BELLE ISLE ATHLETIC SHELTER
HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

330 VISTA AVE.
DETROIT, MI 48207

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET

DMVA PROJECT #: 751/24078.SMD
FILE #: 1411-14
CONTRACT #: Y24182

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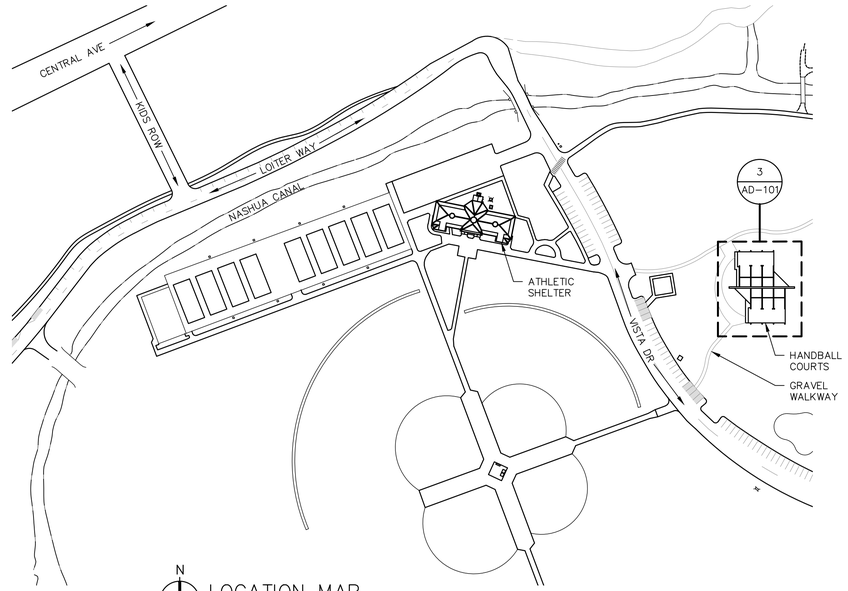

LOCATION MAP
NOT TO SCALE

SHEET INDEX

ABBREVIATIONS

A.B.	ANCHOR BOLTS	D.J.	DOOR JAMB	LAM.	LAMINATE	RAD.	RADIUS
A.C.T.	ACOUSTICAL CEILING TILE	DN.	DOWN	LAV.	LAVATORY	R.C.P.	REFLECTED CEILING PLAN
ADDN.	ADDITIONAL	D.O.	DOOR OPENING	LB.	POUND	R	RISER
ADJ.	ADJACENT	DR.	DOOR	LEV.	LEVEL	R.D.	ROOF DRAIN
A.F.F.	ABOVE FINISHED FLOOR	D.S.	DOWN SPOUT	L.F.	LINEAR FEET	RTU	ROOF TOP UNIT
A.F.G.	ABOVE FINISHED GRADE	DWG.	DRAWING	LG.	LONG	REF.	REFERENCE
A.H.J.	AUTHORITY HAVING JURISDICTION	DWL.	DOWEL	LGTH.	LENGTH	REFL.	REFLECTED
A.H.U.	AIR HANDLING UNIT	EA.	EACH	L.H.	LOUVER HEAD	REINF.	REINFORCEMENT
ALT.	ALTERNATE	(E)	EXISTING	L.J.	LOUVER JAMB	REM.	REMOVABLE
ANCH.	ANCHOR	E.J.	EXPANSION JOINT	L.L.	LIVE LOAD	REQD.	REQUIRED
A.N.S.I.	AMERICAN NATIONAL STANDARDS INSTITUTE	EL.	ELEVATION	LLH	LONG LEG HORIZONTAL	R.R.	RAILROAD
		ELEC.	ELECTRICAL	LLV	LONG LEG VERTICAL	RM.	ROOM
A.P.	ACCESS PANEL	EMB.	EMBEDMENT	L.O.	LOUVER OPENING	SCHED.	SCHEDULE
APPROX.	APPROXIMATE	EQ.	EQUAL	L.P.	LOW POINT	SECT.	SECTION
APW	AIR PRESSURIZED WATER	EQUIP.	EQUIPMENT	L.S.	LOUVER SILL	S.F.	SQUARE FEET
ARCH.	ARCHITECT, ARCHITECTURAL	EQUIV.	EQUIVALENT	LVR.	LOUVER	SGL.	SINGLE
A.S.T.M.	AMERICAN SOCIETY FOR TESTING MATERIALS	E.W.	EACH WAY	M	METER	SHT.	SHEET
		EXC.	EXCAVATED	MACH.	MACHINE	SIM.	SIMILAR
B.A.S.	BUILDING AUTOMATION SYSTEM	EXP.	EXPANSION	MAINT.	MAINTENANCE	SP.	SPACE
B/B	BACK TO BACK	EXP.B.	EXPANSION BOLT	MAS.	MASONRY	SPEC.	SPECIFICATIONS
B.C.	BOTTOM CHORD	EXIST./(E)	EXISTING	MAX.	MAXIMUM	SQ.	SQUARE
B.E.	BOTTOM ELEVATION	EXT.	EXTERIOR	MECH.	MECHANICAL	S.S.	STAINLESS STEEL
BET.	BETWEEN	F/F	FACE TO FACE	MET.	METAL	SSTL.	STRUCTURAL STEEL
B.F.	BARRIER FREE	F.D.	FLOOR DRAIN	MEZZ.	MEZZANINE	STAGG.	STAGGERED
B.F.F	BELOW FINISHED FLOOR	FDN.	FOUNDATION	MFR.	MANUFACTURER	STD.	STANDARD
BLDG.	BUILDING	F.F.E.	FINISH FLOOR ELEVATION	M.I.	MISCELLANEOUS IRON	STIFF.	STIFFENER
BLK.	BLOCK	FIN.	FINISH, FINISHED	MIN.	MINIMUM	STL.	STEEL
BM.	BEAM	FL.	FLOOR	MISC.	MISCELLANEOUS	STL. PL.	STEEL PLATE
B.O.S.	BOTTOM OF STEEL	F.S.	FAR SIDE	MM.	MILLIMETER	STRUCT.	STRUCTURAL
BOTT.	BOTTOM	FT.	FEET	M.O.	MASONRY OPENING	SUPP.	SUPPORT
BRCG.	BRACING	FTG.	FOOTING	M.R.A.C.T.	MOISTURE RESISTANT	SURF.	SURFACE
BRG.	BEARING	FUT.	FUTURE	M.T.	METRIC TON	SYM.	SYMMETRICAL
BRKT.	BRACKET	GA.	GAGE	N.I.C.	NOT IN CONTRACT	T	TREAD
BSMT.	BASEMENT	GALV.	GALVANIZED	NO.	NUMBER	T&B	TOP AND BOTTOM
BULL.	BULLETIN	G.C.	GENERAL CONTRACTOR	NOM.	NOMINAL	T.C.	TOP CHORD
C.	CHANNEL	GEN.	GENERAL	N.S.	NEAR SIDE	T/E	TOP OF EAVE OR PARAPET STEEL
C/C	CENTER TO CENTER	G.L.	GIRT LINE	N.T.S	NOT TO SCALE	TEMP.	TEMPERATURE, TEMPORARY
CERT.	CERTIFIED	GRAT.	GRATING	O/O	OUT TO OUT	THD.	THREAD
C.G.	CORNER GUARD	GRT.	GROUT	O.C.	ON CENTER	THK.	THICKNESS
CHKD. PL.	CHECKERED PLATE	GWB.	GYPSUM WALL BOARD	O.D.	OUTSIDE DIAMETER	T.L.	TOTAL LOAD
C.J.	CONSTRUCTION/CONTROL JOINT	GYP. BD.	GYPSUM BOARD	OHD.	OVERHEAD	T/M	TOP OF MASONRY
C.L.	CENTER LINE	H.	HIGH	OPNG.	OPENING	T.O.F.	TOP OF FOOTING
CLG.	CEILING	HGR.	HANGER	OPP.	OPPOSITE	T/STL.	TOP OF STEEL
CLR.	CLEAR	HM.	HOLLOW METAL	OPP. HD.	OPPOSITE HAND	T/S	TOP OF SLAB
CM.	CENTIMETER	HT.	HEIGHT	P-LAM	PLASTIC LAMINATE	TYP.	TYPICAL
C.M.U.	CONCRETE MASONRY UNIT	HORIZ.	HORIZONTAL	PAR.	PARALLEL	U/S	UNDERSIDE
CNVR.	CONVEYOR	H.P.	HIGH POINT	PC.	PIECE	U.N.O.	UNLESS NOTED OTHERWISE
COL.	COLUMN	H.R.	HANDRAIL	P/C	PRECAST	VERT.	VERTICAL
CONN.	CONNECT/CONNECTION	H.S.	HIGH STRENGTH	P.C.F.	POUNDS PER CUBIC FOOT	V.C.T.	VINYL COMPOSITE TILE
CONSTR.	CONSTRUCTION	I.D.	INSIDE DIAMETER	PEN.	PENETRATION	W/	WITH
CONT.	CONTINUATION/CONTINUOUS	I.E.	INVERT ELEVATION	PFE	PORTABLE FIRE EXTINGUISHER	W/O	WITHOUT
CONTR.	CONTRACTOR	IN.	INCHES	PH.	PHASE	WD.	WOOD
COV.	COVER	INCL.	INCLUDE, INCLUDING	PL.	PLATE	W.H.	WINDOW HEAD
CTR.	CENTER	INFO.	INFORMATION	PLWD.	PLYWOOD	W.J.	WINDOW JAMB
DEG.	DEGREE	J.C.	JANITOR'S CLOSET	PREFAB.	PREFABRICATION	W.O.	WINDOW OPENING
DEMO	DEMOLITION	JT.	JOINT	PROJ.	PROJECT, PROJECTION	WPT.	WORKING POINT
DET.	DETAIL	K.B.	KNEE BRACE	P.S.F.	POUNDS PER SQUARE FOOT	W.S.	WATER STOP
D.H.	DOOR HEADER	K.O.P.	KNOCK OUT PANEL	P.S.I.	POUNDS PER SQUARE INCH	WT.	WEIGHT
DIA.	DIAMETER	K.P.	KICK PLATE	PT.	POINT	YD.	YARD
DIAG.	DIAGONAL	L.	LENGTH	QTY.	QUANTITY	ZC.	ZINC COATED
DIM.	DIMENSION	LAD.	LADDER				

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PROJECT: BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED: DRAWN JRR; CHECKED TDS; APPROVED TDS

DATE: 08.07.2025

ISSUED FOR: CONSTRUCTION DOCUMENTS_REV

IDENTIFICATION NUMBER: FILE# 751/24078.SMD; A/E# 1411-14

SHEET NUMBER: 1 OF 42

DRAWING TITLE: TITLE SHEET

DRAWING NUMBER: G-001

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APPLICABLE CODES
2021 MICHIGAN REHABILITATION CODE
2021 MICHIGAN ENERGY CODE
2021 MICHIGAN MECHANICAL CODE
2021 MICHIGAN PLUMBING CODE
2023 MICHIGAN ELECTRICAL CODE

DEFERRED SUBMITTALS
FIRE SPRINKLER
FIRE ALARM

SPECIAL INSPECTIONS
NONE

BUILDING DESCRIPTION
NUMBER OF STORIES: TWO
FUNCTION: THE FACILITY IS REGULARLY USED AS A WORKOUT SPACE. OCCASIONALLY, THE BUILDING IS USED FOR PUBLIC GATHERINGS AND IN THE FUTURE THEY WOULD LIKE TO USE IT AS AN OFFICE SPACE.
THE FIRST FLOOR INCLUDES ASSEMBLY, STORAGE, AND A MECHANICAL ROOM.
THE SECOND FLOOR INCLUDES ASSEMBLY AND STORAGE.
THERE IS AN EXISTING FIRE ALARM SYSTEM THAT DOES NOT APPEAR TO BE OPERATIONAL.

AREAS:
1ST FLOOR: 5,948 SQ.FT. GROSS
2ND FLOOR: 4,925 SQ.FT. GROSS

TOTAL BUILDING: 10,873 SQ.FT. GROSS

TOTAL BUILDING HEIGHT:
40' +/- FROM GRADE TO TOP OF MAIN ROOF, 50' +/- FROM GRADE TO TOP OF CENTER TOWER

PROJECT DESCRIPTION:
REPLACE FURNACE AND HOT WATER HEATER. PROVIDE A NEW COMPLETE FIRE ALARM AND FIRE SUPPRESSION SYSTEM THROUGHOUT THE FIRST AND SECOND FLOOR. LIMITED CEILING, PAINTING AND LIGHTING CHANGES ON THE FIRST FLOOR.

CONSTRUCTION OF BUILDING:
BUILDING STRUCTURE: MASONRY WITH WOOD FRAMED BALCONIES / CONCRETE FLOOR SLABS / STEEL AND WOOD FRAMED ATTIC & ROOF CONSTRUCTION
EXTERIOR WALL: BRICK MASONRY
TYPE OF CONSTRUCTION: TYPE IIIB

UTILITIES
ALL UTILITIES WILL REMAIN THE SAME INCLUDING POWER, WATER, GAS, SANITARY SEWER AND STORM SEWER.

MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS

ALTERATION LEVEL 2
WORK AREA IS LESS THAN 50 PERCENT OF BUILDING. REQUIREMENTS RELATED TO WORK AREA ARE NOT APPLICABLE WHERE LEVEL 2 ALTERATIONS ARE SOLELY TO MECHANICAL OR FIRE PROTECTION SYSTEMS.

ALTERATIONS MAINTAIN THE CURRENT MEANS OF EGRESS.

VERTICAL OPENINGS PROTECTED WITH 1-HOUR PROTECTION IN WORK AREAS PER 802.2.1.

BUILDING AREAS AND OCCUPANTS
OVERALL GROSS SQUARE FOOTAGE: 10,873
OCCUPANT LOAD:

BUILDING TYPE: IIIB

GROUND LEVEL

A-3: 2,950 SF / 30 NET	= 98 OCCUPANTS
TOILETS, VESTIBULE, LOBBY: 1,434 SF	= N/A
MECHANICAL: 409 SF / 300 GROSS	= 2 OCCUPANTS

SECOND LEVEL

A-3: 3,876 SF / 30 NET	= 130 OCCUPANTS
STORAGE: 110 SF / 300 GROSS	= 1 OCCUPANT
LOBBY: 310 SF	= N/A

TOTAL OCCUPANTS = 231

BASED ON 116 MALES AND 116 FEMALES:

WATER CLOSETS:	(1 PER 125 MALES)	REQUIRED =1	PROVIDED = 4	:COMPLIES
	(1 PER 65 FEMALES)	REQUIRED =2	PROVIDED = 4	:COMPLIES
LAVATORIES:	(1 PER 200 MALES)	REQUIRED =1	PROVIDED = 2	:COMPLIES
	(1 PER 200 FEMALES)	REQUIRED =1	PROVIDED = 2	:COMPLIES
DRINKING FOUNTAIN:	(1 PER 500)	REQUIRED =1	PROVIDED = 0	:NOT COMPLIANT- FIXTURE TO BE ADDED IN SEPARATE PROJECT
SERVICE SINK:	1 REQUIRED	REQUIRED =1	PROVIDED = 1	:COMPLIES

2021 COMMERCIAL MI ENERGY CODE/ ASHRAE STANDARD 90.1-2019

CLIMATE ZONE: 5A
ROOFS: ATTIC / ASSEMBLY MAXIMUM: U-0.021 / INSULATION MINIMUM R-VALUE: R-49

VENTED ATTIC
COMPLY WITH MBC 1202.2.1
1. VENTILATION BASED ON 1/150 SQ. FT. OF ATTIC FLOOR SPACE.

EXISTING VENT AREA CALCULATIONS

ATTIC AREA = 4,379 SQ. FT. (1/150)
VENT AREA = 29.2 SQ. FT. x 144 = 4,203 SQ. INCHES MIN. REQ'D

RIDGE VENT AREA:
CONTINUOUS RIDGE TYPE AT 18 SQ. INCHES PER FOOT = 13.5 LIN. FT.
TOTAL VENTING AT RIDGE = 243 SQ. INCHES

SOFFIT VENT AREA:
PERFORATED SOFFIT PANEL AT 41.8 SQ. INCHES PER PANEL (ASSUMED) = 124 PANELS
TOTAL VENTING AT SOFFIT = 124 PANELS = 5,183 SQ. INCHES

TOTAL VENTING: 5,426 SQ. INCHES > 4,203 SQ. INCHES MIN. : COMPLIES

GENERAL NOTES:
1. SEE SHEET G-001 FOR LIST OF ABBREVIATIONS.
2. DRAWINGS ARE NOT TO BE SCALED FOR ANY DIMENSIONS.
3. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS. ALL EXISTING CONDITIONS ARE TO BE FIELD VERIFIED BY THE G.C. AND ANY DISCREPANCIES BROUGHT TO THE ARCHITECT'S ATTENTION.
4. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR TO VERIFY CONDITION OF EXISTING CONSTRUCTION. DOCUMENT ANY EXISTING CONDITION THAT COULD BE MISCONSTRUED AS DAMAGED DURING NEW CONSTRUCTION. NOTIFY THE ARCHITECT & DTMB OF EXISTING CONDITIONS IN WRITING PRIOR TO THE COMMENCEMENT OF WORK.
5. ALL WORK MUST COMPLY WITH THE DRAWINGS AND SPECIFICATIONS. ANY REVISIONS REQUIRED DUE TO FIELD CONDITIONS MUST BE REVIEWED AND APPROVED BY THE DNR/BIC PRIOR TO CONSTRUCTION.
6. THE G.C. SHALL BE RESPONSIBLE FOR MAINTAINING THE SAFETY AND HEALTH OF ALL BUILDING OCCUPANTS AT ALL TIMES.
7. MAINTAIN ALL PATHS OF EGRESS FROM CONSTRUCTION SPACE AND FROM ADJACENT OCCUPIED SPACES. PATHS TO BE KEPT CLEAR OF DEBRIS, MATERIALS AND EQUIPMENT. CONTRACTOR TO PROVIDE TEMPORARY DOORS AND WALLS AS REQUIRED.
8. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL ATHLETIC SHELTER OPERATIONS OUTSIDE THE IMMEDIATE CONSTRUCTION AREA AT ALL TIMES. COORDINATE ALL NOISY AND ODOROUS WORK WITH THE DNR TO MINIMIZE DISTURBANCES.
9. ALL EXISTING BUILDING FURNISHINGS/CONTENTS ARE TO BE PROTECTED FROM DAMAGE DURING THE ENTIRE PROJECT. THE G.C. WILL BE RESPONSIBLE FOR ANY DAMAGES THAT DO OCCUR.
10. ITEMS TO BE RELOCATED SHALL BE REMOVED, STORED, CLEANED AND REINSTALLED BY THE CONTRACTOR. COORDINATE WITH DRAWINGS AND SPECIFICATIONS.
11. ITEMS NOTED AS BEING REMOVED SHALL BE DISPOSED OF BY THE GENERAL CONTRACTOR. ALL ITEMS NOTED TO BE REMOVED SHOULD BE RECYCLED WHEN POSSIBLE.
12. THE INTERIOR OF THE BUILDING IS TO BE MAINTAINED IN A CLEAN CONDITION. CONTRACTOR SHALL PROVIDE PLASTIC BARRIER FLOORING PROTECTION, WALK OFF MATS AND TEMPORARY PARTITIONS OR OTHER PROTECTION AS REQUIRED THROUGHOUT CONSTRUCTION TO CONTROL DUST AND DIRT. DUST AND DIRT ASSOCIATED WITH THE PROJECT ACCUMULATING ON EXISTING FURNISHINGS, CONTENTS, AND BUILDING WALLS AND FLOORS SHALL BE REMOVED DAILY.
13. ALL UTILITY SHUTDOWNS MUST BE COORDINATED WITH THE DNR.
14. PATCH AND REPAIR WHERE EXISTING ITEMS (I.E. PLUMBING/MECHANICAL FIXTURES, RECEPTACLES) ARE TO BE REMOVED FROM WALLS OR FLOORS. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS.
15. ALL VERTICAL DIMENSIONS SHOWN ARE FROM THE TOP OF FINISH FLOOR (AFF). G.C. TO VERIFY DIMENSIONAL THICKNESS OF ALL FLOORING FINISHES.
16. WHERE NEW CONSTRUCTION ABUTS EXISTING CONSTRUCTION AND APPEARS TO ALIGN FLUSH WITH EXISTING CONSTRUCTION, THE NEW CONSTRUCTION SHALL ALIGN AND BE FLUSH WITH NO VISIBLE JOINT.
17. HAZARDOUS MATERIALS ARE PRESENT WITHIN THE BUILDING. REFER TO THE SPECIFICATION APPENDIX FOR THE HAZARDOUS MATERIALS REPORT AND SPECIFICATION 02 80 00 FOR PROPER REMOVAL OF HAZARDOUS MATERIALS. IF THE CONTRACTOR ENCOUNTERS SUSPICIOUS MATERIALS NOTIFY THE ARCHITECT IMMEDIATELY.
18. THE BELLE ISLE ATHLETIC SHELTER IS LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES (REFERENCE NUMBER 74000999). THE CONTRACTOR SHALL TAKE CARE TO PRESERVE THE DEFINING FEATURES OF THE ATHLETIC SHELTER. CONTRACTOR TO PROVIDE PROTECTION OF THE BUILDING MATERIALS, COMPONENTS AND VEGETATION. REPORT ANY DETERIORATION DISCOVERED DURING CONSTRUCTION TO THE ARCHITECT. COORDINATE WITH THE ARCHITECT TO RETAIN AS MUCH ORIGINAL MATERIAL AS POSSIBLE.
19. ALL MATERIALS USED FOR INTERIOR WALLS, CEILING AND FLOORS SHALL BE RATED PER ASTM E84 OR UL FL723. FLAME SPREAD C25, SMOKE DEVELOPED INDEX C450 CLASS "A"
20. WORK, AS DESCRIBED IN THE DOCUMENTS, WILL NEED TO OCCUR OUTSIDE OF THE CONTRACT LIMITS OF THE ATHLETIC SHELTER BUILDING FOR A COMPLETE PROJECT.
21. THE FACILITY WILL REMAIN IN USE BY THE TENANT FOR THE DURATION OF THE PROJECT. COORDINATION WILL BE REQUIRED WITH THE DNR.
22. COORDINATE EXACT AREA/EXTENTS OF ONSITE STAGING WITH DNR. CONTRACTOR TO PROVIDE BARRIERS AND SIGNAGE AS REQUIRED. CONTRACTOR TO SUBMIT A STAGING PLAN FOR REVIEW AND APPROVAL PRIOR TO MOBILIZATION ONSITE. CONTRACTOR TO IDENTIFY DUMPSTER LOCATIONS, STAGING AREAS, BARRIER TYPES/LOCATIONS, PARKING AND SIGNAGE.
23. WHERE EXISTING FIXTURES, FITTINGS, DEVICES, ETC. ARE SHOWN OR NOTED TO BE REMOVED FROM EXISTING CONSTRUCTION, OR WHERE EXPOSED BY DEMOLITION OR BY THE REMOVAL OF FURNITURE BY OTHERS, REMOVE ALL CONDUIT PIPING, CABLING, ETC. BACK TO THE POINT WHERE IT WILL NOT BE EXPOSED IN THE FINISHED SPACE, U.N.O. REMOVE ALL ABANDONED WIRING TO NEAREST JUNCTION BOX.
24. IF ANY ARTIFACTS ARE DISCOVERED DURING THE CONSTRUCTION PROCESS ALL WORK IS TO STOP AND THE OWNER'S REPRESENTATIVE/PROJECT MANAGER SHALL BE NOTIFIED. ARTIFACTS OR ARCHAEOLOGICAL MATERIALS ARE DEFINED AS: ABORIGINAL ANTIQUITIES AND OTHER RECORDS ON ANTIQUITY, INCLUDING MOUNDS, MINES, EARTHWORKS, VILLAGE SITES, CAMP SITES, BURIALS, HUMAN OR OTHER BONES, SHELLS, STONE IMPLEMENTS, BONE OR COPPER IMPLEMENTS, POTTERY OR SHARD OF POTTERY, OR OTHER OBJECTS RELATING TO NATIVE AMERICAN OCCUPATION; AND MORE MODERN ARTIFACTS, SUCH AS FORTS, RELICS AND OTHER ARTIFACTS RELATING TO THE HISTORIC, COLONIAL, TERRITORIAL, AND EARLY STATEHOOD PERIODS.
25. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY HEATING DURING CONSTRUCTION TO PREVENT PIPES FROM FREEZING AND AVOID ANY DAMAGE TO BUILDING COMPONENTS OR FINISHES.

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THERESA DAKIN SCHERWITZ
ARCHITECT
1301059775
LICENSED ARCHITECT

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DATE 08.07.2025

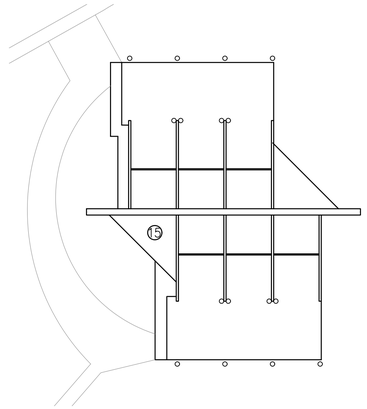
ISSUED FOR CONSTRUCTION DOCUMENTS_REV

IDENTIFICATION NUMBER
FILE# 751/24078.SMD
A/E# 1411-14

SHEET NUMBER 2 OF 42

DRAWING TITLE CODE REVIEW

DRAWING NUMBER G-002



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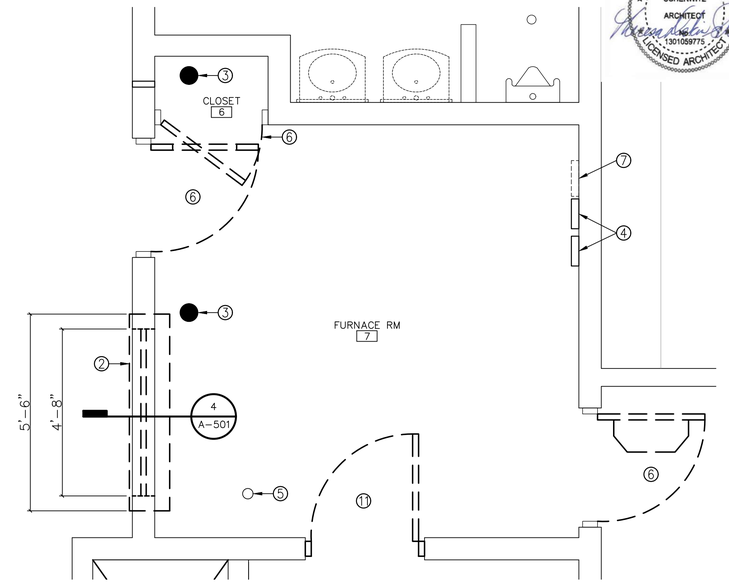
3 AD-101 HANDBALL COURT SITE PLAN –DEMO

0 32' 64' 96'

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

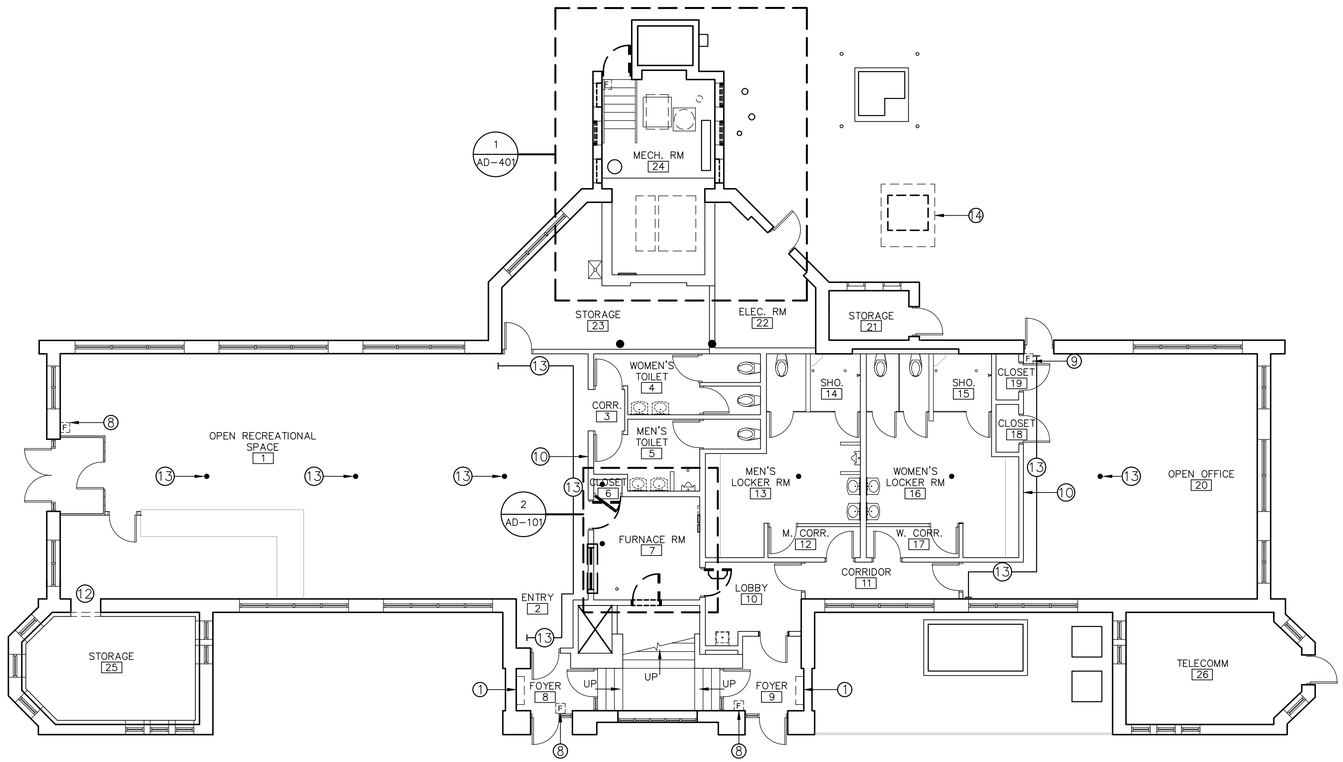


N

2 AD-101 FIRST FLOOR ENLARGED PLAN – DEMO

0 2' 4' 6'

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



N

1 AD-101 FIRST FLOOR PLAN –DEMO

0 8' 16' 24'

SCALE: 1/8"=1'-0"

GENERAL NOTES:

1. HAZARDOUS MATERIALS ARE KNOWN TO BE PRESENT WITHIN THE PROJECT AREA. REFER TO HAZARDOUS MATERIALS REPORT INCLUDED IN APPENDIX A.
2. THERE IS EXISTING LEAD PAINT THROUGHOUT THE BUILDING. REFER TO SPECIFICATION 02 83 00.

LEGEND:

- EXISTING DOOR AND FRAME
- EXISTING WALL AND GLAZING
- PLUMBING IS PRESENT FOR LAV BUT FIXTURE IS NOT CURRENTLY INSTALLED
- EXISTING COLUMN TO REMAIN
- REMOVE DOOR AND FRAME
- REMOVE WINDOW
- PLUMBING IS PRESENT FOR WATER FOUNTAIN BUT FIXTURE IS NOT CURRENTLY INSTALLED. FIXTURE TO BE ADDED IN SEPARATE PROJECT
- EXISTING SERVICE SINK TO REMAIN

KEY NOTES:

① REMOVE ELECTRIC CABINET WALL HEATER.

② REMOVE TRANSACTION WINDOW.

③ EXISTING COLUMN TO REMAIN.

④ EXISTING TIME CLOCK/ALARM BOXES TO REMAIN.

⑤ EXISTING STAIR SUPPORT TO REMAIN.

⑥ REMOVE DOOR. GROUTED FRAME TO REMAIN.

⑦ REMOVE COMBINATION FIRE/SECURITY PANEL. EXISTING CONDUITS TO REMAIN.

⑧ REMOVE PULL STATION. EXISTING CONDUITS TO REMAIN. PATCH BRICK.

⑨ REMOVE PULL STATION. EXISTING CONDUITS TO REMAIN. PATCH BLOCK AND PAINT TO MATCH EXISTING.

⑩ MERCURY THERMOSTAT TO BE PROPERLY DISPOSED OF PER SPECIFICATION 02 80 00.

⑪ REMOVE DOOR AND GROUTED FRAME.

⑫ REMOVE METAL STUDS FROM DOOR OPENING. CUT BACK GYP. BD AND METAL STUD WALL TO FRAME FOR NEW DOOR OPENING.

⑬ EXISTING YELLOW PAINT ON BLOCK WALLS AND 6" METAL COLUMNS CONTAIN LEAD BASED PAINT. REMOVE LOOSE DEBRIS AND FLAKING PAINT AS REQUIRED AND PREPARE SURFACE OF WALLS AND COLUMNS TO RECEIVE NEW PAINT.

⑭ REMOVE ABANDONED TRANSFORMER AND CONCRETE PAD COMPLETE. REFER TO SPECIFICATION 02 80 00 AND 02 84 00.

⑮ REMOVE AND DISPOSE OF REFRIGERATOR. REFER TO SPECIFICATION 02 80 00.

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DESIGN AND CONSTRUCTION DIVISION
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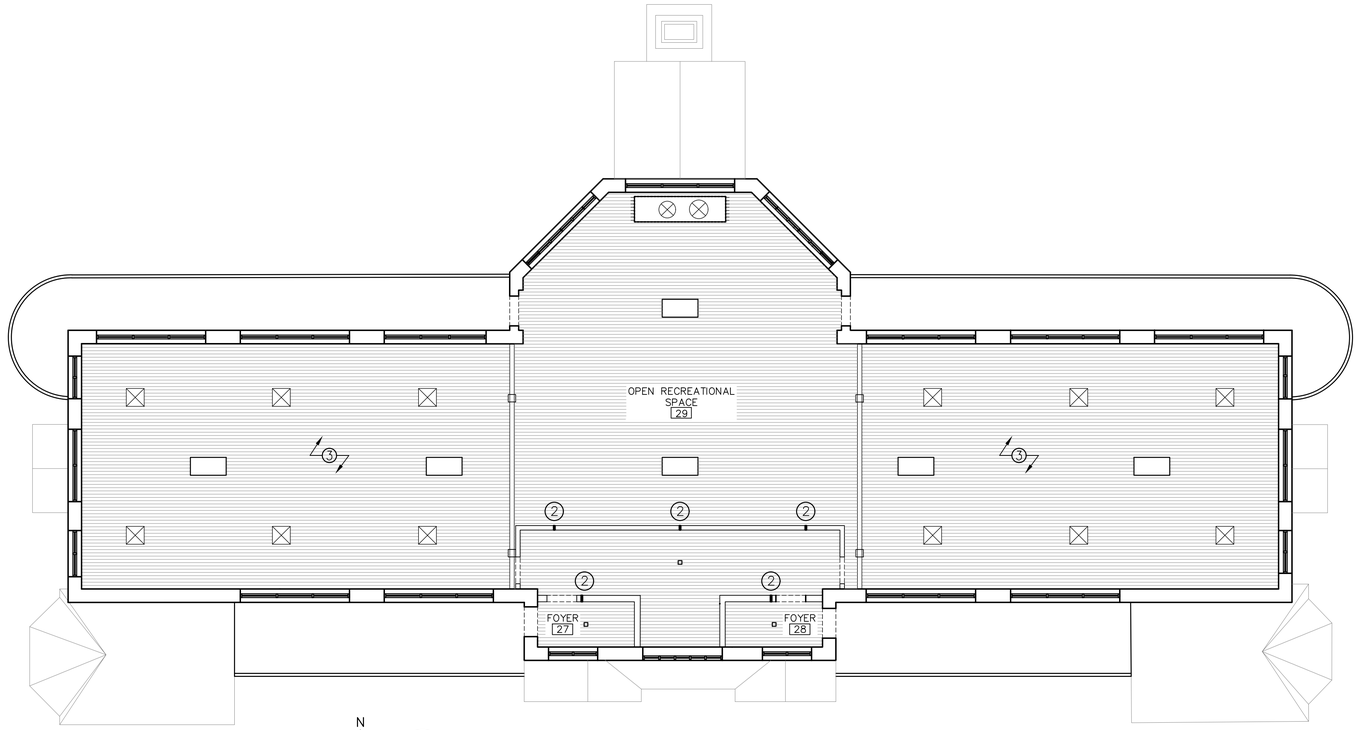
248.542.7866/www.ghfea.com

PROJECT	BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS
DESIGNED	DRWN JRR CHECKED TDS APPROVED TDS
DATE	08.07.2025
ISSUED FOR	CONSTRUCTION DOCUMENTS_REV
IDENTIFICATION NUMBER	FILE# 751/24078.SMD A/E# 1411-14
SHEET NUMBER	3 OF 42
DRAWING TITLE	FIRST FLOOR PLAN – DEMO
DRAWING NUMBER	AD-101



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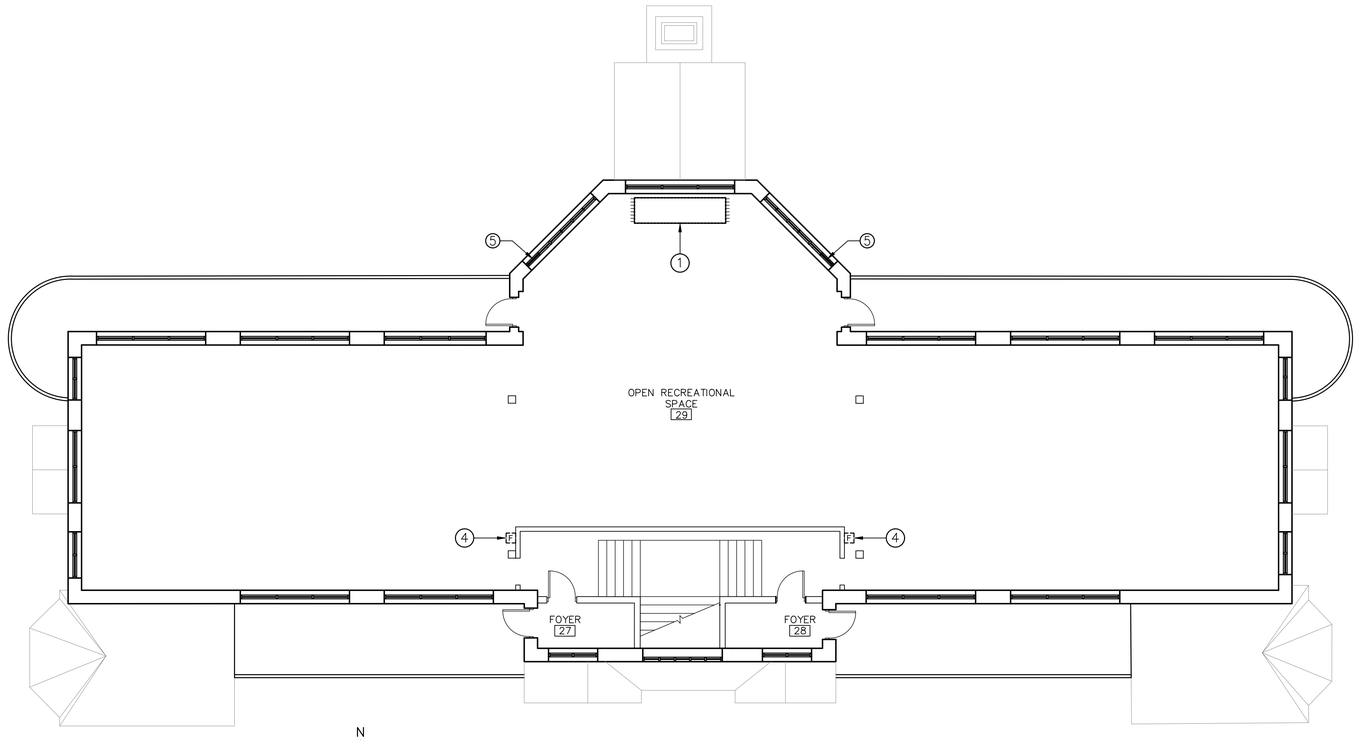
2 AD-102 SECOND FLOOR REFLECTED CEILING PLAN –DEMO

SCALE: 1/8" = 1'–0"



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1 AD-102 SECOND FLOOR PLAN –DEMO

0 8' 16' 24'

SCALE: 1/8"=1'–0"

GENERAL NOTES:

1. REFER TO HAZARDOUS MATERIALS REPORT FOR SPECIFIC AREAS OF CONCERN.
2. THERE IS EXISTING LEAD PAINT THROUGHOUT THE BUILDING. REFER TO SPECIFICATION 02 83 00. CONTRACTORS PERFORMING REPLACEMENT ACTIVITIES THAT WILL DISTURB LBP OR LCP ARE REQUIRED TO COMPLY WITH MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION LEAD IN CONSTRUCTION STANDARD (PART 602). SURFACES SHALL BE CLEANED OF LEAD DEBRIS AFTER CORING, CUTTING, AND DEMOLITION ACTIVITIES. ADDITIONALLY, TOXIC CHARACTERISTIC LEACHING PROCEDURE (TCLP) SAMPLING FOR LEAD SHOULD BE PERFORMED ON CONSTRUCTION WASTE TO DETERMINE PROPER DISPOSAL.
3. CONTRACTOR TO REUSE EXISTING PIPE/DUCT OPENINGS WHERE AVAILABLE TO AVOID NEW WALL PENETRATIONS.

LEGEND:

- EXISTING DOOR AND FRAME TO REMAIN
- EXISTING WALL AND GLAZING TO REMAIN
- EXISTING COLUMN TO REMAIN
- EXISTING 2X4 LIGHT TO REMAIN
- EXISTING HVAC GRILLE TO REMAIN
- EXISTING LIGHT TO REMAIN
- EXISTING WOOD PLANK CEILING TO REMAIN
- EXISTING DOOR HEADER TO REMAIN

KEY NOTES:

1. REMOVE EXISTING GYPSUM BOARD SHAFT ENCLOSURE. CORE CONCRETE DECK FOR NEW SPRINKLER RISER. SUPPORT DUCT RISERS TO REMAIN.
2. CORE PLASTER AND STUD WALL FOR NEW SPRINKLER PIPE– REFER TO FIRE PROTECTION PLAN.
3. FIRE EXTINGUISHERS IN THE ATTIC TO BE PROPERLY DISPOSED OF PER SPECIFICATION 02 80 00.
4. REMOVE PULL STATION. EXISTING CONDUITS TO REMAIN. PATCH CONCRETE.
5. REMOVE TEMPORARY AC VENT KIT FROM WINDOW. REMOVE WINDOW GLAZING, FRAME TO REMAIN.

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PROJECT: BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED: DRAWN JRR; CHECKED TDS; APPROVED TDS

DATE: 08.07.2025

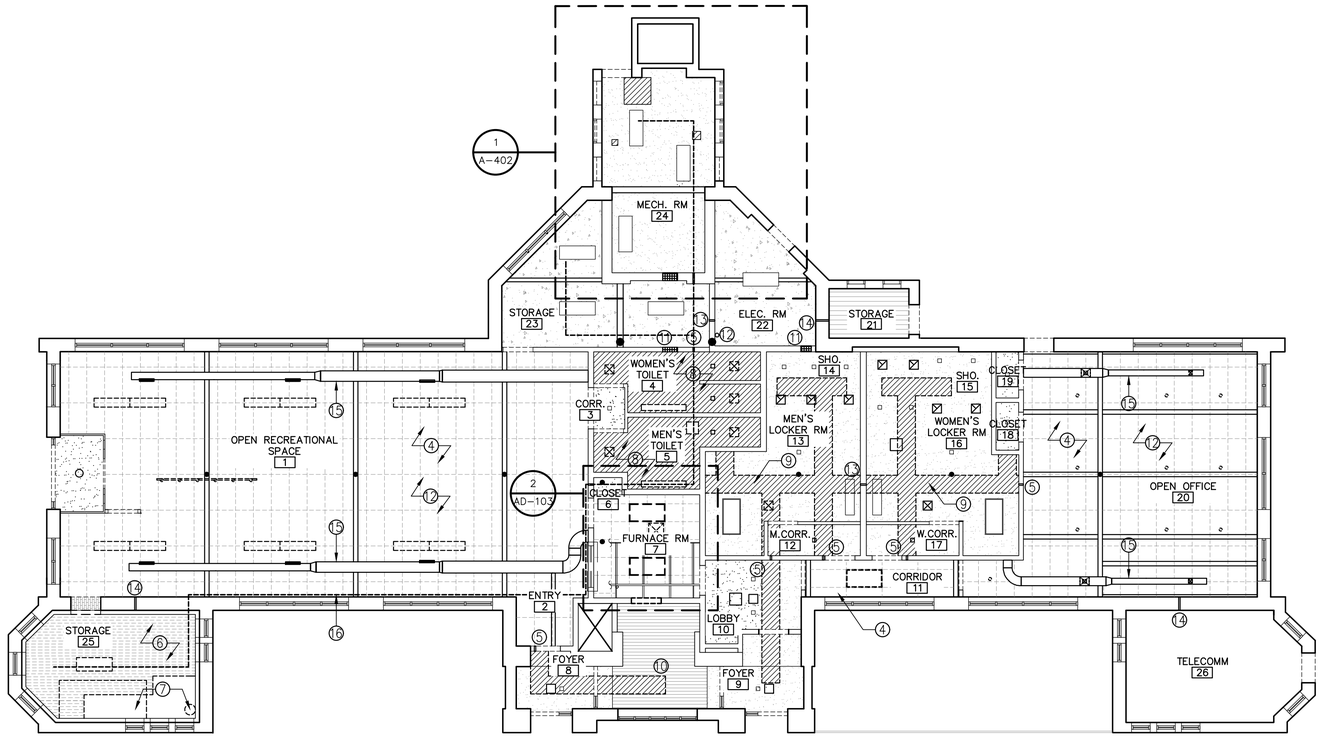
ISSUED FOR: CONSTRUCTION DOCUMENTS_REV

IDENTIFICATION NUMBER: FILE# 751/24078.SMD; A/E# 1411-14

SHEET NUMBER: 4 OF 42

DRAWING TITLE: SECOND FLOOR PLAN –DEMO

DRAWING NUMBER: AD-102



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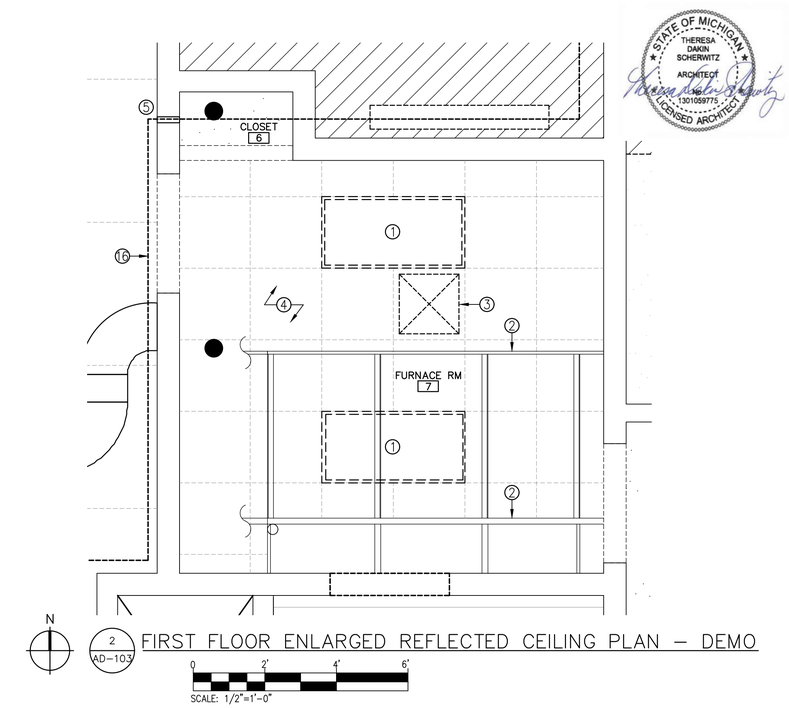
1 AD-103 FIRST FLOOR REFLECTED CEILING PLAN –DEMO

0 8' 16' 24'

SCALE: 1/8"=1'-0"



N

2 AD-103 FIRST FLOOR ENLARGED REFLECTED CEILING PLAN – DEMO

0 2' 4' 6'

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

STATE OF MICHIGAN
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No. 1301059775
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GENERAL NOTES:

1. HAZARDOUS MATERIALS ARE KNOWN TO BE PRESENT WITHIN THE PROJECT AREA. REFER TO HAZARDOUS MATERIALS REPORT INCLUDED IN APPENDIX A.
2. THERE IS EXISTING LEAD PAINT THROUGHOUT THE BUILDING. REFER TO SPECIFICATION 02 83 00. CONTRACTORS PERFORMING REPLACEMENT ACTIVITIES THAT WILL DISTURB LEAD BASED PAINT OR LEAD CONTAINING PAINT ARE REQUIRED TO COMPLY WITH MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION LEAD IN CONSTRUCTION STANDARD (PART 602). SURFACES SHALL BE CLEANED OF LEAD DEBRIS AFTER CORING, CUTTING, AND DEMOLITION ACTIVITIES. ADDITIONALLY, TOXIC CHARACTERISTIC LEACHING PROCEDURE (TCLP) SAMPLING FOR LEAD SHOULD BE PERFORMED ON CONSTRUCTION WASTE TO DETERMINE PROPER DISPOSAL.
3. CONTRACTOR TO REUSE EXISTING PIPE/DUCT OPENINGS WHERE AVAILABLE TO AVOID NEW WALL PENETRATIONS.

LEGEND:

- DOOR HEADER TO REMAIN
- WALL AND GLAZING TO REMAIN
- CEILING HATCH TO REMAIN
- HVAC GRILLE TO REMAIN
- LIGHT TO REMAIN
- COLUMN AND BEAM TO REMAIN
- REMOVE CEILING GRID AND TILE
- EXPOSED DUCT TO REMAIN
- REMOVE LIGHT
- WOOD PLANK CEILING TO REMAIN
- REMOVE WOOD PLANK CEILING
- PLASTER CEILING TO REMAIN
- REMOVE CEILING
- REMOVE HVAC GRILLE
- EXISTING COLUMN TO REMAIN

KEY NOTES:

1. REMOVE EXISTING FIXTURES.
2. EXISTING STAIR FRAMING TO REMAIN.
3. REMOVE DIFFUSER.
4. REMOVE CEILING TILE, GRID, COMBUSTIBLE WOOD SUPPORT, AND LIGHTING FIXTURES. FLUORESCENT LIGHT UNIT BALLASTS SHALL BE INSPECTED TO DETERMINE IF THEY CONTAIN PCB. IT SHALL BE ASSUMED TO CONTAIN PCB IF "NO PCB" IS NOT INDICATED ON THE LABEL. LIGHTS TO BE PROPERLY DISPOSED OF PER SPECIFICATION 02 80 00.
5. CORE 6" CMU WALL FOR NEW SPRINKLER PIPE– REFER TO FIRE PROTECTION PLAN.
6. REMOVE WOOD PLANK CEILING.
7. REMOVE ABANDONED KITCHEN HOOD AND REMOVE AND PROPERLY DISPOSE OF FIRE SUPPRESSION SYSTEM PER SPECIFICATION 02 80 00.
8. REMOVE PLASTER CEILING COMPLETE FOR NEW DUCTS AND SPRINKLER PIPING. REMOVE AND SALVAGE LIGHTS AND GRILLES FOR REINSTALLATION OR SUPPORT IN PLACE.
9. CUT PLASTER CEILING FOR SPRINKLER PIPE INSTALLATION – REFER TO FIRE PROTECTION DRAWING. CONTRACTOR TO DETERMINE EXTENT OF DEMO NEEDED.
10. CUT AND PATCH WOOD CEILING AS REQUIRED FOR NEW WORK.
11. CORE 8" MASONRY WALL FOR NEW DUCT PENETRATIONS. PROVIDE GALVANIZED LINTEL. REFER TO SPECIFICATION 05 50 00.
12. REMOVE AND PROPERLY DISPOSE OF SMOKE DETECTORS PER SPECIFICATION 02 80 00.
13. CORE 8" CMU WALL FOR NEW SPRINKLER PIPE– REFER TO FIRE PROTECTION PLAN.
14. CORE 18" BRICK WALL FOR NEW SPRINKLER PIPE– REFER TO FIRE PROTECTION PLAN.
15. PREPARE RED EXPOSED DUCTS FOR NEW PAINT.
16. REMOVE SPRINKLER PIPE COMPLETE.

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PROJECT	BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS
DESIGNED	DRAWN JRR CHECKED TDS APPROVED TDS
DATE	08.07.2025
ISSUED FOR	CONSTRUCTION DOCUMENTS_REV
IDENTIFICATION NUMBER	FILE# 751/24078.SMD A/E# 1411-14
SHEET NUMBER	5 OF 42
DRAWING TITLE	FIRST FLOOR REFLECTED CEILING PLAN – DEMO
DRAWING NUMBER	AD-103

GENERAL NOTES:

1. HAZARDOUS MATERIALS ARE KNOWN TO BE PRESENT WITHIN THE PROJECT AREA. REFER TO HAZARDOUS MATERIALS REPORT INCLUDED IN APPENDIX A.

2. THERE IS EXISTING LEAD PAINT THROUGHOUT THE BUILDING. REFER TO SPECIFICATION 02 83 00. CONTRACTORS PERFORMING REPLACEMENT ACTIVITIES THAT WILL DISTURB LEAD BASED PAINT OR LEAD CONTAINING PAINT ARE REQUIRED TO COMPLY WITH MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION LEAD IN CONSTRUCTION STANDARD (PART 602). SURFACES SHALL BE CLEANED OF LEAD DEBRIS AFTER CORING, CUTTING, AND DEMOLITION ACTIVITIES. ADDITIONALLY, TOXIC CHARACTERISTIC LEACHING PROCEDURE (TCLP) SAMPLING FOR LEAD SHOULD BE PERFORMED ON CONSTRUCTION WASTE TO DETERMINE PROPER DISPOSAL.

KEY NOTES:

① REMOVE EXISTING AIR HANDLER UNIT. SMOKE DETECTOR ON AIR HANDLER SHALL BE PROPERLY DISPOSED OF PER SPECIFICATION 02 80 00.

② REMOVE EXISTING HOT WATER HEATER. HOT WATER HEATERS FIBERGLASS INSULATION HAS SUSPECT ACM AND NEEDS TO PROPERLY DISPOSED OF. REFER TO SPECIFICATION 02 80 00.

③ REMOVE EXISTING STORAGE TANK.

④ REMOVE EXISTING CONCRETE CURB. MECHANICALLY PREPARE FLOOR FOR PATCHING TO ACHIEVE A SMOOTH FINISH.

⑤ REMOVE OIL DRUM AND PROPERLY DISPOSE PER SPECIFICATION 02 80 00. SPILL SHALL BE CLEANED.

⑥ ASSUMED ACM IN THE PIPE FLANGE GASKETS. GASKETS WERE NOT VISIBLE DURING TESTING BUT IF THEY ARE UNCOVERED DURING THE DISMANTLING OF THE RED FIRE PIPE SYSTEM, THE MATERIAL SHOULD BE TESTED FOR ASBESTOS BEFORE REMOVAL. REFER TO SPECIFICATION 02 82 00.

⑦ REMOVE DOOR AND FRAME.

⑧ REMOVE WINDOW AND FRAME. SALVAGE FOR REINSTALLATION AT NEW LOCATION. CLEAN LINTEL TO BARE METAL AND PREP FOR PAINT.

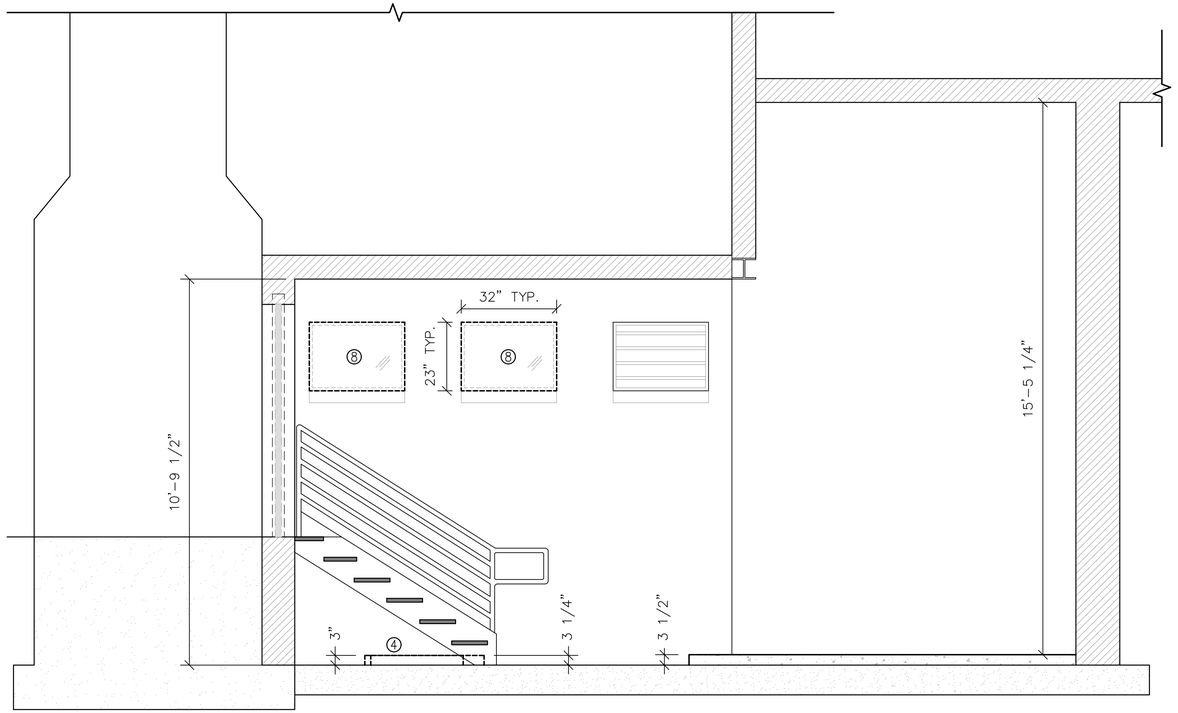
⑨ REMOVE PULL STATION. EXISTING CONDUITS TO REMAIN. PATCH BRICK.

⑩ REMOVE BROKEN WINDOW AND FRAME. SALVAGE FRAME. CLEAN LINTEL TO BARE METAL AND PREP FOR PAINT.

⑪ REMOVE LOUVER, METAL MESH, WOOD BOARD, AND FRAME. SALVAGE FRAME. CLEAN LINTEL TO BARE METAL AND PREP FOR PAINT.

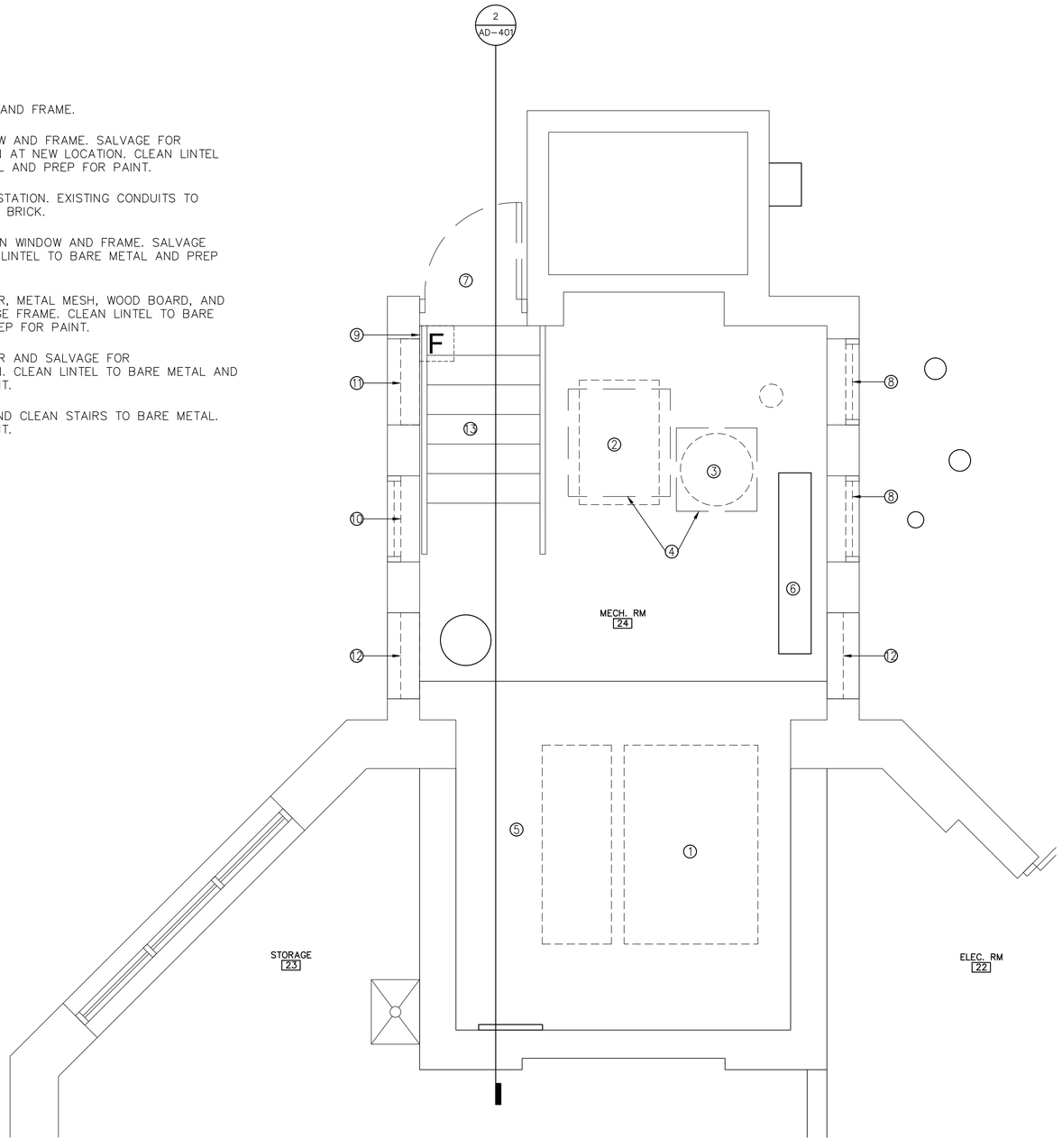
⑫ REMOVE LOUVER AND SALVAGE FOR REINSTALLATION. CLEAN LINTEL TO BARE METAL AND PREP FOR PAINT.

⑬ STRIP PAINT AND CLEAN STAIRS TO BARE METAL. PREP FOR PAINT.



2 AD-401 MECH. RM SECTION –DEMO

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



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1 AD-401 MECH. RM FLOOR PLAN –DEMO

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

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PROJECT
BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED
DRAWN JRR
CHECKED TDS
APPROVED TDS

DATE
08.07.2025

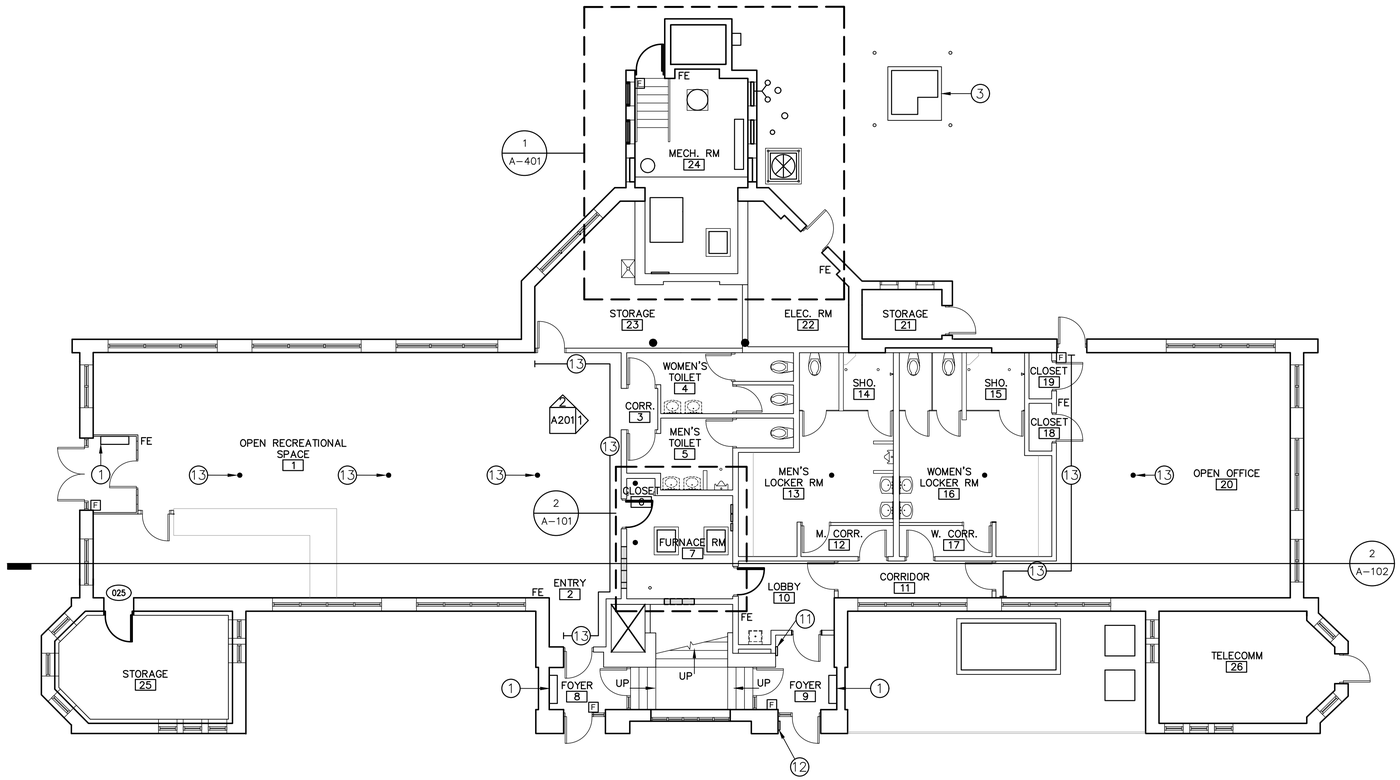
ISSUED FOR
CONSTRUCTION DOCUMENTS_REV

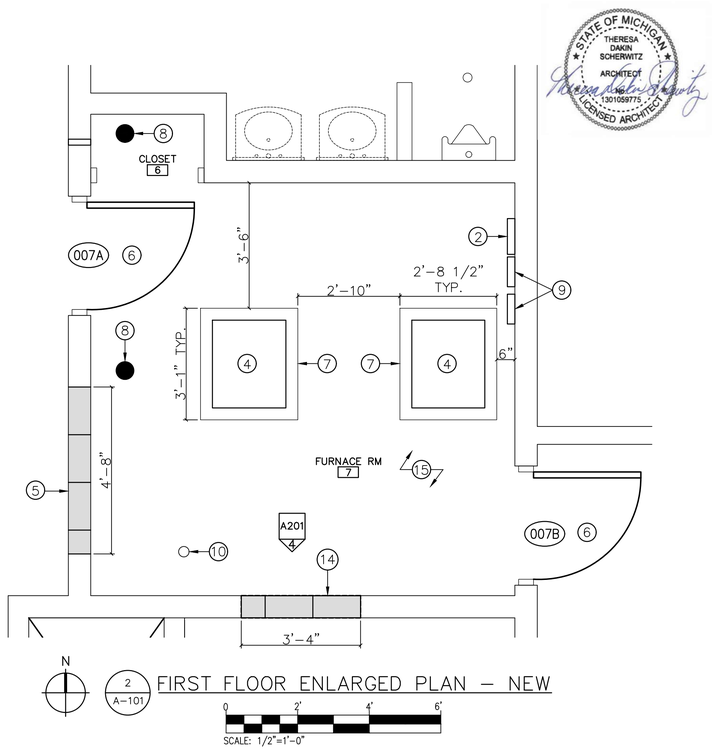
IDENTIFICATION NUMBER
FILE# 751/24078.SMD
A/E# 1411-14

SHEET NUMBER
6 OF 42

DRAWING TITLE
ENLARGED MECH. RM. FLOOR PLAN – DEMO

DRAWING NUMBER
AD-401





LEGEND:

- EXISTING DOOR AND FRAME
- EXISTING WALL AND GLAZING
- PLUMBING IS PRESENT BUT FIXTURES ARE NOT CURRENTLY INSTALLED
- XXX DOOR TAG
- F NEW MANUAL PULL STATION WITH STOPPER COVER
- FE FIRE EXTINGUISHER

FINISH KEY NOTES:

WALL

P1 PAINT COLOR: BEHR RAFFIA CREAM 710C–2

CEILING AND EXPOSED DUCT AND SPRINKLER PIPE

P2 PAINT COLOR: SHERWIN WILLIAMS EXTRA WHITE 7006

KEY NOTES:

1. NEW ELECTRIC CABINET UNIT HEATER – REFER TO MECHANICAL.
2. NEW FIRE ALARM CONTROL PANEL – REFER TO FIRE ALARM DRAWINGS.
3. EXISTING EQUIPMENT TO REMAIN.
4. NEW FURNACE – REFER TO MECHANICAL.
5. INFILL WINDOW WITH 6" SCORED CMU. PAINT P1.
6. INSTALL NEW DOOR. REFER TO SHEET A–401.
7. NEW 6" CONCRETE CURB. REFER TO DETAIL 5/A–501.
8. EXISTING COLUMN TO REMAIN.
9. EXISTING TIME CLOCK/ALARM BOXES TO REMAIN.
10. EXISTING STAIR SUPPORT TO REMAIN.
11. NEW REMOTE FIRE ALARM ANNUNCIATOR.
12. NEW KNOX BOX LOCATION – EXACT LOCATION TO BE DETERMINED BY DETROIT FIRE MARSHALL. MOUNT INTO MORTAR JOINT. NO FASTENERS INTO BRICK.
13. PAINT CMU WALL AND STEEL COLUMNS P1. REFER TO ELEVATION ON A–201.
14. INFILL DOOR WITH 8" SCORED CMU– 2 HR FIRE RATED SEPARATION AT STAIR.
15. PAINT CMU WALL P1.

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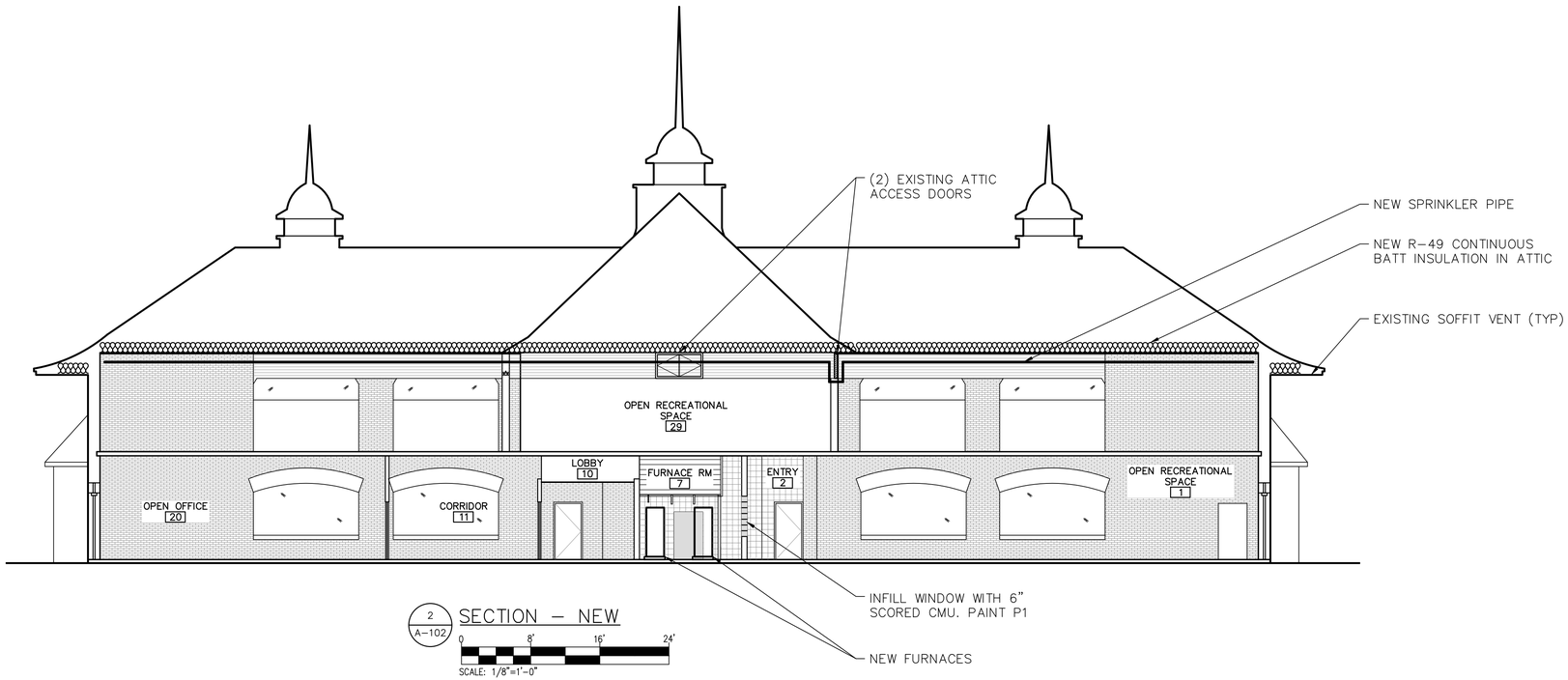
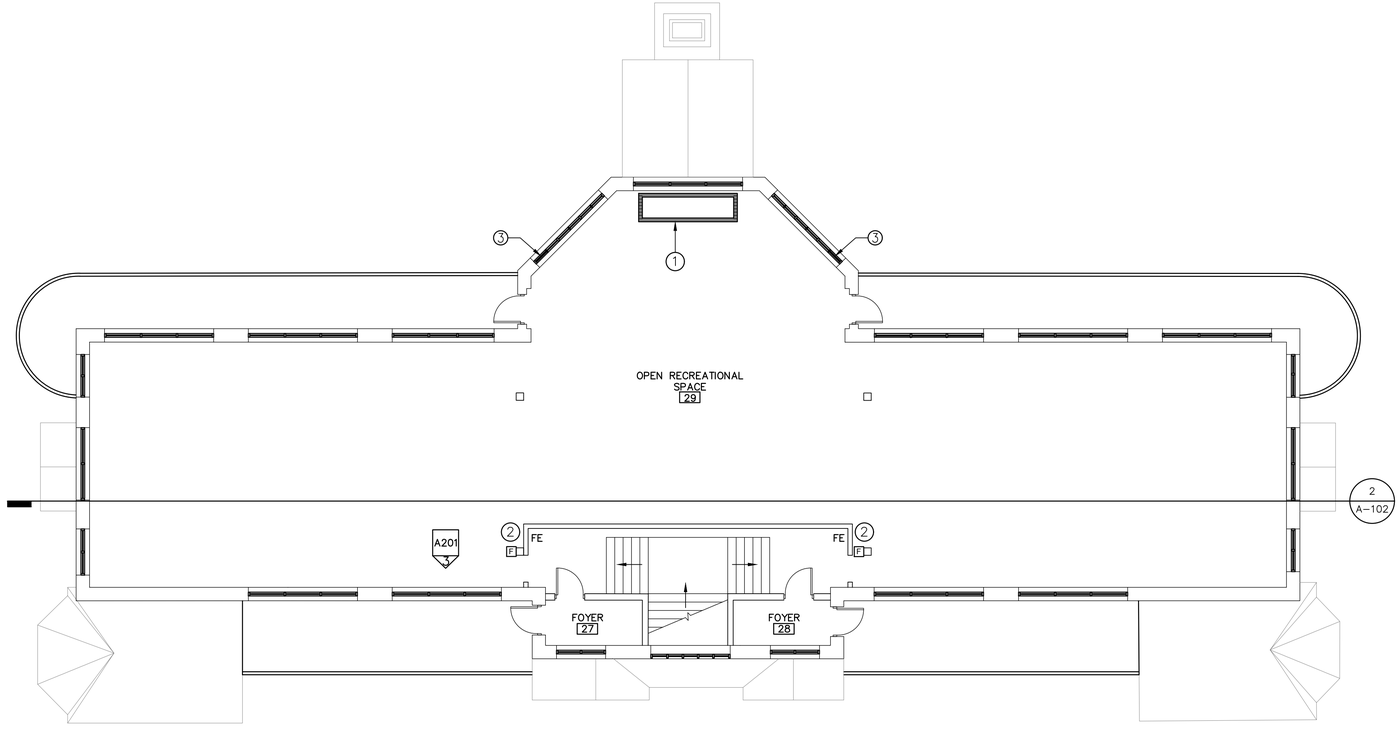
PROJECT	BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS
DESIGNED	DRAWN JRR CHECKED TDS APPROVED TDS
DATE	08.07.2025
ISSUED FOR	CONSTRUCTION DOCUMENTS_REV
IDENTIFICATION NUMBER	FILE# 751/24078.SMD A/E# 1411-14
SHEET NUMBER	7 OF 42
DRAWING TITLE	FIRST FLOOR PLAN – NEW
DRAWING NUMBER	A-101



2 / A-102 SECTION – NEW

0 8' 16' 24'

SCALE: 1/8"=1'-0"



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1 / A-102 SECOND FLOOR PLAN – NEW

0 8' 16' 24'

SCALE: 1/8"=1'-0"

KEY NOTES:

1. NEW 1-HR FIRE RATED GYP BD AND METAL STUD WALL FOR NEW DUCT RISER SHAFT IN EXISTING LOCATION. CONFIRM DIMENSIONS WITH ARCHITECT ONCE SHAFT IS OPENED. SHAFT TO ACCOMMODATE NEW SPRINKLER RISER. SHAFT WALL TO BE KEPT AWAY FROM WINDOWS AND HELD AS SMALL AS POSSIBLE. NEW RETURN GRILLE ON SHAFT FACE. SEE DETAIL 2/A501 FOR SHAFT WALL CONSTRUCTION.
2. PROVIDE OCCUPANCY SIGN READING: MAXIMUM OCCUPANCY 49. INSTALL TO BE COMPLIANT WITH ADA. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION.
3. PROVIDE NEW GLASS FOR WINDOW TO BE VERIFIED IN FIELD.

LEGEND:

- EXISTING DOOR AND FRAME
- EXISTING WALL AND GLAZING
- EXISTING COLUMN
- F NEW MANUAL PULL STATION WITH STOPPER COVER
- NEW GYP BD AND WOOD STUD WALL
- FE FIRE EXTINGUISHER

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PROJECT: BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

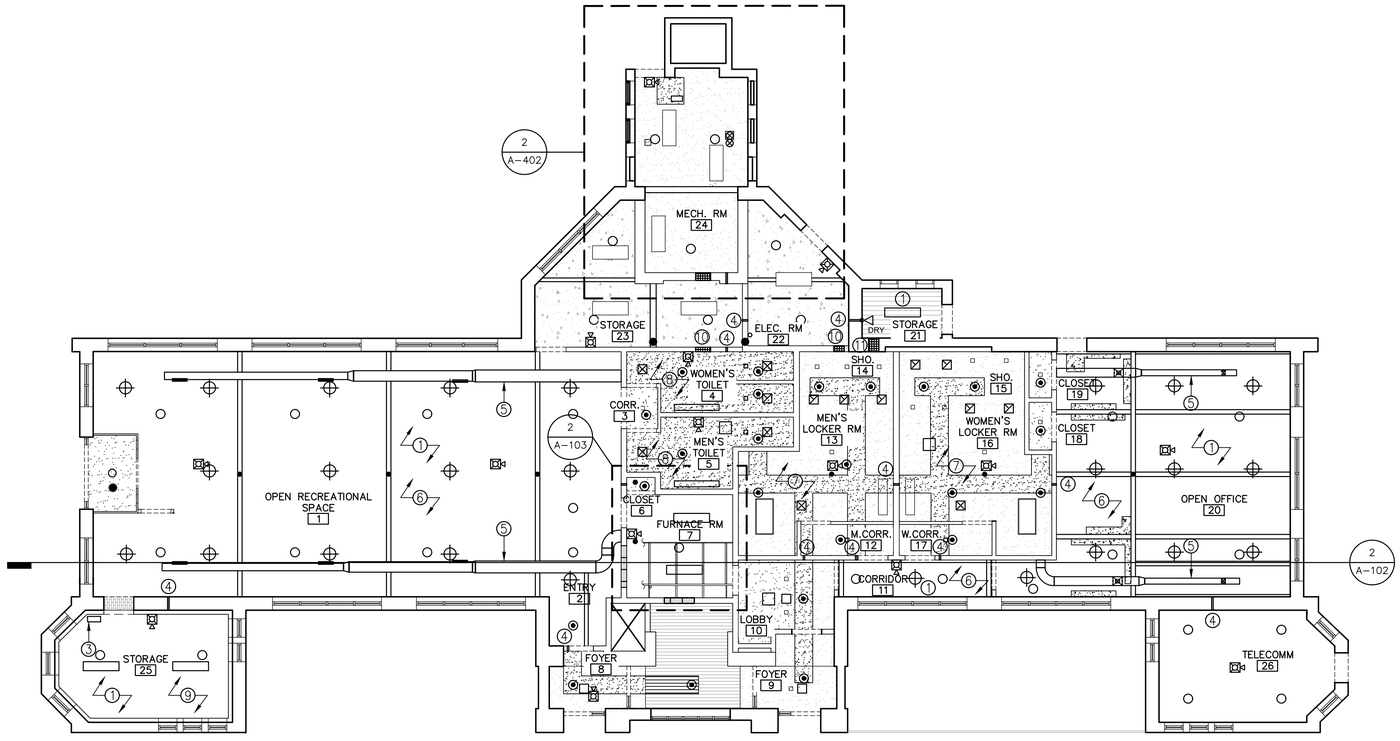
DESIGNED		DATE	ISSUED FOR
DRAWN	JRR	08.07.2025	CONSTRUCTION DOCUMENTS_REV
CHECKED	TDS		
APPROVED	TDS		

IDENTIFICATION NUMBER: FILE# 751/24078.SMD A/E# 1411-14

SHEET NUMBER: 8 OF 42

DRAWING TITLE: SECOND FLOOR PLAN – NEW

DRAWING NUMBER: A-102



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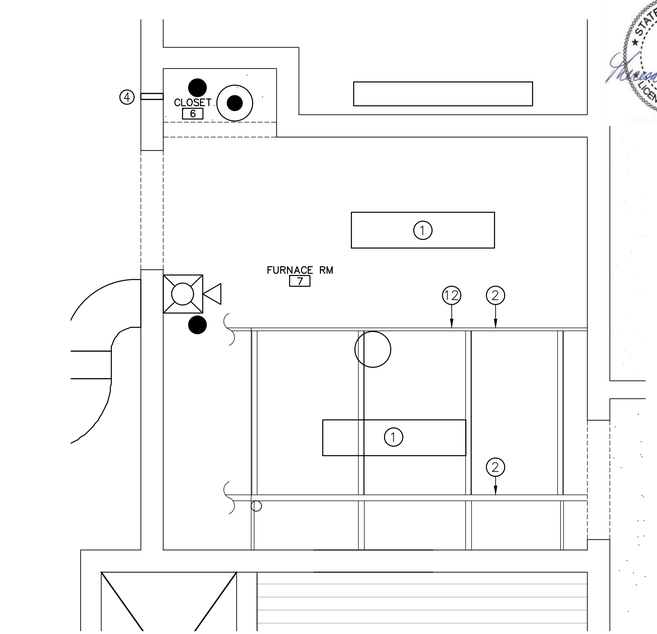
1
A-103

FIRST FLOOR REFLECTED CEILING PLAN – NEW

0 8' 16' 24'

SCALE: 1/8"=1'-0"



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2
A-103

FIRST FLOOR ENLARGED REFLECTED CEILING PLAN – NEW

0 2' 4' 6'

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

LEGEND:

- EXISTING DOOR HEADER
- EXISTING WALL AND GLAZING
- EXISTING CEILING HATCH
- EXISTING HVAC GRILLE
- EXISTING LIGHT
- NEW LIGHT – REFER TO ELECTRICAL
- EXISTING COLUMN AND BEAM
- EXISTING EXPOSED DUCT
- NEW UPRIGHT SPRINKLER
- NEW PENDANT SPRINKLER
- NEW SIDEWALL SPRINKLER
- NEW HORN-STROBE APPLIANCE
- EXISTING WOOD PLANK CEILING
- EXISTING PLASTER CEILING
- NEW PLASTER CEILING
- NEW LIGHT – REFER TO ELECTRICAL
- EXISTING COLUMN TO REMAIN

KEY NOTES:

1. NEW LIGHT FIXTURES – REFER TO ELECTRICAL.
2. EXISTING STAIR FRAMING TO REMAIN
3. NEW ELECTRIC UNIT HEATER
4. PATCH AND PAINT WHERE EXPOSED TO MATCH EXISTING WALL AT NEW SPRINKLER PIPE PENETRATION.
5. PAINT EXISTING EXPOSED DUCTS P2.
6. CLEAN EXPOSED REINFORCING STEEL TO BARE METAL AND PAINT WITH EPOXY (APPROX. 80 LF). PATCH CONCRETE (APPROX. 70 SF) AND PAINT ENTIRE CONCRETE CEILING DUCT, SPRINKLER PIPE AND STEEL BEAMS P2.
7. PATCH PLASTER CEILING WHERE CUT FOR NEW WORK. PAINT P2 COMPLETE. CONTRACTOR TO DETERMINE EXTENT OF PATCHING NEEDED.
8. NEW GYP BD CEILING PAINTED P2 WITH EXISTING LIGHTS AND GRILLES REINSTALLED IN PLACE.
9. OPEN TO WOOD STRUCTURE ABOVE.
10. PROVIDE NEW GLAVANIZED LINTEL, REFER TO SPECIFICATION 05 50 00. PATCH AND PAINT WALL WHERE EXPOSED TO MATCH EXISTING WALL AT NEW DUCT PENETRATION.
11. NEW INSULATED METAL PANEL WHERE DUCT AND LOUVER ARE REMOVED.
12. CONTRACTOR TO INVESTIGATE EXISTING WOOD ON METAL STAIR. INTENTION IS TO REMOVE WOOD FROM WITHIN PLENUM. WOOD APPEARS TO BE CLADDING. COORDINATE WITH ARCHITECT TO REVIEW IN FIELD.

FINISH KEY NOTES:

WALL

P1 PAINT COLOR: BEHR RAFFIA CREAM 710C-2

CEILING AND EXPOSED DUCT AND SPRINKLER PIPE

P2 PAINT COLOR: SHERWIN WILLIAMS EXTRA WHITE 7006

GENERAL NOTES:

1. HAZARDOUS MATERIALS ARE KNOWN TO BE PRESENT WITHIN THE PROJECT AREA. REFER TO HAZARDOUS MATERIALS REPORT INCLUDED IN APPENDIX A.
2. REUSE EXISTING PIPE/DUCT OPENINGS WHERE AVAILABLE.

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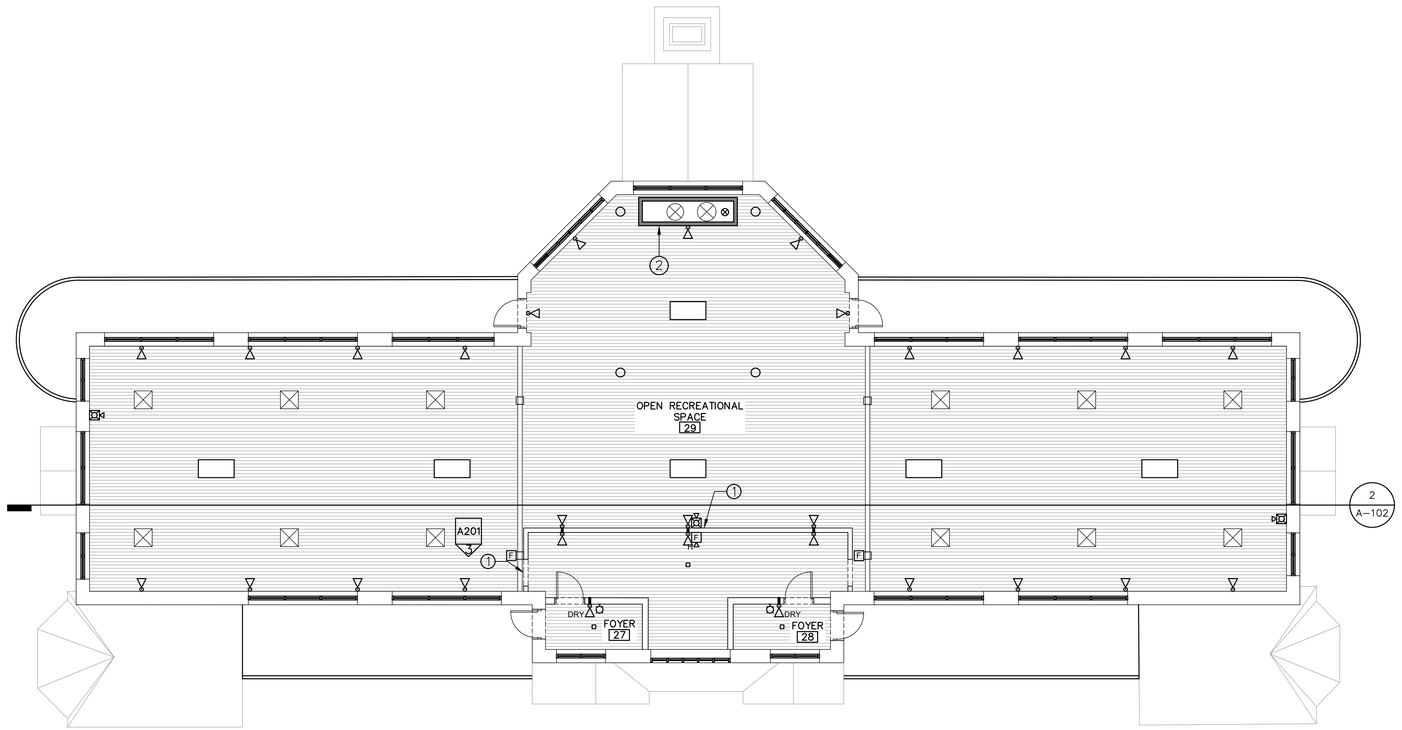
SHEET NUMBER	9 OF 42
DRAWING TITLE	FIRST FLOOR REFLECTED CEILING PLAN -NEW
DRAWING NUMBER	A-103



N

1 / A-104 SECOND FLOOR REFLECTED CEILING PLAN – NEW

0 8' 16' 24'

SCALE: 1/8"=1'-0"

LEGEND:

- EXISTING DOOR HEADER
- EXISTING WALL AND GLAZING TO REMAIN
- EXISTING 2X4 LIGHT
- EXISTING HVAC GRILLE
- EXISTING LIGHT
- NEW SIDEWALL SPRINKLER
- NEW UPRIGHT SPRINKLER
- NEW HORN–STROBE APPLIANCE
- NEW HORN APPLIANCE
- NEW STROBE APPLIANCE
- EXISTING WOOD PLANK CEILING TO REMAIN

KEY NOTES:

1. EXISTING ACCESS DOOR TO ATTIC.
2. NEW 1–HR RATED GYPSUM BOARD AND METAL STUD SHAFT WALL TO BE CAPPED ABOVE CEILING IN ATTIC. SEE DETAIL 1/A501 FOR SHAFT WALL CEILING CONSTRUCTION.

FINISH KEY NOTES:

EXPOSED SPRINKLER PIPE

P2 PAINT COLOR: SHERWIN WILLIAMS EXTRA WHITE 7006

SIDEWALL SPRINKLER HEADS WITHIN OPEN RECREATIONAL SPACE 29 TO BE FACTORY PAINTED WHITE FINISH

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PROJECT
BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED
DRAWN JRR
CHECKED TDS
APPROVED TDS

DATE
08.07.2025

ISSUED FOR
CONSTRUCTION DOCUMENTS_REV

IDENTIFICATION NUMBER
FILE# 751/24078.SMD
A/E# 1411-14

SHEET NUMBER
10 OF 42

DRAWING TITLE
SECOND FLOOR REFLECTED CEILING PLAN –NEW

DRAWING NUMBER
A-104

KEY NOTES:

① INSTALL NEW 6" THICK, 8X16 SCORED CMU TO MATCH EXISTING.

② NEW THERMOSTAT.

③ NEW DOOR, EXISTING FRAME TO REMAIN. REFER TO DOOR SCHEDULE.

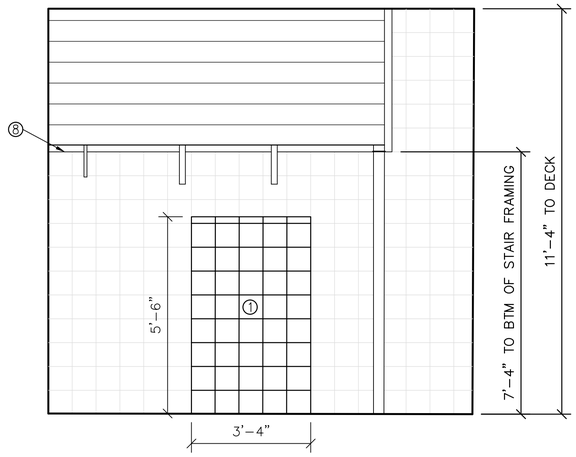
④ PAINT WALL, DUCTS, AND COLUMNS P1.

⑤ PAINT ALL EXPOSED SPRINKLER PIPING P2.

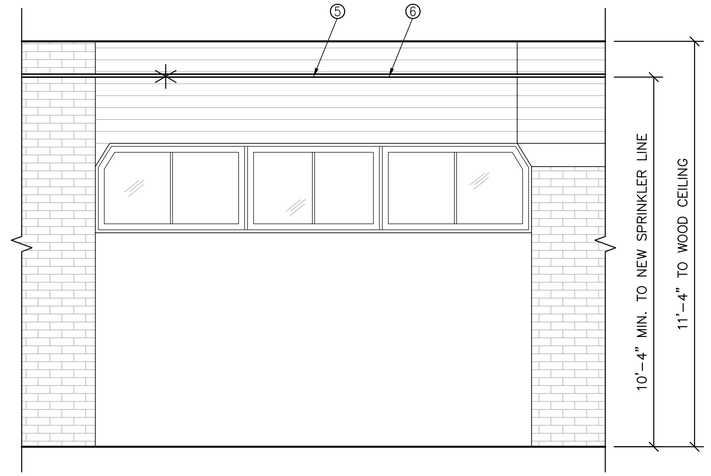
⑥ INSTALL NEW SPRINKLER PIPING AND SPRINKLER HEADS ABOVE WINDOWS – TYP.

⑦ CLEAN, PATCH, AND PAINT BLOCK WHERE FRAME WAS REMOVED.

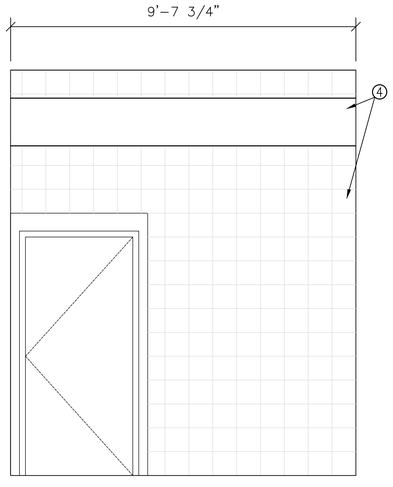
⑧ EXISTING STAIR STRUCTURE.



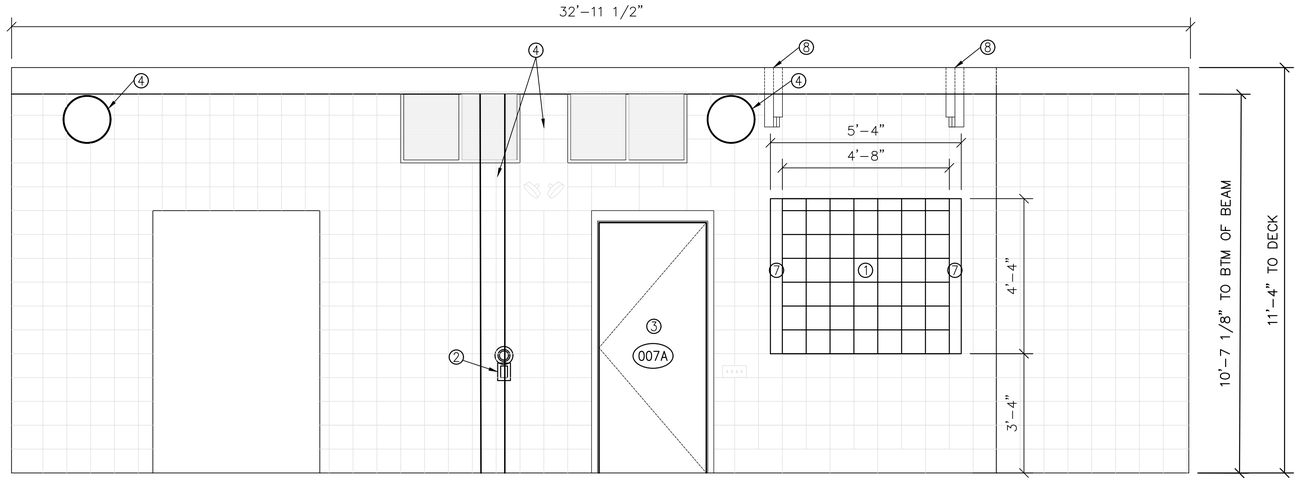
4 / A-201 FURNACE ROOM 7, SOUTH WALL – NEW
SCALE: 1/2" = 1'–0"



3 / A-201 OPEN REC. SPACE 29 – NEW
SCALE: 1/2" = 1'–0"



2 / A-201 OPEN REC. SPACE 1, NORTH WALL – NEW
SCALE: 1/2" = 1'–0"



1 / A-201 OPEN REC. SPACE 1, EAST WALL – NEW
SCALE: 1/2" = 1'–0"

0 2' 4' 6"
SCALE: 1/2"=1'–0"

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FILE# 751/24078.SMD
A/E# 1411-14

SHEET NUMBER
11 OF 42

DRAWING TITLE
INTERIOR ELEVATIONS

DRAWING NUMBER
A-201

GENERAL NOTES:

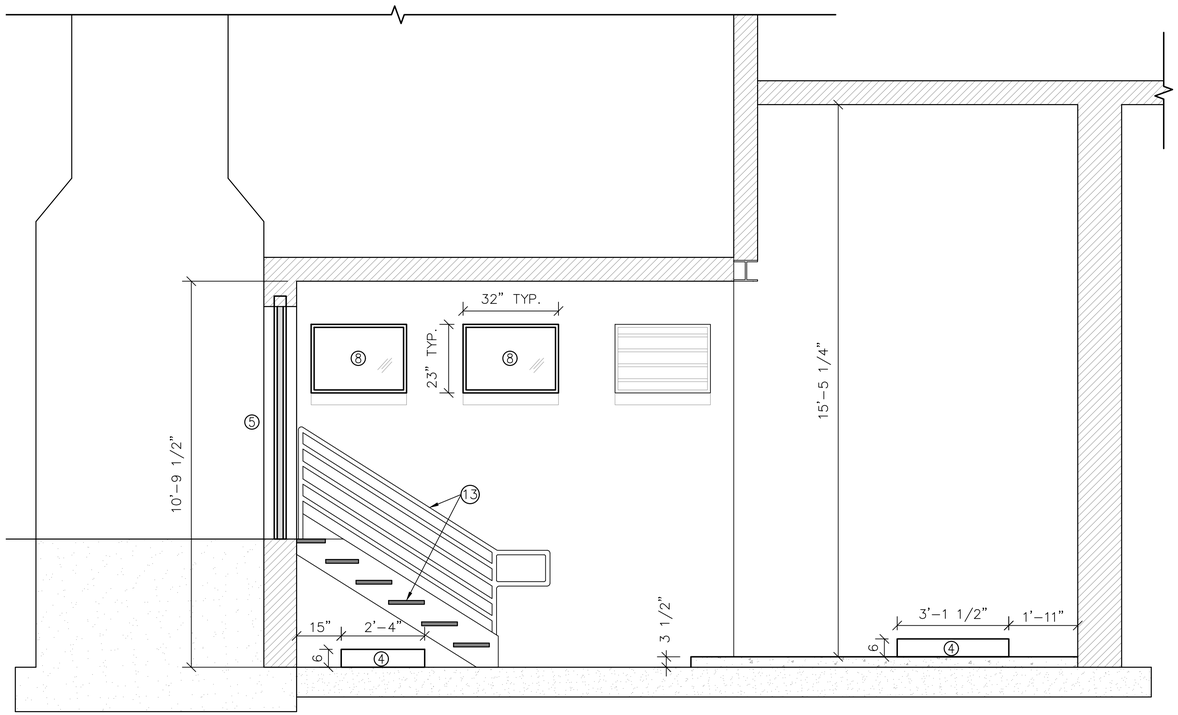
1. HAZARDOUS MATERIALS ARE KNOWN TO BE PRESENT WITHIN THE PROJECT AREA. REFER TO HAZARDOUS MATERIALS REPORT INCLUDED IN APPENDIX A.
2. THERE IS EXISTING LEAD PAINT THROUGHOUT THE BUILDING. REFER TO SPECIFICATION 02 83 00.

LEGEND:

- NEW DOOR AND FRAME
- EXISTING WALL AND GLAZING
- F — NEW MANUAL PULL STATION WITH STOPPER COVER
- XXX — DOOR TAG

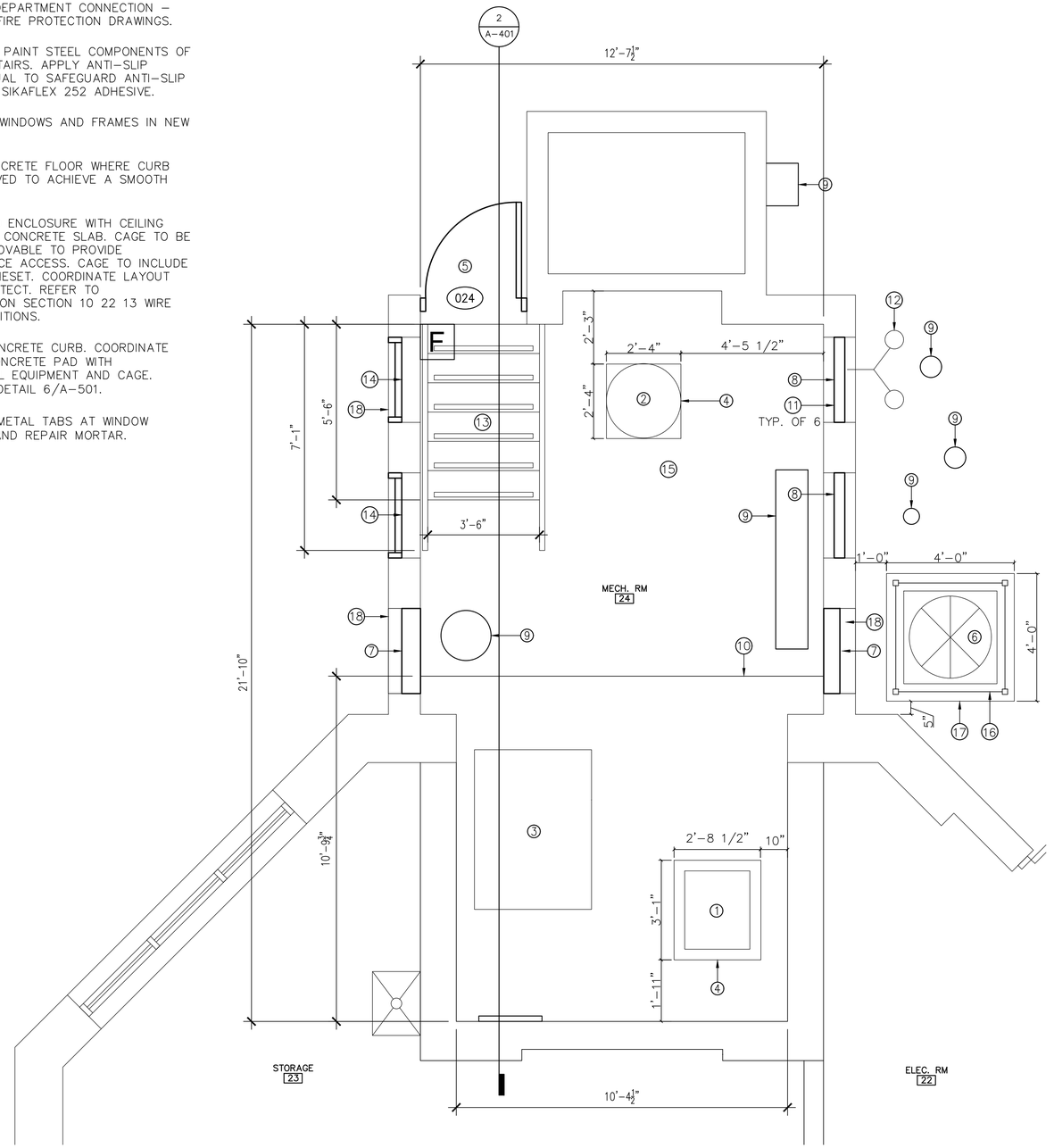
KEY NOTES:

1. NEW FURNACE – REFER TO MECHANICAL.
2. NEW DOMESTIC HOT WATER HEATER – REFER TO MECHANICAL.
3. NEW ENERGY RECOVERY TANK – REFER TO MECHANICAL.
4. NEW 6" CONCRETE CURB.
5. NEW DOOR AND FRAME – REFER TO SCHEDULE.
6. NEW AIR COOLED CONDENSING UNIT – REFER TO MECHANICAL.
7. REINSTALL LOUVER WINDOW.
8. REINSTALL WINDOW FRAME AND INSTALL NEW INSULATED PANEL FOR FURNACE FLUE TO ROUTE THROUGH. PAINT (1) BROWN FRAME BLACK.
9. EXISTING EQUIPMENT TO REMAIN.
10. EXISTING CURB TO REMAIN.
11. PAINT LINTEL
12. NEW FIRE DEPARTMENT CONNECTION – REFER TO FIRE PROTECTION DRAWINGS.
13. PRIME AND PAINT STEEL COMPONENTS OF EXISTING STAIRS. APPLY ANTI-SLIP STRIPS EQUAL TO SAFEGUARD ANTI-SLIP TAPE WITH SIKAFLEX 252 ADHESIVE.
14. REINSTALL WINDOWS AND FRAMES IN NEW LOCATION.
15. PATCH CONCRETE FLOOR WHERE CURB WAS REMOVED TO ACHIEVE A SMOOTH FINISH.
16. NEW CAGED ENCLOSURE WITH CEILING BOLTED TO CONCRETE SLAB. CAGE TO BE FULLY REMOVABLE TO PROVIDE MAINTENANCE ACCESS. CAGE TO INCLUDE COPPER LINESET. COORDINATE LAYOUT WITH ARCHITECT. REFER TO SPECIFICATION SECTION 10 22 13 WIRE MESH PARTITIONS.
17. NEW 6" CONCRETE CURB. COORDINATE SIZE OF CONCRETE PAD WITH MECHANICAL EQUIPMENT AND CAGE. REFER TO DETAIL 6/A-501.
18. PAINT (4) METAL TABS AT WINDOW EXTERIOR AND REPAIR MORTAR.



2 / A-401 MECH. RM SECTION –NEW

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



1 / A-401 MECH. RM FLOOR PLAN –NEW

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

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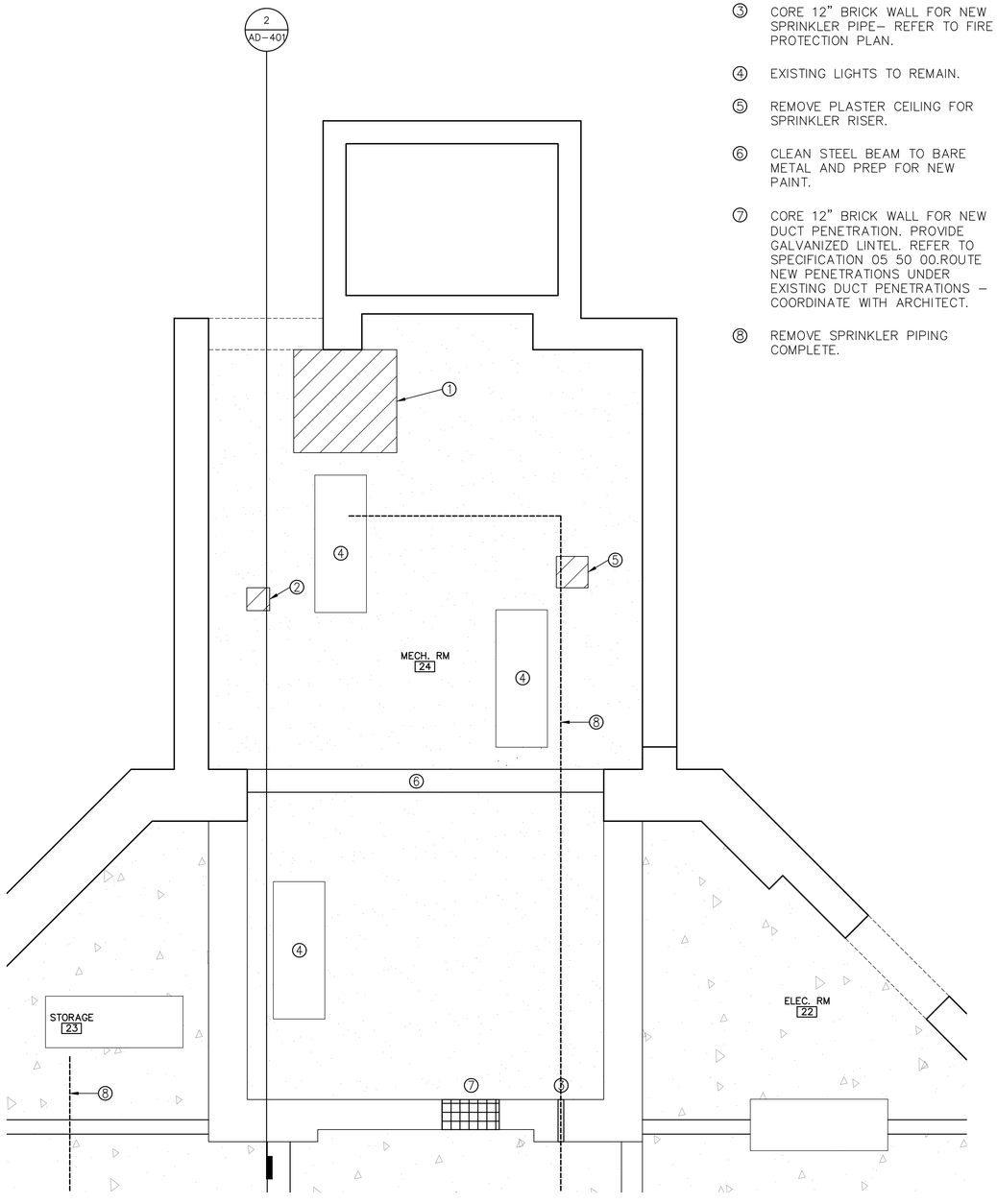
A/E# 1411-14

SHEET NUMBER
12 OF 42

DRAWING TITLE
ENLARGED MECH. RM. FLOOR PLAN – NEW

DRAWING NUMBER
A-401



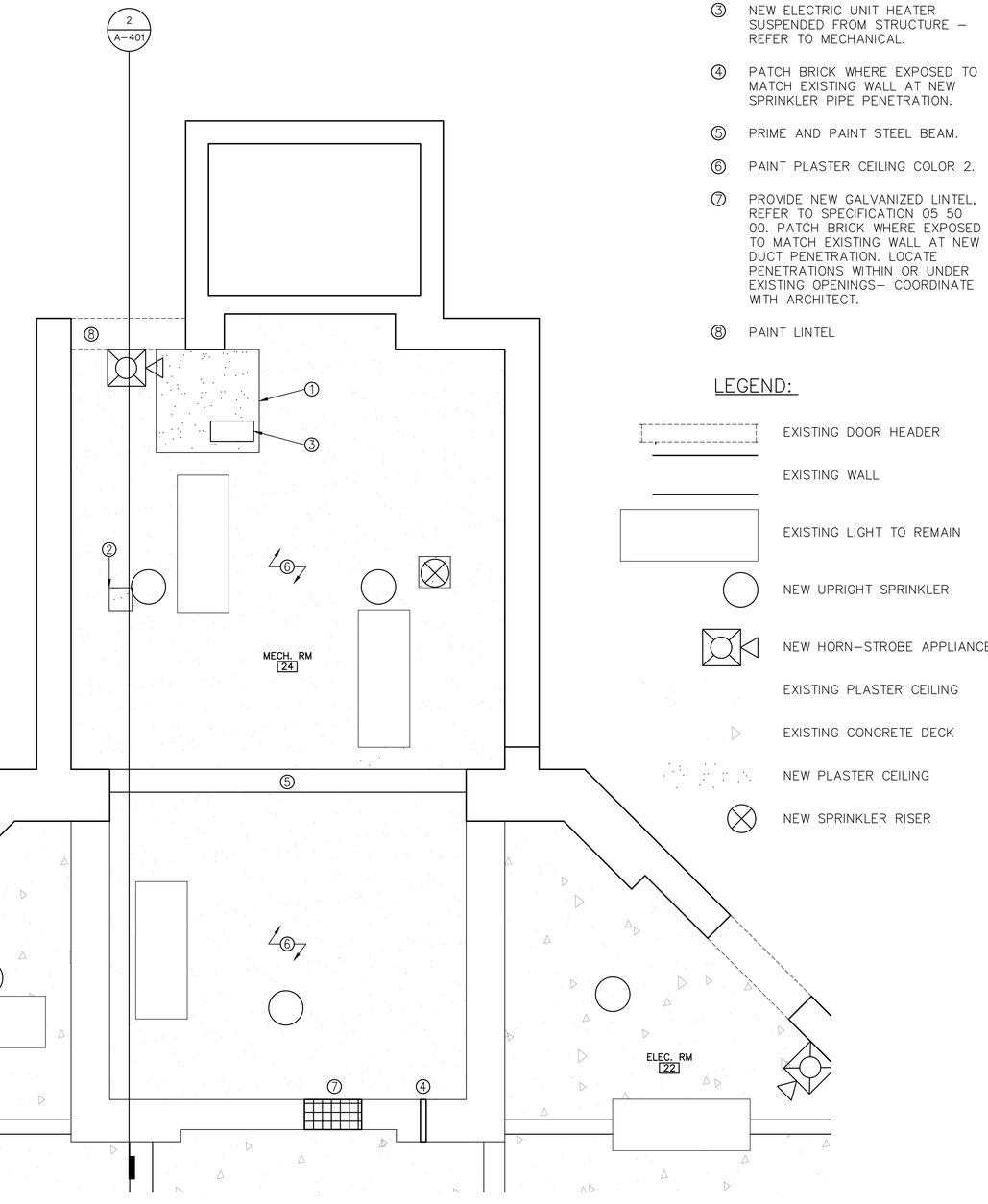
KEY NOTES:

1. REMOVE 3' X 3' AREA OF PLASTER CEILING.
2. REMOVE 8" X 8" AREA OF PLASTER CEILING.
3. CORE 12" BRICK WALL FOR NEW SPRINKLER PIPE– REFER TO FIRE PROTECTION PLAN.
4. EXISTING LIGHTS TO REMAIN.
5. REMOVE PLASTER CEILING FOR SPRINKLER RISER.
6. CLEAN STEEL BEAM TO BARE METAL AND PREP FOR NEW PAINT.
7. CORE 12" BRICK WALL FOR NEW DUCT PENETRATION. PROVIDE GALVANIZED LINTEL. REFER TO SPECIFICATION 05 50 00.ROUTE NEW PENETRATIONS UNDER EXISTING DUCT PENETRATIONS – COORDINATE WITH ARCHITECT.
8. REMOVE SPRINKLER PIPING COMPLETE.

N

1 A-402 MECH. RM REFLECTED CEILING PLAN –DEMO

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



KEY NOTES:

1. NEW 3' X 3' AREA OF PLASTER CEILING.
2. NEW 8" X 8" AREA OF PLASTER CEILING.
3. NEW ELECTRIC UNIT HEATER SUSPENDED FROM STRUCTURE – REFER TO MECHANICAL.
4. PATCH BRICK WHERE EXPOSED TO MATCH EXISTING WALL AT NEW SPRINKLER PIPE PENETRATION.
5. PRIME AND PAINT STEEL BEAM.
6. PAINT PLASTER CEILING COLOR 2.
7. PROVIDE NEW GALVANIZED LINTEL, REFER TO SPECIFICATION 05 50 00. PATCH BRICK WHERE EXPOSED TO MATCH EXISTING WALL AT NEW DUCT PENETRATION. LOCATE PENETRATIONS WITHIN OR UNDER EXISTING OPENINGS– COORDINATE WITH ARCHITECT.
8. PAINT LINTEL

LEGEND:

- EXISTING DOOR HEADER
- EXISTING WALL
- EXISTING LIGHT TO REMAIN
- NEW UPRIGHT SPRINKLER
- NEW HORN–STROBE APPLIANCE
- EXISTING PLASTER CEILING
- EXISTING CONCRETE DECK
- NEW PLASTER CEILING
- NEW SPRINKLER RISER

N

2 A-402 MECH. RM REFLECTED CEILING PLAN –NEW

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

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PROJECT: BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

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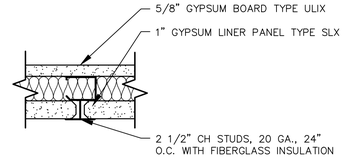
SHEET NUMBER: 13 OF 42

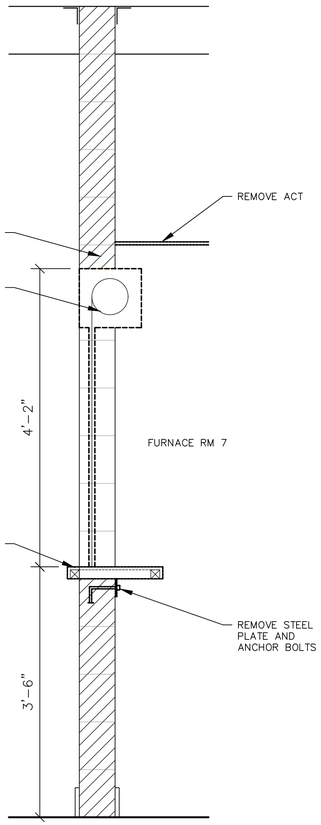
DRAWING TITLE: ENLARGED MECH. RM. REFLECTED CEILING PLAN – DEMO & NEW

DRAWING NUMBER: A-402



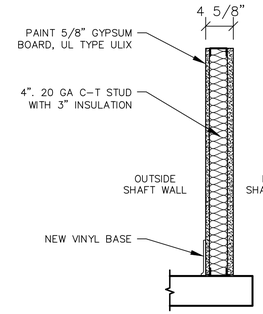
3 A-501 CEILING SECTION– UL415 1–HR FIRE RATING

SCALE: 3"=1'-0"



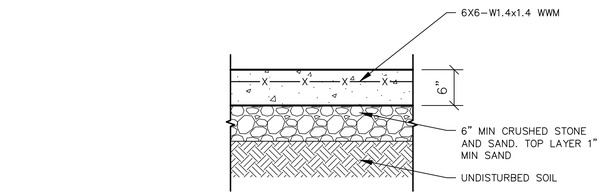
4 A-501 WALL SECTION– DEMO

SCALE: 1"=1'-0"



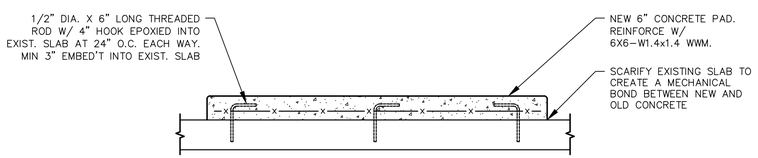
2 A-501 WALL SECTION– UL415 1–HR FIRE RATING

SCALE: 1"=1'-0"



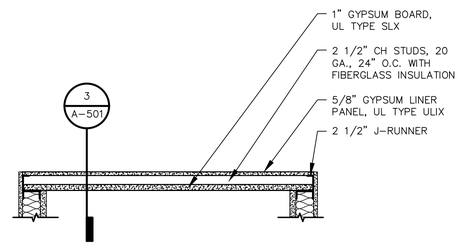
6 A-501 SECTION @ HOUSEKEEPING PAD ON GRADE

SCALE: 1"=1'-0"



5 A-501 SECTION @ TYPICAL HOUSEKEEPING PAD

SCALE: 1"=1'-0"



1 A-501 CEILING SECTION– UL415 1–HR FIRE RATING

SCALE: 1"=1'-0"

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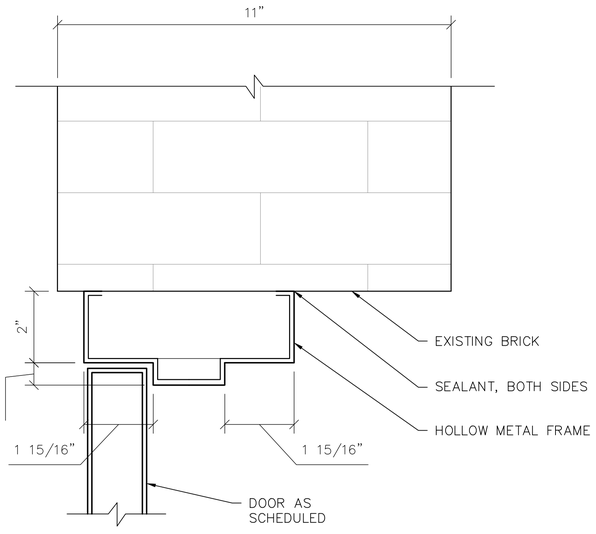
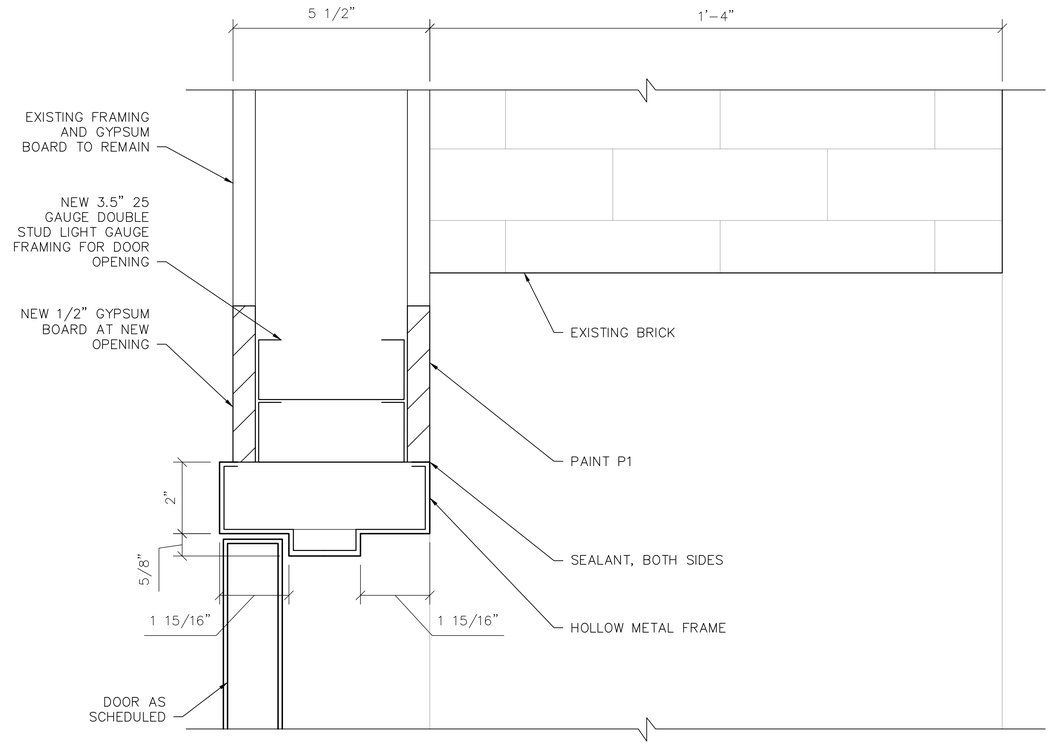
SHEET NUMBER 14 OF 42

DRAWING TITLE DETAILS & SECTIONS

DRAWING NUMBER A-501



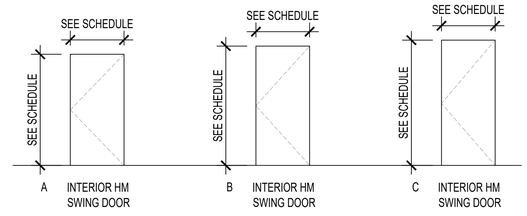
2 A-601 BRICK MASONRY WALL – JAMB DETAIL B
SCALE: 6" = 1'-0"



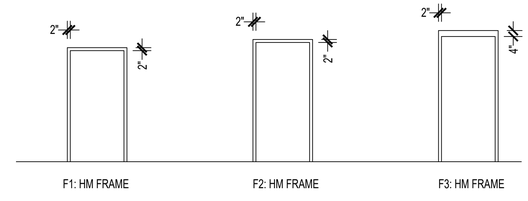
1 A-601 BRICK MASONRY WALL – JAMB DETAIL A
SCALE: 6" = 1'-0"

SCALE: 6"=1'-0"

DOOR TYPE



FRAME TYPE



DOOR SCHEDULE

DOOR NO.	DOOR SIZE	NEW/EXST/REN	DOOR MATERIAL	DOOR FINISH	ELEVATION	FRAME TYPE	FRAME MATL	FRAME FINISH	HDWR SET	JAMB DETAIL	JAMB DEPTH	REMARKS
024	3'-0"x6'-2 1/2"x1-3/4"	NEW	HM	PT	A	NEW	HM	PT	1	B	11"	–
025	3'-0"x6'-8"x1-3/4"	NEW	HM	PT	B	NEW	HM	PT	2	A	5.5"	2
007A	3'-0"x7'-0"x1-3/4"	NEW	HM	PT	C	EXIST	HM	PT	2	EXIST	EXIST	1
007B	3'-0"x7'-0"x1-3/4"	NEW	HM	PT	C	EXIST	HM	PT	2	EXIST	EXIST	1

REMARKS:
1. FIELD VERIFY EXISTING FRAME BEFORE ORDERING DOOR.
2. NEW DOOR WILL BE TALLER THAN ORIGINAL BRICK ARCH OPENING.

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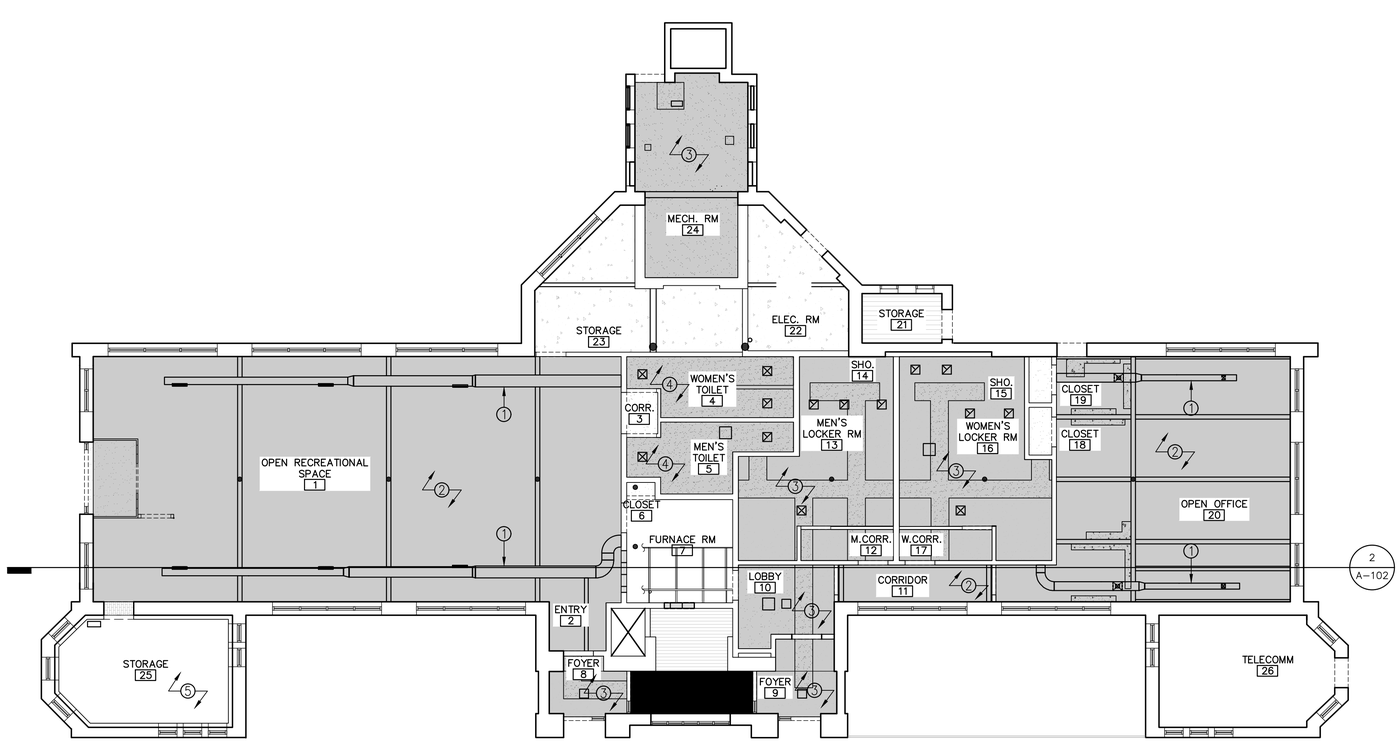
IDENTIFICATION NUMBER: FILE# 751/24078.SMD; A/E# 1411-14
SHEET NUMBER: 15 OF 42
DRAWING TITLE: DOOR SCHEDULE
DRAWING NUMBER: A-601



N

1 / A-701 FIRST FLOOR REFLECTED CEILING FINISH PLAN

0 8' 16' 24'

SCALE: 1/8"=1'-0"

LEGEND:

- EXISTING DOOR HEADER
- EXISTING WALL AND GLAZING
- EXISTING CEILING HATCH
- EXISTING HVAC GRILLE
- EXISTING COLUMN AND BEAM
- EXISTING EXPOSED DUCT
- EXISTING WOOD PLANK CEILING
- EXISTING CONCRETE CEILING
- NEW CEILING PAINT

KEY NOTES:

1. PAINT EXISTING EXPOSED DUCTS P2.
2. PAINT ENTIRE CONCRETE CEILING AND STEEL BEAMS P2.
3. PAINT ENTIRE PLASTER CEILING P2.
4. NEW GYP BD CEILING PAINTED P2.
5. OPEN TO STRUCTURE ABOVE.

FINISH KEY NOTES:

WALL

P1 PAINT COLOR: BEHR RAFFIA CREAM 710C-2

CEILING AND EXPOSED DUCTS AND SPRINKLER PIPE

P2 PAINT COLOR: SHERWIN WILLIAMS EXTRA WHITE 7006

GENERAL NOTES:

1. HAZARDOUS MATERIALS ARE KNOWN TO BE PRESENT WITHIN THE PROJECT AREA. REFER TO HAZARDOUS MATERIALS REPORT INCLUDED IN APPENDIX A.
2. REUSE EXISTING PIPE/DUCT OPENINGS WHERE AVAILABLE.

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DESIGNED	DRAWN JRR CHECKED TDS APPROVED TDS
DATE	08.07.2025
ISSUED FOR	CONSTRUCTION DOCUMENTS_REV
IDENTIFICATION NUMBER	FILE# 751/24078.SMD A/E# 1411-14
SHEET NUMBER	16 OF 42
DRAWING TITLE	FIRST FLOOR REFLECTED CEILING FINISH PLAN
DRAWING NUMBER	A-701

FIRE ALARM GENERAL NOTES

1. THE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION OF THE SCOPE OF WORK AND ARE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR IS FULLY RESPONSIBLE FOR REPLACING THE EXISTING FIRE ALARM SYSTEM, INCLUDING EXACT DEVICE LOCATION, CONDUIT ROUTING, JUNCTION BOXES, SUPPORTS AND UNDEFINED CONSTRUCTION DETAILS AS A JOB CONDITION.
2. EXISTING FIRE ALARM SYSTEM CONDUIT CAN BE REUSED. IN MOST CASES THESE CODUITS WILL NOT BE IN THE EXACT LOCATION AND/OR MOUNTING HEIGHTS REQUIRED BUT WILL BE IN THE GENERAL AREA FOR NEW DEVICE AND APPLIANCE INSTALLATION.
3. MATERIALS AND WORK SHALL CONFORM TO ALL GOVERNING BUILDING AND FIRE CODES, REGULATIONS AND ORDINANCES.
4. MAINTAIN A COMPLETE SET OF DRAWINGS AT THE JOB SITE FOR USE IN MAKING "AS-BUILT DRAWINGS". ANY REVISIONS SHALL BE NOTED THEREON AND SUBMITTED TO THE OWNER AT THE COMPLETION OF THE JOB PER THE SPECIFICATIONS.
5. ALL WIRING SHALL BE IN CONDUIT. CONDUIT ROUTING AND CONDUIT SIZES SHALL BE DETERMINED BY THE CONTRACTOR AND INDICATED ON THE SHOP DRAWINGS AND RECORD DRAWINGS.
6. ALL CONDUIT FROM WATERFLOW SWITCHES AND VALVE SUPERVISORY DEVICES TO WALL MOUNTED JUNCTION BOXES SHALL BE FLEXIBLE AND WEATHERPROOF (SEALTITE OR EQUAL).
7. JUNCTION BOX COVERS ARE TO BE RED FOR FIRE ALARM IDENTIFICATION WITH THE LETTERS FA APPEARING IN WHITE LETTERING.
8. APPLICABLE CODES AND STANDARDS: MICHIGAN BUILDING CODE, 2021 EDITION; NFPA 72, 2019 EDITION;MICHIGAN ELECTRIC CODE, 2023 EDITION.
9. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
10. THE FIRE ALARM EQUIPMENT SUPPLIER (CONTRACTOR) SHALL PROVIDE A SINGLE SOURCE SOLUTION FOR ALL EQUIPMENT, SERVICES, AND PROGRAMMING, INCLUDING FINAL INSPECTION/TEST SERVICES FOR THE COMPLETED FIRE ALARM SYSTEM.
11. EACH COMPONENT OF THE FIRE ALARM SYSTEM SHALL BE LISTED AS A PRODUCT BY A SINGLE SOURCE MANUFACTURER UNDER THE APPROPRIATE CATEGORY FOR THE INTENDED USE BY UNDERWRITERS' LABORATORIES, INC. (UL) AND SHALL BEAR THE "UL" LABEL UNLESS OTHERWISE NOTED.
12. THE CONTRACTOR SHALL REPLACE THE EXISTING FIRE ALARM CONTROL EQUIPMENT, ALL INITIATING DEVICES, AND OCCUPANT NOTIFICATION APPLIANCES.
13. CONTRACTOR SHALL INSTALL ALL NEW FIRE ALARM WIRING IN CONDUIT OR WIREMOLD.
14. ALL NOTIFICATION APPLIANCES SHALL BE RED AND LABELED "FIRE" IN WHITE LETTERING.
15. WIRING, CABLES, BOXES, TROUGHS AND OTHER RELATED EQUIPMENT SHALL BE INSTALLED IN COMPLIANCE WITH THE 2023 MICHIGAN ELECTRICAL CODE.
16. CONNECTIONS SHALL BE DESIGNED AND INSTALLED TO BE ACCESSIBLE FOR INSPECTION AND SERVICING. PROVIDE ACCESS PANELS AS REQUIRED.
17. WIRES CONNECTED TOGETHER SHALL HAVE THE SAME COLOR INSULATION.
18. SYSTEM POWER AND GROUND CONDUCTORS SHALL BE TYPE "THHN" SOLID COPPER SIZED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS AND THE MICHIGAN ELECTRICAL CODE AND BE INSTALLED IN EMT TYPE CONDUIT OVER THEIR ENTIRE LENGTH.
19. HORIZONTAL FLOOR WIRING OF SLC AND NAC CIRCUITS SHALL BE CLASS 'B' WIRED WITH A MINIMUM LEVEL 1 PATHWAY SURVIVABILITY.
20. ALL PENETRATIONS SHALL BE SEALED. PENETRATIONS OF FIRE RESISTANCE RATED ELEMENTS (BARRIERS, WALLS, SHAFTS, FLOOR/CEILING ASSEMBLIES) SHALL BE DRILLED AND SEALED WITH AN APPROVED UL LISTED FIRE-RATED THROUGH-PENETRATION ASSEMBLY EQUAL TO OR GREATER THAN THE FIRE RESISTANCE RATING OF THE ELEMENT BEING PENETRATED.
21. THE USE OF WIRE NUTS IS PROHIBITED. ALL WIRE TERMINATIONS SHALL BE MADE ON APPROVED TERMINAL STRIPS OR WAGO CONNECTORS AT THE NEAREST DEVICE/APPLIANCE/PANEL.
22. CONTRACTOR SHALL NOT EXCEED 80% LOADING OF ANY SLC AND NAC CIRCUIT.

FIRE ALARM GENERAL NOTES CONT.

23. WORK SHALL BE IN ACCORDANCE WITH NFPA STANDARDS, ADOPTED CODES, AND SPECIFICATION SECTION 283100 "FIRE ALARM AND DETECTION SYSTEM".
24. CONDUCTORS SHALL BE AS REQUIRED BY THE FIRE ALARM EQUIPMENT MANUFACTURER FOR THE INTENDED PURPOSE.
25. PROVIDE ALL REQUIRED CONDUIT, WIREMOLD, AND BOXES FOR SYSTEM CABLING.
26. CONTRACTOR TO PROVIDE 120 VAC ELECTRICAL POWER TO THE FIRE ALARM CONTROL UNIT; COORDINATE WITH RELATED ELECTRICAL PANEL SCHEDULES.
27. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
28. IN CASE OF DISPUTE OR DOUBT AS TO INTENT OF DRAWING OR SPECIFICATIONS, OBTAIN JENSEN HUGHES WRITTEN APPROVAL BEFORE PROCEEDING WITH BID.
29. ALL INSTALLATION WORK SHALL BE SUPERVISED BY A FIELD PROJECT MANAGER THROUGHOUT THE PROJECT WITH A MINIMUM OF NICET LEVEL III CERTIFICATION IN FIRE ALARM SYSTEM TECHNOLOGY.
30. THE CONTRACTOR SHALL HAVE A DESIGNER WITH A MINIMUM NICET LEVEL III CERTIFICATION IN FIRE ALARM SYSTEM TECHNOLOGY OR A LICENSED PROFESSIONAL FIRE PROTECTION ENGINEER IN RESPONSIBLE CHARGE OF THE FIRE ALARM SYSTEM DESIGN.
31. THE CONTRACTOR SHALL PREPARE AND SUBMIT SHOP DRAWINGS FOR THE FIRE ALARM SYSTEM INCLUDING A RISER (WITH SEQUENCE OF OPERATION), POWER CONNECTION DETAILS, FLOOR PLANS SHOWING ALL DEVICE ADDRESSES, POWER SUPPLIES, AND CIRCUITRY PROPOSED FOR THE PROJECT/SYSTEM IN SUFFICIENT DETAIL TO CLEARLY REVIEW AND BUILD THE ENTIRE SYSTEM. PROVIDE INTERIOR PANEL WIRING AND DEVICE POINT-TO-POINT CONNECTION DETAIL DRAWINGS FOR ALL EQUIPMENT. REFER TO SPECIFICATION SECTION 283100 FOR DETAILED REQUIREMENTS.
32. IN ADDITION TO SHOP DRAWINGS, CONTRACTOR SHALL SUBMIT PRODUCT DATA SHEETS, ADDRESSABLE CIRCUIT LOADING, NOTIFICATION APPLIANCE CIRCUIT LOADING, BATTERY CALCULATIONS, CURRENT DRAW AND VOLTAGE DROP CALCULATIONS, POINT ID LIST, AND SAMPLES AS REQUIRED BY NFPA 72 AND THE PROJECT SPECIFICATIONS. INCOMPLETE OR PARTIAL SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
33. SHOP DRAWINGS AND RELATED SUBMITTALS FOR THE FIRE ALARM AND DETECTION SYSTEM SHALL COMPLY WITH THE 2019 EDITION OF NFPA 72 AND SHALL BE REVIEWED AND APPROVED BY THE ENGINEER OF RECORD (JENSEN HUGHES). DOCUMENTATION SHALL BE SUBMITTED TO THE AUTHORITIES HAVING JURISDICTION FOR PERMIT AND APPROVAL PRIOR TO INSTALLATION.
34. CHANGES IN THE LOCATIONS OF EQUIPMENT FROM THOSE SHOWN ON APPROVED SHOP DRAWINGS SHALL BE IDENTIFIED AND APPROVED IN WRITING PRIOR TO INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO RECTIFY UNAUTHORIZED NONCOMPLIANT CHANGES AT NO ADDITIONAL CHARGE TO THE OWNER.
35. THE CONTRACTOR SHALL PREPARE "AS-BUILT" DRAWINGS IN ELECTRONIC AUTOCAD DWG FORMAT, REFLECTING ACCURATE FIELD CONDITIONS. THE CONTRACTOR SHALL PROVIDE A FULL SIZE PRINTED SET ALONG WITH A COPY OF THE O&M MANUAL IN A FIRE ALARM DOCUMENT CABINET ADJACENT TO THE FIRE ALARM CONTROL UNIT.

LEGEND

- F — MANUAL PULL STATION WITH STOPPER COVER
- S — SMOKE DETECTOR
- S — DUCT SMOKE DETECTOR, RETURN SIDE OF AHU
- CM — CONTROL MODULE
- MM — DUAL ADRESSABLE MONITOR MODULE
- WF — VANE TYPE WATER FLOW SWITCH (PROVIDED BY FIRE SPRINKLER CONTRACTOR)
- V — VALVE SUPERVISORY SWITCH (PROVIDED BY FIRE SPRINKLER CONTRACTOR)
- XX — COMBINATION HORN – STROBE APPLIANCE (C=CEILING MOUNTED, WP=WEATHERPROOF)
- XX — WALL MOUNTED STROBE APPLIANCE
- F H — HORN APPLIANCE
- FACU — FIRE ALARM CONTROL UNIT
- FAA — REMOTE FIRE ALARM ANNUNCIATOR

BELLE ISLE ATHLETIC SHELTER SEQUENCE OF OPERATION MATRIX

		A	B	C	D	E	F	G	H	I	J	K	L	M	N
		ACTUATE COMMON ALARM SIGNAL AT FACU AND ANNUNCIATOR	ACTUATE AUDIBLE ALARM SIGNAL AT FACU AND ANNUNCIATOR	ACTUATE SUPERVISORY SIGNAL AT FACU AND ANNUNCIATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL AT FACU AND ANNUNCIATOR	ACTUATE COMMON TROUBLE SIGNAL AT FACU AND ANNUNCIATOR	ACTUATE AUDIBLE TROUBLE SIGNAL AT FACU AND ANNUNCIATOR	DISPLAY CHANGE OF STATUS ON FACU AND ANNUNCIATOR	TRANSMIT FIRE ALARM SIGNAL TO THE UL LISTED CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO THE UL LISTED CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO THE UL LISTED CENTRAL STATION	ACTUATE AUDIBLE/VISUAL NOTIFICATION APPLIANCES	INITIATE AHU/FAN SHUTDOWN	DEACTIVATE FIRE ALARM NOTIFICATION APPLIANCES	INITIATE RESET OF THE CONTROL UNIT, DEVICES, AND APPLIANCES
1	WATERFLOW SWITCH	X	X					X	X			X			
2	MANUAL PULL STATION	X	X					X	X			X			
3	SMOKE DETECTOR	X	X					X	X			X			
4	SPRINKLER CONTROL VALVE SUPERVISORY SWITCH (TAMPER)			X	X			X		X					
5	DUCT SMOKE DETECTOR			X	X			X		X			X		
6	FIRE ALARM CONTROL UNIT AC POWER FAILURE					X	X	X			X				
7	FIRE ALARM CONTROL UNIT LOW BATTERY					X	X	X			X				
8	NAC SHORT CIRCUIT					X	X	X			X				
9	OPEN CIRCUIT					X	X	X			X				
10	GROUND FAULT					X	X	X			X				
11	ADDRESSABLE DEVICE / SYSTEM COMPONENT FAILURE					X	X	X			X				
12	ALARM SILENCE							X						X	
13	SYSTEM RESET							X							X

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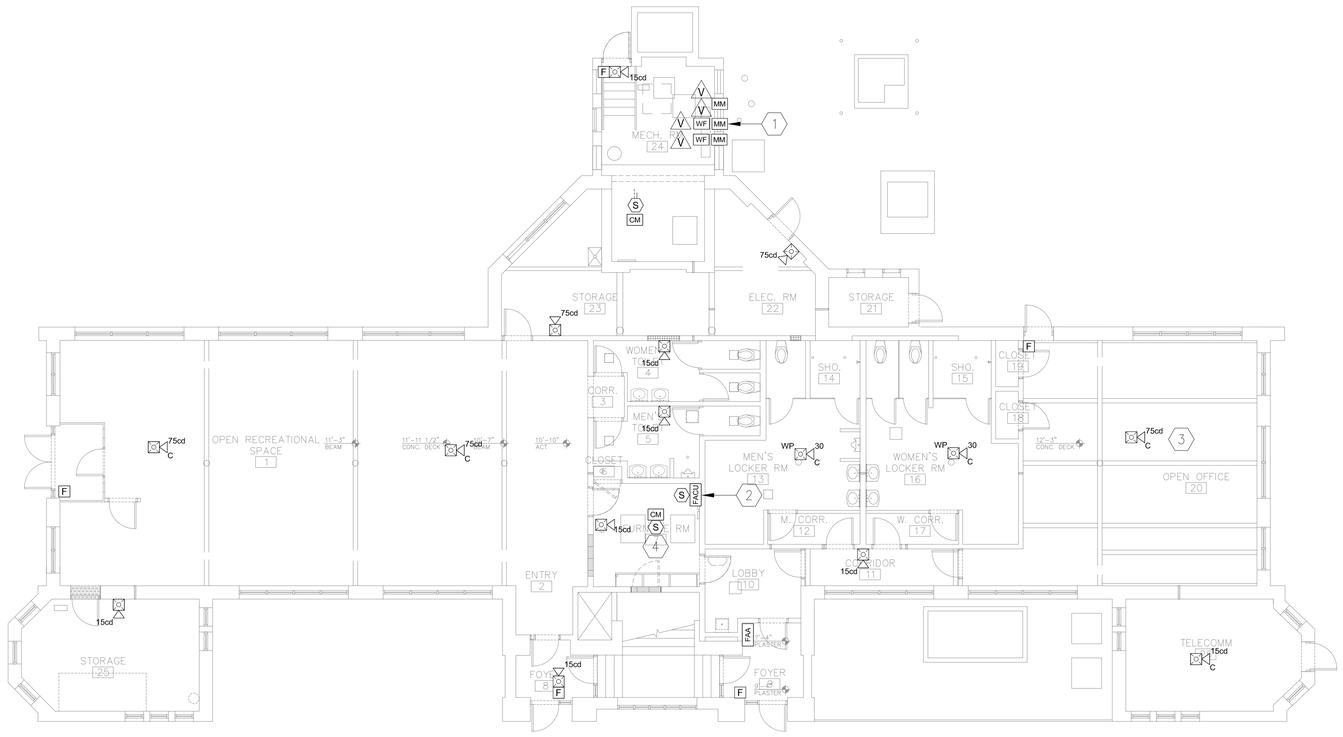
PROJECT: BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS
DESIGNED
DRAWN: CMF
CHECKED: RG
APPROVED: RG
DATE: 08.07.2025
ISSUED FOR: CONSTRUCTION DOCUMENTS_REV
IDENTIFICATION NUMBER: FILE# 751/24078.SMD A/E# 1411-14
SHEET NUMBER: OF 42
DRAWING TITLE: COVER SHEET
DRAWING NUMBER: FA-001



1 LEVEL 1 - FIRE ALARM SYSTEM PLAN

SCALE: 1/8" = 1'-0"

KEY NOTES:

1. PROVIDE 3 DUAL MONITOR MODULES TO MONITOR WATER FLOW AND VALVE SUPERVISORY SWITCHES.
2. REPLACING EXISTING COMBINATION FIRE/BURG PANEL WITH NEW FIRE ALARM CONTROL UNIT. REUSE EXISTING CONDUITS FROM OLD SYSTEM AND CONNECT TO NEW FIRE CONTROL UNIT IN NEW LOCATION.
3. INSTALL ON THE BOTTOM OF THE BEAM, REUSE CONDUIT FROM REMOVED SMOKE DETECTOR.
4. INSTALL SMOKE DETECTOR IN FRONT OF RETURN AIR GRILLE IN PLACE OF DUCT SMOKE DETECTOR DUE TO THE ABSENCE OF RETURN AIR DUCT. DETECTOR IS TO BE RATED FOR THE AIR VELOCITY OF THE AIR HANDLING EQUIPMENT. SMOKE DETECTOR TO TRANSMIT A SUPERVISORY SIGNAL TO THE FACU.

LEGEND

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- XX — COMBINATION HORN – STROBE APPLIANCE (C=CEILING MOUNTED, WP=WEATHERPROOF)
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- F H — HORN APPLIANCE
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IDENTIFICATION NUMBER
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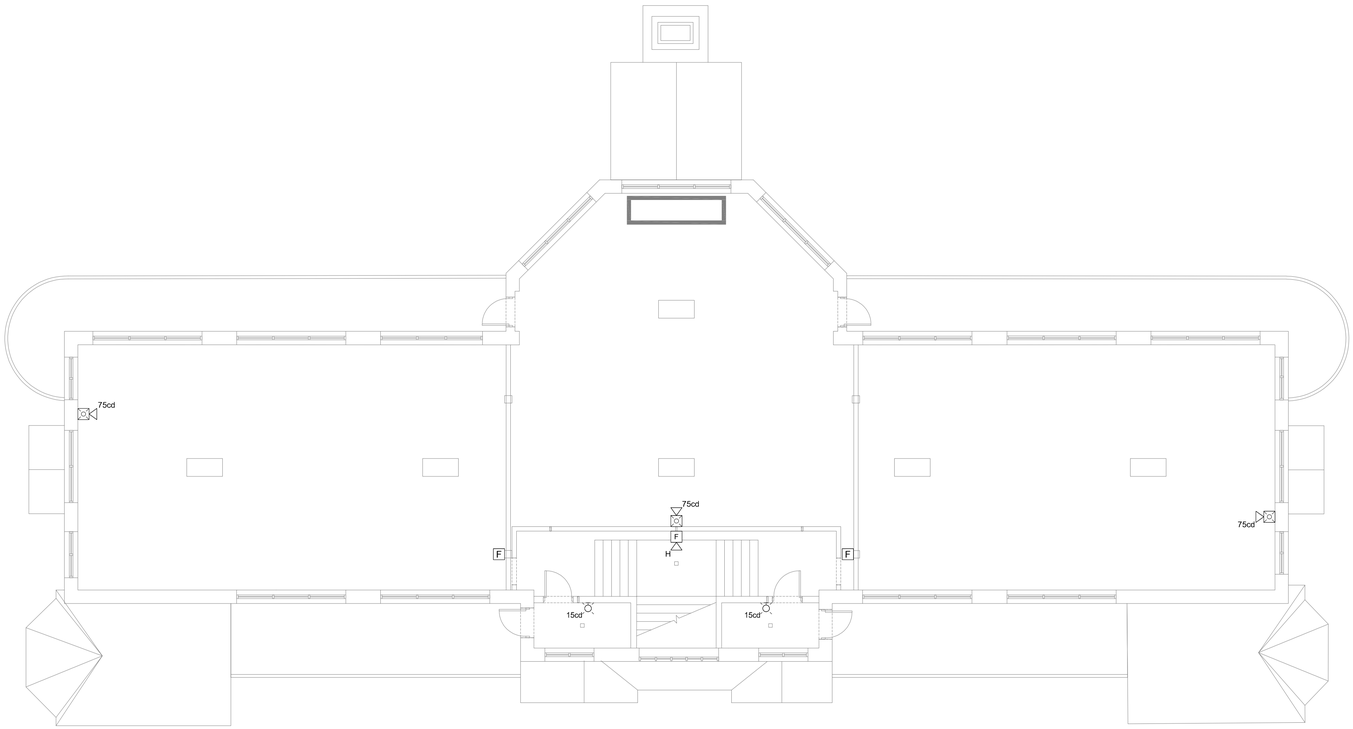
SHEET NUMBER
OF 42

DRAWING TITLE
FIRST FLOOR
FIRE ALARM
NEW WORK

DRAWING NUMBER
FA-101



1 LEVEL 2 - FIRE ALARM SYSTEM PLAN

SCALE: 1/8" = 1'-0"

NORTH

LEGEND

- F — MANUAL PULL STATION WITH STOPPER COVER
- S — SMOKE DETECTOR
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- WF — VANE TYPE WATER FLOW SWITCH (PROVIDED BY FIRE SPRINKLER CONTRACTOR)
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PROJECT: BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED: DRAWN OMF; CHECKED RG; APPROVED RG

DATE: 08.07.2025

ISSUED FOR: CONSTRUCTION DOCUMENTS_REV

IDENTIFICATION NUMBER: FILE# 751/24078.SMD; A/E# 1411-14

SHEET NUMBER: OF 42

DRAWING TITLE: SECOND FLOOR FIRE ALARM NEW WORK

DRAWING NUMBER: FA-102

GENERAL NOTES

1. CONTRACTOR SHALL PROVIDE AND INSTALL NEW WET–PIPE AUTOMATIC FIRE SPRINKLER SYSTEMS THROUGHOUT THE FIRST AND SECOND FLOORS.
2. CONTRACTOR SHALL PROVIDE AND INSTALL A NEW DOUBLE DETECTOR CHECK BACKFLOW PREVENTER ON THE INCOMING EXISTING FIRE PROTECTION SERVICE.
3. THE NEW FIRE SPRINKLER SYSTEMS SHALL BE SUPPLIED BY AN EXISTING 4–INCH UNDERGROUND LEAD–IN MAIN LOCATED AT THE NORTH CORNER OF THE MECHANICAL ROOM.
4. THE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION OF THE SYSTEM LAYOUT AND SCOPE OF WORK AND ARE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR IS FULLY RESPONSIBLE FOR PLANNING THE FIRE SPRINKLER SYSTEM INCLUDING EXACT LOCATION, ROUTING, SUPPORTS AND UNDEFINED CONSTRUCTION DETAILS AS A JOB CONDITION.
5. FIRE SPRINKLER SYSTEMS SHALL BE INSTALLED COMPLETE IN ALL RESPECTS, AND IN ACCORDANCE WITH THE SPECIFICATIONS AND ALL APPLICABLE CODES AND STANDARDS.
6. SPRINKLER LOCATIONS AND PIPING LAYOUT ARE DEPICTED. PIPE SIZING SHOWN IS BASED UPON PRELIMINARY CALCULATIONS. CONTRACTOR IS RESPONSIBLE FOR SIZING PIPE TO MEET SPECIFIED DESIGN CRITERIA.
7. ALL PIPE ROUTING SHALL BE COORDINATED AND MODIFIED AS NECESSARY TO MEET CODE REQUIREMENTS, BUILDING CONSTRAINTS, AND OTHER TRADES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING ALL CONFLICTS WITH LIGHTING FIXTURES, DIFFUSERS, GRILLS, DUCTS, CONDUIT, PIPING, EQUIPMENT AND OTHER OBSTRUCTIONS ENCOUNTERED.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR COVERING BUILDING FURNITURE, EQUIPMENT AND FINISHES TO PROTECT THEM FROM DUST, DEBRIS, WATER AND OTHER DAMAGE WHILE WORK IS IN PROGRESS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY WORK REQUIRED TO PROVIDE ADEQUATE SPRINKLER PROTECTION TO ACCOMMODATE CEILING ELEVATIONS, EXPOSED STRUCTURAL BEAMS, LIGHTING AND DIFFUSER LOCATIONS, DUCTS, PIPING, PARTITIONS, CEILINGS, BAFFLES, AND LIGHTING CORNICES WHICH FORM AN OBSTRUCTION TO THE SPRINKLER DISCHARGE PATTERN.
11. PROVIDE COMPLETE NEW CONTROL VALVE ASSEMBLIES, WITH SUPERVISED CONTROL VALVE, PRESSURE GAUGE, SYSTEM MAIN DRAIN, AND WATERFLOW DETECTOR AT EACH LOCATION INDICATED ON DRAWINGS.
12. PROVIDE LOW POINT AND/OR AUXILIARY DRAINS AS REQUIRED. SPRINKLER SYSTEM MAIN DRAIN AND INSPECTOR'S TEST CONNECTIONS SHALL BE PIPED TO DISCHARGE OUTSIDE THE BUILDING AT LOCATIONS WHERE WATER WILL NOT FLOOD ADJACENT AREAS OR DAMAGE PLANTED AREAS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CORE DRILLING OF EXISTING WALLS AND FLOORS TO ACCOMMODATE THE NEW SPRINKLER PIPING PENETRATIONS. PROPER UL LISTED FIRESTOPPING MATERIALS SHALL BE PROVIDED TO MAINTAIN THE FIRE RESISTANCE RATING REQUIRED WHERE SPRINKLER PIPING PENETRATES FIRE RATED CONSTRUCTION.
14. NEW WATERFLOW DETECTORS AND VALVE SUPERVISORY SWITCHES SHALL BE PROVIDED. THESE DEVICES SHALL BE CONNECTED TO THE NEW FIRE ALARM CONTROL PANEL BY THE FIRE ALARM CONTRACTOR.
15. PROVIDE NEW VALVE SUPERVISORY SWITCHES ON ALL CONTROL VALVES.
16. PROVIDE PIPE SUPPORTS AND/OR HANGERS FOR ALL PIPING.
17. THE ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 13–2019 EDITION AND ALL LOCAL AND STATE REQUIREMENTS.
18. ALL HORIZONTAL PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE.
19. ALL EXPOSED PIPING SHALL BE FREE OF RUST UPON COMPLETION OF INSTALLATION. PIPING WITH APPARENT RUST SHALL BE CLEANED AND PAINTED PRIOR TO APPROVAL BY ARCHITECT.
20. PROVIDE METAL PLACARDS WITH SYSTEM HYDRAULIC CHARACTERISTICS IN ACCORDANCE WITH NFPA 13–2019 EDITION, AND FASTEN TO THE FIRE SPRINKLER RISERS.
21. THE SPRINKLER CONTRACTOR SHALL SUBMIT SPRINKLER SHOP DRAWINGS UNDER HIS TITLE BLOCK TO THE AUTHORITY HAVING JURISDICTION AND OBTAIN ALL PERMITS REQUIRED FOR THIS WORK.
22. THE COMPLETED SPRINKLER SYSTEMS, INCLUDING ALL COMPONENTS AND THEIR INSTALLATION, SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES.
23. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

HYDRAULIC DESIGN CRITERIA

THE FIRE SPRINKLER SYSTEMS SHALL BE HYDRAULICALLY DESIGNED TO PROVIDE THE FOLLOWING:

- A MINIMUM OF 0.10 GPM PER SQ. FT. OVER THE HYDRAULICALLY MOST REMOTE 945 SQ. FT. FOR ALL REMAINING AREAS. AN OUTSIDE HOSE STREAM ALLOWANCE OF 100 GPM SHALL BE INCLUDED IN THE HYDRAULIC CALCULATIONS.

ALL HYDRAULIC CALCULATIONS SHALL INCLUDE A MINIMUM SAFETY FACTOR OF 5.0 PSI.

WATER SUPPLY DATA

THE AVAILABLE WATER SUPPLY TO THE BUILDING IS AS FOLLOWS:

52 PSI	STATIC
25 PSI	RESIDUAL
1,068 GPM	FLOWING
DATE:	04/29/2025

LEGEND

- NEW PIPING
- NEW SPRINKLER RISER
- 1/2–INCH, QUICK RESPONSE, SEMI–RECESSED, CHROME PENDENT SPRINKLER, K=5.6
- 1/2–INCH, QUICK RESPONSE, BRASS UPRIGHT SPRINKLER, K=5.6
- 1/2–INCH, QUICK RESPONSE, HORIZONTAL SIDEWALL SPRINKLER, K=5.6
- 1/2–INCH, QUICK RESPONSE, DRY HORIZONTAL SIDEWALL SPRINKLER, K=5.6
- NEW DOUBLE DETECTOR CHECK BACKFLOW PREVENTER
- NEW FIRE DEPARTMENT CONNECTION

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DESIGNED: DRAWN OMF; CHECKED RG; APPROVED RG

DATE: 08.07.2025

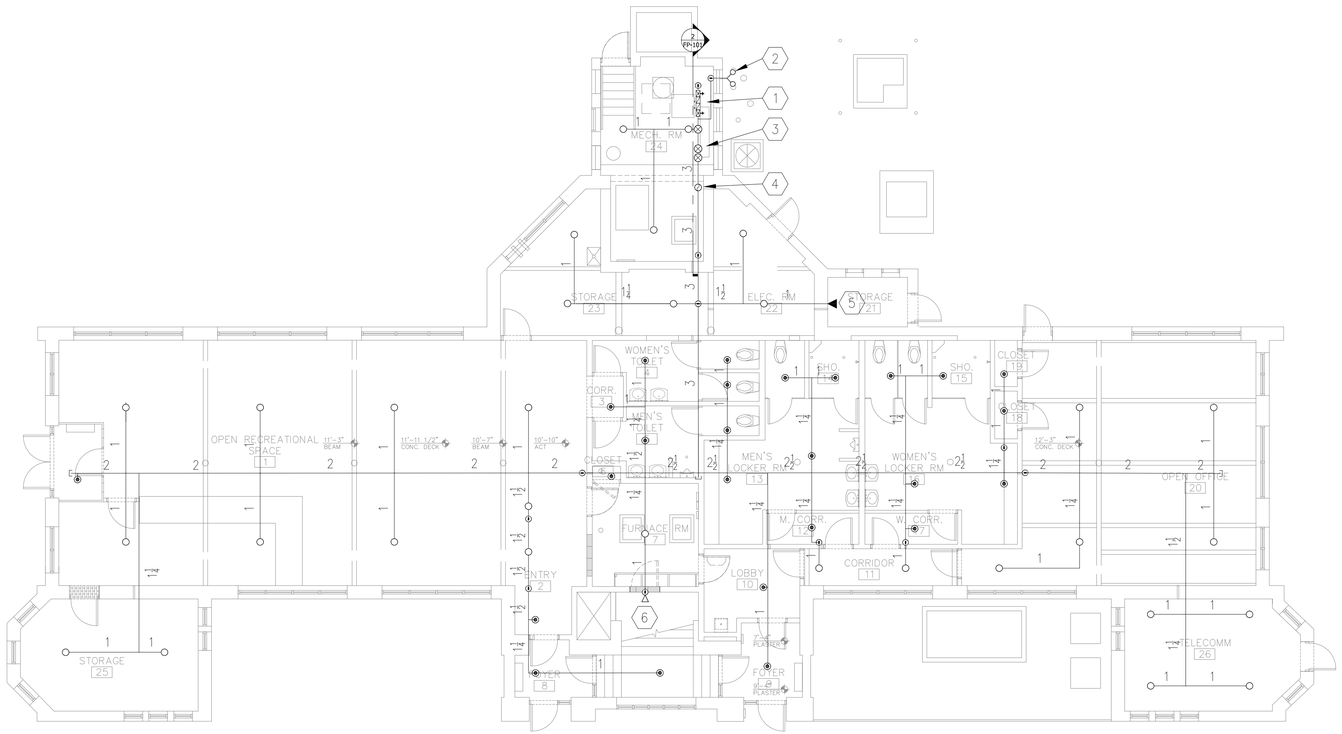
ISSUED FOR: CONSTRUCTION DOCUMENTS_REV

IDENTIFICATION NUMBER: FILE# 751/24078.SMD; A/E# 1411–14

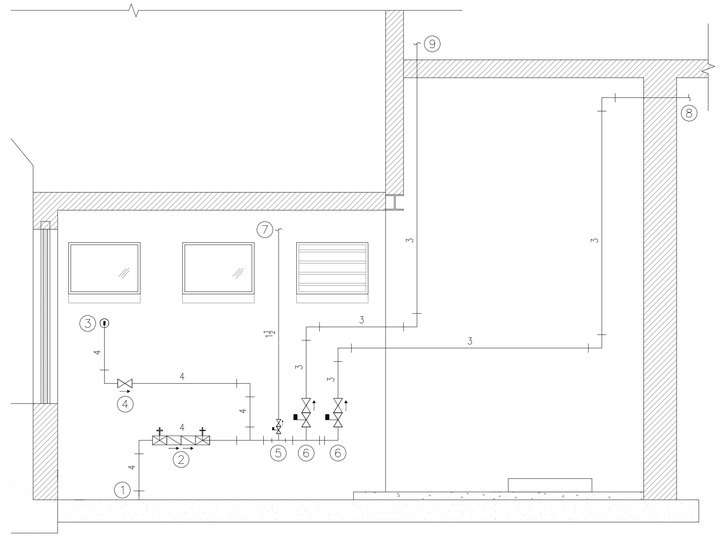
SHEET NUMBER: OF 42

DRAWING TITLE: COVER SHEET

DRAWING NUMBER: FP-001



1 FIRST FLOOR - FIRE SPRINKLER SYSTEM PLAN
SCALE: 1/8" = 1'-0"



2 MECHANICAL ROOM SECTION
SCALE: 3/8" = 1'-0"

EQUIPMENT LEGEND

1. NEW 4" INCOMING WATER SERVICE AT FLANGE
2. 4" DOUBLE DETECTOR CHECK BACKFLOW PREVENTER
3. 4" TO FIRE DEPARTMENT CONNECTION (FDC)
4. 4" FDC CHECK VALVE
5. 1½" RISER W/ INDICATING BUTTERFLY CONTROL VALVE AND CHECK VALVE., WATERFLOW SWITCH AND DRAIN
6. 3" RISER W/ INDICATING BUTTERFLY CONTROL VALVE AND CHECK VALVE, WATERFLOW SWITCH AND DRAIN
7. 1½" SUPPLY TO MECHANICAL ROOM SPRINKLER SYSTEM
8. 3" SUPPLY TO FIRST FLOOR
9. 3" SUPPLY TO SECOND FLOOR

KEY NOTES:

1. NEW DOUBLE DETECTOR CHECK BACKFLOW PREVENTER ON EXISTING INCOMING WATER SERVICE.
2. NEW FIRE DEPARTMENT CONNECTION.
3. PROVIDE COMPLETE CONTROL VALVE ASSEMBLIES, WITH SUPERVISED CONTROL VALVE, PRESSURE GAUGE, SYSTEM MAIN DRAIN, AND WATERFLOW FOR THREE (3) NEW RISERS.
4. NEW SUPPLY MAIN UP TO SECOND FLOOR SPRINKLER SYSTEM IN EXISITING SHAFT.
5. NEW DRY-TYPE HORIZONTAL SIDEWALL SPRINKLER.
6. NEW SIDEWALL SPRINKLER INSTALLED IN SPACE BELOW STAIRS.

LEGEND

- NEW PIPING
- NEW SPRINKLER RISER
- 1/2-INCH, QUICK RESPONSE, SEMI-RECESSED, CHROME PENDENT SPRINKLER, K=5.6
- 1/2-INCH, QUICK RESPONSE, BRASS UPRIGHT SPRINKLER, K=5.6
- 1/2-INCH, QUICK RESPONSE, HORIZONTAL SIDEWALL SPRINKLER, K=5.6
- 1/2-INCH, QUICK RESPONSE, DRY HORIZONTAL SIDEWALL SPRINKLER, K=5.6
- NEW DOUBLE DETECTOR CHECK BACKFLOW PREVENTER
- NEW FIRE DEPARTMENT CONNECTION

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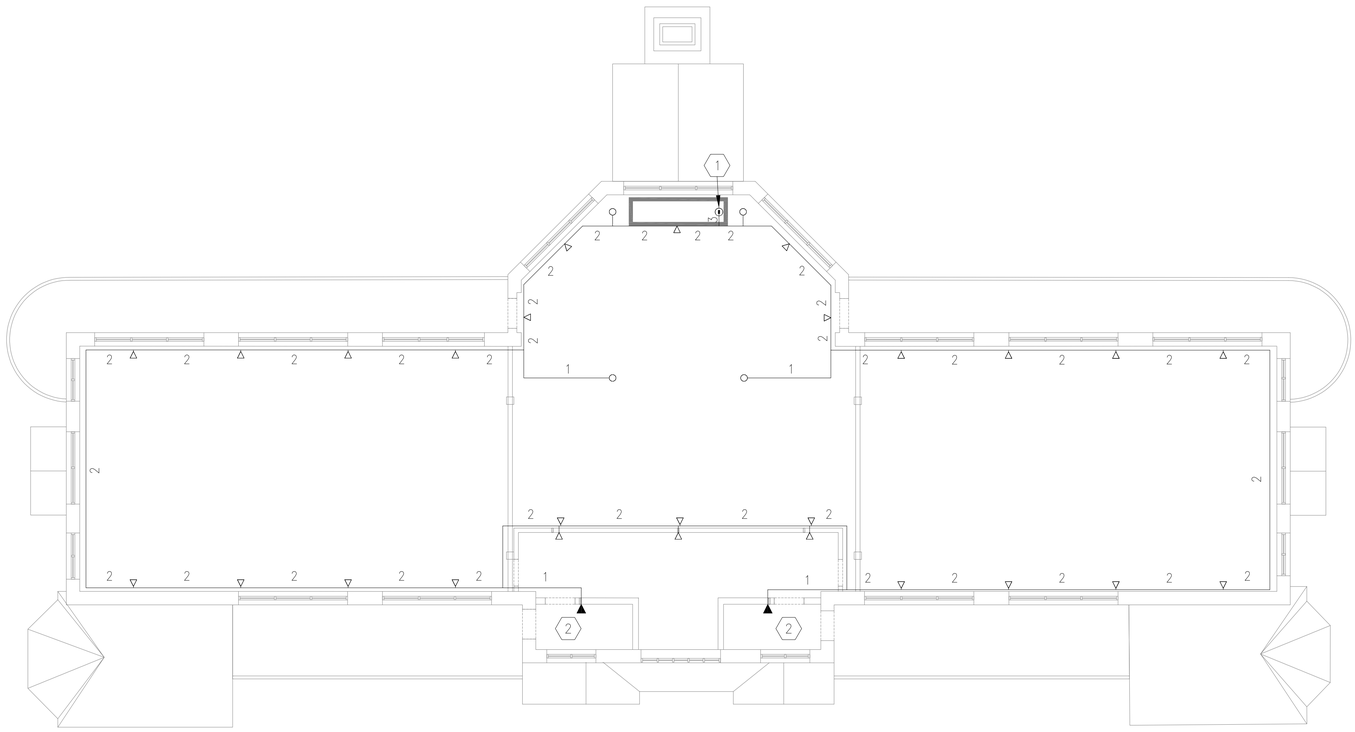

NORTH

1 SECOND FLOOR - FIRE SPRINKLER SYSTEM PLAN

SCALE: 1/8" = 1'-0"

KEY NOTES:

1. 3-INCH FEED FROM SPRINKLER RISER BELOW.
2. NEW DRY-TYPE HORIZONTAL SIDEWALL SPRINKLER IN UNHEATED VESTIBULE.

LEGEND

- NEW PIPING
- NEW SPRINKLER RISER
- 1/2-INCH, QUICK RESPONSE, SEMI-RECESSED, CHROME PENDENT SPRINKLER, K=5.6
- 1/2-INCH, QUICK RESPONSE, BRASS UPRIGHT SPRINKLER, K=5.6
- 1/2-INCH, QUICK RESPONSE, HORIZONTAL SIDEWALL SPRINKLER, K=5.6
- 1/2-INCH, QUICK RESPONSE, DRY HORIZONTAL SIDEWALL SPRINKLER, K=5.6
- NEW DOUBLE DETECTOR CHECK BACKFLOW PREVENTER
- NEW FIRE DEPARTMENT CONNECTION

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PROJECT
BELLE ISLE ATHLETIC SHELTER HVAC
REPLACEMENT AND FIRE PROTECTION
IMPROVEMENTS

DESIGNED
DRAWN OMF
CHECKED RG
APPROVED RG

DATE
08.07.2025

ISSUED FOR
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IDENTIFICATION NUMBER
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OF 42

DRAWING TITLE
SECOND FLOOR
FIRE PROTECTION
NEW WORK

DRAWING NUMBER
FP-102

MECHANICAL ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
A	COMPRESSED AIR
A(___#)	COMPRESSED AIR (SPECIFIC PSIG)
AAV	AUTOMATIC AIR VENT
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
AD	AREA DRAIN
AE	AIR EXTRACTOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AMP	AMPERE
APD	AIR PRESSURE DROP
AR	ARGON
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS
ASR	AUTOMATIC SPRINKLER RISER
ATD	AIR TRANSFER DUCT
AUX	AUXILIARY
AV	ACID VENT
AVTR	ACID VENT THROUGH ROOF
AW	ACID WASTE
BAS	BUILDING AUTOMATION SYSTEM
BCU	BLOWER COIL UNIT
BDD	BACKDRAFT DAMPER
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BVC	BEVERAGE CONDUIT
BWV	BACKWATER VALVE
C	COMMON
CAP	CAPACITY
CAV	CONSTANT AIR VOLUME
CB	CATCH BASIN
CC	COOLING COIL
CD	COLD DECK
CD	CONDENSATE DRAIN
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHW	CHILLED WATER
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	COOLING
CNDS	CONDENSATE
CNDS (___#)	CONDENSATE (SPECIFIC PSIG)
CO	CLEAN OUT
CO2	CARBON DIOXIDE
CONT	CONTINUATION OR CONTINUED
CONTR	CONTRACTOR
CONV	CONVECTOR
COP	COEFFICIENT OF PERFORMANCE
CP	CIRCULATING PUMP
CRU	CONDENSATE RETURN UNIT
CSS	CLINICAL SERVICE SINK
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CW	DOMESTIC COLD WATER
CWF	DOMESTIC COLD WATER - FILTERED
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D&T	DRIP AND TRAP
DA	DISCHARGE AIR
DAT	DISCHARGE AIR TEMPERATURE
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE
DFU	DRAINAGE FIXTURE UNITS
DIA	DIAMETER
DMPR	DAMPER
D/N	DAY/NIGHT
DN	DOWN
DNZ	DOWNSPOUT NOZZLE
DS	DUCT SILENCER
DT	DRAIN TILE
DTC	DRAIN TILE CONNECTION
DWH	DOMESTIC WATER HEATER
DWG	DRAWING
(E)	EXISTING
E	EXHAUST GRILLE OR REGISTER
EA	EACH
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	EXPANSION COMPENSATOR
ECUH	ELECTRIC CABINET UNIT HEATER
EDB	ENTERING DRY BULB
EER	ENERGY EFFICIENCY RATIO
EES	EMERGENCY EYE WASH / SHOWER
EEW	EMERGENCY EYE WASH
EF	EXHAUST FAN
EFF	EFFICIENCY
EHC	ELECTRIC HEATING COIL
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EMS	ENERGY MANAGEMENT SYSTEM
ERL	ENERGY RECOVERY LOOP
ERLR	ENERGY RECOVERY LOOP RETURN
ERLS	ENERGY RECOVERY LOOP SUPPLY
ERU	ENERGY RECOVERY UNIT
ESH	EMERGENCY SHOWER
ESP	EXTERNAL STATIC PRESSURE
EUH	ELECTRIC UNIT HEATER
EWB	ENTERING WET BULB
EWC	ELECTRIC WATER COOLER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
F	FIRE PROTECTION
°F	DEGREES FAHRENHEIT
F&B	FACE AND BYPASS
F&T	FLOAT AND THERMOSTATIC
FA	FACE AREA
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FTD	FUNNEL FLOOR DRAIN
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FHV	FIRE HOSE VALVE
FLA	FULL LOAD AMPS
FLR	FLOOR
FM	FLOW METER
FMS	FLOW MEASURING STATION
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPM	FEET PER MINUTE
FP	FIRE PUMP
FPTU	FAN POWERED (AIR) TERMINAL UNIT
FS	FLOOR SINK
FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR
FT	FEET
FTR	FINNED TUBE RADIATION
FV	FACE VELOCITY
G	NATURAL GAS
GA	GAUGE
GAL	GALLON
GRH	GRAVITY RELIEF HOOD
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GSAN	GREASE SANITARY WASTE
H	HYDROGEN
HB	HOSE BIBB
HC	HEATING COIL
HD	HOT DECK
HEPA	HIGH EFFICIENCY PARTICULATE ARRESTANCE
HL	HIGH LIMIT
HOA	HAND/OFF/AUTO
HP	HEAT PUMP
HP	HORSEPOWER
HPCW	HIGH PRESSURE DOMESTIC COLD WATER
HPHW	HIGH PRESSURE DOMESTIC HOT WATER
HPHWR	HIGH PRESSURE DOMESTIC HOT WATER RETURN
HPL	HEAT PUMP LOOP
HPLR	HEAT PUMP LOOP RETURN
HPLS	HEAT PUMP LOOP SUPPLY
HR	HOUR
HTG	HEATING
HV	HEATING VENTILATING
HVAC	HEATING, VENTILATING, AIR CONDITIONING
HWH	HOT WATER HEATING
HWHR	HOT WATER HEATING RETURN
HWHS	HOT WATER HEATING SUPPLY
HW	DOMESTIC HOT WATER
HW(___)	DOMESTIC HOT WATER (SPECIFIC TEMP °F)
HWR	DOMESTIC HOT WATER RETURN
HX	HEAT EXCHANGER
HZ	HERTZ
IAQ	INDOOR AIR QUALITY
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IH	INTAKE HOOD
IN	INCHES
IR	INFRARED HEATER
IW	INDIRECT WASTE
JC	JANITOR'S CLOSET
JP	JOCKEY PUMP
KA	THOUSAND AMP
KW	KILOWATT
KWH	KILOWATT-HOUR
LAT	LEAVING AIR TEMPERATURE
LAB	LABORATORY
LAV	LAVATORY
LBS	POUNDS
LDB	LEAVING DRY BULB
LL	LOW LIMIT
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LRA	LOCKED ROTOR AMPS
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MA	MIXED AIR
MAT	MIXED AIR TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
MCA	MEDICAL COMPRESSED AIR
MCA	MINIMUM CIRCUIT AMPACITY
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MANHOLE
MIL	1/1000th INCH
MIN	MINIMUM
MISC	MISCELLANEOUS
MMBH	MILLION BRITISH THERMAL UNITS PER HOUR
MOP	MAXIMUM OVERCURRENT PROTECTION
M/S	MOTOR STARTER
MTD	MOUNTED
MTR	MOTOR
MV	MANUAL AIR VENT
MVAC	MEDICAL VACUUM
N	NITROGEN
N2O	NITROUS OXIDE
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NCTC	NORMALLY CLOSED TIMED CLOSED
NCTO	NORMALLY CLOSED TIMED OPEN
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NOTC	NORMALLY OPEN TIMED CLOSED
NOTO	NORMALLY OPEN TIMED OPEN
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NPCW	NON POTABLE COLD WATER
O	OXYGEN
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
OB	OUTLET BOX
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER/CENTER TO CENTER
OD	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OL	OVERLOAD
ORC	OVERFLOW RAIN CONDUCTOR
ORD	OVERFLOW ROOF DRAIN
OS&Y	OUTSIDE SCREW AND YOKE
OV	OUTLET VELOCITY
OWS	OPERATOR WORKSTATION
PACU	PACKAGED AIR CONDITIONING UNIT
PBD	PARALLEL BLADE DAMPER
PC	PUMPED CONDENSATE
PCW	PROCESS COOLING WATER
PCWR	PROCESS COOLING WATER RETURN
PCWS	PROCESS COOLING WATER SUPPLY
PD	PRESSURE DROP (FEET OF WATER)
PH	PERIMETER HEAT
PHR	PERIMETER HEAT RETURN
PHS	PERIMETER HEAT SUPPLY
PNL	PANEL
PPM	PARTS PER MILLION
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSAN	PUMPED SANITARY
PST	PUMPED STORM
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH - ABSOLUTE
PSIG	POUNDS PER SQUARE INCH - GAUGE
PW	PURIFIED WATER
PWR	PURIFIED WATER RETURN
PWS	PURIFIED WATER SUPPLY
(R)	RELOCATED
R	RETURN GRILLE OR REGISTER
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
RC	RAIN CONDUCTOR
RCP	RADIANT CEILING PANEL
RD	ROOF DRAIN
REQD	REQUIRED
REF	ROOF EXHAUST FAN
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LIQUID
RLFA	RELIEF AIR
RPM	REVOLUTIONS PER MINUTE
RPDA	REDUCED PRESSURE BACKFLOW PREVENTION DETECTION ASSY
RPZA	REDUCED PRESSURE BACKFLOW PREVENTION ZONE ASSY
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
S	SUPPLY AIR DIFFUSER OR GRILLE
SA	SOUND ATTENUATOR
SA	SUPPLY AIR
SAN	SANITARY WASTE
SAT	SUPPLY AIR TEMPERATURE
SECT	SECTION
SCCR	SHORT CIRCUIT CURRENT RATING
SF	SUPPLY FAN
SH	SHOWER
SK	SINK
SMR	SNOW MELT RETURN
SMS	SNOW MELT SUPPLY
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SQFT	SQUARE FOOT/SQUARE FEET
S/S	START/STOP
SS	SERVICE SINK
ST	STORM
STD	STANDARD
STK	STACK
STM	STEAM
STM(___#)	STEAM (SPECIFIC PSIG)
S/W	SUMMER/WINTER
SW	SWITCH
T	TRANSFER GRILLE
TC	TEMPERATURE CONTROL
TC	TEMPERING COIL
TCP	TEMPERATURE CONTROL PANEL
TD	TRENCH DRAIN
TEMP	TEMPERATURE
TEMP	TEMPORARY
TH	TERMINAL HEATING
THA	TOTAL HEAT ABSORBED
THR	TERMINAL HEATING RETURN
THR	TOTAL HEAT REJECTED
THS	TERMINAL HEATING SUPPLY
TK	TANK
TMR	TIMER SWITCH
TPD	TEPID WATER
TSP	TOTAL STATIC PRESSURE
TU	(AIR) TERMINAL UNIT
TV	TURNING VANES
TW	TEMPERED WATER
TYP	TYPICAL
UH	UNIT HEATER
UL	UNDERWRITER'S LABORATORY
UON	UNLESS OTHERWISE NOTED
UR	URINAL
UV	UNIT VENTILATOR
V	VALVE
V	VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VACUUM BREAKER
VD	VOLUME DAMPER (MANUALLY ADJUSTABLE)
VOL	VOLUME
VFC	VARIABLE FREQUENCY CONTROLLER
VTR	VENT THROUGH ROOF
VTU	VENTURI TERMINAL UNIT
VUV	VERTICAL UNIT VENTILATOR
W	WASTE
W&V	WASTE AND VENT
WAGD	WASTE ANESTHETIC GAS DISPOSAL
WB	WET BULB
WC	WATER CLOSET
WC	WATER COLUMN
WG	WATER GAUGE
WH	WALL HYDRANT
WMSD	WASHING MACHINE SUPPLY AND DRAIN BOX
WPD	WATER PRESSURE DROP
WT	WEIGHT
XFMR	TRANSFORMER
ZVB	ZONE VALVE BOX

TEMPERATURE CONTROL - PARTIAL SYMBOLS LIST

SYMBOL	DESCRIPTION
CO2	CARBON DIOXIDE SENSOR
CO	CARBON MONOXIDE SENSOR
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
FM	FLOW METER
	GUARD FOR STAT OR SENSOR
H	HUMIDISTAT OR HUMIDITY SENSOR (AS DEFINED ON TC DRAWINGS)
OS	OCCUPANCY SENSOR
PT	PRESSURE TRANSMITTER
SP	STATIC PRESSURE SENSOR OR PROBE
	VALVE - 2 WAY CONTROL VALVE
	VALVE - 3 WAY CONTROL VALVE
T	THERMOSTAT OR TEMPERATURE SENSOR (AS DEFINED ON TC DRAWINGS)

NOTE: LIST OF ADDITIONAL SYMBOLS & ABBREVIATIONS ASSOCIATED WITH TEMPERATURE CONTROLS ARE IDENTIFIED ON TC DRAWINGS.

MECHANICAL SYMBOL LIST

PIPING SYMBOLS

SYMBOL	DESCRIPTION
AAV	AIR VENT - AUTOMATIC
MV	AIR VENT - MANUAL
BFP	BACKFLOW PREVENTER
	CATCH BASIN
	CIRCULATING PUMP
CO	CLEAN OUT - IN FLOOR
CO	CLEAN OUT - FLANGE
	DIRECTION OF FLOW
	DIRECTION OF PITCH - DOWN
	FINNED TUBE RADIATION
	FIRE PROTECTION - SIAMESE CONNECTION - FREE STANDING
	FIRE PROTECTION - SIAMESE CONNECTION - WALL MOUNTED
	FIRE PROTECTION - SPRINKLER HEAD, CONCEALED
	FIRE PROTECTION - SPRINKLER HEAD, PENDANT
	FIRE PROTECTION - SPRINKLER HEAD, UPRIGHT
	FIRE PROTECTION - SPRINKLER HEAD, SIDEWALL
	FLOOR DRAIN
	FLOOR DRAIN - ELEVATION
	FLOOR DRAIN - FUNNEL
	FLOOR DRAIN - FUNNEL, ELEVATION
	FLOW MEASURING DEVICE (FOR TEST AND BALANCING)
FS	FLOW SWITCH
FM	FLOW METER
HB	HOSE BIBB
MH	MANHOLE
	OPEN SITE DRAIN
	PIPE - ANCHOR
	PIPE - CAP OR PLUG
	PIPE - ELBOW DOWN
	PIPE - ELBOW UP
	PIPE - EXPANSION JOINT OR COMPENSATOR
	PIPE - FLANGE
	PIPE - HOSE AND BRAID FLEXIBLE CONNECTION
	PIPE - RUBBER FLEXIBLE CONNECTION
	PIPE - GUIDE
	PIPE - TEE DOWN
	PIPE - TEE UP
	PIPE - UNION
P/T	PRESSURE AND TEMPERATURE TEST PLUG
	PRESSURE GAUGE AND COCK
	REDUCER - CONCENTRIC
	REDUCER - ECCENTRIC
	ROOF/OVERFLOW DRAIN
	STEAM TRAP - FLOAT AND THERMOSTATIC
	STEAM TRAP - BUCKET
	STRAINER
	STRAINER WITH VALVE AND BLOW-OFF
	THERMOMETER
	TRAP
	VALVE - ANGLE
	VALVE - BALL
	VALVE - BUTTERFLY
0.5	VALVE - BALANCE (i.e. BALANCE VALVE TO 0.5 GPM)
0.5	VALVE - COMBINATION BALANCE & FLOW MEASURING (i.e. BALANCE VALVE TO 0.5 GPM)
	VALVE - CHECK
	VALVE - SPRING CHECK
	VALVE - GAS (MANUAL)
	VALVE - GLOBE
	VALVE - ISOLATION
	VALVE - NEEDLE
	VALVE - OS&Y
	VALVE - PLUG
	VALVE - PRESSURE REGULATING
	VALVE - PRESSURE REDUCING
	VALVE - PRESSURE RELIEF
	VALVE - PRESSURE & TEMPERATURE RELIEF
VTR	VENT THROUGH ROOF
WH	WALL HYDRANT
WM	WATER METER
GM	GAS METER

DOUBLE LINE PIPING SYMBOLS

SYMBOL	DESCRIPTION
	FLANGE
	FLEX CONNECTION
	STRAINER - BASKET
	STRAINER - Y TYPE
	VALVE - 2 WAY CONTROL
	VALVE - 3 WAY CONTROL
	VALVE - BUTTERFLY
	VALVE - CHECK
	VALVE - DETECTOR CHECK
	VALVE - OS&Y HORIZONTAL STEM
	VALVE - OS&Y VERTICAL STEM

DUCTWORK SYMBOLS

SYMBOL	DESCRIPTION
TU-101	AIR TERMINAL UNIT
TU-101	AIR TERMINAL UNIT WITH HEATING COIL
VTU-101	VENTURI AIR TERMINAL UNIT
VTU-101	VENTURI AIR TERMINAL UNIT WITH HEATING COIL
	DAMPER - HORIZONTAL FIRE (EXISTING, NEW)
	DAMPER - HORIZONTAL FIRE / SMOKE (EXISTING, NEW)
	DAMPER - SMOKE (EXISTING, NEW)
	DAMPER - VERTICAL FIRE (EXISTING, NEW)
	DAMPER - VERTICAL FIRE / SMOKE (EXISTING, NEW)
BDD	DAMPER - BACK DRAFT
M	DAMPER - MOTORIZED
	DAMPER - VOLUME (MANUALLY ADJUSTABLE)
	DIFFUSER - BLANK OFF
	DIFFUSER - LINEAR SLOT
	DIFFUSER - SQUARE OR RECTANGULAR
	DUCT CROSS SECTION - SUPPLY
	DUCT CROSS SECTION - RETURN
	DUCT CROSS SECTION - EXHAUST
	DUCT - FLEXIBLE CONNECTION
	DUCT - FLEXIBLE DUCT
	DUCT TAKE-OFF - ROUND CONICAL
	DUCT TAKE-OFF - RECTANGULAR WITH SHOE TAP
	ELBOW - RECTANGULAR WITH TURNING VANES
	ELBOW - RECTANGULAR/ ROUND SMOOTH RADIUS
	ELBOW DOWN - RECTANGULAR
	ELBOW DOWN - ROUND
	ELBOW UP - RECTANGULAR
	ELBOW UP - ROUND
	HEATING COIL
D	INCLINED DROP IN DIRECTION OF AIRFLOW
R	INCLINED RISE IN DIRECTION OF AIRFLOW
	TRANSITION - CONCENTRIC
	TRANSITION - ECCENTRIC
	INTAKE OR RELIEF HOOD
	REGISTER - RETURN OR EXHAUST
	REGISTER - RETURN WITH BOOT
	REGISTER - TRANSFER GRILLE
	ROOF EXHAUST FAN
	TRANSITION - CONCENTRIC
	TRANSITION - ECCENTRIC
	UNIT HEATER - HORIZONTAL THROW
	UNIT HEATER - VERTICAL THROW

DOUBLE LINE DUCTWORK SYMBOLS

SYMBOL	DESCRIPTION
	DUCT TAKE-OFF - RECTANGULAR WITH SHOE TAP
	DUCT TAKE-OFF - ROUND CONICAL
	ELBOW - RECTANGULAR WITH TURNING VANES
	ELBOW - RECTANGULAR SHORT RADIUS WITH SPLITTER VANES
	ELBOW - ROUND
	ELBOW - RECTANGULAR SMOOTH RADIUS
	ELBOW DOWN - RECTANGULAR
	ELBOW DOWN - ROUND
	ELBOW UP - RECTANGULAR
	ELBOW UP - ROUND

MECHANICAL DRAWING INDEX

STANDARD METHODS OF NOTATION

S-1 / 10# / 350-4 — SUPPLY DIFFUSER WITH SCHEDULE TAG "1", 10" DIAMETER NECK SIZE, 350 CFM TYPICAL FOR 4

R-1 / 22x22 / 640-2 — RETURN REGISTER WITH SCHEDULE TAG "1", 22"x 22" NECK SIZE, 640 CFM TYPICAL FOR 2, EXHAUST REGISTER E DESIGNATION SIMILAR.

TU-101 — AIR TERMINAL UNIT WITH HEATING COIL NO. 101 WITH SERVICE CLEARANCE SHOWN

VTU-101 — VENTURI AIR TERMINAL WITH HEATING COIL NO. 101 WITH SERVICE CLEARANCE SHOWN

(2)WC-1 / FD-1 — PLUMBING FIXTURE UNIT IDENTIFICATION TAG, WATER CLOSET TYPE "1", TYPICAL FOR 2

8 — PIPE DIAMETER NOTATION, ALL SIZES IN INCHES

8 / 22x10 / 18x14 — DUCT SIZE NOTATION, ALL SIZES IN INCHES

OVAL DUCT, RECTANGULAR DUCT

1 — CONSTRUCTION KEY NOTE (NUMBER) OR DEMOLITION KEY NOTE (LETTER)

EF-1 — EQUIPMENT DESIGNATION, (i.e. EXHAUST FAN NUMBER 1)

HW-1 — PIPING RISER DESIGNATION (i.e. HOT WATER RISER NUMBER 1)

NEW SYSTEM COMPONENT

EXISTING SYSTEM COMPONENT TO REMAIN

POINT OF NEW CONNECTION SYMBOL

1 / M5.1 — SECTION OR PLAN NUMBER; SHEET WHERE SECTION IS DRAWN

AREA OF ENLARGEMENT

1 / M5.1 — PLAN NUMBER; SHEET WHERE ENLARGED PLAN IS DRAWN

1 / M5.1 — SECTION OR PLAN NUMBER; SHEET WHERE SECTION IS CUT OR ENLARGED PLAN IS REFERENCED

SECTION OR ENLARGED PLAN

SCALE: 1/8" = 1'-0"

SHEET M1.0 / SHEET M1.1 — MATCH LINE

HEAVY LINE WEIGHT INDICATES NEW WORK

LIGHT LINE WEIGHT INDICATES EXISTING EQUIPMENT OR REFERENCED INFORMATION

GRAY LINE INDICATES BACKGROUND INFORMATION

DASHED LINES INDICATE PIPING ROUTED BELOW SLAB OR GRADE

HATCH MARKS INDICATE EQUIPMENT OR MATERIALS TO BE DISCONNECTED AND REMOVED.

NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.

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FORBES

PROJECT
BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED	
DRAWN	ACF
CHECKED	ACF
APPROVED	ACF
DATE	08.07.2025
ISSUED FOR	CONSTRUCTION DOCUMENTS_REV
IDENTIFICATION NUMBER	FILE# 751/24078.SMD A/E# 1411-14
SHEET NUMBER	. OF 42
DRAWING TITLE	MECHANICAL STANDARDS AND DRAWING INDEX
DRAWING NUMBER	M-001

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"

MECHANICAL DEMOLITION GENERAL NOTES:

1. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
2. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. ACTUAL ROUTING AND SIZES OF EXISTING PIPING AND DUCTWORK MIGHT DIFFER TO A LIMITED EXTENT FROM WHAT IS SHOWN. MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL EXISTING CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
3. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE NEW WORK.
4. ALL MECHANICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE, INCLUDING ALL RELATED ITEMS SUCH AS HANGERS, SUPPORTS, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTWORK.

(#) DEMOLITION KEY NOTES:

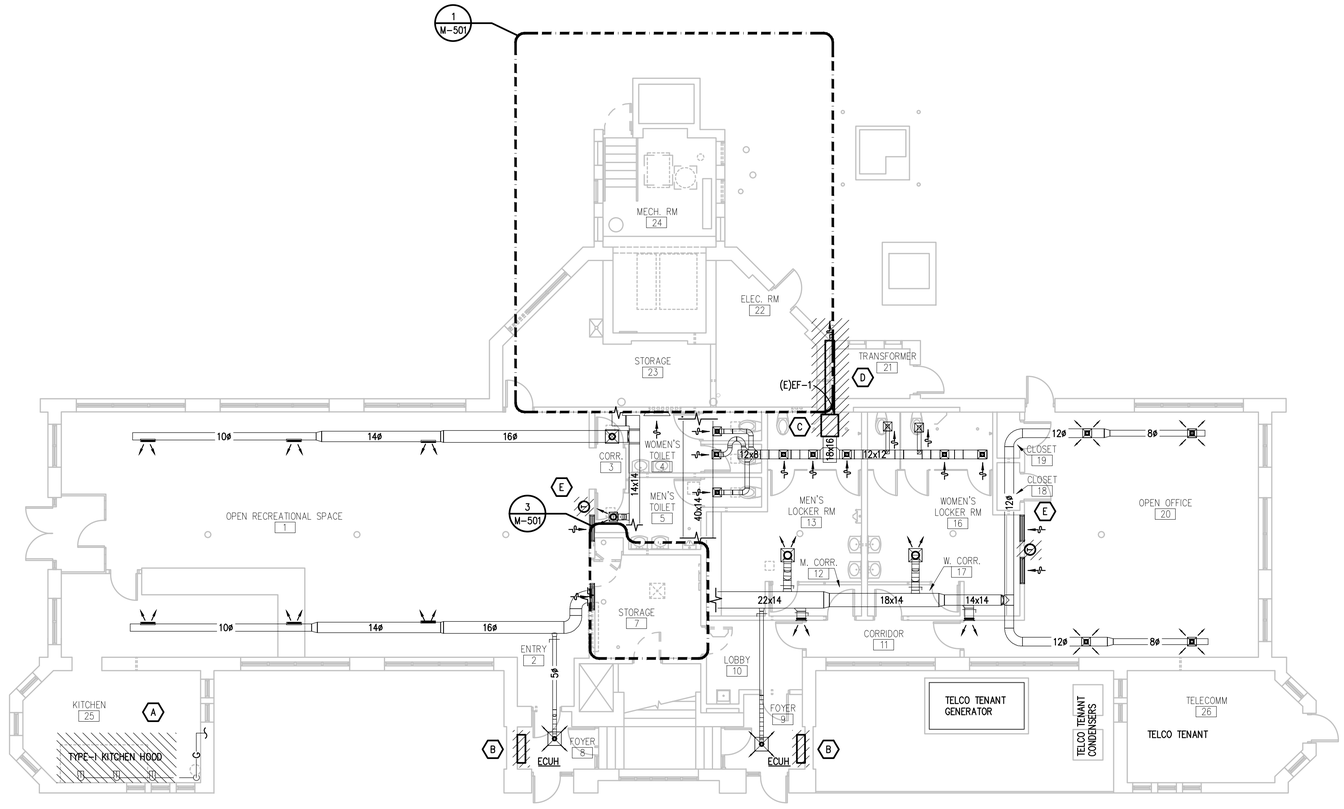
A. REMOVE KITCHEN HOOD.

B. REMOVE ELECTRIC HEATER.

C. REMOVE EXHAUST FAN.

D. REMOVE DUCTWORK AS INDICATED.

E. REMOVE THERMOSTAT.



FIRST FLOOR MECHANICAL - DEMOLITION

SCALE: 1/8" = 1' - 0"

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ISSUED FOR	DATE
CONSTRUCTION DOCUMENTS_REV	08.07.2025

IDENTIFICATION NUMBER: FILE# 751/24078.SMD; A/E# 1411-14

SHEET NUMBER: . OF 42

DRAWING TITLE: FIRST FLOOR MECHANICAL - DEMOLITION

DRAWING NUMBER: MD-401

STATE OF MICHIGAN
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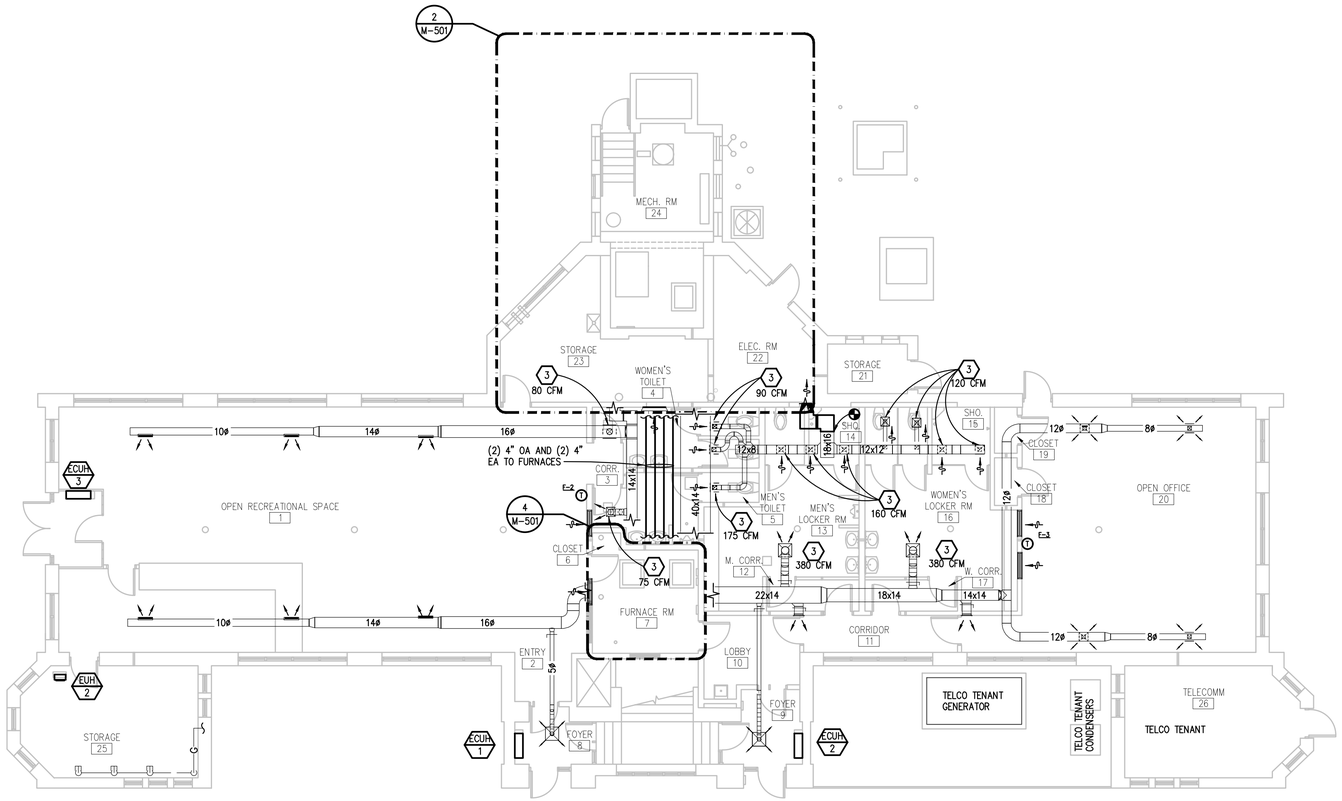
PBA Project No.: 2024.0164

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"



FIRST FLOOR MECHANICAL - NEW WORK

SCALE: 1/8" = 1' - 0"

SHEET METAL GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. PIPING AND DUCTWORK SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
4. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
6. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS.
7. REFER TO TEMPERATURE CONTROLS STANDARD MOUNTING HEIGHTS DETAIL FOR ELEVATIONS OF WALL MOUNTED TEMPERATURE CONTROL DEVICES.

(#) CONSTRUCTION KEY NOTES:

1. INSULATE EXISTING DUCTWORK IN ATTIC.
2. NEW RETURN DUCT IN EXISTING SHAFT. PROVIDE A FULLY DUCTED RETURN.
3. BALANCE AIR TERMINAL TO AIRFLOW INDICATED.
4. EXTEND EXISTING GAS PIPING FROM MECHANICAL ROOM TO SERVE NEW APPLIANCE. REFER TO GAS PIPING DIAGRAM.
5. ROUTE CONDENSATE FROM FURNACE TO NEAREST FLOOR DRAIN.

STATE OF MICHIGAN
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PROJECT
BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED	DATE	ISSUED FOR
DRAWN ACF CHECKED ACF APPROVED ACF	08.07.2025	CONSTRUCTION DOCUMENTS_REV

IDENTIFICATION NUMBER	SHEET NUMBER	DRAWING TITLE	DRAWING NUMBER
FILE# 751/24078.SMD A/E# 1411-14	. OF 42	FIRST FLOOR MECHANICAL - NEW WORK	M-401

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(#) CONSTRUCTION KEY NOTES:

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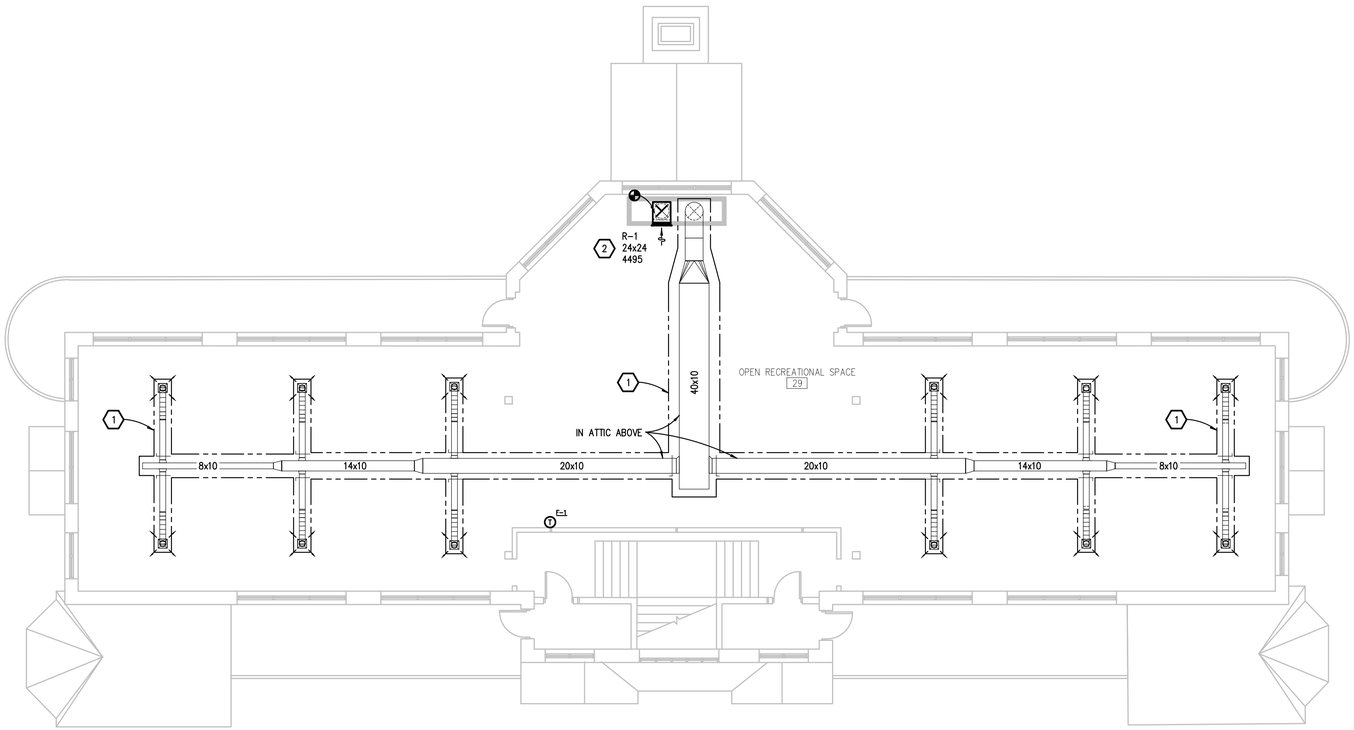
2. NEW RETURN DUCT IN EXISTING SHAFT. PROVIDE A FULLY DUCTED RETURN.
3. BALANCE AIR TERMINAL TO AIRFLOW INDICATED.
4. EXTEND EXISTING GAS PIPING FROM MECHANICAL ROOM TO SERVE NEW APPLIANCE. REFER TO GAS PIPING DIAGRAM.
5. ROUTE CONDENSATE FROM FURNACE TO NEAREST FLOOR DRAIN.



SECOND FLOOR MECHANICAL - NEW WORK

SCALE: 1/8" = 1' - 0"

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SHEET NUMBER	. OF 42
DRAWING TITLE	SECOND FLOOR MECHANICAL - NEW WORK
DRAWING NUMBER	M-402

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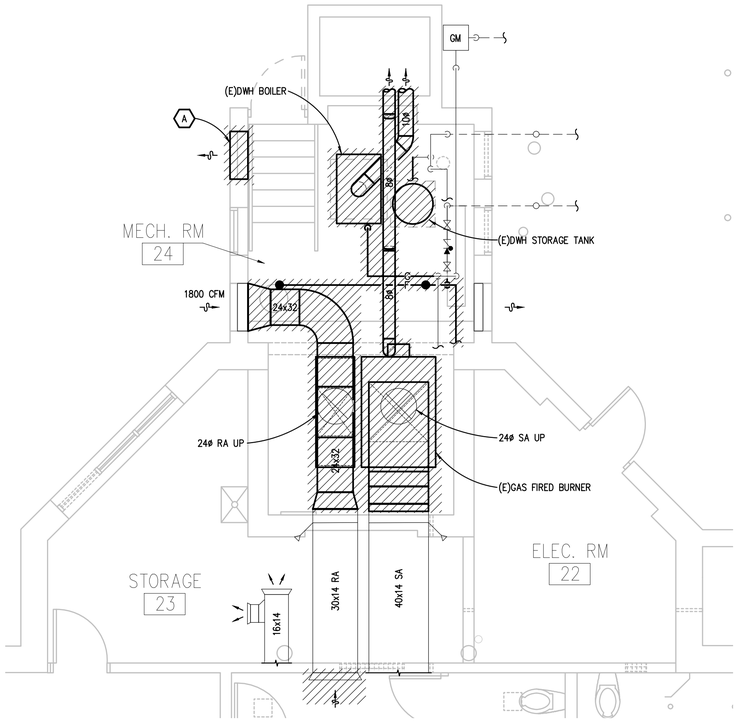
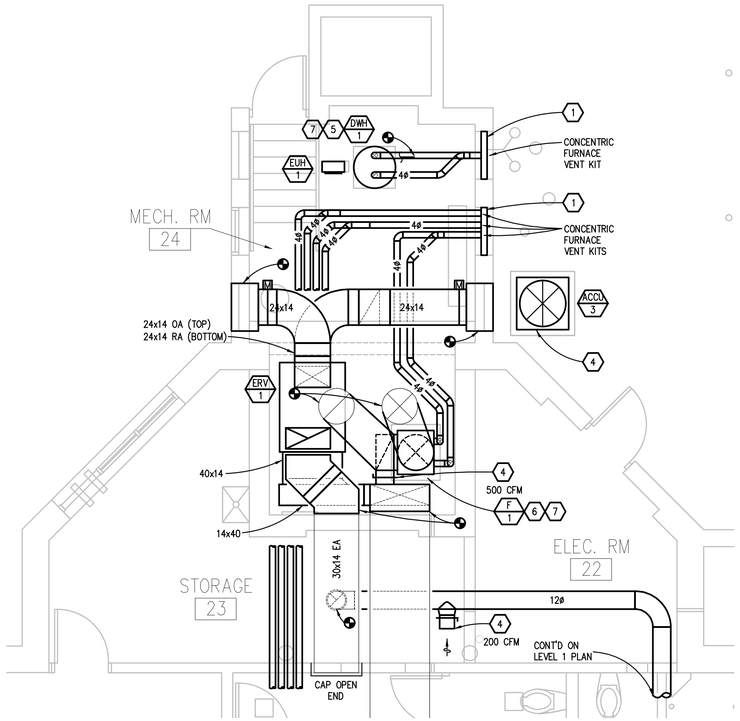
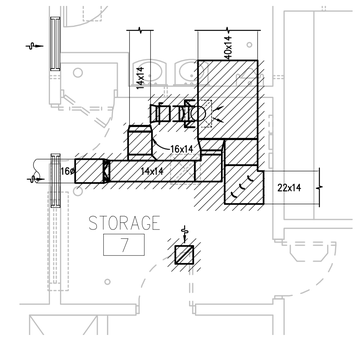


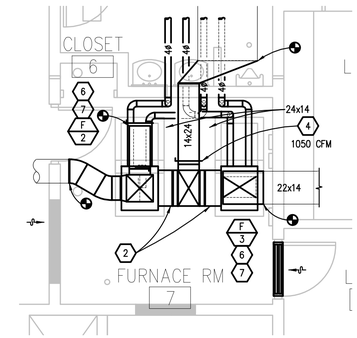




3 MD-401

ENLARGED MECHANICAL PLAN - DEMOLITION

SCALE: 1/4" = 1' - 0"



1 MD-401

ENLARGED MECHANICAL PLAN - DEMOLITION

SCALE: 1/4" = 1' - 0"

2 M-401

ENLARGED MECHANICAL PLAN - NEW WORK

SCALE: 1/4" = 1' - 0"

4 M-401

ENLARGED MECHANICAL PLAN - NEW WORK

SCALE: 1/4" = 1' - 0"

MECHANICAL DEMOLITION GENERAL NOTES:

1. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
2. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. ACTUAL ROUTING AND SIZES OF EXISTING PIPING AND DUCTWORK MIGHT DIFFER TO A LIMITED EXTENT FROM WHAT IS SHOWN. MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL EXISTING CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
3. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE NEW WORK.
4. ALL MECHANICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE, INCLUDING ALL RELATED ITEMS SUCH AS HANGERS, SUPPORTS, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTWORK.

(#) DEMOLITION KEY NOTES:

A. REMOVE EXISTING LOUVER.

PLUMBING GENERAL NOTES:

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2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
4. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
6. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
7. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
8. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
9. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING.

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(#) CONSTRUCTION KEY NOTES:

1. INSULATED ARCHITECTURAL BLANKOFF PANEL REPLACING WINDOW. ROUTE FURNACE FLUE THROUGH PANEL.
2. STUB RETURN AIR DUCT UP INTO PLENUM.
3. BALANCE TO THE INDICATED CFM.
4. CONDENSING UNIT AND ASSOCIATED LINESET ENCLOSED IN ARCHITECTURAL SECURITY CAGE. REFER TO ARCHITECTURAL PLANS.
5. EXTEND EXISTING GAS PIPING TO SERVE NEW APPLIANCE. REFER TO GAS PIPING DIAGRAM.
6. EXTEND CONDENSATE FROM FURNACE TO NEAREST FLOOR DRAIN.
7. CONNECT EXISTING DOMESTIC HOT AND COLD WATER TO NEW WATER HEATER.

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DRAWING TITLE	ENLARGED MECHANICAL PLANS
DRAWING NUMBER	M-501

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GAS LOAD SCHEDULE

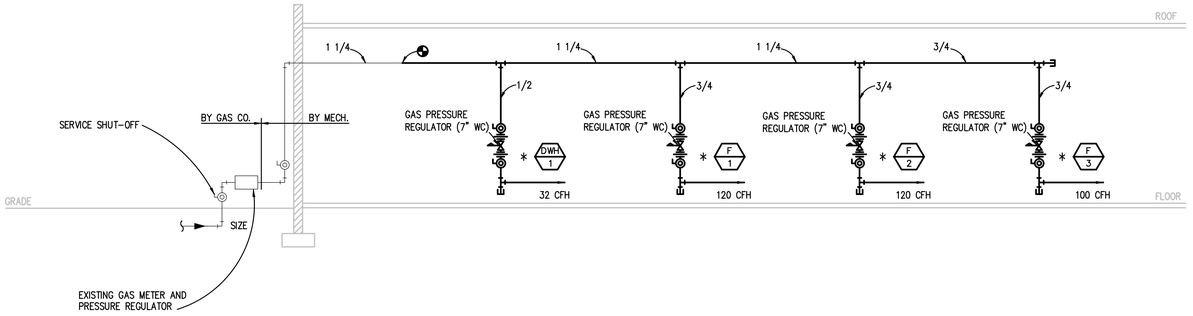
ITEM	TOTAL CFH
WATER HEATER	32
F-1	120
F-2	120
F-3	100
CONNECTED GAS LOAD =	372 @ 7

* GAS TRAIN PROVIDED BY EQUIPMENT MANUFACTURER - SEE SPECIFICATIONS

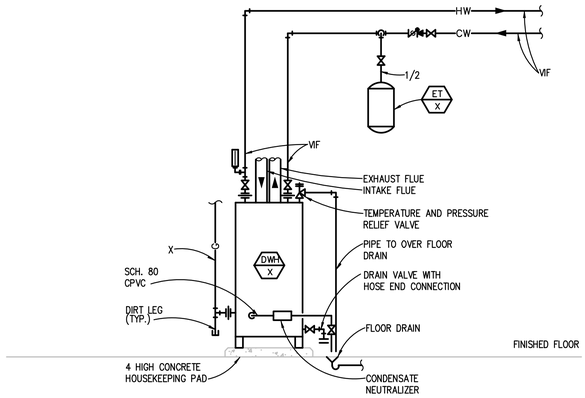
** GAS PRESSURE REGULATOR PROVIDED BY FOOD SERVICE MANUFACTURER

*** THE GAS SERVICE COMPONENTS SHALL BE RATED IN ACCORDANCE WITH THE FOLLOWING CHART

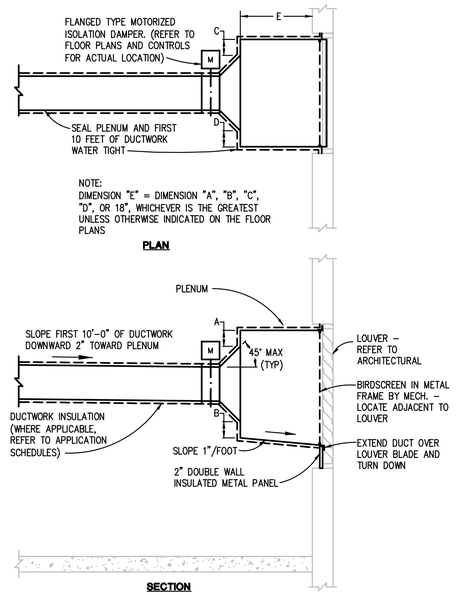
METER OUTLET PRESSURE (psig)	MINIMUM SYSTEM PRESSURE RATING (psig)
0.4	0.5
1 OR 2	10
3 OR 30	DELIVERY +10
31 TO 100	DELIVERY +20
101 TO 200	DELIVERY +30



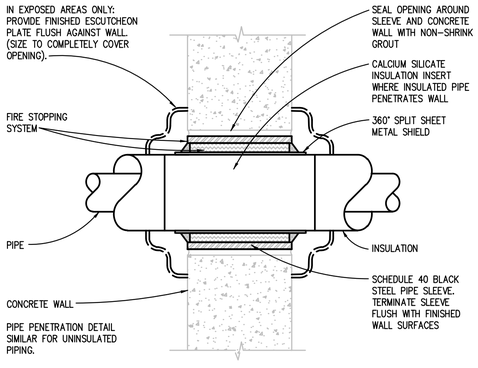
NATURAL GAS PIPING DIAGRAM
NO SCALE



GAS FIRED CONDENSING WATER HEATER PIPING DIAGRAM
NO SCALE

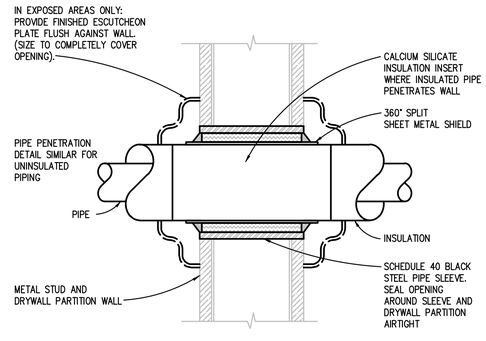


OUTDOOR AIR INTAKE OR EXHAUST/RELIEF PLENUM DETAIL
NO SCALE



DETAIL INDICATES THE INSTALLATION REQUIREMENTS FOR A FIRE RATED ASSEMBLY. FOR A NON-FIRE RATED ASSEMBLY PACK SLEEVED OPENING WITH INSULATION MATERIAL AND CAULK WITH NON-HARDENING SEALANT.

FIRE RATED AND NON-FIRE RATED POURED CONCRETE OR BLOCK WALL PIPE PENETRATION DETAIL
NO SCALE



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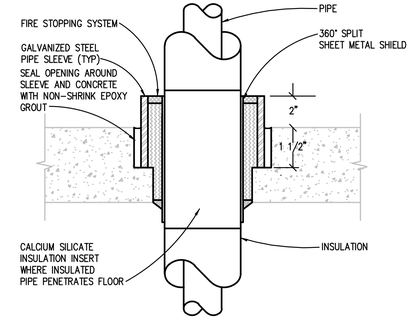
FIRE RATED AND NON-FIRE RATED METAL STUD AND DRYWALL PARTITION WALL PIPE PENETRATION DETAIL
NO SCALE



EXISTING FLOOR PIPE PENETRATION DETAIL
NO SCALE

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DUCT SYSTEM INSULATION APPLICATION SCHEDULE

	INSULATION MATERIAL & THICKNESS (INCHES)							FIELD APPLIED JACKET MATERIAL		
	FIBERGLASS BLANKET 0.75 LB/CU FT	FIBERGLASS BLANKET 1.0 LB/CU FT	FIBERGLASS BOARD 2.25 LB/CU FT	FIBERGLASS BOARD 6.0 LB/CU FT	FLEXIBLE ELASTOMERIC	ASTM E2336 2-HOUR FIRE RATED BLANKET	2-HOUR FIRE RATED BLANKET	ALUMINUM	SELF-ADHESIVE (FOR OUTDOOR APPLICATIONS)	KEYED NOTES
DUCT SYSTEMS LOCATED INDOORS										
SUPPLY AIR, EXCEPT AS NOTED BELOW		1.5								A, E
RECTANGULAR SUPPLY AIR IN MECHANICAL ROOMS			1.5							
RECTANGULAR RETURN AIR IN MECHANICAL EQUIPMENT ROOMS			1.5							
OUTSIDE AIR AND MIXED AIR, EXCEPT AS NOTED BELOW		1.5								
RECTANGULAR OUTSIDE AIR AND MIXED AIR IN MECHANICAL ROOMS			1.5							
EXHAUST AND RELIEF AIR BETWEEN ISOLATION DAMPER AND PENETRATION OF BUILDING EXTERIOR, EXCEPT AS NOTED BELOW		1.5								
RECTANGULAR EXHAUST AND RELIEF AIR BETWEEN ISOLATION DAMPER AND PENETRATION OF BUILDING EXTERIOR, IN MECHANICAL ROOMS			1.5							

PLENUMS, DUCTS, AND DUCT ACCESSORIES NOT REQUIRING INSULATION:
- FIBROUS–GLASS DUCTS
- DOUBLE–WALL METAL DUCTS WITH INSULATION OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1 – 2013
- METAL DUCTS WITH DUCT LINER OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1 – 2013
- FABRIC SUPPLY DUCTS
- FACTORY–INSULATED FLEXIBLE DUCTS
- FACTORY–INSULATED PLENUMS AND CASINGS
- FLEXIBLE CONNECTORS
- VIBRATION–CONTROL DEVICES
- FACTORY–INSULATED ACCESS PANELS AND DOORS

GENERAL NOTES
1. "X" OR THICKNESS IN INCHES INDICATE ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A DUCT SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. REFER TO METAL DUCT SECTION OF SPECIFICATIONS FOR DUCT LINING AND DOUBLE–WALL INSULATED DUCT.
3. REFER TO HVAC CASINGS SECTION OF SPECIFICATIONS FOR DOUBLE–WALL INSULATED PLENUMS.

KEYED NOTES
A. INCLUDE INSULATION AROUND DUCT MOUNTED COILS AND AIR TERMINAL UNIT COILS.
E. EXPOSED SUPPLY DUCTWORK LOCATED IN A CONDITIONED SPACE SERVED BY THE SAME AIR HANDLING SYSTEM IS NOT REQUIRED TO BE INSULATED.

DUCT SYSTEM APPLICATION SCHEDULE

	DUCT MATERIAL																			
AIR SYSTEMS	G90 GALV. SHEET METAL	DOUBLE–WALL LINED G90 GALV. SHEET METAL (SOLID INNER WALL)	DOUBLE–WALL LINED G90 GALV. SHEET METAL (PERF. INNER WALL)	G90 GALV. SHEET METAL WITH 1–INCH LINING	GALVANNEALED SHEET METAL	ALUMINUM	TYPE 304 STAINLESS STEEL	TYPE 316 STAINLESS STEEL	PVC COATED GALV. SHEET METAL (4X1)	PVC COATED GALV. SHEET METAL (1X4)	PVC COATED GALV. SHEET METAL (4X4)	16 GA. CARBON STEEL	ZERO–CLEARANCE PREFABRICATED RANGE HOOD EXHAUST DUCT	FABRIC	DESIGN PRESSURE CLASS (INCHES WG)	SEAL CLASS	MAX. ALLOWABLE LEAKAGE RATE (PERCENT)	KEYED NOTES
SUPPLY AIR WITHOUT TERMINAL UNITS	X														+2	A	5	
RETURN AIR WITHOUT TERMINAL UNITS	X														–2	A	5	
EXHAUST AIR WITHOUT TERMINAL UNITS	X														–2	A	5	
AIR TRANSFER DUCT				X											+2	A	5	
OUTSIDE AIR AND MIXED AIR DUCT	X														–6	A	5	
OUTSIDE AIR, RELIEF AIR AND EXHAUST AIR PLENUMS ADJACENT TO EXTERIOR LOUVERS		X													+/–6	A	5	

GENERAL NOTES

1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A DUCT SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. 4 X 1 PVC–COATED GALVANIZED STEEL: FACTORY–APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON EXTERIOR SHEET METAL SURFACES OF DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND MINIMUM 1 MIL (0.025 MM) THICK ON INTERIOR SURFACES.
3. 1 X 4 (4 X 1 REVERSE COATED) PVC–COATED GALVANIZED STEEL: FACTORY–APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON INTERIOR SHEET METAL SURFACES OF DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND MINIMUM 1 MIL (0.025 MM) THICK ON EXTERIOR SURFACES.
4. 4 X 4 PVC–COATED GALVANIZED STEEL: FACTORY–APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON SHEET METAL SURFACES OF DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND 4 MILS (0.10 MM) THICK ON OPPOSITE SURFACES.

KEYED NOTES

A. SCREWS, DAMPERS, OR PROJECTIONS OF ANY TYPE ON INTERIOR OF DUCT SURFACE ARE PROHIBITED.
B. DUCT SHALL BE LINED WITHIN 25 FEET UPSTREAM OF FANS.
C. ALL WELDED CONSTRUCTION.

ABOVEGROUND HVAC PIPE & ACCESSORY INSULATION APPLICATION SCHEDULE

	INSULATION MATERIAL & THICKNESS (INCHES)							FIELD–APPLIED JACKET MATERIAL						
	FLEXIBLE ELASTOMERIC	FIBERGLASS	MINERAL WOOL	POLYISOCYANURATE	PHENOLIC	CELLULAR GLASS	CALCIUM SILICATE	ALUMINUM	STAINLESS STEEL	PVC	SELF–ADHESIVE (FOR OUTDOOR APPLICATIONS)	PVDC (INDOOR)	PVDC (OUTDOOR)	KEYED NOTES
INDOOR PIPE SYSTEM AND SIZE (INCHES)														
REFRIGERANT SUCTION & HOT GAS (RIGID COPPER)														
NPS 6 AND SMALLER	1	1						X		X				
NPS 8 AND LARGER	1.5	1.5						X		X				
REFRIGERANT SUCTION & HOT GAS (SOFT COPPER)	1							X		X				
OUTDOOR (ABOVEGROUND) AND TUNNEL PIPE SYSTEM AND SIZE (INCHES)														
REFRIGERANT SUCTION & HOT GAS (RIGID COPPER)	2.5	2.5						X			X			B
REFRIGERANT SUCTION & HOT GAS (SOFT COPPER)	2													B

UNLESS OTHERWISE INDICATED OR SCHEDULED, THE FOLLOWING DO NOT REQUIRE INSULATION:
- DIRECT BURIED COOLING SYSTEM PIPING
- PIPING THAT CONVEYS FLUIDS HAVING DESIGN OPERATING TEMPERATURE RANGE BETWEEN 60 DEG F. AND 105 DEG F., INCLUSIVE.

GENERAL NOTES

1. 'X' OR THICKNESS IN INCHES INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. INSULATE PIPING WITHIN AIR HANDLING EQUIPMENT THE SAME AS INDOOR PIPING. PROVIDE ALUMINUM OR STAINLESS STEEL JACKET.
3. FOR PIPING NPS 1–1/4 AND SMALLER WITHIN PARTITIONS IN CONDITIONED SPACES INSULATION MAY BE REDUCED BY ONE–INCH THICKNESS, BUT NOT TO LESS THAN ONE–INCH THICKNESS.
4. FOR PIPING NPS 1 AND SMALLER, INSULATION IS NOT REQUIRED FOR STRAINERS, CONTROL VALVES, AND BALANCING VALVES.

KEYED NOTES

A. PROVIDE FIELD APPLIED JACKET FOR PIPING EXPOSED IN EQUIPMENT ROOMS, STORAGE ROOMS, JANITORS CLOSETS, RECEIVING ROOMS, TEST AREAS, CIRCULATION AREAS AND SUCH AREAS SUBJECT TO DAMAGE WITHIN 10 FEET (3 METERS) OF FINISHED FLOOR.
B. PROVIDE MANUFACTURER'S RECOMMENDED PROTECTIVE COATING FOR FLEXIBLE ELASTOMERIC THERMAL INSULATION.
C. STEAM AND CONDENSATE PIPING JACKET SHALL BE STUCCO EMBOSSED.
D. PIPING WITHIN ENERGY RECOVERY UNITS SHALL BE TYPE 304 STAINLESS STEEL, SMOOTH; 0.010 INCH THICK. SEAMS AND JOINTS CAULKED WITH CHEMICALLY RESISTANT SEALER.

SCHEDULES GENERAL NOTES:

TYPICAL FOR ALL SCHEDULE SHEETS:

1. REFER TO ELECTRICAL STANDARD SCHEDULES, ONE LINE DIAGRAM AND PANEL SCHEDULES FOR ADDITIONAL ELECTRICAL INFORMATION
2. PROVIDE THE FOLLOWING FACTORY–WIRED ELECTRICAL OPTIONS/ACCESSORIES WHERE INDICATED IN SCHEDULE:
   - A – NON–FUSED DISCONNECT SWITCH
   - B – UNIT SHALL BE SINGLE POINT ELECTRICAL CONNECTION WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND CONTROLS
   - C – SERVICE RECEPTACLE
   - D – FUSED DISCONNECT SWITCH
   - E – COMBINATION STARTER
   - F – UNIT SHALL HAVE (2) SINGLE POINT CONNECTIONS WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND CONTROLS. (1) CONNECTION SHALL BE FOR CONDENSING SECTION AND (1) CONNECTION SHALL BE FOR THE REMAINDER OF THE UNIT.
3. FOR MODULATION/CONTROL TYPE COLUMN, "VFC" INDICATES VARIABLE FREQUENCY CONTROLLERS, "AUTO" INDICATES AUTOMATIC OPERATION (CONTROLLED BY TEMPERATURE CONTROLS OR SELF CONTAINED CONTROLS), "MANUAL" INDICATES HAND OPERATION.
4. IF VARIABLE FREQUENCY CONTROLLERS ARE INDICATED TO BE PROVIDED AND ARE NOT INSTALLED INTEGRAL TO THE UNIT, VARIABLE FREQUENCY CONTROLLERS SHALL BE SUPPLIED BY THE MECHANICAL CONTRACTOR (UNLESS OTHERWISE NOTED) AND INSTALLED BY THE ELECTRICAL CONTRACTOR INCLUDING THE LINE SIDE AND LOAD SIDE WIRING TO THE MOTOR AND INCLUDING MISCELLANEOUS STEEL REQUIRED FOR THE SUPPORT AND MOUNTING OF THE VFC. REFER TO FLOOR PLANS FOR LOCATION.
5. WHERE EQUIPMENT IS INDICATED TO HAVE A SINGLE POINT ELECTRICAL CONNECTION, THAT EQUIPMENT SHALL COME COMPLETE WITH FACTORY INSTALLED STARTERS, MOTOR OVERLOAD PROTECTION, CONTACTORS, FUSING AND ALL NECESSARY INTERNAL WIRING AND CONTROLS. PROVIDE A FACTORY MOUNTED UNIT DISCONNECTING MEANS WHERE THE ELECTRICAL CONTRACTOR SHALL MAKE SINGLE POINT CONNECTION. INSTALL PACKAGED EQUIPMENT SUCH THAT THE ELECTRICAL CONNECTION AND CONTROLS ARE ACCESSIBLE AND HAVE CLEARANCES MEETING THE NATIONAL ELECTRICAL CODE.
6. WHERE PACKAGED EQUIPMENT IS PROVIDED, NAMEPLATE MUST INDICATE MAXIMUM OVERCURRENT PROTECTION BY HACR RATED CIRCUIT BREAKERS OR FUSES. IF FUSE PROTECTION ONLY IS INDICATED, PROVIDE A FUSIBLE DISCONNECT AND FUSES WITH THE UNIT.
7. WHERE EQUIPMENT IS DESIGNATED BY MANUFACTURER AND MODEL NUMBER, THIS IS THE BASIS OF DESIGN. IF THE CONTRACTOR ELECTS TO PROVIDE EQUIPMENT BY OTHER SPECIFIED MANUFACTURERS OR PROPOSED ALTERNATE EQUIPMENT BY THE BASIS OF DESIGN MANUFACTURER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REVISIONS TO ELECTRICAL REQUIREMENTS, STRUCTURAL LOADING, OR ARCHITECTURAL APPURTENANCES AND SHALL INCLUDE THE COST OF SUCH REVISIONS IN HIS BID.
8. WHERE EQUIPMENT IS SCHEDULED TO INCLUDE A SERVICE RECEPTACLE, PROVIDE A FACTORY MOUNTED SERVICE RECEPTACLE WITH APPROPRIATE FUSES AND TRANSFORMERS CONNECTED ON THE LINE SIDE OF THE UNIT DISCONNECT. PROVIDE A NAMEPLATE ON THE DISCONNECT SWITCH INDICATING THE PRESENCE OF LIVE POWER TO THE SERVICE RECEPTACLE WHEN THE UNIT DISCONNECT IS IN THE OFF POSITION.
9. SIZE ALL EQUIPMENT FEEDERS BASED ON THE LISTED MOP (MAXIMUM OVERCURRENT PROTECTION). REFER TO THE FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE ON THE ELECTRICAL STANDARD SCHEDULES SHEET.

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PROJECT
BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED	DATE	ISSUED FOR	IDENTIFICATION NUMBER	SHEET NUMBER	DRAWING TITLE	DRAWING NUMBER
DRAWN ACF CHECKED ACF APPROVED ACF	08.07.2025	CONSTRUCTION DOCUMENTS_REV	FILE# 751/24078.SMD A/E# 1411–14	. OF 42	MECHANICAL SCHEDULES	M-701

ABOVEGROUND PLUMBING PIPE & ACCESSORY INSULATION APPLICATION SCHEDULE

	INSULATION MATERIAL & THICKNESS (INCHES)							FIELD-APPLIED JACKET MATERIAL						
	FLEXIBLE ELASTOMERIC	FIBERGLASS	MINERAL WOOL	POLYISOCYANURATE	PHENOLIC	CELLULAR GLASS	CALCIUM SILICATE	ALUMINUM	STAINLESS STEEL	PVC	SELF-ADHESIVE (FOR OUTDOOR APPLICATIONS)	PVDC (INDOOR)	PVDC (OUTDOOR)	KEYED NOTES
INDOOR PIPE SYSTEM AND SIZE (INCHES)														
DOMESTIC COLD WATER	1	1						X		X				A
DOMESTIC HOT WATER SUPPLY & RETURN 140 DEG F AND LESS:														
NPS 1-1/4 AND SMALLER	1	1						X		X				A
CONDENSATE AND EQUIPMENT DRAIN PIPING BELOW 60 DEG F	0.75	1												
FLOOR DRAINS, TRAPS AND SANITARY DRAIN PIPING WITHIN 10 FEET OF DRAIN RECEIVING CONDENSATE AND EQUIPMENT DRAIN WATER BELOW 60 DEG F	0.75	1						X		X				A

UNLESS OTHERWISE INDICATED OR SCHEDULED, DO NOT INSULATE THE FOLLOWING:
- FIRE SUPPRESSION PIPING
- UNDERGROUND PIPING
- LABORATORY GAS AND VACUUM PIPING
- MEDICAL GAS AND VACUUM PIPING
- FUEL GAS PIPING
- FUEL OIL PIPING

GENERAL NOTES

1. 'X' OR THICKNESS IN INCHES INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. INSULATE PIPING WITHIN AIR HANDLING EQUIPMENT THE SAME AS INDOOR PIPING. PROVIDE ALUMINUM OR STAINLESS STEEL JACKET.

KEYED NOTES

A. PROVIDE FIELD APPLIED JACKET FOR PIPING EXPOSED IN EQUIPMENT ROOMS, STORAGE ROOMS, JANITORS CLOSETS, RECEIVING ROOMS, TEST AREAS, CIRCULATION AREAS AND SUCH AREAS SUBJECT TO DAMAGE, WITHIN 10 FEET (3 METERS) OF FINISHED FLOOR.
B. PROVIDE MANUFACTURER'S RECOMMENDED PROTECTIVE COATING FOR FLEXIBLE ELASTOMERIC THERMAL INSULATION.

PLUMBING PIPING & VALVE APPLICATION SCHEDULE

	MATERIAL															PRESSURE CONNECTIONS										GRAVITY DWV CONNECTIONS					ISOLATION VALVES					
PIPE SIZE (INCHES)	SOFT COPPER TYPE K	HARD COPPER TYPE L	HARD COPPER TYPE M	CARBON STEEL (SCHED. 40)	CARBON STEEL (STD.)	GALV STEEL (SCHED. 40)	STAINLESS STEEL (SCHED. 10)	PEX	PE PIPE	PE SHEATHED CARBON STEEL PIPE	CSST	NO-HUB CISP	PVC TYPE DWV	PP DRAINAGE PIPE	COPPER TYPE DWV	DUCTILE IRON PIPE	SOLDERED	BRAZED	WELDED	THREADED	FLANGED	GROOVED	INSERT & CRIMP	FUSION	PRESSURE-SEAL	MECHANICALLY-FORMED TEE	MECHANICAL JOINT	PUSH-ON-JOINT	SOLVENT WELDED	SOLDERED	FUSION	CISP HUBLESS	HEAVY-DUTY HUBLESS	BALL	AGA BALL	GENERAL SERVICE BUTTERFLY	LUBRICATED PLUG	GATE	KEYED NOTES
ABOVEGROUND DOMESTIC WATER (POTABLE AND NON-POTABLE) ON DISTRIBUTION SIDE OF METER - MIN. WORKING PRESS. & TEMP.: 125 PSIG AT 200 DEG F																																						
UP TO 4		X															X	X			X	X			X	X							X			X			A
ABOVEGROUND COLD CONDENSATE DRAIN - MIN. WORKING PRESSURE: 10 FT. HEAD OF WATER																																						
ALL SIZES			X													X		X	X						X													
ABOVEGROUND PUMPED COLD CONDENSATE DRAIN - MIN. WORKING PRESSURE: 125 PSIG																																						
UP TO 2			X														X	X							X								X					
ABOVEGROUND FUEL GAS - MIN. WORKING PRESS.: 100 PSIG																																						
UP TO 2				X															X	X														X				E
2-1/2 TO 3				X															X		X													X				E
4 TO 10				X															X		X															X			E

GENERAL NOTES

1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A PIPING SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. DISSIMILAR-METAL PIPING JOINTS: CONSTRUCT JOINTS USING DIELECTRIC FITTINGS COMPATIBLE WITH BOTH PIPING MATERIALS.
   a. NPS 2 AND SMALLER: USE DIELECTRIC NIPPLE/WATERWAY.
   b. NPS 2-1/2 AND LARGER: USE DIELECTRIC FLANGE KITS.
3. USE UNIONS OR FLANGES AT VALVE AND EQUIPMENT CONNECTIONS.
4. PLUMBING EQUIPMENT DRAINS, VENTS, SAFETY VALVE PIPING, BLOWDOWN PIPING AND THE LIKE SHALL BE SAME PIPING MATERIAL AS ASSOCIATED PIPING SYSTEM.
5. GROOVED END VALVES MAY BE USED WITH GROOVED PIPING.

KEYED NOTES

A. GROOVED AND FLANGED FITTINGS, JOINTS, AND COUPLINGS, IF INDICATED AS AN ACCEPTABLE SELECTION, MAY BE USED IN ACCESSIBLE LOCATIONS ONLY FOR THIS PIPING SYSTEM. ACCESSIBLE LOCATIONS ARE DEFINED AS EXPOSED CONSTRUCTION OR ABOVE LAY-IN CEILINGS.
B. JOINTS ARE NOT PERMITTED ON UNDERGROUND WATER PIPING.
C. USE CAST IRON DRAINAGE PATTERN (DURHAM) FITTINGS.
D. INSTALL IN CONTAINMENT JACKET, REFER TO SPECIFICATIONS.
E. VALVES, UNIONS, AND FLANGED JOINTS MAY BE USED IN ACCESSIBLE LOCATIONS ONLY, EXCLUDING CEILINGS USED AS AIR PLENUMS. ACCESSIBLE LOCATIONS ARE DEFINED AS EXPOSED CONSTRUCTION OR ABOVE LAY-IN CEILINGS. USE ONLY STEEL WELDED FITTINGS AND WELDED JOINTS IN CEILING USED AS AIR PLENUMS.
F. NO JOINTS ALLOWED UNDERGROUND.

FUEL FIRED DOMESTIC WATER HEATER SCHEDULE

UNIT IDENTIFICATION	STORAGE CAPACITY GALLONS	FUEL			RECOVERY GPH	E.W.T. °F	L.W.T. °F	MODULATION/ CONTROL TYPE	ELECTRICAL						MODEL NUMBER	KEYED NOTES
		TYPE	MIN/MAX MANUFACTURER REQUIRED INLET PRESSURE AT GAS TRAIN	MIN INPUT MBH					VOLTS	PHASE	FLA	MOP	SCCR KA	OPTIONS/ ACCESSORIES		
DWH-1	90	NAT GAS	7 - 14	32	38	50	140	AUTO	120	1	2.4	15	5	--	SWR150N	

GENERAL NOTES:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE LOCHINVAR UNLESS OTHERWISE NOTED.

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BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED	
DRAWN	ACF
CHECKED	ACF
APPROVED	ACF
DATE	08.07.2025
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IDENTIFICATION NUMBER	FILE# 751/24078.SMD A/E# 1411-14
SHEET NUMBER	. OF 42
DRAWING TITLE	MECHANICAL SCHEDULES
DRAWING NUMBER	M-702

ENERGY RECOVERY UNIT SCHEDULE

UNIT IDENT-IFICATION	SUPPLY FAN						EXHAUST FAN						HEAT EXCHANGER (SUMMER)							HEAT EXCHANGER (WINTER)							OUTSIDE AIR FILTERS	RETURN FILTERS	ELECTRICAL						UNIT WEIGHT W/ CURB (LBS.)	SA/RA CONFIG.	EA/OA CONFIG.	MODEL NO.	KEYED NOTES
					MOTOR						MOTOR		SUPPLY SIDE			EXHAUST SIDE				SUPPLY SIDE			EXHAUST SIDE															
	CFM	ESP"	TSP"	CONTROL TYPE	BHP	HP	CFM	ESP"	TSP"	CONTROL TYPE	BHP	HP	E.A.T. °F	L.A.T. °F	A.P.D. IN. WG.	E.A.T. °F	L.A.T. °F	A.P.D. IN. WG.	EFFIC. (%)	E.A.T. °F	L.A.T. °F	A.P.D. IN. WG.	E.A.T. °F	L.A.T. °F	A.P.D. IN. WG.	EFFIC. (%)	MERV	MERV	VOLTS	PHASE	FLA	MOP	SCCR KA	OPTIONS/ ACCESS-ORIES					
ERV-1	1600	0.5	1.1	AUTO	0.4	0.5	1600	0.5	1.0	AUTO	0.4	0.5	75	80	1.1	91	86	1.0	54.2	72	46	1.1	4	30	1.0	57.3	13	8	208	1	12.7	15	5	B	906			ECV-30-P-H	

GENERAL NOTES:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE GREENHECK UNLESS OTHERWISE NOTED.

AIR COOLED CONDENSING UNIT SCHEDULE

UNIT IDENTIFICATION	SYSTEM SERVED	TOTAL CAPACITY MBH	MINIMUM SEER2	REFRIGERATION TYPE	NUMBER OF CIRCUITS	NUMBER OF CONTROL STAGES	CONDENSER		CONDENSER FAN		COMPRESSOR		MODULATION/ CONTROL TYPE	ELECTRICAL						MODEL NUMBER	KEYED NOTES
							DESIGN AMBIENT TEMPERATURE °F	MINIMUM AMBIENT TEMPERATURE °F	QUANTITY	HP EACH	NUMBER OF COMPRESSORS	TYPE OF COMPRESSOR		VOLTS	PHASE	FLA	MOP	SCCR KA	OPTIONS/ ACCESSORIES		
ACCU-3	F-3	48	16.5	R-454B	1	1	95	40	1	0.25	1	SCROLL	AUTO	208	1	21.1	40	5	--	24TPA748	

GENERAL NOTES:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE CARRIER UNLESS OTHERWISE NOTED.
3. REFER TO AIR HANDLING UNIT DIRECT EXPANSION COOLING COIL SCHEDULE FOR ASSOCIATED COOLING COIL.
4. EFFICIENCY RATING SHALL BE IN ACCORDANCE WITH ARI-STANDARD 340/360-2004.

FURNACE SCHEDULE

UNIT IDENTIFICATION	AREA SERVED	FAN					COOLING SECTION - DX					HEATING SECTION - GAS FIRED (NATURAL GAS)						ARRANGEMENT	MODULATION/ CONTROL TYPE	ELECTRICAL					MODEL NUMBER	KEYED NOTES
							MINIMUM TOTAL CAPACITY MBH	AIR		MAX. FACE VELOCITY F.P.M.	ASSOCIATED REMOTE CONDENSING UNIT	AIR		CAPACITY		GAS PRESSURE TO GAS TRAIN IN. W.C.	MIN. NO. OF CAPACITY CONTROL STAGES			VOLTS	PHASE	FLA	SCCR KA	OPTIONS/ ACCESSORIES		
		CFM	MINIMUM OUTSIDE AIRFLOW CFM	E.S.P. IN. WG.	NUMBER FANS	H.P. EACH		E.D.B. °F	L.D.B. °F			E.A.T. °F	L.A.T. °F	INPUT (MBH)	AFUE										
F-1	LEVEL 2	2000	500	0.5	1	1	--	--	--	--	--	65	100	120	95	4.5 - 13.6	2	VERTICAL UPFLOW	ECM	120	1	12.6	5	--	100V24	
F-2	LEVEL 1 WEST	2000	550	0.5	1	1	--	--	--	--	--	65	100	120	95	4.5 - 13.6	2	VERTICAL UPFLOW	ECM	120	1	12.6	5	--	100V24	
F-3	LEVEL 1 EAST	1700	500	0.5	1	1	48	80		500	ACCU-3	65	100	100	95	4.5 - 13.6	2	VERTICAL UPFLOW	ECM	120	1	13.2	5	--	100V21	

GENERAL NOTES:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MANUFACTURER BASED ON CARRIER UNLESS OTHERWISE INDICATED.
3. PROVIDE 4" RETURN AIR FILTER KIT.

ELECTRIC CENTRIFUGAL FAN CABINET UNIT HEATER SCHEDULE

UNIT IDENTIFICATION	CAPACITY MBH	AIR			HEATING ELEMENT		DIMENSIONS			RECESS DEPTH INCHES	MODULATION/ CONTROL TYPE	ELECTRICAL						MODEL NUMBER	KEYED NOTES
		AIRFLOW CFM	E.D.B. °F	L.D.B. °F	1ST STAGE KW	TOTAL KW	LENGTH INCHES	HEIGHT INCHES	DEPTH INCHES			VOLTS	PHASE	FLA	MOP	SCCR KA	OPTIONS/ ACCESSORIES		
ECUH-1	20.1	250	40	115	3	6	33	25	9	0	AUTO	208	1	29.9	40	5	B	6346D062033B60D00	
ECUH-2	20.1	250	40	115	3	6	33	25	9	0	AUTO	208	1	29.9	40	5	B	6346D062033B60D00	
ECUH-3	14	250	40	115	3	6	33	25	9	0	AUTO	208	1	29.9	40	5	B	6346D062033B60D00	

GENERAL NOTES:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE MARKEL UNLESS OTHERWISE NOTED.

ELECTRIC PROPELLER FAN UNIT HEATER SCHEDULE

UNIT IDENTIFICATION	CAPACITY MBH	HEATING ELEMENT KW	FINAL AIR TEMPERATURE °F	MODULATION/ CONTROL TYPE	ELECTRICAL						MODEL NUMBER	KEYED NOTES
					VOLTS	PHASE	FLA	MOP	SCCR KA	OPTIONS/ ACCESSORIES		
EUH-1	23.1	7.5	100	AUTO	208	1	36.1	50	5	B	F2F5107CA1L	
EUH-2	22.2	7.5	100	AUTO	208	1	36.1	50	5	B	F2F5107CA1L	

GENERAL NOTES:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE MARKEL UNLESS OTHERWISE NOTED.

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DRAWING TITLE
MECHANICAL SCHEDULES

DRAWING NUMBER
M-703

TEMPERATURE CONTROL - SYMBOLS LIST

SCHEMATIC SYMBOLS

SYMBOL	DESCRIPTION
AQ	AQUASTAT, STRAP ON BULB
CO2	CARBON DIOXIDE SENSOR – WALL MOUNTED
CO2	CARBON DIOXIDE SENSOR – DUCT MOUNTED
CS	CURRENT SWITCH
CT	CURRENT TRANSDUCER
	DAMPER – OPPOSED BLADE
	DAMPER – PARALLEL BLADE
M	DAMPER MOTOR
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
CM	FIRE ALARM SYSTEM, ADDRESSABLE CONTROL MODULE
FM	FLOW METER
FS	FLOW SWITCH
FZ	FREEZESTAT
	GUARD FOR STAT OR SENSOR
	HUMIDIFIER
H	HUMIDISTAT OR HUMIDITY SENSOR (AS DEFINED ON TC DRAWINGS)
H	HUMIDITY SENSOR, DUCT MOUNTED
LVL	LEVEL SWITCH OR TRANSMITTER
LS	LIMIT SWITCH
	LINE – ELECTRIC
	LINE – INSTRUMENT AIR (PNEUMATIC)
M/S	MOTOR STARTER
OS	OCCUPANCY SENSOR
PT	PRESSURE TRANSMITTER
R	RELAY, ELECTRIC
N	SELECTOR SWITCH, (N=NUMBER OF POSITIONS)
AI	SIGNAL – DDC/BAS, ANALOG INPUT
AO	SIGNAL – DDC/BAS, ANALOG OUTPUT
DI	SIGNAL – DDC/BAS, DIGITAL INPUT
DO	SIGNAL – DDC/BAS, DIGITAL OUTPUT
AI	SIGNAL – PACKAGED EQUIPMENT, ANALOG INPUT
AO	SIGNAL – PACKAGED EQUIPMENT, ANALOG OUTPUT
DI	SIGNAL – PACKAGED EQUIPMENT, DIGITAL INPUT
DO	SIGNAL – PACKAGED EQUIPMENT, DIGITAL OUTPUT
DD	SMOKE DETECTOR – DUCT MOUNTED
S/S	START/STOP RELAY
SPT	STATIC PRESSURE TRANSMITTER
SP	STATIC PRESSURE SENSOR OR PROBE

SCHEMATIC SYMBOLS (CONT.)

SYMBOL	DESCRIPTION
SW	SWITCH
T	TEMPERATURE SENSOR – RIGID ELEMENT IN WELL
T	TEMPERATURE SENSOR – STRAP ON BULB
T	TEMP SENSOR – DUCT MOUNTED AVG ELEMENT
T	TEMP SENSOR – DUCT MOUNTED RIGID ELEMENT
T	THERMOSTAT OR TEMPERATURE SENSOR (AS DEFINED ON TC DRAWINGS)
TMR	TIMER SWITCH
XF	TRANSFORMER
	VALVE – 2 WAY CONTROL VALVE
	VALVE – 3 WAY CONTROL VALVE
VFC	VARIABLE FREQUENCY CONTROLLER
VS	VELOCITY SENSOR
VIB	VIBRATION SWITCH

WIRING SYMBOLS

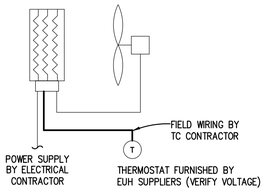
M/S	COIL – MOTOR STARTER CONTACTOR
R	COIL – RELAY
	CONTACT – INSTANT OPERATING, NO
	CONTACT – INSTANT OPERATING, NC
	GROUND
	MOTOR, SINGLE PHASE
	PUSH BUTTON – MOMENTARY, NC (MUSHROOM HEAD)
H O A	SWITCH – 3 POSITION SELECTOR HAND/OFF/AUTO
	SWITCH – FLOW (AIR, WATER, ETC.), NO
	SWITCH – LIMIT, NO
	SWITCH – PRESSURE & VACUUM, NC
	SWITCH – TEMPERATURE ACTUATED, NO
	THERMAL OVERLOAD, SINGLE PHASE
OLs	THERMAL OVERLOAD CONTACTS–3 PHASE
	TRANSFORMER
	WIRE TERMINATION AT DEVICE
	WIRE TO WIRE TERMINATION
	WIRING NOT CONNECTED

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
BAS	BUILDING AUTOMATION SYSTEM
DDC	DIRECT DIGITAL CONTROL
TC	TEMPERATURE CONTROLS
NO	NORMALLY OPEN
NC	NORMALLY CLOSED

NOTES:

1. SOME SYMBOLS & ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.
2. REFER TO MECHANICAL STANDARDS ON DRAWING M0.1 FOR ADDITIONAL SYMBOLS & ABBREVIATIONS THAT MAY BE USED ON TEMPERATURE CONTROL DRAWINGS.



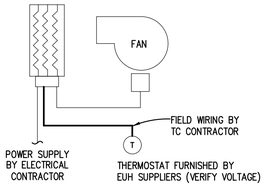
TYPICAL EUH CONTROL

NOTE:

REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF UNITS.

SEQUENCE OF OPERATION:

SPACE THERMOSTAT SHALL ENERGIZE UNIT HEATER CONTROL CIRCUIT TO MAINTAIN SPACE TEMPERATURE SETPOINT.



TYPICAL ECUH CONTROL

NOTE:

REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF UNITS.

SEQUENCE OF OPERATION:

SPACE THERMOSTAT SHALL ENERGIZE UNIT HEATER CONTROL CIRCUIT TO MAINTAIN SPACE TEMPERATURE SETPOINT.

TC GENERAL NOTES

1. THESE GENERAL NOTES SHALL BE APPLICABLE FOR ALL TEMPERATURE CONTROL (TC) DRAWINGS.
2. "PROVIDE" IS DEFINED AS "FURNISH AND INSTALL".
3. TEMPERATURE CONTROLS CONTRACTOR (TC CONTRACTOR) SHALL BE RESPONSIBLE TO COMPLY WITH ALL APPLICABLE CODES AND STANDARDS.
4. FOR TEMPERATURE CONTROL DRAWINGS ONLY: ALL DETAILED INFORMATION IDENTIFIED WITH HEAVY LINE WEIGHT SHALL BE PROVIDED BY TC CONTRACTOR. ALL OTHER INFORMATION IDENTIFIED WITH LIGHT LINE WEIGHT SHALL BE PROVIDED BY OTHER TRADES.
5. ALL CONTROL SCHEMATICS AND WIRING DIAGRAMS ARE FOR THE CLARIFICATION OF EQUIPMENT INTERLOCKING FUNCTIONS AND THE INTERFACE OF VARIOUS CONTRACTORS' WORK AND SHALL NOT BE MISTAKEN AS SHOP DRAWINGS FOR ACTUAL INSTALLATION.
6. ALL TC PROVIDED COMPONENTS AND ALL TC CONTRACTOR INSTALLED WIRING SHALL BE LABELED PER SPECIFICATIONS.
7. ALL WIRING AND SYSTEM CONTROL VOLTAGES SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATION AND THE ELECTRICAL SPECIFICATIONS.
8. VARIABLE FREQUENCY CONTROLLER, FAN MOTOR STARTERS, STARTER WIRING, CONTROL VOLTAGE TRANSFORMERS AND ASSOCIATED POWER WIRING SHALL BE PROVIDED BY OTHER TRADES.
9. DUCT SMOKE DETECTORS SHALL BE FURNISHED, INSTALLED AND WIRED TO THE FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR. ELECTRICAL SHALL PROVIDE FIRE ALARM SYSTEM CONTROL MODULES FOR REQUIRED SAFETIES TO MOTOR STARTERS OR VFC'S AS INDICATED. CONTROL MODULES SHALL BE LOCATED NEAR RESPECTIVE MOTOR STARTERS OR VFCs. TC CONTRACTOR SHALL PROVIDE INTERLOCK WIRING FROM CONTROL MODULES TO MOTOR STARTERS OR VFCs.
10. ALL ELECTRICAL WIRING AND RACEWAY SYSTEMS SHALL COMPLY WITH ELECTRICAL SPECIFICATION REQUIREMENTS. WHERE RACEWAY IS REQUIRED, TWO SEPARATE ELECTRICAL RACEWAY SYSTEMS SHALL BE PROVIDED: ONE FOR 120V WIRING AND THE OTHER FOR 24V WIRING.
11. TC CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER SUPPLIES REQUIRED FOR TC SYSTEM UNLESS OTHERWISE NOTED. REFER TO ELECTRICAL PANEL SCHEDULES FOR SPARE CIRCUITS OR CIRCUITS DEDICATED TO TEMPERATURE CONTROLS. COORDINATE CIRCUIT USE WITH ELECTRICAL CONTRACTOR.
12. TC CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL FIELD MOUNTED COMPONENTS.
13. REFER TO TEMPERATURE CONTROLS STANDARD MOUNTING HEIGHTS DETAIL FOR ELEVATIONS OF WALL MOUNTED TEMPERATURE CONTROL DEVICES. PROVIDE WALL MOUNTED DEVICE GUARDS WHERE INDICATED ON TC DETAILS OR AT SPECIFIC LOCATIONS INDICATED ON MECHANICAL FLOOR PLANS.
14. TC CONTRACTOR SHALL PROVIDE AUXILIARY PANELS FOR REQUIRED PANEL MOUNTED EQUIPMENT SUCH AS RELAYS, TRANSDUCERS, CONTROL TRANSFORMERS, ETC. AUXILIARY PANELS SHALL BE LOCATED NEXT TO ASSOCIATED DDC PANEL. DEPENDING ON WIRE QUANTITY OR COMPLEXITY, PROVIDE CONDUITS BETWEEN PANELS OR WIRING THROUGH WITH CONDUIT STUBS ABOVE ALL ASSOCIATED PANELS.
15. REMOTELY MOUNTED FIELD DEVICES SUCH AS RELAYS, CONTROL TRANSFORMERS, ETC., SHALL BE HOUSED IN AN ENCLOSURE PROVIDED BY THE TC CONTRACTOR.
16. CONTROL TRANSFORMERS WHEN REQUIRED SHALL BE SIZED FOR 150% OF ACTUAL LOAD.
17. CURRENT SWITCHES USED FOR OPERATIONAL STATUS SHALL HAVE CURRENT THRESHOLD SETPOINT ADJUSTED TO INDICATE BELT OR DRIVE FAILURE.
18. ALL CONTROL DAMPERS AND ASSOCIATED CONTROL ACTUATORS IDENTIFIED ON TC DRAWINGS SHALL BE FURNISHED BY TC CONTRACTOR UNLESS OTHERWISE NOTED. DAMPER SIZE AND LOCATIONS ARE INDICATED ON MECHANICAL FLOOR PLAN DRAWINGS.
19. ALL DAMPERS FURNISHED BY THE TC CONTRACTOR SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR. ALL PIPE PENETRATIONS AND BASIC FITTINGS REQUIRED FOR SENSOR INSTALLATIONS SHALL BE PROVIDED BY MECHANICAL CONTRACTOR.
20. DAMPER ACTUATORS SHALL BE INSTALLED BY TC CONTRACTOR WHEN FURNISHED BY TC CONTRACTOR.
21. ALL INSTRUMENTATION TUBING REQUIRED FOR DPS AND DPT COMPONENT INSTALLATIONS SHALL BE PROVIDED BY TC CONTRACTOR.
22. TC CONTRACTOR SHALL FIELD MOUNT ALL REQUIRED "SHIPPED LOOSE" PACKAGED CONTROL COMPONENTS FURNISHED BY EQUIPMENT SUPPLIERS WHERE INDICATED. ALL REQUIRED 24V AND 120V FIELD WIRING SHALL BE PROVIDED BY TC CONTRACTOR UNLESS NOTED OTHERWISE. TC CONTRACTOR SHALL COORDINATE SPECIFIC SYSTEM WIRING REQUIREMENTS WITH PACKAGED EQUIPMENT SUPPLIERS.

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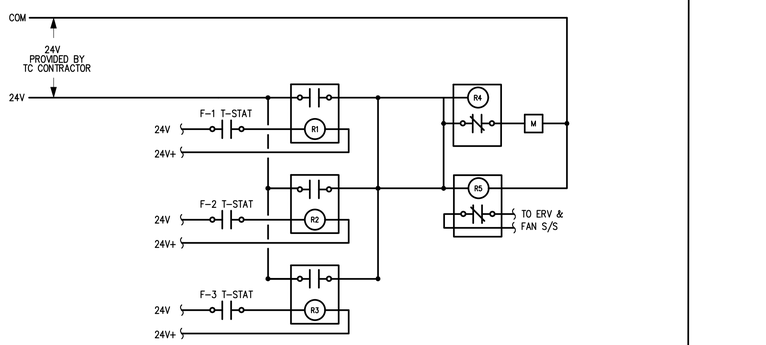
PROJECT
BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED	DATE	ISSUED FOR	IDENTIFICATION NUMBER	SHEET NUMBER	DRAWING TITLE	DRAWING NUMBER
DRAWN ACF CHECKED ACF APPROVED ACF	08.07.2025	CONSTRUCTION DOCUMENTS_REV	FILE# 751/24078.SMD A/E# 1411-14	. OF 42	TEMPERATURE CONTROL STANDARDS AND GENERAL NOTES	M-801



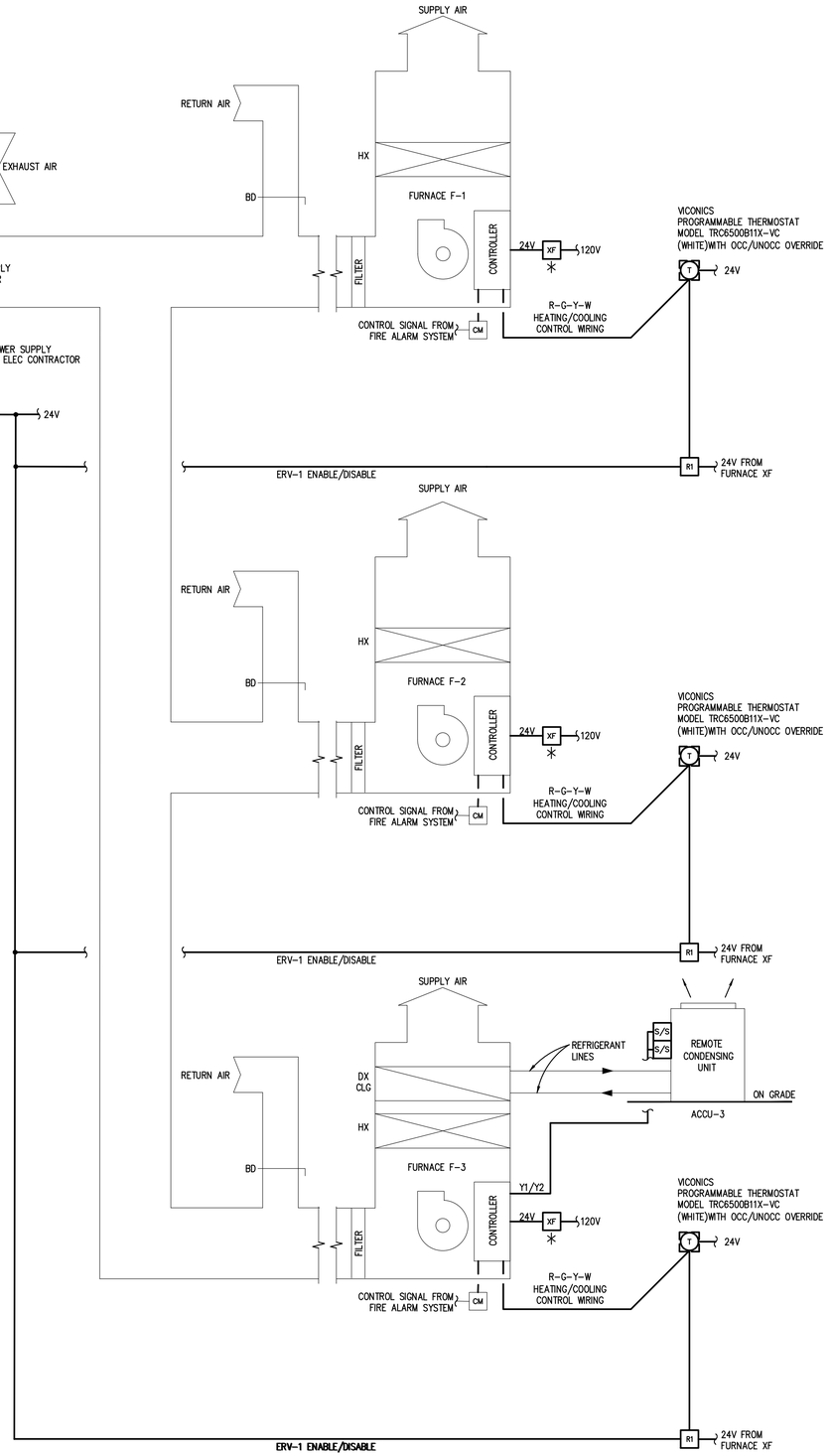
OCC/UNNOCC OVERRIDE CONTROL

NOTES:

1. EACH VICONICS TRC6500B11X-VC THERMOSTAT SHALL BE CONFIGURED TO PROVIDE A DRY CONTACT SIGNAL (VIA RELAY OUTPUT) WHEN IN OCCUPIED MODE. CONTACT SHALL OPEN WHEN IN UNOCCUPIED MODE.
2. TC CONTRACTOR SHALL PROVIDE 24V CONTROL POWER AND WIRE ALL THERMOSTAT OUTPUT RELAYS (R1-R3) IN PARALLEL, ALLOWING ANY THERMOSTAT TO TRIGGER OCCUPANCY MODE.
3. RELAYS R1 THROUGH R3 SHALL BE PROVIDED AND MOUNTED IN A DEDICATED CONTROL ENCLOSURE LOCATED IN THE MECHANICAL ROOM OR NEAREST CONTROL ZONE.
4. RELAY R4 SHALL BE WIRED TO RECEIVE A CONTROL SIGNAL FROM THE PARALLEL COMBINATION OF R1-R3 RELAY OUTPUTS. WHEN R4 IS ENERGIZED, IT SHALL CLOSE ITS DRY CONTACTS TO ENABLE ERV AND OPEN ZONE DAMPERS.
5. THE CONTROL OUTPUT OF R4 SHALL BE WIRED TO ERV ENABLE TERMINALS AND MOTORIZED DAMPER ACTUATORS (IF USED), AND OPTIONALLY TO THE FAN STARTER/SAFETY SWITCH CIRCUIT IF REQUIRED.
6. ALL WIRING SHALL BE INSTALLED IN ACCORDANCE WITH NEC AND LOCAL ELECTRICAL CODE. RELAY CONTACTS SHALL BE DRY-CONTACT RATED FOR 24V CONTROL.

SEQUENCE OF OPERATION:

1. UNDER NORMAL OPERATING CONDITIONS, WHEN ANY ONE OF THE THREE VICONICS THERMOSTATS IS IN OCCUPIED MODE, THE CORRESPONDING RELAY (R1, R2, OR R3) SHALL BE ENERGIZED, CLOSING ITS CONTACT. BECAUSE RELAYS ARE WIRED IN PARALLEL, IF ANY ONE RELAY IS CLOSED, THE CIRCUIT TO RELAY R4 IS COMPLETED.
2. WHEN RELAY R4 IS ENERGIZED, ITS DRY CONTACTS SHALL ENABLE THE ERV AND OPEN SHARED MOTORIZED DAMPERS SUPPLYING OUTDOOR AIR TO ALL THREE FURNACES. OPTIONAL OUTPUTS FROM R4 MAY ALSO ENERGIZE A FAN START/SAFETY RELAY AS NEEDED.
3. WHEN ALL THERMOSTATS RETURN TO UNOCCUPIED MODE, RELAYS R1-R3 OPEN, DE-ENERGIZING RELAY R4. R4'S CONTACTS THEN OPEN, DISABLING THE ERV AND ALLOWING DAMPERS TO SPRING-CLOSE OR POWER CLOSED.
4. IF THE TRC6500'S MANUAL OVERRIDE (OCC/UNOCC) FUNCTION IS ACTIVATED AT ANY ZONE THERMOSTAT, THE ASSOCIATED RELAY OUTPUT SHALL FOLLOW THE OVERRIDE STATUS, THUS ENABLING SYSTEM VENTILATION EVEN OUTSIDE THE STANDARD SCHEDULE.
5. SYSTEM SHALL FAIL SAFE TO UNOCCUPIED IF ALL THERMOSTATS ARE UNOCCUPIED OR LOSE CONTROL POWER.



FURNACES AND ERV UNIT CONTROLS

F-1 SERVES SECOND FLOOR
F-2 WEST FIRST FLOOR
F-3 SERVES EAST FIRST FLOOR

NOTES:

1. ✳ INDICATES PANEL MOUNTED COMPONENT TO BE PROVIDED BY TC CONTRACTOR.
2. FURNACE MANUFACTURER SHALL PROVIDE PACKAGED FURNACE CONTROLLER, RELAYS, DEVICES, ETC., TO CONTROL THE FURNACE.
3. PACKAGED ENERGY RECOVERY UNIT MANUFACTURER SHALL PROVIDE CONTROLLER FOR ERV WITH SENSORS, RELAYS, DEVICES, ETC., TO CONTROL THE ERV WHEN SIGNALED TO OPERATE FROM THE THERMOSTAT.
4. TC CONTRACTOR SHALL PROGRAM FURNACE THERMOSTAT WITH OCCUPIED/UNOCCUPIED SCHEDULE AND ASSOCIATED HEATING/COOLING SETPOINTS WITH INPUT FROM OWNER.
5. TC CONTRACTOR SHALL PROVIDE CONTROL DEVICES AND FIELD WIRING SHOWN IN HEAVY LINE WEIGHT.
6. FURNACE AND ERV SUPPLIER REPRESENTATIVES SHALL PROVIDE PERSONNEL FOR START-UP, PROGRAMMING, AND COORDINATION WITH TC CONTRACTOR FOR WIRING.
7. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE ALARM SYSTEM COMPONENTS AND WIRING FROM FIRE ALARM PANEL TO CONTROL MODULE. TC CONTRACTOR SHALL PROVIDE WIRING FROM CONTROL MODULE TO MOTOR STARTER CONTROL CIRCUIT.

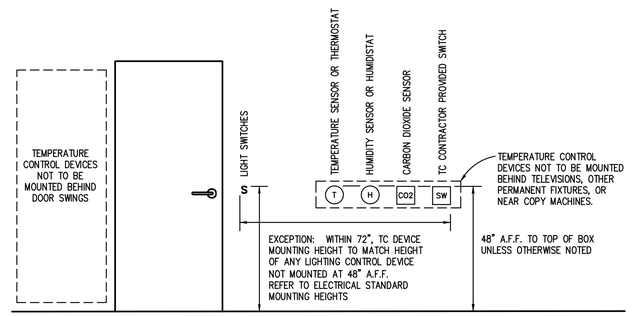
SEQUENCE OF OPERATION

NOTES:

1. ALL HEATING/COOLING SETPOINTS AND OCCUPANCY SCHEDULES SHALL BE PROGRAMMED AND MAINTAINED AT THE THERMOSTATS. PASSWORD-PROTECTED ACCESS SHALL BE PROVIDED TO PREVENT UNAUTHORIZED ADJUSTMENTS.
2. EACH THERMOSTAT SHALL OPERATE INDEPENDENTLY AND CONTROL THE ASSOCIATED FURNACE AND ZONE EQUIPMENT. NO BUILDING AUTOMATION SYSTEM (BAS) OR CENTRALIZED DDC CONTROL SHALL BE PROVIDED. THERMOSTATS PROVIDED ARE BACnet CAPABLE FOR POTENTIAL FUTURE INTEGRATION.

SEQUENCE OF OPERATION:

1. ONE (1) FACTORY-PACKAGED ENERGY RECOVERY VENTILATOR (ERV) SHALL PROVIDE OUTDOOR VENTILATION AIR TO ALL THREE GAS-FIRED FURNACES. THE ERV SHALL OPERATE WITH INTERNAL CONTROLS AND SHALL NOT REQUIRE BAS OR DDC FOR NORMAL OPERATION.
2. THE ERV SHALL OPERATE CONTINUOUSLY DURING OCCUPIED HOURS, SUPPLYING CONSTANT-VOLUME OUTDOOR AIR TO ALL FURNACES. FAN OPERATION AND DAMPER MODULATION SHALL BE CONTROLLED BY THE ERV'S INTERNAL MICROPROCESSOR.
3. THE ERV SUPPLY AND EXHAUST FANS SHALL BE EQUIPPED WITH FACTORY-MOUNTED VFDS CONFIGURED FOR CONSTANT VOLUME OPERATION. OUTDOOR AIR AND EXHAUST DAMPERS SHALL OPEN WHEN THE UNIT IS ENABLED AND CLOSE UPON SHUTDOWN. FINAL AIRFLOW SETPOINTS SHALL BE CONFIRMED DURING TEST AND BALANCE (TAB).
4. EACH FURNACE SHALL BE CONTROLLED BY ITS OWN BACNET THERMOSTAT. THE THERMOSTAT SHALL ACTIVATE THE FURNACE SUPPLY FAN AND MODULATE HEATING STAGES BASED ON SPACE TEMPERATURE AND USER-PROGRAMMED SETPOINTS AND SCHEDULES.
5. FURNACE 3 ONLY: INCLUDES A DX COOLING COIL CONTROLLED BY THE SAME THERMOSTAT. THE THERMOSTAT SHALL ENERGIZE THE COOLING SIGNAL WHEN SPACE TEMPERATURE EXCEEDS THE COOLING SETPOINT. COMPRESSOR SHORT CYCLE PROTECTION SHALL BE PROVIDED BY THE INTERNAL CONTROL LOGIC OF THE COOLING SYSTEM.
6. IN OCCUPIED MODE, THERMOSTATS SHALL COMMAND THEIR RESPECTIVE FURNACE FANS TO RUN CONTINUOUSLY FOR VENTILATION. IN UNOCCUPIED MODE, FANS MAY CYCLE WITH TEMPERATURE DEMAND.
7. THE ERV SHALL OPERATE CONTINUOUSLY DURING OCCUPIED PERIODS AND MAY REMAIN ENABLED AT ALL TIMES IF REQUIRED TO MAINTAIN VENTILATION. THE ERV SHALL NOT BE INTERLOCKED TO THE FURNACES OR THERMOSTATS UNLESS SPECIFIED BY MANUFACTURER.
8. FROST PROTECTION FOR THE ERV SHALL BE PROVIDED BY ITS INTERNAL CONTROL BOARD USING A FACTORY-MOUNTED EXHAUST AIR THERMOSTAT. WHEN THE EXHAUST AIR DROPS BELOW 36°F, THE ERV SHALL DISABLE THE SUPPLY FAN FOR 5 MINUTES EVERY 30 MINUTES (DEFAULT ADJUSTABLE) TO PREVENT FROSTING OF THE ENERGY RECOVERY CORE.
9. SPACE TEMPERATURE SETPOINTS SHALL BE AS FOLLOWS:
   - HEATING UNOCCUPIED SETPOINT = 62°F
   - HEATING OCCUPIED SETPOINT = 70°F
   - COOLING OCCUPIED SETPOINT = 74°F
   - COOLING UNOCCUPIED SETPOINT = 80°F
10. FILTER DIFFERENTIAL PRESSURE ACROSS THE ERV SHALL BE MONITORED BY LOCAL INDICATOR LIGHTS OR SWITCHES.
11. UPON LOSS OF POWER OR SYSTEM SHUTDOWN, ALL THERMOSTATS AND EQUIPMENT SHALL RETURN TO NORMAL OPERATION UPON RESTART. NO REMOTE OVERRIDES, ALARMS, OR SCHEDULING SHALL BE PROVIDED UNLESS OTHERWISE NOTED.
12. OCC/UNOCC OVERRIDE CONTROL SHALL BE PROVIDED USING THE DRY-CONTACT OUTPUTS OF EACH ZONE'S THERMOSTAT. WHEN ANY THERMOSTAT ENTERS THE OCCUPIED MODE, WHETHER BY SCHEDULE OR MANUAL OVERRIDE, IT SHALL ENERGIZE ITS ASSOCIATED RELAY. RELAYS SHALL BE WIRED IN PARALLEL TO SIGNAL A CENTRAL CONTROL RELAY, WHICH WILL ENABLE THE ERV AND COMMAND SHARED DAMPER AND FAN OPERATION. WHEN ALL ZONES RETURN TO UNOCCUPIED MODE, THE CENTRAL RELAY SHALL DE-ENERGIZE, DISABLING SHARED VENTILATION EQUIPMENT.



TC DEVICE STANDARD MOUNTING HEIGHTS DETAIL

NO SCALE

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PROJECT
BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED	
DRAWN	ACF
CHECKED	ACF
APPROVED	ACF
DATE	08.07.2025
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IDENTIFICATION NUMBER	FILE# 751/24078.SMD A/E# 1411-14
SHEET NUMBER	. OF 42
DRAWING TITLE	TEMPERATURE CONTROLS
DRAWING NUMBER	M-802

ELECTRICAL SYMBOL LIST

(NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT)

SYMBOL	DESCRIPTION
X (NL)	X DENOTES FIXTURE TYPE (NL INDICATES NIGHT LIGHT)
	FILL DENOTES EMERGENCY FIXTURE
	TROFFER LIGHT
	STRIP LIGHT
	LINEAR LIGHT
	MULTIHEAD ADJUSTABLE LIGHT
	DOWN LIGHT
	DIRECTIONAL DOWN LIGHT
	DECORATIVE LIGHT
	DECORATIVE LIGHT
	WALL MOUNTED LIGHT
	WALL SCONCE
	ARM MOUNTED LIGHT
	LIGHTING TRACK
	TRACK LIGHT
	ADJUSTABLE FLOOD LIGHT
	STEP LIGHT
	LED TAPE
	REMOTE DRIVER
	HIGH BAY LIGHT
	POLE MOUNTED LIGHT
	POST TOP LIGHT
	BOLLARD LIGHT
	IN GROUND LIGHT
	EMERGENCY LIGHT
	EXIT LIGHT WITH DIRECTIONAL ARROWS (FILLED AREA INDICATES FACE)
	EXIT LIGHT WITH DIRECTIONAL ARROWS (FILLED AREA INDICATES FACE)
	EXIT LIGHT – WALL MOUNTED (FILLED AREA INDICATES FACE)
	EXIT/EMERGENCY LIGHT COMBO – WALL MOUNTED (FILLED AREA INDICATES FACE)
BCELTS	BRANCH CIRCUIT EMERGENCY LIGHTING TRANSFER SWITCH
ALCR	AUTOMATIC LOAD CONTROL RELAY
LC	LIGHTING CONTROL DEVICE – REFER TO LIGHTING CONTROL SCHEDULE
XX	ROOM CONTROL DESIGNATION – REFER TO LIGHTING CONTROL SCHEDULE
S	SINGLE POLE TOGGLE SWITCH
S2	TWO POLE TOGGLE SWITCH
S3	3 WAY TOGGLE SWITCH
S4	4 WAY TOGGLE SWITCH
K	KEY OPERATED SWITCH
K3	3 WAY KEY OPERATED SWITCH
K4	4 WAY KEY OPERATED SWITCH
D	DIMMER SWITCH
D3	3 WAY DIMMER SWITCH
DO	DIMMER OCCUPANCY SENSOR SWITCH
DL	LOW VOLTAGE DIMMER SWITCH
SP	PILOT SWITCH

SYMBOL	DESCRIPTION
TWC	TWO–WAY COMMUNICATION SYSTEM CALL STATION
TWCD	TWO–WAY COMMUNICATION SYSTEM AUTO DIALER
TWCA	TWO–WAY COMMUNICATION SYSTEM ANNUNCIATOR & COMMUNICATION PANEL
TWCP	TWO–WAY COMMUNICATION SYSTEM POWER SUPPLY WITH BATTERY BACK–UP
TWCDP	TWO–WAY COMMUNICATION SYSTEM AUTO DIALER POWER SUPPLY WITH BATTERY BACK–UP
RGP	REMOTE GENERATOR ANNUCIATOR PANEL
ATS	AUTOMATIC TRANSFER SWITCH
UPS	UNINTERRUPTIBLE POWER SUPPLY
CSX	LOW VOLTAGE CONTROL STATION "X" INDICATES TYPE
	SINGLE/DUPLEX RECEPTACLE OUTLET "X" INDICATES TYPE
	SINGLE/DUPLEX RECEPTACLE OUTLET CONTROLLED BY AUTOMATIC CONTROL DEVICE/SYSTEM
	QUAD RECEPTACLE OUTLET
	ABOVE COUNTER DUPLEX RECEPTACLE OUTLET (SIMILAR FOR TAMPER RESISTANT, CONTROLLED, QUADS, EMERGENCY, UPS, USB, AND GFCI RECEPTACLE OUTLETS)
	DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE OUTLET
	DEAD FRONT GROUND FAULT CIRCUIT INTERRUPTER
	DUPLEX EMERGENCY RECEPTACLE OUTLET
	DUPLEX TAMPER RESISTANT RECEPTACLE OUTLET
	QUAD TAMPER RESISTANT RECEPTACLE OUTLET
	DUPLEX UPS RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET WITH 2 USB PORTS
	4 PORT USB CHARGING STATION
	CEILING MOUNTED DUPLEX/QUAD RECEPTACLE OUTLET
	POWER POLE
TGB	TELECOMMUNICATION GROUNDING BUS BAR
TMGB	TELECOMMUNICATION MAIN GROUNDING BUS BAR
	MULTI–OUTLET SURFACE RACEWAY
	MULTI–SERVICE DROP SEE ELECTRICAL DETAILS AND DIAGRAMS SHEET "X" INDICATES TYPE
PTX	POKE–THROUGH ASSEMBLY "X" INDICATES TYPE
FBX	FLOOR SERVICE FITTING "X" INDICATES TYPE
AFX	ACCESS FLOOR SERVICE FITTING "X" INDICATES TYPE
RX	CORD REEL "X" INDICATES TYPE
S3	DUAL SWITCHING FOR INNER/OUTER LAMPS OF FLUORESCENT LIGHT FIXTURES
S3S3	3–WAY DUAL SWITCHING FOR INNER/OUTER LAMPS OF FLUORESCENT LIGHT FIXTURES
S4S4	4–WAY DUAL SWITCHING FOR INNER/OUTER LAMPS OF FLUORESCENT LIGHT FIXTURES
ST	DIGITAL TIME SWITCH
SI	ILLUMINATED TOGGLE SWITCH FOR CONTROL OF LIGHTING ON CRITICAL POWER–ILLUMINATED WHEN SWITCH IS IN "OFF" POSITION
SL	LOW VOLTAGE SWITCH
SO	OCCUPANCY SENSOR
SO2	OCCUPANCY SENSOR REFER TO ELECTRICAL STANDARD SCHEDULES
OS X	OCCUPANCY SENSOR "X" INDICATES TYPE

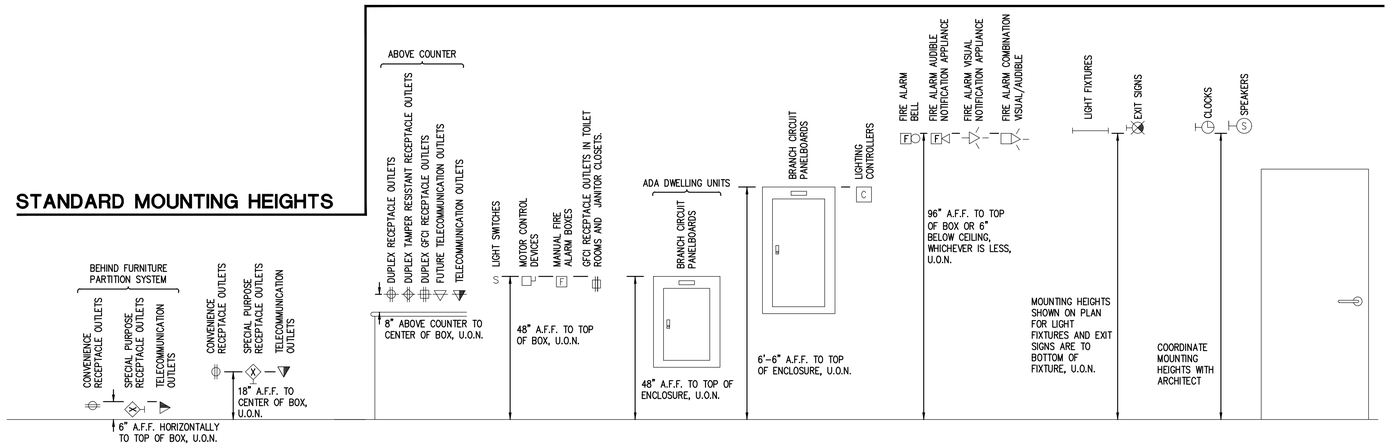
SYMBOL	DESCRIPTION
CP	CONTROL PANEL
MD	MOTION DETECTOR
K	SECURITY KEY SWITCH
DC	DOOR CONTACT
KP	KEY PAD
CR	CARD READER
DB	DURESS PUSH BUTTON STATION
DE	DELAYED EGRESS
REX	REQUEST TO EXIT STATION
PP	AUTOMATIC DOOR PUSH PAD OPERATOR
DO	DOOR OPERATOR
DA	DOOR ACTUATOR
AC	ACCESS CONTROL STATION
ACCP	ACCESS CONTROL CONTROL PANEL
ACPS	ACCESS CONTROL POWER SUPPLY
	CIRCUIT BREAKER
	CONDUIT SLEEVE WITH BUSHINGS LENGTH AS REQUIRED "X" INDICATES CONDUIT SIZE
	CONDUIT UP
	CONDUIT DOWN
	DRAWOUT CIRCUIT BREAKER MANUALLY/ OPERATED
	DRAWOUT CIRCUIT BREAKER ELECTRICALLY/ OPERATED
	SWITCH
	AUTOMATIC OR MANUAL TRANSFER SWITCH
	FUSE
	TRANSFORMER
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	LIGHTNING ARRESTOR
X	PANELBOARD "X" INDICATES PANELBOARD NAME
	GROUND
	STRESS CONE TERMINATION
K	SECURITY KEY INTERLOCK
G	ENGINE GENERATOR
M	UTILITY METER
EMU	ELECTRONIC METERING UNIT
A	AMMETER
V	VOLTMETER
AS	AMMETER SWITCH
VS	VOLTMETER SWITCH
SPD	SURGE PROTECTIVE DEVICE
CR	CONTROL RELAY
TDR	TIME DELAY RELAY
PRM	PHASE ROTATION MONITOR
	CAMLOK – MALE
	CAMLOK – FEMALE
EVSE	ELECTRICAL VEHICLE SUPPLY EQUIPMENT
DCFC	DC FAST CHARGER – STANDALONE
DCPM	DC FAST CHARGER – POWER MODULE
DCDP	DC FAST CHARGER – DISPENSER

SYMBOL	DESCRIPTION
	TWO–WAY COMMUNICATION SYSTEM CALL STATION
	MOTOR
	VARIABLE FREQUENCY CONTROLLER.
	MANUAL CONTROLLER
	MAGNETIC CONTROLLER
	COMBINATION MAGNETIC CONTROLLER
	NON–FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
CB	ENCLOSED CIRCUIT BREAKER
	PUSH BUTTON STATION
	LOW VOLTAGE CONTROL STATION "X" INDICATES TYPE
	HARD WIRE POWER CONNECTION
	GROUND ROD
	GROUND CONNECTION
HH	HANDHOLE
X	CONDUIT SLEEVE WITH BUSHINGS LENGTH AS REQUIRED "X" INDICATES CONDUIT SIZE
	CONDUIT UP
	CONDUIT DOWN
	EMPTY BOX FOR FUTURE TELECOMMUNICATION OUTLET
	ABOVE COUNTER EMPTY BOX FOR FUTURE TELECOMMUNICATION OUTLET
	EMPTY BOX FOR FUTURE CEILING MOUNTED TELECOMMUNICATION OUTLET
	TELECOMMUNICATION OUTLET "X" INDICATES TYPE
	ABOVE COUNTER TELECOMMUNICATION OUTLET "X" INDICATES TYPE
	TELECOMMUNICATION CEILING MOUNTED OUTLET "X" INDICATES TYPE
	TELECOMMUNICATION BACKBOARD
	TELECOMMUNICATION GROUNDING BUS BAR
	TELECOMMUNICATION MAIN GROUNDING BUS BAR
IC	INTERCOM OUTLET
S	SPEAKER
	SPEAKER – WALL MOUNTED
MIC	MICROPHONE
VC	VOLUME CONTROL/STATION SELECTOR
B	SIGNALING BELL
	SINGLE FACE CLOCK – CEILING MOUNTED
	SINGLE FACE CLOCK – WALL MOUNTED
	DOUBLE FACE CLOCK – CEILING MOUNTED
	DOUBLE FACE COMBINATION CLOCK/SPEAKER CEILING MOUNTED
	DOUBLE FACE CLOCK – WALL MOUNTED
	DOUBLE FACE COMBINATION CLOCK/SPEAKER WALL MOUNTED
T/C	TIME CLOCK
C	CONTACTOR
P	PHOTOCELL
TT	TWIST TIMER

REFER TO ELECTRICAL STANDARD SCHEDULES

SYMBOL	DESCRIPTION
F	MANUAL FIRE ALARM BOX
SD	SMOKE DETECTOR
DD	DUCT SMOKE DETECTOR
CO	CARBON MONOXIDE DETECTOR
RT	REMOTE TEST STATION (FOR DUCT DETECTOR)
HD	HEAT DETECTOR
BD	PROJECTED BEAM DETECTOR
F	FIRE ALARM BELL
F	FIRE ALARM AUDIBLE NOTIFICATION APPLIANCE
F XX	FIRE ALARM VISUAL NOTIFICATION APPLIANCE "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
F XX	FIRE ALARM COMBINATION VISUAL/ AUDIBLE "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
F XX	FIRE ALARM COMBINATION VISUAL/ AUDIBLE NOTIFICATION APPLIANCE– CEILING MOUNTED "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
XX	FIRE ALARM VISUAL NOTIFICATION APPLIANCE CEILING MOUNTED "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
F	FIRE ALARM AUDIBLE NOTIFICATION APPLIANCE – CEILING MOUNTED
F	FIREFIGHTERS PHONE JACK
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM ANNUNCIATOR PANEL
NAC	NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL
MM	ADDRESSABLE MONITORING MODULE
CM	ADDRESSABLE CONTROL MODULE
TS	TAMPER SWITCH
FS	FLOW SWITCH
DR	MAGNETIC DOOR RELEASE
	THERMAL OVERLOAD RELAY
	NORMALLY OPEN CONTACTS
	NORMALLY CLOSED CONTACTS
	N.O. PUSH BUTTON SINGLE CIRCUIT
	N.C. PUSH BUTTON SINGLE CIRCUIT
X–X	CABLE VAULT "X–X" INDICATES TYPE
	BRANCH CIRCUIT PANELBOARD
	LOAD CENTER
	MOTOR CONTROL CENTER
T	TRANSFORMER
	DISTRIBUTION PANEL
GB	ELECTRICAL GROUNDING BUS BAR
PB	PLUG IN BUSWAY
FB	FEEDER BUSWAY
12x4	CABLE TRAY – ALL SIZES IN INCHES

STANDARD MOUNTING HEIGHTS



ELECTRICAL DRAWING INDEX

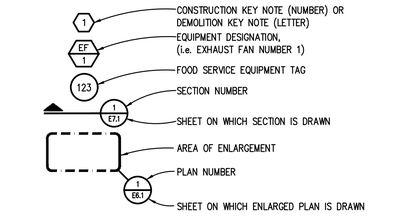
ELECTRICAL ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
A	AMPERES
AER	ARC ENERGY REDUCTION
AF	AMPERES FRAME (BREAKER RATING)
AFCI	ARC FAULT CIRCUIT INTERRUPTER
A.F.F.	ABOVE FINISH FLOOR
AIC	AMPS INTERRUPTING CAPACITY
AL	AUDIENCE LEFT
ALCR	AUTOMATIC LOAD CONTROL RELAY
AR	AUDIENCE RIGHT
AT	AMPERES TRIP (BREAKER SETTING)
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
BCELTS	BRANCH CIRCUIT EMERGENCY LIGHTING TRANSFER SWITCH
BKR	BREAKER
BPS	BOLTED PRESSURE SWITCH
C	CONDUIT
CB	CIRCUIT BREAKER
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED CIRCUIT
CKT	CIRCUIT
CT	CURRENT TRANSFORMER
DEMO	DEMOLITION
DIM	DIMENSION
DISC	DISCONNECT
DP	DISTRIBUTION PANEL
DS	DOWNSTAGE
DWG	DRAWING
EBU	EMERGENCY BATTERY UNIT
EC	ELECTRICAL CONTRACTOR
ECM	ELECTRONICALLY COMMUTATED MOTOR
ELEC	ELECTRICAL
EM/ EMERG	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EO	ELECTRICALLY OPERATED
EPO	EMERGENCY POWER OFF
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
FA	FIRE ALARM
FLA	FULL LOAD AMPS
FLR	FLOOR
FOH	FRONT OF HOUSE
FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR
FU	FUSE
G/GRD/EG	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HOA	HAND–OFF–AUTO
HP	HORSEPOWER
HV	HIGH VOLTAGE
HZ	HERTZ
IG	ISOLATED GROUND

ABBREVIATION	DESCRIPTION
JB	JUNCTION BOX
KA	THOUSAND AMP
KV	KILOVOLT
KVA	KILOVOLT – AMPERES
KW	KILOWATT
KWH	KILOWATT – HOURS
LA	LIGHTNING ARRESTOR
LP	LIGHTING PANEL
LDP	LIGHTING DISTRIBUTION PANEL
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MIN	MINIMUM
MISC.	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MOP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
MTG	MOUNTING
MTR	MOTOR
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NF	NON–FUSIBLE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED

ABBREVIATION	DESCRIPTION
P	POLE
PB	PUSHBUTTON STATION
PH	PHASE
PT	POTENTIAL TRANSFORMER
PDP	POWER DISTRIBUTION PANEL
RECEPT.	RECEPTACLE
RDP	RECEPTACLE DISTRIBUTION PANEL
RP	RECEPTACLE PANEL
RSC	RIGID STEEL CONDUIT
SCCR	SHORT CIRCUIT CURRENT RATING
SCHED	SCHEDULE
SPD	SURGE PROTECTION DEVICE
ST	SHUNT TRIP
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TB	TERMINAL BOX
TELECOM	TELECOMMUNICATIONS
TR	TAMPER RESISTANT
TTB	TELEPHONE TERMINAL BACKBOARD
TYP	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
US	UPSTAGE
V	VOLTS
W	WIRE OR WATTS
WAP	WIRELESS ACCESS POINT
WG	WIRE GUARD
WP	WEATHERPROOF
WR	WEATHER RESISTANT
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
(E)	EXISTING
(R)	RELOCATED

STANDARD METHODS OF NOTATION



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DRAWING TITLE
ELECTRICAL STANDARDS AND DRAWING INDEX

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FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE - GENERAL PURPOSE

OVERCURRENT DEVICE RATING (AMPERES)	COPPER CONDUCTORS						KEYED NOTES
	WIRE SIZE (AWG OR KCMIL)		CONDUIT SIZE				
	PHASE & NEUTRAL	GROUND	SINGLE PHASE 2 WIRE+G (1PH, 1N, 1G, 2PH, 1G)	SINGLE PHASE 3 WIRE+G (2PH, 1N, 1G)	THREE PHASE 3 WIRE+G (3PH, 1G)	THREE PHASE & NEUTRAL 4 WIRE+G (3PH, 1N, 1G)	
15–20	12	12	3/4"	3/4"	3/4"	3/4"	
25–30	10	10	3/4"	3/4"	3/4"	3/4"	
35–40	8	10	3/4"	3/4"	3/4"	3/4"	
45–50	8 (6)	10	3/4"	3/4"	3/4"	3/4"	1
60	6 (4)	10	3/4" (1")	3/4" (1")	3/4" (1")	1" (1 1/4")	1
70	4	8	1"	1 1/4"	1 1/4"	1 1/4"	
80	4 (3)	8	1"	1 1/4"	1 1/4"	1 1/4"	1
90–100	3 (2)	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1
110	2 (1)	6	–	1 1/4"	1 1/4"	1 1/4" (1 1/2")	1
125	1 (1/0)	6	–	1 1/4" (1 1/2")	1 1/4" (1 1/2")	1 1/2"	1
150	1/0	6	–	1 1/2"	1 1/2"	1 1/2"	
175	2/0	6	–	2"	2"	2"	
200	3/0	6	–	2"	2"	2 1/2"	
225	4/0	4	–	2"	2"	2 1/2"	
250	250	4	–	2 1/2"	2 1/2"	2 1/2"	
300	350	4	–	2 1/2"	2 1/2"	3"	
350	500	3	–	3"	3"	3"	
400	500	3	–	3"	3"	3"	

GENERAL NOTES:
1. CONTRACTOR TO SIZE FEEDERS AND BRANCH CIRCUITS BASED ON THIS SCHEDULE AND OVER CURRENT DEVICE SIZE, UNLESS NOTED OTHERWISE.
2. CONTRACTOR MAY COMBINE 20A CIRCUITS AS NOTED IN SPECIFICATION.
3. CONDUCTORS ARE BASED ON THHN/THWN–2 UP TO AND INCLUDING #4/0. LARGER THAN #4/0 ARE BASED ON TYPE XHHW.
4. CONDUIT SIZES ARE VALID FOR EMT OR RSC. CONDUIT SIZES SHALL BE ADJUSTED AS REQUIRED FOR OTHER TYPES OF CONDUIT.
5. SIZE OF DISCONNECT SWITCH LOCATED AT EQUIPMENT SHALL BE SIZED BASED UPON OVERCURRENT PROTECTION OF THAT DEVICE.
6. OBTAIN APPROVAL FROM ENGINEER PRIOR TO INSTALLING DIFFERENT SIZE/QUANTITY OF CONDUCTORS TO OBTAIN AN EQUIVALENT AMPACITY.

KEYED NOTES:
1. CONDUCTORS ARE BASED ON 90°C, 600V INSULATED WIRE APPLIED AT 75°C FOR TERMINATION RATED 60/75°C OR 75°C. FOR TERMINATION RATED AT 60°C, USE CONDUCTORS AND CONDUIT SIZES INDICATED IN PARENTHESES.

BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE FOR SINGLE PHASE CIRCUITS

BRANCH CKT RATING (A)	WIRE SIZE (AWG)	MAXIMUM BRANCH CIRCUIT LENGTH (IN FEET)				
		120V	208V	240V	277V	480V
20A	12	83	143	165	191	331
	10	128	222	256	295	511
	8	201	348	402	464	804
	6	313	542	625	721	1250
30A	10	85	148	170	197	341
	8	134	232	268	309	536
	6	208	361	417	481	833
	4	313	542	625	721	1250

GENERAL NOTES:
1. THE ABOVE TABLE VALUES ARE BASED ON COPPER CONDUCTORS, IN STEEL CONDUIT, WITH A LOAD POWER FACTOR OF 0.85 PER NEC CHAPTER 9, TABLE 9.
2. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.
3. CONDUCTOR SIZES ARE BASED ON MAXIMUM OF 9 CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT.
4. LIMITS FOR CONDUCTOR LENGTHS SHOWN ARE BASED ON A MAXIMUM BRANCH CIRCUIT LOADING OF 64% OF THE BRANCH BREAKER RATING AND A MAXIMUM OF 3 PERCENT VOLTAGE DROP TO COMPLY WITH ASHRAE 90.1 AND THE NEC. FOR CIRCUITS LOADED GREATER THAN 64% OF BRANCH BREAKER RATING, THE CONTRACTOR SHALL PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

MOTOR CIRCUIT SIZING SCHEDULE (208V, 3 PHASE)

MOTOR HP	SWITCH/ FUSE	CIRCUIT BREAKER	STARTER SIZE/TYPE	MOTOR DISCONNECT (NOTE 3)
1/2	30/6A	15A	1	30A
3/4	30/6A	15A	1	30A
1	30/10A	15A	1	30A
1 1/2	30/10A	15A	1	30A
2	30/10A	15A	1	30A
3	30/20A	20A	1	30A
5	30/25A	35A	1	30A
7 1/2	60/40A	50A	1	60A
10	60/50A	60A	2	60A
15	60/60A	90A	3	60A
20	100/90A	100A	3	100A
25	100/100A	110A	3	100A
30	200/125A	125A	4	200A
40	200/175A	175A	4	200A
50	200/200A	200A	5	200A
60	400/250A	250A	5	400A
75	400/300A	300A	5	400A
100	400/400A	400A	6	400A
125	600/500A	600A	6	600A
150	600/600A	600A	6	600A

GENERAL NOTES:
1. BASED ON MOTOR FULL LOAD AMPERES AS PROVIDED BY THE NEC
2. BASED ON MOTOR RUNNING OVERLOAD PROTECTIONS PROVIDED BY THERMAL OVERLOAD RELAYS.
3. WHERE THE STARTER IS LOCATED REMOTE FROM THE MOTOR, PROVIDE DISCONNECT LOCATED AT THE MOTOR, SIZE AS INDICATED.

RACEWAY / CONDUCTOR / CABLE APPLICATION SCHEDULE

	WIRE		RACEWAY											CABLE / CORD	
	COPPER, TYPE THHN/THWN–2	COPPER, TYPE XHHW–2	ELECTRICAL METALLIC TUBING (EMT)	INTERMEDIATE METAL CONDUIT (IMC)	RIGID STEEL CONDUIT (RSC)	PVC COATED RIGID STEEL CONDUIT	RIGID NON-METALLIC CONDUIT (RNC) TYPE EPC–40	RIGID NON-METALLIC CONDUIT (RNC) TYPE EPC–80	HIGH DENSITY POLYETHYLENE (HDPE) SCHEDULE 40	HIGH DENSITY POLYETHYLENE (HDPE) SCHEDULE 80	REINFORCED THERMOSET RESIN CONDUIT (RTRC) TYPE AG	REINFORCED THERMOSET RESIN CONDUIT (RTRC) TYPE BG	LIQUID TIGHT FLEXIBLE METAL CONDUIT (LFMC)	SURFACE RACEWAY	METAL CLAD TYPE CABLE WITH INSULATED GROUND WIRE (TYPE MC)
FEEDERS - EXTERIOR															
EXPOSED, SURFACE MOUNTED TO STRUCTURE		X		X	X	X					X				
EXPOSED, WITH FREESTANDING SUPPORT		X		X	X	X					X				
BELOW PARKING LOTS AND ROADWAYS		X				X		X		X		X			
BELOW GREEN SPACE		X				X	X		X			X			
WITHIN 5' OF FOUNDATION WALL		X			X	X									
FEEDERS - INTERIOR															
EXPOSED, BELOW 10' AFF AND SUBJECT TO DAMAGE	X			X	X	X									
EXPOSED, BELOW 10' AFF AND NOT SUBJECT TO DAMAGE	X		X	X											
EXPOSED, ABOVE 10' AFF UNFINISHED SPACES	X		X	X											
EXPOSED, FINISHED SPACES	X													X	
BELOW SLAB ON GRADE	X				X	X	X	X							
DAMP AND WET LOCATIONS	X			X	X	X	X								
BRANCH CIRCUITS - EXTERIOR															
EXPOSED, SURFACE MOUNTED TO STRUCTURE		X		X	X	X		X							
EXPOSED, WITH FREESTANDING SUPPORT		X		X	X	X									
CONCEALED IN RETAINING WALL OR SIMILAR ELEMENT		X			X	X	X								
BELOW PARKING LOTS AND ROADWAYS		X			X	X	X		X						
BELOW GREEN SPACE		X					X								
WITHIN 5' OF FOUNDATION WALL		X			X	X									
BRANCH CIRCUITS - INTERIOR															
CONCEALED, ACCESSIBLE CEILINGS	X		X	X											X
EXPOSED, BELOW 10' AFF AND SUBJECT TO DAMAGE	X			X	X	X									
EXPOSED, BELOW 10' AFF AND NOT SUBJECT TO DAMAGE	X		X	X										X	
EXPOSED, ABOVE 10' AFF UNFINISHED SPACES	X		X	X											
EXPOSED, FINISHED SPACES	X													X	
BELOW SLAB ON GRADE	X						X								
EMBEDDED IN ELEVATED CONCRETE SLAB	X						X								
DAMP AND WET LOCATIONS	X			X	X	X	X							X	
SPECIAL APPLICATIONS															
SERVICE ENTRANCE – UNDERGROUND		X				X	X	X	X	X					
SERVICE ENTRANCE – ABOVE GROUND		X	X	X	X										
CLASS 1 CONTROL CIRCUITS	X		X	X	X										
CLASS 2 CONTROL CIRCUITS	X		X	X	X										
CLASS 3 CONTROL CIRCUITS	X		X	X	X										
CONNECTIONS TO TRANSFORMERS, MOTORS AND VIBRATING EQUIPMENT		X											X		

GENERAL NOTES:
1. TRANSITION FROM PVC/HDPE AND PROVIDE RIGID STEEL OR RTRC SWEEPS WHERE CONDUITS PENETRATE WALLS, CONCRETE SLABS, CONCRETE BASES, AND ASPHALT.
2. EMT SHALL NOT BE USED ON THE EXTERIOR OF A BUILDING OR IN AREAS SUBJECT TO DAMAGE BELOW 10' AFF.

MOTOR CIRCUIT SIZING SCHEDULE (120V, SINGLE PHASE)

MOTOR HP	CIRCUIT BREAKER	MANUAL MOTOR STARTER SIZE	COMBINATION STARTER SIZE	MOTOR DISCONNECT (NOTE 3)
1/6	15A	1 HP	0	20A
1/4	15A	1 HP	0	20A
1/3	15A	1 HP	0	20A
1/2	20A	1 HP	0	20A

GENERAL NOTES:
1. BASED ON MOTOR FULL LOAD AMPERES AS PROVIDED BY THE NEC
2. BASED ON MOTOR RUNNING OVERLOAD PROTECTIONS PROVIDED BY THERMAL OVERLOAD RELAYS.
3. WHERE THE STARTER IS LOCATED REMOTE FROM THE MOTOR, PROVIDE DISCONNECT LOCATED AT THE MOTOR, SIZE AS INDICATED.

NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.

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PROJECT: BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED
DRAWN CAP
CHECKED EMG
APPROVED EMG

DATE: 08.07.2025

ISSUED FOR: CONSTRUCTION DOCUMENTS_REV

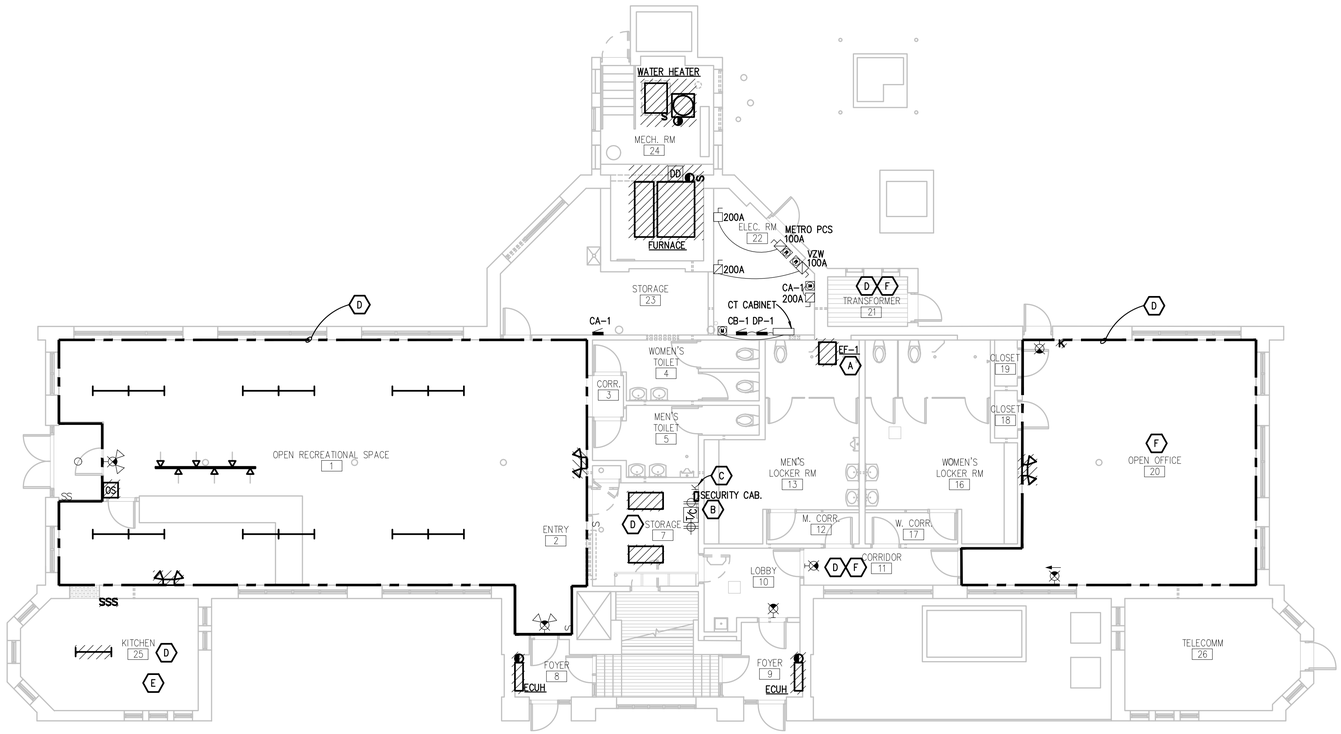
IDENTIFICATION NUMBER: FILE# 751/24078.SMD
A/E# 1411-14

SHEET NUMBER: . OF 42

DRAWING TITLE: ELECTRICAL STANDARD SCHEDULES

DRAWING NUMBER: E-002

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"



FIRST FLOOR POWER - DEMOLITION

SCALE: 1/8" = 1' - 0"

ELECTRICAL DEMOLITION GENERAL NOTES:

1. VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK.
2. EXAMINE THE DRAWINGS OF OTHER TRADES AND BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES, WHETHER OR NOT SPECIFICALLY INDICATED.
3. REMOVE EQUIPMENT OR MATERIALS AS INDICATED ON PLAN WITH CROSS HATCHING. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO, THOSE COMPONENTS SHOWN.
4. COORDINATE WITH NEW WORK PLANS FOR EXTENT OF DEMOLITION WORK.
5. PROVIDE PROPER SUPPORT FOR EXISTING TO REMAIN CONDUITS AND BOXES WHERE EXISTING SUPPORT IS TO BE REMOVED. RE-ROUTE BRANCH CIRCUIT CONDUITS AND RELOCATE JUNCTION BOXES AS REQUIRED TO FACILITATE INSTALLATION OF NEW EQUIPMENT AND SYSTEMS IN CEILING SPACES.
6. REMOVE ALL CONDUIT AND WIRE BACK TO THE SOURCE OR NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.
7. MAINTAIN ELECTRICAL SERVICE TO ALL LIGHTING FIXTURES, DEVICES AND EQUIPMENT THAT ARE TO REMAIN. EXTEND CONDUIT AND WIRE AS REQUIRED WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM LOADS THAT ARE TO REMAIN.
8. DISPOSE OF ALL MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. ALL MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, INCLUDING TCLP TESTING, PROPER DISPOSAL AND/OR RECYCLING OF FLUORESCENT LAMPS.
9. PROVIDE BLANK COVER PLATES WHERE SWITCHES AND DEVICES ARE REMOVED BUT EXISTING WALLS REMAIN INTACT.
10. RING OUT AND TAG ALL CIRCUITS AFFECTED BY THIS ALTERATION AT BOTH ENDS. MARK ALL UNUSED CIRCUIT BREAKERS "SPARE".
11. PROVIDE UPDATED TYPED-IN DIRECTORIES FOR ALL PANELS AFFECTED BY THIS ALTERATION.
12. VERIFY ALL UNDERGROUND AND IN SLAB UTILITY LOCATIONS PRIOR TO SAW-CUTTING OR PENETRATING ANY FLOOR SLAB.

(#) DEMOLITION KEY NOTES:

A. REMOVE ELECTRICAL CONNECTIONS TO DEMOLISHED MECHANICAL EQUIPMENT COMPLETE. TRACE SOURCE TO TURN OFF BREAKER AND MARK AS SPARE.

B. REMOVE SECURITY/FIRE PANEL COMPLETE. BRANCH CIRCUIT TO REMAIN AND BE TRACED BACK TO PANEL. CIRCUIT TO BE REUSED FOR NEW PANEL IN NEW WORK.

C. DETERMINE WHAT KEYED SWITCH CONTROLS. IF NO LONGER USED OR REMOVED FROM SCOPE IN THIS PROJECT, REMOVE SWITCH AND PROVIDE A BLANK COVER PLATE OVER BOX.

D. REMOVE ALL LIGHTING AND EMERGENCY LIGHTING UNITS IN THIS SPACE. ALL BRANCH CIRCUITING TO REMAIN AND BE REUSED TO CIRCUIT NEW LIGHTING. EXIT SIGNS TO REMAIN.

E. DEMOLISH ALL ELECTRICAL CONNECTIONS ASSOCIATED WITH KITCHEN HOOD COMPLETE BACK TO SOURCE. DEMOLISH ALL ELECTRICAL DEVICES AND CONDUIT BEING MOUNTED AND SUPPORTED BY CEILING COMPLETE BACK TO SOURCE.

F. REMOVE ANY TYPE OF EXISTING LIGHTING CONTROLS WITHIN ROOM.

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DRAWN	CAP
CHECKED	EMG
APPROVED	EMG
DATE	08.07.2025
ISSUED FOR	CONSTRUCTION DOCUMENTS_REV
IDENTIFICATION NUMBER	FILE# 751/24078.SMD A/E# 1411-14
SHEET NUMBER	. OF 42
DRAWING TITLE	FIRST FLOOR POWER - DEMOLITION
DRAWING NUMBER	ED-101

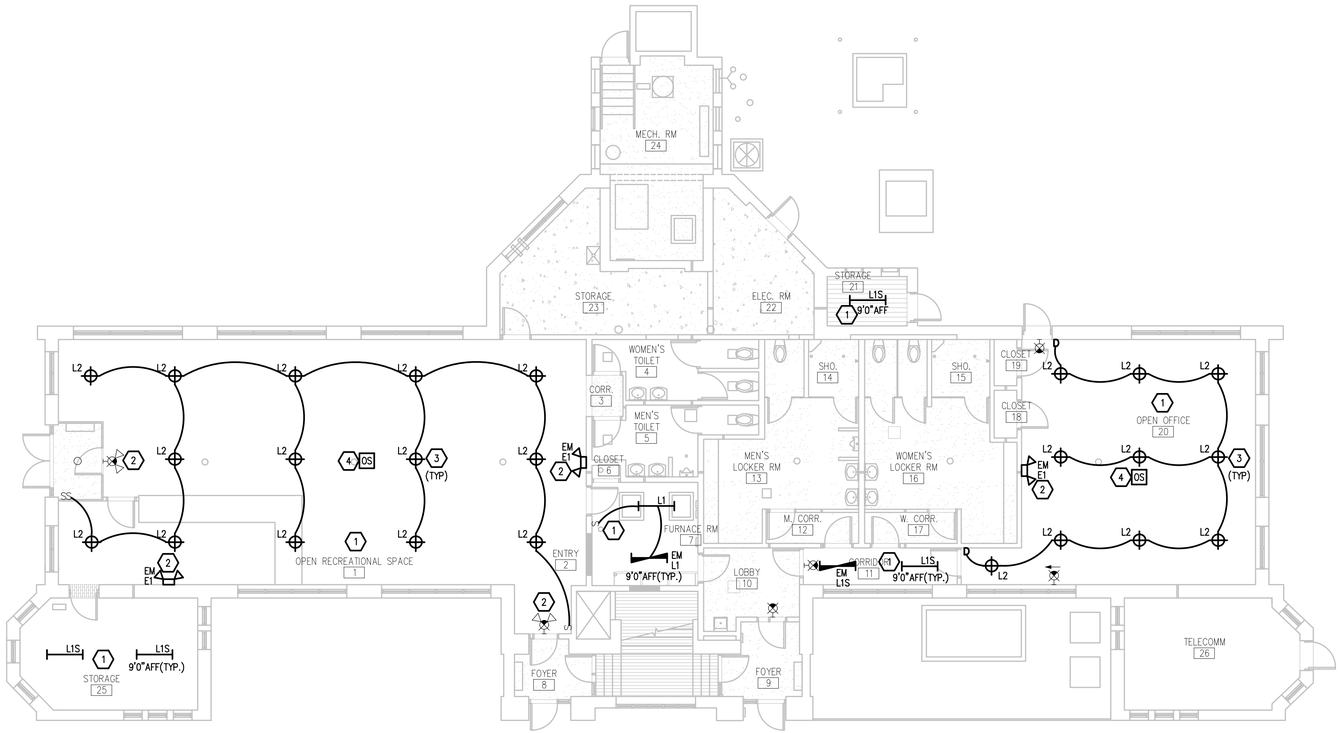
THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"

ELECTRICAL GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
7. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.

(#) CONSTRUCTION KEY NOTES:

1. REUSE EXISTING NORMAL BRANCH CIRCUIT FOR NEW LIGHT FIXTURES.
2. PROVIDE AIMING OF EMERGENCY LIGHTING UNIT LAMP HEADS FOR EVEN ILLUMINATION ALONG PATH OF EGRESS. FOR NEW RECESSED UNITS, INSTALL WHITE METAL PLATE OVER ANY GAPS IN THE EXISTING WALL WHERE INSTALLED IN AN EXISTING LOCATION.
3. REFER TO SPECS FOR LAMPS TO BE INSTALLED IN FIXTURES. INSTALL LIGHT FIXTURES THAT ARE STORED IN THE CASINO BASEMENT. COORDINATE WITH OWNER ON LOCATION. THESE SHOULD BE THE HOME DECORATORS COLLECTION BELL RIDGE BLACK SEMI FLUSH MOUNT PENDANT FIXTURE.
4. PROGRAM SENSOR TO BE USED FOR VACANCY ONLY. LIGHTS TO BE TURNED OFF AFTER 20 MINUTES OF INACTIVITY.



FIRST FLOOR LIGHTING - NEW WORK

SCALE: 1/8" = 1' - 0"

STATE OF MICHIGAN
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET
STATE FACILITIES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
ADAM P. LACH, RA, DIRECTOR

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Royal Oak, MI 48067
248.542.7886/www.gmbo.com

PROJECT
BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED
DRAWN CAP
CHECKED EMG
APPROVED EMG

DATE
08.07.2025

ISSUED FOR
CONSTRUCTION DOCUMENTS_REV

IDENTIFICATION NUMBER
FILE# 751/24078.SMD
A/E# 1411-14

SHEET NUMBER
. OF 42

DRAWING TITLE
FIRST FLOOR LIGHTING - NEW WORK

DRAWING NUMBER
E-201

STATE OF MICHIGAN
ERIC MICHAEL GRAETTINGER
ENGINEER
No. 6201052164
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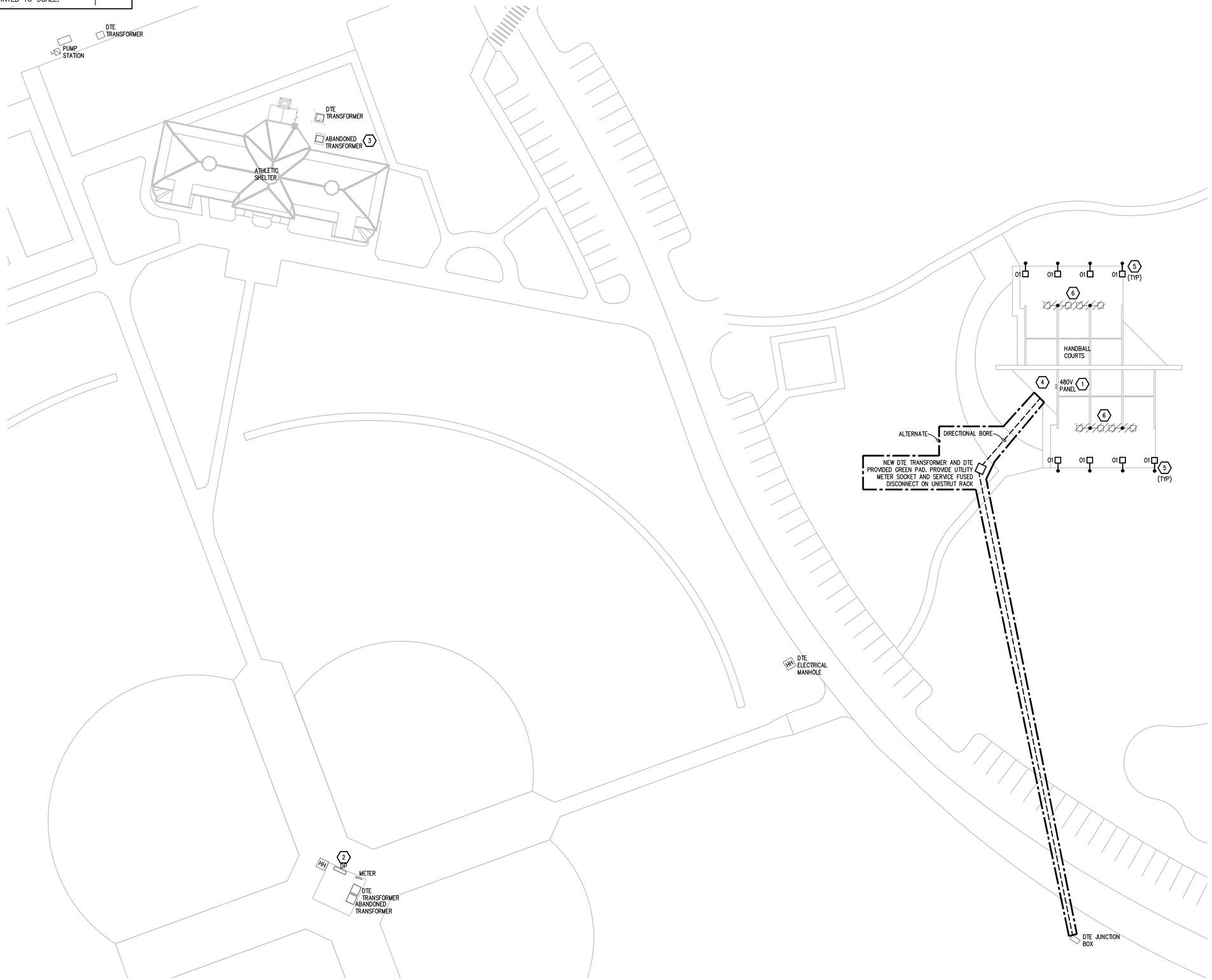
PBA Project No.: 2024.0164

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"



SITE PLAN GENERAL NOTES:

1. THESE NOTES ARE GENERIC GUIDELINES ONLY. ELECTRICAL CONTRACTOR'S PERSONNEL ON SITE SHALL BE THOROUGHLY FAMILIAR WITH THE PUBLISHED SPECIFICATIONS FOR EXACT DESCRIPTIONS OF SCOPE, METHODS, AND MATERIAL.
2. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
3. CONDUCT A SURVEY TO IDENTIFY ALL UNDERGROUND UTILITIES. CALL 811 PRIOR TO EXCAVATION.
4. UTILITIES SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY. COORDINATE EXACT LOCATION OF ALL EXISTING UTILITIES, AND ROUTING OF ALL NEW UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
5. DEWATER TRENCHES PRIOR TO INSTALLATION OF CONDUITS. PROVIDE WATER TIGHT FITTINGS ON ALL UNDERGROUND CONDUITS.
6. COORDINATE DEMOLITION WORK, AND ELECTRICAL AND TELEPHONE SERVICES TO THE SITE, WITH THE RESPECTIVE LOCAL UTILITY COMPANY REPRESENTATIVES PRIOR TO COMMENCEMENT OF WORK. INCLUDE ALL ASSOCIATED COST/FEES BY THE UTILITY COMPANIES IN THE BID PRICE.
7. INSTALL UNDERGROUND CONDUITS 42" BELOW FINISHED GRADE, MINIMUM, UNLESS NOTED OTHERWISE.
8. COORDINATE SERVICE SHUT-DOWNS WITH ALL TRADES INVOLVED ON SITE AND OBTAIN WRITTEN AUTHORIZATION FROM OWNER 72 HOURS PRIOR TO ANY ELECTRICAL AND/OR TELEPHONE SHUT-DOWN.
9. REMOVE ALL DE-ENERGIZED CONDUCTORS FROM SITE AT COMPLETION OF THE PROJECT.
10. SPARE CONDUITS SHALL INCLUDE PULL STRING AND SHALL BE TERMINATED WITH A CAP.

(#) CONSTRUCTION KEY NOTES:

1. ALTERNATE: PROVIDE COVER TO EXISTING PANELBOARD SO THERE ARE NO EXPOSED PARTS.
2. HANDBALL COURTS PREVIOUSLY FED FROM SWITCHBOARD IN BASEBALL FIELD. VERIFY WRING IS NO LONGER ENERGIZED, TURN OFF SWITCH, AND MARK AS SPARE.
3. REMOVE ABANDONED PLD TRANSFORMER COMPLETE
4. BASE BID: REMOVE ALL ELECTRICAL EQUIPMENT IN ROOM COMPLETE. CUT AND CAP TO ENTRANCE OF BUILDING.
5. BASE BID: REMOVE EXISTING LIGHT FIXTURES AND TURN OVER TO OWNER. RETAIN EXISTING POLES. INSTALL NEW LIGHT FIXTURES ON EXISTING POLES. TILT SOLAR PANEL SOUTH AND ADJUST LIGHTING MODULES. PROVIDE REPLACEMENT PARTS AND HANDHOLE COVERS FOR EXISTING POLES AS NECESSARY. THE OWNER SHALL BE RESPONSIBLE FOR DETERMINING THE CONDITION AND STRUCTURAL CAPACITY OF EXISTING POLES TO SUPPORT THE NEW LIGHT FIXTURES, INCLUDING THE INCREASED WEIGHT AND EFFECTIVE AND PROJECTED AREA OF THE LIGHTING FIXTURES AT THE FINAL TILT ANGLE OF THE NEW PANELS. PBA RECOMMENDS THAT A STRUCTURAL ENGINEER SIGN OFF ON THE ASSESSMENT.
6. BASE BID: REMOVE EXISTING TEMPORARY LIGHT FIXTURES AND TURN OVER TO OWNER COMPLETE.

SITE POWER - NEW WORK

SCALE: 1" = 30'

Know what's **below.** **Call** before you dig.

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DESIGN AND CONSTRUCTION DIVISION
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Royal Oak, MI 48067
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PROJECT
BELLE ISLE ATHLETIC SHELTER HVAC REPLACMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED		
DRAWN	CAP	
CHECKED	EMG	
APPROVED	EMG	

DATE	ISSUED FOR
08.07.2025	CONSTRUCTION DOCUMENTS_REV

IDENTIFICATION NUMBER
FILE# 751/24078.SMD
A/E# 1411-14

SHEET NUMBER
. OF 42

DRAWING TITLE
SITE POWER - NEW WORK

DRAWING NUMBER
E-300

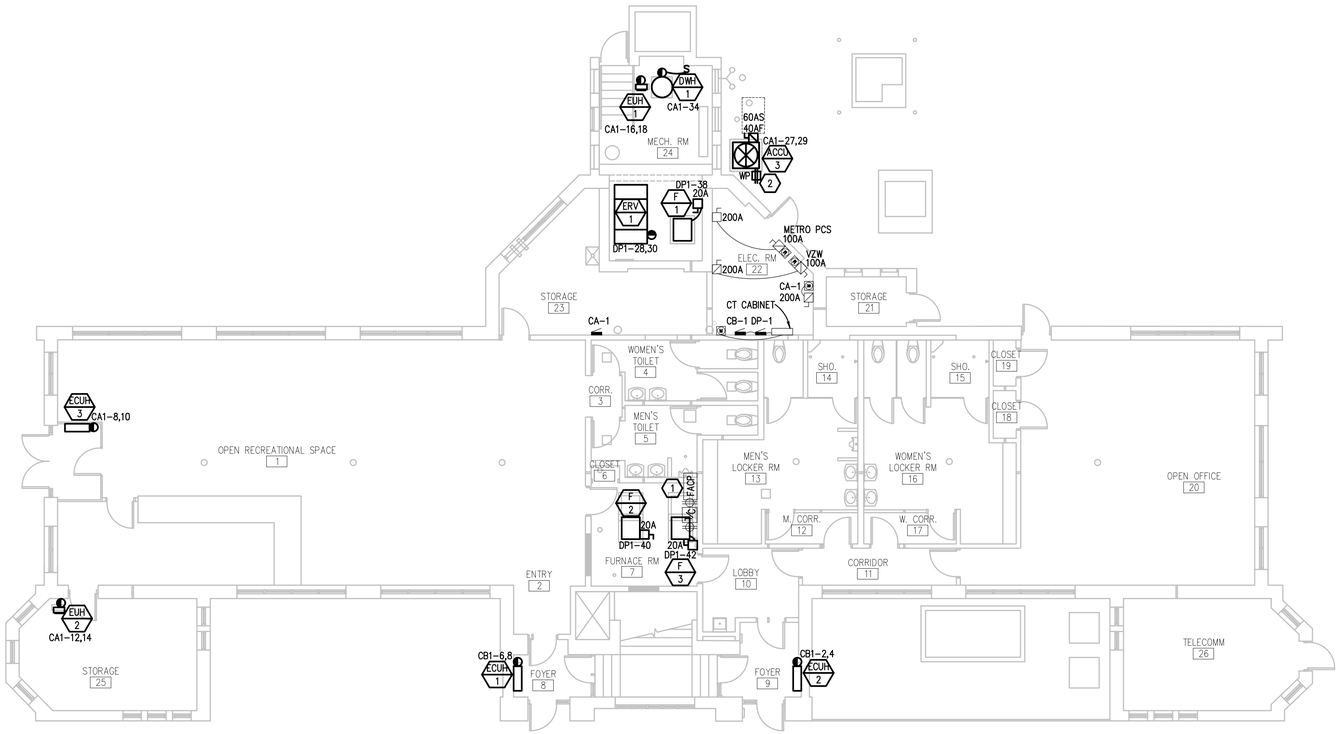
THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"

ELECTRICAL GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
7. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.

(#) CONSTRUCTION KEY NOTES:

1. REUSE EXISTING BRANCH CIRCUIT FOR NEW FACP, REFER TO FA DRAWINGS. CIRCUIT SHALL BE DEDICATED 120V 20A ON A LOCKABLE CIRCUIT BREAKER. IF EXISTING IS NOT, PROVIDE NEW.
2. SECURELY MOUNT NEW OUTDOOR RECEPTACLE ON FENCE AROUND MECHANICAL UNIT. CIRCUIT TO NEAREST 120V 20A AVAILABLE GENERAL CIRCUIT.



FIRST FLOOR POWER - NEW WORK

SCALE: 1/8" = 1' - 0"

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PROJECT: BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

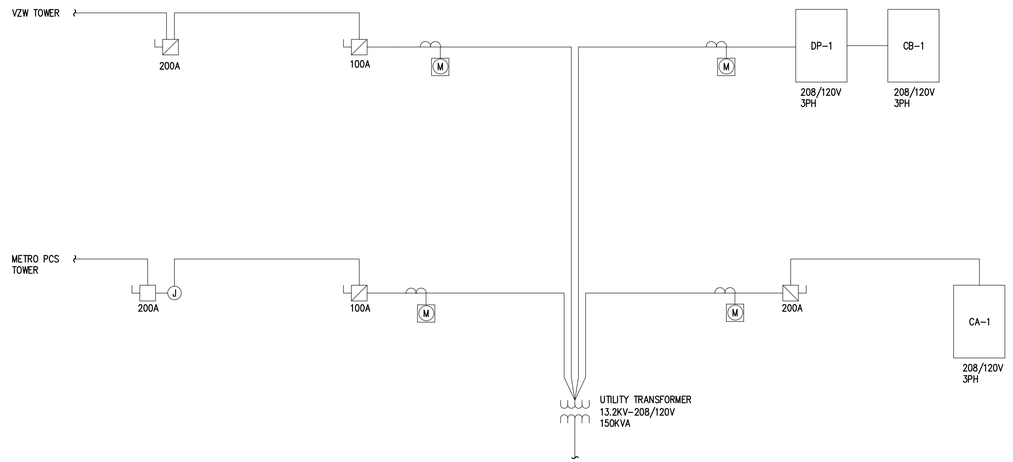
DESIGNED	DATE	ISSUED FOR	IDENTIFICATION NUMBER	SHEET NUMBER	DRAWING TITLE	DRAWING NUMBER
DRAWN CAP CHECKED EMG APPROVED EMG	08.07.2025	CONSTRUCTION DOCUMENTS_REV	FILE# 751/24078.SMD A/E# 1411-14	. OF 42	FIRST FLOOR POWER - NEW WORK	E-301

DIAGRAM GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
2. FEEDER AND BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH THE "FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE–GENERAL PURPOSE" ON THE "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS SPECIFICALLY NOTED OTHERWISE.
3. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH THE MOTOR CIRCUIT SIZING SCHEDULES ON THE "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS SPECIFICALLY NOTED OTHERWISE.

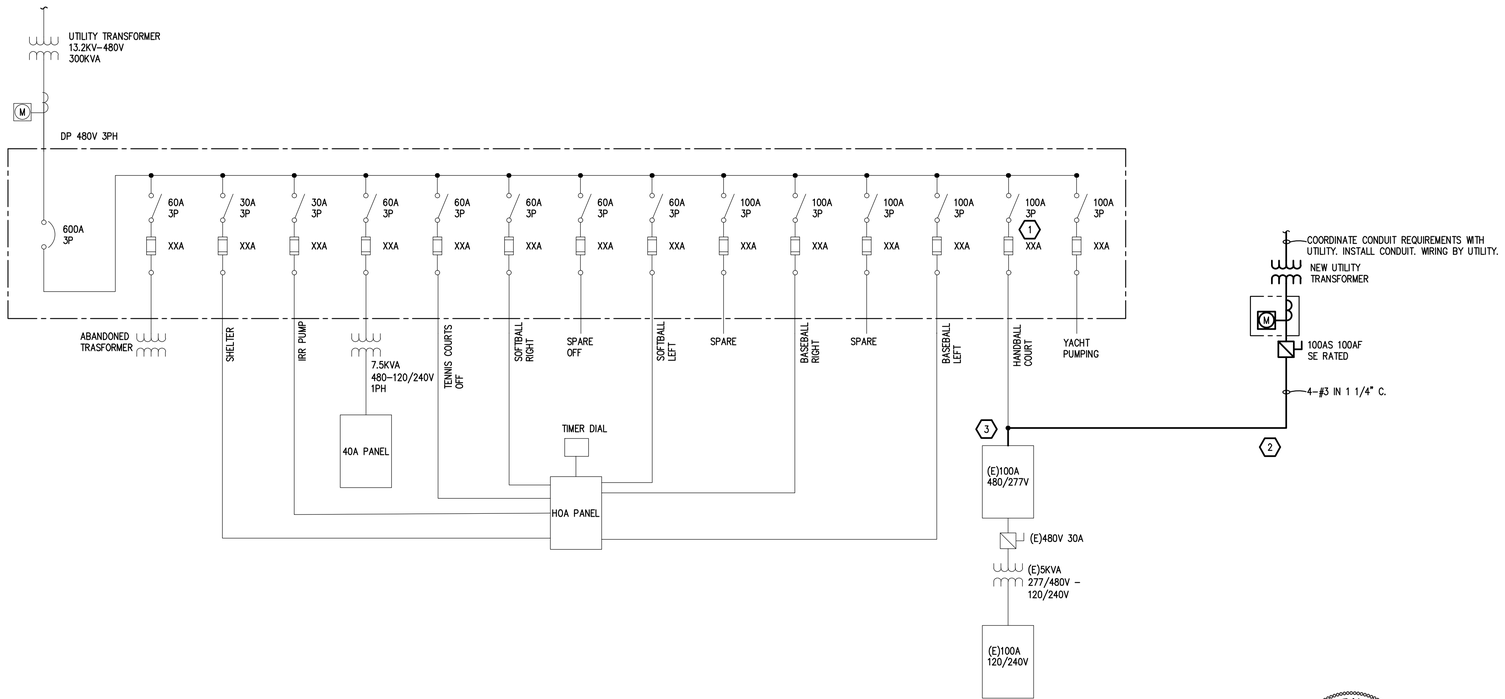
(#) CONSTRUCTION KEY NOTES:

1. TURN SWITCH OFF, DISCONNECT LOAD WIRING, AND LABEL AS SPARE
2. ALTERNATE: NEW UTILITY LINE TO HANDBALL COURTS INCLUDING NEW DTE TRANSFORMER, METERING, MAIN DISCONNECT, CONDUIT, AND WIRE. COORDINATE WITH UTILITY. CUT AND CAP EXISTING CONDUIT FEEDING 480V HANDBALL COURT PANEL. PROVIDE NEW CONDUIT FROM NEW UTILITY DISTRIBUTION TO EXISTING HANDBALL COURT DISTRIBUTION IN CLOSET.
3. BASE BID: DEMOLISH ALL HANDBALL COURT DISTRIBUTION WITHIN CLOSET COMPLETE. CAP CONDUIT AT ENTRANCE OF BUILDING.



EXISTING ONE LINE DIAGRAM - SHELTER

NO SCALE
NOTES:
FOR REFERENCE ONLY



ONE LINE DIAGRAM - BASEBALL/HANDBALL

NO SCALE

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PROJECT	BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS
DESIGNED	
DRAWN	CAP
CHECKED	EMG
APPROVED	EMG
DATE	08.07.2025
ISSUED FOR	CONSTRUCTION DOCUMENTS_REV
IDENTIFICATION NUMBER	FILE# 751/24078.SMD A/E# 1411-14
SHEET NUMBER	. OF 42
DRAWING TITLE	ONE LINE DIAGRAM
DRAWING NUMBER	E-501

TRACE EXISTING CIRCUITS. MARK EXISTING CIRCUITS NO LONGER IN USE AS SPARE. PROVIDE AN UPDATED TYPED PANEL SCHEDULE WITH A BRIEF DESCRIPTION OF EACH CIRCUIT (TYP).

EXISTING PANELBOARD DP-1

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1		EXISTING LOAD	EXIST	20						20	EXIST	OUTSIDE LIGHTS		2
3		EXISTING LOAD	EXIST	20						20	EXIST	OUTSIDE LIGHTS		4
5		EXISTING LOAD	EXIST	20						20	EXIST	EXISTING LOAD		6
7		SHOP	EXIST	20						20	EXIST	OUTSIDE LIGHTS		8
9		LIGHTS - 2ND FLOOR	EXIST	20						20	EXIST	OUTSIDE LIGHTS		10
11		EXISTING LOAD	EXIST	20						20	EXIST	EXISTING LOAD		12
13		TANK PUMP	EXIST	20						20	EXIST	EXISTING LOAD		14
15		EXISTING LOAD	EXIST	20						20	EXIST	WEST OUTLETS		16
17		EXISTING LOAD	EXIST	20						20	EXIST	EXISTING LOAD		18
19		EXISTING LOAD	EXIST	20						20	EXIST	EXISTING LOAD		20
21		EXISTING LOAD	EXIST	20						20	EXIST	EXISTING LOAD		22
23		EXISTING LOAD	EXIST	20						20	EXIST	EAST OUTLETS		24
25		EXISTING LOAD	EXIST	20						20	EXIST	EXISTING LOAD		26
27		EXISTING LOAD	EXIST	20			1320		1320	15	NEW	ERV-1 MECH RM	NC	28
29		EXISTING LOAD	EXIST	20				1320	1320				NC	30
31		EXISTING LOAD	EXIST	20		4147			4147				NC	32
33		EXISTING LOAD	EXIST	20			4147		4147	80	EXIST	CB-1	NC	34
35		SUMP PUMP	EXIST	20				4147	4147				NC	36
37						1512			1512	20	NEW	F-1 - MECH ROOM	NC	38
39		SURGE PROTECTOR	EXIST	30			1512		1512	20	NEW	F-2 - STORAGE	NC	40
41								1512	1512	20	NEW	F-3 - STORAGE	NC	42
						5659	6979	6979						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: 225A MCB
MINIMUM A.I.C.: 10,000
MOUNTING: SURFACE

[ ] FEED-THROUGH LUGS
[ ] DOUBLE LUGS
[ ] INTEGRAL SPD

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD		DEMAND FACTOR	CALCULATED LOAD	FEEDER AND OCPD SIZING		NOTES:
CONTINUOUS LOAD (C)		100%		125%		
ELECTRIC HEAT (E)		100%		100%		
NON-CONTINUOUS LOAD (NC)	19617	100%	19617	100%	19617	
KITCHEN LOAD (K)		100%		100%		
RECEPTACLE BASE LOAD (R)		100%		100%		
RECEPTACLE DEMAND LOAD (R)		50%		100%		
LIGHTING LOAD (L)		100%		125%		
ADDITIONAL TRACK LIGHTING LOAD				100%		
MOTORS, HIGHEST LOAD (MH)		125%		100%		
MOTORS, REMAINING LOAD (M)		100%		100%		
		TOTAL(KVA):	19.62			
NOTE: DEMAND AND SIZING INFORMATION IS CALCULATED FROM CONNECTED LOAD		TOTAL (AMPS):	54	TOTAL (AMPS):	54	

TRACE EXISTING CIRCUITS. MARK EXISTING CIRCUITS NO LONGER IN USE AS SPARE. PROVIDE AN UPDATED TYPED PANEL SCHEDULE WITH A BRIEF DESCRIPTION OF EACH CIRCUIT (TYP).

EXISTING PANELBOARD CA-1

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1		SPARE	EXIST	20						20	EXIST	WEST PORCH SIGN		2
3		SPARE	EXIST	20						20	EXIST	LIGHTS		4
5		OFFICE WALL	EXIST	20						20	EXIST	LIGHTS		6
7		OFFICE WALL	EXIST	20		3110			3110	40	NEW	ECUH-3 REC AREA VESTIBULE	E	8
9		SPARE	EXIST	25			3110		3110				E	10
11		GEN USE SALES	EXIST	20				3754	3754	50	NEW	EUH-2 STORAGE/OLD KITCHEN	E	12
13		WALL REF. SALES	EXIST	20		3754			3754				E	14
15		SPARE	EXIST	20			3754		3754	50	NEW	EUH-1 MECH RM	E	16
17		EXISTING LOAD	EXIST	30				3754	3754				E	18
19										20	EXIST	SPARE		20
21		EXISTING LOAD	EXIST	25						20	EXIST	SPARE		22
23		EXISTING LOAD	EXIST	60						20	EXIST	SPARE		24
25														26
27	NC	ACCU-3	NEW	40	2195		2195			20	EXIST	SPARE		28
29	NC				2195			2195						30
31		SPACE		--										32
33		SPACE		--			288		288	15	NEW	DWH-1 MECH ROOM	NC	34
35		SPACE		--						20	NEW	SPARE		36
37		TEMP POWER	EXIST	20						25	EXIST	TEMP POWER		38
39		SPACE		--						--		SPACE		40
41		SPACE		--						--		SPACE		42
						6864	9347	9703						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: SURFACE

[ ] FEED-THROUGH LUGS
[ ] DOUBLE LUGS
[ ] INTEGRAL SPD

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD		DEMAND FACTOR	CALCULATED LOAD	FEEDER AND OCPD SIZING		NOTES:
CONTINUOUS LOAD (C)		100%		125%		
ELECTRIC HEAT (E)	21236	100%	21236	100%	21236	
NON-CONTINUOUS LOAD (NC)	4678	100%	4678	100%	4678	
KITCHEN LOAD (K)		100%		100%		
RECEPTACLE BASE LOAD (R)		100%		100%		
RECEPTACLE DEMAND LOAD (R)		50%		100%		
LIGHTING LOAD (L)		100%		125%		
ADDITIONAL TRACK LIGHTING LOAD				100%		
MOTORS, HIGHEST LOAD (MH)		125%		100%		
MOTORS, REMAINING LOAD (M)		100%		100%		
		TOTAL(KVA):	25.91			
NOTE: DEMAND AND SIZING INFORMATION IS CALCULATED FROM CONNECTED LOAD		TOTAL (AMPS):	72	TOTAL (AMPS):	72	

EXISTING PANELBOARD CB-1

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1		WOMEN'S HAND DRYER	EXIST	30		3110			3110					
3		WOMEN'S HAND DRYER	EXIST	30			3110		3110	40	NEW	ECUH-2 MAIN E VEST	E	2
5		MEN'S HAND DRYER	EXIST	30				3110	3110				E	4
7		WOMEN'S HAND DRYER	EXIST	30		3110			3110	40	NEW	ECUH-1 MAIN W VEST	E	6
9		MEN'S HAND DRYER	EXIST	30						20	EXIST	RECEPTACLES 2ND FLOOR	E	8
11		MEN'S HAND DRYER	EXIST	30						20	EXIST	RECEPTACLES 2ND FLOOR		10
						6220	3110	3110						12
						ØA	ØB	ØC						

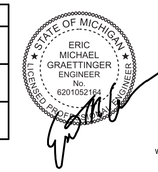
PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 125A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: SURFACE

[ ] FEED-THROUGH LUGS
[ ] DOUBLE LUGS
[ ] INTEGRAL SPD

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD		DEMAND FACTOR	CALCULATED LOAD	FEEDER AND OCPD SIZING		NOTES:
CONTINUOUS LOAD (C)		100%		125%		
ELECTRIC HEAT (E)	12440	100%	12440	100%	12440	
NON-CONTINUOUS LOAD (NC)		100%		100%		
KITCHEN LOAD (K)		100%		100%		
RECEPTACLE BASE LOAD (R)		100%		100%		
RECEPTACLE DEMAND LOAD (R)		50%		100%		
LIGHTING LOAD (L)		100%		125%		
ADDITIONAL TRACK LIGHTING LOAD				100%		
MOTORS, HIGHEST LOAD (MH)		125%		100%		
MOTORS, REMAINING LOAD (M)		100%		100%		
		TOTAL(KVA):	12.44			
NOTE: DEMAND AND SIZING INFORMATION IS CALCULATED FROM CONNECTED LOAD		TOTAL (AMPS):	35	TOTAL (AMPS):	35	

PANEL SCHEDULE INDEX		
		DP-1
		CA-1
		CB-1



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STATE FACILITIES ADMINISTRATION
DESIGN AND CONSTRUCTION DIVISION
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PROJECT
BELLE ISLE ATHLETIC SHELTER HVAC REPLACEMENT AND FIRE PROTECTION IMPROVEMENTS

DESIGNED
DRAWN CAP
CHECKED EMG
APPROVED EMG

DATE 08.07.2025

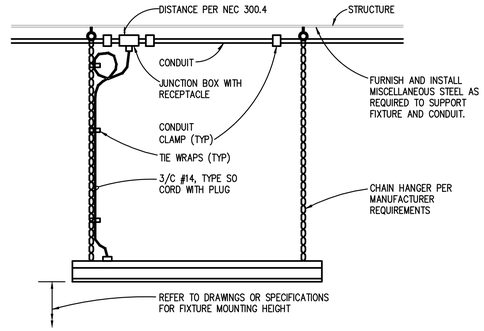
ISSUED FOR CONSTRUCTION DOCUMENTS_REV

IDENTIFICATION NUMBER FILE# 751/24078.SWD A/E# 1411-14

SHEET NUMBER . OF 42

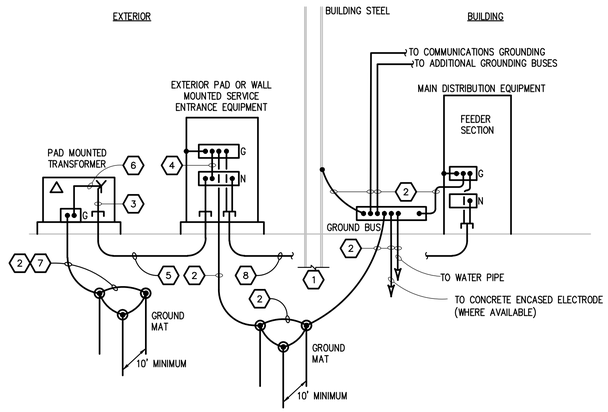
DRAWING TITLE PANEL SCHEDULES

DRAWING NUMBER E-502



TYPICAL MOUNTING DETAIL FOR CHAIN HUNG LIGHTING FIXTURES

NO SCALE

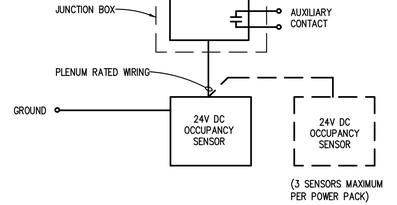


GROUNDING SYSTEM DIAGRAM SECONDARY SERVICE EXTERIOR SERVICE ENTRANCE EQUIPMENT FOR HANDBALL COURT

NO SCALE

(#) KEYED NOTES:

1. METAL IN-GROUND SUPPORT STRUCTURE IN DIRECT CONTACT WITH EARTH VERTICALLY FOR A MINIMUM OF 10FT, WHERE AVAILABLE.
2. GROUNDING ELECTRODE CONDUCTOR, #4/0 COPPER.
3. GROUNDED CONDUCTOR (NEUTRAL), SEE ONE LINE DIAGRAM.
4. MAIN BONDING JUMPER, PROVIDED BY MANUFACTURER AS PART OF LISTED EQUIPMENT SIZED PER NEC 250.28 AND 250.102.
5. SERVICE ENTRANCE PHASE CONDUCTORS AND GROUNDED CONDUCTOR IN CONDUIT. SEE ONE LINE DIAGRAM.
6. PROVIDE ADDITIONAL CONNECTION FROM GROUNDED SERVICE CONDUCTOR TO GROUNDING ELECTRODE AT THE TRANSFORMER PER NEC 250.24. COORDINATE WITH UTILITY.
7. COORDINATE REQUIREMENTS WITH UTILITY COMPANY PRIOR TO INSTALLATION. PROVIDE ALL NECESSARY GROUND RODS AND CONDUCTORS TO MEET UTILITY COMPANY REQUIREMENTS.
8. FEEDER IN CONDUIT (3P,N,G). SEE ONE LINE DIAGRAM.



OCCUPANCY SENSOR WIRING DIAGRAM

NO SCALE

NOTES:

1. REFER TO SPECIFICATIONS FOR ACCEPTED MANUFACTURERS.
2. PROVIDE POWER PACKS AND SLAVE PACKS AS REQUIRED FOR SWITCHING AS INDICATED ON PLAN. REVISE DETAIL AS REQUIRED BY MANUFACTURER.
3. MOUNTING LOCATION PER MANUFACTURER'S RECOMMENDATION.
4. ADJUST SENSITIVITY LEVELS PER THE OWNER REQUIREMENTS.
5. PROVIDE FACTORY SUPPORT FOR AIMING/ADJUSTING OF SENSORS.
6. PLACE CEILING MOUNTED OCCUPANCY SENSORS IN CENTER OF A FULL CEILING TILE, WHERE APPLICABLE.
7. SENSOR ADJUSTMENT: BEFORE MAKING ADJUSTMENTS, MAKE SURE ROOM FURNITURE IS INSTALLED, LIGHTING CIRCUITS ARE TURNED ON, AND THE HVAC SYSTEMS ARE IN THE ON POSITION. VAV SYSTEMS SHOULD BE SET TO THEIR HIGHEST AIRFLOW. SET THE LOGIC CONFIGURATION DIP SWITCHES TO "EITHER". EITHER REQUIRES MOTION DETECTION BY ONLY ONE TECHNOLOGY. SET THE TIME DELAY PER OWNERS DIRECTION.

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IDENTIFICATION NUMBER: FILE# 751/24078.SMD
A/E# 1411-14

SHEET NUMBER: . OF 42

DRAWING TITLE: ELECTRICAL DETAILS AND DIAGRAMS

DRAWING NUMBER: E-701