SAULT STE. MARIE AREA PUBLIC SCHOOLS

HIGH SCHOOL MULTI-PURPOSE ROOM RENOVATION

904 MARQUETTE AVE, SAULT STE. MARIE, MI 49783

ISSUED FOR BIDS - 03.17.2026

GENERAL NOTES

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- ALL WORK AND MATERIALS SHALL BE IN FULL CONFORMANCE WITH THE LATEST FEDERAL, STATE AND LOCAL LAWS, CODES AND ORDINANCES, INCLUDING THEIR MOST RECENT REVISIONS, ADDITIONS, AMENDMENTS, AND INTERPRETATIONS. ALL SUCH CODES AND COMPLIANCE ARE TO BE DEEMED AS PART OF THIS CONTRACT AND PART OF THE CONSTRUCTION DOCUMENTS AS THEY HAVE BEEN WRITTEN IN FULL. IN THE EVENT OF CONFLICT, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.
- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
- HOLD INDICATED DIMENSIONS. DO NOT SCALE DRAWINGS. RESOLVE ANY DISCREPANCIES WITH THE ARCHITECT BEFORE BEGINNING WORK.
- IN THE CASE OF AN INCONSISTENCY BETWEEN THE DRAWINGS AND SPECIFICATIONS, OR WITHIN EITHER DOCUMENT NOT CLARIFIED BY ADDENDUM, THE BETTER QUALITY, MORE EXPENSIVE, OR GREATER QUANTITY OF WORK SHALL BE PROVIDED IN ACCORDANCE WITH THE ARCHITECTS INTERPRETATION.
- ALL CONSTRUCTION THAT IS ALREADY IN PLACE THAT IS TO REMAIN AS PART OF THE PROJECT SHALL BE PROTECTED FROM DAMAGE SHALL BE PROTECTED THROUGHOUT THE PERIOD OF CONSTRUCTION WORK. ANY DAMAGED CONSTRUCTION OR FEATURES SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR TO THE SATISFACTION OF THE OWNER WITH MATERIALS EQUIVALENT OR SUPERIOR TO THE ORIGINAL ITEM(S).
- IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO VERIFY ALL DIMENSIONS AND INSPECT CONDITIONS OF PRIOR WORK OF THE OTHER TRADES BEFORE STARTING WORK. PROCEEDING WITH THE WORK SHALL CONSTITUTE ACCEPTANCE OF PRIOR WORK.
- ALL ELECTRICAL OUTLETS, DATA & TELEPHONE OUTLETS/JACKS, SWITCHES, PULL STATIONS, THERMOSTATS, EXIT LIGHTS, AND ALL OTHER WALL MOUNTED ACCESSORIES SHALL BE ALIGNED VERTICALLY AND HORIZONTALLY WHEN IN PROXIMITY.
- UNLESS OTHERWISE SHOWN, PLACING OF ACCESS DOORS IN GYPSUM CEILINGS SHALL NOT BE ACCEPTED. LOCATE AND INSTALL ALL WORK AS REQUIRED TO PRECLUDE THE NEED FOR ACCESS THROUGH THE CEILINGS. COORDINATION OF THIS REQUIREMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- PROVIDE BLOCKING IN PARTITIONS AS REQUIRED FOR ALL MILLWORK, CASEWORK, ACCESSORIES OR OTHER SIMILAR ITEMS ATTACHED TO WALLS. ALL WOOD BLOCKING TO BE FIRE-RETARDENT TREATED AS REQUIRED BY CODE, CONTINUOUS FROM STUD TO STUD.
- ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED PER MANUFACTURE'S WRITTEN INSTRUCTIONS.
- SEALANT, CAULKING, AND FLASHING LOCATIONS SHOWN ON DRAWINGS ARE NOT INTENDED TO BE INCLUSIVE. FOLLOW MANUFACTURE'S INSTALLATION RECOMMENDATIONS AND STANDARD INDUSTRY AND BUILDING PRACTICE.
- IN ALL CASES WHERE WORK DEPICTED IN THESE DRAWINGS REPRESENTS A COMPLETE SYSTEM COMPOSED OF SEPARATE PARTS, IT IS THE RESPONSIBILITY OF THE CM/GENERAL CONTRACTOR TO PROVIDE ALL OF THE PARTS, COMPONENTS, ACCESSORIES, HARDWARE, FASTENERS, ETC. REQUIRED FOR A COMPLETE AND FULLY FUNCTIONING ASSEMBLY WITHIN THE DEFINITIONS OF NORMAL INDUSTRY STANDARDS, WHETHER OR NOT THESE MISCELLANEOUS ITEMS ARE DIRECTLY SPECIFIED IN THE CONSTRUCTION DOCUMENTS.

ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR
ABV.	ABOVE
AC	AIR CONDITIONING
ADJ.	ADJUSTABLE
ALUM.	ALUMINUM
ALT.	ALTERNATE
ASPH.	ASPHALT
B.O.	BOTTOM OF
BD.	BOARD
BLDG.	BUILDING
BLKG.	BLOCKING
BLW.	BELOW
BM.	BEAM
BTW.	BETWEEN
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CAB.	CABINET
CLO.	CLOSET
CLR.	CLEAR
CONT.	CONTINUOUS
COORD.	COORDINATE
CTR	CENTER
DEMO	DEMOLITION
DIA.	DIAMETER
DR.	DOOR
DN.	DOWN
DIM.	DIMENSION
DTL.	DETAIL
ELEV.	ELEVATINO
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXIST.	EXISTING
EXT.	EXTERIOR
F.G.	FINISHED GRADE
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
FDN.	FOUNDATION
FR.	FRAME
FIN.	FINISH
FLR.	FLOOR
FRPR.	FIREPROOFING
FTG.	FOOTING
GALV.	GALVANIZED
GWB	GYPSUM WALLBOARD
GL.	GLASS
GC	GENERAL CONTRACTOR
H.W.	HOT WATER
H.C.	HOLLOW CORE
HM	HOLLOW METAL
HB	HOSEBIB
HDR.	HEADER
HDW	HARDWARE
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
J.H.	JOIST HANGER
JB	JUNCTION BOX
JST.	JOIST
K.D.	KILN-DRIED
LAV.	LAVATORY
LT.	LIGHT
MAT	MATERIAL
MAX	MAXIMUM
MFR.	MANUFACTURER
MIN.	MINIMUM
MO	MASONRY OPENING
MIR.	MIRROR
MTL.	METAL
(N)	NEW
N.T.S.	NOT TO SCALE
NIC	NOT IN CONTRACT
o/	OVER
OC	ON CENTER
OPNG.	OPENING
OPP.	OPPOSITE
P.T.	PRESSURE TREATED
PL.	PLATE
PLAM.	PLASTIC LAMINATE
PLYWD	PLYWOOD
PNL.	PANEL
PTD.	PAINTED
RO	ROUGH OPENING
R.W.L.	RAINWATER LEADER
RESIL.	RESILIENT
REQ'D	REQUIRED
RM.	ROOM
RTG	RATING
RAD./R.	RADIUS
S.A.D.	SEE ARCHITECTURAL DWGS
S.A.S.F.	SELF-ADHERED SHEET FLASHING
S.C.	SOLID CORE
S.C.D.	SEE CIVIL DRAWINGS
S.L.D.	SEE LANDSCAPE DWGS
S.S.	STAINLESS STEEL
S.S.D.	SEE STRUCTURAL DWGS
SIM.	SIMILAR
SPEC	SPECIFICATIONS
STL.	STEEL
STN.	STAIN
SQ.	SQUARE
SFTY	SAFETY
T&G	TONGUE AND GROOVE
T.O.	TOP OF
T.O.C.	TOP OF CONCRETE
T.O.S.	TOP OF STEEL
T.O.P	TOP OF PLATE
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
V.I.F.	VERIFY IN FIELD
W.O.	WHERE OCCURS
w/	WITH
WC	WATER CLOSET
WDW.	WINDOW
WD.	WOOD
WH	WATER HEATER

SHEET INDEX

REFERENCE

ATS	TITLE SHEET
FS-1	FIRE PENETRATION DETAILS
FS-2	FIRE PENETRATION DETAILS
FS-3	FIRE PENETRATION DETAILS

CODE

ADA	BARRIER-FREE DETAILS
CODE-1	CODE COMPLIANCE PLANS & NOTES

ARCHITECTURAL

D101	DEMOLITION FLOOR PLAN - BASEMENT
D102	DEMOLITION FLOOR PLAN - FIRST FLOOR
D103	DEMOLITION FLOOR PLAN - SECOND FLOOR
A101	FLOOR PLAN - BASEMENT
A102	FLOOR PLAN - FIRST FLOOR
A103	FLOOR PLAN - SECOND FLOOR
A110	ENLARGED FLOOR PLANS
A120	INTERIOR WALL TYPE LEGEND & DETAILS
A130	DOOR SCHEDULE & DETAILS
A140	FINISH SCHEDULE & NOTES
A141	FINISH FLOOR PLAN - BASEMENT
A142	FINISH FLOOR PLAN - FIRST FLOOR
A143	FINISH FLOOR PLAN - SECOND FLOOR
A300	INTERIOR ELEVATIONS
A301	INTERIOR ELEVATIONS
A302	INTERIOR ELEVATIONS
A303	INTERIOR ELEVATIONS
A304	INTERIOR ELEVATIONS
A305	INTERIOR ELEVATIONS
A306	INTERIOR ELEVATIONS
A401	REFLECTED CEILING PLAN - BASEMENT
A402	REFLECTED CEILING PLAN - FIRST FLOOR
A403	REFLECTED CEILING PLAN - SECOND FLOOR
A500	BUILDING SECTIONS
A610	DETAILS
A611	INTERIOR DETAILS
A620	STAIR SECTION & PLANS

STRUCTURAL

S001	GENERAL STRUCTURAL NOTES
S002	SCHEDULES & TYPICAL DETAILS
S003	SCHEDULES & TYPICAL DETAILS
S004	SPECIAL INSPECTIONS
S101	DEMOLITION PLANS
S111	FOUNDATION PLAN
S121	FIRST FLOOR FRAMING PLAN
S131	SECOND FLOOR FRAMING PLAN
S141	ROOF FRAMING PLAN
S601	FOUNDATION DETAILS
S602	FRAMING DETAILS
S603	FRAMING DETAILS

FIRE PROTECTION

FP100	FIRE SUPRESSION BASEMENT FLOOR PLAN
FP101	FIRE SURPRESSION FIRST FLOOR PLAN
FP102	FIRE SUPRESSION SECOND FLOOR PLAN

PLUMBING

P000	PLUMBING LEGEND & SYMBOLS
PD100	PLUMBING DEMO BASEMENT FLOOR PLAN
PD101	PLUMBING DEMO FIRST FLOOR PLAN
PD102	PLUMBING DEMO SECOND FLOOR PLAN
P100	PLUMBING BASEMENT FLOOR PLAN
P101	PLUMBING FIRST FLOOR PLAN
P102	PLUMBING SECOND FLOOR PLAN
P200	PLUMBING SCHEDULES & DETAILS

MECHANICAL

MD100	MECHANICAL DEMO BASEMENT FLOOR PLAN
MD101	MECHANICAL DEMO FIRST FLOOR PLAN
MD102	MECHANICAL DEMO SECOND FLOOR PLAN
MD103	ENLARGED MECHANICAL PIPING DEMO PLANS
MD104	ENLARGED MECHANICAL ROOM DEMO PLANS
M100	MECHANICAL BASEMENT FLOOR PLAN
M101	MECHANICAL FIRST FLOOR PLAN
M102	MECHANICAL SECOND FLOOR PLAN
M103	PARTIAL MECHANICAL PIPING FLOOR PLANS
M104	ENLARGED MECHANICAL ROOM FLOOR PLANS
M200	MECHANICAL SCHEDULES & DETAILS

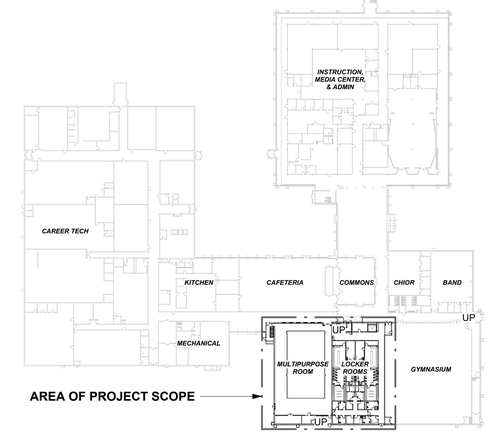
ELECTRICAL

E000	ELECTRICAL SCHEDULES & DETAILS
E001	ELECTRICAL SCHEDULES & DETAILS
ED100	ELECTRICAL DEMO BASEMENT FLOOR PLAN
ED101	ELECTRICAL DEMO FIRST FLOOR PLAN
ED102	ELECTRICAL DEMO SECOND FLOOR PLAN
ED103	ELECTRICAL DEMO MECH. ROOM 308 FLOOR PLAN
E100	ELECTRICAL OVERALL FLOOR PLAN
E100L	ELECTRICAL LIGHTING BASEMENT FLOOR PLAN
E101L	ELECTRICAL LIGHTING FIRST FLOOR PLAN
E102L	ELECTRICAL LIGHTINGSECOND FLOOR PLAN
E100P	ELECTRICAL POWER BASEMENT FLOOR PLAN
E101P	ELECTRICAL POWERFIRST FLOOR PLAN
E102P	ELECTRICAL POWER SECOND FLOOR PLAN
E200	ELECTRICAL SCHEDULE & DETAILS
ELC1	ELECTRICAL LTG. CALCS. BASEMENT FLOOR PLAN
ELC2	ELECTRICAL LTG. CALCS. FIRST FLOOR PLAN
ELC3	ELECTRICAL LTG. CALCS. SECOND FLOOR PLAN

PROJECT SCOPE

THE PROJECT INCLUDES DEMOLITION AND NEW CONSTRUCTION FOR THE RENOVATION OF THE EXISTING HIGH SCHOOL NATATORIUM, LOCKER ROOMS, AND WEIGHT ROOM. THE EXISTING NATATORIUM WILL BE RENOVATED INTO A NEW MULTIPURPOSE ROOM. THE LOCKER ROOMS WILL BE RENOVATED TO IMPROVE ACCESSIBILITY AND BETTER MEET THE SCHOOL 'S NEEDS. THE EXISTING SECOND-LEVEL MULTI-USE SPACE WILL BE RENOVATED INTO A WEIGHT ROOM AND CHEER STUDIO. THE PROJECT ALSO INCLUDES REPLACEMENT OF ONE EXISTING STAIR AND THE ADDITION OF A NEW ELEVATOR. WORK OCCURS ACROSS THREE LEVELS OF THE BUILDING, INCLUDING THE BASEMENT, FIRST FLOOR, AND SECOND FLOOR.

SCOPE PLAN



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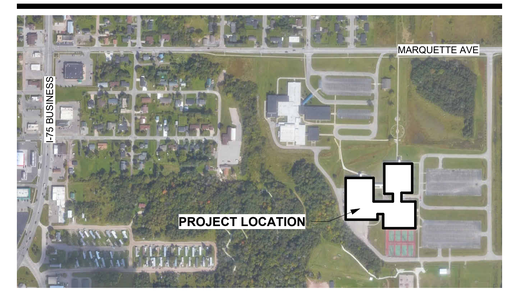
OVERALL FLOOR PLAN
SCALE: 1" = 80'-0"

LOCATION MAP



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SAULT STE. MARIE AREA PUBLIC SCHOOLS
HIGH SCHOOL
MULTI-PURPOSE ROOM RENOVATION
904 Marquette Ave, Sault Ste. Marie, MI 49783

Date	Issued For
03.09.2026	PERMITS
03.17.2026	BIDS

PIC: J. Dancer
PM: A. Dancer
DRAFTS: A. Dancer
PROJECT NO: 25.503
SHEET TITLE: TITLE SHEET
ATS

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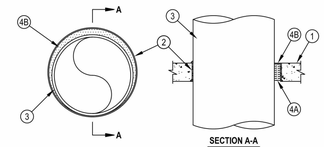
System No. C-AJ-1226

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 3 Hr
L Rating At 400 F — 4 CFM/sq ft	FTH Rating — 0 Hr
	L Rating At Ambient — Less Than 1 CFM/sq ft
	L Rating At 400 F — 4 CFM/sq ft



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 32 in. (813 mm).
2. Metallic Sleeve — (Optional) Nom 32 in. (813 mm) diam (or smaller) Schedule 40 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. (76 mm) above floor or beyond both surfaces of wall.
2A. Sheet Metal Sleeve — (Optional) Max 6 in. (152 mm) diam, min 26 ga. galv steel provided with a 26 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the deck and a max of 1 in. (25 mm) above the top surface of the concrete floor.
2B. Sheet Metal Sleeve — (Optional) - Max 12 in. (305 mm) diam, min 24 ga galv steel provided with a 24 ga galv steel square flange spot welded to the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the deck and a max of 1 in. (25 mm) above the top surface of the concrete floor.
3. Through-Penetrant — One metallic pipe, tube or conduit to be installed either concentrically or eccentrically within the firestop system. The annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). Penetrant may be installed with continuous point contact. Penetrant to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic penetrants may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Conduit — Nom 6 in. (152 mm) diam (or smaller) steel conduit.
   F. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT).
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m^3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. (6.4 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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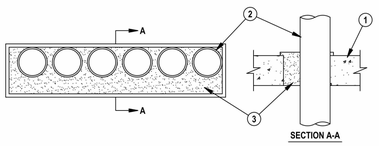
January 07, 2015

System No. C-AJ-1388

F RATING = 2-HR
T RATING = 0-HR

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



SECTION A-A

1. Floor or Wall Assembly Min 4-1/2 in. thick reinforced lightweight or normal weight (100-150 pcf) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max area of opening 224 sq in. with max dimension of 32 in.
   See Concrete Blocks (CAZT) in the Fire Resistance Directory for names of manufacturers.
2. Conduit One or more nom 4 in diam (or smaller) steel electrical metallic tubing or steel conduit to be installed either concentrically or eccentrically within the firestop system. The space between conduits or tubes shall be min 0 in. (point contact) to max 1/2 in. The annular space between the conduit or tube and periphery of opening shall be min 0 in. (point contact) to max 2-3/4 in. Conduit or tube to be rigidly supported on both sides of floor or wall assembly.
   Conduit - Nom 4 in. diam (or smaller) steel electrical metallic conduit or steel conduit.
3. Fill, Void or Cavity Material* - Foam Min 5 in. thickness of fill material applied within the annulus, extending 1/2 in. above the top surface of the floor or both surfaces of wall and overlapping the concrete 1/2 in. on all sides of the opening.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 620 Fire Foam

*Bearing the UL Classification Mark

Hilti Firestop Systems

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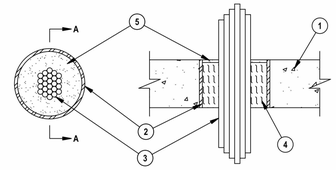
January 23, 2002

System No. C-AJ-3180

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 3 Hr
	FTH Rating — 0 Hr



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600 2400 kg/m3) concrete floor or min 4-3/4 in. (121 mm) thick reinforced lightweight or normal weight concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 6 in.(152 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Steel Sleeve — (Optional) — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe cast or grouted into floor or wall assembly, flush with floor or wall surfaces.
3. Cables — Aggregate cross-sectional area of cables in opening to be max 45 percent of the aggregate cross-sectional area of the opening. Cables to be rigidly supported on both sides of floor or wall assembly. Any combination of the following types and sizes of metallic conductor or fiber optic cable may be used:
   A. Max 500 kcmil single copper connector power cable with thermoplastic insulation and polyvinyl chloride (PVC) jacket.
   B. Max 300 pair No. 24 AWG copper conductor telecommunication cables with polyvinyl chloride (PVC) insulation and jacket material.
   C. Max 7/C copper conductor No. 12 AWG multiconductor power and control cables with polyvinyl chloride (PVC) or cross-linked polyethylene (XLPE) insulation and PVC jacket.
   D. Multiple fiber optical communication cables jacketed with PVC and having a max outside diam of 1/2 in. (13 mm).
   E. Max 3/C copper conductor No. 12 AWG with bare aluminum ground, polyvinyl chloride (PVC) insulated steel, Metal-clad cable.
   F. Max 3/C with ground 2/0 AWG copper conductor SER cable with cross-linked polyethylene (XLPE) insulation and polyvinyl chloride (PVC) jacket.
   G. RG6/U coaxial cable with polyethylene (PE) insulation and polyvinyl chloride (PVC) jacket having a max outside diameter of ½ in. (13 mm)
   H. Fire Resistive Cables* - Max 1-1/4 in. (32 mm) diam single conductor or multi conductor Type MI cable. A min 1/8 in. (3 mm) separation shall be maintained between MI cables and any other types of cable.
4. Packing Material — Min 4-1/4 in. (108 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor to accommodate the required thickness of fill material.
5. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. (6.4 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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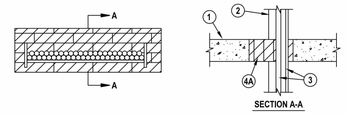
January 13, 2015

System No. C-AJ-4035

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 3 Hr
	FTH Rating — 0 Hr



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max area of opening is 270 sq in (1742 cm2) with max dimension of 30 in. (762 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Cable Tray* — Max 24 in. (610 mm) wide by max 4 in. (102 mm) deep open-ladder or solid-back cable tray with channel-shaped side rails formed of 0.10 in. (2.54 mm) thick aluminum or 0.060 in. (1.52 mm) thick galv steel and with 1-1/2 in. (38 mm) wide by 1 in. (25 mm) channel shape rungs spaced 9 in. (229 mm) OC or a 0.029 in. (0.74 mm) thick steel solid back, respectively. The annular space between the cable tray and the periphery of the opening shall be min 1 in. (25 mm) to max 4 in. (102 mm). Cable tray to be rigidly supported on both sides of floor or wall assembly.
3. Cables — Aggregate cross-sectional area of cables in cable tray to be max 40 percent of the cross-sectional area of the cable tray. Any combination of the following types and sizes of copper conductor or fiber optic cables may be used:
   A. 1/C, 500 kcmil with thermoplastic insulation and PVC jacket.
   B. 300 pair – No. 24 AWG cable with PVC insulation and jacket.
   C. 24 fiberoptic cable with PVC subunit and jacket.
   D. Three 1/C No. 12 AWG wire, insulated with polyvinyl chloride, in a nominal 3/4 in. (19 mm) flexible metal conduit.
   4. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* — Fire blocks installed with the long dimension placed horizontally within the opening, flush with bottom of floor assembly or centered within wall opening. In concrete block walls, fire block to fill entire thickness of wall opening unless wall is solid filled. Blocks to be firmly packed and completely fill the entire width and height of opening. Either one or a combination of the block specified below may be used.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS 657 Fire Block or CFS-BL Firestop Block
   B. Fill, Void or Cavity Material* -Sealant or Putty- Not Shown — Fill material to be forced into interstices of cables and between cables and cable trays to max extent possible on both surfaces of the penetration.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant, FS-ONE MAX Intumescent Sealant or CP618 Firestop Putty Stick.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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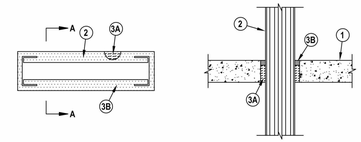
January 14, 2015

System No. C-AJ-6017

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 3 Hr	F Rating - 3 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
	FH Rating - 3 Hr
	FTH Rating - 0 Hr



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max area of opening is 224 square in. (1445 cm2) with max dimension of 28 in. (711 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Buswav† — Nominal 26 in. (660 mm) wide (or smaller) by 6 in. (152 mm) deep "I" shaped steel enclosure containing factory mounted aluminum bars rated for 600 V, 4000 A. One buswav to be installed within the opening. the annular space between the flange tip of the buswav and the periphery of the opening shall be 1 in. (25 mm). The annular space between the web of the buswav and the periphery of the opening shall be 2 in. (51 mm). Buswav to be ridged supported on both sides of floor and wall assembly. The buswav shall bear the UL Listing Mark and shall be installed in accordance with all provisions of the National Electrical Code, NFPA No. 70.
3. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 3-1/2 in. (89 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.

*Bearing the UL Listing Mark

*Bearing UL Classification Mark

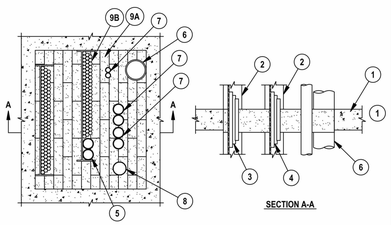
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc.
January 14, 2015

System No. C-AJ-8110

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 3 Hr	F Rating — 3 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 3 Hr
	FTH Rating — 0 Hr



SECTION A-A

System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete floor or concrete wall. Wall may also be constructed of any UL solid or filled Classified Concrete Blocks*. Max area of 720 sq in. (0.46 m2) with max dimension of 30 in. (762 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Cable Tray* — Max of two max 24 in (610 mm) wide by 4 in. (102 mm) deep open-ladder cable tray with channel-shaped side rails formed of 0.10 in. (2.5 mm) thick aluminum or 0.060 in. (.5 mm) thick steel and with 1 in. (25 mm) wide by 1 in. (25 mm) deep tubular channel-shaped rungs spaced 9 in. (229 mm) OC. The annular space between the periphery of the opening shall be min 0 in. (point contact) to max 3 in. (76 mm). Annular space between cable trays shall be 5 in. (127 mm) max. Cable tray to be rigidly supported on both sides of floor assembly.
3. Cables — Aggregate cross-sectional area of cables in cable tray to be max 45 percent of the cross-sectional area of the cable tray. Any combination of the following types and sizes of copper conductor cables may be used:
   A. 1/C, 750 kcmil (or smaller) power cable with polyvinyl chloride (PVC) insulation and jacket.
   B. 300 pair - No. 24 AWG telephone cable with PVC insulation and jacket.
   C. 24 fiber optic cable with PVC outer and subunit jacket.
   D. 3/C No. 12 AWG copper conductor steel clad cable with PVC insulation.
4. Cables — Aggregate cross-sectional area of cables in cable tray to be max 30 percent of the cross-sectional area of the cable tray. Any combination of the following types and sizes of copper conductor cables may be used:
   A. 1/C, 750 kcmil (or smaller) power cable with polyvinyl chloride (PVC) insulation and jacket.
   B. 100 pair - No. 24 AWG telephone cable with PVC insulation and jacket.
   C. 7/C No. 12 AWG cable with PVC insulation and jacket.
   D. 3/C (with ground) No. 12 AWG copper conductor non-metallic sheathed cable with PVC insulation and jacket.
5. Optical Fiber/Communication Cable Raceways• — Nom 2 in. (51 mm) diam (or smaller) optical fiber raceway, formed from PVC. Raceway to be installed in accordance with the National Electrical Code (NFPA No. 70). Max two raceways placed into cable tray.
   See Optical Fiber/Communication Cable Raceways (QAZM) category in the Electrical Construction Materials Directory for names of manufacturers.
6. Metallic Penetrants - One metallic pipe or tubing to be installed within the firestop system. — The min annular space between the copper tube or pipe and the periphery of the opening shall be 0 in. (point contact). The min space between adjacent penetrants shall be 2 in. (51 mm). Tube or pipe to be rigidly supported on both sides of floor assembly. The following types and sizes of metallic pipe or tubing may be used:
   A. Steel Pipe — Nom 8 in. (203 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.
   D. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic conduit.
   E. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   F. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
7. Conduit — Max 2 in. (51 mm) diam (or smaller) steel electrical metallic tubing (EMT) or steel conduit. The annular space between the EMT and the periphery of the opening shall be min 2 in. (51 mm). The min space between adjacent penetrants shall be 1-1/2 in. (38 mm) except that a max of two EMT or conduit may be installed at point contact with one another. EMT or conduit to be rigidly supported on both sides of floor assembly.
8. Cable — 1800 pair - No. 24 AWG 0/1 ARMM telephone cable with PVC insulation and jacket. The annular space between the cable and the periphery of the opening shall be min 3-1/2 in. (89 mm). The min space between adjacent penetrants shall be 1-1/2 in. (38 mm). Cable to be rigidly supported on both sides of floor assembly.
9. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* - Fire Blocks — Blocks installed with 5 in. (127 mm) dimension projecting through opening flush with top surface of floor or centered in wall. Blocks to be firmly packed to fill entire opening. Either one or a combination of the block types specified below may be used.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS 657 Fire Block or CFS-BL Firestop Block
   B. Fill, Void or Cavity Material* — Fill material to be forced into interstices of cables, between cables and cable tray and in obvious openings between blocks and between blocks and the periphery of the opening to the max extent possible on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, FS-ONE MAX Intumescent Sealant, CP618 Firestop Putty Stick or CP 620 Fire Foam.
   C. Wire Mesh — (Not Shown) When the annular space exceeds 4 in. to the periphery, a nom 2 by 2 in. (51 by 51 mm) wire fencing shall be used to keep the blocks in place. The wire fencing shall be fabricated from min No. 16 SWG (0.060 in. or 1.5 mm) galv steel wire. The wire is cut to fit the contour of the penetrating item with a min 3 in. (76 mm) overlap beyond the periphery of the opening. Wire fencing secured to top surface of floor and both surfaces of the wall assembly by means of 1/4 in. (6 mm) diam by 1 in. (25 mm) long steel concrete anchors and 1/4 in. (6 mm) by 1-1/2 in. (38 mm) diam fender washers spaced max 8 in. (203 mm) OC.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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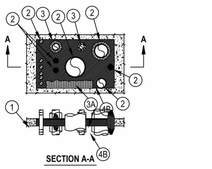
January 15, 2015

System No. C-AJ-8143

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 2 Hr
	FTH Rating — 0 Hr



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete floor. Min 5 in. (127 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Max size of opening is 1440 in.2 (9,290 cm2) with a max dimension of 48 in. (1219 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers
2. Through-Penetrant — One cable tray and one or more pipes, tubes or cable bundles may be installed within the opening. The total number of through-penetrants is dependent on the size of the opening and the types and sizes of the penetrants. Any combination of the penetrants described below may be used provided that the following parameters relative to the annular spaces are maintained. The annular space between cable tray and all other penetrants shall be min 3 in. (76 mm). The annular space between individual cables and cable bundles shall be a min 1/2 in. (13 mm). The annular space between individual cables and cable bundles and other penetrants shall be a min 1/2 in. (13 mm) except that a min 2 in. (51 mm) shall be maintained between the cables and copper pipes and tubes greater than a nom 3 in. (76 mm) diam and steel and iron pipes and conduits greater than a nom 4 in. (102 mm) diam. The annular space between metallic pipes, conduit and tubes and insulated pipes and tubes shall be a min 2 in. (51 mm). The annular space between nom 3 in (76mm) diam (and smaller) copper pipes and tubes and between nom 4 in (102mm) diam (and smaller) steel and iron pipes and conduits shall be min 1/2 in. (13 mm). The annular space between nom 2 in. (51 mm) diam (and smaller) metallic pipes and conduits shall be min 0 in. (point contact). The annular space between insulated penetrants or the cable tray and the periphery of opening shall be min 1/2 in. (13 mm). The annular space between all other penetrants and the periphery of opening shall be min 0 in. (point contact). A max annular space in the system shall be 12 in. (305 mm). Penetrants to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of penetrants may be used.
   A. Metallic Pipes — The following types of metallic pipes, tubes or conduits may be used:
      1. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tube.
      2. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
      3. Steel Pipe — Nom 24 in. (610 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
      4. Iron Pipe — Nom 24 in. (610 mm) diam (or smaller) cast or ductile iron pipe.
      5. Conduit — Nom 4 in. (102 mm) diam (or smaller) electric metallic tubing (EMT) or nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.
   B. Cables Bundles — Max 4 in. (102 mm) diam tightly bundled cables. Any combination of the following types and sizes of cables may be used:
      1. Max 500 kcmil single copper or aluminum conductor power cable with thermoplastic insulation and polyvinyl chloride (PVC) jacket.
      2. Max 300 pair No. 24 AWG copper conductor telecommunication cables with PVC insulation and jacket material.
      3. Max 7/C copper conductor No. 12 AWG multi-conductor power and control cables with PVC or cross-linked polyethylene (XLPE) insulation and PVC jacket.
      4. Multiple fiber optical communication cables jacketed with PVC and having a max outside diam of 1/2 in.
      5. Max 3/C No. 12 AWG steel clad cable with copper conductors and PVC insulation material.
   C. Individual Cables — Any of the following types and sizes of individual (non-bundled) cables may be used:
      1. Max 3/C No. 2/0 AWG (or smaller) copper conductor PVC jacketed aluminum clad or steel clad TECK 90 cable.
      2. Through Penetrating Product* — Any cables, Armored Cable+ or Metal Clad Cable+ currently Classified under the Through Penetrating Product category.
      See Through Penetrating Product (XHLY) category in the Fire Resistance Directory for names of manufacturers.
      3. Max 500 kcmil single copper or aluminum conductor power cable with thermoplastic insulation and polyvinyl chloride (PVC) jacket.
      4. Max 300 pair No. 24 AWG copper conductor telecommunication cables with PVC insulation and jacket material.
      5. Max 7/C copper conductor No. 12 AWG multi-conductor power and control cables with PVC or cross-linked polyethylene (XLPE) insulation and PVC jacket.
      6. Multiple fiber optical communication cables jacketed with PVC and having a max outside diam of 1/2 in.
      7. Max 3/C No. 12 AWG steel clad cable with copper conductors and PVC insulation material.
      8. Max 4/C750 kcmil (or smaller) aluminum or copper conductor metal clad cable with aluminum or steel armor, with or without PVC jacket.
   D. Cable Tray* — (Not Shown) — Max 24 in. (610 mm) wide by 6 in. (152 mm) deep open-ladder steel or aluminum cable tray. Aggregate cross-sectional area of cable tray to be max 40 percent of the cross-sectional area of the cable tray based on a max 3 in. cable loading depth. Any combination of the types and sizes of cables described in Item 2B may be used. Cable tray to be rigidly supported on both sides of floor or wall assembly.
3. Pipe Insulation — (Optional) - Pipes and tubes of the sizes noted below may be provided with one of the following types of pipe insulations:
   A. Pipe Covering* — Nom 1-1/2 in. (38 mm) thick (or thinner) hollow cylindrical heavy density glass fiber units jacketed on the outside with an all service jacket for pipes with a nom diam of 8 in. (203 mm) (or smaller) or tubes with a nom diam of 4 in. (102 mm) (or smaller). Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.
   See Pipe and Equipment Covering - Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   B. Pipe Covering* — Nom 2 in. (51 mm) thick (or thinner) hollow cylindrical heavy density glass fiber units jacketed on the outside with an all service jacket for pipes or tubes with a nom diam of 2 in. (51 mm) (or smaller). Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.
   See Pipe and Equipment Covering - Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   C. Tube Insulation-Plastics+ — Nom 1 in. (25 mm) thick (or thinner) acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing for pipes or tubes with a nom diam of 2 in. (51 mm) (or smaller).
   See Plastics (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of 4 pcf (64 kg/m3) mineral wool batt insulation tightly packed into the opening as a permanent form. Packing material to be recessed from top surface of floor or both surfaces of wall to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material - Sealant* — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus flush with the top surface of the floor or both surfaces of the wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant.
   See Plastics (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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January 15, 2015

Notes:

1. *Details shown are typical details. If field conditions do not match requirements of typical details, approved alternate details shall be utilized. Field conditions and dimensions need to be verified for compliance with the details, including but not limited to the following: * Minimum and maximum Width of Joints * Type and thickness of fire-rated construction. The minimum assembly rating of the firestop assembly shall meet or exceed the highest rating of the adjacent construction.*
2. *If alternate details matching the field conditions are not available, manufacturer's engineering judgment drawings are acceptable. Drawings shall follow the International Firestop Council (IFC) Guidelines for Evaluating Firestop Systems Engineering Judgments.*
3. *References:*
   - *2013 Underwriter's Laboratories Fire Resistance Directory, Volumes 1 & 2*
   - *NFPA 101 Life Safety Code*
   - *NFPA 70 - National Electric Code*
   - *All governing local and regional building codes*
5. *Firestop System installation must meet requirements of ASTM E-814 (UL 1479) tested assemblies that provide a fire rating equal to that of construction being penetrated.*
7. *All rated through-penetration assemblies shall be prominently labeled with the following information:*
   - *ATTENTION: Fire Rated Assembly*
   - *UL System # * Product(s) used*
   - *Hourly Rating (F-Rating)*
   - *Installation Date*
8. *For outlet boxes requiring protection, use only Wall Opening Protective Materials, category CLIV as classified by Underwriter's Laboratories, Fire Resistance Directory (Volume 1.)*

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Date	Issued For
03.09.2026	PERMITS
03.17.2026	BIDS

PIC: J. Dancer
PM: A. Dancer
DRAFTS: A. Dancer
PROJECT NO: 25.503
SHEET TITLE: FIRE PENETRATION DETAILS

FS-1

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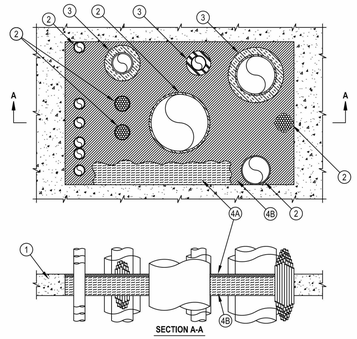
System No. F-A-8012

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 Hr	F Rating — 2 Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 2 Hr
	FTH Rating — 0 Hr

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Max size of opening is 144 in. (3,290 cm2) with a max dimension of 48 in. (1219 mm).
2. Through-Penetrants — One or more pipes, tubes or cable bundles to be installed within the opening. The total number of through-penetrants is dependent on the size of the opening and types and sizes of the penetrants. Any combination of the penetrants described below may be used provided that the following parameters relative to the annular spaces are maintained. The annular space between cable bundles and other penetrants shall be a min 6 in. (152 mm). The annular space between metallic pipes, conduit and tubes and insulated pipes and tubes shall be a min 2 in. (51 mm). The annular space between rom 2 in. (51 mm) diam (and smaller) metallic pipes, conduit and tubes shall be a min 0 in. (0 mm). The annular space between insulated penetrants and the periphery of opening shall be a min 1/2 in. (13 mm). The annular space between all other penetrants and the periphery of opening shall be a min 0 in. (0 mm) (point contact). A max annular space in the system shall be 12 in. (305 mm). Penetrants to be rigidly supported on both sides of floor assembly. The following types and sizes of penetrants may be used.
   A. Metallic Penetrants — The following types of metallic pipes, tubes or conduits may be used:
      1. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tube.
      2. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
      3. Steel Pipe — Nom 24 in. (610 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
      4. Iron Pipe — Nom 24 in. (610 mm) diam (or smaller) cast or ductile iron pipe.
      5. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electric metallic tubing (EMT) or nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.
   B. Cables Bundles — Max 4 in. (102 mm) diam tightly bundled cables. Any combination of the following types and sizes of cables may be used:
      1. Max 500 kcmil single copper or aluminum conductor power cable with thermoplastic insulation and polyvinyl chloride (PVC) jacket.
      2. Max 300 pair No. 24 AWG copper conductor telecommunication cables with PVC insulation and jacket material.
      3. Max 7/C copper conductor No. 12 AWG multi-conductor power and control cables with PVC or cross-linked polyethylene (XLPE) insulation and PVC jacket.
      4. Multiple fiber optical communication cables jacketed with PVC and having a max outside diam of 1/2 in.
      5. Max 3/C No. 12 AWG steel clad cable with copper conductors and PVC insulation material.
   C. Individual Cables — Any of the following types and sizes of individual (non-bundled) cables may be used:
      1. Max 3/C No. 2/0 AWG (or smaller) copper conductor PVC jacketed aluminum clad or steel clad TECK 90 cable.
      2. Through Penetrating Product* — Any cables, Armored Cable+ or Metal Clad Cable+ currently Classified under the Through Penetrating Product category.
         See Through Penetrating Product (XHLY) category in the Fire Resistance Directory for names of manufacturers.
      3. Max 500 kcmil single copper or aluminum conductor power cable with thermoplastic insulation and polyvinyl chloride (PVC) jacket.
      4. Max 300 pair No. 24 AWG copper conductor telecommunication cables with PVC insulation and jacket material.
      5. Max 7/C copper conductor No. 12 AWG multi-conductor power and control cables with PVC or cross-linked polyethylene (XLPE) insulation and PVC jacket.
      6. Multiple fiber optical communication cables jacketed with PVC and having a max outside diam of 1/2 in.
      7. Max 3/C No. 12 AWG steel clad cable with copper conductors and PVC insulation material.
      8. Max 4C/750 kcmil (or smaller) aluminum or copper conductor metal clad cable with aluminum or steel armor, with or without PVC jacket.
3. Pipe Insulation — (Optional) - Pipes and tubes of the sizes noted below may be provided with one of the following types of pipe insulations:
   A. Pipe Covering* — Nom 1-1/2 in. (38 mm) thick (or thinner) hollow cylindrical heavy density glass fiber units jacketed on the outside with an all service jacket for pipes with a nom diam of 8 in. (203 mm) (or smaller) or tubes with a nom diam of 4 in. (102 mm) (or smaller). Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.
      See Pipe and Equipment Covering - Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classifica tion Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   B. Tube Insulation-Plastics+ — Nom 1 in. (25 mm) thick (or thinner) acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing for pipes or tubes with a nom diam of 2 in. (51 mm) (or smaller).
      See Plastics (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of 4 pcf (64 kg/m³) mineral wool batt insulation tightly packed into the opening as a permanent form. Packing material to be recessed from top surface of floor to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material - Sealant* — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus flush with the top surface of the floor.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP604, CFS-S SIL GG or CFS-S SIL SL Sealant

*Bearing the UL Classification Mark

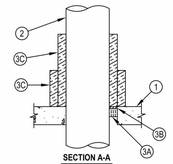
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. December 27, 2013

System No. F-A-1105

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating - 2 Hr	F Rating - 2 Hr
T Rating - 2 Hr	FT Rating - 2 Hr
L Rating At Ambient - Less Than 1 CFM/sq ft	FH Rating - 2 Hr
L Rating At 400 F - 4 CFM/sq ft	FTH Rating - 2 Hr
W Rating - Class 1 (See Item 3B)	L Rating At Ambient - Less Than 1 CFM/sq ft
	L Rating At 400 F - 4 CFM/sq ft

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



1. Floor Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. As an alternate, any min 2 hr fire rated D700, D800 or D900 Series Floor-Ceiling Design in the UL Fire Resistance Directory having a min 2-1/2 in. (64 mm) thickness of lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete topping over the steel deck may be used. Max diam of opening is 12-3/4 in. (324 mm).
2. Through-Penetrant — One metallic pipe installed concentrically or eccentrically within opening. Annular space between penetrant and periphery of opening shall be min of 0 in. (point contact) to max 2 in. (51 mm). Penetrant to be rigidly supported on both sides of floor assembly. The following types and sizes of penetrants may be used:
   A. Steel Pipe — Nom 10 in. (254 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
   B. Iron Pipe — Nom 10 in. (254 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. (152 mm) diam (or smaller) rigid steel conduit.
3. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a permanent form. When CP 604, CFS-S SIL GG or CFS-S SIL SL sealant is used (see Item 3B), min thickness of packing material is 4 in. (102 mm) and min thickness of floor is 4-1/2 in. (114 mm). Packing material to be recessed from top surface of floor to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Materials* - Sealant — Min 1/2 in. (13 mm) thickness of sealant applied within the annulus, flush with top surface of floor.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, FS-ONE MAX Intumescent Sealant or CP 604 Self-Leveling Firestop Sealant, CFS-S SIL GG or CFS-S SIL SL Sealant
      W Rating applies only when CP 604, CFS-S SIL GG or CFS-S SIL SL Sealant is used.
   C. Duct Wrap Material+* — Encapsulated duct wrap tightly wrapped around penetrant to extend 24 in. (610 mm) above the floor for penetrants of nom 4 in. (102 mm) diam or smaller, and 36 in. (914 mm) above floor for penetrants greater than a nom 4 in. (102 mm) diam. An additional layer of encapsulated duct wrap tightly wrapped around the first layer of duct wrap to extend 12 in. (305 mm) (914 mm) above floor. All longitudinal seams of both layers of duct wrap and joints between layers of duct wrap are sealed with foil tape. One of the following types and thicknesses of duct wrap may be used:
      C1. Nom 1-1/2 in. (38 mm) or 2 in. (51 mm) thick encapsulated duct wrap.
         UNIFRAX I L L C — Fyrewrap Duct Insulation or FireWrap Duct 1.5 Insulation
      C2. Nom 1-1/2 in. (38 mm) thick encapsulated duct wrap.
         THERMAL CERAMICS INC — FireMaster FastWrap XL Duct Insulation

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

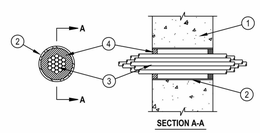
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 15, 2015

System No. W-J-3060

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — 15 CFM/sq ft	FH Ratings — 1 and 2 Hr (See Item 1)
L Rating At 400 F — 8 CFM/sq ft	FTH Rating — 0 Hr
	L Rating At Ambient — 15 CFM/sq ft
	L Rating At 400 F — 8 CFM/sq ft

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



1. Wall Assembly — Min 4-3/4 in. and 6 in. (121 and 152 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete for 1 and 2 hr ratings , respectively. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 4 in (102 mm). Max diam of opening is 5-1/2 in. (138 mm) when sleeve (Item 2) is employed.
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Steel Sleeve — (Optional) — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) of Schedule 5 (or heavier) steel pipe or min 0.016 thick (28 MSG or 0.4 mm) galv steel sleeve friction fit or cast into wall flush with wall surfaces. When Schedule 5 steel pipe or EMT is used, sleeve may extend up to 18 in. (457 mm) beyond the wall surfaces. As an option when Schedule 5 steel pipe or EMT is used, sleeve may extend continuously beyond one wall surface.
3. Cables — Aggregate cross sectional area of cables to be max 45 percent of the cross sectional area of the opening. Cables installed either concentrically or eccentrically within the firestop system. The annular space between cables and the periphery of the opening shall be min 0 in. (point contact) to max 1 in. (25 mm). When sleeve is continuous on one side of wall (see Item 2), the cable fill may be 0 to 45% and the max annular space within sleeve is not limited. Cables to be rigidly supported on both sides of wall assembly. The following types of cables may be used:
   A. 7/C No. 12 AWG cable with PVC insulation and outer jacket.
   B. Max 25 pair No. 24 AWG telephone cable with PVC insulation and outer jacket.
   C. Max RG 59 (or smaller) coaxial cable with polyethylene insulation and PVC jacket.
   D. Max RG 6/U coaxial cable with fluorinated ethylene insulation and jacketing.
   E. Multiple 24 fiber optic communication cable with PVC jacket, have a max outside diam of 5/8 in. (16 mm).
   F. Max four pair No. 22 AWG Cat 5 or Cat 6 computer cables.
   G. Through Penetrating Product*—Max three copper connector No. 8 AWG Metal-clad Cable+.
      AFC CABLE SYSTEMS INC
   H. Through Penetrating Product* — Any cables, Metal-Clad Cable+ or Armored Cable+ currently Classified under the Through Penetrating Products category.
      See Through Penetrating Product (XHLY) category in the Fire Resistance Directory for names of manufacturers.
4. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. An additional 1/2 in. (13 mm) bead of fill material shall be applied around the perimeter of sleeve on both sides of the wall when sleeve extends beyond surface of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S Sealant, CP606 Sealant, CFS-S SIL GG Sealant, FS-ONE Sealant, FS-ONE MAX Intumescent Sealant, or CP618 Putty
5. Packing Material — (Optional, Not Shown) — Mineral wool forming material may be used as a backer for the fill material (Item 4). When used, it shall be firmly packed into annular space within the sleeve as a permanent form and recessed from end of sleeve to accommodate the required thickness of fill material.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

+Bearing the UL Listing Mark

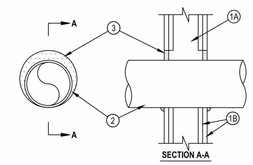
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 22, 2015

System No. W-L-1054

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft L Rating at 400 F — Less Than 1 CFM/sq ft

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (1/22 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.

The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.
2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONe Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

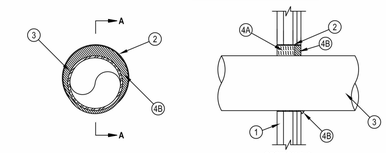
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 23, 2015

System No. W-L-1206

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 and 2 Hr (See Items 1 and 4)	F Rating — 1 and 2 Hr (See Items 1 and 4)
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 1 and 2 Hr (See Items 1 and 4)
	FTH Rating — 0 Hr

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



1. Wall Assembly — The fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — "C-T" shaped studs 1-5/8 in. (41 mm) wide by 2-1/2 in. (64 mm) deep, fabricated from 25 MSG galv steel, spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — One layer of nom 1 in. (25 mm) thick, 24 in. (610 mm) wide gypsum liner and one or two layers of nom 5/8 in. (16 mm) thick, 4 ft. (1.27 m) wide gypsum board with square or tapered edges. The gypsum board types, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 10-1/2 in. (267 mm).
1A. Wall Assembly — As an alternate to the above wall assembly, the 1 or 2 Hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC.
   B. Gypsum Board* — Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max diam of opening is 10-1/2 in. (267 mm).

The hourly F, FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Metallic Sleeve — Max 10-1/2 in. (267 mm) diam cylindrical sleeve fabricated from min 0.016 in. (0.41 mm) thick (28 gauge) galv sheet steel and having a min 1 in. (25 mm) lap along the longitudinal seam. Length of steel sleeve to be equal to thickness of wall. Sleeve installed by coiling the sheet steel to a diam smaller than the through opening, inserting the coil through the opening and releasing the coil to let it uncoil against the circular cutouts in the gypsum board layers. Sleeve may also be formed of No. 8 steel wire mesh having a min 1 in. (25 mm) lap along the longitudinal seam.
3. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. An annular space of min 0 in. (0 mm, point contact) to max 1-7/8 in. (48 mm) is required within firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 8 in. (203 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 4 in. (102 mm) diam steel conduit.
   D. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
   F. Flexible Steel Conduit+ — Nom 2 in. (51 mm) diam (or smaller) flexible steel conduit.
      See Flexible Metal Conduit (DXUZ) category in the Electrical Construction Equipment Directory for names of manufacturers.
4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 1-5/8 or 2-1/4 in. (41 or 57 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into sleeve on one side of the wall as permanent form for 1 and 2 Hr walls, respectively. Packing material to be recessed from the room side of wall to accommodate the required thickness of fill material. In alternate wall assembly, packing material to be flush with either side of the wall and recessed from the other side of the wall to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material — Sealant* — Min 1-1/2 in. (38 mm) thickness applied within sleeve, flush with the surface of wall. At the point contact location between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe/wall interface.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

+Bearing the UL Listing Mark

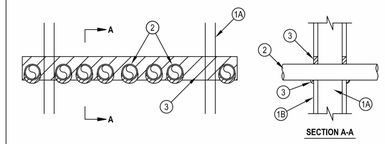
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 22, 2015

System No. W-L-1389

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Ratings — 1 and 2 Hr (See Items 1 and 3)
	FTH Rating — 0 Hr

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of min 3-5/8 in. (92 mm) wide steel studs spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Thickness, type, number of layers and fasteners, as specified in the individual Wall and Partition Design. Max height of opening is 3-1/2 in. (89 mm). Max width of opening is 32 in. (813 mm).

The hourly F, FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrants — Multiple pipes or conduits installed in single layer array within the firestop system. The annular space between the pipes and conduits and the edges of the opening shall be min 0 in. (0 mm, point contact) to max 1-3/8 in. (35 mm). The separation between pipes and conduits to be a min 0 in. (0 mm, point contact) to a max 1-1/4 in. (32 mm). Pipes and conduits to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or conduits may be used:
   A. Steel Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. Conduit — Nom 2 in. (51 mm) diam (or smaller) rigid steel conduit or steel electrical metallic tubing (EMT).
3. Fill Void or Cavity Materials* - Sealant — Min 5/8 in. (16 mm) thickness of fill material installed to completely fill annular space between pipes, conduits and gypsum flush with each surface of wall. Min 1/2 in. (13 mm) diam bead of fill material applied to the through penetrant/wall interface at the point contact locations on both sides of the wall. The 2 hour F, FH Ratings apply only when FS-ONE Sealant is used.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Hilti CP 606 Flexible Firestop Sealant or FS-ONE Sealant, FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

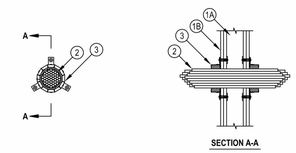
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc. January 22, 2015

System No. W-L-3396

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 0, 1 and 2 Hr (See Items 2 and 3)	FT Ratings - 0, 1 and 2 Hr (See Items 2 and 3)
L Rating At Ambient - See Item 3	FH Ratings - 1 and 2 Hr (See Item 1)
L Rating At 400F - See Item 3	FTH Ratings - 0, 1 and 2 Hr (See Items 2 and 3)
	L Rating At Ambient - See Item 3
	L Rating At 400F - See Item 3

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115



1. Wall Assembly — The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described within the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features:
   A. Studs — Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Nom 5/8 in. (16 mm) thick gypsum board as specified in the individual Wall and Partition Design. Opening in gypsum board to be max 4 in. (102 mm) diam.
      The hourly F and FH Ratings of the firestop system are dependent upon the hourly rating of the wall in which it is installed.

1A. Sleeve — (Not Shown, Optional) - Nom 4 in. (102 mm) diam (or smaller) sleeve friction fit into wall opening, flush with both wall surfaces. The following types of sleeves may be used: Schedule 5 (or heavier) steel pipe, min 28 ga steel sleeve, or Schedule 40 solid or cellular core polyvinyl chloride (PVC).
2. Cables — Cables may be installed within opening for a 0 to 100 percent visual fill. When PVC sleeve (Item 1A) is used, the aggregate cross-sectional area of cable in opening to be max 45 percent of the cross-sectional area of the opening. Cables to be tightly bundled and rigidly supported on both sides of wall assembly. Any combination of the following types of cables may be used:
   A. Max 100 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation.
   B. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation.
   C. Max 4/0 AWG Type RHH ground cable.
   D. Max 4 pr No. 22 AWG Cat 5 or Cat 6 computer cables.
   E. Max RG 6/U coaxial cable with fluorinated ethylene insulation and jacketing.
   F. Fiber optic cable with polyvinyl chloride (PVC) or polyethylene (PE) jacket and insulation having a max diam of 1/2 in. (13 mm).
   G. Max 3/C No 12 AWG MC Cable.
      For opening with cables, when the hourly rating of the wall assembly is 1 hr, the T, FT and FTH Ratings are 0 hr. For opening with cables, when the hourly rating of the wall assembly is 2 hr, the T, FT and FTH Ratings are 1 hr.
3. Firestop Device* — Firestop device consisting of a steel collar with plug to be centered over opening and mounted to face of gypsum board on both sides of wall. Each flange of collar is secured to wall with No. 10 by 1-1/2 in. (38 mm) steel laminating screw and min 9/16 in. (15 mm) diam steel washer through prepunched hole in flange. As an alternate, min 3/16 in. (4.8 mm) diam by 2-1/2 in. (64 mm) long steel toggle bolts in conjunction with min 9/16 in. (15 mm) diam steel washers may be used. For openings with cables, plug within collar cut to fit tightly around the cable bundle. For blank openings (no cables), the hourly F and FH Ratings of the firestop system are equal to the hourly rating of the wall in which it is installed.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-CC 4" Firestop Cable Collar
   L Ratings apply to blank the openings only per indicated in Table below.

Opening	CFM (per device)		CFM/Sq Ft Opening	
	Ambient	400F	Ambient	400F
Blank Opening Only (no cables)	Less Than 1	Less Than 1	Less Than 1	4
Max 100% visual fill with Cat 5 ...and/or Cat 6 cables	1.2	Less Than 1	13.2	8.9

4. Fill, Void or Cavity Material* (Optional, Not Shown) — Fill material applied to fill interstices between and around the cable bundle at both sides of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant, CP 618 Putty

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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03.17.2026	BIDS

PIC: J. Dancer
PM: A. Dancer
DRAFTS: A. Dancer
PROJECT NO: 25.503
SHEET TITLE: FIRE PENETRATION DETAILS
FS-2

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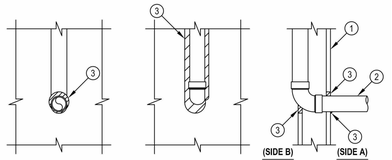
System No. W-L-1412

US

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 Hr	F Rating — 1Hr
T Rating — 0 Hr	FT Rating — 0 Hr
	FH Rating — 1Hr
	FTH Rating — 0 Hr



FRONT VIEW (SIDE A) | FRONT VIEW (SIDE B) | CROSS-SECTIONAL VIEW

1. Wall Assembly — The 1 hr fire-rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Min 5/8 in. (16 mm) thick gypsum board. Max diam of opening shall be 3 in. (76 mm) on through penetration side. Maximum width of opening on membrane penetration is to be max 3 in. (76 mm).
2. Through Penetrant — One nom 2 in. (51 mm) pipe to be installed concentrically or eccentrically within opening on one side of the wall. On one side of the wall the pipe is allowed to penetrate the membrane continuously in a plane parallel with the wall and the studs. The annular space between the through penetrant and the periphery of opening shall be min 0 in. (0 mm, point contact) to max 3/4 in. (19 mm). Through penetrant to be rigidly supported on the through penetration side of the wall assembly. The following types and sizes of through penetrants may be used:
   A. Steel Pipe — Nom 2 in. (51 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 2 in. (51 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 2 in. (51 mm) diam (or smaller) rigid steel conduit or electrical metallic tubing (EMT).
3. Firestop System — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied with annulus flush with both surfaces of the wall. Additional min 1/4 in. (6 mm) diam bead of fill material applied at the penetrant/gypsum board interface on both sides of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

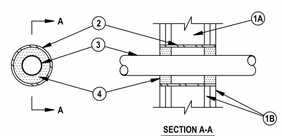
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc.
January 26, 2015

System No. W-L-2075

Underwriters Laboratories, Inc. to UL 1479

F Ratings - 1 & 2 Hr (See Item 4)
T Ratings - 0 and 2 Hr (see Item 4)
L Rating At Ambient - Less Than 1 CFM/Sq Ft
L Rating At 400 F - 4 CFM/Sq Ft



SECTION A-A

1. Floor or Wall Assembly — The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Nom 5/8 in. (16 mm) thick gypsum board, as specified in the individual Wall and Partition Design. Max diam of opening is 4 in. (102 mm).
2. Metallic Sleeve — (Optional) — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 (or thinner) steel pipe cast into wall assembly with joint compound and installed flush with wall surfaces.
3. Electrical Nonmetallic Tubing+ — Nom 2 in. (51 mm) diam (or smaller) corrugated wall electrical nonmetallic tubing (ENT) constructed of polyvinyl chloride (PVC). Tubing to be rigidly supported on both sides of wall assembly. A nom annular space of 3/4 in. (19 mm) is required within the firestop system.

   See Electrical Nonmetallic Tubing (FKHU) category in the Electrical Construction Materials Directory for names of manufacturers.
4. Fill, Void or Cavity Material* — Sealant — Installed symmetrically on both sides of the wall. The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. Fill material applied within the annulus, flush with each end of the steel sleeve at the thickness shown in the table below:

F Rating Hr	T Rating Hr	Fill Mtl Depth In. (mm)
1	0	5/8 (16)
2	2	1-1/4 (32)

   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

+Bearing the UL Listing Mark
*Bearing the UL Classification Marking

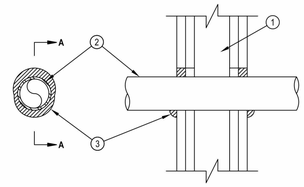
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc.
January 26, 2015

System No. W-L-2244

Classified by Underwriters Laboratories, Inc. to UL 1479

F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 1 and 2 Hr (See Item 1)
L Rating at Ambient - Less Than 1 CFM/sq ft
L Rating at 400 F - 2 CFM/sq ft



SECTION A-A

1. Wall Assembly — The 1 and 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Series Design in the UL Fire Resistance Directory. Max diam of opening is 3 in. (76 mm).

   The hourly F and T Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrant — One nonmetallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe and perphery of opening shall be min of 0 in. (point contact) to a max 5/8 in. (16 mm). Pipe to be rigidly supported on both sides of wall assembly. The following types and sizes of nonmetallic pipes may be used:
   A. Polyvinyl Chloride (PVC) Pipe — Nom 2 in. (51 mm) diam (or smaller) cellular or solid core Schedule 40 (or heavier) pipe for use in closed (process or supply) piping systems.
   B. Chlorinated Polyvinyl Chloride (CPVC) — Nom 2 in. (51 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.
3. Fill, Void or Cavity Material* - Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall. At point contact location, a min 1/2 in. (13 mm) diam bead of fill material shall be applied to the wall/penetrant interface on both surfaces of the wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

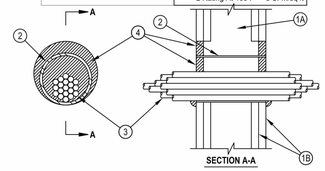
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc.
January 22, 2015

System No. W-L-3065

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 and 2 Hr (See Item 1)	F Rating — 1 and 2 Hr (See Item 1)
T Rating — 0 and 3/4 Hr (See Item 3)	FT Rating — 0 and 3/4 Hr (See Item 3)
L Rating At Ambient — 15 CFM/sq ft	FH Rating — 1 and 2 Hr (See Item 1)
L Rating At 400 F — 8 CFM/sq ft	FTH Rating — 0 and 3/4 Hr (See Item 3)
	L Rating At Ambient — 15 CFM/sq ft
	L Rating At 400 F — 8 CFM/sq ft



SECTION A-A

1. Wall Assembly — The 1 or 2 fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Nom 5/8 in. (16 mm) thick gypsum board, with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 5-1/2 in. (138 mm) when sleeve (Item 2) is employed. Max diam of opening is 4 in. (102 mm) when sleeve (Item 2) is not employed.

   The F, FH Ratings of the firestop system are equal to the fire rating of the wall assembly.
2. Metallic Sleeve — (Optional) - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or Schedule 5 (or heavier) steel pipe or min 0.016 in. thick (0.41 mm, No. 28 ga) galv steel sleeve installed flush with wall surfaces. The annular space between steel sleeve and periphery of opening shall be min 0 in. (0 mm, point contact) to max 1 in. (25mm). When Schedule 5 steel pipe or EMT is used, sleeve may extend up to 18 in. (457 mm) beyond the wall surfaces. As an option when Schedule 5 steel pipe or EMT is used, sleeve may extend continuously beyond one wall surface. When cable bundle penetrates wall assembly at an angle of 45 degrees, no metallic sleeve is used.
3. Cables — Aggregate cross-sectional area of cable in opening to be max 45 percent of the cross-sectional area of the opening. The annular space between the cable bundle and the periphery of the opening to be min 0 in. (point contact) to max 1 in. (25 mm). When sleeve is continuous on one side of wall (see Item 2), the cable fill may be 0 to 45% and the max annular space is not limited. Cables to be rigidly supported on both sides of the wall assembly. Cable bundle, using cables described below, may penetrate the wall at an angle not greater than 45 degrees. Any combination of the following types and sizes of copper conductor cables may be used:
   A. Max 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and jacket.
   B. Max 25 pair No. 24 AWG telephone cable with PVC insulation and jacketing.
   B1. Max 4 pr No. 22 AWG Cat 5 or Cat 6 computer cables.
   C. Type RG/U coaxial cable with polyethylene (PE) insulation and PVC jacket having a max outside diameter of ½ in. (13 mm).
   C1. Max RG 6/U coaxial cable with fluorinated ethylene insulation and jacketing.
   D. Multiple fiber optical communication cable jacketed with PVC and having a max OD of 5/8 in. (16 mm).
   E. Through Penetrating Products*— Max three copper conductor No. 8 AWG .Metal-Clad Cable+. AFC CABLE SYSTEMS INC
   F. Max 3/C (with ground)(or smaller) No. 8 AWG copper conductor cable with PVC insulation and jacketing.
   G. Max 3/4 in. (19 mm) diam copper ground cable with or without a PVC jacket.
   H. Fire Resistive Cables* - Max 1-1/4 in. (32 mm) diam single conductor or multi conductor Type MI cable. A min 1/8 in. (3 mm) separation shall be maintained between MI cables and any other types of cable.
   I. Max 4/C with ground 300 kcmil (or smaller) aluminum SER cable with PVC insulation and jacket.
   J. Through Penetrating Product* - Any cables, Metal-Clad Cable+ or Armored Cable+ currently Classified under the Through Penetrating Products category.
   K. Maximum 3/C No. 8 AWG metal-clad cable.
   L. Maximum 5/8 diam fiber-optic cable with PVC jacket.

   For cable bundle penetrating the wall assembly at an angle of 45 degrees, the T, FT, FTH Ratings are 0 hr and 3/4 hr for 1 and 2 hr wall assemblies, respectively.

   See Through Penetrating Product (XHLY) category in the Fire Resistance Directory for names of manufacturers.
4. Fill, Void or Cavity Material*— Sealant or Putty — Fill material applied within the annulus, flush with each end of the steel sleeve or wall surface. Fill material installed symmetrically on both sides of the wall. A min 5/8 in. (16 mm) thickness of sealant is required for the 1 or 2 hr F Rating . An additional 1/2 in. (13 mm) diam bead of fill material shall be applied at the interface of sleeve with gypsum board.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S, CP606, FS-One Sealants or FS-ONE MAX Intumescent Sealantor or CP618 Putty
5. Packing Material — (Optional, Not Shown) — Mineral wool forming material may be used as a backer for the fill material (Item 4). When used, it shall be firmly packed into annular space within the sleeve as a permanent form and recessed from end of sleeve to accommodate the required thickness of fill material.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

+Bearing the UL Listing Mark

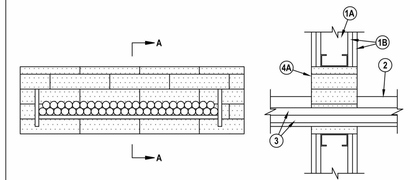
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc.
January 23, 2015

System No. W-L-4011

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — 5 CFM/sq ft	FH Ratings — 1 and 2 Hr (See Item 1)
L Rating At 400 F — 2 CFM/sq ft	FTH Rating — 0 Hr
	L Rating At Ambient — 5 CFM/sq ft
	L Rating At 400 F — 2 CFM/sq ft



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 in. (51 mm) by 4 in. (102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. Additional framing member shall be installed in stud cavity containing through-penetrating item to form a rectangular box around penetrant.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (1219 mm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max area of opening is 352 sq in. (2271 sq cm) with max dimension of 22 in. (559 mm) wide.

   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Cable Tray* — Max 18 in. (457 mm) wide by max 6 in. (152 mm) deep open-ladder or solid-back cable tray with channel-shaped side rails formed of 0.065 in. (1.65 mm) thick aluminum or 0.060 in. (1.52 mm) thick steel and with 1-1/2 in. (38 mm) wide by 1 in. (25 mm) channel shape rungs spaced 9 in. (229 mm) OC or a 0.029 in. (0.74 mm) thick steel solid back, respectively. One cable tray to be installed in the opening. The max annular space between the cable tray and the periphery of the opening shall be min 1 in. (25 mm) to max 7 in. (178 mm) Cable tray to be rigidly supported on both sides of floor or wall assembly.
3. Cables — Aggregate cross-sectional area of cables in cable tray to be max 40 percent of the cross-sectional area of the cable tray based on a max 5 in. (127 mm) cable loading depth. Any combination of the following types and sizes of copper conductor cables may be used:
   A. 1/C, 750 kcmil (or smaller) power cable with EPR insulation and PVC jacket.
   B. 300 pair — No. 24 AWG cable with PVC insulation and jacket
   C. Twenty-four fiberoptic cable with PVC subunit and jacket.
   D. Max three 1/C, No. 12 AWG wire, insulated with polyvinyl chloride, in a nom 3/4 in. (19 mm) Flexible Metal Conduit+.
4. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* - Fire Blocks — For walls incorporating max 3-5/8 in. (92 mm) steel studs or max 2 in. (51 mm) by 4 in. (102 mm) wood studs, fire block installed with 5 in. (127 mm) dimension projecting through and centered in opening. For walls constructed of larger steel or wood studs, fire block installed with long dimension passing through and centered in opening. Blocks may or may not be cut flush with both surfaces of wall. When multiple layers of gypsum board are used, blocks may be recessed 1/2 in. (13 mm) from surface of wall. Blocks firmly packed within opening. Either one or a combination of the block types specified below may be used.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-657 Fire Block or CFS-BL Firestop Block
   B. Fill, Void or Cavity Material* - Sealant or Putty (Not shown) — Fill material to be forced into interstices of cables and between cables and cable trays to max extent possible on both surfaces of the penetration.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, FS-ONE MAX Intumescent Sealant or CP618 Firestop Putty Stick (Note: L Ratings apply only when FS-One Sealant is used)

+Bearing the UL Listing Mark
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

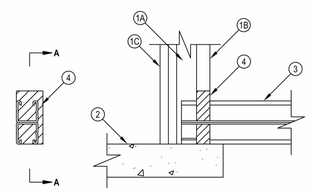
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc.
January 23, 2015

System No. W-L-7154

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Items 1 and 2)	F Ratings - 1 and 2 Hr (See Items 1 and 2)
T Rating - 0 Hr	FT Rating - 0 Hr
	FH Ratings - 1 and 2 Hr (See Items 1 and 2)
	FTH Rating - 0 Hr



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire rated shaft wall assembly shall be constructed of the materials and in the manner specified in the individual U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Steel Studs — C-H -shaped studs, 2-1/2 in. (64 mm) wide by 1-1/2 in. (38 mm) deep, spaced 24 in. (610 mm) OC.
   B. Gypsum Board* — 1 in. (25 mm) thick gypsum board liner panels, supplied in nom 24 in. (610 mm) widths as specified in the individual Wall and Partition Design. Max area of opening is 8.6 sq in. (55 sq cm) with a max dimension of 6-7/8 in. (175 mm). The opening cutout shall follow the contour of the penetrant when steel angle or steel channel is used.
   C. Gypsum Board* — One or two layers of 5/8 in. (16 mm) thick gypsum board for 1 or 2 hr rated assemblies, respectively, as specified in the individual Wall and Partition Design.
1A. Alternate Wall Assembly — (Not shown) As an alternate to the shaft wall described above, the 1 or 2 hr fire rated wall assembly shall be constructed of the materials and in the manner specified in the individual U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing shall consist of min 2-1/2 in. (64 mm) steel channel studs spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max area of opening is 8.6 sq in. (55 sq cm) with a max dimension of 6-7/8 in. (175 mm). The opening cutout shall follow the contour of the penetrant when steel angle or steel channel is used.

   The hourly F and FH Ratings of the firestop system are equal to the hourly rating of the wall.
2. Floor Assembly — Min 2-1/2 and 4-1/2 in. (64 or 114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete for 1 and 2 hr rated assemblies, respectively. Floor may also be constructed of any min 6 in. (152 mm) UL Classified Precast Concrete Units*.

   See Precast Concrete Units (CFTV) category in the Fire Resistance Directory for names of manufacturers.
3. Penetrants — One metallic strut, steel angle or steel channel to be installed within the firestop system. An annular space of min 0 in. (point contact) to max 7/8 in. (22 mm) is required within the firestop system. Penetrant to terminate within the stud cavity and shall be secured to floor assembly within 2 in. (51 mm) of the fill material (Item 4) on either side of the fill material with at least one min 1/4 in. (6 mm) diam by min 1-1/4 in. (32 mm) long steel masonry anchor in conjunction with steel washers or Hilti 1/4 in. diam by 1-3/4 in. long KWIK-BOLT 3 steel expansion anchor.

   The following types and sizes of metallic struts, angles or channels may be used:
   A. Steel Strut — Max 1-5/8 by 1-5/8 in. (41 by 41 mm) channel strut formed from min 0.105 in. (2.7 mm) thick galv or painted steel.
   B. Steel Strut — Max 3-1/4 by 1-5/8 in. (83 by 41 mm) H strut formed from min 0.105 in. (2.7 mm) thick galv or painted steel.
   C. Steel Angle — Max 2 by 2 in. (51 by 51 mm) by min 1/8 in. (3.2 mm) thick or max 3 by 3 in. (76 by 76 mm) by min 1/4 in. (6 mm) thick steel angle.
   D. Steel Channel — C6 x 8.2 (or smaller) steel channel.
4. Fill, Void or Cavity Material* - Sealant — Fill material to be installed to completely fill the annular space, flush with the surface of the wall. The thickness of the fill material shall be the thickness of the gypsum board(s) in which it is installed. An additional min 1/2 in. (13 mm) diam bead of sealant to be installed at the point contact location at the penetrant/gypsum board interface.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

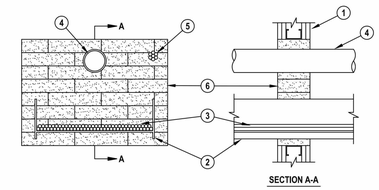
Hilti Firestop Systems

Reproduced by HILTI, Inc. Courtesy of Underwriters Laboratories, Inc.
January 27, 2015

System No. W-L-8013

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating At Ambient — 5 CFM/sq ft	FH Ratings — 1 and 2 Hr (See Item 1)
L Rating At 400 F — 2 CFM/sq ft	FTH Rating — 0 Hr
	L Rating At Ambient — 5 CFM/sq ft
	L Rating At 400 F — 2 CFM/sq ft



SECTION A-A

System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 in. (51 mm) by 4 in. (102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. Additional studs installed to completely frame the opening.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (1219 mm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max area of opening is 352 sq in. (2271 sq cm) with max dimension of 22 in. (559 mm) wide.

   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Cable Tray* — Max 18 in. (457 mm) wide by max 6 in. (152 mm) deep open-ladder or solid-back cable tray with channel-shaped side rails formed of 0.065 in. (1.65 mm) thick aluminum or 0.060 in. (1.52 mm) thick steel and with 1-1/2 in. (38 mm) wide by 1 in. (25 mm) channel shape rungs spaced 9 in. (229 mm) OC or a 0.029 in. (0.74 mm) thick steel solid back, respectively. One cable tray to be installed in the opening. The max annular space between the cable tray and the periphery of the opening shall be min 1 in. (25 mm) to max 7 in. (178 mm) Cable tray to be rigidly supported on both sides of floor or wall assembly.
3. Cables — Aggregate cross-sectional area of cables in cable tray to be max 30 percent of the cross-sectional area of the cable tray. Any combination of the following types and sizes of copper conductor cables may be used:
   A. 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and PVC jacket.
   B. 100 pair - No. 24 AWG cable with PVC insulation and jacket.
   C. 1/C, 750 kcmil (or smaller) with PVC insulation and jacket.
4. Through-Penetrants — One or more pipe or tube to be installed within the opening. The total number of through-penetrants is dependent on the size of the opening and types and sizes of the penetrants. Any combination of the penetrants described below may be used provided that the following parameters relative to the annular spaces and the spacings between the pipes are maintained. The space between the pipe or tube and the periphery of the opening shall be min 1-1/2 in. (38 mm) to max 9-1/4 in. (235 mm). Pipe or tube to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of non-metallic or metallic pipes, or tubes may be used:
   A. Polyvinyl Chloride (PVC) Pipe — Max 3 in. (76 mm) diam Schedule 40 solid core PVC pipe (or smaller) for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   B. Steel Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) diam steel conduit.
   D. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.
   E. Copper Tube — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube.

4A. Pipe Covering — (Not Shown) Nom 1-1/2 in. (38 mm) thick hollow cylindrical heavy density (min 3.5 pcf) (56kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.

   See Pipe and Equipment Covering and Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 may be used.
5. Cables — Max 1-1/2 in. (38 mm) diam tight bundle of cables installed within the opening and rigidly supported on both surfaces of wall. The space between the cables and periphery of the opening shall range from 1-3/16 in. (30.2 mm) min to a max of 1-1/2 in. (38 mm). Any combination of the following types and sizes of cables may be used:
   A. 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and jacket.
   B. 25 pair — No. 24 AWG cable with PVC insulation and jacket.
   C. Type R GU/59 coaxial cable with PVC outer jacket.
   D. 24 fiber optic cable with PVC sub unit and outer jacket.
6. Firestop System — The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* — Fire Blocks For walls incorporating max 3-5/8 in. (92 mm) steel studs or max 2 (51 mm) by 4 in. (102 mm) wood studs, fire block installed with 5 in. (127 mm) dimension projecting through and centered in opening. For walls constructed of larger steel or wood studs, fire block installed with long dimension passing through and centered in opening. Blocks may or may not be cut flush with both surfaces of wall. When multiple layers of gypsum board are used, blocks may be recessed 1/2 in. (13 mm) from surface of wall. Blocks to be firmly packed in opening. Either one or a combination of the block types specified below may be used.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS 657 Fire Block or CFS-BL Firestop Block
   B. Fill, Void or Cavity Material* – Sealant or Putty - Fill material to be forced into interstices of cables, between cables and cable trays, around each penetrant and where obvious voids are observed to max extent possible on both surfaces of the penetration.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant, FS-ONE MAX Intumescent Sealant, CP 618 Putty Stick or CP620 Fire Foam

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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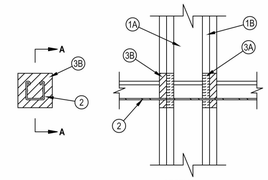
January 26, 2015

System No. W-L-7130

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings - 1 and 2 Hr (See Item 1)	F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr	FT Rating - 0 Hr
	FH Ratings - 1 and 2 Hr (See Item 1)
	FTH Rating - 0 Hr



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — One or two layers of gypsum board, as specified in the individual Wall and Partition Design. Max area of rectangular opening is 15 sq in. (96 cm2) with max dimension of 5 in. (127 mm). In lieu of rectangular opening max diam of circular opening is 3 in. (76 mm).

   The F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly.
2. Through Penetrants — One metallic strut, cable, rod or angle service support to be installed within the firestop system. An annular space of min 1/8 in. (3 mm) to max 7/8 in. (22 mm) is required within the firestop system. Strut, cable, rod or angle service support to be rigidly supported on both sides of floor or wall assembly. The strut, cable, rod or angle service support may be installed at an angle not greater than 45 degrees from the perpendicular. The following types and sizes of metallic strut, cable, rod or angle service support may be used:
   A. Steel Strut — Max 1-5/8 by 1-5/8 in. (41 by 41 mm) channel strut formed from min 0.105 in. (2.7 mm) thick galv or painted steel.
   B. Steel Strut — Max 3-1/4 by 1-5/8 in. (83 by 41 mm) H strut formed from min 0.105 in. (2.7 mm) thick galv or painted steel.
   C. Cable — Max 3/8 in. (9.5 mm) diam unjacketed galv steel cable.
   D. Threaded Rod — Max 1 in. (25 mm) diam galv steel threaded rod.
   E. Steel Angle — 2 by 2 by 1/8 in. (51 by 51 by 3 mm) thick steel angle.
3. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 1/2 in. (13 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be located between penetrant and periphery of opening, and within channels of struts. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material. When through penetrant is oriented perpendicular to wall or when Type FS-ONE Sealant (Item 3B) is used, packing material is optional.
   B. Fill, Void or Cavity Material* - Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus and within the channel struts, flush with both surfaces of wall.
      HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant, CP 606 Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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January 27, 2015

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HIGH SCHOOL
MULTI-PURPOSE ROOM RENOVATION
904 Marquette Ave, Sault Ste. Marie, MI 49783

Date	Issued For
03.09.2026	PERMITS
03.17.2026	BIDS

PIC: J. Dancer
PM: A. Dancer
DRAFTS: A. Dancer
PROJECT NO: 25.503
SHEET TITLE: FIRE PENETRATION DETAILS

FS-3

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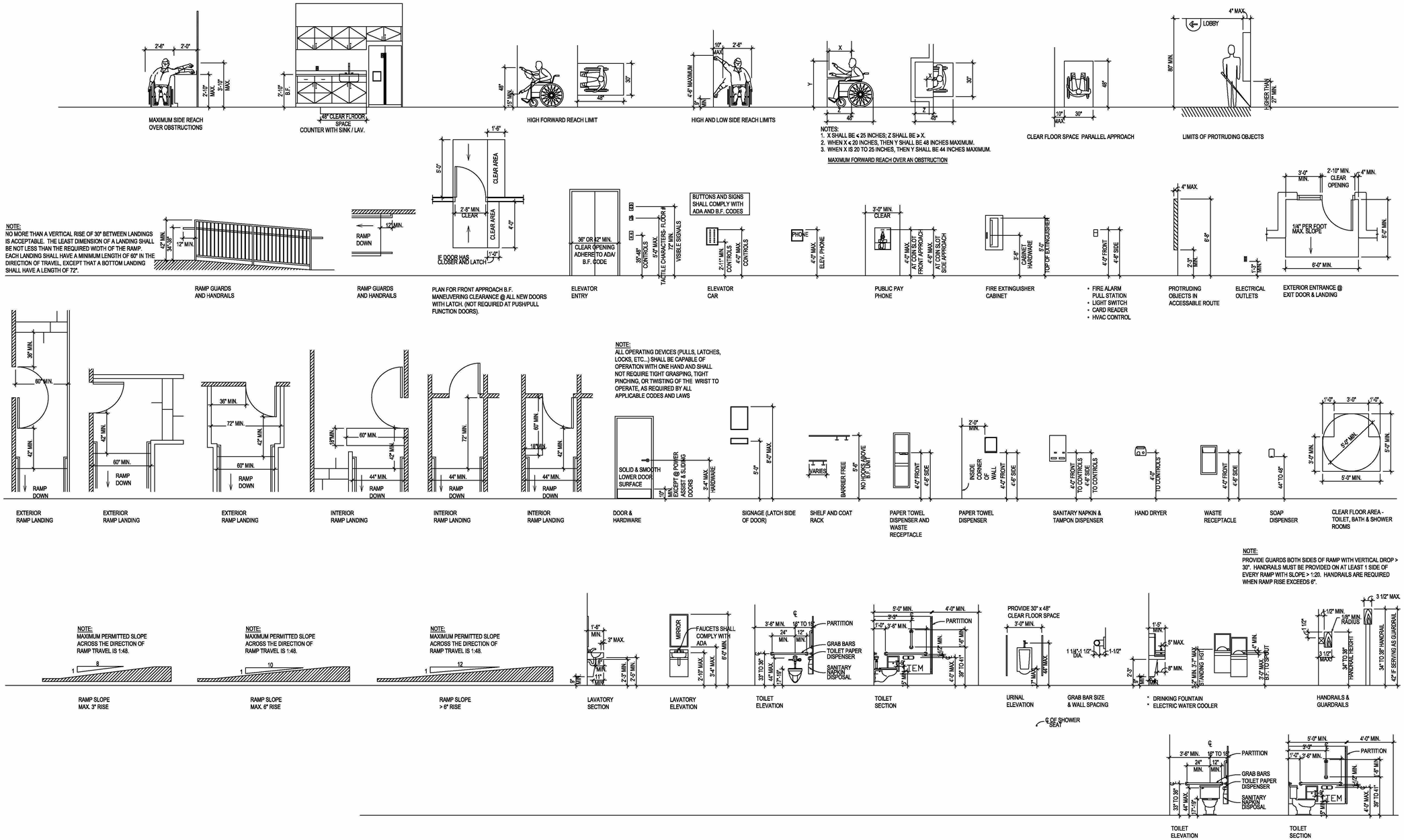

ADA BARRIER FREE TYPICAL DETAILS

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ADA

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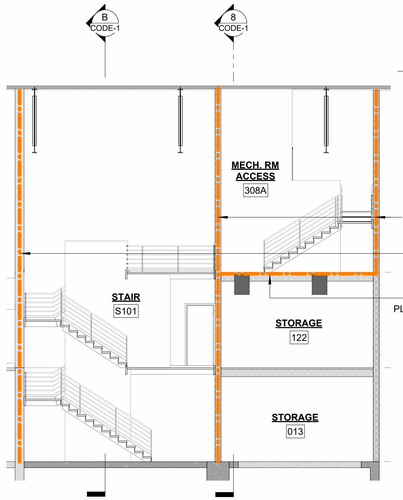
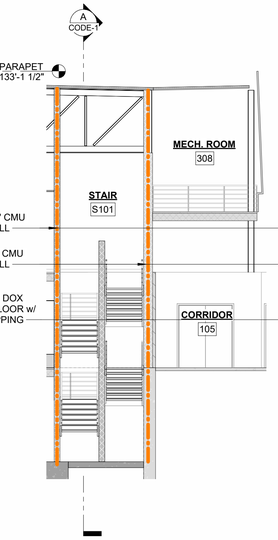


A CODE-1 **CODE SECTION**
SCALE: 1/8" = 1'-0"



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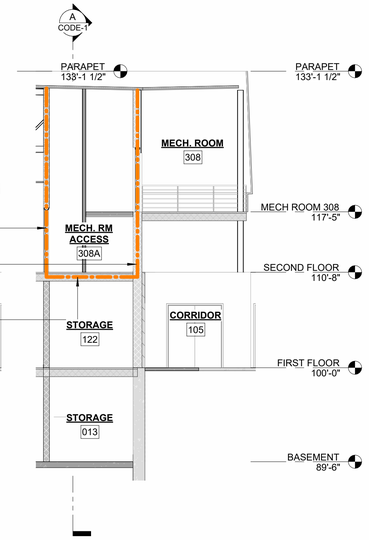

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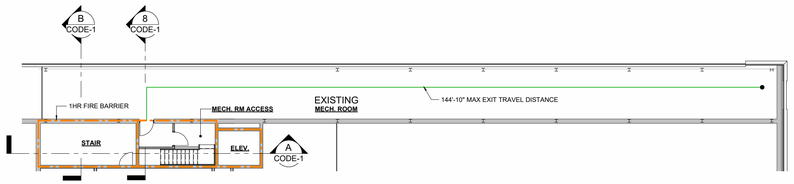

N **MECH ROOM 308**
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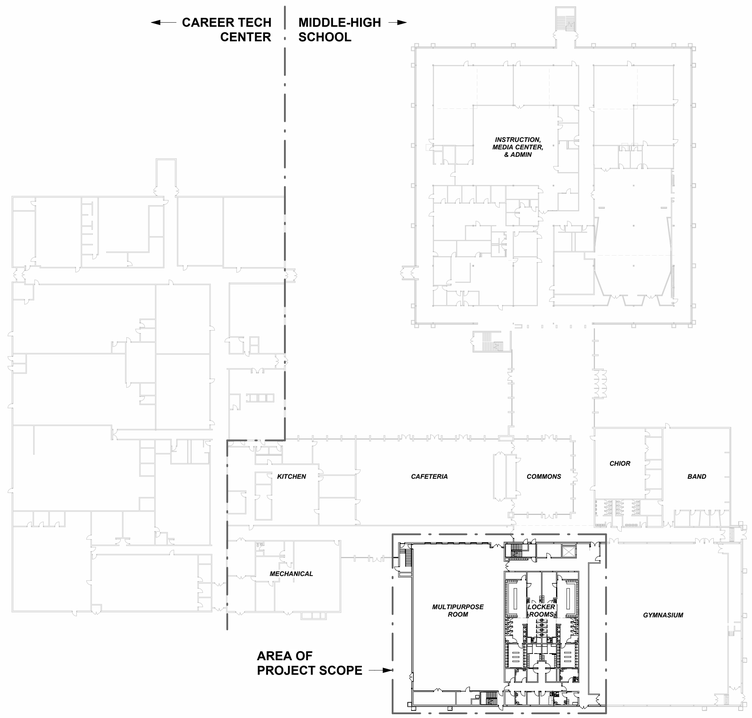
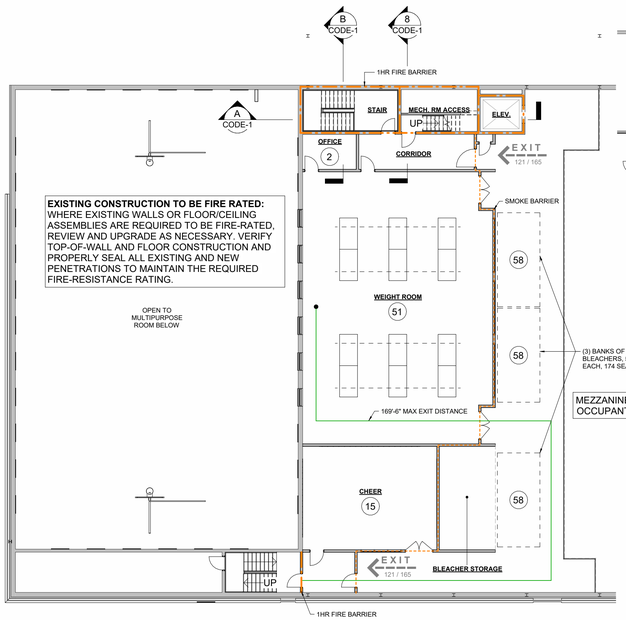


N **OVERALL FIRST FLOOR PLAN**
SCALE: 1" = 50'-0"



N **SECOND FLOOR CODE COMPLIANCE PLAN**
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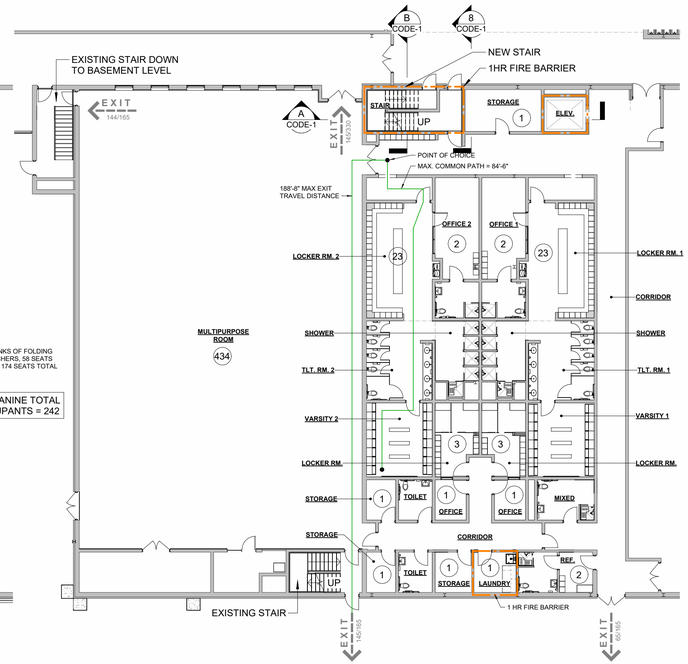

N **FIRST FLOOR CODE COMPLIANCE PLAN**
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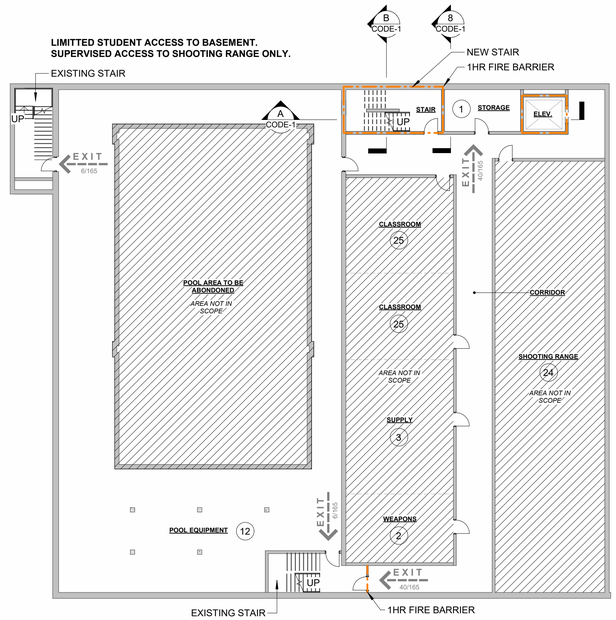

N **BASEMENT CODE COMPLIANCE PLAN**
SCALE: 1/16" = 1'-0"

CODE SUMMARY

THIS EXISTING SCHOOL RENOVATION IS DESIGN IN ACCORDANCE WITH THE FOLLOWING CODES THAT GOVERN THE STATE OF MICHIGAN SCHOOL PROJECTS:

MICHIGAN BUILDING CODE.....2021 (IBC 2021)
MICHIGAN PLUMBING CODE.....2021 (IPC 2021)
MICHIGAN MECHANICAL CODE.....2021 (IMC 2021)
MICHIGAN ENERGY CODE.....2021 (IECC 2021)
MICHIGAN ELECTRICAL CODE.....2023 (NFPA 70, 2023)
MICHIGAN LIFE SAFETY CODE .....2012 (NFPA 101, 2012)

FIRE SUPRESSION SYSTEM:
FULLY SPRINKLERED, NFPA 13 SYSTEM - ***NO CHANGE***

USE & OCCUPANCY CLASSIFICATION (MLSC 15.1.2.1 & MBC CHAPTER 3)
EDUCATIONAL GROUP (E) - ***NO CHANGE***

CONSTRUCTION TYPE (PER MLSC)
TYPE II(200) - ***NO CHANGE***

CONSTRUCTION TYPE (PER MBC)
TYPE IIB - ***NO CHANGE***

BUILDING HEIGHT ABOVE GRADE PLANE (MBC - TABLE 504.3)
- NO CHANGE

ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE
(MBC - TABLE 504.4)
- NO CHANGE

BUILDING AREAS PER FLOOR WITHIN PROJECT SCOPE
BASEMENT .....6,120 SF
FIRST FLOOR.....13,825 SF
SECOND FLOOR.....7,300 SF
TOTAL.....27,245 SF

OCCUPANT LOAD WITHIN PROJECT SCOPE
BASEMENT.....92
FIRST FLOOR.....499
SECOND FLOOR.....242
TOTAL.....833

DEAD END CORRIDORS
(MLSC - 15.2.5.2) 50 FEET MAX FOR BUILDINGS PROTECTED WITH AUTOMATIC SPRINKLER
- *MAX DEAD END CORRIDOR PROVIDED = 0'-0"*

EXIT TRAVEL DISTANCE
(MLSC - 15.2.6.3) **200 FEET MAX** FOR BUILDINGS PROTECTED WITH AUTOMATIC SPRINKLER**.**
- *MAX EXIT TRAVEL DISTANCE PROVIDED = 188'-8"*

COMMON PATH OF TRAVEL
(MLSC - 15.2.5.3.1) COMMON PATH OF TRAVEL SHALL **NOT EXCEED 100 FT** (30 M) IN A BUILDING PROTECTED THROUGHOUT BY AN APPROVED, SUPERVISED AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 9.7.
- *MAX COMMON PATH PROVIDED = 84'-6"*

PROTECTION FROM HAZARDS
(MLSC - 15.3.2.1.2) LAUNDRY ROOMS SHALL BE SEPARATED FROM THE REMAINDER OF THE BUILDING BY **FIRE BARRIERS HAVING A MINIMUM 1-HOUR FIRE RESISTANCE RATING AND PROTECTED BY AUTOMATIC EXTINGUISHING SYSTEMS** .

CORRIDORS
(MLSC - 15.3.6.2) CORRIDOR WALLS SHALL NOT BE REQUIRED TO BE RATED, PROVIDED THAT SUCH **WALLS FORM SMOKE PARTITIONS** FOR BUILDINGS PROTECTED WITH AUTOMATIC SPRINKLER.

MECHANICAL ROOM COMMON PATH OF EGRESS
(MLSC - 7.12.1.2) IN AN **EXISTING BUILDING**, A COMMON PATH OF TRAVEL NOT EXCEEDING **150 FT** (46 M) SHALL BE PERMITTED, PROVIDED THAT ALL OF THE FOLLOWING CRITERIA ARE MET.
a. THE BUILDING IS PROTECTED THROUGHOUT BY AN APPROVED, SUPERVISED AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 9.7.
b. NO FUEL-FIRED EQUIPMENT IS WITHIN THE SPACE.
c. THE EGRESS PATH IS READILY IDENTIFIABLE.

COMMUNICATING SPACE
(MLSC - 8.6.6) COMMUNICATING SPACE PERMITTED GIVEN:
1. DOES NOT CONNECT MORE THAN THREE STORIES (ACTUAL = 2 STORIES)
2. LOWEST LEVEL OF IS STREET FLOOR (TRUE)
3. ENITRE AREA OF COMUNICATING SPACE IS OPEN (TRUE)
4. a. SEPARATED FROM OTHER SPACES BY SMOKE BARRIER FOR BUILDINGS PROTECTED WITH AUTOMATIC SPRINKLER (TRUE)
5. ORDINARY HAZARD SPACE FOR BUILDINGS PROTECTED WITH AUTOMATIC SPRINKLER
6. EGRESS CAPACITY IS SIFFICIENT FOR ALL OCCUPANTS (TRUE)
7. ACCESS TO EXIT WITHOUT ON EACH STORY (TRUE)
8. EACH OCCUPANT NOT IN THE COMMUNICATING SPACE HAS ACCESS TO AT LEAST ONE EXIT WITHOUT HAVING TO TRAVERSE THE COMMUNICATING SPACE (TRUE).

PLUMBING FIXTURE COUNT (MPC 403)
ACTUAL OCCUPANCY (MIDDLE-HIGH SCHOOL):
1152 STUDENTS
+ 1/10 FACULTY/STUDENT RATIO
= **1,268 OCCUPANTS**

WC: 1 WC PER 50 OCCUPANTS IN EDUCATIONAL FACILTIES
REQUIRED: 26 WC
PROVIDED: 72 WC (76 EXISTING)

LAV: 1 LAV PER 50 OCCUPANTS IN EDUCATIONAL FACILITIES
REQUIRED: 26 LAV
PROVIDED: 50 LAV (NO CHANGE)

CODE SYMBOL LEGEND

SYMBOL	*DESCRIPTION*
XX	OCCUPANCY LOAD
EXIT XX / XX (*EXIT CAPACITY*, *ACTUAL LOAD*)	EGRESS EXIT
	PATH OF TRAVEL
	SMOKE BARRIER
	1 HOUR FIRE RATED

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PROJECT NO: 25.503
SHEET TITLE: CODE COMPLIANCE PLANS & NOTES
CODE-1

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GENERAL DEMO NOTES

1. THE TRADE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS REQUIRED TO COMPLETE DEMOLITION, REMOVAL AND RE-USE OF ALL ITEMS SHOWN ON DRAWINGS.

2. OBTAIN PROPER PERMITS PRIOR TO THE COMMENCEMENT OF DEMOLITION. ALL SUBMITTAL AND FEES ARE THE RESPONSIBILITY OF THE TRADE CONTRACTOR.

3. ALL WORK DEMOLISHED SHALL BE REMOVED FROM THE PREMISES DAILY BY THE TRADE CONTRACTOR, EXCEPT ITEMS TO BE REUSED OR RETURNED TO THE OWNER, OR AS DIRECTED OTHERWISE. REMOVE AND DISPOSE OF ALL MATERIALS IN A LEGAL MANNER, USING LABOR, MATERIALS AND EQUIPMENT AS NECESSARY. ALL SALVAGE AND REMOVAL SHALL BE COORDINATED WITH THE CONSTRUCTION MANAGER.

4. REFER TO ATTACHED FLOOR PLANS FOR EXISTING CONSTRUCTION TO REMAIN, EXTENT OF DEMOLITION, AND SCHEDULED ITEMS FOR RELOCATION. THE OWNER RETAINS ALL SALVAGE RIGHTS. REVIEW WITH THE OWNER ALL ITEMS OF POTENTIAL SALVAGE AND STORE APPROPRIATELY. THE USE OF NON-SALVAGED ITEMS IN NEW CONSTRUCTION NOT PERMITTED WITHOUT WRITTEN PERMISSION FROM THE OWNER AND THE ARCHITECT. ITEMS NOT APPROVED FOR SALVAGE BY THE OWNER, ARE TO BE PROPERLY DISPOSED OF BY THE TRADE CONTRACTOR ALL EXISTING DOORS, FRAMES, HARDWARE, ELECTRICAL FIXTURES, CABINETRY, AND OTHER BUILDING STANDARD COMPONENTS REMOVED DURING DEMOLITION AND NOT REUSED FOR THIS PROJECT SHALL BE TAGGED AND STORED AS DIRECTED BY BUILDING MANAGEMENT/OWNER.

5. THE TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING ADEQUATE PRECAUTIONS TO PROTECT BUILDING OCCUPANTS, MATERIALS AND EXISTING FINISHES THROUGHOUT ALL PHASES OF CONSTRUCTION AREAS AND OCCUPIED OR PUBLIC AREAS TO BE MAINTAINED BY CONTRACTOR. PROTECT OR TEMPORARILY REMOVE ALL ITEMS THAT ARE EXISTING TO REMAIN. RESET TEMPORARY REMOVALS ACCURATELY AND SECURELY. DAMAGE TO EXISTING TO REMAIN CONSTRUCTION, MATERIALS OR EQUIPMENT TO BE RESTORED TO ORIGINAL CONDITION OR AS OUTLINED IN THE CONSTRUCTION DOCUMENTS.

6. THE TRADE CONTRACTOR SHALL ERECT ALL NECESSARY PLASTIC DROP CLOTH PARTITIONS, BARRICADES, AND OTHER METHODS OF DUST CONTROL TO ASSURE A SAFE AND NEAT DEMOLITION PROCESS AND TO PROTECT ADJACENT BUILDING PROPERTIES. THE USE OF EXPLOSIVES AND BURNING ARE NOT PERMITTED.

7. TEMPORARILY SHORE AND SUPPORT ANY AREA OF DEMOLITION IN WALLS, FLOORS, CEILING ASSEMBLIES, THAT ARE STRUCTURAL. PROTECT ALL WORK IN PLACE.

8. DEMOLITION AND TRENCHING, CUTTING, BORING, AND REPAIR ASSOCIATED WITH TRADES IS THE RESPONSIBILITY OF THAT TRADE. COORDINATE WITH THE C.M. PRIOR TO DEMOLITION WORK.

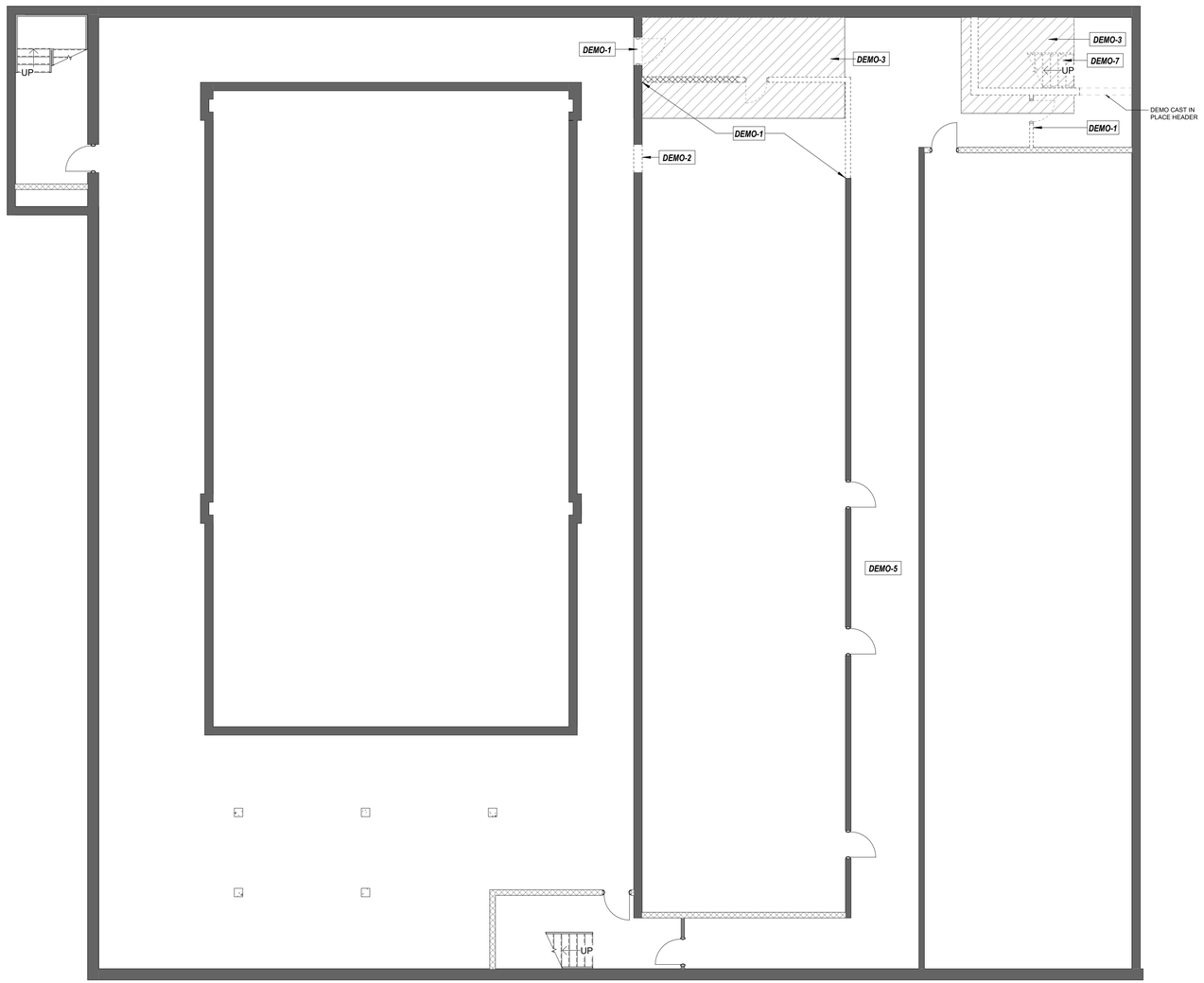
9. ALL TRADES ARE TO REVIEW EXISTING CONDITIONS AND INCLUDE DEMOLITION OF EXISTING SYSTEMS AS REQUIRED BY SCOPE OF NEW WORK.

10. THE TRADE CONTRACTOR SHALL REMOVE ALL WALL CONDUITS, SWITCH PLATES, TELEPHONE OR ELECTRICAL WIRING OR EQUIPMENT, ETC.. TO THE SOURCE AFTER WALL DEMOLITION.

11. REMOVE EXISTING MECHANICAL COMPONENTS AS REQUIRED TO ACCOMMODATE NEW HVAC DESIGN AND DUE TO CEILING RELATED WORK, SALVAGE DEVICES AS PRACTICAL FOR REUSE. CLEAN/REPLACE SUPPLY AIR DIFFUSERS AND RETURN AIR GRILLES, CALIBRATE AND RELOCATE THERMOSTATS, AND INSTALL NEW DUCTWORK AS REQUIRED.

12. REMOVE EXISTING AND/OR RELOCATE EXISTING LIGHT FIXTURES AND OTHER CEILING DEVICES AS REQUIRED TO ACCOMMODATE REFLECTED CEILING PLAN, ALL EXISTING FIXTURES DEVICES SHALL BE CLEANED, (INCLUDING LENS), DAMAGED PARTS REPAIRED OR REPLACED, AND RELAMPED AS NECESSARY.

13. REMOVE EXISTING CEILING AND FLOORING FINISH AS REQUIRED FOR INSTALLATION OF NEW.



N

BASEMENT DEMOLITION FLOOR PLAN
SCALE: 1/8" = 1'-0"

DEMOLITION SYMBOL LEGEND

EXISTING TO BE DEMOLISHED

EXISTING WALL TO REMAIN

LINE OF DEMOLITION, REFER TO STRUCT.

EXISTING COLUMN TO REMAIN U.O.N. REFER TO STRUCT.

DEMOLITION KEYNOTES

DEMO-1 REMOVE EXISTING WALLS, DOORS, WINDOWS, AND OTHER ELEMENTS AS SHOWN DASHED. PATCH AND REPAIR FLOORS, WALLS, CEILINGS, AND OTHER SURFACES TO REMAIN IN PREPARATION FOR NEW CONSTRUCTION. PROVIDE TEMPORARY SHORING AND BRACING FOR BEARING WALLS AS REQUIRED. SALVAGE, PROTECT, AND STORE DOORS AND WINDOWS AS DIRECTED BY OWNER; COORDINATE STORAGE AND/OR DISPOSAL WITH OWNER. COORDINATE DEMOLITION WORK WITH NEW CONSTRUCTION DRAWINGS.

DEMO-2 REMOVE PORTION OF EXISTING WALL TO ACCOMMODATE NEW DOOR, WINDOW, OR OPENING AS SHOWN IN NEW CONSTRUCTION DOCUMENTS. REFER TO STRUCTURAL DRAWINGS FOR HEADER, LINTEL, AND SUPPORT REQUIREMENTS. PROVIDE TEMPORARY SHORING AND BRACING FOR BEARING WALLS AS REQUIRED.

DEMO-3 REMOVE PORTIONS OF EXISTING FLOOR STRUCTURE AS REQUIRED TO ACCOMMODATE NEW ELEVATOR HOISTWAY, PIT, STAIR ENCLOSURE, AND MECHANICAL DUCT OPENINGS. REFER TO STRUCTURAL, MECHANICAL, AND NEW CONSTRUCTION DRAWINGS FOR EXTENT AND DETAILS. AREA OF DEMOLITION SHOWN MAY NOT INCLUDE ALL ADDITIONAL DEMOLITION REQUIRED FOR NEW CONSTRUCTION. CONTRACTOR SHALL INCLUDE ALL REQUIRED DEMOLITION AND ASSOCIATED REPAIRS IN BID.

DEMO-4 REMOVE EXISTING CEILINGS BACK TO STRUCTURE, INCLUDING CEILING TILES, GRIDS, BULKHEADS, SOFFITS, AND ASSOCIATED FRAMING AS SHOWN. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DEMOLITION DRAWINGS FOR EXTENT OF MEP REMOVALS.

DEMO-5 REMOVE EXISTING FLOOR FINISHES AND ACCESSORIES IN THEIR ENTIRETY TO EXISTING SUBSTRATE AS SHOWN. PREPARE SUBSTRATES TO RECEIVE NEW FINISHES.

DEMO-6 EXISTING POOL TO BE ABANDONED IN PLACE. REMOVE POOL ACCESSORIES AND FINISHES. DEMOLITION OF FINISHES SHALL INCLUDE TILE, MUD SET, AND ALL ASSOCIATED ACCESSORIES TO THE SUBSTRATE. PREPARE SURFACES AS REQUIRED FOR NEW CONSTRUCTION. COORDINATE EXTENT OF DEMOLITION WITH NEW CONSTRUCTION AND STRUCTURAL DRAWINGS.

DEMO-7 REMOVE EXISTING STAIR IN ITS ENTIRETY, INCLUDING ALL STRUCTURAL COMPONENTS, RAILINGS, GUARDS, LANDINGS, AND ASSOCIATED SUPPORTS. PATCH AND REPAIR ADJACENT CONSTRUCTION TO REMAIN IN PREPARATION FOR NEW CONSTRUCTION.

DEMO-8 REMOVE EXISTING WOOD BLEACHER SYSTEM IN ITS ENTIRETY, INCLUDING ALL FRAMING, SEATING, GUARDS, HANDRAILS, AND ASSOCIATED COMPONENTS. PATCH AND REPAIR ADJACENT SURFACES TO REMAIN IN PREPARATION FOR NEW CONSTRUCTION.

DEMO-9 SALVAGE (13) VARSITY LOCKER UNITS FOR FUTURE REINSTALLATION. COORDINATE REMOVAL AND STORAGE LOCATION WITH OWNER.

DEMO-10 REMOVE EXISTING CEILING-SUSPENDED BATTING CAGE IN ITS ENTIRETY, INCLUDING ALL FRAMING, NETTING, AND RETRACTING MECHANISMS.

DEMO-11 REMOVE EXISTING STEEL BARS AND WOOD FRAMING. PREPARE OPENING FOR INSTALLATION OF NEW DOOR.

DEMO-12 SELECTIVE FLOOR DEMOLITION AS REQUIRED FOR NEW PLUMBING WORK. ALIGN EXTENT OF DEMOLITION WITH EXISTING TERRAZZO JOINTS. PROTECT ADJACENT FINISHES TO REMAIN.

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03.17.2026	BIDS

PIC: J. Dancer
PM: A. Dancer
DRAFTS: A. Dancer
PROJECT NO: 25.503
SHEET TITLE: DEMOLITION FLOOR PLAN - BASEMENT

D101

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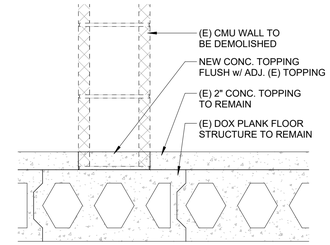
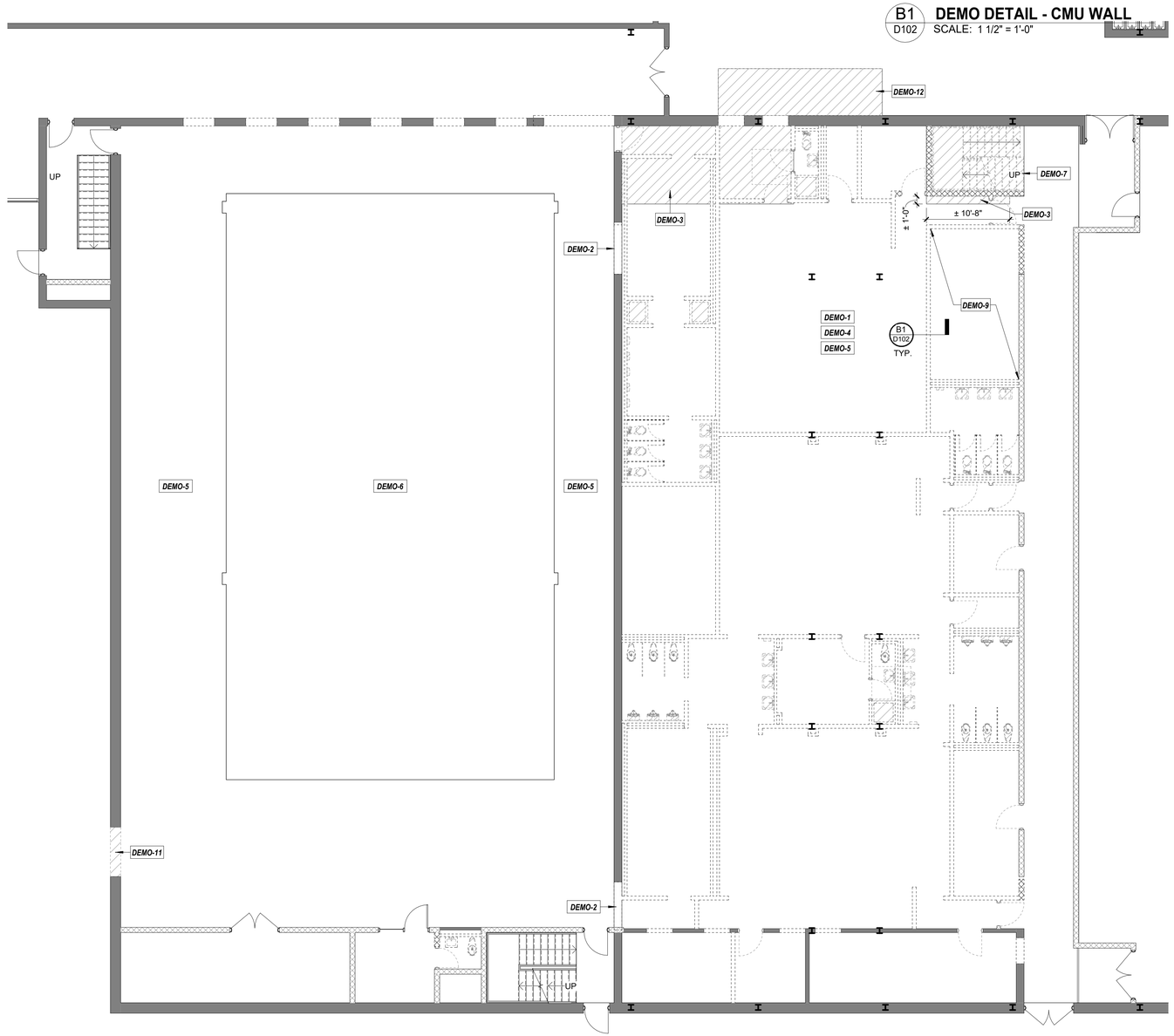


B1 / D102 **DEMO DETAIL - CMU WALL**
SCALE: 1 1/2" = 1'-0"



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FIRST FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

GENERAL DEMO NOTES

1. THE TRADE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS REQUIRED TO COMPLETE DEMOLITION, REMOVAL AND RE-USE OF ALL ITEMS SHOWN ON DRAWINGS.

2. OBTAIN PROPER PERMITS PRIOR TO THE COMMENCEMENT OF DEMOLITION. ALL SUBMITTAL AND FEES ARE THE RESPONSIBILITY OF THE TRADE CONTRACTOR.

3. ALL WORK DEMOLISHED SHALL BE REMOVED FROM THE PREMISES DAILY BY THE TRADE CONTRACTOR, EXCEPT ITEMS TO BE REUSED OR RETURNED TO THE OWNER, OR AS DIRECTED OTHERWISE. REMOVE AND DISPOSE OF ALL MATERIALS IN A LEGAL MANNER, USING LABOR, MATERIALS AND EQUIPMENT AS NECESSARY. ALL SALVAGE AND REMOVAL SHALL BE COORDINATED WITH THE CONSTRUCTION MANAGER.

4. REFER TO ATTACHED FLOOR PLANS FOR EXISTING CONSTRUCTION TO REMAIN, EXTENT OF DEMOLITION, AND SCHEDULED ITEMS FOR RELOCATION. THE OWNER RETAINS ALL SALVAGE RIGHTS. REVIEW WITH THE OWNER ALL ITEMS OF POTENTIAL SALVAGE AND STORE APPROPRIATELY. THE USE OF NON-SALVAGED ITEMS IN NEW CONSTRUCTION NOT PERMITTED WITHOUT WRITTEN PERMISSION FROM THE OWNER AND THE ARCHITECT. ITEMS NOT APPROVED FOR SALVAGE BY THE OWNER, ARE TO BE PROPERLY DISPOSED OF BY THE TRADE CONTRACTOR ALL EXISTING DOORS, FRAMES, HARDWARE, ELECTRICAL FIXTURES, CABINETRY, AND OTHER BUILDING STANDARD COMPONENTS REMOVED DURING DEMOLITION AND NOT REUSED FOR THIS PROJECT SHALL BE TAGGED AND STORED AS DIRECTED BY BUILDING MANAGEMENT/OWNER.

5. THE TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING ADEQUATE PRECAUTIONS TO PROTECT BUILDING OCCUPANTS, MATERIALS AND EXISTING FINISHES THROUGHOUT ALL PHASES OF CONSTRUCTION AREAS AND OCCUPIED OR PUBLIC AREAS TO BE MAINTAINED BY CONTRACTOR. PROTECT OR TEMPORARILY REMOVE ALL ITEMS THAT ARE EXISTING TO REMAIN. RESET TEMPORARY REMOVALS ACCURATELY AND SECURELY. DAMAGE TO EXISTING TO REMAIN CONSTRUCTION, MATERIALS OR EQUIPMENT TO BE RESTORED TO ORIGINAL CONDITION OR AS OUTLINED IN THE CONSTRUCTION DOCUMENTS.

6. THE TRADE CONTRACTOR SHALL ERECT ALL NECESSARY PLASTIC DROP CLOTH PARTITIONS, BARRICADES, AND OTHER METHODS OF DUST CONTROL TO ASSURE A SAFE AND NEAT DEMOLITION PROCESS AND TO PROTECT ADJACENT BUILDING PROPERTIES. THE USE OF EXPLOSIVES AND BURNING ARE NOT PERMITTED.

7. TEMPORARILY SHORE AND SUPPORT ANY AREA OF DEMOLITION IN WALLS, FLOORS, CEILING ASSEMBLIES, THAT ARE STRUCTURAL. PROTECT ALL WORK IN PLACE.

8. DEMOLITION AND TRENCHING, CUTTING, BORING, AND REPAIR ASSOCIATED WITH TRADES IS THE RESPONSIBILITY OF THAT TRADE. COORDINATE WITH THE C.M. PRIOR TO DEMOLITION WORK.

9. ALL TRADES ARE TO REVIEW EXISTING CONDITIONS AND INCLUDE DEMOLITION OF EXISTING SYSTEMS AS REQUIRED BY SCOPE OF NEW WORK.

10. THE TRADE CONTRACTOR SHALL REMOVE ALL WALL CONDUITS, SWITCH PLATES, TELEPHONE OR ELECTRICAL WIRING OR EQUIPMENT, ETC.. TO THE SOURCE AFTER WALL DEMOLITION.

11. REMOVE EXISTING MECHANICAL COMPONENTS AS REQUIRED TO ACCOMMODATE NEW HVAC DESIGN AND DUE TO CEILING RELATED WORK, SALVAGE DEVICES AS PRACTICAL FOR REUSE. CLEAN/REPLACE SUPPLY AIR DIFFUSERS AND RETURN AIR GRILLES, CALIBRATE AND RELOCATE THERMOSTATS, AND INSTALL NEW DUCTWORK AS REQUIRED.

12. REMOVE EXISTING AND/OR RELOCATE EXISTING LIGHT FIXTURES AND OTHER CEILING DEVICES AS REQUIRED TO ACCOMMODATE REFLECTED CEILING PLAN, ALL EXISTING FIXTURES DEVICES SHALL BE CLEANED, (INCLUDING LENS), DAMAGED PARTS REPAIRED OR REPLACED, AND RELAMPED AS NECESSARY.

13. REMOVE EXISTING CEILING AND FLOORING FINISH AS REQUIRED FOR INSTALLATION OF NEW.

DEMOLITION SYMBOL LEGEND

EXISTING TO BE DEMOLISHED	
EXISTING WALL TO REMAIN	
LINE OF DEMOLITION, REFER TO STRUCT.	
EXISTING COLUMN TO REMAIN U.O.N. REFER TO STRUCT.	

DEMOLITION KEYNOTES

DEMO-1	REMOVE EXISTING WALLS, DOORS, WINDOWS, AND OTHER ELEMENTS AS SHOWN DASHED. PATCH AND REPAIR FLOORS, WALLS, CEILINGS, AND OTHER SURFACES TO REMAIN IN PREPARATION FOR NEW CONSTRUCTION. PROVIDE TEMPORARY SHORING AND BRACING FOR BEARING WALLS AS REQUIRED. SALVAGE, PROTECT, AND STORE DOORS AND WINDOWS AS DIRECTED BY OWNER; COORDINATE STORAGE AND/OR DISPOSAL WITH OWNER. COORDINATE DEMOLITION WORK WITH NEW CONSTRUCTION DRAWINGS.
DEMO-2	REMOVE PORTION OF EXISTING WALL TO ACCOMMODATE NEW DOOR, WINDOW, OR OPENING AS SHOWN IN NEW CONSTRUCTION DOCUMENTS. REFER TO STRUCTURAL DRAWINGS FOR HEADER, LINTEL, AND SUPPORT REQUIREMENTS. PROVIDE TEMPORARY SHORING AND BRACING FOR BEARING WALLS AS REQUIRED.
DEMO-3	REMOVE PORTIONS OF EXISTING FLOOR STRUCTURE AS REQUIRED TO ACCOMMODATE NEW ELEVATOR HOISTWAY, PIT, STAIR ENCLOSURE, AND MECHANICAL DUCT OPENINGS. REFER TO STRUCTURAL, MECHANICAL, AND NEW CONSTRUCTION DRAWINGS FOR EXTENT AND DETAILS. AREA OF DEMOLITION SHOWN MAY NOT INCLUDE ALL ADDITIONAL DEMOLITION REQUIRED FOR NEW CONSTRUCTION. CONTRACTOR SHALL INCLUDE ALL REQUIRED DEMOLITION AND ASSOCIATED REPAIRS IN BID.
DEMO-4	REMOVE EXISTING CEILINGS BACK TO STRUCTURE, INCLUDING CEILING TILES, GRIDS, BULKHEADS, SOFFITS, AND ASSOCIATED FRAMING AS SHOWN. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DEMOLITION DRAWINGS FOR EXTENT OF MEP REMOVALS.
DEMO-5	REMOVE EXISTING FLOOR FINISHES AND ACCESSORIES IN THEIR ENTIRETY TO EXISTING SUBSTRATE AS SHOWN. PREPARE SUBSTRATES TO RECEIVE NEW FINISHES.
DEMO-6	EXISTING POOL TO BE ABANDONED IN PLACE. REMOVE POOL ACCESSORIES AND FINISHES. DEMOLITION OF FINISHES SHALL INCLUDE TILE, MUD SET, AND ALL ASSOCIATED ACCESSORIES TO THE SUBSTRATE. PREPARE SURFACES AS REQUIRED FOR NEW CONSTRUCTION. COORDINATE EXTENT OF DEMOLITION WITH NEW CONSTRUCTION AND STRUCTURAL DRAWINGS.
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PROJECT NO: 25.503
SHEET TITLE: DEMOLITION FLOOR PLAN - FIRST FLOOR
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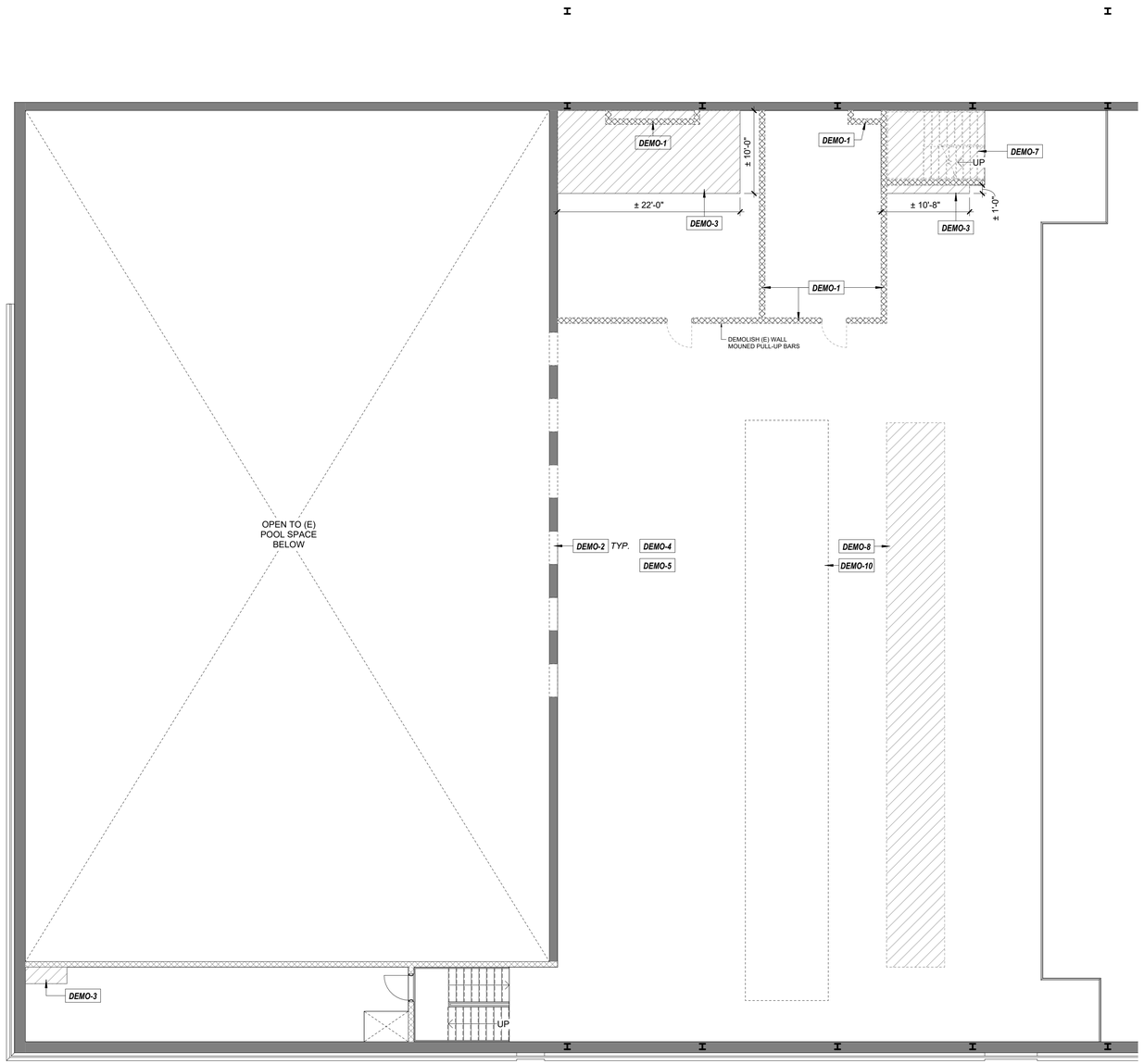

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SECOND FLOOR DEMOLITION PLAN

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

DEMOLITION SYMBOL LEGEND

EXISTING TO BE DEMOLISHED

EXISTING WALL TO REMAIN

LINE OF DEMOLITION, REFER TO STRUCT.

EXISTING COLUMN TO REMAIN U.O.N. REFER TO STRUCT.

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DEMO-4 REMOVE EXISTING CEILINGS BACK TO STRUCTURE, INCLUDING CEILING TILES, GRIDS, BULKHEADS, SOFFITS, AND ASSOCIATED FRAMING AS SHOWN. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DEMOLITION DRAWINGS FOR EXTENT OF MEP REMOVALS.

DEMO-5 REMOVE EXISTING FLOOR FINISHES AND ACCESSORIES IN THEIR ENTIRETY TO EXISTING SUBSTRATE AS SHOWN. PREPARE SUBSTRATES TO RECEIVE NEW FINISHES.

DEMO-6 EXISTING POOL TO BE ABANDONED IN PLACE. REMOVE POOL ACCESSORIES AND FINISHES. DEMOLITION OF FINISHES SHALL INCLUDE TILE, MUD SET, AND ALL ASSOCIATED ACCESSORIES TO THE SUBSTRATE. PREPARE SURFACES AS REQUIRED FOR NEW CONSTRUCTION. COORDINATE EXTENT OF DEMOLITION WITH NEW CONSTRUCTION AND STRUCTURAL DRAWINGS.

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PROJECT NO: 25.503

SHEET TITLE:
DEMOLITION FLOOR PLAN - SECOND FLOOR

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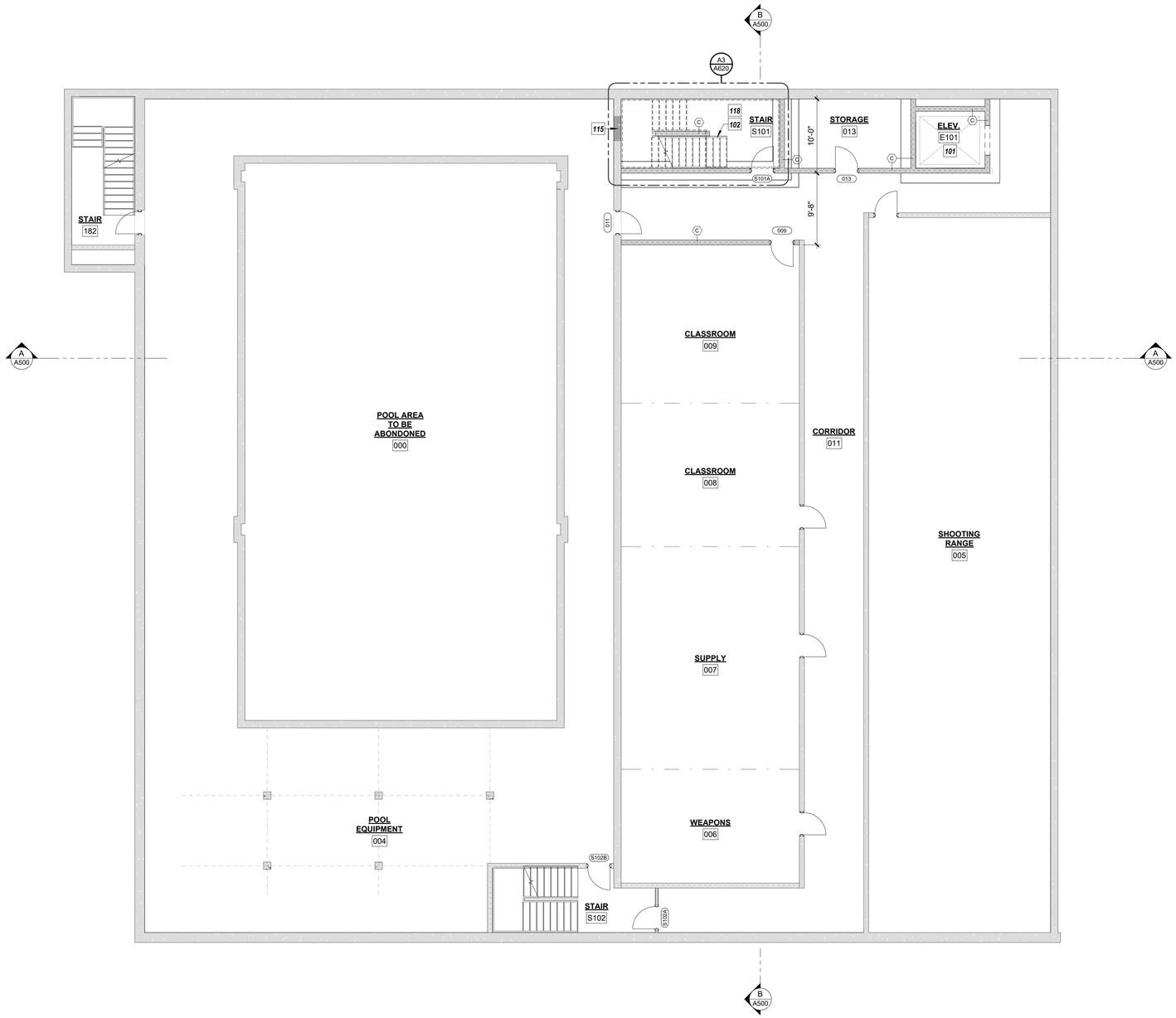

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BASEMENT FLOOR PLAN

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

GENERAL FLOOR PLAN NOTES

- ALL INTERIOR DIMENSIONS ARE TO FACE OF FRAMING, U.O.N.
- ALL EXTERIOR DIMENSIONS ARE TO EXTERIOR FACE OF FOUNDATION WALL
- REFER TO WALL SECTION AND WALL TYPE LEGEND FOR WALL CONSTRUCTION
- REFER TO MECHANICAL & ELECTRICAL DRAWINGS FOR EQUIPMENT MOUNTING REQUIREMENTS

FLOOR PLAN KEYNOTES

101 ELECTRIC TRACTION ELEVATOR
102 STEEL FRAMED STAIR w/ CONCRETE TREADS & LANDINGS
103 HOLLOW METAL FRAME WINDOWS AND DOORS
104 PHENOLIC PARTITIONS
105 VENTILATED METAL LOCKERS
106 NEW & SALVAGED VARSITY METAL LOCKERS. NEW LOCKERS TO MATCH EXISTING UNITS. VERIFY QTY. OF SALGAVED UNITS IN FIELD.
107 HARDWOOD LOCKER ROOM BENCH w/ STEEL PEDISTALS
108 PA / AV RACK BY OWNER
110 4' X 8' WHITEBOAD BY OWNER
112 SPRING ASSIST FOLDING BLEACHERS
113 ELECTRIC WATER COOLER w/ BOTTLE FILLER
114 REMOVABLE ATHLETIC WALL PADS
115 INFILL (E) OPENING TO MATCH ADJACENT (E) WALL CONSTRUCTION AND FINISHES. AT MASONRY WALLS, TOOTH-IN NEW WORK TO MATCH EXISTING COURSING & ALIGNMENT.
116 FRONT-LOADING WASHER BY OWNER, COORD. CONNECTIONS
117 FRONT-LOADING DRYER BY OWNER, COORD. CONNECTIONS
118 NEW CONCRETE SLAB, S.S.D.
119 NEW OPENING IN (E) FLOOR FOR MECHANICAL DUCT. REFER TO MECHANICAL AND STRUCTURAL DRAWINGS FOR OPENING SIZE, LOCATION, AND FRAMING REQUIREMENTS.
120 AREA OF NEW FLOOR TO MATCH ADJACENT EXISTING, REFER TO FINISH PLANS
121 TOOTH-IN MASONRY WALL AT LOCATIONS OF DEMOLISHED DUCT PENETRATIONS TO MATCH EXISTING WALL CONSTRUCTION. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND SIZES.

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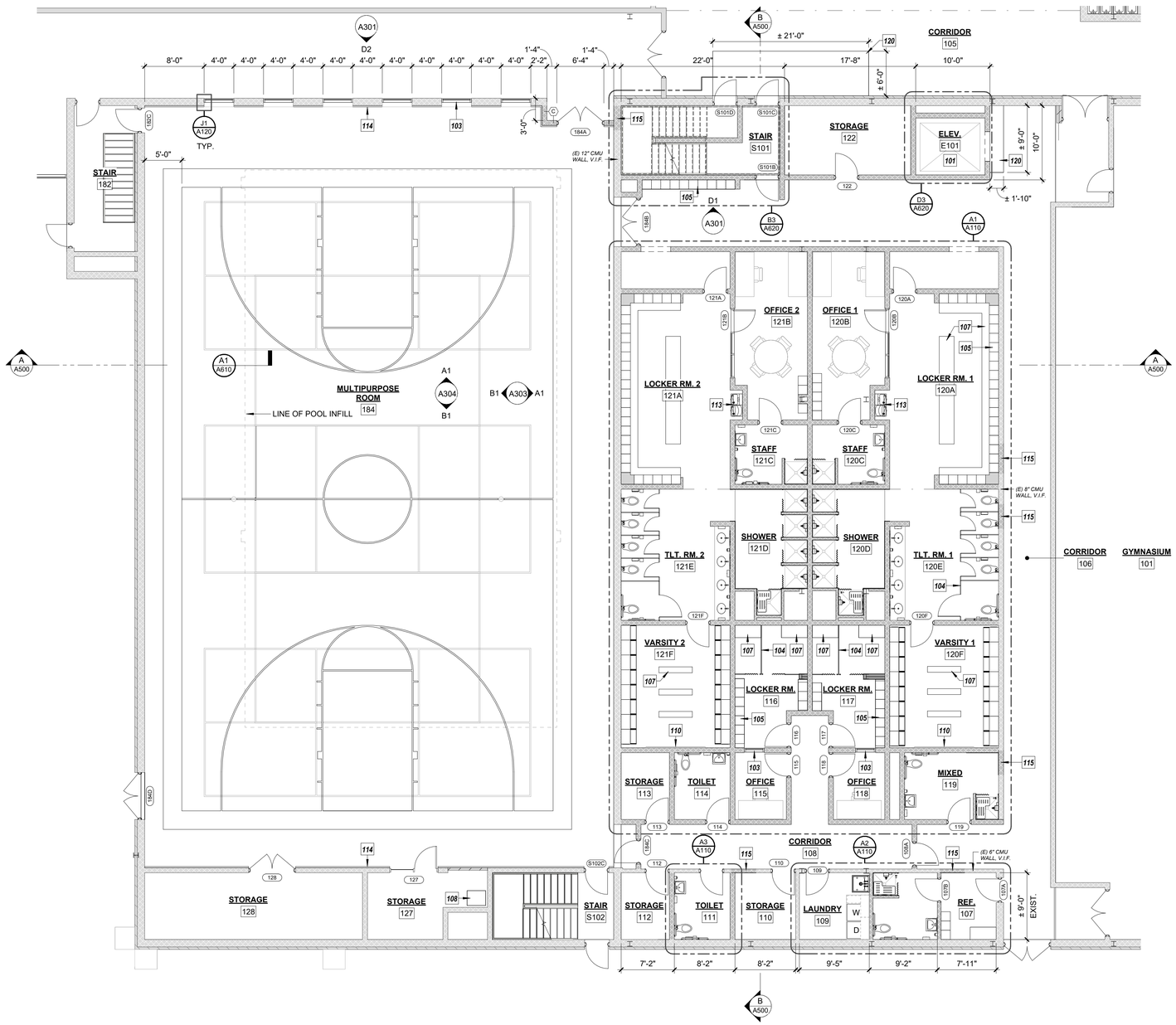

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FIRST FLOOR PLAN

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

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101	ELECTRIC TRACTION ELEVATOR
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SHEET TITLE: FLOOR PLAN - FIRST FLOOR

A102

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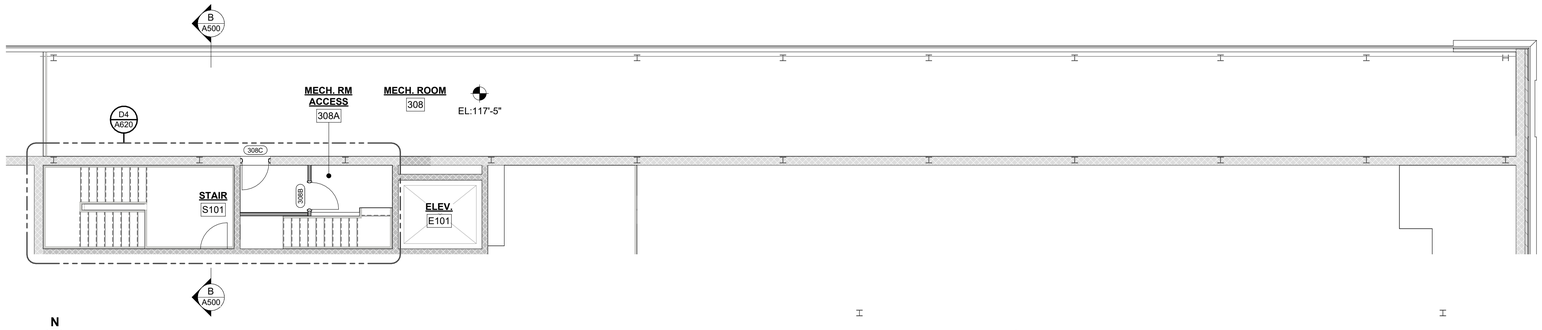
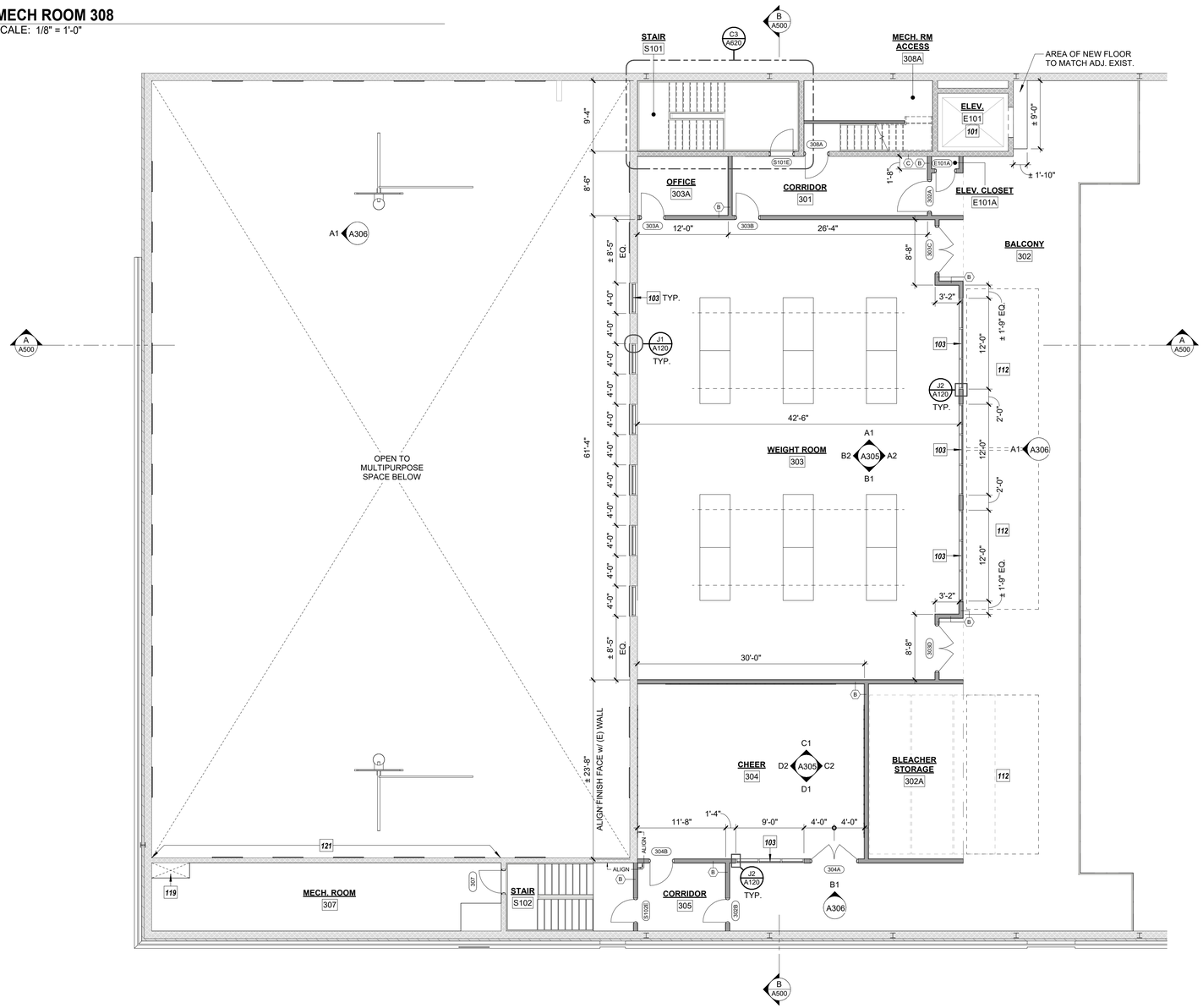


N

MECH ROOM 308

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



N

SECOND FLOOR PLAN

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

GENERAL FLOOR PLAN NOTES

- ALL INTERIOR DIMENSIONS ARE TO FACE OF FRAMING, U.O.N.
- ALL EXTERIOR DIMENSIONS ARE TO EXTERIOR FACE OF FOUNDATION WALL
- REFER TO WALL SECTION AND WALL TYPE LEGEND FOR WALL CONSTRUCTION
- REFER TO MECHANICAL & ELECTRICAL DRAWINGS FOR EQUIPMENT MOUNTING REQUIREMENTS

FLOOR PLAN KEYNOTES

101	ELECTRIC TRACTION ELEVATOR
102	STEEL FRAMED STAIR w/ CONCRETE TREADS & LANDINGS
103	HOLLOW METAL FRAME WINDOWS AND DOORS
104	PHENOLIC PARTITIONS
105	VENTILATED METAL LOCKERS
106	NEW & SALVAGED VARSITY METAL LOCKERS. NEW LOCKERS TO MATCH EXISTING UNITS. VERIFY QTY. OF SALGAVED UNITS IN FIELD.
107	HARDWOOD LOCKER ROOM BENCH w/ STEEL PEDISTALS
108	PA / AV RACK BY OWNER
110	4' X 8' WHITEBOAD BY OWNER
112	SPRING ASSIST FOLDING BLEACHERS
113	ELECTRIC WATER COOLER w/ BOTTLE FILLER
114	REMOVABLE ATHLETIC WALL PADS
115	INFILL (E) OPENING TO MATCH ADJACENT (E) WALL CONSTRUCTION AND FINISHES. AT MASONRY WALLS, TOOTH-IN NEW WORK TO MATCH EXISTING COURSING & ALIGNMENT.
116	FRONT-LOADING WASHER BY OWNER, COORD. CONNECTIONS
117	FRONT-LOADING DRYER BY OWNER, COORD. CONNECTIONS
118	NEW CONCRETE SLAB, S.S.D.
119	NEW OPENING IN (E) FLOOR FOR MECHANICAL DUCT. REFER TO MECHANICAL AND STRUCTURAL DRAWINGS FOR OPENING SIZE, LOCATION, AND FRAMING REQUIREMENTS.
120	AREA OF NEW FLOOR TO MATCH ADJACENT EXISTING, REFER TO FINISH PLANS
121	TOOTH-IN MASONRY WALL AT LOCATIONS OF DEMOLISHED DUCT PENETRATIONS TO MATCH EXISTING WALL CONSTRUCTION. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND SIZES.

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HIGH SCHOOL

MULTI-PURPOSE ROOM RENOVATION

904 Marquette Ave, Sault Ste. Marie, MI 49783

Date	Issued For
03.09.2026	PERMITS
03.17.2026	BIDS

PIC: J. Dancer
PM: A. Dancer
DRAFTS: A. Dancer
PROJECT NO: 25.503
SHEET TITLE: FLOOR PLAN - SECOND FLOOR

A103

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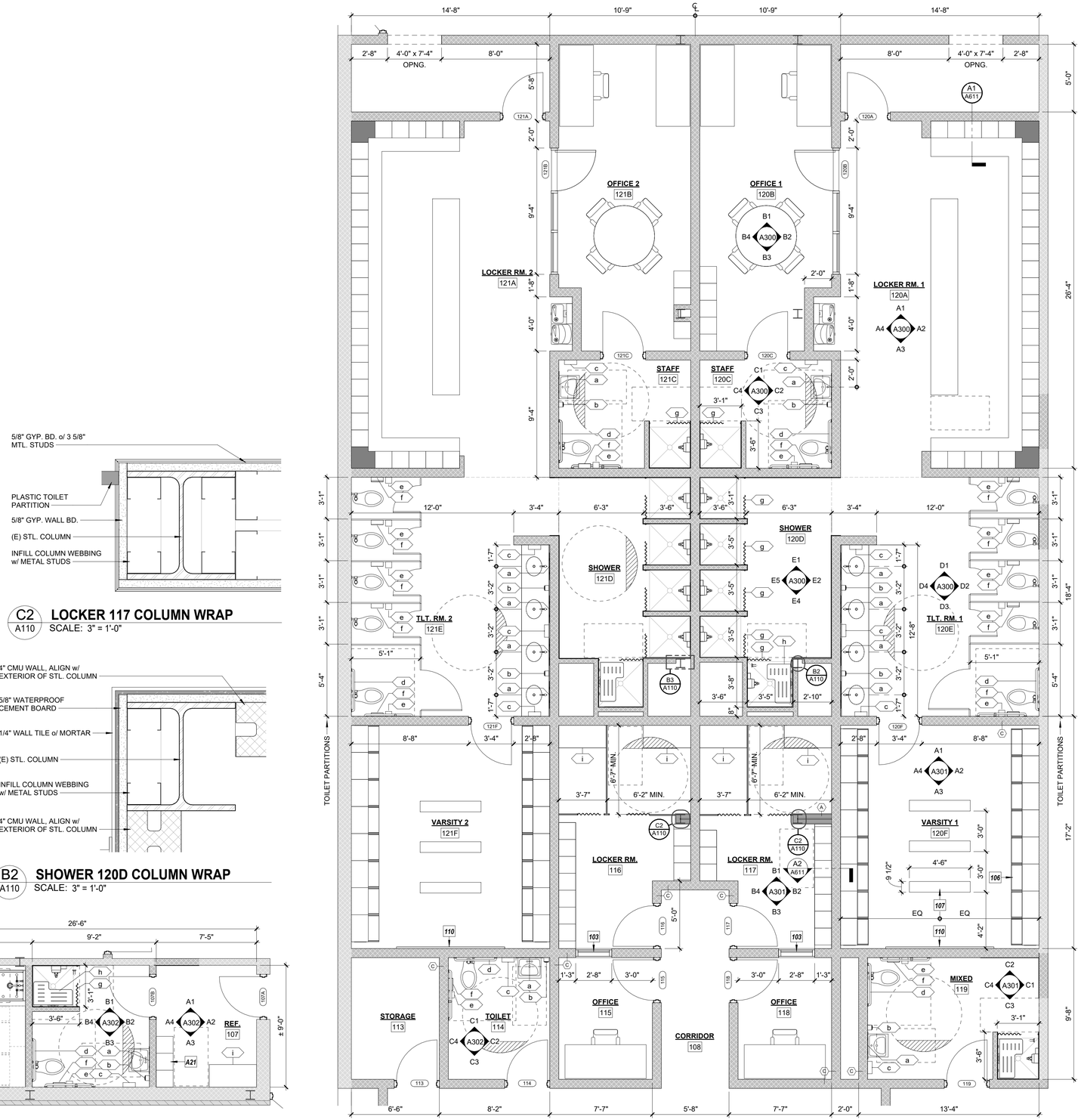
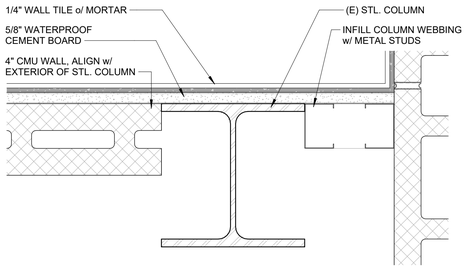


A1 / A110 ENLARGED LOCKER ROOM PLAN
SCALE: 1/4" = 1'-0"

A3 / A110 ENLARGED TOILET ROOM PLAN
SCALE: 1/4" = 1'-0"

A2 / A110 ENLARGED REFEREE LOCKER ROOM
SCALE: 1/4" = 1'-0"

C2 / A110 LOCKER 117 COLUMN WRAP
SCALE: 3" = 1'-0"



B3 / A110 SHOWER 121D COLUMN WRAP
SCALE: 3" = 1'-0"

B2 / A110 SHOWER 120D COLUMN WRAP
SCALE: 3" = 1'-0"

TOILET ACCESSORY LEGEND

- a STEEL FRAMED MIRROR, SEE ELEV. FOR SIZES
- b SOAP DISPENSER, O.F.C.I.
- c PAPER TOWEL DISPENSER
- d GRAB BAR SET OF 3 (SEE ADA SHEET FOR MOUNTING)
- e TOILET PAPER DISPENSER, O.F.C.I.
- f SANITARY NAPKIN DISPOSAL
- g SHOWER ROD & CURTAINS
- h 33" FOLDING SHOWER SEAT
- i 42" x 20" WALL MOUNTED BENCH, ADA COMPLIANT
- j BABY CHANGING STATION

*REFER TO SPECIFICATION **SECTION 10 28 13** FOR DETAILS AND MANUFACTURER'S RECOMMENDATIONS FOR ALL MOUNTING HEIGHTS*

FLOOR PLAN KEYNOTES

101 ELECTRIC TRACTION ELEVATOR
102 STEEL FRAMED STAIR w/ CONCRETE TREADS & LANDINGS
103 HOLLOW METAL FRAME WINDOWS AND DOORS
104 PHENOLIC PARTITIONS
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106 NEW & SALVAGED VARSITY METAL LOCKERS. NEW LOCKERS TO MATCH EXISTING UNITS. VERIFY QTY. OF SALGAVED UNITS IN FIELD.
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DRAFTS: A. Dancer
PROJECT NO: 25.503
SHEET TITLE: ENLARGED FLOOR PLANS
A110

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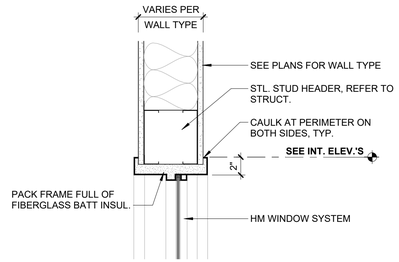
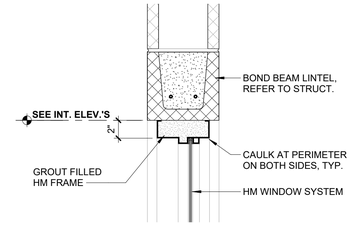
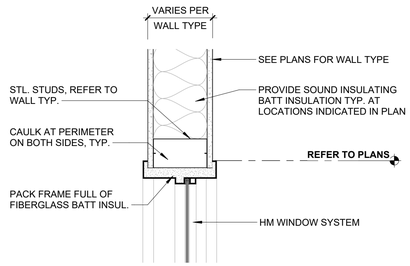


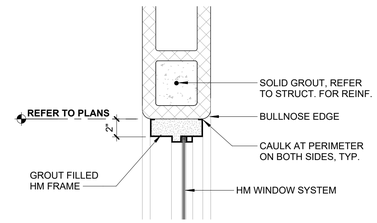
H2 / A120 **HM WINDOW @ STUD WALL - HEAD DETAIL**
SCALE: 1 1/2" = 1'-0"



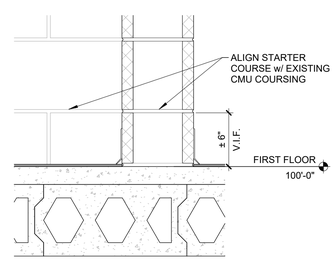
H1 / A120 **HM WINDOW @ CMU WALL - HEAD DETAIL**
SCALE: 1 1/2" = 1'-0"



J2 / A120 **HM WINDOW @ STUD WALL - JAMB DETAIL**
SCALE: 1 1/2" = 1'-0"



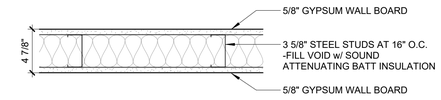
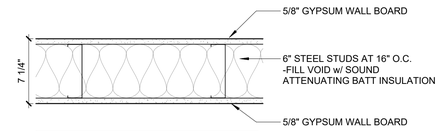
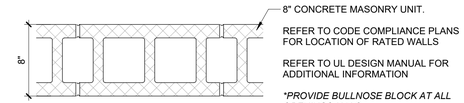
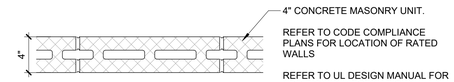
J1 / A120 **HM WINDOW @ CMU WALL - JAMB DETAIL**
SCALE: 1 1/2" = 1'-0"



A1 / A120 **CMU STARTER COARSE DETAIL**
SCALE: 1 1/2" = 1'-0"

INTERIOR WALL TYPE LEGEND

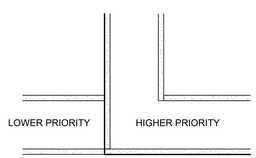
1. DIMENSIONS SHOWN ARE TO FACE OF FRAMING, U.O.N.
2. PROVIDE BLOCKING AT ALL CASEWORK, BATHROOM ACCESSORIES, MARKERBOARDS, DISPLAY CASES, ETC. AS PER PLANS & ELEVATIONS
3. REFER TO CODE COMPLIANCE FLOOR PLANS FOR LOCTATIONS OF FIRE RATED WALLS AND SMOKE BARRIERS
4. REFER TO STRUCTURAL DRAWINGS FOR CMU REINFORCING
5. REFER TO INTERIOR ELEVATIONS AND DETAILS FOR FINISH AND FINISH BUILD UP
6. ALL FIRE RATED PARTITIONS/SHAFTS SHALL BE CONSTRUCTED FULL HEIGHT TO AND SEALED AGAINST UNDERSIDE OF STRUCTURE. SEAL ALL EDGES w/ FIRE RATED SEALANT
7. ALL PARTITIONS SURROUNDING TOILET ROOMS TO RUN FULL HEIGHT AND SEALED TO UNDERSIDE OF DECK
8. USE MOISTURE RESISTANT DRYWALL IN ALL DAMP LOCATIONS

TYPE	DESCRIPTION
A	 *NOTE: EXTEND WALL TYPE TO DECK U.O.N.* *SUBSTITUTE w/ TYPE X GYP. BOARD AT WALLS REQUIRING RATING (GA FILE No. WP3510)* **PROVIDE 1/2" TILE BACKER IN LIEU OF GYP. FOR WALLS TO RECEIVE TILE*
B	 *NOTE: EXTEND WALL TYPE TO DECK U.O.N.* **PROVIDE 1/2" TILE BACKER IN LIEU OF GYP. FOR WALLS TO RECEIVE TILE* **PROVIDE UL U419 ASSEMBLY WHERE 1-HR FIRE RATING INDICATED*
C	 REFER TO CODE COMPLIANCE PLANS FOR LOCATION OF RATED WALLS REFER TO UL DESIGN MANUAL FOR ADDITIONAL INFORMATION **PROVIDE BULLNOSE BLOCK AT ALL OPENINGS U.N.O.*
D	 REFER TO CODE COMPLIANCE PLANS FOR LOCATION OF RATED WALLS REFER TO UL DESIGN MANUAL FOR ADDITIONAL INFORMATION

HIGHEST PRIORITY

1 - TWO HOUR FIRE & SMOKE WALL
2 - TWO HOUR FIRE WALL/SHAFT WALL
3 - ONE HOUR FIRE & SMOKE WALL
4 - ONE HOUR FIR WALL
5 - NON-RATED WALL

LOWEST PRIORITY



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03.17.2026	BIDS

PIC: J. Dancer
PM: A. Dancer
DRAFTS: A. Dancer
PROJECT NO: 25.503
SHEET TITLE: INTERIOR WALL TYPE LEGEND & DETAILS
A120

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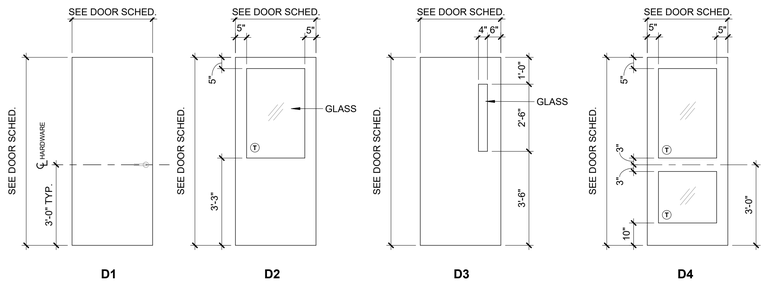
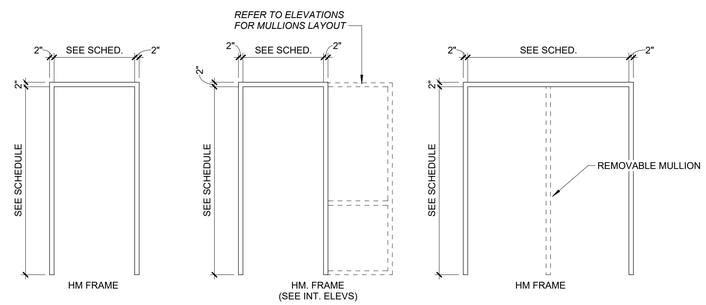
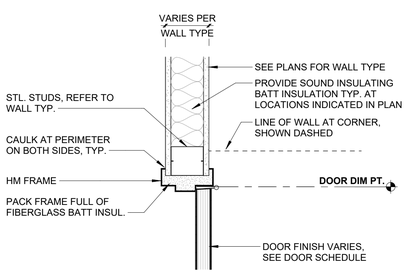


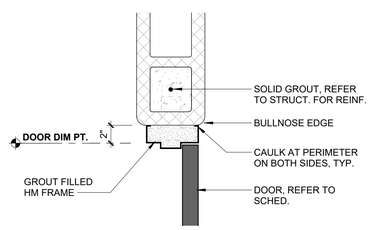
DOOR LEGEND



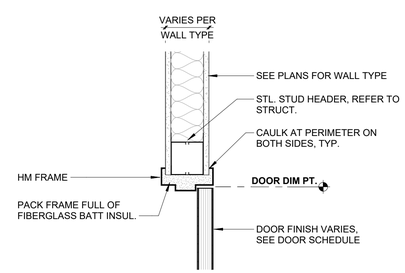
FRAME LEGEND



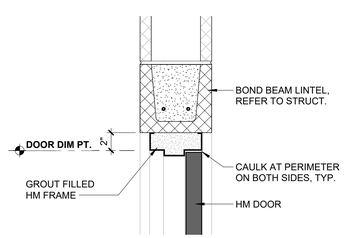
J2 / A130 **JAMB DETAIL**
SCALE: 1 1/2" = 1'-0"



J1 / A130 **JAMB DETAIL (SIM. @ OPP.)**
SCALE: 1 1/2" = 1'-0"



H2 / A130 **HEAD DETAIL**
SCALE: 1 1/2" = 1'-0"



H1 / A130 **HEAD DETAIL**
SCALE: 1 1/2" = 1'-0"

DOOR AND FRAME SCHEDULE

#	LOCATION	NEW / EXIST.	DOOR SIZE H	DOOR SIZE W	DOOR SINGLE/ PAIR	DOOR THICK.	DOOR TYPE	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	FIRE RATING	HW SETS	DETAILS HEAD	DETAILS JAMB	CARD ACCESS	REMARKS
BASEMENT																
009	CLASSROOM	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D173	HM	F1	HM			H1	J1	■	CLASSROOM FUNCTION
011	POOL EQUIPMENT	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	HM	F1	HM			H1	J1	■	CLASSROOM FUNCTION
013	STORAGE	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	HM	F1	HM			H1	J1	■	STOREROOM FUNCTION
S101A	STAIR	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	HM	F1	HM	45 MIN.		H1	J1		PASSAGE FUNCTION w/ PANIC HARDWARE
S102A	STAIR	EXISTING	7'-0"	3'-0"	SINGLE	1 3/4"	D1	EXIST.	F1	EXIST.	45 MIN.		EXIST.	EXIST.		EXIST. DOOR w/ NEW CARD ACCESS
S102B	STAIR	EXISTING	7'-0"	3'-0"	SINGLE	1 3/4"	EXIST.	EXIST.	EXIST.	EXIST.			EXIST.	EXIST.	■	EXIST. DOOR w/ NEW CARD ACCESS
FIRST FLOOR																
107A	REF.	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1	■	OFFICE FUNCTION
107B	REF.	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	HM	F1	HM			H1	J1		PRIVACY SET w/ INDICATOR
108A	CORRIDOR	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1		PASSAGE FUNCTION
109	LAUNDRY	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM	45 MIN.		H1	J1	■	OFFICE FUNCTION
110	STORAGE	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1	■	STOREROOM FUNCTION
111	TOILET	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1		PRIVACY SET w/ INDICATOR
112	STORAGE	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1	■	STOREROOM FUNCTION
113	STORAGE	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1	■	STOREROOM FUNCTION
114	TOILET	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1		PRIVACY SET w/ INDICATOR
115	OFFICE	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D2	WD	F1	HM			H1	J1	■	OFFICE FUNCTION
116	LOCKER RM.	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1	■	CLASSROOM FUNCTION
117	LOCKER RM.	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1	■	CLASSROOM FUNCTION
118	OFFICE	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D2	WD	F1	HM			H1	J1	■	OFFICE FUNCTION
119	MIXED	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1		PRIVACY SET w/ INDICATOR
120A	LOCKER RM. 1	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	FRP	F1	FRP			H1	J1	■	CLASSROOM FUNCTION
120B	OFFICE 1	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D3	HM	F2	HM			H1	J1		OFFICE FUNCTION
120C	STAFF	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	HM	F1	HM			H1	J1		PRIVACY SET w/ INDICATOR
120F	VARSITY 1	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	FRP	F1	FRP			H1	J1		CLASSROOM FUNCTION
121A	LOCKER RM. 2	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	FRP	F1	FRP			H1	J1	■	CLASSROOM FUNCTION
121B	OFFICE 2	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D3	HM	F2	HM			H1	J1		OFFICE FUNCTION
121C	STAFF	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	HM	F1	HM			H1	J1		PRIVACY SET w/ INDICATOR
121F	VARSITY 2	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	FRP	F1	HM			H1	J1		CLASSROOM FUNCTION
122	STORAGE	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1	■	STOREROOM FUNCTION
127	STORAGE	EXISTING	7'-0"	3'-0"	SINGLE	1 3/4"	EXIST.	EXIST.	EXIST.	EXIST.			EXIST.	EXIST.	■	EXIST. DOOR w/ NEW CARD ACCESS
128	STORAGE	EXISTING	7'-0"	6'-0"	PAIR	1/4"	EXIST.	EXIST.	EXIST.	EXIST.			EXIST.	EXIST.	■	EXIST. DOOR w/ NEW CARD ACCESS
182C	STAIR	EXISTING	7'-0"	3'-0"	SINGLE	1 3/4"	EXIST.	EXIST.	EXIST.	EXIST.			EXIST.	EXIST.		EXISTING DOOR w/ NEW EXIT ONLY ALARM
184A	MULTIPURPOSE ROOM	NEW	7'-0"	6'-0"	PAIR	1/4"	D1	WD	F3	HM			H1	J1	■	CLASSROOM FUNCTION
184B	MULTIPURPOSE ROOM	NEW	7'-0"	6'-0"	PAIR	1/4"	D1	WD	F3	HM			H1	J1	■	CLASSROOM FUNCTION
184C	MULTIPURPOSE ROOM	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H1	J1	■	CLASSROOM FUNCTION
184D	MULTIPURPOSE ROOM	NEW	7'-0"	6'-0"	PAIR	1/4"	D58	FRP	F3	FRP			H1	J1	■	
S101B	STAIR	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM	45 MIN.		H1	J1	■	CLASSROOM FUNCTION w/ FREE EGRESS
S101C	STAIR	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM	45 MIN.		H1	J1	■	CLASSROOM FUNCTION w/ FREE EGRESS
S101D	STAIR	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM	45 MIN.		H1	J1	■	CLASSROOM FUNCTION w/ FREE EGRESS
S102C	STAIR	EXISTING	7'-0"	3'-0"	SINGLE	1 3/4"	EXIST.	EXIST.	EXIST.	EXIST.			EXIST.	EXIST.		EXISTING DOOR w/ NEW EXIT ONLY ALARM
MECH ROOM 307																
307	MECH. ROOM	EXISTING	7'-0"	3'-0"	SINGLE	1 3/4"	EXIST.	EXIST.	EXIST.	EXIST.			EXIST.	EXIST.	■	EXIST. DOOR w/ NEW CARD ACCESS
SECOND FLOOR																
302A	BALCONY	NEW	7'-0"	4'-0"	SINGLE	1 3/4"	D5	WD	F1	HM			H2	J2		PASSAGE FUNCTION w/ PANIC HARDWARE & HOLD OPEN TIED TO FIRE ALARM
302B	BALCONY	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H2	J2		PASSAGE FUNCTION w/ PANIC HARDWARE
303A	MULTIPURPOSE ROOM	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H2	J2	■	OFFICE FUNCTION
303B	WEIGHT ROOM	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H2	J2		CLASSROOM FUNCTION
303C	WEIGHT ROOM	NEW	7'-0"	6'-0"	PAIR	1/4"	D1	WD	F3	HM			H2	J2	■	CLASSROOM FUNCTION
303D	WEIGHT ROOM	NEW	7'-0"	6'-0"	PAIR	1/4"	D1	WD	F3	HM			H2	J2	■	CLASSROOM FUNCTION
304A	CHEER	NEW	7'-0"	6'-0"	PAIR	1/4"	D1	WD	F3	HM			H2	J2	■	CLASSROOM FUNCTION
304B	CHEER	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM			H2	J2		CLASSROOM FUNCTION
308A	MECH. RM ACCESS	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM	45 MIN.		H1	J1	■	PASSAGE FUNCTION w/ PANIC HARDWARE
S101E	STAIR	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM	45 MIN.		H1	J1		PASSAGE FUNCTION w/ PANIC HARDWARE
S102E	STAIR	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	WD	F1	HM	45 MIN.		H2	J2		PASSAGE FUNCTION w/ PANIC HARDWARE
MECH ROOM 308																
308B	MECH. RM ACCESS	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	HM	F1	HM			H1	J2		PASSAGE FUNCTION w/ PANIC HARDWARE
308C	MECH. ROOM	NEW	7'-0"	3'-0"	SINGLE	1 3/4"	D1	HM	F1	HM	45 MIN.		H1	J1		PASSAGE FUNCTION w/ PANIC HARDWARE

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Date	Issued For
03.09.2026	PERMITS
03.17.2026	BIDS

PIC: J. Dancer
PM: A. Dancer
DRAFTS: A. Dancer
PROJECT NO: 25.503
SHEET TITLE: DOOR SCHEDULE & DETAILS

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FINISH SCHEDULE

MARK	PRODUCT	MANUFACTURER	STYLE	COLOR	SIZE	REMARKS
BASE						
B-1	WALL BASE	TARKETT - JOHNSONITE, ROPPE, OR EQUAL	TRADITIONAL VINYL 1/8"	63 BURNT UMBER	4" COVE	
CASEWORK						
PL-1	PLASTIC LAMINATE	TBD	TBD	TBD	--	
SS-1	SOLID SURFACE	TBD	TBD	TBD	--	
FLOOR						
CONC-1	SEALED CONCRETE	SEE SPEC	--	--	--	
LVT-1	RESILIENT VINYL FLOORING	X	X			
RAF-1	RESILIENT ATHLECTIC FLOORING	MONDO	ADVANCE (10 MM)	L62 SAND	--	
RAF-2	RESILIENT ATHLECTIC FLOORING	MONDO	SPORT IMPACT (10MM)	S011 MEDIUM GREY		
RAF-3	RESILIENT ATHLECTIC FLOORING	MONDO	SPORT IMPACT (10MM)	S110 BLUE		
RVF-1	RESILIENT VINYL FLOORING	PROTECT-ALL	MATTE FLOORING	TBD	ROLL	COMMERCIAL INSTALLATION
T-1	TERRAZZO	--	MATCH EXISTING	MATCH EXISTING	MATCH EXISTING	
PAINT						
PT-1	PAINT	SHERWIN WILLIAMS OR EQ.	--	TBD	TBD	
PT-2	PAINT	SHERWIN WILLIAMS OR EQ.	--	TBD	TBD	
PT-4	COURT STRIPING PAINT	TBD	TBD	TBD		
PT-5	COURT STRIPING PAINT	TBD	TBD	TBD		
PT-6	COURT STRIPING PAINT	TBD	TBD			
TILE						
CT-1	CERAMIC TILE	AMERICAN OLEAN	UNGLAZED PORCELAIN MOSAIC	TBD	2X2	GROUT: TBD BASE: 5X12 BUILD UP JOINT: STRAIGHT
CT-2	CERAMIC TILE	AMERICAN OLEAN	UNGLAZED PORCELAIN MOSAIC	TBD	2X2	GROUT: TBD BASE: 5X12 BUILD UP JOINT: STRAIGHT

GENERAL FINISH NOTES

1. PROJECT CLEAN UP SHALL INCLUDE A "VACUUM CLEAN" INTERIOR SPACE WITH RESTORATION TO "LIKE NEW" CONDITIONS OF ALL DAMAGED SURFACES AND ITEMS.

2. ALL FASTENINGS AND ATTACHMENTS OF LIKE AND DIFFERENT MATERIALS SHALL BE FULLY CONCEALED FROM VIEW.

3. ALL MATERIAL FINISH SELECTIONS (COLORS, MANUFACTURERS, PATTERNS, ETC.) TO BE DETERMINED BY ARCHITECT AND APPROVED BY BUILDING OWNER. SAMPLES OF ALL FINISHES SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO ORDERING AND INSTALLING. SHOP DRAWINGS (MIN 3 SETS) SHALL INCLUDE LOCATIONS FOR ALL FINISHES.

4. PROVIDE AFFIDAVITS FOR ALL FINISH MATERIALS TO VERIFY FLAME SPREAD AND SMOKE DEVELOPMENT IN ACCORDANCE WITH NFPA.

5. INSTALL TRANSITION STRIP OR TERMINATION EDGE BETWEEN ALL DISSIMILAR FLOORING MATERIALS. REFER TO FLOOR FINISH PLANS AND LEGEND. LOCATE UNDER DOOR WHERE TRANSITION HAPPENS BETWEEN ENCLOSED ROOMS.

6. CONTRACTOR TO PROVIDE A MINIMUM QUANTITY OF 10% OVERAGE (IN ADDITION TO THE AMOUNT DETERMINED FOR INSTALLATION PURPOSES) OF EACH MATERIAL SPECIFIED FOR THIS PROJECT FOR THE OWNER'S USE AFTER COMPLETION OF THE PROJECT.

7. THE FLOORING TRADE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER RECOMMENDED FLOOR PREP FOR A PROPER, SMOOTH AND LEVEL INSTALLATION OF THE NEW FLOOR MATERIALS IN IT'S PLACE. NO EXCEPTIONS A FIELD VISIT IS REQUIRED TO ASSESS CURRENT CONDITIONS.

8. THE CONSTRUCTION MANAGER AND THE TRADE CONTRACTOR(S) RESPONSIBLE FOR SUPPLY AND INSTALLATION OF THESE FINISH MATERIALS ARE RESPONSIBLE FOR VERIFYING THE LEAD TIME AND FOR ORDERING/RECEIVING THE MATERIAL TO INSURE AN INSTALLATION DATE THAT DOES NOT DELAY CONSTRUCTION SCHEDULE. THESE MATERIALS HAVE BEEN REVIEWED AND APPROVED BY THE OWNER. NO SUBSTITUTIONS WILL BE ACCEPTED DUE TO UNTIMELY ORDER ENTRY/RECEIPT

9. WALL FINISHES INDICATED ON PLANS INDICATE PRIMARY ROOM WALL FINISH. REFER TO INTERIOR ELEVATIONS FOR DETAILED FINISH INFORMATION.

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PROJECT NO: 25.503
SHEET TITLE: FINISH SCHEDULE & NOTES
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FINISH FLOOR PLAN - BASEMENT

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

FINISH SYMBOL LEGEND

SYMBOL	DESCRIPTION
NAME NUMBER	ROOM NAME & NUMBER
XX-#	FLOOR FINISH
XX-#	BASE FINISH
XX-#	WALL FINISH
XX-#	FINISH KEYNOTE

FLOOR FINISH LEGEND

RAF-1	RVF-1	CT-1
RAF-2	RVF-2	CT-2
RAF-3	LVT-1	
	CONC-1	

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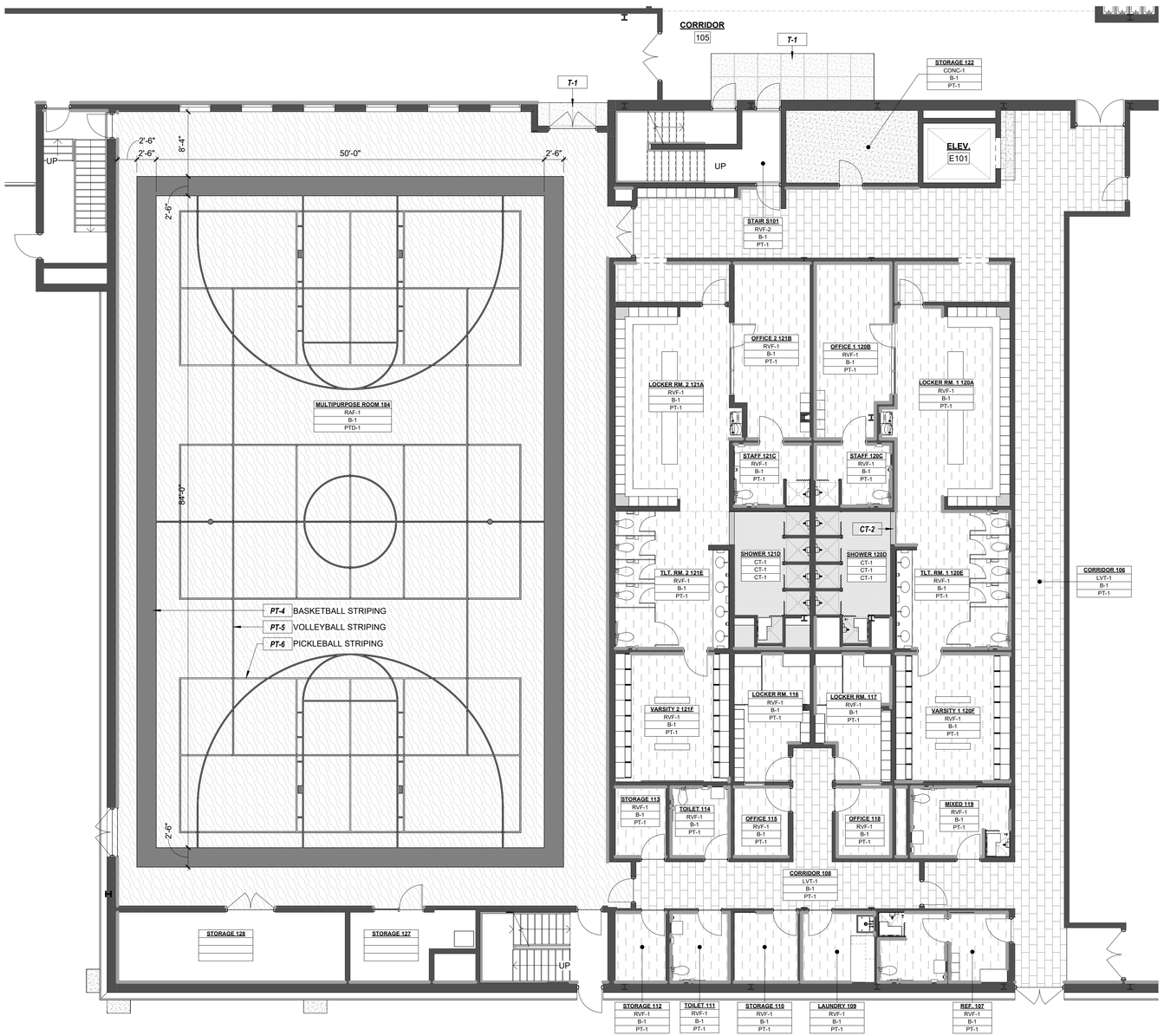

N

FINISH FLOOR PLAN - FIRST FLOOR

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

FINISH SYMBOL LEGEND

SYMBOL	DESCRIPTION
NAME NUMBER	ROOM NAME & NUMBER
XX-#	FLOOR FINISH
XX-#	BASE FINISH
XX-#	WALL FINISH
XX-#	FINISH KEYNOTE

FLOOR FINISH LEGEND

RAF-1	RVF-1	CT-1
RAF-2	RVF-2	CT-2
RAF-3	LVT-1	
	CONC-1	

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SHEET TITLE: FINISH FLOOR PLAN - FIRST FLOOR

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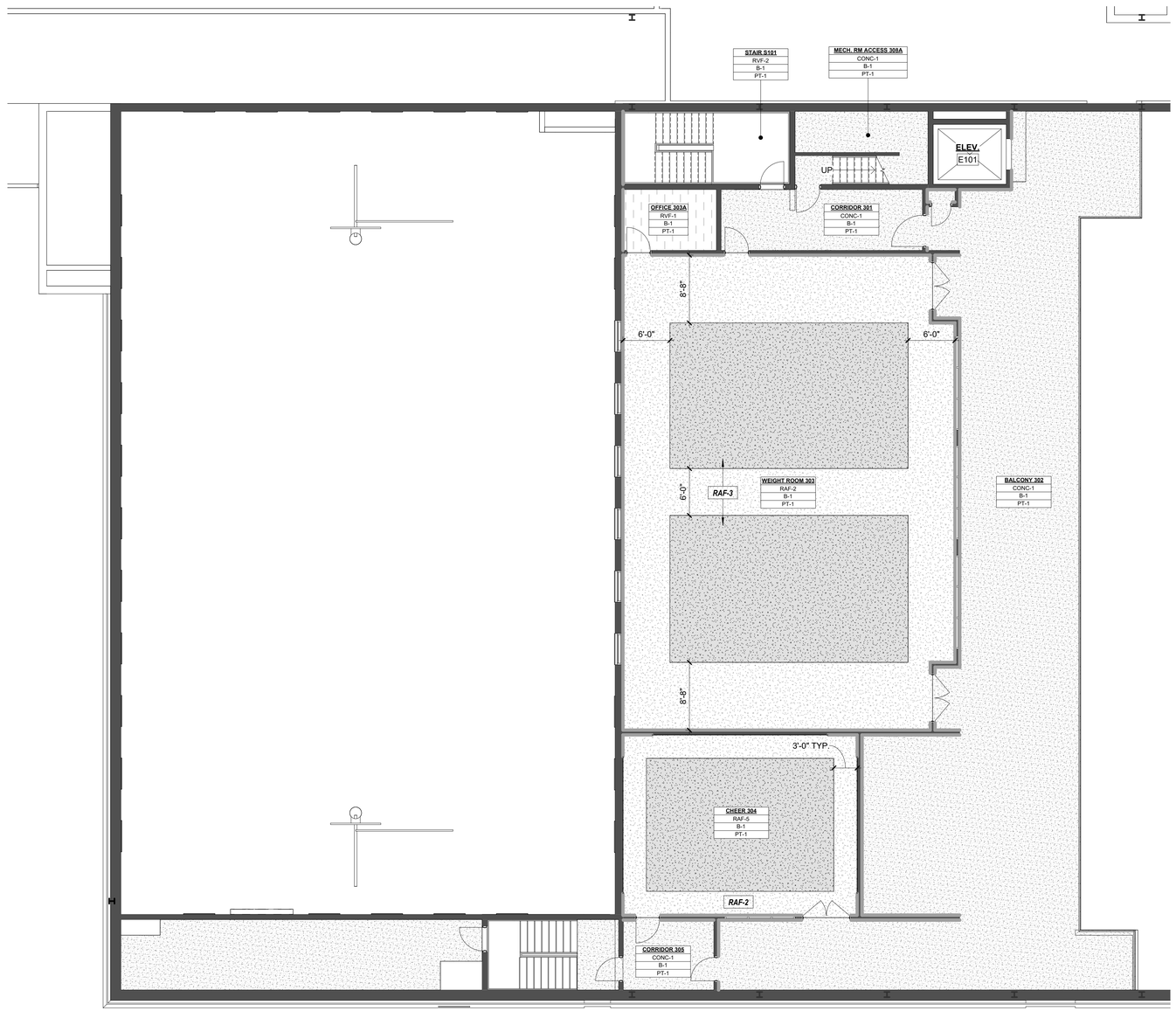

N

FINISH FLOOR PLAN - SECOND FLOOR

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

FINISH SYMBOL LEGEND

SYMBOL	DESCRIPTION
NAME NUMBER	ROOM NAME & NUMBER
XX-#	FLOOR FINISH
XX-#	BASE FINISH
XX-#	WALL FINISH
XX-#	FINISH KEYNOTE

FLOOR FINISH LEGEND

RAF-1	RVF-1	CT-1
RAF-2	RVF-2	CT-2
RAF-3	LVT-1	
	CONC-1	

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SHEET TITLE: FINISH FLOOR PLAN - SECOND FLOOR

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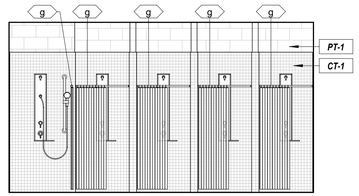
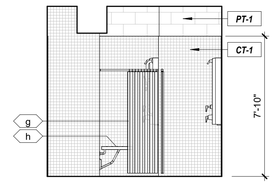
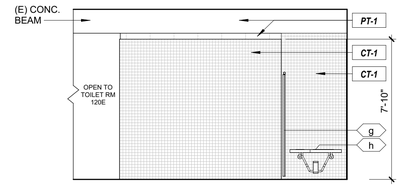


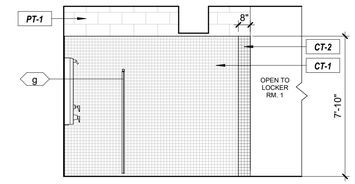
E5 A300 **SHOWER - WEST**
SCALE: 1/4" = 1'-0"



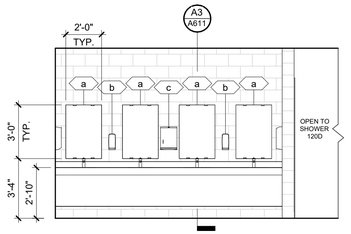
E4 A300 **SHOWER - SOUTH**
SCALE: 1/4" = 1'-0"



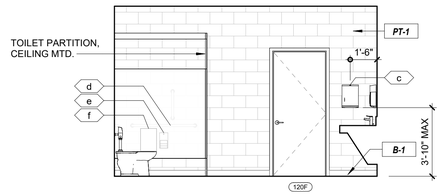
E2 A300 **SHOWER - EAST**
SCALE: 1/4" = 1'-0"



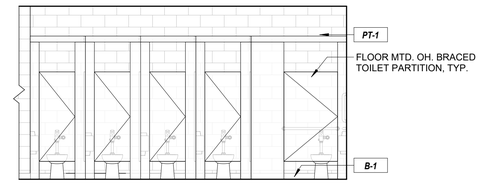
E1 A300 **SHOWER - NORTH**
SCALE: 1/4" = 1'-0"



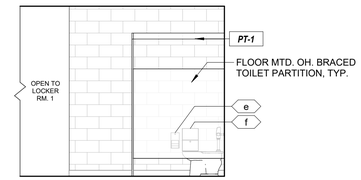
D4 A300 **TOILET ROOM - WEST**
SCALE: 1/4" = 1'-0"



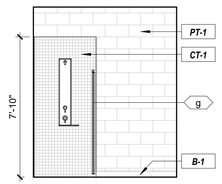
D3 A300 **TOILET ROOM - SOUTH**
SCALE: 1/4" = 1'-0"



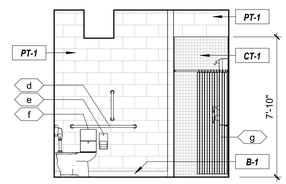
D2 A300 **TOILET ROOM - EAST**
SCALE: 1/4" = 1'-0"



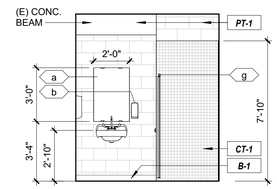
D1 A300 **TOILET ROOM - NORTH**
SCALE: 1/4" = 1'-0"



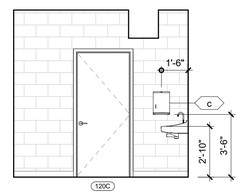
C4 A300 **STAFF TOILET - WEST**
SCALE: 1/4" = 1'-0"



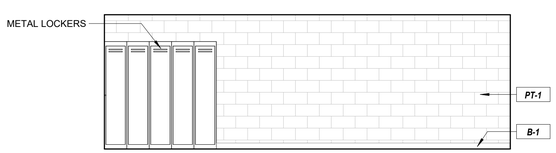
C3 A300 **STAFF TOILET - SOUTH**
SCALE: 1/4" = 1'-0"



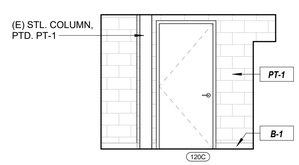
C2 A300 **STAFF TOILET - EAST**
SCALE: 1/4" = 1'-0"



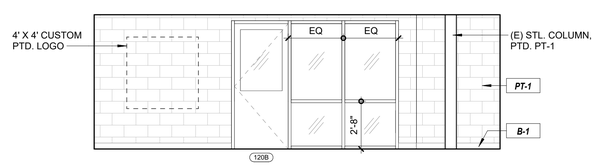
C1 A300 **STAFF TOILET - NORTH**
SCALE: 1/4" = 1'-0"



B4 A300 **OFFICE - WEST**
SCALE: 1/4" = 1'-0"



B3 A300 **OFFICE - SOUTH**
SCALE: 1/4" = 1'-0"



B2 A300 **OFFICE - EAST**
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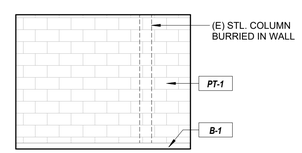
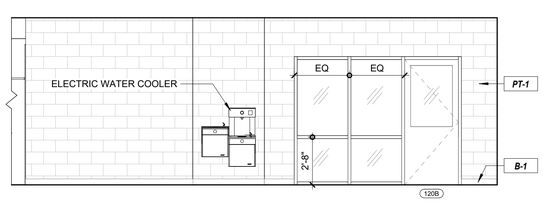
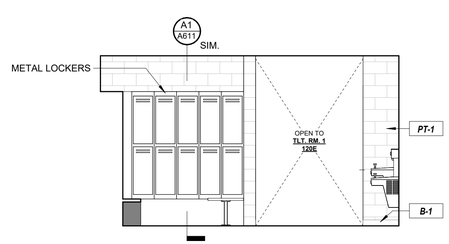


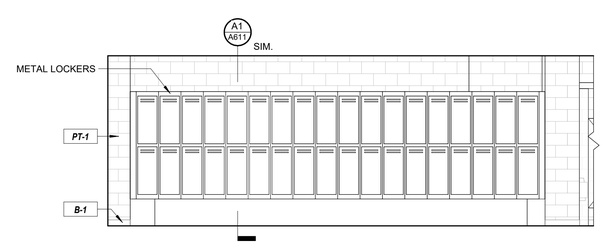
B1 A300 **OFFICE - NORTH**
SCALE: 1/4" = 1'-0"



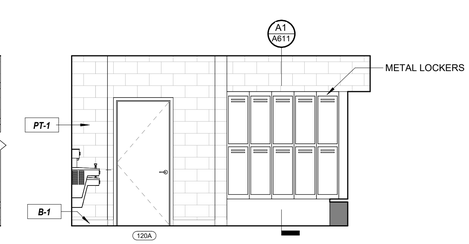
A4 A300 **LOCKER ROOM - WEST**
SCALE: 1/4" = 1'-0"



A3 A300 **LOCKER ROOM - SOUTH**
SCALE: 1/4" = 1'-0"



A2 A300 **LOCKER ROOM - EAST**
SCALE: 1/4" = 1'-0"



A1 A300 **LOCKER ROOM - NORTH**
SCALE: 1/4" = 1'-0"

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DRAFTS: A. Dancer
PROJECT NO: 25.503
SHEET TITLE: INTERIOR ELEVATIONS
A300

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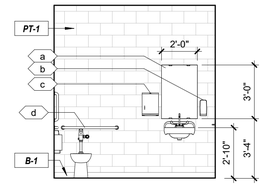
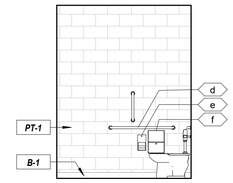
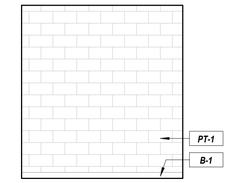


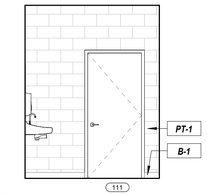
E4 A301 **TOILET 111 - WEST**
SCALE: 1/4" = 1'-0"



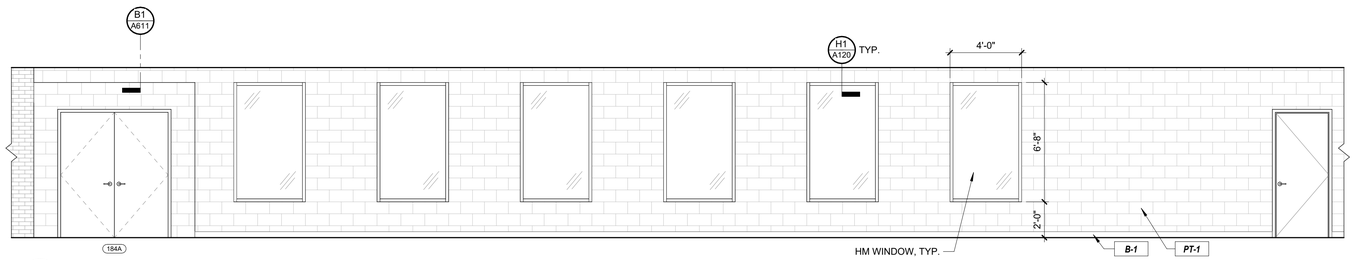
E3 A301 **TOILET 111 - SOUTH**
SCALE: 1/4" = 1'-0"



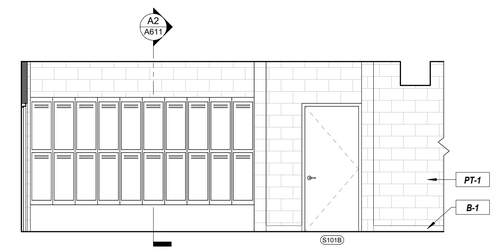
E2 A301 **TOILET 111 - EAST**
SCALE: 1/4" = 1'-0"



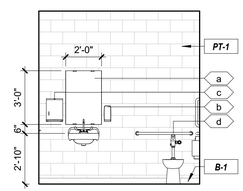
E1 A301 **TOILET 111 - NORTH**
SCALE: 1/4" = 1'-0"



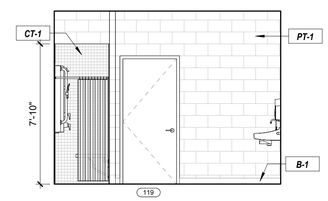
D2 A301 **CORRIDOR 183 SOUTH**
SCALE: 1/4" = 1'-0"



D1 A301 **CORRIDOR 106 NORTH**
SCALE: 1/4" = 1'-0"



C4 A301 **MIXED USE TOILET - WEST**
SCALE: 1/4" = 1'-0"



C3 A301 **MIXED USE TOILET - SOUTH**
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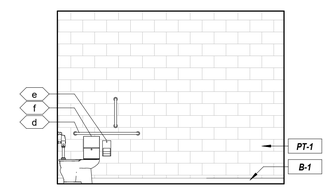
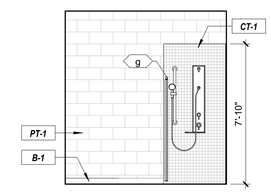
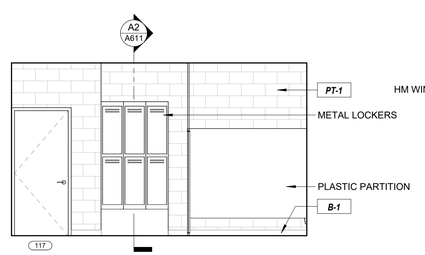


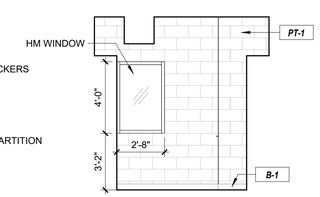
C2 A301 **MIXED USE TLT - NORTH**
SCALE: 1/4" = 1'-0"



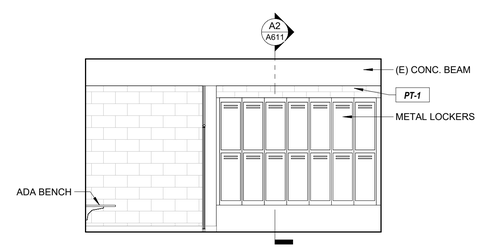
C1 A301 **MIXED USE TOILET - EAST**
SCALE: 1/4" = 1'-0"



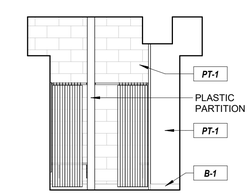
B4 A301 **SMALL LOCKER RM - WEST**
SCALE: 1/4" = 1'-0"



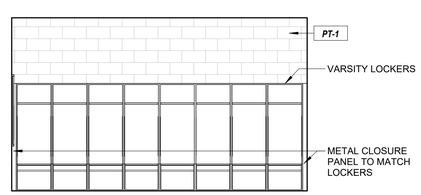
B3 A301 **SMALL LOCKER RM - SOUTH**
SCALE: 1/4" = 1'-0"



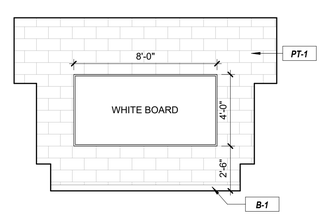
B2 A301 **SMALL LOCKER RM - EAST**
SCALE: 1/4" = 1'-0"



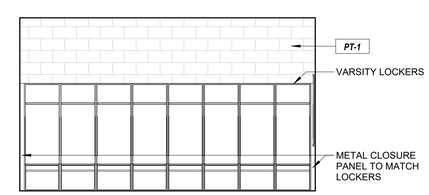
B1 A301 **SMALL LOCKER RM - NORTH**
SCALE: 1/4" = 1'-0"



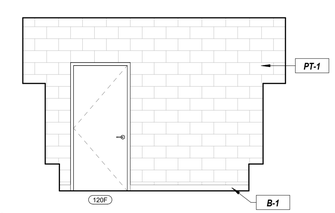
A4 A301 **VARSITY LOCKER - WEST**
SCALE: 1/4" = 1'-0"



A3 A301 **VARSITY LOCKER - SOUTH**
SCALE: 1/4" = 1'-0"



A2 A301 **VARSITY LOCKER - EAST**
SCALE: 1/4" = 1'-0"



A1 A301 **VARSITY LOCKER - NORTH**
SCALE: 1/4" = 1'-0"

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A301

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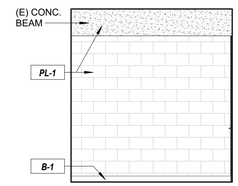
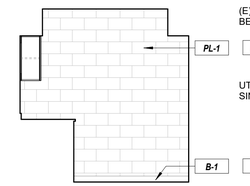
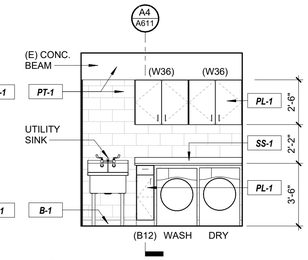


D4 A302 **LAUNDRY 109 - WEST**
SCALE: 1/4" = 1'-0"



D3 A302 **LAUNDRY 109 - SOUTH**
SCALE: 1/4" = 1'-0"



D2 A302 **LAUNDRY 109 - EAST**
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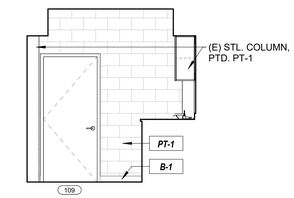
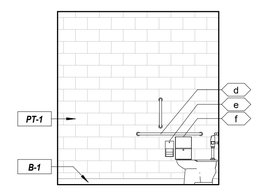
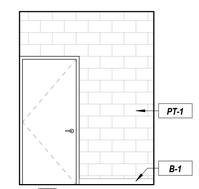


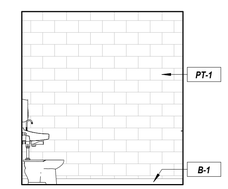
D1 A302 **LAUNDRY 109 - NORTH**
SCALE: 1/4" = 1'-0"



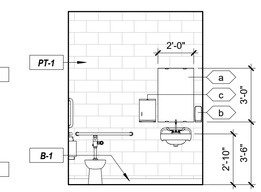
C4 A302 **TOILET 114 - WEST**
SCALE: 1/4" = 1'-0"



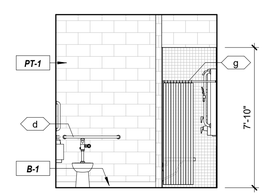
C3 A302 **TOILET 114 - SOUTH**
SCALE: 1/4" = 1'-0"



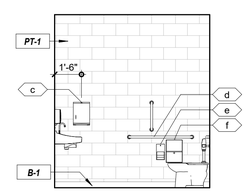
C2 A302 **TOILET 114 - EAST**
SCALE: 1/4" = 1'-0"



C1 A302 **TOILET 114 - NORTH**
SCALE: 1/4" = 1'-0"



B4 A302 **REF. TLT. - WEST**
SCALE: 1/4" = 1'-0"



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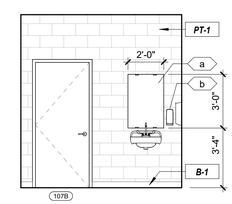
SCALE: 1/4" = 1'-0"



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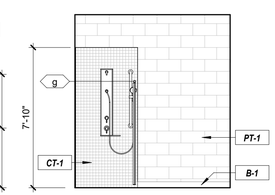

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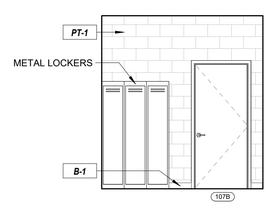

A4 A302 **REF 107 - WEST**
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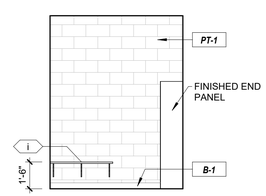

A3 A302 **REF 107 - SOUTH**
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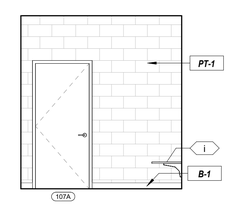

A2 A302 **REF 107 - EAST**
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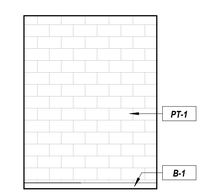

A1 A302 **REF 107 - NORTH**
SCALE: 1/4" = 1'-0"

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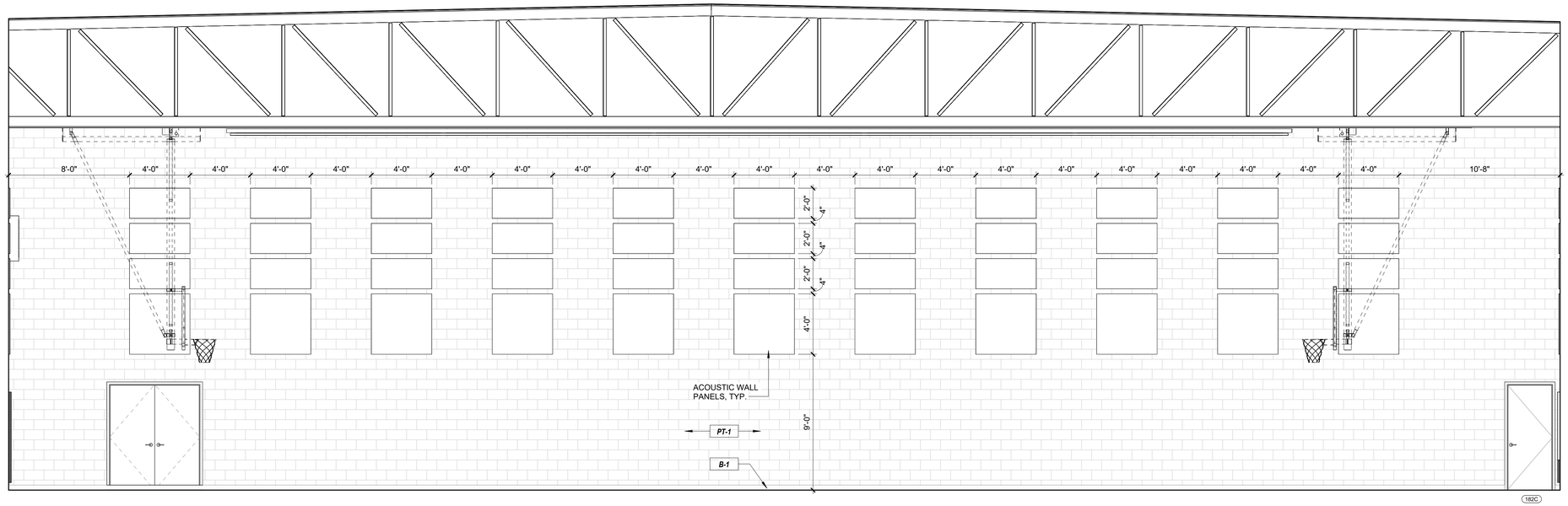

B1 / A303 **MULTIPURPOSE - WEST**
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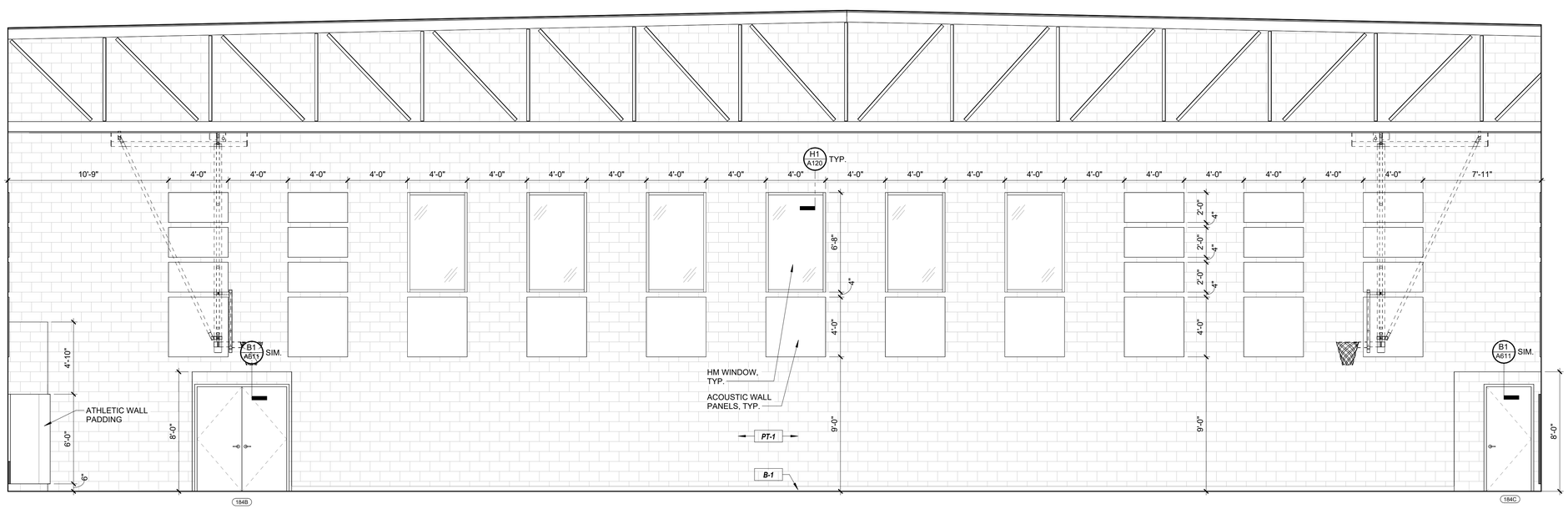

A1 / A303 **MULTIPURPOSE - EAST**
SCALE: 1/4" = 1'-0"

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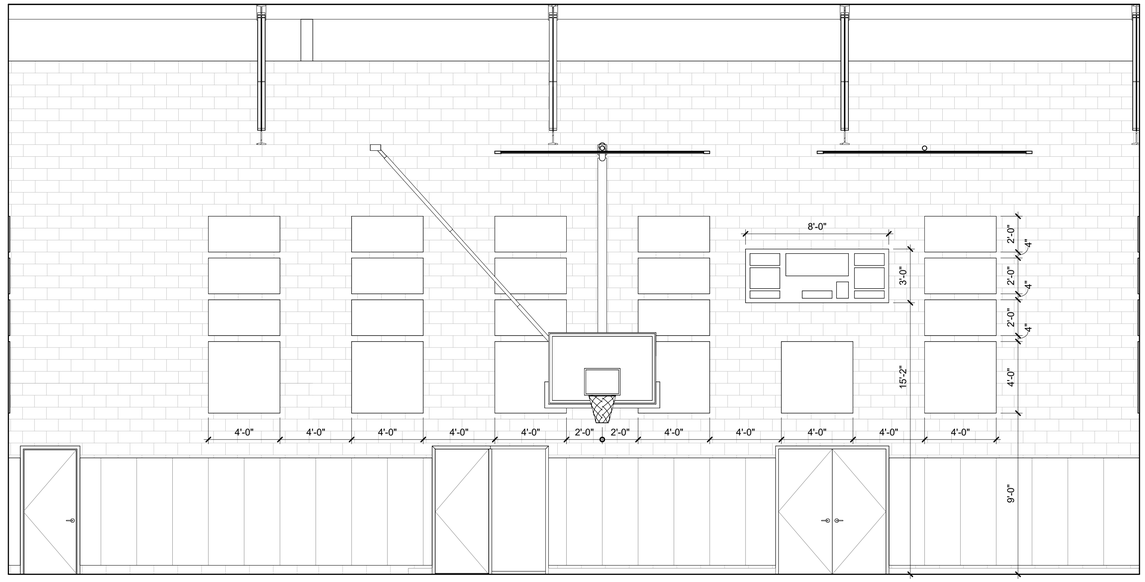

B1 / A304 **MULTIPURPOSE - SOUTH**
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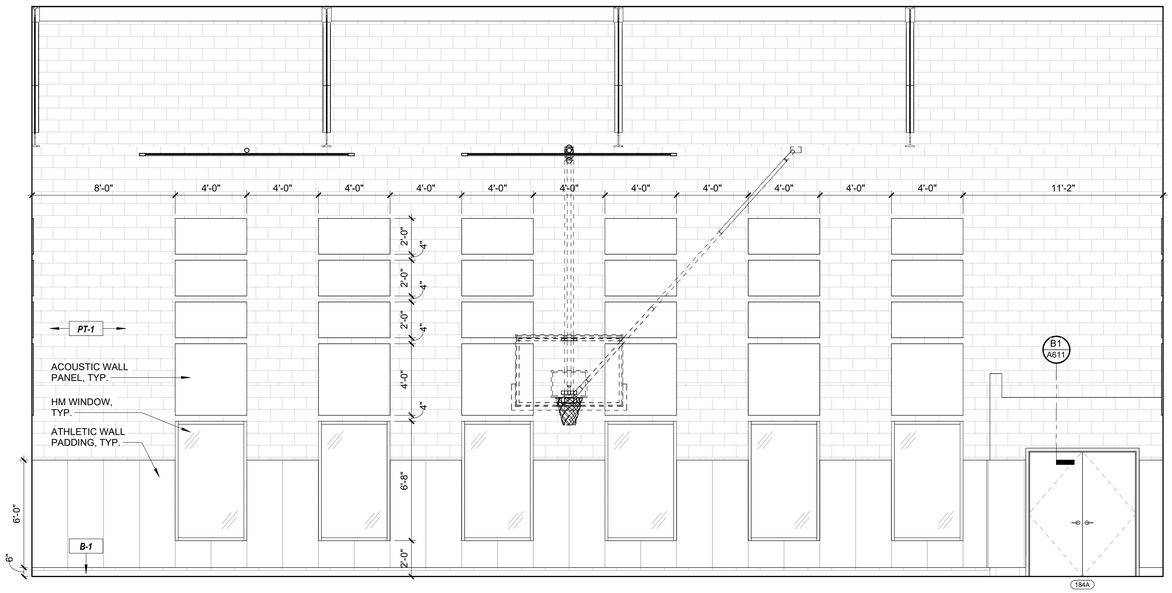

A1 / A304 **MULTIPURPOSE - NORTH**
SCALE: 1/4" = 1'-0"

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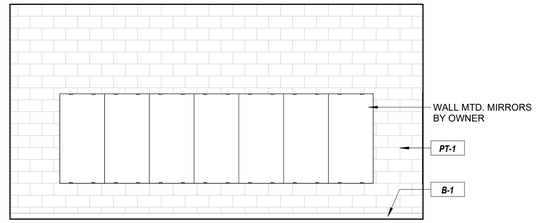

D2 A305 **CHEER - WEST**
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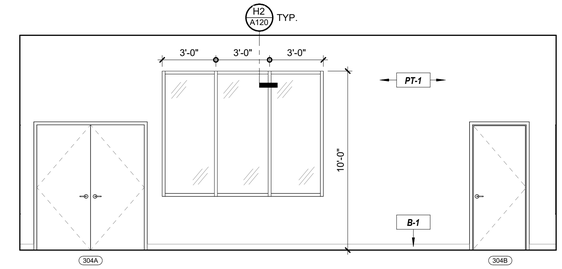

D1 A305 **CHEER - SOUTH**
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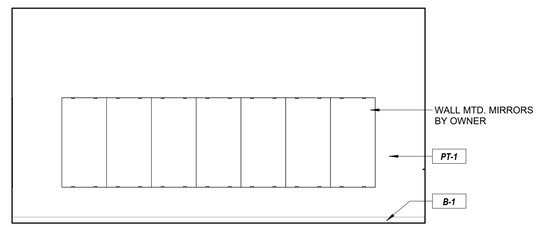
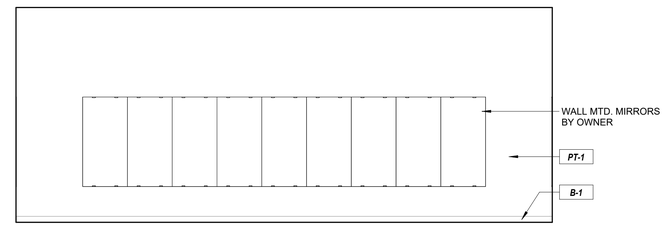
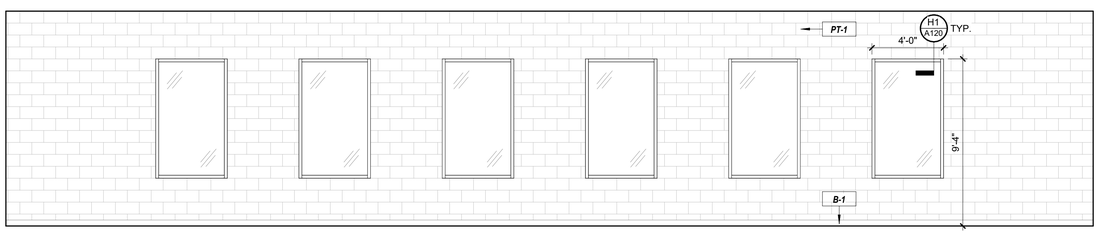


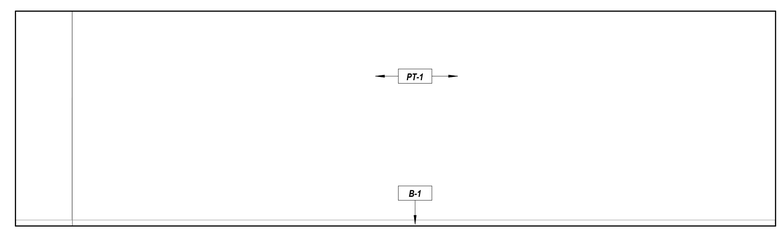
C2 A305 **CHEER - EAST**
SCALE: 1/4" = 1'-0"



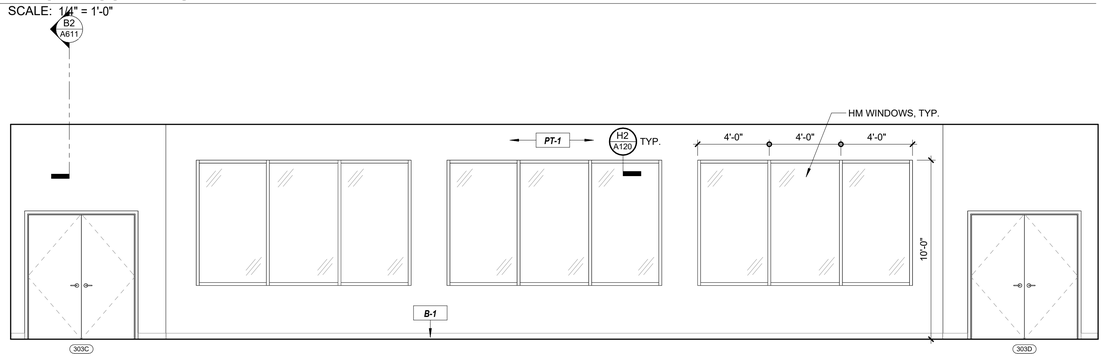
C1 A305 **CHEER - NORTH**
SCALE: 1/4" = 1'-0"



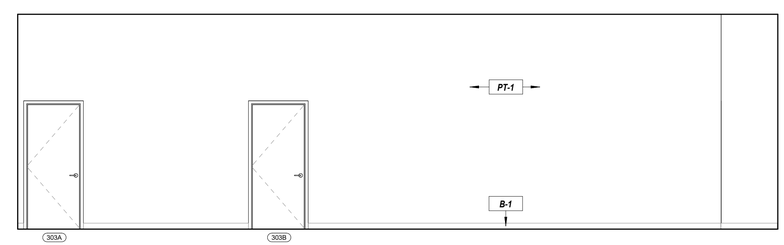
B2 A305 **WEIGHT ROOM - WEST**
SCALE: 1/4" = 1'-0"



B1 A305 **WEIGHT ROOM - SOUTH**
SCALE: 1/4" = 1'-0"



A2 A305 **WEIGHT ROOM - EAST**
SCALE: 1/4" = 1'-0"



A1 A305 **WEIGHT ROOM - NORTH**
SCALE: 1/4" = 1'-0"

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DRAFTS: A. Dancer
PROJECT NO: 25.503
SHEET TITLE: INTERIOR ELEVATIONS
A305

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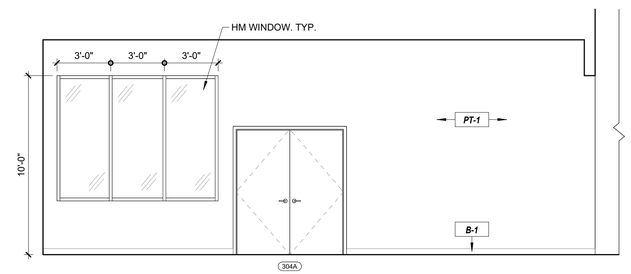
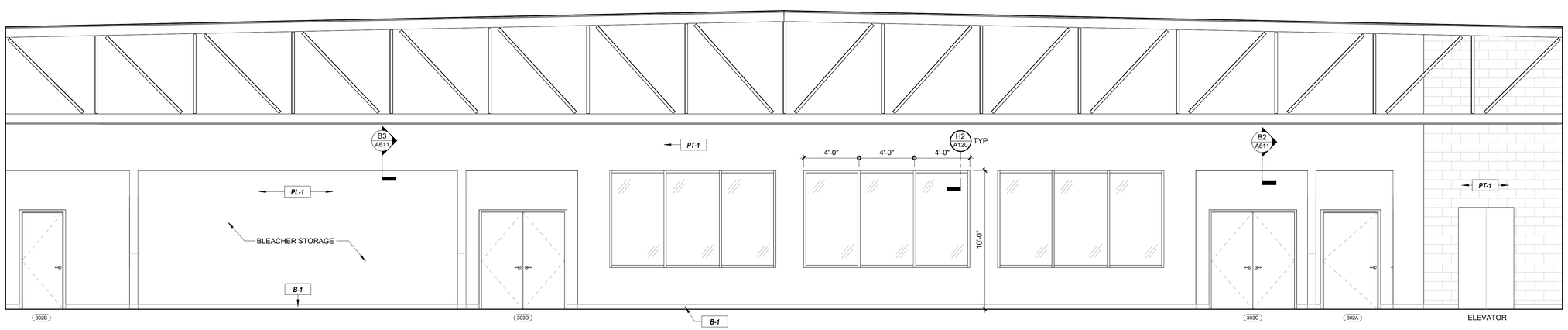


B1 / A306 **BALCONY 302 - NORTH**
SCALE: 1/4" = 1'-0"



A1 / A306 **BALCONY 302 - WEST**
SCALE: 1/4" = 1'-0"

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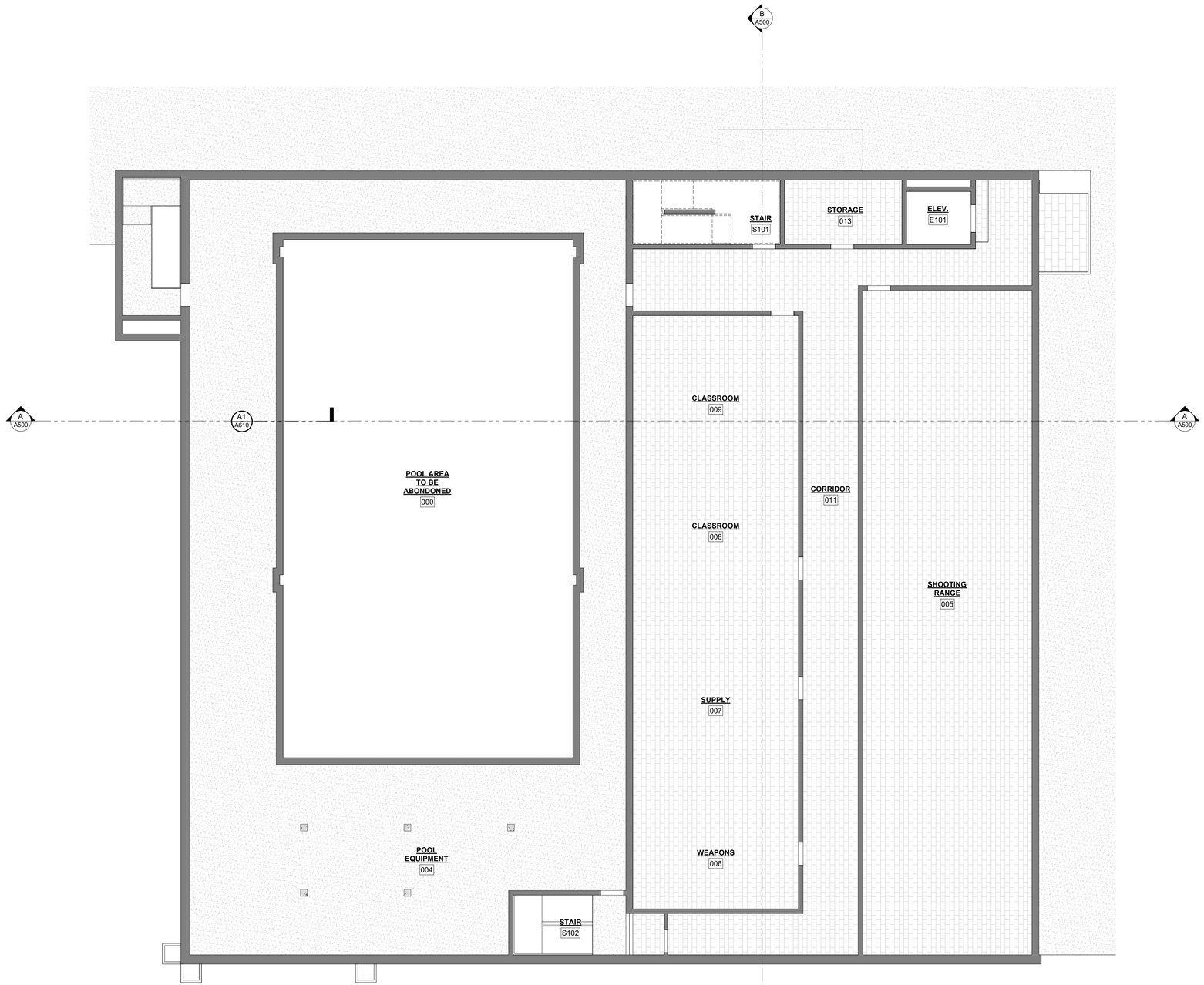

N

GROUND FLOOR RCP

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

CEILING FINISH LEGEND

X X'-XX"
CEILING TYPE
HEIGHT ABOVE FINISH FLOOR

A	SUSPENDED 2'-0" x 2'-0" TEGULAR EDGE LAY-IN ACOUSTICAL CEILING TILE
B	TBD
C	TBD
D	TBD
E	TBD
F	TBD

-LIGHTING & HVAC SYMBOLS SHOWN FOR PLACEMENT AND REFERENCE. COORDINATE w/ ELEC. & MECH. DRAWINGS

-USE MOLD RESISTANT DRYWALL AT WET LOCATIONS

RCP KEYNOTE LEGEND

401	(E) PRECAST CONCRETE BEAM
402	(E) OVERHEAD CRANE FOR WRESTLING MAT
403	DIRECT APPLY ACOUSTIC WALL PANELS, REFER TO ELEVATIONS FOR SIZE AND FINISH INFORMATION
404	8' x 3' SCOREBOARD BY OWNER
405	BOTTOM LIFTING MULTI-SPORT PRACTICE CAGE, S.S.D.
406	CEILING SUSPENDED, SIDE FOLDING BASKETBALL BACKSTOP, S.S.D.

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PROJECT NO: 25.503
SHEET TITLE: REFLECTED CEILING PLAN - BASEMENT
A401

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FIRST FLOOR RCP

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

CEILING FINISH LEGEND

X X'-XX" — CEILING TYPE / HEIGHT ABOVE FINISH FLOOR

A	SUSPENDED 2'-0" x 2'-0" TEGULAR EDGE LAY-IN ACOUSTICAL CEILING TILE
B	TBD
C	TBD
D	TBD
E	TBD
F	TBD

-LIGHTING & HVAC SYMBOLS SHOWN FOR PLACEMENT AND REFERENCE. COORDINATE w/ ELEC. & MECH. DRAWINGS

-USE MOLD RESISTANT DRYWALL AT WET LOCATIONS

RCP KEYNOTE LEGEND

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402	(E) OVERHEAD CRANE FOR WRESTLING MAT
403	DIRECT APPLY ACOUSTIC WALL PANELS, REFER TO ELEVATIONS FOR SIZE AND FINISH INFORMATION
404	8' x 3' SCOREBOARD BY OWNER
405	BOTTOM LIFTING MULTI-SPORT PRACTICE CAGE, S.S.D.
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DRAFTS: A. Dancer
PROJECT NO: 25.503

SHEET TITLE: REFLECTED CEILING PLAN - FIRST FLOOR

A402

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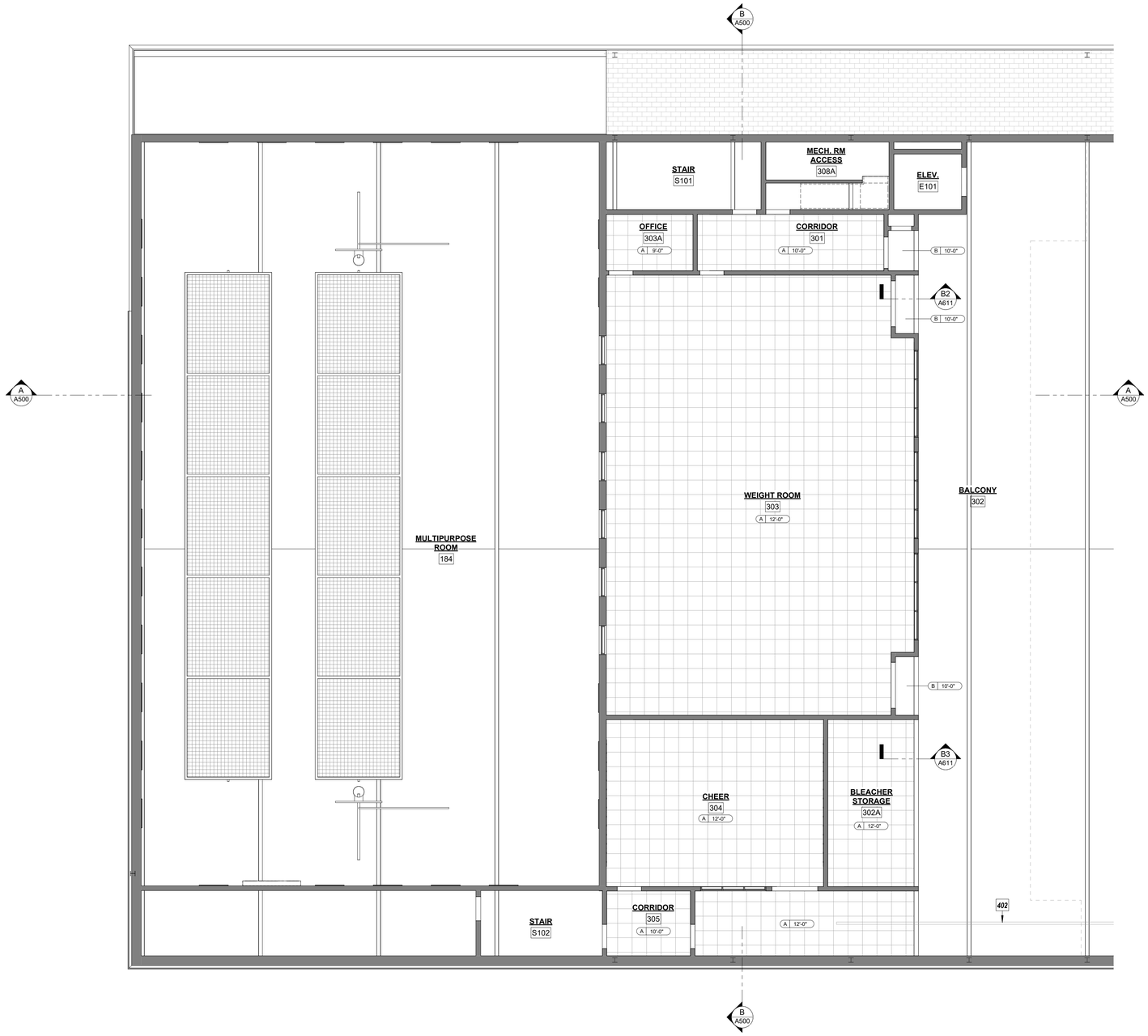

N

SECOND FLOOR RCP

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

CEILING FINISH LEGEND

X X'-XX" — CEILING TYPE / HEIGHT ABOVE FINISH FLOOR

A	SUSPENDED 2'-0" x 2'-0" TEGULAR EDGE LAY-IN ACOUSTICAL CEILING TILE
B	TBD
C	TBD
D	TBD
E	TBD
F	TBD

-LIGHTING & HVAC SYMBOLS SHOWN FOR PLACEMENT AND REFERENCE. COORDINATE w/ ELEC. & MECH. DRAWINGS

-USE MOLD RESISTANT DRYWALL AT WET LOCATIONS

RCP KEYNOTE LEGEND

401	(E) PRECAST CONCRETE BEAM
402	(E) OVERHEAD CRANE FOR WRESTLING MAT
403	DIRECT APPLY ACOUSTIC WALL PANELS, REFER TO ELEVATIONS FOR SIZE AND FINISH INFORMATION
404	8' x 3' SCOREBOARD BY OWNER
405	BOTTOM LIFTING MULTI-SPORT PRACTICE CAGE, S.S.D.
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PROJECT NO: 25.503

SHEET TITLE: REFLECTED CEILING PLAN - SECOND FLOOR

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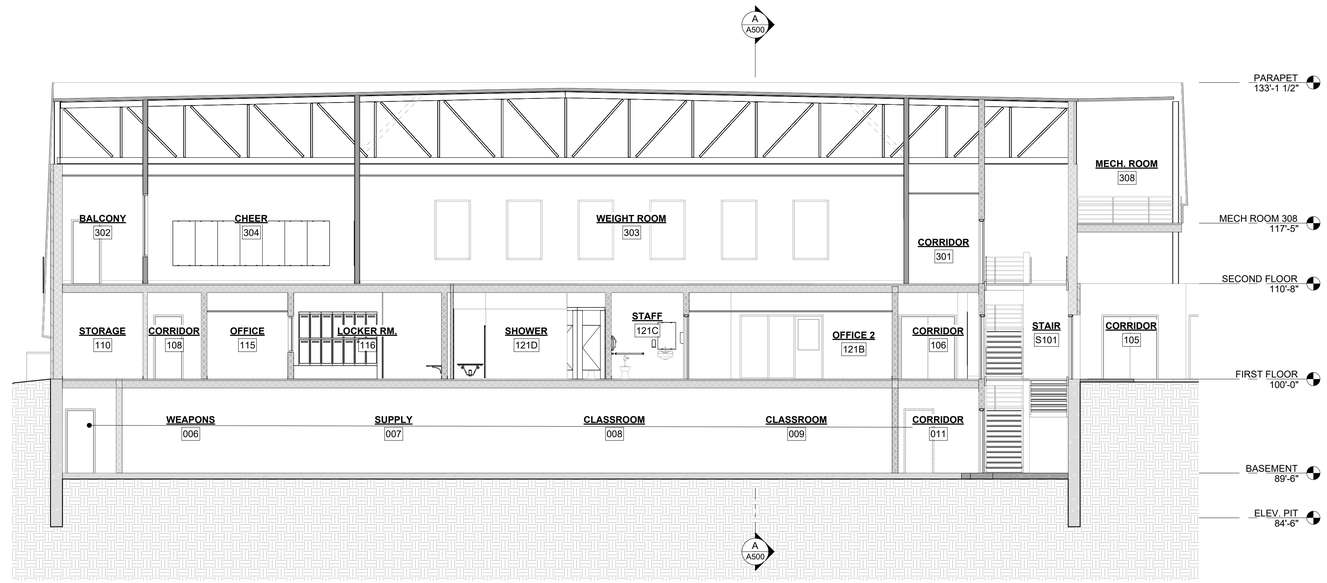
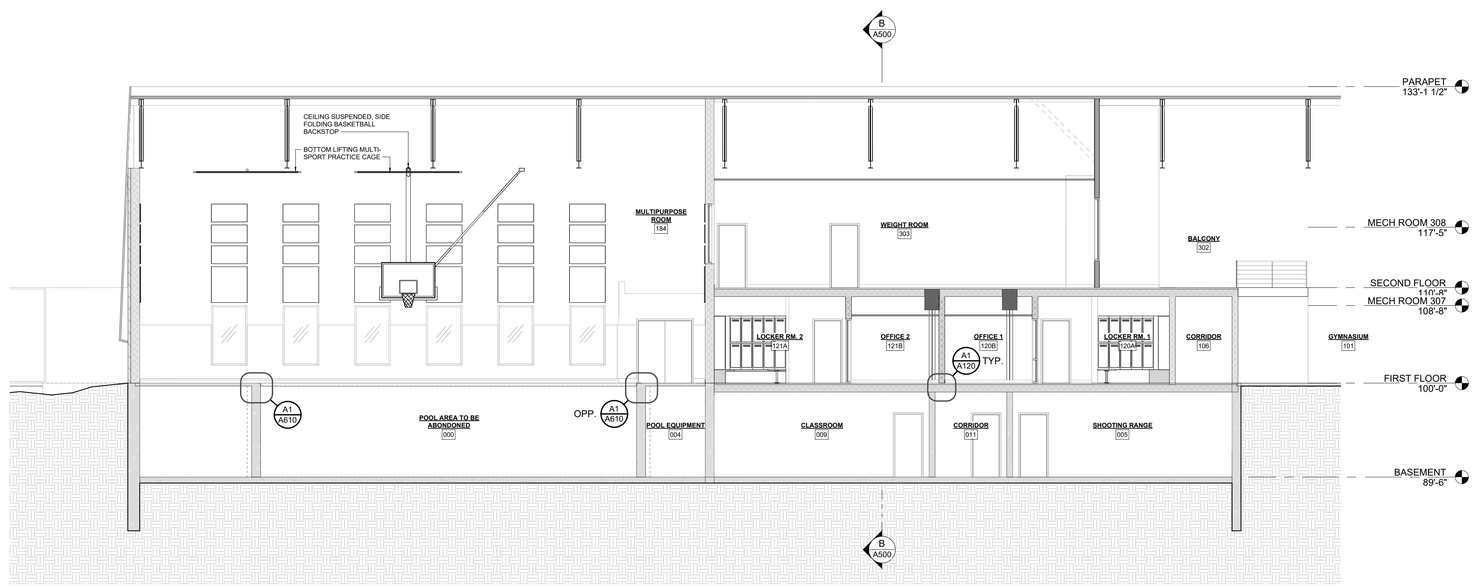


B A500 **BUILDING SECTION B1**
SCALE: 1/8" = 1'-0"



A A500 **BUILDING SECTION A**
SCALE: 1/8" = 1'-0"

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SHEET TITLE: BUILDING SECTIONS
A500

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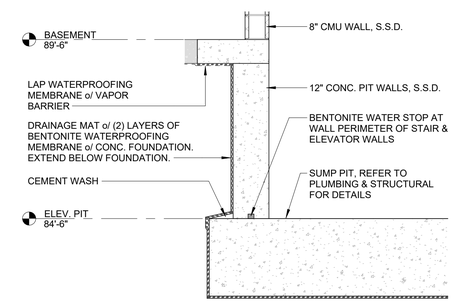
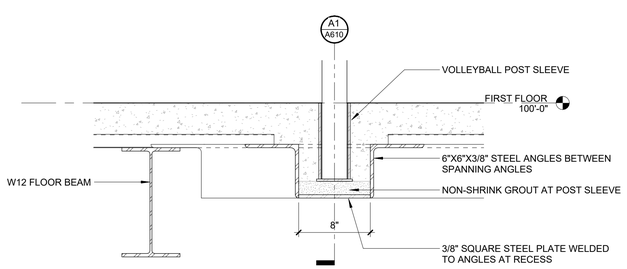
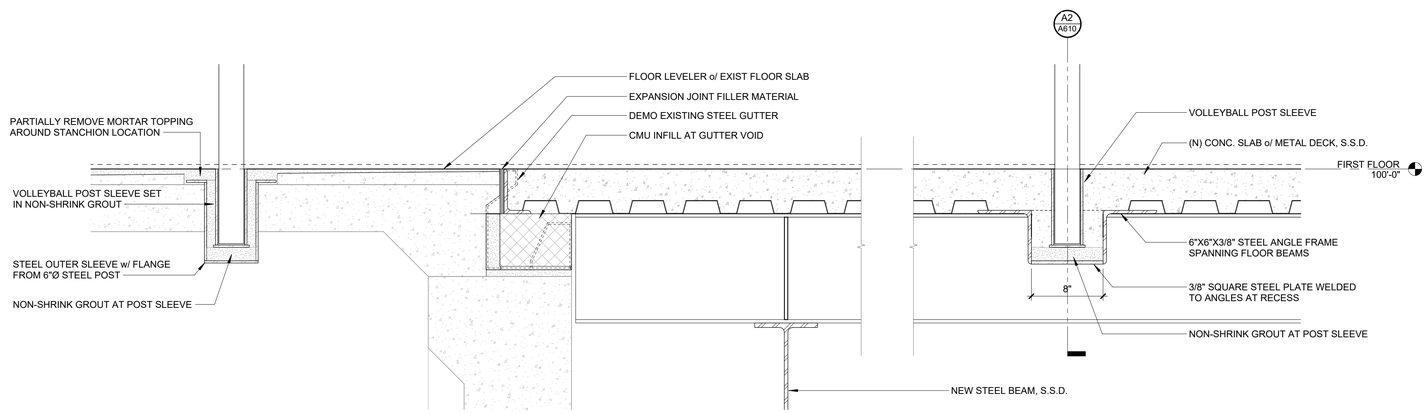
B2 A610 **STAIR SECTION EAST & WEST - Callout 2**
SCALE: 1/2" = 1'-0"



B1 A610 **ELEVATOR PIT FOUNDATION DETAIL**
SCALE: 1/2" = 1'-0"



A2 A610 **CROSS SECTION AT SLEEVE AT NEW FLOOR**
SCALE: 1 1/2" = 1'-0"



A1 A610 **POOL INFILL EDGE DETAIL**
SCALE: 1 1/2" = 1'-0"

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SHEET TITLE: DETAILS

A610

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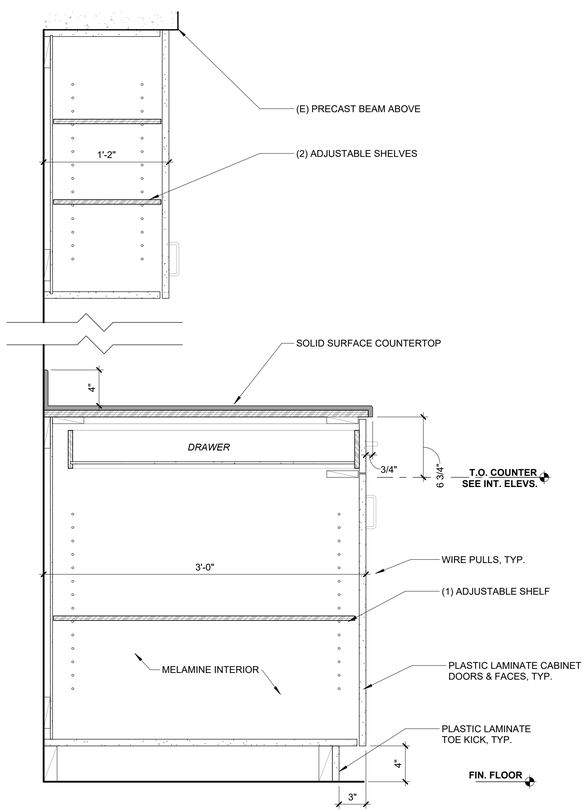
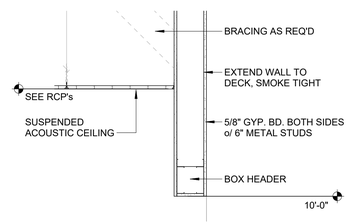
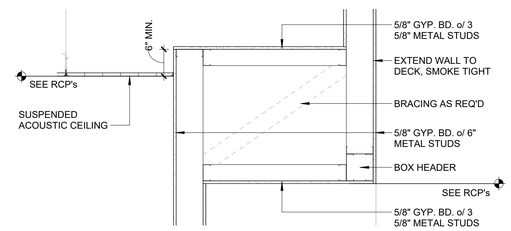


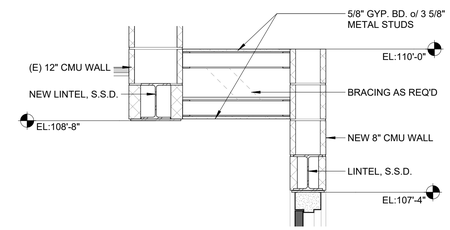
A4 / A611 **CABINET DETAIL**
SCALE: 1 1/2" = 1'-0"



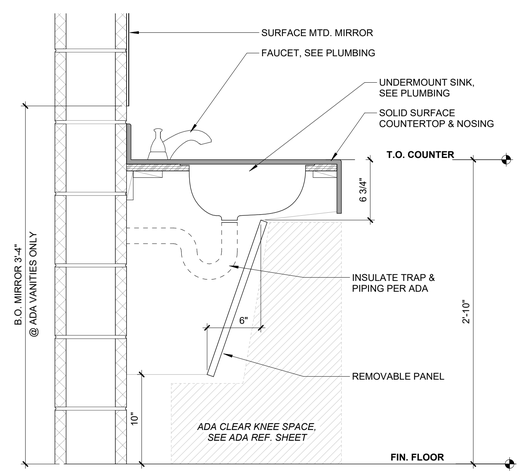
B3 / A611 **CEILING DETAIL - BLEACHER STORAGE**
SCALE: 3/4" = 1'-0"



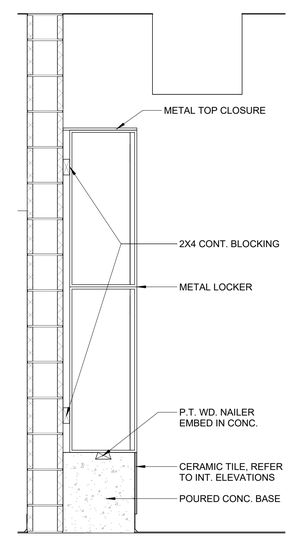
B2 / A611 **CEILING DETAIL - WEIGHT RM. ENTRY**
SCALE: 3/4" = 1'-0"



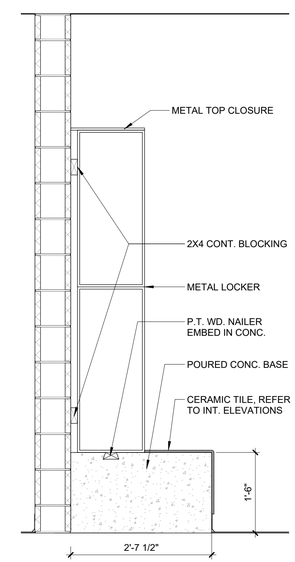
B1 / A611 **CEILING DETAIL - MULTIPURPOSE ENTRY**
SCALE: 3/4" = 1'-0"



A3 / A611 **TYP. ADA VANITY**
SCALE: 1 1/2" = 1'-0"



A2 / A611 **LOCKER SECTION - 02**
SCALE: 3/4" = 1'-0"



A1 / A611 **LOCKER SECTION**
SCALE: 3/4" = 1'-0"

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SHEET TITLE: INTERIOR DETAILS

A611

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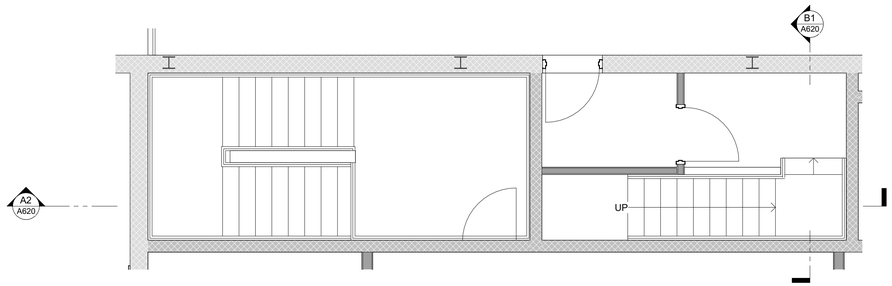
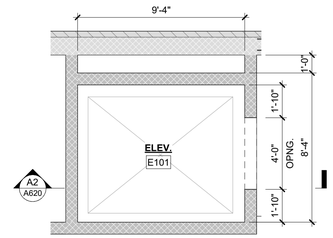
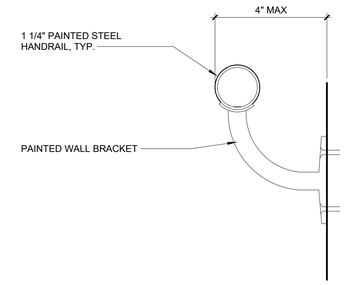


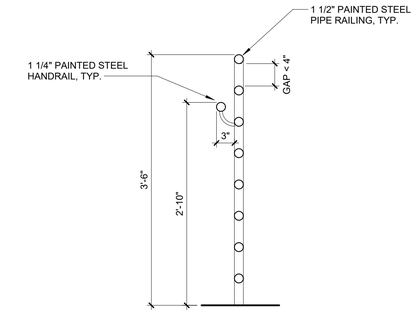
D4 A620 **ENLARGED STAIR - MECH. 208**
SCALE: 1/4" = 1'-0"



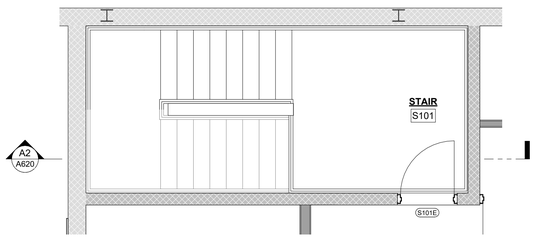
D3 A620 **ENLARGED ELEVATOR PLAN**
SCALE: 1/4" = 1'-0"



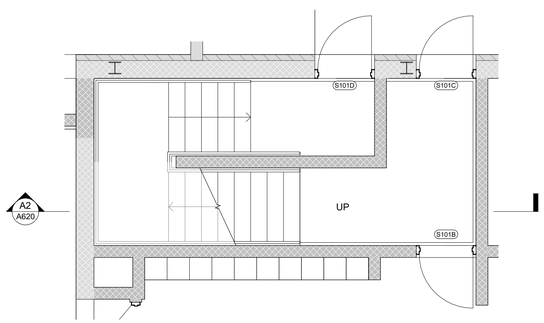
D2 A620 **TYP. HANDRAIL DETAIL**
SCALE: 6" = 1'-0"



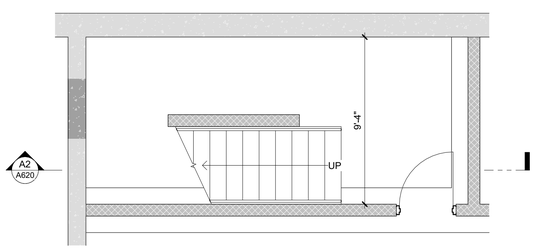
D1 A620 **TYP. PIPE RAILING**
SCALE: 1" = 1'-0"



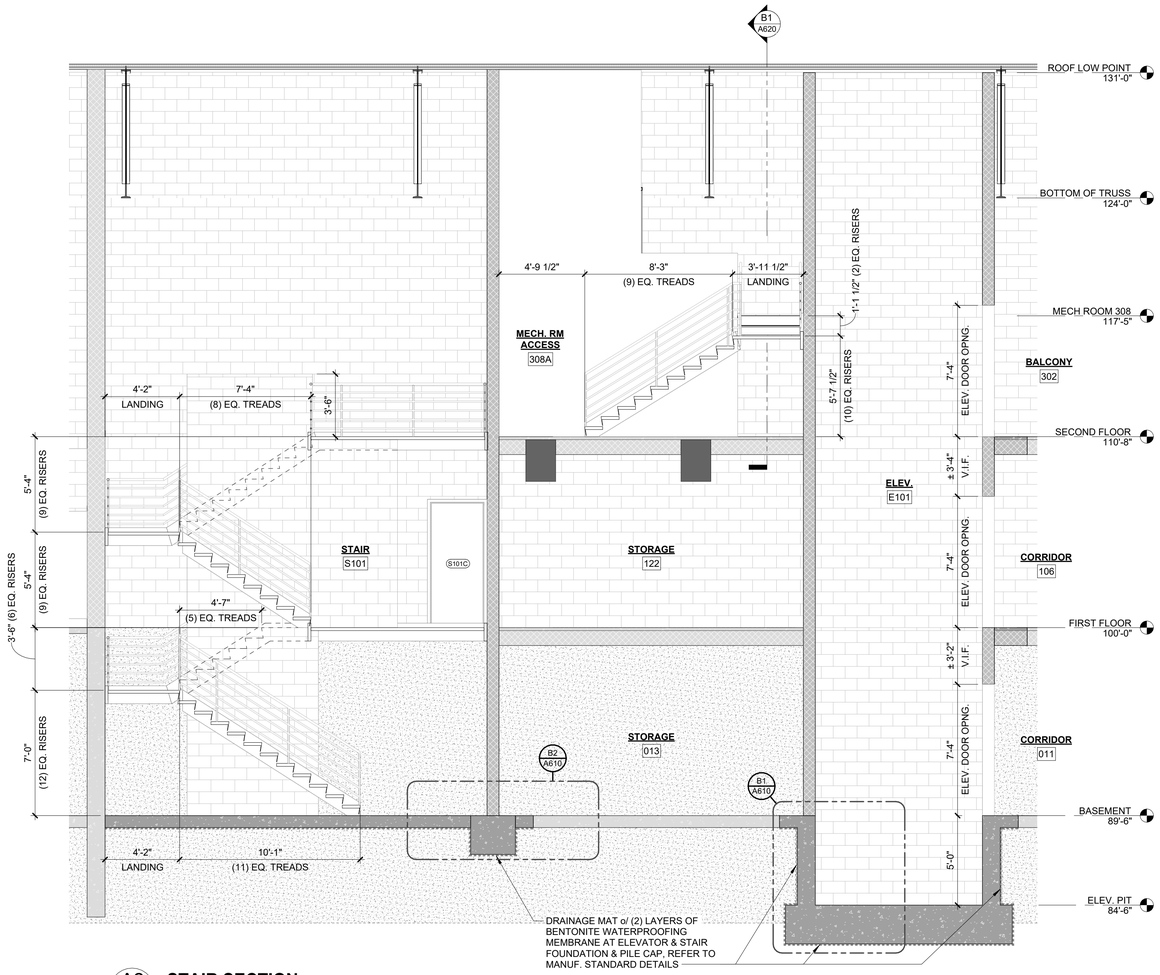
C3 A620 **ENLARGED STAIR PLAN - SECOND FLOOR**
SCALE: 1/4" = 1'-0"



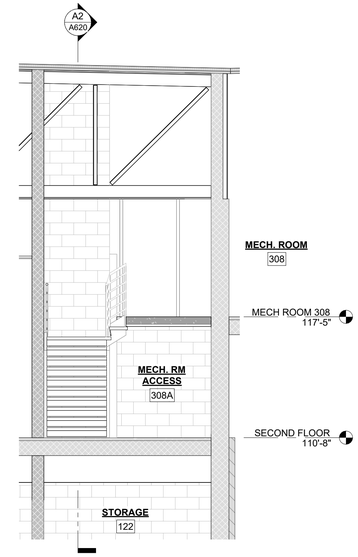
B3 A620 **ENLARGED STAIR PLAN - FIRST FLOOR**
SCALE: 1/4" = 1'-0"



A3 A620 **ENLARGED STAIR PLAN - BASEMENT**
SCALE: 1/4" = 1'-0"



A2 A620 **STAIR SECTION**
SCALE: 1/4" = 1'-0"



B1 A620 **STAIR SECTION**
SCALE: 1/4" = 1'-0"

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MULTI-PURPOSE ROOM RENOVATION
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A620

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GENERAL STRUCTURAL NOTES

DESIGN:

1. BUILDING CODE – THE MICHIGAN BUILDING CODE / 2021.
2. THE STRUCTURE IS DESIGNED FOR ALL APPLICABLE DEAD LOADS AND THE FOLLOWING DESIGN LIVE LOADS:

DEAD LOAD:

ROOF DEAD LOAD	= 20 PSF
FLOOR DEAD LOAD	= 80 PSF (EXISTING FLOOR)
FLOOR DEAD LOAD	= 60 PSF (NEW MULTI PURPOSE ROOM)
MECH, ELECT. & FIRE DEAD LOAD	= 5 PSF

LIVE LOAD:

ROOF LIVE LOAD (REDUCIBLE)	= 20 PSF
FLOOR LIVE LOAD	= 100 PSF (EXISTING FLOOR)
FLOOR LIVE LOAD	= 100 PSF (NEW MULTI PURPOSE ROOM)
MECHANICAL FLOOR LIVE LOAD	= 150 PSF

SNOW LOAD:

GROUND SNOW LOAD (Pg)	= 70 PSF
FLAT ROOF SNOW LOAD (Pf)	= 60 PSF
EXPOSURE FACTOR (Ce)	= 1.0
IMPORTANCE FACTOR (I)	= 1.1 (RISK CATEGORY III)
THERMAL FACTOR (Ct)	= 1.1

WIND LOAD (LATERAL–MFWRS):

BASIC WIND SPEED (V)	= 120 MPH
DIRECTIONALITY FACTOR (Kd)	= 0.85
IMPORTANCE FACTOR (I)	= 1.0 (RISK CATEGORY III)
INTERNAL PRESSURE COEFFICIENT	= +/–0.18
WIND EXPOSURE	= C
WIND DESIGN PRESSURE (Pv)	= 14.2 PSF
ROOF WIND DESIGN UPLIFT	= 20.0 PSF NET UPLIFT

EARTHQUAKE LOAD:

SEISMIC IMPORTANCE FACTOR (I)	= 1.0 (CATEGORY III)
SITE CLASS	= D
MAPPED SPECTRAL RESPONSE ACCELERATION	
SHORT PERIOD (SS)	= 0.058
1 SECOND PERIOD (S1)	= 0.030
SPECTRAL RESPONSE COEFFICIENTS	
SHORT PERIOD (SDS)	= 0.0619
1 SECOND PERIOD (SD1)	= 0.048
SEISMIC DESIGN CATEGORY	= A
DESIGN LATERAL FORCE	= MINIMUM LATERAL FORCE (0.01W)

3. STAIR FRAMING AND RAILING NOT SPECIFICALLY DESIGNED ON THE DRAWINGS SHALL BE DESIGNED BY THE STEEL FABRICATOR TO 'ALLOWABLE STRESS DESIGN'(ASD) REQUIREMENTS AND A MAXIMUM MEMBER DEFLECTION OF 'L/240'. THESE DETAILS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION. STAIR FRAMING SHALL BE DESIGNED FOR A LIVE LOAD OF 100 PSF AND RAILING FOR A 50 PLF OR A 200 POUND POINT LOAD. MINIMUM MEMBER SIZES: STRINGERS C12x20.7, LANDING FRAMING C8x11.5 AND LANDING 4" CONCRETE SLAB w/ 6x6–w1/4xW1.4 WWF ON METAL PAN.

MISCELLANEOUS:

1. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL, CIVIL/SITE, ELECTRICAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
2. THE STRUCTURAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS AND SPECIFICATIONS. SHOULD CONFLICTS EXIST BETWEEN THE DRAWINGS, SPECIFICATIONS AND THE STRUCTURAL NOTES, THE STRICTEST PROVISION SHALL GOVERN.
3. TYPICAL DETAILS AND OTHER SECTIONS/DETAILS APPLY TO CONDITIONS THAT ARE SIMILAR TO THE CONDITIONS DESCRIBED IN THE SECTIONS/DETAILS, EVEN IF THEY ARE NOT SPECIFICALLY REFERENCED ON THE PLANS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS, METHODS SEQUENCES AND PROCEDURES OF CONSTRUCTION.
5. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
6. NO CHANGE IN SIZE OF DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
7. OPENINGS 1'–0" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SUCH OPENINGS.
8. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING, CONCRETE SLAB AND PRECAST CONCRETE PLANK. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME OF LOADS ARE IMPOSED.
9. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.
10. UNLESS OTHERWISE NOTED, FIRE PROOFING METHODS AND MATERIALS FOR STRUCTURAL MEMBERS ARE NOT SHOWN ON STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR FIRE RATING REQUIREMENTS, FIRE PROOFING METHODS AND MATERIALS.
11. DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS. DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. FRAMING MEMBERS NOT SPECIFICALLY DIMENSIONED SHALL BE EQUALLY SPACED BETWEEN COLUMN GRIDS AS SHOWN OR NOTED ON PLANS.
12. THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ENGINEER'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE ENGINEER OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
13. CONSTRUCTION SHALL COMPLY FULLY WITH THE APPLICABLE PROVISIONS OF OSHA AND THE LOCAL GOVERNING CODES, CURRENT EDITION, AND ALL REQUIREMENTS SPECIFIED IN THE CODES SHALL BE ADHERED TO AS IF THEY WERE CALLED FOR OR SHOWN ON THE DRAWINGS. THIS SHALL NOT BE CONSTRUED TO MEAN THAT REQUIREMENTS SET FORTH ON THE DRAWING MAY BE MODIFIED BECAUSE THEY ARE MORE STRINGENT THAN THE CODE REQUIREMENTS OR BECAUSE THEY ARE NOT SPECIFICALLY REQUIRED BY CODE.
14. WORK CONSTRUCTED PER THESE DRAWINGS SHALL BE INSPECTED BY AN INDEPENDENT TESTING AGENCY RETAINED TO ENSURE COMPLIANCE WITH THE REQUIREMENTS SHOWN ON THE DRAWINGS. SPECIAL INSPECTIONS REQUIRED BY THE GOVERNING BUILDING CODE, LOCAL BUILDING DEPARTMENT AND THE CONTRACT DOCUMENTS SHALL BE PERFORMED BY A QUALIFIED SPECIAL INSPECTOR. PROJECT SITE VISITS BY THE STRUCTURAL ENGINEER DOES NOT CONSTITUTE OR REPLACE INSPECTION.
15. DIMENSIONS OF EXISTING CONDITIONS ARE PLUS OR MINUS REGARDLESS OF WHETHER SHOWN ON DRAWINGS OR NOT. VERIFY THAT ALL DIMENSIONS AND EXISTING CONDITIONS ARE AS SHOWN ON DRAWINGS. REPORT ANY INCONSISTENCIES AND DOUBTFUL CONDITIONS TO ENGINEER BEFORE PROCEEDING WITH THE WORK.

CONCRETE:

1. ALL CAST IN PLACE CONCRETE SHALL BE NORMAL WEIGHT AND SHALL ATTAIN A 28 DAY COMPRESSIVE STRENGTH AS FOLLOWS:
   - FOOTINGS, WALLS AND PIERS: f'c = 4000 PSI
   - SLAB ON GRADE: f'c = 4000 PSI (EXTERIOR SLAB ON GRADE TO BE AIR–ENTRAINED)
2. REINFORCEMENT FOR CONCRETE SHALL CONFORM TO THE FOLLOWING:
   - DEFORMED BARS SHALL BE ASTM A615 GRADE 60.
   - WELDED WIRE FABRIC SHALL BE ASTM A185 AND SHALL HAVE A MINIMUM END AND SIDE LAP OF 6".
3. ALL CONCRETE DESIGN AND CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING STANDARDS:
   - 'BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)'.
   - 'SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING (ACI 301)'.
   - 'DETAILS AND DETAILING OF CONCRETE REINFORCEMENT (ACI 315)'.
4. PROVIDE DOWELS FROM ALL WALL FOOTINGS INTO CONCRETE WALLS. DOWELS SHALL MATCH SIZE AND SPACING OF VERTICAL REINFORCING STEEL IN WALLS.
5. HORIZONTAL WALL AND FOOTING REINFORCEMENT CALLED FOR ON THE DRAWINGS SHALL BE CONTINUOUS AND SHALL HAVE A MINIMUM OF 30 BAR DIAMETER LAP. CORNER BARS SHALL BE PROVIDED AT ALL OUTSIDE CORNERS AND SHALL BE OF THE SAME SIZE AND SPACING OF MAIN REINFORCEMENT. PROVIDE (2) #5 BARS EACH SIDE OF ALL OPENINGS. ALSO PROVIDE (2) #5 x 4'–0" DIAGONAL BARS AT CORNERS OF OPENINGS.

CONCRETE (CONTINUED):

6. PROVIDE DOWELS FROM ALL FOOTINGS TO CONCRETE PIERS. DOWELS SHALL MATCH SIZE AND SPACING OF VERTICAL BARS IN THE PIERS. AT THE CONTRACTORS OPTION, LAP BARS 30 BAR DIAMETERS OR EXTEND DOWELS FULL HEIGHT OF PIERS (U.N.O.).
7. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES.
8. MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS SHALL BE REFERRED TO FOR DRAINS, SLEEVES, OUTLET BOXES, CONDUIT, ANCHORS, ETC.
9. REFER TO MECHANICAL DRAWINGS FOR HOUSEKEEPING PADS AND INERTIA BASES AT MECHANICAL EQUIPMENT.
10. BASE PLATES, ANCHOR BOLTS, SUPPORT ANGLES, ETC. BELOW GRADE SHALL BE COVERED WITH A MINIMUM OF 3" CONCRETE.
11. SLABS CAST ON GRADE SHALL BE 4" THICK CONCRETE REINFORCED WITH 6x6, W1.4x W1.4 WWF IN TOP 1/3 OF SLAB.
12. REFER TO MECHANICAL DRAWINGS FOR UNDER FLOOR PERIMETER FOUNDATION DRAINS.
13. CONTROL JOINTS: SAW CUT JOINTS APPROXIMATELY 20' ON CENTER EACH WAY IN SLABS ON GRADE AND SUPPORTED SLABS. JOINT LOCATIONS TO BE ADJUSTED AS CONDITIONS REQUIRE AND PER ARCHITECTS REQUIREMENTS.
14. EXPOSED EDGES OF CONCRETE SHALL HAVE 3/4" CHAMFER.
15. REINFORCING SHALL BE LOCATED AND SUPPORTED PRIOR TO PLACING ANY CONCRETE. BARS AND WWF SHALL BE SECURELY HELD IN POSITION. WWF SHALL BE SUPPORTED ON CHAIRS AT 2'–0" CENTERS TO ADEQUATELY SUPPORT THE MESH, PLACEMENT AND SPACING MAY BE INCREASED BY OWNER. ANY DISPLACED REINFORCING STEEL SHALL BE REPOSITIONED TO ITS PROPER LOCATION PRIOR TO CONCRETE PLACEMENT.
16. CONVEY THE CONCRETE FROM THE MIXER AND PLACE SO THAT THERE SHALL BE NO SEGREGATION OF THE INGREDIENTS. DEPOSIT THE CONCRETE AS NEARLY AS POSSIBLE IN ITS FINAL POSITION TO AVOID REHANDLING. DO NOT DEPOSIT CONCRETE, WHICH HAS ATTAINED INITIAL SET OR HAS CONTAINED ITS WATER CONTENT FOR OVER 1 1/2 HOURS.
17. CONCRETE SHALL BE IMMEDIATELY VIBRATED, SPADED, OR OTHERWISE AGITATED THOROUGHLY IN A MANNER APPROVED BY THE ENGINEER TO REMOVE ALL AIR POCKETS, WORK MIXTURE INTO CORNER, AROUND REINFORCEMENT AND INSERTS, AND TO PREVENT FORMATION OF VOIDS. TAPPING OR EXTERNAL VIBRATION OF FORMS SHALL NOT BE PERMITTED.
18. BEFORE DEPOSITING CONCRETE ON OR AGAINST CONCRETE THAT HAS SET, THOROUGHLY ROUGHEN AND CLEAN EXISTING SURFACES OF FOREIGN MATTER, LOOSE PARTICLES, ETC. BEFORE PLACING NEW CONCRETE
19. DO NOT ALLOW LOADS ON SLAB UNTIL CONCRETE HAS ATTAINED A MINIMUM OF 75% OF THE 28 DAY SPECIFIED STRENGTH.
20. GROUT SHALL BE NON–SHRINK AND NON–METALLIC, AND SHALL FOLLOW MANUFACTURERS RECOMMENDATIONS. EQUAL TO MASTER FLOW 928 BY MASTER BUILDERS INC.
21. USE AIR–ENTRAINING ADMIXTURE IN EXTERIOR EXPOSED CONCRETE, UNLESS OTHERWISE INDICATED, ADD AIR–ENTRAINING ADMIXTURE AT MANUFACTURER'S PRESCRIBED RATE TO RESULT IN CONCRETE AT POINT OF PLACEMENT HAVING TOTAL AIR CONTENT NOT LESS THAN 5% NO MORE THAN 7%.
22. MINIMUM LAP SPLICE SHALL BE CLASS B PER ACI 318. LOCATION OF LAP SPLICES SHALL BE AS INDICATED ON CONSTRUCTION DOCUMENTS AND/OR AS SHOWN ON THE APPROVED REINFORCING STEEL SHOP DRAWINGS.
23. HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED ONLY WHERE INDICATED. THE LOCATION OF VERTICAL CONSTRUCTION JOINTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. CONSTRUCTION JOINTS SHALL BE THOROUGHLY MECHANICALLY ROUGHENED, CLEANED AND BONDING AGENT APPLIED BEFORE PLACEMENT AND ADJOINING CONCRETE.
24. THE CONCRETE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POURS SEQUENCES AND CONSTRUCTION PROCEDURES FOR ALL CONCRETE WORK TO ACCOUNT FOR TEMPERATURE DIFFERENTIALS AND SHRINKAGE OCCURRING DURING THE CONSTRUCTION PHASE UNTIL THE BUILDING IS PERMANENTLY IN A MECHANICALLY CONTROLLED ENVIRONMENT.
25. PROVIDE POCKETS OR RECESSES IN CONCRETE WORK FOR STEEL COLUMNS AND BEAMS AS REQUIRED AND/OR AS CALLED FOR IN THE SPECIFICATIONS EVEN IF NOT SHOWN ON THE DRAWINGS. PROVIDE CONCRETE FILL AFTER STEEL ERECTION.
26. SIZES OF CONCRETE PLACEMENTS SHALL NOT EXCEED THE FOLLOWING, UNLESS OTHERWISE INDICATED ON THE PLANS:
   a. WALLS: 100 FEET MAXIMUM LENGTH
   b. SLABS ON GRADE: PLACE IN ALTERNATING STRIPS (APPROXIMATELY WITH 30 FT AND A MAXIMUM LENGTH 200 FT)
   c. SUPPORTED SLABS: PLACE IN SECTIONS WITH A MAXIMUM AREA OF 12,000 SQUARE FT AND A MAXIMUM LENGTH OF 100 FT (ALL CONCRETE SLABS INCLUDING THOSE CAST ON METAL DECK)
27. ANCHOR BOLTS SHALL BE ACCURATELY HELD IN POSITION WITH THE FOLLOWING INSTALLATION TO CLEARANCE:
   - HORIZONTAL: 3/4"ø & 7/8"ø = (±) 1/4"; 1"ø, 1 1/4"ø & 1 1/2"ø = (±) 3/8"
   - VERTICAL PLUMBNESS: 1/8" PER FOOT FROM VERTICAL
28. CONTRACTOR SHALL SUBMIT REBAR SHOP DRAWINGS AND CONCRETE MIX DESIGN FOR REVIEW AND APPROVAL BY ENGINEER PRIOR TO INSTALLATION.

MASONRY:

1. ALL CONCRETE MASONRY UNITS IN WALLS SHALL BE MEDIUM OR NORMAL WEIGHT CONFORMING TO ASTM C–90, GRADE N. (f'm = 2000 PSI FOR ALL WALLS).
2. MORTAR FOR USE IN CONCRETE MASONRY WALLS SHALL CONFORM TO ASTM C–270, TYPE S.
3. GROUT SHALL HAVE A MINIMUM STRENGTH OF 2000 PSI AT 28 DAYS AND CONFORMING TO ASTM C–476.
4. PROVIDE DOWELS FROM ALL FOOTINGS OR CONCRETE WALLS TO MATCH SIZE AND SPACING OF VERTICAL REINFORCEMENT SHOWN IN CONCRETE MASONRY WALLS.
5. ALL VERTICAL LAPS SHALL BE 48 BAR DIAMETER (12" MIN.) GOVERNED BY DIAMETER OF LARGER BAR. WHEREVER POSSIBLE, SPLICES SHALL BE STAGGERED.
6. ALL VERTICAL REINFORCING SHALL BE CONTINUOUS FOR FULL HEIGHT OF WALL AND DOWELED INTO FOOTING OR SLAB ON GRADE BELOW, AND EXTEND INTO OR THROUGH BOND BEAMS ABOVE (LAP SPLICES MEETING ALL INDICATED REQUIREMENTS ARE ACCEPTABLE).
7. ALL CELLS CONTAINING REINFORCING SHALL BE FILLED WITH GROUT.
8. ALL WINDOW AND DOOR OPENINGS SHALL HAVE A MINIMUM '2–CORES' GROUTED FULL HEIGHT EACH SIDE WITH (2) #5 BAR IN EACH CORE. ALSO PROVIDE ADDITIONAL VERTICAL BARS AT CORNERS, ANCHORED INTERSECTIONS AND AT END OF WALL PANELS.
9. ALL REINFORCING SHALL HAVE A MINIMUM COVERAGE OF ONE BAR DIAMETER OF GROUT. CENTERED BARS SHALL BE SECURELY PLACED IN THE CENTER OF THE CELL. EACH FACE BAR SHALL BE PLACED 1" CLEAR OF THE FACE SHELL.
10. PROVIDE HORIZONTAL LADDER TYPE REINFORCEMENT SPACED AT 16" O.C. VERTICAL, CONFORMING TO ASTM A–82 MINIMUM 9 GAUGE UNLESS NOTED OTHERWISE ON THE PLANS. REINFORCING SHALL BE CONTINUOUS AROUND ALL CORNERS AND INTERSECTIONS.
11. DISCONTINUE ALL HORIZONTAL JOINT REINFORCEMENT AT VERTICAL CONTROL JOINTS. BOND BEAM REINFORCEMENT SHALL BE CONTINUOUS AT CONTROL JOINT, WITH CAULKED JOINTS.
12. PROVIDE CONTINUOUS BOND BEAM AT JOIST, BEAM, PLANK AND DECK BEARING ELEVATIONS OR AT TOP OF WALL (AS INDICATED ON THE DRAWINGS) WITH (2) #5 REBAR, U.N.O.
13. PROVIDE LINTELS TO ALL OPENINGS IN MASONRY WALLS GREATER THAN 8". MASONRY CONTRACTOR SHALL COORDINATE WALL OPENINGS REQUIRED FOR MECHANICAL AND ELECTRICAL SERVICE WITH RESPECTIVE CONTRACTORS. PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS OR SLEEVES. DO NOT CUT REINFORCEMENT.
14. ALL WALLS SHALL BE ADEQUATELY BRACED UNTIL SECURELY TIED TO STRUCTURE FRAMES AND DIAPHRAGMS.
15. MASONRY WALL CONTROL JOINTS SHALL BE SPACED AT 20'–0" O.C. MAX. UNLESS NOTED OTHERWISE, REFER TO ARCHITECTURAL. DO NOT LOCATE CONTROL JOINTS ADJACENT TO OPENINGS WITH MASONRY LINTELS. OR TO OPENINGS WITH STEEL LINTELS FOR OPENINGS LESS THAN 6'–0". FOR OPENINGS WITH STEEL LINTELS OVER 6'–0" WIDE PROVIDE CONTROL JOINTS AT BOTH SIDES OF OPENING WITH SLIP BEARING PLATES.
16. NO WORK SHALL BE DONE SUBJECT TO FREEZING CONDITIONS.
17. GROUTING OF MASONRY WALLS SHALL CONFORM TO RECOMMENDED PROCEDURE FOR "LOW LIFT GROUTING" OR "HIGH LIFT GROUTING" AS OUTLINED IN THE NCMA–TEK NOTE #23A – GROUTING FOR CONCRETE MASONRY WALLS AND ACI 530/ASCE 5 SPECIFICATION FOR MASONRY STRUCTURES. GROUT LIFTS SHALL NOT EXCEED 5 FEET WITHOUT MECHANICALLY CONSOLIDATED VIBRATED GROUT POURS.
18. LIFTS OF GROUT SHALL BE KEYED 4 INCHES INTO THE PREVIOUS COURSE OF MASONRY BELOW.
19. ALL NON–LOAD BEARING MASONRY WALLS SHALL BE LATERALLY SUPPORTED AT THE TOP OF WALL UNLESS NOTED OTHERWISE, REFER TO TYPICAL DETAILS.

COLD FORMED METAL FRAMING:

1. COLD FORMED METAL FRAMING SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR. THESE DETAILS AND CALCULATIONS FOR ALL COLD FORMED MEMBERS AND CONNECTIONS SHALL BE SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION. THE DETAILS AND CALCULATIONS SHALL BE SUBMITTED FOR THE ARCHITECTS AND ENGINEERS APPROVAL.
2. ALL COLD FORMED METAL FRAMING SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISI "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS" AND STEEL STUD MANUFACTURES ASSOCIATION (SSMA) PRODUCT TECHNICAL INFORMATION.
3. DESIGN LOADS:
   SEE LOADING INDICATED IN THE "DESIGN" SECTION OF THE GENERAL STRUCTURAL NOTES ON THIS SHEET.
4. HORIZONTAL DEFLECTION LIMIT 1/600 OF THE WALL HEIGHT.
5. VERTICAL LIVE LOAD DEFLECTION LIMIT 1/360 OF THE HORIZONTAL SPAN OF MEMBER.

COLD FORMED METAL FRAMING (CONTINUED):

6. ALL COLD FORMED MEMBERS SHALL BE FORMED FROM STEEL CORRESPONDING TO A TYPE LISTED IN THE AISI SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS, AND SSMA STEEL STUD MANUFACTURERS ASSOCIATION PRODUCT TECHNICAL INFORMATION. THE MINIMUM PHYSICAL PROPERTIES OF ALL COMPONENTS ARE AS FOLLOWS:
   - FORMED STUS/TRACK: YIELD STRENGTH 33 KSI MIN.
   - FORMED ACCESSORIES: YIELD STRENGTH 33 KSI MIN.
   - CONNECTION CLIPS: YIELD STRENGTH 50 KSI MIN.
   - COATING/FINISH: HOT DIPPED GALVANIZED G–60, ASTM A525
7. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR AS REQUIRED FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD POSITIVELY IN PLACE UNTIL PROPERLY FASTENED. ALL FIELD CUTTING OF STUDS MUST BE DONE BY SAWING OR SHEARING. TORCH CUTTING OF STUDS IS UNACCEPTABLE.
8. PROVIDE TEMPORARY BRACING AS REQUIRED UNTIL THE STRUCTURE IS COMPLETELY STABILIZED.
9. WHEN REQUIRED FOR BRIDGING PURPOSES, THE FRAMING FABRICATOR IS TO ENSURE PUNCH OUT ALIGNMENT WHEN ASSEMBLING FRAMING AND FIELD CUTTING STUDS TO LENGTH. REFER TO TYPICAL STUD/TRACK CONNECTION AND INDEXING DETAIL.
10. NO SPLICES IN STUDS, JOIST, OR OTHER MEMBERS MAY BE MADE WITHOUT PRIOR ENGINEERING REVIEW AND SPECIFIC DETAILS FOR ANY SUCH SPLICES.
11. NO NOTCHING OR COPING OF STUDS IS ALLOWED, UNLESS STATED WITHIN THIS DRAWING PACKAGE.
12. WHERE SPLICING OF WALL TRACK IS NECESSARY BETWEEN STUDS, A PIECE OF STUD SHALL BE PLACED IN THE ADJOINING TRACK SECTIONS AND FASTENED TO THE TRACK FLANGES AT BOTH SIDES OF THE WALL OR THE TRACK SHALL BE BUTTED TIGHT TOGETHER AND FASTENED TO STRUCTURE EITHER SIDE OF THE JOINT.
13. IF ADDITIONAL HOLES ARE REQUIRED IN THE METAL STUDS, CONTACT A LICENSED PROFESSIONAL ENGINEER FOR GUIDANCE BEFORE CUTTING HOLES.
14. MECHANICAL BRIDGING, SPACED AT INTERVALS REQUIRED PER DESIGN AND SHALL BE INSTALLED PRIOR TO THE ATTACHMENT OF FACING MATERIALS.
15. INSTALLATION OF SHEATHING, WALLBOARD OR ANY OTHER COLLATERAL MATERIAL SHALL BE PERFORMED IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S SPECIFICATIONS, THE CURRENT ASTM STANDARD AND/OR GUIDELINE OUTLINED IN THE CONTRACT DOCUMENTS.
16. MAXIMUM STUD SPACING 16".
17. CORNERS SHALL BE FABRICATED WITH THREE STUDS MINIMUM.
18. AT WALL OPENINGS, END OF WALLS OR DOOR/WINDOW JAMBS SHALL BE FABRICATED WITH A DOUBLE STUD MINIMUM.
19. CONNECTIONS SHALL BE MADE WITH SCREWS WHEREVER POSSIBLE. HOWEVER, IF REQUIRED, WELDED CONNECTIONS OR POWDER ACTUATED FASTENERS ARE ACCEPTABLE.
20. CONCRETE SCREW FASTENERS SHALL BE THOSE AS MANUFACTURED AND TESTED BY HILTI OR AN APPROVED EQUIVALENT. THE MINIMUM EDGE DISTANCES AND FASTENER SPACINGS SHALL BE IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATIONS OR AS NOTED ON THE DRAWING.
21. IF REQUIRED, ALL WELDED CONNECTIONS ARE TO BE PERFORMED IN ACCORDANCE WITH AWS D1.3–81 'SPECIFICATIONS FOR WELDING, SHEET STEEL IN STRUCTURES'. IN ACCORDANCE WITH AWS D19.0–72 'WELDING ZINC COATED STEEL' AND ANSI STANDARD Z49.1 FOR THE WELDING PROCEDURES.
22. SUGGESTED WELD METAL AND PROCESS FOR SHOP WELDING ARE: 60 KSI WELD METAL STRENGTH (MINIMUM) SUGGESTED METHODS FOR FIELD WELDING: 1/8" (UNLESS NOTED OTHERWISE) E60XX (MINIMUM) ELECTRODE SMAW; OR 'GASLESS' MIG. MINIMUM WELD THROAT THICKNESS (t) MUST MATCH OR EXCEED THE BASE STEEL THICKNESS OF THE THINNEST CONNECTED PART UNLESS NOTED OTHERWISE.
23. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS PER THE AMERICAN WELDING SOCIETY (AWS D1.3), AND QUALIFIED FOR THE WELDING OPERATIONS INDICATED.
24. TOUCH–UP ALL WELDS AND DAMAGED GALVANIZED SURFACES WITH GALVANIZED REPAIR PAINT PER ASTM A780.

STRUCTURAL STEEL:

1. MATERIALS SHALL CONFORM TO THE FOLLOWING STANDARDS:

a.	ALL WIDE FLANGE SECTIONS	ASTM A992 (Fy=50 KSI)
b.	ANGLES, BASE PLATES, CONNECTION PLATES CHANNELS & STIFFENER PLATES	ASTM A36
c.	STRUCTURAL PIPE	ASTM A53, GRADE B, TYPE E OR S (Fy=35 KSI)
d.	STRUCTURAL TUBE	ASTM A500, GRADE B (Fy=46 KSI)
e.	ANCHOR BOLTS	ASTM F1554 GRADE 36, A36 OR ASTM A307
f.	NON–SHRINK GROUT	HIGH STRENGTH, NON–METALIC, NON–STAINING (MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI)

2. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE, AND MANUAL OF STEEL CONSTRUCTION LATEST EDITION, EXCEPT AS MODIFIED IN THESE NOTES AND THE PROJECT SPECIFICATIONS.
3. CONCEALED CONNECTIONS MAY BE BOLTED OR WELDED. EXPOSED CONNECTIONS SHALL BE BOLTED. THE FABRICATOR IS RESPONSIBLE FOR THE DESIGN OF THE CONNECTIONS NOT SPECIFICALLY DESIGNED ON THE DRAWINGS. GENERALLY, CONNECTIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE SCHEMATIC AND ARE ONLY INTENDED TO SHOW THE RELATIONSHIP OF MEMBERS CONNECTED. SEE SPECIFICATIONS.
4. WHEN NOT SHOWN ON THE PLANS, BEAM CONNECTIONS SHALL BE DESIGNED TO SUPPORT THE LARGER BEAM END REACTIONS FROM THE FOLLOWING REQUIREMENTS:
   a. MINIMUM BEAM REACTIONS EQUAL TO THE ALLOWABLE SHEAR CAPACITY PER THE ATTACHED CONNECTIONS SCHEDULES.
   b. DESIGN OF THE MAXIMUM BEAM END REACTIONS SHALL INCLUDE THE EFFECTS OF CONCENTRATED LOADS IN THE CONNECTION DESIGN
   c. DESIGN OF THE MAXIMUM BEAM END REACTIONS SHALL INCLUDE THE EFFECTS OF CONCENTRATED LOADS IN THE CONNECTION DESIGN.
   d. ALL STRUCTURAL CONNECTIONS NOT DETAILED ON THE DESIGN DRAWINGS SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR. SUBMIT CONNECTION DETAILS AND CALCULATIONS SEALED BY A MICHIGAN PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.
5. MOMENT CONNECTIONS SHALL BE IN ACCORDANCE TO FIELD WELDED DETAILS ON SHEET 'S002'. ALTERNATE FIELD BOLTED MOMENT CONNECTION AT CONTRACTORS OPTION WITH ENGINEERS APPROVAL. SUBMIT CONNECTION DETAILS AND CALCULATIONS SEALED BY A MICHIGAN PROFESSIONAL ENGINEER.
6. THE MINIMUM PLATE THICKNESS SHALL BE 3/8", THE MINIMUM BOLT DIAMETER SHALL BE 3/4", THE MINIMUM WELD SHALL BE 3/16" AND THE MINIMUM DESIGN LOAD ON ANY CONNECTION SHALL BE 6K.
7. BOLT CONNECTIONS:
   a. ALL BOLTED CONNECTIONS SHALL BE BEARING TYPE USING HIGH STRENGTH A325N OR A490N BOLTS.
   b. OVERSIZED HOLES & LONG–SLOTTED HOLES ARE NOT ALLOWED UNLESS INDICATED ON THE DRAWINGS.
   c. ALL BOLTS SHALL BE SNUG TIGHT UNLESS NOTED 'SLIP CRITICAL' OR OTHERWISE NOTED.
   d. ALL BOLTS WHICH CARRY LOADS IN TENSION SHALL BE FULLY PRE–TENSIONED.
   e. ALL CONNECTIONS SHALL HAVE A MINIMUM OF TWO (2) ROWS OF BOLTS.
      FOR SINGLE PLATE CONNECTIONS (2) BOLTS MIN.
      FOR DOUBLE ANGLE CONNECTIONS (4) BOLTS MIN.
8. WELDED CONNECTIONS:
   a. ALL WELDING SHALL BE IN ACCORDANCE WITH THE 'STRUCTURAL WELDING CODE' AWS D1.1 (LATEST EDITION) PUBLISHED BY THE AMERICAN WELDING SOCIETY.
   b. ELECTRODES FOR WELDING SHALL CONFORM TO THE E–70 SERIES OF THE SPECIFICATION FOR MILD STEEL ARC WELDING ELECTRODES ASTM A233, LATEST EDITION.
   c. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS.
9. SPLICING OF STEEL MEMBERS, UNLESS SHOWN ON THE DRAWINGS, IS PROHIBITED WITHOUT WRITTEN APPROVAL OF THE ENGINEER ON RECORD.
10. NO CHANGE IN THE POSITION OF THE STRUCTURAL ELEMENTS SHALL BE MADE AND HOLES, SLOTS, CUTS, ETC., ARE NOT PERMITTED THROUGH ANY MEMBERS UNLESS THEY ARE DETAILED ON THE APPROVED SHOP DRAWINGS.
11. THE STEEL FABRICATOR MAY SUBSTITUTE HEAVIER SECTIONS IN PLACE OF THE SECTIONS SHOWN ON THE DRAWINGS TO ACHIEVE ECONOMY OF REPETITION, FOR AVAILABILITY OR TO TAKE ADVANTAGE OF ROLLING MILL PRODUCTION SCHEDULES SO LONG AS THE CHANGES ARE MADE KNOWN TO AND ARE ACCEPTABLE TO THE ENGINEER.
12. NO FINAL BOLTING OR WELDING SHALL BE MADE UNTIL AS MUCH OF THE STRUCTURE AS WILL BE STIFFENED THEREBY HAS BEEN PROPERLY ALIGNED.
13. THE USE OF CONTRACT DRAWINGS AS ERECTION PLANS AND DETAILS IS NOT ACCEPTABLE.
14. SEE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS FOR MISCELLANEOUS STEEL CONSTRUCTION NOT SHOWN ON STRUCTURAL DRAWINGS.
15. FABRICATE ALL BEAMS WITH THE MILL CAMBER UP.
16. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO FABRICATION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THE DESIGN AND ACTUAL FIELD CONDITIONS.
17. PROVIDE LINTELS FOR ALL MECHANICAL AND ELECTRICAL OPENINGS IN MASONRY WALLS. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS. SEE SHEET 'S002' FOR NON–BEARING WALL LINTEL SCHEDULE. FOR BEARING WALL LINTELS NOT SHOWN ON THE FRAMING PLANS REFER TO THE NON–BEARING WALL LINTEL SCHEDULE AS A GUIDE.
18. PROVIDE FITTED STIFFENER PLATES EACH SIDE FOR ALL CONDITIONS WHERE BEAMS BEAR ON COLUMNS, BEAMS BEAR ON BEAMS, BEAMS HANG FROM BEAMS, OR COLUMNS BEAR ON BEAMS, STIFFENER PLATES MINIMUM 3/8" THICK.

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LEGEND

AB	ANCHOR BOLT
ARCH	ARCHITECTURAL
BM	BEAM
BP	BEARING PLATE
C/C	CENTER–TO–CENTER
CJ	CONTROL/CONSTRUCTION JOINT
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
CONC	CONCRETE
CONT	CONTINUOUS
DN	DOWN
EE	EACH END
EF	EACH FACE
EL	ELEVATION
ELEV	ELEVATION
EQ	EQUAL
EW	EACH WAY
EXT'G	EXISTING
EX	EXISTING
FD	FLOOR DRAIN
FDN	FOUNDATION
FIN	FINISH
FS	FAR SIDE
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
HORIZ	HORIZONTAL
HP	HIGH POINT
IJ	ISOLATION JOINT
JST	JOIST
LF	LINEAR FOOT
LH	LEFT HAND
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
LW	LONG WIDTH
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MO	MASONRY OPENING
NIC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SCALE
O/O	OUT–TO–OUT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPN'G	OPENING
PC	PRECAST
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
RD	ROOF DRAIN
RH	RIGHT HAND
RO	ROUGH OPENING
RTU	ROOF TOP UNIT
SCH	SCHEDULE
SHT	SHEET
SIM	SIMILAR
SQ	SQUARE
STL	STEEL
STIFF	STIFFENER
SW	SHORT WIDTH
T&B	TOP AND BOTTOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WP	WORK POINT
WWF	WELDED WIRE FABRIC

B–X	BEAM MARK
B/XXX	BOTTOM OF XXXX
C–X	COLUMN MARK
DB–X	DIAGONAL BRIDGING MARK
GT–X	GIRDER TRUSS MARK
H–X	HEADER MARK
HB–X	HORIZONTAL BRIDGING MARK
L–X	LINTEL MARK
PP–X	PRECAST CONCRETE PLANK
T/XXX	TOP OF XXXX
W–X	REINFORCED CMU WALL MARK
WF–X	WALL FOOTING MARK
BF=X	BOTTOM OF FOOTING ELEVATION
BOD=X	BOTTOM OF DECK ELEVATION
BOP=X	BOTTOM OF PLANK ELEVATION
JB=X	JOIST BEARING ELEVATION
TOC=X	TOP OF CONCRETE ELEVATION
TOM=X	TOP OF MASONRY ELEVATION
TOP=X	TOP OF PIER ELEVATION
TOS=X	TOP OF STEEL ELEVATION

(PX)	PIER MARK
⟨FX⟩	COLUMN FOOTING MARK
TS	THICKENED SLAB
RD–X	ROOF DECK MARK & DIRECTION SPAN
FD–X	FORM DECK MARK & DIRECTION SPAN
CD–X	COMPOSITE DECK MARK & DIRECTION SPAN
	MOMENT CONNECTIONS
EL.=000'–0" / EL.=000'–0"	STEP FOOTING MARK, ELEVATIONS SHOWN ARE BOTTOM OF FOOTING EACH SIDE OF STEP

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DRAFTS: MLA
PROJECT NO: CS2502
25.503
SHEET TITLE: GENERAL STRUCTURAL NOTES
S001

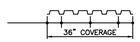
METAL DECK:

1. STEEL DECK SHALL CONFORM TO THE 'STEEL DECK INSTITUTE STANDARDS' (LATEST EDITION) AND SHALL BE OF THE TYPE, SIZE AND GAUGE AS CALLED FOR ON THE DRAWINGS. DECK SHALL RUN MINIMUM 3 SPANS, CONTINUOUS WHENEVER POSSIBLE.
2. FLOOR SLAB SHALL CONFORM TO THE FOLLOWING SCHEDULE:

MARK	FLOOR DECK TYPE – THICKNESS
S–1	5" CONCRETE SLAB ON 2", 18GA. GALVANIZED COMPOSITE METAL DECK (3–SPANS CONTINUOUS MINIMUM) REINFORCE w/ ONE LAYER 6x6 – W2.9xW2.9 WWF
S–2	4" CONCRETE SLAB ON 2", 18GA. GALVANIZED COMPOSITE METAL DECK (3–SPANS CONTINUOUS MINIMUM) REINFORCE w/ ONE LAYER 6x6 – W1.4xW1.4 WWF

3. STEEL DECK FASTENERS SHALL CONFORM THE FOLLOWING TABLE U.N.O.:

FASTENER TYPE	SCREWS	ALT: WELDS	PATTERN
SUPPORT	#12 TEK	5/8"ø	36/4
SIDELAP	#10 TEK	----	5 PER SPAN



4. PROVIDE L2 1/2"x 2 1/2"x 1/4" CONTINUOUS ANGLE AT ENDS OF JOISTS WHERE METAL DECK CHANGES DIRECTION OF SPAN, UNLESS NOTED.
5. STEEL DECK SHALL HAVE GALVANIZED COATING CONFORMING TO ASTM A 653, COATING DESIGNATION G60 FOR STEEL DECK. TOUCH–UP PAINT GALVANIZED SURFACES WITH ZINC RICH PAINT AFTER CUTTING AND WELDING. CLEAN AS REQUIRED TO RECEIVE FIRE–PROOFING.
6. STEEL DECK SHALL BE CONTINUOUS OVER THREE (3) SPANS IN THE DIRECTION INDICATED. SINGLE AND DOUBLE SPANS, IF REQUIRED, SHALL SATISFY LOAD AND DEFLECTION REQUIREMENTS.
7. STEEL DECKING SHALL BE WELDED TO STRUCTURAL STEEL BY QUALIFIED WELDERS USING PREQUALIFIED PROCEDURES. ESTABLISH A WELDING PROCEDURE FOR THE PLUG WELD OF THE STEEL DECKING TO THE STRUCTURAL STEEL FOR THE PARTICULAR GAGE USED. PRIOR TO THE START OF ERECTION OF THE STEEL DECK, EACH WELDER SHALL BE QUALIFIED ACCORDING TO AWS REQUIREMENTS.
8. NO LOADS SHALL BE PERMITTED TO BE HUNG FROM ANY STEEL DECK. MECHANICAL PIPING OVER 2 1/2"ø SHALL NOT BE HUNG FROM STEEL DECK. HANGERS FOR CEILINGS, DUCTWORK, ELECTRICAL CONDUIT, PIPING, ETC. SHALL BE DIRECTLY FROM STRUCTURAL STEEL WORK OR SUPPLEMENTARY MEMBERS.

PRECAST CONCRETE PLANK:

1. PRECAST CONCRETE HOLLOW CORE SLABS (PLANK) SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318, THE DESIGN RECOMMEND–ATIONS OF PCI MNL 120 "PCI DESIGN HANDBOOK" 6TH EDITION, THE DESIGN RECOMMENDATIONS OF PCI "MANUAL FOR THE DESIGN OF HOLLOW CORE SLABS" AND IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS.
2. PRECAST CONCRETE PLANK SHALL BE PRESTRESSED. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT RELEASE OF PRESTRESS STRANDS AND 5000 PSI AT 28 DAYS.
3. PRESTRESSING STRANDS SHALL BE UNCOATED, 7 WIRE STRESS RECEIVED CONFORMING TO ASTM C–416.
4. ALL UNITS TO BE LEVELED AND GROUTED BETWEEN JOINTS WITH A GROUT MIXTURE OF 3:1. PROVIDE 1/8" BEARING STRIPS AT MASONRY SUPPORTS.
5. PRECAST SUPPLIER SHALL FURNISH AND INSTALL WELD PLATES AND HEADERS AS REQUIRED. PROVIDE WELD PLATES IN PLANK WHERE BEARING IS ON STEEL, OTHER WISE BEARING OF PLANK SHALL BE ON BEARING PAD UNLESS DETAILED FOR A WELDED CONNECTION.
6. PROVIDE CONNECTIONS COMPLYING WITH ACI 318, CHAPTER 16 AND PCI RECOMMENDATIONS.
7. PRECAST CONCRETE PLANK SHALL BE DESIGNED TO CARRY THE IMPOSED LOADS SHOWN ON THE DRAWINGS. LOADS TO BE SUPPORTED INCLUDE:
   A. DEAD LOADS OF PANEL, TOPPING.
   B. LIVE LOADS OF OCCUPANCY.
   C. OTHER SUPERIMPOSED LOADS SUCH AS PARTITIONS, CEILINGS, MECHANICAL, ELECTRICAL SYSTEMS, ETC.
   D. WIND AND EARTHQUAKE LOADS.
   E. SHEAR WALL FORCES.
   F. THERMAL EFFECTS.
   G. FABRICATION AND ERECTION FORCES.
8. PRECAST CONCRETE PLANK THICKNESS IS INDICATED ON THE DRAWINGS. PLANK WIDTHS TO BE DETERMINED BY THE MANUFACTURER. TOP PLANK SURFACE SHALL BE ROUGHENED AS REQUIRED FOR NON–COMPOSITE CONCRETE SLAB TOPPING.
9. PRECAST CONCRETE PLANK SHALL HAVE A MINIMUM 2 HOUR U.L. TESTED AND LISTED FIRE RATING OR AS NOTED ON DRAWINGS REFER TO ARCHITECTURAL REQUIREMENTS.
10. THERMAL EFFECTS SHALL BE CONSIDERED FOR PRECAST CONCRETE PLANK DESIGN AND INSTALLATION.
11. STRUCTURAL GROUT SHALL BE USED AT ALL JOINT KEYWAYS, WHERE SHOWN IN PLANK CORES AND WHERE REQUIRED AT PLANK CORES FOR LOAD CAPACITY.
12. BEARING PADS SHALL BE TEMPERED HARDBOARD, PS–58, SMOOTH SURFACE BOTH SIDES.
13. PROVIDE STRUCTURAL STEEL HEADERS TO ADJACENT PLANKS WHEN PLANK SPAN IS INTERRUPTED BY AN OPENING. ADJACENT PLANKS SHALL HAVE CAPACITY TO SUPPORT THIS ADDITIONAL HEADER LOAD. STRUCTURAL STEEL HEADERS REQUIRED AT FLOOR OPENINGS SHALL BE FURNISHED WITH PLANKS.
14. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND SITE RESTRICTIONS.
15. PRECAST CONCRETE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRUCTURAL DESIGN OF PRECAST CONCRETE MEMBERS AND HEADERS. SUBMIT DETAILED SHOP DRAWINGS AND DESIGN CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN MICHIGAN, EXPERIENCED IN PRECAST CONCRETE HOLLOW CORE SLAB DESIGN FOR APPROVAL PRIOR TO FABRICATION. SUBMIT SHOP DRAWINGS AND ERECTION DRAWINGS SHOWING MEMBER CONFIGURATIONS, REINFORCEMENT SIZES AND ARRANGEMENT, STEEL STRAND LAYOUT, ANCHOR DEVICES, FABRICATION AND ERECTION DETAILS.
16. PRECAST CONCRETE PLANK MANUFACTURER SHALL BE PCI CERTIFIED. PRECAST CONCRETE PLANK ERECTOR SHALL BE APPROVED BY THE MANUFACTURER.
17. REFER TO STRUCTURAL AND ARCHITECTURAL DRAWINGS FOR LOCATIONS OF WALLS AND WALL SUPPORT DETAILS.
18. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS FOR ALL OTHER OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
19. OPENINGS SHALL BE SHOP CUT UNLESS PRIOR APPROVAL FOR FIELD CUTTING IS PROVIDED BY THE PLANK MANUFACTURER.
20. PRECAST CONCRETE HOLLOW CORE SLABS (PLANK) SHALL NOT BE FIELD CUT WITHOUT THE ARCHITECT/ENGINEER'S REVIEW OF THE MANUFACTURER'S CALCULATIONS AND THE DIRECT SUPERVISION OF THE PLANK MANUFACTURER.
21. COORDINATE LOCATIONS OF REQUIRED OPENINGS THROUGH PLANK TO AVOID REINFORCING STEEL.
22. CONTRACTOR TO VERIFY STEEL STRAND LAYOUT LOCATIONS PRIOR TO CUTTING OPENINGS.
23. DO NOT USE PNEUMATIC CONCRETE BREAKER, HAMMER OR SLEDGE FOR CUTTING OPENINGS IN CONCRETE.
24. DO NOT STRIKE PRE–STRESSING STRAND WITH ANY TOOL.
25. USE BALL PEEN HAMMER AND CONCRETE SAW AS REQUIRED FOR STARTING HOLES AND CUTTING CONCRETE. SAW OVERCUTS AT CORNERS OF OPENING ARE NOT PERMITTED.
26. USE CONCRETE SAW OR BURNING TORCH TO CUT PRE–STRESSING ONLY WHEN APPROVED BY THE MANUFACTURER OR ENGINEER.
27. ANCHORS INTO PRECAST CONCRETE PLANK SHALL NOT BE LOCATED IN THE WEBS BETWEEN THE OPEN CORES. DO NOT DISTURB THE STEEL PRESTRESSING TENDONS. DO NOT USE POWDER ACTUATED FASTENERS IN THE PLANK. EXPANSION ANCHORS INTO THE PLANK SHALL BE A MAXIMUM 1/2" DIAMETER.
28. PRECAST CONCRETE PLANK FABRICATION AND ERECTION SHALL BE REVIEWED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL ERECTION AND FIELD CONNECTIONS ARE COMPLETED ACCORDING TO THE DESIGN DOCUMENTS.

HELICAL SCREW PILE SPECIFICATIONS:

1. HELICAL PILES SHALL BE INSTALLED TO ACHIEVE AN ALLOWABLE BEARING CAPACITY=60.0K (ULTIMATE CAPACITY=120.0K WITH A FACTOR OF SAFETY=2.0)
2. CONTRACTOR SHALL SUBMIT TO THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION:
   a. PILE MANUFACTURE AND CONFIGURATION
   b. ENGINEERING DATA INDICATING ALLOWABLE WORKING LOADS FOR THE SHAFT AND HELIXES.
   c. REQUIRED INSTALLATION TORQUE TO OBTAIN THE ALLOWABLE LOAD CAPACITY.
   d. INSTALLATION ROTARY TYPE GEAR HEAD MODEL WITH PRESSURE/TORQUE INCLUDING MANUFACTURER'S SPECIFICATIONS AND CALIBRATION CERTIFICATION.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND COORDINATE ALL DIMENSIONS PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL REPORT DISCREPANCIES/INCOUNTERED OBSTRUCTIONS TO THE ARCHITECT/ENGINEER. RELOCATION OF HELICAL PILE MUST BE APPROVED BY ARCHITECT/ENGINEER.
5. AT COMPLETION OF HELICAL PILE INSTALLATION THE CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE ARCHITECT/ENGINEER:
   a. AS–BUILT DIMENSION LAYOUT OF ALL HELICAL PILES.
   b. EACH PILE WITH SEPARATE IDENTIFICATION NUMBER.
   c. HELICAL PILE INSTALLATION DATE.
   d. TOP OF PILE ELEVATION.
   e. BOTTOM OF PILE ELEVATION.
   f. DESCRIPTION OF HELICAL PILE LEAD SECTIONS, EXTENSIONS HELICAL PLATE SIZE AND SHAFT SIZE.
   g. TORQUE READING FOR LAST THREE FEET OF INSTALLATION.
   h. ALLOWABLE BEARING CAPACITY.
   i. DESCRIPTION OF ANY UNUSUAL OCCURRENCES DURING PILE INSTALLATION.
6. HELICAL PILES SHALL BE SIMILAR OR EQUAL TO THOSE MANUFACTURED BY THE A.B. CHANCE COMPANY.
7. PILES SHALL BE INSTALLED BY AN AUTHORIZED INSTALLING CONTRACTOR WHO HAS SATISFIED THE CERTIFICATION REQUIREMENTS RELATING TO THE TECHNICAL ASPECTS OF THE PRODUCT AND THE ASCRIBED INSTALLATION TECHNIQUES. PROOF OF CURRENT CERTIFICATION BY THE MANUFACTURER MUST BE PROVIDED.
8. ALL WORK AS DESCRIBED HEREIN SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE SAFETY CODES IN EFFECT AT THE TIME OF INSTALLATION.

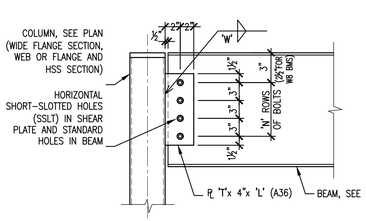
HELICAL SCREW PILE SPECIFICATIONS (CONT.):

9. HELICAL PILES AS SPECIFIED SHALL CONFORM TO EITHER THE SBCI–STANDARD BUILDING CODE, BOCA NATIONAL CODE, OR ICBO–UNIFORM BUILDING CODE. AN OFFICIAL EVALUATION REPORT WITH ASSIGNED NUMBER SHALL BE PRESENTED UPON REQUEST TO THE OWNER AND/OR THEIR REPRESENTATIVE. SBCCI–9504B; BOCA–RR94–27: ICBO–ER–5110.
10. THE HELICAL LEAD SECTIONS AND EXTENSION SECTIONS SHALL BE SOLID STEEL, ROUND CORNERED SQUARE SHAFT, OR ROUND STEEL PIPE SHAFT, OR COMPOSITE STEEL AND GROUT SHAFT CONFIGURED WITH ONE OR MORE HELICAL BEARING PLATES WELDED TO THE SHAFT.
11. ALL PILES MUST BE CORROSION PROTECTED BY HOT DIP GALVANIZATION.
12. INSTALLATION UNITS SHALL CONSIST OF A ROTARY TYPE TORQUE MOTOR WITH FORWARD AND REVERSE CAPABILITIES. THESE UNITS ARE TYPICALLY POWERED.
13. INSTALLATION UNITS SHALL BE CAPABLE OF DEVELOPING THE MINIMUM TORQUE AS REQUIRED.
14. INSTALLATION UNITS SHALL BE CAPABLE OF POSITIONING THE HELICAL PILE VERTICALLY OR THE INSTALLATION ANGLE AS NOTED. THIS ANGLE MAY VARY BETWEEN VERTICAL AND 5 DEGREES DEPENDING UPON APPLICATION AND TYPE OF LOAD TRANSFER DEVICE SPECIFIED OR REQUIRED.
15. INSTALLATION TORQUE SHALL BE MONITORED THROUGHOUT INSTALLATION PROCESS.
16. HELICAL PILES SHALL BE INSTALLED TO THE MINIMUM TORQUE VALUE REQUIRED TO PROVIDE THE LOAD CAPACITIES SHOWN ON THE PLANS.
17. THE APPROPRIATE STEEL NEW CONSTRUCTION LOAD TRANSFER DEVICE SHALL BE USED.
18. APPROPRIATE HELICAL PILES SELECTION WILL CONSIDER DESIGN LOAD PLUS SAFETY FACTOR, SOIL PARAMETERS AND THE INSTALLATION TORQUE VS. CAPACITY EQUATION AS PER THE MANUFACTURES RECOMMENDATIONS.
19. DESIGN OF HELICAL SCREW PILES AND ANCHORS SHALL BE PERFORMED BY THE HELICAL SCREW MANUFACTURER, OR DEALER AND BE A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MICHIGAN, AS REQUIRED IN ACCORDANCE w/ EXISTING LOCAL CODE REQUIREMENTS OR ESTABLISHED LOCAL PRACTICES.
20. HELICAL PILES SHALL BE LOCATED AS SHOWN ON DRAWINGS. PIER CENTERS SHALL BE LOCATED TO AN ACCURACY OF ±4" MAXIMUM VARIATION.
21. LOAD TEST–REQUIREMENTS:
   a. PROVIDE COMPRESSION PILE LOAD TESTS BY PILE INSTALLER IN ACCORDANCE WITH ASTM LOAD TEST SPECIFICATIONS. AT TWO PILES LOCATIONS.
   b. LOAD TEST PILES INCREMENTALLY ON TIME'S DESIGN LOAD WITH DEFLECTION MEASURED AT EACH ADDITION OF LOAD.
   c. SUBMIT DETAIL DRAWINGS, DESIGN DATA AND INSTALLATION PROCEDURES PERTAINING TO PROPOSED PILE LOAD BY PILE INSTALLER FOR APPROVAL PRIOR TO PILE INSTALLATION.
   d. FURNISH AND INSTALL COMPLETE LOAD TEST SYSTEM INCLUDING JACKS, REACTION BEAM, DIAL INDICATORS, SPHERICAL BEARING PLATE, LOAD CELL, REFERENCE BEAMS, TEST ENCLOSURE, AND ALL OTHER EQUIPMENT, MATERIALS AND LABOR THAT WILL SATISFACTORILY PERFORM REQUIRED PILE LOAD TEST.
   e. TEST PILES, IF SUCCESSFULLY TESTED AND PROPERLY LOCATED, WILL BE ACCEPTED AS PERMANENT AND MAY BE LEFT IN PLACE.

SINGLE SHEAR PLATE CONNECTION SCHEDULE

BEAM SIZE	SHEAR PLATE THICKNESS "T"	SHEAR PLATE LENGTH "L"	SHEAR PLATE WELD "W"	BOLTS NUMBER	BOLTS SIZE	BOLTS TYPE	ALLOWABLE SHEAR CAPACITY (KIPS) TYPE "A"	ALLOWABLE SHEAR CAPACITY (KIPS) TYPE "B"
W8x10 THRU W8x21	3/8"	6"	1/4"	(2)	3/4"ø	A325N	16.7	10.6
W8x24 THRU W8x28	3/8"	6"	1/4"	(2)	3/4"ø	A325N	16.7	15.4
W10x12 THRU W10x17	3/8"	6"	1/4"	(2)	3/4"ø	A325N	16.7	11.8
W10x19 THRU W10x30	3/8"	6"	1/4"	(2)	3/4"ø	A325N	16.7	15.6
W10x33 THRU W10x45	3/8"	6"	1/4"	(2)	7/8"ø	A490N	26.1	17.0
W12x14 THRU W12x22	3/8"	9"	1/4"	(3)	3/4"ø	A325N	29.4	20.8
W12x26 THRU W12x35	3/8"	9"	1/4"	(3)	7/8"ø	A325N	39.2	22.4
W14x22 THRU W14x26	3/8"	9"	1/4"	(3)	3/4"ø	A325N	29.4	23.9
W14x30 THRU W14x38	3/8"	9"	1/4"	(3)	7/8"ø	A490N	39.2	26.3
W16x26 THRU W16x40	3/8"	12"	1/4"	(4)	3/4"ø	A325N	42.1	36.2
W16x45 THRU W16x57	3/8"	12"	1/4"	(4)	7/8"ø	A490N	52.2	47.3
W18x35 THRU W18x46	3/8"	15"	1/4"	(5)	3/4"ø	A325N	54.5	54.5

NOTES:
1. SINGLE PLATE SHEAR CONNECTIONS SHALL MEET THE MINIMUM REQUIREMENTS AS NOTED. ANY SINGLE PLATE SHEAR CONNECTION WHICH DOES NOT FALL WITHIN THE SCHEDULE LIMITS SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR. SUBMIT DETAILS AND CALCULATIONS SEALED BY A MICHIGAN P.E. FOR ENGINEERS APPROVAL.
2. HOLES SHALL BE HORIZONTAL SHORT–SLOTTED HOLES (SSLT) IN SHEAR PLATE AND STANDARD HOLES IN BEAM.
3. WELDING PER AWS D1.1 WITH E–70XX ELECTRODES.
4. WIDE FLANGE BEAM SECTIONS: ASTM A992 (Fy=50 ksi)
5. SHEAR PLATE: ASTM A36 (Fy=36 ksi)



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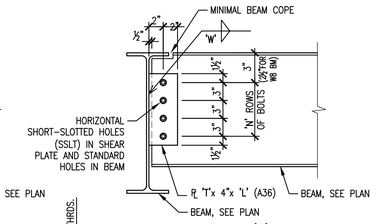

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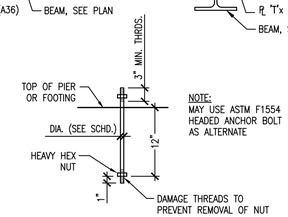


NOTE:
MAY USE ASTM F1554 HEADED ANCHOR BOLT AS ALTERNATE

ASTM F1554 ANCHOR ROD DETAIL

COLUMN SCHEDULE

MARK	SIZE	BASE PLATE	ANCHOR BOLTS	CAP PLATE	REMARKS
C–1A	HSS6"x6"x3/8"	PL. 3/4"x12"x1'–0"	(4) 3/4"ø	PL. 3/8" MIN.	TYPE TS1
C–1B	HSS6"x6"x3/8"	PL. 3/4"x12"x1'–0"	(4) 3/4"ø	PL. 3/4"x6 1/2"x1'–0"	TYPE TS1

EPOXY ANCHOR SHALL BE EQUAL TO HILTI HVA WITH 6 5/8" MIN. EMBEDMENT.

"TYPE TS1"

BEAM SCHEDULE

MARK	SIZE	REMARKS
B–1	W12x26	.
B–2	W12x30	
B–3	W8x15	
B–4	W12x26	
B–5	C12x20.7	
B–6	W8x10	
B–7	W8x18	
B–8	W8x31	

CONCRETE BEAM SCHEDULE

MARK	SIZE WIDTH	SIZE DEPTH	REINFORCING TOP	REINFORCING BOTTOM	PLACEMENT ℄ OF SUPPORTS	STIRRUPS 2 LEGS, U.N.O.	REMARKS
CB1	26"	12"	(4) #5	(4) #5		#3, 6@3"o.c. BAL @ 12"E.E.	.

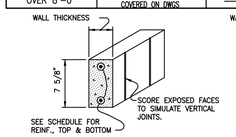
REINFORCED MASONRY WALL SCHEDULE

MARK	CMU WALL WIDTH	VERTICAL REINFORCEMENT	REMARKS
W–1	8"	#5 @ 32" O.C.	
W–2	12"	#6 @ 48" O.C.	

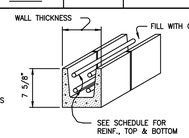
NOTES:
1. GROUT CELLS SOLID AT VERTICAL REINFORCEMENT.
2. VERTICAL REINFORCEMENT TO BE PLACED IN CENTER OF CMU WALL U.N.O. AND SHALL EXTEND FULL HEIGHT OF WALL.
3. PLACE 2 VERT. BARS OF SCHEDULED REINFORCEMENT AT EACH SIDE OF EACH MASONRY OPENING (i.e. DOOR, WINDOW, ETC.) AND CORNERS & ENDS OF WALL PANELS.
4. UNLESS NOTED, ALL 8" CMU WALLS SHALL BE *'W–1'* AND ALL 12" CMU WALLS SHALL BE *'W–2'*

NON–BEARING WALL LINTEL SCHEDULE

MASONRY OPENING	STRUCTURAL STEEL MEMBER	CONCRETE REINF., T&B	MIN. END BEARING	REMARKS
UP TO 4'–0"	L3 1/2"x 3"x 1/4" SLV	(1) #4	4"	
4'–1" TO 5'–4"	L3 1/2"x 3 1/2"x 1/4"	(1) #5	8"	
5'–5" TO 6'–8"	L4"x 3 1/2"x 1/4" LLV	(1) #5	8"	P.C. CONC. ONLY, NO MASONRY
6'–9" TO 8'–0"	L5"x 3 1/2"x 5/16" LLV	(1) #6	8"	P.C. CONC. ONLY, NO MASONRY
OVER 8'–0"	CONTACT ARCH. IF NOT COVERED ON DWGS.	——		



PRECAST CONCRETE LINTEL



MASONRY UNIT LINTEL

NOTES:
1. UNLESS OTHERWISE NOTED, PROVIDE LINTELS OVER ALL OPENINGS IN NON–BEARING MASONRY WALLS ACCORDING TO THIS SCHEDULE.
2. LINTELS ARE SCHEDULED FOR EACH 4" OF WALL THICKNESS. IN 6" WALLS, PROVIDE A PRECAST CONCRETE OF MASONRY LINTEL WITH 50% GREATER REINFORCING.
3. MAKE–UP OF LINTELS IS DETERMINED BY ARCHITECTURAL FINISH REQUIREMENTS. FOR EXAMPLE: A LINTEL OVER 5'–4" OPENING IN A 12" WALL COULD BE EITHER:
   A. (3) L3 1/2"x 3 1/2"x 1/4" x 6'–8" LONG.
   B. 12"x 8" MASONRY UNIT (OR PRECAST CONCRETE) LINTEL w/ (3) #5 TOP & BOTTOM.
   C. (1) L3 1/2"x 3 1/2"x 1/4" PLUS 8" MASONRY UNIT (OR PRECAST CONCRETE) LINTEL w/ (2) #5 TOP & BOTTOM.
4. SEE DRAWINGS AND SPECIFICATIONS FOR OPENING SIZES, WALL THICKNESS, MAKE–UP, ETC.
5. PRECAST CONCRETE LINTELS SHALL BE OF LIGHTWEIGHT STRUCTURAL CONCRETE (fc'=3000psi) w/ THE SAME TEXTURE AS CONCRETE MASONRY UNITS.
6: MASONRY UNIT LINTELS SHALL BE OF LIGHTWEIGHT CONCRETE MASONRY UNITS (f'm=1500psi)

BEARING PLATE SCHEDULE

BEAMS	JOISTS	BEARING PLATE EACH END (U.N.O.)	REMARKS
————	ALL "K" SERIES	1/2" x 6" x 8"	w/2–5/8"ø x 4" CONC. STUD ANCHORS
W8x10 THRU W16x36	————	1/2" x 6" x 8"	w/2–5/8"ø x 4" CONC. STUD ANCHORS
W18x50	————	3/4" x 6" x 10"	w/3–5/8"ø x 4" CONC. STUD ANCHORS

NOTE:
ALL BEARING PLATES NOT SET IN BOND BEAMS SHALL HAVE MIN. 3 COURSES OF MASONRY GROUTED SOLID BELOW PLATE

LINTEL SCHEDULE

MARK	MATERIAL	SHAPE	BEARING E.E.	REMARKS
L–1	W8x24 w/ PL. 3/8"x7 1/4"	I	8"	
L–2	W8x18 w/ PL. 3/8"x11 1/4"	I	8"	
L–3	W16x26 w/ PL. 3/8"x11 1/4"	I	8"	

NOTES:
1. MINIMUM 3 COURSES OF MASONRY SHALL BE GROUTED SOLID FOR BEARING EACH END. ANCHOR MASONRY TO BEAMS w/ WELD ON ADJUSTABLE WIRE TIES EACH SIDE @ 2'–8" O.C.
2. ALL EXTERIOR LINTELS SHALL BE GALVANIZED. ATTACHED REINFORCING DOWELS ARE NON–GALVANIZED. DOWELS SHALL BE WELDED TO GALVANIZED LINTELS, REPAIR GALVANIZING AFTER WELDING.
3. VERTICAL WALL REINFORCING SHALL HAVE DOWELS WELDED TO LINTEL, SEE DETAILS. IF NOT DETAILED PROVIDED DOWEL SIZE AND SPACING TO MATCH WALL REINFORCING.
4. PROVIDE 5/8"ø EPOXY ANCHOR AT MID SPAN AND AT 24" O.C. EACH SIDE, EQUAL TO HILTI HIT–HY 70 w/ 5 7/8" EMBEDMENT. DO NOT DAMAGE REINFORCING.
5. TYPICAL WINDOW SILL SUPPORT ANGLE REFER TO SECTION
6. POSITION LINTEL IN CENTER OF BEARING MASONRY WALL, UNLESS NOTED.

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03.17.2026	BIDS

PIC: JAE
PM: JAE
DRAFTS: MLA
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25.503

SHEET TITLE:
SCHEDULES & TYPICAL DETAILS

S002

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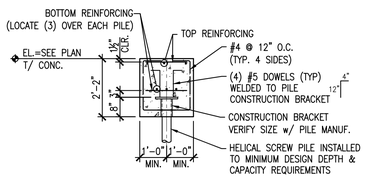
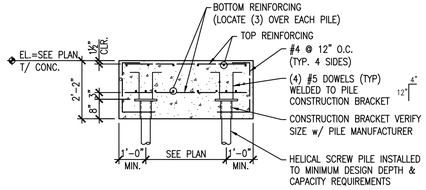
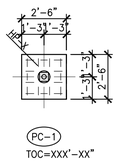
PILE CAP SCHEDULE			
MARK	SIZE	REINFORCING	REMARKS
PC-1	2'-6"x 2'-6"x 26"	(4) #5 E.W. BOTTOM (4) #5 E.W. TOP	
PC-2	13'-4"x 11'-4"x 26"	(15) #6 E.W. BOTTOM (15) #6 E.W. TOP	



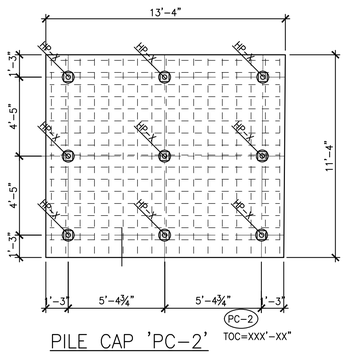
TYPICAL SECTION THRU PILE CAP "PC-1"



TYPICAL SECTION THRU PILE CAP "PC-2"



PILE CAP 'PC-1'



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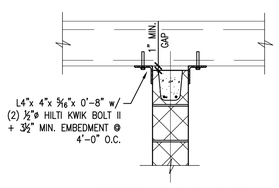
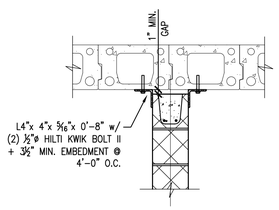
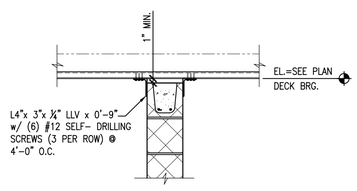


PERPENDICULAR TO PLANK SPAN

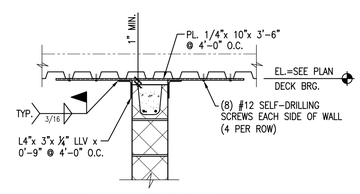


PARALLEL TO PLANK SPAN

MASONRY WALL LATERAL SUPPORT
(NON LOAD BEARING WALL)
SCALE: 3/4"=1'-0"

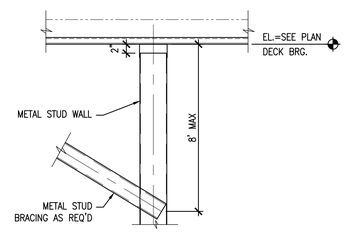


PERPENDICULAR TO DECK SPAN

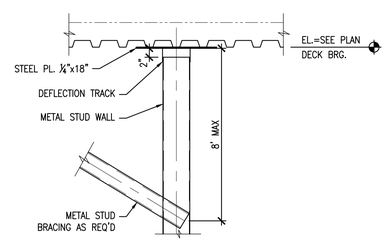


PARALLEL TO DECK SPAN

MASONRY WALL SUPPORT DETAIL
(NON LOAD BEARING WALL)
SCALE: 3/4"=1'-0"



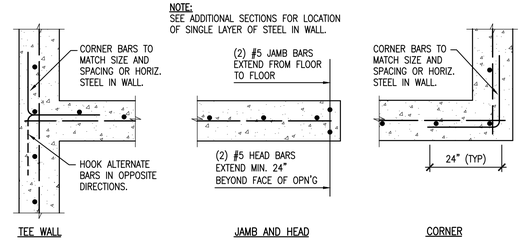
PERPENDICULAR TO DECK SPAN



PARALLEL TO DECK SPAN

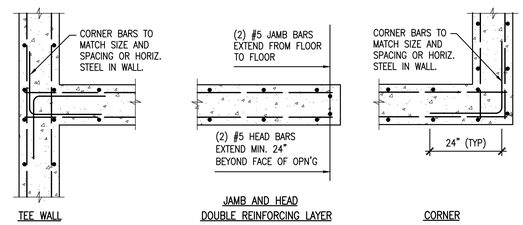
METAL STUD WALL SUPPORT DETAIL
(NON LOAD BEARING WALL)
SCALE: 3/4"=1'-0"

NOTE:
SEE ADDITIONAL SECTIONS FOR LOCATION OF SINGLE LAYER OF STEEL IN WALL.



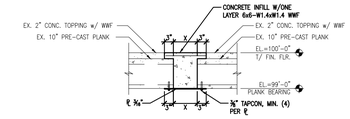
TEE WALL JAMB AND HEAD CORNER

SINGLE REINFORCING LAYER

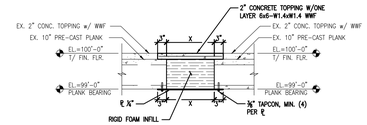


TEE WALL JAMB AND HEAD DOUBLE REINFORCING LAYER CORNER

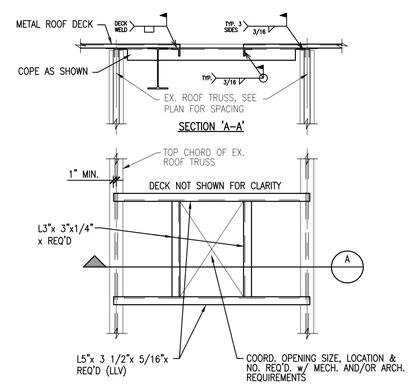
TYPICAL CORNER BAR DETAILS
SCALE: 1/2"=1'-0"



TYP. PLANK PENETRATION
INFILL SECTION FOR 'X'<8"
SCALE: 1/2"=1'-0"



TYP. PLANK PENETRATION
INFILL SECTION FOR 8"<'X'<26"
SCALE: 1/2"=1'-0"



TYP. ROOF OPENING FRAME DETAIL
SCALE: 1/2"=1'-0"

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SHEET TITLE:
SCHEDULES & TYPICAL DETAILS

S003

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STATEMENT OF REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

TABLE 1705.6

	TYPE	CONTINUOUS SPECIAL INSPECTION *	PERIODIC SPECIAL INSPECTION **	IBC REFERENCE
1	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	–	X	1705.6
2	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	–	X	1705.6
3	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	–	X	1705.6
4	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	–	1705.6 & 1803.5
5	PRIOR TO PLACEMENT OF CONTROLLED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	–	X	1705.6

* CONTINUOUS SPECIAL INSPECTION IS DEFINED AS THE FULL–TIME INSPECTION OF THE WORK BY AN APPROVED INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. SEE SPECIFIC MATERIAL SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.

** PERIODIC SPECIAL INSPECTION IS DEFINED AS THE PART–TIME OR INTERMITTENT INSPECTION OF THE WORK BY AN APPROVED INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK. SEE SPECIFIC MATERIAL SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.

STATEMENT OF REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TABLE 1705.3

	TYPE	CONTINUOUS SPECIAL INSPECTION *	PERIODIC SPECIAL INSPECTION **	REFERENCED STANDARD (z)	IBC REFERENCE
1	INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT (PRIOR TO CONCRETE PLACEMENT)	–	X	ACI 318: 20, 25.2, 25.3, 26.6.1–26.6.3	1908.4
2	REINFORCING BAR WELDING:			AWS D1.4 (VISUAL) ACI 318: 26.6.4	–
	a. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706	–	X		
	b. INSPECT SINGLE PASS FILLET WELDS MAXIMUM 5/16"	–	X		
	c. INSPECT ALL OTHER WELDS	X	–		
3	INSPECT ANCHORS CAST IN CONCRETE	–	X	ACI 318: 17.8.2	–
4	INSPECT ANCHORS POST–INSTALLED IN HARDENED CONCRETE MEMBERS (x)				–
	a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X	–	ACI 318: 17.8.2.4	–
	b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4a	–	X	ACI 318: 17.8.2	–
5	VERIFY USE OF REQUIRED DESIGN MIX	–	X	ACI 318: 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTEND TESTS AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	–	ASTM C172 ASTM C31 ACI 318: 26.4 26.12	1908.10
7	INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	–	ACI 318: 26.5	1908.6, 1908.7 1908.8
8	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	–	X	ACI 318: 26.5.3–26.5.5	1908.9
9	INSPECT PRESTRESSED CONCRETE FOR:			ACI 318: 26.10	–
	a. APPLICATION OF PRESTRESSING FORCES	X	–		
	b. GROUTING OF BONDED PRESTRESSING TENDONS	X	–		
10	INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	–	X	ACI 318: 26.8	–
11	VERIFICATION OF IN–SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORE AND FORMS FROM BEAMS AND STRUCTURAL SLABS	–	X	ACI 318: 26.11.2	–
12	INSPECT FORMWORK FOR SHAPE LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	–	X	ACI 318: 26.11.1.2b	–

(z) WHERE APPLICABLE, SEE STATEMENT OF REQUIRED SPECIAL INSPECTIONS FOR SEISMIC, RESISTANCE FOR ADDITIONAL INSPECTIONS.

(x) SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH ACI 318. 17.8.2 OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.

* CONTINUOUS SPECIAL INSPECTION IS DEFINED AS THE FULL–TIME INSPECTION OF THE WORK BY AN APPROVED INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. SEE SPECIFIC MATERIAL SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.

** PERIODIC SPECIAL INSPECTION IS DEFINED AS THE PART–TIME OR INTERMITTENT INSPECTION OF THE WORK BY AN APPROVED INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK. SEE SPECIFIC MATERIAL SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.

INSPECTION TASKS FOR BOLTING

INSPECTION TASKS PRIOR TO BOLTING (TABLE N5.6–1)	QC	QA
MANUFACTURERS CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	P
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	O
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	O	O
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	O
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	O
PRE–INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED.	P	O
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	O
INSPECTION TASKS DURING BOLTING (TABLE N5.6–2)		
FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	O	O
JOINTS BROUGHT TO THE SNUG–TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	O
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	O
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	O
INSPECTION TASKS AFTER BOLTING (TABLE N5.6–3)		
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	P	P

O = OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.

P = PERFORM THESE TASKS FOR EACH BOLTED CONNECTION.

STATEMENT OF REQUIRED SPECIAL INSPECTIONS AND TESTS FOR MASONRY CONSTRUCTION

	TYPE	CONTINUOUS SPECIAL INSPECTION *	PERIODIC SPECIAL INSPECTION **	TMS 402/ACI 530/ASCE 5	TMS 602/ACI 530.1/ASCE 6
1	PRIOR TO CONSTRUCTION, VERIFY CERTIFICATES OF COMPLIANCE IN MASONRY CONSTRUCTION	X	–	–	ART. 1.5
2	VERIFY f'm, TEST EVERY 5000 SQUARE FEET	–	X	–	ART. 1.4B
3	VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO THE SITE FOR SELF–CONSOLIDATING GROUT	X	–	–	ART. 1.5B.1.b.3
4	VERIFICATION OF PROPORTIONS OF MATERIALS IN PREMIXED PREBLENDED MORTAR, PRESTRESSING GROUT, AND GROUT OTHER THAN SELF–CONSOLIDATING GROUT, AS DELIVERED TO THE PROJECT SITE	X	–	–	–
5	VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS	–	X	–	ART. 1.5
6	AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
	a. PROPORTIONS OF SITE–PREPARED MORTAR, GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	–	X	–	ART. 2.1, 2.6A
	b. CONSTRUCTION OF MORTAR JOINTS	–	X	–	ART. 3.3B
	c. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	–	X	–	ART. 2.4, 2.4H
	d. LOCATION OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES	–	X	–	ART. 3.4, 3.6A
	e. PRESTRESSING TECHNIQUE	–	X	–	ART. 3.6B
	f. PROPERTIES OF THIN–BED MORTAR FOR AAC MASONRY	X	–	–	ART. 2.1C
7	PRIOR TO GROUTING VERIFY:				
	a. GROUT SPACE IS CLEAN	X	–	–	ART. 3.2D, 3.2F
	b. GRADE, TYPE AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS AND PRESTRESSING TENDONS AND ...	–	X	SEC. 6.1	ART. 2.4, 3.4
	c. PLACEMENT OF REINFORCEMENT, CONNECTORS AND PRESTRESSING TENDONS AND ANCHORAGES	X	–	SEC. 6.1, 6.2.1 6.2.6, 6.2.7	ART. 3.2E, 3.4, 3.6A
	d. PROPORTIONS OF SITE PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	–	X	SEC. 6.1	ART. 2.6B, 2.4 G.1.b
	e. CONSTRUCTION OF MORTAR JOINTS	–	X	–	ART. 3.3B
8	VERIFY DURING CONSTRUCTION:				
	a. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	–	X	–	ART. 3.3F
	b. TYPE, SIZE AND LOCATION OF ANCHORS INCLUDING OTHER DETAILS OF ANCHORAGE OR MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	X	–	SEC. 1.2.1(e), 6.1.4.3, 6.2.1	–
	c. WELDING OF REINFORCEMENT	X	–	SEC. 8.1.6.7.2, 9.3.3.4(c), 11.3.3.4(b)	–
	d. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPS BELOW 40F) OR HOT WEATHER (TEMPS ABOVE 90F)	–	X	–	ART. 1.8C, 1.8D
	e. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	X	–	–	ART. 3.6B
	f. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	X	–	–	ART. 3.5, 3.6C
	g. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN–BED MORTAR JOINTS	X	–	–	ART. 3.3B.9, 3.3F.1.b
	h. PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS	–	X	–	ART. 3.3B
9	OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS	X	–	–	ART. 1.4B2.a.3, 1.4B.2.b.8, 1.4B.2.c.3, 1.4B.3...
10	POST–INSTALLED MASONRY ADHESIVE ANCHORS (z)	X	–	–	–

(z) SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE IN ACCORDANCE TO THE ANCHOR MANUFACTURERS INSTALLATION REQUIREMENTS.

* CONTINUOUS SPECIAL INSPECTION IS DEFINED AS THE FULL–TIME INSPECTION OF THE WORK BY AN APPROVED INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. SEE SPECIFIC MATERIAL SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.

** PERIODIC SPECIAL INSPECTION IS DEFINED AS THE PART–TIME OR INTERMITTENT INSPECTION OF THE WORK BY AN APPROVED INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK. SEE SPECIFIC MATERIAL SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS.

MINIMUM REQUIREMENTS FOR INSPECTION OF STRUCTURAL STEEL BUILDINGS

QUALITY CONTROL	QC: INSPECTION TASKS SHALL BE PERFORMED BY THE FABRICATORS OR ERECTORS QUALITY CONTROL INSPECTOR (QCI), AS APPLICABLE, IN ACCORDANCE WITH SECTIONS N5.4, N5.6 AND N5.7 OF AISC 360. TASKS IN TABLES N5.4–1 THROUGH N5.4–3 AND TABLES N5.6–1 THROUGH N5.6–3 LISTED FOR QC ARE THOSE INSPECTIONS PERFORMED BY THE QCI TO ENSURE THAT THE WORK IS PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. FOR QC INSPECTION, THE APPLICABLE CONSTRUCTION DOCUMENTS ARE THE SHOP DRAWINGS AND THE ERECTION DRAWINGS, AND THE APPLICABLE REFERENCED SPECIFICATIONS, CODES AND STANDARDS.
QUALITY ASSURANCE	QA: INSPECTION OF FABRICATED ITEMS SHALL BE MADE AT THE FABRICATORS PLANT. THE QUALITY ASSURANCE INSPECTOR (QAI) SHALL SCHEDULE THIS WORK TO MINIMIZE INTERRUPTION TO THE WORK OF THE FABRICATOR. QA INSPECTION OF THE ERECTED STEEL SYSTEM SHALL BE MADE AT THE PROJECT SITE. THE QAI SHALL SCHEDULE THIS WORK TO MINIMIZE INTERRUPTION TO THE WORK OF THE ERECTOR. THE QAI SHALL REVIEW THE MATERIAL TEST REPORTS AND CERTIFICATIONS AS LISTED IN SECTION N3.2 OF AISC 360 FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. TASKS IN TABLES N5.4–1 THROUGH N5.4–3 AND TABLES N5.6–1 THROUGH N5.6–3 LISTED FOR QA ARE THOSE INSPECTIONS PERFORMED BY THE QAI TO ENDURE THAT THE WORK IS PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. CONCURRENT WITH THE SUBMITTAL OF SUCH REPORTS TO THE AHJ, EOR OR OWNER, THE QA AGENCY SHALL SUBMIT TO THE FABRICATOR AND ERECTOR a) INSPECTION REPORTS, b) NONDESTRUCTIVE TESTING REPORTS.
COORDINATED INSPECTION	WHERE A TASK IS NOTED TO BE PERFORMED BY BOTH QC AND QA, IT IS PERMITTED TO COORDINATE THE INSPECTION FUNCTION BETWEEN THE QCI AND QAI SO THAT THE INSPECTION FUNCTIONS ARE PERFORMED BY ONLY ONE PARTY. WHERE QA RELIES UPON INSPECTION FUNCTIONS PERFORMED BY QC, THE APPROVAL OF THE ENGINEER OF RECORD AND THE AUTHORITY HAVING JURISDICTION IS REQUIRED.
INSPECTION OF WELDING	OBSERVATION OF WELDING OPERATIONS AND VISUAL INSPECTION OF IN–PROCESS AND COMPLETED WELDS SHALL BE THE PRIMARY METHOD TO CONFIRM THAT THE MATERIALS, PROCEDURES AND WORKMANSHIP ARE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. FOR STRUCTURAL STEEL, ALL PROVISIONS OF AWS D1.1/D1.1M STRUCTURAL WELDING CODE–STEEL FOR STATICALLY LOADED STRUCTURES SHALL APPLY. AS A MINIMUM, WELDING INSPECTION TASKS SHALL BE IN ACCORDANCE WITH TABLES N5.4–1 THROUGH N5.4–3. IN THESE TABLES, THE INSPECTION TASKS ARE AS FOLLOWS: O OR P.

O = OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.

P = PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.

INSPECTION OF HIGH STRENGTH BOLTING

OBSERVATION OF BOLTING OPERATIONS SHALL BE THE PRIMARY METHOD USED TO CONFIRM THAT THE MATERIALS, PROCEDURES AND WORKMANSHIP INCORPORATED IN CONSTRUCTION ARE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND THE PROVISIONS OF THE RCSC SPECIFICATION.

a. SNUG–TIGHT JOINTS	FOR SNUG–TIGHT JOINTS, PRE–INSTALLATION VERIFICATION TESTING AS SPECIFIED IN TABLE N5.6–1 AND MONITORING OF THE INSTALLATION PROCEDURES AS SPECIFIED IN TABLE N5.6–2 ARE NOT APPLICABLE. THE QCI AND QAI NEED NOT BE PRESENT DURING THE INSTALLATION OF THE FASTENERS IN SNUG–TIGHT JOINTS.
b. PRETENSIONED JOINTS AND SLIP–CRITICAL JOINTS	FOR PRETENSIONED JOINTS AND SLIP–CRITICAL JOINTS, WHEN THE INSTALLER IS USING THE TURN–OF–NUT METHOD WITH MATCHMARKING TECHNIQUES, THE DIRECT–TENSION–INDICATER METHOD, OR THE TWIST–OFF–TYPE TENSION CONTROL BOLT METHOD, MONITORING OF BOLT PRE–TENSIONING PROCEDURES SHALL BE AS SPECIFIED IN TABLE N5.6–2. THE QCI AND QAI NEED NOT BE PRESENT DURING THE INSTALLATION OF FASTENERS WHEN THESE METHODS ARE USED BY THE INSTALLER.
c. PRETENSIONED JOINTS AND SLIP–CRITICAL JOINTS	FOR PRETENSIONED JOINTS AND SLIP–CRITICAL JOINTS, WHEN THE INSTALLER IS USING THE CALIBRATED WRENCH METHOD OR TURN–OF–NUT METHOD WITHOUT MATCHMARKING, MONITORING OF BOLT PRE–TENSIONING PROCEDURES SHALL BE AS SPECIFIED IN TABLE N5.6–2. THE QCI AND QAI SHALL BE ENGAGED IN THEIR ASSIGNED INSPECTION DUTIES DURING INSTALLATION OF FASTENERS WHEN THESE METHODS ARE USED BY THE INSTALLER. AS A MINIMUM, BOLTING INSPECTION TASKS SHALL BE IN ACCORDANCE WITH TABLES N5.6–1 THROUGH N5.6–3, THE INSPECTION TASKS ARE AS FOLLOWS: O OR P.

O = OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.

P = PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.

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INSPECTION TASKS PRIOR TO WELDING

INSPECTION TASKS PRIOR TO WELDING (TABLE N5.4–1)	QC	QA
WELDING PROCEDURE SPECIFICATION (WPSs) AVAILABLE	P	P
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	P
MATERIAL IDENTIFICATION SYSTEM (1)	O	O
FIT–UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)		
a. JOINT PREPARATION	O	O
b. DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	O	O
c. CLEANLINESS (CONDITION OF STEEL SURFACES)	O	O
d. TACKING (TACK WELD QUALITY AND LOCATION)	O	O
e. BACKING TYPE AND FIT (IF APPLICABLE)	O	O
CONFIGURATION AND FINISH OF ACCESS HOLES	O	O
FIT–UP OF FILLET WELDS		
a. DIMENSIONS (ALIGNMENT, GAPS AT ROOT)	O	O
b. CLEANLINESS (CONDITION OF STEEL SURFACES)	O	O
c. TACKING (TACK WELD QUALITY AND LOCATION)	O	O
CHECK WELDING EQUIPMENT	O	–

(1) – THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE LOW–STRESS TYPE.

INSPECTION TASKS DURING WELDING

INSPECTION TASKS DURING WELDING (TABLE N5.4–2)	QC	QA
USE OF QUALIFIED WELDERS	O	O
CONTROL AND HANDLING OF WELDING CONSUMABLES		
a. PACKAGING	O	O
b. EXPOSURE CONTROL	O	O
NO WELDING OVER CRACKED TACK WELDS	O	O
ENVIRONMENTAL CONDITIONS		
a. WIND SPEED WITHIN LIMITS	O	O
b. PRECIPITATION AND TEMPERATURE	O	O
WPS FOLLOWED		
a. SETTINGS ON WELDING EQUIPMENT	O	O
b. TRAVEL SPEED	O	O
c. SELECTED WELDING MATERIALS	O	O
d. SHIELDING GAS TYPE/FLOW RATE	O	O
e. PREHEAT APPLIED	O	O
f. INTERPASS TEMPERATURE MAINTAINED (MIN/MAX)	O	O
g. PROPER POSITION (F, V, H, OH)	O	O
WELDING TECHNIQUES		
a. INTERPASS AND FINAL CLEANING	O	O
b. EACH PASS WITHIN PROFILE LIMITATIONS	O	O
c. EACH PASS MEETS QUALITY REQUIREMENTS	O	O

INSPECTION TASKS AFTER WELDING

INSPECTION TASKS AFTER WELDING (TABLE N5.4–2)	QC	QA
WELD CLEANED	O	O
SIZE, LENGTH AND LOCATION OF WELDS	P	P
WELDS MEET VISUAL ACCEPTANCE CRITERIA		
a. CRACK PROHIBITION	P	P
b. WELD/BASE–METAL FUSION	P	P
c. CRATER CROSS SECTION	P	P
d. WELD PROFILES	P	P
e. WELD SIZE	P	P
f. UNDERCUT	P	P
g. POROSITY	P	P
ARC STRIKES	P	P
k–AREA (1)	P	P
BACKING REMOVED AND WELD TABS REMOVED (IF APPLICABLE)	P	P
REPAIR ACTIVITIES	P	P
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	P

(1) – WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE k–AREA, VISUALLY INSPECT THE WEB k–AREA FOR CRACKS WITHIN 3 INCHES OF THE WELD

STATEMENT OF REQUIRED SPECIAL INSPECTIONS FOR FABRICATED ITEMS

TYPE	REMARKS
INSPECTION OF FABRICATOR AND LOAD BEARING MEMBERS AND ASSEMBLIES	SPECIAL INSPECTIONS OF FABRICATED ITEMS SHALL BE PERFORMED IN ACCORDANCE WITH IBC SECTION 1704.1 AND 1704.2.5. THE INSPECTOR SHALL VERIFY DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES, INCLUDING REVIEW FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CONTRACT DOCUMENTS. THESE INSPECTIONS MAY BE WAIVED IF THE FABRICATOR COMPLIES WITH THE EXCEPTIONS IN IBC 1704.2.5.

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25.503

SHEET TITLE:
SPECIAL INSPECTIONS

S004

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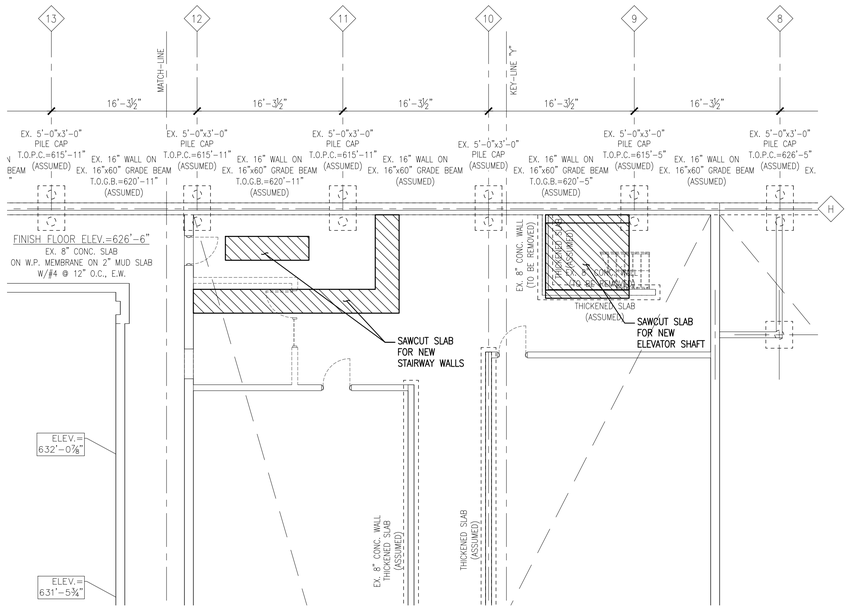
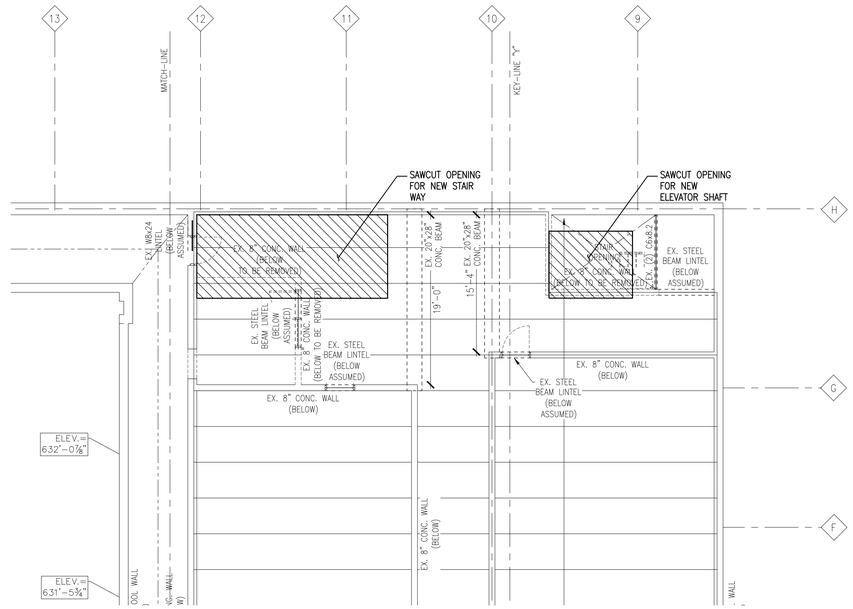


BASEMENT DEMOLITION PLAN

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

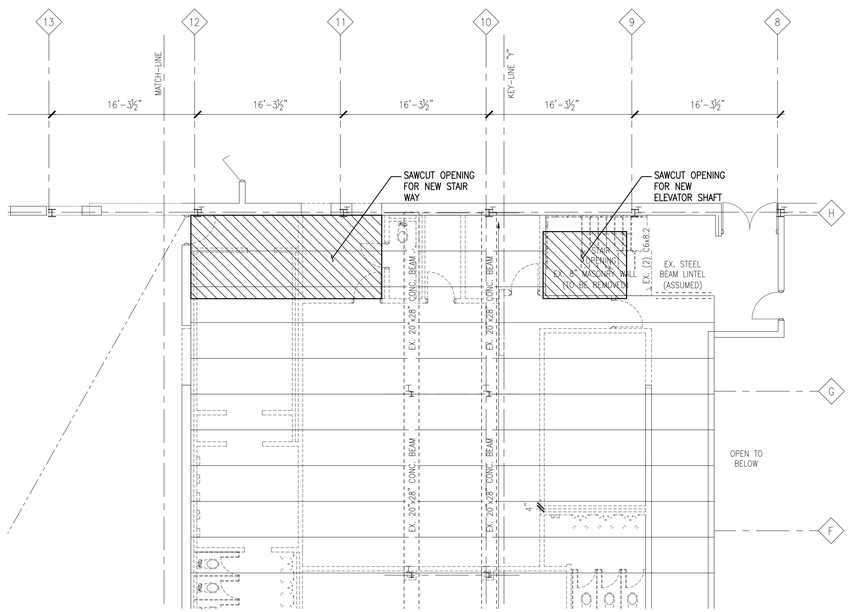
NOTES:
1. SEE ARCHITECTURAL FOR ADDITIONAL DEMOLITION.



FIRST FLOOR DEMOLITION PLAN

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

NOTES:
1. SEE ARCHITECTURAL FOR ADDITIONAL DEMOLITION.



SECOND FLOOR DEMOLITION PLAN

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

NOTES:
1. SEE ARCHITECTURAL FOR ADDITIONAL DEMOLITION.

DEMOLITION NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS, METHODS SEQUENCES AND PROCEDURES OF DEMOLITION.
2. EXISTING CONSTRUCTION NOTED FOR DEMOLITION SHALL BE DEMOLISHED IN AN ORDERLY AND CAREFUL MANNER. PROTECT EXISTING SUPPORTING STRUCTURAL MEMBERS, AND ADJACENT MATERIAL, EQUIPMENT ETC.
3. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO INSURE THE INTEGRITY OF THE EXISTING STRUCTURE AT ALL TIMES INCLUDING TEMPORARY BRACING. COST OF THIS SHALL BE INCLUDED IN THE COST OF THE WORK. TEMPORARY BRACING AS REQUIRED SHALL REMAIN UNTIL PERMANENT CONNECTIONS ARE COMPLETED.
4. ALL DEBRIS SHALL BE REMOVED FROM OWNER'S PROPERTY AND DISPOSED OF IN AN APPROVED LANDFILL, UNLESS OTHERWISE DIRECTED BY THE OWNER.
5. PROMPTLY REPAIR DAMAGES CAUSED TO ADJACENT FACILITIES NOT SCHEDULED FOR DEMOLITION, REMOVAL OR RECONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.
6. CONSTRUCTION / DEMOLITION SHALL COMPLY FULLY WITH THE APPLICABLE PROVISIONS OF OSHA AND THE LOCAL GOVERNING CODES, AND ALL REQUIREMENTS SPECIFIED IN THE CODES SHALL BE ADHERED TO AS IF THEY WERE CALLED FOR OR SHOWN ON THE DRAWINGS. THIS SHALL NOT BE CONSTRUED TO MEAN THAT REQUIREMENTS SET FORTH ON THE DRAWING MAY BE MODIFIED BECAUSE THEY ARE NOT SPECIFICALLY REQUIRED BY CODE.
7. CONTRACTOR IS RESPONSIBLE FOR SHORING DESIGN, SHORING LOCATIONS, SHORING SHALL BE DESIGNED TO SUPPORT THE EXISTING STRUCTURAL DEAD LOAD AND 10 PSF LIVE LOAD.
8. SHORING SHALL BE INSTALLED PRIOR TO BEARING WALL OR STRUCTURAL SUPPORT REMOVAL AND MAINTAINED UNTIL PERMANENT CONNECTIONS ARE COMPLETE.
9. SHORING LOADS SHALL BE TRANSFERRED DIRECTLY TO THE FOUNDATION / SLABS ON GRADE. PROVIDE TEMPORARY BLOCKING BETWEEN FLOOR FRAMING TO TRANSFER SHORING LOADS.

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SHEET TITLE:
DEMOLITION PLANS

S101

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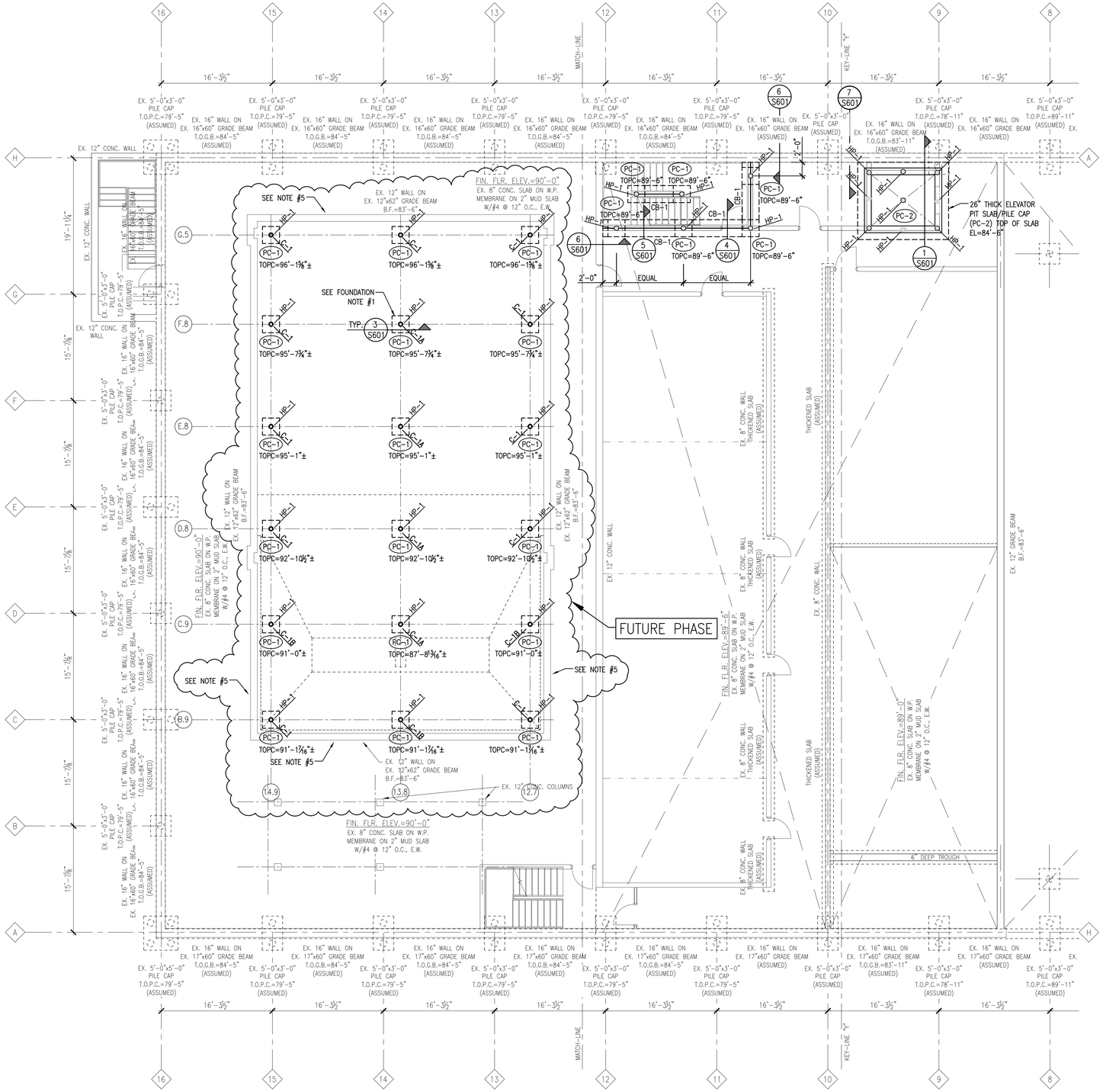
FOUNDATION NOTES:

1. SAW-CUT EXISTING POOL FLOOR AS NEEDED FOR HELICAL PILE INSTALLATION. SEE ALSO 3/S601.
2. HP-X = HELICAL SCREW PILE. SEE NOTES ON SHEET 'S002' FOR INFORMATION AND TYPICAL DETAILS ON SHEET 'S003'.
3. PC-X = PILE CAP. SEE SCHEDULE AND TYPICAL DETAILS ON SHEET 'S003'.
4. TOP OF PILE CAP ELEVATIONS AT THE BOTTOM OF THE EXISTING POOL SHALL BE LOCATED AT THE ELEVATION OF THE COLUMN GRIDLINE INTERSECTIONS AT THE TOP OF THE EXISTING POOL SLAB U.N.O.
5. CLEAN AND PATCH EXISTING CONCRETE POOL WALLS. FILL ALL CRACKS WITH EXPOXY GROUT.
6. FORE EQUIPMENT CURBS & HOUSEKEEPING PADS SEE 'S003' COORDINATE SIZE & LOCATION w/ MECH. CONTRACTOR



FOUNDATION PLAN

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

DATUM NOTE
EXISTING FLOOR EL=89'-6" = NEW FLOOR EL=89'-6"

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FOUNDATION PLAN

S111

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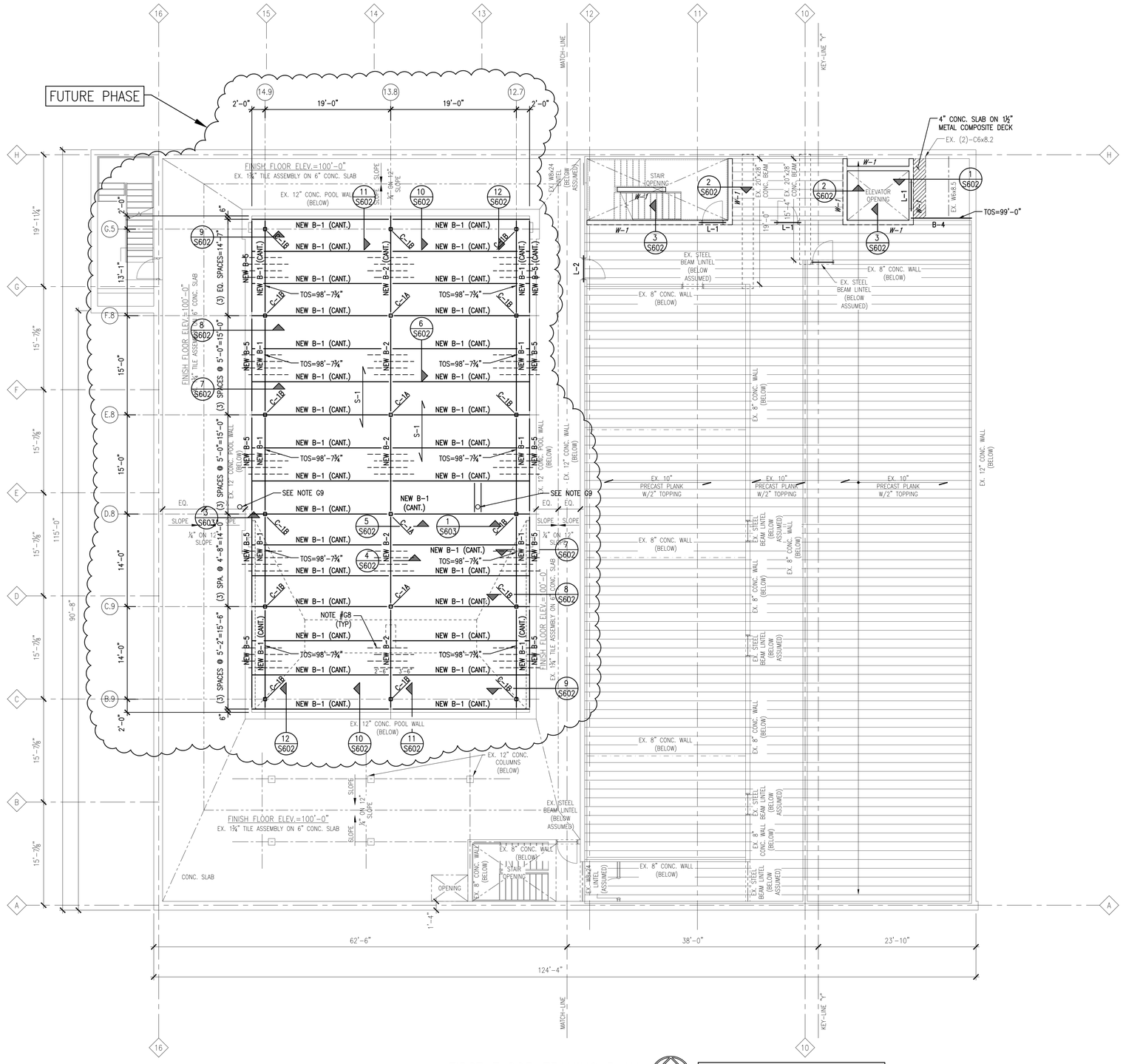
GENERAL FRAMING NOTES:

G1. SEE GENERAL NOTES, LEGEND, SCHEDULES AND TYPICAL DETAILS ON SHEETS 'S001', 'S002', 'S003'.
G2. PROVIDE LINTELS FOR ALL MECHANICAL AND ELECTRICAL OPENINGS IN MASONRY WALLS. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS. FOR MECHANICAL & ELECTRICAL OPENINGS IN NON-BEARING WALLS REFER TO THE NON-BEARING WALL LINTEL SCHEDULE ON SHEET 'S002'.
G3. FOR DOOR AND WINDOW OPENINGS IN NON-BEARING WALLS REFER TO THE NON-BEARING WALL LINTEL SCHEDULE ON SHEET 'S002'.
G4. ▶ INDICATES FRAME MOMENT CONNECTION.
G5. SEE REINFORCED MASONRY SCHEDULE ON SHEET 'S002' FOR WALL REINFORCING REQUIREMENTS.
G6. DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS AND PRE-ENGINEERED METAL BUILDING DRAWINGS.
G7. S-1 = 5" CONCRETE SLAB ON 1½" 18 GA. GALVANIZED COMPOSITE METAL DECK (3-SPANS CONTINUOUS MINIMUM) REINFORCE W/ONE LAYER 6x6-W2.9xW2.9 WWF.
G8. TYPICAL SLAB REINFORCING AT ALL GIRDERS, PROVIDE #4 x 6'-0" @ 12" O.C. STAGGERED ALTERNATE BARS (2'-6"/3'-6")
G9. VOLLYBALL STANCHION SUPPORT SLEEVE SEE DETAILS "1/S603", "2/S603" & "3/S603"
G10. TOP OF STEEL ELEVATION = 99'-7" U.N.O.
G11. SEE SHEET 'S003' FOR DETAIL TO FILL ABANDONED FLOOR PENETRATIONS.



FIRST FLOOR FRAMING PLAN

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

DATUM NOTE
EXISTING FLOOR EL=100'-0" = NEW FLOOR EL=100'-0"

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FIRST FLOOR FRAMING PLAN

S121

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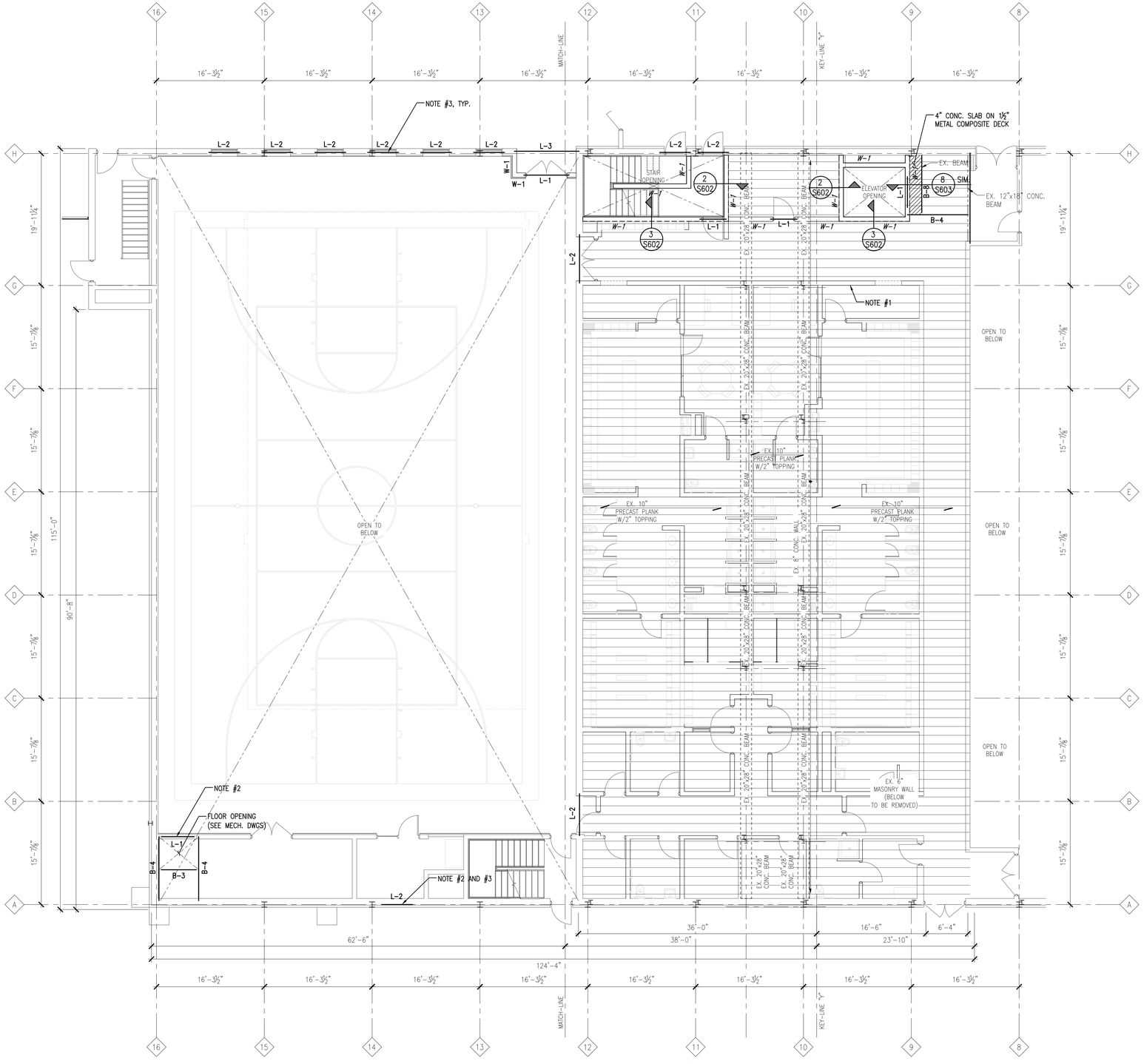
GENERAL FRAMING NOTES:

1. SEE ARCHITECTURAL FRAMING NOTES FOR LAYOUT OF NON-BEARING WALLS. REINFORCE w/ #4 @ 32" O.C. DOWEL INTO FLOOR WITH #4 DOWELS WITH SAME SPACING OF WALL REINFORCING. PROVIDE SUPPORT AT TOP OF WALL PER TYPICAL DETAIL SHOWN ON SHEET 'S003'. SEE 'S003' FOR TOP OF NEW CMU WALL TO EX. PLANK CONNECTION.
2. SEE ARCH. & MECH. FOR SIZE AND OPENING OF DUCT OPENING.
3. FOR ALL LINTELS IN EXISTING WALLS, TOOTH IN NEW MASONRY EACH SIDE OF OPENING. GROUT SOLID WITH (2) #5 BARS PER CORE ADJACENT TO OPENING. SEE ARCH. FOR ADDITIONAL REQUIREMENTS.
4. SEE GENERAL NOTES. LEGENDS. SCHEDULES, AND TYPICAL DETAILS ON SHEETS 'S001', 'S002', & 'S003'.



SECOND FLOOR FRAMING PLAN

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

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PM:	JAE
DRAFTS:	MLA / CWB
PROJECT NO:	CS2502

25.503

SHEET TITLE: SECOND FLOOR FRAMING PLAN

S131

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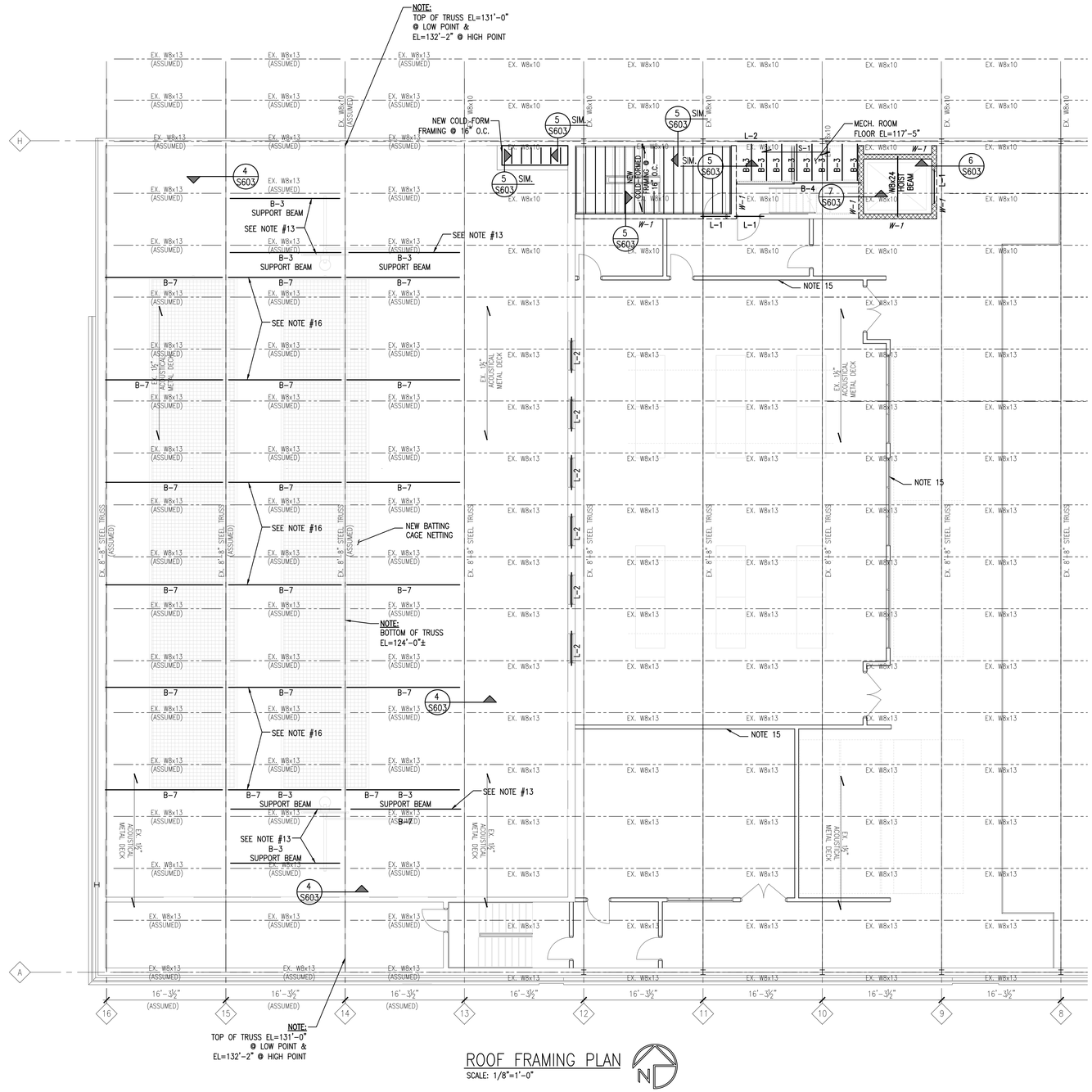
ROOF FRAMING NOTES

1. SEE GENERAL NOTES, LEGEND, SCHEDULES AND TYPICAL DETAILS ON SHEETS 'S001', 'S002', & 'S003'.
2. SEE 'LINTEL SCHEDULE' ON SHEET 'S002' FOR ALL BEARING & NON-BEARING WALL LINTELS, U.N.O.
3. PROVIDE CONTINUOUS ¼"x 4" PLATE WITH ½"ø x 4" CONC. STUD ANCHORS AT 24" O.C. ANCHOR IN GROUT OF MASONRY BOND BEAM.
4. BEAM BEARING ELEVATION NOTED ON PLAN.
5. RD-1: 1½"-20 GA. WIDE RIB GALVANIZED METAL ROOF DECK. (CONTINUOUS 3-SPAN MINIMUM)
6. (*) INDICATES TOP OF BEAM ELEVATION +2½" TO MATCH TOP OF JOIST
7. ▶ INDICATES MOMENT CONNECTION, SEE TYPICAL DETAILS.
8. L3"x 3"x ¼" DIAGONAL BRACING.
9. (2) 3"x 3"x ¼" DECK SUPPORT ANGLES @ 3'-6" O.C.
10. RD = DENOTES ROOF DRAIN LOCATION. PROVIDE SUPPORT FRAME U.N.O.
11. PROVIDE TEMPORARY SHORING PRIOR TO DEMOLITION OF EXISTING CONSTRUCTION.
12. SUPPORT FRAME FOR BATTING CAGE. COORDINATE w/ ARCH. & SUPPLIER
13. NEW STEEL BEAMS @ BOTTOM CHORD OF EXISTING ROOF TRUSSES TO SUPPORT NEW BASKETBALL BACKSTOPS COORDINATE WITH BACKSTOP SUPPLIER FOR EXACT LOCATION
14. NEW FRAME FOR ROOF OPENING, SEE TYPICAL DETAIL ON S003.
15. NEW 6" COLD FORMED METAL FRAMING, SEE TYPICAL DETAIL FOR CONNECTION TO ROOF ON S003.
16. NEW STEEL BEAMS @ BOTTOM CHORD OF EXISITING TRUSSES TO SUPPORT NEW BATTING CAGE FRAMES.



ROOF FRAMING PLAN

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

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Date	Issued For
03.09.2026	PERMITS
03.17.2026	BIDS

PIC: JAE
PM: JAE
DRAFTS: MLA
PROJECT NO: CS2502

25.503

SHEET TITLE: ROOF FRAMING PLAN

S141

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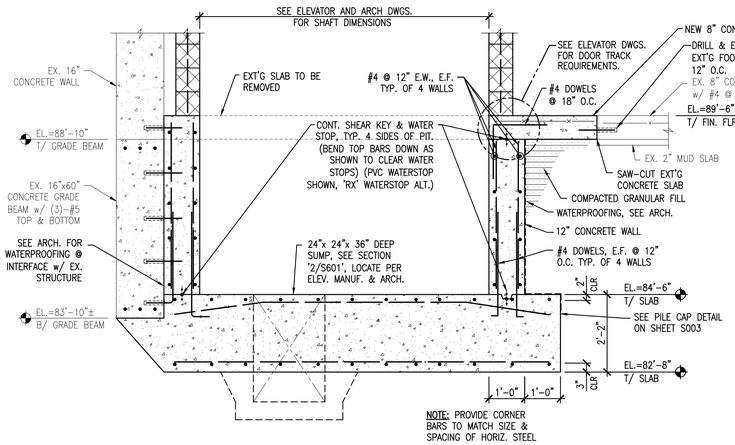

SECTION 1 / S601
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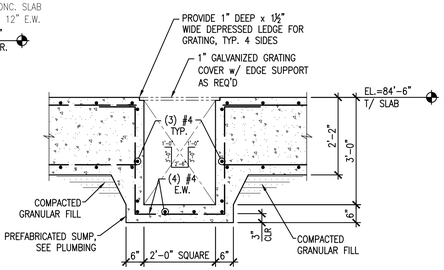

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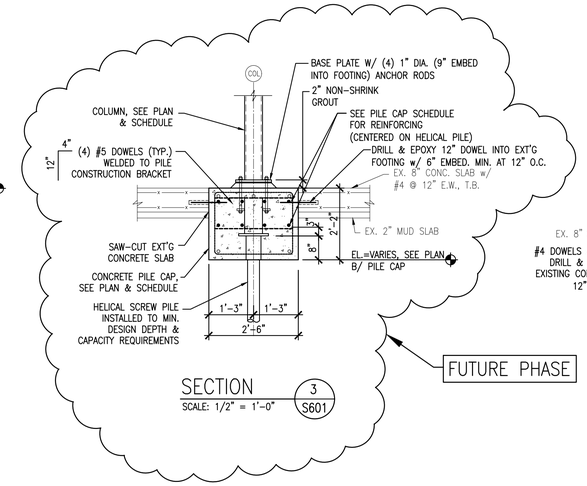

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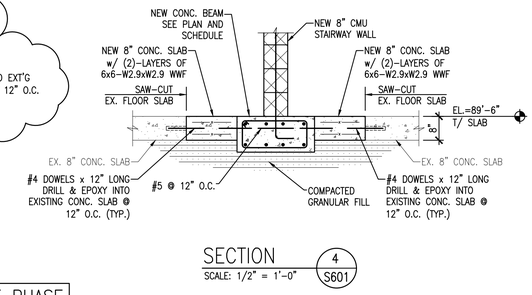

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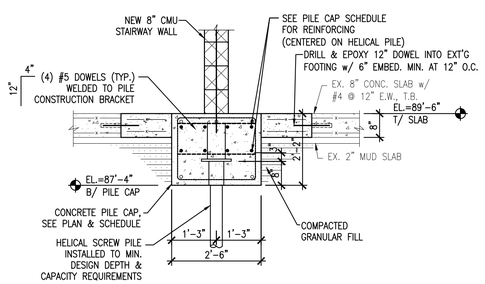

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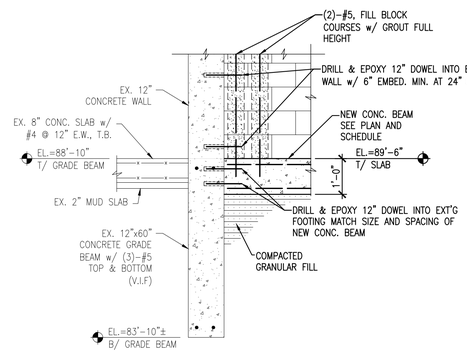

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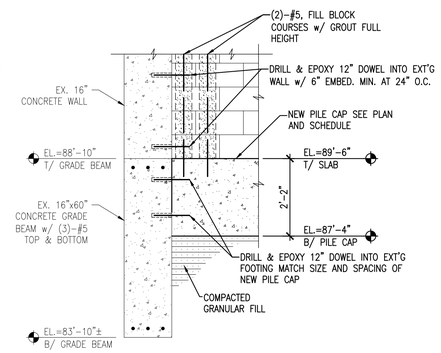

SECTION 7 / S601
SCALE: 1/2" = 1'-0"

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Date	Issued For
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03.17.2026	BIDS

PIC: JAE
PM: JAE
DRAFTS: MLA
PROJECT NO: CS2502
25.503

SHEET TITLE:
FOUNDATION DETAILS

S601

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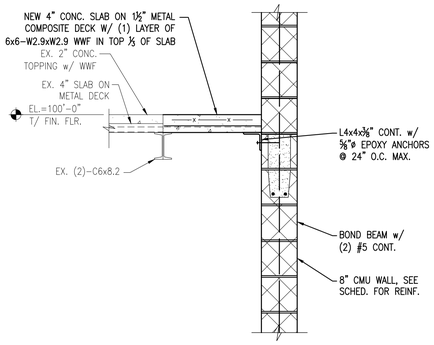

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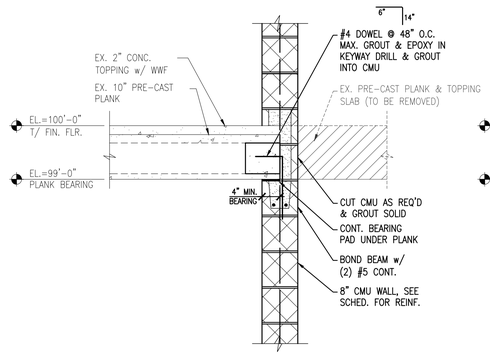

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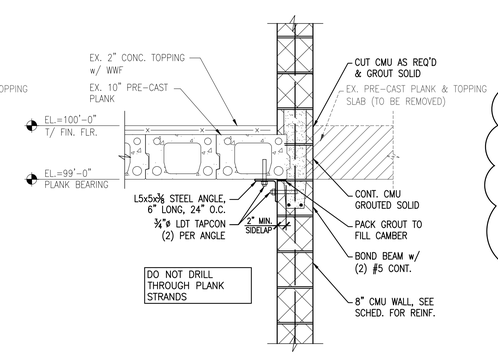

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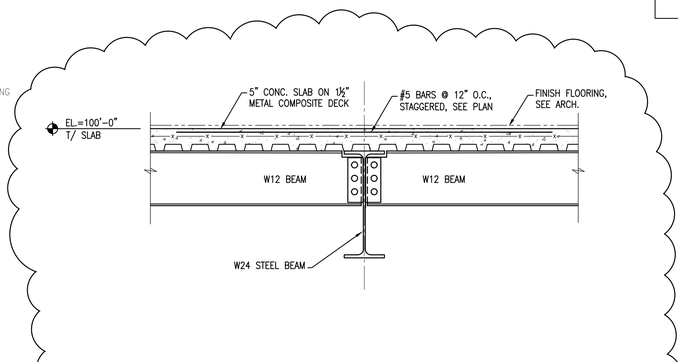

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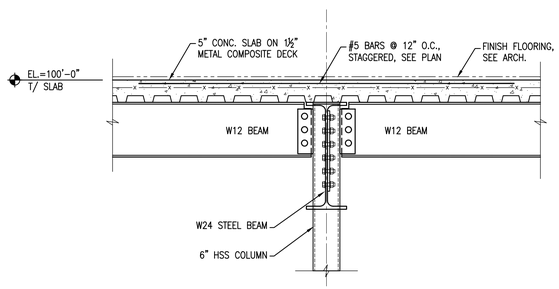
SCALE: 3/4"=1'–0"

FUTURE PHASE



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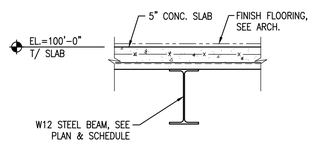

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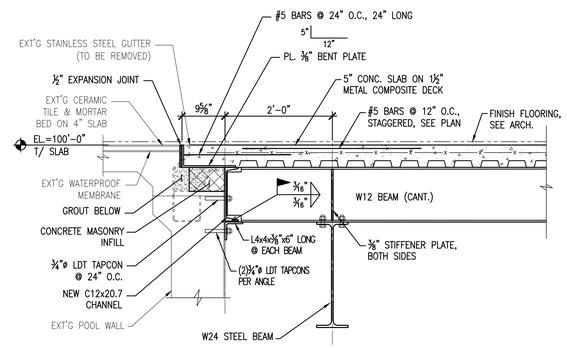

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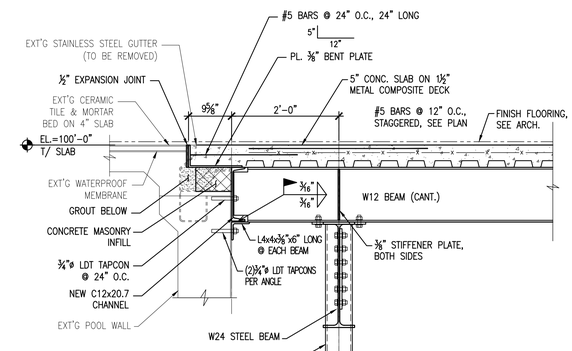

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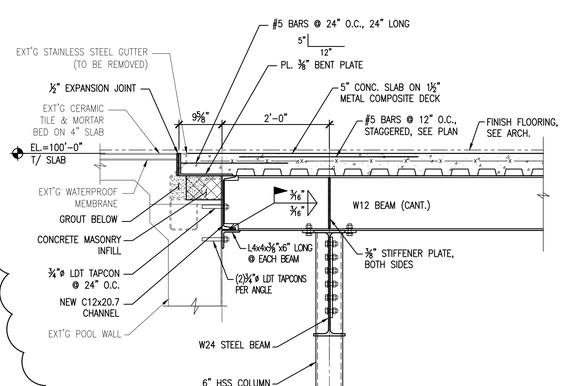

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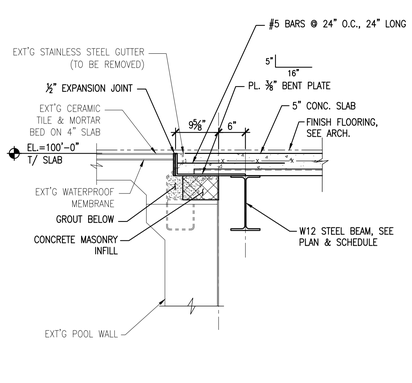

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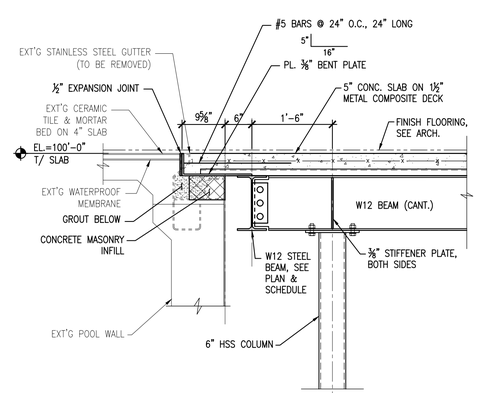

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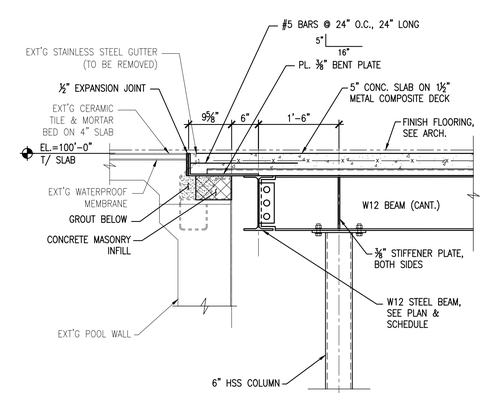

SECTION 12 S602
SCALE: 3/4"=1'–0"

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PROJECT NO: CS2502
25.503
SHEET TITLE:
FRAMING DETAILS

S602

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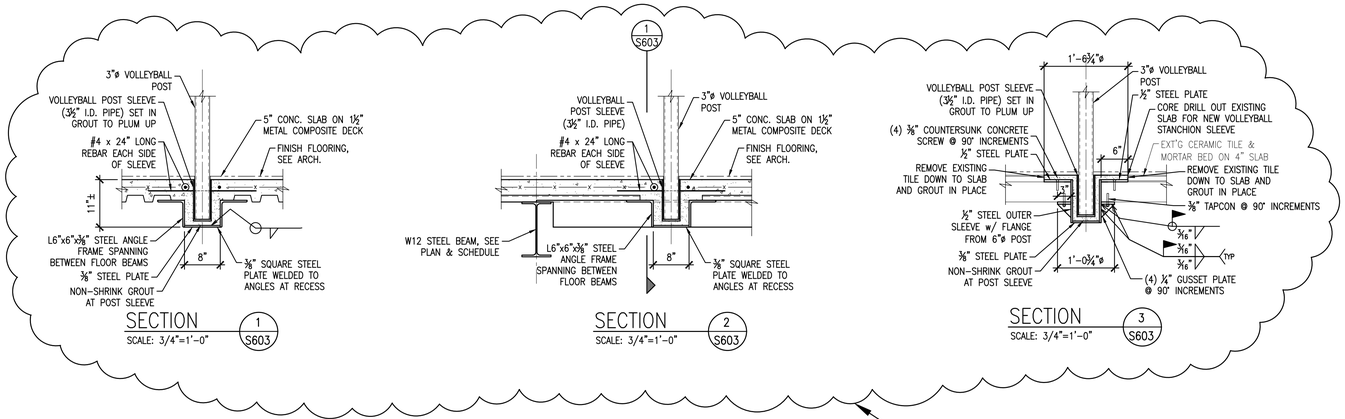
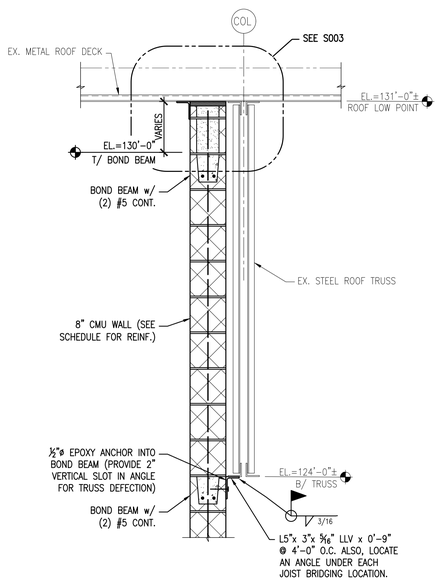
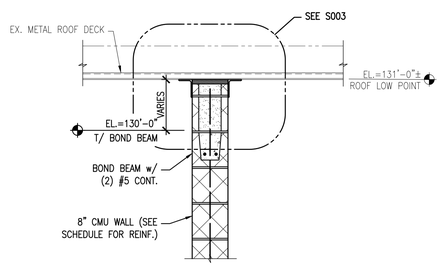
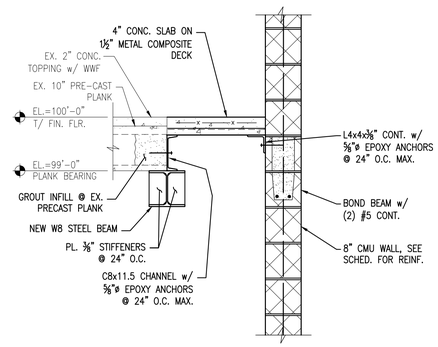


FUTURE PHASE







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PROJECT NO: CS2502
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SHEET TITLE:
FRAMING DETAILS

S603

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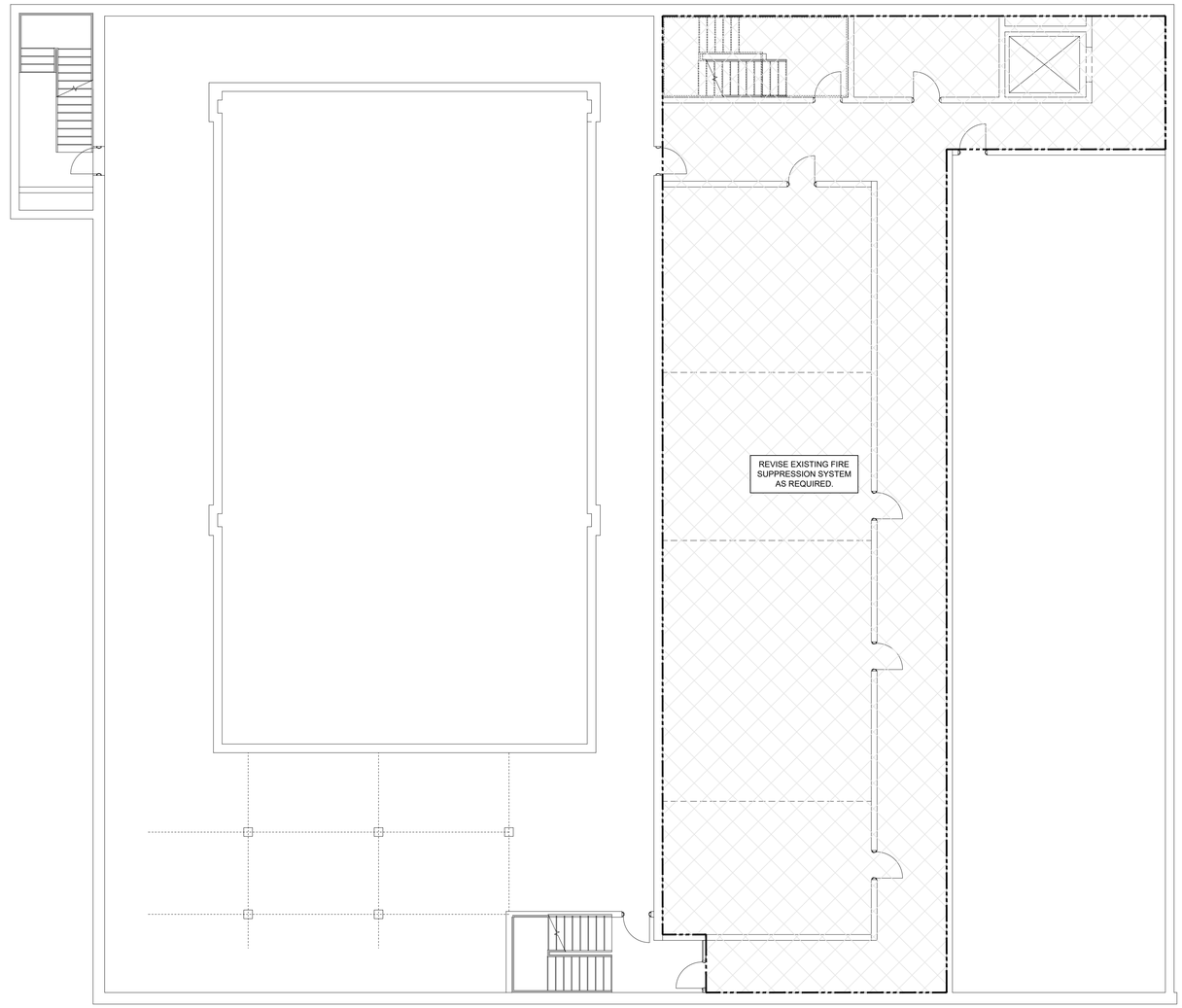
FLOOR PLAN SUMMARY	
AREA	4,022 SQ FT



N

FIRE SUPPRESSION BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"

GENERAL FIRE PROTECTION NOTES

1. THE FIRE PROTECTION SYSTEM SHALL BE A COMPLETE DESIGN/BUILD SYSTEM BY THE FIRE SUPPRESSION CONTRACTOR. WORK SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, PROVIDING ALL DESIGN, ENGINEERING AND ASSOCIATED COSTS, CALCULATIONS, LABOR, MATERIALS, SUPERVISION, TESTING, PERMITS AND APPROVALS REQUIRED TO DESIGN, INSTALL AND OBTAIN FINAL ACCEPTANCE OF THE AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM COMPLETE IN ALL RESPECTS.
2. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF NFPA 13 & NFPA 25, AS WELL AS ALL APPLICABLE PORTIONS OF THE MICHIGAN BUILDING CODES AND ALL LOCAL CODES.
3. THE FIRE PROTECTION SYSTEM SHALL PROVIDE FULL AND COMPLETE COVERAGE OF ALL AREAS INDICATED, AND SHALL BE COMPATIBLE WITH THE CONTRACT DOCUMENT LAYOUTS AND AVOID INTERFERENCE WITH WORK OF ALL OTHER TRADES IN THE BUILDING. CONTRACTOR SHALL PROVIDE OFFSETS AS NEEDED TO AVOID OTHER TRADES, INCLUDING BUT NOT LIMITED TO MECHANICAL DUCTWORK, STRUCTURAL ELEMENTS AND LIGHTING.
4. INSTALL AND TEST FIRE PROTECTION SYSTEM IN FULL CONFORMITY WITH THE REQUIREMETNS OF ALL APPLICABLE CODES, NFPA STANDARDS AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
5. HVAC AND LIGHTING INSTALLATIONS SHALL TAKE PRECEDENCE OVER SPRINKLER PIPE AND DEVICE, ROUTING AND LOCATIONS. SPRINKLERS SHALL NOT BE LOCATED BELOW HVAC EQUIPMENT DUE TO MAINTENANCE ACCESS REQUIREMENTS.
6. FIRE SUPPRESSION CONTRACTOR SHALL COORDINATE ALL ASPECTS OF WORK WITH OTHER TRADES PRIOR TO CONSTRUCTION/INSTALLATION.
7. SPRINKLER LAYOUT SHALL BE SUCH THAT THE INSTALLATION OF SPRINKLERS SHALL BE ALIGNED IN EACH DIRECTION, AND SPRINKLER SHALL NOT BE CLOSER THAN 6" TO A SUSPENDED CEILING T-BAR (IN ANY DIRECTION).
8. REFER TO THE ARCHITECTURAL CEILING PLANS FOR CEILING HEIGHTS AND TYPES (LAY-IN, EXPOSED, GYPSUM BOARD, ETC).

BUILDING SUMMARY

	AREA*
BASEMENT	4,022 SQ FT
FIRST FLOOR	13,804 SQ FT
MEZZANINE	7,309 SQ FT
TOTAL AREA	25,135 SQ FT

OCCUPANCY HAZARDS**

* VERIFY ALL AREAS WITH FINAL ARCHITECTURAL DRAWINGS
** CONFIRM HAZARD CLASSIFICATIONS WITH NFPA 13

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PIC: D. RADTKE
PM: D. RADTKE
DRAFTS: D. RADTKE
PROJECT NO: 25.503
SHEET TITLE: FIRE SUPPRESSION BASEMENT FLOOR PLAN

FP100

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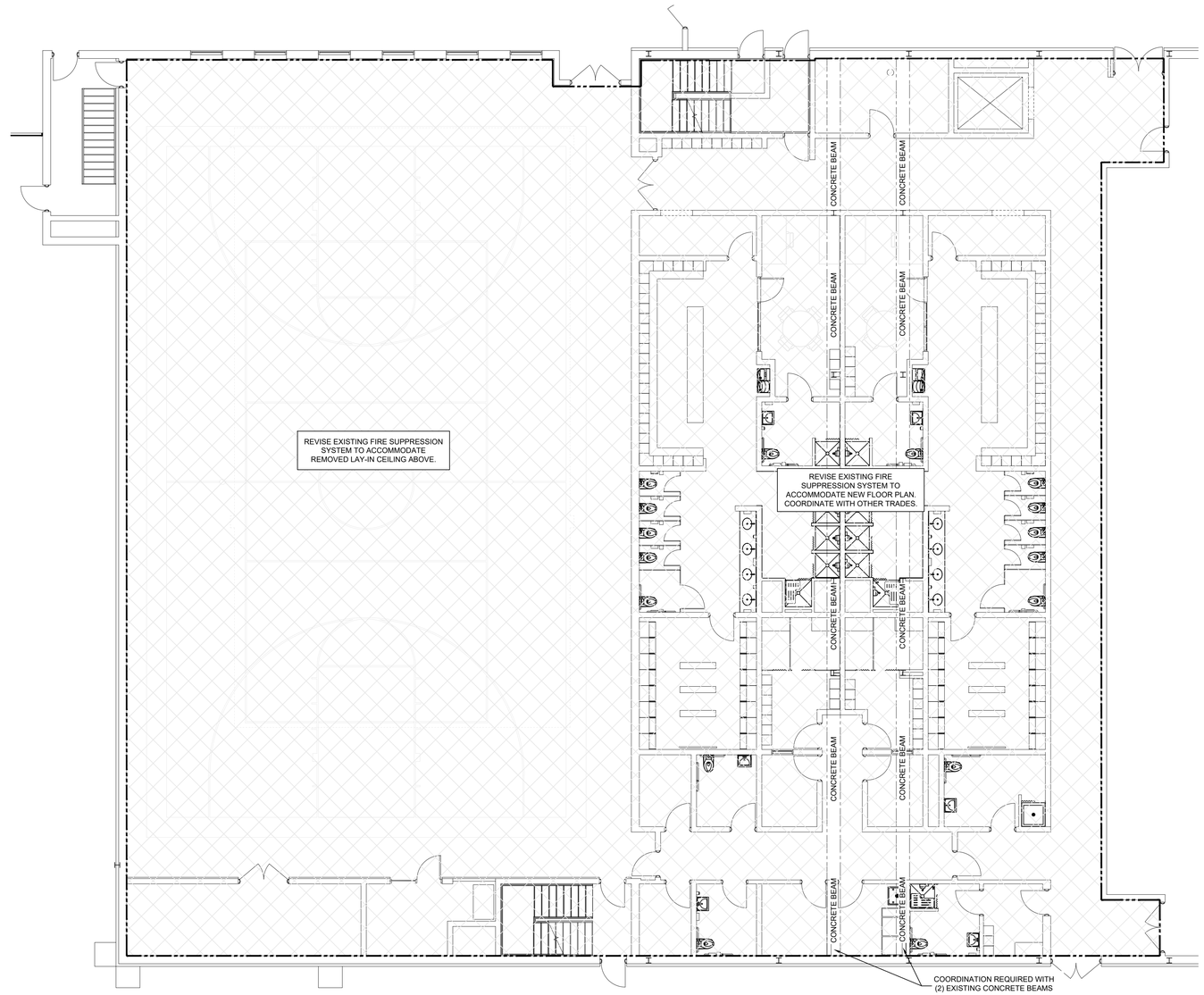
FLOOR PLAN SUMMARY	
AREA	13,804 SQ FT



N

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

GENERAL FIRE PROTECTION NOTES

1. THE FIRE PROTECTION SYSTEM SHALL BE A COMPLETE DESIGN/BUILD SYSTEM BY THE FIRE SUPPRESSION CONTRACTOR. WORK SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, PROVIDING ALL DESIGN, ENGINEERING AND ASSOCIATED COSTS, CALCULATIONS, LABOR, MATERIALS, SUPERVISION, TESTING, PERMITS AND APPROVALS REQUIRED TO DESIGN, INSTALL AND OBTAIN FINAL ACCEPTANCE OF THE AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM COMPLETE IN ALL RESPECTS.
2. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF NFPA 13 & NFPA 25, AS WELL AS ALL APPLICABLE PORTIONS OF THE MICHIGAN BUILDING CODES AND ALL LOCAL CODES.
3. THE FIRE PROTECTION SYSTEM SHALL PROVIDE FULL AND COMPLETE COVERAGE OF ALL AREAS INDICATED, AND SHALL BE COMPATIBLE WITH THE CONTRACT DOCUMENT LAYOUTS AND AVOID INTERFERENCE WITH WORK OF ALL OTHER TRADES IN THE BUILDING. CONTRACTOR SHALL PROVIDE OFFSETS AS NEEDED TO AVOID OTHER TRADES, INCLUDING BUT NOT LIMITED TO MECHANICAL DUCTWORK, STRUCTURAL ELEMENTS AND LIGHTING.
4. INSTALL AND TEST FIRE PROTECTION SYSTEM IN FULL CONFORMITY WITH THE REQUIREMETNS OF ALL APPLICABLE CODES, NFPA STANDARDS AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
5. HVAC AND LIGHTING INSTALLATIONS SHALL TAKE PRECEDENCE OVER SPRINKLER PIPE AND DEVICE, ROUTING AND LOCATIONS. SPRINKLERS SHALL NOT BE LOCATED BELOW HVAC EQUIPMENT DUE TO MAINTENANCE ACCESS REQUIREMENTS.
6. FIRE SUPPRESSION CONTRACTOR SHALL COORDINATE ALL ASPECTS OF WORK WITH OTHER TRADES PRIOR TO CONSTRUCTION/INSTALLATION.
7. SPRINKLER LAYOUT SHALL BE SUCH THAT THE INSTALLATION OF SPRINKLERS SHALL BE ALIGNED IN EACH DIRECTION, AND SPRINKLER SHALL NOT BE CLOSER THAN 6" TO A SUSPENDED CEILING T-BAR (IN ANY DIRECTION).
8. REFER TO THE ARCHITECTURAL CEILING PLANS FOR CEILING HEIGHTS AND TYPES (LAY-IN, EXPOSED, GYPSUM BOARD, ETC).

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PIC: D. RADTKE
PM: D. RADTKE
DRAFTS: D. RADTKE
PROJECT NO: 25.503
SHEET TITLE: FIRE SUPPRESSION FIRST FLOOR PLAN

FP101

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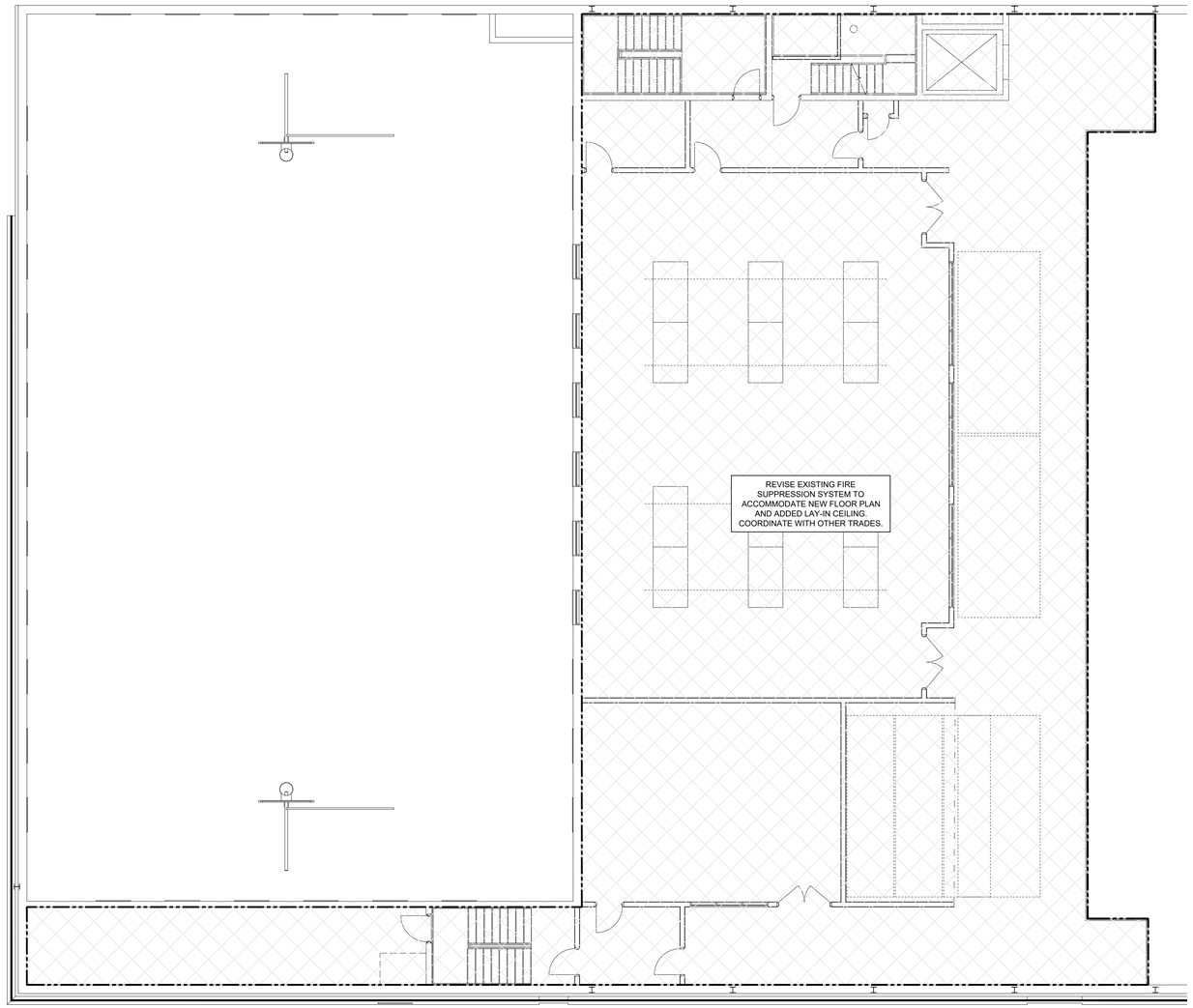
FLOOR PLAN SUMMARY	
AREA	7,309 SQ FT



N

FIRE SUPPRESSION MEZZANINE FLOOR PLAN
SCALE: 1/8" = 1'-0"

GENERAL FIRE PROTECTION NOTES

1. THE FIRE PROTECTION SYSTEM SHALL BE A COMPLETE DESIGN/BUILD SYSTEM BY THE FIRE SUPPRESSION CONTRACTOR. WORK SHALL INCLUDE, BUT IS NOT NECESSARILY LIMITED TO, PROVIDING ALL DESIGN, ENGINEERING AND ASSOCIATED COSTS, CALCULATIONS, LABOR, MATERIALS, SUPERVISION, TESTING, PERMITS AND APPROVALS REQUIRED TO DESIGN, INSTALL AND OBTAIN FINAL ACCEPTANCE OF THE AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM COMPLETE IN ALL RESPECTS.
2. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF NFPA 13 & NFPA 25, AS WELL AS ALL APPLICABLE PORTIONS OF THE MICHIGAN BUILDING CODES AND ALL LOCAL CODES.
3. THE FIRE PROTECTION SYSTEM SHALL PROVIDE FULL AND COMPLETE COVERAGE OF ALL AREAS INDICATED, AND SHALL BE COMPATIBLE WITH THE CONTRACT DOCUMENT LAYOUTS AND AVOID INTERFERENCE WITH WORK OF ALL OTHER TRADES IN THE BUILDING. CONTRACTOR SHALL PROVIDE OFFSETS AS NEEDED TO AVOID OTHER TRADES, INCLUDING BUT NOT LIMITED TO MECHANICAL DUCTWORK, STRUCTURAL ELEMENTS AND LIGHTING.
4. INSTALL AND TEST FIRE PROTECTION SYSTEM IN FULL CONFORMITY WITH THE REQUIREMETNS OF ALL APPLICABLE CODES, NFPA STANDARDS AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
5. HVAC AND LIGHTING INSTALLATIONS SHALL TAKE PRECEDENCE OVER SPRINKLER PIPE AND DEVICE, ROUTING AND LOCATIONS. SPRINKLERS SHALL NOT BE LOCATED BELOW HVAC EQUIPMENT DUE TO MAINTENANCE ACCESS REQUIREMENTS.
6. FIRE SUPPRESSION CONTRACTOR SHALL COORDINATE ALL ASPECTS OF WORK WITH OTHER TRADES PRIOR TO CONSTRUCTION/INSTALLATION.
7. SPRINKLER LAYOUT SHALL BE SUCH THAT THE INSTALLATION OF SPRINKLERS SHALL BE ALIGNED IN EACH DIRECTION, AND SPRINKLER SHALL NOT BE CLOSER THAN 6" TO A SUSPENDED CEILING T-BAR (IN ANY DIRECTION).
8. REFER TO THE ARCHITECTURAL CEILING PLANS FOR CEILING HEIGHTS AND TYPES (LAY-IN, EXPOSED, GYPSUM BOARD, ETC).

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PIC: D. RADTKE
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DRAFTS: D. RADTKE
PROJECT NO: 25.503
SHEET TITLE: FIRE SUPPRESSION MEZZANINE FLOOR PLAN
FP102

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PLUMBING ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
ADA	AMERICAN DISABILITIES ACT
ADJ	ADJUSTABLE
AF	ABOVE ROUGH FLOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS
AV	AIR VENT
ABV	ABOVE
BFP	BACKFLOW PREVENTER
BG	BELOW GRADE
BV	BALANCING VALVE
CB	CATCH BASIN
CF	CUBIC FEET
CI	CAST IRON
CO	CLEANOUT
COND	CONDENSATE
CS	CIRCUIT SETTER
CW	DOMESTIC COLD WATER
DN	DOWN
DS	DOWNSPOUT
DWV	DRAIN/WASTE/VENT
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRICAL
EQUIP	EQUIPMENT
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EX	EXISTING (ALSO: "EXT'G", "x")
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FS	FLOOR SINK
FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR
FV or VIF	FIELD VERIFY or VERIFY IN FIELD
G	GAS, NATURAL GAS OR LP AS NOTED
GAL	GALLONS
GC	GENERAL CONTRACTOR
GD	GARBAGE DISPOSAL
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GT	GREASE TRAP
HB	HOSE BIBB
HW	DOMESTIC HOT WATER
IE	INVERT ELEVATION
KW	KILOWATT
LAV	LAVATORY
LBS	POUNDS
LP	LIQUID PROPANE
MBH	THOUSAND BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MBC	MICHIGAN BUILDING CODE
MMC	MICHIGAN MECHANICAL CODE
MS	MOP SINK
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION. LIFE SAFETY CODE
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NT	NEUTRALIZATION TANK
OS	OIL SEPARATOR
PRV	PRESSURE REDUCING VALVE
RC	RAIN CONDUCTOR
RD	ROOF DRAIN
RI	ROUGH-IN
RO	ROUGH OPENING
RPZ	REDUCED PRESSURE ZONE (BF PREVENTER)
SAN	SANITARY WASTE
SF	SQUARE FEET
SK	SINK
SPKR	SPRINKLER
SS	STAINLESS STEEL
ST	STORM
TBD	TO BE DETERMINED (DURING CONSTRUCTION)
TD	TRENCH DRAIN
TMV	THERMOSTATIC MIXING VALVE
TO	TOP OF...(DUCT, PIPE, ETC.)
T/P	TEMPERATURE AND PRESSURE
TPV	TRAP PRIMER VALVE
TYP	TYPICAL
UR	URINAL
UG	UNDERGROUND
UL	UNITED LABORATORIES TESTING AGENCY
UW	UNTREATED WATER
V	VENT
VIF or FV	VERIFY IN FIELD or FIELD VERIFY
VTR	VENT THRU ROOF
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WH	WATER HEATER

PLUMBING SYMBOL LEGEND

CA	COMPRESSED AIR (CA) PIPING
COND	CONDENSATE (COND) PIPING
CW	DOMESTIC COLD WATER (CW) PIPING
CW	DOMESTIC COLD WATER (CW) PIPING BELOW FLOOR
HW	DOMESTIC HOT WATER (HW) PIPING
HW	DOMESTIC HOT WATER (HW) PIPING BELOW FLOOR
TW	DOMESTIC TEMPERED WATER (TW) PIPING
HWR	DOMESTIC HOT WATER RECIRCULATED (HWR) PIPING
G	GAS (G) PIPING
SAN	SANITARY WASTE/SEWER (SAN) PIPING
SAN	SANITARY WASTE/SEWER (SAN) PIPING BELOW FLOOR
ST	STORM (ST) PIPING
ST	STORM (ST) PIPING BELOW FLOOR
VENT	VENT (V) PIPING
	PIPE DOWN
	PIPE UP
	PIPE BREAK (FOR CLARITY)
	CAPPED PIPE
	BALL VALVE, SHUT-OFF AND ISOLATION
	UNION
	STRAINER WITH BLOWDOWN
	WALL CLEANOUT (WCO)
	CIRCUIT SETTER W/ TEST PORTS (CS)
	STANDARD CHECK VALVE
	DOUBLE CHECK VALVE
	BALANCING VALVE W/ SHUT-OFF ABILITY & TEST PORTS (BV)
	PRESSURE REDUCING VALVE (PRV)
	REDUCED PRESSURE ZONE ASSEMBLY (RPZ)
	GAS COCK
	GAS SOLENOID VALVE
	PUMP, PLAN VIEW
	FLOW DIRECTION DESIGNATOR
	NEW-TO-EXISTING CONNECTION
	METER (GAS OR WATER)
	PIPE CONTINUATION

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PLUMBING DEMOLITION NOTES

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   - 1.2. THE CONTRACTOR WILL NEED TO CONFIRM IF THE EXISTING SUMP PUMP DISCHARGE IS TIED TO EXISTING SANITARY LINE OR EXISTING STORM LINE. SAW CUTTING THE FLOOR MAY BE REQUIRED. PREPARE TO TIE NEW SUMP PUMP DISCHARGE PIPING AS SHOWN ON DRAWINGS. ACTUAL PIPE SIZE WILL NEED TO BE VERIFIED IN FIELD; USE 6" DIA. FOR BIDDING PURPOSES.

PD-2
2. FIRST FLOOR LOCKER ROOM DEMOLITION:
   - 2.1. DEMO AND REMOVE ALL EXISTING PLUMBING FIXTURE UNITS, SUCH AS, BUT NOT LIMITED TO, SHOWER UNITS, WATER CLOSETS, URINALS, LAVATORIES, WASHING MACHINES, FLOOR DRAINS, VALVES, TRIM KITS, HANGERS, SUPPORTS, ETC.
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PD-3
3. MEZZANINE/UPPER FLOOR STORM:
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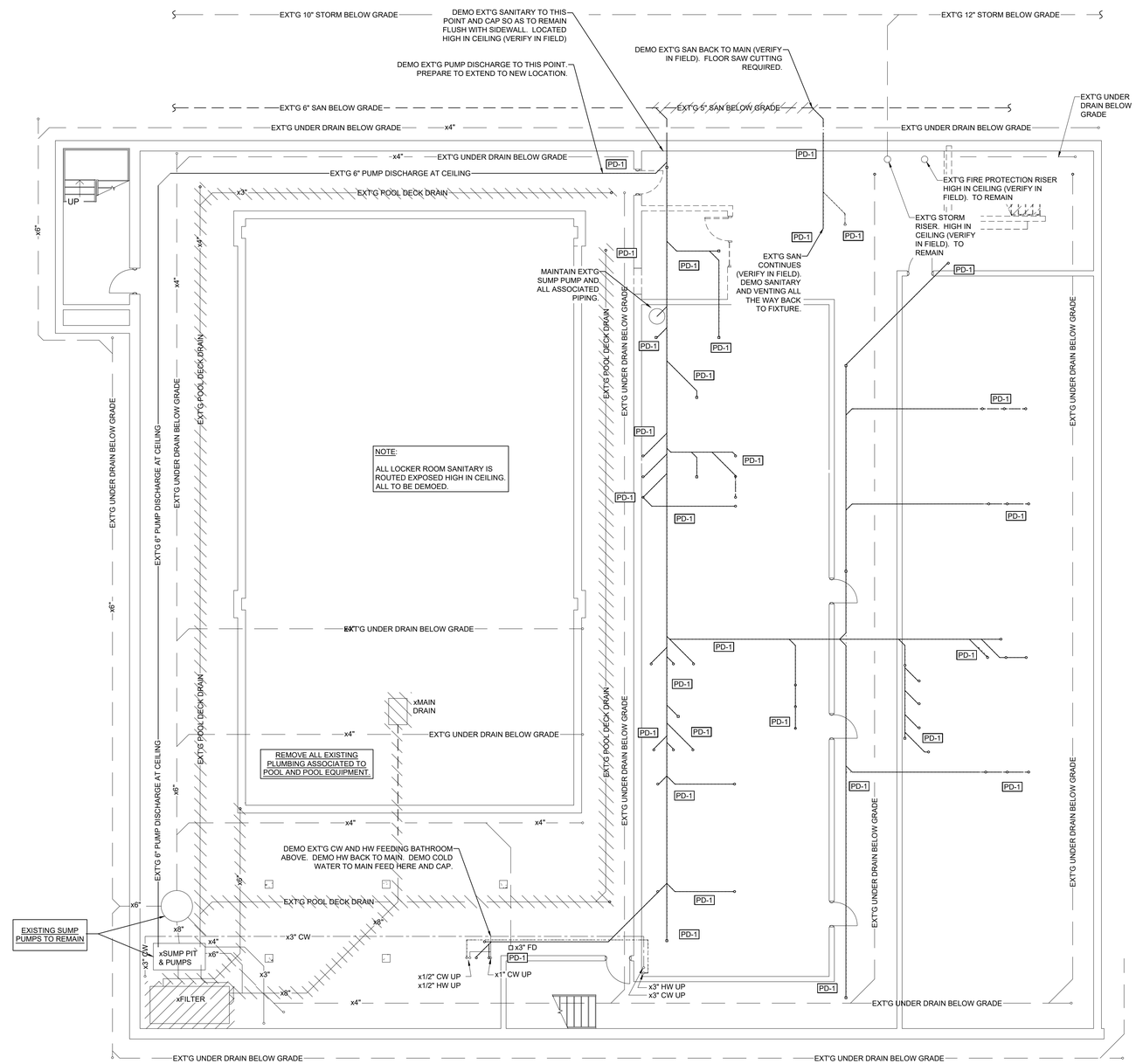

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PLUMBING DEMOLITION BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"

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DRAFTS: D. RADTKE
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PD100

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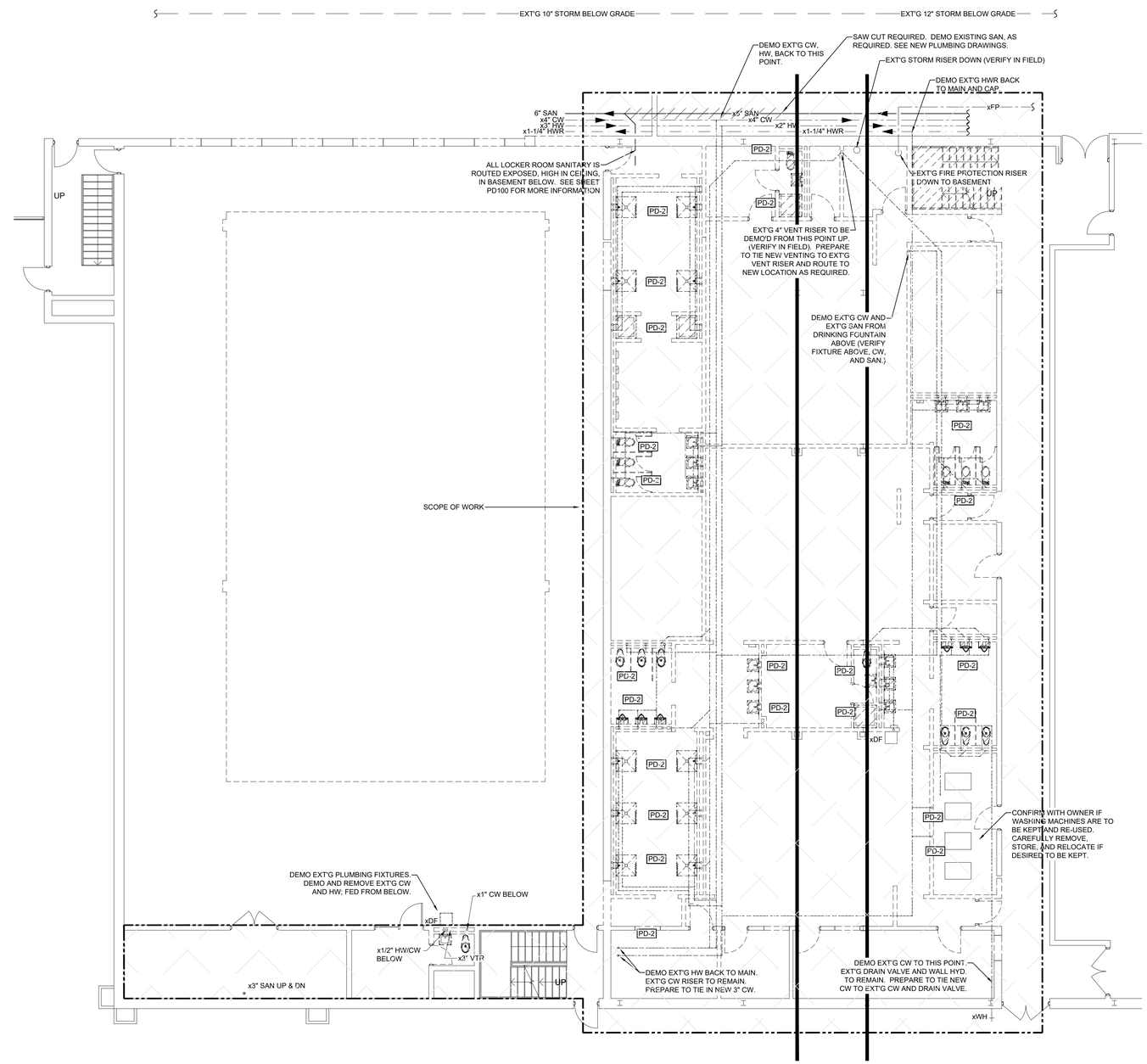

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PLUMBING DEMOLITION FIRST FLOOR PLAN
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PD101

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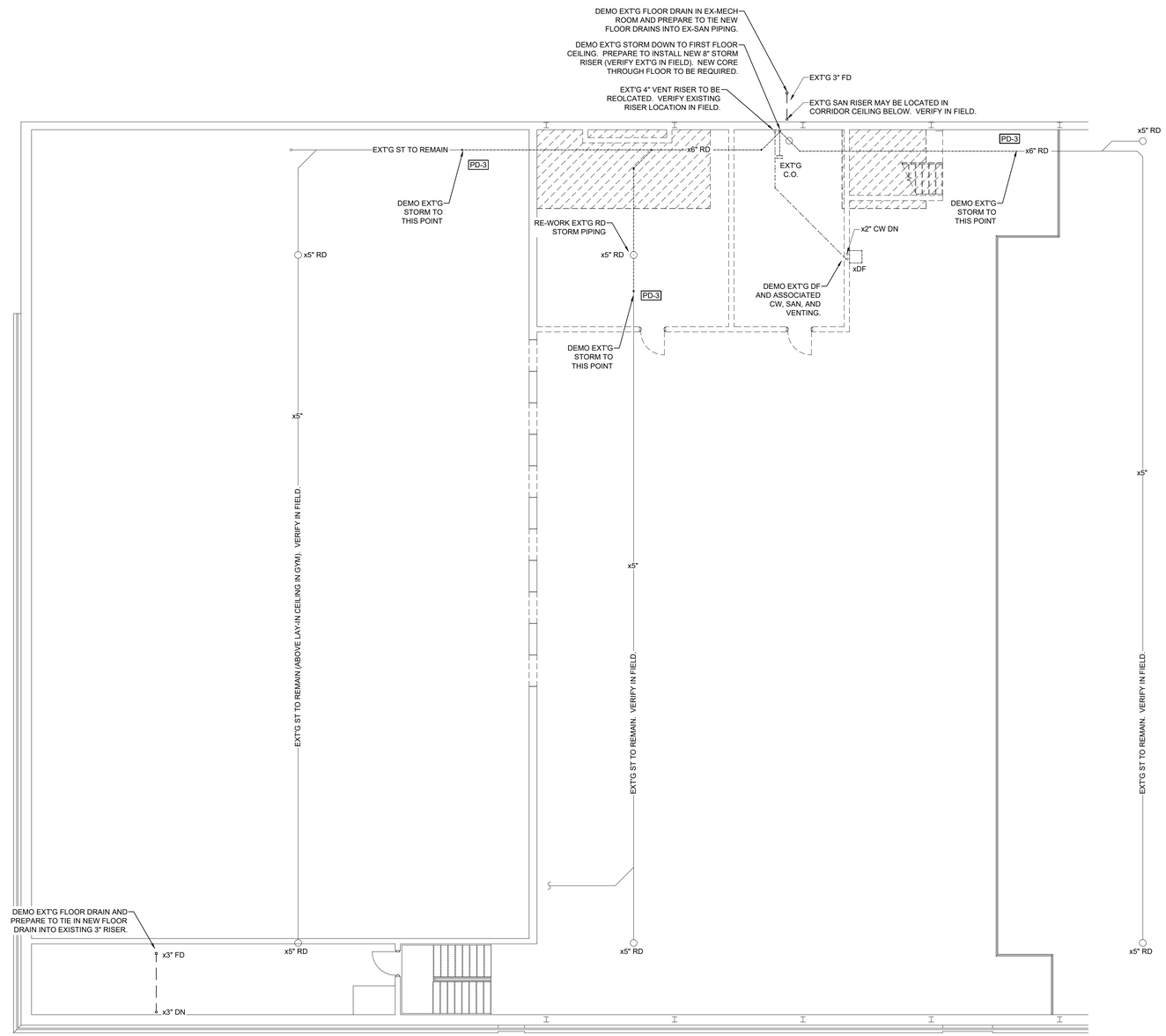

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PLUMBING DEMOLITION MEZZANINE FLOOR PLAN
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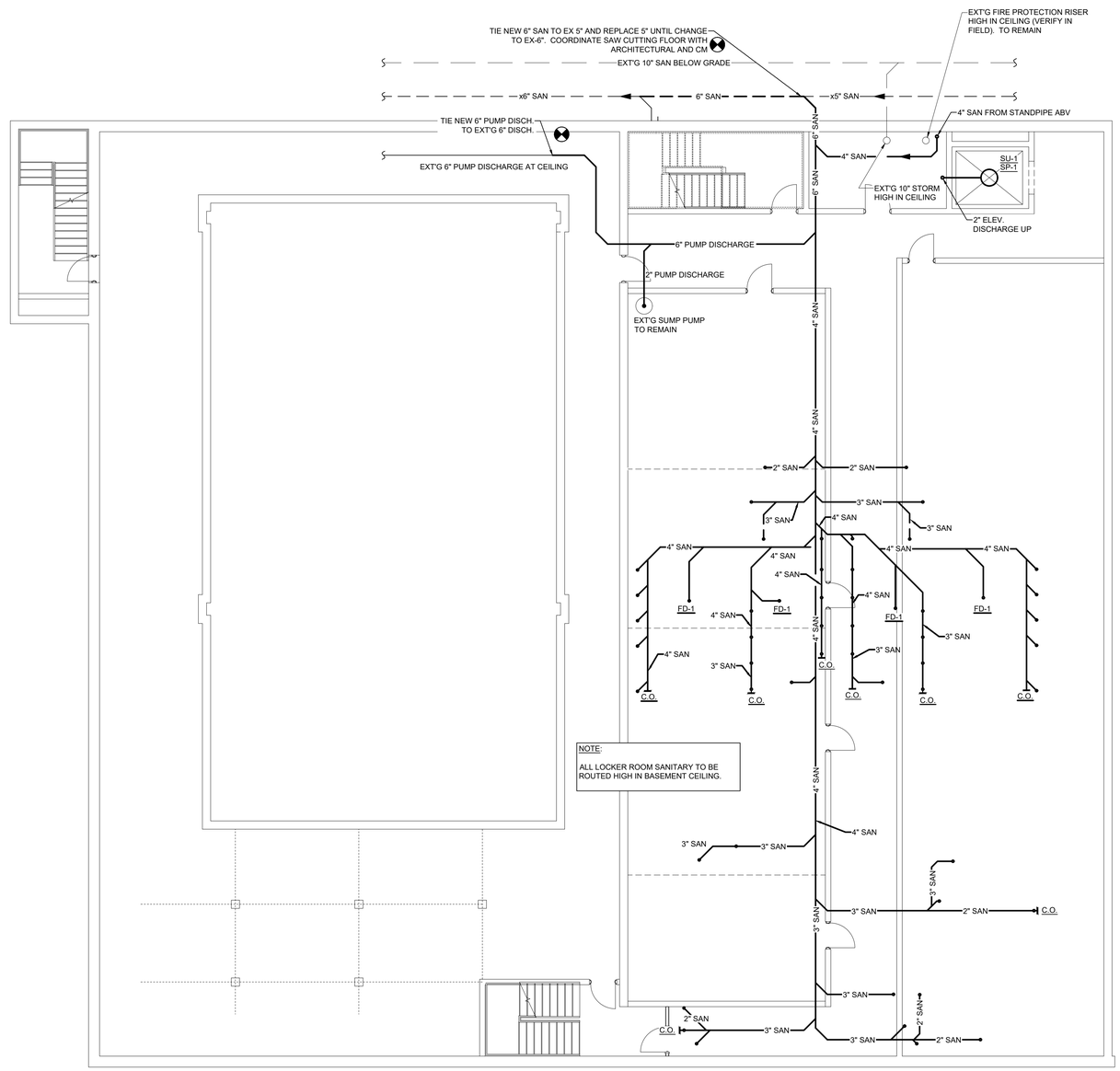

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PLUMBING BASEMENT FLOOR PLAN

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

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Date	Issued For
03.09.2026	PERMITS
03.17.2026	BIDS

PIC: D. RADTKE
PM: D. RADTKE
DRAFTS: D. RADTKE

PROJECT NO:
25.503

SHEET TITLE:
PLUMBING BASEMENT FLOOR PLAN

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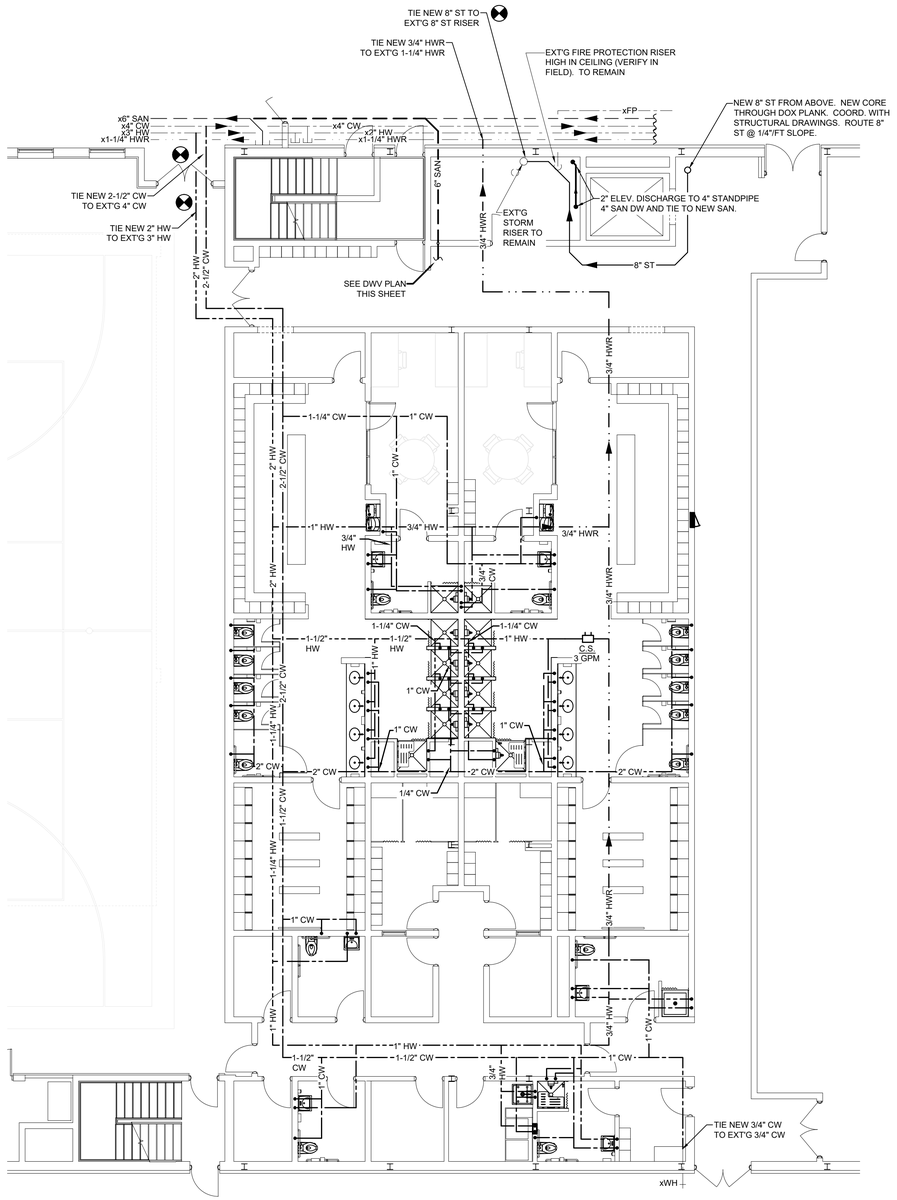

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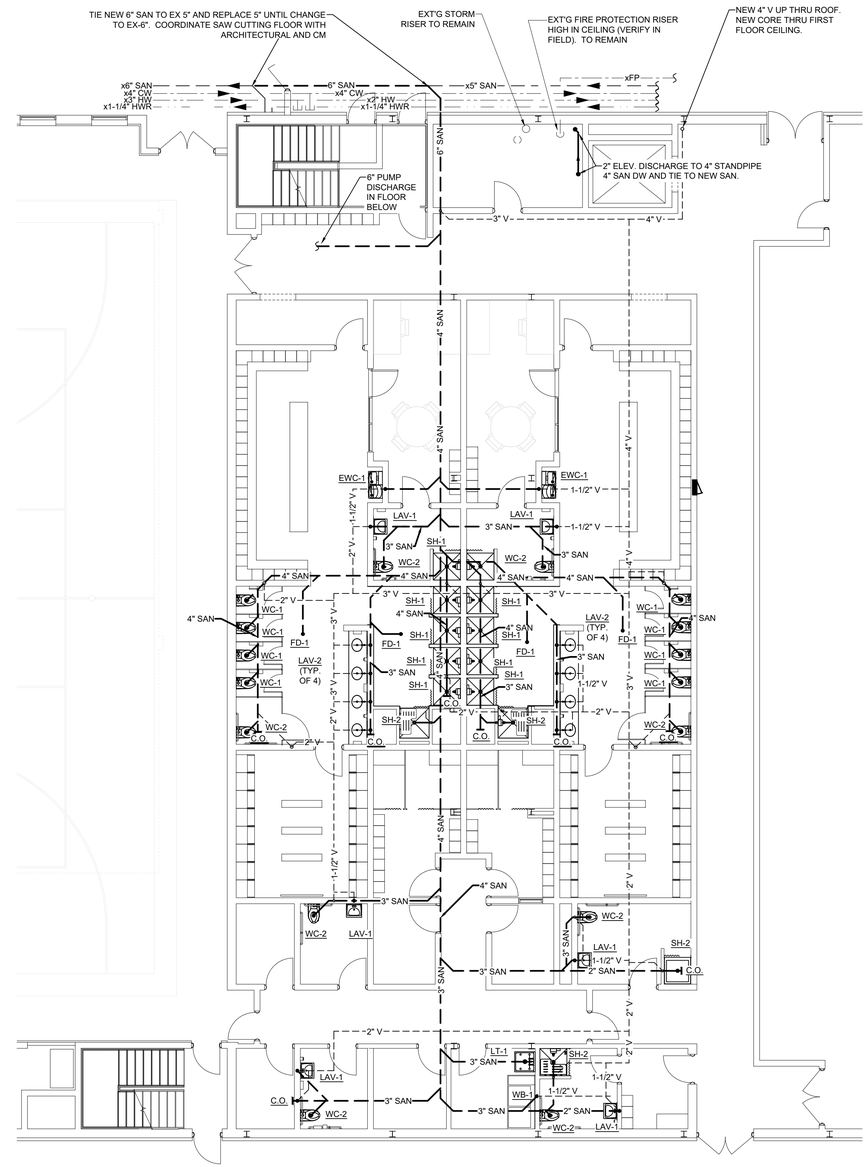
PLUMBING FIRST FLOOR - DOMESTIC SERVICE PLAN

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



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PLUMBING FIRST FLOOR - DRAIN, WASTE, & VENT PLAN

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

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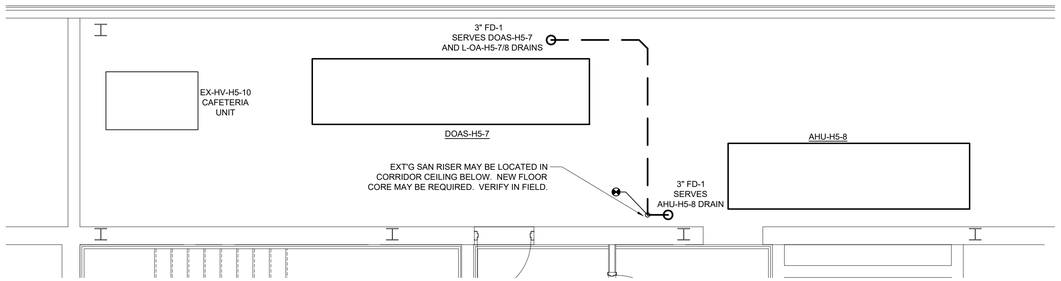

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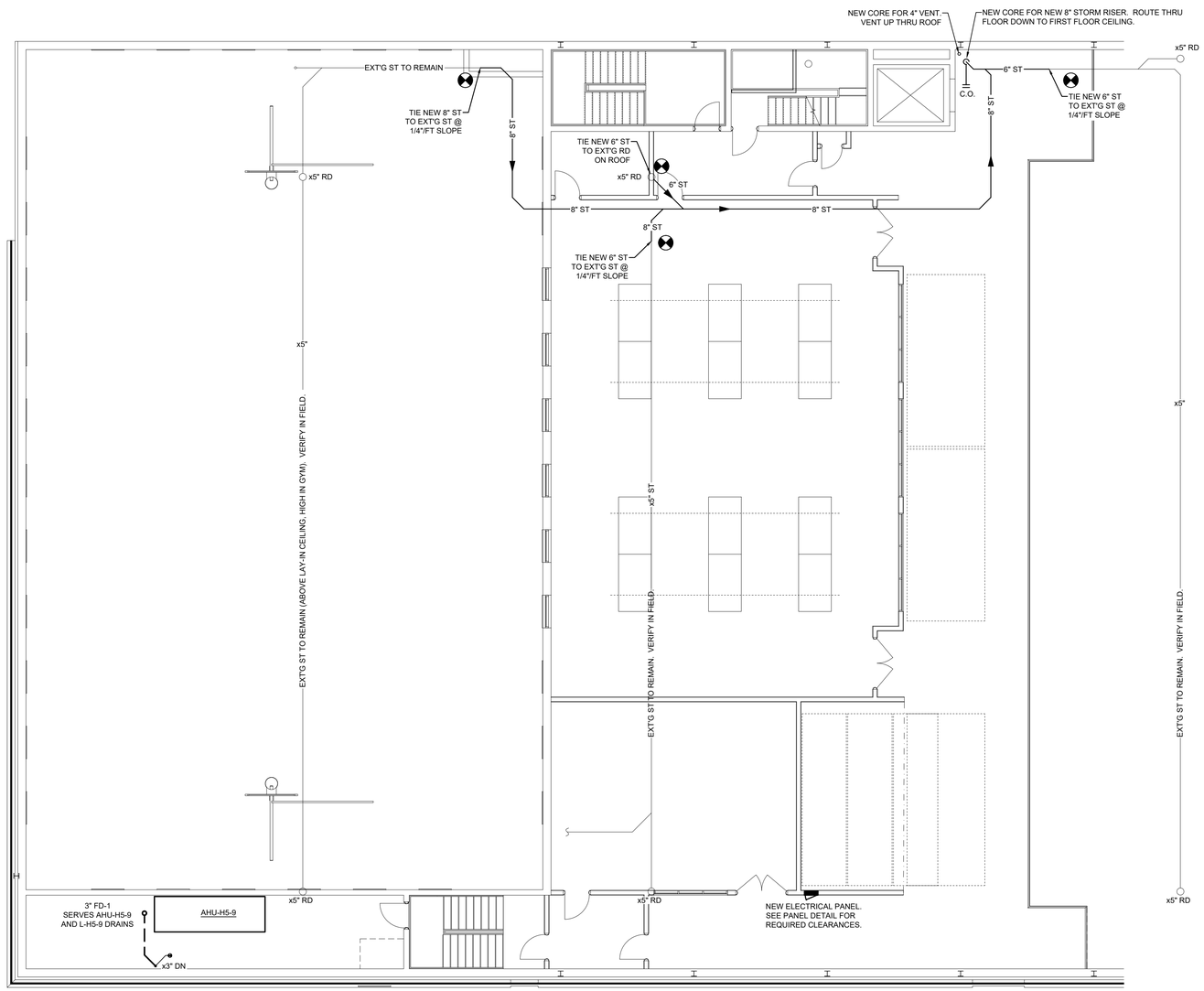
ENLARGED MECHANICAL ROOM 308

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



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PLUMBING MEZZANINE FLOOR PLAN

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

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MEZZANINE
FLOOR PLAN

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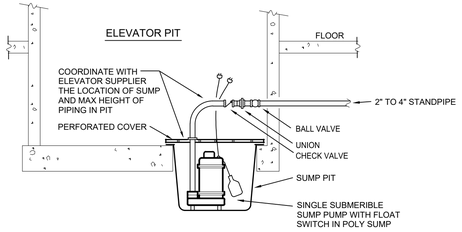
PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	ROUGH-IN SIZE (INCHES)				TRIM	REMARKS
				CW	HW	WASTE	VENT		
WC-1	FLOOR MOUNTED, ELONGATED WATER CLOSET, SENSOR FLUSH, STANDARD HEIGHT	ZURN	Z5665-BWL	1"	-	3"	2"	FLUSH VALVE: ZURN ZER6000AV-WS1-HYD, 1.6 GPM SEAT BEMIS: ZURN Z5944SS-EL-STS	-
WC-2	FLOOR MOUNTED, ELONGATED WATER CLOSET, SENSOR FLUSH, ADA HEIGHT	ZURN	Z5665-BWL1	1"	-	3"	2"	FLUSH VALVE: ZURN ZER6000AV-WS1-HYD, 1.6 GPM SEAT BEMIS: ZURN Z5944SS-EL-STS	17" RIM HEIGHT PROVIDE HANDLE ON OPPOSITE SIDE OF NEAREST WALL FOR ADA COMPLIANCE
LAV-1	WALL HUNG LAV, 4" CENTERS, ADA	ZURN	Z5340	1/2"		1-1/2"	1-1/2"	ZURN #Z812B4-XL ①③ 5-3/8" GOOSENECK FAUCET, REMOVABLE STRAINER	CHROME STOPS 1/4 TURN, SUPPLIES INSUL SUPPLIES & TRAP PER ADA
LAV-2	UNDERMOUNT LAV, 4" CENTERS, ADA	ZURN	Z5220	1/2"	1/2"	1-1/2"	1-1/2"	FAUCET: AMERICAN STANDARD COLONY PRO - 7075; LESS POP-UP STRAINER, GRID STRAINER, 4" CENTERS; ①	CHROME STOP 1/4 TURN, SUPPLY; ESCUTCHEON, INSUL SUPPLIES & TRAP PER ADA
EWC-1	ELECTRIC WATER COOLER WITH BOTTLE FILLING STATION, HI-LO CONFIGURATION, ADA	ELKAY	EZSTL8WSLK	1/2"	-	1-1/2"	1-1/2"	FURNISH CHROME LOW-LEAD 1/4 TURN ANGLE STOPS, ESCUTCHEON, STAINLESS STEEL CONNECTOR	115V, FLA=5, 370 WATTS
SH-1	SURFACE MOUNTED INDIVIDUAL WALL SHOWER STAINLESS STEEL PANEL	BRADLEY	WS-1X	1/2"	1/2"	-	-	THERMOSTATIC MIXING VALVE, SOAP DISH, FLEXIBLE CONNECTIONS; SHOWER FLOOR DRAIN FOR TILE SHOWER	CHROME STOP 1/4 TURN, SUPPLY, VANDAL RESISTANT SCREWS
SH-2	SURFACE MOUNTED INDIVIDUAL WALL SHOWER STAINLESS STEEL PANEL; ADA	BRADLEY	HN250	1/2"	1/2"	-	-	THERMOSTATIC MIXING VALVE, DIVERTER VALVE, HAND SHOWER STAINLESS STEEL FLEXIBLY HOSE AND MOUNTING BRACKET, BACKFLOW PREVENTER, SHOWER FLOOR DRAIN FOR TILE SHOWER	CHROME STOP 1/4 TURN, SUPPLY, VANDAL RESISTANT SCREWS
WB-1	WASHER SUPPLY BOX	WATER TITE	W4700	1/2"	1/2"	2"	-	1/4" TURN BALL VALVES, HAMMER ARRESTORS, PLASTIC BOX, WHITE	
FD-1	CAST IRON FLOOR DRAIN WITH 6" ROUND ADJUSTABLE TOP	ZURN	Z415	-	-	3"	`	NICKEL BRONZE STRAINER	②
LT-1	LAUDRY TUB, FLOOR STANDING, 18 GAL. CAPACITY	MUSTEE	18F	1/2"	1/2"	1-1/2"	-	FAUCET: DELTA 2133 2-HANDLE MID ARC LAUDRY FAUCET W/ EXTENDED SPOUT, CHROME	CHROME STOPS 1/4 TURN, SUPPLIES & P-TRAP
SP-1	ELEVATOR SUMP PUMP PACKAGE	WEIL	1432	-	-	2"	-	50GPM @ 20FT.HD SUMP PUMP, 1/2 HP, 115V; CAST IRON CASING, STAINLESS STEEL SHAFT, PIGGYBACK DIFFERENTIAL FLOAT SWITCH, 20-FT CORD,	MEET ASME A17.1 CODE AND MICH. ELEVATOR CODE
SU-1	24" Ø POLY SUMP PUMP BASIN STEEL PERFORATED COVER	AK INDUSTRIES	GB-24-100	-	-	-	-	2" DISCHARGE FLANGE, ELECTRIC CORD GROMMET	ANTI-FLOTATION FLANGE

① - PROVIDE MIXING VALVE TO MEET ADA REQUIREMENTS. EQUAL TO WATTS USG-B, MOUNT UNDER LAV AND SINK.
② - FLOOR DRAIN TRAP SEALER WITH RUBBER DIAPHRAGM ASSE 1072 LISTED. EQUAL TO SURE SEAL.
③ - LAVATORY CARRIER (WALL PLATE) CONCEALED ARMS, EQUAL TO WADE 520.



SUMP PUMP DETAIL

Scale: None

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SHEET TITLE: PLUMBING SCHEDULES & DETAILS
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ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
ADA	AMERICAN DISABILITIES ACT
ADJ	ADJUSTABLE
AF	ABOVE ROUGH FLOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AL	ACOUSTICALLY LINED (DUCTWORK)
APD	AIR PRESSURE DROP
AS	AIR SEPARATOR
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS
AV	AIR VENT
ABV	ABOVE
BDD	BACK-DRAFT DAMPER
BG	BELOW GRADE
BO(x)	BOTTOM OF UNIT, REGISTER(R), GRILLE(G), PIPE (P), ETC.
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
BV	BALANCING VALVE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	COOLING
COND	CONDENSATE
CS	CIRCUIT SETTER
CU	CONDENSING UNIT
CW	DOMESTIC COLD WATER
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DB	DRY BULB
DN	DOWN
EA	EXHAUST AIR DUCT
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST AIR FAN
ELEC	ELECTRICAL
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING (ALSO: "EXT'G", "x")
EXH	EXHAUST (AIR)
EG	EXHAUST AIR GRILLE
FCO	FLOOR CLEAN OUT
FD	FIRE DAMPER (1 OR 2 HOUR)
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
F/SD	COMBINATION FIRE AND SMOKE OR DAMPER (1 OR 2 HOUR)
FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR
FV or VIF	FIELD VERIFY or VERIFY IN FIELD
DL	DUCT LINER
G	GAS, NATURAL GAS OR LP AS NOTED
GA	GAUGE
GAL	GALLONS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GC	GENERAL CONTRACTOR
GHXS	GROUND HEAT EXCHANGER SUPPLY
GHXR	GROUND HEAT EXCHANGER RETURN
HTG	HEATING
HW	DOMESTIC HOT WATER
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
HPWS	HEAT PUMP WATER SUPPLY
HPWR	HEAT PUMP WATER RETURN
IE	INVERT ELEVATION
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LP	LIQUID PROPANE
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSAND BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MBC	MICHIGAN BUILDING CODE
MMC	MICHIGAN MECHANICAL CODE
MOT. D	MOTORIZED DAMPER
N.C.	NOISE CRITERIA
NC	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION. LIFE SAFETY CODE
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
OA	OUTDOOR AIR DUCT
OBD	OPPOSED BLADE DAMPER
OED	OPEN ENDED DUCT
PRV	PRESSURE REDUCING VALVE
RA	RETURN AIR DUCT
RC	RAIN CONDUCTOR
RH	RELATIVE HUMIDITY
RO	ROUGH OPENING
REF	REFRIGERANT PIPING
RG	RETURN AIR GRILLE
SA	SUPPLY AIR DUCT
SAN	SANITARY WASTE
SF	SQUARE FEET
SD	SUPPLY AIR DIFFUSER
SMKD	SMOKE DAMPER
SP	STATIC PRESSURE
SPKR	SPRINKLER
SR	SUPPLY AIR REGISTER
SS	STAINLESS STEEL
STM	STEAM PIPING
TBD	TO BE DETERMINED (DURING CONSTRUCTION)
TO	TOP OF...(DUCT, PIPE, ETC.)
TPV	TRAP PRIMER VALVE
TSP	TOTAL STATIC PRESSURE
T-STAT	THERMOSTAT
TYP	TYPICAL
UC	UNDERCUT
UG	UNDERGROUND
UL	UNITED LABORATORIES TESTING AGENCY
UW	UNTREATED WATER
VAV	VARIABLE AIR VOLUME (BOX, UNIT, SYSTEM)
VFD	VARIABLE FREQUENCY DRIVE
VD	VOLUME DAMPER
VIF or FV	VERIFY IN FIELD or FIELD VERIFY
VTR	VENT THRU ROOF
WB	WET BULB
WCO	WALL CLEAN OUT
WPD	WATER PRESSURE DROP
ZD	ZONE DAMPER

MECHANICAL LEGEND

CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
COND	CONDENSATE PIPING
G	NATURAL GAS OR PROPANE
HPWS	HEAT PUMP WATER SUPPLY
HPWR	HEAT PUMP WATER RETURN
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
REF	REFRIGERANT PIPING
STM	STEAM PIPING
	SOLID ROUND DUCT
	FLEX ROUND DUCT
T	THERMOSTAT, T-STAT
VD	MANUAL VOLUME DAMPER
	NEW-TO-EXISTING CONNECTION
	ENDCAP (DUCT OR PIPING)
M	MOTORIZED DAMPER, MOT. D
	BACKDRAFT DAMPER, BDD
	VERTICAL FIRE DAMPER
	HORIZONTAL FIRE DAMPER
	DUCT TURNING VANE
	SUPPLY AIR DIFFUSER, SD-X
	RETURN AIR GRILLE, RG-X
	EXHAUST AIR GRILLE, EG-X
	EXHAUST AIR FAN, EF-X
	BALL VALVE, ISOLATION AND SHUT-OFF
	BUTTERFLY VALVE, ISOLATION AND SHUT-OFF
	GLOBE VALVE
	GATE VALVE, ISOLATION AND SHUT-OFF
	CIRCUIT SETTER W/ TEST PORTS (CS)
	BALANCING VALVE W/ SHUT-OFF ABILITY AND TEST PORTS (BV)
TWCS	TRIPLE DUTY VALVE (MULTI-PURPOSE BALANCE, CHECK, SHUT-OFF CAPABILITY W/ TEST PORTS
E E	ELECTRONIC-DIGITAL 2-WAY OR 3-WAY MIXING OR DIVERTING VALVE
P P	PNEUMATIC 2-WAY OR 3-WAY MIXING OR DIVERTING VALVE
	STRAINER WITH BLOW DOWN
	STANDARD CHECK VALVE
	SPRING CHECK VALVE
	FLOW DIRECTION DESIGNATOR
P	PRESSURE GAGE
T	TEMPERATURE GAGE
FS	FLOW SWITCH
	MANUAL AIR VENT
AV	AUTO AIR VENT
	RELIEF OR SAFETY VALVE
	PRESSURE REDUCING VALVE (PRV)
	DOUBLE BACK FLOW PREVENTER
	STEAM TRAP
VIBR. ISOL.	VIBRATION ABSORBER
	PUMP, PLAN VIEW
AS	AIR SEPARATOR W/ STRAINER & BLOW DOWN
M	METER (GAS OR WATER)
	GAS COCK
G	GAS SOLENOID VALVE

SPECIAL NOTICE TO CONTRACTORS

1. IT IS RECOMMENDED THAT ALL CONTRACTORS BIDDING THIS PROJECT VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
2. PRIOR TO CONSTRUCTION, CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF THE FOLLOWING:
   A. ALL POINTS OF CONNECTION TO BUILDING UTILITIES AND/OR SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, MECHANICAL SYSTEMS, DUCTWORK, EXHAUST/OUTSIDE AIR, SECURITY, FIRE/LIFE SAFETY, DATA, AND PHONE.
   B. ALL REQUIRED CONNECTIONS TO THE BUILDING STRUCTURE.
   C. ALL REQUIRED BUILDING PENETRATIONS.
3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
4. REFER TO THE CONSTRUCTION DOCUMENTS FOR ALL CONTACT INFORMATION.

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SHEET TITLE: MECHANICAL LEGEND & SYMBOLS
M000

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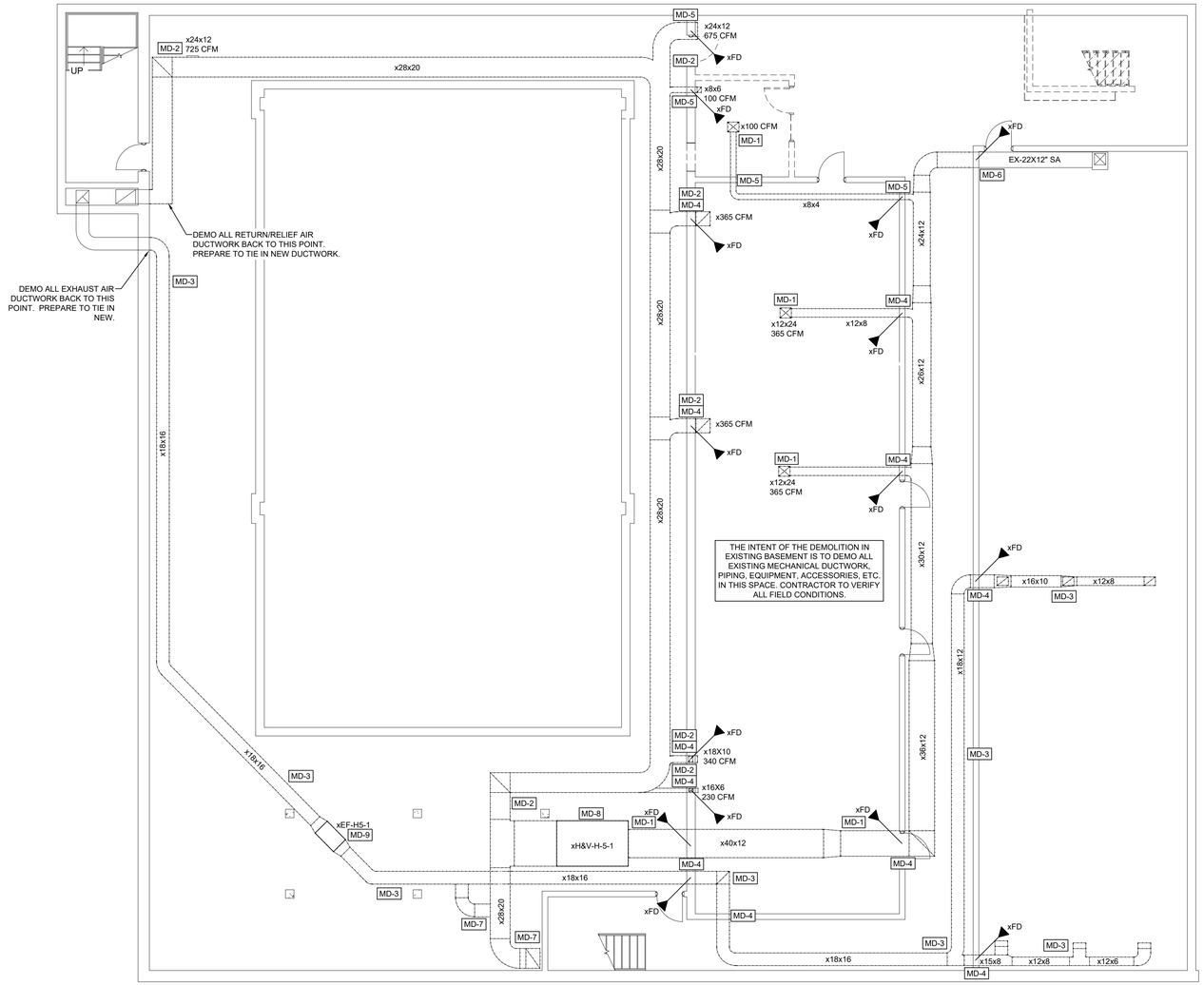
MECHANICAL DEMOLITION NOTES

1. EQUIPMENT, PIPING, DUCTWORK, ETC., TAGGED WITH A PRECEDING "EX." OR "x" ARE EXISTING.
2. BEFORE COMMENCING WORK ENSURE GAS IS OFF, AND ELECTRICAL POWER IS TURNED OFF TO THE EXISTING EQUIPMENT.
3. THE MECHANICAL CONTRACTOR SHALL REMOVE ALL ITEMS INDICATED AND SHALL BE RESPONSIBLE FOR THEIR DISPOSAL PER LOCAL, STATE AND FEDERAL REGULATIONS AND PAY FOR ALL ASSOCIATED COSTS OF DISPOSAL.
4. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE TO DETERMINE IF ANY PARTS OR EQUIPMENT ARE DESIRED TO BE KEPT BY THE OWNER. THE OWNER SHALL HAVE THE RIGHT OF FIRST REFUSAL. ANY ITEM NOT WISHED TO BE RETAINED, SHALL BE DISPOSED OF AT THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
5. ITEMS HATCHED SHALL BE PERMANENTLY REMOVED.
6. ITEMS CLOUDED SHALL BE TEMPORARILY REMOVED AND REUSED.

DEMOLITION KEYED NOTES MD-#

MD-1	REMOVE EXISTING SUPPLY DUCTWORK, DIFFUSERS, DAMPERS, HANGERS, ETC. TYPICAL OF ALL SUPPLY DUCTWORK CONNECTED TO EX-HV-H5-1.
MD-2	REMOVE EXISTING RETURN AIR DUCTWORK , GRILLES, DAMPERS, HANGERS, ETC. TYPICAL OF ALL EXHAUST DUCTWORK CONNECTED TO EX-HV-H5-1.
MD-3	REMOVE EXISTING EXHAUST AIR DUCTWORK , GRILLES, DAMPERS, HANGERS, ETC. TYPICAL OF ALL EXHAUST DUCTWORK CONNECTED TO EX-EF-H5-1. DEMO OF EXHAUST DUCTWORK AND GRILLES IN SHOOTING RANGE 005 WILL REQUIRE CM AND STRUCTURAL TO COORDINATE REMOVAL OF PROTECTIVE SHIELD.
MD-4	DUCTWORK AND FIRE DAMPER THROUGH WALL TO BE REMOVED. OPENING WILL BE REUSED FOR NEW DUCTWORK. COORDINATE DIFFERENCE IN DUCT SIZES AND INFILL/DEMO TO ACCOMMODATE NEW DUCT AND FIRE DAMPER.
MD-5	DUCTWORK AND FIRE DAMPER THROUGH WALL TO BE REMOVED. OPENING WILL BE NEED TO BE INFILLED AND COORDINATED WITH CM AND STRUCTURAL.
MD-6	MAINTAIN EXISTING DUCTWORK THROUGH WALL TO PLENUM IN CASEWORK. CONTRACTOR TO VERIFY FIRE DAMPER OPERABILITY AND REPLACE IF INOPERABLE.
MD-7	REMOVE EXISTING OUTDOOR AIR DUCTWORK, DAMPERS, HANGERS, ETC. FROM EX-HV-H5-1 UP TO ROOF. PENETRATION THROUGH FLOOR WILL BE REUSED FOR NEW OUTDOOR AIR DUCTWORK. COORDINATE DIFFERENCE IN DUCT SIZES AND INFILL TO ACCOMMODATE NEW DUCT AND FIRE DAMPER.
MD-8	REMOVE EXISTING EX-HV-H5-1 AND ALL ASSOCIATED DUCTWORK, DAMPERS, ELECTRICAL. COORDINATE DEMO WITH E.C.
MD-9	REMOVE EXISTING EX-EF-H5-1 AND ALL ASSOCIATED DUCTWORK, DAMPERS, ELECTRICAL. COORDINATE DEMO WITH E.C.



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MECHANICAL DEMOLITION BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"

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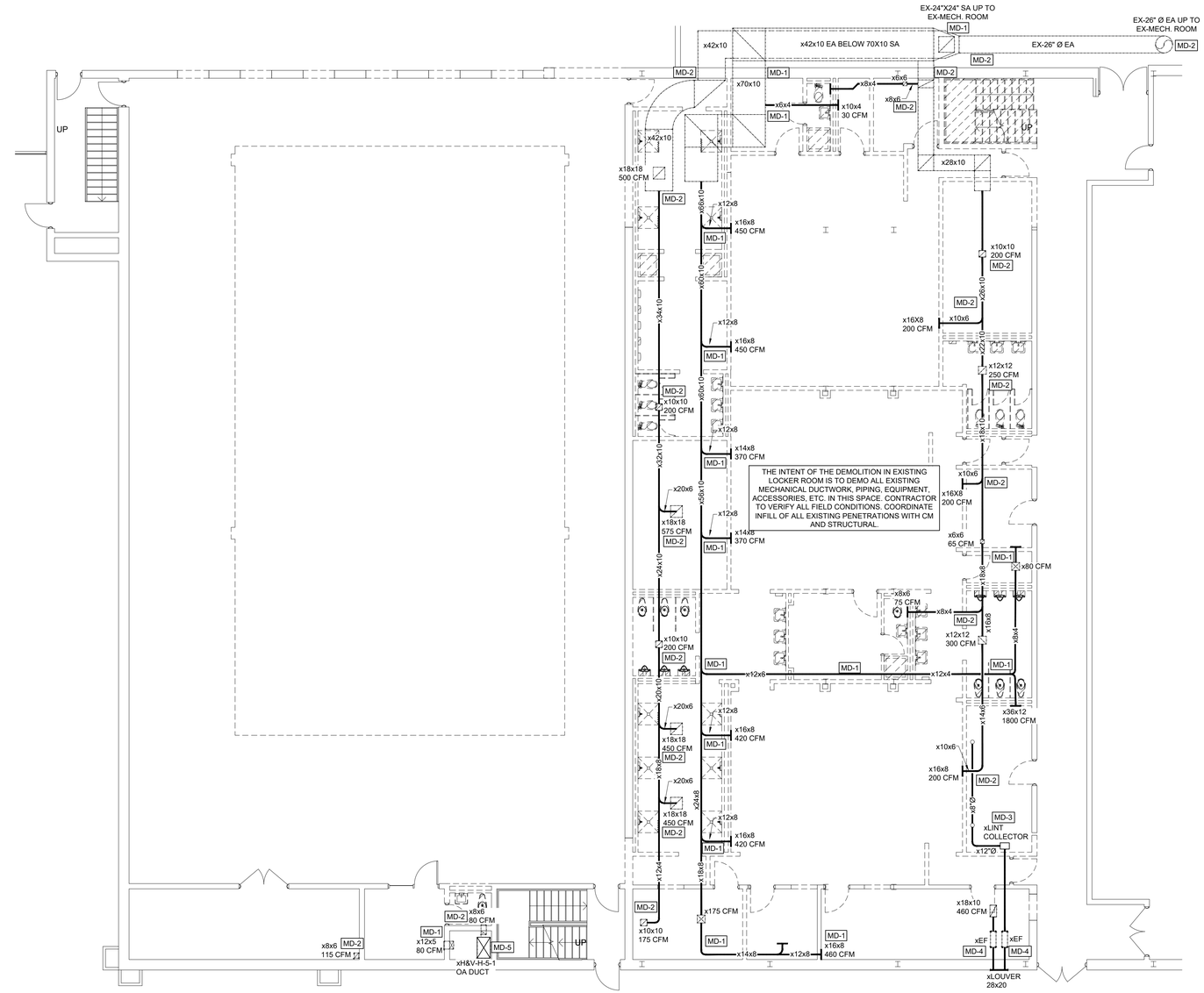
6. ITEMS CLOUDED SHALL BE TEMPORARILY REMOVED AND REUSED.

DEMOLITION KEYED NOTES MD-#

MD-1	REMOVE EXISTING SUPPLY DUCTWORK, DIFFUSERS, DAMPERS, HANGERS, ETC. COORDINATE INFILL OF ANY DUCT PENETRATIONS THROUGH WALLS TO REMAIN WITH CM AND STRUCTURAL. TYPICAL OF ALL SUPPLY DUCTWORK CONNECTED TO EX-HV-H5-7. COORDINATE FLOOR INFILL ABOVE WITH CM AND STRUCTURAL.
MD-2	REMOVE EXISTING EXHAUST AIR DUCTWORK , GRILLES, DAMPERS, HANGERS, ETC. COORDINATE INFILL OF ANY DUCT PENETRATIONS THROUGH WALLS TO REMAIN WITH CM AND STRUCTURAL. TYPICAL OF ALL EXHAUST DUCTWORK CONNECTED TO EX-EF-H5-4. COORDINATE FLOOR INFILL ABOVE WITH CM AND STRUCTURAL.
MD-3	REMOVE EX-LINT COLLECTOR AND ALL CONNECTED EXHAUST DUCTWORK, ETC. TO LOUVER. INSULATE EXISTING LOUVER AND CAP.
MD-4	REMOVE EX-EF AND ALL CONNECTED EXHAUST DUCTWORK, ETC. TO LOUVER. INSULATE EXISTING LOUVER AND CAP.
MD-5	REMOVE EXISTING OA DUCTWORK FROM BELOW AND UP THROUGH FLOOR.



N

MECHANICAL DEMOLITION FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

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PIC: D. RADTKE
PM: D. RADTKE
DRAFTS: D. RADTKE
PROJECT NO: 25.503
SHEET TITLE: MECHANICAL DEMO FIRST FLOOR PLAN
MD101

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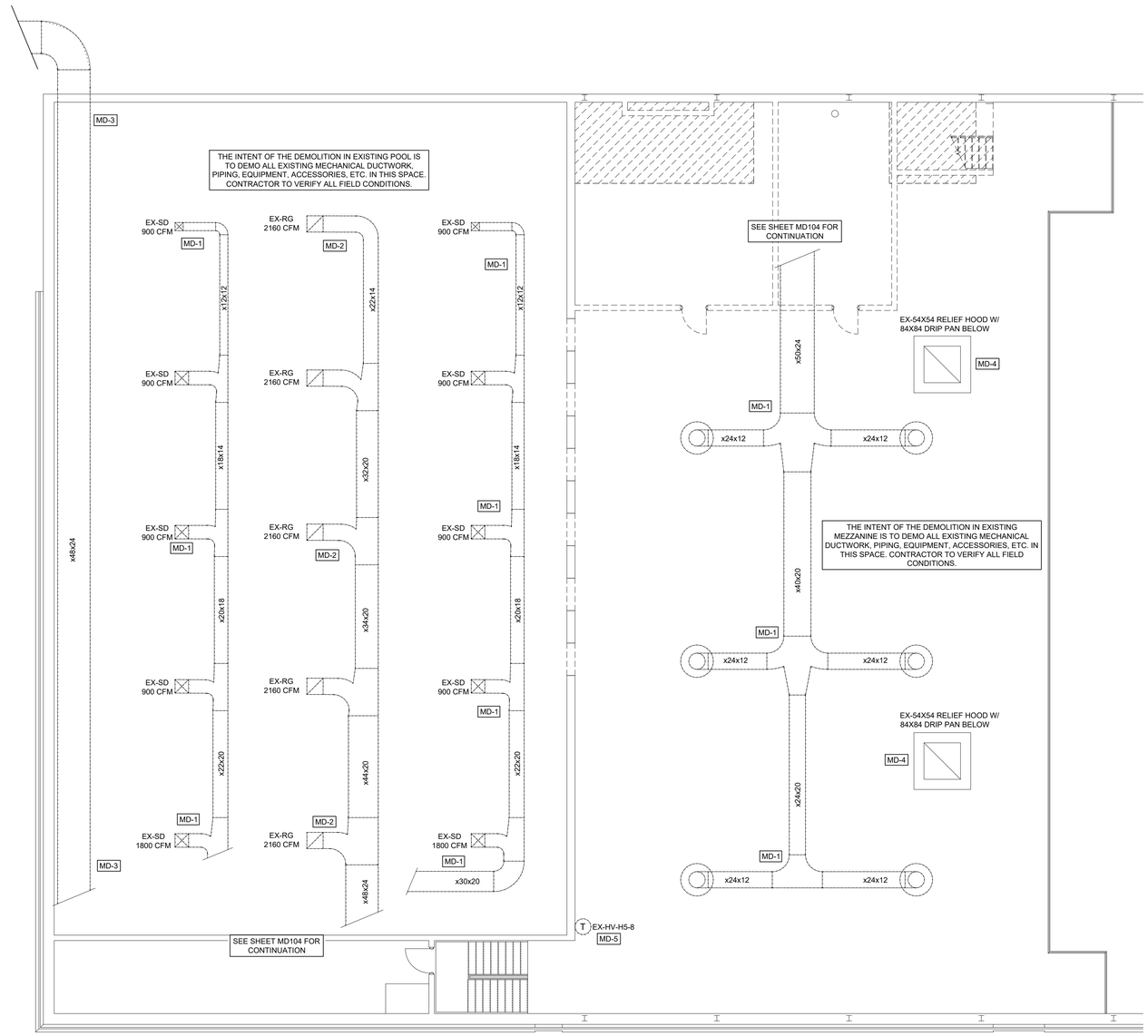
MECHANICAL DEMOLITION NOTES

1. EQUIPMENT, PIPING, DUCTWORK, ETC., TAGGED WITH A PRECEDING "EX." OR "x" ARE EXISTING.
2. BEFORE COMMENCING WORK ENSURE GAS IS OFF, AND ELECTRICAL POWER IS TURNED OFF TO THE EXISTING EQUIPMENT.
3. THE MECHANICAL CONTRACTOR SHALL REMOVE ALL ITEMS INDICATED AND SHALL BE RESPONSIBLE FOR THEIR DISPOSAL PER LOCAL, STATE AND FEDERAL REGULATIONS AND PAY FOR ALL ASSOCIATED COSTS OF DISPOSAL.
4. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE TO DETERMINE IF ANY PARTS OR EQUIPMENT ARE DESIRED TO BE KEPT BY THE OWNER. THE OWNER SHALL HAVE THE RIGHT OF FIRST REFUSAL. ANY ITEM NOT WISHED TO BE RETAINED, SHALL BE DISPOSED OF AT THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
5. ITEMS HATCHED SHALL BE PERMANENTLY REMOVED.
6. ITEMS CLOUDED SHALL BE TEMPORARILY REMOVED AND REUSED.

DEMOLITION KEYED NOTES MD-#

MD-1	REMOVE EXISTING SUPPLY DUCTWORK, DIFFUSERS, DAMPERS, HANGERS, ETC.
MD-2	REMOVE EXISTING RETURN AIR DUCTWORK , GRILLES, DAMPERS, HANGERS, ETC.
MD-3	REMOVE DEHUMIDIFIED OA DUCTWORK FROM MECH 307 BACK TO BOILER ROOM WHERE IT IS CAPPED (~90 FROM POOL TO BOILER ROOM). VERIFY INSTALLATION AND LENGTH IN FIELD.
MD-4	MAINTAIN EXISTING DRIP PAN AND RELIEF HOOD. COORDINATE WITH CM TO BOX OUT NEW WALL AROUND THE EXISTING DRIP PAN, IF REQUIRED.
MD-5	REMOVE EXISTING THERMOSTAT AND ASSOCIATED WIRING. PATCH WALL AS NEEDED.



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MECHANICAL DEMOLITION MEZZANINE FLOOR PLAN
SCALE: 1/8" = 1'-0"

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SHEET TITLE: MECHANICAL DEMO MEZZANINE FLOOR PLAN

MD102

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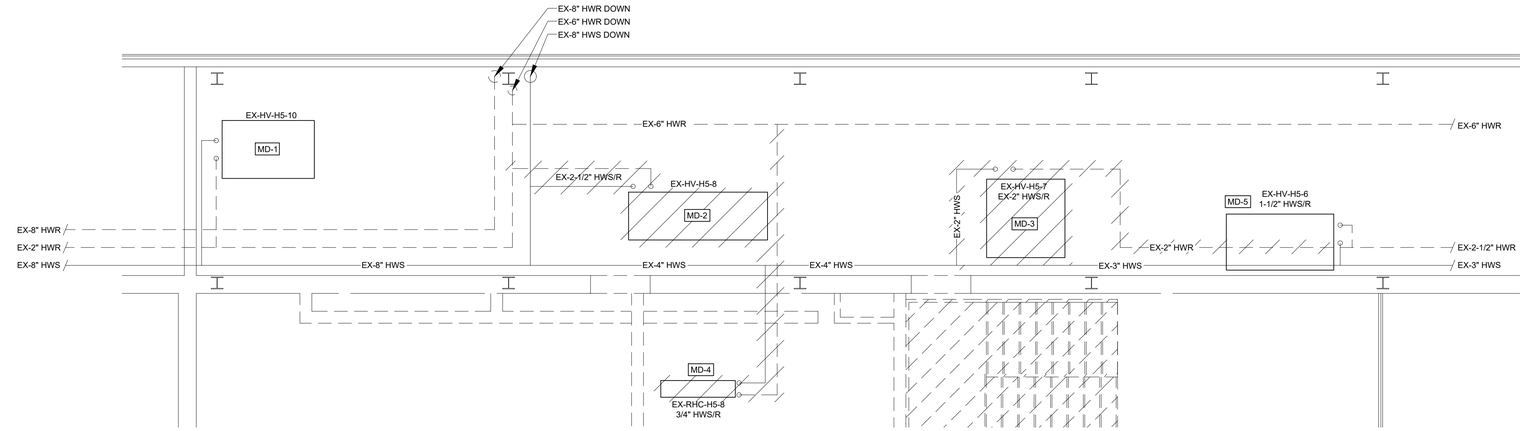
DEMOLITION KEYED NOTES MD-#

MD-1	EX-HV-H5-10 IS TO REMAIN. CONTRACTOR TO ENSURE THAT ALL ASSOCIATED PIPING, ACCESSORIES, ETC. REMAIN AND THAT THE UNIT MAINTAINS OPERABILITY THROUGHOUT PROJECT. ANY DOWN TIME THAT WILL BE REQUIRED FOR ADJACENT PIPING WORK WILL NEED TO BE CONFIRMED WITH THE OWNER.
MD-2	REMOVE EX-HV-H5-8 AND ALL ASSOCIATED PIPING, ACCESSORIES, ETC. CAP PIPING AT MAIN AND PREPARE TO TIE INTO NEW DOAS-H5-8. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.
MD-3	REMOVE EX-HV-H5-7 AND ALL ASSOCIATED PIPING, ACCESSORIES, ETC. REMOVE PIPING BACK, AS REQUIRED TO ACCOMODATE NEW DUCTWORK AND EQUIPMENT LAYOUT AND PREPARE TO TIE INTO NEW AHU-H5-7. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.
MD-4	REMOVE EXISTING DUCT COIL AND ALL ASSOCIATED PIPING, ACCESSORIES, ETC. REMOVE PIPING BACK TO MECHANICAL ROOM AND CAP AT MAIN. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.
MD-5	EX-HV-H5-6 IS TO REMAIN. CONTRACTOR TO ENSURE THAT ALL ASSOCIATED PIPING, ACCESSORIES, ETC. REMAIN AND THAT THE UNIT MAINTAINS OPERABILITY THROUGHOUT PROJECT. ANY DOWN TIME THAT WILL BE REQUIRED FOR ADJACENT PIPING WORK WILL NEED TO BE CONFIRMED WITH THE OWNER.



N

MECHANICAL PIPING DEMOLITION MEZZANINE MECH. ROOM PLAN

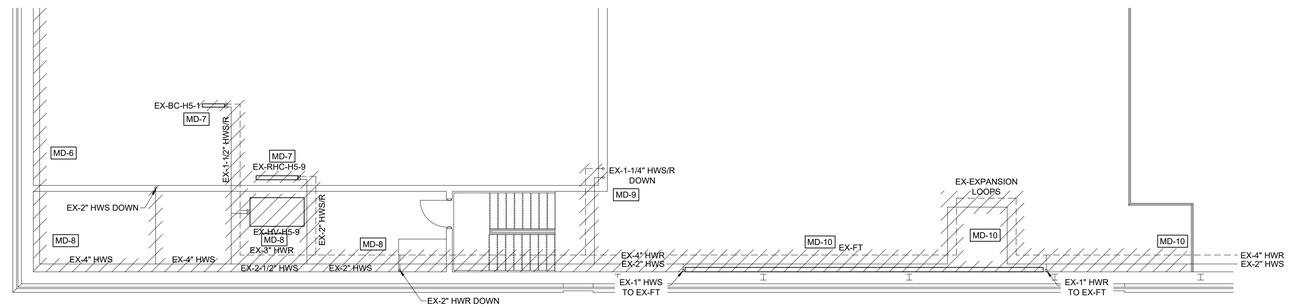
SCALE: 1/4" = 1'-0"

MECHANICAL DEMOLITION NOTES

1. EQUIPMENT, PIPING, DUCTWORK, ETC., TAGGED WITH A PRECEDING "EX." OR "x" ARE EXISTING.
2. BEFORE COMMENCING WORK ENSURE GAS IS OFF, AND ELECTRICAL POWER IS TURNED OFF TO THE EXISTING EQUIPMENT.
3. THE MECHANICAL CONTRACTOR SHALL REMOVE ALL ITEMS INDICATED AND SHALL BE RESPONSIBLE FOR THEIR DISPOSAL PER LOCAL, STATE AND FEDERAL REGULATIONS AND PAY FOR ALL ASSOCIATED COSTS OF DISPOSAL.
4. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE TO DETERMINE IF ANY PARTS OR EQUIPMENT ARE DESIRED TO BE KEPT BY THE OWNER. THE OWNER SHALL HAVE THE RIGHT OF FIRST REFUSAL. ANY ITEM NOT WISHED TO BE RETAINED, SHALL BE DISPOSED OF AT THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
5. ITEMS HATCHED SHALL BE PERMANENTLY REMOVED.
6. ITEMS CLOUDED SHALL BE TEMPORARILY REMOVED AND REUSED.

DEMOLITION KEYED NOTES MD-#

MD-6	REMEOVE EXISTING 4" HWS THROUGHOUT MULTIPURPOSE SPACE INTO CORRIDOR AND PREPARE TO REPLACE. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.
MD-7	REMOVE EXISTING DUCT COIL AND ALL ASSOCIATED PIPING, ACCESSORIES, ETC. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.
MD-8	REMOVE EX-HV-H5-9 AND ALL ASSOCIATED PIPING, ACCESSORIES, ETC. ALL EXISTING HWS/R PIPING TO BE REMOVED FROM MECH. ROOM 307. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.
MD-9	REMOVE EXISTING 1-1/4" HWS/R DOWN TO BELOW. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.
MD-10	REMOVE EXISTING HWS/R TO END OF BALCONY AND EX-FT AND PREPARE TO REPLACE. CONTRACTOR RESPONSIBLE FOR REPLACING EXPANSION LOOP TO SAME SPECS AS EXISTING. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.



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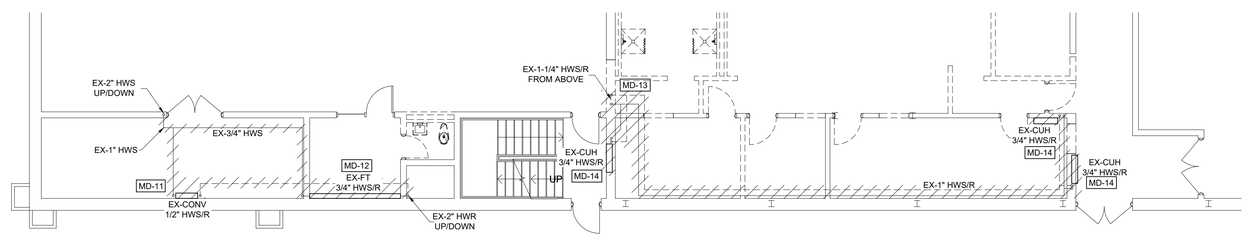
MECHANICAL PIPING DEMOLITION MEZZANINE FLOOR PLAN

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

DEMOLITION KEYED NOTES MD-#

MD-11	REMOVE EXISTING CONVERCTOR AND ALL ASSOCIATED PIPING, ACCESSORIES, ETC. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.
MD-12	REMOVE EXISTING FINTUBE AND ALL ASSOCIATED PIPING, ACCESSORIES, ETC. BACK TO CHASE AND PREPARE TO INSTALL NEW HWS/R PIPING TO NEW FIN TUBE. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.
MD-13	REMOVE EXISTING 1-1/4" HWS/R FROM ABOVE AND THROUGHOUT LOCKER ROOM SPACE. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.
MD-14	REMOVE EXISTING CUH AND ASSOCIATED PIPING, ACCESSORIES, ETC. MAINTAIN PIPING IN WALL TO TIE INTO NEW CUH, IF NECESSARY. COORDINATE ANY PATCHING OR INFILL REQUIRED WITH CM AND STRUCTURAL.



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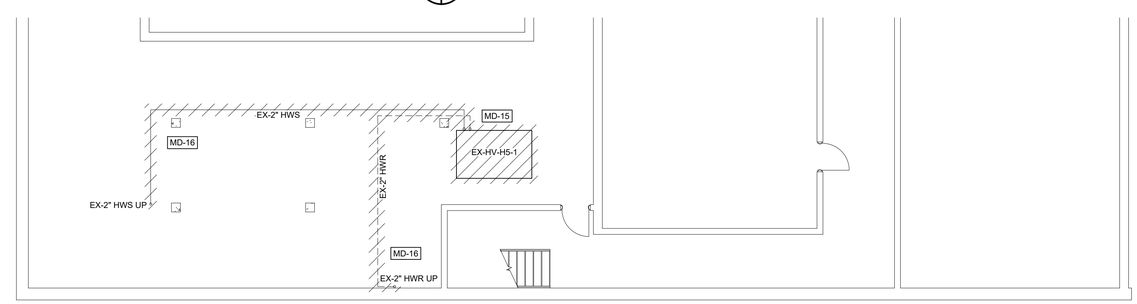
MECHANICAL PIPING DEMOLITION FIRST FLOOR PLAN

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

DEMOLITION KEYED NOTES MD-#

MD-15	REMOVE EX-HV-H5-1 AND ALL ASSOCIATED, PIPING, EQUIPMENT, ACCESSORIES, ETC.
MD-16	REMOVE EXISTING HWS/R PIPING THROUGHOUT BASEMENT AND THROUGH FLOOR ABOVE.



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MECHANICAL PIPING DEMOLITION BASEMENT FLOOR PLAN

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

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PROJECT NO: 25.503
SHEET TITLE: ENLARGED MECHANICAL PIPING DEMO PLANS
MD103

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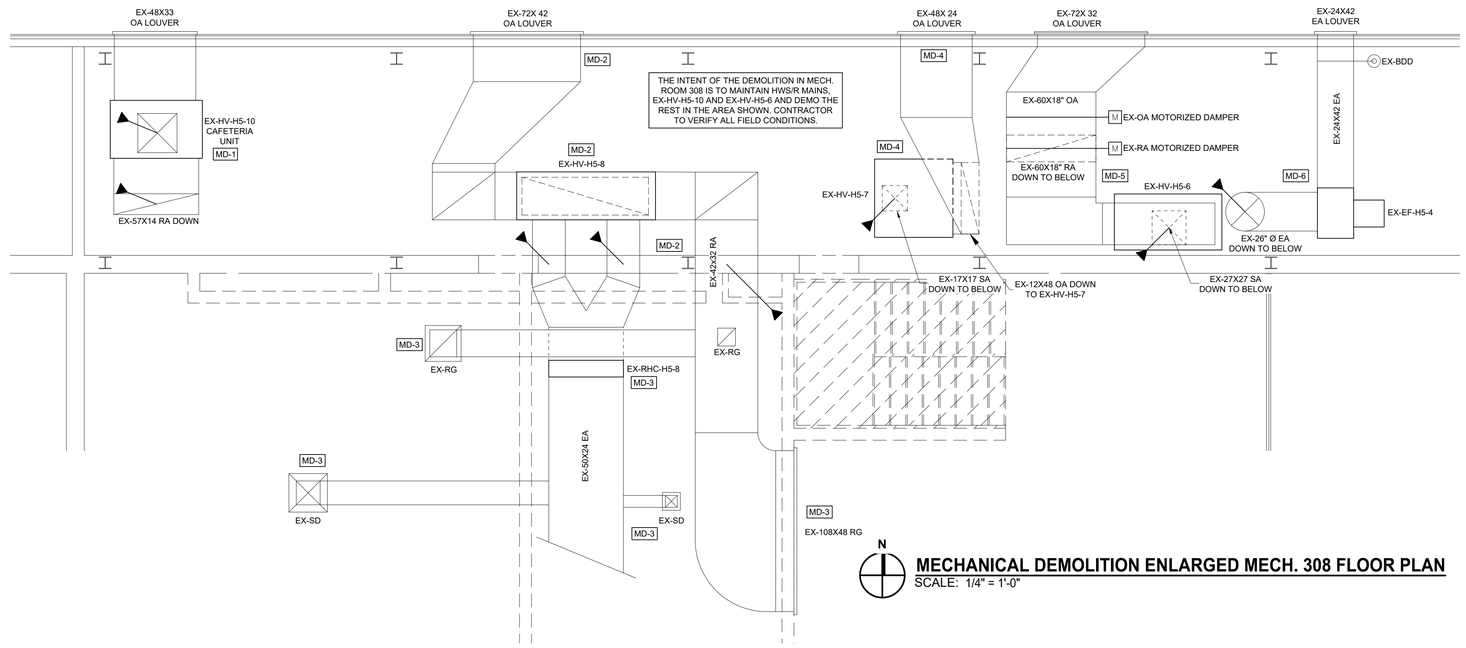
DEMOLITION KEYED NOTES MD-#

MD-1	EX-HV-H5-10 IS TO REMAIN. CONTRACTOR TO ENSURE THAT ALL ASSOCIATED DUCTWORK, PIPING, ELECTRICAL, ACCESSORIES, ETC REMAIN AND THAT THE UNIT MAINTAINS OPERABILITY THROUGHOUT PROJECT. ANY DOWN TIME THAT WILL BE REQUIRED FOR ADJACENT PIPING WORK WILL NEED TO BE CONFIRMED WITH THE OWNER.
MD-2	REMOVE EX-HV-H5-8 AND ALL ASSOCIATED DUCTWORK, ACCESSORIES, FIRE DAMPERS ETC. COORDINATE WALL OPENING INFILLS WITH STRUCTURAL. EXISTING LOUVER TO REMAIN AND PREPARE TO TIE IN NEW EXHAUST DUCTWORK AND CAP OFF UNUSED LOUVER SPACE. COORDINATE ELECTRICAL DEMOLITION WITH E.C.
MD-3	REMOVE EXISTING DUCTWORK, DIFFUSERS, GRILLES, DAMPERS, ETC. SEE MD102 FOR CONTINUATION OF DUCTWORK TO BE DEMO'D.
MD-4	REMOVE EX-HV-H5-7 AND ALL ASSOCIATED DUCTWORK, ACCESSORIES, FIRE DAMPERS ETC. COORDINATE FLOOR OPENING INFILL WITH STRUCTURAL. INSULATE EXISTING LOUVER AND CAP. COORDINATE ELECTRICAL DEMOLITION WITH E.C. SEE SHEET MD101 FOR CONTINUATION OF DUCTWORK DEMOLITION
MD-5	EX-HV-H5-6 IS TO REMAIN. CONTRACTOR TO ENSURE THAT ALL ASSOCIATED DUCTWORK, PIPING, ELECTRICAL, ACCESSORIES, ETC REMAIN AND THAT THE UNIT MAINTAINS OPERABILITY THROUGHOUT PROJECT. ANY DOWN TIME THAT WILL BE REQUIRED FOR ADJACENT PIPING WORK WILL NEED TO BE CONFIRMED WITH THE OWNER.
MD-6	REMOVE EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCTWORK, ACCESSORIES, ETC. COORDINATE ELECTRICAL DEMO WITH E.C. PREPARE TO TIE NEW RELIEF AIR INTO EXISTING LOUVER. COORDINATE FLOOR OPENING INFILLS WITH STRUCTURAL.

MECHANICAL DEMOLITION NOTES

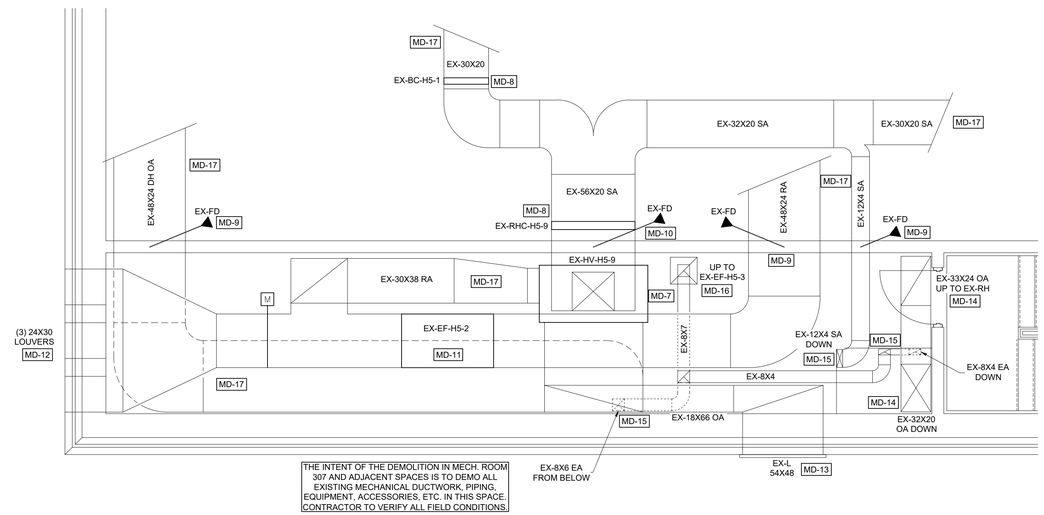
1. EQUIPMENT, PIPING, DUCTWORK, ETC., TAGGED WITH A PRECEDING "EX." OR "x" ARE EXISTING.
2. BEFORE COMMENCING WORK ENSURE GAS IS OFF, AND ELECTRICAL POWER IS TURNED OFF TO THE EXISTING EQUIPMENT.
3. THE MECHANICAL CONTRACTOR SHALL REMOVE ALL ITEMS INDICATED AND SHALL BE RESPONSIBLE FOR THEIR DISPOSAL PER LOCAL, STATE AND FEDERAL REGULATIONS AND PAY FOR ALL ASSOCIATED COSTS OF DISPOSAL.
4. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE TO DETERMINE IF ANY PARTS OR EQUIPMENT ARE DESIRED TO BE KEPT BY THE OWNER. THE OWNER SHALL HAVE THE RIGHT OF FIRST REFUSAL. ANY ITEM NOT WISHED TO BE RETAINED, SHALL BE DISPOSED OF AT THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
5. ITEMS HATCHED SHALL BE PERMANENTLY REMOVED.
6. ITEMS CLOUDED SHALL BE TEMPORARILY REMOVED AND REUSED.



MECHANICAL DEMOLITION ENLARGED MECH. 308 FLOOR PLAN
SCALE: 1/4" = 1'-0"

DEMOLITION KEYED NOTES MD-#

MD-7	REMOVE EXISTING HV-H5-9 AND ALL ASSOCIATED DUCTWORK, PIPING, OUTDOOR AIR DUCTWORK, DAMPERS, ACCESSORIES, ELECTRICAL ETC. COORDINATE ELECTRICAL DEMO WITH E.C.
MD-8	REMOVE EXISTING COILS AND ALL ASSOCIATED PIPING, DUCTWORK, ACCESSORIES. REMOVE PIPING BACK TO MAIN.
MD-9	REMOVE EXISTING DUCTWORK AND FIRE DAMPER. COORDINATE WALL OPENING INFILL WITH THE CM AND STRUCTURAL.
MD-10	REMOVE EXISTING DUCTWORK AND FIRE DAMPER AND PREPARE TO REUSE OPENING. COORDINATE ANY REQUIRED MODIFICATIONS TO OPENING WITH CM AND STRUCTURAL.
MD-11	REMOVE EXISTING EXHAUST FAN AND ALL ASSOCIATED DUCTWORK, ACCESSORIES, ETC. COORDINATE ELECTRICAL DEMO WITH E.C.
MD-12	REMOVE ALL EXISTING EXHAUST DUCTWORK, DAMPERS, ACCESSORIES, ETC. TO LOUVER AND PREPARE TO TIE INTO NEW RELIEF DUCTWORK.
MD-13	REMOVE EXISTING INTAKE LOUVER AND ASSOCIATED DUCTWORK, ETC. MODIFY WALL OPENING TO INSTALL NEW LOUVER. COORDINATE WITH CM AND STRUCTURAL IF THIS OPENING IS TO BE USED FOR REMOVAL OF DEMO'D MATERIAL OR BRINGING IN NEW EQUIPMENT OR MATERIAL.
MD-14	REMOVE EXISTING OA DUCTWORK FROM BELOW AND UP TO EX-RH. LEAVE EX-CURB TO BE REUSED. PREPARE CURB FOR CURB ADAPTER, NEW HOOD AND NEW DUCTWORK.
MD-15	REMOVE EXISTING DUCTWORK FROM BELOW.
MD-16	REMOVE EXISTING EXHAUST FAN ON ROOF AND ALL ASSOCIATED DUCTWORK, DAMPERS, ACCESSORIES, ETC. COORDINATE ELECTRICAL DEMO WITH E.C. AND ROOF IN FILL WITH CM AND STRUCTURAL.
MD-17	REMOVE EXISTING DUCTWORK.



MECHANICAL DEMOLITION ENLARGED MECH. 307 FLOOR PLAN
SCALE: 1/4" = 1'-0"

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SHEET TITLE: ENLARGED MECHANICAL ROOM DEMO PLANS
MD104

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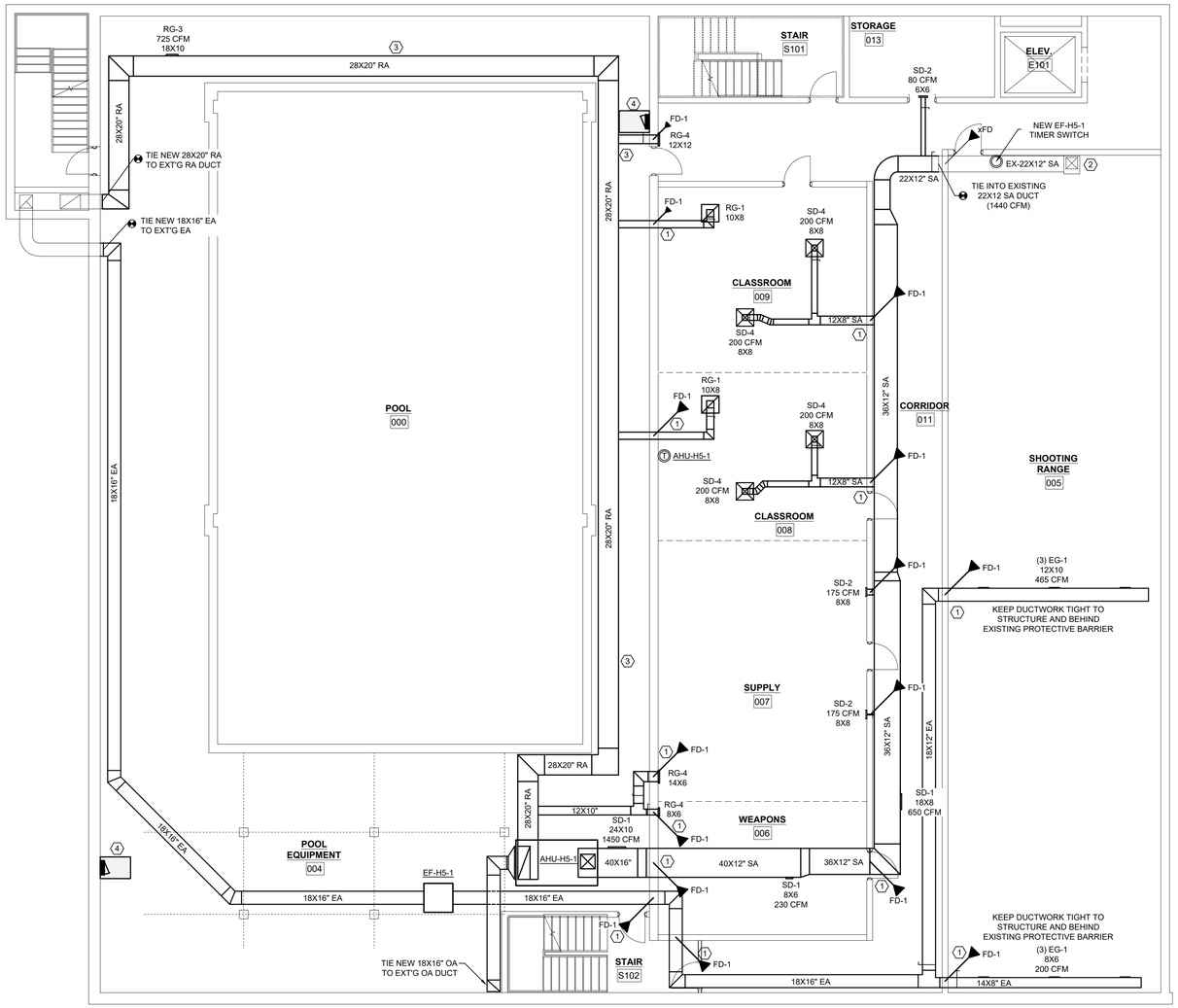

KEYED PLAN NOTES

1	UTILIZE EXISTING PENETRATION FROM DEMO'D DUCTWORK. MODIFY PENETRATION AS NEEDED, WHETHER INFILLING OR ENLARGING. AFTER DUCTWORK IS INSTALLED, PENETRATION TO MAINTAIN FIRE RATING OF EXISTING WALL.
2	EXISTING 16X16 AIR DROP TO PLENUM BELOW GUN CASES.
3	COORDINATE ROUTING WITH E.C. TO AVOID NEW LIGHT.
4	NEW ELECTRICAL PANEL. SEE PANEL DETAIL FOR CLEARANCES.

N

MECHANICAL BASEMENT FLOOR PLAN

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

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SHEET TITLE: MECHANICAL BASEMENT FLOOR PLAN

M100

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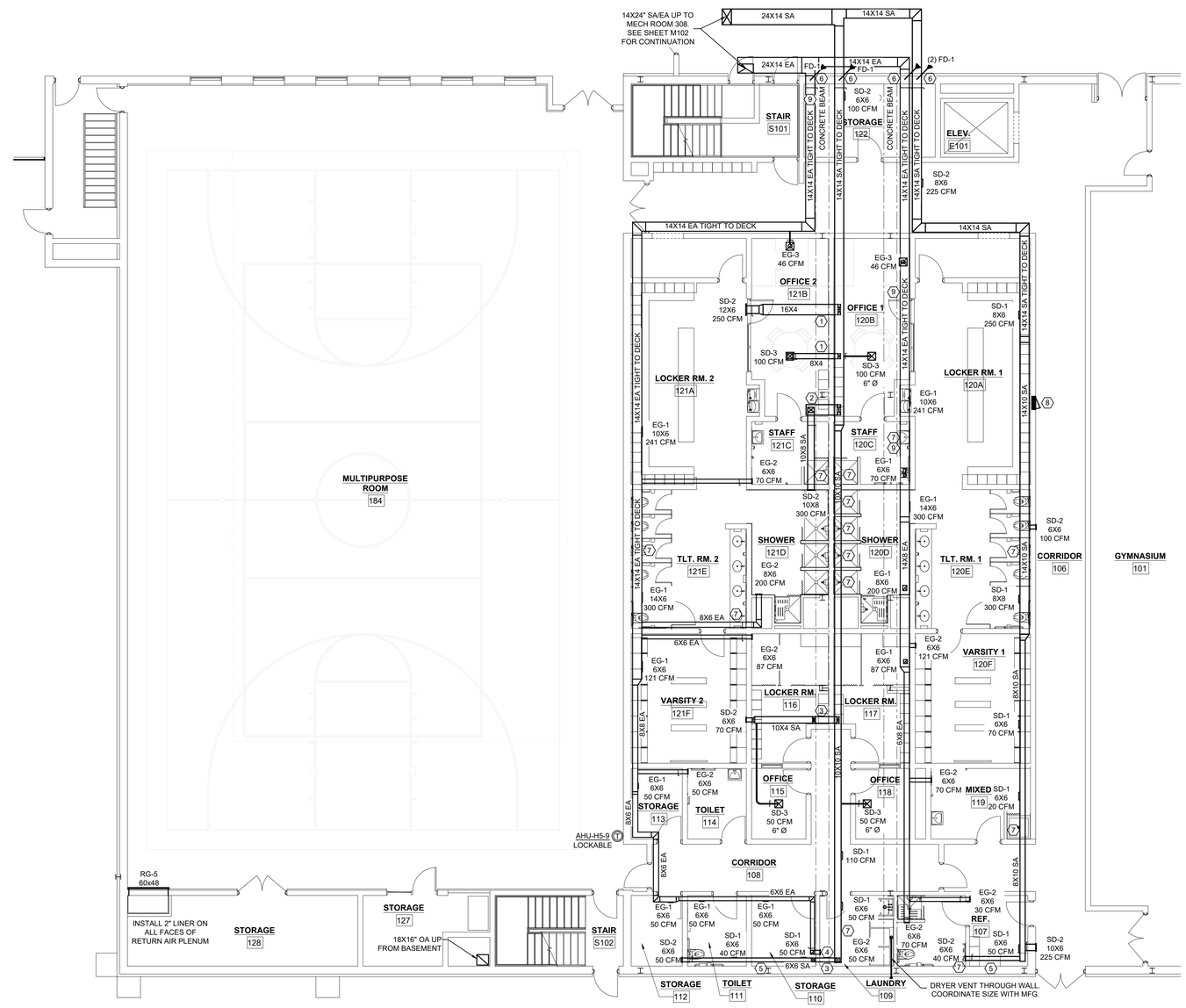
KEYED PLAN NOTES

1. ROUTE SUPPLY AIR DUCT DOWN BELOW EXISTING PRECAST CONCRETE BEAM. INSTALL DUCTWORK AS TIGHT TO BEAM AS POSSIBLE AND KEEP BOTTOM OF DUCTWORK ABOVE NEW LAY-IN CEILING.
2. ROUTE 16X5 SUPPLY AIR DUCT BELOW EXISTING PRECAST CONCRETE BEAM. ON OTHER SIDE OF BEAM, ROUTE 10X8 DUCT UP TO CEILING AND INTO ADJACENT SPACE TIGHT TO BEAM. INSTALL DUCTWORK AS TIGHT TO BEAM AS POSSIBLE AND KEEP BOTTOM OF DUCTWORK ABOVE NEW LAY-IN CEILING WHERE APPLICABLE.
3. ROUTE SUPPLY AIR DUCT BELOW EXISTING PRECAST CONCRETE BEAM AND THEN BACK UP TO CEILING. INSTALL DUCTWORK AS TIGHT TO BEAM AS POSSIBLE.
4. DROP EXHAUST AIR DUCT BELOW BEAM TO EXHAUST GRILLE IN ADJACENT SPACE.
5. HOLD DUCTWORK OFF EXTERIOR WALL TO ROUTE MECHANICAL PIPING BETWEEN DUCTWORK AND WALL.
6. COORDINATE WALL OPENING WITH STRUCTURAL AND INSTALL NEW FIRE DAMPER.
7. DUCTWORK TO BE INSTALLED ABOVE LIGHT INSTALLED AT 8' AFF. COORDINATE WITH E.C.
8. NEW ELECTRICAL PANEL. SEE PANEL DETAIL FOR REQUIRED CLEARANCES.
9. VIF THAT 14X14 EA DUCT CAN BE INSTALLED BETWEEN BEAM AND WALL, AS SHOWN. IF NARROWER DUCT IS NECESSARY, 12X18 EA DUCT CAN BE USED, BUT ONLY IF ABSOLUTELY NECESSARY BECAUSE BEAM IS 18" DEEP. THIS CHANGE WILL NEED TO BE REVIEWED WITH ENGINEER.



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MECHANICAL FIRST FLOOR PLAN

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

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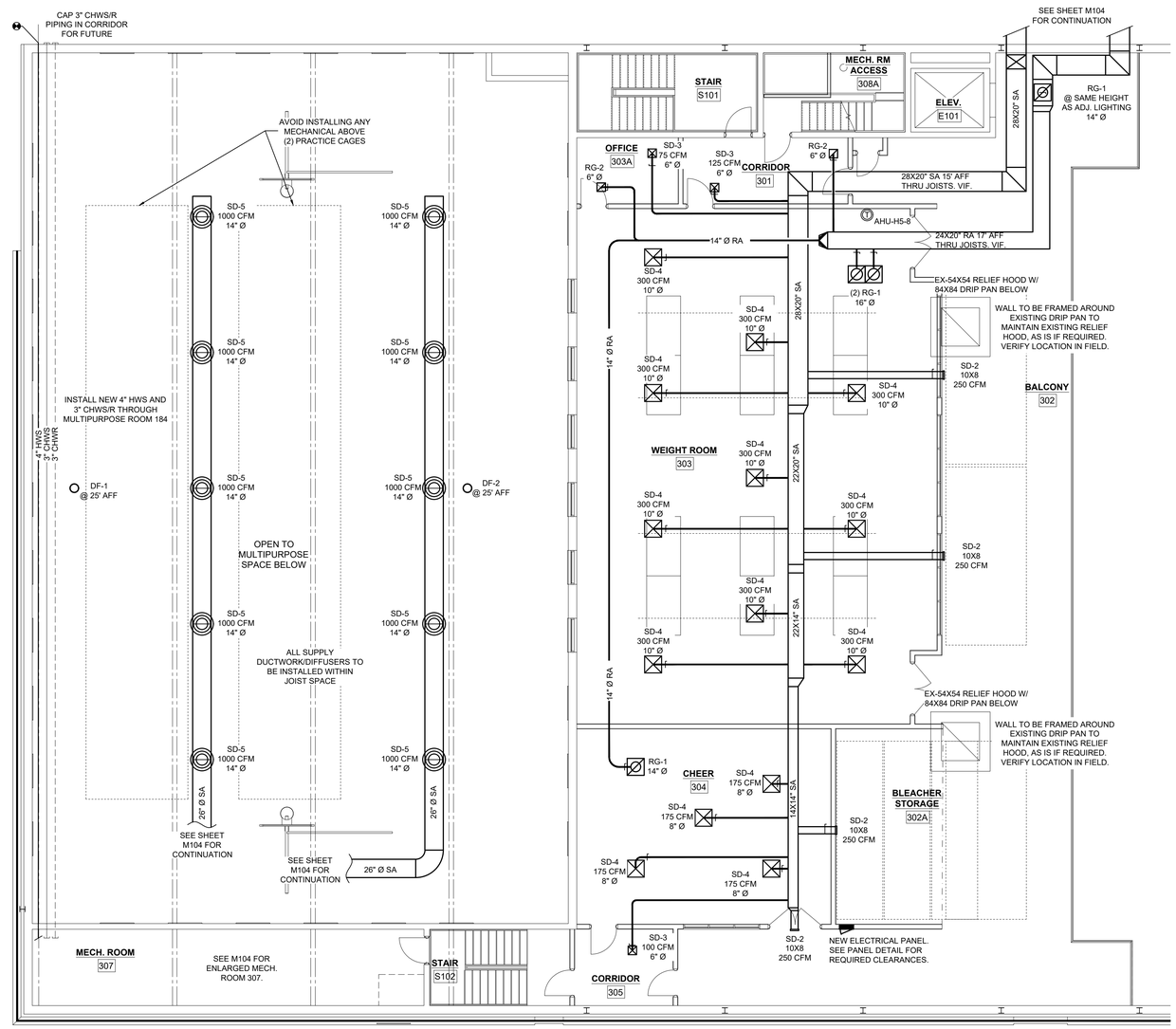

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MECHANICAL MEZZANINE FLOOR PLAN

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

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SAULT STE. MARIE AREA PUBLIC SCHOOLS

HIGH SCHOOL

MULTI-PURPOSE ROOM RENOVATION

904 Marquette Ave, Sault Ste. Marie, MI 49783

Date	Issued For
03.09.2026	PERMITS
03.17.2026	BIDS

PIC: D. RADTKE
PM: D. RADTKE
DRAFTS: D. RADTKE

PROJECT NO: 25.503

SHEET TITLE: MECHANICAL MEZZANINE FLOOR PLAN

M102

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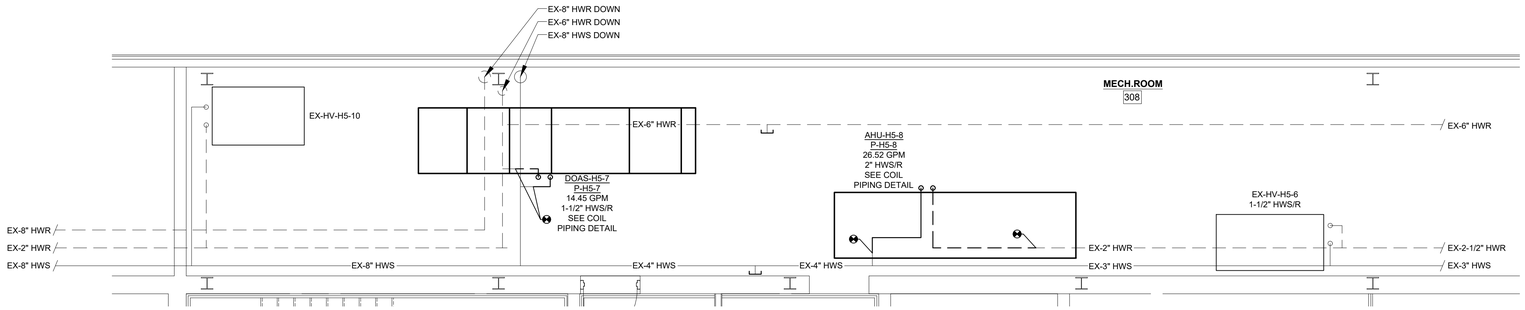


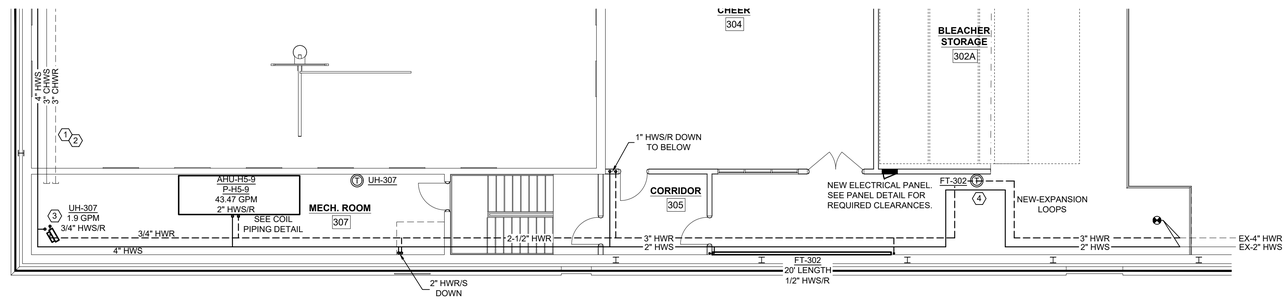
N

MECHANICAL ROOM 308 MECHANICAL PIPING FLOOR PLAN

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

KEYED PLAN NOTES

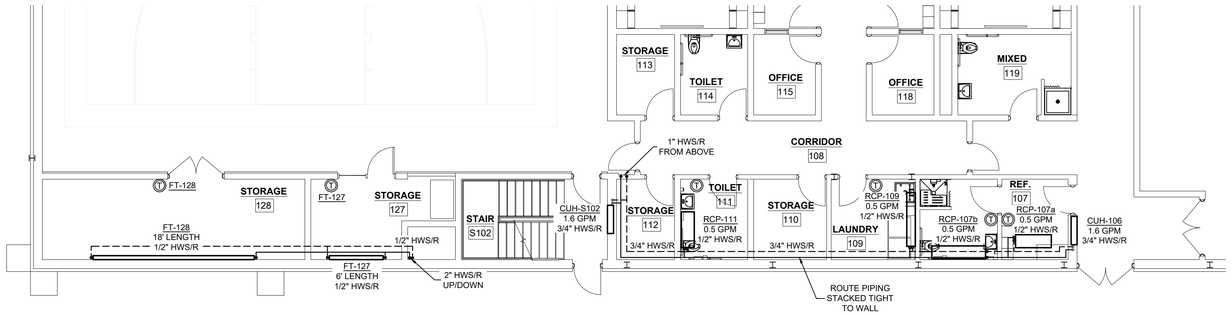
1. REPLACE 4" HWS THROUGHOUT MULTIPURPOSE SPACE AND TIE INTO EX-4" HWS OUTSIDE OF SPACE. VIF TIE IN LOCATION. SEE SHEET M102 FOR CONTINUATION.
2. INSTALL 3" CHWS/R PIPING THROUGHOUT MULTIPURPOSE SPACE FOR FUTURE. CAP PIPING ON BOTH ENDS IN CORRIDOR AND MECH. ROOM 307. SEE SHEET M102 FOR CONTINUATION.
3. INSTALL BELOW RELIEF AIR DUCT. COORDINATE WITH ENLARGED PLAN ON SHEET M104.
4. REPLACE EXPANSION LOOPS TO SAME SPECS AS EXISTING.



N

PARTIAL MECHANICAL PIPING MEZZANINE PLAN

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



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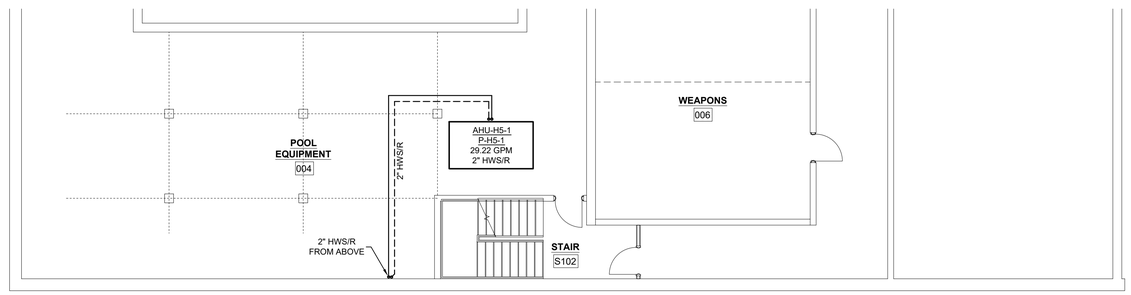
PARTIAL MECHANICAL PIPING FIRST FLOOR PLAN

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



N

PARTIAL MECHANICAL PIPING BASEMENT FLOOR PLAN

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

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M103

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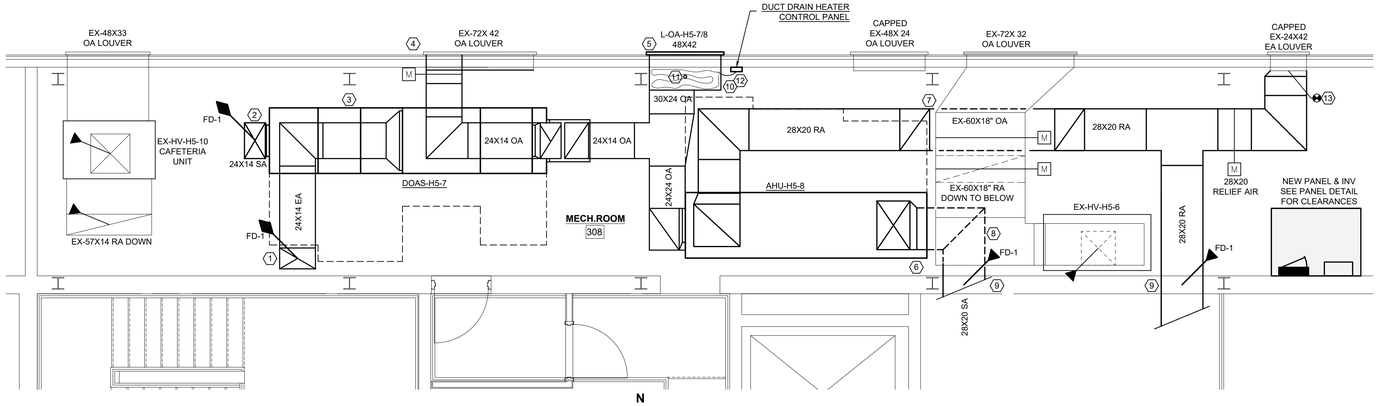
KEYED PLAN NOTES

1. NEW 24X14 EA DUCT PENETRATION THROUGH FLOOR TO BELOW. COORDINATE WITH SPACE ABOVE CEILING BELOW AND INSTALL AS TIGHT TO WALL AS POSSIBLE. INSTALL FIRE DAMPER IN FLOOR. COORDINATE FLOOR CUTTING WITH CM AND STRUCTURAL.
2. NEW 24X14 SA DUCT PENETRATION THROUGH FLOOR TO BELOW. INSTALL AS TIGHT TO DOAS-H5-7 TO MAXIMIZE CLEARANCE TO EX-HV-H5-10. COORDINATE WITH SPACE ABOVE CEILING BELOW. INSTALL FIRE DAMPER IN FLOOR. COORDINATE FLOOR CUTTING WITH CM AND STRUCTURAL.
3. INSTALL DOAS-H5-7 AS CLOSE TO EXTERIOR WALL AS POSSIBLE, WHILE MAINTAINING EXISTING PIPING TO BELOW. VERIFY PIPE AND COLUMN LOCATIONS IN FIELD. UNIT SHALL BE INSTALLED ON HOUSE KEEPING PAD. PAD SHALL BE MINIMUM OF 4" HIGH AND EXTEND ON LESS THAN 6" ALONG THE PERIMETER OF UNIT.
4. TIE NEW EXHAUST AIR INTO 24X42 SECTION OF EXISTING LOUVER. CAP REMAINING LOUVER SPACE AND INSULATE SLOPE DUCTWORK UP AWAY FROM THE LOUVER. VERIFY LOCATION AND FIT IN FIELD. MAINTAIN >10' OF CLEARANCE FROM NEW L-EA-H5-7 AND EACH OF L-OA-H5-7/8 AND EX-OA LOUVER.
5. INSTALL NEW OA LOUVER AS TIGHT TO EXISTING COLUMN AS POSSIBLE. VERIFY LOCATION IN FIELD.
6. INSTALL AHU-H5-8 AS TIGHT TO WALL AND EX-HV-H5-6 AS POSSIBLE, TO MAXIMIZE CLEARANCE BETWEEN DOAS-H5-7 AND AHU-H5-8. UNIT SHALL BE INSTALLED ON HOUSE KEEPING PAD, PAD SHALL BE MINIMUM OF 4" HIGH AND EXTEND ON LESS THAN 6" ALONG THE PERIMETER OF UNIT.
7. ROUTE RETURN AIR BELOW EXISTING DUCTWORK FROM EX-HV-H5-6. CONFIRM IN FIELD THAT BOTTOM OF NEW DUCTWORK IS >7' AFF. MAINTAIN ACCESS TO EXISTING MOTORIZED DAMPER. VIF ALL EXISTING CONDITIONS BEFORE INSTALLATION.
8. ROUTE SUPPLY AIR BELOW EXISTING DUCTWORK FROM EX-HV-H5-6 INTO ADJACENT SPACE. VIF ALL EXISTING CONDITIONS BEFORE INSTALLATION.
9. COORDINATE WALL OPENING WITH CM AND STRUCTURAL AND INSTALL NEW FIRE DAMPER. COORDINATE DUCT ROUTING WITH STORM PIPING.
10. INSTALL FULL SIZE PLENUM BEHIND LOUVER AND SLOPE DUCT CONNECTION DOWN TO LOUVER TO ENABLE WATER MOISTURE IN THE DUCT TO DRAIN OUT OF THE LOUVER. SEE SCHEDULE FOR LOUVER SPECIFICATIONS.
11. PROVIDE 1" DRAIN HOLE AND PIPING IN THE BOTTOM OF THE LOUVER INLET PLENUM. TRAP AND ROUTE MELTED SNOW & WATER TO FLOOR DRAIN BELOW.
12. FURNISH AND INSTALL ELECTRIC SELF REGULATING HEATING CABLE IN THE BOTTOM OF LOUVER, INTAKE PLENUM. SECURE CABLING TO SHEET METAL PLENUM. INCLUDE 20' OF CABLE, AUTOMATIC SNOW MELTING CONTROLLER. CABLE POWER CONNECTION & END SEAL. VOLTAGE TO BE 120V-1Ø WITH A 15A C.B. COORDINATE REQUIREMENTS & WIRING WITH ELECTRICAL CONTRACTOR. CABLE SHALL BE CONTROLLED TO SELF-REGULATE HEAT TO MELT ANY SNOW & ICE THAT COLLECTS IN INLET PLENUM. BASIS OF DESIGN = RAYCHEM *IceStop* GM-1XCABLING AND ACCESSORIES.
13. TIE NEW 28X20 RELIEF DUCT INTO EXISTING EXHAUST LOUVERS WITH VERIFIED IN FIELD APPROPRIATE DUCT TRANSITION. INSTALL ALL NEW DUCTWORK, NEW MOTORIZED DAMPER AND NEW BACKDRAFT DAMPER AT LOUVERS.



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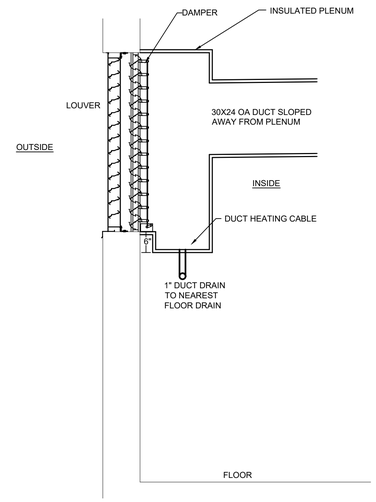
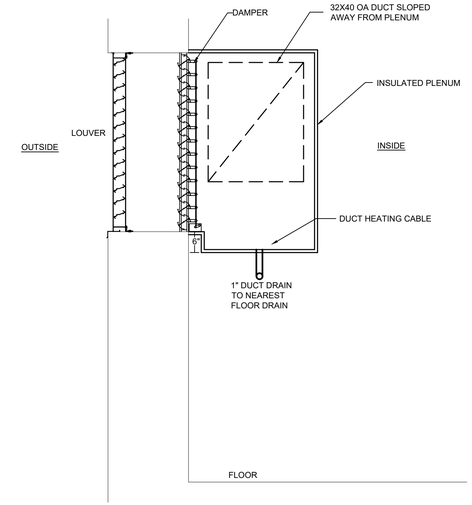
ENLARGED MECHANICAL ROOM 308

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



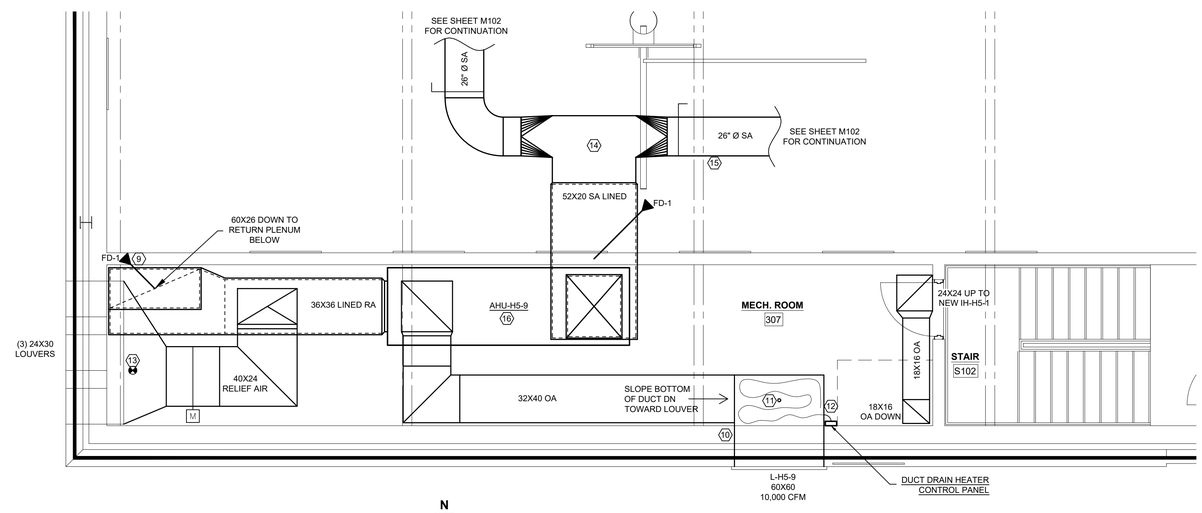
L-OA-H5-7/8 DETAIL



L-H5-9 DETAIL

KEYED PLAN NOTES

9. COORDINATE WALL/FLOOR OPENING WITH CM AND STRUCTURAL AND INSTALL NEW FIRE DAMPER.
10. INSTALL FULL SIZE PLENUM BEHIND LOUVER AND SLOPE DUCT CONNECTION DOWN TO LOUVER TO ENABLE WATER MOISTURE IN THE DUCT TO DRAIN OUT OF THE LOUVER. SEE SCHEDULE FOR LOUVER SPECIFICATIONS.
11. PROVIDE 1" DRAIN HOLE AND PIPING IN THE BOTTOM OF THE LOUVER INLET PLENUM. TRAP AND ROUTE MELTED SNOW & WATER TO FLOOR DRAIN BELOW.
12. FURNISH AND INSTALL ELECTRIC SELF REGULATING HEATING CABLE IN THE BOTTOM OF LOUVER, INTAKE PLENUM. SECURE CABLING TO SHEET METAL PLENUM. INCLUDE 30' OF CABLE, AUTOMATIC SNOW MELTING CONTROLLER, CABLE POWER CONNECTION & END SEAL. VOLTAGE TO BE 120V-1Ø WITH A 15A C.B. COORDINATE REQUIREMENTS & WIRING WITH ELECTRICAL CONTRACTOR. CABLE SHALL BE CONTROLLED TO SELF-REGULATE HEAT TO MELT ANY SNOW & ICE THAT COLLECTS IN INLET PLENUM. BASIS OF DESIGN = RAYCHEM *IceStop* GM-1XCABLING AND ACCESSORIES.
13. TIE NEW 40X24 DUCT INTO EXISTING EXHAUST LOUVERS WITH VERIFIED IN FIELD APPROPRIATE DUCT TRANSITION. INSTALL ALL NEW DUCTWORK, NEW MOTORIZED DAMPER AND NEW BACKDRAFT DAMPER AT LOUVERS.
14. CUSTOM DUCT TEE TO TRANSITION FROM 52X20 TO (2) 26" Ø. COORDINATE IN FIELD WITH EXISTING STRUCTURAL.
15. COORDINATE HORIZONTAL LOCATION WITH EXISTING JOIST WEBBING IN FIELD.
16. COORDINATE AHU-H5-9 LOCATION IN FIELD TO ALIGN UNIT SUPPLY DUCT CONNECTION WITH EXISTING 56X20 DUCT PENETRATION. COORDINATE ANY ALTERATIONS TO EXISTING PENETRATION WITH CM AND STRUCTURAL AND INSTALL NEW FIRE DAMPER. UNIT SHALL BE INSTALLED ON HOUSE KEEPING PAD, PAD SHALL BE MINIMUM OF 4" HIGH AND EXTEND ON LESS THAN 6" ALONG THE PERIMETER OF UNIT. LINE ALL SUPPLY DUCT FROM UNIT CONNECTION TO CUSTOM DUCT TEE AND ALL RETURN DUCT FROM UNIT CONNECTION TO LINED RETURN PLENUM BELOW.



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ENLARGED MECHANICAL ROOM 307

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

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M104

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DEDICATED OUTDOOR AIR SYSTEM SCHEDULE

TAG	DESCRIPTION	SUPPLY FAN SECTION							EXHAUST FAN SECTION							HEATING DATA								COOLING DATA								ENERGY RECOVERY DATA						OPTIONS
		AIRFLOW (CFM)	FAN TYPE	ESP (IN. WG)	HP	VOLTAGE	FLA	FEI	AIRFLOW (CFM)	FAN TYPE	ESP (IN. WG)	HP	VOLTAGE	FLA	FEI	CAPACITY (MBH)	EWT (°F)	LWT (°F)	GPM	WPD	COIL CONN.	EDB (°F)	LDB (°F)	TC (MBH)	SHC (MBH)	EWT (°F)	LWT (°F)	GPM	WPD	COIL CONN.	EDB (°F)	LDB (°F)	OA TEMPS SUMMER DB/WB WINTER DB	RA TEMPS SUMMER DB/WB WINTER DB	MIXED TEMPS SUMMER DB/WB WINTER DB	EFF. TOTAL	VOLTAGE	FLA	
HV-H5-7	INDOOR AIR HANDLING ERV, 100% OA W/ HR WHEEL	2600	PREM EFF DD AF	1.25	3	480/60/3	3.8	1.2	2600	PREM EFF DD AF	0.5	1.5	480/60/3	3.8	1.58	144.16	135	115	14.45	1.66	1.5"	38.87	95	96.35	66.31	44	54	19.2	4.99	1.5"	78.13	55	89/74 -13	75/64 70	78.13/66.64 38.9	0.69 - SUM 0.71 - WIN	115/60/1	0.76	1,2,3,4,5,6,7,8,9,10, 11,12,13

UNIT OPTIONS:
1. DOUBLE-WALL CONSTRUCTION
2. HEATING COIL SECTION
3. COOLING COIL SECTION FOR FUTURE
4. HINGED ACCESS PANELS
5. VFD SUPPLY AIR FAN W/ TWO-INCH SPRING ISOLATORS
6. BACNET CONTROL BOARD (SEE CONTROL SPECIFICATIONS FOR SENSORS AND CONTROLS REQUIRED)
7. SINGLE POINT ELECTRICAL CONNECTION
8. VFD EXHAUST AIR FAN W/ TWO-INCH SPRING ISOLATORS
9. RETURN/EXHAUST MERV 8 FILTERS
10. OUTSIDE AIR MERV 8 FILTERS
11. AHRI 1060-CERTIFIED TOTAL ENERGY RECOVERY WHEEL
12. OUTSIDE AIR BYPASS DAMPER
13. RECIRCULATION DAMPER

DESTRATIFICATION FAN SCHEDULE

TAG	MANUFACTURER & MODEL NO.	LOCATION	SOUND LEVEL (SONES)	ELECTRICAL			CONTROL DATA
				VOLTAGE	HP	FLA	
DF-1	AIRIUS A-25-SP	MULTIPURPOSE ROOM 184	35 DBA	120/60/1	37	0.31	ON CONTINUOUS
DF-2	AIRIUS A-25-SP	MULTIPURPOSE ROOM 184	35 DBA	120/60/1	37	0.31	ON CONTINUOUS

AIR HANDLING UNIT SCHEDULE

TAG	MANUFACTURER & MODEL NO.	FAN SECTION							HEATING COIL								COOLING COIL									ELECTRICAL DATA				OPTIONS	REMARKS
		CFM TOTAL	CFM OA	E.S.P	T.S.P	HP	RPM	FEI	EAT F	LAT F	MBH	ROWS	EWT F	WTD F	GPM	AIR PD	WPD	AREA (SF)	MBH	GPM	EAT	LAT	EWT	LWT	APD (IN)	WPD	VOLTAGE	HP	MCA	MFS		
HV-H5-1	TRANE UCCAH10	5000	2000	1.25	2.364	5	2080	>1	38	91.77	291.6	2	135	115	29.22	0.294	2.76	NO COOLING SECTION									460/60/3Ø	5	10.47	15	1,2,4,6,7,8,9	
HV-H5-8	TRANE PSCA13	5000	1200	1.25	3.19	5	2146	1.35	41.2	90	264.6	2	135	115	26.52	0.234	0.68	10	187.7	37.4	80	55	44	54	0.8	1.55	460/60/3Ø	5	10.25	15	1,2,3,4,5,6,7,8	
HV-H5-9	TRANE PSCA23	10000	2450	1.25	3.24	(2) 5	2146	1.3	50	90	433.8	3	135	115	43.47	0.242	0.28	19.44	444.1	88.5	78.5	55	44	54	0.85	4.26	460/60/3Ø	(2) 5	17.5	30	1,2,3,4,5,6,7,8	

UNIT OPTIONS:
1. DOUBLE-WALL CONSTRUCTION
2. HEATING COIL SECTION
3. COOLING COIL SECTION FOR FUTURE
4. HINGED ACCESS PANELS
5. COMBINATION VFD/DISCONNECT
6. BACNET CONTROL BOARD (SEE CONTROL SPECIFICATIONS FOR SENSORS AND CONTROLS REQUIRED)
7. SINGLE POINT ELECTRICAL CONNECTION
8. MIXING BOX W/ MERV 8 FILTERS AND 90.1 COMPLIANT DAMPERS
9. SUPPLY AIR FAN W/ VFD

RADIANT CEILING PANEL SCHEDULE

TAG	MANUFACTURER & MODEL NO.	DIMENSIONS (INCHES)		# TUBE PASSES	PANEL OUTPUT (BTU/HR)	AVG. WT °F	FLOW RATE (GPM)	MAX WPD (FT H_20)	CEILING TYPE	CONTROLS	ACCESSORIES/NOTES:
		W	L								
RCP-107a	RUNTAL RC-6	17.3"	48"	6	1984	170	0.5	0.04	EXPOSED	2-WAY VALVE	
RCP-107b	RUNTAL RC-6	17.3"	72"	4	2976	170	0.5	0.1	EXPOSED	2-WAY VALVE	
RCP-109	RUNTAL RC-4	11.5"	72"	4	1980	170	0.5	0.1	EXPOSED	2-WAY VALVE	
RCP-111	RUNTAL RC-6	17.3"	48"	6	1984	170	0.5	0.04	EXPOSED	2-WAY VALVE	

DIFFUSER AND GRILLE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER & MODEL	SIZE (INCHES)	VOLUME DAMPER (TYPE, LOCATION)	MATERIAL	COLOR AND FINISH	ACCESSORIES/NOTES:
SD-1	SUPPLY AIR AEROBLADE DOUBLE DEFLECTION SUPPLY GRILLE 3/4" BLADE SPACING	TITUS 272FL	SIZE ON PLANS	INTERNAL OPPOSED BLADE DAMPER	ALUMINUM	#26 WHITE	DUCT TAKEOFF FROM MAIN TO MATCH GRILLE DUCT SIZE
SD-2	SUPPLY AIR AEROBLADE DOUBLE DEFLECTION SUPPLY GRILLE 3/4" BLADE SPACING	TITUS 272FL	SIZE ON PLANS	EXTERNAL	ALUMINUM	#26 WHITE	
SD-3	SUPPLY AIR DIFFUSER 4-WAY THROW, PLAQUE STYLE LAY-IN FRAME	TITUS OMNI	12X12 NECK SIZE ON PLANS	EXTERNAL	STEEL	#26 WHITE	-
SD-4	SUPPLY AIR DIFFUSER 4-WAY THROW, PLAQUE STYLE LAY-IN FRAME	TITUS OMNI	24X24 NECK SIZE ON PLANS	EXTERNAL	STEEL	#26 WHITE	-
SD-5	SUPPLY AIR DIFFUSER 4-WAY THROW, 3 CONE LAY-IN FRAME	TITUS R-OMNI	14"Ø	EXTERNAL	STEEL	#26 WHITE	-
RG-1	RETURN AIR GRILLE EGGRATE STYLE STANDARD CORE (1/2"x1/2"x1/2") LAY-IN FRAME	TITUS 50F	24X24	EXTERNAL	ALUMINUM	#26 WHITE	
RG-2	RETURN AIR GRILLE EGGRATE STYLE STANDARD CORE (1/2"x1/2"x1/2") LAY-IN FRAME	TITUS 50F	12X12	EXTERNAL	ALUMINUM	#26 WHITE	
RG-3	RETURN AIR GRILLE 35 DEG. FIXED BLADES, 3/4" SPACING SURFACE MOUNT FRAME	TITUS 350RL	SIZE ON PLANS	EXTERNAL	STEEL	#26 WHITE	
RG-4	RETURN AIR GRILLE 35 DEG. FIXED BLADES, 3/4" SPACING SURFACE MOUNT FRAME	TITUS 350RL	SIZE ON PLANS	INTERNAL OPPOSED BLADE DAMPER	STEEL	#26 WHITE	DUCT TAKEOFF FROM MAIN TO MATCH GRILLE DUCT SIZE
RG-5	HEAVY DUTY GYM RETURN GRILLE 0 DEG. FIXED BLADES, 1/2" SPACING SURFACE MOUNT FRAME	TITUS 60FL	48X48	EXTERNAL	ALUMINUM	#26 WHITE	
EG-1	EXHAUST AIR GRILLE 35 DEG. FIXED BLADES, 3/4" SPACING SURFACE MOUNT FRAME	TITUS 350FL	SIZE ON PLANS	EXTERNAL	ALUMINUM	#26 WHITE	
EG-2	RETURN AIR GRILLE 35 DEG. FIXED BLADES, 3/4" SPACING SURFACE MOUNT FRAME	TITUS 350FL	SIZE ON PLANS	EXTERNAL	ALUMINUM	#26 WHITE	DUCT TAKEOFF FROM MAIN TO MATCH GRILLE DUCT SIZE
EG-3	RETURN AIR GRILLE EGGRATE STYLE STANDARD CORE (1/2"x1/2"x1/2") LAY-IN FRAME	TITUS 50F	12X12	EXTERNAL	ALUMINUM	#26 WHITE	

LOUVER SCHEDULE

TAG	MANUFACTURER & MODEL	SERVICES	LOCATION AND SERVICE					MATERIAL	COLOR & FINISH	FREE AREA (SF)	AIRFLOW (CFM)	VELOCITY (FPM)	APD (IN WG)	REMARKS
			TYPE	FLANGED	THICKNESS (IN)	WIDTH (IN)	HEIGHT (IN)							
L-H5-9	GREENHECK ESD-435	AHU-H5-9 OUTDOOR AIR	STATIONARY EXTRUDED LOUVER WITH DRAINABLE BLADES AND 1/4" BIRD SCREEN	YES 1- 1/2"	4"	60	60	ALUMINUM	COLOR BY ARCH	14.06	10,000	711	0.085	INCLUDE LOW-LEAKAGE MOTORIZED DAMPER (VCD-33)
L-OA-H5-7/8	GREENHECK ESD-435	DOAS-H5-7 AHU-H5-8 OUTDOOR AIR	STATIONARY EXTRUDED LOUVER WITH DRAINABLE BLADES AND 1/4" BIRD SCREEN	YES 1- 1/2"	4"	48	42	ALUMINUM	COLOR BY ARCH	7.57	5,600	740	0.085	INCLUDE LOW-LEAKAGE MOTORIZED DAMPER (VCD-33)

CONTRACTOR TO SUBMIT LOUVERS AFTER DEMOLITION HAS BEEN COMPLETED. FIELD VERIFY EXISTING OPENING SIZES AND EXISTING CONDITIONS. IF DIFFERENT LOUVER DIMENSIONS WOULD SIMPLIFY INSTALLATION/INFILL, SUBMIT LOUVER WITH EQUIVALENT FREE AREA.

HOT WATER CABINET UNIT HEATER SCHEDULE

TAG	DESCRIPTION	MANUFACTURER & MODEL NO.	CAPACITY (MBH)	AIRFLOW (CFM)	WATER DATA				ELECTRICAL			CONTROL DATA	REMARKS
					FLOW (GPM)	EWT (°F)	LWT (°F)	WPD (FT HD)	VOLTAGE/PHASE	W	FLA		
CUH-106	VERTICAL RECESSED CABINET	TRANE FFHB040	23.8	349	1.6	180	150	2.8	115/60/1Ø	95	1.95	WALL-MOUNTED THERMOSTAT	WITH 2-WAY DELUXE PIPING PACKAGE
CUH-S102	HORIZONTAL RECESSED CABINET	TRANE FFHB040	23.8	349	1.6	180	150	2.8	115/60/1Ø	95	1.95	WALL-MOUNTED THERMOSTAT	WITH 2-WAY DELUXE PIPING PACKAGE

HYDRONIC FINNED-TUBE SCHEDULE

TAG	LOCATION	DESCRIPTION	MODEL	LENGTH	HEIGHT	AWT (°F)	GPM	BTU/HR-FT	BTU/HR TOTAL
FT-127	STORAGE 127	DOUBLE SLOPE TOP FINNED TUBE ENCLOSURE	STERLING JVB-SS C3/4-435	6'	19-1/2" 50 FINS/FT	170	0.5	592	3,552
FT-128	STORAGE 128	DOUBLE SLOPE TOP FINNED TUBE ENCLOSURE	STERLING JVB-SS C3/4-435	18'	19-1/2" 50 FINS/FT	170	0.5	592	10,656
FT-302	BALCONY 302	SLIMLINE SLOPE TOP FINNED TUBE ENCLOSURE	STERLING JV/K-S R04	20'	14" 50 FINS/FT	170	0.5	622.2	12,444

ROOF HOOD SCHEDULE

TAG	MANUFACTURER & MODEL NO.	SERVES	AIRFLOW (CFM)	THROAT SIZES INCHES		HOOD SIZE INCHES			THROAT FREE AREA SQ. FEET	REMARKS
				L	W	L	W	H		
IH-H5-1	GREENHECK FGI	AHU-H5-1	2000	24	24	39	38	19	4	

BASED ON LOREN COOK. GREENHECK, PENN BARRY & ACME ARE APPROVED EQUALS.
INCLUDE: DELUXE ALUMINUM GRILLE, WALL CAP WITH BIRDSCREEN.

HOT WATER UNIT HEATER SCHEDULE

TAG	DESCRIPTION	MANUFACTURER & MODEL NO.	CAPACITY (MBH)	AIRFLOW (CFM)	WATER DATA				ELECTRICAL		CONTROL DATA	REMARKS
					FLOW (GPM)	EWT (°F)	LWT (°F)	WPD (FT HD)	VOLTAGE/ PHASE	HP		
UH-307	MECH. ROOM 307 UNIT HEATER	STERLING HS-118A	15.8	500	1.9	180	160	2.2	115/60/1ø	16 W	WALL SENSOR	

EXHAUST FAN SCHEDULE

TAG	MANUFACTURER & MODEL NO.	LOCATION	AIRFLOW (CFM)	E.S.P. (IN W.G.)	SOUND LEVEL (SONES)	ELECTRICAL			CONTROL DATA	OPTIONS
						VOLTAGE	HP	FLA		
EF-1	GREENHECK SQ-160-VG	POOL EQUIPMENT 004	1995	0.375	7.3	115/60/1ø	3/4	10	TIMER WALL SWITCH IN SHOOTING RANGE 005	

PUMP SCHEDULE

TAG	LOCATION	DESCRIPTION	MANUFACTURER & MODEL NO.	FLOW (GPM)	HEAD (FT. H2O)	ELECTRICAL			CONTROL DATA
						VOLTAGE	HP	RPM	
P-HV-H5-1	POOL EQUIPMENT 004	AHU COIL CIRCULATOR	BELL & GOSSETT ECOCIRC XL 15-75	29.22	10	115/60/1ø	0.1666	2267	
P-HV-H5-7	MECHANICAL MEZZANINE	AHU COIL CIRCULATOR	BELL & GOSSETT ECOCIRC XL 20-35	14.45	10	115/60/1ø	0.0833	2477	
P-HV-H5-8	MECHANICAL MEZZANINE	AHU COIL CIRCULATOR	BELL & GOSSETT ECOCIRC XL 15-75	26.52	10	115/60/1ø	0.1666	2251	
P-HV-H5-9	MECH. ROOM 307	AHU COIL CIRCULATOR	BELL & GOSSETT ECOCIRC XL 15-75	43.47	10	115/60/1ø	0.1666	2413	

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Date	Issued For
03.09.2026	PERMITS
03.17.2026	BIDS

PIC: D. RADTKE
PM: D. RADTKE
DRAFTS: D. RADTKE
PROJECT NO: 25.503
SHEET TITLE: MECHANICAL SCHEDULES

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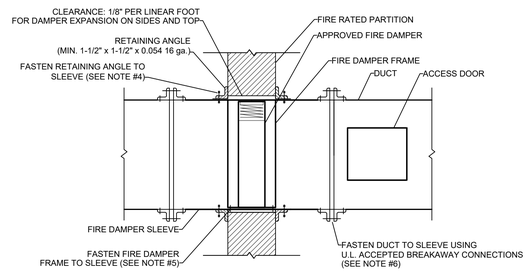
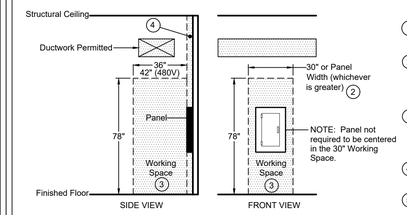


FIRE DAMPER INSTALLATION DETAIL

NO SCALE

FIRE DAMPER INSTALLATION DETAIL NOTES:

1. DETAIL SHOWN IS FOR DAMPERS INSTALLED IN THE HORIZONTAL POSITION. FOR FIRE DAMPERS IN VERTICAL POSITION, DETAILS ARE SIMILAR EXCEPT DAMPERS SHALL BE SPRING LOADED.
2. RETAINING ANGLES MUST OVERLAP STRUCTURE OPENING 1" MIN. AND COVER CORNERS OF OPENINGS AS SHOWN.
3. RETAINING ANGLES ARE NOT REQUIRED ON BOTH SIDES OF A WALL OPENING WHERE THE DUCT IS TERMINATED AT A WALL REGISTER OR DIFFUSER.
4. SECURE RETAINING ANGLES TO SLEEVE ONLY, ON 8" CENTERS WITH:
   - 4.1. 1/2" LONG WELDS, OR
   - 4.2. 1/4" BOLTS AND NUTS, OR
   - 4.3. NO. 10 STEEL SCREWS, OR
   - 4.4. MINIMUM 3/16" STEEL RIVETS
5. SECURE DAMPER TO SLEEVE ON 8" CENTERS WITH:
   - 5.1. 1/2" LONG WELDS, OR
   - 5.2. 1/4" BOLTS AND NUTS, OR
   - 5.3. NO. 10 STEEL SCREWS, OR
   - 5.4. MINIMUM 3/16" STEEL RIVETS
6. DUCTS SHALL BE CONNECTED TO SLEEVES IN SUCH A MANNER THAT THE DUCT MAY PULL AWAY FROM THE SLEEVE WITHOUT DISRUPTING THE SLEEVE IN ITS OPENING. ACCEPTABLE CONNECTIONS FOR CONNECTING DUCT TO SLEEVES ARE THE PLAIN 'S' SLIP, HEMMED'S' SLIP, DOUBLE ' S' SLIP, INSIDE SLIP JOINT, AND THE STANDING 'S' SLIP JOINTS.
7. WHERE ROUND OR OVAL SPIRAL DUCTS ATTACH TO ROUND OR OVAL COLLARS WHICH ARE APART OF THE DAMPER SLEEVE, #10 SHEET METAL SCREWS SHALL BE SPACED EQUALLY AROUND THE CIRCUMFERENCE OF THE DUCT PER THE FOLLOWING:
   - 7.1. DUCT DIAMETERS 22" AND SMALLER - 3 SCREWS
   - 7.2. DUCT DIAMETERS OVER 22" TO AND INCLUDING 36" - 5 SCREWS
   - 7.3. NOTE: FOR FLAT OVAL DUCTS, THE DIAMETER SHALL BE CONSIDERED THE LARGEST (MAJOR) DIMENSION OF THE DUCT. U.L. TESTED DUCT SEALANT MAY BE USED.
8. ACCESS DOOR IS SHOWN IN SIDE OF DUCT. IF FUSIBLE LINK IS MORE ACCESSIBLE FROM BOTTOM OF DUCT, RELOCATE ACCESS DOOR.
9. THE FIRE DAMPER MANUFACTURER'S INSTALLATION DETAILS AND INSTRUCTIONS AS TESTED AND APPROVED BY U.L. MUST BE USED IN LIEU OF THE ABOVE DETAILS WHERE APPLICABLE.

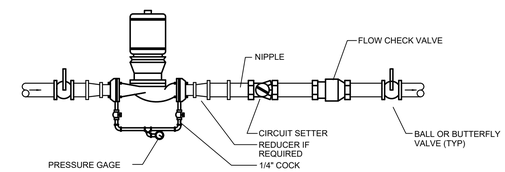


ELECTRICAL CLEAR SPACE NOTES

1. THE ELECTRICAL CLEAR SPACE OR WORK SPACE IS REQUIRED TO PROVIDE AN ADEQUATE AND SAFE WORK AREA FOR ELECTRICAL SERVICE.
2. ANY COMBINATION OF HIGH VOLTAGE ELECTRICAL EQUIPMENT, SUCH AS MULTIPLE PANELS, A PANEL AND A DISCONNECT, ETC., SHALL COMBINE TO FORM THE OVERALL CLEAR SPACE WIDTH (MINIMUM OF 30").
3. THE OVERALL CLEAR SPACE VOLUME SHALL BE DETERMINED BY THE SINGLE OR COMBINED PANEL WIDTH (MIN. OF 30"), AND SHALL EXTEND 3'-0" OUT FROM THE FRONT OF THE DEEPEST PANEL, AND SHALL BE 6'-6" TALL ABOVE THE FINISHED FLOOR.
4. THE ELECTRICAL CLEAR SPACE SHALL ALSO EXTEND DIRECTLY ABOVE THE PANEL(S) TO THE FINISHED CEILING ASSEMBLY ABOVE.
5. DO NOT INSTALL RADIANT TUBING OR OTHER MECHANICAL PIPING OR DUCTWORK IN THE FLOOR DIRECTLY BELOW THE PANEL.

ELECTRICAL CLEAR SPACE DETAIL

NO SCALE



INLINE PUMP DETAIL

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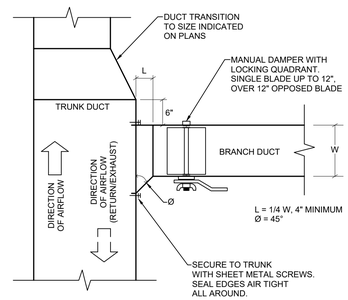

SQUARE DUCT BRANCH TAKE-OFF DETAIL

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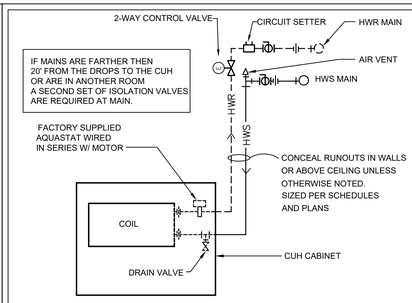

TYPICAL CABINET UNIT HEATER PIPING DETAIL

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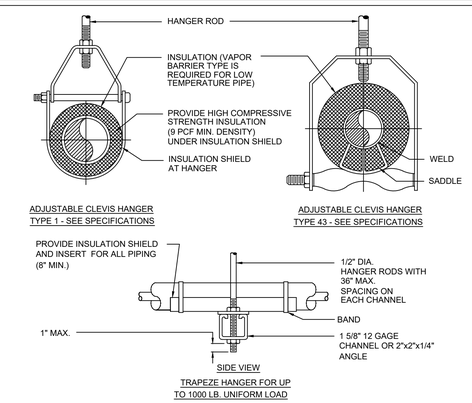
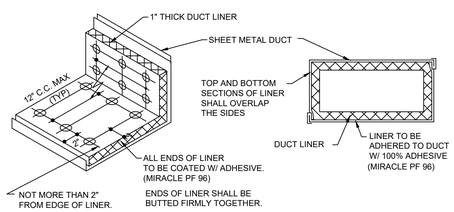


TYPICAL PIPE HANGERS

NO SCALE



DUCT LINER DETAIL

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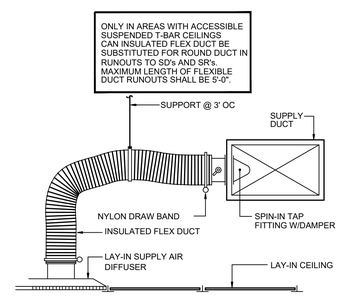

FLEXIBLE DUCT DIFFUSER CONNECTION DETAIL

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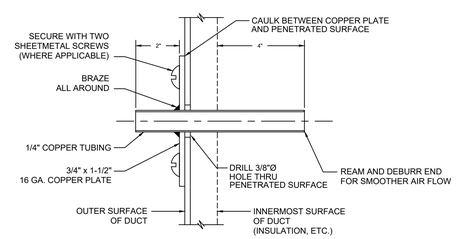

DUCT STATIC PRESSURE SENSOR DETAIL

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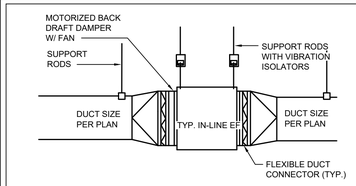

TYP. IN-LINE EXHAUST FAN DETAIL

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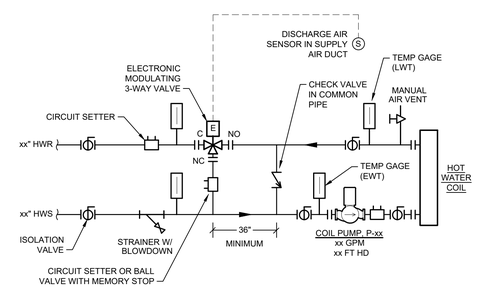

COIL PIPING DETAIL

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ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	NOTES
S_{Wx}	WAVELINX WIRELESS WALLSTATION, TYPE X	SEE WIRELESS AREA CONTROLLER DETAIL ON SHEET E001 FOR TYPES; MOUNT @ 44" AFF TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
S_K	KEYED SWITCH FOR GYM EQUIPMENT	BY GYM EQUIPMENT PROVIDER; MOUNT @ 44" AFF TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
S_F	CEILING FAN CONTROL	CONTROL KEYPAD PROVIDED BY M.C.; MOUNT @ 44" AFF TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
S	SINGLE POLE TOGGLE SWTICH	MOUNT @ 44" AFF TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
S_3	THREE WAY TOGGLE SWTICH	MOUNT @ 44" AFF TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
S_4	FOUR WAY TOGGLE SWTICH	MOUNT @ 44" AFF TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
WST	WAVELINX OCCUPANCY SENSOR, TYPE X	SEE WIRELESS AREA CONTROLLER DETAIL ON SHEET E001 FOR TYPE
WD	WAVELINX WIRELESS DIMMING RELAY	SEE WIRELESS AREA CONTROLLER DETAIL ON SHEET E001 FOR TYPE
WAC	WAVELINX WIRELESS AREA CONTROLLER	MOUNTED BELOW AN ACCESSIBLE CEILING. SEE WIRELESS AREA CONTROLLER DETAIL ON SHEET E001 FOR TYPES
OS	OCCUPANCY SENSOR, EXISTING	
X	ROUND FIXTURE, TYPE X	SEE LIGHTING FIXTURE SCHEDULE FOR TYPES
X	WALL MOUNTED FIXTURE, TYPE X	SEE LIGHTING FIXTURE SCHEDULE FOR TYPES
X	1'x XX' FIXTURE, TYPE X	SEE LIGHTING FIXTURE SCHEDULE FOR TYPES
X	2'x2' FIXTURE, TYPE X	SEE LIGHTING FIXTURE SCHEDULE FOR TYPES
X	2'x4' FIXTURE, EXISTING	
X	EXIT SIGN, TYPE X	SEE LIGHTING FIXTURE SCHEDULE FOR TYPES
X	EXIT SIGN, WITH EMERGENCY LIGHTING TYPE X	SEE LIGHTING FIXTURE SCHEDULE FOR TYPES
X	EMERGENCY ONLY FIXTURE, TYPE X	SEE LIGHTING FIXTURE SCHEDULE FOR TYPES
	TAMPER RESISTANT DUPLEX OUTLET - 20 AMP	MOUNT @ 16" A.F.F. TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
	TAMPER RESISTANT DOUBLE (2) DUPLEX OUTLET - 20 AMP	MOUNT @ 16" A.F.F. TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
	TAMPER RESISTANT DUPLEX RECEPTACLE WITH GROUND FAULT (GFCI) PROTECTION - 20 AMP	MOUNT @ 16" A.F.F. TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
	TAMPER RESISTANT DUPLEX OUTLET - 20 AMP - WAVELINX WIRELESS CONTROLLED TOP RECEPTACLE; BOTTOM ALWAYS ON UNLESS OTHERWISE NOTED (GREENGATE #WR-20)	MOUNT @ 16" A.F.F. TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
	TAMPER RESISTANT DOUBLE DUPLEX OUTLET - 20 AMP - WAVELINX WIRELESS CONTROLLED TOP RECEPTACLE; BOTTOM ALWAYS ON UNLESS OTHERWISE NOTED (TWO (2) GREENGATE #WR-20)	MOUNT @ 16" A.F.F. TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
	TAMPER-RESISTANT (TR), WEATHER-RESISTANT (WR), DUPLEX RECEPTACLE WITH GROUND FAULT (GFCI) PROTECTION AND WEATHER PROOF IN-USE COVER	MOUNT @ 24" A.F.F. TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED
	30A OR 50A -125/250V 3-POLE, 4-WIRE GROUNDING OUTLET	SEE ELECTRICAL MOUNTING HEIGHT DETAIL, THIS SHEET
E	TAMPER RESISTANT EMERGENCY DUPLEX OUTLET - 20 AMP	MOUNT @ 16" A.F.F. TO BOTTOM OF BOX, UNLESS OTHERWISE NOTED. RED IN FINISH.
	PUSH BUTTON	COORDINATE REQUIREMENTS WITH SHOP DRAWINGS
	SINGLE PHASE SPECIAL PURPOSE OUTLET, AS NOTED	COORDINATE WITH SHOP DRAWINGS AND/OR OWNER PROVIDED EQUIPMENT FOR CONNECTION REQUIREMENTS
	THREE PHASE SPECIAL PURPOSE OUTLET, AS NOTED	COORDINATE WITH SHOP DRAWINGS AND/OR OWNER PROVIDED EQUIPMENT FOR CONNECTION REQUIREMENTS
J	JUNCTION BOX	
	1-PHASE MOTOR, AS SPECIFIED	
	3-PHASE MOTOR, AS SPECIFIED	
	1-PHASE FUSED OR NON-FUSED DISCONNECT	
S_M	MOTOR TOGGLE SWITCH WITH THERMAL OVERLOAD AND LOCKOUT	SQUARE D #CLASS 2510 FGJ5P (SINGLE POLE)
	SINGLE-PHASE MANUAL STARTER OR COMB. DISC./STARTER	
	3-PHASE MANUAL STARTER OR COMB. DISC./STARTER	
	3-PHASE FUSED OR NON-FUSED DISCONNECT	
	1-PHASE ELECTRICAL PANELBOARD	REFER TO SPECIFICATIONS AND RISER DIAGRAM.
	3-PHASE ELECTRICAL PANELBOARD	REFER TO SPECIFICATIONS AND RISER DIAGRAM
	3-PHASE ELECTRICAL DISTRIBUTION PANELBOARD	REFER TO SPECIFICATIONS AND RISER DIAGRAM
BOILER EM	BOILER REMOTE PUSH-BUTTON TYPE EMERGENCY STOP (BASED ON PILLA ELECTRICAL PRODUCTS #BSD120N1 WITH APPROPRIATE NUMBER OF #PILNCCB NORMALLY CLOSED CONTACT BLOCKS AND #CLM CLEAR POLYCARBONATE BUTTON GUARD)	CONNECT TO ASSOCIATED BOILER CONTROL PANELS - COORDINATE WITH WITH M.C. TO SHUT DOWN THE EQUIPMENT. MOUNT @ 44" AFF TO BOTTOM OF BOX.
T	TRANSFORMER	
R	CARD READER	

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	NOTES
	COMPUTER/TELEPHONE OUTLET	E.C. TO PROVIDE AND INSTALL 4" SQ. BOX @ 16" AFF (U.O.N.) AND 1" CONDUIT HOMERUN TO NEAREST IDF.
W	WIRELESS ACCESS POINT	E.C. TO PROVIDE AND INSTALL 4" SQ. x 2-1/8" DEEP BOX WITH 2" DEEP PLASTER RING @ 12" BCL, UNLESS OTHERWISE NOTED, AND 3/4" CONDUIT HOMERUN TO NEAREST IDF.
L S	WALL MOUNTED CLOCK & SPEAKER OUTLET	E.C. TO PROVIDE AND INSTALL 4" SQ. x 2-1/8" DEEP BOX WITH 2" DEEP PLASTER RING @ 12" BCL, UNLESS OTHERWISE NOTED, AND 3/4" CONDUIT HOMERUN TO NEAREST IDF.
TV	TELEVISION OUTLET	E.C. TO PROVIDE AND INSTALL TWO (2) 4" SQ. x 2-1/8" DEEP BOX WITH 2" DEEP PLASTER RING @ 72" AFF, ONE (1) FOR A DUPLEX RECEPTACLE AND ONE (1) WITH A 1" CONDUIT HOMERUN TO NEAREST IDF
T	THERMOSTAT	
L	EXISTING CLOCK	
	SECURITY SYSTEM INTERIOR CAMERA LOCATION	E.C. TO PROVIDE AND INSTALL 4" SQ. x 2-1/8" DEEP BOX WITH 2" DEEP PLASTER RING ON CEILING, UNLESS OTHERWISE NOTED, AND 3/4" CONDUIT HOMERUN TO NEAREST IDF.
	WALL MOUNTED SPEAKER OUTLET	E.C. TO PROVIDE AND INSTALL 4" SQ. x 2-1/8" DEEP BOX WITH 2" DEEP PLASTER RING @ 12" BCL, UNLESS OTHERWISE NOTED, AND 3/4" CONDUIT STUBBED TO THE IT RACK IN STORAGE #112.
M	EXISTING MICROPHONE OUTLET	
S	EXISITING CEILING PAGING SPEAKER	E.C. TO PROVIDE AND INSTALL 1/2" EMT CONDUIT STUB & PULL STRING FROM SINGLE-GANG BOX WITH BLANK COVER @ CEILING
CR	SECURITY SYSTEM CARD READER, DOOR CONTACT, MOTION SENSOR REQUEST TO EXIT, AND ELECTRIC STRIKE LOCATION	E.C. TO PROVIDE AND INSTALL 4" SQ. x 2-1/8" DEEP BOX WITH 2" DEEP PLASTER RING @ 44" AFF AND 3/4" CONDUIT HOMERUN TO NEAREST IDF LOCATION AS SHOWN ON ELECTRICAL/SECURITY DETAIL ON THIS SHEET FOR CARD READER AND ELECTRIC STRIKE LOCATION. E.C. TO PROVIDE AND INSTALL 4" SQ. X 2-1/8" DEEP BOX WITH 2" DEEP PLASTER RING @ 44" AFF AND 3/4" CONDUIT STUBBED INTO DOORFRAME, AS SHOWN ON ELECTRICAL/SECURITY DETAIL ON THIS SHEET FOR DOOR CONTACT LOCATION. E.C. TO PROVIDE AND INSTALL A SINGLE GANG BOX MOUNTED HORIZONTALLY ABOVE THE CENTER OF THE DOOR FRAME WITH A A 3/4" EMT CONDUIT STUB AND PULL STRING TO LOCATION AS SHOWN ON ELECTRICAL/SECURITY DETAIL ON THIS SHEET FOR MOTION SENSOR REQUEST TO EXIT LOCATION.
ICE	EXISTING INTERCOM ENTRY STATION	
2W	CALL BOX (BASED ON RATH #2100-958NSR)	CONTRACTOR TO PROVIDE AND INSTALL BOXES, CONDUITS AND ANALOG FLUSH-MOUNT EMERGENCY TELEPHONE WITH EMERGENCY ASSISTANCE PUSH BUTTON TO COMMUNICATE WITH TWO-WAY EMERGENCY COMMUNICATION CALL BOX BASE STATION IN MAIN FLOOR ELEVATOR LOBBY.
2W B	TWO-WAY EMERGENCY COMMUNICATION CALL BOX BASE STATION (BASED ON RATH #2500-205FM WITH #2500-PWR24U). INCLUDE ALL APPROPRIATE SIGNAGE	CONTRACTOR TO PROVIDE AND INSTALL BOXES, CONDUIT AND ANALOG FLUSH-MOUNT EMERGENCY COMMUNICATION CALL BOX BASE STATION WITH EMERGENCY TELEPHONE AND TWO-WAY EMERGENCY COMMUNICATION WITH REMOTE CALL BOX AT DESIGNATED UPPER LEVEL ELEVATOR LOBBIES.
B	FIRE ALARM BELL, EXISTING	
FAP	FIRE ALARM CONTROL PANEL	MOUNT @ 44" A.F.F.
BPS	FIRE ALARM BOOSTER PANEL	MOUNT @ 44" A.F.F.
F	FIRE ALARM PULL STATION	MOUNT @ 44" A.F.F.
DH	FIRE ALARM DOOR HOLD OPEN	MOUNT @ 44" A.F.F.
N	FIRE ALARM VISUAL WALL MOUNTED DEVICE	MOUNT @ MIN. 80", MAX. 96" A.F.F.
N	FIRE ALARM VISUAL CEILING MTD DEVICE	
N	FIRE ALARM WALL MOUNTED SPEAKER/STROBE DEVICE	MOUNT @ MIN. 80", MAX. 96" A.F.F.
F	FIRE ALARM CEILING MOUNTED SPEAKER/STROBE DEVICE	
S FA	FIRE ALARM NOTIFICATION SPEAKER	
S D	FIRE ALARM SMOKE DETECTOR	
D	FIRE ALARM DUCT DETECTOR	
K	KITCHEN HOOD ANZUL SYSTEM FIRE ALARM CONNECTION	
H	HEAT DETECTOR	
M	FIRE ALARM MONITOR MODULE	
T	SPRINKLER TAMPER SWITCH	
FS	SPRINKLER FLOW SWITCH	
WG	WIRE PROTECTIVE GUARD	
	DEMO HATCH	
	CATe5 SHIELDED CONTROL CABLE	

ELECTRICAL ABBREVIATIONS

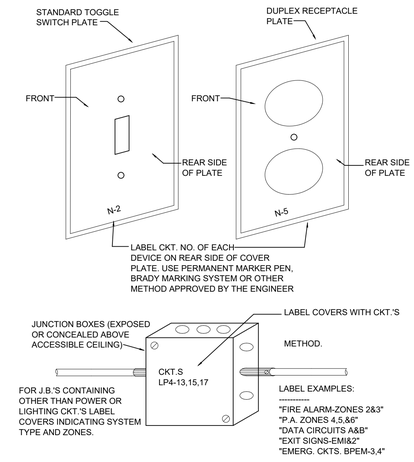
1-21	PANEL 1, CIRCUIT 21	KCMIL	THOUSAND CIRCULAR MILS
A	AMPERES	KVA	KILOVOLT-AMPERES
AC	ABOVE COUNTER	KW	KILOWATTS
ACL	ABOVE CEILING	MC	MECHANICAL CONTRACTOR
AFF	ABOVE FINISH FLOOR	MCB	MAIN CIRCUIT BREAKER
AFG	ABOVE FINISH GRADE	MDP	MAIN DISTRIBUTION PANEL
BC	BELOW COUNTER	MLO	MAIN LUG ONLY
BCL	BELOW CEILING	NL	NIGHT LIGHT
C	CONDUIT	NTS	NOT TO SCALE
C/B, CB	CIRCUIT BREAKER	P	PUMP
CM	CEILING MOUNT	PNL	PANEL
DED	DEDICATED	PS	PRIMARY SWITCH
DF	DEAD FRONT	PT	PRIMARY TRANSFORMER
DWG	DRAWING	PVC	POLYVINYL CHLORIDE
E	EXISTING TO REMAIN	RGS	RIGID GALVANIZED STEEL
EC	ELECTRICAL CONTRACTOR	SM	SURFACE MOUNT
EF	EXHAUST FAN	TR	TAMPER RESISTANT
EGC	EQUIPMENT GROUNDING CONDUCTOR	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
EH	ELECTRIC HEATER	UGRD or U/G	UNDERGROUND
EMT	ELECTRICAL METALLIC TUBING	UON	UNLESS OTHERWISE NOTED
ERV	ENERGY RECOVERY VENTILATOR	V	VOLT
EWC	ELECTRIC WATER COOLER	VFD	VARIABLE FREQUENCY DRIVE
EWH	ELECTRIC WATER HEATER	W	WIRE
G	GROUND	WG	WIREGUARD
GEC	GROUNDING ELECTRODE CONDUCTOR	WP	WEATHERPROOF
GFI	GROUND FAULT CIRCUIT INTERRUPTER	XFMR	TRANSFORMER
GTD	GENERATOR TRANSFER DEVICE	x	EXISTING
HORZ	HORIZONTAL	xR	EXISTING (TO BE) RELOCATED

WIRE SIZE REQUIREMENTS

NOTE:
BASED ON A MAXIMUM OF 3.6-VOLT DROP (3%) ON 120V CIRCUITS.
WIRES FOR RUNS OVER 100'-0" SHALL BE DETERMINED ON THIS
A MAXIMUM OF A 3% DROP ALLOWED.

BRANCH CIRCUIT AMPS	LENGTH OF RUN - FROM PANEL TO FIRST CONNECTION - FEET								
AMPS	50'	60'	70'	80'	90'	100'	110'	120'	130'
15	#12	#12	#12	#10	#10	#10	#10	#10	#8
20	#12	#10	#10	#10	#10	#8	#8	#8	#8
30	#10	#10	#8	#8	#8	#6	#6	#6	#6

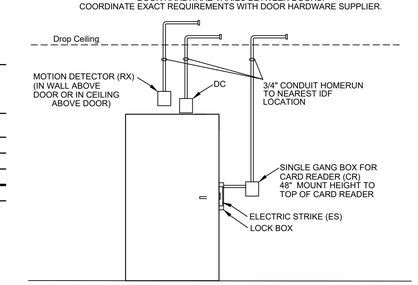
ELECTRICAL IDENTIFICATION



ELECTRICAL/SECURITY SYSTEM DETAILS

NO SCALE

REFER TO DOOR HARDWARE SPECIFICATIONS FOR MORE INFORMATION.
DOOR HARDWARE VARIES BETWEEN DOORS.
COORDINATE EXACT REQUIREMENTS WITH DOOR HARDWARE SUPPLIER.



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PM: J. VANBROCKLIN
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PROJECT NO: 25.503
SHEET TITLE: ELECTRICAL SCHEDULES & DETAILS
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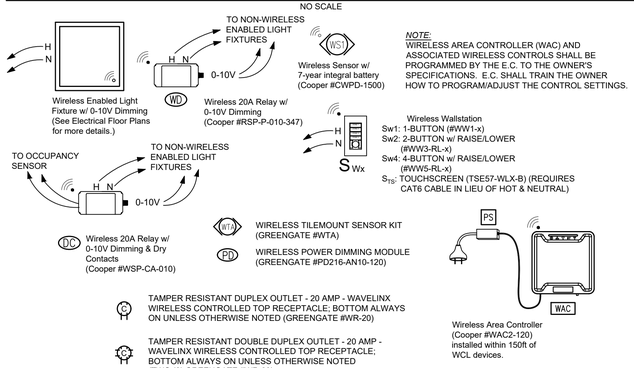
WIRELESS LIGHTING CONTROLS DETAIL

NO SCALE



NOTE:
WIRELESS AREA CONTROLLER (WAC) AND ASSOCIATED WIRELESS CONTROLS SHALL BE PROGRAMMED BY THE E.C. TO THE OWNER'S SPECIFICATIONS. E.C. SHALL TRAIN THE OWNER HOW TO PROGRAM/ADJUST THE CONTROL SETTINGS.

LIGHT FIXTURE SCHEDULE

Type	Mount	Ceiling	Description	Lumen	Temp	CRI	Watts	Volt	Dim	Manufacturer	Catalog #	Notes
A	Recessed	Grid	2x2 LED Recessed	4,462	4,000	80	33	UNV	0-10v	Metalux	22CZ2-44-UNV-L840-CD1-WPS-U	Fixture includes integral Wavelinx Wireless lighting controls.
AE	Recessed	Grid	2x2 LED Recessed w/Battery	4,462	4,000	80	33	UNV	0-10v	Metalux	22CZ2-44-UNV-EL14W-L840-CD1-WPS-U	Fixture to include 14-watt, 90 minute emergency backup battery. Fixture includes integral Wavelinx Wireless lighting controls.
A1	Recessed	Grid	2x2 LED Recessed	6,110	4,000	80	45	UNV	0-10v	Metalux	22CZ2-60VHE-UNV-L840-CD1-WPS-U	Fixture includes integral Wavelinx Wireless lighting controls.
B			Not Used									
C2W	Wall	N/A	2' Linear - 8" Wide - Vandal Resistant	2,454	4,000	80	33	UNV	0-10v	Fail-Safe	HVL8-2-LD4-2STD-40-UNV-O-EDD1-S-WPS	Fixture includes integral Wavelinx Wireless lighting controls. Lighting fixture to be wall mounted 8ft above finished floor.
C2WP	Wall	N/A	2' Linear - 8" Wide - Vandal Resistant	2,454	4,000	80	33	UNV	0-10v	Fail-Safe	HVL8-2-LD4-2STD-40-UNV-O-EDD1-S-IP64-WPS	IP64 compliant for wet location. Fixture includes integral Wavelinx Wireless lighting controls. Lighting fixture to be wall mounted 8ft above finished floor.
C4	Surface	Various	4' Linear - 8" Wide - Vandal Resistant	5,363	4,000	80	66	UNV	0-10v	Fail-Safe	HVL8-4-LD4-2STD-40-UNV-O-EDD1-S-WPS	Fixture includes integral Wavelinx Wireless lighting controls.
C4E	Surface	Various	4' Linear - 8" Wide - Vandal Resistant w/Battery	5,363	4,000	80	66	UNV	0-10v	Fail-Safe	HVL8-4-LD4-2STD-40-UNV-O-EDD1-S-EL14W-WPS	Fixture to include 14-watt, 90 minute emergency backup battery. Fixture includes integral Wavelinx Wireless lighting controls.
C8	Surface	Various	8' Linear - 8" Wide - Vandal Resistant	10,727	4,000	80	131	UNV	0-10v	Fail-Safe	HVL8-8-LD4-2STD-40-UNV-O-EDD1-S-WPS	Fixture includes integral Wavelinx Wireless lighting controls.
C8E	Surface	Various	8' Linear - 8" Wide - Vandal Resistant w/Battery	10,727	4,000	80	131	UNV	0-10v	Fail-Safe	HVL8-8-LD4-2STD-40-UNV-O-EDD1-S-EL14W-WPS	Fixture to include 14-watt, 90 minute emergency backup battery. Fixture includes integral Wavelinx Wireless lighting controls.
C4WE	Wall	N/A	4' Linear - 8" Wide - Vandal Resistant w/Battery	5,363	4,000	80	66	UNV	0-10v	Fail-Safe	HVL8-4-LD4-2STD-40-UNV-O-EDD1-S-EL14W-WPS	Fixture to include 14-watt, 90 minute emergency backup battery. Fixture includes integral Wavelinx Wireless lighting controls. Lighting fixture to be wall mounted 8ft above finished floor.
C8WE	Surface	Various	8' Linear - 8" Wide - Vandal Resistant w/Battery	10,727	4,000	80	131	UNV	0-10v	Fail-Safe	HVL8-8-LD4-2STD-40-UNV-O-EDD1-S-EL14W-WPS	Fixture to include 14-watt, 90 minute emergency backup battery. Fixture includes integral Wavelinx Wireless lighting controls. Lighting fixture to be wall mounted 8ft above finished floor.
C12WE	Wall	N/A	12' Linear - 8" Wide - Vandal Resistant w/Battery	8,563	4,000	80	99	UNV	0-10v	Fail-Safe	HVL8-12-LD4-1STD-40-UNV-O-EDD1-S-EL10W-WPS	Fixture to include 10-watt, 90 minute emergency backup battery. Fixture includes integral Wavelinx Wireless lighting controls. Lighting fixture to be wall mounted 8ft above finished floor.
C16W	Wall	N/A	16' Linear - 8" Wide - Vandal Resistant	11,418	4,000	80	131	UNV	0-10v	Fail-Safe	HVL8-16-LD4-1STD-40-UNV-O-EDD1-S-WPS	Fixture includes integral Wavelinx Wireless lighting controls. Lighting fixture to be wall mounted 8ft above finished floor.
D			Not Used									
EX	Universal	Various	Exit / Em Combo Unit	---	---	---	---	UNV	---	Isolite	RLP-R-U-WH-MTEB-SD	Combo Unit - Remote Capacity - Red Letters / White Frame. Provide wireguard as indicated.
F4	Surface	Various	4' Linear Strip Light w/ Lens	5,381	4,000	80	40	UNV	0-10v	Metalux	4SNX-57SL-LW-UNV-L840-CD1-WPS-U	Fixture includes integral Wavelinx Wireless lighting controls. Include WIREGUARD and Y-TOGGLE-10-2PK, as required.
F4E	Surface	Various	4' Linear Strip Light w/ Lens w/Battery	5,381	4,000	80	40	UNV	0-10v	Metalux	4SNX-57SL-LW-UNV-EL14W-L840-CD1-WPS-U	Fixture to include 14-watt emergency backup battery. Fixture includes integral Wavelinx Wireless lighting controls. Include WIREGUARD and Y-TOGGLE-10-2PK, as required.
F4WE	Wall	N/A	4' Linear Strip Light w/ Lens w/Battery	5,381	4,000	80	40	UNV	0-10v	Metalux	4SNX-57SL-LW-UNV-EL14W-L840-CD1-WPS-U	Fixture to include 14-watt emergency backup battery. Fixture includes integral Wavelinx Wireless lighting controls. Include WIREGUARD, as required. Lighting fixture to be wall mounted 8ft above finished floor.
F8	Surface	Various	8' Linear Strip Light w/ Lens	11,325	4,000	80	84	UNV	0-10v	Metalux	8SNX-120SL-LW-UNV-L840-CD1-WPS-U	Fixture includes integral Wavelinx Wireless lighting controls. Include WIREGUARD and Y-TOGGLE-10-2PK, as required.
F8E	Surface	Various	8' Linear Strip Light w/ Lens w/Battery	11,325	4,000	80	84	UNV	0-10v	Metalux	8SNX-120SL-LW-UNV-EL14W-L840-CD1-WPS-U	Fixture to include 14-watt emergency backup battery. Fixture includes integral Wavelinx Wireless lighting controls. Include WIREGUARD and Y-TOGGLE-10-2PK, as required.
F8WE	Wall	N/A	8' Linear Strip Light w/ Lens w/Battery	11,325	4,000	80	84	UNV	0-10v	Metalux	8SNX-120SL-LW-UNV-EL14W-L840-CD1-WPS-U	Fixture to include 14-watt emergency backup battery. Fixture includes integral Wavelinx Wireless lighting controls. Lighting fixture to be wall mounted 8ft above finished floor.
G4W	Surface	N/A	4' Vaportite LED	4,000	4,000	80	30	UNV	---	Metalux	4VT2-LD5-4-DR-W-UNV-L840-CD1-WL-U	
J	Suspended	Various	2x2 LED High - AC Cable Suspended	21,858	4,000	80	154	UNV	0-10v	LUXDynamics	L-2-DA-840-2-U10-WP2-B-5/20-20Y18-INSTALL of WAVELINX-GYM	OEM-SWPD3-WH / OEM-BK18-SOCKET / OEM-OUT-IND-CM. Fixture includes integral Wavelinx Wireless lighting controls. Fixtures shall be mounted +/- 2" within the bottom of the joist.
JE	Suspended	Various	2x2 LED High - AC Cable Suspended	21,858	4,000	80	154	UNV	0-10v	LUXDynamics	L-2-DA-840-2-U10-WP2-B-5/20-3/20-20Y18-BODINE GTD-INSTALL of WAVELINX-GYM	OEM-SWPD3-WH / OEM-BK18-SOCKET / OEM-OUT-IND-CM with connection to emergency inverter through integral emergency transfer device. Fixture includes integral Wavelinx Wireless lighting controls. Fixtures shall be mounted +/- 2" within the bottom of the joist.
INV-1	Wall	N/A	550 Watt Emergency Lighting Inverter	---	---	---	550	277v	---	Myers	LV-3-R-1-B2002-RT-LVST	Wall mounted inverter; include LVS EPC-D devices as noted on the floor plans.

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PROJECT NO: 25.503
SHEET TITLE: ELECTRICAL LTG SCHEDULES & DETAILS
E001

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EXT'G PANEL #EA

100A MLO, 120/208V-3PH.-4W
SURFACE MOUNTED, GENERAL ELECTRIC
BASEMENT POOL AREA, FED FROM DISTRIBUTION PANEL #3

KEY	CIR.	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR.	KEY
	1	20/1	REC 401	---	A	---	RIFLE RANGE EXHAUST FAN	20/1	2	
	3	20/1	SPOT LTS 401	---	B	---	REC 406	20/1	4	
	5	20/1	SPOT LTS 401	---	C	---	REC 404	20/1	6	
	7	20/1	LTS THIS ROOM	---	A	---	REC 402-403	20/1	8	
	9	20/1	REC BELOW PANEL + EM LIGHTS	---	B	---	REC 404-405	20/1	10	
	11	20/1	LTS THIS ROOM	---	C	---	UNKNOWN LOAD	20/1	12	
	13	20/1	OUTDOOR REC BY POOL DOOR	---	A	---	SCORE BOARD	20/1	14	
	15	20/1	POOL SMALL MOTORS	---	B	---	PLUG + CONTROL FOR AIR HANDLER	20/1	16	
	17	---	SPACE	---	C	---	LIGHTS THIS ROOM WEST	20/1	18	
	19	---	SPACE	---	A	---	SPACE	---	20	
	21	---	SPACE	---	B	---	SPACE	---	22	
	23	---	SPACE	---	C	---	SPACE	---	24	
	25	---	SPACE	---	A	---	SPACE	---	26	
	27	---	SPACE	---	B	---	SPACE	---	28	
	29	---	SPACE	---	C	---	SPACE	---	30	

EXT'G PANEL #L

100A MLO, 480V-3PH.-4W
SURFACE MOUNTED, GENERAL ELECTRIC
BASEMENT POOL AREA, FED FROM MAIN SWITCHBOARD

KEY	CIR	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR.	KEY
	1	---		---	A	---		---	2	
	3	---		---	B	---		---	4	
	5	---		---	C	---		---	6	
	7				A				8	
	9	15/3	HV-H5-1 THIS ROOM	---	B	---	SUMP PUMPS SMALL	15/3	10	
	11				C				12	
	13				A				14	
	15	30/3	HV-H5-9 UPPER MECH ROOM	---	B	---	SUMP PUMPS LARGE	30/3	16	
	17				C				18	
	19				A				20	
	21	30/3	EF-H5-2 UPPER MECH ROOM	---	B	---	POOL CIRCULATION	30/3	22	
	23				C				24	
	25	---		---	A	---		---	26	
	27	---		---	B	---		---	28	
	29	---		---	C	---		---	30	
	31	---		---	A	---		---	32	
	33	---		---	B	---		---	34	
	35	---		---	C	---		---	36	

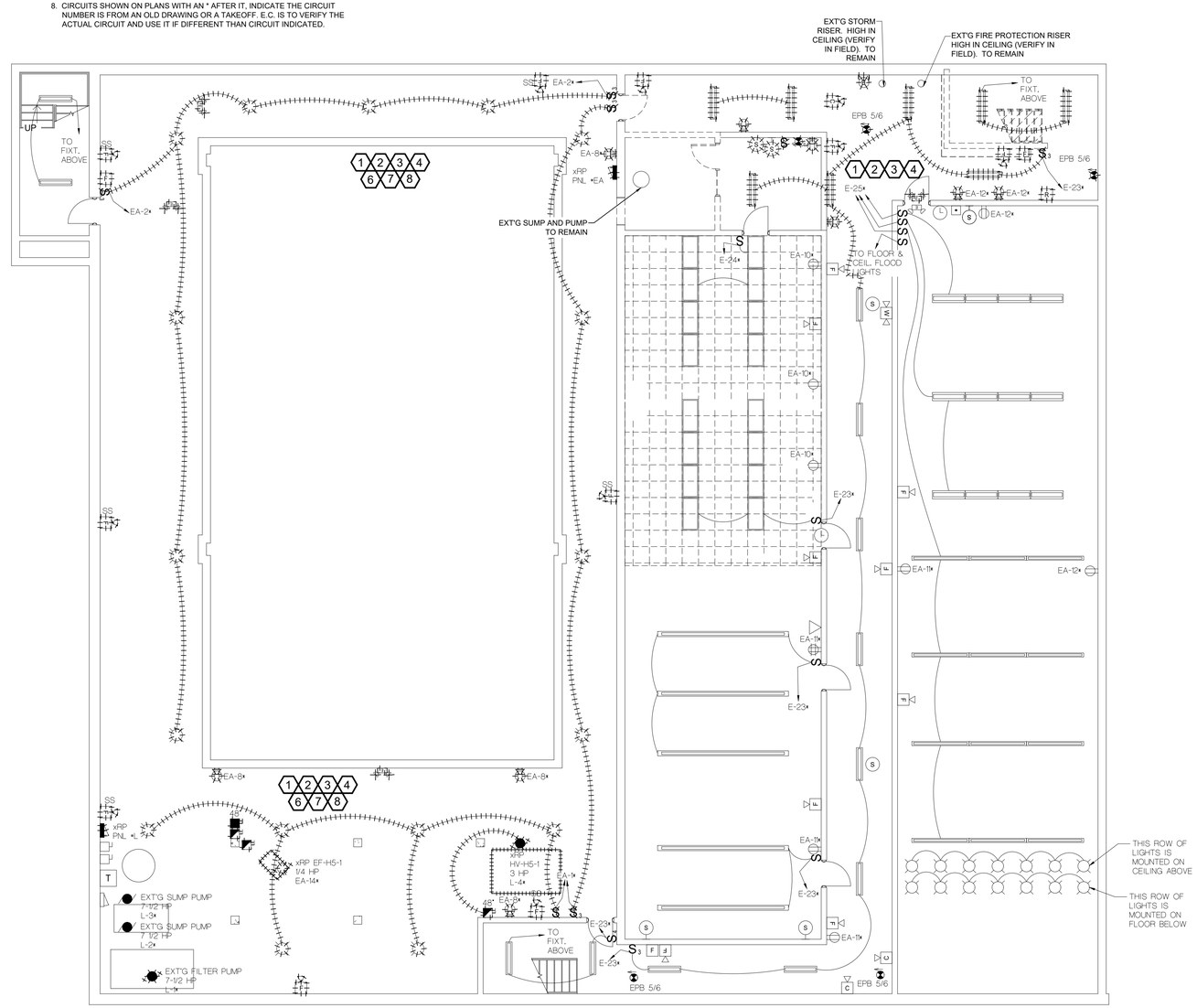
GENERAL ELECTRICAL DEMOLITION NOTES

1. SEE THIS SHEET FOR ELECTRICAL DEMOLITION KEY NOTE LEGEND.
2. ELECTRICAL CONTRACTOR (E.C.) SHALL REMOVE ALL LIGHT FIXTURES AS INDICATED ON DRAWINGS. IF ANY LIGHT FIXTURE BALLASTS ARE FOUND TO CONTAIN PCBs THE ELECTRICAL CONTRACTOR SHALL REMOVE BALLAST FROM LIGHT FIXTURES AND DISPOSE OF IN APPROVED DISPOSAL CONTAINERS PROVIDED BY THE OWNER. THE OWNER SHALL BE RESPONSIBLE FOR PROPER DISPOSAL PER LOCAL, STATE, AND FEDERAL LAWS AND PAY FOR ALL ASSOCIATED COSTS OF DISPOSAL.
3. E.C. SHALL BE RESPONSIBLE FOR DISPOSAL OF REMAINING LUMINARE PARTS & ANY NON-PCB FIXTURES PER LOCAL, STATE, AND FEDERAL REGULATIONS AND PAY FOR ALL ASSOCIATED COSTS OF DISPOSAL.
4. CAUTION!!!!
   E.C. SHALL DISCONNECT AND REMOVE ALL ELECTRICAL EQUIPMENT, (WHICH INCLUDES BUT IS NOT LIMITED TO DEVICES, FIXTURES, WIRING (CIRCUITRY), CABLING, CONDUIT, ETC.), AS DESCRIBED AND SHALL GIVE THE OWNER AN OPPORTUNITY TO KEEP DEMOLISHED ELECTRICAL EQUIPMENT PRIOR TO THEM BEING DISCARDED.
5. EXISTING ELECTRICAL AND LOW VOLTAGE DEVICES SHOWN ON PLANS WITH AN "xR" ARE TO BE RELOCATED, AS INDICATED. REUSE EXISTING CIRCUITRY (WIRING) AND CONDUIT AND PROVIDE NEW AS REQUIRED TO CONNECT TO ELECTRICAL AND LOW VOLTAGE DEVICES PER THE NEW ELECTRICAL FLOOR PLANES. PROVIDE BLANK COVER PLATES FOR EMPTY GANG BOXES.
6. EXISTING ELECTRICAL AND LOW VOLTAGE DEVICES SHOWN ON PLANS WITH AN "xRP" ARE TO BE REPLACED WITH NEW DEVICES, AS INDICATED, REUSE EXISTING CIRCUITRY (WIRING) AND CONDUIT AND PROVIDE NEW AS REQUIRED TO CONNECT TO ELECTRICAL AND LOW VOLTAGE DEVICES PER THE NEW ELECTRICAL FLOOR PLANS. PROVIDE BLANK COVER PLATES FOR EMPTY GANG BOXES.
7. DEVICES SHOWN ON PLANS WITH AN "E" NEXT TO IT INDICATE THE DEVICE IS EXISTING FROM OLD DRAWINGS OR A TAKEOFF. E.C. IS TO VERIFY ACTUAL DEVICE LOCATIONS WHICH ARE TO REMAIN.
8. CIRCUITS SHOWN ON PLANS WITH AN * AFTER IT, INDICATE THE CIRCUIT NUMBER IS FROM AN OLD DRAWING OR A TAKEOFF. E.C. IS TO VERIFY THE ACTUAL CIRCUIT AND USE IT IF DIFFERENT THAN CIRCUIT INDICATED.

ELECTRICAL DEMOLITION NOTES

FOR THE ELECTRICAL EQUIPMENT TO BE DISCONNECTED AND REMOVED, THE OWNER SHALL BE GIVEN THE OPPORTUNITY OF HAVING ANY OF IT TURNED OVER TO THEM.

1. DISCONNECT AND REMOVE ELECTRICAL DEVICE(S) WHICH WILL INTERFERE WITH THE DEMOLITION AND REMOVAL OF WALLS, FLOORING, AND/OR CEILING AS DESCRIBED IN THE ARCHITECTURAL DEMOLITION PLANS. REMOVE EXISTING CIRCUITRY (WIRING) AND CONDUIT BACK TO PANEL AND DISCARD.
2. DISCONNECT AND REMOVE ALL EXISTING LIGHTS AND CONTROLS IN THIS AREA, U.O.N. REMOVE EXISTING CIRCUITRY (WIRING) AND CONDUIT BACK TO SOURCE AND DISCARD, UNLESS IT IS SHOWN TO BE REUSED. INSTALL NEW LIGHTS AND CONTROLS AS SHOWN ON NEW PROPOSED FLOOR PLANS. REUSE EXISTING CIRCUIT, IF SHOWN, OR CIRCUIT TO PANEL WITH NEW CIRCUIT AS SHOWN ON NEW PROPOSED FLOOR PLANS. PROVIDE BLANK COVER PLATES FOR EMPTY GANG BOXES.
3. DISCONNECT AND REMOVE ALL EXISTING RECEPTACLES AND POWER DEVICES IN THIS AREA, U.O.N. REMOVE EXISTING CIRCUITRY (WIRING) AND CONDUIT BACK TO SOURCE AND DISCARD. INSTALL NEW RECEPTACLES AND POWER DEVICES AS SHOWN ON NEW PROPOSED FLOOR PLANS. REUSE EXISTING CIRCUIT, IF SHOWN, OR CIRCUIT TO PANEL WITH NEW CIRCUIT AS SHOWN ON NEW PROPOSED FLOOR PLANS. PROVIDE BLANK COVER PLATES FOR EMPTY GANG BOXES.
4. DISCONNECT AND REMOVE EXISTING DATA, TELEPHONE/PAGING, TELEVISION, CLOCK, SPEAKERS, ACCESS CONTROLS, AND FIRE ALARM SYSTEMS DEVICES WIRING AND EQUIPMENT, U.O.N. PROVIDE BLANK COVER PLATES FOR EMPTY GANG BOXES.
5. DISCONNECT, REMOVE, AND RELOCATE EXISTING DATA, TELEPHONE/PAGING, TELEVISION, CLOCK, SPEAKERS, ACCESS CONTROLS, AND FIRE ALARM SYSTEMS DEVICES WIRING AND EQUIPMENT, U.O.N. EXTEND/RECONFIGURE EXISTING CIRCUITRY (WIRING) AND CONDUIT AS REQUIRED TO RECONNECT TO THE RELOCATED DEVICES.
6. DISCONNECT AND REMOVE EXISTING ELECTRICAL CONNECTIONS AND DISCONNECTS TO EXISTING MECHANICAL AND/OR PLUMBING EQUIPMENT THAT IS TO BE REMOVED, U.O.N. REMOVE EXISTING CIRCUITRY (WIRING) AND CONDUIT BACK TO PANEL AND DISCARD. PROVIDE BLANK COVER PLATES FOR EMPTY GANG BOXES. COORDINATE ALL DISCONNECTIONS WITH THE MECHANICAL CONTRACTOR.
7. DISCONNECT AND REPLACE EXISTING ELECTRICAL PANEL(S) AS INDICATED. DISCONNECT AND REPLACE ASSOCIATED EXISTING FEEDER WIRING AND CONDUITS.
8. DISCONNECT EXISTING ELECTRICAL CONNECTIONS AND DISCONNECTS TO EXISTING MECHANICAL EQUIPMENT THAT IS TO BE REPLACED. REMOVE EXISTING CIRCUIT WIRING AND CONDUIT BACK TO PANEL AND DISCARD. COORDINATE ALL DISCONNECTIONS AND RECONNECTIONS WITH THE MECHANICAL CONTRACTOR.



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ELECTRICAL DEMOLITION BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"

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SHEET TITLE: ELECTRICAL DEMO BASEMENT FLOOR PLAN
ED100

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EXT'G PANEL #EB

225A MLO, 120/208V-3PH.-4W
SURFACE MOUNTED, GENERAL ELECTRIC
FED FROM DISTRIBUTION PANEL #3

KEY	CIR	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR	KEY
	1	20/1	REC 503 + BATTING CAGE	---	A	---	LTS 369	20/1	2	
	3	20/1	REC 504 + SW BALCONY	---	B	---	PRESS BOX REC + PA	20/1	4	
	5	20/1	UNIT HEATER 502 + POOL/NEW SCOREBOARD	---	C	---	REC 501-378	20/1	6	
	7	20/1	BALCONY REC + POOL OFF. + STORE RM LT	---	A	---	JOHNSON CONTROL	20/1	8	
	9	20/1	LTS 362	---	B	---	LTS MECH	20/1	10	
	11	20/1	GYM REC N + OUTDOOR REC E	---	C	---	GYM LTS CONTROL	20/1	12	
	13	20/1	REC 365-366 N	---	A	---	REC 503	20/1	14	
	15	20/1	LTS 364 + REC S THIS HALL	---	B	---	REC 503 - B369 BOTTOM	20/1	16	
	17	20/1	REC 364	---	C	---	REC 386	20/1	18	
	19	20/1	REC 365-366 S	---	A	---	GIRLS SHOWER LTS	20/1	20	
	21	20/1	GYM REC S	---	B	---	REC 380	20/1	22	
	23	20/1	SCOREBOARDS SOUTH	---	C	---	UNIT HEATER 505 - SHOWER ROOM	20/1	24	
	25	20/1	SCOREBOARDS NORTH	---	A	---	BOY SHOWERS	20/1	26	
	27	20/1	REC GYM N + WATER COOLERS	---	B	---	STORAGE RM EAST GYM	20/1	28	
	29	20/1	GIRLS NEW LOCKER ROOM	---	C	---	REC 380 + HALLWAY BY GYM DOOR	20/1	30	
	31	20/1	GYM INC. LTS	---	A	---	REC 362	20/1	32	
	33	30/2	DOOR SOUTH POWER	---	B	---	UNKNOWN LOAD	20/1	34	
	35				C	---	UNKNOWN LOAD	20/1	36	
	37	20/3	DRYER	---	A	---	UNKNOWN LOAD	30/2	38	
	39				B				40	
	41				C	---	UNKNOWN LOAD	20/1	42	

EXT'G PANEL #HAIR DRYERS

MLO, 120/208V-3PH.-4W
SURFACE MOUNTED, GENERAL ELECTRIC
FED FROM DISTRIBUTION PANEL #3

KEY	CIR	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR	KEY
	1	30/1	HAIRDRYER 5	2300	A	2300	HAIRDRYER 12	30/1	2	
	3	30/1	HAIRDRYER 4	2300	B	2300	HAIRDRYER 10	30/1	4	
	5	30/1	HAIRDRYER 6	2300	C	2300	HAIRDRYER 11	30/1	6	
	7	30/1	HAIRDRYER 2	2300	A	2300	HAIRDRYER 7	30/1	8	
	9	30/1	HAIRDRYER 3	2300	B	2300	HAIRDRYER 8	30/1	10	
	11	30/1	HAIRDRYER 13	2300	C	2300	HAIRDRYER 9	30/1	12	
	13	30/1	HAIRDRYER 1	2300	A	2300	HAIRDRYER 14	30/1	14	
	15	---	SPACE	---	B	---	SPACE	---	16	
	17	---	SPACE	---	C	---	SPACE	---	18	
	19	---	SPACE	---	A	---	SPACE	---	20	
	21	---	SPACE	---	B	---	SPACE	---	22	
	23	---	SPACE	---	C	---	SPACE	---	24	
	25	---	SPACE	---	A	---	SPACE	---	26	
	27	---	SPACE	---	B	---	SPACE	---	28	
	29	---	SPACE	---	C	---	SPACE	---	30	

GENERAL ELECTRICAL DEMOLITION NOTES

1. SEE THIS SHEET FOR ELECTRICAL DEMOLITION KEY NOTE LEGEND.
2. ELECTRICAL CONTRACTOR (E.C.) SHALL REMOVE ALL LIGHT FIXTURES AS INDICATED ON DRAWINGS. IF ANY LIGHT FIXTURE BALLASTS ARE FOUND TO CONTAIN PCBs THE ELECTRICAL CONTRACTOR SHALL REMOVE BALLAST FROM LIGHT FIXTURES AND DISPOSE OF IN APPROVED DISPOSAL CONTAINERS PROVIDED BY THE OWNER. THE OWNER SHALL BE RESPONSIBLE FOR PROPER DISPOSAL PER LOCAL, STATE, AND FEDERAL LAWS AND PAY FOR ALL ASSOCIATED COSTS OF DISPOSAL.
3. E.C. SHALL BE RESPONSIBLE FOR DISPOSAL OF REMAINING LUMINARE PARTS & ANY NON-PCB FIXTURES PER LOCAL, STATE, AND FEDERAL REGULATIONS AND PAY FOR ALL ASSOCIATED COSTS OF DISPOSAL.
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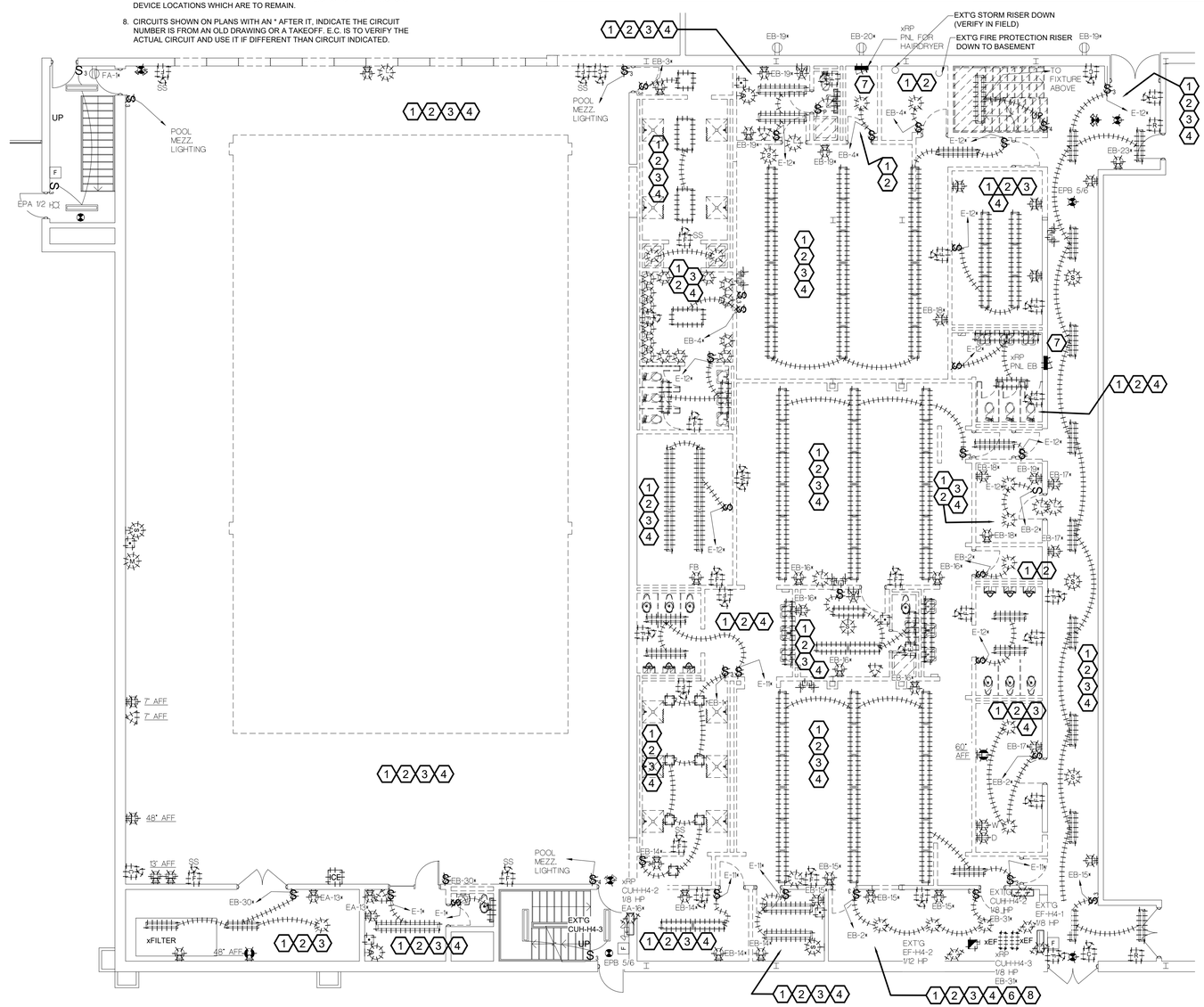

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ELECTRICAL DEMOLITION FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

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PIC: J. VANBROCKLIN
PM: J. VANBROCKLIN
DRAFTS: J. VANBROCKLIN
PROJECT NO: 25.503

SHEET TITLE:
ELECTRICAL DEMO FIRST FLOOR PLAN

ED101

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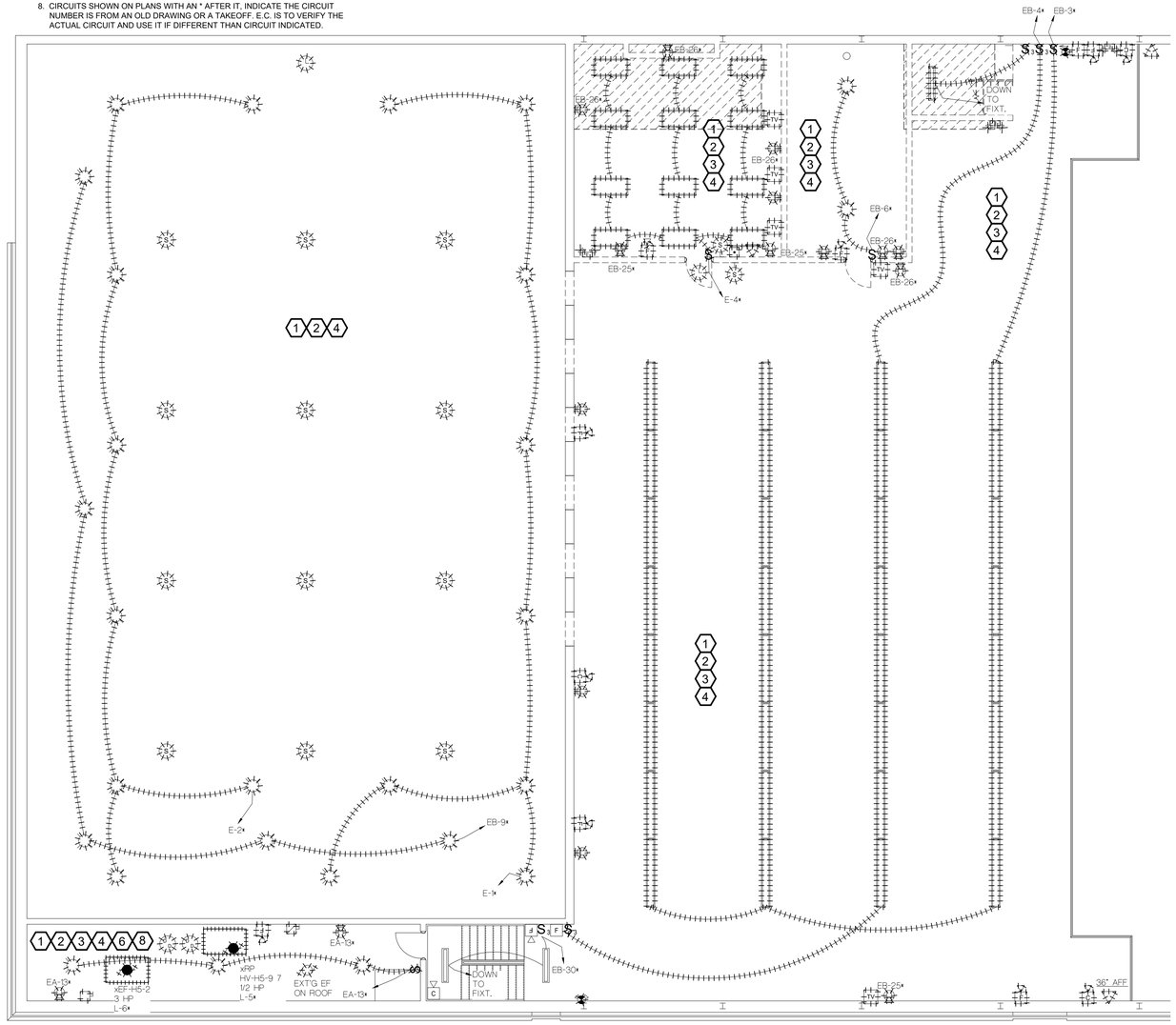

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ELECTRICAL DEMOLITION MEZZANINE FLOOR PLAN
SCALE: 1/8" = 1'-0"

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SHEET TITLE: ELECTRICAL DEMO MEZZANINE FLOOR PLAN
ED102

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EXT'G PANEL #E

400A MCB, 277/480V-3PH.-4W
SURFACE MOUNTED, GENERAL ELECTRIC
FED FROM MAIN SWITCHBOARD

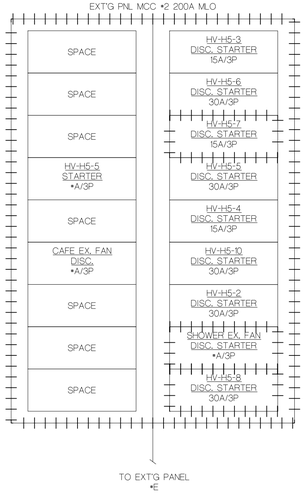
KEY	CIR	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR	KEY
		125/3	M.C.C. #2	---						
	1	20/1	LTS 350	---	A	---	GYM LTS - SOUTH CENTER	30/1	2	
	3	20/1	LTS 350	---	B	---	UNKNOWN LOAD	30/1	4	
	5	20/1	LTS 350	---	C	---	GYM LTS - SOUTH EAST	30/1	6	
	7	20/1	LTS 303	---	A	---	POOL LTS	20/1	8	
	9	20/1	LTS 305	---	B	---	POOL LTS	20/1	10	
	11	20/1	LTS 305	---	C	---	GYM LTS - NORTH EAST	30/1	12	
	13	20/1	BASEMENT LTS	---	A	---	GYM LTS - EAST SIDE FLOOR	30/1	14	
	15	20/1	BASEMENT LTS	---	B	---	GYM LTS - NORTH CENTER WEST	20/1	16	
	17	20/1	BASEMENT LTS	---	C	---	GYM LTS	20/1	18	
	19	20/1	LTS BALCONY - SOUTH STAIR	---	A	---	GYM LTS	30/1	20	
	21	20/1	LTS BALCONY WEST	---	B	---	GYM LTS - SOUTH CENTER WEST	20/1	22	
	23	20/1	LTS 330	---	C	---	GYM LTS - SOUTH WEST	20/1	24	
	25	20/1	SHOWER LTS	---	A	---	LTS 301	20/1	26	
	27	20/1	CORR LTS BTWM GYM & LCKR RMS	---	B	---	LTS BTWN GYM & BAND ROOM	20/1	28	
	29	20/1	SHOWER LTS	---	C	---	LTS 302	20/1	30	
	31				A				32	
	33	15/3	EF-H5-4 1/2HP	---	B	---	TRANSFORMER	100/3	34	
	35				C				36	
	37	---	SPACE	---	A	---	LTS 330	20/1	38	
	39	---	SPACE	---	B	---	LTS 340-342	20/1	40	
	41	---		---	C	---		---	42	

EXT'G DISTRIBUTION PANEL #3

400A MLO, 120/208V-3PH.-4W
SURFACE MOUNTED, GENERAL ELECTRIC
FED FROM PANEL #E TRANSFORMER

KEY	CIR	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR	KEY
	1				A				2	
	3	70/3	LOWER POOL PANEL EA	---	B	---	MUSIC-CAFÉ PANEL EC	100/3	4	
	5				C				6	
	7				A				8	
	9	125/3	HAIR DRYER PNL	---	B	---	SHOWER PANEL EB	125/3	10	
	11				C				12	

EXISTING MOTOR CONTROL CENTER #2 DETAIL



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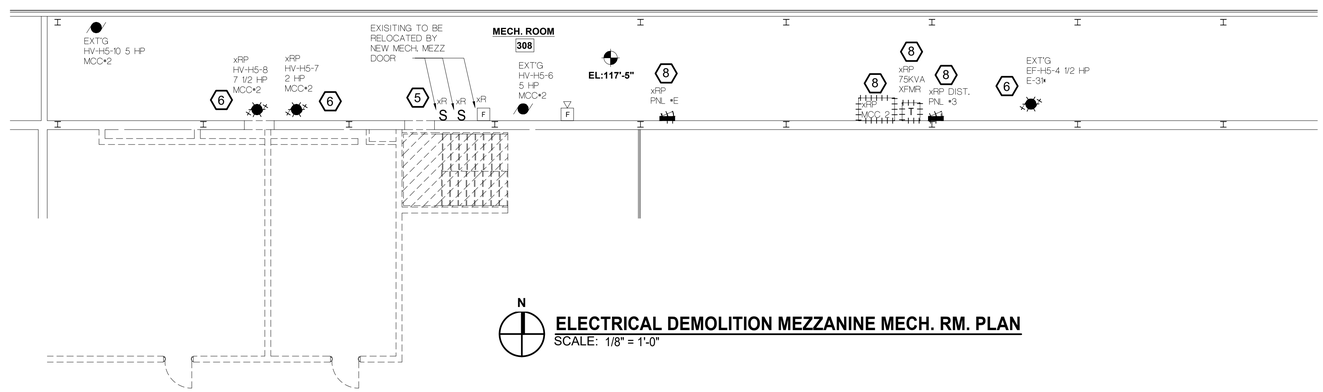

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ELECTRICAL DEMOLITION MEZZANINE MECH. RM. PLAN
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EXT'G PANEL #EM-1

100A MCB, 120/208V-3PH.-4W
SURFACE MOUNTED, EATON
MECHANICAL ROOM AREA, FED FROM 30KVA XFMR

KEY	CIR.	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR.	KEY
	1	100/3	MAIN BREAKER	---	A	---	SPACE	---	2	
	3				B	---	SPACE	---	4	
	5				C	---	SPACE	---	6	
	7	20/1	IT RECEPT. EQUIP. WORK ROOM 813	---	A	---	IT RECEPT JANITORS RM 615/ GYM MEZZ.	20/2	8	
	9	20/1	GENERATOR-BATTERY CHARGR	---	B				10	
	11	20/1	GENERATOR-ENGINE BLOCK HEATER	---	C	---	IT RECEPT WORK RM 813	20/1	12	
	13	20/1	MED LAB FRIDGE/ SHACC	---	A	---	IT RECEPT JANITORS RM 615	20/1	14	
	15	20/1	FILTER PUMP	---	B	---	UNKNOWN LOAD	20/1	16	
	17	20/1	CIRC. PUMP	---	C	---	UNKNOWN LOAD	20/1	18	
	19	30/3	WALK IN FREEZER	---	A	---	H.W. BOILER 2	20/2	20	
	21				B				22	
	23				C	---	H.W. BOILER 1	20/2	24	
	25	30/2	WALK IN COOLER	---	A				26	
	27				B	---	CA POWER SUPPLY	20/1	28	
	29	20/1	COOLER & FREEZER LIGHTS	---	C	---	SPACE	---	30	
	31	---	SPACE	---	A	---	SPACE	---	32	
	33	---	SPACE	---	B	---	SPACE	---	34	
	35	---	SPACE	---	C	---	SPACE	---	36	
	37	---	SPACE	---	A	---	SPACE	---	38	
	39	---	SPACE	---	B	---	SPACE	---	40	
	41	---	SPACE	---	C	---	SPACE	---	42	

REVISED PANEL #EM-1

100A MCB, 120/208V-3PH.-4W
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MECHANICAL ROOM AREA, FED FROM 30KVA XFMR

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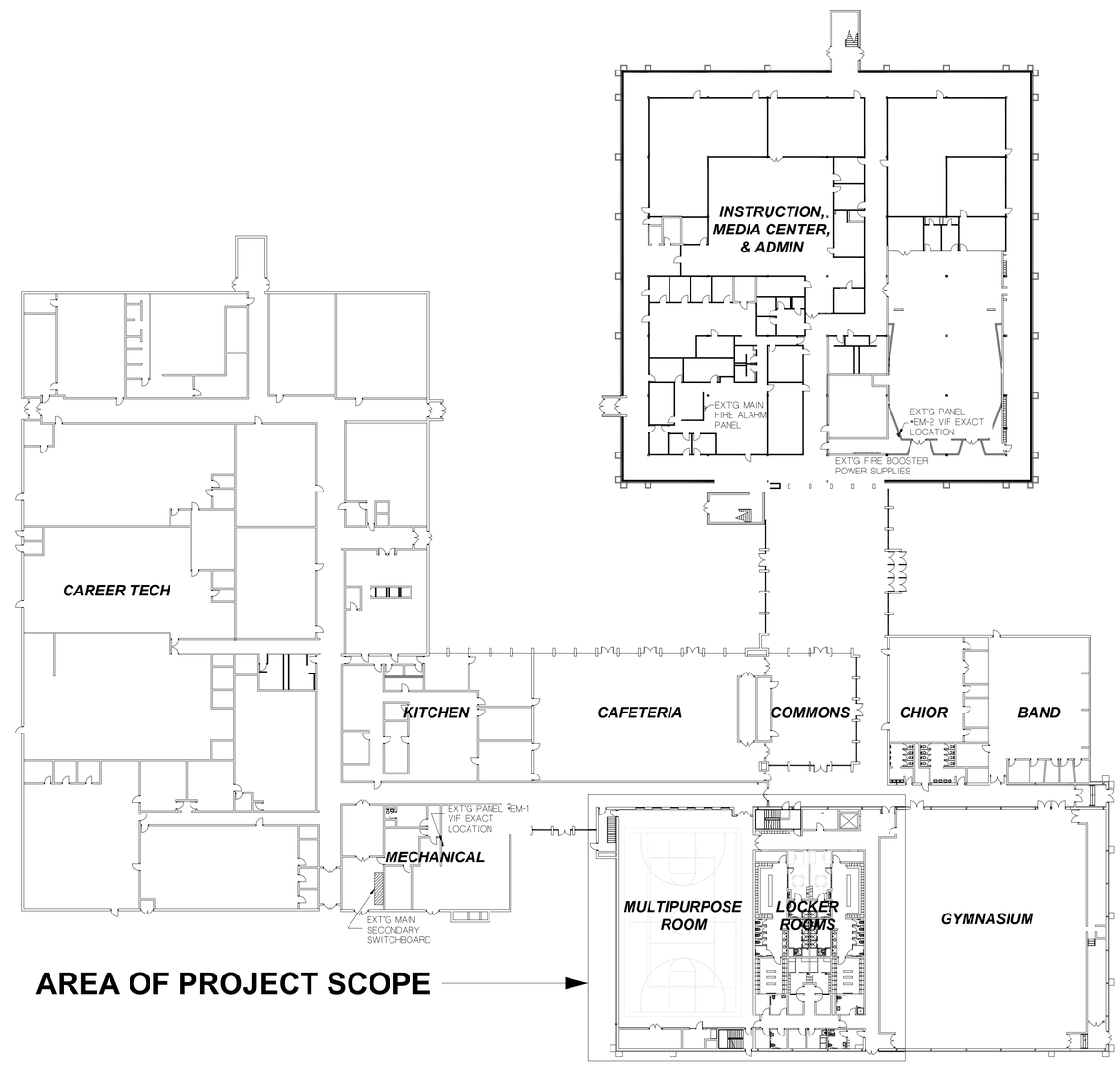
	5				C	---	SPACE	---	6	
	7	20/1	IT RECEPT. EQUIP. WORK ROOM 813	---	A	---	IT RECEPT JANITORS RM 615/ GYM MEZZ.	20/2	8	
	9	20/1	GENERATOR-BATTERY CHARGR	---	B				10	
	11	20/1	GENERATOR-ENGINE BLOCK HEATER	---	C	---	IT RECEPT WORK RM 813	20/1	12	
	13	20/1	MED LAB FRIDGE/ SHACC	---	A	---	IT RECEPT JANITORS RM 615	20/1	14	
	15	20/1	FILTER PUMP	---	B	---	UNKNOWN LOAD	20/1	16	
	17	20/1	CIRC. PUMP	---	C	---	UNKNOWN LOAD	20/1	18	
	19	30/3	WALK IN FREEZER	---	A	---	H.W. BOILER 2	20/2	20	
	21				B				22	
	23				C	---	H.W. BOILER 1	20/2	24	
	25	30/2	WALK IN COOLER	---	A				26	
	27				B	---	CA POWER SUPPLY	20/1	28	
	29	20/1	COOLER & FREEZER LIGHTS	---	C	180	EM RECEPT - STORAGE 013	20/1	30	
	31	20/1	EM RECEPT - STORAGE 122	180	A	180	EM RECEPT - STORAGE 110	20/1	32	
	33	20/1	EM RECEPT - WEIGHT 303	180	B	---	SPACE	---	34	
	35	---	SPACE	---	C	---	SPACE	---	36	
	37	---	SPACE	---	A	---	SPACE	---	38	
	39	---	SPACE	---	B	---	SPACE	---	40	
	41	---	SPACE	---	C	---	SPACE	---	42	



N

ELECTRICAL OVERALL FIRST FLOOR PLAN
SCALE: 1/32" = 1'-0"

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Date	Issued For
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03.17.2026	BIDS

PIC: J. VANBROCKLIN
PM: J. VANBROCKLIN
DRAFTS: J. VANBROCKLIN
PROJECT NO: 25.503
SHEET TITLE: ELECTRICAL OVERALL FLOOR PLAN
E100

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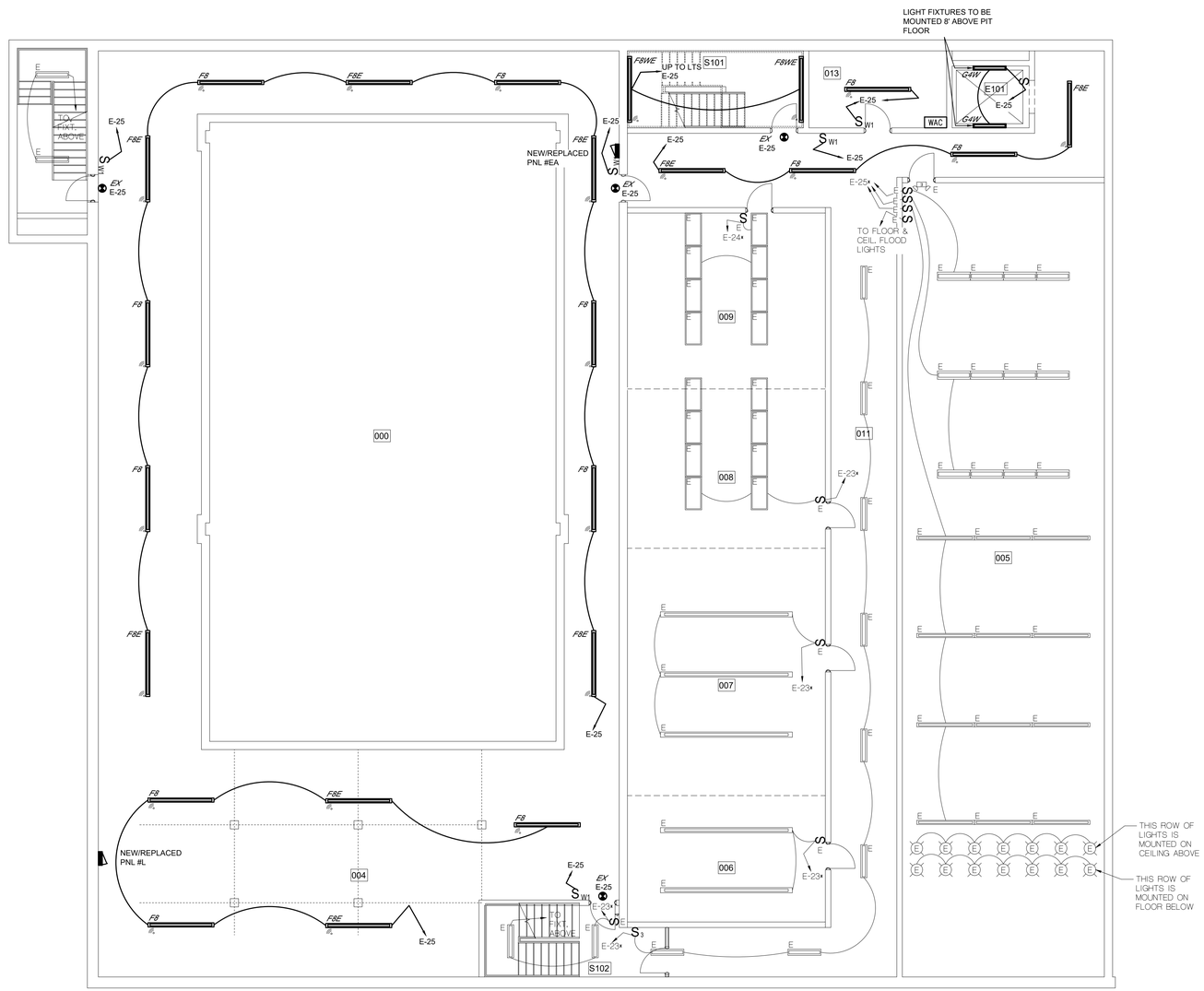

N

ELECTRICAL LIGHTING BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"

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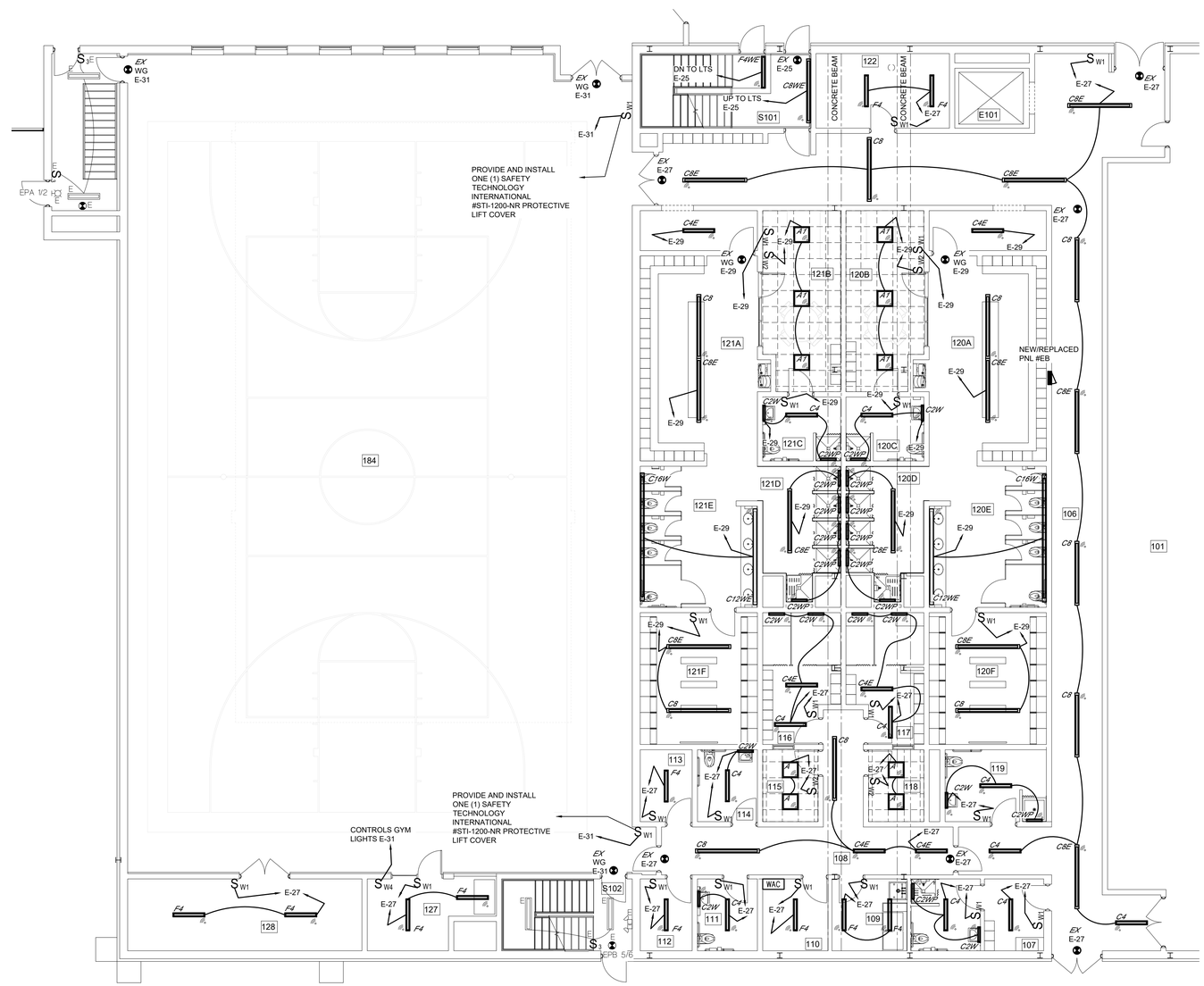

N

ELECTRICAL LIGHTING FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

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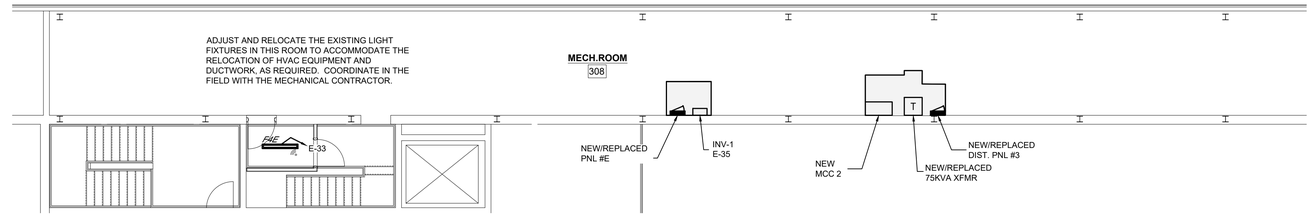
LIGHTING KEYED NOTES

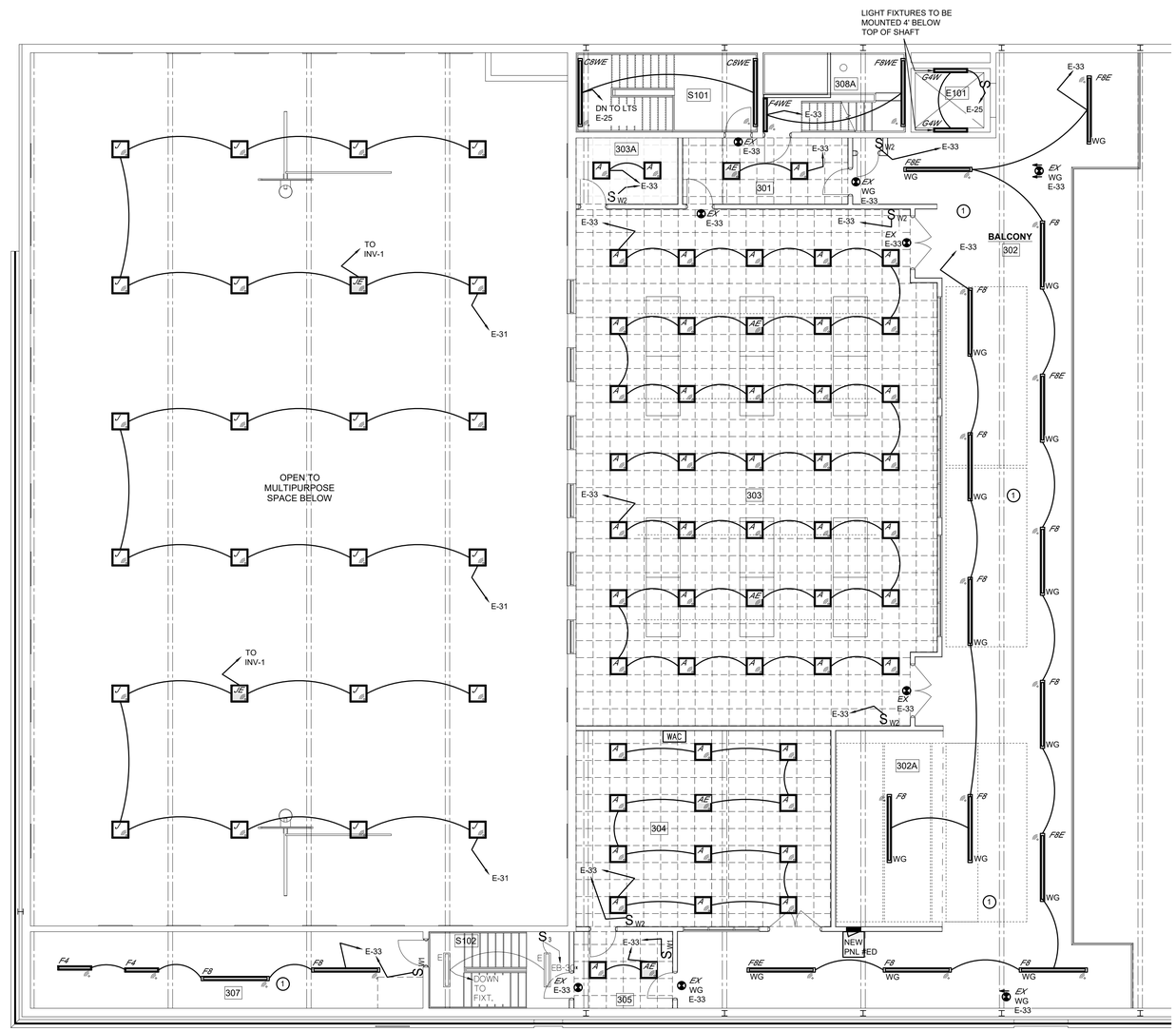
1. ALL TYPE F8/F8E LIGHT FIXTURES IN THIS SPACE ARE TO BE MOUNTED +/- 2" WITHIN THE BOTTOM OF TRUSS



N

ELECTRICAL LIGHTING MEZZANINE MECH. RM. PLAN

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



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ELECTRICAL LIGHTING MEZZANINE FLOOR PLAN

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

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PROJECT NO: 25.503

SHEET TITLE:
ELECTRICAL LIGHTING MEZZ. FLOOR PLAN

E102L

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NEW/REPLACED PANEL #EA

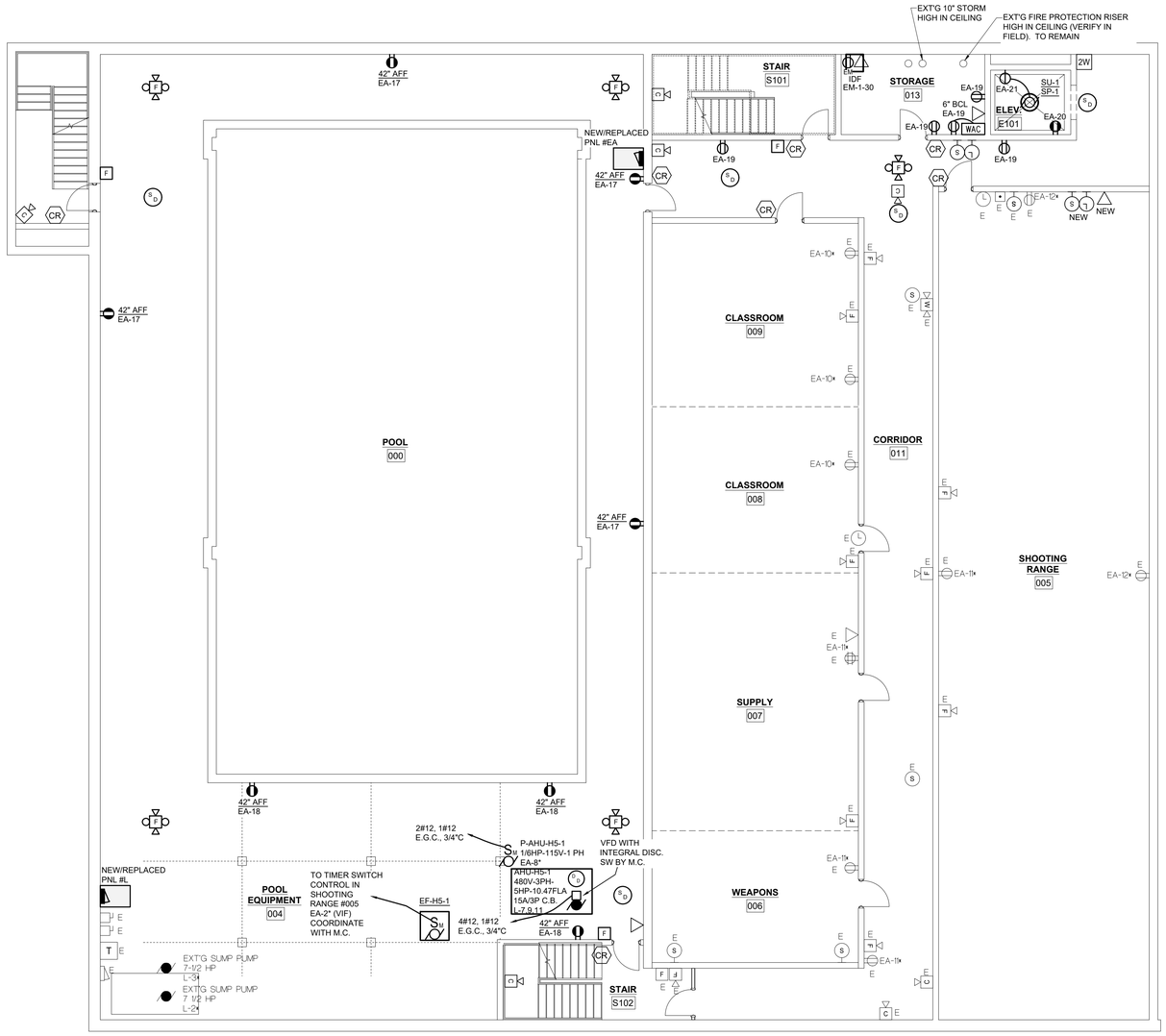
100A MLO, 120/208V-3PH.-4W
SURFACE MOUNTED, EATON PRL1A
BASEMENT POOL AREA, FED FROM DISTRIBUTION PANEL #3

KEY	CIR.	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR.	KEY
	1	20/1	*REC 401*	---	A	1150	*RIFLE RANGE EXHAUST FAN-EF-H5-1*	*20/1*	*2*	
	3	20/1	*SPOT LTS 401*	---	B	---	*REC 406*	*20/1*	*4*	
	5	20/1	*SPOT LTS 401*	---	C	---	*REC 404*	*20/1*	*6*	
	7	20/1	AVAILABLE SPARE	---	A	506	P-AHU-H5-1	20/1	*8*	
	9	20/1	AVAILABLE SPARE	---	B	---	*REC 404-405*	*20/1*	*10*	
	11	20/1	AVAILABLE SPARE	---	C	---	*UNKNOWN LOAD*	*20/1*	*12*	
	13	20/1	*OUTDOOR REC BY POOL DOOR*	---	A	---	*SCORE BOARD*	*20/1*	*14*	
	15	20/1	*POOL SMALL MOTORS*	---	B	---	*PLUG + CONTROL FOR AIR HANDLER*	*20/1*	*16*	
	17	20/1	RECEPT-N. POOL EQUIP. 004	720	C	540	RECEPT-S. POOL EQUIP. 004	20/1	18	
	19	20/1	RECEPT-N. CORR. 011 + WAC	733	A	360	RECEPT-ELEVATOR E101	20/1	20	
	21	20/1	RECEPT-ELEVATOR SUMP PUMP E101	1725	B	---	SPARE	20/1	22	
	23	20/1	SPARE	---	C	---	SPARE	20/1	24	
	25	20/1	SPARE	---	A	---	SPACE	---	26	
	27	---	SPACE	---	B	---	SPACE	---	28	
	29	---	SPACE	---	C	---	SPACE	---	30	

NEW/REPLACED PANEL #L

100A MLO, 277/480V-3PH.-4W
SURFACE MOUNTED, EATON PRL2A
BASEMENT POOL AREA, FED FROM MAIN SWITCHBOARD

KEY	CIR.	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR.	KEY
	1	---		---	A	---		---	2	
	3	---		---	B	---		---	4	
	5	---		---	C	---		---	6	
	7				A				8	
	9	15/3	AHU-H5-1 THIS ROOM	8705	B	---	*SUMP PUMPS SMALL*	15/3	10	
	11				C				12	
	13				A				14	
	15	30/3	AHU-H5-9 UPPER MECH ROOM	15550	B	---	*SUMP PUMPS LARGE*	30/3	16	
	17				C				18	
	19				A				20	
	21	30/3	AVAILABLE SPARE	---	B	---	AVAILABLE SPARE	30/3	22	
	23				C				24	
	25	---		---	A	---		---	26	
	27	---		---	B	---		---	28	
	29	---		---	C	---		---	30	
	31	---		---	A	---		---	32	
	33	---		---	B	---		---	34	
	35	---		---	C	---		---	36	



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ELECTRICAL POWER BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"

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POWER KEYED NOTES

1. VERIFY LOCATION OF TWO-WAY EMERGENCY COMMUNICATION BASE STATION WITH THE LOCAL FIRE DEPT. RELOCATE TO APPROVED LOCATION, AS REQUIRED.
2. CIRCUIT NEW CABINET UNIT HEATER TO EXISTING CIRCUIT USED FOR PREVIOUS CABINET UNIT HEATER.

NEW/REPLACED PANEL #EB

225A MLO, 120/208V-3PH.-4W
SURFACE MOUNTED, EATON PRL1A
FED FROM DISTRIBUTION PANEL #3

KEY	CIR.	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR.	KEY
	1	20/1	*REC 503 + BATTING CAGE*	---	A	---	*LTS 369*	20/1	2	
	3	20/1	*REC 504 + SW BALCONY*	---	B	---	*PRESS BOX REC + PA*	20/1	4	
	5	20/1	*UNIT HEATER 502 + POOL/NEW SCOREBOARD*	---	C	---	*REC 501-378*	20/1	6	
	7	20/1	AVAILABLE SPARE	---	A	---	*JOHNSON CONTROL*	20/1	8	
	9	20/1	*LTS 362*	---	B	---	*LTS MECH*	20/1	10	
	11	20/1	*GYM REC N + OUTDOOR REC E*	---	C	---	*GYM LTS CONTROL*	20/1	12	
	13	20/1	*REC 365-366 N*	---	A	1323	BASKETBALL HOOP MULTIPURPOSE RM 184	20/1	14	
	15	20/1	BASKETBALL HOOP MULTIPURPOSE RM 184	1323	B	322	BASKETBALL HEIGHT ADJUSTS RM 184	20/1	16	
	17	20/1	BATTING CAGE RM 184	1587	C	1587	BATTING CAGE RM 184	20/1	18	
	19	20/1	AVAILABLE SPARE	---	A	---	AVAILABLE SPARE	20/1	20	
	21	20/1	*GYM REC S*	---	B	---	*REC 380*	20/1	22	
	23	20/1	*SCOREBOARDS SOUTH*	---	C	---	AVAILABLE SPARE	20/1	24	
	25	20/1	*SCOREBOARDS NORTH*	---	A	---	AVAILABLE SPARE	20/1	26	
	27	20/1	*REC GYM N + WATER COOLERS*	---	B	---	*STORAGE RM EAST GYM*	20/1	28	
	29	20/1	AVAILABLE SPARE	---	C	---	*REC 380 + HALLWAY BY GYM DOOR*	20/1	30	
	31	20/1	*GYM INC. LTS*	---	A	---	*REC 362*	20/1	32	
	33	30/2	*DOOR SOUTH POWER*	---	B	---	*UNKNOWN LOAD*	20/1	34	
	35				C	---	*UNKNOWN LOAD*	20/1	36	
G	37	20/1	WASHER RM 109	1500	A	---	*UNKNOWN LOAD*	30/2	38	
G	39	30/2	DRYER RM 109	5000	B				40	
	41				C	---	*UNKNOWN LOAD*	20/1	42	

NEW PANEL #ED

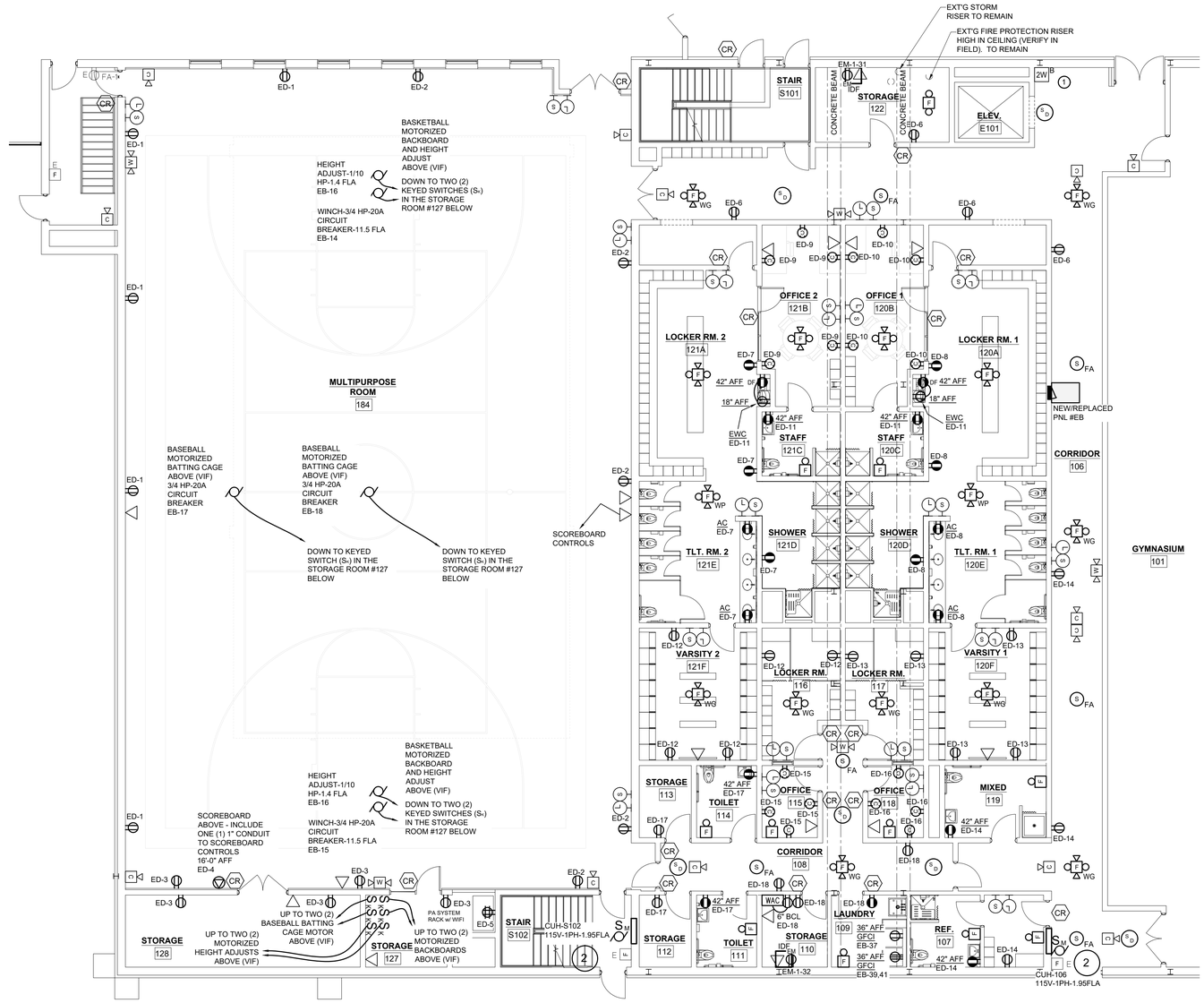
225A MLO, 120/208V-3PH.-4W
SURFACE MOUNTED, EATON PRL1A
FED FROM DISTRIBUTION PANEL #3

KEY	CIR.	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR.	KEY
	1	20/1	RECEPT - W. MULTIPURPOSE 184	900	A	900	RECEPT - E. MULTIPURPOSE 184	20/1	2	
	3	20/1	RECEPT - S. MULTIP. 184/STOR. 127/128	900	B	1000	SCOREBOARD 184	20/1	4	
	5	20/1	RECEPT - PA SYSTEM RACK 127	360	C	720	RECEPT - N. CORR. 106	20/1	6	
	7	20/1	RECEPT - LOCKER RM 2 121A	900	A	900	RECEPT - LOCKER RM 1 120A	20/1	8	
	9	20/1	RECEPT - OFFICE 2 121B	900	B	900	RECEPT - OFFICE 1 120B	20/1	10	
	11	20/1	RECEPT - EWC/STAFF 120C/121C	1010	C	900	RECEPT - VAR. 2 121F/LOCKER RM 116	20/1	12	
	13	20/1	RECEPT - VAR. 1 120F/LOCKER RM 117	900	A	900	RECEPT - S. CORR. 106	20/1	14	
	15	20/1	RECEPT - OFFICE 115	720	B	720	RECEPT - OFFICE 118	20/1	16	
	17	20/1	RECEPT - STORAGE 112/113 & TOLIET 111/114	720	C	733	RECEPT - CORR. 118/STOR. 110/ LAUND. 109/WAC	20/1	18	
	19	20/1	RECEPT - OFFICE 306	720	A	720	RECEPT - N. BALCONY 303	20/1	20	
	21	20/1	RECEPT - N. WEIGHT 305/CORR. 303	720	B	900	RECEPT - W. WEIGHT 305	20/1	22	
	23	20/1	RECEPT - E WEIGHT 305	900	C	733	RECEPT - W. CHEER + WAC	20/1	24	
	25	20/1	RECEPT - E. CHEER 307	720	A	900	RECEPT - MECH. 307/CORR. 308/BALC. 303	20/1	26	
	27	20/1	RECEPT - UPPER MULTIP. 184	540	B	522	P-AHU-H5-9 & UH-307 - 307	20/1	28	
	29	20/1	P-AHU-H5-7 & P-AHU-H5-8 - 308	759	C	1000	ELEV. LTS & CNTRLS	20/1	30	
	31	20/1	DF-1 & DF-2	75	A	1000	ELEV. COMMS	20/1	32	
	33	20/1	DUCT MELT 308	1400	B	1400	DUCT MELT 307	20/1	34	
	35	20/1	SPARE	---	C	---	SPARE	20/1	36	
	37	20/1	SPARE	---	A	---	SPARE	20/1	38	
	39	---	SPACE	---	B	---	SPACE	---	40	
	41	---	SPACE	---	C	---	SPACE	---	42	

PANEL SCHEDULE KEY NOTES

A	DENOTES ARC FAULT CIRCUIT INTERRUPTER (AFCI) CIRCUIT BREAKER REQUIRED
B	DENOTES BREAKER LOCK REQUIRED ON CIRCUIT BREAKER
E	DENOTES 30mA GROUND FAULT EQUIPMENT PROTECTION (GFEP) CIRCUIT BREAKER REQUIRED
G	DENOTES GROUND FAULT CIRCUIT INTERRUPTER (GFCI) CIRCUIT BREAKER REQUIRED
N	DENOTES THAT A NEW CIRCUIT BREAKER IS REQURIED, SIZED AS NOTED
S	DENOTES CIRCUIT BREAKER WILL REQUIRE SHUNT-TRIP OR TO BE RUN THRU SHUNT-TRIP CONTACTOR
x	DENOTES AN EXISTING CIRCUIT BREAKER THAT IS TO REMAIN AND BE REUSED
*	DENOTES ESTIMATED LOAD AND/OR CIRCUIT BREAKER SIZE. E.C. SHALL CONFIRM EXACT REQUIREMENTS WITH SHOP DRAWINGS PRIOR TO ORDERING CIRCUIT BREAKERS

NOTE: PROVIDE GFCI PROTECTION FOR ALL NEW RECEPTACLES AND FOR ALL NEW EQUIPMENT IN LOCATIONS AND AS SPECIFICALLY NOTED IN NEC 210.8(B). CONFIRM EQUIPMENT CONNECTION REQUIREMENTS WITH EQUIPMENT CUT SHEETS.



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

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PIC: J. VANBROCKLIN
PM: J. VANBROCKLIN
DRAFTS: J. VANBROCKLIN
PROJECT NO: 25.503

SHEET TITLE:
ELECTRICAL POWER FIRST FLOOR PLAN

E101P

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NOTES:

1. CAUTION !!!!!!!!
   E.C. SHALL VERIFY ALL ROUGH-IN ELEVATIONS, LOCATIONS AND/OR HEIGHTS OF ALL LIGHT FIXTURES, RECEPTACLE OUTLETS, ETC. WITH ARCHITECT/ENGINEER. FAILURE TO DO SO WILL REQUIRE E.C. TO RELOCATE RESPECTIVE ITEMS AT THE E.C.'S EXPENSE.

   COMMUNICATION OUTLET LOCATIONS AND CONDUIT SLEEVES WITHIN THE WALLS FOR DATA SYSTEMS SHALL BE COORDINATED WITH OWNER AND OWNER FURNITURE PLAN.

   COORDINATE LOCATION OF SLEEVES ABOVE THE CEILING FOR DATA SYSTEMS WITH THE OWNER.
2. THE LIGHTS THAT ARE SHADED REPRESENT LIGHTS THAT HAVE A CONNECTION TO AN EMERGENCY INVERTER OR CONTAIN AN INTEGRAL EMERGENCY BATTERY AND SHALL OPERATE AT LOSS OF NORMAL POWER BY HAVING A DIRECT (HOT) CONNECTION TO THE EMERGENCY INVERTER OR INTEGRAL BATTERY. ALL CONDUIT AND CONDUCTORS FOR THE EMERGENCY LIGHTING SYSTEM SHALL COMPLY WITH NEC ARTICLES 700 & 701, AS REQUIRED.
3. CONNECT ALL EXIT SIGNS AHEAD OF THE LOCAL AREA LIGHTING'S CONTROL DEVICE (i.e., HAVING A DIRECT (HOT) CONNECTION TO THE BATTERY).
4. FEEDS TO POWER, LIGHTING, LOW VOLTAGE AND FIRE ALARM DEVICES IN THE BUILDING SHALL BE ATTEMPTED IN EVERY WAY TO BE INSTALLED FLUSH-MOUNT (RECESSED BEHIND THE WALL/CEILING SURFACE).

   FEEDS TO POWER, LIGHTING, LOW VOLTAGE AND FIRE ALARM DEVICES IN THE MECH./ELECT. ROOMS MAY BE INSTALLED SURFACE MOUNTED. DEVICES SHALL BE FED FROM SURFACE MOUNTED CONDUIT(S), UNLESS OTHERWISE NOTED OR REQUIRED BY CODE.
5. COORDINATE LOCATIONS AND MOUNTING HEIGHTS OF LIGHT FIXTURES WITH THE INTERIOR ELEVATIONS AND REFLECTED CEILING PLANS.
6. ALL PENDANT MOUNTED FIXTURES SHALL BE SECURELY HUNG FROM BUILDING STRUCTURE.
7. E.C. SHALL COORDINATE PROPER PLACEMENT OF OCCUPANCY SENSORS MOUNTED IN THE CEILING WITH THE MANUFACTURERS REPRESENTATIVE.
8. PROVIDE KEVLAR PULL STRINGS IN ALL SPARE CONDUITS.
9. E.C. SHALL COORDINATE FEEDER ROUTING WITH PLUMBING, MECHANICAL AND LOW VOLTAGE CONTRACTORS.
10. ANY NEW CONDUIT PENETRATIONS THROUGH WALLS SHALL BE APPROPRIATELY FIRE-STOPPED, SMOKE-STOPPED OR CAULKED WHEN PENETRATION SIZE EXCEEDS CONDUIT SIZE.

NEW/REPLACED PANEL #E

400A MCB, 277/480V-3PH.-4W
SURFACE MOUNTED, EATON PRL2A
FED FROM MAIN SWITCHBOARD

KEY	CIR.	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR.	KEY
		125/3	M.C.C. #2	---						
	1	20/1	LTS 350	---	A	---	GYM LTS - SOUTH CENTER	30/1	2	
	3	20/1	LTS 350	---	B	---	UNKNOWN LOAD	30/1	4	
	5	20/1	LTS 350	---	C	---	GYM LTS - SOUTH EAST	30/1	6	
	7				A	---	AVAILABLE SPARE	20/1	8	
	9	40/3*	ELEVATOR MOTOR (~15HP)	17460	B	---	AVAILABLE SPARE	20/1	10	
	11				C	---	GYM LTS - NORTH EAST	30/1	12	
	13	20/1	BASEMENT LTS	---	A	---	GYM LTS - EAST SIDE FLOOR	30/1	14	
	15	20/1	BASEMENT LTS	---	B	---	GYM LTS - NORTH CENTER WEST	20/1	16	
	17	20/1	BASEMENT LTS	---	C	---	GYM LTS	20/1	18	
	19	20/1	LTS BALCONY - SOUTH STAIR	---	A	---	GYM LTS	30/1	20	
	21	20/1	LTS BALCONY WEST	---	B	---	GYM LTS - SOUTH CENTER WEST	20/1	22	
	23	20/1	LTS 330	---	C	---	GYM LTS - SOUTH WEST	20/1	24	
	25	20/1	LTS - POOL EQUIP./STAIRS/ELEVATOR	2485	A	---	LTS 301	20/1	26	
	27	20/1	LTS - S. LOCKER RM AREA/CORR. 106&108	3204	B	---	LTS BTWN GYM & BAND ROOM	20/1	28	
	29	20/1	LTS - LOCKER RM 121A&120/A/OFFICES	2766	C	---	LTS 302	20/1	30	
	31	20/1	LTS - MULTIPURPOSE RM 184	3696	A				32	
	33	20/1	LTS - WEIGHT RM/BALCONY	3425	B	---	TRANSFORMER	100/3	34	
	35	20/1	INV-1	550	C				36	
	37	20/1	AVAILABLE SPARE	---	A	---	LTS 330	20/1	38	
	39	20/1	AVAILABLE SPARE	---	B	---	LTS 340-342	20/1	40	
	41	---		---	C	---		---	42	

NEW/REPLACED DIST. PANEL #3

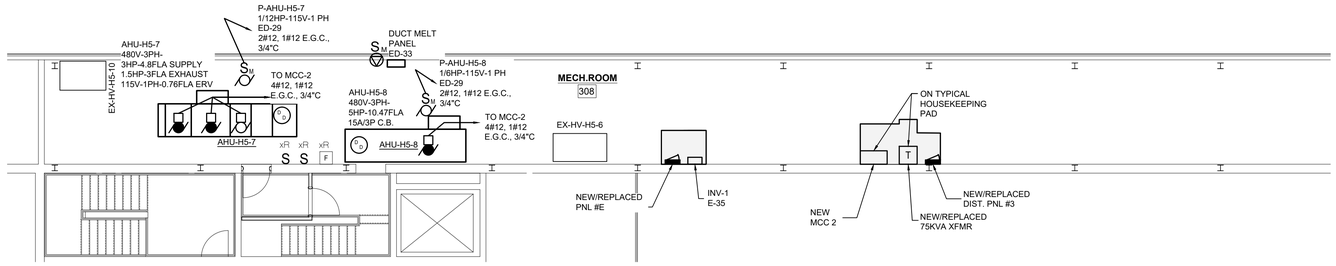
225A MLO, 120/208V-3PH.-4W
SURFACE MOUNTED, EATON POW-R-LINE C
FED FROM PANEL #E TRANSFORMER

KEY	CIR.	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR.	KEY
	1				A				2	
	3	70/3	LOWER POOL PANEL EA	---	B	---	MUSIC-CAFÉ PANEL EC	100/3	4	
	5				C				6	
	7				A				8	
	9	125/3	NEW PNL #ED	---	B	---	SHOWER PANEL EB	125/3	10	
	11				C				12	
	13	20/1	GYM BASKET-RELOCATED FROM DEMO PNL	---	A				14	
	15	20/1	GYM BASKET-RELOCATED FROM DEMO PNL	---	B	---	SPACE	--	16	
	17	20/1	GYM BASKET-RELOCATED FROM DEMO PNL	---	C				18	
	19	20/1	GYM BASKET-RELOCATED FROM DEMO PNL	---	A				20	
	21	--	SPACE	---	B	---	SPACE	--	22	
	23	---	SPACE	---	C				24	

NEW PANEL #ED

225A MLO, 120/208V-3PH.-4W
FLUSH MOUNTED, EATON PRL1A
FED FROM DISTRIBUTION PANEL #3

KEY	CIR.	CB/P	DESCRIPTION	LOAD	P	LOAD	DESCRIPTION	CB/P	CIR.	KEY
	1	20/1	RECEPT - W. MULTIPURPOSE 184	900	A	900	RECEPT - E. MULTIPURPOSE 184	20/1	2	
	3	20/1	RECEPT - S. MULTIP. 184/STOR. 127/128	900	B	1000	SCOREBOARD 184	20/1	4	
	5	20/1	RECEPT - PA SYSTEM RACK 127	360	C	720	RECEPT - N. CORR. 106	20/1	6	
	7	20/1	RECEPT - LOCKER RM 2 121A	900	A	900	RECEPT - LOCKER RM 1 120A	20/1	8	
	9	20/1	RECEPT - OFFICE 2 121B	900	B	900	RECEPT - OFFICE 1 120B	20/1	10	
	11	20/1	RECEPT - EWC/STAFF 120C/121C	1010	C	900	RECEPT - VAR. 2 121F/LOCKER RM 116	20/1	12	
	13	20/1	RECEPT - VAR. 1 120F/LOCKER RM 117	900	A	900	RECEPT - S. CORR. 106	20/1	14	
	15	20/1	RECEPT - OFFICE 115	720	B	720	RECEPT - OFFICE 118	20/1	16	
	17	20/1	RECEPT - STORAGE 112/113 & TOLIET 111/114	720	C	733	RECEPT - CORR. 118/STOR. 110/ LAUND. 109/WAC	20/1	18	
	19	20/1	RECEPT - OFFICE 306	720	A	720	RECEPT - N. BALCONY 303	20/1	20	
	21	20/1	RECEPT - N. WEIGHT 305/CORR. 303	720	B	900	RECEPT - W. WEIGHT 305	20/1	22	
	23	20/1	RECEPT - E WEIGHT 305	900	C	733	RECEPT - W. CHEER + WAC	20/1	24	
	25	20/1	RECEPT - E. CHEER 307	720	A	900	RECEPT - MECH. 307/CORR. 308/BALC. 303	20/1	26	
	27	20/1	RECEPT - UPPER MULTIP. 184	540	B	522	P-AHU-H5-9 & UH-307 - 307	20/1	28	
	29	20/1	P-AHU-H5-7 & P-AHU-H5-8 - 308	759	C	1000	ELEV. LTS & CNTRLS	20/1	30	
	31	20/1	DF-1 & DF-2	75	A	1000	ELEV. COMMS	20/1	32	
	33	20/1	DUCT MELT 308	1400	B	1400	DUCT MELT 307	20/1	34	
	35	20/1	SPARE	---	C	---	SPARE	20/1	36	
	37	20/1	SPARE	---	A	---	SPARE	20/1	38	
	39	---	SPACE	---	B	---	SPACE	---	40	
	41	---	SPACE	---	C	---	SPACE	---	42	



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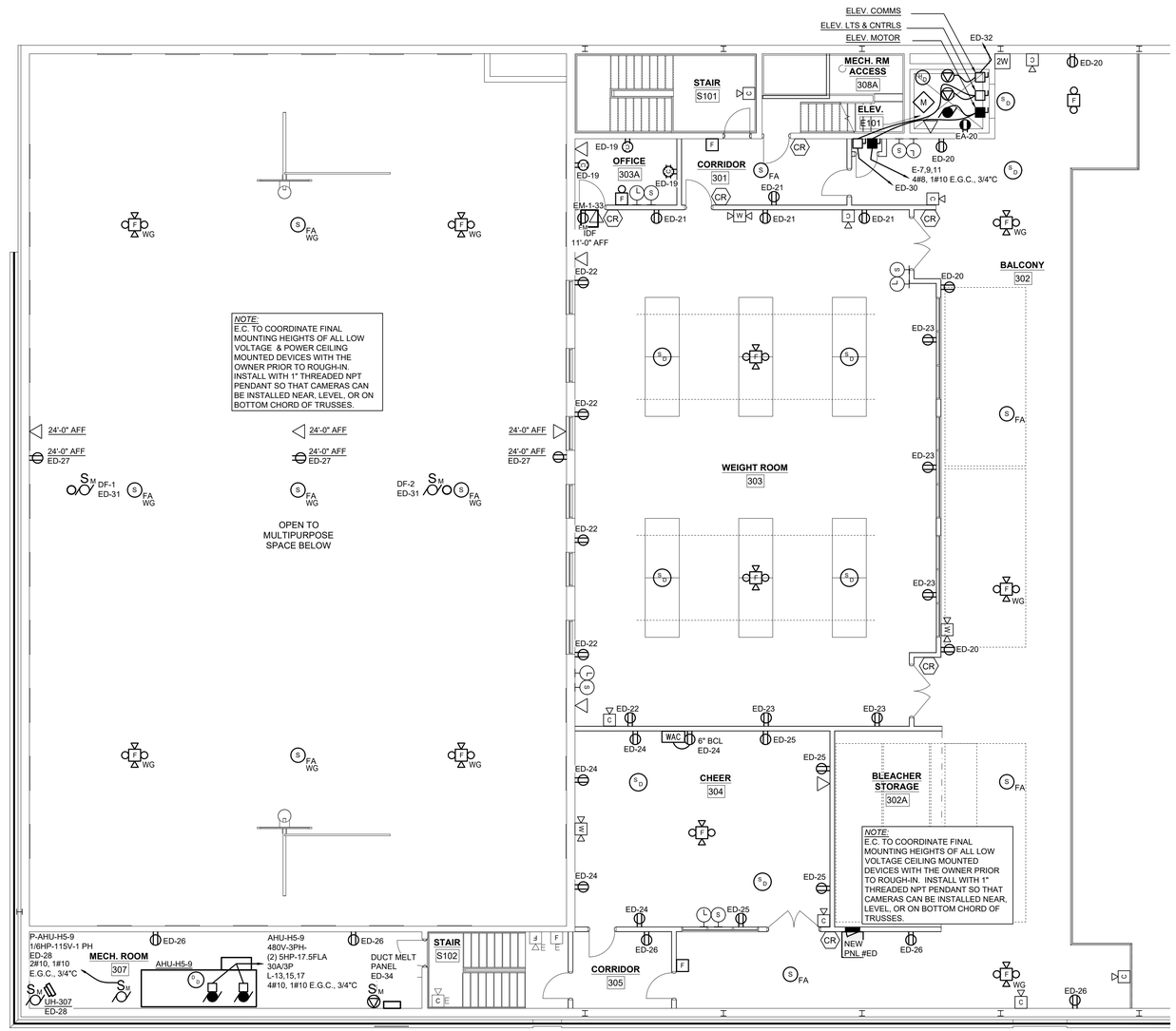
ELECTRICAL POWER MEZZANINE MECH. RM. PLAN

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



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ELECTRICAL POWER MEZZANINE FLOOR PLAN

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

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DRAFT: J. VANBROCKLIN
PROJECT NO: 25.503

SHEET TITLE:
ELECTRICAL POWER MEZZ. FLOOR PLAN

E102P

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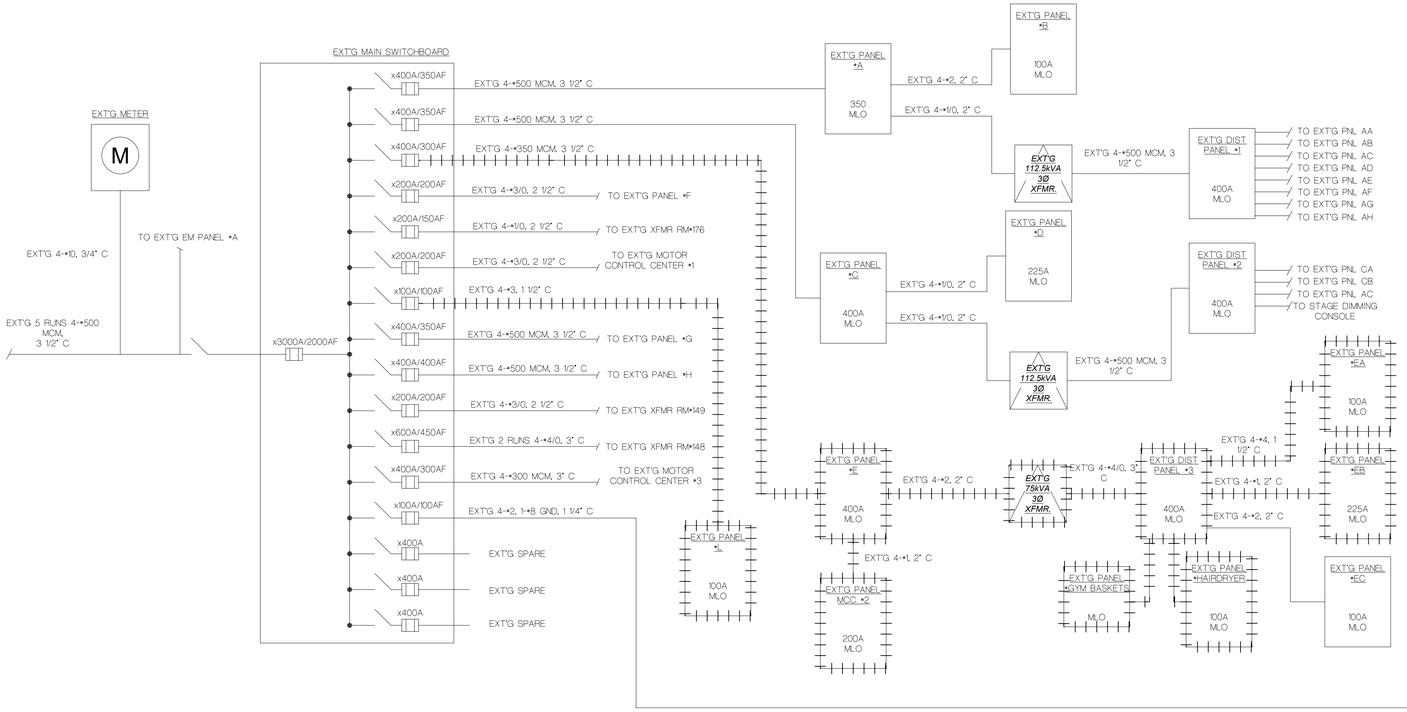
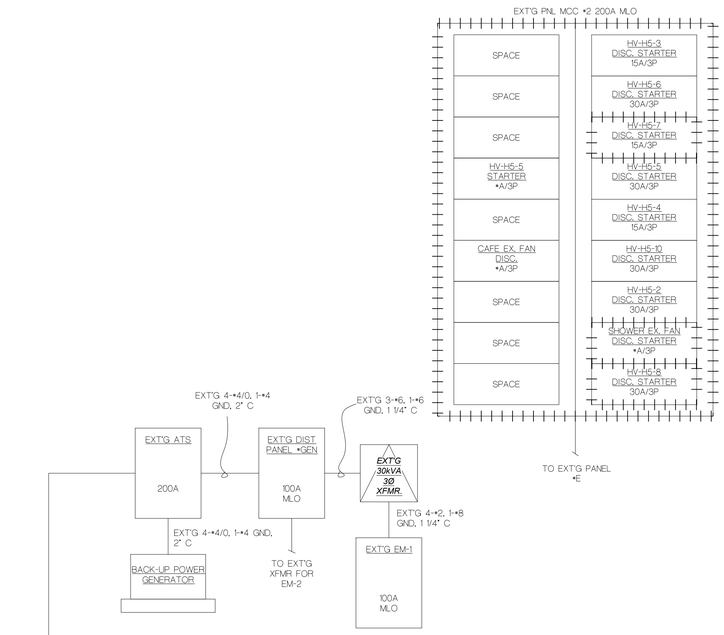
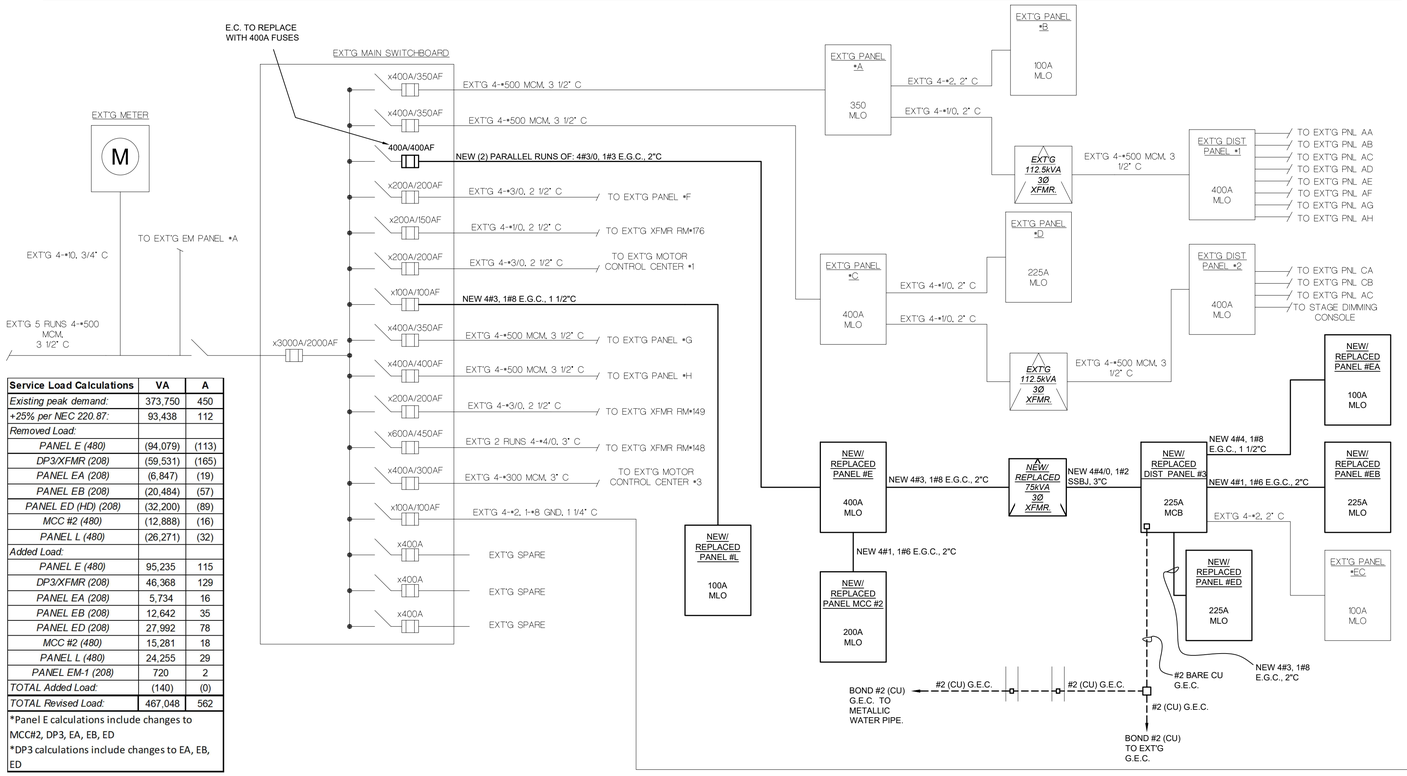
EXISTING ELECTRICAL RISER DIAGRAM N.T.S.



EXISTING MOTOR CONTROL CENTER #2 DETAIL



PROPOSED ELECTRICAL RISER DIAGRAM N.T.S.



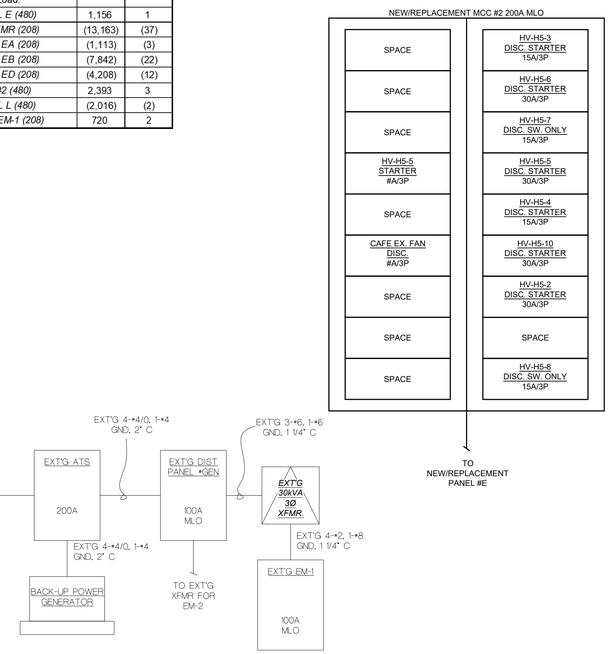
Service Load Calculations	VA	A
TOTAL Added Load:		
PANEL E (480)	1,156	1
DP3/XFMR (208)	(13,163)	(37)
PANEL EA (208)	(1,113)	(3)
PANEL EB (208)	(7,842)	(22)
PANEL ED (208)	(4,208)	(12)
MCC#2 (480)	2,393	3
PANEL L (480)	(2,016)	(2)
PANEL EM-1 (208)	720	2

Service Load Calculations	VA	A
Existing peak demand:	373,750	450
+25% per NEC 220.87:	93,438	112
Removed Load:		
PANEL E (480)	(94,079)	(113)
DP3/XFMR (208)	(59,531)	(165)
PANEL EA (208)	(6,847)	(19)
PANEL EB (208)	(20,484)	(57)
PANEL ED (HD) (208)	(32,200)	(89)
MCC #2 (480)	(12,888)	(16)
PANEL L (480)	(26,271)	(32)
Added Load:		
PANEL E (480)	95,235	115
DP3/XFMR (208)	46,368	129
PANEL EA (208)	5,734	16
PANEL EB (208)	12,642	35
PANEL ED (208)	27,992	78
MCC #2 (480)	15,281	18
PANEL L (480)	24,255	29
PANEL EM-1 (208)	720	2
TOTAL Added Load:	(140)	(0)
TOTAL Revised Load:	467,048	562

*Panel E calculations include changes to MCC#2, DP3, EA, EB, ED

*DP3 calculations include changes to EA, EB, ED

NEW/REPLACEMENT MOTOR CONTROL CENTER #2 DETAIL



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PROJECT NO: 25.503

SHEET TITLE: ELECTRICAL SCHEDULES & DETAILS

E200

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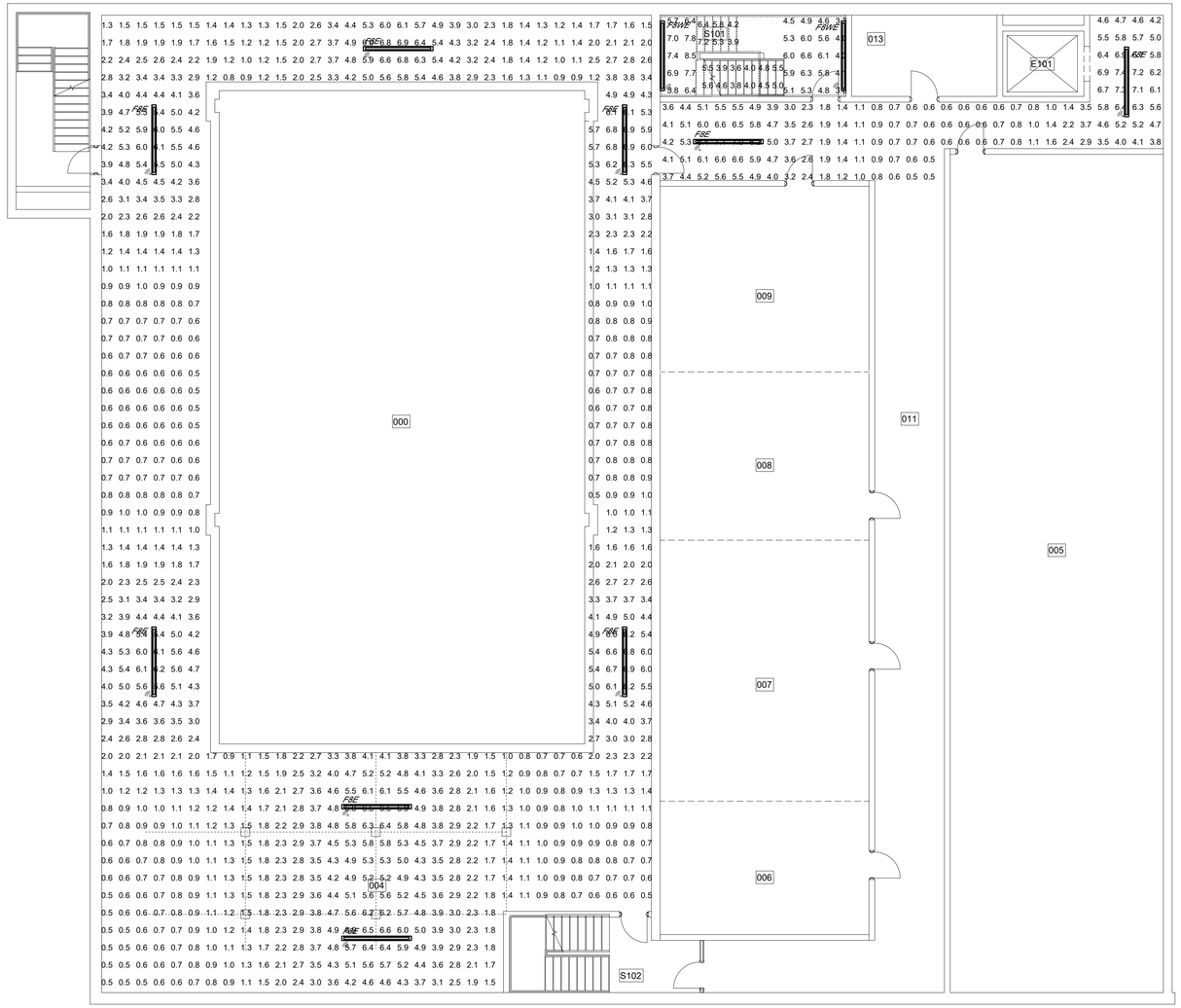
BASEMENT					
Room/Area	Average (fc)	Maximum (fc)	Minimum (fc)	Max/Min	Average/Min
POOL EQUIPMENT 004	2.5	6.9	0.5	13.8	5
CORRIDOR 011	3.3	7.4	0.5	14.8	6.6
STAIRS 101	4.2	10	1.6	6.3	2.7



N

EMERGENCY LTG. CALCS. BASEMENT FLOOR PLAN

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

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ELC1

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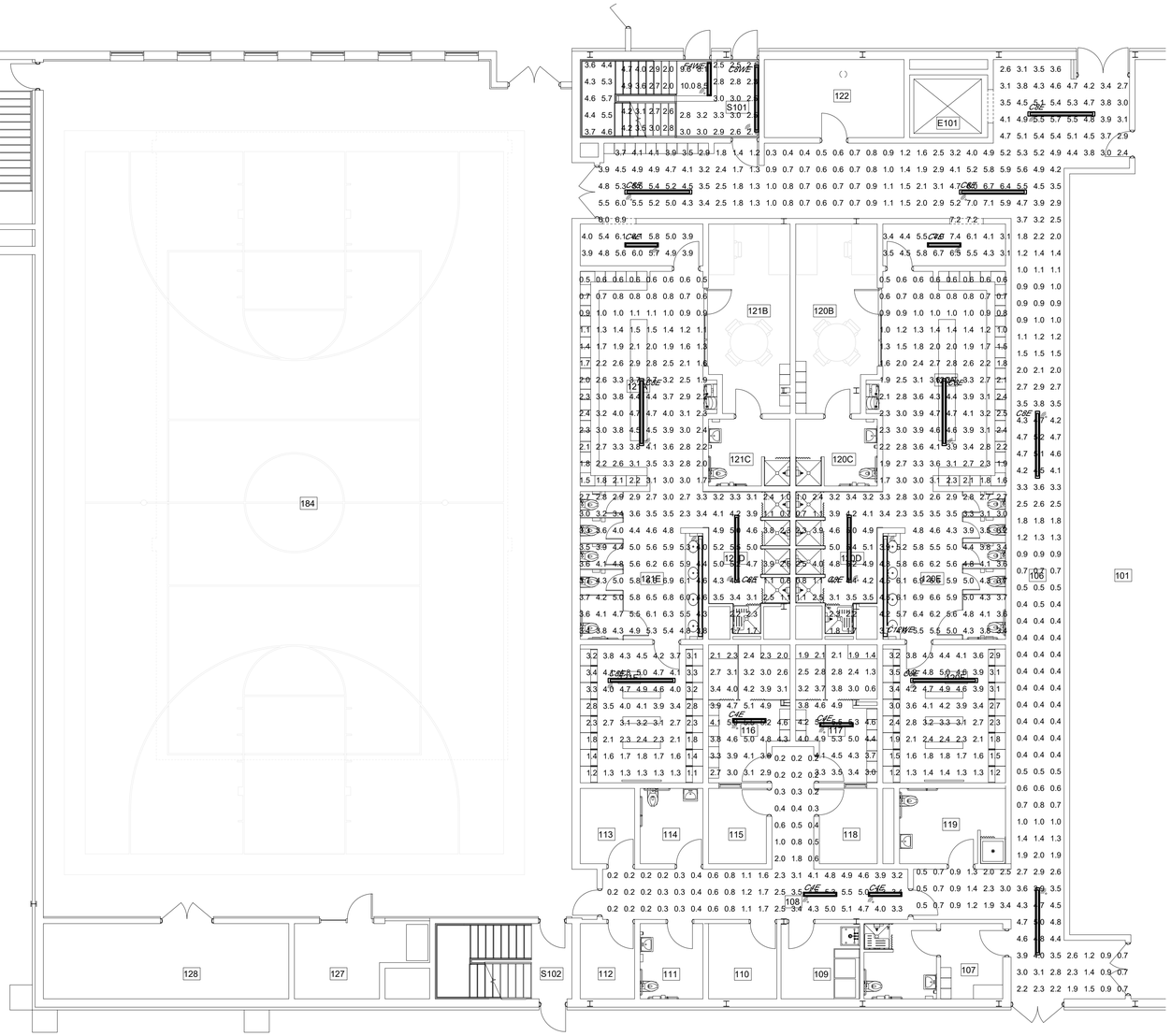
FIRST					
Room/Area	Average (fc)	Maximum (fc)	Minimum (fc)	Max/Min	Average/Min
STAIRS 101	4.2	10	1.6	6.3	2.7
VARSITY 1 120F	2.9	5	1.2	4.2	2.4
VARSITY 2 121F	2.9	5	1.1	4.5	2.6
CORRIDOR 106	2.8	7.4	0.3	24.7	9.3
CORRIDOR 108	1.7	5.5	0.2	27.5	8.5
LOCKER RM 116	3.7	5.5	2	2.8	1.9
LOCKER RM 117	3.5	5.5	0.6	9.2	5.8
LOCKER ROOM 1 120A	3.2	6.9	0.5	13.8	6.4
LOCKER ROOM 2 121A	3.2	6.9	0.5	13.8	6.4



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EMERGENCY LTG. CALCS. FIRST FLOOR PLAN

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

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HIGH SCHOOL

MULTI-PURPOSE ROOM RENOVATION

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Date	Issued For
03.09.2026	PERMITS
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PM: J. VANBROCKLIN
DRAFTS: J. VANBROCKLIN

PROJECT NO:
25.503

SHEET TITLE:
EMERGENCY LTG. CALCS. FIRST FLOOR PLAN

ELC2

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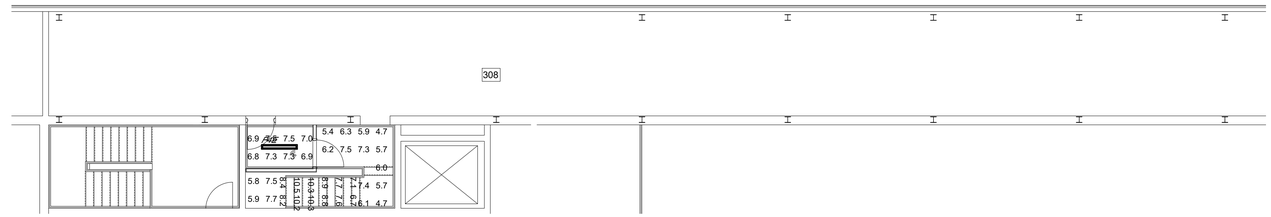
MEZZANINE				
Room/Area	Average (fc)	Maximum (fc)	Minimum (fc)	Max/Min	Average/Min
BALCONY 304	1.9	4.4	0.2	22	9.5
CHEER 306	2.1	5.2	0.7	7.4	3
CORRIDOR 302	5.7	9.2	2.1	4.4	2.7
CORRIDOR 308	7.3	9.7	4.6	2.1	1.6
MULTIPURPOSE ROOM 184	6.1	15	2.1	7.1	2.9
MECH ROOM VESTIBULE 308	7.2	7.5	6.8	1.1	1.1
MECH ROOM STAIRS	7.3	10.5	4.7	2.2	1.5
WEIGHT ROOM 305	1.5	5.1	0.4	12.8	3.8
STAIRS 101	4.2	10	1.6	6.3	2.7



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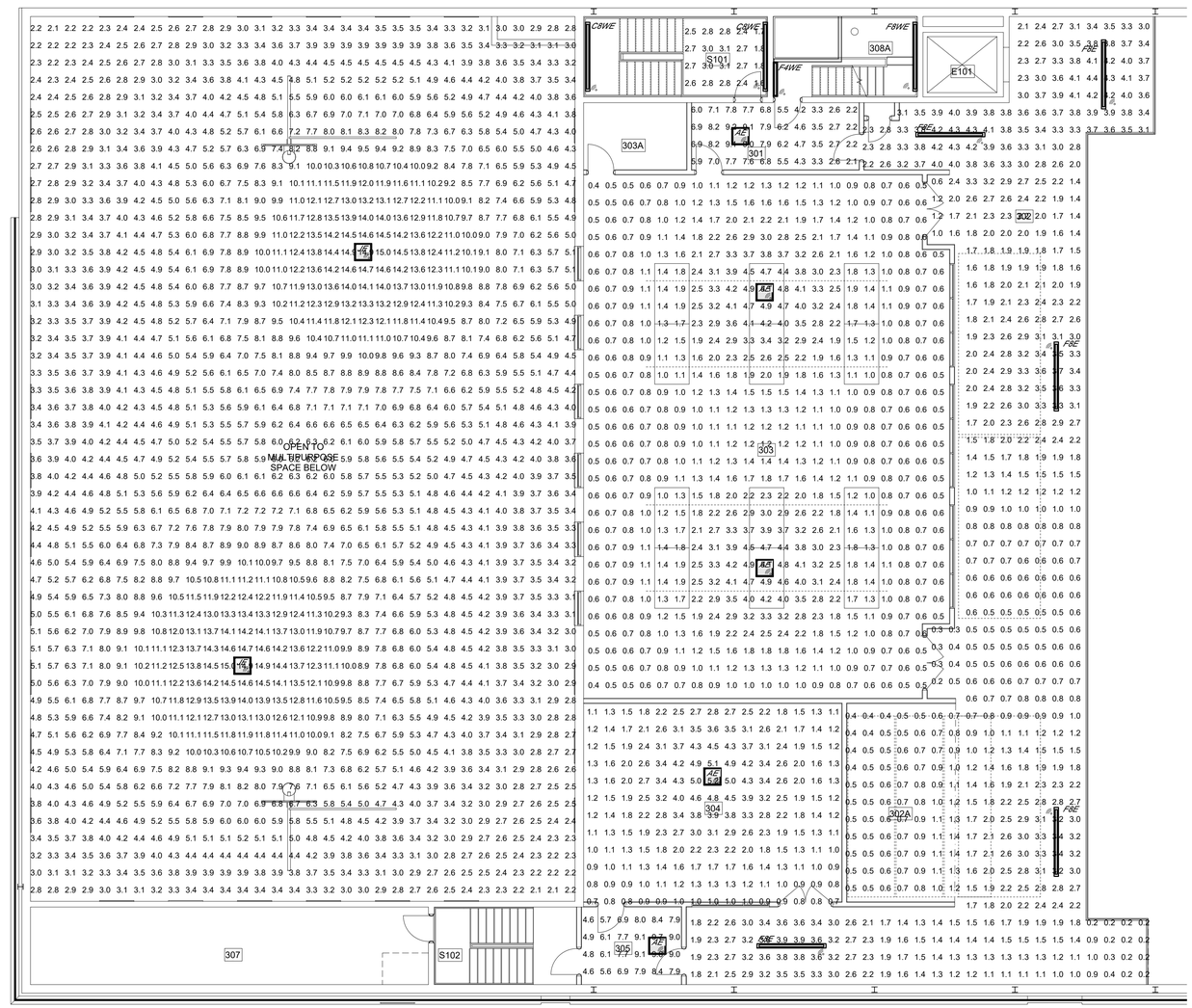
EMERGENCY LTG. CALCS MEZZANINE MECH. RM. PLAN
SCALE: 1/8" = 1'-0"



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EMERGENCY LTG. CALCS MEZZANINE FLOOR PLAN
SCALE: 1/8" = 1'-0"

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