-DIME 3D THREE-DIN AAC ADVANCE (HORIZONTAL) AAV AUTOMATI ABOVE ABV (VERTICAL) AC AIR COND PARALLEL BLADE DAMPER OPPOSED BLADE DAMPER ACTIVE CH ACB (MOTORIZED) W/ END SWTICH (MOTORIZED) W/ END SWTICH ACC AIR COOL ACCU ACFM AIR COOL М ABSOLUTE AIR COND ACU AD ACCESS I VAV DAMPER (MOTORIZED) ADJUSTAE ADJ ABOVE FI AFF AFM AIRFLOW 1 AFMS AIRFLOW 1 AHU AIR HANDI ANALOG || A ALT ALTERNAT AO ANALOG (ACCESS AP APD AIR PRESS APPROX APPROXIN ECIALTIES SYMBOLS AS AIR SEPAR APPLICAT ASC E PIPE CAP || FLANGE AUTOMATI ASR FLEXIBLE CONNECTION S PIPE CONTINUTATION ΑX AUXILIARY IVI PLUG VALVE OFD FLOOR DRAIN BOILER В BAS BC BD BUILDING ________ FLOOR DRAIN (SECTION) BUILDING PRESSURE GAUGE W/ SNUBBER AND VALVE BACKDRA FLOOR DRAIN W/ FUNNEL (SECTION) BDD BACKDRA PRESSURE REGULATING VALVE BFP BACKFLO ► FLOW ARROW BHP BRAKE HO P/T † н*о*ѕе вівв T P/T PORT BMS BUILDING BOTTOM BOD HOSE END DRAIN VALVE RELIEF VALVE BOP BOTTOM BTU BRITISH T ISOLATION VALVE SIAMESE CONNECTION BTUH BRITISH TH BACKWAT ${ama}^{\mathsf{MAV}}$ MANUAL AIR VALVE BMV 5TRAINER M METER CA COMBUST THERMOMETER CAP CAPACITY CAV CONSTANT CB CHILLED B CBCHW CHILLED B CBHW CHILLED B CC COOLING NEEDLE VALVE OUTSIDE SCREW AND YOKE VALVE (OS&Y) III UNION WATER METER ASSEMBLY ∞— P-TRAP (PLAN)

(E) ∘⊨	EXISTING DEGREES FAHRENHEIT	F	FAHRENHEIT FIRE PROTECTION SYSTEM - WET
2D	TWO-DIMENSIONAL	' F-DRY	FIRE PROTECTION SYSTEM - DRY
3D	THREE-DIMENSIONAL	FA	FIRE ALARM
AAC	ADVANCED APPLICATION CONTROLLER	FACP FAH	FIRE ALARM CONTROL PANEL FAHRENHEIT
AAV	AUTOMATIC AIR VENT / AIR ADMITTANCE VALVE	FC	FLEXIBLE CONNECTION
ABV	ABOVE	FCO	FLOOR CLEANOUT
AC ACB	AIR CONDITIONING ACTIVE CHILLED BEAM	FCU FD	FAN COIL UNIT FLOOR DRAIN
ACC	AIR COOLED CHILLER	FD/SD	COMBINATION FIRE AND SMOKE DAMPER
ACCU	AIR COOLED CONDENSING UNIT	FDAT	FAN DISCHARGE AIR TEMPERATURE
ACFM ACU	ABSOLUTE CUBIC FEET PER MINUTE AIR CONDITIONING UNIT	FDC FFD	FIRE DEPARTMENT CONNECTION FUNNEL FLOOR DRAIN
AD	ACCESS DOOR	FFE	FINISHED FLOOR ELEVATION
ADJ	ADJUSTABLE	FH	
AFF AFM	ADOVE FINISHED FLOOR AIRFLOW MEASURING DEVICE	FHR	FIRE HOSE CADINET FIRE HOSE RACK
AFMS	AIRFLOW MEASURING STATION	FHV	FIRE HOSE VALVE
AHU	AIR HANDLING UNIT	FL	
ALT	ALTERNATOR	FLEX	FLEXIBLE CONNECTION
AO	ANALOG OUTPUT	FLR	FLOOR
	ACCESS PANEL AIR PRESSURE DROP	FM FOB	FLOW METER FLAT ON BOTTOM
APPROX	APPROXIMATE	FOT	FLAT ON TOP
AS	AIR SEPARATOR	FPM	FEET PER MINUTE
ASC ASR	APPLICATION SPECIFIC CONTROLLER AUTOMATIC SPRINKLER RISER	FR FS	FIELD RELAT FLOW SWITCH
AX	AUXILIARY CONTACT	FSD	FIRE & SMOKE DAMPER
P		FT	FEET OF FOOT
D BAS	BUILDING AUTOMATION SYSTEM	FURN	FURNISHED
BC	BUILDING CONTROLLER	FV	FACE VELOCITY
BD BDD	BACKDRAFT DAMPER	FVC F7	FIRE VALVE CABINET
BFP	BACKFLOW PREVENTER	1 2	
BHP	BRAKE HORSEPOWER	G	GLYCOL
BMS BOD	BUILVING MANAGEMENT SYSTEM	GA GAI	GAUGE GALLONS
BOP	BOTTOM OF PIPE	GCF	GARAGE CIRCULATION FAN
BTU	BRITISH THERMAL UNIT	GCO	GRADE CLEAN OUT
biuH BMV	DRITISH THERMAL UNITS PER HOUR BACKWATER VALVE	GET GIF	GARAGE EXHAUST FAN GARAGE INTAKE FAN
1		GPH	GALLONS PER HOUR
CA	COMBUSTION AIR	GPM	GALLONS PER MINUTE
CAP CAV	CAPACITY CONSTANT AIR VOLUME	GR	GRAINS
CB	CHILLED BEAM	н	HEIGHT
CBCHW	CHILLED BEAM CHILLED WATER	HB	
CBHM	CHILLED BEAM HOT WATER	HC HEX	HEATING COIL HEAT EXCHANGER
CCDT	COOLING COIL DISCHARGE TEMPERATURE	HG	MERCURY
			HEATING HOT WATER RETURN
CFH CFM	CUBIC FEET PER HOUR CUBIC FEET PER MINUTE	HHMR	HEATING HOT MATER RETURN HEATING HOT WATER SUPPLY
CH	CHILLER	HI	HIGH
CHMR	CHILLED WATER RETURN	HL HO	HIGH LEVEL HUB OUTLET
CHWS	CHILLED WATER SUPPLY	HP	HORSE POWER
		HR	HOUR
CIRC CLG	CIRCULATING COOLING	HIG HUM	HEATING HUMIDIFIER
CM	CONTROL MODULE	HVAC	HEATING VENTILATING AND AIR CONDITIONING
CO		HYD	HYDRANT
		117	
CO2 COMP	COMPRESSOR	Η∠	HERTZ
CONP CONC	COMPRESSOR CONCRETE	HZ ID	HERTZ INSIDE DIAMETER
CO2 COMP CONC COND	COMPRESSOR CONCRETE CONDENSATE CONTINUATION OR CONTINUED	HZ ID IE IEB	HERTZ INSIDE DIAMETER INVERT ELEVATION INTEGRAL FACE AND BY-PASS
CO2 COMP CONC COND CONT CONV	COMPRESSOR CONCRETE CONDENSATE CONTINUATION OR CONTINUED CONVECTOR	HZ ID IE IFB IN	HERTZ INSIDE DIAMETER INVERT ELEVATION INTEGRAL FACE AND BY-PASS INCHES
CO2 COMP CONC COND CONT CONV CP	COMPRESSOR CONCRETE CONDENSATE CONTINUATION OR CONTINUED CONVECTOR CONDENSATE PUMP	HZ ID IE IFB IN INST	HERTZ INSIDE DIAMETER INVERT ELEVATION INTEGRAL FACE AND BY-PASS INCHES INSTALLED
CO2 COMP CONC COND CONT CONV CP CR CS	COMPRESSOR CONCRETE CONDENSATE CONTINUATION OR CONTINUED CONVECTOR CONDENSATE PUMP CONTROL RELAY CLEAN STEAM	HZ IÐ IFB INST INV IPLV	HERTZ INSIDE DIAMETER INVERT ELEVATION INTEGRAL FACE AND BY-PASS INCHES INSTALLED INVERT INTEGRATED PART LOAD VALUE
CO2 COMP CONC COND CONT CONV CP CR CS CSFD	COMPRESSOR CONCRETE CONDENSATE CONTINUATION OR CONTINUED CONVECTOR CONDENSATE PUMP CONTROL RELAY CLEAN STEAM COMBINATION SMOKE/FIRE DAMPER	HZ ID IE IFB IN INST INV IPLV ISP	HERTZ INSIDE DIAMETER INVERT ELEVATION INTEGRAL FACE AND BY-PASS INCHES INSTALLED INVERT INTEGRATED PART LOAD VALUE INTERNAL STATIC PRESSURE
CO2 COMP CONC COND CONT CONV CP CR CS CSFD CSR	COMPRESSOR CONCRETE CONDENSATE CONTINUATION OR CONTINUED CONVECTOR CONDENSATE PUMP CONTROL RELAY CLEAN STEAM COMBINATION SMOKE/FIRE DAMPER CURRENT SWITCH OR CURRENT SENSING RELAY	HZ IÐ IE IFB INST INV IPLV ISP ISP IM	HERTZ INSIDE DIAMETER INVERT ELEVATION INTEGRAL FACE AND BY-PASS INCHES INSTALLED INVERT INTEGRATED PART LOAD VALUE INTERNAL STATIC PRESSURE INDIRECT WASTE
CO2 COMP CONC COND CONT CONV CP CR CS CSFD CSR CS CSFD CSR CT CUH	COMPRESSOR CONCRETE CONDENSATE CONTINUATION OR CONTINUED CONVECTOR CONDENSATE PUMP CONTROL RELAY CLEAN STEAM COMBINATION SMOKE/FIRE DAMPER CURRENT SWITCH OR CURRENT SENSING RELAY COOLING TOWER CABINET UNIT HEATER	HZ IÐ IE IFB IN INST INV IPLV ISP ISP ISV	HERTZ INSIDE DIAMETER INVERT ELEVATION INTEGRAL FACE AND BY-PASS INCHES INSTALLED INVERT INTEGRATED PART LOAD VALUE INTERNAL STATIC PRESSURE INDIRECT WASTE KILOWATTS
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	OUTSIDE AIR
OAD OAH	OUTSIDE AIR DAMPER OUTDOOR AIR HUMIDITY
OAT	OUTDOOR AIR TEMPERATURE
060	OFFOSED BLADE DAMFER ON CENTER / CENTER TO CENTER
OD OED	OUTSIDE DIAMETER
OPR	OPERATING
ORS OS #Y	OVERFLOW ROOF SUMP
0941 0V	OUTLET VELOCITY
OMS	OPERATOR WORK STATION
P	PUMP
PC PCB	PLUMBING CONTRACTOR PASSIVE CHILLED BEAM
PD	PRESSURE DROP (FEET OF WATER)
PG PH	PROPYLENE GLYCOL WATER SOLUTION PHASE
PHDT	PREHEAT DISCHARGE TEMPERATURE
PICCV	PRESSURE INDEPENDENT CHARACTERIZED
PMCS	POWER MONITORING & CONTROL SYSTEM
PPM PRESS	PRESSURE
PRV	PRESSURE REGULATING VALVE
P5	POUNDS PER SQUARE INCH
PSI(G) PSIA	POUNDS PER SQUARE INCH (GAUGE) ROUNDS PER SQUARE INCH - ABSOLUTE
PSIG	POUNDS PER SQUARE INCH - GAUGE Q
P/T OTY	PRESSURE / TEMPERATURE PORT
QTT	
RA RAH	RETURN/RELIEF AIR RETURN AIR HUMIDITY
RAT	RETURN AIR TEMPERATURE
KC RE	RUUT CUNUCIUR REFERENCE
RELA	RELIEF AIR
REQU RET	RETURN
RF RH	RETURN FAN RELATIVE HUMIDITY
RHC	REHEAT COIL
RLA RI F	RUNNING LOAD AMPS RELIFE
RLMS	REFRIGERANT LEAK MONITORING SYSTEM
RO1 RPM	ROTATION MONITORING SENSOR REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
RTU	ROOF SIMP ROOFTOP UNIT
S	
SA	SUPPLY AIR
SAN SC	SANITARY WASTE SELF CONTAINED UNIT
SCFM	STANDARD CUBIC FEET PER MINUTE
SD SEER	SMOKE DAMPER/SMOKE DETECTOR SEASONAL ENERGY EFFICIENCY RATIO
SENS	SENSIBLE
SG	SPECIFIC GRAVITY
SH SI	SHOWER SOUND LINING
SMW	SNOW MELT WATER
SP SPD	STATIC PRESSURE (INCHES OF WATER) SPEED
SPL	SOUND POWER LEVEL
5P5 SQ	SQUARE
SS STM	STAINLESS STEEL STEAM
SV	SUPPLY VALVE
5M	SMIICH
T T & P	TEMPERATURE TEMPERATURE AND PRESSURE
TAB	TESTING, ADJUSTING AND BALANCING
TC TCC	TEMPERATURE CONTROL TEMPERATURE CONTROL 5 CONTRACTOR
TEF	TOILET EXHAUST FAN
TH TOD	THERMOSTAT TOP OF DUCT
TOP	
11 TSP	IOIAL PRESSURE TOTAL STATIC PRESSURE
TYP	TYPICAL
UG	UNDERGROUND
UH UL	UNIT HEATER UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UCN UR	URLESS OTHERMISE NOTED URINAL
\vee	
VAC	VACUUM
VAV VD	VARIABLE AIR VOLUME VOLUME DAMPER (MANUALLY AD.IUSTABI F)
VEL	VELOCITY
VFD VIFB	VAKIABLE FREQUENCY DRIVE VERTICAL INTEGRAL FACE AND BYPASS
VL	
VLM VO	VOLTAGE OUTPUT
VP VG	VIRTUAL POINT VIBRATION GWITCH
VTR	VENT THRU ROOF
М	WATTS/WIDTH
M&√ M/	WASTE AND VENT
W/O	WITHOUT
MB MC	WET BULB TEMPERATURE WATER CLOSET
WG	WATER GAUGE
MH MMS	WALL HYDKANI WIRE MESH SCREEN

Т

YCO YARD CLEAN OUT



03/26/2025

C ⊢

ENTERING WATER TEMPERATURE

EMT

EXH

EXHAUST

EXPANSION

EXP EXPANSION EXT EXTERAL







ISSUANCES CONSTRUCTION DRAWINGS

DATE 03/27/2025





KINGSCOTT ASSOCIATES INC. KALAMAZOO, MICHIGAN



FIRST FLOOR MECHANICAL DEMOLITION PLAN - UNIT 900 1/8" = 1'-0"

MECHANICAL DEMO PLAN GENERAL NOTES

- 1. THESE DRAWINGS ARE DIAGRAMMATIC AND ILLUSTRATE THE GENERAL EXTEND OF WORK TO BE PERFORMED. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE EXISTING FIELD CONDITIONS AND NEW WORK. OBTAIN ALL CONSTRUCTION INFORMATION, ALL SPECIFICATION AND DRAWINGS (E.G. ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL,
- ELECTRICAL, PLUMBING, FIRE PROTECTION, FOOD SERVICE, ETC.) 2. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING SITE CONDITIONS, SYSTEMS, AND UTILITIES. NOTIFY
- ARCHITECT OF ANY INTERFERENCES OR DISCREPANCIES. 3. VERIFY DEPTH, SIZE, LOCATIONS, AND CONDITION OF EXISTING UTILITIES IN THE FIELD, INCLUDING POINTS OF CONNECTION PRIOR TO STARTING ANY WORK.
- 4. ANY INTERRUPTIONS OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE SO AS NOT TO INTERFERE WITH THE PRESENT BUILDING'S OPERATION.
- 5. ALL ITEMS ON DEMOLITION PLANS SHALL BE CONSIDERED EXISTING UNLESS OTHERWISE NOTED. ALL WORK INDICATED ON PLANS HAS BEEN LOCATED PER EXISTING DRAWINGS AND/OR FIELD OBSERVATION AND REQUIRES FIELD VERIFICATION BY CONTRACTOR.
- 6. ALL ITEMS INDICATED WITH BROKEN LINES SHALL BE REMOVED COMPLETE, WITH ALL RELATED ITEMS INCLUDING HANGERS, SUPPORTS, INSULATION, CONTROLS, ETC. CAP ALL OPEN-ENDED PIPES.
- 7. ALL EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DAMAGE. WHERE PIPE INSULATION HAS BEEN DAMAGED DURING DEMOLITION, THE CONTRACTOR SHALL REPAIR INSULATION AS REQUIRED TO MATCH EXISTING.
- 8. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL EQUIPMENT BEING REMOVED. ALL ITEMS REMOVED SHALL BE DISPOSED LEGALLY. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXISTING, RELOCATED, AND OWNER-PROVIDED EQUIPMENT. 9. ANY SYSTEM WITH PARTIAL DEMOLITION PIPING, CONTROLS, ETC. AND WHICH IS INTENDED TO REMAIN OPERATIONAL DURING OR AFTER CONSTRUCTION SHALL BE CAPPED AND SEALED PROPERLY TO MAINTAIN FUNCTIONALITY. THIS INCLUDES BUT IS NOT LIMITED TO PIPING SYSTEMS, AND PNEUMATIC TUBING.

MECHANICAL DEMOLITION KEYNOTE

MD1 REMOVE WALL MOUNTED FINNED TUBE, CONTROL VALVE, ISOLATION VALVES, DRAIN VALVES, PIPING, INSULATION, AND HANGERS WHERE AS INDICATED. SALVAGE FINNED TUBE AND VALVES FOR REINSTALLATION. MD2 REMOVE THERMOSTAT AND WIRING. SALVAGE FOR REINSTALLATION.

MD3 REMOVE ABANDONED PIPING, INSULATION, HANGERS, AND ASSOCIATED COMPONENTS BACK TO MAIN AND CAP.

2

2

- 2. COORDINATION WITH OTHER TRADES IS REQUIRED. OBTAIN ALL CONSTRUCTION INFORMATION, ALL OFFSETS, COMPONENTS, ETC. THAT WILL BE REQUIRED TO PROVIDE A FULLY FUNCTIONAL AND COMPLETE SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE

DRAWINGS.

- AND/OR OTHER SPACE CONSTRAINTS. CLEARANCES PRIOR TO THE FABRICATION OF ANY WORK. PIPING SHALL NOT BE INSTALLED IN A LOCATION THAT RESTRICTS THE ACCESS TO MECHANICAL DEVICES REQUIRING ACCESS.
- CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT. PIPING SHALL NOT INTERFERE WITH ELECTRICAL EQUIPMENT CLEARANCE.
- INSTALLATION OF ALL MECHANICAL SYSTEMS.
- 8. COORDINATE WITH OTHER TRADES PRIOR TO FABRICATION TO AVOID INTERFERENCES.
- AND STEEL FOR THE PROPER INSTALLATION OF ALL SYSTEMS. 10. COORDINATE FINAL INSTALLATION REQUIREMENTS WITH EQUIPMENT FURNISHED BY OTHER TRADES.
- 11. COORDINATE ACCESS REQUIREMENTS OF ALL EQUIPMENT TO BE SERVICED, AND INSTALL WORK TO ALLOW ADEQUATE ACCESS CLEARANCE TO ALL EQUIPMENT.
- FURNISHED.
- REPLACEMENT. 14. INSTALL WORK IN A NEAT AND WORKMANLIKE MANNER. PROVIDE PIPE SLEEVES, ESCUTCHEONS,
- THAT ALL PIPING AND DUCTWORK IS INSTALLED AT THE PROPER ELEVATION AND LOCATION.

FIRST FLOOR MECHANICAL PLAN - UNIT 900 1/8" = 1'-0"

AUX GYM

908

- (E)HMHS/F

MECHANICAL GENERAL NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC AND ILLUSTRATE THE GENERAL DESIGN INTENT, ARRANGEMENT, AND SYSTEM LAYOUT. THEY ARE NOT TO BE CONSIDERED FABRICATION, COORDINATION, OR SHOP

/ (E)FINNED TUBE &

PIPING TO REMAIN

 $\langle M2 \rangle$

(E)RC DN TO

UNDERGROUND TO REMAIN, PROTECT PIPING

DURING CONSTRUCTION

SPECIFICATION AND DRAWINGS (E.G. ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, ETC.) MUST BE USED. PROVIDE THE ADDITIONAL FITTINGS, TRANSITIONS,

STRUCTURE, PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. 3. PROVIDE ACCESS AROUND ALL NEW EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. VERIFY ALL

4. PIPING SHALL NOT BE LOCATED OVER ELECTRICAL EQUIPMENT/PANELS. PROVIDE REQUIRED

5. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER 6. CONTRACTOR SHALL COORDINATE THE WORK UNDER THIS SECTION WITH THAT OF ALL OTHER TRADES. 1. PROVIDE TRANSITIONS, OFFSETS, JOGS, ADDITIONAL PIPE FITTINGS, VALVES, ETC. TO AVOID INTERFERENCE WITH OTHER EQUIPMENT, PIPING, CONDUITS, ETC., INCLUDING CLEARANCE REQUIREMENTS. 9. PROVIDE SUPPORTING STEEL, PIPE HANGERS, BRACKETS, AND ALL REQUIRED MISCELLANEOUS IRON

12. VERIFY ALL MOUNTING HEIGHTS, SUPPORTS, AND INSTALLATION CLEARANCES WITH EQUIPMENT

13. MAINTAIN PROPER CLEARANCES AND ACCESS AROUND EQUIPMENT FOR OPERATION, MAINTENANCE, AND

INSULATION SHIELDS, ETC., AS REQUIRED FOR THE PROPER INSTALLATION OF THE WORK. 15. PROVIDE ALL NECESSARY TRANSITIONS, OFFSETS, FITTINGS, AND COMPONENTS REQUIRED TO ENSURE

MECHANICAL KEYNOTE

P.E. LKR.

1032

M1 REINSTALL EXISTING FINNED TUBE, CONTROL VALVE, ISOLATION VALVES, AND ASSOCIATED PIPING. PIPING TO MATCH EXISTING SIZE. PROVIDE NEW INSULATION FOR EXPOSED PIPING. FINNED TUBE HEIGHT TO MATCH EXISTING. PAINT INSULATION TO MATCH ADJACENT WALL, COORDINATE WITH

ARCHITECTURAL. M2 REINSTALL EXISTING THERMOSTAT AND WIRING.









6

	COPPER FEEDER SCHEDULE							
FEEDER (AMPS)	COND. SIZE	2 WIRE WITH GROUND	FEEDER (AMPS)	COND. SIZE	3 WIRE WITH GROUND	FEEDER (AMPS)	COND. SIZE	4 WIRE WITH GROUND
15S	12	2#12, 1#12 GND IN 3/4"C		12	3#12, 1#12 GND IN 3/4"C	15N	12	4#12, 1#12 GND IN 3/4"C
205	12	2#12, 1#12 GND IN 3/4"C	20	12	3#12, 1#12 GND IN 3/4"C	20N	12	4#12, 1#12 GND IN 3/4"C
258	10	2#10, 1#10 GND IN 3/4"C	25	10	3#10, 1#10 GND IN 3/4"C	25N	10	4#10, 1#10 GND IN 3/4"C
<u>305</u>	10	2#10, 1#10 GND IN 3/4"C	30	10	3#10, 1#10 GND IN 3/4"C	30N	10	4#10, 1#10 GND IN 3/4"C
355	8	2#8, 1#10 GND IN 3/4"C	35	8	3#8, 1#10 GND IN 3/4"C	35N	8	4#8, 1#10 GND IN 3/4"C
40S	8	2#8, 1#10 GND IN 3/4"C	40	8	3#8, 1#10 GND IN 3/4"C	40N	8	4#8, 1#10 GND IN 3/4"C
45S	6	2#6, 1#10 GND IN 3/4"C	45	6	3#6, 1#10 GND IN 3/4"C	45N	6	4#6, 1#10 GND IN 1"C
50S	6	2#6, 1#10 GND IN 3/4"C	50	6	3#6, 1#10 GND IN 3/4"C	50N	6	4#6, 1#10 GND IN 1"C
60S	4	2#4, 1#10 GND IN 1"C	60	4	3#4, 1#10 GND IN 1"C	60N	4	4#4, 1#10 GND IN 1 1/4"C
70S	4	2#4, 1#8 GND IN 1"C	70	4	3#4, 1#8 GND IN 1"C	(70N)	4	4#4, 1#8 GND IN 1 1/4"C
<u>805</u>	3	2#3, 1#8 GND IN 1"C	80	3	3#3, 1#8 GND IN 1"C	80N	3	4#3, 1#8 GND IN 1 1/4"C
905	2	2#2, 1#8 GND IN 1"C	90	2	3#2, 1#8 GND IN 1 1/4"C	90N	2	4#2, 1#8 GND IN 1 1/2"C
<100S	1	2#1, 1#8 GND IN 1 1/4"C	100	1	3#1, 1#8 GND IN 1 1/4"C	(100N)	1	4#1, 1#8 GND IN 1 1/2"C
			(110)	2	3#2, 1#6 GND IN 1 1/4"C	(110N)	2	4#2, 1#6 GND IN 1 1/4"C
			125	1	3#1, 1#6 GND IN 1 1/4"C	(125N)	1	4#1, 1#6 GND IN 1 1/2"C
			150	1/0	3#1/0, 1#6 GND IN 1 1/2"C	(150N)	1/0	4#1/0, 1#6 GND IN 2"C
			175	2/0	3#2/0, 1#6 GND IN 1 1/2"C	(175N)	2/0	4#2/0, 1#6 GND IN 2"C
			200	3/0	3#3/0, 1#6 GND IN 2"C	200N	3/0	4#3/0, 1#6 GND IN 2"C
			225	4/0	3#4/0, 1#4 GND IN 2"C	225N	4/0	4#4/0, 1#4 GND IN 2 1/2"C
			250	250	3-250 KCMIL, 1#4 GND IN 2"C	250N	250	4-250 KCMIL, 1#4 GND IN 2 1/2"C
			300	350	3-350 KCMIL, 1#4 GND IN 2 1/2"C	300N	350	4-350 KCMIL, 1#4 GND IN 3"C
			350	500	3-500 KCMIL, 1#3 GND IN 3"C	350N	500	4-500 KCMIL, 1#3 GND IN 3 1/2"C
			400	600	3-600 KCMIL, 1#3 GND IN 3 1/2"C	400N	600	4-600 KCMIL, 1#3 GND IN 4"C
			450	2-4/0	(2) 3#4/0, 1#2 GND IN 2"C	450N	2-4/0	(2) 4#4/0, 1#2 GND IN 2 1/2"C
			500	2-250	(2) 3-250 KCMIL, 1#2 GND IN 2 1/2"C	500N	2-250	(2) 4-250 KCMIL, 1#2 GND IN 2 1/2"C
			600	2-350	(2) 3-350 KCMIL, 1#1 GND IN 2 1/2"C	600N	2-350	(2) 4-350 KCMIL, 1#1 GND IN 3"C
			700	2-500	(2) 3-500 KCMIL, 1#1/0 GND IN 3"C	(700N)	2-500	(2) 4-500 KCMIL, 1#1/0 GND IN 3 1/2"C
			800	2-600	(2) 3-600 KCMIL, 1#1/0 GND IN 3 1/2"C	800N	2-600	(2) 4-600 KCMIL, 1#1/0 GND IN 4"C
			1000	3-500	(3) 3-500 KCMIL, 1#2/0 GND IN 3"C	(1000N)	3-500	(3) 4-500 KCMIL, 1#2/0 GND IN 3 1/2"C
			1200	3-600	(3) 3-600 KCMIL, 1#3/0 GND IN 4"C	(1200N)	3-600	(3) 4-600 KCMIL, 1#3/0 GND IN 4"C
			1600	4-600	(4) 3-600 KCMIL, 1#4/0 GND IN 4"C	(1600N)	4-600	(4) 4-600 KCMIL, 1#4/0 GND IN 4"C
			2000	5-600	(5) 3-600 KCMIL, 1-250 KCMIL GND IN 4"C	2000N	5-600	(5) 4-600 KCMIL, 1-250 KCMIL GND IN 4"C
			2500	7-500	(7) 3-500 KCMIL, 1-350 KCMIL GND IN 3 1/2"C	2500N	7-500	(7) 4-500 KCMIL, 1-350 KCMIL GND IN 3 1/2"C
			3000	8-500	(8) 3-500 KCMIL, 1-400 KCMIL GND IN 3 1/2"C	3000N	8-500	(8) 4-500 KCMIL, 1-400 KCMIL GND IN 3 1/2"C
			4000	10-600	(10) 3-600 KCMIL, 1-500 KCMIL GND IN 4"C	4000N	10-600	(10) 4-600 KCMIL, 1-500 KCMIL GND IN 4"C
			5000	12-600	(12) 3-600 KCMIL, 1-700 KCMIL GND IN 4"C	5000N	12-600	(12) 4-600 KCMIL, 1-700 KCMIL GND IN 4"C
			6000	15-600	(15) 3-600 KCMIL, 1-500 KCMIL GND IN 4"C	6000N	15-600	(15) 4-600 KCMIL, 1-800 KCMIL GND IN 4"C
NOTES:								

1. AMPACITIES FOR FEEDER SIZES ARE BASED ON N.E.C. CODE 110-14. (TERMINATION PROVISIONS FOR EQUIPMENT RATED 100A OR LESS ARE RATED FOR USE WITH CONDUCTORS RATED 60°C. TERMINATION PROVISIONS FOR EQUIPMENT RATED GREATER THAN 100A ARE RATED FOR USE WITH CONDUCTORS RATED 75°C.).

2. CONDUIT FILL IS BASED ON 40% FILL USING SINGLE CONDUCTOR BUILDING WIRE OF INSULATION TYPES THHN, THWN-2, XHH, XHHW, AND XHHW-2 IN RMC. FOR OTHER RACEWAY TYPES REFER TO APPROPRIATE N.E.C. APPENDIX C TABLES. 3. EQUIPMENT GROUND SIZING BASED ON N.E.C. TABLE 250.122.

POWER SYMBOL LIST						
SYMBOL	DESCRIPTION					
•	CONDUIT DOWN					
0	CONDUIT UP					
PC	CORD REEL					
	DISCONNECT SWITCH - NON-FUSED					
Z	DISCONNECT SWITCH - FUSED					
X	DISCONNECT SWITCH - COMBINATION MOTOR STARTER					
FB	FLOOR BOX					
	ELECTRICAL PANEL					
\overline{ullet}	GROUNDING ROD					
=	GROUND					
	GROUNDING BAR					
Ō	JUNCTION BOX					
Μ	METER					
Q	MOTOR - SINGLE PHASE					
Ó	MOTOR - THREE PHASE					
\$ M	MOTOR RATED SWITCH					
PT	POKE-THRU					
φ	RECEPTACLE - DUPLEX TYPE					
₽	RECEPTACLE - DUPLEX TYPE 6" ABOVE COUNTER					
Ф USB	RECEPTACLE - DUPLEX/USB COMBINATION TYPE					
†	RECEPTACLE - QUADRUPLEX TYPE					
φ	RECEPTACLE - SIMPLEX TYPE					
Ψ	RECEPTACLE - SPECIALTY TYPE					
Т	TRANSFORMER					
VFD	VARIABLE FREQUENCY DRIVE					
NOTES: 1. ALL DEVICE RA SCHEDULES.	TINGS/SIZES SHALL BE COORDINATED WITH PLANS AND					

TECHNOLOGY SYMBOL LIST						
SYMBOL	DESCRIPTION					
0	BELL OUTLET					
Z	CAMERA					
CR	CARD READER					
	INTERCOM					
	LOW VOLTAGE PANEL					
٥	PUSH BUTTON					
HS (S	SPEAKER - WALL MOUNTED, CEILING MOUNTED					
	TECHNOLOGY OUTLET - 6" ABOVE COUNTER					
	TECHNOLOGY OUTLET - FLOOR					
▼	TECHNOLOGY OUTLET - WALL					
НЗ	TELEVISION OUTLET					
Ð	WALL CLOCK - SINGLE FACE					
\oplus	WALL CLOCK - DOUBLE FACE					
HDS	WALL CLOCK AND SPEAKER UNIT					
WAP	WIRELESS ACCESS POINT					

NOTES: 1. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR BOX AND CONDUIT FOR ALL DEVICES INDICATED. 2. LOW VOLTAGE CONTRACTOR SHALL PROVIDE EXACT SPECIFICATIONS AND LOCATIONS OF ALL DEVICES.

FIRE ALARM SYMBOL LIST					
SYMBOL	DESCRIPTION				
F	AUDIBLE DEVICE - CEILING MOUNTED				
F	AUDIBLE DEVICE - WALL MOUNTED				
¢	CARBON DIOXIDE ALARM				
$\langle \circ \rangle$	CARBON MONOXIDE ALARM				
F	COMBINATION AUDIBLE/VISUAL DEVICE - CEILING MOUNTED				
F	COMBINATION AUDIBLE/VISUAL DEVICE - WALL MOUNTED				
ĊS	COMBINATION CARBON MONOXIDE ALARM/SMOKE DETECTOR				
	EXISTING COMBINATION FIRE/SMOKE DAMPER (VERTICAL)				
	EXISTING COMBINATION FIRE/SMOKE DAMPER (HORIZONTAL) NEW				
<u>(s)</u>	DUCT MOUNTED SMOKE DETECTOR				
FAA	FIRE ALARM ANNUNCIATOR PANEL				
FACP	FIRE ALARM CONTROL PANEL				
FD V	FIRE DEPARTMENT COMMUNICATION OUTLET				
FS	FLOW SWITCH				
H	HEAT DETECTOR				
I/O	INPUT/OUTPUT CONTROL MODULE				
DH	MAGNETIC DOOR HOLDER				
F	MANUAL PULL STATION				
Hs	SMOKE DETECTOR - WALL MOUNTED, CEILING MOUNTED				
Ś	SMOKE DETECTOR WITH AUDIO				
TS	TAMPER SWITCH				
E	VISUAL DEVICE - CEILING MOUNTED				
F	VISUAL DEVICE - WALL MOUNTED				
NOTES:					

NOTES:
 DRAWINGS INDICATE DESIGN INTENT ONLY, FINAL LOCATIONS AND DEVICE SPECIFICATIONS SHALL BE PROVIDED BY FIRE ALARM MANUFACTURER. REFER TO PROJECT SPECIFICATIONS FOR APPROVED MANUFACTURERS.
 FIRE DETECTION AND SIGNALING DEVICES ARE SHOWN FOR COORDINATION PURPOSES. FINAL SYSTEM DESIGN TO BE PERFORMED BY CONTRACTOR AND SUPPLIER FOR OFFICIAL SUBMISSION. COORDINATE ALL DEVICE QUANTITIES AND LOCATIONS WITH SUPPLIER PRIOR TO INSTALLATION. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY PATHWAYS, POWER SUPPLIES AND DEVICES PER SUPPLIER CONTRACT DOCUMENTS

AND DEVICES PER SUPPLIER CONTRACT DOCUMENTS.

ELECTRICAL ABBREVIATIONS			DRAWING NOTATION		
ABBREV. DESCRIPTION		SYM	SYMBOL DESCRIPTION		
AFF	ABOVE FINISHED FLOOR		<u> </u>	CONSTRUCTION KEYNOTE NUMBER 1	
AWG	AMERICAN WIRE GAUGE		_/		
A AF			<u> </u>	DEMOLITION KEYNOTE NUMBER 1	
AT	AMPERE TRIP	2		COPPER FEEDER SIZE TAG (REFER TO FEEDER SCHEDULE)	
ATS	AUTOMATIC TRANSFER SWITCH		0	ALUMINUM FEEDER SIZE TAG (REFER TO FEEDER SCHEDULE)	
AIC	AVAILABLE INTERRUPTING CURRENT (AMPS)		MENT	EQUIPMENT TAG	
CB					
CU	COPPER			EXISTING DEVICES OR EQUIPMENT	
СТ	CURRENT TRANSFORMER			NEW OR MODIFIED DEVICES OR EQUIPMENT	
DIA	DISCONNECT			NEW OR MODIFIED UNDERGROUND WIRING	
EWC	ELECTRIC WATER COOLER			EXISTING SYSTEM COMPONENT TO BE REMOVED	
EC	ELECTRICAL CONTRACTOR				
EMT	ELECTRICAL METALLIC TUBING		•	POINT OF NEW CONNECTION.	
(E)	EMERGENCY POWER OFF EXISTING ELECTRICAL EQUIPMENT/WORK TO REMAIN	LIGHT	LIGHTING FIXTURE TAG		
FA	FIRE ALARM	L1 IIGHTING INVERTER, OR INV1 GENERATOR CIRCUIT (MAY NOT 13'-0" APPEAR ON EVERY TAG)			
FACP	FIRE ALARM CONTROL PANEL	FIXTURE MOUNTING HEIGHT (MAY NOT APPEAR ON EVERY TAG)			
FLA	FULL LOAD AMPS		LIGHTING CONTROL TAG		
F G/GND	GROUND	LIGHT	LIGHTING CONTROL		
GFCI/GFI	GROUND FAULT CIRCUIT INTERRUPTER	SPAC	SPACE TYPE '1' Z1 - DAYLIGHTING CONTROL ZONE '1' (MAY NOT APPEAR ON EVERY TAG)		
HOA	HAND-OFF-AUTO	NOTE: REQU	NOTE: THE TAG DOES NOT REFLECT THE QUANTITY OF CONTROL DEVICES REQUIRED IN AREA.		
HP					
INV	INVERTER		-SECTION NUMBER 4		
KV	KILOVOLT		4 E300		
KVA	KILOVOLT AMPERE		SHEET E300 ON WHICH SECTION VIEW IS PLACED		
KW KWH	KILOWATT HOUR		SECTION NUMBER 4		
LP	LIGHTING PANEL				
MCB	MAIN CIRCUIT BREAKER		$\begin{array}{c} \hline \\ \hline \\ E100 \end{array} \qquad \begin{array}{c} \hline \\ \hline \\ SCALE: 1/4" = 1' - 0" \end{array}$		
MDP			SHEET E100 ON WHICH SECTION IS CUT (ENLARGED PARTIAL PLAN SIMILAR)		
MAX	MAIN LUG ONLY MAXIMUM				
MIN	МІЛІМИМ				
NEC	NATIONAL ELECTRICAL CODE		APPLICABLE CODES		
NEMA N/NEU	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.		AND REGULATIONS		
NF	NON-FUSIBLE	YEAR		CODE	
NC	NORMALLY CLOSED	2015	MICHI	GAN BUILDING CODE	
NO		2015	MICHI		
NIC PH/Ø	PHASE	2015	MICHI	GAN RESIDENTIAL CODE	
Р	POLE	2023	MICHI	GAN ELECTRICAL CODE RULES, PART 8	
PVC	POLYVINYL CHLORIDE (PLASTIC)	2023	NATIO	NAL ELECTRICAL CODE (NFPA 70)	
PF (R)		2013	NFPA	20	
RP	RECEPTACLE PANEL	2013	NFPA	101	
(RR)	REMOVE AND REINSTALL	2013	NFPA	110	
RMC	RIGID METALLIC CONDUIT	2009	ICC A1	117.1 ACCESSIBLE AND USABLE BUILDINGS & FACILITIES	
TBB	TELEPHONE BACKBOARD TRANSFORMER	2019	DETRO	DIT ELEVATOR CODE	
ТҮР	TYPICAL				
UC	UNDERCOUNTER	L	LIGHTING CONTROLS I FGEND		
UL		SYM	SYMBOL DESCRIPTION		
UPS	UNIVERSAL SERIAL BUS	\$	iL	LIGHT CONTROL LOCATION	
UON	UNLESS OTHERWISE NOTED	\$) 	SWITCH - SINGLE POLE	
V	VOLT	\$	3	SWITCH - THREE WAY	
VA W/	VOLT AMPERE	\$	\$4 SWITCH - FOUR WAY		
WP	WEATHERPROOF	Γ	1		
WG	WIRE GUARD			DRAWING INDEX	
		SHEET NO		DESCRIPTION	
		E0.0 E1.1	ELECT	RICAL GENERAL INFORMATION FLOOR ELECTRICAL PLANS	







Phone 248.399.1900 Fax 248.399.1901 www.sesnet.com © 2024 SES, INC. SES Project # 22 0588 01





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03/27/2025



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WOMENS905

P.E. LKR. 1033

P.E. LKR.

SHWR 1035

P.E. STOR. 910

P.E. STOR. 911

ELECTRICAL DEMOLITION NOTES

1. VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK. EXAMINE THE DRAWINGS OF OTHER TRADES, BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. 3. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION OF DEVICES AND EQUIPMENT REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES. 4. COORDINATE WITH NEW WORK PLANS, ONE LINE, AND RISER DIAGRAMS FOR EXTENT OF DEMOLITION WORK. 5. COORDINATE ANY SHUTDOWN OF EXISTING SERVICES AND EQUIPMENT REMAINING IN USE

WITH OWNERS' REPRESENTATIVE. WHERE EXISTING BUILDING SERVICE IS REQUIRED TO BE SHUT DOWN, INCLUDE ALL ASSOCIATED OVERTIME COST TO PERFORM THIS WORK DURING EVENING AND WEEKENDS. INCLUDE ALL COSTS FOR PROVIDING TEMPORARY POWER 6. REMOVE ALL CONDUIT AND WIRE BACK TO NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.

WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM DEVICES TO REMAIN; EXTEND CONDUIT AND WIRE AS REQUIRED TO MAINTAIN ELECTRICAL SERVICE. 8. PROVIDE BLANK COVER PLATES WHERE SWITCHES AND DEVICES ARE REMOVED AND WALL REMAINS INTACT. MARK ALL UNUSED CIRCUIT BREAKERS AS "SPARE". 9. CONTRACTOR TO TAG ALL CIRCUITS AT BOTH ENDS AFFECTED BY THIS SCOPE OF WORK. 10. CONTRACTOR SHALL PROVIDE UPDATED, TYPED-IN DIRECTORIES FOR ALL PANELS AFFECTED BY THIS SCOPE OF WORK. 11. CONTRACTOR SHALL VERIFY ALL UNDERGROUND AND IN-SLAB UTILITIES LOCATIONS PRIOR TO SAW CUTTING OR PENETRATING ANY FLOOR SLABS. CONTRACTOR SHALL REPAIR ALL UTILITIES DAMAGED BY SAW CUTTING.

ELECTRICAL DEMOLITION KEYNOTES D1 REMOVE FOR REPLACEMENT OF WALL. REINSTALL IN CURRENT LOCATION ONCE WORK IS COMPLETE.

POWER GENERAL NOTES

- 1. ALL RECEPTACLES ON EXTERIOR, IN KITCHEN, IN CONCESSION, IN LABORATORY, AND WITHIN 6'-0" OF SINK OR OTHER WATER SUPPLY SHALL BE READILY ACCESSIBLE GFCI TYPE RECEPTACLE.
- 2. REFER TO ARCHITECTURAL FLOOR PLANS AND ELEVATIONS TO VERIFY LOCATION OF DEVICES.
- 3. ALL CONDUITS SERVING 120 VOLTS OR GREATER SHALL INCLUDE A GROUND WIRE. 4. ALL CONDUITS SHALL BE ROUTED CONCEALED UNLESS NOTED OTHERWISE. 5. ALL 120 VOLT CIRCUITS SHALL UTILIZE A SEPARATE NEUTRAL.
- 6. RECEPTACLES INSTALLED IN ELEVATOR HOISTWAY(S), ELEVATOR MACHINE ROOM(S), CONTROL ROOM(S)/SPACE(S) SHALL BE GROUND FAULT CIRCUIT INTERRUPTER TYPE (GFCI) WITH THE EXCEPTION OF A DEDICATED SINGLE PHASE RECEPTACLE SUPPLYING AN
- ELEVATOR PIT SUMP PUMP SHALL NOT BE A GFCI TYPE RECEPTACLE. 7. ALL BRANCH CIRCUITS THAT SUPPLY 125-V SINGLE PHASE, 15 AND 20 AMP OUTLETS TO BE INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, RECREATION ROOMS, CLOSETS, HALLWAYS OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER; COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT.

ELECTRICAL GENERAL NOTES

- 1. ALL RECEPTACLES ON EXTERIOR, IN KITCHEN, IN CONCESSION, IN LABORATORY, AND WITHIN 6'-0" OF SINK OR OTHER WATER SUPPLY SHALL BE READILY ACCESSIBLE GFCI TYPE RECEPTACLE.
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- 4. ALL CONDUITS SHALL BE ROUTED CONCEALED UNLESS NOTED OTHERWISE. 5. ALL 120 VOLT CIRCUITS SHALL UTILIZE A SEPARATE NEUTRAL. 6. RECEPTACLES INSTALLED IN ELEVATOR HOISTWAY(S), ELEVATOR MACHINE ROOM(S), CONTROL ROOM(S)/SPACE(S) SHALL BE GROUND FAULT CIRCUIT INTERRUPTER TYPE
- (GFCI) WITH THE EXCEPTION OF A DEDICATED SINGLE PHASE RECEPTACLE SUPPLYING AN ELEVATOR PIT SUMP PUMP SHALL NOT BE A GFCI TYPE RECEPTACLE. 7. ALL BRANCH CIRCUITS THAT SUPPLY 125-V SINGLE PHASE, 15 AND 20 AMP OUTLETS TO BE INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, RECREATION ROOMS, CLOSETS, HALLWAYS OR SIMILAR ROOMS OR AREAS
- SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER; COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. 8. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL
- LIGHTING FIXTURES UNLESS OTHERWISE NOTED. 9. EXIT LIGHTS AND EMERGENCY BATTERY UNITS SHALL BE UNCONTROLLED AND TIED AHEAD OF LOCAL AREA LIGHTING SWITCH, UNLESS CIRCUITED OTHERWISE.
- 10. WHERE MORE THAN ONE LIGHT SWITCH IS INDICATED TO BE INSTALLED AT THE SAME LOCATION, THEY SHALL BE GROUPED UNDER ONE COMMON FACEPLATE. 11. ALL POWER PACKS TO BE LOCATED DIRECTLY ABOVE SWITCH.
- 12. LIGHT FIXTURES ARE LOOPED TOGETHER TO INDICATE CONTROL ZONE GROUPS. CONNECTED FIXTURES ARE TO BE CONTROLLED TOGETHER. CIRCUITS MAY BE SHARED AMONG SEPARATE CONTROL ZONE GROUPS. MULTIPLE ZONES ZONES MAY BE COMBINED IN SOFTWARE TO FORM SCENES. SEE LIGHTING CONTROL MATRIX: SCENE SCHEDULE (IF PROVIDED), AND PANEL SCHEDULES FOR ADDITIONAL INFORMATION. 13. ALL CONDUITS SHALL BE ROUTED CONCEALED UNLESS NOTED OTHERWISE.

POWER KEYNOTES

R1 INSTALL EXISTING DEVICE IN CURRENT LOCATION.

P.E. LKR. 1034

P.E. LKR. 1033



03/27/2025

FIRST FLOOR POWER PLAN -UNIT 900 SCALE: 1/8" = 1'-0"

AUX GYM 908







C KINGSCOTT ASSOCIATES INC.

KALAMAZOO,