Saint Paul Public Library

Hamline Midway

Design Report Appendix

SAINT PAUL PUBLIC LIBRARY

LSE ARCHITECTS

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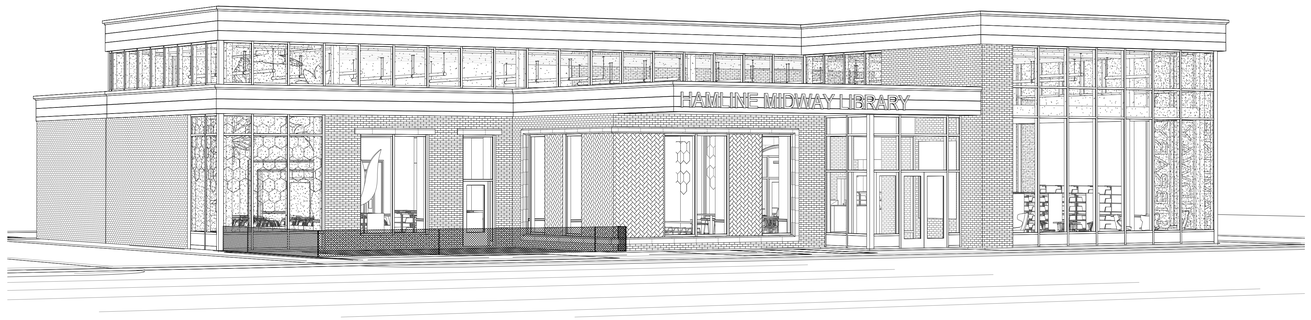
HAMLINE MIDWAY

Saint Paul Public Library

1558 West Minnehaha Avenue
Saint Paul, Minnesota 55104

75% Design Development



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HAMLINE MIDWAY

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No.	Date	Revision Description
	09.30.2022	75% DD
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75% DESIGN DEVELOPMENT

TITLE SHEET

Project	22.1035.01	**Drawing Number**
Date	09.30.2022	
Drawn by	CL	**A000**
Checked by		

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ABBREVIATIONS

A

AB	ANCHOR BOLT
AC	AIR CONDITIONER
ACB	ACOUSTIC CEILING BAFFLE
ACC	ACCESSORY
ACL	ACOUSTICAL CLOUD
AFL	ACCESS FLOORING
ACP	ACOUSTIC CEILING PANEL
ACT	ACOUSTIC CEILING TILE
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AGG	AGGREGATE
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
AP	ACCESS PANEL
APP	APPLIANCE
APPROX	APPROXIMATE
ARP	ACOUSTIC REFLECTIVE PANEL
ART	ARTWORK
AV	AUDIO VISUAL
AWP	ACOUSTIC WALL PANEL
ARP	ACOUSTIC REFLECTIVE PANEL

B

BM	BENCH MARK
BATT	BATT INSULATION
BD	BOARD
BFE	BOTTOM FOOTING ELEVATION
BG-	BUMPER GUARD
BIT	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
B.O.	BOTTOM OF
BOTT	BOTTOM
BR	BRICK
BRG	BEARING
BUR	BUILT-UP ROOF

C

CAB	CABINET
CB	CATCH BASIN
CBD	CEMENTITIOUS BOARD
CFM	CUBIC FEET PER MINUTE
CG	CORNER GUARD
CH	COAT HOOK
CHBD	CHALK BOARD
CHR	CHAIR RAIL
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLO	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
CONC	CONCRETE
CONF	CONFERENCE
CONT	CONTINUOUS
COL	COLUMN
CONST	CONSTRUCTION
CORR	CORRIDOR
CP	CEMENT PLASTER
CPT	CARPET
CPTB	CARPET BASE
CPTW	WALK OFF CARPET TILE
CS	CONCRETE SEALER
CSMU	CALCIUM SILICATE MASONRY UNIT
CST	CAST STONE
CSWK	CASEWORK
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTF	CERAMIC TILE FLOORING
CTW-	CERAMIC WALL TILE
CUH	CABINET UNIT HEATER
CW	CURTAIN WALL

D

DEFS	DIRECT APPLIED EXTERIOR FINISH
DEPT	DEPARTMENT
DEMO	DEMOLITION OR DEMOLISH
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DIR	DIRECTORY
DIS	DISPLAY CASE
DKG	DECKING
DN	DOWN
DR	DOOR
DRP	DRAPERY
DS	DOWNSPOUT
DWLS	DOWELS
DWG	DRAWING

E

E	EAST
EA	EACH
EFIS	EXTERIOR FINISHED INSULATION SYSTEM
EJ	EXPANSION JOINT
ELEC	ELECTRIC
ELEV	ELEVATION OR ELEVATOR
ENT	ENTRANCE
EP	EPOXY PAINT
EPB	EPOXY POURED BASE
EPF	EPOXY POURED FLOORING
EPW	EPOXY POURED WALL
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXP	EXPOSED
EXT	EXTERIOR

F

FB	FACE BRICK
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISHED FLOOR
FFE	FINISH FLOOR ELEVATION
FF&E	FURNISHINGS, FIXTURES, AND EQUIPMENT
FIN	FINISH
FIXT	FIXTURE
FLR	FLOOR
FO	FACE OF
FP	FIREPLACE / INSERT
FR	FIRE RATED
FRG	FIBERGLASS REINFORCED GYPSUM
FRP	FIBERGLASS REINFORCED PANELING
FT	FOOT OR FEET
FTG	FOOTING
FURR	FURRING
FV	FIELD VERIFY

G

GALV	GALVANIZED
GB / GYP BD	GYPSUM BOARD
GCMU	GLAZED CONCRETE MASONRY UNIT
GC	GENERAL CONTRACTOR
GL-	GLASS OR GLAZING
GLU-LAM	GLUE LAMINATED
GMU	GLASS MASONRY UNIT
GR	GROUT
GROM	GROMMET

H

HC	HANDICAPPED
HD	HAND DRYER
HDW	HARDWARE
HDWD	HARDWOOD
HT	HEIGHT
HM	HOLLOW METAL
HORZ	HORIZONTAL
HR	HOUR
HVAC	HEATING VENTILIATION AIR CONDITIONING

I

ID	INSIDE DIAMETER
INT	INTERIOR
INSUL	INSULATION
INV	INVERT

J

JAN	JANITOR
JBE	JOIST BEARING ELEVATION
JST	JOIST

K

KO	KNOCK OUT

L

LAB	LABORATORY
LAD	LADDER
LAV	LAVATORY
LF	LINEAL FOOT
LGT	LIGHT
LKR	LOCKER
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSE	LAWAL SCOTT ERICKSON
LVR	LOUVER
LWC	LINEAR WOOD CEILING

M

MAF	MODULAR ATHLETIC FLOORING
MAS	MASONRY
MAT	MATERIAL
MAX	MAXIMUM
MEB	MECHANICAL EPOXY WALL BASE COATING
MECH	MECHANICAL
MEF	MECHANICAL EPOXY FLOOR COATING
MEL	MELAMINE
MEMB	MEMBRANE
MET FAB	METAL FABRICATION
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM OR MINUTES
MISC	MISCELLANEOUS
MKBD	MARKER BOARD
ML	METAL LAMINATE
MLWK	MILLWORK
MO	MASONRY OPENING
MP	METAL PANEL
MPI	METAL PANEL INSULATED
MR	MIRROR
MT	METAL TRIM
MTL	METAL

N

N	NORTH
NACP	NON-ACOUSTICAL CEILING PANEL
NIC	NOT IN CONTRACT
NOM	NOMINAL
NO	NUMBER
NTS	NOT TO SCALE

O

OA	OVERALL
OC	ON CENTER
OCD	OVERHEAD COILING DOOR
OCG	OVERHEAD COILING GRILLE
OD	OUTSIDE DIAMETER
OFF	OFFICE
OPG	OPENING
OPP	OPPOSITE
ORN MET	ORNAMENTAL METAL ASSEMBLY
ORN RAIL	ORNAMENTAL RAILING
OSD	OVERHEAD SECTIONAL DOOR

P

PC	PRECAST CONCRETE
PCF	POLISHED CONCRETE FINISH
PERF	PERFORATED
PL	PLATE OR PLASTIC LAMINATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL OR PANELING
PS	PROJECTION SCREEN
PT	PAINT
PULL	CABINETRY PULL

Q

QT	QUARRY TILE
QTB	QUARRY TILE BASE
QZ	QUARTZ

R

R	RISER OR RADIUS
RAF	RESILIENT ATHLETIC FLOORING
RB	RESILIENT BASE
RD	ROOF DRAIN
REF	REFRIGERATOR
REINF	REINFORCED
REQ	REQUIRED
REV	REVERSE
RM	ROOM
RO	ROUGH OPENING
RP	RESIN PANEL
RSF	RESILIENT SHEET FLOORING
RST	RESILIENT STAIR TREAD
RTF	RESILIENT TILE FLOORING
RTS	RESILIENT TRANSITION STRIP
RWL	RAIN WATER LEADER

S

S	SOUTH
SC	SEALED CONCRETE
SCG	SIDE COILING GRILLE
SCHED	SCHEDULE
SCT	STATIC CONTROL TILE
SDT	STATIC DISSIPATIVE TILE
SECT	SECTION
SF	SQUARE FOOT / FEET
SG	SNOW GUARD
SGFT	STRUCTURAL GLAZED FACING TILE
SHP	SHOWER PAN
SIGN	SIGNAGE / IDENTIFYING DEVICE
SIM	SIMILAR
SLW-	SLATWALL
SPF	SPECIAL FINISH
SPEC	SPECIFICATION
SPPL	SAINT PAUL PUBLIC LIBRARY
SQ	SQUARE
SS	STAINLESS STEEL
SSM	SOLID SURFACE MATERIAL
ST	STAIN
STD	STANDARD
STL	STEEL
STN	STONE SLAB
STN-B	STONE TILE BASE
STN-T	STONE TILE
STOR	STORAGE
SUSP	SUSPENDED
SW	SWITCH
SYM	SYMMETRICAL

T

T & G	TONGUE AND GROOVE
TA	TOILET ACCESSORY
TBD	TO BE DETERMINED
TCP	TOILET COMPARTMENT PARTITION
TEL	TELEPHONE
TEMP	TEMPORARY
TFE	TOP OF FOOTING ELEVATION
THR	THRESHOLD
TKBD	TACKBOARD
TO	TOP OF
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TOW	TOP OF WALL
TR	TRIM
TV	TELEVISION OR MONITOR
TYP	TYPICAL
TZ	TERRAZZO
TZB	TERRAZZO BASE

U

UNO	UNLESS NOTED OTHERWISE
UPH	UPHOLSTERY

V

VFY	VERIFY
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VP-SF	VENEER PLASTER
VRB-	VENTED RUBBER BASE
VTC	VEHICLE TRAFFFIC COATING

W

W	WEST
WAF	WOOD ATHLETIC FLOORING
WC	WATER CLOSET OR WALLCOVERING
WD	WOOD
W / D	WASHER / DRYER
WD SHTG	WOOD SHEATHING
WDB	WOOD BASE
WDC	WOOD CEILING SYSTEM
WDF	WOOD FLOORING
WDP	WOOD PANEL
WDV	WOOD VENEER
WF	WINDOW FILM
WG	WALL GUARD
WGT	WEIGHT
WH	WATER HEATER
WP	WALL PROTECTION
WR	WASTE RECEPTACLE
WT	WINDOW TREATMENT
WVL	WOOD VENEER LAMINATE
WWF	WELDED WIRE FABRIC

Z

Z	ZEE CHANNEL

DRAWING SYMBOLS

(00) KEYNOTES	100A DOOR #
(00) WINDOW SHADE	W10 WINDOW
F1 FLOOR TAG	SF-10 STOREFRONT
W1 6" EXT WALL TAG	CW-10 CURTAIN WALL
R1 ROOF TAG	LV10 LOUVER
FINISHED FLOOR ELEVATION	A 4 MARKER BOARD
ROOM A100 ROOM NAME/ NUMBER	CPT-0 MATERIAL ID
A / B MATCH LINE	GRID NEW GRID
3 / A401 BUILDING SECTION	GRID EXISTING GRID
3 / A301 BUILDING / INTERIOR ELEVATION	FLOOR FINISH TRANSITION
3 / A301 FRAME ELEVATION	BREAK LINE
1 / A201 NAME SCALE — DETAIL # — SHEET #	NORTH — NORTH ARROW
A3 S # — WALL TYPE — ADDITIONAL INFORMATION — ACOUSTICAL	1 REVISION CLOUD

MATERIAL SYMBOLS

METAL PANEL	EARTH 45°
EXISTING CONSTRUCTION TO REMAIN	2 6 DIMENSIONAL LUMBER
REMOVE EXISTING CONSTRUCTION	PLYWOOD
EARTH	METAL
GRANULAR FILL	RIGID INSULATION
CONCRETE	BATT INSULATION
CONCRETE BLOCK	E.I.F.S.
BRICK	CEMENT PLASTER/ STUCCO / SAND
STONE , MARBLE, GRANITE	GYP. BD.
TERRAZZO	EXPANSION MATERIAL
FINISHED WOOD	ACOUSTICAL TILE/PANEL

GENERAL NOTES

1. PROVIDE WALL BLOCKING FOR ALL WALL SUPPORTED ITEMS INCLUDING BUT NOT LIMITED TO WALL CABINETS, TRIMS, WINDOWS TREATMENTS FASTENINGS, DOOR STOPS, TOILET ACCESSORIES, VISUAL DISPLAY BOARDS ETC.
2. SEE STRUCTURAL FOR ALL CONCRETE FLOOR RECESSES. PROVIDE POSITIVE SLOPE TO ALL FLOOR AND TRENCH DRAINS.
3. ALL CONCRETE BLOCK OUTSIDE CORNERS SHALL BE BULLNOSED UNITS UNLESS DETAILED OR NOTED OTHERWISE. CONTRACTOR TO ROUND OUTSIDE CORNERS OF ROCK FACE BANDS TO ALIGN WITH BURNISHED BLOCK BULLNOSE.
4. REFER TO SHEETS R101 FOR LOCATIONS OF ALL FIRE RATED BUILDING WALLS. PROVIDE FIRE RATED ASSEMBLY FOR ALL PENETRATIONS AND OPENINGS TO MEET THE REQUIRED FIRE RATINGS.
5. ALL JANITORS CLOSETS ARE TO BE PROVIDED WITH MATERIALS AS NOTED IN DETAIL _/____.
6. ALL CASEWORK IS NOTED ON INTERIOR ELEVATIONS.
7. REFER TO WALL TYPES AND STRUCTURAL DRAWINGS FOR THICKENED FLOOR SLABS.
8. CONTRACTOR/SUBCONTRACTOR TO VERIFY AND COORDINATE THE INSTALLATION OF ALL EQUIPMENT AND OWNER SUPPLIED ITEMS. BACKINGS, ROUGH-INS AND FINAL HOOK-UPS ARE TO BE COORDINATED BY GENERAL CONTRACTOR.
9. CONTRACTOR/SUBCONTRACTOR IS TO PROVIDE BACKING AS REQUIRED FOR MOUNTING OF ALL WALL, CEILING AND PARTITION MOUNTED ITEMS SUCH AS SHELVING, SPECIAL LIGHTING, TABLE BRACKETS, EQUIPMENT AND TELEVISIONS. LOCATIONS AND REQUIREMENTS ARE TO BE COORDINATED WITH PLUMBING, MECHANICAL, ELECTRICAL, FOOD SERVICE SUB-CONTRACTOR AND OWNER'S REPRESENTATIVE.
10. CONTRACTOR/SUBCONTRACTOR SHALL VERIFY LOCATIONS OF ALL FOOD SERVICE EQUIPMENT AND COORDINATE LOCATIONS OF FLOOR SINKS, FLOOR DRAINS, TROUGH DRAINS, SLAB DEPRESSIONS, RAISED CURBS, ELECTRICAL/PLUMBING STUBOUTS AND ALL OTHER WORK UNDER THE SCOPE OF RESPONSIBILITIES RELATED TO THIS EQUIPMENT. REFER TO DRAWINGS AND SPECIFICATIONS FOR CLARIFICATION.
11. GENERAL CONTRACTOR SHALL VERIFY WITH MECHANICAL CONTRACTORS ALL MECHANICAL DUCT SHAFTS, BOILER STACK, TOILET EXHAUST DUCTS, WATER CLOSET TRAPS, FLOOR DRAINS, ETC. BEFORE SETTING ANY FLOORS.
12. FIRE RATED WALLS AND ENCLOSURES BY GENERAL CONTRACTOR. VERIFY ALL PENETRATIONS BY OTHER TRADES. ALL CONTRACTORS/SUBCONTRACTORS ARE RESPONSIBLE FOR FIRE STOPPING AS REQUIRED.
13. EXTENT OF WORK (THIS PACKAGE).

GENERAL PARTITION NOTES

1. NOT ALL INTERIOR PARTITIONS SHOWN ON THIS SHEET ARE NECESSARILY USED IN THE PROJECT. SEE FLOOR PLANS FOR DESIGNATION OF PARTITIONS.
2. PARTITIONS SHALL BE TYPE **A3** UNLESS NOTED OR TAGGED OTHERWISE ON PLANS.
3. SEE "INTERIOR PARTITION TYPE SUBSCRIPT KEY" FOR SYMBOLS USED TO DESCRIBE PARTITION HEIGHTS AND ACOUSTICAL INSULATION.
4. PARTITION TYPES DESCRIBE GENERAL REQUIREMENTS FOR PARTITION CONSTRUCTION. REFER TO SPECIFICATIONS FOR REQUIREMENTS OF TESTING AGENCIES FOR SPECIFICS.
5. GYPSUM ASSOCIATION (GA) AND UNDERWRITER'S LABORATORIES, INC. (UL) WILL VARY DEPENDING ON THE MANUFACTURER OF COMPONENTS ACTUALLY USED. VARIATION FROM DESIGNATED UL NUMBERS SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.
6. TYPICAL FLOOR PLAN DIMENSIONS OF PARTITIONS ARE TO THE NOMINAL FINISHED FACE OF GYPSUM BOARD UNLESS NOTED TO THE CENTERLINE OF THE PARTITION. WHERE A CLEAR DIMENSION OR OPENING IS REQUIRED OR NOTED, MEASURE DIMENSION TO FINISHED FACE OF PARTITION.\
7. ALL WOOD BLOCKING IN WALL FOR ATTACHMENT OF WALL HUNG EQUIPMENT, TO BE FIRE TREATED
8. INSTALL 5/8" TYPE 'X' GYPSUM BOARD AT ALL PARTITIONS UNLESS NOTED OTHERWISE
9. REFER TO CODE PLANS FOR LOCATIONS OF SMOKE AND FIRE RATED WALLS AND SHAFTS.
10. ALL THROUGH-WALL PENETRATIONS IN RATED WALLS TO BE FIRESTOPPED / FIRE CAULKED AS REQUIRED TO MAINTAIN WALL FIRE RATING.
11. ALL THROUGH-WALL DUCTWORK IN RATED WALLS TO HAVE FIRE / SMOKE DAMPERS AS REQUIRED TO MAINTAIN WALL RATING AND MEET ALL APPLICABLE CODES. SEE MECHANICAL DRAWINGS.
12. ALL PARTITIONS SHALL BE ACOUSTICALLY RATED UNLESS NOTED OTHERWISE. ALL ELEMENTS OF ACOUSTIC RATED PARTITIONS SHALL EXTEND TO ROOF OR FLOOR DECK ABOVE.
13. INSTALL ACOUSTICAL SEALANT AT ACOUSTICALLY RATED PARTITIONS. SEE GENERAL PARTITION NOTES 19 AND 20.
14. WASTE LINES AND VERTICAL RAINWATER LEADERS TO BE SOUND INSULATED. ELECTRICAL (INCLUDING LOW-VOLTAGE) DEVICES AND BOXES TO BE OFFSET / STAGGERED FROM DEVICES AND BOXES ON OPPOSITE SIDE OF WALL. DO NOT INSTALL BACK TO BACK.
15. INSTALL GYPSUM TILE BOARD BACKER PANELS AND/OR CEMENT BACKER BOARD AT AREAS SCHEDULED TO RECEIVE CERAMIC TILE FINISH AND AS REQUIRED BY CODE. FOR WALLS SCHEDULED TO RECEIVE PAINT ABOVE CERAMIC TILE, INSTALL PAPER-FACED MOISTURE-RESISTANT GYPSUM BOARD PANELS TO PROVIDE A SMOOTH PAINTABLE SURFACE.
16. INSTALL IMPACT RESISTANT GYPSUM BOARD PANELS FROM FINSIHED FLOOR TO A HEIGHT OF 8'-0" AT CLASSROOMS AND CORRIDORS, AS NOTED ON PLANS
17. PENETRATIONS IN RATED PARTITIONS AND CONNECTIONS OF THE PARTITIONS TO OTHER PORTIONS OF THE WORK SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED DETAILS AND IN COMPLIANCE WITH APPLICABLE TESTING AGENCY REQUIRMENTS.
18. NOT USED
19. APPLY 1/4" MINIUMUM CONTINUOUS BEAD OF ACOUSTICAL SEALANT AT PERIMETERS OF PARTITIONS WHERE THEY MEET ADJACENT SURFACES INCLUDING APPLYING A DOUBLE BEAD AT UNDERSIDE OF RUNNER CHANNELS PRIOR TO ANCHORING TO FLOOR. SEAL CONSTRUCTION AT PERIMTERS, BEHIND CONTROL JOINTS AND AT OPENINGS AND PENETRATIONS.
20. INSERT ACOUSTICAL BATT INSULATION BACKING AND APPLY ACRYLIC-BASED SMOKE AND ACOUSTIC SEALANT AT GAPS OF1/2" OR MORE AROUND THROUGH-WALL PENETRATIONS INCLUDING, BUT NOT LIMITED TO SPRINKLER PIPING, ELECTRICAL CONDUITS AND MECHANICAL DUCTWORK. (GAPS LESS THAN 1/2" ARE STILL REQUIRED TO BE SEALED WITH ACOUSTICAL SEALANT.)
21. AT ALL EXTERIOR WALLS AND PARAPETS, WOOD BLOCKING AND SHEATHING EXCEEDING 24 INCHES ABOVE THE ROOF DECK USED IN ROOF CONSTRUCTION FOR EQUIPMENT SUPPORT, BUILDING OR ROOF SYSTEM JOINTS, SKYLIGHT OR MECHANICAL EQUIPMENT, CURBS, CANTS, BLOCKING AND BACKING, AND FOR PARAPET OR ROOF EDGE CONSTRUCTION SHALL BE FIRE-RETARDANT-TREATED WOOD.
22. AT ALL FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING. SUCH IDENTIFICATION SHALL:
    A. BE LOCATED IN ACCESSIBLE CONCEALED FLOOR, FLOOR-CEILING OR ATTIC SPACES;
    B. BE LOCATED WITHIN 15 FEET (4572 MM) OF THE END OF EACH WALL AND AT INTERVALS NOT EXCEEDING 30 FEET (9144 MM) MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION; AND
    C. INCLUDE LETTERING NOT LESS THAN 3 INCHES (76 MM) IN HEIGHT WITH A MINIMUM 3/8 INCH (9.5 MM) STROKE IN A CONTRASTING COLOR CORPORATING THE SUGGESTED WORDING. "FIRE AND/OR SMOKE BARRIER—PROTECT ALL OPENINGS" OR OTHER WORDING.

FINISH PLAN NOTES

A. REFER TO FINISH PLANS, ELEVATIONS, REFLECTED CEILING PLANS, ROOM FINISH SCHEDULE AND SPECIFICATIONS MANUAL FOR FURTHER FINISH INFORMATION.

B. DO NOT PAINT ANY PREVIOUSLY UNPAINTED EXISTING BRICK, STONE, OR GLAZED CMU, UNLESS NOTED OTHERWISE (U.N.O.).

C. PAINT ALL HARD SURFACE CEILINGS AND SOFFITS IN THE AREA OF WORK PT-X, FLAT FINISH, U.N.O.

D. EXISTING AND NEW GYP. BD. WALLS IN AREA OF WORK TO BE PAINTED PT-X, EGGSHELL FINISH, U.N.O.

E. ALL HOLLOW METAL DOOR FRAMES, METAL RAILINGS, STAIR PANS, STRINGERS, ETC. IN AREA OF WORK TO BE PAINTED PT-X, SEMI-GLOSS FINISH, U.N.O.

F. REFER TO ALL ALTERNATES FOR ADDITIONAL INFORMATION. SEE DWGS & SPECIFICATION MANUAL.

G. ALL CEILING INFORMATION IS LOCATED ON THE REFLECTED CEILING PLANS (RCP) AND DETAILS.

H. PREPARE OR REPAIR ALL SUBSTRATES AS RECOMMENDED BY THE MANUFACTURER AS NEEDED FOR PROPER FINISH MATERIAL INSTALLATION.

I. ALL NEW WINDOW SILLS TO BE SOLID SURFACE SS-X.

J. INSTALL STAINLESS STEEL CORNER GUARDS (CG-X) AT ALL OUTSIDE GYP. BD. CORNERS (TO BE PAINTED) WITHIN THE AREA OF WORK (TYP.).

K. PROVIDE TRANSITION STRIPS AT ALL FLOORING CHANGES. REFER TO SHEET A-XXX FOR TRANSITION TYPES PER CONDITION.

L. PROVIDE METAL TRANSITION STRIPS (MT) AT ALL OUTSIDE TILED CORNERS AND EXPOSED TILE EDGES. SEE ELEVATIONS FOR LOCATIONS AND PROJECT MANUAL FOR MORE INFORMATION.

M. SEE SHEET A-050 FOR TYPICAL MOUNTING HEIGHTS & FLOOR TRANSITION DETAILS

REFLECTED CEILING PLAN GENERAL NOTES

1. ALL CEILING DEMO AND REPLACEMENT WORK WILL BE REFERED TO IN ADD ALTERNATE #2 EXCEPT FOR THE CEILINGS IN THE MAIN ADMIN AREA THAT ARE BEING RENOVATED AS PART OF THE SECURE ENTRY ADDITION, THE FACS CLASSROOM AND THE CEILINGS IN THE LUNCH ROOM WHICH ARE COVERED UNDER THE BASE BID.
2. REFER TO PROJECT SPECIFICATION MANUAL FOR FURTHER PRODUCT AND INSTALLATION INFORMATION.
3. ALL HARDSURFACE CEILINGS IN AREA OF WORK TO BE PAINTED PT-1 U.N.O.
4. REPLACE 1X1 ACP CEILING IN THE LUNCHROOM WITH 2X4 CARDINAL PANELS AND REMOVE AND REINSTALL EXISTING PENDANT LIGHTS IN SAME LOCATION
5. EXTENT OF WORK (THIS PACKAGE).

ROOF PLAN GENERAL NOTES

1. TYPICAL ROOF MEMBRANE CONSISTS OF A 45 MIL. EPDM BALLAST ROOFING SYSTEM AS SPECIFIED. ENTRY CANOPY'S, VESTIBULES AND PORTE-COCHERE IS 60 MIL. EPDM ADHERED ROOFS.
2. TYPICAL ROOF INSULATION CONSISTS OF (2) LAYERS OF POLYISOCYANURATE INSULATION. (2" BASE LAYER AND 2" SECOND LAYER FOR R VALUE OF 22.24). 1/2" COVERBOARD TOP LAYER.
3. NUMBERS NOTED IN CIRCLES ON ROOF PLAN DENOTE TOTAL ROOF INSULATION THICKNESS EXCLUDING 1/4" COVER BOARD CAP. ROOF NOTE (R.S.T.) HAVE A 2" BASE LAYER AND A TAPERED TOP LAYER OF INSULATION WITH 1/4" COVER BOARD. ALL TAPERED INSULATION STARTS AT 1" MINIMUM THICKNESS.
4. REFER TO DETAIL __/A___ FOR VERTICAL LADDER DETAIL.
5. REFER TO DETAIL __/A____ FOR TYPICAL ROOF DRAIN.
6. REFER TO DETAIL __/A____ FOR TYPICAL METAL WALL/ROOF FLASHING AT GENERIC WALL INTERSECTION TRANSITIONS.
7. REFER TO DETAIL __/A____ FOR FLASHING DETAIL OF SINGLE PIPE, CONDUITS, ETC.
8. REFER TO DETAIL __/A____ FOR PLUMBING VENT STACK.
9. REFER TO DETAIL __/A____ FOR MECHANICAL MULTIPLE PIPE CURB AND BOX DETAIL.
10. REFER TO DETAIL __/A____ FOR MECHANICAL EQUIPMENT BOX CURB DETAIL.
11. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ALL ROOF OPENING SIZES, OPENING TYPES, LOCATIONS AND TYPES OF VENTS AND FLUES. AVOID PLACING EQUIPMENT IN DRAINAGE CREASES OF ROOF.
12. ROOF OVERFLOW DRAIN SHALL BE INSTALLED 2" ABOVE MAIN AREA ROOF DRAIN SPILL LINE. NOTE DISCHARGE RUN LOCATION. DO NOT INSTALL OVERFLOW ROOF DRAIN IN A SUMP CONDITION. (NOTED R.O.D. ON PLAN).
13. ALL ROOF OVERFLOW SCUPPERS SHALL BE 8" WIDE UNLESS NOTED OTHERWISE (NOTED R.O.S. ROOF PLAN). INSTALL 2" ABOVE PRIMARY DRAIN LINE.

ROOF ABBREVIATIONS

RSS	ROOF SLOPE (STRUCTURAL)
RST	ROOF SLOPED (TAPPERED INSULATION)
ROS	ROOF OVERFLOW SCUPPER
RS	ROOF SCUPPER
ROD	ROOF OVERFLOW DRAIN
RTU	ROOF TOP UNIT, SEE MECHANICAL
E-RS	EXISTING ROOF SCUPPER (FIELD VERIFY)

ROOF SYMBOLS

- PRIMARY ROOF DRAIN
- OVERFLOW ROOF DRAIN
- TAPERRED ROOF INSULATION
- EXISTING ROOF

DEMOLITION GENERAL NOTES

A. THESE DEMOLITION NOTES AND KEYNOTES MAY NOT NECESSARILY DESCRIBE ALL DEMOLITION AND PATCHING REQUIRED TO PERFORM THE WORK. REFER TO OTHER SHEETS IN THE CONSTRUCTION DOCUMENTS FOR DESCRIPTION OF WORK THAT MAY INVOLVE DEMOLITION NOT SHOWN ON THE DEMOLITION PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE DEMOLITION WORK REQUIRED TO PROVIDE A FULL AND COMPLETE PROJECT.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF THE EXISTING BUILDING AND STORAGE OF MATERIALS BEING REINSTALLED OR SALVAGED. IF DAMAGES TO THE EXISTING BUILDING OCCUR DURING DEMOLITION, THE CONTRACTOR OR SUB-CONTRACTOR RESPONSIBLE FOR THE DAMAGE WILL BE LIABLE FOR PROPER AND PERMANENT REPAIRS.

C. VERIFY EXISTING CONDITIONS AND DIMENSIONS. COORDINATE THE EXTENT OF DEMOLITION WORK TO REMAIN WITH NEW FLOOR PLAN AND PROJECT SITE PRIOR TO PRICING, FABRICATION AND INSTALLATION. NOTIFY ARCHITECT OF ANY CONFLICTS IMMEDIATELY.

D. WHERE WALLS OR PARTITIONS ARE INDICATED TO BE REMOVED: REMOVE ENTIRE WALL OR PARTITION (AS WELL AS DUCTS, PIPING, CONDUIT AND OTHER ELEMENTS IN OR ON THE WALL WHICH MAY OR MAY NOT BE SPECIFICALLY IDENTIFIED) UNLESS OTHERWISE NOTED. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS. COORDINATE WITH OWNER ALL EQUIPMENT TO BE SALVAGED.

E. REFER TO OWNER'S HAZARDOUS MATERIAL REPORT FOR EXTENT OF NECESSARY MATERIAL REMOVAL.

F. COORDINATE DEMOLITION WITH MECHANICAL, ELECTRICAL, AND PLUMBING NOTES.

G. AVOID DISRUPTION TO ADJACENT FLOORS/AREAS AS MUCH AS POSSIBLE. KEEP NOISE TO A LEVEL ACCEPTABLE TO THE OWNER BY SCHEDULING EXCESSIVE NOISE TASKS WITH OWNER. ALL SAW-CUTTING AND NOISE/VIBRATION-PRODUCING DEMOLITION / CONSTRUCTION TO BE SCHEDULED WITH OWNER AS NOT TO INTERFERE WITH SCHOOL ACTIVITIES. THIS MAY REQUIRE AFTER HOURS WORK.

H. PROVIDE DUST CONTROL BETWEEN CONSTRUCTION AREAS AND OCCUPIED AREAS AT ALL TIMES.

I. ALL SHUTDOWNS OF MECHANICAL, SPRINKLER, FIRE ALARM AND / OR ELECTRICAL SYSTEMS SHALL BE COORDINATED WITH OWNER.

J. ALL ITEMS INDICATED TO BE REMOVED FROM EXISTING WALLS, INCLUDING, BUT NOT LIMITED TO: (BLACK BOARDS, TACK BOARDS, MARKER BOARDS, BUMPER RAILS, CORNER GUARDS, MIRRORS, ETC.) SHALL BE RETURNED TO THE OWNER, UNLESS NOTED OTHERWISE. PATCH WALLS AS REQUIRED FOR NEW FINISHES.

K. PROVIDE FIRE EXTINGUISHER PER CODE AT ALL TIMES THROUGHOUT DEMOLITION / CONSTRUCTION AREAS.

L. PROVIDE A SAFE MEANS OF EGRESS THROUGH AND / OR AROUND BUILDING & SITE AT ALL TIMES.

M. PRIOR TO REMOVING FURNITURE, EQUIPMENT AND CASEWORK, CONTRACTOR TO VERIFY WITH OWNER WHICH ITEMS ARE TO BE SALVAGED AND THEIR STORAGE LOCATIONS.

N. SALVAGE EXISTING EQUIPMENT IN SHOPS, INDUSTRIAL TECHNOLOGY AND SCREEN PRINTING ROOMS FOR RE-INSTALLATION / RE-USE. VERIFY TEMPORARY LOCATION WITH CONSTRUCTION MANAGER.

O. WHERE EXISTING WALLS ARE TO BE DEMOLISHED, REMOVE ASSOCIATED STUDENT LOCKERS AND BASES IN THEIR ENTIRETY.

P. REFER TO EXISTING DRAWINGS AVAILABLE ON THE A360 TEM WEBSITE.

DEMOLITION CEILING NOTES

A. REFER TO OWNER'S HAZARDOUS MATERIALS REPORT FOR EXTENT OF NECESSARY MATERIAL REMOVAL.

B. COORDINATE DEMOLITION WITH MECHANICAL, ELECTRICAL, PLUMBING NOTES AND ROOF SPEC DRAWINGS.

C. DEMOLISH EXISTING CEILING TO B.O. STRUCTURE, INCLUDING ALL ACP, GRID AND SPLINE CEILINGS. COORDINATE DEMOLITION OF LIGHTING AND MECHANICAL SYSTEMS WITH ELECTRICAL AND MECHANICAL, PREPARE FIRE SPRINKLER SYSTEM FOR RECONFIGURATION AS REQUIRED.

D. ALL EXISTING CEILINGS WITH 1X1 ACT TO BE REMOVED AND REPLACED WITH CARDINAL DIRECT-ATTACHED ACT CEILING PRODUCT UNLESS NOTED OTHERWISE.

INSTALLATION OF GYP.BD. / SOFFITS / CEILINGS

1. GENERAL: FOR TRIM WITH BACK FLANGES INTENDED FOR FASTENERS, ATTACH TO FRAMING WITH SAME FASTENERS USED FOR PANELS. OTHERWISE, ATTACH TRIM ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE TYPE WITH FACE FLANGE TO RECEIVE JOINT COMPOUND EXCEPT WHERE SEMI-FINISHING TYPE IS INDICATED.
2. INSTALL METAL CORNER BEADS AT OUTSIDE OR EXTERNAL CORNERS.
3. INSTALL METAL EDGE TRIM WHENEVER EDGE OF GYPSUM BOARD WOULD OTHERWISE BE EXPOSED OR SEMI-EXPOSED.
4. INSTALL CONTROL JOINTS WHERE INDICATED; IF NOT INDICATED, INSTALL CONTROL JOINTS IN SPECIFIC LOCATIONS APPROVED BY ARCHITECTS FOR VISUAL EFFECT.
    A. SPACING
        a. DO NOT EXCEED 30 FEET O.C. MAXIMUM FOR WALLS.
        b. DO NOT EXCEED 50 FEET O.C. MAXIMUM FOR CEILINGS WITH PERIMETER RELIEF, AND 30 FEET O.C. MAXIMUM FOR CEILINGS WITHOUT PERIMETER RELIEF.
        c. REGARDLESS OF SPACING INDICATED ABOVE, DO NOT EXCEED 2500 SQ. FT. OF CEILING AREAS WITH PERIMETER RELIEF AND 900 SQ. FT. WITHOUT PERIMETER RELIEF.

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No.	Date	Revision Description
	09.30.2022	75% DD
	10.26.2022	City Comments

75% DESIGN DEVELOPMENT

GENERAL NOTES, ABBREVIATIONS AND SYMBOLS

Project	22.1035.01	**Drawing Number**
Date	09.30.2022	
Drawn by	Author	A001
Checked by	Checker	

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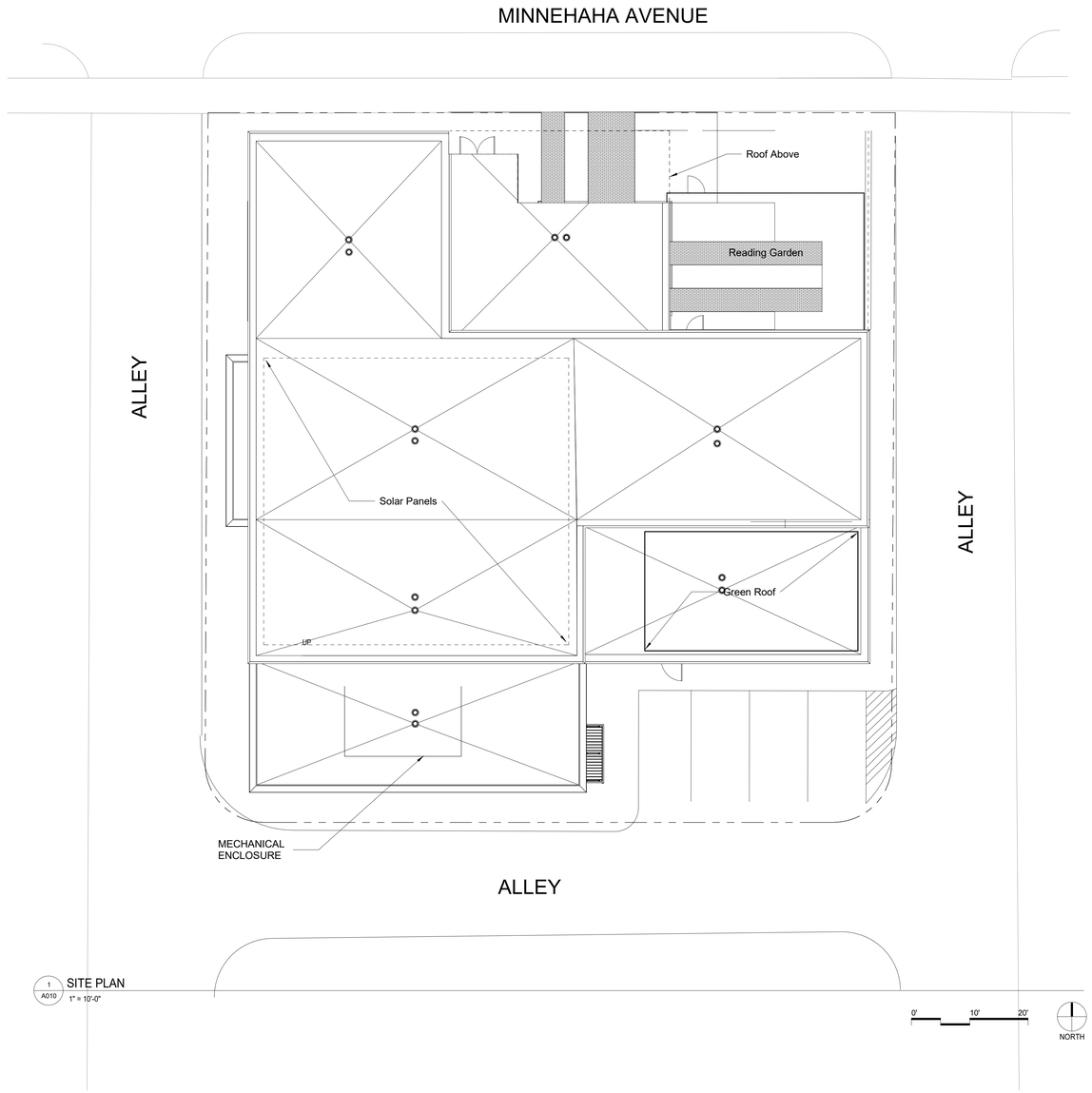

1 A010 SITE PLAN
1" = 10'-0"

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SITE PLAN

Project	22.1035.01	**Drawing Number**
Date	09.30.2022	
Drawn by	Author	
Checked by	Checker	**A010**

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APPLICABLE CODES

CODE REVIEW:	CITY OF SAINT PAUL DEPARTMENT OF SAFETY AND INSPECTION (DSI)
CODE ENFORCEMENT:	CITY OF SAINT PAUL DSI
ZONING ORDINANCE:	CITY OF SAINT PAUL
BUILDING CODE:	2020 MSBC (MINNESOTA STATE BUILDING CODE)
ACCESSIBILITY CODE:	2020 MN ACCESSIBILITY CODE
MECHANICAL CODE:	2020 MN MECHANICAL AND FUEL GAS CODE
PLUMBING CODE:	2020 MN STATE PLUMBING CODE
FIRE CODE:	2020 MSFC (MINNESOTA STATE FIRE CODE)
ELECTRICAL CODE:	2020 NATIONAL ELECTRIC CODE, NFPA 70
ENERGY CODE:	2020 MN ENERGY CODE
ELEVATOR CODE:	2020 MSBC, CHAPTER 1307
ALTERATIONS CODE:	2020 MN CONSERVATION CODE FOR EXISTING BUILDINGS

A. OCCUPANCY CLASSIFICATION (Chapter 3)

GROUP	DESCRIPTION OF AREA
A-3	Libraries
B	Administration, Offices (304.1)
S-2	Mechnical Rooms

MIXED USE: ACCESSORY OCCUPANCIES (§508)

No separation between Occupancies A and S-2 is required when fully sprinklered. (Table 508.4)

INCIDENTAL USE AREAS (§509)

Mechanical / Storage

B. TYPE OF CONSTRUCTION (§602, Table 601)

TYPE II-B

C. ALLOWABLE HEIGHTS AND BUILDING AREA (§504, Table 504.3, 504.4)

Occupancy: A-3

Allowed: Height = 75' (Sprinkled), 55' (Unsprinkled)
Stories = 3 Stories (Sprinkled), 2 Stories Unsprinkled)
Actual: Height = 35'
Stories = 2 Story

D. FULLY SPRINKLERED BUILIDNG

Automatic Sprinkler System

E. ALLOWABLE HEIGHTS AND BUILDING AREA (Chapter 5) (Cont. D)

Allowable areas with modifications (506.1, 506.2, and 506.3) See below.

F. FIRE RESISTIVE REQUIREMENT BY TYPE OF CONSTRUCTION NEW ADDITION BUILDING 4 (Table 601)

1. PRIMARY STRUCTURAL FRAME	0 HR.
2. BEARING WALLS - EXTERIOR:	0 HR.*
3. BEARING WALL - INTERIOR:	0 HR.
4. NONBEARING WALLS - EXTERIOR:	0, SEE ITEM BELOW.
5. NONBEARING WALL - INTERIOR:	0 HR.
6. FLOOR CONSTRUCTION:	0 HR.
7. ROOF CONSTRUCTION:	0 HR / 0 HR. IF GREATER THAN 20' ABOVE FLOOR

Note:
Automatic sprinkler system in accordance w/ section 903 shall be allowed to be substituted for 1 hr fire resistance rated construction.

*Protection of openings, ducts, and air transfer openings in building elements shall not be required unless required by another provision in the code (602.1)

G. EXTERIOR WALL AND OPENING PROTECTION (Table 602)

FIRE RESISTANCE REQUIREMENTS FOR EXTERIOR & INTERIOR BEARING WALLS BASED ON FIRE SEPARATION:
X > 30' - Group A: 0 HR requirement (all sides > 30' open space)
10 ≥ X < 30' - Group A, II-B: 0 HR requirement
X<10' - GOUP A II-B: 1 HR

H. OCCUPANT LOAD AND EXITING REQUIREMENTS (Chapter 10)

Maximum Floor Area per occupant (§1004.1.2)

STAFF WORK AREAS	BUSINESS	150 GSF
MECH / STORAGE	INCIDENTAL / ACCESSORY (A OCC.)	300 GSF
MEETING ROOMS	ASSEMBLY	15 NET
READING ROOMS	LIBRARY	50 NSF
STACK AREA	LIBRARY	100 GSF

I. OCCUPANT LOAD AND EXITING REQUIREMENTS § 1004.1, Table 1004.5

SPACES WITH ONE EXIT OR EXIT ACCESS DOOR WAY (§1006.2.1)

Occupancy	Max. Occupant Load
A	49
S	29

NUMBER OF EXITS REQUIRED (Table 1006.3.2)

500 < OCCUPANT LOAD ≤ 1,000	(3) EXITS REQUIRED
OCCUPANT LOAD > 1,000	(4) EXITS REQUIRED

ACCESS TO EXITS (1007.1.2)

Where access to (3) or more exits is required, at least (2) exit doors shall be arranged such that the separation distance of the exit doors or exit access doorways shall not be less than one-third of the length of the maximum overall dimension of the area served.

CORRIDORS

RATING:	NON-RATED (TABLE 1020.1)
WIDTH:	44" MINIMUM (TABLE 1020.2)
DEAD ENDS:	20' MAXIMUM (TABLE 1020.4)

CORRIDOR RATINGS (TABLE 1018.1, w/ sprinkler system)

Occupancy	Occ. Load	Rating (Hours)
A & S	≤ 30	0
A & S	> 30	0

DOORS

Door width not less than 32" and maximum leaf size 48" (1010.1.1)
Exit width factor @ doors: (Section 1005.3.2) .15
w/ automatic sprinkler system and an emergency voice / alarm communication system.

EXIT ACCESS TRAVEL DISTANCE (Table 1017.2, w/ Sprinkler System)

OCCUPANCY	ALLOWABLE	ACTUAL MAX. DISTANCE
A	250	SEE PLANS
S-2	400'	SEE PLANS

COMMON PATH OF EGRESS TRAVEL (Table 1006.2.1, w/ Sprinkler System)

OCCUPANCY	ALLOWABLE	ACTUAL MAX. COMMON
A	75'	SEE PLANS
S	100'	SEE PLANS

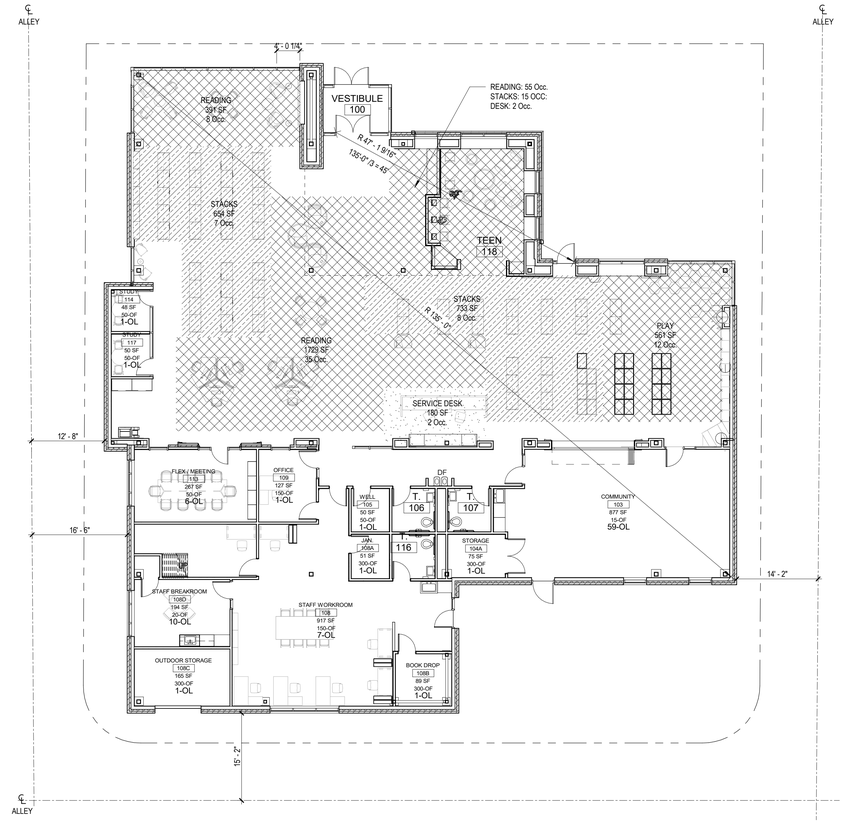
CHAPTER 29 PLUMBING SYSTEMS

GROUP	WATER CLOSETS			LAVATORIES			DF	SERVICE SINK
OCC. COUNT.	MALE	FEMALE	UNISEX	MALE	FEMALE	UNISEX		
A-2 EVENT	1/75=	1/75=		1/200=	1/200=		1/500=	
165 OCC. REQ:	**1.1**	**1.1**		**0.41**	**0.41**		**0.33**	**1**
GROUP	WATER CLOSETS			LAVATORIES			DF	SERVICE SINK
OCC. COUNT.	MALE	FEMALE	UNISEX	MALE	FEMALE	UNISEX		
B BUSINESS	1/25 FIRST 50; 1/50 REMAIN>	1/25 FIRST 50; 1/50 REMAIN>		1/40 FIRST 40; 1/80 REMAIN>	1/40 FIRST 40; 1/80 REMAIN>		1/100=	
20 OCC. REQ:	**0.4**	**0.4**		**0.25**	**0.25**		**0.2**	**1**

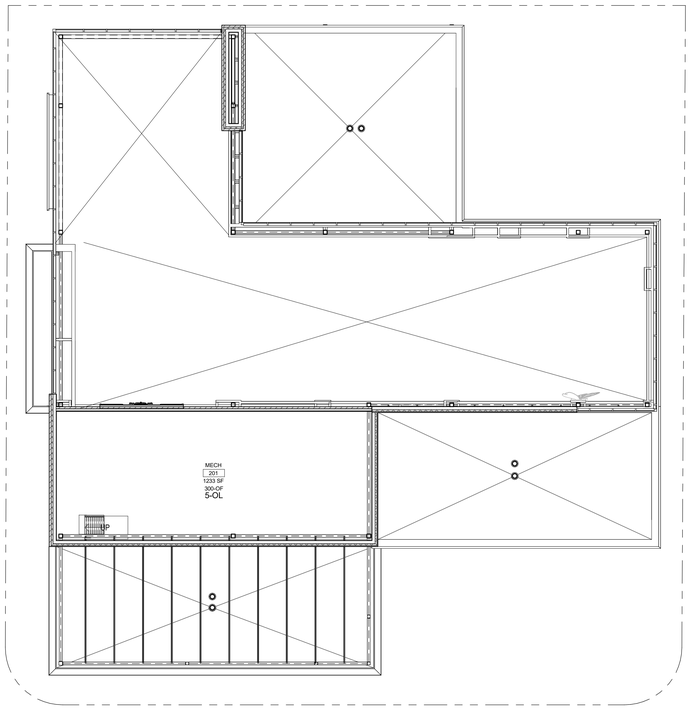
TOTALS	WATER CLOSETS			LAVATORIES			DF	SERVICE SINK
	MALE	FEMALE	UNISEX	MALE	FEMALE	UNISEX		
REQUIRED	**1**	**2**	**0**	**1**	**1**	**0**	**1**	**1**
PROVIDED	**0**	**0**	**3*****	**0**	**0**	**3*****	**2**	**1**

***UNISEX WATER CLOSETS DISTRIBUTED EQUALLY BETWEEN MEN AND WOMEN

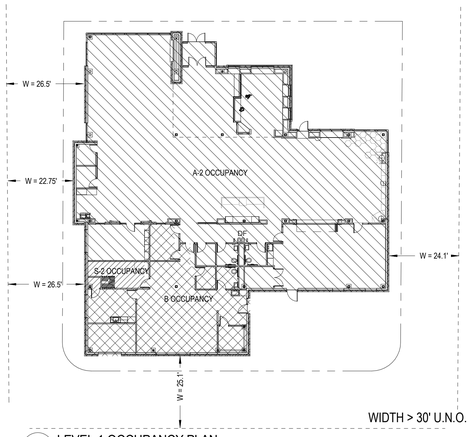
** URINALS SHALL NOT BE SUBSITUTED FOR MORE THAN 67% OF THE REQUIRED WATER CLOSETS.



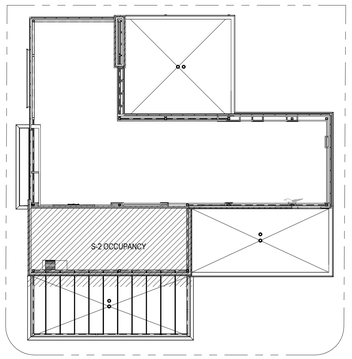
1 A020 LEVEL 1 CODE PLAN
3/32" = 1'-0"



2 A020 LEVEL 2 CODE PLAN
3/32" = 1'-0"



3 A020 LEVEL 1 OCCUPANCY PLAN
3/64" = 1'-0"



4 A020 LEVEL 2 OCCUPANCY PLAN
3/64" = 1'-0"

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75% DESIGN DEVELOPMENT

CODE REVIEW PLANS

Project	22.1035.01	**Drawing Number**
Date	09.30.2022	
Drawn by	Author	**A020**
Checked by	Checker	

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EROSION CONTROL NOTES

1. APPLY AND ACQUIRE NPDES PERMIT. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS WITHIN STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
2. SEE SWPPP NARRATIVE AND PLANS (C300 SERIES) AND SPECIFICATION 312500 FOR FURTHER INFORMATION AND DIRECTION OF EROSION AND SEDIMENT CONTROL MEASURES AND MONITORING.
3. INSTALL PERIMETER EROSION CONTROL AT THE LOCATIONS SHOWN ON THE PLANS PRIOR TO BEGINNING CONSTRUCTION. (HAY BALES ARE NOT AN ACCEPTABLE PERIMETER CONTROL). EROSION CONTROL SHALL BE PLACED ALONG THE PERIMETER OF THE SITE EXCAVATION. EROSION CONTROL SHALL BE PLACED SO IT DOES NOT DISTURB THE EXISTING PAVEMENT OR DRIVE LANES THAT ARE TO REMAIN. MANY METHODS OF EROSION CONTROL WILL WORK AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL THE MEASURE MOST APPROPRIATE TO THE SITE CONDITIONS AND THAT WHICH MEETS THE CITY OF ST. PAUL AND MPCA STANDARDS. PERIMETER EROSION CONTROL IS GRAPHICALLY SHOWN ON THE PLANS AT THE LIMITS OF CONSTRUCTION FOR CLARITY BUT SHALL BE PLACED IN THE MOST APPROPRIATE LOCATIONS NOT TO DAMAGE EXISTING PAVEMENT AND/OR CURBS TO REMAIN. DAMAGED PAVEMENT AND/OR CURBS SHALL BE PAID FOR SOLELY BY THE CONTRACTOR. SEE DETAILS AND SPECIFICATIONS.
4. INSTALL TREE PROTECTION FENCING AROUND ALL TREES TO REMAIN PRIOR TO BEGINNING CONSTRUCTION, SEE DETAILS.
5. BEFORE BEGINNING CONSTRUCTION, INSTALL A TEMPORARY ROCK CONSTRUCTION ENTRANCE AT EACH POINT WHERE VEHICLES EXIT THE CONSTRUCTION SITE. USE TWO INCH OR GREATER DIAMETER ROCK IN A LAYER AT LEAST 12 INCHES THICK ACROSS THE ENTIRE WIDTH OF THE ENTRANCE. EXTEND THE ROCK ENTRANCE AT LEAST 50 FEET INTO THE CONSTRUCTION ZONE. USE A GEOTEXTILE FABRIC BENEATH THE AGGREGATE IN ORDER TO PREVENT MIGRATION OF SOIL INTO THE ROCK FROM BELOW. SEE DETAILS. OTHER METHODS OF VEHICULAR CONSTRUCTION ENTRANCES MEET MPCA REQUIREMENTS AND MAY BE ALLOWED IN LIEU OF ROCK ENTRANCES. CONTRACTOR SHALL SUBMIT ALTERNATE METHODS FOR REVIEW BY ENGINEER PRIOR TO INSTALLATION.
6. REMOVE ALL SOILS AND SEDIMENTS TRACKED OR OTHERWISE DEPOSITED ONTO PUBLIC AND PRIVATE PAVEMENT AREAS. REMOVAL SHALL BE ON A DAILY BASIS WHEN TRACKING OCCURS. SWEEPING MAY BE ORDERED BY AT ANY TIME IF CONDITIONS WARRANT. SWEEPING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION AND DONE IN A MANNER TO PREVENT DUST BEING BLOWN TO ADJACENT PROPERTIES.
7. INSTALL INLET PROTECTION AT ALL PUBLIC AND PRIVATE CATCH BASIN INLETS WHICH RECEIVE RUNOFF FROM THE DISTURBED AREAS. CATCH BASIN INSERTS ARE REQUIRED IN UNDISTURBED AREAS THAT RECEIVE RUNOFF FROM DISTURBED AREAS. NOTE: HAY BALES OR FILTER FABRIC WRAPPING THE GRATES ARE NOT EFFECTIVE OR AN ACCEPTABLE FORM OF INLET PROTECTION.
8. LOCATE SOIL OR DIRT STOCKPILES NO LESS THAN 25 FEET FROM ANY PUBLIC OR PRIVATE ROADWAY OR DRAINAGE CHANNEL. IF REMAINING FOR MORE THAN SEVEN DAYS, STABILIZE THE STOCKPILES BY MULCHING, VEGETATIVE COVER, TARPS, OR OTHER MEANS. CONTROL EROSION FROM ALL STOCKPILES BY PLACING SILT BARRIERS AROUND THE PILES. TEMPORARY STOCKPILES LOCATED ON PAVED SURFACES MUST BE NO LESS THAN TWO FEET FROM THE DRAINAGE/GUTTER LINE AND SHALL BE COVERED IF LEFT MORE THAN 24 HOURS.
9. MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES IN PLACE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. INSPECT TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ON A DAILY BASIS AND REPLACE DETERIORATED, DAMAGED, OR ROTTED EROSION CONTROL DEVICES IMMEDIATELY.
10. TEMPORARILY OR PERMANENTLY STABILIZE ALL CONSTRUCTION AREAS WHICH HAVE BEEN FINISH GRADED AND ALL AREAS IN WHICH GRADING OR SITE BUILDING CONSTRUCTION OPERATIONS ARE NOT ACTIVELY UNDERWAY AGAINST EROSION DUE TO RAIN, WIND AND RUNNING WATER WITHIN 7-14 DAYS. USE SEEDING AND MULCHING, EROSION CONTROL MATTING, AND/OR SODDING AND STAKING IN GREEN SPACE AREAS. APPLICATION OF GRAVEL BASE ON AREAS TO BE PAVED RECOMMENDED TO MINIMIZE EROSION POTENTIAL.
11. REMOVE ALL TEMPORARY SYNTHETIC, STRUCTURAL, NON-BIODEGRADABLE EROSION AND SEDIMENT CONTROL DEVICES AFTER THE SITE HAS UNDERGONE FINAL STABILIZATION AND PERMANENT VEGETATION HAS BEEN ESTABLISHED. MINIMUM VEGETATION ESTABLISHMENT IS 70% COVER, MAINTAIN ALL TEMPORARY EROSION CONTROL DEVICES UNTIL 70% ESTABLISHED COVER IS ACHIEVED.
12. READY MIXED CONCRETE AND CONCRETE BATCH PLANTS PROHIBITED WITHIN THE PUBLIC RIGHT-OF-WAY. UNDER NO CIRCUMSTANCES MAY WASHOUT WATER DRAIN ONTO THE PUBLIC RIGHT-OF-WAY OR INTO THE STORM SEWER. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DESIGNATED CONCRETE WASHOUT AREA THAT COMPLIES WITH MPCA REQUIREMENT.
13. ALL EROSION CONTROL ELEMENTS ARE TEMPORARY. CONTRACTOR TO INSTALL EROSION CONTROL ELEMENTS PRIOR TO START OF LAND DISTURBING ACTIVITIES, MAINTAIN IN GOOD CONDITION DURING CONSTRUCTION AND REMOVE FROM THE SITE UPON COMPLETION OF FINAL PAVING AND TURF ESTABLISHMENT.
14. CONTRACTOR TO PROVIDE TEMPORARY SEED AND MULCH ON ALL NON-PAVED AREAS WITHIN 7 DAYS AFTER ROUGH GRADING IS COMPLETED. SEED WITH ANNUAL RYE SEED AT 60 LBS PER ACRE AND WOOD MULCH FIBER AT 45 LBS PER 1,000 SF.
15. CONTRACTOR TO PREVENT DIRT AND/OR DEBRIS FROM ENTERING STORM SEWER OR BEING TRANSPORTED OFF-SITE IN AN UNCONTROLLED MANNER. CONTRACTOR TO VERIFY AT PROJECT CLOSEOUT THAT STORM SEWER SYSTEM AND STORMWATER MANAGEMENT SYSTEM IS CLEAR OF SEDIMENT AND/OR DEBRIS AND IS FULLY FUNCTIONAL.
16. STRAWBALES ARE NOT ALLOWED ON SITE IN ANY CAPACITY.

NOTES

1. ALL EXISTING INFORMATION TAKEN FROM SURVEY BY SUNDE LAND SURVEYING CERTIFICATION DATED APRIL 15, 2022.
2. SUBSURFACE GEOTECHNICAL INVESTIGATION PREPARED BY ? PROJECT ? DATED ?.
3. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING LOCATIONS OF EXISTING UTILITIES, AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION.
4. ALL AREAS DISTURBED BY CONSTRUCTION WHICH ARE OUTSIDE THE LIMITS OF PAVING ARE TO BE RESTORED AND REVEGETATED.
5. ALL UTILITY DEMOLITION AND/OR ABANDONMENT TO BE PERFORMED IN ACCORDANCE WITH THE CITY OF SAINT PAUL AND STATE OF MINNESOTA REGULATIONS AND STANDARDS.
6. EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS. CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WHICH MAY INCLUDE BUT IS NOT LIMITED TO: ELECTRIC, TELEPHONE, GAS, CABLE TV, COMPUTER CABLE, FIBER OPTIC CABLE, SANITARY SEWER, STORM SEWER, STEAM, CONDENSATE, ELECTRICAL DUCTBANK AND WATERMAIN. CONTRACTOR TO CONTACT GOPHER ONE-CALL BEFORE EXCAVATING.
7. ALL EXISTING UTILITIES AND OTHER IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE.
8. CONTRACTOR TO PROTECT FROM DAMAGE ALL EXISTING IMPROVEMENTS, LANDSCAPING, STRUCTURES AND UTILITIES THAT ARE TO REMAIN. CONTRACTOR TO REPAIR ANY DAMAGE AT OWN EXPENSE.
9. ALL WORK TO CONFORM WITH CITY OF SAINT PAUL AND STATE OF MINNESOTA STANDARDS AND REGULATIONS.
10. ALL EXCAVATIONS MUST COMPLY WITH THE REQUIREMENTS OF OSHA 29 CFR, PART 1926, SUBPART P "EXCAVATIONS AND TRENCHES". THIS DOCUMENT STATES THAT EXCAVATION SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
11. PROVIDE BARRICADES AT STREETS AND SIDEWALKS PER CITY OF SAINT PAUL AND MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD).
12. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO STARTING CONSTRUCTION.
13. ALL MATERIALS FOR PROPOSED CONSTRUCTION OR REPAIR OF EXISTING FACILITIES SHALL BE NEW PRODUCTS DIRECT FROM THE FACTORY AND FREE FROM DEFECTS.
14. WHEN WORKING AROUND EXISTING TELEPHONE OR ELECTRICAL POLES, THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.
15. WHEN WORKING AROUND EXISTING UTILITIES THAT BECOME EXPOSED, THE CONTRACTOR SHALL PROVIDE SUFFICIENT SUPPORT TO PREVENT EXCESSIVE STRESS ON THE PIPING. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.
16. CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION AND ELEVATION OF EXISTING STORM AND SANITARY SEWER PRIOR TO THE START OF CONSTRUCTION. IF ELEVATIONS DIFFER FROM SURVEYED ELEVATIONS SHOW ON PLAN, REPORT DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.
17. SITE UTILITY CONTRACTOR TO FURNISH AND INSTALL ALL WATERMAIN, SANITARY SEWER AND STORM SEWER FACILITIES AND APPURTENANCES TO WITHIN FIVE FEET OUTSIDE THE BUILDING. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND DEPTH OF CONNECTION WITHIN BUILDING.
18. CATCH BASINS AND MANHOLES ARE SHOWN ON PLAN LARGER THAN ACTUAL SIZE. COORDINATE LOCATION OF MANHOLE COVER AND CASTING SO THAT IT IS PROPERLY LOCATED AT THE BACK OF CURBLINE FOR THE CURB INLETS OR CENTERED IN THE AREA AS SHOWN ON THE PLAN FOR THE AREA DRAINS AND MANHOLE COVERS.
19. CONTRACTOR SHALL COORDINATE WITH ARCHITECT'S DRAWINGS TO VERIFY LOCATION, SIZE AND QUANTITY OF ALL ROOF DRAINS AND UTILITY CONNECTIONS. LIMITS OF PROPOSED SITE PLUMBING FACILITIES SHALL BE FIVE FEET FROM EDGE OF BUILDING UNLESS OTHERWISE NOTED.
20. PROVIDE THE FOLLOWING MINIMUM COVER OVER THE TOP OF PIPE AS FOLLOWS:
    A. 8' OVER WATERMAIN
    B. 5' OVER SANITARY SEWER
    C. 2' OVER STORM SEWER
    D. 1' OVER STORM SEWER DRAINTILE
21. ALL WATERMAIN AND SERVICES TO BE INSTALLED IN ACCORDANCE WITH CITY OF SAINT PAUL WATER STANDARDS. ALL WATER MAIN AND SERVICES TO BE INSTALLED IN ACCORDANCE WITH RECOMMENDED STANDARDS FOR WATER WORKS BY THE GREAT LAKES UPPER MISSISSIPPI RIVER BOARD OF STATE PUBLIC HEALTH AND ENVIRONMENTAL MANAGERS (TEN-STATE STANDARDS), CITY ENGINEER'S ASSOCIATION OF MINNESOTA SPECIFICATIONS (CEAMS) AND STATE OF MINNESOTA PLUMBING CODE, LATEST EDITIONS.
22. ALL PAVEMENT MARKINGS WITHIN EXISTING CITY OF SAINT PAUL PAVEMENT AREAS TO BE RESTORED TO MATCH EXISTING UNLESS NOTED OTHERWISE.
23. MAXIMUM CROSS-SLOPES FOR SIDEWALKS AND ADA ACCESS ROUTES SHALL NOT EXCEED 2.00%. MAXIMUM SLOPES FOR ADA PARKING STALLS AND ADA ACCESS AISLES SHALL NOT EXCEED 2.00% IN ANY DIRECTION. MAXIMUM RUNNING SLOPE FOR ALL SIDEWALKS SHALL NOT EXCEED 5.00%.
24. THE CONTRACTOR SHALL PROVIDE A CONTINUOUS, ACCESSIBLE AND SAFE PEDESTRIAN WALKWAY THAT MEETS ADA AND MINNESOTA MUTCD STANDARDS IF WORKING IN A SIDEWALK AREA, AND TRAFFIC CONTROL PER MINNESOTA MUTCD REQUIREMENTS FOR WORK IN THE PUBLIC RIGHT-OF-WAY.
25. WASTE MATERIALS INCLUDING PAVEMENT REMOVED DURING CONSTRUCTION, WASTE PIPING AND SUPPLIES, CONSTRUCTION DEBRIS AND EXCESS EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR.
26. CONTRACTOR SHALL NOT BLOCK DRAINAGE FROM OR DIRECT EXCESS DRAINAGE ONTO ADJACENT PROPERTY.
27. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY EXISTING DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY. ALL CONSTRUCTION STORM RUNOFF SHALL COMPLY WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS.
28. CARE MUST BE TAKEN DURING CONSTRUCTION AND EXCAVATION TO PROTECT ANY SURVEY MONUMENTS AND/OR PROPERTY IRONS.
29. COORDINATE SCHEDULING OF CLOSURES AND RE-OPENINGS OF EGRESSES, LOADING DOCKS, DUMPSTERS, DRIVEWAYS, SIDEWALKS AND ROADS WITH OWNER AND CITY OF SAINT PAUL. TRAFFIC CONTROL SIGNAGE, TEMPORARY WALKWAYS AND TEMPORARY DRIVEWAYS TO CONFORM WITH CITY OF SAINT PAUL AND STATE OF MINNESOTA REQUIREMENTS AND STANDARDS.
30. DRAWINGS DO NOT INDICATE AREAS OF TEMPORARY SUPPORT SYSTEMS. THE CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS AND WILL HAVE TOTAL CONTROL OVER THE TYPES AND DESIGN OF ALL SHORING, SHEETING, BRACING, ANCHORAGES, EXCAVATION SUPPORT WALLS, DIRECTIONAL BORING, AUGER JACKING, SOIL STABILIZATION AND OTHER METHODS OF PROTECTING EXISTING IMPROVEMENTS. SEE SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS.
31. STORAGE AND PROTECTION OF EXISTING SITE FEATURES WHICH NEED TO BE REMOVED AND REPLACED FOR CONSTRUCTION OF PROJECT ARE THE RESPONSIBILITY OF THE CONTRACTOR. STORAGE SHALL BE WITHIN THE LIMITS OF STAGING AREA. CONTRACTOR SHALL PREVENT DAMAGE OR THEFT OF THESE ITEMS AND TO REPLACE AT OWN EXPENSE.
32. CONTRACTOR TO RECORD EXISTING CONDITIONS (PHOTOGRAPHS, VIDEO PHOTOGRAPHY, FIELD SURVEYING, ETC.) TO ENABLE RECONSTRUCTION TO MATCH EXISTING CONDITIONS AS REQUIRED. CONTRACTOR TO DOCUMENT EXISTING CONDITIONS SO THAT RECONSTRUCTED AREAS WILL HAVE POSITIVE DRAINAGE SIMILAR TO EXISTING.
33. WHERE DEMOLITION, EXCAVATION, UNDERPINNING, PILE DRIVING, COMPACTING OR SIMILAR WORK IS TO BE PERFORMED ADJACENT TO OR IN THE IMMEDIATE VICINITY OF EXISTING STRUCTURES, THE CONTRACTOR WILL PROVIDE BUILDING SURVEYS AND SEISMIC MONITORING.
34. ALL EXISTING BUILDING EXITS AND DRIVEWAYS SHALL REMAIN UNOBSTRUCTED AND USABLE AT ALL TIMES. IF THERE ARE UNAVOIDABLE EXCEPTIONS, THEN CONTRACTOR SHALL PROVIDE TEMPORARY EXIT PLANS TO THE OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
35. SANITARY SEWER PIPE AND FITTINGS TO BE POLYVINYL CHLORIDE (PVC), SDR 26 MINIMUM AND COMPLY WITH ASTM D3034 AND F679. JOINTS TO BE SOLVENT CEMENT OR FLEXIBLE WATERTIGHT.
36. STORM SEWER PIPE TO BE REINFORCED CONCRETE PIPE (RCP), ASTM C76, CLASS 5, WITH GASKETED JOINTS OR POLYVINYL CHLORIDE (PVC) SDR 26 MINIMUM COMPLYING WITH ASTM D3034 AND F679 WITH SOLVENT CEMENT OR FLEXIBLE WATERTIGHT JOINTS, PER SPECIFICATIONS AS NOTED ON PLAN.
37. WATERMAIN TO BE DUCTILE IRON PIPE (DIP) THICKNESS CLASS 52 FOR 8" DIP AND THICKNESS CLASS 53 FOR 4" AND 6" DIP, ANSI A-21.51, 150 PSI WORKING PRESSURE MINIMUM. TYPE K COPPER SHALL BE USED FOR PIPES LESS THAN 4" DIAMETER.
38. MAINTAIN 10 FEET HORIZONTAL AND 3 FEET VERTICAL SEPARATION BETWEEN WATER AND SEWER PIPES.
39. WHERE PRACTICABLE INSTALL WATERMAIN GATE VALVES WITHIN GREEN SPACE AREAS TWO FEET OFFSET FROM THE MAIN. SIDEWALKS SHALL BE STAKED AND EXACT LOCATIONS OF WATER VALVES COORDINATED IN THE FIELD, TYPICAL FOR ALL.
40. SEQUENCING OF UTILITIES AND STRUCTURAL SYSTEMS SHALL BE CAREFULLY COORDINATED. CONTRACTOR SHALL ALSO TAKE CARE TO PROTECT SERVICE CONNECTIONS AND ADJACENT PARALLEL UTILITY LINES WHILE FORMING AND PLACING CONCRETE FOR OTHER HEAVY CONSTRUCTION WITHIN THE AREA. CONSTRUCTABILITY OF THE STRUCTURAL SYSTEMS SHALL TAKE INTO ACCOUNT ANY UTILITY WORK SO PIPE/CONDUIT OR STRUCTURES ARE NOT DISPLACED, CRUSHED, OR OTHERWISE ADVERSELY AFFECTED DURING CONSTRUCTION.
41. ALL STUMPS FROM TREES REMOVED WITHIN PROJECT LIMITS SHALL BE GROUND AND REMOVED IN THEIR ENTIRETY.
42. CONTRACTOR IS RESPONSIBLE FOR PROPER REMOVAL AND DISPOSAL OF ALL DEBRIS, EXCESS FILL AND OTHER UNUSED MATERIALS GENERATED BY PROJECT AND DONE IN FULL COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS. THE SITE SHALL BE KEPT CLEAN AND FREE FROM ALL WASTE MATERIALS.
43. ALL WORK WILL BE IN ACCORDANCE WITH OSHA CODES AND STANDARDS. NOTHING INDICATED ON THE DRAWINGS OR SPECIFICATIONS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY APPROPRIATE SAFETY REGULATIONS.
44. PROVIDE AN EXPANSION JOINT AROUND ALL EXISTING UTILITIES, MANHOLES, POLES, LIGHTS, POSTS, BOXES, ETC. WITHIN AREAS OF NEW OR RECONSTRUCTED CONCRETE PAVEMENT.
45. ALL EXPOSED CONCRETE (CURB, STEPS, WALLS, ETC.) TO HAVE A CONSISTENT RUBBED FINISH. CONTRACTOR TO PROVIDE MINIMUM FOUR SQUARE FOOT MOCK-UP FOR REVIEW AND APPROVAL.
46. CONTRACTOR TO PROVIDE MINIMUM 4'X4' OF ALL PAVEMENT TYPES FOR REVIEW AND APPROVAL. ALL CONCRETE SIDEWALKS TO HAVE BROOM FINISH. MOCK-UP TO REMAIN ON SITE THROUGHOUT CONSTRUCTION.
47. THICKENED EDGE EXPANSION JOINTS SHALL BE PLACE ALONG THE EDGE OF ALL CONCRETE PAVEMENT AT THE PERIMETER OF ALL STRUCTURES, CONCRETE CURB AND GUTTER ADJACENT PAVEMENT.
48. THE DRAWINGS REPRESENT TO FINISHED SITE, NOT THE METHOD OF CONSTRUCTION. THE ENGINEER IS NOT RESPONSIBLE FOR CONTRACTOR'S MEANS AND METHODS, SEQUENCING OF CONSTRUCTION OR SAFETY PROGRAM. OBSERVATION VISITS TO THE SITE BY THE ENGINEER WILL NOT INVOLVE REVIEW OF THESE ITEMS.
49. WHERE DISCREPANCIES OCCUR BETWEEN GENERAL NOTES, PLANS, DETAILS AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN, UNLESS OTHERWISE VERIFIED BY THE ENGINEER OR ARCHITECT IN WRITING.
50. THESE DOCUMENTS SHALL NOT BE CONSTRUED AS STAND-ALONE DOCUMENTS. CONTRACTOR SHALL COORDINATE WITH ALL OTHER DISCIPLINE'S DOCUMENTS.
51. FOR TREES TO REMAIN HEALTHY DURING A CONSTRUCTION PROJECT THEY MUST BE PROTECTED FROM CONSTRUCTION ACTIVITIES. FOR PROPER TREE AND PLANT PROTECTION, THE FOLLOWING REQUIREMENTS APPLY TO ALL CONSTRUCTION SITES:
    A. TREES WITHIN THE CONSTRUCTION ZONE SHALL BE PROTECTED FROM DAMAGE AND SOIL COMPACTION BY EQUIPMENT, DEBRIS AND STORAGE INTRUSION. SUGGESTED MATERIALS FOR PROTECTION ARE CONCRETE BARRICADES, CONSTRUCTION FENCING OR CHAIN LINK FENCING AND NOTED ON CONTRACTOR'S SITE OPERATIONS LAYOUT.
    B. TREE PROTECTION SHALL BE PLACED AT A MINIMUM OF ONE AND A HALF (1.5) TIMES (IN FEET) THE CALIPER DIMENSION (IN INCHES) FROM THE BASE OF THE TRUNK. FOR EXAMPLE; A TEN (10) CALIPER INCH TREE WOULD REQUIRE PROTECTION A MINIMUM OF FIFTEEN (15) FEET FROM THE BASE OF THE TRUNK.
    C. TREES THAT ARE NECESSARILY IMPACTED BY CONSTRUCTION SHALL BE PRUNED AND ROOT PRUNED AS REQUIRED BY A CERTIFIED ARBORIST.
52. TRACER WIRES TO BE TERMINATED IN THE CORRECT COLOR COPPERHEAD TRACER WIRE BOX OR WITHIN A MANHOLE. LOCATION OF TRACER WIRE BOXES TO BE SHOWN ON AS-BUILT DRAWINGS.
53. WITHIN LANDSCAPE AREAS ALL CLASS V MATERIAL SHALL BE REMOVED AND COMPACTED SOILS DECOMPACTED TO A DEPTH OF 12" PRIOR TO INSTALLATION OF TOPSOIL.
54. MINNESOTA PLUMBING CODE REQUIRES A 10' MINIMUM SEPARATION BETWEEN WATERMAIN PIPE AND SEWERS FROM OUTSIDE OF WATER PIPE TO OUTSIDE OF SEWER PIPE OR MANHOLE. CONTRACTOR TO FIELD VERIFY EXACT LOCATIONS OF WATERMAIN AND SEWERS AND REPORT DISCREPANCIES TO THIS SETBACK TO ENGINEER PRIOR TO INSTALLING UTILITIES SO ADJUSTMENTS CAN BE MADE. ADJUSTMENTS MAY REQUIRE USING SCH 40 PVC FOR SEWER PIPES, CONCRETE ENCASEMENT OF THE WATERMAIN OR SEWER, OR A SCH 40 CASING PIPE FOR THE WATERMAIN WHERE WHERE THIS IS NOT FEASIBLE. UTILITY DESIGN PLANS MAY REQUIRE ADJUSTMENTS IN THE FIELD TO THE EXACT LAYOUT TO MEET PLUMBING CODE SEPARATION.
55. INSTALL WATERMAIN WITH A CASING PIPE WITHIN AREA WHERE THE 10' OF SEPARATION BETWEEN WATERMAIN AND SEWER PIPE OR MANHOLE IS NOT FEASIBLE.
56. WHERE WATERMAIN CROSSES ABOVE SEWER THERE NEEDS TO BE A MINIMUM OF 12" OF SEPARATION BETWEEN OUTSIDE OF PIPE TO OUTSIDE OF PIPE. WATERMAIN SHALL BE OFFSET TO PROVIDE SEPARATION WHERE THIS IS NOT FEASIBLE.

PERMANENT PAVEMENT MARKING NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAVEMENT MARKING RELATED ACTIVITIES SUCH AS, BUT NOT EXCLUSIVE TO, COLLECTING DATA FROM IN-PLACE LANE LINES AND MARKING PERMANENT MARKING ALIGNMENTS. THIS SHALL ALSO INCLUDE ANY LANE CLOSURES OR TRAFFIC CONTROL NECESSARY TO COMPLETE THESE PROJECTS SAFELY.
2. EDGE LINES AND LANE LINES ARE TO BE BROKEN ONLY AT INTERSECTIONS WITH PUBLIC ROADS AND AT PRIVATE ENTRANCES. THE BREAK POINT IS TO BE AT THE START OF THE RADIUS FOR THE INTERSECTION OR AT MARKED STOP LINES OR CROSSWALKS.
3. A TOLERANCE OF 1/4 INCH UNDER OR 1/4 INCH OVER THE SPECIFIED WIDTH WILL BE ALLOWED FOR STRIPING PROVIDED THE VARIATION IS GRADUAL AND DOES NOT DETRACT FROM THE GENERAL APPEARANCE. ALIGNMENT DEVIATIONS FROM THE CONTROL GUIDE SHALL NOT EXCEED 1 INCH. MATERIAL SHALL NOT BE APPLIED OVER LONGITUDINAL JOINTS. ESTABLISHMENT OF APPLICATION TOLERANCES SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY AS CLOSELY AS PRACTICABLE WITH THE PLANNED DIMENSIONS.
4. JUST PRIOR TO THE PLACEMENT OF PAVEMENT MARKINGS THE ROAD SURFACE SHALL BE CLEANED AND FREE OF CONTAMINATION AS RECOMMENDED BY THE MATERIAL MANUFACTURER AND ACCEPTABLE TO THE ENGINEER.
5. APPLY ALL PAVEMENT MARKINGS AS RECOMMENDED BY THE MATERIAL MANUFACTURER.
6. PERMANENT PAVEMENT MARKINGS SHALL NOT BE PLACED OVER TEMPORARY TAPE MARKINGS.
7. THE FILLING OF TANKS, POURING OF MATERIALS OR CLEANING OF EQUIPMENT SHALL NOT BE PERFORMED ON UNPROTECTED PAVEMENT SURFACES UNLESS ADEQUATE PROVISIONS ARE MADE TO PREVENT SPILLAGE OF MATERIAL.
8. PAVEMENT MARKINGS SHALL ONLY BE APPLIED IN SEASONABLE WEATHER WHEN AIR AND PAVEMENT SURFACE TEMPERATURES ARE 50° F OR HIGHER AND SHALL NOT BE APPLIED WHEN THE WIND OR OTHER CONDITIONS CAUSE A FILM OF DUST TO BE DEPOSITED ON THE PAVEMENT SURFACE AFTER CLEANING AND BEFORE THE MARKING MATERIAL IS APPLIED.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" (TELEPHONE NUMBER 651-454-0003). THIS IS REQUIRED BY MINNESOTA STATUE 2160.
10. ALL PAVEMENT MARKINGS WITHIN THE PARKING LOTS SHALL BE STANDARD STRIPING PAINT WHILE ROADWAY PAVEMENT MARKINGS SHALL BE GROOVED-IN, WET-REFLECTIVE MULTI-COMPONENT.
11. THE ENGINEERS INVOLVEMENT IN THE APPLICATION OF THE MATERIAL SHALL BE LIMITED TO FIELD CONSULTATION AND INSPECTION. THE CONTRACTOR WILL PLACE NECESSARY "SPOTTING" AT APPROPRIATE POINTS TO PROVIDE HORIZONTAL CONTROL FOR STRIPING AND TO DETERMINE NECESSARY STARTING AND CUTOFF POINTS, LONGITUDINAL JOINTS, PAVEMENT EDGES AND EXISTING MARKINGS MAY SERVE AS HORIZONTAL CONTROL WHEN SO DIRECTED.
12. CONTRACTOR TO FOLLOW MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD), MINNESOTA TEMPORARY TRAFFIC CONTROL FIELD MANUAL, TEMPORARY BARRIER GUIDANCE MANUAL, MINNESOTA FLAGGING HANDBOOK, AND WORK ZONE SAFETY PROGRAM, LATEST EDITIONS AND SUPPLEMENTS. ALL INFORMATION IS AVAILABLE ON MNDOT WEBSITE WWW.DOT.STATE.MN.US/TRAFFICENG/WORKZONE/

LEGEND

- PROPOSED PROPERTY LINE
- PROPOSED EASEMENT
- 254 PROPOSED CONTOUR
- +54.5 PROPOSED SPOT ELEVATION
- DENOTES SURFACE DRAINAGE
- PROPOSED EGRESS
- PROPOSED SAWCUT LINE
- B-2 B-2 APPROXIMATE SOIL BORING LOCATION
- EXISTING UTILITY TO BE REMOVED
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- W PROPOSED WATERMAIN
- DT PROPOSED DRAINTILE
- PROPOSED TRENCH DRAIN
- PROPOSED CATCH BASIN
- PROPOSED MANHOLE
- CO PROPOSED CLEAN OUT
- DS PROPOSED DOWNSPOUT
- PROPOSED HYDRANT
- PROPOSED GATE VALVE
- PROPOSED FIRE DEPARTMENT CONNECTION
- PROPOSED FLARED END SECTION W/ RIPRAP
- PROPOSED POST INDICATOR VALVE
- PROPOSED RETAINING WALL
- SILT FENCE
- EROSION CONTROL AT CB/MH
- EXISTING TREE TO BE REMOVED
- BITUMINOUS PAVING TO BE REMOVED
- CONCRETE PAVING TO BE REMOVED
- CONCRETE PAVING TO BE REMOVED
- PROPOSED BITUMINOUS PAVING
- PROPOSED CONCRETE PAVING
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CONSTRUCTION ENTRANCE

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Key Plan

NOT FOR CONSTRUCTION

No.	Date	Revision Description

PROJECT STATUS

CIVIL NOTES AND LEGEND

Project	22.1035.01	**Drawing Number**
Date	Issue Date	
Drawn by	TJS	**C100**
Checked by	KG	

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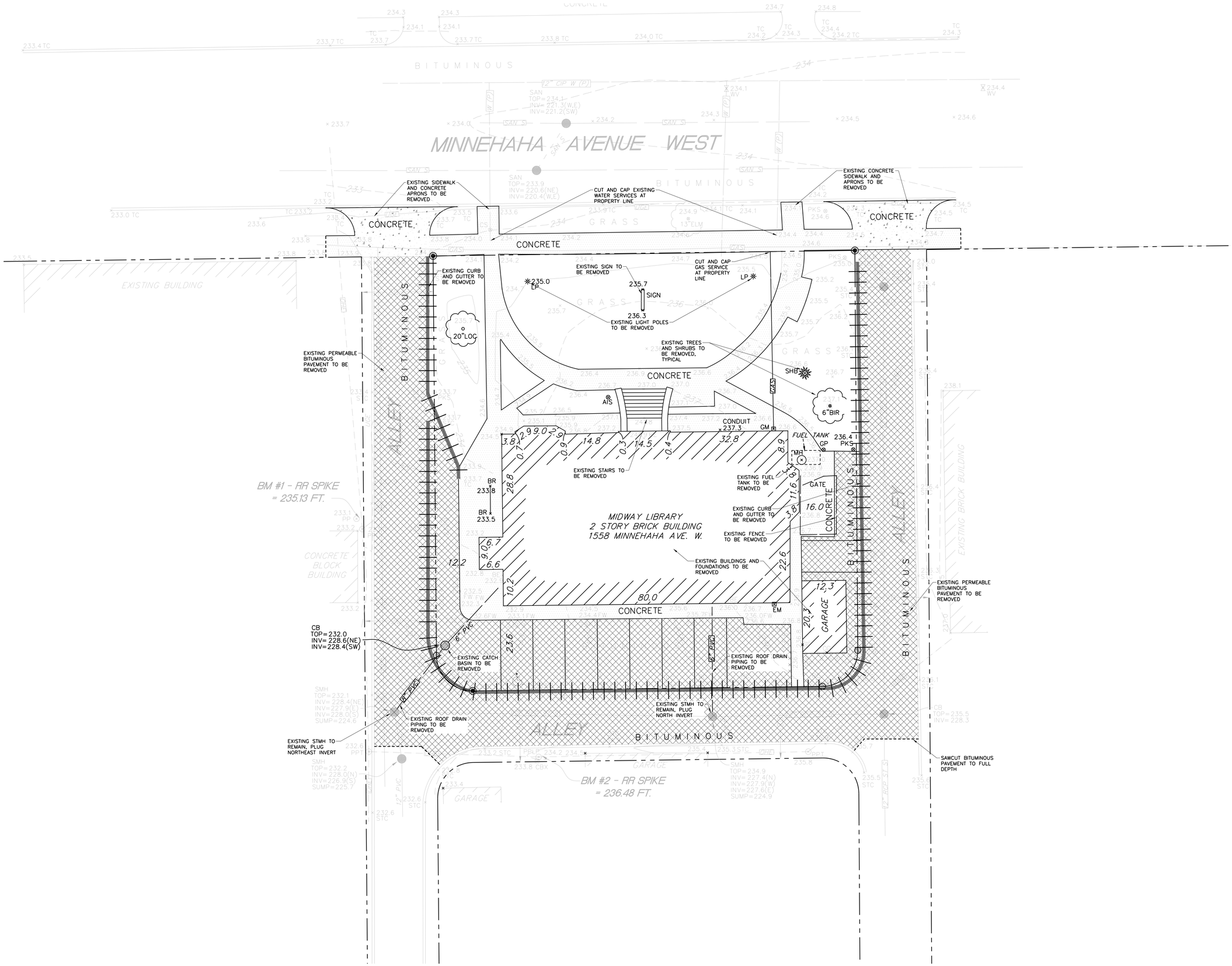

NORTH

1 C200 SITE DEMOLITION PLAN

0 10' 20' 30'

1"=10'

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SWPPP NARRATIVE

THIS STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN COMPLETED TO FULFILL THE PERMIT REQUIREMENTS OF THE GENERAL CONSTRUCTION STORMWATER PERMIT (NPDES/SDS PERMIT) FOR EROSION AND SEDIMENT CONTROL FROM SITES WITH MORE THAN 1 ACRE OF SOIL DISTURBANCE. A PERMIT FROM THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA) IS NOT REQUIRED FOR THIS PROJECT.

THE CITY OF ST. PAUL AND CAPITOL REGION WATERSHED DISTRICT HAVE JURISDICTIONAL AUTHORITY FOR EROSION AND SOIL CONTROL AND STORMWATER MANAGEMENT AT THIS SITE. IN ADDITION TO THE PROVISIONS OF THE PERMIT, EROSION PREVENTION AND SEDIMENTATION CONTROL SPECIFICATIONS AND PLANS. MPCA PROCEDURES FOR APPLICATION, MAINTENANCE AND TERMINATION OF THE PERMIT ARE DESCRIBED IN THE SPECIFICATIONS. ADDITIONAL INFORMATION AND GENERAL CONTRACTOR REQUIREMENTS ARE CONTAINED IN THE SPECIFICATIONS THAT IS NOT INCLUDED ON THIS SHEET. THE GENERAL CONTRACTOR SHALL FOLLOW PERMIT REQUIREMENTS AT ALL TIMES; NOTHING IN THE SWPPP OR SPECIFICATIONS SUPERCEDES THE GENERAL CONTRACTORS RESPONSIBILITIES UNDER THE PERMIT.

THIS SWPPP MUST BE KEPT ONSITE AND UPDATED AS NECESSARY TO REFLECT CHANGES TO SITE CONDITIONS, PLACEMENT OF CONTROL MEASURES AND ELEMENTS ONSITE. THIS DOCUMENT IS REQUIRED TO REFLECT CURRENT CONDITIONS BASED ON SITE INSPECTIONS AND ACTIONS.

1. PROJECT DESCRIPTION/LOCATION

SEE STORMWATER MANAGEMENT CALCULATIONS AND REPORT AND SPECIFICATIONS FOR THIS SITE AND INCORPORATE INFORMATION INTO CONSTRUCTION PROCEDURES.

PROJECT NAME:	HAMLINE MIDWAY LIBRARY
PROJECT NUMBER:	22-003.1
PROJECT LOCATION:	ST PAUL, MN
TOTAL DISTURBED AREA:	0.51 ACRES
PRE-CONSTRUCTION IMPERVIOUS SURFACE ACRES:	0.389 ACRES
POST-CONSTRUCTION IMPERVIOUS SURFACE ACRES:	0.419 ACRES
CUMULATIVE NEW IMPERVIOUS SURFACE ACRES:	0.30 ACRES
WORK IN/NEAR WATER/CONVEYANCE?:	NO
ECOLOGICALLY SENSITIVE AREAS IN PROJECT SCOPE?:	NO
TEMPORARY BASIN IN PROJECT SCOPE*?:	NO
TYPE AND DESIGN CRITERIA OF PERMANENT BMPS IN PROJECT SCOPE**:	UNDERGROUND RETENTION

**LONG TERM MAINTENANCE OF PROJECT BMPS WILL BE CONDUCTED BY OWNER. DESIGN CALCULATIONS AND DETAILS ARE MAINTAINED WITH PROJECT DOCUMENTATION AND BY OWNER'S REPRESENTATIVE.

THE PLANNED SCOPE OF THE PROJECT INCLUDES:

- CONSTRUCTION OF NEW LIBRARY AND ASSOCIATED DRIVEWAYS, VISITOR PARKING STALLS AND SIDEWALKS.
- STORMWATER FROM THIS SITE WILL BE ROUTED TO AN UNDERGROUND RETENTION SYSTEM THAT DISCHARGES TO CITY OF ST. PAUL STORM SEWER.

2. SPECIAL AND IMPAIRED WATERS

a. SPECIAL AND IMPAIRED WATERS: THESE WETLANDS, FENS, TROUT STREAMS, ORVWS AND IMPAIRED WATERS ARE LOCATED WITHIN ONE MILE (AERIAL RADIUS) OF THE PROJECT LIMITS. THERE ARE NO IMPAIRED WATERS WITHIN ONE MILE OF THIS PROJECT.

WATER BODY NAME	REACH NUMBER	IMPAIRMENTS	APPLICABLE?
NONE	NONE	NONE	N

3. ECOLOGICAL AND OTHER SENSITIVE AREAS

IN ADDITION TO ANY ADDITIONAL PROVISIONS DICTATED IN THE RESPECTIVE PART BELOW, THE GENERAL CONTRACTOR SHALL PROVIDE SPECIAL CARE AND ATTENTION TO ECOLOGICAL OR OTHER SENSITIVE AREA(S) INDICATED IN THIS SECTION TO PREVENT TRAFFIC AND DISTURBANCE, AND TO PRESERVE VEGETATIVE COVER IN IDENTIFIED AREAS. IDENTIFIED AREAS AND APPROPRIATE SETBACKS SHALL BE MARKED IN THE FIELD BY THE GENERAL CONTRACTOR, AS SPECIFIED IN SUBSEQUENT PAGE DETAILS, IF APPLICABLE.

a. PLACEMENT OF FILL IN WATERS OF THE STATE: A NEW STORM SEWER OUTLET TO THE MISSISSIPPI RIVER IS PART OF THIS PROJECT. PERMITS WILL BE REQUIRED FROM THE DNR FOR THIS WORK.
b. DRINKING WATER SUPPLY MANAGEMENT AREA: THIS PROJECT IS NOT WITHIN A WELLHEAD PROTECTION AREA, DRINKING WATER SUPPLY MANAGEMENT AREA (DWSMA), OR WITHIN A KNOWN KARST AREA. NO ADDITIONAL PROVISIONS APPLY TO THIS PROJECT.
c. ENVIRONMENTAL REVIEW: THIS PROJECT IS NOT SUBJECT TO FINDINGS OF AN ENVIRONMENTAL, OR ARCHEOLOGICAL AND HISTORIC PLACES REVIEW. NO ADDITIONAL PROVISIONS APPLY TO THIS PROJECT.
d. ENDANGERED OR THREATENED SPECIES: THERE ARE NO ENDANGERED OR THREATENED SPECIES AFFECTED BY THIS PROJECT. NO ADDITIONAL PROVISIONS APPLY TO THIS PROJECT.
e. AQUATIC INVASIVE SPECIES, INFESTED WATERS AND WORK IN WATERS RESTRICTIONS: PROJECT SCOPE DOES NOT INCLUDE WORK IN OR NEAR PUBLIC WATERS. NO PUBLIC WATERS IN OR NEAR THE PROJECT SITE ARE LISTED OR SPECIALLY DESIGNATED BY THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES DEPARTMENT OF WATER (DOW).
f. SOIL TYPES TYPICALLY FOUND ON THIS PROJECT SITE ARE: A GEOTECHNICAL REPORT HAS YET TO BE COMPLETED FOR THIS PROJECT. A PRELIMINARY WEB SOIL SURVEY INDICATES TYPICAL URBAN FILL SOILS CONSISTING OF CLAYEY SANDS, ORGANIC SILTS AND CLAYS. SOILS WILL BE CORRECTED AND/OR AMENDED DURING THE PROJECT TO ACCOMMODATE PROPOSED STRUCTURES, STORMWATER MANAGEMENT SYSTEM, UTILITIES AND PAVEMENTS.

4. PROJECT PERSONNEL AND SWPPP IMPLEMENTATION RESPONSIBILITIES

ORGANIZATION	CONTACT NAME & CERTIFICATION NUMBER	PHONE
OWNER: ?	XXXX	XXX
ENGINEER FIRM NAME	PIERCE PINI + ASSOCIATES, INC.	763-537-1311
SWPPP PREPARER: PIERCE PINI AND ASSOCIATES	KEVIN GARDNER, P.E.	763-537-1311
GENERAL CONTRACTOR FIRM NAME:	XXXXX	XXXXX
SOIL/EROSION CONSTRUCTION SITE MANAGER		
SOIL/EROSION CONSTRUCTION SITE MANAGER		

MPCA DUTY OFFICER 24-HOUR EMERGENCY SPILL NOTIFICATION: 651-649-5451 OR 800-422-0798

a. THE OWNER AND THE NAMED GENERAL CONTRACTOR ARE CO-PERMITTEES FOR THE GENERAL CONSTRUCTION STORMWATER PERMIT (NPDES/SDS PERMIT). THE GENERAL CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE PERMIT AND STORMWATER COMPLIANCE POLICY AT ALL TIMES UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA.
b. THE GENERAL CONTRACTOR SHALL DEVELOP A CHAIN OF COMMAND WITH ALL OPERATORS ON THE SITE TO ENSURE THAT THE SWPPP IS IMPLEMENTED AND MAINTAINED UNTIL THE PROJECT IS COMPLETE, THE ENTIRE SITE HAS UNDERGONE FINAL STABILIZATION, AND OWNER HAS COMPLETED THE FINAL INSPECTION.
c. THE PROJECT ENGINEER OF RECORD IS RESPONSIBLE FOR THE DESIGN OF THE SWPPP. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) DESCRIBED BY THE SWPPP AT ALL STAGES OF CONSTRUCTION UNTIL THE OWNER HAS COMPLETED THE FINAL INSPECTION.
d. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE IMPLEMENTATION OF THE SWPPP INCLUDING THE ACTIVITIES OF ALL OF SUBCONTRACTORS DURING CONSTRUCTION.
e. GENERAL CONTRACTOR SHALL PROVIDE AT LEAST ONE CERTIFIED INSTALLER FOR EACH SUBCONTRACTOR TO OVERSEE ALL INSTALLATION AND MAINTENANCE OF BMPS AND IMPLEMENTATION OF THE SWPPP. CERTIFICATION IS THROUGH THE UNIVERSITY OF MINNESOTA EROSION AND STORMWATER MANAGEMENT CERTIFICATION PROGRAM (http://www.erosion.umn.edu/) OR APPROVED EQUIVALENT.
f. GENERAL CONTRACTOR SHALL PROVIDE AT LEAST ONE CERTIFIED INDIVIDUAL TO CONDUCT INSPECTION AND MAINTENANCE OF ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT. GENERAL CONTRACTOR SHALL PROVIDE EVIDENCE OF CERTIFICATION FOR EACH INDIVIDUAL AT THE PRE-CONSTRUCTION MEETING AND IS MAINTAINED BY GENERAL CONTRACTOR WITH PROJECT DOCUMENTATION.
g. THIS SWPPP HAS BEEN PREPARED BY INDIVIDUAL(S) TRAINED IN ACCORDANCE WITH THE PERMIT'S TRAINING REQUIREMENTS FOR PREPARATION OF SWPPPS.

PREPARED BY:
KEVIN GARDNER, P.E.
PIERCE PINI AND ASSOCIATES
KEVIN@PIERCEPINI.COM
763-537-1311

TRAINING/CERTIFICATION:
DATE OF TRAINING/CERTIFICATION: 2020
INSTRUCTOR(S): DWANE STENLUND
CERTIFICATION EXPIRATION: MAY 31, 2023

5. SEQUENCE OF CONSTRUCTION

THE FOLLOWING DESCRIBES, IN GENERAL, THE SEQUENCE OF WORK PERFORMED ON THE SITE:

a. GENERAL CONTRACTOR SHALL VERIFY THAT ALL PERMITS HAVE BEEN OBTAINED AND/OR OBTAIN THE NECESSARY PERMITS IN ACCORDANCE WITH THE MPCA POLICY.
b. GENERAL CONTRACTOR SHALL INSTALL ALL PERIMETER AND DOWN-GRADIENT EROSION CONTROL AND SEDIMENT CONTROL BMPS, INCLUDING CONSTRUCTION ENTRANCES AND INLET PROTECTION DEVICES PRIOR TO SITE GRADING, EXCAVATION, STOCKPILING OR DISTURBING EXISTING VEGETATIVE COVER. GENERAL CONTRACTOR SHALL INSTALL ALL DOWN-GRADIENT PERIMETER CONTROLS BEFORE ANY UP-GRADIENT DISTURBANCE BEGINS.
c. THE GENERAL CONTRACTOR SHALL ATTEMPT TO PHASE ALL WORK TO MINIMIZE EROSION AND MAINTAIN VEGETATIVE COVER TO THE EXTENT POSSIBLE. PRESERVE ALL NATURAL BUFFERS SHOWN ON PLAN.
d. GENERAL CONTRACTOR SHALL MARK OR OTHERWISE DELINEATE AREAS ON THE SITE NOT TO BE DISTURBED, INCLUDING ECOLOGICALLY SENSITIVE AREAS, BEFORE CONSTRUCTION BEGINS.
e. GENERAL CONTRACTOR SHALL ESTABLISH SITE LOCATION AND COMPLETE INSTALLATION OF ANY PORTABLE TOILET, FUELING AREA, SPILL KIT LOCATION, CONCRETE WASHOUT AREA, HAZARDOUS MATERIAL HANDLING AND STORAGE AREA, LITTER CONTROL DEVICE AREA, STAGING AREA, STOCK PILING AREA, AND OTHER SWPPP DESIGNATED AREAS. UPDATE ONSITE-COPY OF SWPPP TO REFLECT LOCATION OF THESE ITEMS.
f. GENERAL CONTRACTOR SHALL ESTABLISH AND ENFORCE PROTOCOL REGARDING CLEANING OF ALL EQUIPMENT THAT HAS BEEN USED IN INFESTED WATERS OR WATERS WITH INVASIVE SPECIES TO PREVENT THE SPREAD OF BOTH AQUATIC AND TERRESTRIAL INVASIVES. GENERAL CONTRACTOR SHALL OBTAIN VERIFICATIONS FROM ALL SUBCONTRACTORS THAT EQUIPMENT IS CLEAN, OR NEW, AND WILL NOT SPREAD INVASIVES.
g. GENERAL CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF SITE DEWATERING. DEWATERING SHALL FOLLOW MPCA AND CITY OF ST. PAUL STANDARDS AND REQUIREMENTS. SUBMIT PLAN OF ACTION FOR REVIEW PRIOR TO CONSTRUCTION.
h. GENERAL CONTRACTOR SHALL ESTABLISH AND ENFORCE TRAFFIC FLOW AND PATTERNS, INCLUDING HAUL ROADS, AT PROJECT SITE TO MINIMIZE SOIL DISTURBANCE, TRACKING AND COMPACTION, AND TO PRESERVE NATIVE AND EXISTING VEGETATION. UPDATE ONSITE-COPY OF SWPPP TO REFLECT HAUL ROADS AND OTHER SITE TRAFFIC PATTERNS.
i. GENERAL CONTRACTOR SHALL PERFORM SITE GRADING, EXCAVATION, STOCKPILING WORK IN ACCORDANCE WITH THE SWPPP.
   A. STOCKPILES SHALL BE PROTECTED AROUND THE ENTIRE PERIMETER WHEN NOT ACTIVELY BEING WORKED; STOCKPILES ACTIVELY BEING WORKED SHALL BE STABILIZED AT THE END OF EACH WORK DAY. PRESERVED TOPSOIL STOCKPILES SHALL ADDITIONALLY BE COVERED. PLACE BMP A MINIMUM OF 5 FEET FROM THE TOE OF THE SLOPE WHERE FEASIBLE. STABILIZE ALL ERODABLE STOCKPILES.
   B. DO NOT PLACE STOCKPILES IN NATURAL BUFFER AREAS, SURFACE WATERS OR STORMWATER CONVEYANCES INCLUDING GUTTERS OR SWALES.
   C. MINIMIZE SOIL COMPACTION AND PRESERVE TOPSOIL, UNLESS INFEASIBLE. MINIMIZING SOIL COMPACTION IS NOT REQUIRED WHERE THE FUNCTION OF A SPECIFIC AREA OF THE SITE DICTATES THAT IT BE COMPACTED.
j. GENERAL CONTRACTOR SHALL PROVIDE GRADING AND BMP INSTALLATION TO LIMIT SOIL EXPOSURE ON ALL SLOPES OF 3H:1V OR STEEPER TO AN UNBROKEN LENGTH OF 75 FEET OR LESS.
k. GENERAL CONTRACTOR SHALL STABILIZE ALL EXPOSED SOILS NO LATER THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
   A. GENERAL CONTRACTOR SHALL MAINTAIN 70% VEGETATIVE COVER ON COMPLETED AREAS OF THE PROJECT SITE.
   B. STABILIZE ALL AREAS OF THE SITE PRIOR TO THE ONSET OF WINTER.
   C. STABILIZE WETTED PERIMETER OF DITCH (I.E. WHERE THE DITCH GETS WET).
l. WHEN PERMANENT BMPS OR PORTIONS THEREOF ARE INSTALLED, GENERAL CONTRACTOR SHALL STAKE OR MARK THESE AREAS, AND INSTALL SEDIMENT PROTECTION UPGRADIENT OF COMPLETED AREAS TO AVOID COMPACTION AND FOULING OF SYSTEM ELEMENTS. PERMANENT BMPS SHALL BE CONSTRUCTED AND STABILIZED TO THE EXTENT PRACTICABLE PRIOR TO BEING PLACED INTO SERVICE. IN THE EVENT THAT PERMANENT STABILIZATION CANNOT BE ACHIEVED BEFORE BEING PLACED INTO SERVICE, TEMPORARY MEASURES TO PREVENT FOULING SHALL BE IN PLACE.
m. GENERAL CONTRACTOR SHALL PERFORM SITE RESTORATION ACTIVITIES FOR PERMANENT VEGETATIVE ESTABLISHMENT. TEMPORARY BMPS SUCH AS MULCH AND HYDROSEED DO NOT CONSTITUTE PERMANENT VEGETATIVE COVER; SOD INSTALLATION MAY CONSTITUTE PERMANENT VEGETATIVE COVER.
n. THE GENERAL CONTRACTOR SHALL ENSURE FINAL STABILIZATION:
   A. ALL SOIL DISTURBING ACTIVITIES ARE COMPLETE AND A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DESTINY OF 70% OVER THE ENTIRE PERVIOUS SURFACE HAS BEEN ACHIEVED, INCLUDING STABILIZATION OF ALL DITCHES AND SWALES.
   B. GENERAL CONTRACTOR SHALL ENSURE THAT ALL PERMANENT STORMWATER TREATMENT SYSTEMS ARE CONSTRUCTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS IF INCLUDED WITHIN THE SCOPE OF THE PROJECT.
   C. GENERAL CONTRACTOR SHALL REMOVE ALL TEMPORARY SYNTHETIC AND STRUCTURAL BMPS, EXCEPT AS SPECIFICALLY AUTHORIZED/REQUIRED BY CITY OF ST. PAUL.
   D. GENERAL CONTRACTOR SHALL REMOVE ALL SEDIMENTS FROM STORMWATER CONVEYANCES AND PERMANENT WATER QUALITY BASINS.
   E. GENERAL CONTRACTOR SHALL REQUEST A FINAL INSPECTION FROM THE CITY OF ST. PAUL PRIOR TO INITIATING PERMIT TERMINATION.
o. PERMIT SHALL BE TERMINATED IN ACCORDANCE WITH MPCA POLICY.

6. SITE INSPECTION AND MAINTENANCE

a. INSPECT THE ENTIRE CONSTRUCTION SITE AND DOWNGRADIENT ADJACENT SITES/AREAS, INCLUDING THE FOLLOWING:
   A. INSPECT SURFACE WATER, INCLUDING DRAINAGE DITCHES, AND OFF-SITE PROPERTIES FOR SIGNS OF EROSION AND SEDIMENT DEPOSITION.
   B. INSPECT CONSTRUCTION SITE VEHICLE EXIT LOCATIONS FOR EVIDENCE OF TRACKING ONTO PAVED SURFACES.
   C. INSPECT INFILTRATION AREAS FOR SIGNS OF SEDIMENT DEPOSITION AND COMPACTION, AND TO ENSURE EQUIPMENT IS NOT BEING DRIVEN INTO THE AREA.
   D. INSPECT, MONITOR AND MAINTAIN ALL WATER QUALITY MANAGEMENT, EROSION PREVENTION AND SEDIMENT CONTROL BMPS.
   E. INSPECT, MONITOR AND MAINTAIN POLLUTION PREVENTION BMPS.
b. INSPECTION FREQUENCY: GENERAL CONTRACTOR SHALL CONDUCT A SITE STORMWATER INSPECTION A MINIMUM OF ONCE EVERY SEVEN DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. INSPECTIONS MAY BE SUSPENDED DUE TO FROZEN GROUND CONDITIONS UNTIL FIRST RUNOFF OCCURS OR CONSTRUCTION ACTIVITIES RESUME, WHICHEVER COMES FIRST. GENERAL CONTRACTOR SHALL NOTE EXACT DATE OF LAST INSPECTION PRIOR TO WINTER SUSPENSION AND FIRST DATE WHEN CONSTRUCTION RESUMES. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR INSPECTIONS UNTIL THE SITE HAS UNDERGONE FINAL STABILIZATION AND THE NOT HAS BEEN SUBMITTED TO THE MPCA, OR UNTIL PERMIT COVERAGE HAS BEEN TRANSFERRED TO ANOTHER PERMITTEE.
c. RECORD ALL INSPECTIONS, MAINTENANCE AND CORRECTIVE ACTIONS CONDUCTED DURING CONSTRUCTION ON A PROVIDED INSPECTION FORM WITHIN 24 HOURS OF THE ACTION. DATE AND INITIAL THE ON-SITE SWPPP WITH ANY CHANGES TO REFLECT ON-SITE CONDITIONS. COPIES OF ALL SHALL BE SUBMITTED TO THE CIVIL ENGINEER.
d. ALL EROSION CONTROL MEASURES MUST BE INSTALLED AND MAINTAINED BY GENERAL CONTRACTOR ACCORDING TO THE DETAILS INCLUDED IN THE CONSTRUCTION DOCUMENTS AND IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S RECOMMENDATIONS. BMPS MUST BE OPERATIONALLY FUNCTIONAL AND ADEQUATE. ALL NONFUNCTIONAL BMPS MUST BE REPAIRED OR REPLACED WITHIN 24 HOURS OF DISCOVERY OR THEREAFTER AS SOON AS FIELD CONDITIONS ALLOW.
e. THE GENERAL CONTRACTOR SHALL RESPOND TO CHANGING SITE CONDITIONS AND IMPLEMENT/SUPPLEMENT EROSION PREVENTION AND SEDIMENT CONTROL MEASURES UTILIZED TO PROVIDE ADEQUATE PROTECTION OF DISTURBED SOILS AND ADEQUATE PREVENTION OF SEDIMENT TRANSPORT OFF-SITE. UPDATE SWPPP DOCUMENTS WHEN CHANGES ARE MADE.
f. WHEN AN INSPECTION FINDS EROSION PREVENTION AND SEDIMENT CONTROL BMPS THAT ARE NONFUNCTIONAL OR INADEQUATE, ANY NONFUNCTIONAL BMPS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS WITHIN 24 HOURS AFTER DISCOVERY OR THEREAFTER AS SOON AS FIELD CONDITIONS ALLOW. THE GENERAL CONTRACTOR SHALL ALSO PLACE ANY ADDITIONAL EROSION CONTROL MEASURES DEEMED NECESSARY BY THE CITY OF ST. PAUL OR A/E WITHIN 24 HOURS OF NOTICE.
   A. IF DOWN GRADIENT SEDIMENT CONTROLS ARE OVERLOADED, THE GENERAL CONTRACTOR MUST INSTALL ADDITIONAL UPGRADIENT SEDIMENT CONTROL PRACTICES OR REDUNDANT BMPS TO ELIMINATE OVERLOADING. THE SWPPP MUST BE AMENDED TO IDENTIFY THESES ADDITIONAL PRACTICES.
g. REPAIR OR REPLACE INLET PROTECTION DEVICES WHEN THEY BECOME NONFUNCTIONAL OR SEDIMENT REACHES ONE-HALF THE DEPTH OF THE DEVICE. SITE INLETS REMOVED IN RESPONSE TO A PUBLIC SAFETY CONCERN MUST BE RETURNED TO SERVICE AS SOON AS THE THREAT (EG. FLOODING) HAS RECEDED.
h. REPAIR, REPLACE OR SUPPLEMENT PERIMETER CONTROL DEVICES WHEN THEY BECOME NON-FUNCTIONAL OR THE SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE DEVICE. GENERAL CONTRACTOR SHALL REPAIR OR REPLACE DEVICE THAT IS NONFUNCTIONAL BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY OR THEREAFTER AS SOON AS FIELD CONDITIONS ALLOW. PERIMETER CONTROL DEVICES REMOVED IN RESPONSE TO A PUBLIC SAFETY CONCERN MUST BE RETURNED TO SERVICE AS SOON AS THE THREAT HAS RECEDED.
i. TEMPORARY AND PERMANENT SEDIMENTATION BASINS MUST BE DRAINED AND SEDIMENT REMOVED BY GENERAL CONTRACTOR ONCE THE SEDIMENT COLLECTED REACHES ONE-HALF THE STORAGE VOLUME WITHIN 72 HOURS OF DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW.
j. ALL SEDIMENT DEPOSITS WITHIN SURFACE WATERS OR STORMWATER CONVEYANCES MUST BE REMOVED AND RESTABILIZED BY GENERAL CONTRACTOR WITHIN 7 DAYS OF DISCOVERY, INCLUDING DELTAS AND STORM SEWER SEDIMENT DEPOSITS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED, IF NECESSARY, FOR SUCH SEDIMENT REMOVAL.
k. MAINTAIN EXISTING PAVED SURFACES CLEAN OF SEDIMENT. CONSTRUCTION ENTRANCES AND PUBLIC AND PRIVATE ROADS LEADING TO AND FROM THE CONSTRUCTION ENTRANCE SHALL BE CHECKED DAILY BY GENERAL CONTRACTOR. IF THE ENTRANCE BECOMES INUNDATED WITH SEDIMENT, THE GENERAL CONTRACTOR SHALL CLEAN OR REPLACE AS APPROPRIATE. PUBLIC AND PRIVATE ROADS LEADING TO AND FROM THE CONSTRUCTION ENTRANCE SWEPT OR OTHERWISE CLEANED DAILY. GENERAL CONTRACTOR SHALL EXTEND SWEEPING TO THE EXTREMITY OF ANY SEDIMENT TRACKING THAT OCCURS OFF-SITE. USE MECHANICAL METHODS TO REMOVE SOLIDS FIRST, FOLLOWED BY WET METHODS, ONLY AS NEEDED. SWEEPING IS NOT A SUBSTITUTE FOR PROPER MAINTENANCE OF CONSTRUCTION ENTRANCES.
l. GENERAL CONTRACTOR SHALL REMOVE ANY OFF-SITE SEDIMENT ACCUMULATIONS IN A MANNER AND AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS. STREET SWEEPING MAY HAVE TO OCCUR MORE FREQUENTLY THAN DESCRIBED ABOVE TO MINIMIZE OFF-SITE IMPACTS. THERE ARE DOWNSTREAM WATERWAYS THAT WOULD BE ADVERSELY AFFECTED BY VEHICULAR TRACKED SOILS. STREET SWEEPING IS IMPERATIVE TO MAKES SURE THIS DOES NOT OCCUR.
m. ALL INFILTRATION/FILTRATION AREAS MUST BE INSPECTED BY GENERAL CONTRACTOR TO ENSURE THAT NO SEDIMENT FROM ONGOING CONSTRUCTION IS ACCUMULATING OVER THE INFILTRATION/FILTRATION AREA. SEDIMENT ACCUMULATED OVER INFILTRATION/FILTRATION MUST BE REMOVED BY GENERAL CONTRACTOR.
n. SEE CIVIL NOTES, DETAILS AND DRAWINGS ON CONSTRUCTION DOCUMENTS.

7. POLLUTION PREVENTION AND SPILL RESPONSE

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING POLLUTION PREVENTION MEASURES AT THE SITE, AS DESCRIBED IN DETAIL IN THE EROSION PREVENTION AND SEDIMENTATION CONTROL SPECIFICATIONS SECTION 312500.

IN GENERAL, THE FOLLOWING MEASURES ARE REQUIRED AT PROJECT SITES.

a. BUILDING MATERIALS AND WASTES WITH THE POTENTIAL TO CONTAMINATE STORMWATER SHALL BE STORED INSIDE OR UNDER COVER IN A DESIGNATED AREA, AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP.
b. LITTER AND SOLID WASTE SHALL BE PLACED INTO COVERED CONTAINERS AT A DESIGNATED AREA AT THE SITE AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP.
c. ON-SITE FUELING SHALL BE CONDUCTED IN DESIGNATED AREAS ONLY AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP.
d. A SPILL RESPONSE KIT AT EACH LOCATION SPECIFIC TO THE MATERIALS USED AT THE PROJECT SITE AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP.
e. PORTABLE TOILETS SHALL BE SECURED IN PLACE TO PREVENT BEING TIPPED OR KNOCKED OVER AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP.
f. VEHICLE AND EQUIPMENT WASHING IS PROHIBITED AT PROJECT SITES.
g. CONCRETE WASH OUT WASTE, INCLUDING WASTE CURED CONCRETE, SHALL BE MANAGED OFF-SITE OR MANAGED ON-SITE IN A DESIGNATED CONCRETE WASHOUT AREA AND SHALL BE INDICATED BY THE GENERAL CONTRACTOR ON THE SWPPP SITE MAP. ON-SITE BATCH PLANTS AND MORTAR MIX AREAS ARE CONCRETE PRODUCTS AND SHALL FOLLOW ALL STORMWATER MANAGEMENT CONTROLS AS NOTED HEREIN AND WITHIN NPDES PERMIT.
h. THE GENERAL CONTRACTOR SHALL USE OR ENSURE USE OF METHODS AND OPERATIONS WHICH PREVENT DUST, PARTICLES, PIECES AND SLURRY FROM DEPOSITING IN VEGETATED OR FUTURE VEGETATED AREAS OR FROM LEAVING THE PROJECT SITE AND ENTERING A STORMWATER CONVEYANCE SYSTEM, INCLUDING A DITCH OR CULVERT.
i. IN THE EVENT OF A SPILL AT THE PROJECT SITE WITH A RELEASE OR POTENTIAL RELEASE TO THE ENVIRONMENT, THE GENERAL CONTRACTOR SHALL CONTACT WITH THE STATE DUTY OFFICER.

8. PERMANENT STORMWATER PRACTICES

a. CONSTRUCTION SEQUENCING OF INFILTRATION PRACTICES:
   A. STORMWATER MANAGEMENT SYSTEMS ARE DESIGNED TO MEET CITY OF ST. PAUL AND CAPITOL REGION WATERSHED DISTRICT REQUIREMENTS FOR WATER QUALITY.
   B. ALL SITE WORK SHOULD BE COMPLETE PRIOR TO WORK ON THE FILTRATION SYSTEMS BEING STARTED TO THE EXTENT POSSIBLE. IF CONSTRUCTION OF THESE AREAS NEEDS TO OCCUR PRIOR TO FINAL SITE STABILIZATION, THEN THE CONSTRUCTED AREA MUST BE PROTECTED AND CONTRIBUTING FLOWS NEED TO BE FILTERED TO PREVENT CLOGGING OF THE SYSTEM OR COMPACTION OF THE FILTRATION AREA.
   C. INSTALLATION OF FILTRATION PRACTICES SHALL BE DONE DURING PERIODS OF DRY WEATHER AND COMPLETED BEFORE A RAINFALL EVENT. PLACEMENT OF ENGINEERED SOILS SHALL BE ON DRY NATIVE SOIL ONLY.
   D. EXCAVATION SHALL BE COMPLETED USING A BACKHOE WITH A TOOTHED BUCKET.
   E. THE BOTTOM SURFACE OF EXCAVATION SHALL BE LEVEL WITHOUT DIPS OR SWALES.
   F. ENGINEERED SOIL SHALL REMAIN UNCONTAMINATED (NOT MIXED WITH OTHER SOILS) WHEN INSTALLED.
   G. DURING CONSTRUCTION, STORMWATER MUST BE ROUTED AROUND FILTRATION AREAS UNTIL ALL CONSTRUCTION ACTIVITY HAS CEASED AND TRIBUTARY SURFACES ARE CLEANED OF SEDIMENT.
   H. SHOP DRAWINGS OF ALL SYSTEMS NEED TO BE APPROVED PRIOR TO CONSTRUCTION. ALL SOIL MATERIAL TESTING SHALL BE DONE PRIOR TO INSTALLATION TO ENSURE SOIL MIXTURE IS ADEQUATE FOR FILTRATION. TESTS SHALL BE SUBMITTED TO ENGINEER AND APPROVED PRIOR TO INSTALLATION. SPECIFICATIONS INDICATE MATERIALS REQUIRED FOR EACH SYSTEM.
   I. NOTIFY CIVIL ENGINEER OF WORK BEING DONE ON STORMWATER SYSTEMS AND THE SCHEDULE OF CONSTRUCTION. ALLOW A MINIMUM OF FIVE WORKING DAYS FOR NOTIFICATION SO ENGINEER CAN CONDUCT SITE MEETING TO DISCUSS THE INTENT OF THE SYSTEM AND CONSTRUCTION OBSERVATION CAN BE SCHEDULED ACCORDINGLY. SITE MEETING TO REVIEW THE INTENT OF THE DESIGN AND THE CONSTRUCTION OF THE FILTRATION SYSTEM NEEDS TO OCCUR PRIOR TO STARTING CONSTRUCTION ON THE SYSTEMS.
   J. MAINTAIN EROSION AND SEDIMENT CONTROL ON CONTRIBUTING AREAS TO AVOID CLOGGING OF SYSTEM.
   K. CONSTRUCT STORMWATER SYSTEMS PER DRAWINGS AND SPECIFICATIONS.
   L. COMPLETE CONSTRUCTION OF CONCRETE PAVEMENT AFTER STORMWATER SYSTEM IS INSTALLED. AFTER PAVEMENT IS INSTALLED, VERIFY THAT SYSTEMS ARE CLEAR AND FULLY FUNCTIONAL. VACUUM AND CLEAN SYSTEMS AS NEEDED SO THEY ARE FULLY FUNCTIONAL AT PROJECT CLOSEOUT.
   M. INSTALL LANDSCAPING AND PLANTING MATERIALS PER LANDSCAPE DRAWINGS AND SPECIFICATIONS.
   N. GENERAL CONTRACTOR SHALL TEST FILTRATION SYSTEM AFTER CONSTRUCTION EFFORTS ON THE SITE HAVE BEEN COMPLETED PRIOR TO FINAL CLOSEOUT. FILTRATION MUST MEET RATES AS DESIGNED, SEE SPECIFICATIONS FOR TESTING.
   O. REMOVE ALL TEMPORARY EROSION CONTROL BMP'S AFTER PAVING AND INFILTRATION AREAS ARE COMPLETE AND AFTER TURF HAS BEEN ESTABLISHED.
   P. GENERAL CONTRACTOR SHALL TAKE PHOTOGRAPHS AND MEASUREMENTS OF ALL STORMWATER MANAGEMENT SYSTEMS THROUGHOUT CONSTRUCTION. DOCUMENTATION OF CONSTRUCTION SHALL BE SUBMITTED TO THE CIVIL ENGINEER AT THE CLOSEOUT OF THE PROJECT. CLOSEOUT DOCUMENTATION SHALL INCLUDE PHOTOGRAPHS AND MEASUREMENTS OF SYSTEM DURING CONSTRUCTION, TESTING REPORTS AND OBSERVATIONS AND REDLINE DRAWINGS OF ANY FIELD MODIFICATIONS MADE DURING CONSTRUCTION.
   Q. A LETTER WRITTEN ON COMPANY LETTERHEAD THAT THE STORMWATER MANAGEMENT PRACTICES HAVE BEEN BUILT PER THE CIVIL PLANS, OR PER REDLINE FIELD DRAWINGS, SHALL BE SUBMITTED TO THE CIVIL ENGINEER AT THE CLOSEOUT OF THE PROJECT.
   R. THE GENERAL CONTRACTOR SHALL SUBMIT AN AS-BUILT SURVEY OF THE COMPLETED SITE PREPARED AND SIGNED BY A LICENSED SURVEYOR TO THE CIVIL ENGINEER AT THE END OF THE PROJECT. AS-BUILT SURVEY SHALL INCLUDE ENOUGH INFORMATION TO VERIFY THE CONSTRUCTED TOPOGRAPHY, UTILITY AND SITE ELEMENTS. COORDINATE WITH OWNER AND CIVIL ENGINEER FOR SCHEDULE FOR WHEN THIS SHALL BE COMPLETED. A COPY OF THE CADD FILE AND CERTIFIED PDF FILE SHALL BE PROVIDED TO CIVIL ENGINEER.
   S. GENERAL CONTRACTOR TO COMPLETE NOTICE OF TERMINATION (NOT) UPON COMPLETION OF PROJECT AND SUBMIT TO OWNER.
   T. SEE NOTES ON SHEET C100 AND SPECIFICATION 312500 FOR FURTHER INFORMATION.

SITE LOCATION MAP

NOT TO SCALE
LATITUDE: 44.9627
LONGITUDE: -93.1662

ESTIMATED BMP QUANTITIES	
SILT FENCE	? LF
FILTER LOGS	? LF
CATCH BASIN INSERTS	? EA
ROCK CONSTRUCTION ENTRANCE	? CY

NOTES:

1. QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL DETERMINE FOR THEMSELVES THE EXACT QUANTITIES FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL NOT RELY ON THESE QUANTITIES FOR THEIR BID AND CIVIL ENGINEER IS NOT RESPONSIBLE FOR COST ESTIMATES OR ACTUAL CONSTRUCTION COSTS.

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Key Plan

NOT FOR CONSTRUCTION

No.	Date	Revision Description

PROJECT STATUS

SWPPP GENERAL NOTES

Project	22.1035.01	Drawing Number
Date	Issue Date	
Drawn by	TJS	C300
Checked by	KG	

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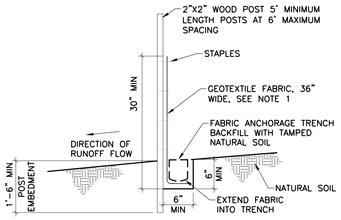
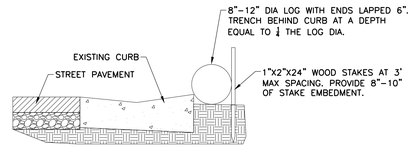


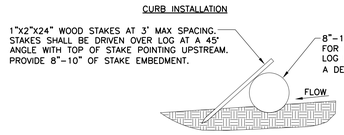
NOTES:
1. GEOTEXTILE FABRIC SHALL BE PER MNDOT SPEC 3886.
2. SILT FENCES SHOULD BE INSTALLED ON THE CONTOUR (AS OPPOSED TO UP AND DOWN A HILL) AND CONSTRUCTED SO THAT FLOW CANNOT BYPASS THE ENDS.
3. ENSURE DRAINAGE AREA IS NO GREATER THAN 1/4 ACRE PER 100 FT OF FENCE.
4. FIELD VERIFY THE MAXIMUM SLOPE LENGTH IN THE TABLE. THIS LENGTH EQUATES TO A 2 FOOT STORAGE HEIGHT FOR THE 100-YEAR EVENT.
5. SILT FENCE INSTALLATION TO CONFORM TO MNDOT SPEC 2573.3

		BY ACCEPTED DESIGN PRACTICES
SLOPE H:V	PERCENT	MAXIMUM SLOPE LENGTH
100:1	1%	100 FT
50:1	2%	75 FT
25:1	4%	75 FT
20:1	5%	75-50 FT
17:1	6%	50 FT
12.5:1	8%	50 FT
10:1	10%	50-25 FT
5:1	20%	25-15 FT
4:1	25%	15 FT
3:1	33%	15 FT
2:1	50%	15 FT

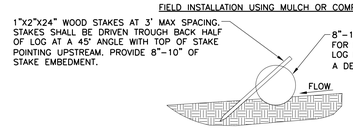
1 C301 SILT FENCE – PREASSEMBLED
NO SCALE



CURB INSTALLATION

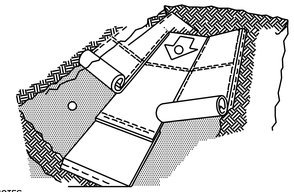


FIELD INSTALLATION USING MULCH OR COMPOST



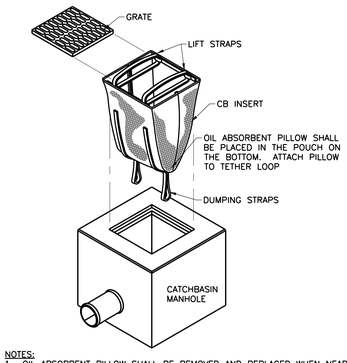
FIELD INSTALLATION USING STRAW OR WOOD FIBER

2 C301 SEDIMENT CONTROL FILTER LOG
NO SCALE



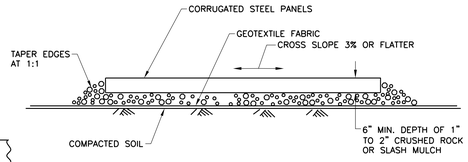
NOTES:
1. BEFORE INSTALLATION APPLY TOPSOIL, FERTILIZER AND SEED TO SURFACE.
2. BEGIN AT THE TOP OF THE CHANNEL, INSTALL MATS BY ANCHORING IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF MAT EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR WITH A ROW OF STAPLES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF MAT BACK OVER SEED AND SOIL. SECURE MATS WITH A WITH A ROW OF STAPLES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE MATS.
3. ROLL CENTER MATS IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL.
4. PLACE CONSECUTIVE AND ADJACENT MATS END OVER END (SHINGLE STYLE) WITH A MINIMUM 6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE OVERLAPPED MATS.
5. FULL LENGTH EDGE OF MATS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH.
6. THE TERMINAL END OF MATS MUST BE ANCHORED WITH A ROW OF STAPLES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH.
7. BACKFILL AND SEED AFTER STAPLING.
8. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PROPER INSTALLATION.

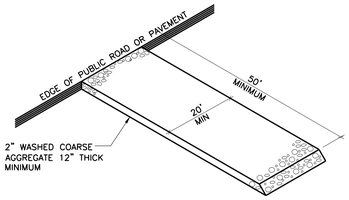
9 C301 EROSION STABILIZATION MATS
NO SCALE



NOTES:
1. OIL ABSORBENT PILLOW SHALL BE REMOVED AND REPLACED WHEN NEAR SATURATION.
2. USE DANDY BAG II® AS MANUFACTURED BY DANDY PRODUCTS, INC.
3. AN EQUIVALENT CATCHBASIN EROSION CONTROL INSERT METHOD OR PRODUCT MAY BE USED WITH PRIOR APPROVAL FROM ENGINEER.

4 C301 CB INSERT EROSION CONTROL
NO SCALE





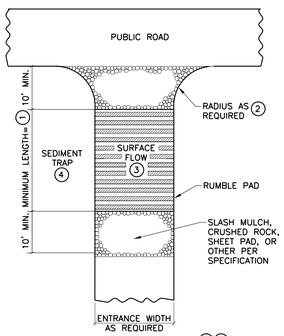
6 C301 GRAVEL CONSTRUCTION ENTRANCE
NO SCALE

TREE PROTECTION NOTES:
1) ALL TREE PROTECTION FENCING AND EROSION CONTROL FENCING SHALL BE INSTALLED ACCORDING TO THE PLANS PRIOR TO ANY DEMOLITION. AFTER DEMOLITION OR AS NECESSARY, TREE PROTECTION FENCING MAY BE RELOCATED WITH APPROVAL FROM THE LANDSCAPE ARCHITECT. ALL TREE PROTECTION FENCING AND EROSION CONTROL DEVICES SHALL BE MAINTAINED FOR THE DURATION OF THE CONSTRUCTION PERIOD.

2) CONTRACTOR SHALL NOT STORE ANY MATERIALS OR PARK ANY VEHICLES IN TREE PROTECTION ZONES. THE FENCE SHALL PREVENT TRAFFIC MOVEMENT AND THE PLACEMENT OF TEMPORARY FACILITIES, EQUIPMENT, STOCKPILES AND SUPPLIES FROM HARMING VEGETATION WITHIN THE LIMITS OF PROTECTION.

3) THE CONTRACTOR SHALL CLEANLY CUT ALL ROOTS EXPOSED BY GRADING AS DIRECTED BY THE LANDSCAPE ARCHITECT.

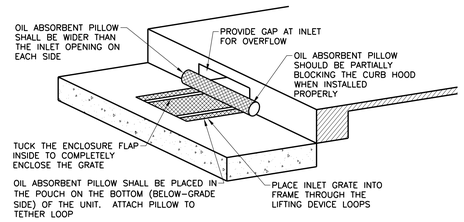
4) THE CONTRACTOR SHALL USE DESIGNATED CONSTRUCTION ENTRANCES AND STAGING AREAS.



RUMBLE PAD CONSTRUCTION EXIT 5 6

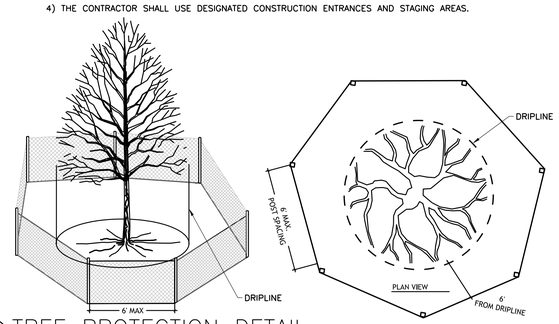
NOTES:
1. MINIMUM LENGTH OF RUMBLE PAD SHALL BE 20 FEET, OR AS REQUIRED TO REMOVE SEDIMENT FROM TIRES. IF SIGNIFICANT SEDIMENT IS TRACKED FROM THE SITE, THE RUMBLE PAD SHALL BE LENGTHENED OR THE DESIGN MODIFIED TO PROVIDE ADDITIONAL VIBRATION. WASH-OFF LENGTH SHALL BE AS REQUIRED TO EFFECTIVELY REMOVE CONSTRUCTION SEDIMENT FROM VEHICLE TIRES.
2. PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
3. IF RUNOFF FROM DISTURBED AREAS FLOWS TOWARD CONSTRUCTION EXITS, PREVENT RUNOFF FROM DRAINING DIRECTLY TO PUBLIC ROAD OVER CONSTRUCTION EXIT BY CROWNING THE EXIT OR SLOPING TO ONE SIDE. IF SURFACE GRADING IS INSUFFICIENT, PROVIDE OTHER MEANS OF INTERCEPTING RUNOFF.
4. IF RUNOFF FROM CONSTRUCTION EXITS WILL DRAIN OFF OF PROJECT SITE, PROVIDE SEDIMENT TRAP WITH STABILIZED OVERFLOW.
5. IF A TIRE WASH OFF IS REQUIRED THE CONSTRUCTION EXITS SHALL BE GRADED TO DRAIN THE WASH WATER TO A SEDIMENT TRAP.
6. MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL (SLASH MULCH OR CRUSHED ROCK) OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.

5 C301 RUMBLE PAD CONSTRUCTION EXIT
NO SCALE

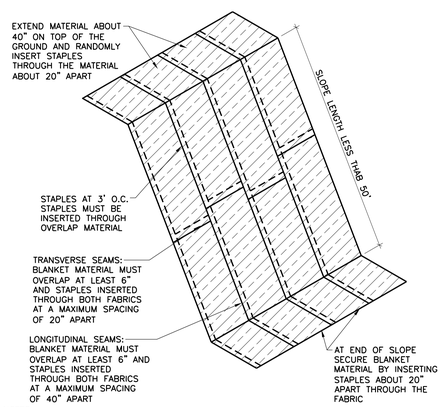


NOTES:
1. OIL ABSORBENT PILLOW SHALL BE REMOVED AND REPLACED WHEN NEAR SATURATION.
2. PROVIDE BEAVER DAM AS MANUFACTURED BY DANDY PRODUCTS, INC.
3. AN EQUIVALENT CURB INLET EROSION CONTROL METHOD OR PRODUCT MAY BE USED WITH APPROVAL FROM ENGINEER.

7 C301 OIL ABSORBENT PILLOW
NO SCALE



8 C301 TREE PROTECTION DETAIL
NO SCALE



NOTES:
1. EROSION CONTROL BLANKET TO BE CATEGORY 4-COCONUT 2S FOR SLOPES GREATER THAN 5:1 AND SIDES AND BOTTOM OF ALL DRAINAGE SWALES AND PONDING AREAS AND CATEGORY 2-STRAW 2S FOR ALL SLOPES LESS THAN 5:1 PER MNDOT SPEC. SECTION 3885.
2. INSTALL PER MNDOT SPEC. SECTION 2575

9 C301 EROSION CONTROL BLANKET
NO SCALE

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Key Plan

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No.	Date	Revision Description

PROJECT STATUS

SWPPP DETAILS

Project	22.1035.01	Drawing Number
Date	Issue Date	
Drawn by	TJS	C301
Checked by	KG	

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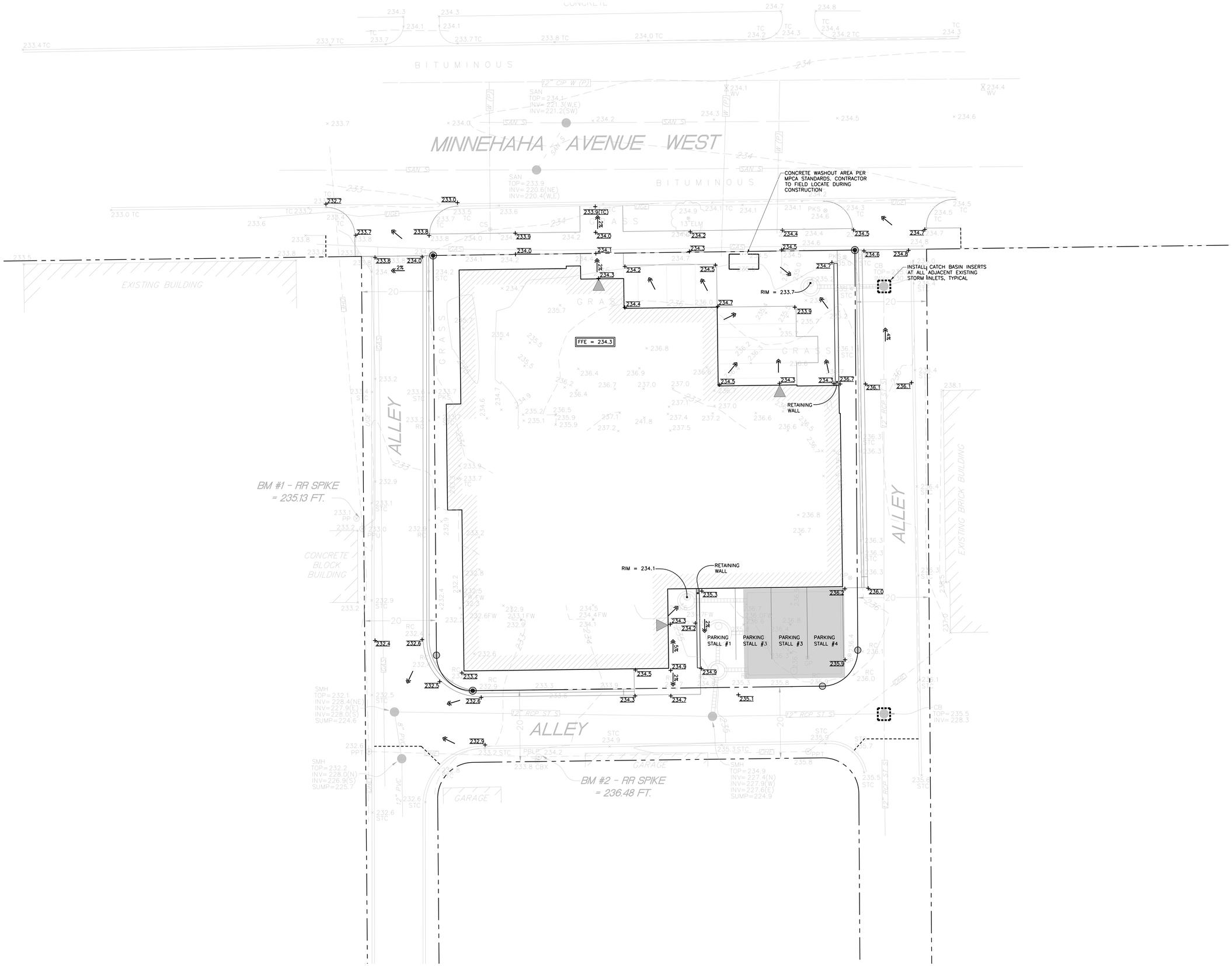

NORTH

1 C400 GRADING AND EROSION CONTROL PLAN

0 10' 20' 30'

1"= 10'

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GRADING AND EROSION CONTROL PLAN

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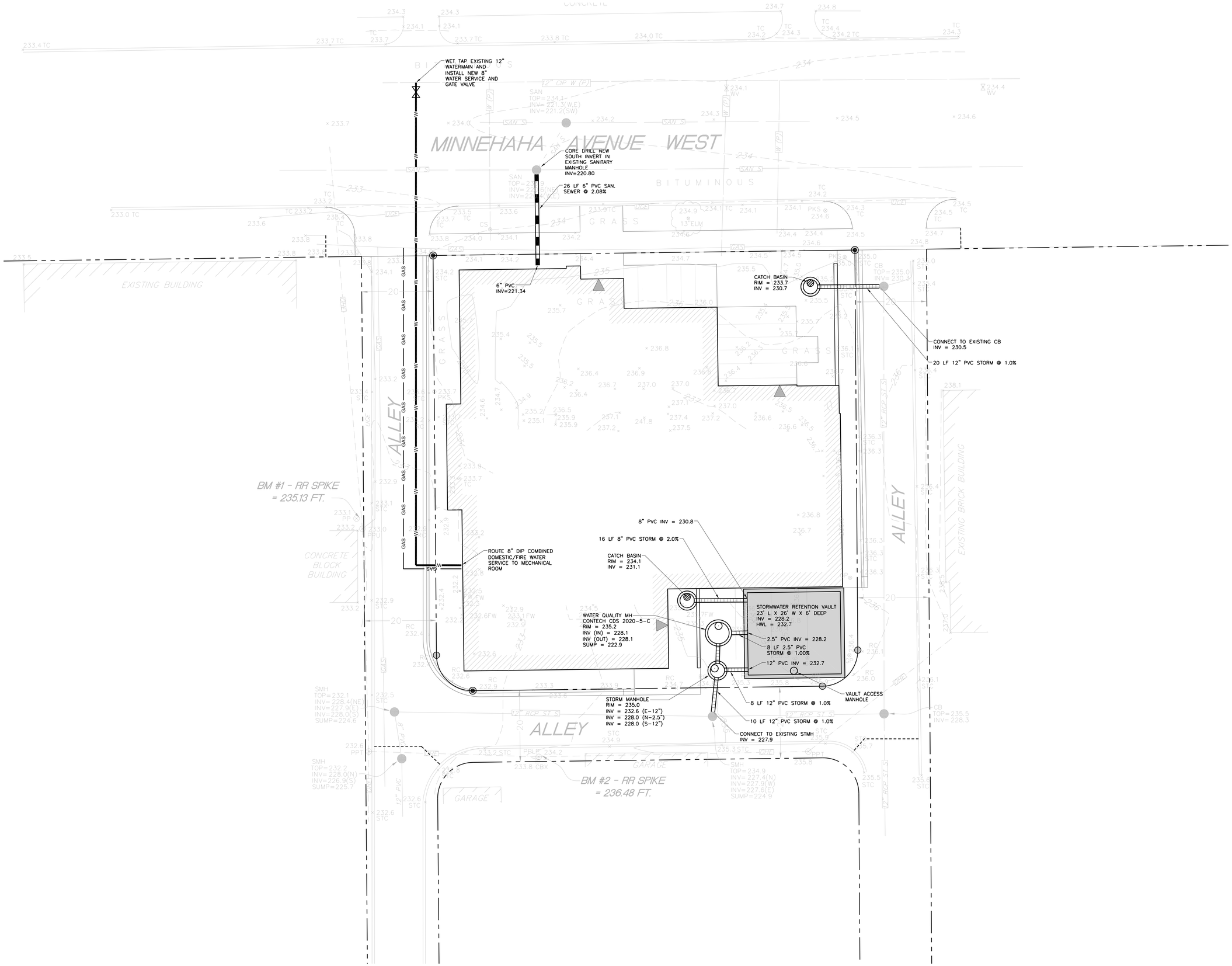

NORTH

1 C500 UTILITY PLAN

0 10' 20' 30'

1"=10'

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UTILITY PLAN

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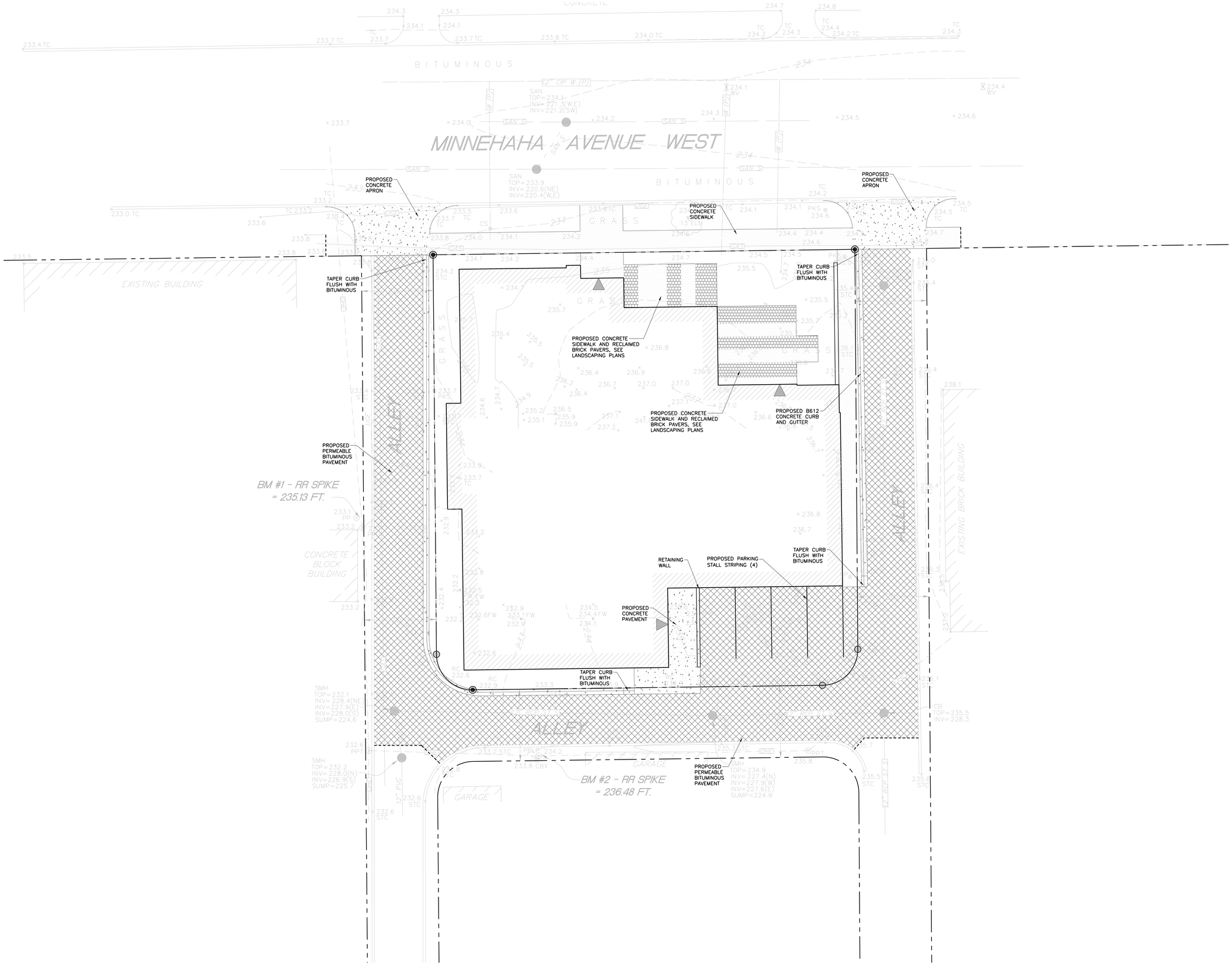

NORTH

1 C600 PAVING PLAN

0 10' 20' 30'

1"= 10'

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PAVING PLAN

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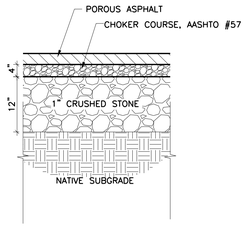
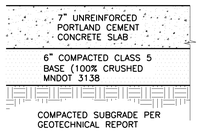


1 C700 PERMEABLE BITUMINOUS PAVEMENT (ALLEY)

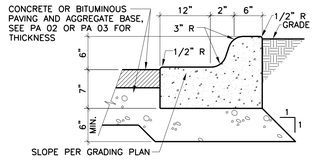
NO SCALE



NOTES: PROVIDE CONTRACTION JOINTS AT 10' O.C. MAX. IN BOTH DIRECTIONS

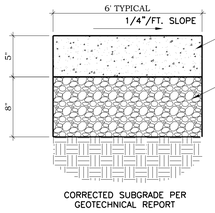
2 C700 CONCRETE PAVEMENT

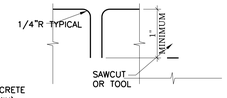
NO SCALE



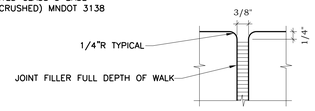
3 C700 CONCRETE CURB & GUTTER (B612)

NO SCALE





CONTRACTION JOINT AT 10' O.C. MAXIMUM



EXPANSION JOINT AT 20' O.C. MAXIMUM

4 C700 CONCRETE SIDEWALK

NO SCALE

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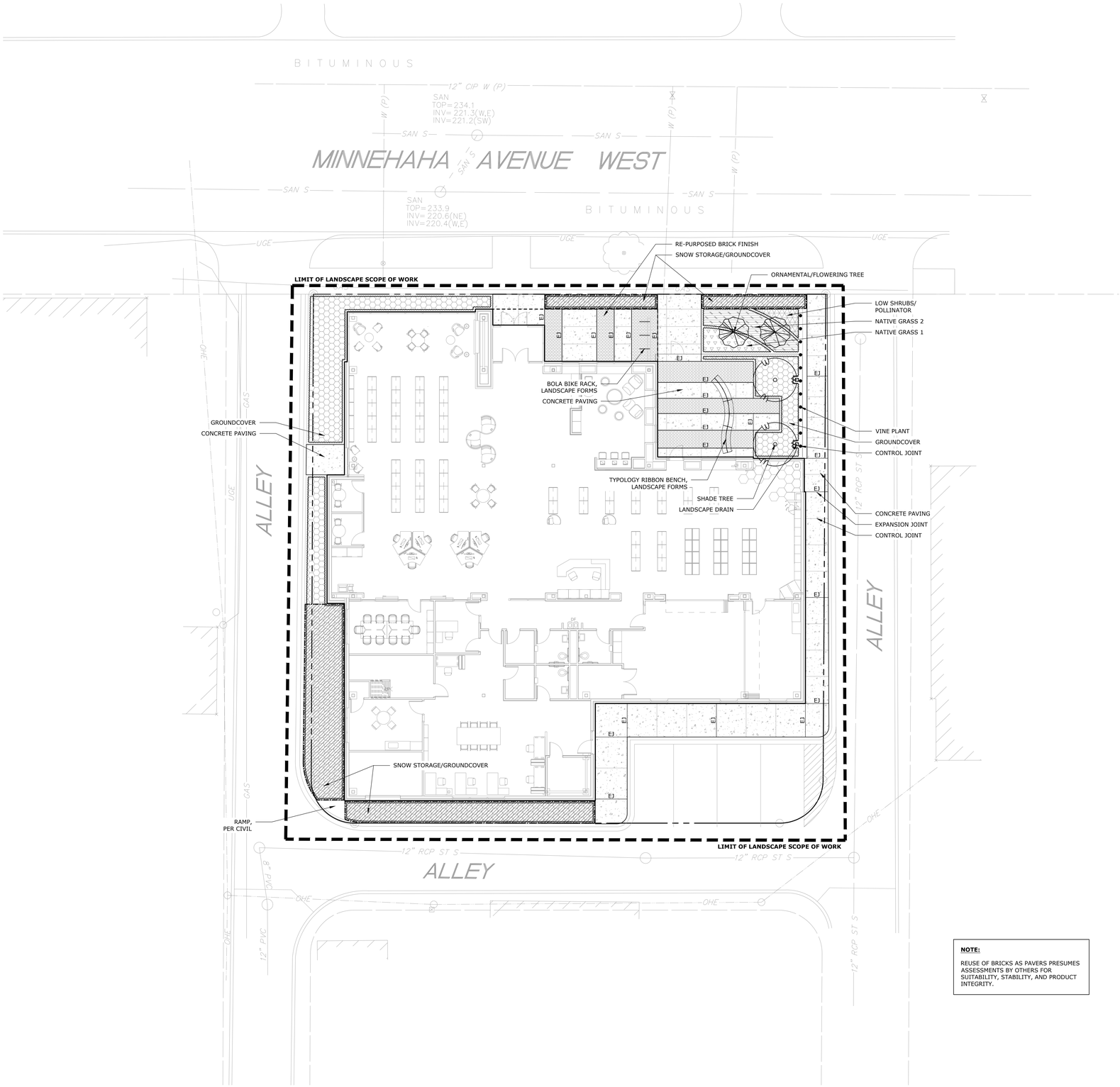

NOTE:

REUSE OF BRICKS AS PAVERS PRESUMES ASSESSMENTS BY OTHERS FOR SUITABILITY, STABILITY, AND PRODUCT INTEGRITY.

HARDSCAPE LEGEND

- CONCRETE PAVING
- RE-PURPOSED BRICK
- EJ — EXPANSION JOINT
- CONTROL JOINT
- LANDSCAPE DRAIN
- TYPOLOGY RIBBON BENCH, LANDSCAPE FORMS
- BOLA BIKE RACK, LANDSCAPE FORMS

PLANTING LEGEND

- SHADE TREE
- ORNAMENTAL/FLOWERING TREE
- VINE PLANT
- NATIVE GRASS 1
- NATIVE GRASS 2
- LOW SHRUB/POLLINATOR
- GROUNDCOVER
- SOD
- SNOW STORAGE

LEGEND

- LIMIT OF LANDSCAPE OF WORK

1 **LANDSCAPE PLAN**

SCALE: 1" = 10'-0"

1" = 10'-0" 0 10' 20'

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LANDSCAPE PLAN

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Checked by		

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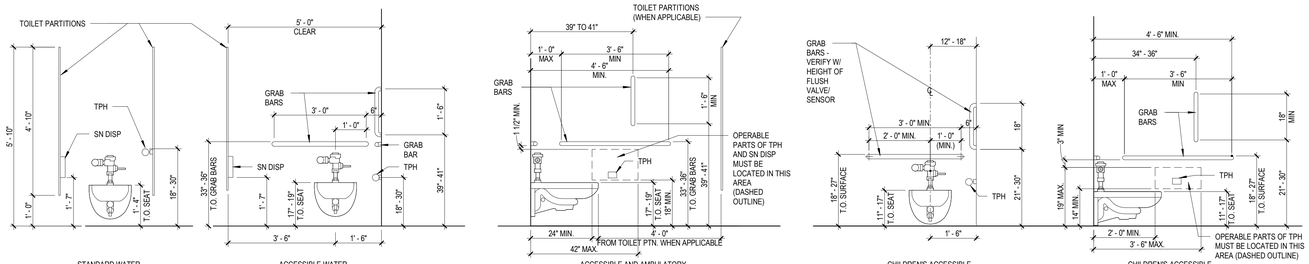
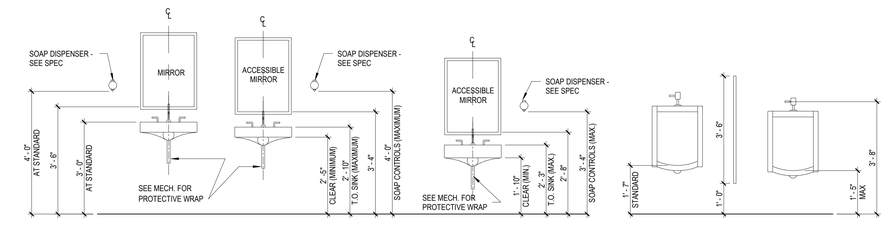


STANDARD WATER CLOSET | ACCESSIBLE WATER CLOSET | ACCESSIBLE AND AMBULATORY WATER CLOSET SIDE VIEW | CHILDREN'S ACCESSIBLE WATER CLOSET | CHILDREN'S ACCESSIBLE WATER CLOSET SIDE VIEW

1 A050 TOILETS
1/2" = 1'-0"

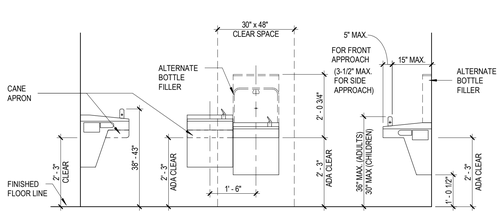


STANDARD LAVATORY | ACCESSIBLE LAVATORY | PRE-K 2ND GRADE

2 A050 LAVATORIES
1/2" = 1'-0"

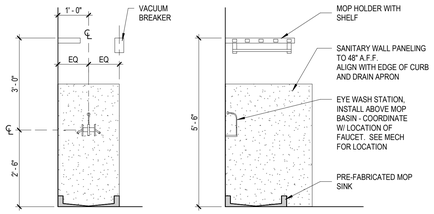
STANDARD URINAL | ACCESSIBLE URINAL

3 A050 URINALS
1/2" = 1'-0"



STANDARD WATER COOLER | ACCESSIBLE ELECTRIC WATER COOLER | ACCESSIBLE ELECTRIC WATER COOLER

4 A050 ELECTRICAL WATER COOLERS
1/2" = 1'-0"



JANITOR CLOSET SIDE VIEW | JANITOR CLOSET FRONT VIEW

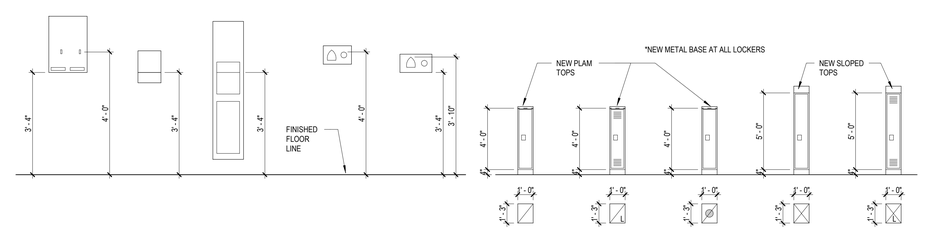
5 A050 JANITOR MOP SINK
1/2" = 1'-0"

GRAB BAR NOTES:

THE STRUCTURAL STRENGTH OF GRAB BARS, FASTENERS AND MOUNTING DEVICES SHALL MEET THE FOLLOWING SPECIFICATIONS :

1. BENDING STRESS IN A GRAB BAR OR SEAT INDUCED BY THE MAXIMUM BENDING MOMENT FROM THE APPLICATION OF A 250 LB. POINT LOAD SHALL BE LESS THAN THE ALLOWABLE STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT.
2. SHEAR STRESS INDUCED IN A GRAB BAR OR SEAT BY THE APPLICATION OF A 250 LB. POINT LOAD SHALL BE LESS THAN THE ALLOWABLE SHEAR STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT, AND ITS MOUNTING BRACKET OR OTHER SUPPORT IS CONSIDERED TO BE FULLY RESTRAINED, THEN DIRECT AND TORSIONAL SHEAR STRESS SHALL NOT EXCEED THE ALLOWABLE SHEAR STRESS.
3. SHEAR FORCE INDUCED IN FASTENERS OR MOUNTING DEVICES FROM THE APPLICATION OF A 250 LB. POINT LOAD SHALL BE LESS THAN THE ALLOWABLE LATERAL LOAD OF EITHER THE FASTENER OR MOUNTING DEVICE OR THE SUPPORTING STRUCTURE, WHICHEVER HAS THE SMALLER ALLOWABLE LOAD.
4. TENSILE FORCE INDUCED IN A FASTENER BY A DIRECT TENSION FORCE OF A 250 LB. POINT LOAD, PLUS THE MAXIMUM MOMENT FROM THE APPLICATION OF A 250 LB. POINT LOAD, SHALL BE LESS THAN THE FASTENER AND SUPPORTING STRUCTURE.
5. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
6. A GRAB BAR AND ANY WALL OR OTHER SURFACE ADJACENT TO IT SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8 ".

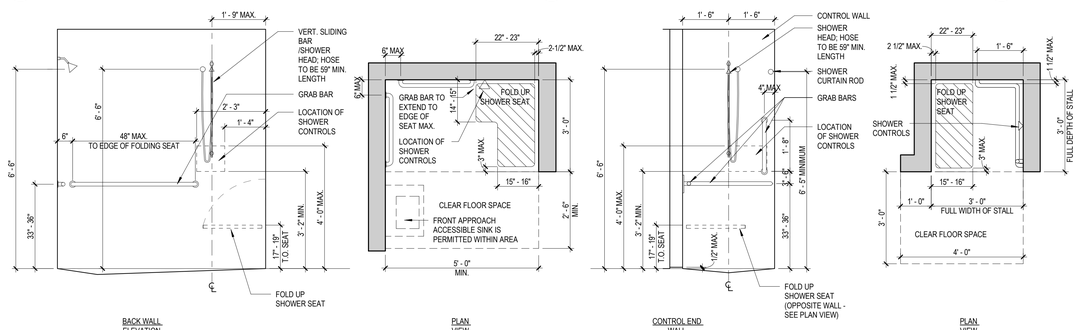
6 A050 GRAB BAR DETAIL NOTES
3" = 1'-0"



FEMININE NAPKIN-TAMPON VENDOR / DISPENSER | PAPER TOWEL DISPENSER (PTD) | PAPER TOWEL DISPENSER & WASTE RECEPTACLE | STANDARD DRYER | ACCESSIBLE DRYER | EXISTING LOCKER | EXISTING LOCKER W/LOUVER | NEW LOCKER | EXISTING LOCKER | EXISTING LOCKER W/LOUVER

7 A050 HAND DRYER AND PAPER PRODUCT DISPENSERS
1/2" = 1'-0"

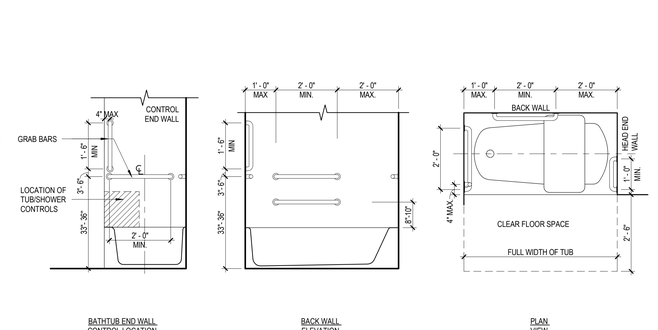
8 A050 STUDENT LOCKER TYPES
1/4" = 1'-0"



BACK WALL ELEVATION | PLAN VIEW | CONTROL END WALL | PLAN VIEW

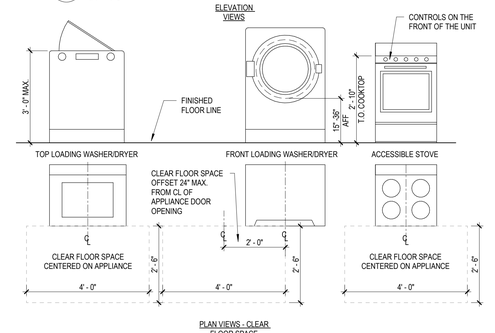
9 A050 ACCESSIBLE SHOWERS - STANDARD ROLL-IN
1/2" = 1'-0"

10 A050 ACCESSIBLE SHOWERS - TRANSFER TYPE
1/2" = 1'-0"



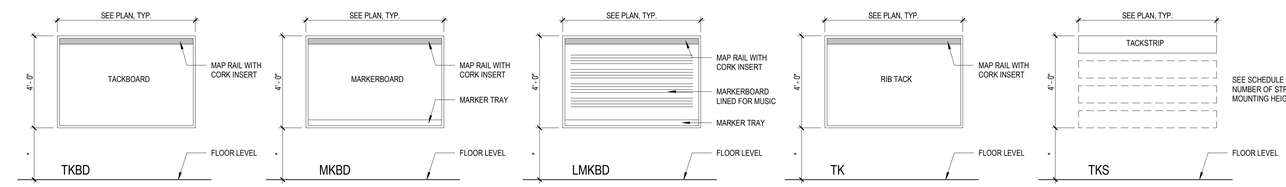
BATHTUB END WALL CONTROL LOCATION | BACK WALL ELEVATION | PLAN VIEW

11 A050 ACCESSIBLE BATHTUB w/o PERMANENT SEAT
1/2" = 1'-0"



PLAN VIEWS - CLEAR FLOOR SPACE

12 A050 ACCESSIBLE APPLIANCES
1/2" = 1'-0"

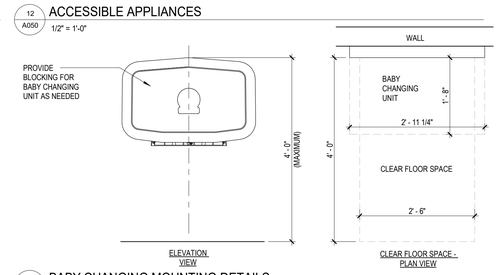


13 A050 VISUAL DISPLAY BOARD
3/8" = 1'-0"

VISUAL DISPLAY BOARD SCHEDULE GENERAL NOTES

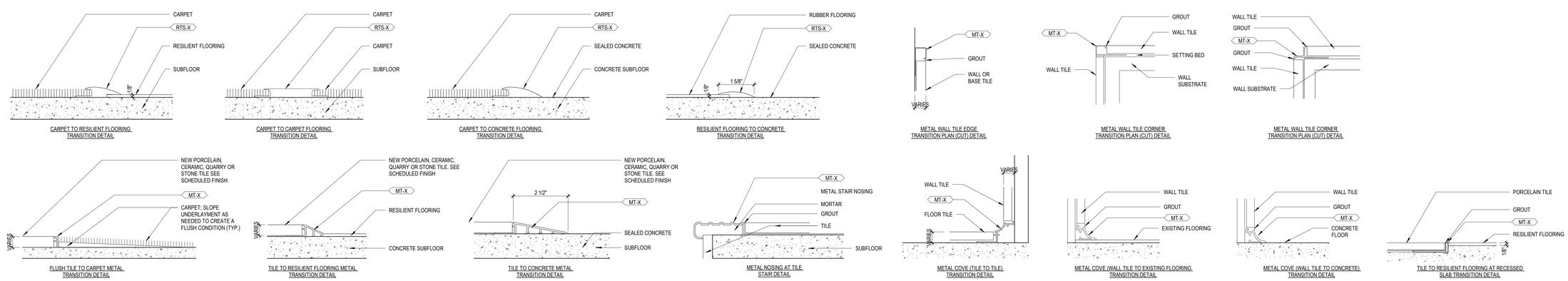
1. ALL VISUAL DISPLAY BOARDS SHALL BE COMPLETELY FACTORY FABRICATED INCLUDING TRIMS, FRAMES, ETC. AND SHIPPED TO THE JOB SITE. FIELD ASSEMBLY OF VISUAL DISPLAY BOARDS IS NOT ACCEPTABLE.
2. ALL VISUAL DISPLAY BOARDS MOUNTED TO GYPSUM BOARD WALLS SHALL RECEIVE CONTINUOUS METAL WALL BLOCKING FOR DISPLAY SECUREMENT. WALL BLOCKING IS TO BE INSTALLED BY METAL WALL FRAMING CONTRACTOR.
3. TYPICAL MOUNTING HEIGHTS ARE: 2'-0" AT KINDERGARTEN & 1ST GRADE; 2'-4" FOR GRADES 2-5; 2'-8" FOR GRADES 6-8; 3'-0" FOR HIGH SCHOOL.

A 10
- VISUAL DISPLAY BOARD TYPE
- VISUAL DISPLAY BOARD WIDTH
- REFER TO EACH SYMBOL IN EACH ROOM FOR NOTED MOUNTING HEIGHT OF EACH INDIVIDUAL UNIT.



ELEVATION VIEW | CLEAR FLOOR SPACE - PLAN VIEW

14 A050 BABY CHANGING MOUNTING DETAILS
3/4" = 1'-0"



CARPET TO RESILIENT FLOORING TRANSITION DETAIL | CARPET TO CARPET FLOORING TRANSITION DETAIL | CARPET TO CONCRETE FLOORING TRANSITION DETAIL | RESILIENT FLOORING TO CONCRETE TRANSITION DETAIL | METAL WALL TILE EDGE TRANSITION PLAN (CUT) DETAIL | METAL WALL TILE CORNER TRANSITION PLAN (CUT) DETAIL | METAL WALL TILE CORNER TRANSITION PLAN (CUT) DETAIL

FLUSH TILE TO CARPET METAL TRANSITION DETAIL | TILE TO RESILIENT FLOORING METAL TRANSITION DETAIL | TILE TO CONCRETE METAL TRANSITION DETAIL | METAL NOSING AT TILE STAIR DETAIL | METAL COVE (TILE TO TILE) TRANSITION DETAIL | METAL COVE (WALL TILE TO EXISTING FLOORING TRANSITION DETAIL | METAL COVE (WALL TILE TO CONCRETE) TRANSITION DETAIL | TILE TO RESILIENT FLOORING AT RECESSED SLAB TRANSITION DETAIL

15 A050 FLOOR AND WALL TRANSITION DETAILS
6" = 1'-0"

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No.	Date	Revision Description
	09.30.2022	75% DD
	10.26.2022	City Comments

75% DESIGN DEVELOPMENT

TYPICAL MOUNTING HEIGHTS & FLOOR / WALL TRANSITION DETAILS

Project	22.1035.01	Drawing Number	A050
Date	09.30.2022		
Drawn by	Author		
Checked by	Checker		

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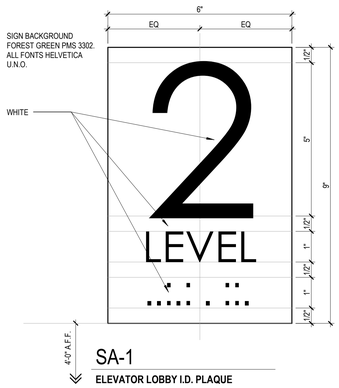
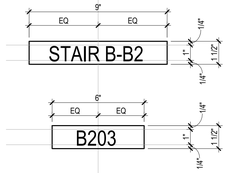


SA-1

ELEVATOR LOBBY I.D. PLAQUE

1 A051 SA-1 ELEVATOR LOBBY I.D. PLAQUE
6" = 1'-0"



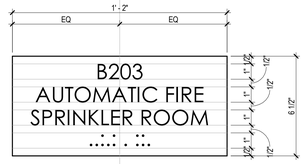
SIGN TYPE

FINISH NOTES AND COLOR SPECIFICATIONS
1. ALL ENGRAVED ROOM NUMBER DOOR PLAQUES SHALL BE MOUNTED WITH FOAM TAPE AND SILICONE ADHESIVE, CENTERED ON THE TOP OF THE DOOR FRAME
2. MESSAGE SHALL BE ENGRAVED ON A 1 1/2" X 7", 1/8" THICK ROWMARK #243912, PINE GREEN/WHITE, U.N.O.
3. FINAL ROOM NUMBERS SHALL BE COORDINATED WITH THE OWNER OR OWNER'S REPRESENTATIVE BEFORE FABRICATION CAN BEGIN.
4. DOOR IDENTIFICATION PLAQUES SHALL BE INSTALLED ON BOTH THE INTERIORAND EXTERIOR ROOM SIDES OF DOOR FRAME.
5. SEE DOOR SIGNAGE SCHEDULES FOR EACH LEVEL.

SA-2

NON ILLUMINATED ROOM NUMBER DOOR PLAQUE

2 A051 SA-2 NON ILLUMINATED ROOM NUMBER DOOR PLAQUE
3" = 1'-0"



SIGN TYPE

FINISH NOTES AND COLOR SPECIFICATIONS
1. SIGN FACES SHALL BE 1/" ACRYLIC WITH SUB-SURFACE WHITE COPY AND OPAQUE FOREST GREEN (PMS 3302), BACKGROUND.
2. U.N.O., SYMBOLS SHALL BEA WHITE BACKGROUND WITH GREEN OR RED (AS REQUIRED), GRAPHIC.
3. ALL FRAMES SHALL BE FOREST GREEN PMS 3302.
4. ALL FONTS SHALL BE HELVETICA REGULAR U.N.O.
5. ALL SIGNS WITH GRADE 2 BRAILLE MUST ALSO HAVE 1/32" RAISED TACTILE TEXT.
6. SEE FOR ATTACHMENT DETAILS
7. IN AREAS WHERE A SIGN IS ATTACHED TO GLASS, A BLANK PLAQUE OF THE SAME DIMENSIONS AND BACKGROUND COLOR WILL BE ATTACHED ON TH EOPPOSITE SIDE OF THE GLASS.

SA-3

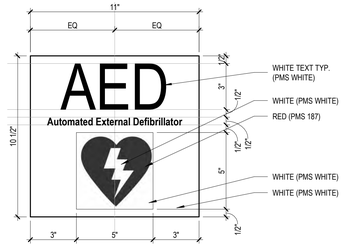
NON ILLUMINATED ROOM IDENTIFICATION PLAQUE

3 A051 SA-3 NON ILLUMINATED ROOM IDENTIFICATION PLAQUE
3" = 1'-0"

SA-4

NON ILLUMINATED EMERGENCY ELEVATOR PLAQUE

4 A051 SA-4 NON ILUMINATED EMERGENCY ELEVATOR PLAQUE
6" = 1'-0"



NOTE: VERIFY SIZE, SPACING AND DIMENSIONS OF LETTERS AND LOGOS COORDINATE WITH THE CONSTRUCTION COORDINATOR TO OBTAIN THE ELECTRONIC (NON-PDF) FILES NECCESSARY FOR FABRICATION.

SA-5

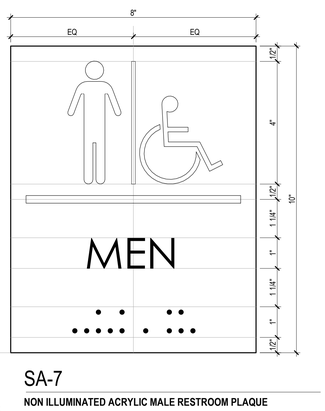
NON ILLUMINATED AED FLAG SIGN

5 A051 SA-5 NON ILLUMINATED AED FLAG SIGN
3" = 1'-0"

SA-6

NON ILLUMINATED ACRYLIC FAMILY RESTROOM PLAQUE

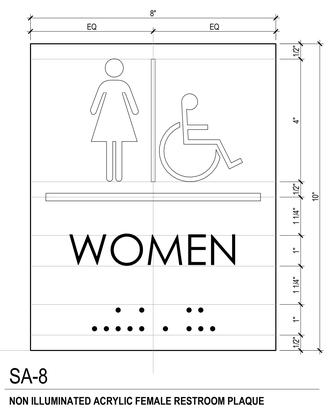
6 A051 SA-6 NON ILLUMINATED ACRYLIC FAMILY RESTROOM PLAQUE
6" = 1'-0"



SA-7

NON ILLUMINATED ACRYLIC MALE RESTROOM PLAQUE

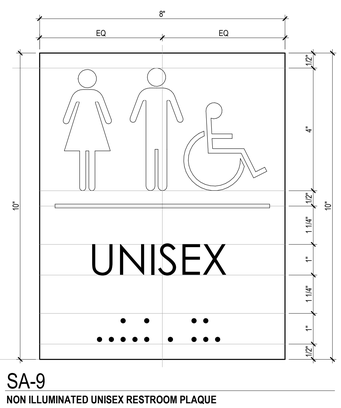
7 A051 SA-7 NON ILLUMINATED ACRYLIC MALE RESTROOM PLAQUE
6" = 1'-0"



SA-8

NON ILLUMINATED ACRYLIC FEMALE RESTROOM PLAQUE

8 A051 SA-8 NON ILLUMINATED ACRYLIC FEMALE RESTROOM PLAQUE
6" = 1'-0"



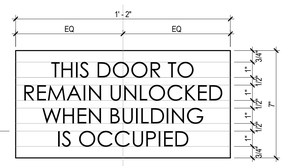
SA-9

NON ILLUMINATED UNISEX RESTROOM PLAQUE

9 A051 SA-9 NON ACRYLIC ILLUMINATED UNISEX RESTROOM PLAQUE
6" = 1'-0"

SA-10

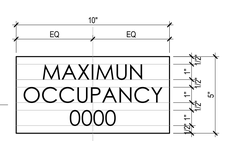
NON ILLUMINATED EGRESS DOOR PLAQUE



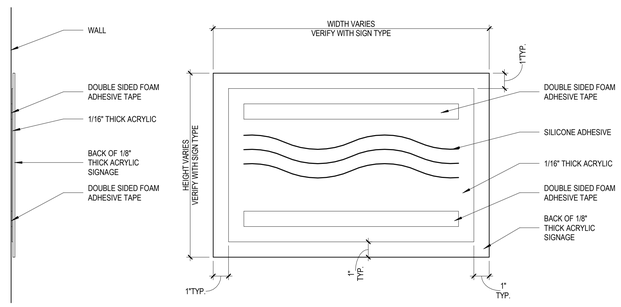
10 A051 SA-10 NON ILLUMINATED EGRESS DOOR PLAQUE
3" = 1'-0"

SA-11

NON ILLUMINATED MAXIMUM OCCUPANCY PLAQUE



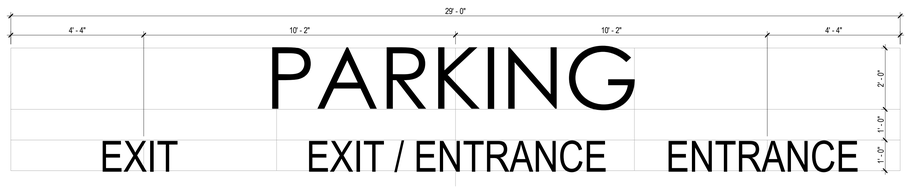
11 A051 SA-11 NON ILLUMINATED MAXIMUM OCCUPANCY PLAQUE
3" = 1'-0"



SA-12

NON ILLUMINATED EXTERIOR BUILDING WALL ACRYLIC PLAQUE

14 A051 SA-12 NON ILUMINATED EXTERIOR BUILDING WALL ACRYLIC PLAQUE
3" = 1'-0"



HELVETICA MEDIUM LETTERS, STUD MOUNTED TO PRECAST CONCRETE BUILDING PANEL. PREFINISHED ALUMINUM

SA-13

NON-ILLUMINATED DIMENSIONAL LETTERS

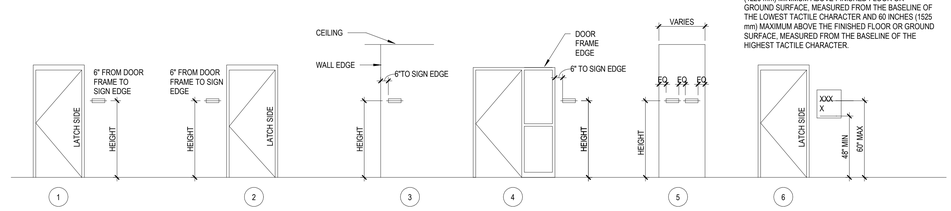
15 A051 SA-13 NON-ILLUMINATED DIMENSIONAL LETTERS
1/2" = 1'-0"

ROOM SIGNAGE SCHEDULE

Number	Name	Type	Location	Text	Qty.	Notes
LEVEL 1						
100	VESTIBULE					
101	HALL					
102A	CHILDREN					
102B	SERVICE					
103	COMMUNITY					
104A	STORAGE					
105	WELL					
106	T.					
107	T.					
108	STAFF WORKROOM					
108A	JAN.					
108B	BOOK DROP					
108C	OUTDOOR STORAGE					
108D	STAFF BREAKROOM					
108E	STOR.					
108F	FACILITIES					
109	OFFICE					
113	FLEX / MEETING					
114	STUDY					
116	T.					
117	STUDY					
118	TEEN					
126	COLLECTIONS					
B.O. LOW ROOF						
201	MECH					

NOTES:
VERIFY SIZE, SPACING AND DIMENSIONS OF LETTERS AND LOGOS , COORDINATE WITH THE CONSTRUCTION COORDINATOR TO OBTAIN THE ELECTRONIC FILES NECESSARY FOR FABRICATION

703.4.1 HEIGHT OF TACTILE CHARACTERS: TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48 INCHES (1220 mm) MINIMUM ABOVE FINISHED FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST TACTILE CHARACTER AND 60 INCHES (1525 mm) MAXIMUM ABOVE THE FINISHED FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST TACTILE CHARACTER.



25 A051 SIGN MOUNTING HEIGHTS AND LOCATIONS
1/4" = 1'-0"

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No.	Date	Revision Description
	09.30.2022	75% DD
	10.26.2022	City Comments

75% DESIGN DEVELOPMENT

TYPICAL SIGNAGE AND EQUIPMENT MOUNTING HEIGHTS

Project	22.1035.01	**Drawing Number**
Date	09.30.2022	
Drawn by	Author	**A051**
Checked by	Checker	

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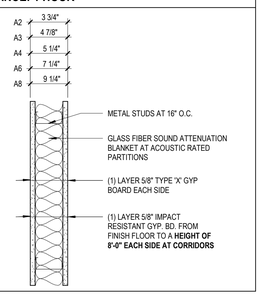
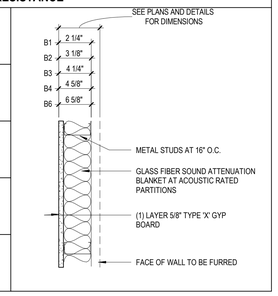
A — TYPICAL NON-COMBUSTIBLE PARTITION AVAILABLE FIRE RESISTANCE: 1 HOUR

A2	2 1/2" METAL STUDS GA FILE: WP1350 UL DESIGN: U419 STC RATING W/ INSULATION: 40
A3	3 5/8" METAL STUDS GA FILE: WP1350 UL DESIGN: U419 STC RATING W/ INSULATION: 48
A4	4" METAL STUDS GA FILE: WP1350 UL DESIGN: U419 STC RATING W/ INSULATION: 48
A6	6" METAL STUDS GA FILE: WP1350 UL DESIGN: U419 STC RATING W/ INSULATION: 48
A8	8" METAL STUDS GA FILE: WP1350 UL DESIGN: U419 STC RATING W/ INSULATION: 48



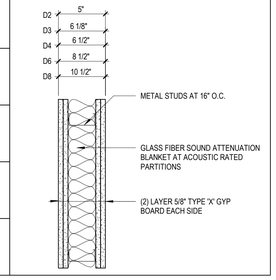
B — TYPICAL NON-COMBUSTIBLE FURRED PARTITION NO AVAILABLE FIRE RESISTANCE

B1	1 5/8 METAL STUDS GA FILE: WP1070 UL DESIGN: NA STC RATING W/ INSULATION: NA
B2	2 1/2" METAL STUDS GA FILE: WP1070 UL DESIGN: NA STC RATING W/ INSULATION: NA
B3	3 5/8" METAL STUDS GA FILE: WP1070 UL DESIGN: NA STC RATING W/ INSULATION: NA
B4	4" METAL STUDS GA FILE: WP1070 UL DESIGN: NA STC RATING W/ INSULATION: NA
B6	6" METAL STUDS GA FILE: WP1070 UL DESIGN: NA STC RATING W/ INSULATION: NA



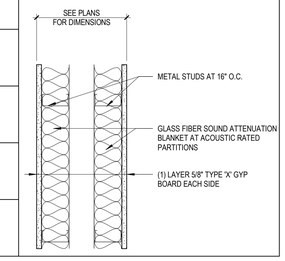
D — TYPICAL NON-COMBUSTIBLE PARTITION AVAILABLE FIRE RESISTANCE: 2 HOUR

D2	2 1/2" METAL STUDS GA FILE: WP1548 UL DESIGN: U419 STC RATING W/ INSULATION: 49
D3	3 5/8" METAL STUDS GA FILE: WP1548 UL DESIGN: U419 STC RATING W/ INSULATION: 54
D4	4" METAL STUDS GA FILE: WP1548 UL DESIGN: U419 STC RATING W/ INSULATION: 54
D6	6" METAL STUDS GA FILE: WP1548 UL DESIGN: U419 STC RATING W/ INSULATION: 54
D8	8" METAL STUDS GA FILE: WP1548 UL DESIGN: U419 STC RATING W/ INSULATION: 54



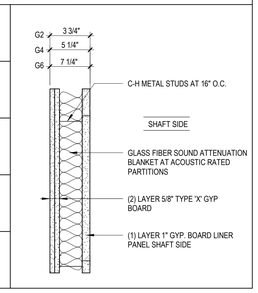
E — TYPICAL NON-COMBUSTIBLE CHASE WALL PARTITION AVAILABLE FIRE RESISTANCE: 1 HOUR

E1	1 5/8" METAL STUDS GA FILE: WP5015 UL DESIGN: U420 STC RATING W/ INSULATION: 54
E2	2 1/2" METAL STUDS GA FILE: WP5006 UL DESIGN: N/A STC RATING W/ INSULATION: 54
E3	3 5/8" METAL STUDS GA FILE: WP5015 UL DESIGN: U493 STC RATING W/ INSULATION: 58
E4	4" METAL STUDS GA FILE: WP5015 UL DESIGN: U493 STC RATING W/ INSULATION: 58
E6	6" METAL STUDS GA FILE: WP5015 UL DESIGN: U493 STC RATING W/ INSULATION: 58



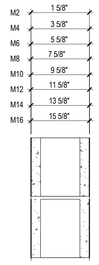
G — NON-COMBUSTIBLE SHAFT WALL PARTITION AVAILABLE FIRE RESISTANCE: 2 HOUR

G2	2 1/2" C-H METAL STUDS GA FILE: UL DESIGN: U415 STC RATING W/ INSULATION: 47
G4	4" C-H METAL STUDS GA FILE: UL DESIGN: U415, SYSTEM C STC RATING W/ INSUL: 51
G6	6" C-H METAL STUDS GA FILE: UL DESIGN: U415, SYSTEM C STC RATING W/ INSUL: 51



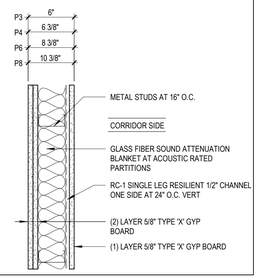
M — TYPICAL NON-COMBUSTIBLE STANDARD CMU PARTITON AVAILABLE FIRE RESISTANCE: SEE TYPES

M2	1 5/8" LIGHTWEIGHT CONCRETE MASONRY UNITS AVAILABLE FIRE RESISTANCE: NONE
M4	3 5/8" STANDARD WEIGHT CONCRETE MASONRY UNITS AVAILABLE FIRE RESISTANCE: 1 HOUR SOLID BLOCK ONLY
M6	5 5/8" STANDARD WEIGHT CONCRETE MASONRY UNITS AVAILABLE FIRE RESISTANCE: 1 AND 2 HOUR AVAILABLE FIRE RESISTANCE: 3 HOUR SOLID BLOCK ONLY
M8	7 5/8" STANDARD WEIGHT CONCRETE MASONRY UNITS AVAILABLE FIRE RESISTANCE: 1, 2 AND 3 HOUR AVAILABLE FIRE RESISTANCE: 4 HOUR SOLID BLOCK ONLY
M10	9 5/8" STANDARD WEIGHT CONCRETE MASONRY UNITS AVAILABLE FIRE RESISTANCE: 2 HOUR
M12	11 5/8" STANDARD WEIGHT CONCRETE MASONRY UNITS AVAILABLE FIRE RESISTANCE: 2, 3 AND 4 HOUR
M14	13 5/8" STANDARD WEIGHT CONCRETE MASONRY UNITS AVAILABLE FIRE RESISTANCE: 4 HOUR
M16	15 5/8" STANDARD WEIGHT CONCRETE MASONRY UNITS AVAILABLE FIRE RESISTANCE: 4 HOUR



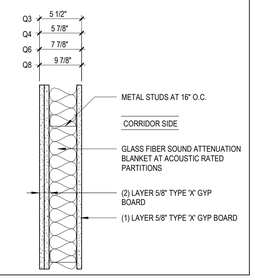
P — ACOUSTICAL PARTITION AVAILABLE FIRE RESISTANCE: 1 HOUR

P3	3 5/8" METAL STUDS GA FILE: UL DESIGN: U419 STC RATING W/ INSULATION: 54
P4	4" METAL STUDS GA FILE: NA UL DESIGN: U419 STC RATING W/ INSULATION: 54
P6	6" METAL STUDS GA FILE: NA UL DESIGN: U419 STC RATING W/ INSULATION: 54
P8	8" METAL STUDS GA FILE: NA UL DESIGN: NA STC RATING W/ INSULATION: 54



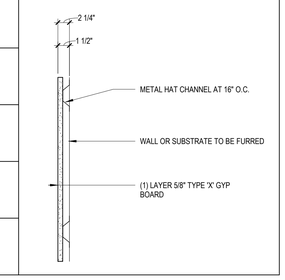
Q — ACOUSTICAL PARTITION AVAILABLE FIRE RESISTANCE: 1 HOUR

Q3	3 5/8" METAL STUDS GA FILE: WP1052 UL DESIGN: 419 STC RATING W/ INSULATION: 47
Q4	4" METAL STUDS GA FILE: WP1052 UL DESIGN: 419 STC RATING W/ INSULATION: 51
Q6	6" METAL STUDS GA FILE: WP1052 UL DESIGN: 419 STC RATING W/ INSULATION: 51
Q8	8" METAL STUDS GA FILE: WP1052 UL DESIGN: 419 STC RATING W/ INSULATION: 51



T — TYPICAL NON-COMBUSTIBLE FURRED PARTITION NO AVAILABLE FIRE RESISTANCE

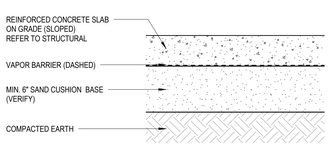
T1	7/8" METAL FURRING CHANNEL GA FILE: NA UL DESIGN: NA STC RATING W/ INSULATION: NA
T2	1 1/2" METAL FURRING CHANNEL GA FILE: NA UL DESIGN: NA STC RATING W/ INSULATION: NA



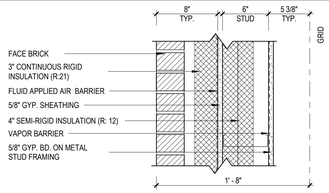
GENERAL PARTITION NOTES

1. NOT ALL INTERIOR PARTITIONS SHOWN ON THIS SHEET ARE NECESSARILY USED IN THE PROJECT. SEE FLOOR PLANS FOR DESIGNATION OF PARTITIONS.
2. PARTITIONS SHALL BE TYPE A3 UNLESS NOTED OR TAGGED OTHERWISE ON PLANS.
3. SEE "INTERIOR PARTITION TYPE SUBSCRIPT KEY" FOR SYMBOLS USED TO DESCRIBE PARTITION HEIGHTS AND ACOUSTICAL INSULATION.
4. PARTITION TYPES DESCRIBE GENERAL REQUIREMENTS FOR PARTITION CONSTRUCTION. REFER TO SPECIFICATIONS FOR REQUIREMENTS OF TESTING AGENCIES FOR SPECIFICS.
5. GYPSUM ASSOCIATION (GA) AND UNDERWRITER'S LABORATORIES, INC. (UL) WILL VARY DEPENDING ON THE MANUFACTURER OF COMPONENTS ACTUALLY USED. VARIATION FROM DESIGNATED UL NUMBERS SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.
6. TYPICAL FLOOR PLAN DIMENSIONS OF PARTITIONS ARE TO THE NOMINAL FINISHED FACE OF GYPSUM BOARD UNLESS NOTED TO THE CENTERLINE OF THE PARTITION. WHERE A CLEAR DIMENSION OR OPENING IS REQUIRED OR NOTED, MEASURE DIMENSION TO FINISHED FACE OF PARTITION.\
7. ALL WOOD BLOCKING IN WALL FOR ATTACHMENT OF WALL HUNG EQUIPMENT, TO BE FIRE TREATED
8. INSTALL 5/8" TYPE 'X' GYPSUM BOARD AT ALL PARTITIONS UNLESS NOTED OTHERWISE
9. REFER TO CODE PLANS FOR LOCATIONS OF SMOKE AND FIRE RATED WALLS AND SHAFTS.
10. ALL THROUGH-WALL PENETRATIONS IN RATED WALLS TO BE FIRESTOPPED / FIRE CAULKED AS REQUIRED TO MAINTAIN WALL FIRE RATING.
11. ALL THROUGH-WALL DUCTWORK IN RATED WALLS TO HAVE FIRE / SMOKE DAMPERS AS REQUIRED TO MAINTAIN WALL RATING AND MEET ALL APPLICABLE CODES. SEE MECHANICAL DRAWINGS.
12. ALL PARTITIONS SHALL BE ACOUSTICALLY RATED UNLESS NOTED OTHERWISE. ALL ELEMENTS OF ACOUSTIC RATED PARTITIONS SHALL EXTEND TO ROOF OR FLOOR DECK ABOVE.
13. INSTALL ACOUSTICAL SEALANT AT ACOUSTICALLY RATED PARTITIONS. SEE GENERAL PARTITION NOTES 19 AND 20.
14. WASTE LINES AND VERTICAL RAINWATER LEADERS TO BE SOUND INSULATED. ELECTRICAL (INCLUDING LOW-VOLTAGE) DEVICES AND BOXES TO BE OFFSET / STAGGERED FROM DEVICES AND BOXES ON OPPOSITE SIDE OF WALL. DO NOT INSTALL BACK TO BACK.
15. INSTALL GYPSUM TILE BOARD BACKER PANELS AND/OR. CEMENT BACKER BOARD AT AREAS SCHEDULED TO RECEIVE CERAMIC TILE FINISH AND AS REQUIRED BY CODE. FOR WALLS SCHEDULED TO RECEIVE PAINT ABOVE CERAMIC TILE, INSTALL PAPER-FACED MOISTURE-RESISTANT GYPSUM BOARD PANELS TO PROVIDE A SMOOTH PAINTABLE SURFACE.
16. INSTALL IMPACT RESISTANT GYPSUM BOARD PANELS FROM FINSIHED FLOOR TO A HEIGHT OF 8'-0" AT CLASSROOMS AND CORRIDORS, AS NOTED ON PLANS
17. PENETRATIONS IN RATED PARTITIONS AND CONNECTIONS OF THE PARTITIONS TO OTHER PORTIONS OF THE WORK SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED DETAILS AND IN COMPLIANCE WITH APPLICABLE TESTING AGENCY REQUIRMENTS.
18. NOT USED
19. APPLY 1/4" MINIUMUM CONTINUOUS BEAD OF ACOUSTICAL SEALANT AT PERIMETERS OF PARTITIONS WHERE THEY MEET ADJACENT SURFACES INCLUDING APPLYING A DOUBLE BEAD AT UNDERSIDE OF RUNNER CHANNELS PRIOR TO ANCHORING TO FLOOR. SEAL CONSTRUCTION AT PERIMTERS, BEHIND CONTROL JOINTS AND AT OPENINGS AND PENETRATIONS.
20. INSERT ACOUSTICAL BATT INSULATION BACKING AND APPLY ACRYLIC-BASED SMOKE AND ACOUSTIC SEALANT AT GAPS OF 1/2" OR MORE AROUND THROUGH-WALL PENETRATIONS INCLUDING, BUT NOT LIMITED TO SPRINKLER PIPING, ELECTRICAL CONDUITS AND MECHANICAL DUCTWORK. (GAPS LESS THAN 1/2" ARE STILL REQUIRED TO BE SEALED WITH ACOUSTICAL SEALANT.)
21. AT ALL EXTERIOR WALLS AND PARAPETS, WOOD BLOCKING AND SHEATHING EXCEEDING 24 INCHES ABOVE THE ROOF DECK USED IN ROOF CONSTRUCTION FOR EQUIPMENT SUPPORT, BUILDING OR ROOF SYSTEM JOINTS, SKYLIGHT OR MECHANICAL EQUIPMENT, CURBS, CANT'S, BLOCKING AND BACKING, AND FOR PARAPET OR ROOF EDGE CONSTRUCTION SHALL BE FIRE-RETARDANT-TREATED WOOD.
22. AT ALL FIRE WALLS, FIRE BARRIERS, FIRE PARTITIONS, SMOKE BARRIERS AND SMOKE PARTITIONS OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING. SUCH IDENTIFICATION SHALL:
    - A. BE LOCATED IN ACCESSIBLE CONCEALED FLOOR, FLOOR-CEILING OR ATTIC SPACES;
    - B. BE LOCATED WITHIN 15 FEET (4572 MM) OF THE END OF EACH WALL AND AT INTERVALS NOT EXCEEDING 30 FEET (9144 MM) MEASURED HORIZONTALLY ALONG THE WALL OR PARTITION; AND
    - C. INCLUDE LETTERING NOT LESS THAN 3 INCHES (76 MM) IN HEIGHT WITH A MINIMUM 3/8 INCH (9.5 MM) STROKE IN A CONTRASTING COLOR CORPORATING THE SUGGESTED WORDING. "FIRE AND/OR SMOKE BARRIER—PROTECT ALL OPENINGS" OR OTHER WORDING.

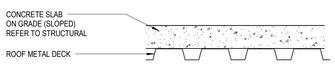
F1 — CONCRETE SLAB ON GRADE - FLOOR SYSTEM



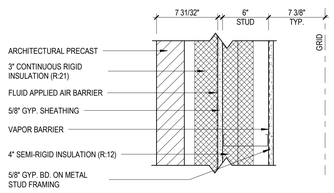
W1 — FACE BRICK - EXTERIOR WALL SYSTEM



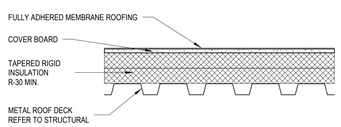
F2 — CONCRETE SLAB ON METAL DECK - FLOOR SYSTEM



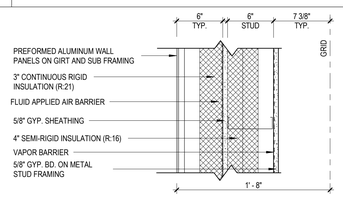
W2 — ARCHITECTURAL PRECAST - EXT. WALL SYSTEM

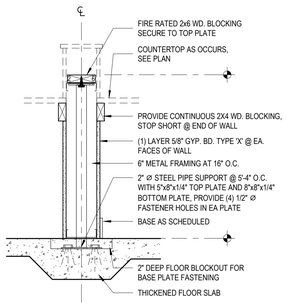


R1 — BUILT UP ROOF SYSTEM W/ METAL ROOF DECK



W3 — PREFORMED ALUMINUM - EXTERIOR WALL SYSTEM



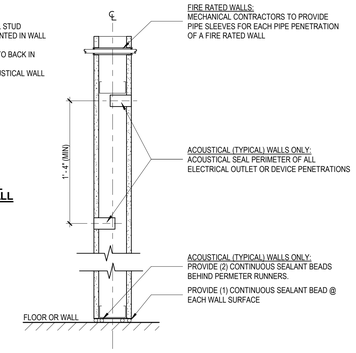


10 / A071 KNEE WALL DETAIL
1" = 1'-0"

GENERAL NOTES:

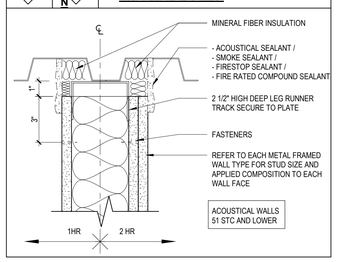
1. INSTALL SOLID WOOD BLOCKING IN ALL METAL STUD CONSTRUCTION FOR SUPPORT OF ITEMS MOUNTED IN WALL OR WALL FACE.
2. DO NOT INSTALL ELECTRICAL DEVICES BACK TO BACK IN ONE COMMON STUD SPACE
3. WALL DIAPHRAGM IS TO BE AIR TIGHT IN ACOUSTICAL WALL

PLAN / SECTION OF TYPICAL METAL FRAMED GYP. BD. WALL

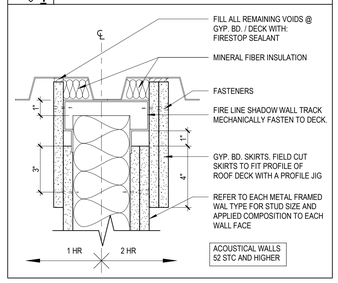


16 / A071 TYP. METAL FRAMING GYP. BD. WALL SECTION
1 1/2" = 1'-0"

A3 / N — TYPICAL /STD. ACOUSTICAL / SMOKE WALL HEAD DETAIL



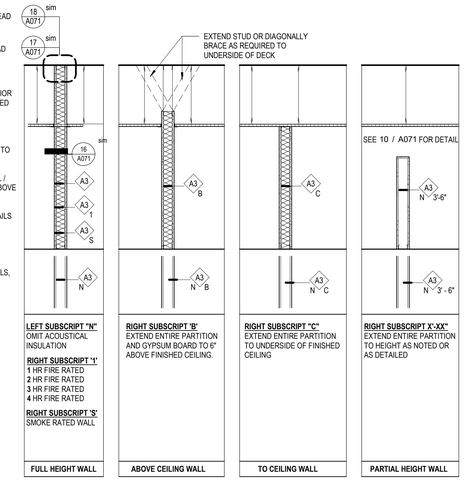
A3 / 1 — FIRE RATED /HIGH ACOUSTICAL WALL HEAD DETAIL



TYPICAL FIRE RATED WALL HEAD — 18 / A071 sim
TYPICAL WALL HEAD — 17 / A071 sim

WALL SUBSCRIPT NOTES

1. ALL INTERIOR AND EXTERIOR STUDS SHALL BE ENGINEERED FOR HEIGHT WITH AREA SPECIFIC LATERAL LOADS.
2. TYPICALLY ALL INTERIOR PARTITIONS SHALL EXTEND TO DECK U.N.O.
3. ROUGH TAPE ALL TYPICAL / FIRE WALL PANEL JOINTS ABOVE CEILING
4. REFER TO INTERIOR DETAILS FOR SPECIAL CONDITION TERMINATIONS
5. ALL WALL TAGS WITH THE SUBSCRIPT 1, 2, 3, OR 4 INDICATES FIRE RATED WALLS, REFER TO CODE PLAN



PARTITION TYPE SUBSCRIPT KEY

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No.	Date	Revision Description
	09.30.2022	75% DD
	10.26.2022	City Comments

75% DESIGN DEVELOPMENT

PARTITION TYPES, FLOOR TYPES, ROOF TYPES AND NOTES

Project	22.1035.01	Drawing Number
Date	09.30.2022	
Drawn by	Author	A071
Checked by	Checker	

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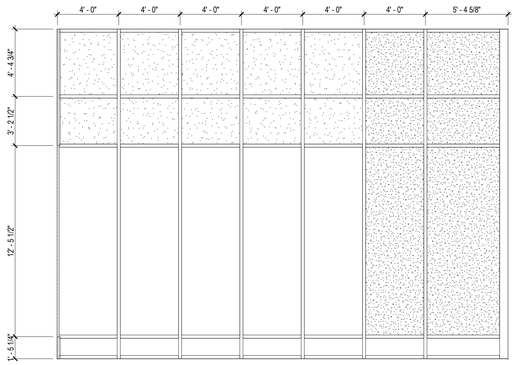
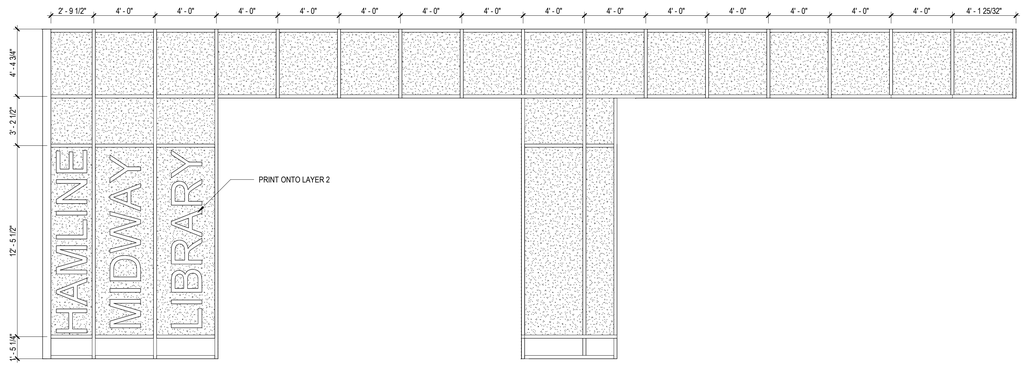


2 A080 CW-01
1/4" = 1'-0"



1 A080 CW-2
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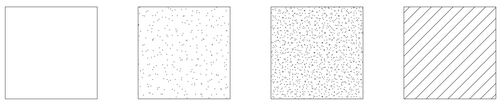
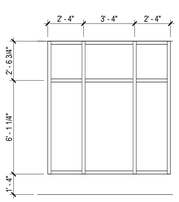


WINDOW TYPE NOTE
1" = 1'-0"



3 A080 CW-03
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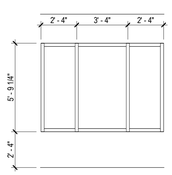

4 A080 CW-04
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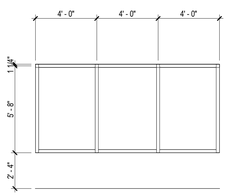

5 A080 CW-05
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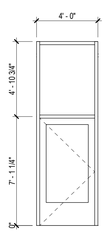

6 A080 CW-06
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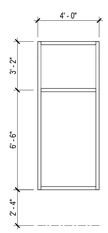

7 A080 CW-07
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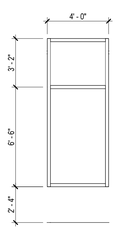

8 A080 CW-08
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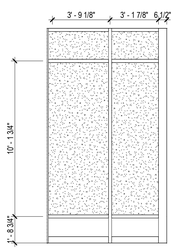

9 A080 CW-09
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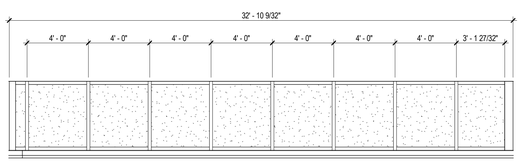

10 A080 CW-10 CLERESTORY
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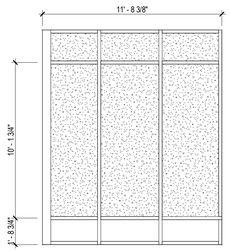

11 A080 CW-11
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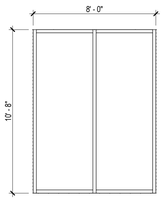

12 A080 CW-12
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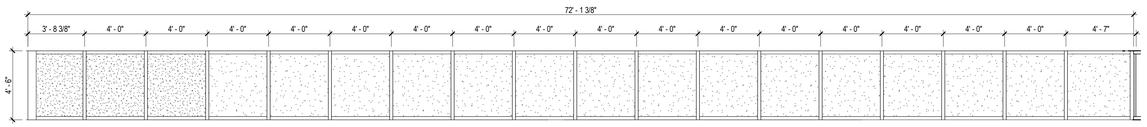

13 A080 CW-13 CLERESTORY
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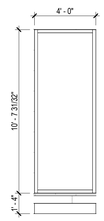

14 A080 CW-14
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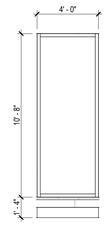

15 A080 CW-15
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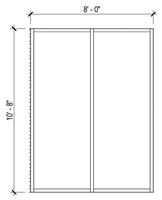

16 A080 CW-16
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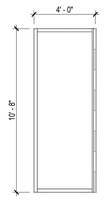
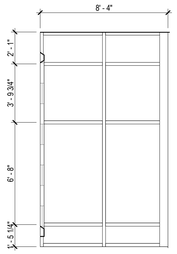
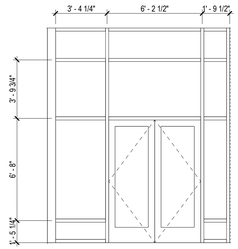


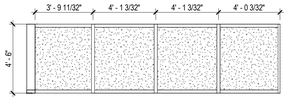
17 A080 CW-17
1/4" = 1'-0"



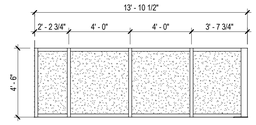
18 A080 CW-18
1/4" = 1'-0"



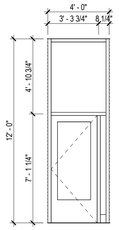
19 A080 CW-19
1/4" = 1'-0"



20 A080 CW-20 CLERESTORY
1/4" = 1'-0"



21 A080 CW-21 CLERESTORY
1/4" = 1'-0"



22 A080 CW-22
1/4" = 1'-0"

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EXTERIOR GLAZING

Project	22.1035.01	**Drawing Number**	
Date	09.30.2022		
Drawn by	Author		**A080**
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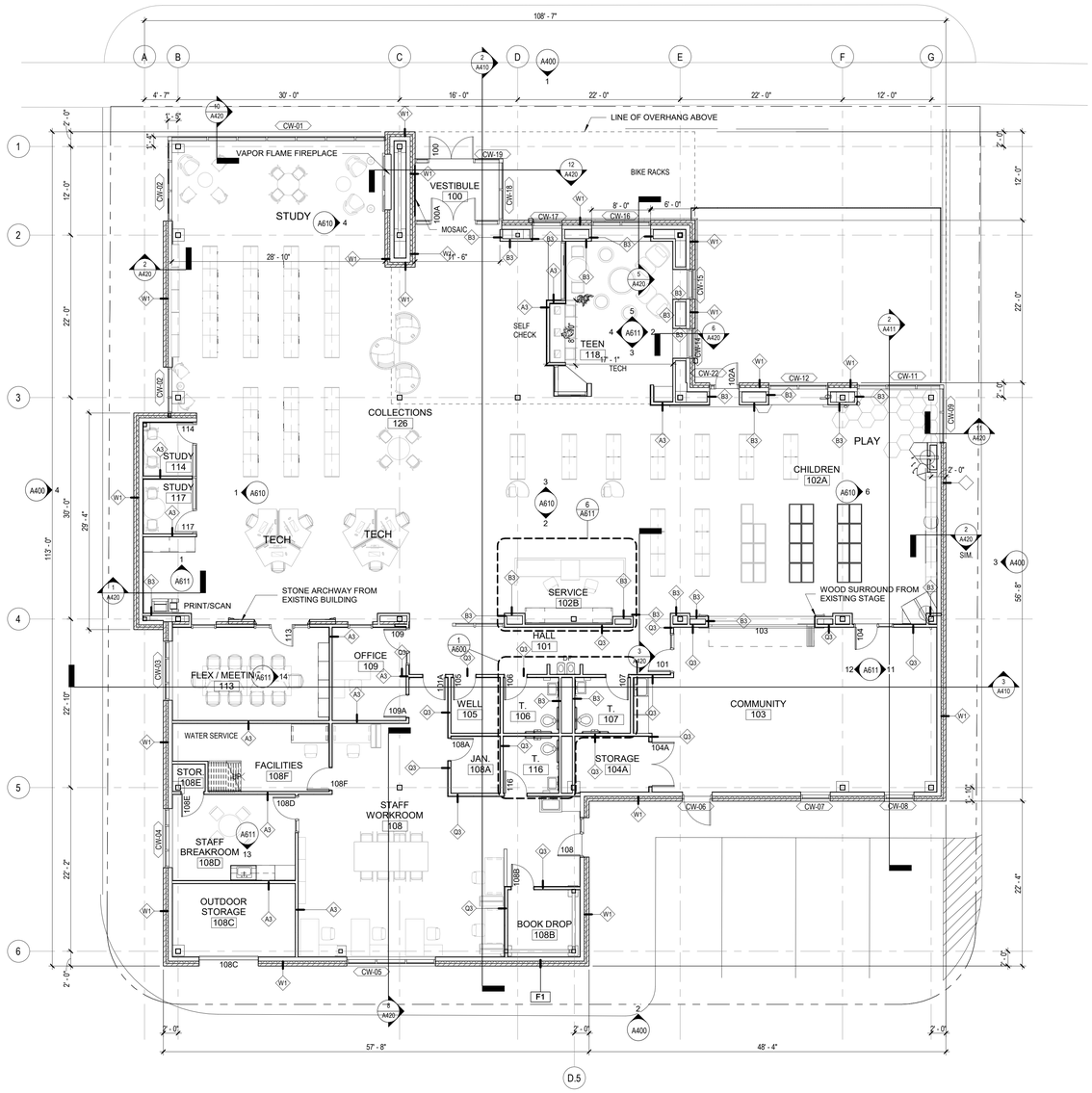

1 A200 MAIN LEVEL FLOOR PLAN
1/8" = 1'-0"

0' 8' 16'

NORTH

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MAIN LEVEL FLOOR PLAN

Project	22.1035.01	**Drawing Number**
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Drawn by	Author	**A200**
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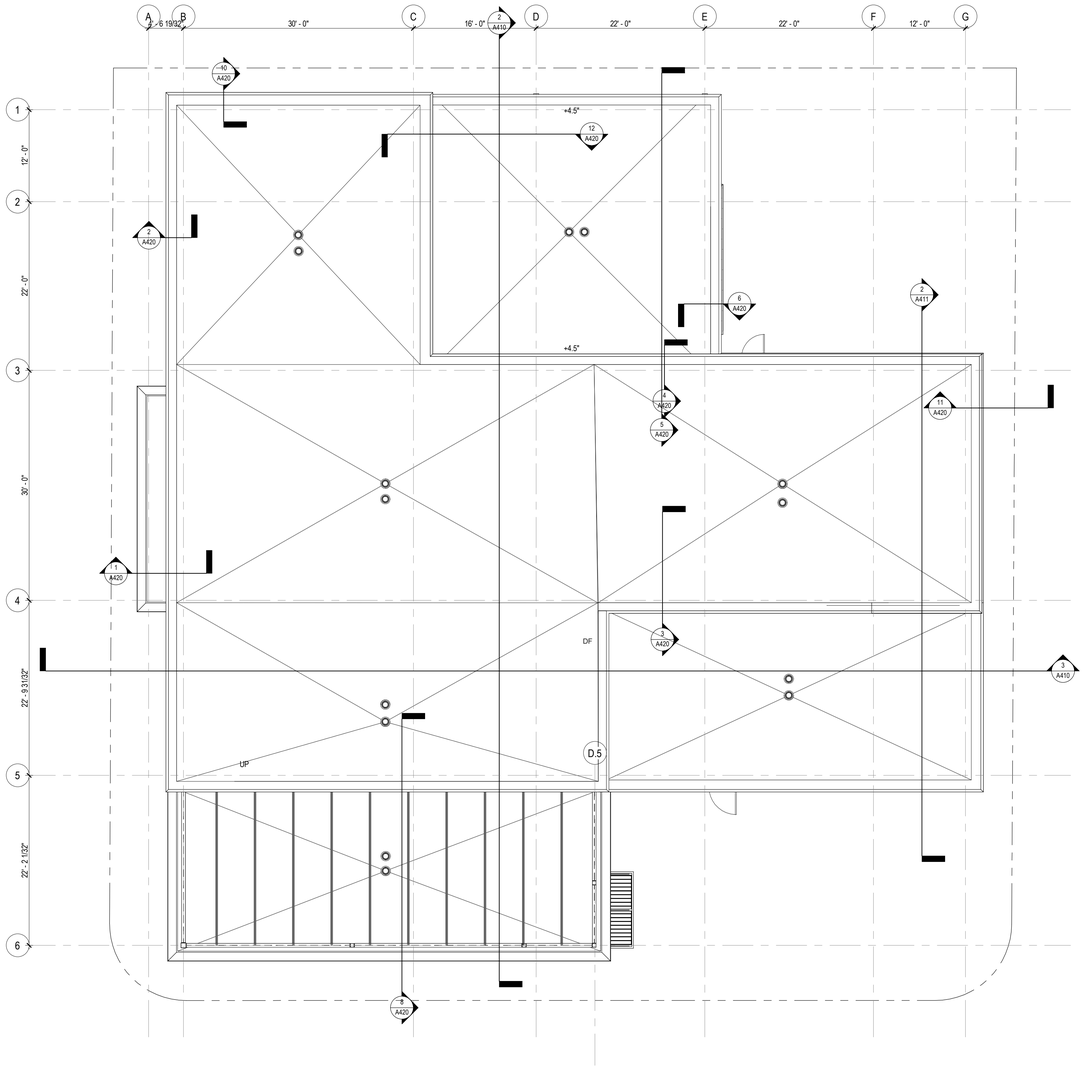
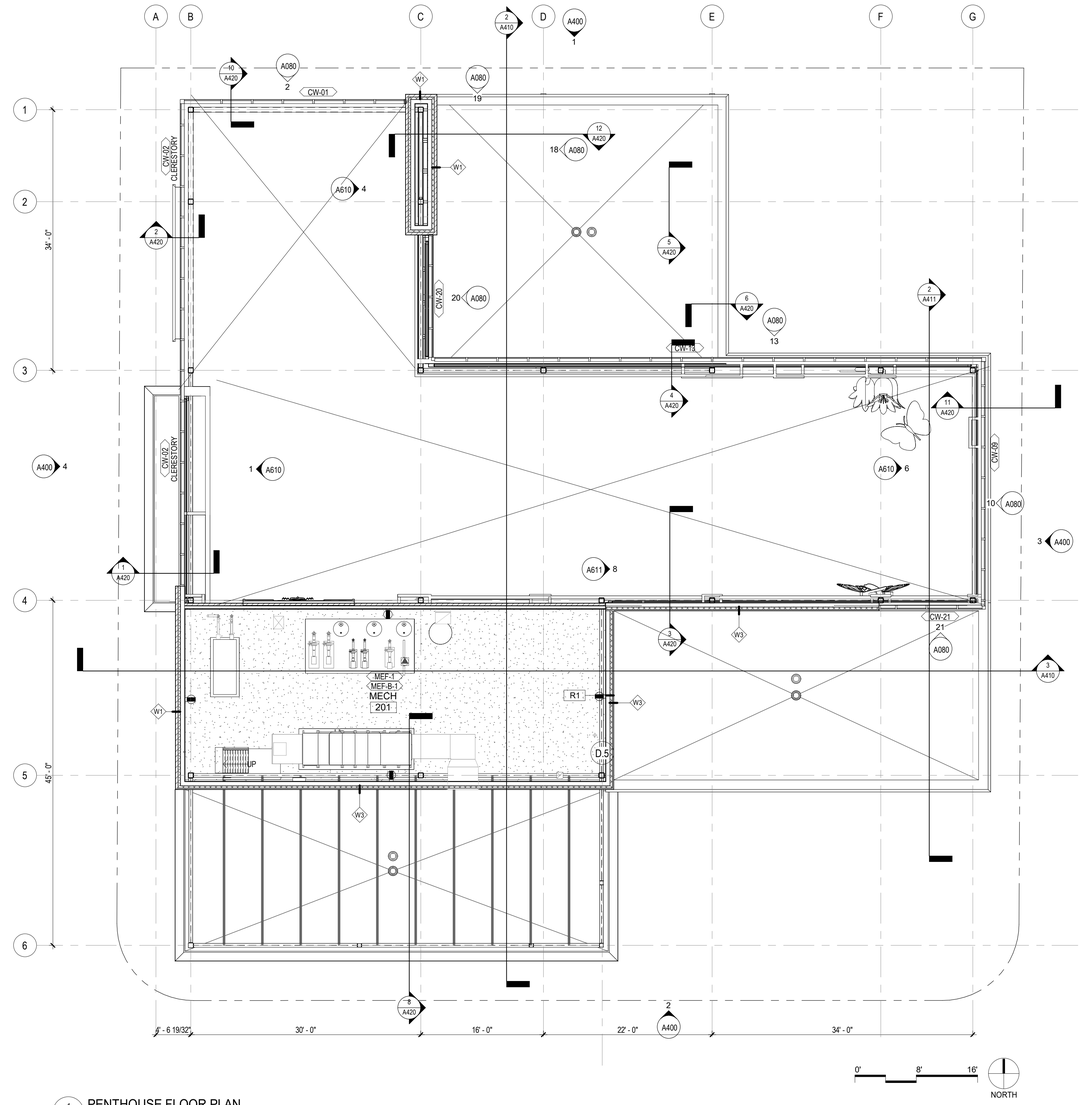


2 A201 ROOF PLAN
1/8" = 1'-0"



1 A201 PENTHOUSE FLOOR PLAN
1/8" = 1'-0"

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PENTHOUSE FLOOR PLAN & ROOF PLAN

Project	22.1035.01	**Drawing Number**
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Drawn by	Author	**A201**
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MAIN LEVEL REFLECTED CEILING PLAN

Project	22.1035.01
Date	09.30.2022
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Drawing Number

A300

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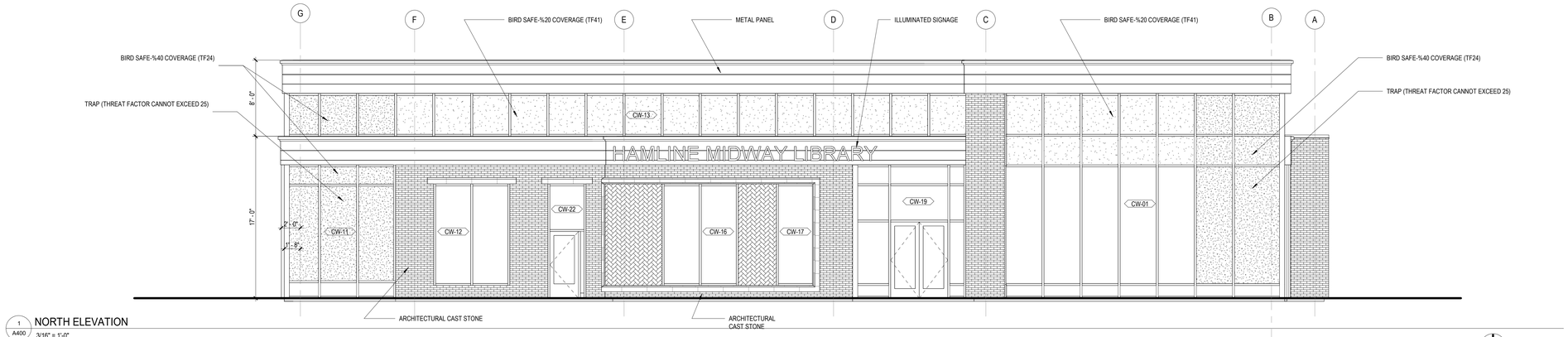
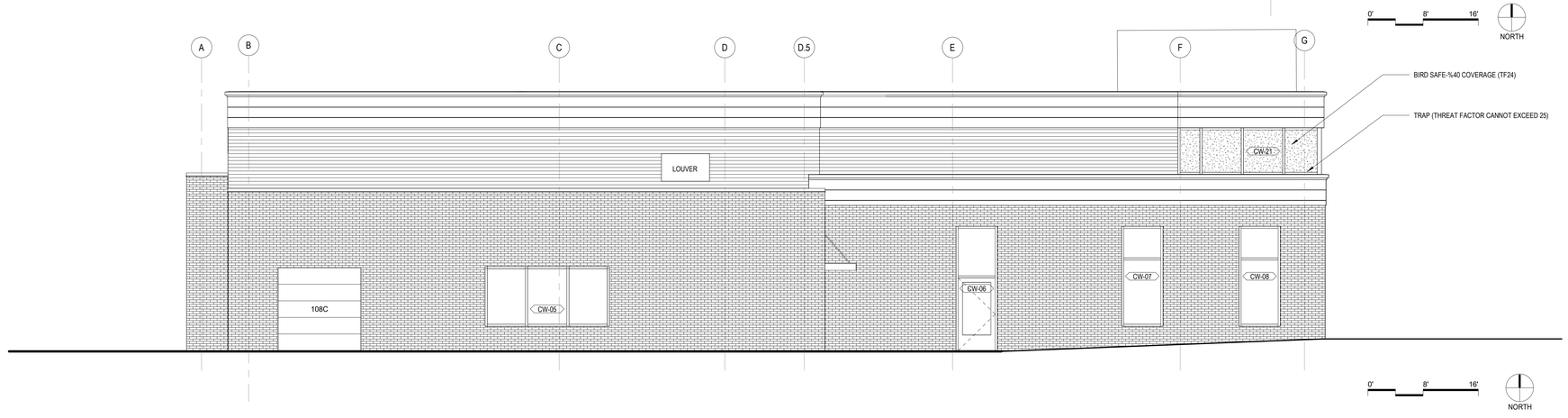
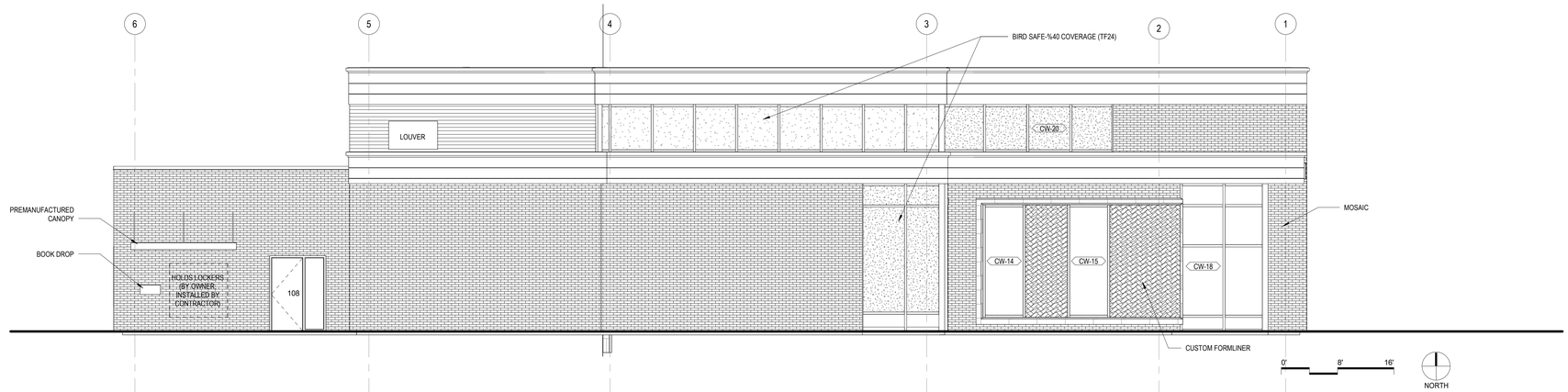


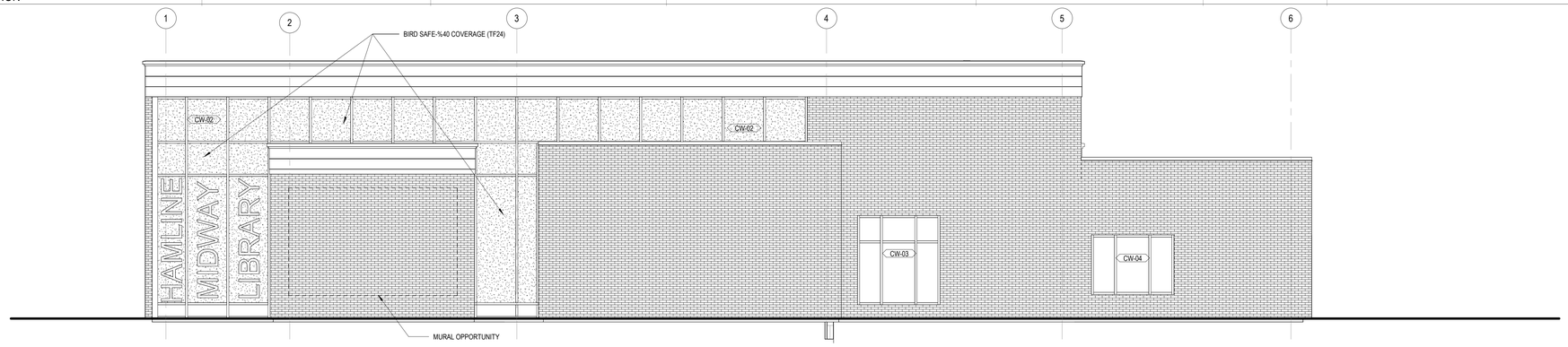
1 A400 NORTH ELEVATION
3/16" = 1'-0"



2 A400 SOUTH ELEVATION
3/16" = 1'-0"



3 A400 EAST ELEVATION
3/16" = 1'-0"



4 A400 WEST ELEVATION
3/16" = 1'-0"

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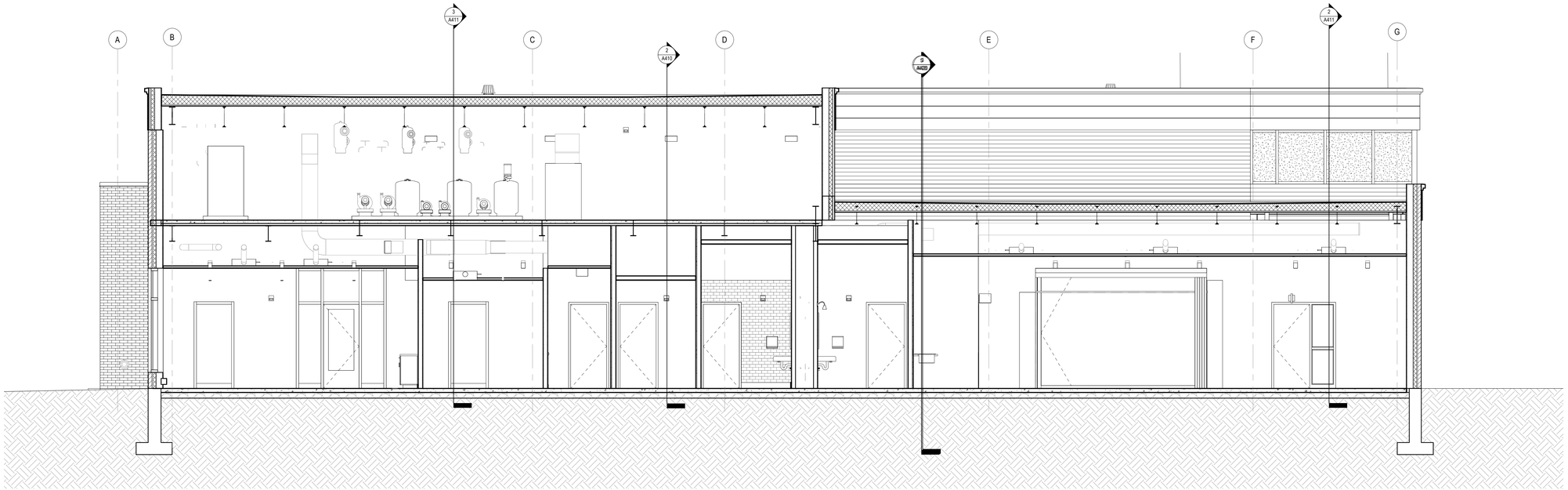
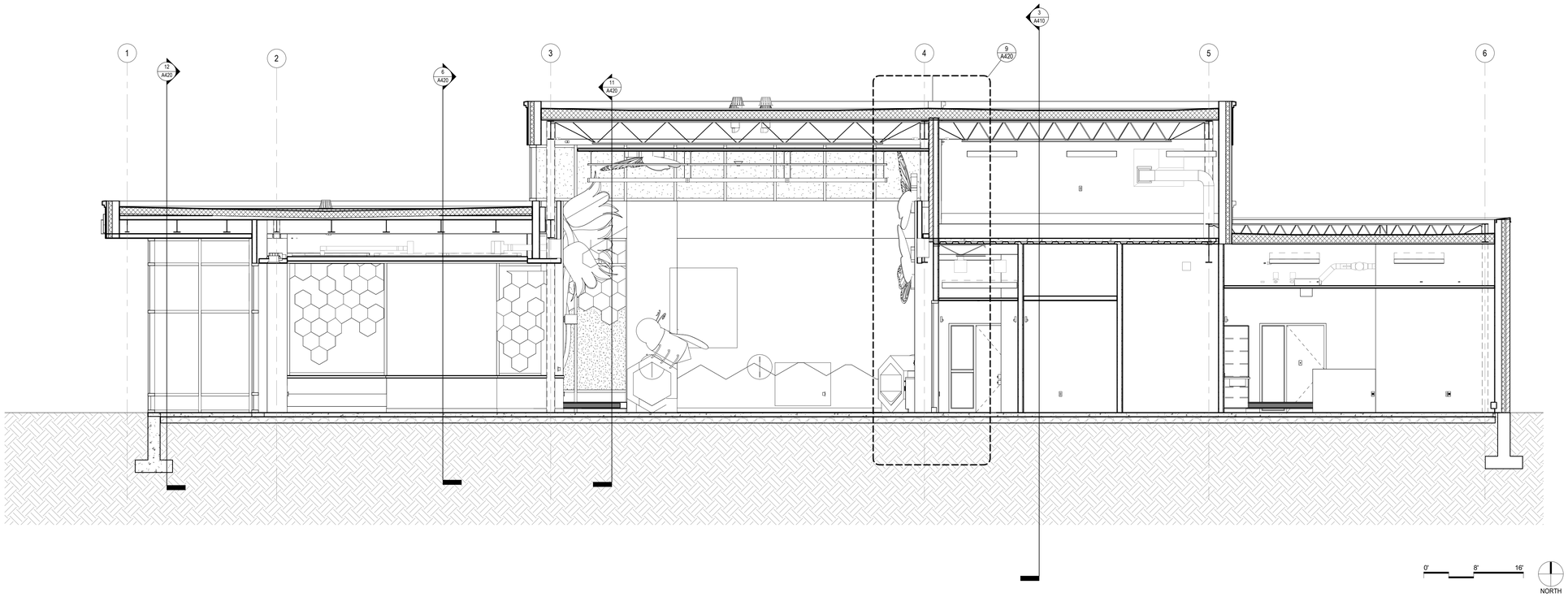


3 A410 EAST WEST BUILDING SECTION
1/4" = 1'-0"



2 A410 NORTH SOUTH BUILDING SECTION
1/4" = 1'-0"

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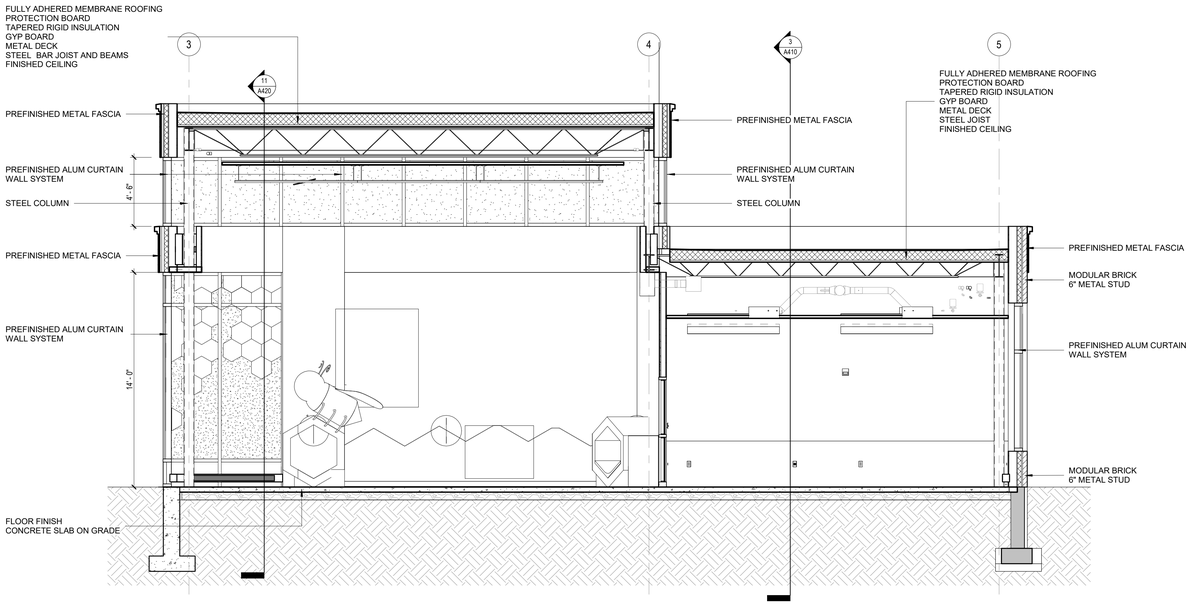
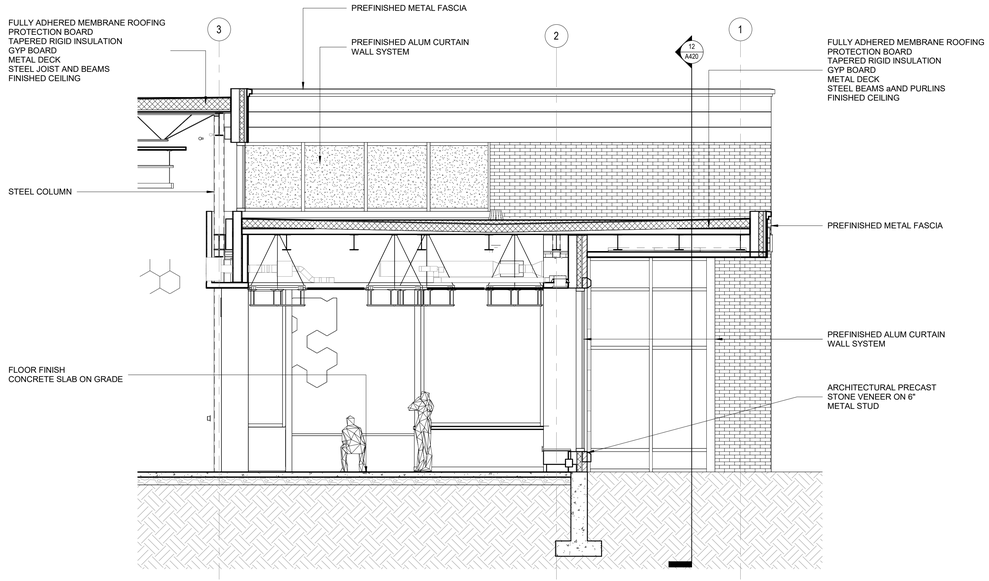
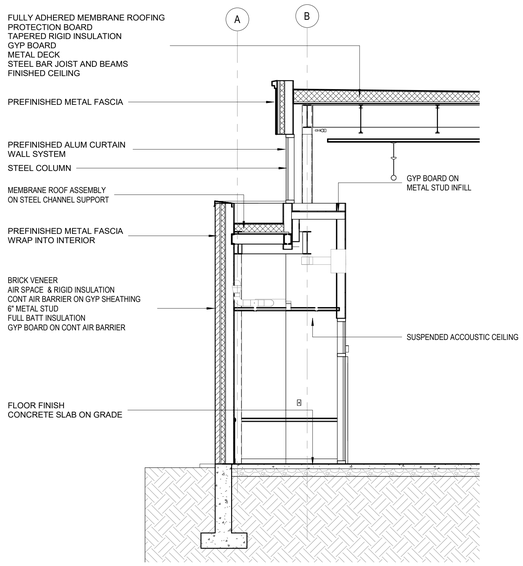


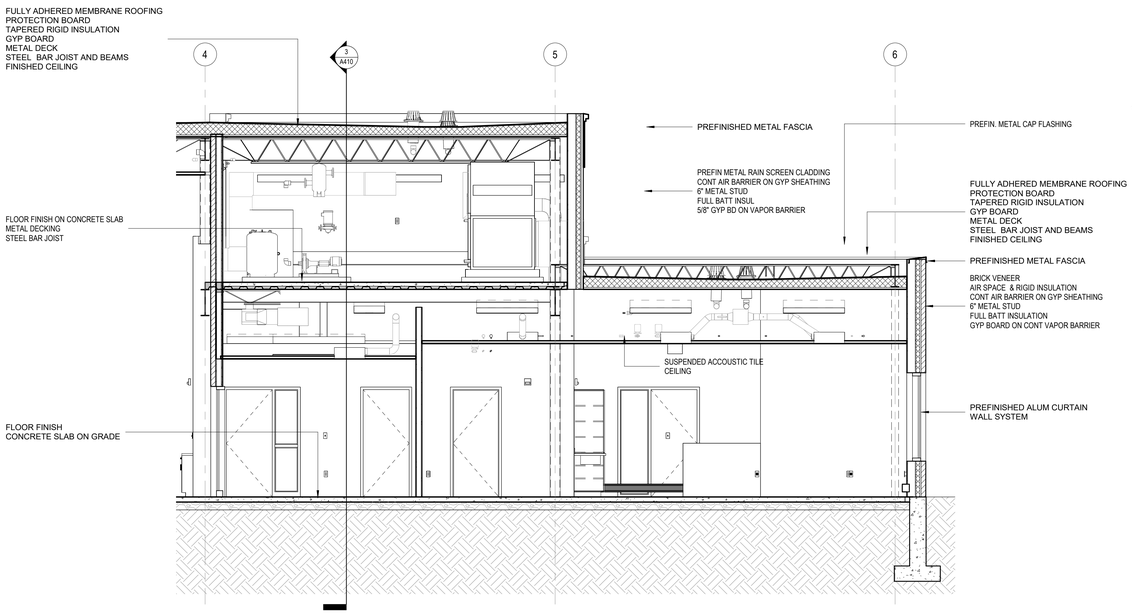
2 A411 SECTION AT HIGH ROOF CLERESTORY
1/4" = 1'-0"



1 A411 SECTION AT OVERHANG
1/4" = 1'-0"



4 A411 SECTION AT STUDY ROOMS
1/4" = 1'-0"



3 A411 SECTION AT WORK ROOM / MEZZANINE
1/4" = 1'-0"

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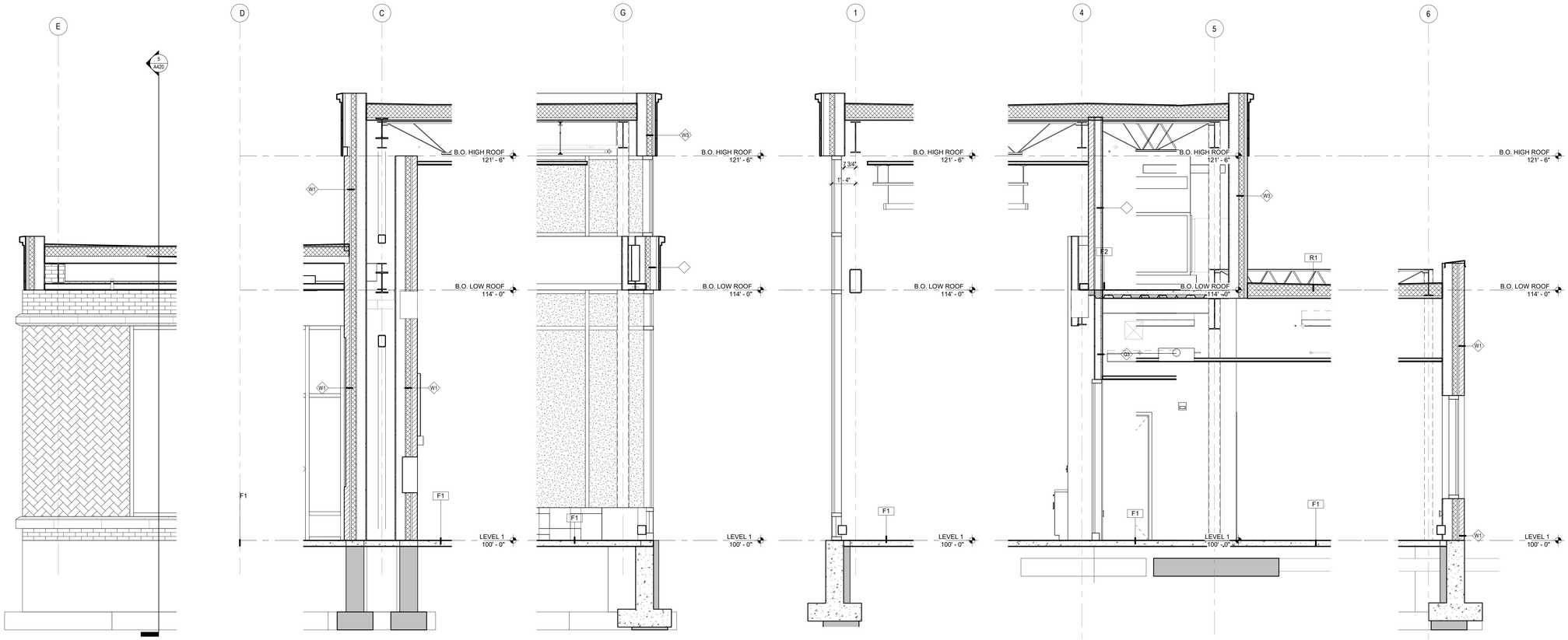


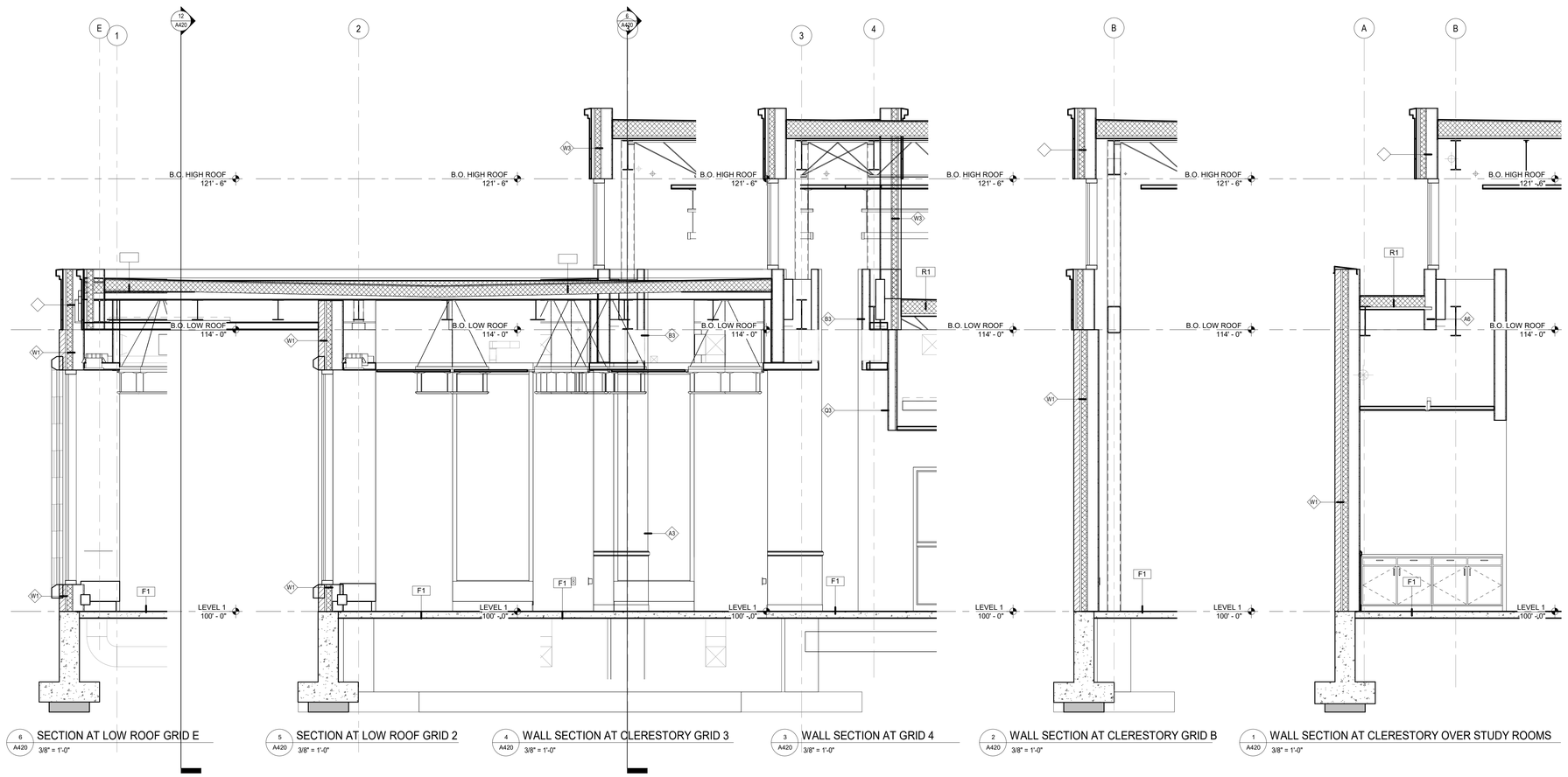
12 A420 WALL SECTION AT VESTIBULE AND BRICK PIER
3/8" = 1'-0"

11 A420 WALL SECTION AT CORNER GLAZING GRID G
3/8" = 1'-0"

10 A420 WALL SECTION AT CW GRID 1
3/8" = 1'-0"

9 A420 WALL SECTION AT MECHANICAL RM GRID 4
3/8" = 1'-0"

8 A420 WALL SECTION AT MECH. RM. & LOW ROOF
3/8" = 1'-0"



6 A420 SECTION AT LOW ROOF GRID E
3/8" = 1'-0"

5 A420 SECTION AT LOW ROOF GRID 2
3/8" = 1'-0"

4 A420 WALL SECTION AT CLERESTORY GRID 3
3/8" = 1'-0"

3 A420 WALL SECTION AT GRID 4
3/8" = 1'-0"

2 A420 WALL SECTION AT CLERESTORY GRID B
3/8" = 1'-0"

1 A420 WALL SECTION AT CLERESTORY OVER STUDY ROOMS
3/8" = 1'-0"

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WALL SECTIONS

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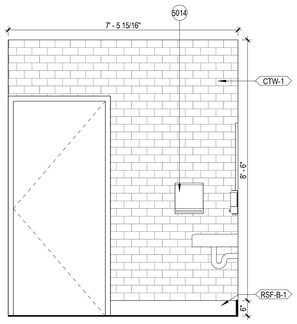
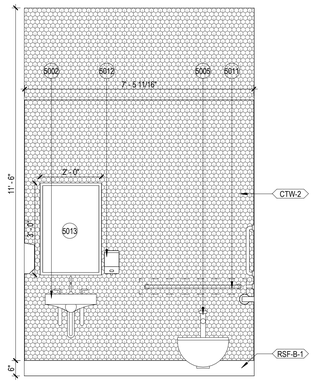
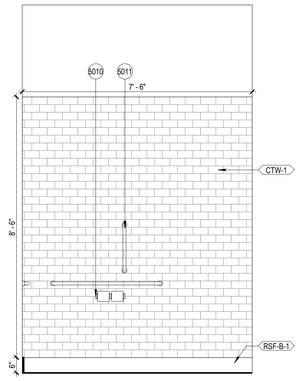


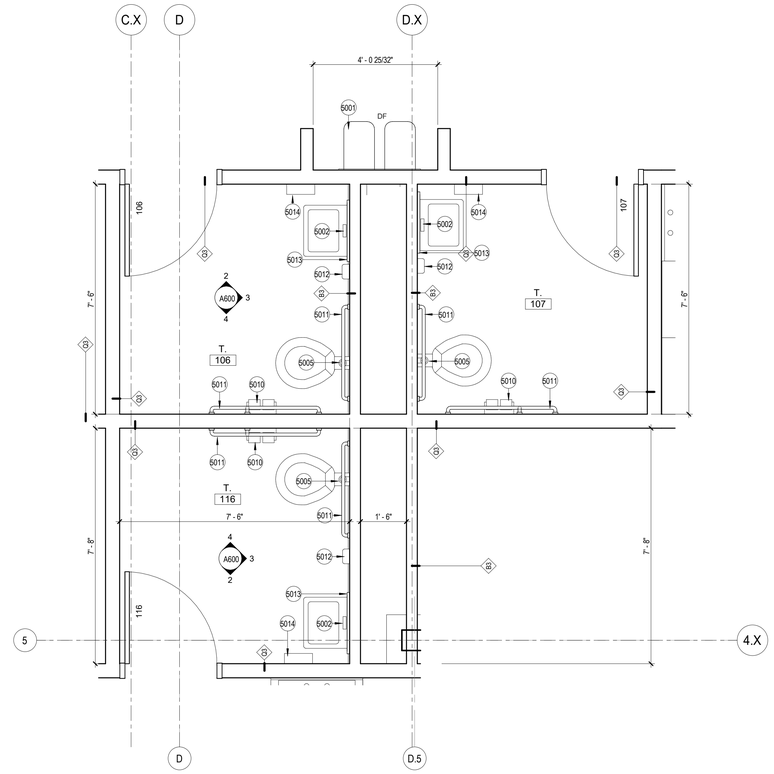
2 A600 TOILET FRONT WALL
1/2" = 1'-0"



3 A600 TOILET WET WALL
1/2" = 1'-0"



4 A600 TOILET REAR WALL
1/2" = 1'-0"



1 A600 ENLARGED TOILET PLAN
1/2" = 1'-0"

0' 2' 4'
NORTH

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ENLARGED TOILET PLANS & ELEVATIONS

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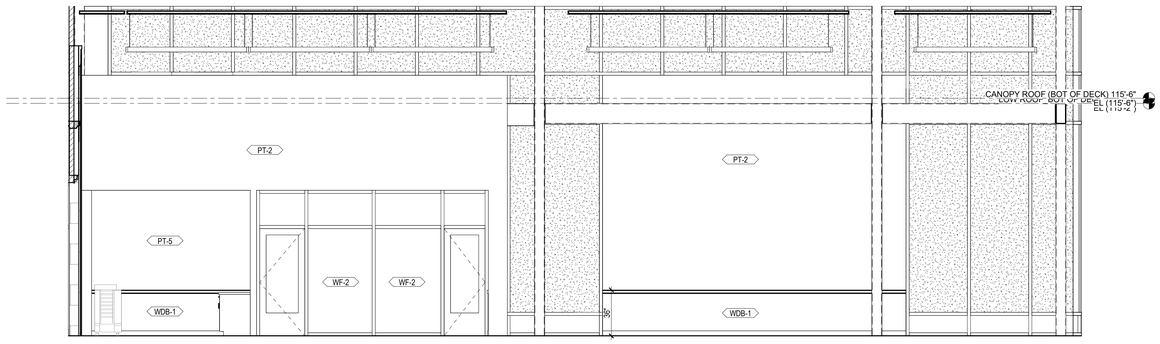
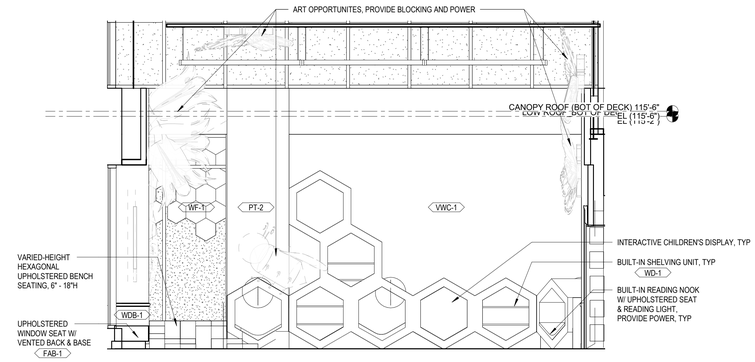
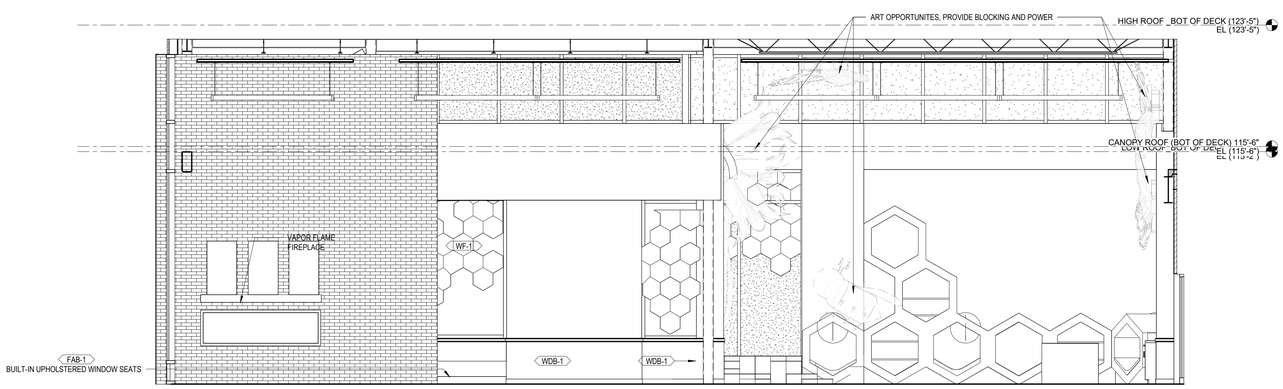


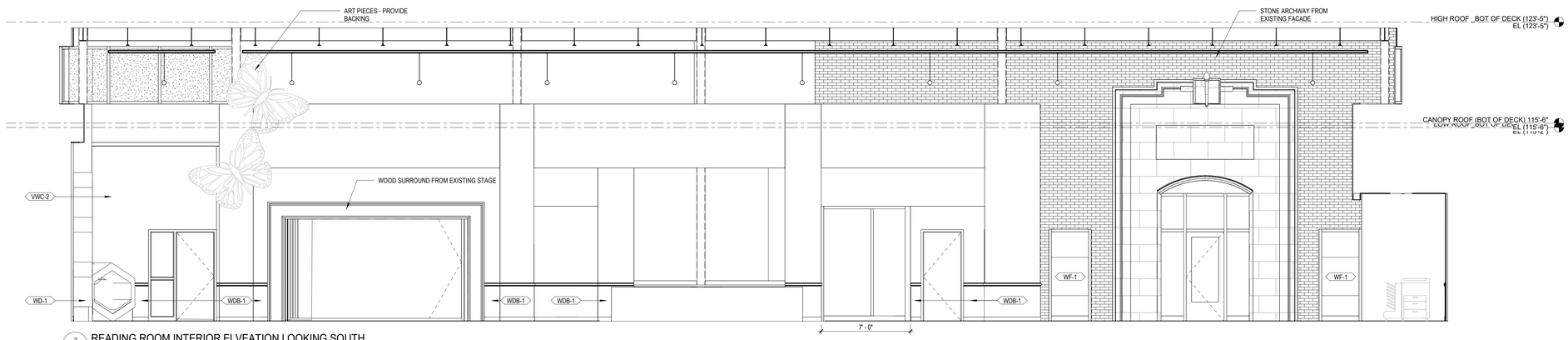
1 A610 COLLECTIONS INTERIOR ELEVATION LOOKING WEST
1/4" = 1'-0"



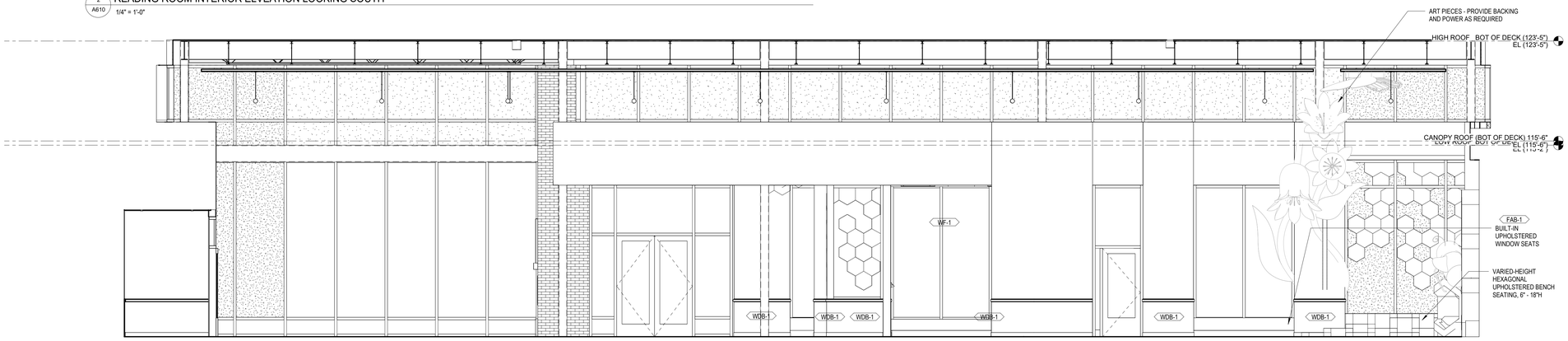
6 A610 CHILDREN 102A EAST ELEVATION
1/4" = 1'-0"



4 A610 READING ROOM INTERIOR ELEVATION LOOKING EAST
1/4" = 1'-0"



2 A610 READING ROOM INTERIOR ELVEATION LOOKING SOUTH
1/4" = 1'-0"



3 A610 READING ROOM INTERIOR LOOKING NORTH
1/4" = 1'-0"

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INTERIOR ELEVATIONS

Project	22.1035.01	**Drawing Number**
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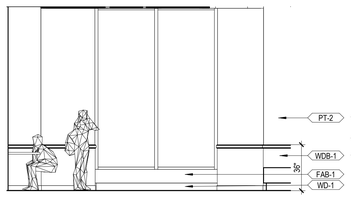
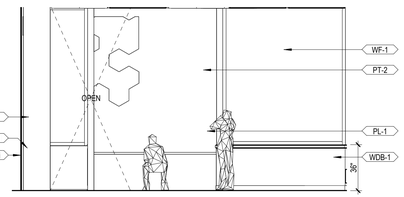
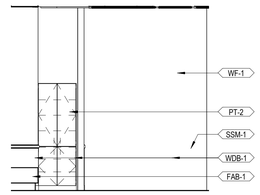


5 A611 TEEN 118 NORTH ELEVATION
1/4" = 1'-0"

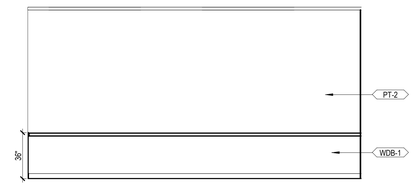


4 A611 TEEN 118 WEST ELEVATION
1/4" = 1'-0"

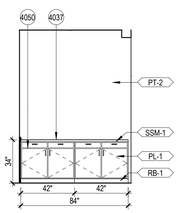


3 A611 TEEN 118 SOUTH ELEVATION
1/4" = 1'-0"

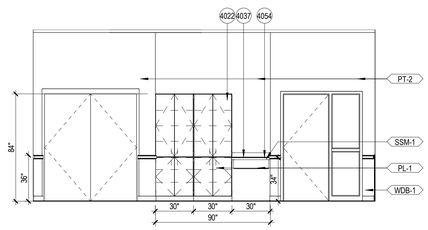
2 A611 TEEN 118 EAST ELEVATION
1/4" = 1'-0"



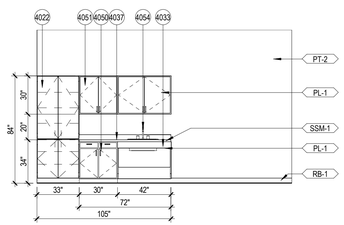
11 A611 FLEX 104 EAST ELEVATION
1/4" = 1'-0"



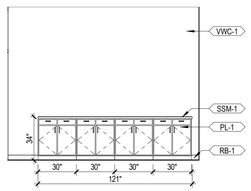
1 A611 PRINT/SCAN INTERIOR ELEVATION NORTH
1/4" = 1'-0"



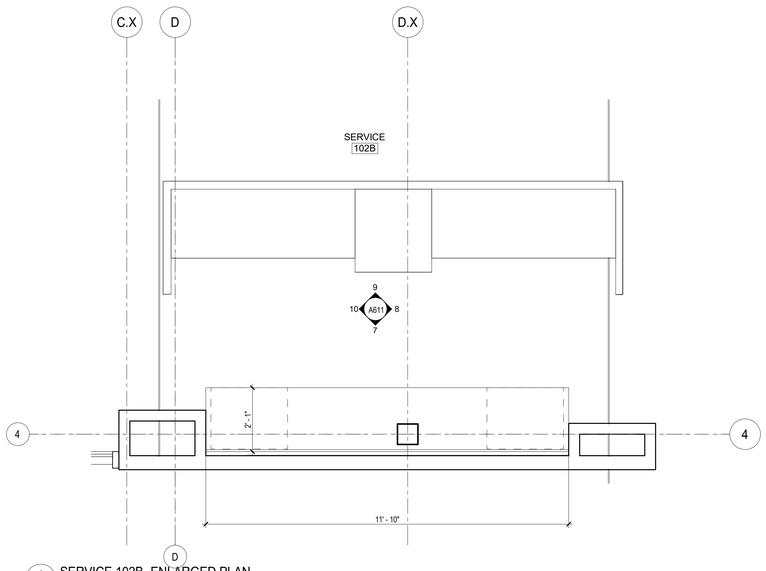
12 A611 COMMUNITY ROOM - W ELEV
1/4" = 1'-0"



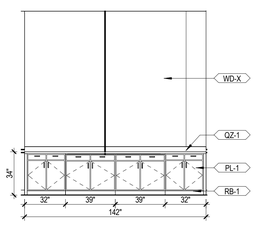
13 A611 BREAKROOM - S ELEV
1/4" = 1'-0"



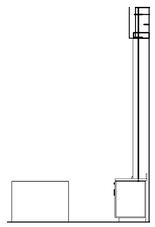
14 A611 CONFERENCE ROOM CASEWORK
1/4" = 1'-0"



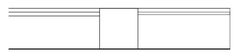
6 A611 SERVICE 102B- ENLARGED PLAN
1/2" = 1'-0"



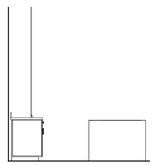
7 A611 SERVICE 102B SOUTH ELEVATION
1/4" = 1'-0"



8 A611 SERVICE 102B EAST ELEVATION
1/4" = 1'-0"



9 A611 SERVICE DESK NORTH ELEVATION
1/4" = 1'-0"



10 A611 SERVICE DESK WEST ELEVATION
1/4" = 1'-0"

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Saint Paul, Minnesota 55104

NOT FOR CONSTRUCTION

No.	Date	Revision Description
	09.30.2022	75% DD
	10.26.2022	City Comments

75% DESIGN DEVELOPMENT

ENLARGED INTERIOR PLANS & INTERIOR ELEVATIONS

Project	22.1035.01	**Drawing Number**	
Date	09.30.2022		
Drawn by	Author		**A611**
Checked by	Checker		

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Interior Finish and Material Schedule

REVISED	SECTION	CODE	DESCRIPTION	NOTES	VENDOR	FIRE RATING
	09 51 00	**ACB**	**ACOUSTIC CEILING BAFFLES**			
		ACB-1	SOUND CONCEPTS, EUROMAT, SHAPES, SHAPE: HEXAGON, EDGE: SQUARE, THICKNESS: 1", SIZE: 50" DIA., COLOR: TO MATCH PT-6. NRC: 1.00			
		ACB-2	SOUND CONCEPTS, EUROMAT, SHAPES, SHAPE: HEXAGON, EDGE: SQUARE, THICKNESS: 1", SIZE: 50" DIA., COLOR: TO MATCH PT-7. NRC: 1.00			
		ACB-3	SOUND CONCEPTS, EUROMAT, SHAPES, SHAPE: HEXAGON, EDGE: SQUARE, THICKNESS: 1", SIZE: 50" DIA., COLOR: TO MATCH PT-8. NRC: 1.00			
		ACB-4	SOUND CONCEPTS, EUROMAT, SHAPES, SHAPE: HEXAGON, EDGE: SQUARE, THICKNESS: 1", SIZE: 50" DIA., COLOR: TO MATCH PT-9. NRC: 1.00			
	09 51 00	**ACP**	**ACOUSTIC CEILING PANEL**			
		ACP-1	ROCKFON, STYLE: 16203 SONAR, SIZE: 24" x 72" x 1", NRC: 0.95, EDGE: SLN SQUARE TEGULAR NARROW, COLOR: WHITE. GRID: CHICAGO METALLIC, 9/16", COLOR: WHITE.			
		ACP-2	ROCKFON, STYLE: 1060 TROPIC, SIZE: 24" x 24" x 5/8", NRC: 0.85, EDGE: SL SQUARE TEGULAR, COLOR: WHITE. GRID: CHICAGO METALLIC, 15/16", COLOR: WHITE.			
	09 51 00	**AWP**	**ACOUSTIC WALL PANEL**			
		AWP-1				
	09 68 00	**CPT**	**CARPET TILE**			
		CPT-1	INTERFACE, STYLE: SUMMERHOUSE BRIGHTS 1632002500, COLOR: 105494 TOPAZ/RAFFIA, SIZE: 50CM x 50CM, CONTENT: 100% SOLUTION-DYED AQUAFIL RECYCLED-CONTENT NYLON, WEIGHT: 23 OZ., STAIN PROTECTION: PROTEKT2, BACKING: CQUEST BIO, INSTALLATION: ASHLAR			
		CPT-2	INTERFACE, STYLE: HONEY DO 1472702500, COLOR: ECLIPSE 105674, SIZE: 50CM x 50CM, CONTENT: 100% SOLUTION-DYED UNIVERSAL POST-CONSUMER CONTENT NYLON, WEIGHT: 18 OZ., STAIN PROTECTION: PROTEKT2, BACKING: CQUEST BIO, INSTALLATION: ASHLAR			
		CPT-3	SHAW CONTRACT, STYLE: LINEAR SHIFT HEXAGON TILE 5T056, COLOR: IVORY TAN 56706, SIZE: 28.8" x 24.9", CONTENT: 62% SOLUTION-DYED, 38% YARN-DYED ECOSOLUTIONQ NYLON, WEIGHT: 20 OZ., STAIN PROTECTION: SSP SHAW SOIL PROTECTION, BACKING: ECOWORX TILE, THICKNESS: .247", INSTALL: RANDOM			
		CPT-4	SHAW CONTRACT, STYLE: PLANE HEXAGON TILE 5T054, COLOR: YELLOW 54211, SIZE: 28.8" x 24.9", CONTENT: 100% ECOSOLUTION Q SOLUTION-DYED NYLON, WEIGHT: 22 OZ., STAIN PROTECTION: SSP SHAW SOIL PROTECTION, BACKING: ECOWORX TILE, THICKNESS: .256", INSTALL: RANDOM			
		CPT-5	SHAW CONTRACT, STYLE: PLANE HEXAGON TILE 5T054, COLOR: CORAL 54615, SIZE: 28.8" x 24.9", CONTENT: 100% ECOSOLUTION Q SOLUTION-DYED NYLON, WEIGHT: 22 OZ., STAIN PROTECTION: SSP SHAW SOIL PROTECTION, BACKING: ECOWORX TILE, THICKNESS: .256", INSTALL: RANDOM			
		CPT-6	SHAW CONTRACT, STYLE: PLANE HEXAGON TILE 5T054, COLOR: ORANGE 54668, SIZE: 28.8" x 24.9", CONTENT: 100% ECOSOLUTION Q SOLUTION-DYED NYLON, WEIGHT: 22 OZ., STAIN PROTECTION: SSP SHAW SOIL PROTECTION, BACKING: ECOWORX TILE, THICKNESS: .256", INSTALL: RANDOM			
		CPT-7	SHAW CONTRACT, STYLE: PLANE HEXAGON TILE 5T054, COLOR: POPPY 54870, SIZE: 28.8" x 24.9", CONTENT: 100% ECOSOLUTION Q SOLUTION-DYED NYLON, WEIGHT: 22 OZ., STAIN PROTECTION: SSP SHAW SOIL PROTECTION, BACKING: ECOWORX TILE, THICKNESS: .256", INSTALL: RANDOM			
		CPT-8	SHAW CONTRACT, STYLE: PLANE HEXAGON TILE 5T054, COLOR: RED 54855, SIZE: 28.8" x 24.9", CONTENT: 100% ECOSOLUTION Q SOLUTION-DYED NYLON, WEIGHT: 22 OZ., STAIN PROTECTION: SSP SHAW SOIL PROTECTION, BACKING: ECOWORX TILE, THICKNESS: .256", INSTALL: RANDOM			
	09 30 00	**CTB**	**CERAMIC / PORCELAIN TILE BASE**			
		CTB-1	CERAMIC TILEWORKS, STYLE: CITY, COLOR: AMSTERDAM, SIZE: 6" x 12 (CUT)", THICKNESS: 8MM, FINISH: NATURAL, GROUT: GR-1	ALIGN GROUT LINES FROM FLOOR TO WALL BASE		
	09 30 00	**CTF**	**CERAMIC / PORCELAIN TILE FLOOR**			
		CTF-1	CERAMIC TILEWORKS, STYLE: CITY, COLOR: AMSTERDAM, SIZE: 12" x 24", THICKNESS: 8MM, FINISH: NATURAL, GROUT: GR-1	ALIGN GROUT LINES FROM FLOOR TO WALL BASE		-
	09 30 00	**CTW**	**CERAMIC / PORCELAIN TILE WALL**			
		CTW-1	DALTILE, COLOR WHEEL CLASSIC SUBWAY TILE, COLOR: BISCUIT K175, SIZE: 3" x 6", THICKNESS: 5/16", FINISH: GLOSSY, GROUT: GR-1			-
		CTW-2	DALTILE, KEYSTONES HEXAGONS MOSAIC, PATTERN: DP6019, COLORS: 50% D317 BISCUIT, 31% D181 MUSTARD, 19% D118 BROWNBERRY, THICKNESS: 1/4", MESH MOUNTED, GROUT: GR-1			-
	10 26 13	**CG**	**CORNER GUARD**			
		CG-1	STAINLESS STEEL CORNER GUARD, 3" x 3" x 48"			-
	08 11 10	**DOOR**	**DOORS - WOOD**			
		WD-2	VT INDUSTRIES, SPECIES: SELECT WHITE MAPLE, COLOR: RAVINE RA18			-
	09 96 13	**EP**	**EPOXY PAINT**			
		EP-1	EPOXY PAINT, SEMI-GLOSS FINISH, TO MATCH: PT-1.			-
		EP-2	EPOXY PAINT, SEMI-GLOSS FINISH, TO MATCH: PT-2.			-
		FAB	**FABRIC**			
		FAB-1	MOMENTUM TEXTILES & WALLCOVERING, STYLE: MALTA 09132297, COLOR: GILDED, CONTENT: 100% BELLA-DURA SOLUTION-DYED POLYOLEFIN, DURABILITY: 105,000 DR, FINISH: GREEN SHIELD, WIDTH: 54"W, REPEAT: 16"V 13.5"H, BLEACH CLEANABLE			Class 1
	06 83 16	**FRP**	**FIBERGLASS REINFORCED PANEL**			
		FRP-1	KEMLITE OR EQUIVALENT, FIBERGLASS REINFORCED PANEL, TEXTURE: PEBBLED, COLOR: WHITE; PROVIDE MATCHING TRIM			-
	09 30 00	**GR**	**GROUT**			
		GR-1	MAPEI, COLOR: IRON 107			-
	06 20 00	**HWR**	**HARDWARE**			
		HWR-1	MOCKETT, HITCH PURSE HOOK HK29, COLOR: BLACK 90, SIZE: 2 1/4"H x 1 3/4"D			
		MEF	**MECHANICAL EPOXY FLOOR COATING**			
		MEF-1	DEX-O-TEX M-E FLOOR, TROWEL APPLIED WATERPROOFING PRODUCT W/ INTEGRAL BASE (MEF-B-1)			
		MEF-B	**MECHANICAL EPOXY FLOOR BASE**			
		MEF-B-1	DEX-O-TEX M-E FLOOR, TROWEL APPLIED WATERPROOFING PRODUCT			
	09 21 16	**MT**	**METAL TRIM/TRANSITION**			
		MT-1	SCHLUTER SYSTEMS, STYLE: RENO-U, FINISH: SATIN ANODIZED ALUMINUM			Class A
		MT-2	SCHLUTER SYSTEMS, STYLE: JOLLY, FINISH: PEWTER			Class A
		MT-3	SCHLUTER SYSTEMS, STYLE: DILEX-AHK, FINISH: PEWTER			Class A
	12 32 16	**PL**	**PLASTIC LAMINATE**			
		PL-1	WILSONART, WALNUT HEIGHTS 7965, FINISH: SOFTGRAIN 12, SIZE:	VERTICAL		
		PL-2				
	09 91 00	**PT**	**PAINT**			
		PT-1	SHERWIN WILLIAMS, COLOR: SW7757 HIGH REFLECTIVE WHITE	CEILINGS		Class A
		PT-2	SHERWIN WILLIAMS, COLOR: SW9587 MUSHROOM	OVERALL		Class A
		PT-3	SHERWIN WILLIAMS, COLOR: SW	ACCENT		Class A
		PT-4	SHERWIN WILLIAMS, COLOR: SW7048 URBANE BRONZE	MISC. METALS		Class A
		PT-5	SHERWIN WILLIAMS, COLOR: SW6667 AFTERGLOW	ACCENT		Class A
		PT-6	SHERWIN WILLIAMS, COLOR: SW6669 YARROW	ACCENT		Class A
		PT-7	SHERWIN WILLIAMS, COLOR: SW6670 GOLD CREST	ACCENT		Class A
		PT-8	SHERWIN WILLIAMS, COLOR: SW6671 CURRY	ACCENT		Class A
		PT-9	SHERWIN WILLIAMS, COLOR: SW7585 SUNDRIED TOMATO	ACCENT		Class A
		QZ	**QUARTZ**			
		QZ-1	CAMBRIA, STYLE: INVERNESS GOLD, THICKNESS: 2cm, FINISH: POLISHED (ALL EXPOSED SIDES)			
	09 65 13	**RB**	**RESILIENT BASE**			
		RB-1	4"H VINYL BASE, TARKETT, COLOR: GREY 48	STRAIGHT AT CARPET, COVED AT HARD SURFACE. COILS ONLY		Class A
		RB-2	4"H VENTED RUBBER BASE, TARKETT, COLOR: BLACK			Class A
		RSF-B	**RESILIENT SHEET FLOORING BASE**			
		RSF-B-1	ALTRO, STYLE: AQUARIUS, COLOR: ABALONE AQI2028, THICKNESS: 2MM, DIMENSIONS: 6'-7"W x 65'-5"L, DCOF: .65			
		RSF	**RESILIENT SHEET FLOORING**			
		RSF-1	ALTRO, STYLE: AQUARIUS, COLOR: ABALONE AQI2028, THICKNESS: 2MM, DIMENSIONS: 6'-7"W x 65'-5"L, DCOF: .65			
	09 65 16	**RTF**	**RESILIENT TILE FLOORING**			
		RTF-1	MARMOLEUM MCT, COLOR: DUNE 3279, SIZE: 13.11" x 13.11", THICKNESS: .08",			
	09 65 13	**RTS**	**RESILIENT TRANSITION STRIP**			
		RTS-1	TARKETT, CTA-48-A, COLOR: GREY 48	BETWEEN CARPET AND RESILIENT FLOORING		Class 1
		RTS-2	TARKETT, SSR-48-B, COLOR: GREY 48	BETWEEN RESILIENT FLOORING & CONCRETE		Class 1
		RTS-3	TARKETT, CTA-48-Q, COLOR: GREY 48	RAF EDGES		Class 1
	03 30 00	**SC**	**SEALED CONCRETE**			
		SC-1	SEALED CONCRETE, NATURAL COLOR			Class A
	12 32 16	**SSM**	**SOLID SURFACE**			
		SSM-1	HANEX, COLOR: GRAVITY D-104, THICKNESS: 1/2"	WET COUNTERTOPS, SILLS		
		TA	**TOILET ACCESSORIES**			
		TA-1	GEORGIA PACIFIC, DOUBLE ROLL TOILET PAPER DISPENSER #56784A, SIZE: 6.75"L x 10"W x 7"H, COLOR: BLACK			-
		TA-2	BOBRICK, B-6806.99 SERIES, 1-1/2"DIA. STAINLESS STEEL GRAB BARS W/ SNAP FLANGE AND PEENED GRIPPING SURFACE. REFER TO DETAIL 1/A60 FOR GRAB BAR DIMENSIONS.			-
		TA-3	RENOWN PAPER TOWEL DISPENSER, MODEL: RENO5170WB			-
		TA-4	GOJO FOAM SOAP DISPENSER, MODEL: H2557, SIZE: 8 1/4"WH x 4 3/4"W, COLOR: STAINLESS STEEL			-
		TA-5	RUBBERMAID SANITARY NAPKIN DISPOSAL, MODEL: 6140			-
		TA-6	SANITARY NAPKIN DISPENSER			-
		TA-7	KOALA KARE INFANT CHANGING TABLE, MODEL: KB200			-
		TA-8	BOBRICK SHOWER CURTAIN ROD, MODEL: B-6047, COLOR: STAINLESS STEEL			-
		TA-9	BOBRICK SHOWER CURTAIN, MODEL: 9533, W/ 9536 HOOKS, COLOR: MATTE WHITE VINYL, THICKNESS: .008"			-
		TA-10	BOBRICK PHENOLIC FOLDING SHOWER SEAT, MODEL: 9558, COLOR: THERMO WALNUT 6402-58			-
		TA-11	WASTE RECEPTACLES			-
		TA-12	FRAMED TOILET MIRROR			-
		TA-13	BOBRICK JANITORIAL UTILITY SHELF, MODEL: B-224, COLOR: STAINLESS STEEL, W/ 3 S STEEL HOOKS & 4 MOP HOLDERS			Class A
		VWC	**VINYL WALLCOVERING**			
		VWC-1	MOMENTUM TEXTILES & WALLCOVERING, PATTERN: BEACON HILL, COLOR: VINTAGE BRASS A179-776, CONTENT: TYPE II VINYL, BACKING: OSNABERG, WEIGHT: 20 OZ., WIDTH: 52/54",			
		VWC-2	DIGITALLY PRINTED WALLCOVERING, IMAGE TO BE SUPPLIED BY OWNER			
		WD	**WOOD**			
		WD-1	STAIN TO MATCH PL-1			
		WDB	**WOOD BASE**			
		WDB-1	36"H WOOD WAINSCOT W/ BASE & CHAIR RAIL, STAIN TO MATCH PL-1			
		WF	**WINDOW FILM**			
		WF-1	FULL-COLOR GRAPHIC ON CLEAR FILM, IMAGE TO BE SUPPLIED BY OWNER			
		WF-2	SOLYX, DUSTED CRYSTAL WINDOW FILM, COLOR: SX-3140			
	12 24 13	**WT**	**WINDOW TREATMENTS**			
		WT-1	MECHOSHADE OR EQUIVALENT, THERMOVEIL VERTICAL PRIVACY WEAVE, 0900 BASKET WEAVE WOVEN ROLLER SHADE W/ METAL FASCIA, FABRIC COLOR: BLACK/BROWN 0904, OPENNESS: 1%, FASCIA COLOR: ANODIZED ALUMINUM	MANUAL		Class A
		WT-2	MECHOSHADE OR EQUIVALENT, DISTINCTIVE BLACKOUT 0800 SERIES WOVEN ROLLER SHADE W/ METAL FASCIA, FABRIC COLOR: TBD, OPENNESS: BLACKOUT (OPAQUE), FASCIA COLOR: ANODIZED ALUMINUM	BLACKOUT MANUAL		Class A
		WT-3	MECHOSHADE OR EQUIVALENT, THERMOVEIL VERTICAL PRIVACY WEAVE, 0900 BASKET WEAVE WOVEN ROLLER SHADE W/ METAL FASCIA, FABRIC COLOR: BLACK/BROWN 0904, OPENNESS: 1%, FASCIA COLOR: ANODIZED ALUMINUM	MOTORIZED		Class A

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HAMLINE MIDWAY

1558 West Minnehaha Avenue
Saint Paul, Minnesota 55104

Key Plan

No.	Date	Revision Description
	09.30.2022	75% DD
	10.26.2022	City Comments

75% DESIGN DEVELOPMENT

MATERIAL ID

Project	22.1035.01	**Drawing Number**	
Date	09.30.2022		
Drawn by	Author		**A700**
Checked by	Checker		

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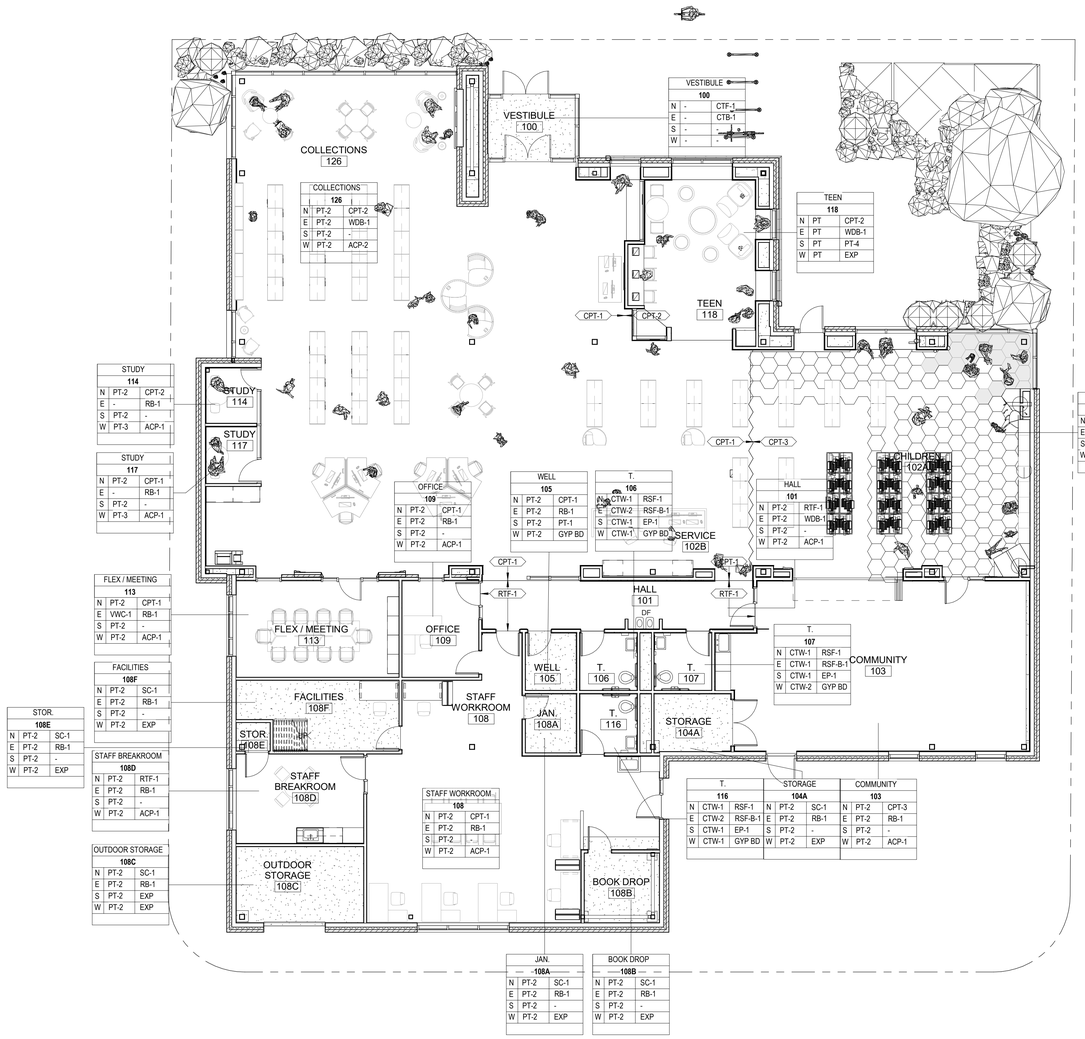
ROOM FINISH SCHEDULE										
ROOM		FLOOR		WALL FINISH				CEILING		
Number	Name	Floor Finish	Base Finish	North	East	South	West	Finish	Material	Comments
100	VESTIBULE	CTF-1	CTB-1	-	-	-	-	-	-	
101	HALL	RTF-1	WDB-1	PT-2	PT-2	PT-2	PT-2	-	ACP-1	
102A	CHILDREN	VARIES	WDB-1	PT	VWC-2	PT	PT	-	ACP-2	
102B	SERVICE	CPT-1	WDB-1	-	-	WD	-	-	ACP-2	
103	COMMUNITY	CPT-3	RB-1	PT-2	PT-2	PT-2	PT-2	-	ACP-1	
104A	STORAGE	SC-1	RB-1	PT-2	PT-2	PT-2	PT-2	-	EXP	
105	WELL	CPT-1	RB-1	PT-2	PT-2	PT-2	PT-2	PT-1	GYP BD	
106	T.	RSF-1	RSF-B-1	CTW-1	CTW-2	CTW-1	CTW-1	EP-1	GYP BD	
107	T.	RSF-1	RSF-B-1	CTW-1	CTW-1	CTW-1	CTW-2	EP-1	GYP BD	
108	STAFF WORKROOM	CPT-1	RB-1	PT-2	PT-2	PT-2	PT-2	-	ACP-1	
108A	JAN.	SC-1	RB-1	PT-2	PT-2	PT-2	PT-2	-	EXP	
108B	BOOK DROP	SC-1	RB-1	PT-2	PT-2	PT-2	PT-2	-	EXP	
108C	OUTDOOR STORAGE	SC-1	RB-1	PT-2	PT-2	PT-2	PT-2	EXP	EXP	
108D	STAFF BREAKROOM	RTF-1	RB-1	PT-2	PT-2	PT-2	PT-2	-	ACP-1	
108E	STOR.	SC-1	RB-1	PT-2	PT-2	PT-2	PT-2	-	EXP	
108F	FACILITIES	SC-1	RB-1	PT-2	PT-2	PT-2	PT-2	-	EXP	
109	OFFICE	CPT-1	RB-1	PT-2	PT-2	PT-2	PT-2	-	ACP-1	
113	FLEX / MEETING	CPT-1	RB-1	PT-2	VWC-1	PT-2	PT-2	-	ACP-1	
114	STUDY	CPT-2	RB-1	PT-2	-	PT-2	PT-3	-	ACP-1	
116	T.	RSF-1	RSF-B-1	CTW-1	CTW-2	CTW-1	CTW-1	EP-1	GYP BD	
117	STUDY	CPT-1	RB-1	PT-2	-	PT-2	PT-3	-	ACP-1	
118	TEEN	CPT-2	WDB-1	PT	PT	PT	PT	PT-4	EXP	
126	COLLECTIONS	CPT-2	WDB-1	PT-2	PT-2	PT-2	PT-2	-	ACP-2	
201	MECH									

Key

Room Name		
Room Number		
N Wall	→	Floor Material
E Wall	→	Base Material
S Wall	→	Ceiling Finish
W Wall	→	Ceiling Material
Notes		

CPT	CARPET
CPT-W	CARPET - WALKOFF
SV	SHEET VINYL FLOORING
SC	SEALED CONCRETE
PT	PAINT
WDB	WOOD BASE
VB	VINYL BASE
INT	INTEGRAL BASE
ACP	ACOUSTICAL CEILING PANEL
GYP	GYPSUM WALLBOARD
EXP	EXPOSED



1 A701 MAIN LEVEL FINISH PLAN
1/8" = 1'-0"

0' 8' 16'

NORTH

LSE ARCHITECTS

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HAMLINE MIDWAY

1558 West Minnehaha Avenue
Saint Paul, Minnesota 55104

NOT FOR CONSTRUCTION

No.	Date	Revision Description
	09.30.2022	75% DD
	10.26.2022	City Comments

75% DESIGN DEVELOPMENT

MAIN LEVEL FINISH PLAN

Project	22.1035.01	**Drawing Number**
Date	09.30.2022	
Drawn by	Author	**A701**
Checked by	Checker	

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GENERAL CONSTRUCTION NOTES:

1. Reference Standards: Unless noted otherwise, all standards shall be current edition, with latest addenda, if applicable.
2. Contractor shall verify all existing dimensions, member sizes, and field conditions prior to any demolition, fabrication, construction, or installation and notify Structural Engineer of Record if conditions, materials, sizes, and dimensions are different from those shown.
3. The contract structural drawings and specifications represent the finished structure. Unless otherwise indicated, they do not indicate the means or method of construction. The contractor is solely responsible for the protection of the structure during all phases of demolition, construction, and installation.
4. The finished structure has been designed for the loading indicated below. It is the responsibility of the contractor(s) and their specialty Engineer(s) to review and use means and methods to adequately address loading on the structure during construction including, but not limited to, wind, snow, seismic, underpinning, material storage, and equipment.
5. Cross reference all dimensions and details with architectural and mechanical drawings before commencing any fabrication and/or construction.
6. Details and conditions not specifically shown shall be constructed in accordance with details shown for similar conditions and materials.
7. Shop drawings prepared by suppliers, sub-contractors, etc. shall be reviewed, coordinated, and signed/stamped by the contractor prior to submitting to the Structural Engineer of Record. The Structural Engineer of Record's review of shop drawings, product data, design calculations, etc., does not relieve the contractor from complying with the contract documents.
8. Verify location of all box outs and openings. Opening sizes and locations shown for pipes, ducts, mechanical units, etc. are for general information only and shall be verified with all trades before commencing the work.
9. Contractor is solely responsible for protection of the existing building during all phases of construction.
10. No structural repairs, corrections, or alterations of work affecting a structural member shall be made without the approval of the Structural Engineer of Record. Design and/or review may be an additional service.
11. Do not scale the drawings.

DESIGN CRITERIA LOADS AND STRESSES:

CODES:

1. 2020 Minnesota State Building Code
2. International Building Code (2018)
3. Minimum Design Loads for Buildings and Other Structures (ASCE 7-16).

DESIGN LOADS:

WIND DESIGN CRITERIA	
Ultimate Design Wind Speed (3-sec gust), V_{ult}	115 MPH
Nominal Design Wind Speed (3-sec gust), V_{asd}	90 MPH
Risk Category	II
Wind Exposure	"C"
Internal Pressure Coefficients	GC_{pi} = +/- 0.18

ROOF SNOW LOAD DATA*	
Ground Snow Load, P_g	50 PSF
Snow Exposure Factor, C_e	1.0
Snow Load Importance Factor, I	1.0
Thermal Factor, C_t	Heated C_t = 1.0 Unheated C_t = 1.2
Slope Factor, C_s	C_s = 1.0
Flat Roof Snow Load, P_f	Heated P_f = 35 PSF + drifting Unheated P_f = 42 PSF + drifting

*See Plan for Unbalanced Snow Loads & Snow Drift Loads

ROOF RAIN LOAD DATA	
Rain Intensity, i (in/hr)	i = 7.08

FLOOR LIVE LOADS:

50 PSF Offices
125 PSF Mechanical/Electrical areas
125 PSF Slight storage live load
100 PSF First floor corridors, public spaces, stairs, and exits
80 PSF Corridors above first floor
15 PSF Partition load, office areas

ROOF LIVE LOADS:

20 PSF Minimum Roof Live Load

CONCRETE: (f'c) at 28 Days

3000 PSI Footings
3000 PSI Masonry grout corefill with 3/8" max. aggregate [no entrained air]
3500 PSI Slab on grade [max w/c = 0.45, no entrained air]
4000 PSI Slab on steel deck, topping slabs [max w/c = 0.45, fly ash not permitted, no entrained air]
4500 PSI Piers, foundation walls, and exterior slabs [5%-7% air content]
4500 PSI Retaining walls, basement walls, pile caps, and grade beams
5000 PSI Post-tensioned slabs and beams
5000 PSI Columns and shear walls
7000 PSI Non-shrink grout below baseplates

All exterior concrete work shall have 5% to 7% air entrainment.

STEEL: (Fy)

60,000 PSI ASTM A615 grade 60 reinforcing
60,000 PSI ASTM A706 weldable reinforcing
75,000 PSI ASTM A185 welded wire fabric
50,000 PSI ASTM A992 wide-flange shapes
36,000 PSI ASTM A36 plates, channels, and angles, etc.
50,000 PSI ASTM A500 grade C structural tubes (HSS)
35,000 PSI ASTM A53 type E or S, grade B steel pipe
46,000 PSI ASTM A500 grade C structural pipe (HSS)
92,000 PSI ASTM A325 high strength bolts
36,000 PSI ASTM F1554 threaded anchor rods
50,000 PSI ASTM A108 headed studs

MASONRY: (Fm)

2000 PSI concrete masonry

FOUNDATION LOADS:

_____PSF soil bearing, based on soil report prepared by _____, dated _____, (report # _____).

LATERAL EARTH PRESSURE [EDIT/ VERIFY PER JOB. DELETE IF DOES NOT APPLY]:

35 PCF Active Lateral Earth Pressure (Equivalent Fluid Density)
60 PCF At-Rest Lateral Earth Pressure (Equivalent Fluid Density)

PILE FOUNDATIONS:

_____ ton pile (_____" ø and _____" wall thickness) driven to elevation _____; based on soil report # _____.

TEMPORARY BRACING:

1. Provide temporary lateral support for all walls where grade varies on the two sides until slab has reached its design strength.
2. Provide required temporary bracing for structural steel until permanent bracing and walls are in place.
3. Provide temporary bracing for all walls, concrete, masonry, light gage metal, or wood until they are of adequate design strength and are properly anchored in final form.
4. Provide temporary shoring for all existing walls, floors, and roof members until new construction is in place and properly anchored or cured in final form.
5. All temporary shoring is to be designed by a specialty shoring contractor, by a Professional Engineer licensed in the state of the project, at the expense of the contractor.
6. Shore all foundation walls as required before backfilling and compacting.
7. Contractor shall provide adequate bracing and shoring during all phases of construction and erection of the structure.

GENERAL FOUNDATION NOTES:

1. All foundation excavations, backfill, and compaction shall be inspected and certified by a qualified soils testing firm prior to the construction of any footings. All reports are to be submitted to Structural Engineer of Record in a timely manner.
2. Cross reference all architectural, mechanical, electrical, and structural drawings to assure proper dimensions and placement of all anchor rods, inserts, etc.
3. All footing elevations are shown to top of footings, unless noted otherwise.
4. All footings are centered under walls or columns above, unless noted otherwise.
5. Continuous wall footings up through 1'-8" wide to be 10" thick. Footings over 1'-8" wide to be 12" thick, unless noted otherwise.
6. Provide wall footing reinforcement as follows:
   Footings up through 2'-0" wide = (2)-#5 cont.
   Footings 2'-1" through 3'-0" wide = (3)-#5 cont.
   Footings 3'-1" through 3'-6" wide = (3)-#5 cont. & #5 @ 12" transv.

   See details for reinforcing in all footings over 3'-6" wide.
7. Provide 90 degree bend in all footing dowels. Cast dowels in footings for columns, piers, and walls above. Dowels to be the same number and size as the vertical reinforcing, unless noted otherwise. See General Concrete Notes or General Masonry Notes for required lap length.
8. Provide hot dip galvanized welded wire block reinforcing in all masonry foundation walls at 16" o.c. maximum spacing.
9. Rebar and anchor rods to be securely tied in place prior to placing concrete (i.e. no "wet-sticking" is allowed).

GENERAL CONCRETE NOTES:

1. Concrete construction shall comply with the provisions of the "Building Code Requirements for Structural Concrete," ACI 318-14.
2. The "ACI Detailing Manual" shall govern detailing and fabrication of all reinforcing steel, unless noted otherwise.
3. Reinforcing steel supplier to provide all accessories, chairs, spacing bars, and supports necessary to secure steel in accordance with "Manual of Standard Practice" by the Concrete Reinforcing Steel Institute. Clay brick is not allowed.
4. Provide minimum clear concrete cover for all reinforcement as follows:

   Cast against and permanently exposed to earth = 3"

   Exposed to earth or weather:
   #5 bars and smaller = 1 1/2"
   #6 bars and larger = 2"

   Not exposed to weather or in contact with ground:
   Slabs, walls, & joists (#3 to #11 bars) = 3/4"
   Beams, girders and columns, primary reinforcement, ties, stirrups, or spirals = 1 1/2"
5. Provide corner bars at all corners and intersections of walls, grade beams, and edge beams. Corner bar to be the same size and spacing as all horizontal bars.
6. At openings in structural slabs or walls, provide a minimum of (2)-#6 bars each side of opening. Bars are to extend a minimum of 3'-0" beyond corners of openings, unless noted otherwise. Provide (1)-#5 x 4'-0" long diagonal bar at each corner of opening in each face of wall or slab.
7. Provide minimum concrete wall reinforcing as follows: (unless noted otherwise)

   6" & 8" concrete walls:
   #4 @ 16" o.c. vert & #4 @ 10" o.c. horiz (center in wall)

   10" concrete walls:
   #4 @ 16" o.c. vert & #4 @ 16" o.c. horiz (each face)

   12" concrete walls:
   #4 @ 16" o.c. vert & #4 @ 12" o.c. horiz (each face)

   16" concrete walls:
   #4 @ 16" o.c. vert & #4 @ 12" o.c. horiz (each face)
8. Provide vertical control joints in exposed concrete walls at a maximum of 30'-0" intervals. See typical details for Control Joint and Construction Joint Detail.
9. No aluminum of any type shall be allowed in the concrete work, unless coated to prevent reaction with concrete.
10. Maximum outside diameter of embedded conduit shall be no larger than 1/3 of the slab thickness. This restriction applies to the total height at conduit crossings. The conduit shall be placed such that it does not significantly impair the strength of construction.
11. Post-installed anchors in concrete shall be ICC approved for use in cracked concrete. Approved anchors shall be Hilti Kwik Bolt TZ Expansion Anchors (ESR-1917) or a Hilti HIT-HY 200 Adhesive Anchoring System (ESR-3187), unless noted otherwise. Install anchors in strict conformance with anchor manufacturer's instructions. Anchor substitutions shall not be made without written permission from the Structural Engineer of Record.
12. No pipe or conduit of any type shall be placed in structural concrete members without written approval from the Structural Engineer of Record.
13. Composite slabs and beams are designed to support the dead load of the wet concrete plus normal construction loads without requiring temporary shoring. Some deflection of the deck and beams will occur when the wet concrete is placed. The contractor shall include in the bid the cost of the additional concrete quantity caused by the deflection of the beams and deck.
14. Provide pockets in concrete walls for beams or base plates as required. Patch void with concrete.
15. Do not weld rebar, unless Weldable Rebar is provided and its use is approved by the Structural Engineer of Record.
16. Lap splice lengths in continuous reinforcing shall be tension lap splices and are shown below, unless noted otherwise on drawings or details:

f'c = 3000 PSI:

	CLASS B TENSION LAP SPLICE LENGTH			
	Top Bars		Other Bars	
Bar Size	Case 1	Case 2	Case 1	Case 2
#3	28"	42"	22"	32"
#4	37"	56"	29"	43"
#5	47"	70"	36"	54"
#6	56"	84"	43"	64"
#7	81"	122"	63"	94"
#8	93"	139"	72"	107"
#9	105"	157"	81"	121"
#10	118"	177"	91"	136"
#11	131"	196"	101"	151"

f'c = 4000 PSI:

	CLASS B TENSION LAP SPLICE LENGTH			
	Top Bars		Other Bars	
Bar Size	Case 1	Case 2	Case 1	Case 2
#3	24"	36"	19"	28"
#4	32"	48"	25"	37"
#5	40"	60"	31"	47"
#6	48"	72"	37"	56"
#7	70"	106"	54"	81"
#8	80"	121"	62"	93"
#9	91"	136"	70"	105"
#10	102"	153"	79"	118"
#11	113"	170"	87"	131"

Notes:
1. Tables are for normal weight concrete with Grade 60 uncoated reinforcing bars. For lightweight aggregate, multiply the values in the table by 1.33. For epoxy coated reinforcing bars, multiply the values in the table by 1.5
2. Top bars are horizontal bars with more than 12" of concrete cast below the bars.
3. Compression lap splices (only where indicated on drawings) for Grade 60 uncoated reinforcing bars shall be 30 times the bar diameter.
4. Cases 1 and 2 are defined as follows:
   Beams and columns:
   Case 1: Concrete cover at least 1.0 times the bar diameter and center-to-center spacing of at least 2.0 times the bar diameter.
   Case 2: Concrete cover less than 1.0 times or center-to-center spacing less than 2.0 times the bar diameter.
   All other members:
   Case 1: Concrete cover at least 1.0 times the bar diameter and center-to-center spacing at least 3.0 times the bar diameter.
   Case 2: Concrete cover less than 1.0 times the bar diameter or center-to-center spacing less than 3.0 times the bar diameter.

GENERAL MASONRY NOTES:

1. Masonry construction shall comply with the provisions of the "Building Code Requirements and Specification for Masonry Structures," TMS 402-16 and TMS 602-16.
2. Do not apply floor/roof loads until masonry has reached adequate design strength.
3. Masonry wall construction shall be running bond, unless noted otherwise on architectural drawings.
4. All mortar in bearing walls shall be Type S.
5. Provide continuous bond beams with (2)-#5 continuous reinforcing bars at the top of all bearing walls, end walls, and at joist bearing elevations. See details for angles and plates cast in bond beams.
6. Provide grout corefill under all steel beam or lintel bearings a minimum of 5 courses down for a 16" length of wall, unless noted otherwise.
7. Wire reinforcing for single-wythe concrete block walls, masonry cavity walls, and multi-wythe composite masonry walls shall be hot dipped galvanized, corrosion resistant horizontal joint reinforcing with the following gage and vertical spacing:

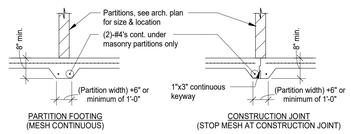
   Any width masonry in running bond:
   9 gage @ 16" o.c. (typical wall)
8. Provide corefill at all vertical and horizontal reinforcing locations.
9. Multi-wythe cavity walls shall have the full air space as shown on the architectural details. Multi-wythe composite walls shall have the collar joint filled solid.
10. Consolidate and reconsolidate all grout by puddling or vibrating per ACI 530 specification section 3.5E.
11. Grouting shall be stopped 1 1/2" below the top of a course to form a key at the pour joint.
12. Masonry wall cells to be filled with grout shall be filled in lifts not exceeding 4'-0". High lift grouting can be utilized at the contractor's option. Provide clean outs at each bar location.
13. Vertical reinforcing bars shall be held in position at top and bottom and as required to maintain intended position of rebar.
14. Vertical reinforcing shall be lapped to all dowels extending from footings and provide vertical wall reinforcing splices as follows:

   #4 BAR = 16"
   #5 BAR = 24"
   #6 BAR = 42"

   Unless noted otherwise on the drawings.
15. Walls must be guyed and braced until floor and/or roof systems are in place.
16. Where a single rebar is specified in a masonry wall, it shall be centered in the core. Where two rebar are specified in one core, one bar shall be located at each face. The distance from the centerline of the rebar to the outside face of the block shall not exceed 3".
17. Reinforce all bond beams with (2)-#5 continuous horizontal, unless noted otherwise.
18. Provide corner bars in all bond beams to match continuous bar size.
19. Where pipe, conduit or other non-structural embed items are desired in reinforced masonry, items shall be placed whenever possible in un-grouted cells. Vertical grouted cores may have up to one (1)-1 inch diameter conduit, pipe, etc positioned in the middle of the core, provide 1" clear to masonry core vertical reinforcing bars. Additional items/configurations only permitted with the written approval from the Structural Engineer of Record.
20. Post-installed anchors in masonry shall be ICC approved. Approved anchors shall be Hilti Kwik Bolt 3 Expansion Anchors (ESR-1385) or a Hilti HIT-HY 270 Adhesive Anchoring System (ESR-4143), unless noted otherwise. Grout masonry solid at anchor locations. Install anchors in strict conformance with anchor manufacturer's instructions. Anchor substitutions shall not be made without written permission from the Structural Engineer of Record.

CONCRETE SLAB AND JOINT NOTES AND DETAILS:

1. Control Joints (C.J.) - Locate saw cut control joints at column centerlines and at the following maximum spacing to create approximately square panels
   a. Concrete slabs on grade:
      i. 4"-5" thick slab = 12'-0"
      ii. 6"-8" thick slab = 15'-0"
   b. Coordinate control joint layout with floor finish requirements.
   c. Control joint depth to be 1", using an early entry saw.
   d. Cut control joints with an early entry saw as soon as possible without damage to the slab surface.
2. Provide 6x6-W1.4xW1.4 W.W.F. in all slabs on grade, unless noted otherwise. All mesh to be lapped a minimum of 12". Provide prefabricated sheets in lieu of rolled mesh. Reinforce with (2)-#5 x 3'-0" long at all re-entrant (inside) corners.
3. Place slab reinforcing between 1/4 and 1/3 of slab thickness down from top of slab.
4. Coordinate all floor finishes, slopes, recesses, floor drains, gutters, etc. with all disciplines (arch., mech., etc.).
5. Provide a preformed isolation joint in concrete slab at columns. The isolation joint can be either a circular or diamond shaped pattern.
6. Do not provide control joints in structural slabs, slabs on metal deck, or precast topping, unless noted otherwise.
7. Provide thickened slabs at masonry partitions and construction joints as detailed below.



PARTITION FOOTING (MESH CONTINUOUS)

CONSTRUCTION JOINT (STOP MESH AT CONSTRUCTION JOINT)

TYPICAL LINTEL TYPES AND NOTES:

1. Verify size and location of all mechanical, U.V., U.H., louver, and duct openings with mechanical contractor.
2. For all openings through masonry walls not shown, including mechanical and electrical openings, provide one of the following: (unless noted otherwise)
   a. Steel angle lintels:

      (1) L 3 1/2" x 3 1/2" x 1/4" for each 4" thickness of wall for spans up to 4'-0".

      (1) L 5" x 3 1/2" x 5/16" (LLV) for each 4" thickness of wall for spans up to 5'-0".

      (1) L 6" x 3 1/2" x 5/16" (LLV) for each 4" thickness of wall for spans up to 6'-0".

   b. Block lintels

      Use only U-shaped lintel block for masonry lintels. The centerline of the reinforcing is to be located 3" maximum from the bottom of the lintel block.

      Non-bearing wall up to 3'-4" span:

      12" Block (2)-#4 Bot. | 10" Block (2)-#4 Bot. | 8" Block (2)-#4 Bot. | 6" Block (1)-#4 Bot.

      Non-bearing wall 3'-5" to 6'-4" span:

      12" Block (2)-#5 Bot. | 10" Block (2)-#5 Bot. | 8" Block (2)-#5 Bot. | 6" Block (1)-#5 Bot.

      Bearing wall up to 4'-0" span (8" deep lintel):

      12" Block (2)-#5 Bot. | 10" Block (2)-#5 Bot. | 8" Block (2)-#5 Bot.

      Bearing wall 4'-1" to 6'-4" span (16" deep lintel):

      12" Block (2)-#6 T&B | 10" Block (2)-#6 T&B | 8" Block (2)-#6 T&B
3. Fill lintel blocks solid with 3000 PSI grout (3/8" maximum aggregate). Provide 8" minimum bearing each end of masonry lintel, unless noted otherwise.
4. All steel lintel beams to bear a minimum of 8" on grouted or solid masonry, unless noted otherwise. All steel lintel angles to bear a minimum of 6" on solid or grouted masonry, unless noted otherwise.
5. Bottom plate of steel lintels shall be welded to the beam with 3/16" fillet weld, 3" long at 12" o.c., staggered both sides.
6. All lintels in exterior walls to be hot-dipped galvanized, unless noted otherwise.

GENERAL STEEL NOTES:

1. Construction of structural steel shall comply with the provisions of "AISC 360-16 Specification for Structural Steel Buildings" and "AISC 341-16 Seismic Provisions for Structural Steel Buildings."
2. All shop connections shall be welded or bolted, field connections shall be bolted, unless noted otherwise. Bolted connections shall be Bearing Type (snug-tightened) and shall be made with a minimum of 3/4"ø ASTM A325-N Bolts. Direct-Tension Indicators are acceptable substitutions.
3. All welds as per latest specifications of the AWS - E70xx electrodes.
4. Before encasing steel columns in concrete or masonry, paint column bases and tops of anchor rods with asphaltic paint.
5. The structural fabricator shall furnish all plates and angles cast in bond beams, concrete walls, or columns to support steel joists, beams, and steel deck.
6. 'C' denotes beam is continuous over columns, 'S' denotes beam simple shear splice.
7. All steel beams shall be true to line and elevation, column base plates grouted, and anchor rods tight before any loads are placed.
8. All column base and cap plates to be welded around all sides.
9. All welds not specified are 3/16" fillet weld, continuous and/or all around.
10. Structural fabricators shall show all welding requirements on structural steel shop drawings.
11. Fabricator shall select AISC simple shear connections for steel beams capable of carrying either the reaction load indicated or the reaction load calculated and based on tributary area or at a minimum 50% of the total shear capacity.
12. Fabricator shall select AISC simple shear connections for composite beams capable of carrying the reaction load indicated or the reaction load calculated and based on tributary area or at a minimum 75% of the total shear capacity.
13. Cuts, holes, or openings required in structural steel members for the work of other trades shall be shown on the shop drawings. Burning of holes and cuts in structural steel members in the field shall not be allowed, except by written permission from the Structural Engineer of Record.
14. The top of all beams receiving shear studs shall not be painted.
15. The contractor shall provide XXX pounds of structural steel contingency material to be fabricated and erected as directed by the Structural Engineer of Record. Cost of material, labor, delivery, and associated services are to be included in the bid amount.
16. All connections not specifically detailed shall be designed by Professional Engineer licensed in the state where the project is located. Detailing shall be performed using rational engineering design and standard practice in conformance with the contract documents. The general details shown on the drawings are approximate only and do not indicate the required number of bolts, weld requirements, etc., unless specifically noted.
17. Shear stud connectors shall be manufactured by Nelson Stud Welding Co. or equal conforming to ASTM A108, and shall be field applied with automatic welding equipment through the composite steel deck with the use of a proper ferrule. Remove ferrules after welding.
18. Location, type, diameter, length, and spacing of shear stud connectors shall be detailed on the shop drawings.

STEEL JOIST NOTES:

1. All steel joists shall comply with the specification of the Steel Joist Institute (SJI).
2. Field weld all steel joists to supports per AWS standards as shown in the table below:

Joist Section Number*	Minimum Fillet Weld
K1-K12	(2)-1/8" x 2 1/2"
LH02-06	(2)-3/16" x 2 1/2"
LH07-17,DLH10-17	(2)-1/4" x 2 1/2"
DLH18-25	(2)-1/4" x 4"
*Last two digits of joist designation shown in load table.	

3. All steel joist bridging to be per SJI specifications. Anchor solidly to end walls, unless noted otherwise.
4. Joist bearing and seat depth should be as follows, unless noted otherwise on the drawings:

Joist Section Number*	End Bearing Depth	Bearing Length - Steel	Bearing Length - Concrete or Masonry
All K Series	2 1/2"	2 1/2"	4"
All LH Series	5"	4"	6"
DLH10-17	5"	4"	6"
DLH18-19	7 1/2"	6"	6"
DLH20-25 and Special Joist	See Plans and Details		
*Last two digits of joist designation shown in load table.			

5. When beams or girders have joists bearing on one side only, provide full joist bearing on beam or girder flange. Where joists bear on both sides of beam or girder, butt joists or provide maximum 1/2" gap.
6. Joist fabricator to show all field welding requirements on shop drawings.
7. Camber steel joists per SJI specifications, unless noted otherwise.
8. Joists at or adjacent to columns shall be bolted to their supports per OSHA requirements.
9. Joists and bridging shall be designed for wind uplift as required by the applicable versions of the IBC and ASCE 7. At a minimum, the net uplift used shall not be less than 5 psf.
10. Concentrated loads at joist top or bottom chords shall be located within 4" of a panel point, or reinforcement shall be added per typical detail. Joist manufacturer to design chords for minimum bend load of 150 lbs.
11. Bridging shall not be removed without written permission from the Structural Engineer of Record. Horizontal bridging can be removed in one joist space if cross-bridging is added into the other joist space on either side of the location that has had the bridging removed. Cross-bridging can also be removed in one joist space if horizontal bridging is added to each adjacent space.

STEEL DECK NOTES:

1. All steel decking shall comply with the specifications of the Steel Deck Institute (SDI). Thickness, type, and properties of decks shall be as shown on the drawings.
2. All steel deck shall span a minimum of three spans, unless otherwise approved.
3. Field weld 1 1/2" steel roof deck to supporting members with 5/8"ø puddle welds at 36/4 pattern. Where areas of warped deck occur, field weld steel deck maximum 6" o.c. at all supports. Typical, unless noted otherwise.
4. 1 1/2" steel roof deck shall have; (1)-#10 TEK screw **[EDIT amount depending on project]** side lap connector installed between adjacent supports (unless noted otherwise).
5. General contractor to verify locations of acoustical steel deck. Cross reference architectural and structural drawings for locations of acoustical steel deck.
6. Composite steel deck with concrete slabs shall be welded to all supporting members with 5/8"ø puddle welds at 36/4 pattern. For deck units with spans greater than 5'-0", sidelaps and perimeter edges of units between span supports shall be fastened at intervals not exceeding 36" o.c., using one of the following methods:
   a) #10 self-drilling screws
   b) Crimp or button punch
   c) Arc puddle welds 5/8" minimum visible diameter, or minimum 1" long fillet weld.
7. See plans and details for composite deck thickness, depth, and profile. All composite steel deck to be galvanized with G-60 coating.
8. Steel conform deck shall be attached at all supports sufficiently to prevent movement. Steel deck fasteners are not required for conform decks supporting concrete stoop slabs.

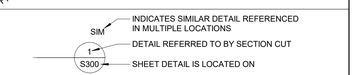
COLD FORMED METAL FRAMING NOTES:

1. All cold formed metal framing shall conform to the AISI specification for the design of Cold Formed Structural Metals (AISI S100).
2. All welds shall comply with the requirements of the North American Specification for the Design of Cold-Formed Steel Structural Members (AISI S100) and the Structural Welding Code – Sheet Steel (AWS D1.3).
3. All framing components not specifically detailed and designed on these structural documents shall be designed by the supplier and sealed by a Professional Engineer licensed in the state of the project.
4. All steel studs, joists, and accessories shall be ASTM A653/A653M, Grade 33 (Fy = 33 KSI) or Grade 50 (Fy = 50 KSI), either as indicated on plans, details, or required by design.
5. All steel stud and joist fasteners shall be TEK screws, manufactured by ITW Buildex, or approved equal.
6. Studs shall have full bearing against inside track web, prior to stud and track attachment.
7. Splices in axially loaded studs shall not be permitted.
8. Framing components may be preassembled into panels prior to erecting. Prefabricated panels shall be square, with components attached in a manner as to prevent racking.
9. All framing components shall be cut squarely for attachment to perpendicular members. Members shall be held positively in place until properly fastened.
10. Erect framing and panels plumb, level, and square in accordance with the shop drawings.
11. Handling and lifting of prefabricated panels shall be done in a manner as to not cause distortion in any member.
12. Track shall be securely anchored to the supporting structure as shown on the fabrication and erection drawings.
13. At track butt joints, abutting pieces of track shall be securely anchored to a common structural element, or they shall be butt-welded or spliced together.
14. Studs shall be plumbed, aligned, and securely attached to the flange or webs of both upper and lower tracks.
15. Jack studs or cripples shall be installed below window sills, above window and door heads, and shall be securely attached to supporting members.
16. Wall stud bridging shall be attached in a manner to prevent stud rotation. The minimum bridging shall be 5'-0" o.c. for wind loaded walls and 3'-4" o.c. for axial loaded walls.
17. Cutouts, holes, or notches are not permitted in cold-formed steel roof and floor joists, headers, or beams, without prior written approval of the Structural Engineer of Record.

VIEW KEY

NAME — LEVEL NAME
10'-0" — HEIGHT ABOVE PROJECT 0'-0"

1 — INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL



LINE TYPE KEY:

- NEW WORK (DARK SOLID LINE/LINE WEIGHT WILL VARY)
- NEW WORK BELOW OR BEYOND VIEW (DARK DASH LINE)
- EXISTING TO BE REMOVED (DARK DASH LINE)
- EXISTING WORK TO REMAIN (HALFTONED SOLID LINE/LINE WEIGHT WILL VARY)
- NON STRUCTURAL (HALFTONED LIGHT SOLID LINE)
- GRID OR CENTERLINE

MATERIAL LEGEND:

- CONCRETE - CAST-IN-PLACE
- CONCRETE - EXISTING
- EARTH
- GRAVEL OR GRANULAR FILL
- GROUT OR DRYPACK OR SAND
- MASONRY
- METAL / COLD-FORM STUD
- STEEL

STRUCTURAL SYMBOL LIST

GENERAL SYMBOLS:

SYMBOL	DESCRIPTION	DETAIL REFERENCE
(116'-3")	TOP OF STRUCTURAL FRAMING ABOVE ELEVATION (+0'-0")	N/A
(96'-0")	TOP OF STRUCTURAL FOUNDATION BELOW ELEVATION (+0'-0")	N/A

FOUNDATION SYMBOLS:

SYMBOL	DESCRIPTION	DETAIL REFERENCE
ø	STEP IN FOOTING	
CFX.X	CONTINUOUS WALL FOOTING	SEE SCHEDULE SHEET SXX

CONCRETE SYMBOLS:

SYMBOL	DESCRIPTION	DETAIL REFERENCE
RAMP UP	RAMP (DIRECTION)	N/A
	SLAB DROP	

STEEL SYMBOLS:

SYMBOL	DESCRIPTION	DETAIL REFERENCE
	STEEL DECK (DIRECTION)	N/A
(##)	HEADED STUD ANCHORS (HSA) ON BEAM	
c=X"	BEAM CAMBER	N/A
	BEAM SPLICE	
	MOMENT CONNECTION	
	BRACE ABOVE	SEE FRAME ELEVATION
	BRACE BELOW	SEE FRAME ELEVATION

STRUCTURAL SHEET INDEX

SHEET NUMBER	SHEET NAME
S001	GENERAL NOTES
S002	INSPECTION SCHEDULES
S003	SCHEDULES AND SECTIONS
S200	FOUNDATION PLAN
S300	PENTHOUSE FLOOR AND ROOF FRAMING PLANS
S400	SECTIONS - FOUNDATION
S410	SECTION - FLOOR
S420	SECTIONS - ROOF
S500	BRACE FRAME & MOMENT FRAME ELEVATIONS AND SECTIONS
GRAND TOTAL: 9	

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PROJECT STATUS

GENERAL NOTES

Project	22.1035.01	**Drawing Number**
Date	Issue Date	
Drawn by	EH	**S001**
Checked by	CCC	

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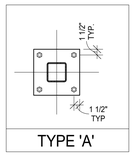
STEEL COLUMN SCHEDULE

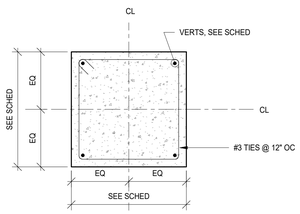
MARK	SIZE	BASE PL SIZE	BASE PL TYPE	ANCHOR BOLTS	BOT. OF BASE PL EL.	COMMENTS



TYPE 'A'

CONCRETE PIER SCHEDULE

MARK	SIZE	VERTS	#3 TIES	COMMENTS

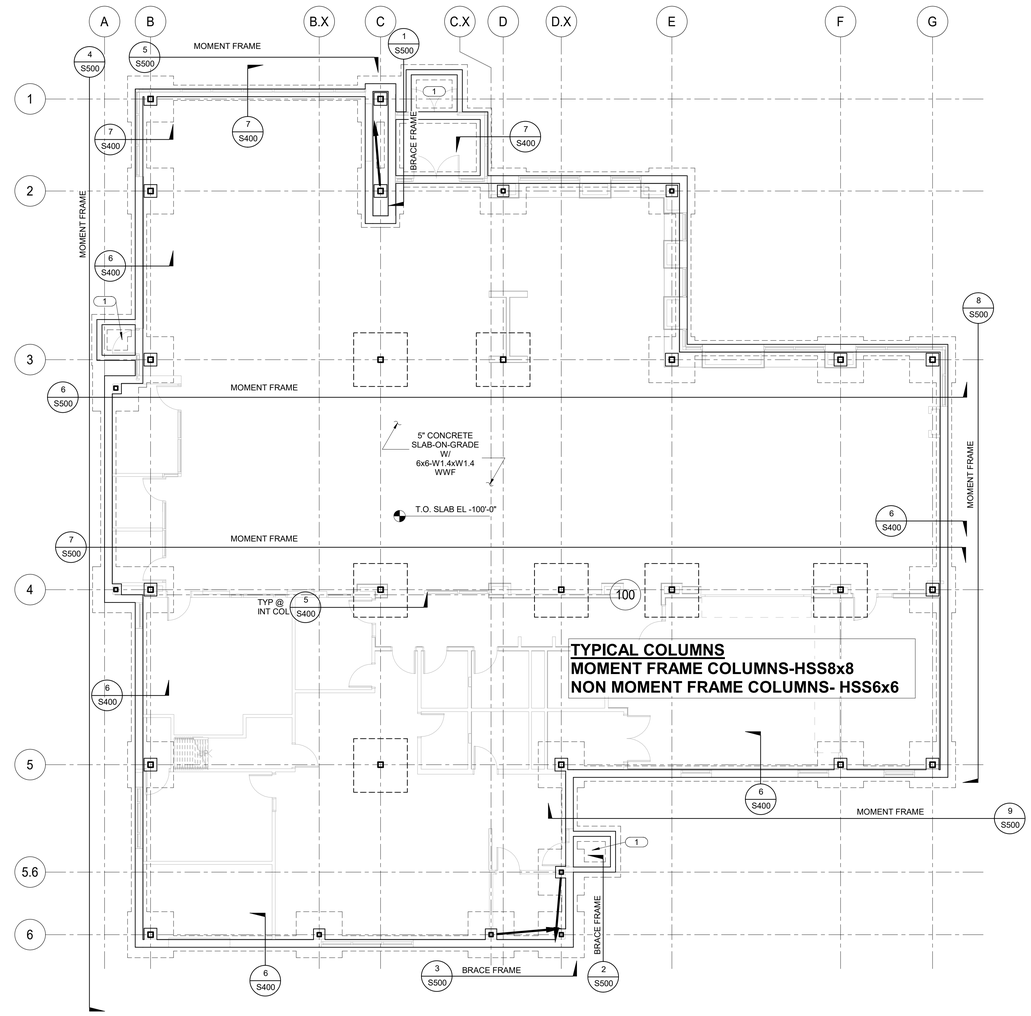


SPREAD FOOTING SCHEDULE

MARK	LENGTH	WIDTH	THICKNESS	REINFORCING	
				LONG DIRECTION	SHORT DIRECTION
SF6.0	6'-0"	6'-0"	1'-0"		
SF7.0	7'-0"	7'-0"	1'-0"		

CONTINUOUS FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	REINFORCING	
			LONG DIRECTION	SHORT DIRECTION
CF2.0	2'-0"	1'-0"		



1 FOUNDATION PLAN

1/8" = 1'-0"

NORTH

GENERAL PLAN NOTES: FOUNDATION

= INDICATES MECHANICAL/UTILITY LINE CROSSING FOOTING (NOT ALL SHOWN).

1. VERIFY ALL DIMENSIONS W/ ARCHITECTS DRAWINGS.
2. DO NOT SCALE DRAWINGS.
3. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF WALLS NOT DIMENSIONED ON PLAN.
4. CX INDICATES STEEL COLUMN. SEE SHEET _____ FOR SCHEDULE.
5. PX INDICATES CONC PIER BELOW GRADE. SEE SHEET _____ FOR SCHEDULE.
6. SFX.X INDICATES CONCRETE SPREAD FOOTING. SEE SHEET _____ FOR SCHEDULE.
7. CFX.X INDICATES CONTINUOUS WALL FOOTING. SEE SHEET _____ FOR SCHEDULE.
8. TYPICAL EXTERIOR T.O. FOOTING EL = (96'-0") TYPICAL INTERIOR T.O. FOOTING EL = (99'-4")
9. TYPICAL STEPPED FOOTING, SEE SECTION 1/S400 .
10. TYPICAL ANCHOR ROD DETAIL, SEE SECTION 4/S400 .
11. CONTRACTOR TO VERIFY UNDERGROUND UTILITIES LOCATIONS AND INVERT ELEVATIONS. DROP TOP OF FOOTING ELEVATONS AS REQUIRED TO ALLOW MECHANICAL PIPE TO PASS OVER FOOTING.
12. PROVIDE PIPE SLEEVES AT ALL LOCATIONS WHERE MECHANICAL PIPES PENETRATE WALL. VERIFY LOCATIONS WITH MECHANICAL DRAWINGS, SEE SECTION 2/S400 .
13. SEE GENERAL NOTES FOR THICKENED SLABS AT CMU PARTITION WALLS.
14. REFER TO ARCHITECTS DRAWINGS FOR BELOW GRADE WATERPROOFING DETAILS.
15. VERIFY DEPRESSED OR RECESSED SLAB LOCATIONS & DIMENSIONS WITH ARCHITECT.
16. SEE ARCHITECT / MECHANICAL FOR ALL SLAB DEPRESSIONS.
17. ALL EXTERIOR STEEL TO BE HOT-DIPPED GALVANIZED.
18. CONTRACTOR TO FIELD VERIFY EXISTING DIMENSIONS & ELEVATIONS.

KEY PLAN NOTES: FOUNDATION

1. 5" MIN CONCRETE STOOP SLAB OVER 1.0C-22 GA STEEL FORM DECK W/ #4 @ 12" OC EACH WAY, BOTTOM. #4 TOP DOWELS @ 16" OC, PROVIDE 6" MINIMUM VOID BELOW CONCRETE SLAB. T.O. SLAB ELEVATION VARIES, SEE ARCHITECT. COORDINATE SIZE, QUANTITY AND LOCATION WITH ARCHITECT. SEE SECTION 3/S400 .
2. PROVIDE THICKENED SLAB 12" DEEP x 24" WIDE AT BASE OF STAIR W/ (2)-#5 CONTINUOUS. COORDINATE LOCATION & LENGTH W/ ARCHITECT.

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PROJECT STATUS

FOUNDATION PLAN

Project	22.1035.01	**Drawing Number**
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Checked by	CCC	**S200**

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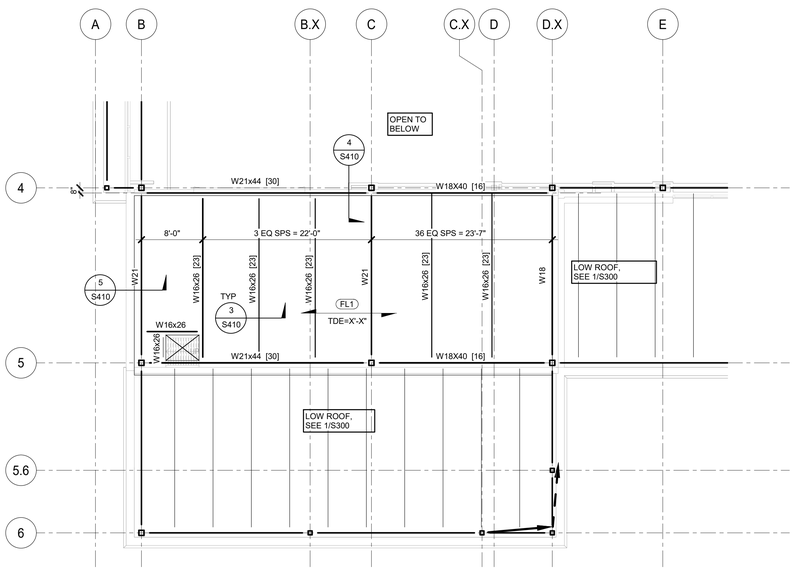


2 PENTHOUSE FLOOR FRAMING PLAN

1/8" = 1'-0"

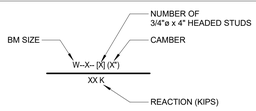
GENERAL PLAN NOTES: FLOOR FRAMING

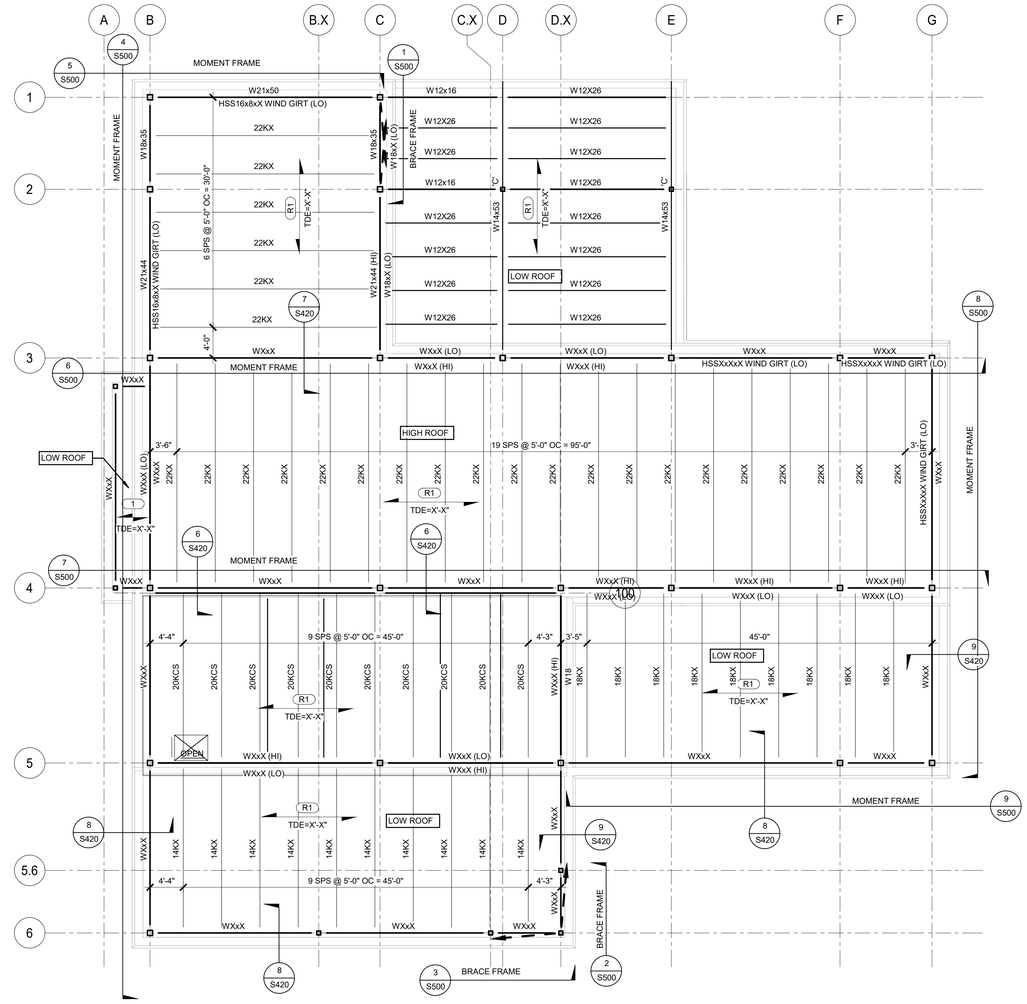
1. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
2. DO NOT SCALE DRAWINGS.
3. FOR SCHEDULES SEE SHEET _____.
4. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF WALLS NOT DIMENSIONED ON PLAN.
5. FOR PERMISSABLE CONSTRUCTION JOINT LOCATIONS IN COMPOSITE SLABS, SEE 2/S410 .
6. FOR OPENINGS IN COMPOSITE SLABS, SEE 1/S410 , FOR OPENINGS LARGER THAN 24", PROVIDE W10X12 FRAME AROUND OPENING. VERIFY SIZE, LOCATION AND QUANTITY WITH ARCHITECT & MECHANICAL.
7. ALL REACTIONS SHOWN ON PLAN ARE UNFACTORED.

KEY PLAN NOTES: FLOOR FRAMING

FL1 5 1/2" TOTAL COMP. CONC FLOOR SLAB W/ #4 @ 16" OC EA WAY. OVER 2"-20 GA COMP STL FLOOR DECK OR APPROVED EQUAL. FFE=X'-X" (3 1/2" CONC SLAB + 2" DECK = 5 1/2" TOTAL SLAB THICKNESS)

BM LEGEND





1 ROOF FRAMING PLAN

1/8" = 1'-0"

GENERAL PLAN NOTES: ROOF FRAMING

1. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
2. DO NOT SCALE DRAWINGS.
3. FOR SCHEDULES SEE SHEET _____.
4. SEE ARCHITECTURAL DRAWINGS. FOR LOCATION OF WALLS NOT DIMENSIONED ON PLAN.
5. BRIDGING TYPE AND SPACING PER SJI REQUIREMENTS.
6. FOR ROOF OPENING SUPPORT FRAME, SEE SECTION 1/S420 .
7. FOR HANGING REQUIREMENTS ON STEEL JOIST, SEE SECTION 2/S420 .
8. ALL REACTIONS SHOWN ON PLAN ARE UNFACTORED.
9. FOR STEEL BEAM TO STEEL COLUMN CONNECTION, SEE SECTION 3/S420 .
10. FOR SEAT L'S WHERE JOISTS BEAR AT STEEL COLUMN, SEE SECTION _____.
11. LIGHTS AND OTHER EQUIPMENT AND OTHER MATERIAL SHALL BE SUPPORTED BY THE ROOF JOISTS, NOT THE DECK.

KEY PLAN NOTES: ROOF

R1 1 1/2" - 20 GA WIDE RIB STEEL ROOF DECK. T.O. DECK EL = (SEE PLAN).

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PROJECT STATUS

PENTHOUSE FLOOR AND ROOF FRAMING PLANS

Project	22.1035.01	**Drawing Number**	
Date	Issue Date		
Drawn by	EH		
Checked by	CCC		**S300**

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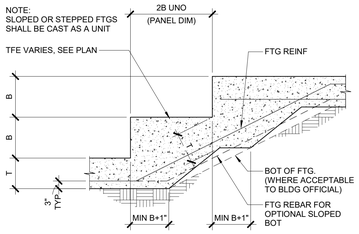
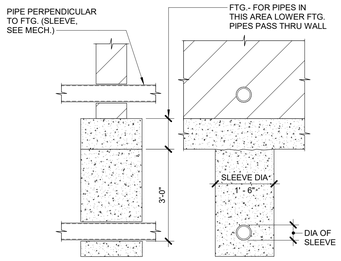


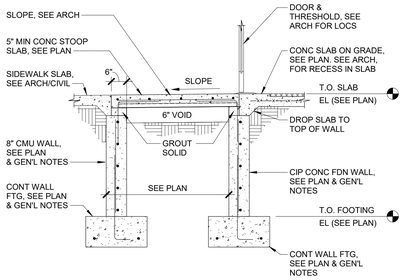
UNLESS NOTED ON THE FOUNDATION PLAN:
B = 2'-0" MAX. FOR CONC. FOUNDATION WALLS
B = 1'-4" MAX. FOR MASONRY FOUNDATION WALLS
T = FOOTING THICKNESS, SEE GEN'L. FOUNDATION NOTES & DETAILS

1 TYPICAL FOOTING STEP DETAIL
1/2" = 1'-0"

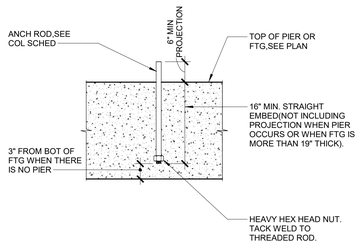


NOTE:
1. FOR PIPES 3'-0" OR LESS BELOW FTG. PROVIDE SLEEVE & CONC. AS SHOWN. UPON APPROVAL OF THIS ENGINEER.
2. FOR PIPES MORE THAN 3'-0" BELOW FTG. USE STEPPED FTG DETAIL TO GET WITHIN 3'-0" MAX. UPON APPROVAL OF THIS ENGINEER.

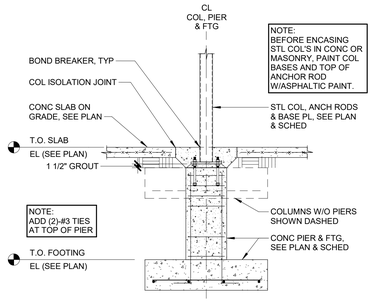
2 FOUNDATION PIPE SLEEVE DETAIL
1/2" = 1'-0"



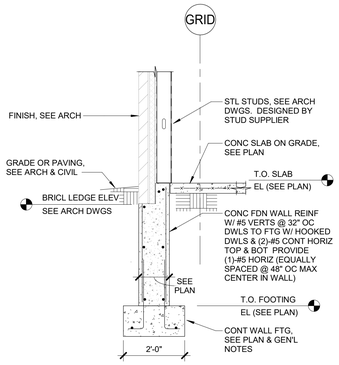
3 TYPICAL STOOP DETAIL
1/2" = 1'-0"



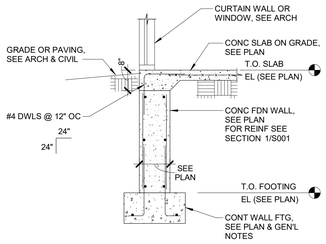
4 TYPICAL ANCHOR ROD DETAIL
1/2" = 1'-0"



5 TYPICAL INTERIOR COLUMN
1/2" = 1'-0"



6 SECTION
1/2" = 1'-0"



7 SECTION
1/2" = 1'-0"

NOTE:
CONTRACTOR OPTION
TO PROVIDE CMU FOUNDATION
WALLS IN LIEU OF CONCRETE.

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PROJECT STATUS

SECTIONS -
FOUNDATION

Project	22.1035.01	**Drawing Number**
Date	Issue Date	
Drawn by	EH	**S400**
Checked by	CCC	

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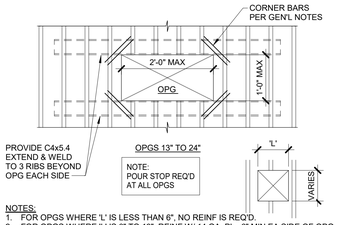
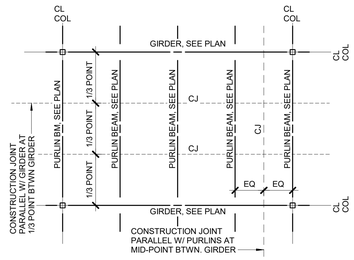


NOTES:
1. FOR OPGS WHERE 'L' IS LESS THAN 6", NO REINF IS REQ'D.
2. FOR OPGS WHERE 'L' IS 6" TO 13", REINF W/ 14 GA. PL., 6" MIN EA SIDE OF OPG.
3. WELD TO EA RIB ALL AROUND OR MECHANICALLY FASTEN.
4. FOR OPGS LARGER THAN 13", SEE DIAGRAM ABOVE.
5. FOR OPGS LARGER THAN 24", SEE FRAMING PLAN.

VERIFY SIZE , QUANTITY & LOCS OF ALL OPGS.
W/ MECH, ELEC. & GEN'L CONTRACTOR.

1 OPNG PERPENDICULAR TO FLOOR DECK
3/4" = 1'-0"



2 PERMISSIBLE CONSTRUCTION JOINT LOC
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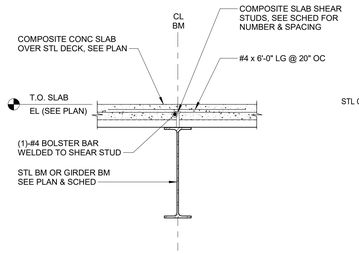
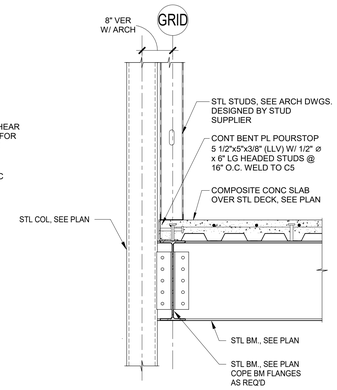


3 SECTION
3/4" = 1'-0"



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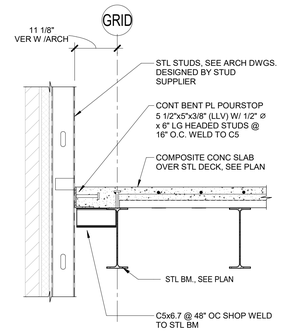
3/4" = 1'-0"



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

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Key Plan

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No.	Date	Revision Description
	09-30-2022	75% DD

PROJECT STATUS

SECTION - FLOOR

Project	22.1035.01	**Drawing Number**
Date	Issue Date	
Drawn by	EH	**S410**
Checked by	CCC	

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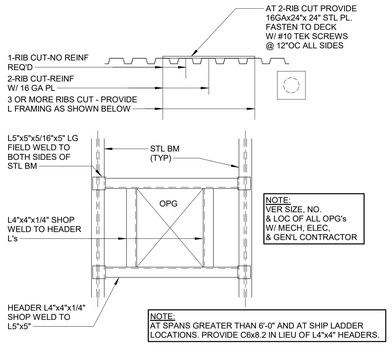

1 OPG. FRAME PLAN VIEW
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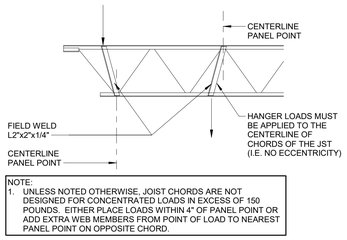

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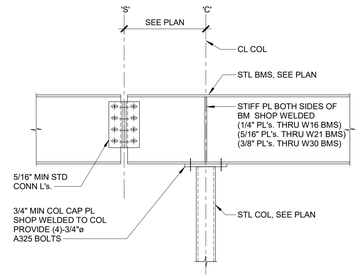
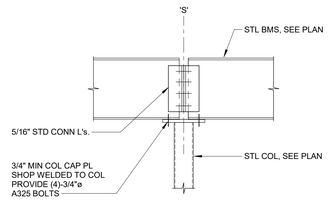


3 BM. TO COL. CONNECTION
3/4" = 1'-0"



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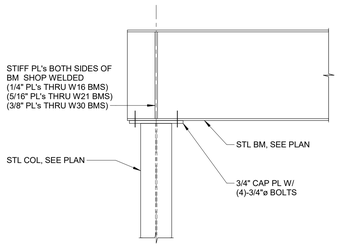
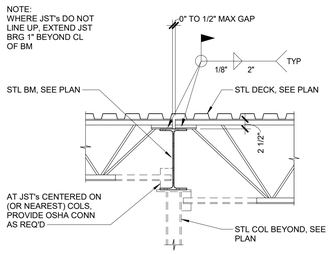


5 SECTION
3/4" = 1'-0"



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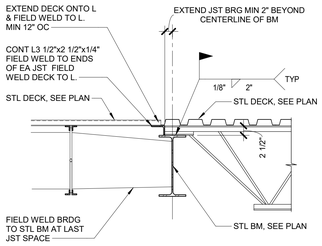
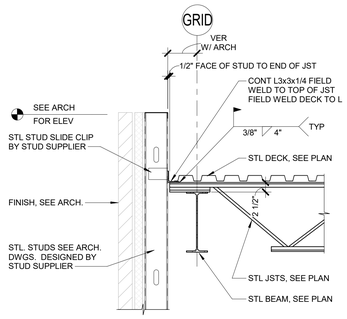
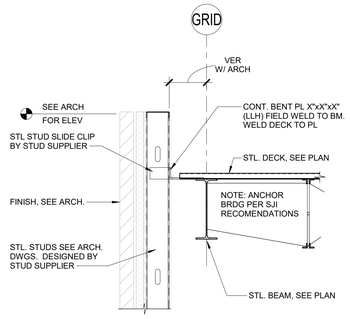
3/4" = 1'-0"



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



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



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

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Key Plan

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No.	Date	Revision Description
	09-30-2022	75% DD

PROJECT STATUS

SECTIONS - ROOF

Project	22.1035.01	**Drawing Number**
Date	Issue Date	
Drawn by	EH	**S420**
Checked by	CCC	

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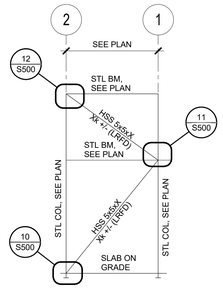
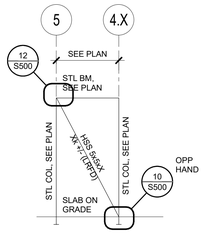
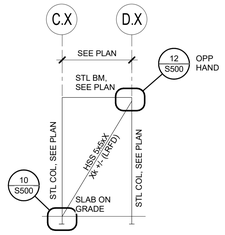


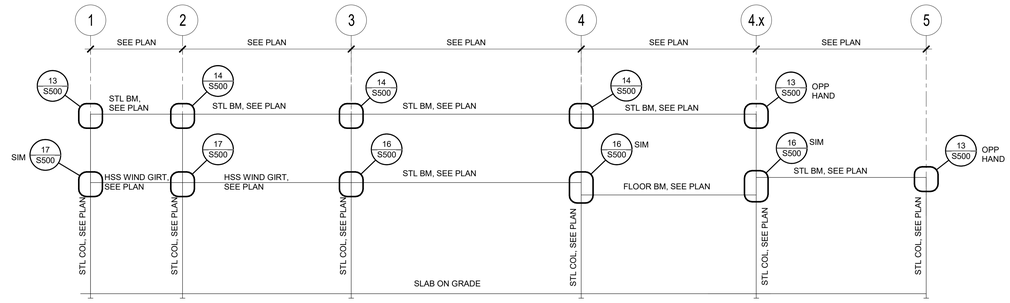
1 BRACE FRAME ELEVATION
1/8" = 1'-0"



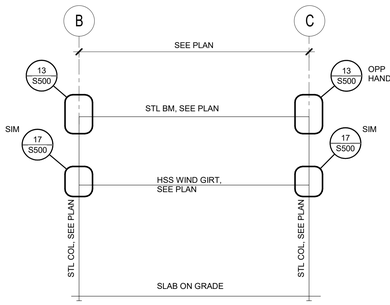
2 BRACE FRAME ELEVATION
1/8" = 1'-0"



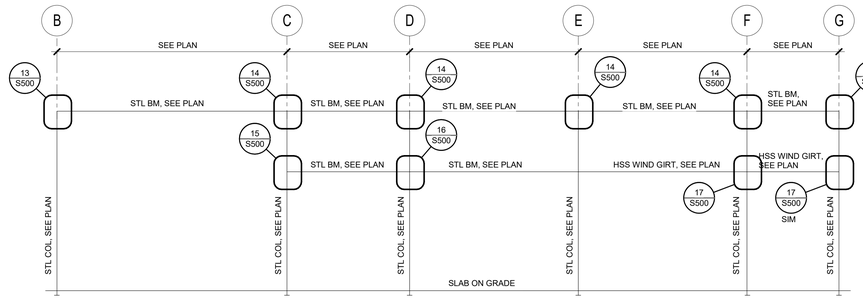
3 BRACE FRAME ELEVATION
1/8" = 1'-0"



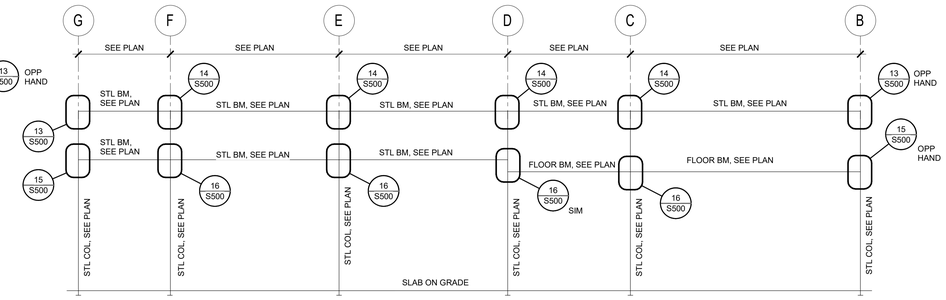
4 MOMENT FRAME ELEVATION
1/8" = 1'-0"



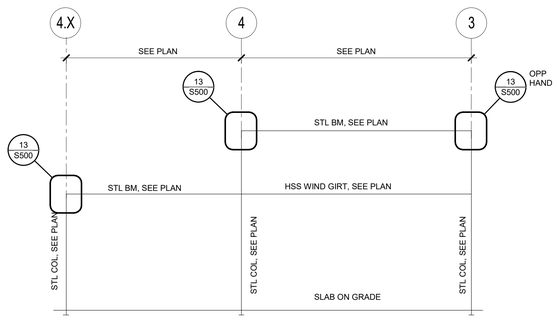
5 MOMENT FRAME ELEVATION
1/8" = 1'-0"



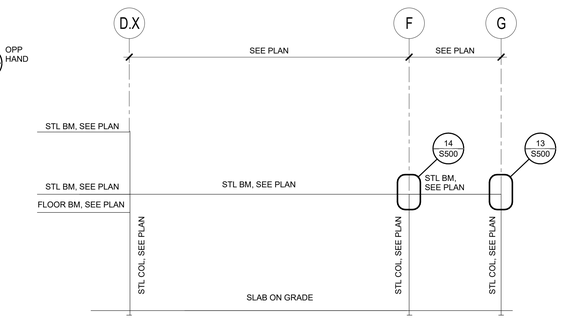
6 MOMENT FRAME ELEVATION
1/8" = 1'-0"



7 MOMENT FRAME ELEVATION
1/8" = 1'-0"

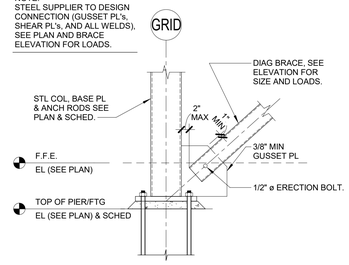


8 MOMENT FRAME ELEVATION
1/8" = 1'-0"



9 MOMENT FRAME ELEVATION
1/8" = 1'-0"

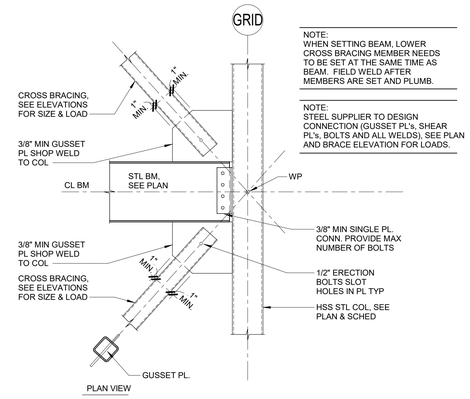
NOTE:
STEEL SUPPLIER TO DESIGN CONNECTION (GUSSET PL's, SHEAR PL's, AND ALL WELDS), SEE PLAN AND BRACE ELEVATION FOR LOADS.



10 BRACE FRAME BASE PLATE
3/4" = 1'-0"

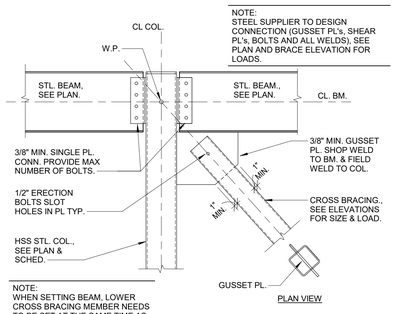
NOTE:
WHEN SETTING BEAM, LOWER CROSS BRACING MEMBER NEEDS TO BE SET AT THE SAME TIME AS BEAM. FIELD WELD AFTER MEMBERS ARE SET AND PLUMB.

NOTE:
STEEL SUPPLIER TO DESIGN CONNECTION (GUSSET PL's, SHEAR PL's, BOLTS AND ALL WELDS), SEE PLAN AND BRACE ELEVATION FOR LOADS.



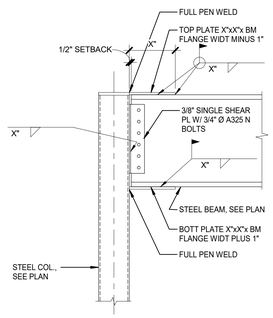
11 STL BRACE FRAME CONNECTION
3/4" = 1'-0"

NOTE:
STEEL SUPPLIER TO DESIGN CONNECTION (GUSSET PL's, SHEAR PL's, BOLTS AND ALL WELDS), SEE PLAN AND BRACE ELEVATION FOR LOADS.

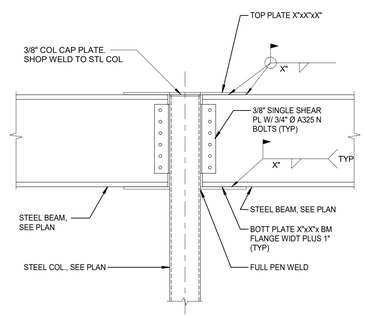


NOTE:
WHEN SETTING BEAM, LOWER CROSS BRACING MEMBER NEEDS TO BE SET AT THE SAME TIME AS BEAM. FIELD WELD AFTER MEMBERS ARE SET AND PLUMB.

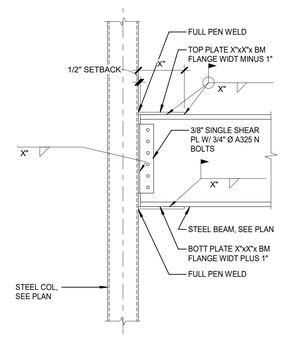
12 STL BRACE FRAME CONNECTION
3/4" = 1'-0"



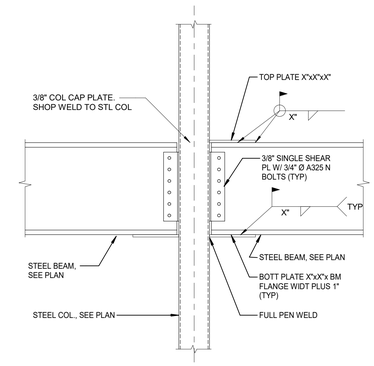
13 SECTION
3/4" = 1'-0"



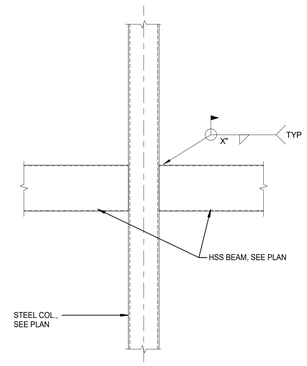
14 SECTION
3/4" = 1'-0"



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



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



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

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Key Plan

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No.	Date	Revision Description
	09-30-2022	75% DD

PROJECT STATUS

BRACE FRAME & MOMENT FRAME ELEVATIONS AND SECTIONS

Project	22.1035.01	**Drawing Number**
Date	Issue Date	
Drawn by	EH	**S500**
Checked by	CCC	

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75% DESIGN DEVELOPEMENT

SPPL HAMLINE MIDWAY

PROJECT DEMOLITION NOTES

a. REVIEW ALL EQUIPMENT WITH THE ENGINEER AND OWNER PRIOR TO DISPOSAL. ITEMS OR MATERIALS NOT RETAINED BY OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISIS.
b. CONTRACTOR TO PERFORM DEMOLITION, REMOVAL, RELOCATION, REROUTING AND RECONNECTION OF EXISTING MECHANICAL FACILITIES, AS REQUIRED, SHOWN AND SPECIFIED HEREIN, TO ACCOMPLISH ALTERATION, RESTORATION AND TO ACCOMMODATE NEW CONSTRUCTION.
c. THE DEMOLITION WORK SHALL INCLUDE BUT NOT BE LIMITED TO, DRAINING, DISCONNECTING, RELOCATING, REMOVING AND DISMANTLING, IN A NEAT AND WORKMANLIKE MANNER, THE ITEMS AND THEIR ACCESSORIES AS INDICATED OR SHOWN ON THE CONTRACT DRAWINGS.
d. CUTTING, PATCHING AND REMOVAL SHALL BE PERFORMED BY WORKERS SKILLED IN THE SPECIFIC TRADES INVOLVED.
e. JOB CONDITIONS: PRIOR TO START OF WORK, MAKE AN INSPECTION ACCOMPANIED BY THE OWNER, CONSTRUCTION MANGAGER OR GENERAL CONTRACTOR, TO DETERMINE PHYSICAL CONDITION OF ADJACENT CONSTRUCTION THAT IS TO REMAIN.
f. TORCH CUTTING OF DUCTWORK WILL NOT BE PERMITTED.
g. TORCH CUTTING OF OTHER MECHANICAL EQUIPMENT WILL BE PERMITTED ONLY WITH APPROVAL OF THE OWNER, CONSTRUCTION MANGAGER OR GENERAL CONTRACTOR.
h. ANY CUTTING METHOD, WHICH MAY CREATE SPARKS, MUST INCLUDE "FIRE WATCH" AS REQUIRED BY THE FIRE CODE AND/OR OWNER'S FIRE INSURANCE CARRIER. SUBMIT FIRE WATCH PROCEDURES FOR APPROVAL.
i. DRAINING OPERATIONS MUST NOT DAMAGE BUILDING COMPONENTS.
j. ADEQUATELY SIZED RUBBISH CONTAINERS FOR THE PROPER AND SAFE DISPOSAL OF ALL DEBRIS.
k. CONSTRUCT TEMPORARY PARTITIONS PRIOR TO ANY DEMOLITION WORK ENCLOSING RESPECTIVE WORK. ERECT TEMPORARY FENCING AND SIGNAGE AROUND DEMOLISHED MATERIALS.
l. PROTECT EXISTING MATERIALS AND EQUIPMENT WHICH ARE NOT TO BE DEMOLISHED.
m. PREVENT MOVEMENT OF STRUCTURE; PROVIDE REQUIRED BRACING AND SHORING.
n. DO NOT BEGIN DEMOLITION WORK UNTIL THE TIME SCHEDULES AND MANNER OF OPERATIONS HAVE BEEN APPROVED BY THE CONSTRUCTION MANGAGER OR GENERAL CONTRACTOR. ALL INTERRUPTIONS OF EXISTING SERVICES SHALL BE INCLUDED IN THE SCHEDULES AS APPROVED BY THE CONSTRUCTION MANGAGER OR GENERAL CONTRACTOR.
o. PROVIDE ALTERATION AND DEMOLITION OF MECHANICAL FACILITIES AS REQUIRED BY THE CONTRACT DRAWINGS AND SPECIFICATIONS. THE DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW THE EXACT LOCATION OF ALL EXISTING MECHANICAL WORK. WHERE EXISTING EQUIPMENT SHALL REMAIN IN SERVICE DURING CONSTRUCTION, PROVIDE REROUTING AND RECONNECTION OF MECHANICAL SERVICES AS REQUIRED TO MAINTAIN CONTINUOUS SERVICE.
p. EXISTING DUCTWORK, PIPING, CONDUIT AND SIMILAR ITEMS TO BE ABANDONED THAT ARE NOT EMBEDDED IN WALLS OR FLOOR SLABS SHALL BE COMPLETELY REMOVED UNLESS OTHERWISE SHOWN ON THE DRAWINGS. CAP OPEN ENDS AT ALL WALLS AND FLOORS.
q. REMOVE, STORE AND PROTECT ALL EQUIPMENT OR MATERIALS TO BE REUSED BY THE OWNER AS SHOWN ON THE DRAWINGS. COORDINATE EXACT LOCATION OF STORAGE WITH THE OWNER.
r. TEMPORARILY CAP ENDS OF DUCTWORK, SANITARY PIPING AND SANITARY VENT PIPING TO AVOID ENTRY OF DIRT, DEBRIS, OR DISCHARGE OF FOUL ODORS AND GASES.
s. DO NOT CLOSE OR OBSTRUCT EGRESS WIDTH TO EXITS.
t. DO NOT DISABLE OR DISRUPT BUILDING FIRE OR LIFE SAFETY SYSTEMS WITHOUT FIVE (5) DAYS' PRIOR WRITTEN NOTICE TO THE CONSTRUCTION MANGAGER OR GENERAL CONTRACTOR.
u. CONFORM TO PROCEDURES APPLICABLE WHEN DISCOVERING HAZARDOUS OR CONTAMINATED MATERIALS.
v. CONDUCT DEMOLITION TO MINIMIZE INTERFERENCE WITH ADJACENT BUILDING STRUCTURES OR OWNER'S OPERATIONS.
w. CEASE OPERATIONS IMMEDIATELY IF STRUCTURE APPEARS TO BE IN DANGER OR HAZARDOUS MATERIALS ARE ENCOUNTERED. NOTIFY ARCHITECT/ENGINEER. DO NOT RESUME OPERATIONS UNTIL DIRECTED.
x. REMOVE DEMOLISHED MATERIALS FROM SITE DAILY. DO NOT BURN OR BURY MATERIALS ON SITE.
y. DISPOSE OF ALL MATERIAL AT AN APPROVED DISPOSAL FACILITY.
z. PROTECT FINISHED SURFACES AT ALL TIMES AND REPAIR OR REPLACE, IF DAMAGED, TO MATCH EXISTING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER.
aa. CUT OFF ALL WELDED PIPING SQUARE AT THE LOCATIONS INDICATED ON THE DRAWINGS. NO CUTTING WILL BE REQUIRED WHERE THE DEMOLITION ENDS AT A FLANGED VALVE OR EQUIPMENT. CLOSE OFF ALL OPENINGS OF ANY REMAINING VALVES, PIPING OR FITTINGS WITH WELD CAPS OR BLIND FLANGES TO PREVENT DEBRIS FROM ENTERING THE EXISTING SYSTEM.
bb. DISCONNECT ALL THREADED PIPING AT THE LOCATION INDICATED ON THE DRAWINGS. CLOSE OFF ALL OPENINGS OF REMAINING VALVES, PIPING, FITTINGS AND EQUIPMENT WITH PIPE PLUGS OR PIPE CAPS AS REQUIRED TO PREVENT DEBRIS FROM ENTERING THE EXISTING SYSTEMS.
cc. REMOVE ALL PIPE HANGERS, SUPPORTS, MISCELLANEOUS STEEL AND ANCHORS WITH THE PIPING.
dd. IT IS INTENDED THAT THE BUILDING REMAIN PROTECTED FROM DAMAGE DUE TO FREEZING TEMPERATURES. TO THAT END, EXISTING EQUIPMENT AND SYSTEMS USED FOR HEATING SHALL REMAIN IN PLACE AND IN OPERATION UNTIL SCHEDULING PERMITS SHUTDOWN.
ee. WHERE THE REMOVAL OF EQUIPMENT, ETC. WILL LEAVE AN AREA UNPROTECTED FROM FREEZING, NOTIFY THE OWNER AND ENGINEER AT LEAST 72 HOURS IN ADVANCE PRIOR TO REMOVAL SO APPROPRIATE STEPS CAN BE TAKEN BY THE OWNER TO PROTECT THE AREA. PROVIDE TEMPORARY HEATING EQUIPMENT SUFFICIENT TO PREVENT FREEZING.
ff. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT PIPING SYSTEMS THAT ARE BEING WORKED ON ARE COMPLETELY DRAINED FROM WATER PRIOR TO THE START OF DEMOLITION. IF WATER IS NOT DRAINED AND THE PIPING FREEZES IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE PIPING AT HIS OWN EXPENSE.
gg. WHEN PORTIONS OF AN EXISTING PIPING SYSTEM OR DUCTWORK SYSTEM ARE REMOVED, AND THIS REMOVAL CAUSES LOSS OF OPERATION TO ANOTHER PIECE OF EQUIPMENT DUE TO OPEN (DISCONNECTED) PIPING OR DUCTWORK, THEN CAP PIPING OR DUCTWORK OR PROVIDE TEMPORARY PIPING OR DUCTWORK SYSTEM TO RETAIN OPERATION OF VARIOUS SYSTEMS.
hh. WHERE REMOVAL OF MECHANICAL EQUIPMENT AS SHOWN ON THE CONTRACT DRAWINGS. INCLUDED REMOVAL ALL ELECTRICAL WORK, INCLUDING WIRING BETWEEN EQUIPMENT, AND WIRING TO POWER SOURCE OR POINT OF ORIGIN.
ii. WHERE EQUIPMENT IS SUPPORTED BY STEEL AND/OR STRUCTURAL SUPPORTS, REMOVE THESE SUPPORTS.
jj. RECOVER AND DISPOSE OF ALL EXISTING REFRIGERANT CHARGES IN ACCORDANCE WITH EPA REGULATIONS. RELEASE OF CHLOROFLUOROCARBON REFRIGERANTS TO ATMOSPHERE IS PROHIBITED.
kk. DISCONNECT ALL DUCTWORK, WHICH MUST BE REMOVED, AT THE CLOSEST JOINT AND RESUPPORT THE REMAINING DUCTWORK.
ll. PREPARE ALL REMAINING DUCTWORK JOINTS AT THE POINT OF DISCONNECTION TO RECEIVE NEW DUCTS OR BLANK-OFF PANELS.
mm. REMOVE ALL DUCTWORK SUPPORTS AND MISCELLANEOUS STEEL WITH DUCTWORK TO BE DEMOLISHED.
nn. REMOVE INSULATION, TOGETHER WITH ALL PIPING, FITTINGS, VALVES AND EQUIPMENT DESIGNATED FOR DEMOLITION.
oo. DISCONNECT AND REMOVE ALL CONTROL WIRING AND TUBING, INCLUDING CONDUIT, FOR THE AUTOMATIC TEMPERATURE CONTROL (ATC) SYSTEM ASSOCIATED WITH EQUIPMENT TO BE REMOVED.

PROJECT GENERAL NOTES

A. REMOVE ALL UNUSED PIPING, DUCTWORK AND ACCESSORIES.
B. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING, PRIOR TO FINAL BID, ALL EXISTING CONDITIONS FOR PLUMBING AND MECHANICAL SYSTEMS WITHIN TENANT SPACE AND WITHIN CLOSE PROXIMITY OF TENANT SPACE.
C. WHERE FLOOR DRAINS OCCUR WITHIN THE LIMITS OF CONSTRUCTION, PREVENT CONSTRUCTION DEBRIS FROM ENTERING DRAIN BODY BY SEALING DRAIN OPENING PRIOR TO START OF WORK.
D. COORDINATE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE, AND EQUIPMENT TO PREVENT CONFLICTS.
E. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.
F. FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE.
G. LOCATE EQUIPMENT REQUIRING ACCESS 2'-0" MAXIMUM ABOVE CEILING.
H. ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'-0" FROM EDGE OF ROOF.
I. LOCATE DUCTWORK, PIPING AND MECHANICAL EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS. TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT.
J. FIRE SEAL AROUND DUCT AND PIPING PENETRATIONS OF FIRE RATED WALLS. REFER TO SPECIFICATION.
K. ADJUST PIPING AND DUCTWORK SIZES TO PROPERLY CONNECT TO MECHANICAL EQUIPMENT.
L. REFER TO PLUMBING SERIES DRAWINGS FOR GAS AND A.C. CONDENSATE DRAIN PIPING.
M. PIPE SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.
N. FOR DETAILS, EQUIPMENT CONNECTIONS, AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, AND SPECIFICATIONS.
O. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS.
P. LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWING, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD.
Q. INSTALL EXPOSED PIPING AND DUCTWORK AS HIGH AS PRACTICAL IN ROOMS WITHOUT CEILINGS.

HVAC GENERAL NOTES

A. SUPPLY AND RETURN PIPING TO COILS ARE THE SAME SIZE.
B. CONTRACTOR SHALL LOCATE THERMOSTATS 4'-0" AFF AND TEMPERATURE SENSORS AT 5'-0" AFF. A MINIMUM OF 8" FROM LIGHT SWITCH.
C. REFER TO PIPING DRAWINGS FOR THERMOSTAT AND TEMPERATURE SENSOR LOCATIONS.
D. CONDENSATE DRAINS SHALL BE SUPPLIED FOR ALL COOLING EQUIPMENT. CONTRACTOR SHALL ENSURE PROPER INSTALLATION AND DRAINAGE AS REQUIRED BY FEDERAL, STATE, AND LOCAL CODES. CONDENSATE PIPING SHALL BE TYPE "L" COPPER.
E. PROVIDE A 4" HOUSEKEEPING PAD FOR EACH PIECE OF MECHANICAL EQUIPMENT. COORDINATE SIZES WITH MECHANICAL EQUIPMENT SELECTED.
F. ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK SHALL BE RATED FOR PRESSURE CLASS OF 2" W.G. UNLESS NOTED OTHERWISE.
G. THIS CONTRACTOR SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO THE FINAL PUNCH.

PLUMBING GENERAL NOTES

A. FIELD VERIFY ALL NEW WATER, WASTE, AND VENT PIPING CONNECTIONS AND PROVIDE NEW CONNECTIONS AS REQUIRED FOR PROPERLY OPERATING SYSTEMS.
B. PITCH STORM PIPING 3" AND GREATER AT 1/8" PER FOOT, UNLESS OTHERWISE NOTED.
C. PITCH UNDERFLOOR AND ABOVE FLOOR SANITARY WASTE PIPING AT 1/4" PER FOOT UNLESS OTHERWISE NOTED OR APPROVED BY AUTHORITY HAVING JURISDICTION.
D. FIELD VERIFY LOCATION AND INVERTS OF SITE UTILITIES PRIOR TO INSTALLATION
E. ROUTE DOMESTIC WATER, FIRE PROTECTION, SANITARY SEWER, AND STORM SEWER SERVICES TO SITE UTILITIES 5'-0" FROM BUILDING UNLESS NOTED OTHERWISE. REFER TO CIVIL PLANS.
F. WASTE AND VENT PIPING BELOW FLOOR AND THROUGH FLOOR SHALL BE 2" MINIMUM.
G. PROVIDE CLEANOUT IN ACCESSIBLE LOCATION AT THE BASE OF ALL PLUMBING RISERS.

FIRE PROTECTION GENERAL NOTES

A. PROVIDE ALTERATIONS TO THE EXISTING FIRE PROTECTION SYSTEM AS REQUIRED TO ACCOMMODATE THE NEW FLOOR PLAN AND NEW CEILING TYPES. PROVIDE A COMPLETE WET TYPE SYSTEM INCLUDING NEW MAINS, BRANCHES, HEADS, VALVES, AND ACCESSORIES AS REQUIRED. REUSE EXISTING SYSTEM EQUIPMENT WHERE APPLICABLE. THE SYSTEM SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS AND AS PER REQUIREMENTS OF THE STATE BUILDING CODE, LOCAL FIRE DEPARTMENT, AND ALL FEDERAL, STATE, AND LOCAL AUTHORITIES, NFPA, AND FACTORY MUTUAL.
B. THE BUILDINGS COMPLETE OPERATIONAL FIRE PROTECTION SYSTEMS SHALL REMAIN IN PLACE. THIS CONTRACTOR SHALL REPAIR ANY DAMAGE TO THIS SYSTEM CREATED BY THE REMOVAL OF ANY OTHER MECHANICAL SYSTEMS OR COMPONENTS.
C. THIS CONTRACTOR SHALL COORDINATE PHASING OF SPRINKLER WORK WITH THE GENERAL CONTRACTOR PRIOR TO STARTING WORK.
D. PROVIDE A COMPLETE WET TYPE FIRE PROTECTION SYSTEM AS REQUIRED TO ACCOMMODATE THE FLOOR PLAN AND CEILING TYPES INCLUDING MAINS, BRANCHES, HEADS, VALVES, AND ACCESSORIES AS REQUIRED. THE SYSTEM SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS OF THE STATE BUILDING CODE, LOCAL FIRE DEPARTMENT, AND ALL FEDERAL, STATE, AND LOCAL AUTHORITIES, NFPA, AND FACTORY MUTUAL.
E. THE SPRINKLER SYSTEM SHALL BE DESIGNED BASED UPON ACTUAL WATER FLOW TEST DATA OBTAINED AT OR NEAR THE JOB SITE.
F. REFER TO REFLECTED CEILING PLANS FOR ADDITIONAL INFORMATION REGARDING SPRINKLER HEAD LOCATION AND PIPE, UNLESS NOTED OTHERWISE.
G. DIVISION 21 CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR PROPER INSTALLATION OF THE FIRE PROTECTION SYSTEMS ALARM DEVICES INVOLVED WITH FIRE SPRINKLER SYSTEM.
H. ALL SPRINKLER SYSTEM PIPING SHALL BE CONCEALED ABOVE THE SUSPENDED CEILING SYSTEM, UNLESS NOTED OTHERWISE. WRITTEN AUTHORIZATION SHALL BE OBTAINED FROM THE ARCHITECT PRIOR TO EXPOSING ANY PIPING IN ANY ROOM WHICH HAS A SUSPENDED CEILING.
I. THIS CONTRACTOR SHALL PROVIDE ALL ADDITIONAL SPRINKLER HEADS AS REQUIRED TO ENSURE AN APPROVED FIRE PROTECTION SYSTEM AT NO ADDITIONAL COST TO THE OWNER.
J. AUXILIARY DRAINS SHALL BE EXPOSED WITH 1" DRAIN VALVES. WHEN 5 OR MORE GALLONS ARE TRAPPED, THIS CONTRACTOR SHALL PROVIDE FIXED PIPING TO AN ADEQUATELY SIZED RECEPTOR WHICH IS CAPABLE OF ACCEPTING THE FULL FLOW OF THE DRAIN. WHEN LESS THAN 5 GALLONS ARE TRAPPED, A HOSE BIB SHALL BE PROVIDED AT THE DRAIN VALVE.
K. AUXILIARY DRAINS SHALL NOT BE LOCATED ABOVE PLASTER OR GYPSUM BOARD CEILING SYSTEMS. ONLY BY A SPECIFIC WRITTEN INSTRUCTION FROM THE ENGINEER WILL A VARIANCE BE PROVIDED.
L. AN INSPECTOR'S TEST CONNECTION SHALL BE PROVIDED FOR EACH FIRE SPRINKLER ZONE. THIS CONTRACTOR SHALL PROVIDE FIXED PIPING FROM THE TEST CONNECTION TO AN ADEQUATELY SIZED RECEPTOR WHICH IS CAPABLE OF ACCEPTING THE FULL FLOW OF THE TEST. EXTERIOR DISCHARGE OF THE TEST CONNECTION SHALL BE PERMITTED ONLY BY SPECIFIC WRITTEN INSTRUCTION FROM THE ENGINEER.
M. SHOW ALL ROOM NUMBERS ON SHOP DRAWING PLANS.
N. FLOW TEST DATA FROM ### INDICATES THE FOLLOWING: STATIC PRESSURE # PSI. RESIDUAL PRESSURE: # PSI AT ## GPM. THE HYDRANTS TESTED ARE APPROXIMATELY ### FEET AWAY FROM THE CENTER OF THE SITE LOCATED OFF THE ##" WATER MAIN IN ## STREET AT AN ELEVATION OF ### FEET ABOVE SEA LEVEL. SEE CIVIL PLANS FOR HYDRANT LOCATION. THE CONTRACTOR SHALL PERFORM A FIRE FLOW TEST IN ACCORDANCE WITH NFPA 291 TO VERIFY THE FLOW TEST DATA GIVEN ABOVE. THE DATA GIVEN ABOVE SHALL BE THE BASIS OF DESIGN UNLESS THE AVAILABLE PRESSURE OR FLOW HAS DECREASED. NOTIFY OWNERS REPRESENTATIVE IF FLOW TEST DATA DIFFERS FROM THE DATA ABOVE. A FIRE PROTECTION ENGINEER OR AN ENGINEER EXPERIENCED IN WATER FLOW TESTING SHALL PERFORM OR WITNESS THE REQUIRED FLOW TESTING AND SIGN THE REPORT PRIOR TO THE FIRST SPRINKLER SYSTEM SUBMITTAL.
O. ROUTE SPRINKLER PIPING SUCH THAT IT DOES NOT RUN ABOVE ELECTRICAL PANELS, SWITCHGEAR, OR SIMILAR EQUIPMENT. SPRINKLER MAINS SHALL NOT RUN THROUGH ELECTRICAL OR COMMUNICATION ROOMS. SPRINKLER HEADS IN THESE ROOMS SHALL BE SERVED BY A DEDICATED BRANCH LINE FOR EACH ROOM.
P. THIS DRAWING INDICATES A GENERAL PIPING ARRANGEMENT AND SUGGESTED SIZING ONLY. THIS CONTRACTOR SHALL DETERMINE THE ACTUAL PIPE SIZING REQUIRED AND COORDINATE WORK WITH ALL OTHER TRADES TO AVOID CONFLICTS.
Q. THIS CONTRACTOR SHALL PREPARE HYDRAULIC CALCULATIONS BASED UPON THE CONFIGURATION OF THE ACTUAL SYSTEM DESIGN AS SHOWN ON THIS CONTRACTOR'S SHOP DRAWINGS.

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Key Plan

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PRINT NAME: MARIA D. PFEFFER

DATE: 9/30/2022 REG. NO.: 50802

No.	Date	Revision Description

75% DESIGN DEVELOPEMENT

MECHANICAL COVER PAGE

Project	22-0009	Drawing Number
Date	9/30/2022	
Drawn by	CHD	
Checked by	MDP	M001

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GENERAL ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILES	HORZ	HORIZONTAL
(V.)	FIELD VERIFY	ID	INSIDE DIMENSION
AD	ACCESS DOOR	JST	JOIST
ADA	AMERICANS WITH DISABILITIES ACT	LOC	LOCATION
ADJ	ADJACENT	MAG	MAGNETIC
ADJ	ADJUSTABLE	MAX	MAXIMUM
AFF	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
AP	ACCESS PANEL	MECH	MECHANICAL
APPROX	APPROXIMATE	MEZZ	MEZZANINE
ARCH	ARCHITECT	MFR	MANUFACTURER
AUTO	AUTOMATIC	MIN	MINIMUM
B/G	BELOW GRADE	MTD	MOUNTED
BLDG	BUILDING	NIC	NOT IN CONTRACT
BSMT	BASEMENT	NO	NUMBER
CFCI	CONTR. FURNISHED, CONTR. INSTALLED	NTS	NOT TO SCALE
CL	CENTER LINE	OC	ON CENTER
CLG	CEILING	OD	OUTSIDE DIMENSION
CONN	CONNECTION	OFCI	OWNER FURNISHED, CONTR. INSTALLED
CONT	CONTINUATION	OPG	OPENING
CONTR	CONTRACTOR	PT	POINT
DET	DETAIL	RCP	REFLECTED CEILING PLAN
DIA	DIAMETER	REF	REFERENCE
DN	DOWN	REQD	REQUIRED
DTL	DETAIL	RM	ROOM
DWG	DRAWING	SHT	SHEET
EA	EACH	SPECS	SPECIFICATIONS
ELEC	ELECTRICAL	SQ	SQUARE
ELEV	ELEVATION	STD	STANDARD
ELEV	ELEVATOR	STRUC	STRUCTURAL
EQUIP	EQUIPMENT	TEMP	TEMPORARY
EXIST	EXISTING	TEMP	TEMPERATURE
EXP	EXPLOSION	TYP	TYPICAL
FF	FINISHED FLOOR	UG	UNDERGROUND
FL	FLOOR	UNO	UNLESS NOTED OTHERWISE
FTG	FOOTING	VCT	VINYL COMPOSITE TILE
FV	FIELD VERIFY	VEST	VESTIBULE
GC	GENERAL CONTRACTOR	VIB	VIBRATION
HCP	HANDICAPPED LP	W/	WITH
		W/O	WITHOUT

MECHANICAL ABBREVIATIONS

AFMS	AIR FLOW MEASURING STATION	INSUL	INSULATION
BAS	BUILDING AUTOMATION SYSTEM	INV	INVERT
BD	BALANCE DAMPER	ISO	ISOLATION
BO	BLOW OFF	LAT	LEAVING AIR TEMPERATURE
BWV	BACKWATER VALVE	LDB	LEAVING DRY BULB
CLG	COOLING	LP	LOW PRESSURE
CO	CLEAN OUT	LPG	LIQUID PETROLEUM - PROPANE
COND	CONDENSATE	LWB	LEAVING WET BULB
CV	CONSTANT VOLUME	LWT	LEAVING WATER TEMPERATURE
DISCH	DISCHARGE	MAT	MIXED AIR TEMPERATURE
DMPR	DAMPER	NC	NOISE CRITERIA
DOAP	DEDICATED OUTSIDE AIR PATH	NC	NORMALLY CLOSED
DP	DIFFERENTIAL PRESSURE	NO	NORMALLY OPEN NEG NEGATIVE
DR	DRAIN	OA	OUTSIDE AIR
DS	DOWNSPOUT	OBD	OPPOSED BLADE DAMPER
DSN	DOWNSPOUT NOZZLE	ORD	OVERFLOW ROOF DRAIN
EA	EXHAUST AIR	PBD	PARALLEL BLADE DAMPER
EAT	ENTERING AIR TEMPERATURE	PC	PLUMBING CONTRACTOR
EDB	ENTERING DRY BULB	PE	PNEUMATIC-ELECTRIC
EFF	EFFICIENCY	PI	PRESSURE INDICATOROR GAUGE
EG	ETHYLENE GLYCOL	PG	PROPYLENE GLYCOL
EMS	ENERGY MANAGEMENT SYSTEM	PLBG	PLUMBING
EP E	LECTRIC-PNEUMATIC	POS	POSITIVE PRESS PRESSURE
ESP	EXTERNAL STATIC PRESSURE	PT	PRESSURE TRANSMITTER
EWB	ENTERING WET BULB	PVC	POLY VINYL CHLORIDE
EWT	ENTERING WATER TEMPERATURE	RA	RETURN AIR
EXH	EXHAUST	RECIRC	RECIRCULATING
EXP	EXPANSION	RET	RETURN
F&T	FLOAT & THERMOSTATIC	RFG	REFRIGERATION
FD	FIRE DAMPER	RH	RELATIVE HUMIDITY
FDC	FIRE DEPARTMENT CONNECTION	SA	SUPPLY AIR
FHC	FIRE HOSE CABINET	SP	STATIC PRESSURE
FHR	FIRE HOSE RACK FLEX FLEXIBLE	STM	STEAM
FM	FIRE MAIN	TA	TRANSFER AIR
FP	FIRE PROTECTION	TCC	TEMPERATURE CONTROLS CONTRACTOR
FV	FACE VELOCITY	TD	TEMPERATURE DIFFERENCE
GA	GAUGE	TDH	TOTAL DYNAMIC HEAD
GRD	GROUND	TDL	TOTAL DEVELOPED LENGTH
GRD	GRILLES, REGISTERS & DIFFUSERS	TI	TEMPERATURE INDICATOROR GAUGE
HD	HEAD	T-STAT	THERMOSTAT
HOA	HANDS-OFF-AUTOMATIC	TT	TEMPERATURE TRANSMITTER
HTG	HEATING	V	VENT
HTR	HEATER	VD	VOLUME DAMPER
HVAC	HEATING, VENTILATING & AIR-CONDITIONING	VEL	VELOCITY
		VSD	VARIABLE SPEED DRIVE
HYD	HYDRANT	VAV	VARIABLE AIR VOLUME

EQUIPMENT ABBREVIATIONS

AHU-#	AIR HANDLING UNIT	HRU-#	HEAT RECOVERY UNIT
ANB-#	ACID NEUTRALIZING BASIN	HST-#	HYDRONIC STORAGE TANK
AS-#	AIR SEPERATOR	HU-#	HUMIDIFIERS
ATT-#	SOUND ATTENUATOR	HWB-#	HOT WATER BOILER
B-#	BOILER	HX-#	HEAT EXCHANGER
BT-#	BUFFER TANK	IDU-#	INDUCTION DISPLACEMENT UNIT
CB-#	CHILLED BEAM	IR-#	INFRARED HEATER
CC-#	COOLING COIL	IH-#	INTAKE HOOD
CO-#	CLEAN OUT	LAV-#	LAVATORY
CH-#	CHILLER	MAU-#	MAKE-UP AIR UNIT
CT-#	CLAY TRAP	MH-#	MAN HOLE
CP-#	CONDENSATE PUMP	MS-#	MOP SINK / SERVICE SINK
CRU-#	COMPUTER ROOM UNIT	P-#	PUMPS
CT-#	COOLING TOWER	PR-#	PANEL RADIATOR
CU-#	CONDENSING UNITS	PRV-#	POWER ROOF VENTILATOR
CUH-#	CABINET UNIT HEATER	RF-#	RETURN FAN
CV-#	CONTROL VALVE	R-#	RETURN DIFFUSER OR GRILLE
CVR-#	CONVECTOR	RTU-#	ROOF TOP UNIT
DC-#	DRY COOLER	RH-#	RELIEF HOOD
DF-#	DRINKING FOUNTAIN	RD-#	ROOF DRAIN
DHC-#	DUCT HEATING COIL	RPZ-#	REDUCED PRESSURE ZONE BFP
E-#	EXHAUST DIFFUSER OR GRILLE	S-#	SUPPLY DIFFUSER OR GRILLE
EAV-#	EXHAUST AIR VALVE	S-#	SINK
EEW-#	EMERGENCY EYEWASH	SB-#	STEAM BOILER
EF-#	EXHAUST FAN	SF-#	SUPPLY FAN
ERU-#	ENERGY RECOVERY UNIT	SH-#	SHOWER
ET-#	EXPANSION TANK	SSEW-#	SAFETY SHOWER/EYEWASH
EWC-#	ELECTRIC WATER COOLER	SSF-#	SIDE STREAM FILTER
FCO-#	FLOOR CLEAN OUT	T-#	TRANSFER DIFFUSER OR GRILLE
FD-#	FLOOR DRAIN	TF-#	TRANSFER FAN
FCU-#	FAN COIL UNIT	UH-#	UNIT HEATERS
FLC-#	FLUID COOLER	UR-#	URINAL
FPVAV-#	FAN POWERED VAV	VAV-#	VARIABLE AIR VOLUME UNIT
FTR-#	FIN TUBE RADIATION	VTR-#	VENT THROUGH ROOF
FWT-#	FLAMABLE WASTE TRAP	WB-#	WALL / VALVE BOX
GCO-#	GRADE CLEAN OUT	WC-#	WATER CLOSET
GI-#	GREASE INTERCEPTOR	WCO-#	WALL CLEAN OUT
GRV-#	GRAVITY ROOF VENTILATOR	WF-#	WASH FOUNTAIN
GT-#	GAS TURRET	WH-#	WALL HYDRANT
HB-#	HOSE BIBB	WH-#	WATER HEATERS
HC-#	HEATING COIL	WS-#	WATER SOFTENER UNIT
HP-#	HEAT PUMP		

PLUMBING PIPE SYSTEMS

CA	COMPRESSED AIR
CD	CONDENSATE DRAINAGE
DH#W	DOMESTIC WATER AT SPECIFIED TEMP
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRCULATION
DI	DEIONIZED WATER
DTW	DOMESTIC TEMPERED WATER
N	NITROGEN
NPW	NON-POTABLE WATER
O	OXYGEN
PC	PUMPED CONDENSATE
PW	POTABLE WATER
RO	REVERSE OSMOSIS WATER
ROR	REVERSE OSMOSIS REJECT
RWL	RAIN WATER LEADER
ORWL	OVERFLOW RAIN WATER LEADER
SAN	SANITARY SEWER
SCW	SOFTENED COLD WATER
SHW	SOFTENED HOT WATER
SWR	SPRAY WATER RETURN
SWS	SPRAY WATER SUPPLY
TW	TEMPERED WATER
V	SANITARY VENT
VAC	VACUUM

MECHANICAL PIPE SYSTEMS

BD	BLOWDOWN
BFW	BOILER FEED WATER
CTR	CONDENSER WATER RETURN
CTS	CONDENSER WATER SUPPLY
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DTR	DUAL TEMPERATURE WATER RETURN
DTS	DUAL TEMPERATURE WATER SUPPLY
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
HPC	HIGH PRESSURE CONDENSATE RETURN
HPS	HIGH PRESSURE STEAM
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
LPC	LOW PRESSURE CONDENSATE RETURN
LPS	LOW PRESSURE STEAM
NG	NATURAL GAS
PCWS	PRIMARY CHILLED WATER SUPPLY
PCWR	PRIMARY CHILLED WATER RETURN
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
SV	STEAM VENT
###	STEAM SPECIFIED PRESSURE

GENERAL MECHANICAL SYMBOLS

1	REVISION NUMBER - SHOWN ON PLANS
	POINT WHERE NEW CONNECTS TO EXISTING
	NUMBER OF DETAIL ON SHEET
	NUMBER OF SHEET WHERE DETAIL APPEARS
1	KEYNOTE
	CONTINUATION SYMBOL
2"	PIPE SIZE TAG (DIAMETER)
	ABOVE GROUND PIPING
1/8" / 12"SLOPE	PIPE SLOPE TAG
	BELOW GROUND PIPING
INVERT- -3'-1"	PIPE INVERT ELEVATION TAG

HVAC SYMBOLS

CA	COMBUSTION AIR
EA	EXHAUST AIR
FLUE	FLUE
GE TYPE 1	GREASE EXHAUST TYPE
LA	RELIEF AIR
MA	MIXED AIR
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPY AIR
TA	TRANSER AIR
16x8	SQUARE DUCT SIZE TAG (WIDTH x HEIGHT)
16/8	OVAL DUCT SIZE TAG (WIDTH / HEIGHT)
16ø	ROUND DUCT SIZE TAG (DIAMETER)
(E)	EXISTING DUCT TAG
DROP	RECTANGULAR SUPPLY/OUTSIDE AIR DUCT RISE
DROP	ROUND SUPPLY/OUTSIDE AIR DUCT RISE
DROP	RECTANGULAR RETURN/TRANSFER AIR DUCT RISE
DROP	ROUND RETURN/TRANSFER AIR DUCT RISE
DROP	RECTANGULAR EXHAUST/RELIEF AIR DUCT RISE
DROP	ROUND EXHAUST/RELIEF AIR DUCT RISE

PHASE KEY - NEW, EXISTING & DEMO VISIBILITY

PIPE — EXISTING (E) — NEW — DEMO (D)

DUCT

EQUIP

GRILLES, REGISTERS, AND DIFFUSERS TAG

SUPPLY OUTLET — S1-225-6 — NECK SIZE, CFM, TYPE (SEE SCHEDULE)

RETURN/EXHAUST INLET — R1-400-24x12 — GRILLE SIZE, CFM, TYPE (SEE SCHEDULE)

LINEAR DIFFUSER TAG

S2-225-6 / 4'-0" / 2 — TYPE (SEE SCHEDULE), CFM, NECK SIZE, NUMBER OF SLOTS, LINEAR LENGTH

SPACE SENSORS - PLAN VIEW

CARBON DIOXIDE SENSOR	CO2	TH	TEMPERATURE & HUMIDITY SENSOR
CARBON MONOXIDE SENSOR	CO	TS	TEMPERATURE SENSOR
NITROGEN DIOXIDE SENSOR	NO2	T	THERMOSTAT
HUMIDITY SENSOR	HS	MS	MANUAL SWITCH
HUMIDISTAT	H	S	SENSOR

DAMPERS - PLAN / SECTION VIEW

FIRE DAMPER	FD		MANUAL BALANCING DAMPER
SMOKE DAMPER	SD	G	BACKDRAFT DAMPER
MOTORIZED DAMPER	M	FS	COMBINATION FIRE/SMOKE DAMPER

BAS CONTROL POINT LABELS

ALM	ALARM	OAD	OUTSIDE AIR DAMPER
BLDP	BUILDING PRESSURE	OAF	OUTSIDE AIR FLOW
BYPV	BYPASS VALVE	OAH	OUTSIDE AIR HUMIDITY
CAP	CAPACITY	OAT	OUTSIDE AIR TEMPERATURE
CES	CLOSED END SWITCH	OES	OPEN END SWITCH
CHWF	CHILLED WATER FLOW	PWR	POWER
CHWP	CHILLED WATER PRESSURE	RAD	RETURN AIR DAMPER
CHWT	CHILLED WATER TEMPERATURE	RAF	RETURN AIR FLOW
CLGV	COOLING VALVE	RAH	RETURN AIR HUMIDITY
CMD	COMMAND	RAP	RETURN AIR PRESSURE
CRT	CURRENT	RAQ	RETURN AIR QUALITY (CO2)
CWF	CONDENSER WATER FLOW	RAT	RETURN AIR TEMPERATURE
CWP	CONDENSER WATER PRESSURE	SAD	SUPPLY AIR DAMPER
CWT	CONDENSER WATER TEMPERATURE	SAF	SUPPLY AIR FLOW
DAD	DISCHARGE AIR DAMPER	SAH	SUPPLY AIR HUMIDITY
DAF	DISCHARGE AIR FLOW	SAP	SUPPLY AIR PRESSURE
DAH	DISCHARGE AIR HUMIDITY	SAT	SUPPLY AIR TEMPERATURE
DAP	DISCHARGE AIR PRESSURE	SMK	SMOKE DETECTOR
DAT	DISCHARGE AIR TEMPERATURE	SPD	SPEED
EAD	EXHAUST AIR DAMPER	SPT	SETPOINT
EAF	EXHAUST AIR FLOW	STS	STATUS
EAH	EXHAUST AIR HUMIDITY	ZNH	ZONE HUMIDITY
EAP	EXHAUST AIR PRESSURE	ZNO	ZONE OCCUPANCY SENSOR
EAT	EXHAUST AIR TEMPERATURE	ZNP	ZONE PRESSURE
ENRG	ELECTRICAL ENERGY CONSUMPTION	ZNQ	ZONE QUALITY (CO2)
FBK	FEEDBACK	ZNT	ZONE TEMPERATURE
FIRE	FIRE ALARM		
FRZ	FREEZESTAT		
GAS	NATURAL GAS CONSUMPTION		
HIP	HIGH PRESSURE SAFETY		
HTGV	HEATING VALVE		
HWF	HOT WATER FLOW		
HWP	HOT WATER PRESSURE		
HWT	HOT WATER TEMPERATURE		
ISOV	ISOLATION VALVE		
LOP	LOW PRESSURE SAFETY		
MAF	MIXED AIR FLOW		
MAP	MIXED AIR PRESSURE		
MAT	MIXED AIR TEMPERATURE		

POINT TABLE ABBREVIATIONS

AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL/BINARY INPUT
DO	DIGITAL/BINARY OUTPUT
INT	INTEGRATION POINT
NET	NETWORK POINT
R	READABLE POINT
R/W	READABLE AND WRITEABLE POINT
#	TOTAL NUBER OF POINTS OF THAT TYPE

BAS CONTROL DEVICES & SYMBOLS

TT TT TT	TEMPERATURE SENSORS (BULB, AVERAGING, WELL)	OS	OCCUPANCY SWITCH
TSL	LOW TEMPERATURE SWITCH	JT	POWER METER
MT	HUMIDITY SENSOR	NGT	NATURAL GAS METER
AT	AIR QUALITY SENSOR (CO2, CO, ETC.)	CD CD CD	CONTROL DAMPERS (PARALLEL, OPPOSED, ROUND)
PDT PT	PRESSURE SENSORS (DIFFERENTIAL, STATIC/GAUGE)	CV CV	CONTROL VALVES (TWO-WAY, THREE-WAY)
PSL PSH	PRESSURE SQITCHES (LOW, HIGH)	C D X	COOLING COILS (WATER DIRECT EXPANSION)
FT FT FSL	FLOW SENSORS & SWITCH (WATER, AIR, SWITCH)	H C E C	HEATING COILS (WATER, GAS, ELECTRIC)
IT ISL	CURRENT SENSOR & SWITCH	VFD MS	VARIABLE FREQUENCY DRIVE, MOTOR STARTER

INSTRUMENTATION

SCHEMATICS		PLAN VIEWS
TI	TEMPERATURE INDICATOR	TI
TT	TEMPERATURE TRANSMITTER	TT
TE	TEMPERATURE ELEMENT	TE
PI	PRESSURE INDICATOR	PI
PT	PRESSURE TRANSMITTER	PT
MT	MOISTURE TRANSMITTER	MT
GT	GAS TRANSMITTER	GT
FIT	FLOW INDICATING TRANSMITTER	FIT
PSV	PRESSURE SAFETY VALVE	PSV
PD	DIFFERENTIAL PRESSURE SWITCH	PD
LT	LEVEL TRANSMITTER	LT
PDT	DIFFERENTIAL PRESSURE TRANSMITTER	PDT
AFS	AIRFLOW MEASURING STATION	AFS
T	THERMOSTAT	T

	MASS FLOW/DENSITY ELEMENT
M	MAGNETIC FLOW ELEMENT
	SONIC FLOW ELEMENT
	VORTEX FLOW ELEMENT
	FLOW INDICATOR ELEMENT
	TARGET TYPE FLOW ELEMENT
	PILOT TUBE FLOW ELEMENT
	TUBE FLOW ELEMENT
	AVERAGING PILOT FLOW ELEMENT
	TURBINE FLOW ELEMENT
	FLOW ORIFICE
SS	IN-LINE STEAM SEPARATOR
T	STEAM TRAP
TA	STEAM TRAP ASSEMBLY
	SIGHT GLASS
	MANWAY OR FLANGED CONNECTION
	FEED MAGNET
	RUPTURE DISK PRESSURE RELIEF
	RUPTURE DISK VACUUM RELIEF
	FLAME ARRESTOR
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	CAPPED END
	FEMALE HOSE CONNECTION
	MALE HOSE CONNECTION
	FLEX CONNECTION
	FLANGED FLEX CONNECTION
	HOSE
	BLIND FLANGE
	DIAPHRAGM SEAL
	WALL HYDRANT/HOSE BIBB
	PIPE ANCHOR
	PIPE GUIDE
	ELBOW UP
	ELBOW DOWN
	TEE DOWN
	PIPE CAP
	VALVE IN RISER
	SIPHON UNDER PRESSURE GAUGE
E S S W	SAFETY SHOWER & EYE WASH
	DOWNSPOUT
	FLOW DIRECTION
	FLOW SLOPE
	CONNECT TO EXISTING

	HATCH
LLG	LIGHTED LEVEL GAUGE
	WEIR
	VENTRUI TUBE
	FLUME
	FLOW NOZZLE
	RESTRICTING ORIFICE
	QUICK CHANGE RESTRICTIONG OFIFICE
	Y-TYPE STRAINER
S	BASKET STRAINER
	THERMOWELL
	SPOT DRAIN
	ROOF VENT
	TANK VENT
	NITROGEN SPARGER
	PLUGGED VALVE
	THREADED CONNECTION
M	FLOWMETER
	FLOW INDICATOR
	UNION
	SPEC BLIND
AV	THERMOSTATIC AIR VENT
ADV 20	AUTOMATIC DRAIN VALVE

VALVES - SYMBOLS

GATE VALVE
BALL VALVE
GLOBE VALVE
BUTTERFLY VALVE
CHECK VALVE
CHECK VALVE SPRING LOADED
NEEDLE/METERING VALVE
DIAPHRAGM VALVE
VEE BALL VALVE
SAMPLE VALVE
PLUG VALVE
QUICK OPEN VALVE
ANGLE VALVE
THREE-WAY VALVE
THREE-WAY BALL VALVE
FOUR-WAY BALL VALVE
VACUUM SAFETY RELIEF VALVE
PRESSURE SAFETY RELIEF VALVE
VACUUM/PRESSURE SAFETY RELIEF VALVE
NORMALLY OPEN (ALLTYPES)
NORMALLY CLOSED (ALL TYPES)
SELF CONTAINED BACK PRESSURE CONTROL VALVE
SELF CONTAINED PRESSURE CONTROL VALVE
SELF OPERATED BACK PRESSURE CONTROL VALVE
SELF OPERATED PRESSURE CONTROL VALVE
PRESSURE REDUCING VALVE
BALANCING VALVE
PRESSURE REGULATOR
TRIPLE DUTY VALVE
BG BLAST GATE
SG SLIDE GATE
TWO-WAY DIVERTER
THREE-WAY DIVERTER
BACKFLOW PREVENTER (RPZ)
FLANGED VALVE
BACKWATER VALVE

EQUIPMENT SYMBOLS

HEAT EXCHANGERS

BOILER
CHILLER WATER COOLED
CHILLER AIR COOLED
COOLING TOWER
DRY COOLER
FLUID COOLER
SHELL & TUBE HEAT EXCHANGER
PLATE & FRAME HEAT EXCHANGER
SPIRAL HEAT EXCHANGER
HAIRPIN HEAT EXCHANGER
AIR HEATER OR INTERCHANGER

PUMPS / BLOWERS / FANS

CENTRIFUGAL PUMP BASE MTD
INLINE PUMP
AIR DIAPHRAGM PUMP
CENTRIFUGAL FAN / BLOWER
EXTENDED LIFT OR SUMP PUMP
SUMP PUMP
METERING OR PROPORTIONING PUMP
COMPRESSOR OR VACUUM PUMP
SCREW PUMP
DOSING PUMP
EDUCTOR OR JET
POSITIVE DISPLACEMENT PUMP OR BLOWER
VERTICAL TURBINE PUMP

FILTERS / COLLECTORS

HYDRONIC FILTER
HYDRONIC AIR SEPARARTOR
AIR FILTER
VERTICAL LEAF FILTER
HORIZONTAL LEAF FILTER
PLATE & FRAME FILTER
ROTARY FILTER
BAG OR CARTRIDGE FILTER
BAGHOUSE
CYCLONE

TANKS AND VESSELS

TANK OR VESSEL
HEAT JACKETED TANK OR VESSEL
TANK OR VESSEL WITH SPIRAL COIL
TANK OR VESSEL WITH CAGE COIL
STORAGE TANK OR VESSEL
CONE BOTTOM TANK OR VESSEL
ROTARY VESSEL / DRYER

* NOTE *

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PRINT NAME: MARIA D. PFEFFER

DATE: 9/30/2022 REG. NO.: 50802

No.	Date	Revision Description

75% DESIGN DEVELOPEMENT

MECHANICAL SYMBOLS

Project	22-0009	Drawing Number
Date	9/30/2022	
Drawn by	CHD	
Checked by	MDP	M002

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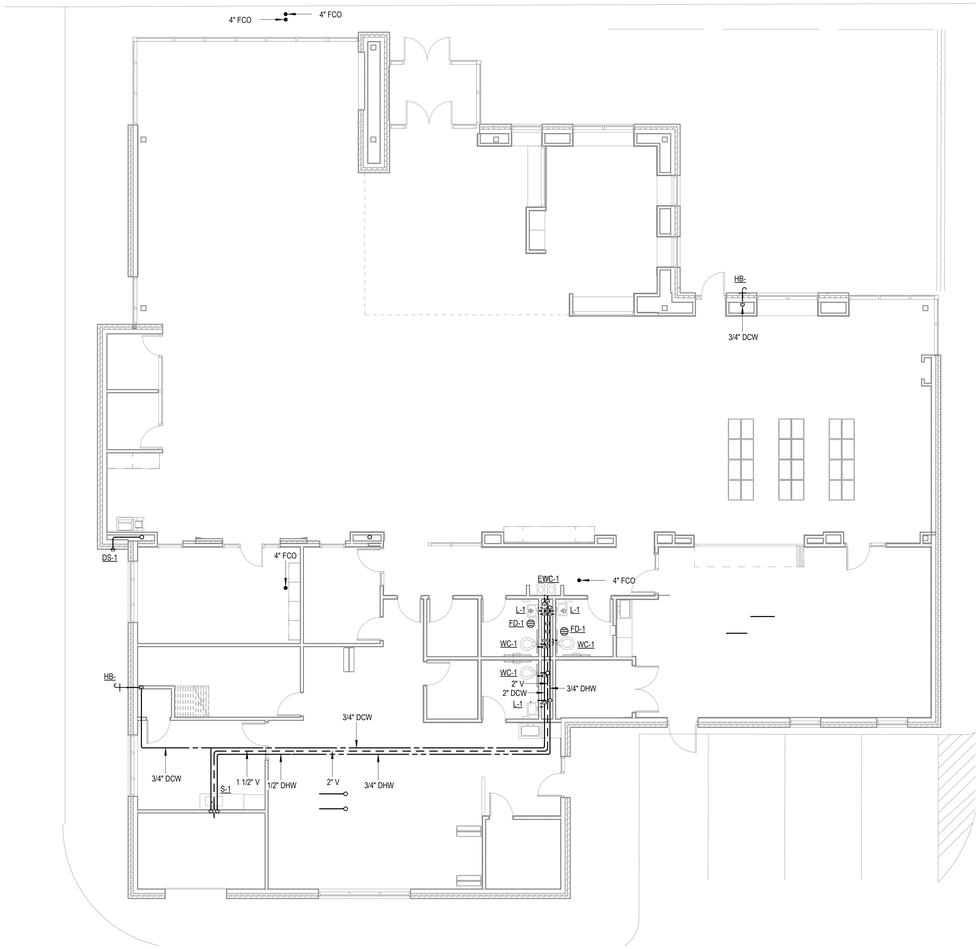
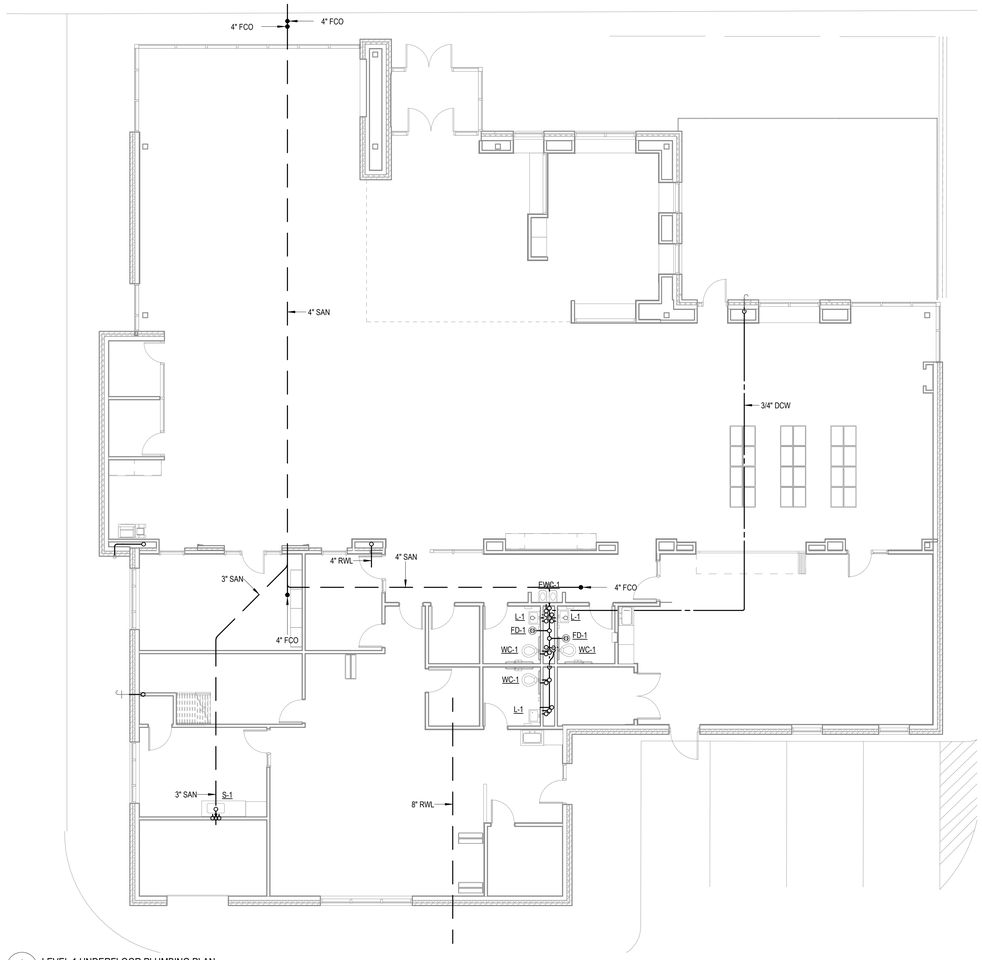


2 / M200 LEVEL 1 PLUMBING PLAN
1/8" = 1'-0"



1 / M200 LEVEL 1 UNDERFLOOR PLUMBING PLAN
1/8" = 1'-0"

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No.	Date	Revision Description

75% DESIGN DEVELOPEMENT

UNDERGROUND &
LEVEL 1 PLUMBING
PLAN

Project	22-0009	**Drawing Number**
Date	9/30/2022	
Drawn by	CHD	
Checked by	MDP	**M200**

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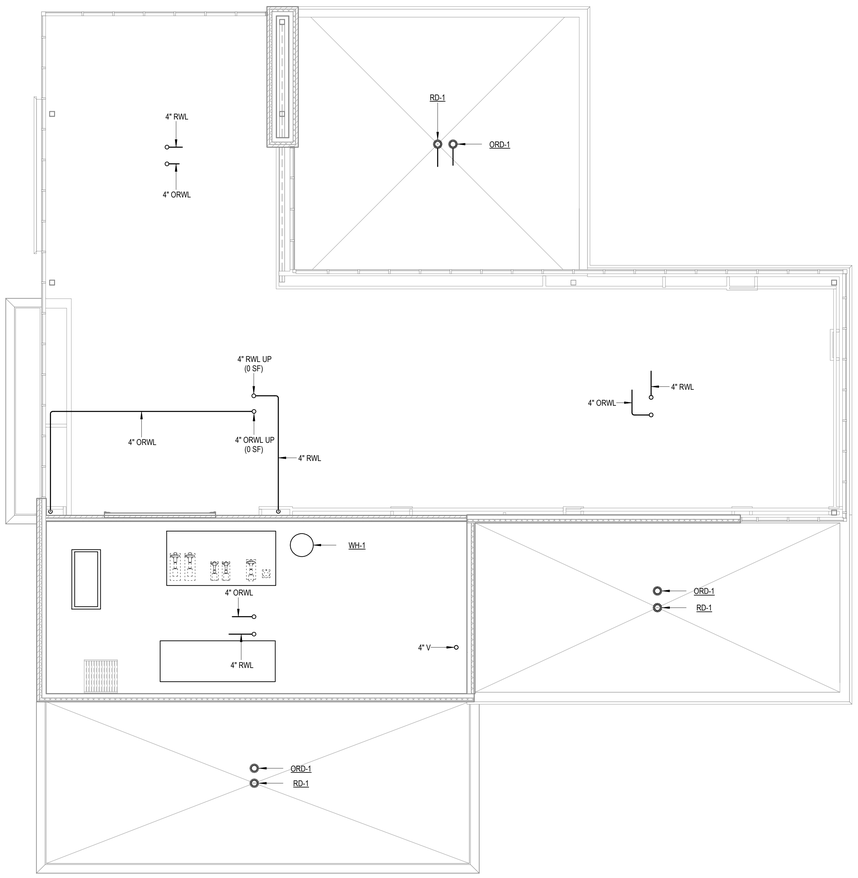

1
M220
LEVEL 2 PLUMBING PLAN
1/8" = 1'-0"

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LEVEL 2 PLUMBING
PLAN

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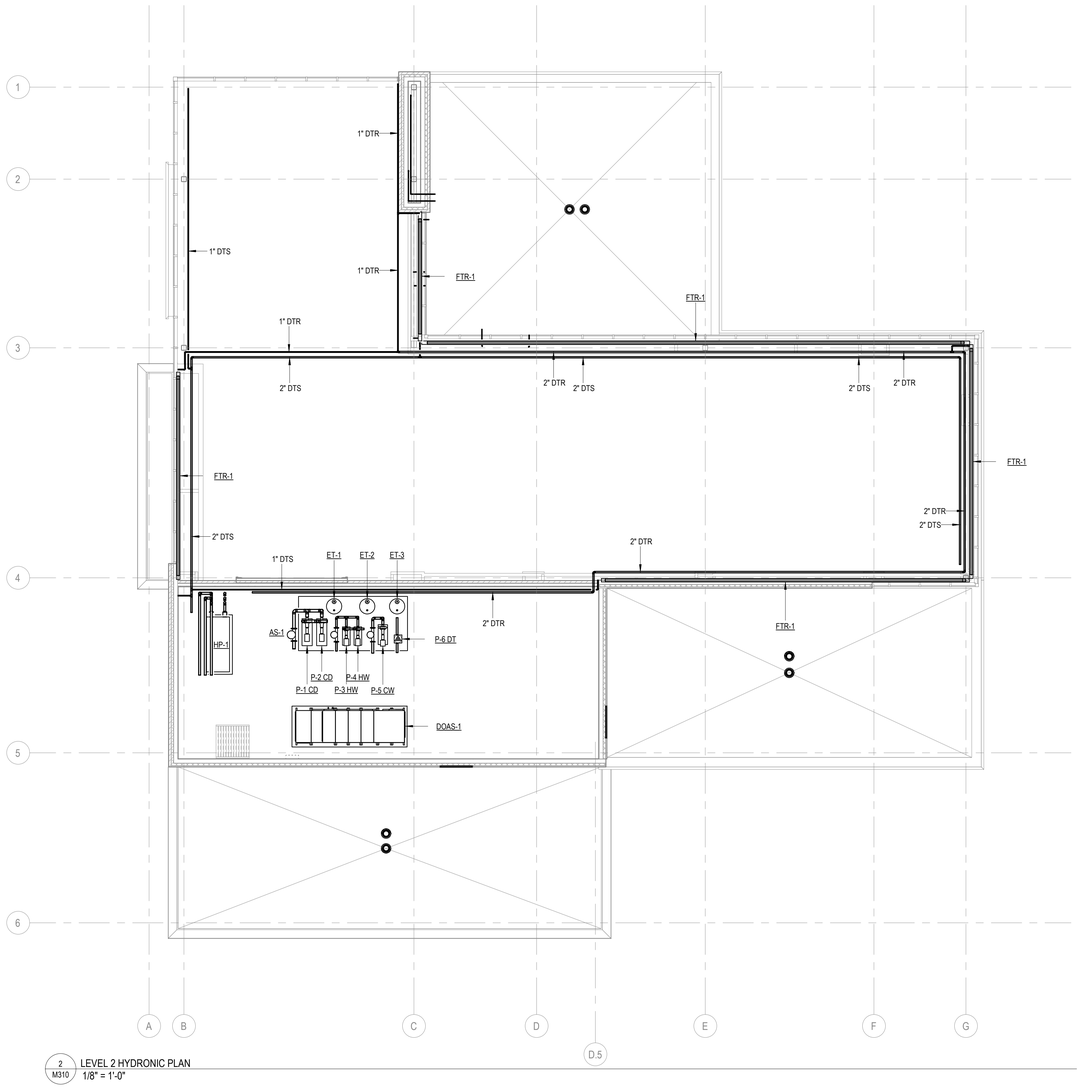

2 M310 LEVEL 2 HYDRONIC PLAN
1/8" = 1'-0"

1 M310 LEVEL 1 HYDRONIC PLAN
1/8" = 1'-0"

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HYDRONIC PLAN

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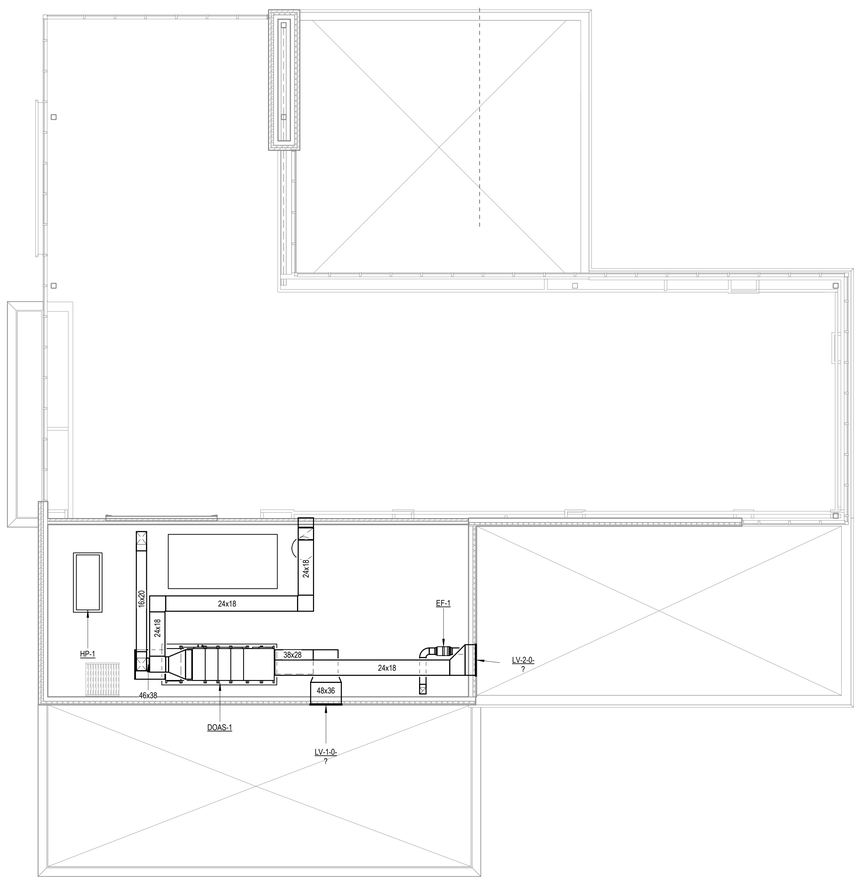
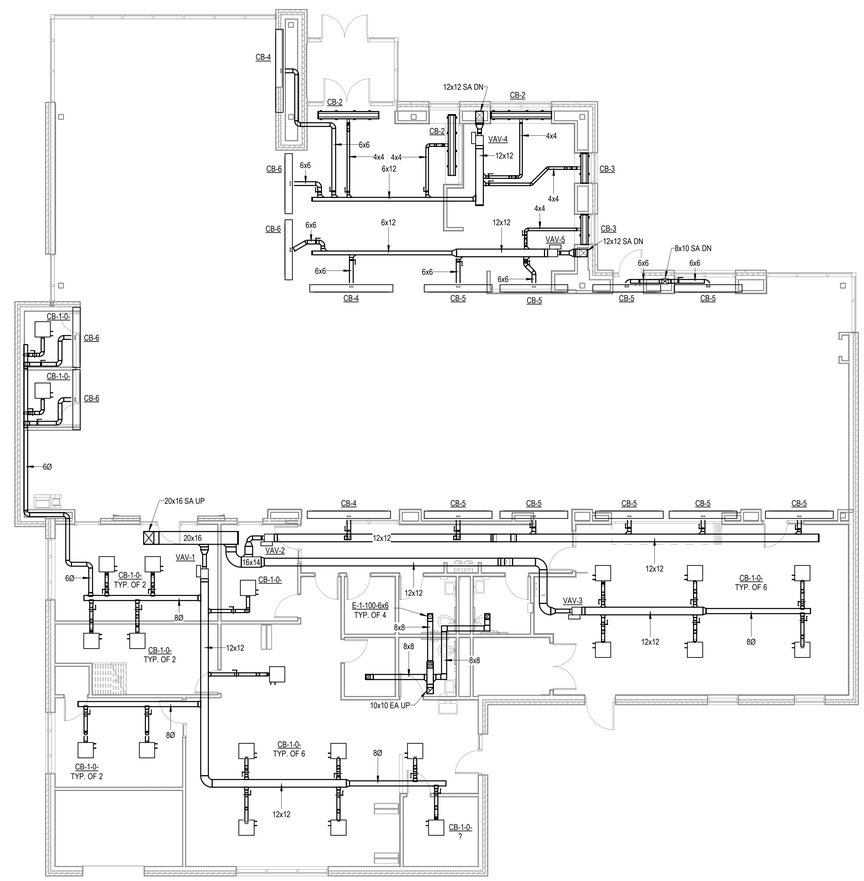


2 M410 LEVEL 2 HVAC PLAN
1/8" = 1'-0"



1 M410 LEVEL 1 HVAC PLAN
1/8" = 1'-0"

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HVAC PLAN

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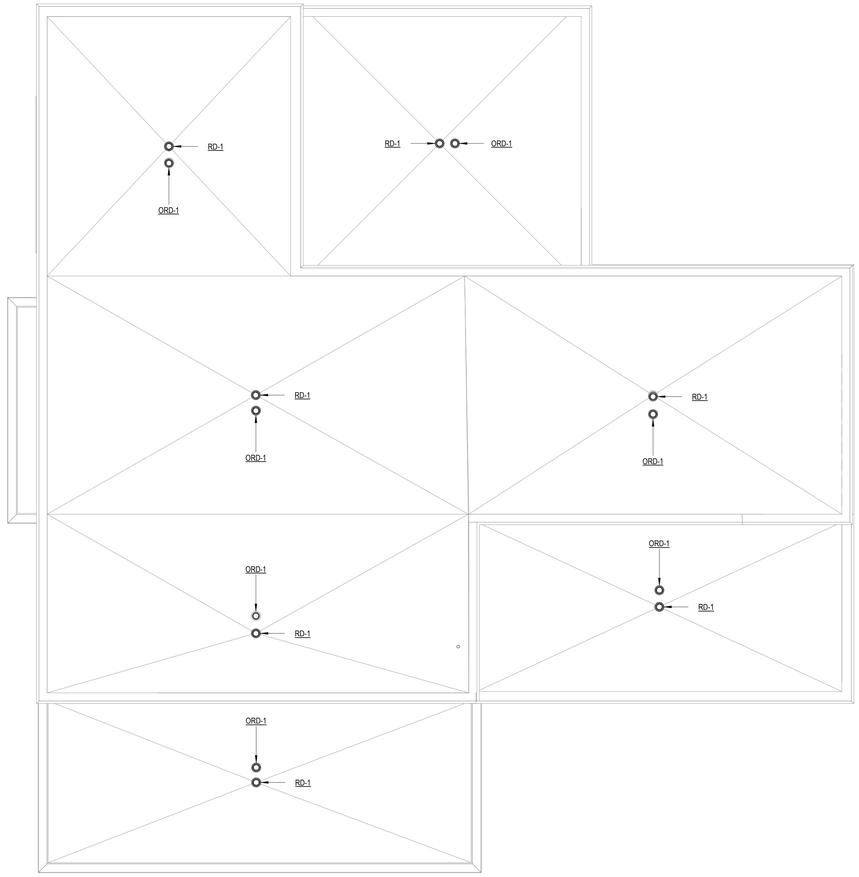

1 / M500 ROOF MECHANICAL PLAN
1/8" = 1'-0"

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ROOF MECHANICAL
PLAN

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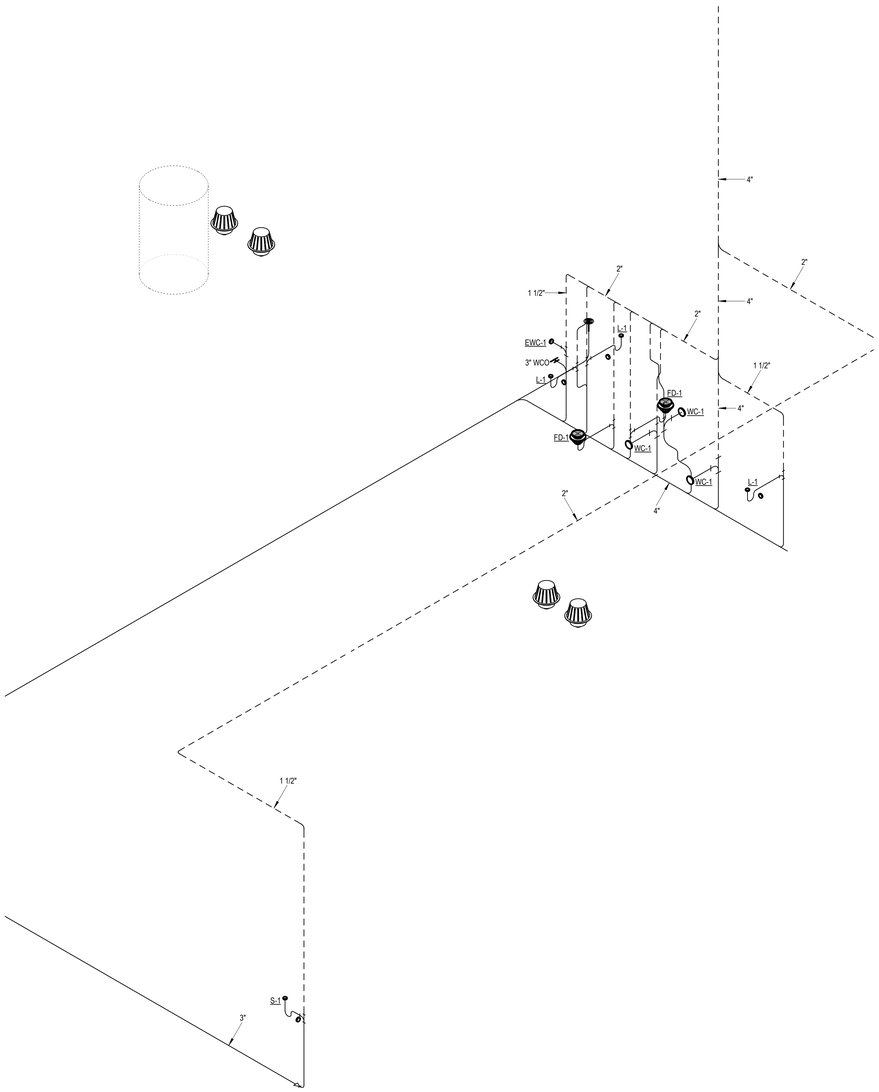
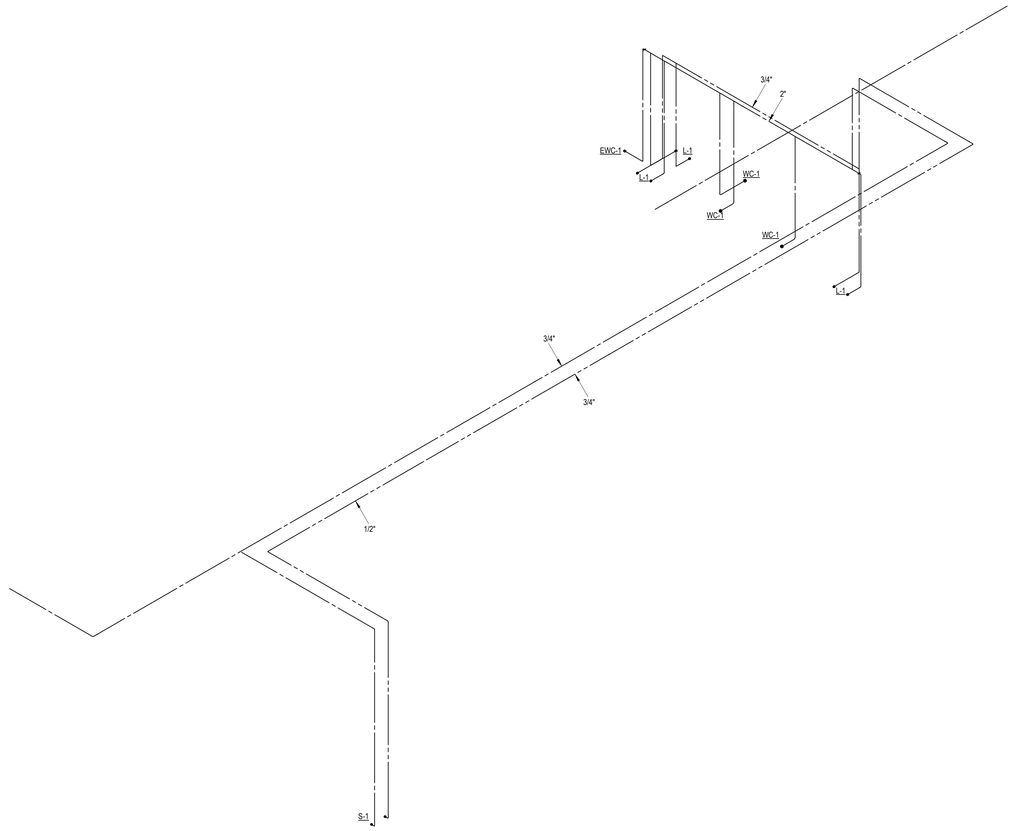


1 M600 OVERALL WASTE AND VENT RISER DIAGRAM



2 M600 OVERALL DOMESTIC WATER RISER DIAGRAM

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75% DESIGN DEVELOPEMENT

PLUMBING RISER
DIAGRAMS

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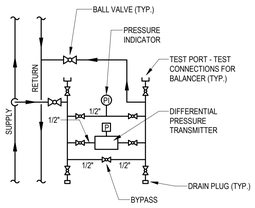
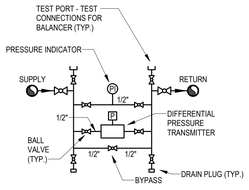


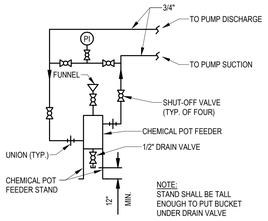
FOR DIFFERENTIAL PRESSURE TRANSDUCER INSTALLED IN VERTICAL PIPING



FOR DIFFERENTIAL PRESSURE TRANSDUCER INSTALLED IN HORIZONTAL PIPING

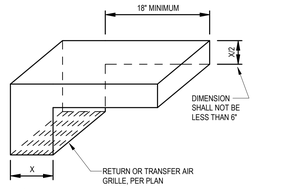
NOTES:
1. SEE HYDRONIC PIPING SCHEMATIC/P&I/DS/PIPING DRAWINGS FOR LOCATION OF DIFFERENTIAL PRESSURE TRANSMITTERS.
2. DIFFERENTIAL PRESSURE TRANSMITTER TO BE INSTALLED TO ALLOW AIR AND DEBRIS TO BE FLUSHED THROUGH LOWER BYPASS.
3. REFER TO PLANS FOR SERVICE PIPING.
4. REFER TO MECHANICAL SPECIFICATIONS FOR EXACT TYPE OF VALVE, VENT, FITTINGS, STRAINER, PIPING, ETC., USED FOR APPLICATION.

18 / M700 DIFFERENTIAL PRESSURE SENSOR PIPING
NOT TO SCALE



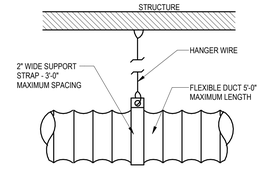
NOTE:
STAND SHALL BE TALL ENOUGH TO PUT BUCKET UNDER DRAIN VALVE

15 / M700 CHEMICAL POT FEEDER
NOT TO SCALE

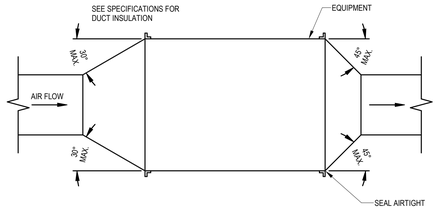


NOTES:
1. "X" DIMENSION IS SMALLER DIMENSION OF GRILLE AND DUCT.
2. LINE ENTIRE INTERIOR SURFACE OF BOOT WITH 1/2" CLOSED CELL, PLENUM RATED INSULATION, PER SPECIFICATION.
3. WHERE A BOOT EXTENDS THROUGH A FULL HEIGHT WALL (REFER TO PLANS, INCLUDING ARCHITECTURAL), CONTRACTOR SHALL ENSURE THAT OPENING THROUGH WALL FOR DUCT IS SEALED AFTER INSTALLATION OF BOOT.
4. VERIFY ALL CEILING TYPES WITH ARCHITECTURAL FOR PROPER SELECTION OF MOUNTING FRAMES.

11 / M700 RETURN BOOT DETAIL
NOT TO SCALE



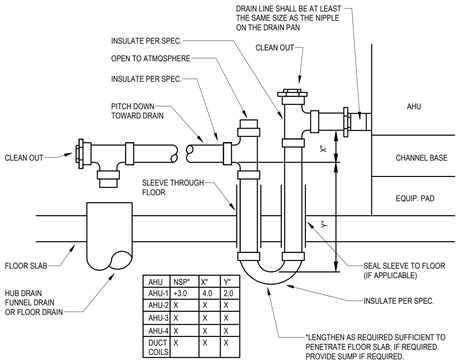
8 / M700 FLEX-DUCT SUPPORT
NOT TO SCALE



PLAN OR SIDE VIEW

NOTE: UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

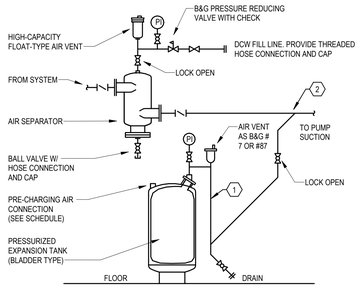
4 / M700 DUCT TRANSITION TO/FROM EQUIPMENT
NOT TO SCALE



AHU	NSP"	X"	Y"
AHU-1	•3.0	4.0	2.0
AHU-2	X	X	X
AHU-3	X	X	X
AHU-4	X	X	X
DUCT COILS	X	X	X

FORMULAS:
X" = NSP" + 1IN
Y" = X" / 2

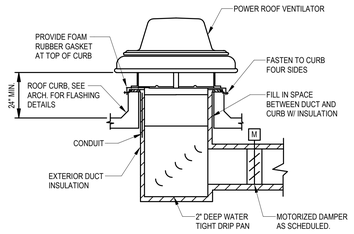
17 / M700 CONDENSATE DRAIN
NOT TO SCALE



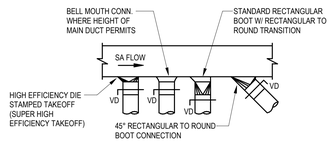
1 PROVIDE ANTI-THERMOSIPHON LOOP TO PREVENT GRAVITY HEATING OF TANK. 12" MINIMUM DROP.

2 CONNECT TO SIDE OF MAIN. AVOID TOP OR BOTTOM CONNECTION TO PREVENT AIR OR DEBRIS FROM ENTERING TANK

14 / M700 AIR MANAGEMENT - BLADDER EXPANSION TANK
NOT TO SCALE

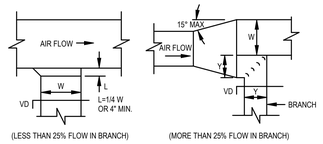


10 / M700 POWER ROOF VENTILATOR DETAIL
NOT TO SCALE



ROUND BRANCH CONNECTIONS TO RECTANGULAR DUCTS

(LESS THAN 25% FLOW IN BRANCH)



(LESS THAN 25% FLOW IN BRANCH) (MORE THAN 25% FLOW IN BRANCH)

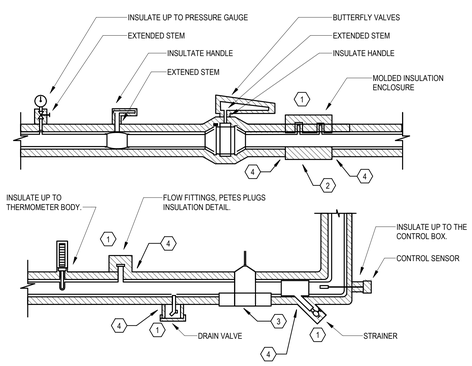
RECTANGULAR BRANCH TAKE-OFFS

7 / M700 DUCTWORK TAKE-OFFS
NOT TO SCALE

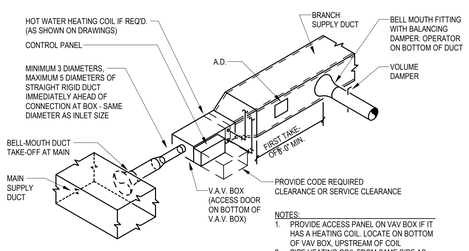
NOTES:
A. INSULATION SHALL CARRY THROUGH PENETRATION.
B. CONTRACTOR IS RESPONSIBLE FOR REVIEWING MECHANICAL AND ARCHITECTURAL PLANS TO VERIFY ALL WALL PENETRATIONS.
C. LINTELS ARE REQUIRED ONLY IN MASONRY WALLS WHERE THE WIDTH OF THE DUCT IS GREATER THAN 12". REFER TO SEPARATE DETAIL. REFER ALSO TO STRUCTURAL PLANS.
D. REFER TO ARCHITECTURAL AND MECHANICAL PLANS FOR LOCATIONS OF FIRE-RATED WALLS. WHERE DUCT PENETRATES FIRE-RATED WALLS, THE CAULK NOTED IN DETAIL SHALL BE FIRE-RATED CAULK, INSTALLED PER MANUFACTURER'S REQUIREMENTS.

3 / M700 DUCT PENETRATION THROUGH INTERIOR WALL
NOT TO SCALE

KEYED NOTES:
1. IDENTIFY WITH METAL TAG WHAT THE INSULATION HAS COVERED.
2. FLOW FITTING MANUFACTURED TO FURNISH MOLDED INSULATED ENCLOSURE OR CONTRACTOR TO FABRICATE INSULATED ENCLOSURE.
3. HANGER SHALL BE SIZED FOR THE OUTSIDE OF THE INSULATION WITH GALVANZIZED STEEL SADDLE.
4. AT EACH OF THESE POINTS THE INSULATION CONTRACTOR SHALL LEAVE THE INSULATION LOOSE, SO THE BALANCING CONTRACTOR CAN REMOVE THE INSULATION AND MAKE FINAL FLOW SETTINGS. THE INSULATION CONTRACTOR SHALL RETURN TO THE SITE AFTER THE BALANCING CONTRACTOR HAS COMPLETED THE BALANCING WORK AND SEAL ALL INSULATION AROUND FLOW FITTINGS, PETES PLUGS, ETC.

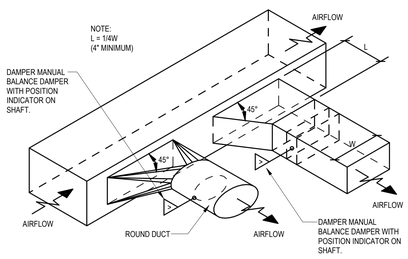


16 / M700 CHILLED WATER & DUAL TEMP PIPING INSULATION DETAILS
NOT TO SCALE

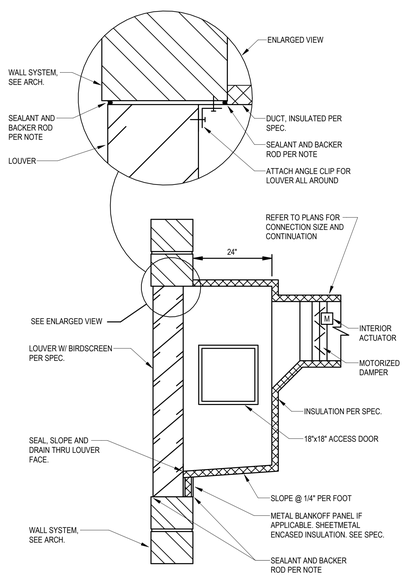


NOTES:
1. PROVIDE ACCESS PANEL ON VAV BOX IF IT HAS A HEATING COIL. LOCATE ON BOTTOM OF VAV BOX, UPSTREAM OF COIL.
2. PIPE HEATING COIL FROM SAME SIDE AS CONTROLS. DO NOT BLOCK ACCESS TO PIPING OR CONTROLS
3. DIFFUSER TAKEOFFS MAY BE ON SIDE OR BOTTOM OF DUCT

13 / M700 VAV BOX DETAIL
NOT TO SCALE

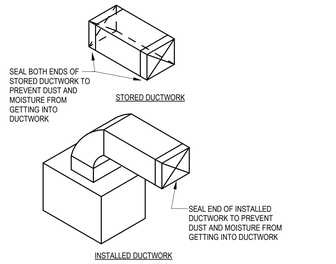


12 / M700 RIGID DUCT TAKE-OFF DETAIL
NOT TO SCALE

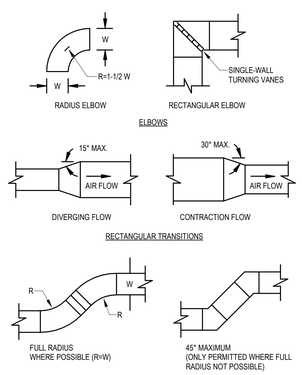


NOTES:
1. CONTRACTOR SHALL COORDINATE LOUVER INSTALLATION AND DUCTWORK WITH OTHER TRADES.
2. LOUVER PROVIDED AND INSTALLED BY CONTRACTOR.
3. CONTRACTOR SHALL PROVIDE BACKER ROD AND SILICONE SEALANT AROUND ENTIRE PERIMETER.
4. THIS CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT BOTTOM BLADES AND PLENUM SPACE DRAIN COMPLETELY TO EXTERIOR.

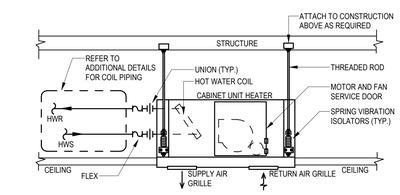
9 / M700 LOUVER - PLENUM CONNECTION DETAIL
NOT TO SCALE



6 / M700 DUCTWORK PROTECTION DURING CONSTRUCTION DETAIL
NOT TO SCALE



5 / M700 DUCTWORK ELBOWS, TRANSITIONS, & ANGLES
NOT TO SCALE



NOTES:
A. CONTRACTOR SHALL NEATLY CUT FLOOR OPENING, IN CLOSE COORDINATION WITH ALL TRADES.
B. OPENING THROUGH FLOOR SHALL BE LARGE ENOUGH FOR DUCT PLUS INSULATION, BUT SHALL NOT BE LARGER.
C. REFER TO STRUCTURAL FOR ADDITIONAL INFORMATION ON OPENINGS THROUGH FLOOR.
D. SUPPORT DUCT AT FLOOR PER SMACNA REQUIREMENTS.

2 / M700 DUCT PENETRATION THROUGH FLOOR DETAIL
NOT TO SCALE

NOTES:
A. INSTALL PIPING AND LOCATE UNIONS SO UNIT CAN BE PULLED WITHOUT DISMANTLING PIPING.
B. INSTALL UNIT AND PIPING SUCH THAT SERVICE DOOR IS ACCESSIBLE.
C. ENSURE FINAL INSTALLATION ALLOWS FOR FILTER REMOVAL.

1 / M700 CEILING CABINET UNIT HEATER, HYDRONIC
NOT TO SCALE

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Key Plan

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PRINT NAME: MARIA D. PFEFFER

DATE: 9/30/2022 REG. NO.: 50802

No.	Date	Revision Description

75% DESIGN DEVELOPEMENT

MECHANICAL DETAILS

Project	22-0009	Drawing Number
Date	9/30/2022	
Drawn by	CHD	
Checked by	MDP	M700

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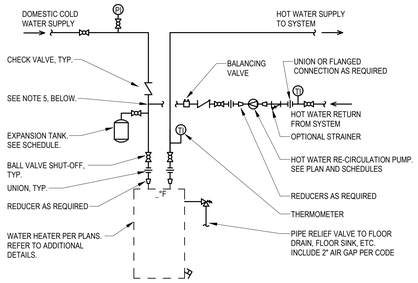
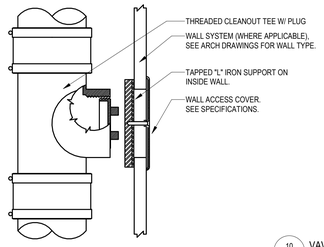
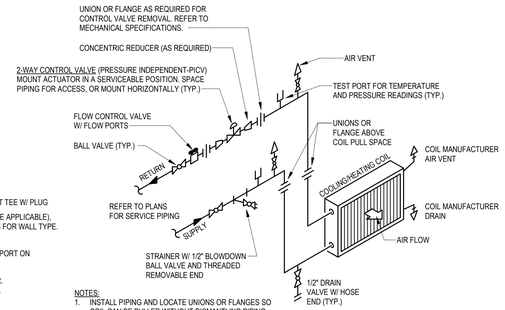


NOTES:
1. REFER TO SPECIFICATIONS AND PLANS FOR RE-CIRCULATION PUMP CONTROL INTENT.
2. INSTALL ALL VALVES TO BE ACCESSIBLE; INSTALL ALL TEMPERATURE/PRESSURE GAUGES TO BE VISIBLE.
3. REFER TO ISOMETRICS FOR PIPE SIZING INFORMATION.
4. CONNECT RECIRCULATION WATER BACK TO COLD WATER INLET OF TANK, AS SHOWN. ALTERNATIVELY, TEMPERED WATER CONNECTION MAY BE MADE DIRECTLY INTO STORAGE TANK, IF THE STORAGE TANK HAS THE ADDITIONAL INLET PORT FACTORY-PROVIDED.

17 / M701 WATER HEATER PIPING - SINGLE TANK - SINGLE TEMP. - RE-CIRCULATING PUMP
NOT TO SCALE

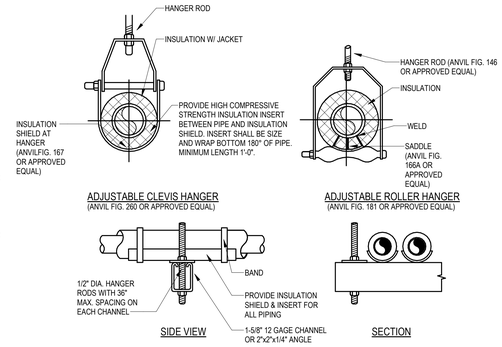


14 / M701 WALL CLEANOUT (WCO)
NOT TO SCALE



NOTES:
1. INSTALL PIPING AND LOCATE UNIONS OR FLANGES SO COIL CAN BE PULLED WITHOUT DISMANTLING PIPING.
2. COILS SHALL HAVE SAME END CONNECTIONS.
3. THIS DETAIL APPLIES TO REHEAT, FAN POWERED VAV'S, AND FAN COIL UNIT HEATING AND COOLING COILS.
4. REFER TO MECHANICAL SPECIFICATIONS FOR EXACT TYPE OF VALVE, VENT, FITTINGS, STRAINER, PIPING, ETC., USED FOR APPLICATION.

10 / M701 VAV/FAN COIL PIPING
NOT TO SCALE

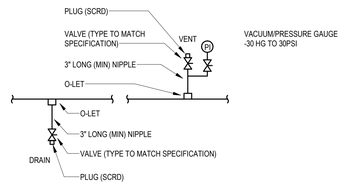


TRAPEZE HANGER FOR UP TO 800 LB. UNIFORM LOAD
(FOR LOADS >800 LBS. ANVIL FIG. 45/46/50 OR APPROVED EQUAL)

NOTE: SEE MFR'S THREADED ROD DATA FOR LOAD CARRYING CAPACITIES.
ROD: ASTM. A36

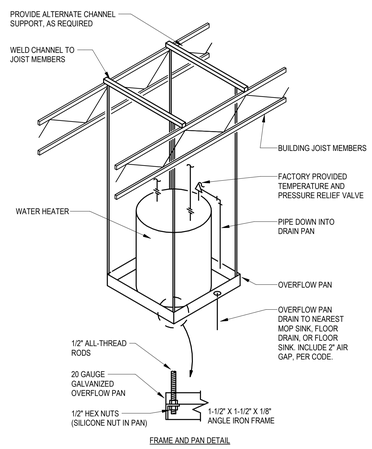
MAXIMUM PIPE/TUBING SUPPORT SPACING (LINEAR FEET)																				
NOM. PIPE SIZE (INCH)	7/0 3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
CARBON STEEL (MAX. 750°F)																		
SCH. 40/STD.	7	7	7	9	10	11	12	14	16	17	19	22	23	25	27	28	30	32
SCH. 80	7	7	7	9	10	11	12	14	16	17	19	22	23	25	27	28	30	32
STAINLESS STEEL (MAX. 750°F)																		
SCH. 10	7	8 1/2	10	11	11	13	14	15	17	18	20	22	-	-	-	-	-	-
SCH. 40	7	7	7	9	10	11	12	14	16	17	19	22	23	25	27	28	30	32
PVC/CPVC																		
SCH.40 (100°F)	4	4 1/2	5	5	5	6	6	6 1/2	7	7 1/2	8	8 1/2	9 1/2	10	10 1/2	-	-	-
SCH. 80 (100°F)	4 1/2	5	5 1/2	6 1/2	6	6 1/2	7	7 1/2	8	9	9 1/2	10	10 1/2	11	11 1/2	-	-	-
ANVIL HANGER ROD SIZE (INCH)	3/8	3/8	3/8	3/8	3/8	1/2	1/2	5/8	5/8	3/4	3/4	7/8	7/8	1	1	1	1 1/4	1 1/4
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.																		

6 / M701 PIPE SUPPORT/SPACING DETAIL
NOT TO SCALE



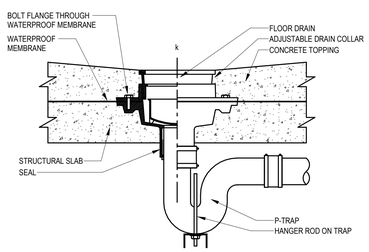
NOTES:
1. THIS DETAIL SHALL APPLY TO ALL OF THE FOLLOWING FLUID SYSTEMS; AS APPLIED TO THIS PROJECT.
2. INTENT IS TO ALLOW SYSTEM TO BE FULLY AND COMPLETELY DRAINED AND FILLED.
3. MINIMUM VENT/DRAIN SIZE 3/4" (EXCEPT 1/2" AND SMALLER PIPE SYSTEM)
4. CONTRACTOR SHALL PROVIDE AS MANY SUCH CONNECTIONS AS NECESSARY TO DRAIN/FILL SYSTEM(S).
5. CONTRACTOR SHALL SHOW ON AS-BUILT PLANS WHERE ALL SUCH CONNECTIONS ARE PLACED.
6. ALL VENT/DRAIN PIPING SHALL MATCH APPLICABLE PIPE SPECIFICATION. (I.E., SCRD, SW, ETC.)
7. PLACE LONGER PIPE NIPPLES AS REQUIRED FOR VALVE ACCESS AND OPERATION CLEARANCE ON INSULATED PIPE.
8. AT ONE POINT PROVIDE A VACUUM/PRESSURE GAUGE FILL SYSTEM TO MINIMUM + 4 PSI AT HIGH POINT.

3 / M701 HIGH POINT VENT, LOW POINT DRAIN DETAI
NOT TO SCALE

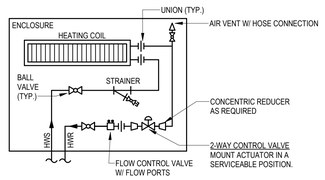


16 / M701 WATER HEATER DRAIN PAN
NOT TO SCALE

NOTES: FLOOR DRAINS
1. INSTALL FLOOR DRAINS IN ACCORDANCE WITH MANUFACTURES INSTRUCTIONS AND AT THE LOCATION WHERE INDICATED.
2. INSTALL FLOOR DRAINS AT THE LOW POINTS OF SURFACE AREAS TO BE DRAINED OR AS INDICATED. SET TOPS OF DRAINS 1/2" BELOW FINISHED FLOOR ELEVATION. GENERAL CONTRACTOR WILL DISH THE CONCRETE TO DRAIN SURFACE AS REQUIRED.
3. INSTALL A DRAIN FLASHING COLLAR OR FLANGE SO THAT NO LEAKAGE BETWEEN THE DRAIN AND THE ADJOINING FLOORING. MAINTAIN THE INTEGRITY OF THE WATERPROOF MEMBRANE.
4. POSITION DRAINS FOR EASY ACCESSIBILITY TO MAINTAIN.



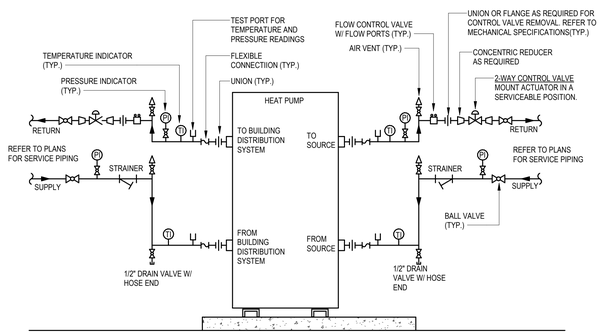
13 / M701 FLOOR DRAIN W/ MEMBRANE DETAIL
NOT TO SCALE



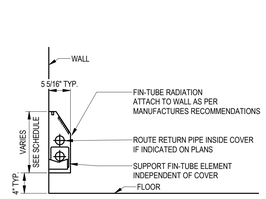
NOTES:
1. CONCEAL PIPING IN WALLS WHEN POSSIBLE OTHERWISE MECHANICAL CONTRACTOR TO PROVIDE STEEL ENCLOSURE AROUND PIPING TO MATCH THE ENCLOSURE COLOR AND GAGE.
2. REFER TO HIGH POINT VENT AND LOW POINT DRAIN DETAIL.
3. REFER TO MECHANICAL SPECIFICATIONS FOR EXACT TYPE OF VALVE, VENT, FITTINGS, STRAINER, PIPING, ETC., USED FOR APPLICATION.

9 / M701 UNIT HEATER AND CONVECTOR
NOT TO SCALE

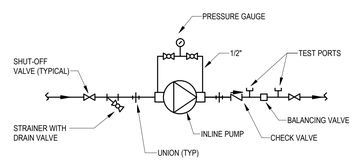
NOTES:
1. REFER TO MECHANICAL SPECIFICATIONS FOR EXACT TYPE OF VALVE, VENT, FITTINGS, STRAINER, PIPING, ETC., USED FOR APPLICATIONS.



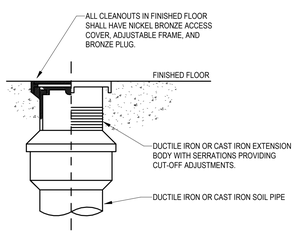
2 / M701 HEAT PUMP (WATER/WATER) DETAIL
NOT TO SCALE



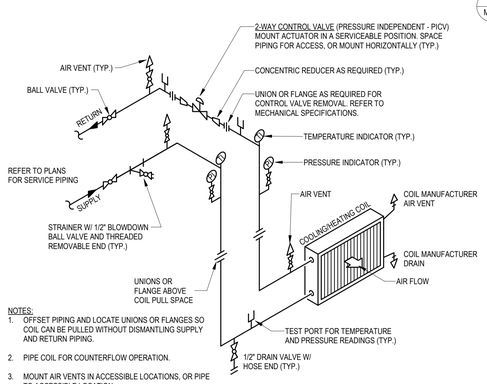
8 / M701 TYPICAL FIN TUBE RADIATION DETAIL
NOT TO SCALE



5 / M701 INLINE PUMP DETAIL W/O SUCTION DIFFUSER
NOT TO SCALE

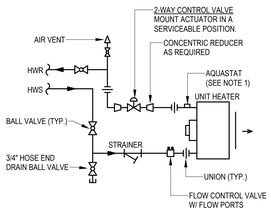


12 / M701 FLOOR CLEANOUT (FCO)
NOT TO SCALE



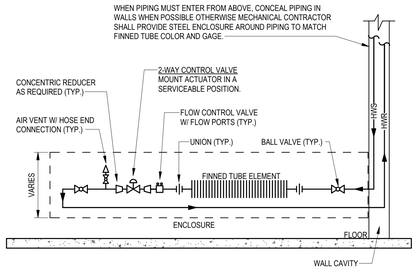
NOTES:
1. OFFSET PIPING AND LOCATE UNIONS OR FLANGES SO COIL CAN BE PULLED WITHOUT DISMANTLING SUPPLY AND RETURN PIPING.
2. PIPE COIL FOR COUNTERFLOW OPERATION.
3. MOUNT AIR VENTS IN ACCESSIBLE LOCATIONS, OR PIPE TO ACCESSIBLE LOCATION.
4. REFER TO MECHANICAL SPECIFICATIONS FOR EXACT TYPE OF VALVE, VENT, FITTINGS, STRAINER, PIPING, ETC., USED FOR APPLICATION.

7 / M701 PRESSURE INDEPENDENT AIR HANDLER SINGLE COIL PIPING DETAIL
NOT TO SCALE



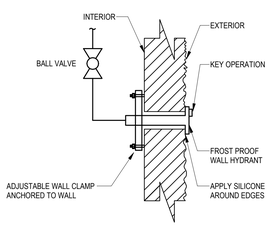
NOTES:
1. AQUASTAT OPTIONAL. REFER TO MECHANICAL CONTROL SEQUENCES IF REQUIRED.
2. REFER TO HIGH POINT VENT AND LOW POINT DRAIN DETAIL.
3. REFER TO MECHANICAL SPECIFICATIONS FOR EXACT TYPE OF VALVE, VENT, FITTINGS, STRAINER, PIPING, ETC., USED FOR APPLICATION.

4 / M701 HOT WATER UNIT HEATER PIPING DETAIL (2-WAY VALVE)
NOT TO SCALE

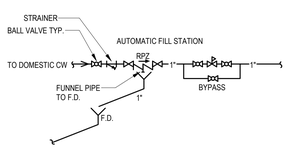


NOTES:
1. REFER TO MECHANICAL SPECIFICATIONS FOR EXACT TYPE OF VALVE, VENT, FITTINGS, STRAINER, PIPING, ETC., USED FOR APPLICATION.
2. PROVIDE ACCESS IN FINNED TUBE ENCLOSURE FOR SERVICING THE CONTROL VALVE, FLOW CONTROL VALVE AND AIR VENT.
3. COORDINATE ENCLOSURE INSTALLATION WITH ALL ELECTRICAL WALL OUTLETS AND DEVICES.

1 / M701 FINNED TUBE - HWS/R PIPING IN WALL
NOT TO SCALE



15 / M701 WALL HYDRANT
NOT TO SCALE



11 / M701 AUTOMATIC FILL STATION
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PRINT NAME: MARIA D. PFEFFER

DATE: 9/30/2022 REG. NO.: 50802

No.	Date	Revision Description

75% DESIGN DEVELOPEMENT

MECHANICAL DETAILS

Project	22-0009	Drawing Number	
Date	9/30/2022		
Drawn by	CHD		
Checked by	MDP		M701

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WATER TO WATER HEAT PUMP SCHEDULE

EQUIP NO.	MANUFACTURER	MODEL NO.	WEIGHT	COOLING MODE									HEATING MODE									ELECTRICAL DATA								NOTES
				SOURCE SIDE				LOAD SIDE					SOURCE SIDE				LOAD SIDE					COMPRESSOR			POWER					
				EWT	LWT	GPM	PD PSI	EWT	LWT	GPM	PD PSI	MBH	EWT	LWT	GPM	PD PSI	EWT	LWT	GPM	PD PSI	HEATING CAPACITY	RLA	LRA	QUANTITY	FLA	MCA	VOLTAGE	PHASE	KW RATING	
HP-1	WATER FURNACE	TRUCLIMATE 700 MODULAR WDM 040	3,625	60	70	124	9.4	54	44	110	6.7		48	42	130	9.4	110	130	53.4	1.9	533000 Btu/h	19 A	125 A	2	135 A	200 A	208	3	0.964	1,2,3,4

AIR HANDLING UNIT SCHEDULE

EQUIP NO.	SERVES	MANUFACTURER	MODEL NO.	PHYSICAL				CHILLED WATER COOLING COIL	RE-HEAT COIL	ENERGY RECOVERY WHEEL	UNIT MAX CFM	UNIT DESIGN CFM	DESIGN OA CFM	PRE-FILTER		FINAL-FILTER		SUPPLY FANS									RETURN/RELIEF FANS									ELECTRICAL		NOTES
				OPERATING WEIGHT	LENGTH	WIDTH	HEIGHT							TYPE	EFFICIENCY	TYPE	EFFICIENCY	NO. OF FANS	FAN CFM	EXT SP (IN)	BLADE TYPE	WHEEL DIA.	CLASS	FAN RPM	BHP (EACH)	HP (EACH)	NO. OF FANS	FAN CFM	EXT SP (IN)	BLADE TYPE	WHEEL DIA.	CLASS	FAN RPM	BHP (EACH)	HP (EACH)	VOLTAGE	PHASE	
DOAS-1	CHILLED BEAMS	DAIKIN APPLIED	CAH	0 lb	14' - 2"	4' - 2"	5' - 9 3/32"	CC-1	HC-1	ERW-1	2,200	2,200	2,200		MERV 8		MERV 13	0	2,200	0.00		0"		0	0	0	0	1,500	0.00		0"		0	0	0	208	3	

NOTES:
1. REFER TO ELECTRICAL MOTOR & EQUIPMENT SCHEDULE FOR MIN SCCR
2. 4" HOUSE KEEPING PAD BY DIV. 23
3. SOUND LINER FOR SUPPLY FAN SECTION
4. UNITS ARE ONE SIDE ACCESS
5. FORMED CHANNEL BASE RAIL
6. PREMIUM EFFICIENCY MOTORS
7. DUCT SMOKE DETECTORS BY DIV 26, INSTALLED BY DIV. 23

AHU SOUND SCHEDULE

EQUIP NO.	SUPPLY AIR DISCHARGE (dB)								RETURN AIR INTAKE (dB)							
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
DOAS-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AHU ENERGY RECOVERY WHEEL SCHEDULE

EQUIP. NO.	AHU NO.	SUMMER									WINTER									ELECTRICAL			NOTES
		OUTSIDE AIR			RETURN AIR						OUTSIDE AIR			RETURN AIR									
		AIRFLOW (CFM)	EAT		AIRFLOW (CFM)	EAT		ENERGY RECOVERY WHEEL PERFORMANCE	SUPPLY APD (IN WC)	RETURN APD (IN WC)	AIRFLOW (CFM)	EAT		AIRFLOW (CFM)	EAT		ENERGY RECOVERY WHEEL PERFORMANCE	SUPPLY APD (IN WC)	RETURN APD (IN WC)	MOTOR HP	VOLTAGE	PHASE	
			DB	WB		DB	WB					DB	WB		DB	WB							
ERW-1	DOAS-1	0	0	0	0	0	0	0 Btu/h	0.00	0.00	0	0	0	0	0	0	0 Btu/h	0.00	0.00	0	120	1	

NOTES:
1. 120V/1PH POWER CONNECTION FOR ENERGY WHEEL. BY ELECTRICAL.
2. ENERGY RECOVERY WHEEL TO HAVE MINIMUM WHEEL ROTATION CONTROL DURING LOW FLOW.
3. PROVIDE MANUFACTURERS DISCONNECT AND VFD FOR ENERGY RECOVERY WHEEL OPERATION.
4. VFD INSTALLED BY DIV 26.

AHU COOLING COIL SCHEDULE

COIL NO.	AHU NO.	MAX CFM	NO. OF COILS	FLUID	ROWS	FINS/IN	AIR DATA						FLUID DATA				TOTAL CAPACITY	SENSIBLE CAPACITY	NOTES
							A.P.D. (IN W.C.)	FACE VELOCITY (FPM)	EAT		LAT		EWT	LWT	GPM	W.P.D. (FT)			
									DB	WB	DB	WB							
CC-1	DOAS-1	0	0	30% PG	0	12	0.00	0	0	0	0	0	42	54	169.1	0.0	0 Btu/h	0 Btu/h	

NOTES:
1. COIL FACE VELOCITIES NOT TO EXCEED 500 FPM
2. COIL CONNECTIONS AND DRAIN PAN SHALL BE SAME SIDE.
3. REFER TO DRAWINGS FOR REQUIRED LOCATION/SIDE OF CONNECTIONS

AHU HEATING COIL SCHEDULE

COIL NO.	AHU NO.	MAX CFM	NO. OF COILS	FLUID	ROWS	FINS/IN	AIR DATA					FLUID DATA				CAPACITY	NOTES
							HEATING CFM	MAX APD (IN W.C.)	FACE VELOCITY (FPM)	EAT	LAT	EWT	LWT	GPM	W.P.D. (FT)		
HC-1	DOAS-1	0	0	30% PG	0	0	0	0.00	0	0	0	130	110	0	0.0	0 Btu/h	

NOTES:
1. COIL FACE VELOCITIES NOT TO EXCEED 500 FPM
2. COIL CONNECTIONS AND DRAIN PAN SHALL BE SAME SIDE.
3. REFER TO DRAWINGS FOR REQUIRED LOCATION/SIDE OF CONNECTIONS

PUMP SCHEDULE

EQUIP NO.	APPLICATION	MANUFACTURER	MODEL NO.	OPERATING WEIGHT	MECHANICAL											ELECTRICAL				NOTES
					TYPE	FLUID	GPM	TOTAL DISCHARGE HEAD (FT)	NPSHR (FT)	BHP	MOTOR RPM	IMPELLER SIZE (IN)	SUCTION SIZE (IN)	DISCHARGE SIZE (IN)	HP	VFD	VOLTAGE	PHASE	
P-1 CD	GEOTHERMAL	BELL & GOSSETT	e-1510 2EB	392 lb	BASE MTD	30% PG	130	60.0	4.4	2.90	1800	9.75	3"	2"	7.5	Yes	208	3	
P-2 CD	GEOTHERMAL	BELL & GOSSETT	e-1510 2EB	392 lb	BASE MTD	30% PG	130	60.0	4.4	2.90	1800	9.75	3"	2"	7.5	Yes	208	3	
P-3 HW	HEATING	BELL & GOSSETT	e-1510 1.25 AD	150 lb	BASE MTD	30% PG	55	40.0	3.8	0.83	1800	6.875	1 1/2"	1 1/4"	1.5	Yes	208	3	
P-4 HW	HEATING	BELL & GOSSETT	e-1510 1.25 AD	150 lb	BASE MTD	30% PG	55	40.0	3.8	0.83	1800	6.875	1 1/2"	1 1/4"	1.5	Yes	208	3	
P-5 CW	COOLING	BELL & GOSSETT	e-1510 2 BD	258 lb	BASE MTD	30% PG	110	50.0	4.3	1.95	1800	7.375	2 1/2"	2"	3	Yes	208	3	
P-6 DT	CHILLED BEAMS	BELL & GOSSETT	e-90 1.25AAB	63 lb	INLINE	30% PG	50	30.0	8.0	0.58	3600	3.75	1 1/4"	1 1/4"	1.5	Yes	208	3	

VARIABLE AIR VOLUME BOX SCHEDULE

EQUIP NO.	MANUFACTURER	MODEL NO.	TYPE	INLET SIZE (IN)	HEATING COIL DESIGN CFM	N.C. PER A.R.I. STANDARDS		NOTES
						RAD	DISC	
VAV-1	TITUS	DESV	SINGLE DUCT	6		0	0	
VAV-2	TITUS	DESV	SINGLE DUCT	6		0	0	
VAV-3	TITUS	DESV	SINGLE DUCT	6		0	0	
VAV-4	TITUS	DESV	SINGLE DUCT	6		0	0	
VAV-5	TITUS	DESV	SINGLE DUCT	6		0	0	

NOTES:
1. W/ BOTTOM ACCESS PANEL
2. FIBER FREE LINING
3. AIR PRESSURE DROP AT FULL FLOW CONDITION SHALL INCLUDE COIL AND UNIT

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PRINT NAME: MARIA D. PFEFFER

DATE: 9/30/2022 REG. NO.: 50802

No.	Date	Revision Description

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MECHANICAL SCHEDULES

Project	22-0009	Drawing Number
Date	9/30/2022	
Drawn by	CHD	
Checked by	MDP	M900

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ELECTRIC WATER HEATER SCHEDULE

EQUIP NO.	LOCATION NAME	LOCATION NUMBER	SERVES	MANUFACTURER	MODEL NO.	PHYSICAL OPERATING WEIGHT	PHYSICAL HEIGHT	PHYSICAL DIAMETER	FUEL TYPE	STORAGE CAPACITY (GAL)	INPUT	OUTPUT	THERMAL EFFICIENCY	GPH RECOVERY 100° RISE	POWER	NUMBER OF ELEMENTS	HEATING ELEMENT CAPACITY	FLUE SIZE	ELECTRICAL VOLTAGE	ELECTRICAL PHASE	ELECTRICAL FREQUENCY	NOTES
WH-1						0 lb	56 3/4"	36"	ELECTRIC	0	0 Btu/h	0 Btu/h	0%	0	0 kW	0	0 kW	0"	120 V	1	60 Hz	

NOTES:
1. SINGLE POINT POWER DISCONNECT BY ELECTRICAL CONTRACTOR
2. TEMPERATURE AND PRESSURE RELIEF VALVE PIPED TO 16 IN AFF
3. SEALED COMBUSTION - PROVIDE VENT KIT
4. SPARK TO PILOT IGNITION SYSTEM
5. REFER TO ELECTRICAL MOTOR & EQUIPMENT SCHEDULE FOR MIN SCCR

HYDRONIC UNIT HEATER SCHEDULE

EQUIP NO.	LOCATION NAME	LOCATION NUMBER	SERVES	MANUFACTURER	MODEL NO.	HYDRONIC CAPACITY	HYDRONIC FLOW GPM	HYDRONIC FLUID TYPE	HYDRONIC EWT	HYDRONIC LWT	AIR DATA CFM	AIR DATA EAT	AIR DATA LAT	FAN SPEEDS	ARRANGEMENT	ELECTRICAL HP	ELECTRICAL FLA	ELECTRICAL VOLTAGE	ELECTRICAL PHASE	ELECTRICAL FREQUENCY	NOTES
CUH-1				RITTLING	RFRC-12	50,320 Btu/h	13.1	PG	140	120	1,180	60	99	0	CEILING, FULLY RECESSED	0.00	0 A	120 V	1	60 Hz	

NOTES:
1. VANDAL PROOF ACCESS DOOR
2. 14 GAGE STEEL CABINET WITH END POCKETS
3. INCLUDE WALL SEAL FRAME
4. FACTORY DISCONNECT
5. STD. FACTORY COLOR SELECTED BY ARCHITECT
6. TWO ROW COIL
7. MOUNT THERMOSTAT ON UNIT
8. REFER TO ELECTRICAL MOTOR & EQUIPMENT SCHEDULE FOR MIN SCCR

FAN SCHEDULE

EQUIP NO.	MANUFACTURER	MODEL NO.	MECHANICAL CFM	MECHANICAL ESP	MECHANICAL RPM	MECHANICAL TYPE	MECHANICAL DRIVE	MECHANICAL INLET dBA	MECHANICAL INTERLOCK	MECHANICAL WEIGHT	ELECTRICAL BHP	ELECTRICAL HP	ELECTRICAL VOLTAGE	ELECTRICAL PHASE	ELECTRICAL FREQUENCY	NOTES
EF-1	COOK	SQN-D	400	0.50	0		DIRECT	0		0	0	0.25	120	1	60	

NOTES:
1. PROVIDE WITH FACTORY DISCONNECT SWITCH
2. ALL ALUMINUM CONSTRUCTION
3. PROVIDE FACTORY CURB 24".
4. ELECTRIC OPD DAMPER; TIGHT SHUTOFF; LOCATE DAMPER IN DUCT. REFER TO DETAIL
5. PROVIDE HINGED CONNECTION AND SAFETY STRAPS TO CURB.
6. PROVIDE LORENZED FINISH OR EQUIVALENT. PROVIDE COLOR CHART TO ARCHITECT FOR COLOR SELECTION.
7. DESTRATIFICATION FAN WITH CORD & PLUG, VARIABLE SPEED CONTROL BY MANUFACTURER, DIV 26 TO PROVIDE CONDUIT PER SPEC FOR CONTROL WIRING
8. VFD FURNISHED BY DIV 23, INSTALLED BY DIV 26
9. REFER TO ELECTRICAL MOTOR & EQUIPMENT SCHEDULE FOR MIN SCCR

CHILLED BEAM SCHEDULE

EQUIP NO.	MANUFACTURER	MODEL	TYPE	LENGTH	WIDTH	CFM	COOLING CAPACITY COIL CAPACITY	COOLING CAPACITY EAT(DB)	COOLING CAPACITY EWT	COOLING CAPACITY LWT	COOLING CAPACITY GPM	HEATING CAPACITY COIL CAPACITY	HEATING CAPACITY EAT(DB)	HEATING CAPACITY EWT	HEATING CAPACITY LWT	HEATING CAPACITY GPM	NOTES
CB-1	TITUS	CBAM	2-PIPE	2' - 0"	2' - 0"	0	0 Btu/h	0	0	0	0	0 Btu/h	0	0	0	0	

NOTES:
1. PROVIDE SHUT OFF VALVES AND BALANCE VALVE FOR EACH UNIT COIL
2. PROVIDE MOUNTING BRACKETS FOR ASSOCIATED CEILING TYPE

FINNED TUBE RADIATION SCHEDULE

EQUIP NO.	MANUFACTURER	MODEL NO.	FLUID TYPE	EWT	LWT	AVG WATER TEMP	BTUH / FT	ELEMENT PIPE MATERIAL	ELEMENT PIPE SIZE	ELEMENT WIDTH	ELEMENT HEIGHT	ELEMENT FINS / FT	ELEMENT FIN MATERIAL	COVER GAUGE	ENCLOSURE HEIGHT	NO. OF ROWS	NOTES
FTR-1	RITTLING	FSOS5-24		140	120	130 °F	847 Btu/h		3/4"	4 1/4"	4 1/4"	32	ALUMINUM	16	24"	2	
FTR-1	RITTLING	ETL506		140	120	130 °F	430 Btu/h		3/4"	4 1/4"	4 1/4"	32	ALUMINUM	16	6"	1	

NOTES:
1. PROVIDE ALL ENDCAPS, MITERS, WALL TRIM AND FILLER SLEEVES REQUIRED FOR COMPLETE INSTALLATION
2. SEAL BACKPLATE AT WALL
3. WALL MOUNTED
4. PEDESTAL MOUNTED
5. DOUBLE SLOPE ENCLOSURES
6. BARE ELEMENT W/ COPPER TUBE & ALUMINUM FINS
7. MOUNT CONTROL VALVES ABOVE CEILING AS INDICATED

EXPANSION TANK SCHEDULE

EQUIP NO.	SERVES	MANUFACTURER	MODEL NO.	PHYSICAL HEIGHT	PHYSICAL WIDTH	PHYSICAL WEIGHT	PHYSICAL OPERATING WEIGHT	TANK VOLUME (GAL.)	ACCEPTANCE VOLUME (GAL.)	PRECHARGE PRESSURE (PSI)	NOTES
ET-1	GEOTHERMAL	BELL & GOSSETT	B-200	36 7/8"	24"	192 lb	629 lb	53	53	12	
ET-2	HEATING	BELL & GOSSETT	B-200	36 7/8"	24"	192 lb	629 lb	53	53	12	
ET-3	COOLING	BELL & GOSSETT	B-200	36 7/8"	24"	192 lb	629 lb	53	53	12	

NOTES:
1. CONTRACTOR TO FIELD CHARGE TANK TO SCHEDULED PRESSURE
2. PROVIDE ATFL AIRTROL FITTING
3. INCLUDE GAGE GLASS, COMP. AIR INLET, MANUAL AIR VENT AND TANK DRAIN
4. PROVIDE CHARGING VALVE CONNECTION
5. ASME CERTIFIED
6. NSF APPROVED
7. TANK IS REMOVABLE BLADDER TYPE

PLUMBING FIXTURE SCHEDULE

EQUIP NO.	FIXTURE DESCRIPTION	FAUCET / TRIM DESCRIPTION	NOTES
ELECTRIC WATER COOLERS			
EWC-1	ELECTRIC WATER COOLER - DUAL HEIGHT	WITH BOTTLE FILLER	
HOSE BIBBS / WALL HYDRANTS			
HB-	HOSE BIBB - INTERIOR	THREADED HOSE END WITH VACUUM BREAKER	
LAVATORIES			
L-1	LAVATORY - WALL HUNG	SENSORED FAUCET - BATTERY	
SINKS			
S-1	SINK - SINGLE	MANUAL FAUCET	
WATER CLOSETS			
WC-1	WATER CLOSET - WALL HUNG	SENSORED FLUSH VALVE - BATTERY	

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS.

AIR SEPARATOR SCHEDULE

EQUIP NO.	SERVES	MANUFACTURER	MODEL NO.	WEIGHT	OPERATING WEIGHT	GPM	WATER CONN SIZE (IN)	NOTES
AS-1	GEOTHERMAL	BELL & GOSSETT	R-4F	170 lb	278 lb	300	4"	
AS-2	HEATING	BELL & GOSSETT	R-3F	130 lb	188 lb	190	3"	
AS-3	COOLING	BELL & GOSSETT	R-3F	130 lb	188 lb	190	3"	

NOTES:
1. LESS STRAINER
2. W/ STRAINER
3. W/ SUPPORTS AND GUSSETS
4. SEDIMENT REMOVAL SEPARATOR W/ INTERNAL STRAINER
5. 90° INLET & OUTLET CONFIGURATION

PLUMBING SPECIALTIES SCHEDULE

EQUIP NO.	FIXTURE DESCRIPTION	NOTES
FD-1	FLOOR DRAIN	
DOWNSPOUT NOZZLES		
DS-1	BRONZE BODY WITH INLET THREADED CONNECTION AND LOOSE WALL FLANGE	
ROOF DRAINS		
ORD-1	CAST IRON BODY, REMOVABLE CAST IRON DOME, INTEGRAL 2" DAM	
RD-1	CAST IRON BODY, REMOVABLE CAST IRON DOME	

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE

EQUIP NO.	SERVICE	MANUFACTURER	MODEL	TYPE	MATERIAL	NOTES
E-1	EXHAUST	Titus	355RS	LOUVERED FILTER GRILLE	STEEL	

NOTES:
1. SUBMIT COLOR CHART FOR APPROVAL BY ARCHITECT
2. VERIFY LAY IN VS. SURFACE MOUNT W/ REFLECTED CEILING PLAN
3. COORDINATE ALL GRILLES, REGISTERS AND DIFFUSER LOCATIONS W/ LIGHTS SHOWN ON REFLECTED CEILING PLAN
4. COORDINATE ALL FRAMES AND BORDER TYPES FOR DUCT CONNECTION AND CEILING/WALL INSTALLATION PROVIDE TRANSITIONS AS NECESSARY TO ACCOMPLISH CONNECTION
5. WITH OPPOSED BLADE, VOLUME DAMPER

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GENERAL

Symbol	Description	Mounting
1 / E100	DETAIL NUMBER / SHEET NUMBER	
#	ELECTRICAL KEYED NOTE NUMBER	
	INDICATES ALL DEVICES UNDER ONE COVERPLATE	

RACEWAY SYSTEMS

Symbol	Description	Mounting
	CONDUIT CONCEALED IN WALL OR CEILING	
	CONDUIT CONCEALED IN / UNDER FLOOR	
	CONDUIT RUN EXPOSED	
	CONDUIT TRANSITION UP	
	CONDUIT TRANSITION DOWN	
J	JUNCTION BOX	VERIFY
J	JUNCTION BOX - FLOOR MOUNTED	FLOOR
J	JUNCTION BOX - WALL MOUNTED	VERIFY
PB	PULL BOX	VERIFY
MH	MAN HOLE	VERIFY
HH	HAND HOLE	VERIFY

POWER SYSTEMS

Symbol	Description	Mounting
	DISTRIBUTION PANEL	TOP 72"
	TRANSFORMER	VERIFY
	120/208V SURFACE MOUNTED PANELBOARD	TOP 72"
	480/277V SURFACE MOUNTED PANELBOARD	TOP 72"
	120/208V FLUSH MOUNTED PANELBOARD	TOP 72"
	480/277V FLUSH MOUNTED PANELBOARD	TOP 72"
MSS	MOTOR STARTER SWITCH	VERIFY
SC	VARIABLE SPEED CONTROL SWITCH WITH ON / OFF	48"
	NON-FUSED SAFETY SWITCH	
	CONTROLLER OR STARTER	
	COMINATION STARTER / DISCONNECT SWITCH	
VFD	VARIABLE FREQUENCY DRIVE WITH DISCONNECT	
R	RELAY	VERIFY
T	ELECTRIC THERMOSTAT (OPERABLE)	VERIFY
P	PUSH PLATE	33"
	SINGLE RECEPTACLE	18"
	DUPLEX RECEPTACLE	18"
	QUAD RECEPTACLE	18"
ARC	ARC FAULT DUPLEX RECEPTACLE	18"
	SPLIT OR HALF SWITCHED DUPLEX RECEPTACLE	18"
	SPECIAL PURPOSE OUTLET OR CONNECTION	18"
	GFCI RECEPTACLE	INTERIOR - 18" EXTERIOR - 24" WP
	ABOVE COUNTER RECEPTACLE	6" ABOVE COUNTER
	ABOVE COUNTER GFCI RECEPTACLE	6" ABOVE COUNTER
	CEILING MOUNTED RECEPTACLE	FLUSH CEILING
	FLUSH FLOOR BOX (WITH RECEPTACLE TYPE SHOWN ON PLANS)	FLUSH FLOOR
D	CORD DROP (WITH RECEPTACLE TYPE SHOWN ON PLANS)	CEILING
	POKE THROUGH FLOOR BOX (WITH RECEPTACLE TYPE SHOWN ON PLANS)	FLUSH FLOOR
P1	MOTOR (EQUIPMENT DISIGNATION P1, REFER SCHEDULES)	COORDINATE WITH MECHANICAL
P	POWER POLE	VERIFY
	THREE BUTTON MOTOR CONTROL STATION	48"
	MULTIOUTLET ASSEMBLY OUTLET (SPACING AS SPECIFIED)	AS NOTED
	GROUND BAR	VERIFY

TECHNOLOGY SYSTEMS

Symbol	Description	Mounting
DATA OUTLET LEGEND	BLANK - 2 DATA 1D - 1 DATA 2D - 2 DATA 3D - 3 DATA	
	DATA OUTLET	18"
	DATA / PHONE OUTLET (TYPICAL)	18"
	CEILING DATA OUTLET	CEILING
	TELEPHONE OUTLET - (W = WALL MOUNT AT 48")	18"
	FLUSH FLOOR BOX (WITH DATA OUTLET AS SHOWN ON PLANS)	FLUSH FLOOR
	FLUSH TABLE BOX (WITH DATA OUTLET AS SHOWN ON PLANS)	FLUSH TABLE
	POKE THROUGH FLOOR BOX (WITH DATA OUTLET AS SHOWN ON PLANS)	FLUSH FLOOR
C	CLOCK RECEPTACLE	90"
CLOCK LEGEND	9" - DIMENSION INDICATES CLOCK SIZE (SEE SPECS) D - DIGITAL WG - WIRE GUARD	
AP	WIRELESS ACCESS POINT DATA OUTLET (1D UNLESS NOTED OTHERWISE)	CEILING
DA	DISTRIBUTED ANTENNA	CEILING
CS	PROGRAM BELL FOR CLOCK SYSTEM	VERIFY
SC	SIGNAL SYSTEM CABINET	TOP 72"
RA M	RESCUE ASSISTANCE DEVICE M - MASTER CONTROL STATION C - CALL STATION	48"

LIGHTING SYSTEMS

Symbol	Description	Mounting
a A 3	LUMINAIRE DESIGNATION (APPLICABLE TO ALL LUMINAIRES) A - LUMINAIRE TYPE 3 - CIRCUIT NUMBER a - SWITCHING SOILD HATCHING (FULL OR PARTIAL) INDICATES LIFE SAFETY CROSS HATCHING (FULL OR PARTIAL) INDICATES CRITICAL CIRCUIT	
	SURFACE MOUNTED LUMINAIRE	CEILING
	RECESSED MOUNTED LUMINAIRE	CEILING
	LINEAR PENDANT LUMINAIRE	VERIFY
	PENDANT LUMINAIRE	VERIFY
	SURFACE MOUNTED DOWNLIGHT LUMINAIRE	CEILING
	RECESSED MOUNTED DOWNLIGHT LUMINAIRE	FLUSH CEILING
	WALL MOUNTED LUMINAIRE	VERIFY
	STRIP LUMINAIRE	VERIFY
	TRACK LIGHTING AND TRACK LUMINAIRE HEADS	VERIFY
	EXIT LIGHT OUTLET IN CEILING, SHADED QUADRANT DEMOTES FACE DIRECTION. ARROW INDICATES DIRECTION OF TRAVEL	CEILING
	EXIT LIGHT OUTLET IN WALL, SHADED QUADRANT DEMOTES FACE DIRECTION. ARROW INDICATES DIRECTION OF TRAVEL	8" ABOVE DOOR
	EXIT LIGHT WITH EMERGENCY LIGHTING UNIT IN WALL, SHADED QUADRANT DEMOTES FACE DIRECTION. ARROW INDICATES DIRECTION OF TRAVEL	8" ABOVE DOOR
	BATTERY POWERED EMERGENCY LIGHTING UNIT	7'-6"
	REMOTE BATTERY POWERED HEAD	VERIFY

LIGHTING CONTROL SYSTEMS

Symbol	Description	Mounting
SWITCH LEGEND	2 - DOUBLE POLE SWITCH 3 - THREE WAY SWITCH 4 - FOUR WAY SWITCH K - KEYED SWITCH P - SWITCH WITH PILOT LIGHT IL - SWITCH WITH ILLUMINATED TOGGLE TS - TIME SWITCH LV - LOW VOLTAGE SWITCH LV-2 - LOW VOLTAGE SWITCH (NUMBER INDICATES QUANTITY OF CONTROL BUTTONS)	
$	SINGLE POLE SWITCH	48"
$$	RECESSED WALL BOX (WITH SWITCH NUMBER AND TYPES AS SHOWN ON PLANS)	48"
OC	WALL MOUNTED OCCUPANCY SENSOR	48"
OC	CEILING MOUNTED OCCUPANCY SENSOR	CEILING
OCCUPANCY SENSOR LEGEND	DT - DUAL TECHNOLOGY PI - PASSIVE INFRARED U - ULTRASONIC	
VC	CEILING MOUNTED VACANCY SENSOR	CEILING
PP	CONTROL DEVICE POWER PACK	ABOVE CEILING
LS	LIGHT SENSOR (DAYLIGHT HARVESTING)	VERIFY
PC	PHOTOCELL	VERIFY
TC	TIME CONTROL SWITCH (TIME CLOCK)	48"

SECURITY SYSTEMS

Symbol	Description	Mounting
	CCTV CAMERA (1D UNLESS NOTED OTHERWISE)	13'-0" / CEILING
CAMERA LEGEND	180 - 180 DEGREE VIEW RANGE 270 - 270 DEGREE VIEW RANGE 360 - 360 DEGREE VIEW RANGE PTZ - PAN, TILT, ZOOM	
S CR	WALL MOUNTED SECURITY DEVICE	SEE BELOW
WALL SECURITY LEGEND	AI - INTERCOM	48"
	CR - CARD READER	42"
	DC - DOOR CONTACT	VERIFY
	EL - ELECTRIC LOCK	VERIFY
	ES - ELECTRIC STRIKE	VERIFY
	GB - GLASS BREAK DETECTOR	VERIFY
	KB/F - KNOX BOX	VERIFY
	KP - KEY PAD	48"
	KS - KEYED SWITCH	48"
	LM - LATCH MONITOR	VERIFY
	LD - LOCKDOWN STROBE	VERIFY
	ML - MAGNETIC LOCK	VERIFY
	PB - PANIC BUTTON	VERIFY
	REX - REQUEST TO EXIT	6" ABOVE DOOR
	RR - REMOTE DOOR RELEASE	ABOVE COUNTER
	VI - VIDEO INTERCOM STATION	48"
	XP - EXIT PUSHBUTTON	48"
	XS - EXIT SENSOR	VERIFY
S DE	SECURITY DEVICE	SEE BELOW
SECURITY LEGEND	DE - DELAYED EGRESS LA - LOCAL ALARM MD - MOTION DETECTOR	CEILING CEILING CEILING
AC	ACCESS CONTROL EQUIPMENT / PANEL	VERIFY
	PUSHBUTTON - SINGLE	48"
	PUSHBUTTON - DOUBLE	48"
S	BUZZER	90"
	BELL	90"

DATA RACK / EQUIPMENT

- VERTICAL WIRE MANAGEMENT (ON EACH SIDE)
- TWO POST RACK
- SLIDE-OUT AND ROTATION RACK
- FOUR POST ENCLOSED RACK

FIRE ALARM SYSTEMS

Symbol	Description	Mounting
F	MANUAL STATION	48"
F	WALL MOUNTED HORN	80"
F	CEILING MOUNTED HORN	CEILING
F	WALL MOUNTED STROBE LIGHT	80"
F	CEILING MOUNTED STROBE LIGHT	CEILING
F	WALL MOUNTED HORN AND STROBE LIGHT	80"
F	CEILING MOUNTED HORN AND STROBE LIGHT	CEILING
F	WALL MOUNTED SPEAKER	80"
F	CEILING MOUNTED SPEAKER	CEILING
F	WALL MOUNTED SPEAKER AND STROBE LIGHT	80"
F	CEILING MOUNTED SPEAKER AND STROBE LIGHT	CEILING
F MB	WALL MOUNTED SPEAKER AND STROBE LIGHT WITH MESSAGE BOARD	80"
F MB	CEILING MOUNTED SPEAKER AND STROBE LIGHT WITH MESSAGE BOARD	CEILING
F	WALL MOUNTED CHIME AND STROBE LIGHT	80"
F	WALL MOUNTED BELL	80"
F RS	WALL MOUNTED REMOTE RESET FOR DUCT DETECTOR	48"
F	FIRE ALARM DEVICE	SEE BELOW
FIRE ALARM LEGEND	F/S - FIRE / SMOKE DAMPER	48"
	H - HEAT DETECTOR	CEILING
	H/S - HEAT / SMOKE DETECTOR	CEILING
	IR - INFRARED SENSOR	VERIFY
	MD - MAGNETIC DOOR HOLDER	VERIFY
	R - INTELLIGENT CONTROL RELAY MODULE	VERIFY
	S - SMOKE DETECTOR	CEILING
	SD - SMOKE DAMPER	VERIFY
	SR - SMOKE DETECTOR WITH RELAY	CEILING
	SS - FIRE SUPRESSION SYSTEM	VERIFY
F T	BEAM DETECTOR TRANSMITTER	VERIFY
F R	BEAM DETECTOR RECEIVER	VERIFY
F FS	FLOW SWITCH	VERIFY
F TS	FLOW SWITCH	VERIFY
FACP	FIRE ALARM CONTROL PANEL - SURFACE MOUNT	TOP 72"
FAA	FIRE ALARM CONTROL - FLUSH MOUNT	MAX TOP 72"
VCA	FIRE ALARM VOICE COMMAND ANNUNCIATOR - SEMI-FLUSH MOUNT	MAX TOP 72"

AUDIO VIDEO SYSTEMS

Symbol	Description	Mounting
AV	AUDIO VIDEO OUTLET - SINGLE GANG BOX, SINGLE GANG MUD RING, 1" CONDUIT TO ACCESSIBLE CEILING SPACE	18"
AV1	AUDIO VIDEO OUTLET - TWO GANG BOX, SINGLE GANG MUD RING, 1 1/4" CONDUIT TO ACCESSIBLE CEILING SPACE	18"
AV2	AUDIO VIDEO OUTLET - TWO GANG BOX, TWO GANG MUD RING, 1 1/4" CONDUIT TO ACCESSIBLE CEILING SPACE	18"
AV3	AUDIO VIDEO OUTLET - THREE GANG BOX, TWO GANG MUD RING, (2) 1 1/4" CONDUITS TO ACCESSIBLE CEILING SPACE	18"
MM	RECESSED SERVICE POWER / DATA / AUDIO VIDEO WALL BOX	VERIFY
TV	TV OUTLET	VERIFY
S	HORN SPEAKER	90"
S A	WALL SPEAKER	90"
S A	CEILING SPEAKER	CEILING
SPEAKER LEGEND	A - SURFACE MOUNTED PUBLIC ANNOUNCEMENT B - RECESSED 2' X 2' PUBLIC ANNOUNCEMENT C - RECESSED ROUND PUBLIC ANNOUNCEMENT D - RECESSED SOUND REINFORCEMENT E - SURFACE SOUND REINFORCEMENT F - SURFACE SUBWOOFER WP - WEATHERPROOF	
V	SPEAKER VOLUME CONTROL	48"
M	MICROPHONE OUTLET	18"
S	P.A. SELECTOR SWITCH	48"
VP	VIDEO PROJECTOR - CEILING SHOWN	VERIFY
IR	INFRARED RECEIVER FOR SOUND REINFORCEMENT	CEILING

PANELBOARD IDENTIFICATION

SYSTEMS DESIGNATION:	CODE:
EMERGENCY	E
CRITICAL POWER	C
OPTIONAL STANDBY	S
UNINTRRUPTIBLE POWER	UPS

EQUIPMENT DESIGNATION:	CODE:
MAIN DISTRIBUTION SWITCHBOARD	MDS
DISTRIBUTION PANELBOARD (480/277V)	DH
DISTRIBUTION PANELBOARD (120/208V)	DL
PANELBOARD 3Ø, 4W, 480/277V	H
PANELBOARD 3Ø, 4W, 120/208V	L
LIGHTING CONTROL PANEL	LCP

EQUIPMENT DESIGNATION — SYSTEM DESIGNATION — FLOOR OF STRUCTURE — PANEL NO.: EL-1-1A

ELECTRICAL SYMBOLS LEGEND NOTES:
1. THESE SYMBOLS COMPRISE A STANDARD LIST, NOT ALL SYMBOLS MAY APPEAR ON THESE DRAWINGS.
2. MOUNTING HEIGHTS INDICATED ARE FOR STUD WALL CONSTRUCTION. WHEN BLOCK OR BRICK CONSTRUCTION IS USED, ADJUST MOUNTING HEIGHTS TO ALIGN DEVICE PLATES WITH RUNNING JOINT.
3. MOUNTING HEIGHTS ARE TO CENTER OF DEVICE ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. MOUNTING HEIGHTS INDICATED ON ARCHITECTURAL WALL ELEVATIONS OR AS NOTED SPECIFICALLY ON THE DRAWINGS
4. SHALL TAKE PRECEDENCE OVER MOUNTING HEIGHTS LISTED.
5. PROVDE 4-11/16" SQUARE BOX WITH SINGLE DEVICE MUD RING AND 1"C MINIMUM STUBBED INTO ACCESSIBLE CEILING SPACE AS REQUIRED FOR ROUGH-IN OF LOW VOLTAGE/ TECHNOLOGY SYSTEM OUTLET LOCATIONS.
6. PROVIDE 4-11/16" SQUARE BOX WITH 1.25" MINIMUM STUBBED INTO ACCESSIBLE CEILING SPACE FOR ALL AUDIO-VIDEO OUTLETS AND DEVICES.
7. REFER TO CONSTRUCTION DRAWINGS AND SCHEDULES FOR ADDITIONAL INFORMATION.

ELECTRICAL ABBREVIATIONS

Abbr.	Meaning
&	AND
@	AT
℄	CENTERLINE
°	DEGREE (S)
Ø	PHASE OR ROUND
#	POUND OR NUMBER
AFCI	ARC FAULT CURRENT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
APP	ALARM ANNUNCIATOR PANEL
AL	ALUMINUM
AMP	AMPERE
APPROX	APPROXIMATE
ARCH	ARCHITECT/ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
BAS	BUILDING AUTOMATION SYSTEM
BOT	BOTTOM
C	CONDUIT
CAB	CABINET
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CLG	CEILING
C/T	CURRENT TRANSFORMER
D	DEPTH
DIV	DIVISION
DWG	DRAWING
EA	EACH
EM	EMERGENCY
ELEV	ELEVATOR
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXT	EXTERIOR
FAA	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
G/GND	GROUND
GMB	GROUNDING MAIN BUS BAR
H	HEIGHT
HP	HORSE POWER
HZ	HERTZ
INT	INTERIOR
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT AMPS
KW	KILOWATT
L	LENGTH
LF	LINEAL FOOT
LS	LIFE SAFETY
LV	LOW VOLTAGE
LFC	LIQUID TIGHT FLEXIBLE CONDUIT
L/LT	LIGHT
LTS	LIGHTS
LTG	LIGHTING
MATV	MASTER ANTENNA TELEVISION
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MEZZ	MEZZININE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MS	MOTOR STARTER
MSP	MOTOR STARTER PANEL
MSS	MOTOR STARTER SWITCH
N/A	NOT APPLICABLE
NL	NIGHT LIGHT
N.T.S	NOT TO SCALE
PF	POWER FACTOR
PIV	POST INDICATOR VALVE
PNL	PANEL
PVC	POLYVINYL CHLORIDE
R/RECEPT	RECEPTACLE
RM	ROOM
SCHED	SCHEDULE
SECT	SECTION
S/D	SMOKE DAMPER
SF	SQUARE FOOT
SHT	SHEET
SM	SURFACE MOUNTED
SP	SUMP PUMP
SPEC	SPECIFICATIONS
STD	STANDARD
SUSP	SUSPENDED
SW	SWITCH
SW. BD	SWITCHBOARD
SW. GR	SWITCHGEAR
TEL	TELEPHONE
TERM	TERMINAL
TGMB	TELECOMMUNICATION GROUNDING MAIN BUS BAR
TV	TELEVISION
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V	VOLTAGE
VA	VOLT AMPERE
W	WATT (S)
W	WIDTH
W/	WITH UNIT
WG	WIRE GUARD
WP	WEATHERPROOF
XFRM	TRANSFORMER

GENERAL ELECTRICAL PLAN NOTES

A. INSTALL ELECTRICAL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, STATE, COUNTY, MUNICIPAL AND FEDERAL LAWS AND ORDINANCES GOVERNING THE PROJECT. IF THE PLANS AND SPECIFICATIONS ARE IN DIRECT CONFLICT WITH SUCH CODES, LAWS OR ORDINANCES, NOTIFY THE ENGINEER OF CONFLICT IN WRITING PRIOR TO MAKING CHANGES FROM PLANS AND/OR SPECIFICATIONS. WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A LICENSED MASTER ELECTRICIAN, LICENSED IN THE STATE IN WHICH THE WORK WILL OCCUR.

B. BRANCH CIRCUIT CONDUITS, JUNCTION BOXES AND CONNECTIONS ARE NOT SHOWN. PROVIDE COMPLETE RACEWAY SYSTEM AND CONDUCTORS AS REQUIRED FOR THE INDICATED CIRCUITRY.

C. ALTHOUGH FEEDER AND BRANCH CIRCUIT WIRING AND CONDUIT ARE NOT SPECIFICALLY SHOWN, PROVIDE A COMPLETE FEEDER AND BRANCH CIRCUIT WIRING SYSTEM.

D. HOMERUN CIRCUITS SHALL BE 0.75 INCH CONDUIT, 2#12, 1#12 GROUND MINIMUM TO A 20A/1P CIRCUIT BREAKER IN DESIGNATED PANEL. THE NUMBERS SHOWN AT EACH DEVICE/HOMERUN REPRESENT BRANCH CIRCUIT NUMBER(S) IN PANELBOARD.

E. EXTERIOR LUMINAIRE/DEVICE CIRCUITS SHALL BE 0.75 INCH CONDUIT, 2#10, 1#10 GROUND MINIMUM TO 20A/1P CIRCUIT BREAKER IN DESIGNATED PANEL. THE NUMBERS SHOWN AT EACH DEVICE REPRESENT BRANCH CIRCUIT NUMBER(S) IN PANELBOARD.

F. ALL CONDUIT AND WIRING SIZES SHOWN ARE MINIMUMS, DEPENDING ON EXACT ROUTING, PROVIDE LARGER AS REQUIRED FOR VOLTAGE DROP, AMBIENT TEMPERATURE, OR OTHER DERATING.

G. WIRE AND RACEWAY SIZES INDICATED ON HOMERUNS/CIRCUITS SHALL BE CONTINUOUS FOR ENTIRE LENGTH.

H. A MAXIMUM OF THREE CIRCUITS SHALL BE INSTALLED IN A CONDUIT.

I. PROVIDE DEDICATED NEUTRAL FOR EACH SINGLE PHASE CIRCUIT.

J. RACEWAYS SHALL BE LIMITED TO SIX CURRENT CARRYING CONDUCTORS (THREE PHASE AND THREE NEUTRALS) AND GROUNDING CONDUCTOR.

K. CONDUCTORS MUST BE DERATED PER THE NATIONAL ELECTRICAL CODE WHEN MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE RUN IN THE SAME RACEWAY.

L. INSTALL WIRING CONCEALED IN RACEWAYS AND CONCEAL RACEWAYS IN WALLS, FLOORS, AND CEILINGS. NO SURFACE RACEWAYS SHALL BE INSTALLED ON NEW FINISHED WALLS.

M. CABLING THAT IS NOT IN CONDUIT AND IS LOCATED IN AIR HANDLING PLENUM SHALL BE PLENUM RATED. REFER TO MECHANICAL PLANS FOR PLENUM AREAS.

N. DO NOT INSTALL ELECTRICAL EQUIPMENT THAT PHYSICALLY INTERFERES WITH SERVICING OF MECHANICAL EQUIPMENT.

O. ELECTRICAL CONDUITS, WIRING, BOXES, ETC. SHALL NOT PENETRATE STAIR ENCLOSURE UNLESS THEY ARE FEEDING DEVICES LOCATED WITHIN THE STAIR ENCLOSURE.

P. PROVIDE ELECTRICAL OUTLET PLATE GASKET SEALS AT RECEPTACLES, SWITCHES, OTHER ELECTRICAL BOXES ON EXTERIOR WALLS AND INTERIOR WALLS BETWEEN CONDITIONED AND UNCONDITIONED SPACES.

Q. PROVIDE UNIVERSAL BLANK PLUGS ON SPARE CONDUITS SIZED FOR CONDUIT.

R. SEAL CONDUITS AT THE LAST STRUCTURE PRIOR TO CONDUITS ENTERING A BUILDING AND WHERE CONDUITS ENTER A BUILDING. INSTALL NYLON PULL STRING AND FOOTAGE TAPE IN SPARE CONDUITS.

S. RACEWAY AND WIRING INDICATED ON THE DRAWINGS ARE RECOMMENDATIONS FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR EXACT ROUTING.

T. 120 VOLT BRANCH CIRCUITS OVER 100 FEET IN CONDUCTOR LENGTH SHALL BE INCREASED ONE WIRE SIZE OVER CIRCUIT AMPACITY AND CIRCUITS OVER 170 FEET IN CONDUCTOR LENGTH SHALL BE INCREASED TWO WIRE SIZES.

U. 277 VOLT BRANCH CIRCUITS OVER 230 FEET IN CONDUCTOR LENGTH SHALL BE INCREASED ONE WIRE SIZE OVER CIRCUIT AMPACITY AND CIRCUITS OVER 380 FEET IN CONDUCTOR LENGTH SHALL BE INCREASED TWO WIRE SIZES.

V. ELEVATIONS AND HEIGHTS ON ELECTRICAL DRAWINGS AND SPECIFICATIONS ARE APPROXIMATE. FOR WALL MOUNTED DEVICES REFER TO ARCHITECTURAL ELEVATIONS. FOR LOCATION OF CEILING MOUNTED DEVICES REFER TO ARCHITECTURAL REFLECTED CEILING PLAN.

W. REFERENCES TO MECHANICAL INDICATES DIVISIONS 21, 22, 23, & 25 CONTRACTORS. REFERENCES TO ELECTRICAL INDICATES DIVISIONS 26, 27 & 28 CONTRACTORS.

X. PAINT CONDUIT AND BOXES WHERE CONDUIT OR BOXES ARE VISIBLE IN FINISHED SPACES. COORDINATE WITH OTHER TRADES.

Y. PROVIDE NEW, FIRST QUALITY MATERIAL FOR ALL PRODUCTS PROVIDED UNDER THIS CONTRACT.

Z. DO NOT INSTALL OUTLETS BACK TO BACK. PROVIDE MINIMUM OF 24 INCH HORIZONTAL SPACING IN FIRE RATED WALLS. MOUNT LOW VOLTAGE AND POWER OUTLETS IN DIFFERENT STUD WALL CAVITIES. PROVIDE PUTTY PADS AT EACH BOX WHERE A JUNCTION BOX OR OUTLET IS INSTALLED WITHIN THE SAME STUD WALL CAVITY AS ANOTHER OUTLET OR JUNCTION BOX ON THE OTHER SIDE OF THE WALL. PROVIDE PUTTY PADS WHERE REQUIRED TO MAINTAIN THE FIRE RATING OR THE SOUND TRANSMISSION LEVEL OF THE WALL OR FINISH.

GENERAL POWER NOTES

A. COORDINATE LOCATION OF ELECTRICAL DEVICES SUCH AS RECEPTACLES, SWITCHES, WIRING DEVICES, ETC. WITH ARCHITECTURAL PLANS, ELEVATIONS AND DETAILS PRIOR TO START OF WORK. REQUEST CLARIFICATIONS FROM ARCHITECT PRIOR TO INSTALLATION.

B. REFER TO MOTOR & EQUIPMENT SCHEDULE FOR ELECTRICAL REQUIREMENTS OF MECHANICAL (HVAC, PLUMBING, FIRE PROTECTION, ETC.) AND OTHER EQUIPMENT. REFER TO OTHER DISCIPLINE'S SHOP DRAWINGS FOR LOCATION AND CONNECTION REQUIREMENTS OF EQUIPMENT.

C. PROVIDE GFCI TYPE PROTECTION OF PERSONNEL CIRCUIT BREAKER TO FEED A NORMAL NON-GFCI RECEPTACLE IF RECEPTACLE IS DESIGNATED GFI BUT IS NOT READILY ACCESSIBLE (SUCH AS BEING LOCATED BEHIND PERMANENTLY INSTALLED EQUIPMENT OR REQUIRES A TOOL OR LADDER TO ACCESS IT).

D. COORDINATE LOCATION OF JUNCTION BOXES FOR EQUIPMENT THAT IS FURNISHED BY OTHERS. COORDINATE WITH THE EQUIPMENT SUPPLIER PRIOR TO INSTALLATION. PROVIDE WIRING FROM JUNCTION BOX TO EQUIPMENT CONNECTION AS REQUIRED.

E. COORDINATE LOCATION OF MODULAR SYSTEMS FURNITURE POWER AND DATA/TELEPHONE ENTRANCE LOCATIONS WITH FURNITURE SUPPLIER PRIOR TO CONSTRUCTION.

F. WIRING INDICATED BY CIRCUIT NUMBER SYMBOL SHALL INCLUDE A NEUTRAL WHEN THE LOAD SERVED HAS PROVISIONS FOR, OR REQUIRES A NEUTRAL. TYPICALLY, FEEDERS AND BRANCH CIRCUITS WILL REQUIRE A NEUTRAL, EXCEPT MOST MOTOR CIRCUITS.

G. WHERE CIRCUITING IS NOT SHOWN, CONNECT CONVENIENCE RECEPTACLES SUCH THAT NO MORE THAN 6 RECEPTACLES (YOKES) ARE ON A CIRCUIT. CONNECT TO THE NEAREST 120/208V PANEL SERVING THE AREA SHOWN.

H. FOR RECEPTACLES, DEVICES, AND JUNCTION BOXES THAT ARE SHOWN TAGGED (IE. 'EQC', 'AV' OR 'AP14') REFER TO SPECIFICATION OF MECH, ARCH, OR OTHER DISCIPLINES OR DRAWINGS FOR LOADS REQUIRED OR SPECIAL PURPOSE RECEPTACLES NEEDED. IF CIRCUIT IS NOT SHOWN ON PLAN DRAWING OR PANEL SCHEDULE, PROVIDE CIRCUIT OF SIZE AND REQUIREMENTS PER EQUIPMENT SUPPLIER. PROVIDE INDIVIDUAL/DEDICATED 120V, 20A CIRCUIT IF LOAD IS NOT KNOWN OR AVAILABLE FROM EQUIPMENT SUPPLIER. COORDINATE WITH EQUIPMENT SUPPLIERS AND OTHER CONTRACTORS AS REQUIRED.

I. REFER TO SPECIFICATIONS AND PROVIDE POWER SYSTEMS STUDIES AS A PART OF THIS CONTRACT. SUBMIT POWER STUDIES RESULTS WITH THE SUBMITTAL OF ELECTRICAL GEAR (SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, CIRCUIT BREAKERS, AUTOMATIC TRANSFER SWITCHES, ETC). THE ELECTRICAL EQUIPMENT SHALL BE PROPERLY RATED FOR THE AVAILABLE FAULT CURRENT AND FULLY COORDINATED WHERE REQUIRED.

CONDUIT ROUTING AND SEPARATION

GROUP	A	B	C	D
A	ADJACENT	6" [152 mm]	12" [305 mm]	12" [305 mm]
B	-	-	12" [305 mm]	6" [152 mm]
C	-	-	ADJACENT	6" [152 mm]
D	-	-	-	ADJACENT
277V, 480V ELECTRONIC DIMMER CONTROL, LIGHTING, SWITCHED POWER SOURCES & HIGH CURRENT SOURCES (120V, 40A OR GREATER)	36" [914 mm]	12" [305 mm]	6" [152 mm]	12" [305 mm]
120V, 20A POWER SERVICE	12" [305 mm]	6" [152 mm]	ADJACENT	6" [152 mm]
ALL OTHER POWER SOURCES	24" [610 mm]	12" [305 mm]	6" [152 mm]	12" [305 mm]

CONDUIT/CIRCUIT GROUP DIVISION

GROUP	DESCRIPTION	LEVEL	BANDWIDTH
A	MICROPHONE LEVEL AUDIO CIRCUITS	BELOW -30 dBu	20 Hz TO 20 KHz
B	LINE LEVEL AUDIO CIRCUITS COMMUNICATIOINS CIRCUITS	-30dBu TO +24dBu	20 Hz TO 20 KHz
C	SPEAKER LEVEL AUDIO CIRCUITS INCLUDING BOTH LOW IMPEDANCE AND HIGH IMPEDANCE (70 VOLT) TYPE	GREATER THAN +24dBu	20 Hz TO 20 KHz
D	VIDEO CONTROL CIRCUITS, VOICE, OR DATA CIRCUITS	1 VOLT PEAK TO PEAK INTO 75 Ohms 0-28 VOLT INTO 50K Ohms 2 VOLT PEAK TO PEAK INTO 100 Ohms	0 Hz TO 250 MHz 0 Hz TO 100 MHz

JUNCTION BOX (NOMINAL TRADE SIZE) SCHEDULE

J-BOX TRADE SIZE	J-BOX ACTUAL SIZE	MINIMUM VOLUME (PER NEC 314.16A)
1-GANG	4" x 3" x 2-1/8"	21.0 CUBIC INCHES
2-GANG	4-11/16" x 4-11/16" x 3-1/2"	42.0 CUBIC INCHES
3-GANG	8-5/8" x 4-1/2" x 3-1/2"	63.0 CUBIC INCHES
4-GANG	10-7/16" x 4-1/2" x 3-1/2"	84.0 CUBIC INCHES
5-GANG	12-1/4" x 4-1/2" x 3-1/2"	105.0 CUBIC INCHES
6-GANG	14-1/16" x 4-1/2" x 3-1/2"	126.0 CUBIC INCHES
4" SQUARE x 1-1/4"D	4" x 4" x 1-1/4"	18.0 CUBIC INCHES
4" SQUARE x 1-1/2"D	4" x 4" x 1-1/2"	21.0 CUBIC INCHES
4" SQUARE x 2-1/8"D	4" x 4" x 2-1/8"	30.3 CUBIC INCHES
4-11/16" SQUARE x 1-1/4"D	4-11/16" x 4-11/16" x 1-1/4"	25.5 CUBIC INCHES
4-11/16" SQUARE x 1-1/2"D	4-11/16" x 4-11/16" x 1-1/2"	29.5 CUBIC INCHES
4-11/16" SQUARE x 2-1/8"D	4-11/16" x 4-11/16" x 2-1/8"	42.0 CUBIC INCHES

GENERAL TECHNOLOGY NOTES

A. COORDINATE LOCATION OF ELECTRICAL DEVICES WITH ARCHITECTURAL PLANS, ELEVATIONS AND DETAILS PRIOR TO START OF WORK, REQUEST CLARIFICATIONS FROM ARCHITECT PRIOR TO INSTALLATION.

B. TECHNOLOGY CABLING, EQUIPMENT, OR DEVICES OF CERTAIN SYSTEMS MAY BE SPECIFIED, FURNISHED, INSTALLED, PROGRAMMED, OR PROVIDED BY OTHERS. UNLESS NOTED OTHERWISE IN SPECIFICATIONS, PROVIDE COMPLETE SYSTEMS INCLUDING BUT NOT LIMITED TO CABLING, EQUIPMENT, DEVICES, PROGRAMMING, LICENSES, INTERFACES, EXTENDERS, UPS UNITS, SWITCHES, STORAGE, COORDINATION, JACKS, ETC… REQUIRED FOR A COMPLETE SYSTEM. REFER TO SPECIFICATIONS.

C. CABLE TRAY SHALL BE CONTINUOUS. INTERRUPTIONS IN CABLE TRAY RUNS SHALL ONLY BE ALLOWED FOR SLEEVES THROUGH WALLS, FLOORS, AND FOR TRANSITION TO SLEEVES FOR ROUTING ABOVE INACCESSIBLE CEILINGS. COORDINATE CABLE TRAY ROUTING ABOVE CORRIDOR CEILINGS WITH MECHANICAL EQUIPMENT, PIPING, ELECTRICAL CONDUIT, CEILING PLANES, AND ELECTRICAL DEVICES. ADJUST CABLE TRAY ROUTING AS REQUIRED. CABLE TRAY RUN SHALL BE CONTINUOUS AND SHALL NOT BE INTERRUPTED MERELY BECAUSE COORDINATION WITH OTHER EQUIPMENT IS DIFFICULT OR WAS NOT COMPLETED PRIOR TO INSTALLATION.

D. REFER TO TECHNOLOGY DRAWINGS FOR TELECOMMUNICATIONS, SECURITY, AUDIO/VIDEO, FIRE ALARM, AND OTHER SYSTEMS AS SHOWN. PROVIDE REQUIRED RACEWAYS FOR THESE SYSTEMS FOR A COMPLETE INSTALLATION. REFER TO ELECTRICAL, TELECOMMUNICATIONS, SECURITY AND AUDIO/VISUAL SPECIFICATIONS AND DRAWINGS FOR ADDITIONAL REQUIREMENTS.

E. COORDINATE LOCATION OF JUNCTION BOXES FOR EQUIPMENT THAT IS FURNISHED BY OTHERS. COORDINATE WITH THE EQUIPMENT SUPPLIER PRIOR TO INSTALLATION. PROVIDE ALL CABLING FROM JUNCTION BOX TO EQUIPMENT CONNECTION AS REQUIRED.

F. COORDINATE LOCATION OF MODULAR SYSTEMS FURNITURE DATA/TELEPHONE ENTRANCE LOCATIONS WITH FURNITURE SUPPLIER PRIOR TO CONSTRUCTION. PROVIDE MODULAR FACEPLATES AS REQUIRED FOR FURNITURE SUPPLIED.

G. COORDINATE REQUIREMENTS AND LOCATIONS OF FLOORBOXES AND TABLE BOXES WITH FLOORBOX SUPPLIER PRIOR TO CONSTRUCTION. PROVIDE MODULAR FACEPLATES AS REQUIRED FOR BOX OPENINGS AVAILABLE.

H. WHERE WIRELESS ACCESS POINTS ARE LOCATED WITHIN AN INACCESSIBLE (GYP OR OTHER) CEILING, PROVIDE 1 GANG J-BOX IN CEILING WITH 0.75" CONDUIT TO NEAREST ACCESSIBLE CEILING. COORDINATE EXACT LOCATIONS IN CEILING WITH OWNER PRIOR TO INSTALL.

I. FOR TECHNOLOGY DEVICE LOCATIONS, PROVIDE TWO-GANG BOX MIN WITH SINGLE GANG MUD RING AND 1" CONDUIT MIN INTO ACCESSIBLE CEILING SPACE.

J. FOR AUDIO/VIDEO INPUT AND OUTPUT DEVICE LOCATIONS, PROVIDE 4-11/16" X 4-11/16" BOX MIN WITH 1.25" CONDUIT MIN INTO ACCESSIBLE CEILING SPACE. PROVIDE MUD RING SIZED AS NEEDED FOR DEVICES.

K. NOT ALL TECHNOLOGY PATHWAYS ARE SHOWN ON DRAWINGS IN ORDER TO ALLOW CONTRACTOR TO ROUTE AS NEEDED. PROVIDE ADDITIONAL CONDUITS, SLEEVES, AND PATHWAYS FOR A FULL AND COMPLETE INSTALLATION. TYPICALLY, ROUTE PATHWAYS TO LIMIT CABLE DISTANCE. PROVIDE ADDITIONAL PATHWAYS IF REQUIRED TO MAINTAIN PERMANENT LINK UTP CABLE DISTANCE OF 295'-0" FROM PATCH PANEL TO OUTLET. NO UTP CABLE DISTANCE MAY BE LONGER THAN 295'-0" UNLESS SPECIFICALLY NOTED. PROVIDE 30% SPARE CABLE FILL CAPACITY MINIMUM IN PATHWAYS.

L. TYPICALLY, NOT ALL ACCESS CONTROL DEVICES ARE SHOWN ON FLOOR PLANS. PROVIDE CONDUIT AND CONNECTIONS FOR ALL ELECTRONIC DOOR HARDWARE AT ANY LOCATIONS SHOWING DOOR CONTACTS OR CARD READERS OR SHOWN IN ARCH DWGS/SPECS. TYPICALLY OTHER DEVICES (ELECTRIC STRIKES, ELECTRONIC LOCKS, MAG LOCKS, REQUEST-TO-EXITS, ELECTRIC HINGES, DOOR OPENERS, ETC..) WILL ALSO BE REQUIRED AS PER THE EXACT LOCATION AS PER THE ARCH DOOR HARDWARE SCHEDULE AND DIV 8 SPECIFICATIONS. PROVIDE ALL CONNECTIONS REQUIRED AND REFER TO ELEC DETAILS FOR TYPICAL CONNECTION REQUIREMENTS. COORDINATE ALL REQUIREMENTS WITH DIV 8 SUPPLIER.

M. FIRE ALARM SYSTEM WIRING IS NOT SHOWN. PROVIDE CONDUIT AND WIRING NECESSARY FOR A COMPLETE AND OPERATING SYSTEM.

N. FIRE ALARM DEVICES TO BE WIRED BACK INTO EXISTING FIRE ALARM SYSTEM.

O. ALL CAMERAS SHALL BE CEILING/CANOPY MOUNTED WHERE LOCATED IN A CEILING/CANOPY AREA. WALL MOUNTED CAMERAS SHALL MATCH HEIGHT OF WALL LIGHT FIXTURES ~12' ABOVE FINISHED GRADE BUT SHALL BE 84" AFF MIN ABOVE FINISH GRADE. ADJUST HEIGHT HIGHER AS NEEDED TO CENTER WITHIN BLOCK COURSE.

GENERAL ELECTRICAL SITE NOTES

A. NOTIFY AFFECTED UTILITY PROVIDERS AND LOCATE CUSTOMER OWNED UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF WORK.

B. THE LOCATION AND QUANTITY OF EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES DUE TO FAILURE TO LOCATE AND PRESERVE UNDERGROUND UTILITIES (INCLUDING CUSTOMER OWNED SITE UTILITIES).

C. PROVIDE ALL TRENCHING AND BACKFILLING AS PER DIVISION 02.

D. RESTORE TO ORIGINAL GRADE AND PROVIDE SOD/GRASS IN ALL DISTURBED AREAS.

E. PROVIDE ALL CONCRETE PADS FOR ELECTRICAL EQUIPMENT AS PER DIVISION 03.

F. MAINTAIN MINIMUM OF 24" FROM FINISHED GRADE TO TOP OF UNDERGROUND DUCT BANKS AND UNDERGROUND CONDUIT RUNS.

G. EXISTING CONDUIT, WIRING, ETC. ROUTED THROUGH AREAS TO BE EXCAVATED SHALL BE RE-ROUTED AS REQUIRED TO ENSURE CONTINUITY OF EXISTING CIRCUITS.

H. REMOVE ABANDONED ELECTRICAL CONDUCTORS AND CONDUITS IN AREAS TO BE EXCAVATED. REMOVE ALL CONDUCTORS ABANDONED THROUGH THIS CONTRACT. WHERE CONDUIT IS NOT IN AN AREA BEING EXCAVATED, CONDUIT MAY BE ABANDONED IN PLACE AND CAPPED.

I. EXISTING UTILITIES SHALL REMAIN TO SERVE EXISTING STRUCTURES UNTIL THEY ARE VACATED. PROVIDE TEMPORARY SERVICES AS REQUIRED.

J. PROVIDE EMPTY CONDUITS WITH NYLON PULL STRINGS AND METALLIC CAPS.

K. REFER TO SITE ARCHITECTURAL, LANDSCAPING AND CIVIL ENGINEERING PLANS FOR ADDITIONAL INFORMATION, DETAILS AND LOCATIONS OF EQUIPMENT.

L. WHERE PVC CONDUIT, WHETHER DIRECT BURIED OR IN DUCT BANK, TERMINATES WITHIN A BUILDING OR UTILITY STRUCTURE, THE PVC CONDUIT SHALL TRANSITION TO RIGID METAL CONDUIT AT LEAST 10 FEET PRIOR TO ENTERING THE BUILDING OR UTILITY STRUCTURE.

M. ALL SITE CONDUITS SHALL FOLLOW THE CONTOUR OF THE CURB / SIDEWALKS WHENEVER POSSIBLE. ROUTE ALL SITE LIGHTING AND SECURITY SYSTEM CONDUIT WITHIN 12" OF THE EDGE OF THE CURB / SIDEWALK.

N. ALL UNDERGROUND RACEWAY SHALL BE 2 INCH PVC SCHEDULE 40 CONDUIT (MINIMUM), UNLESS REQUIRED TO BE LARGER. ALL ELBOWS SHALL BE RIGID METAL CONDUIT.

O. PROVIDE GPS COORDINATES ON AS-BUILT DRAWINGS FOR ALL MANHOLES, HANDHOLES, POLES, AND ELECTRICAL EQUIPMENT.

ELECTRICAL SHEET INDEX

Sheet	Title
E000	ELECTRICAL SYMBOLS AND ABBREVIATIONS
E011	ELECTRICAL SITE PLAN
E211	LEVEL 1 LIGHTING PLAN - AREA A
E221	LEVEL 2 LIGHTING PLAN - AREA A
E311	LEVEL 1 POWER PLAN - AREA A
E321	LEVEL 2 POWER PLAN - AREA A
E411	LEVEL 1 TECHNOLOGY PLAN - AREA A
E421	LEVEL 2 TECHNOLOGY PLAN - AREA A
E601	ELECTRICAL SINGLE LINE DIAGRAM
E801	LUMINAIRE SCHEDULES
E802	MOTOR & EQUIPMENT SCHEDULES

GENERAL LIGHTING NOTES

A. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN DRAWINGS FOR LOCATION OF LUMINAIRES AND CEILING MOUNTED ELECTRICAL DEVICES.

B. REFER TO ARCHITECTURAL ELEVATIONS AND DETAILS FOR LOCATION OF WALL MOUNTED LUMINAIRES, TASK LIGHTING, DISPLAY LIGHTING, AND COVE LIGHTING.

C. SWITCHING SHOWN ON PLANS DO NOT SHOW SWITCH LEG/TRACER WIRE BETWEEN LINE-VOLTAGE SWITCHES OR CONTROLS WIRING. PROVIDE REQUIRED WIRING FOR SWITCHING AND CONTROL OF LIGHTING.

D. CONNECT EXIT SIGNS AND RESCUE ASSISTANCE SIGNS TO THE LINE SIDE OF THE LIFE SAFETY (EMERGENCY) LIGHTING CIRCUIT SERVING THE SAME AREA, SUCH THAT THEY HAVE CONTINUOUS ILLUMINATION CHARGING AND AC CIRCUIT MONITORING.

E. CONNECT LUMINAIRES NOTED WITH THE SUBSCRIPT 'NL' (NIGHT LIGHT) FOR CONTINUOUS NON-SWITCHED ILLUMINATION.

F. WIRE EMERGENCY BATTERY UNITS AND BATTERY DRIVERS AHEAD OF SWITCH LEGS ON LOCAL EMERGENCY LIGHTING BRANCH CIRCUITS SERVING THE SAME AREA FOR CONTINUOUS CHARGING AND AC CIRCUIT MONITORING SUCH THAT LUMINAIRE ILLUMINATES UPON FAILURE OF LOCAL POWER.

G. FOR EVERY SWITCHED OR DIMMED LUMINAIRE CONNECTED TO A GENERATOR/INVERTER CIRCUIT, PROVIDE UL 924 RELAY. IN ADDITION TO CIRCUIT FROM GENERATOR/INVERTER TO RELAY, FOR AC CIRCUIT MONITORING PROVIDE POWER CIRCUITING THAT IS CONNECTED AHEAD OF SWITCH LEGS ON NORMAL BRANCH CIRCUITS SERVING THE SAME AREA SUCH THAT LUMINAIRE ILLUMINATES UPON FAILURE OF LOCAL LIGHTING POWER.

H. LUMINAIRES IN SERVICE SPACES SUCH AS MECHANICAL ROOMS AND TELECOM ROOMS ARE SHOWN FOR QUANTITY ONLY. COORDINATE LUMINAIRE LOCATIONS WITH THE MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC. TO GIVE ADEQUATE DISTRIBUTED ILLUMINATION LEVELS THROUGHOUT THE SPACE AND AT ALL WALKWAYS.

I. INSTALL CONDUIT AND WIRING FOR EXTERIOR BUILDING MOUNTED DEVICES AND LUMINAIRES CONCEALED WITHIN THE BUILDING, NOT EXPOSED ON BUILDING EXTERIOR.

J. CONNECT UNDERCABINET LIGHTING TO LOCAL CONVENIENCE BRANCH RECEPTACLE CIRCUIT.

K. WHERE CIRCUITING IS NOT SHOWN, CONNECT TO NEAREST LIGHTING CIRCUIT OF THE SAME VOLTAGE SERVING THE AREA SHOWN. CONNECT SUCH THAT NO MORE THAN 1600VA PER 20A, 120V CIRCUIT OR 3800VA PER 20A, 277V CIRCUIT IS CONNECTED.

L. SWITCHES OR LIGHTING CONTROLS IN A SPACE SHALL CONTROL LIGHTING IN THAT SPACE UNLESS NOTED OTHERWISE.

CONTACTS

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KFI ENGINEERS
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Fax No: (651) 771-0878
Contact: Xxxxx X. Xxxxxxxxx
E-mail: xxxxxxxx@kfi-eng.com

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ELECTRICAL SYMBOLS AND ABBREVIATIONS

Project	22-0009	Drawing Number
Date	XX/XX/2021	
Drawn by	Author	E000
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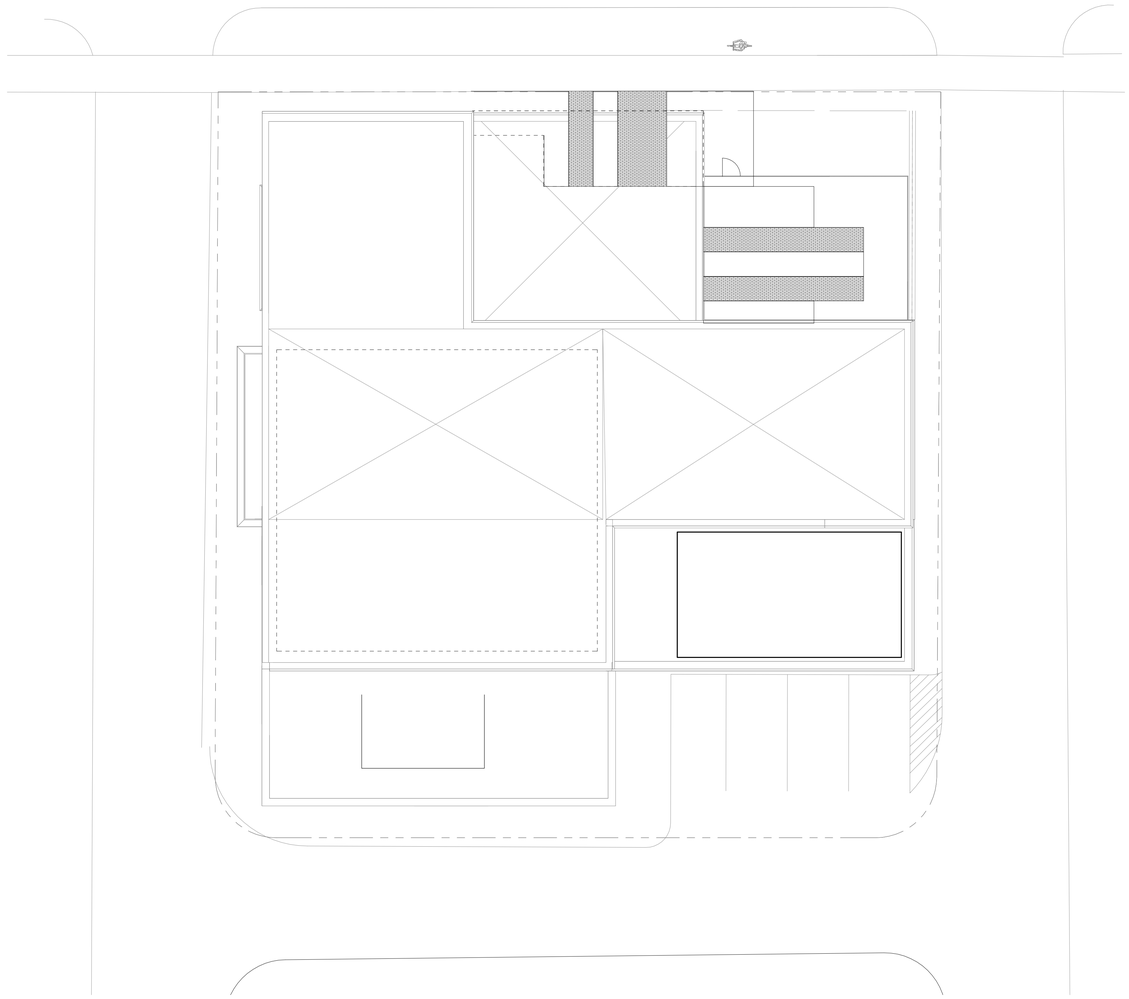

1 E011 ELECTRICAL SITE PLAN
1" = 10'-0"
0 10' 20' 40'

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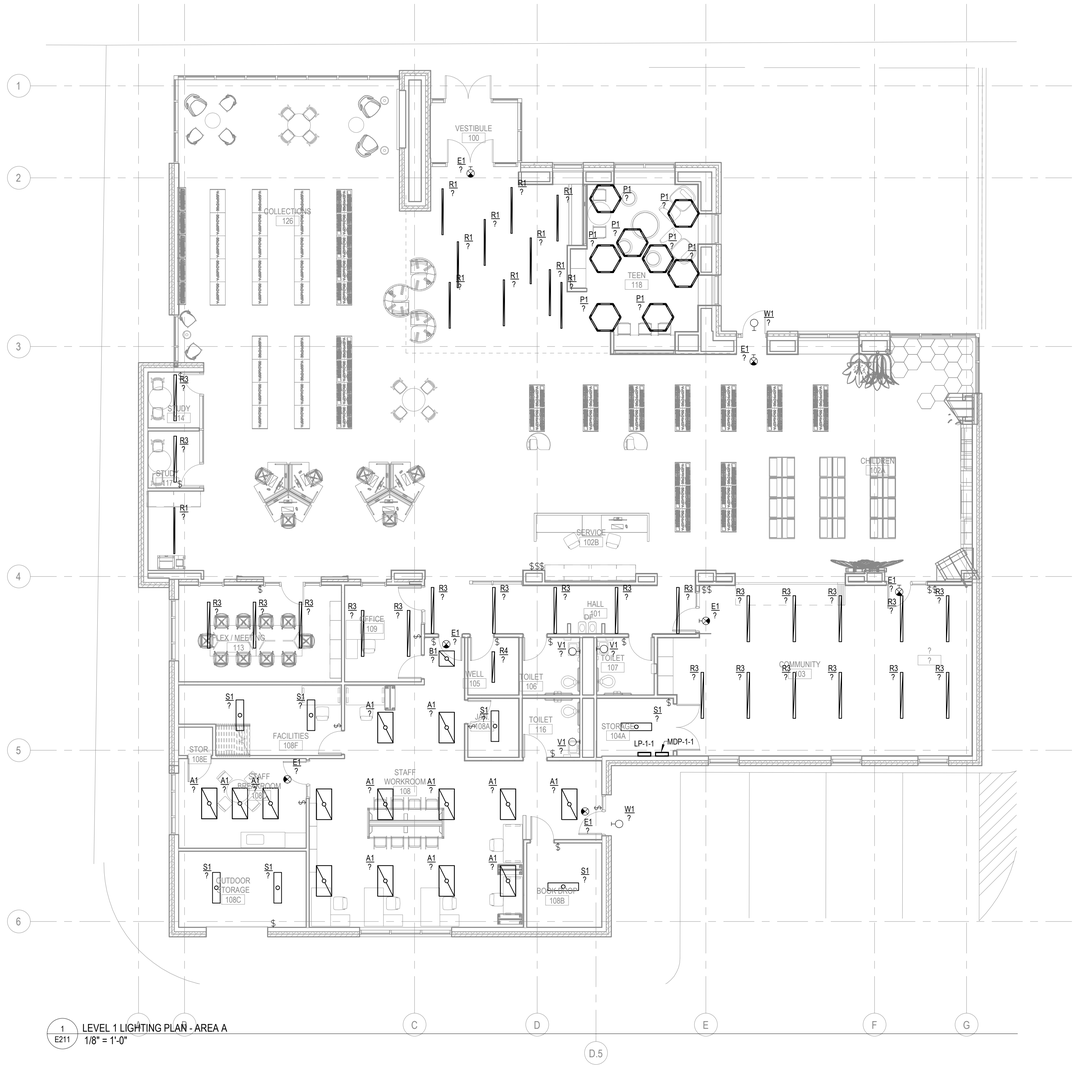

1 / E211 LEVEL 1 LIGHTING PLAN - AREA A
1/8" = 1'-0"

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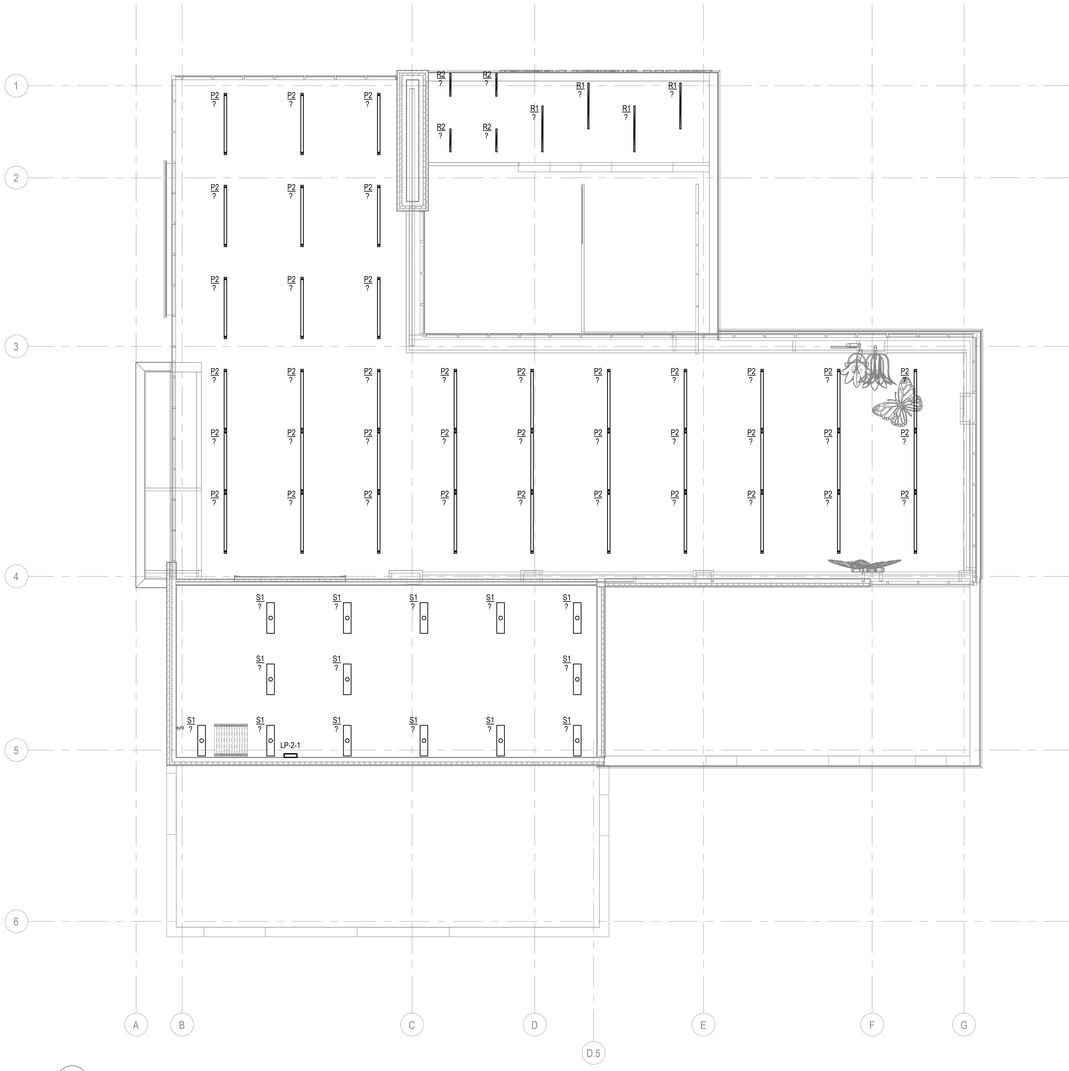

1 E221 LEVEL 2 LIGHTING PLAN - AREA A
1/8" = 1'-0"

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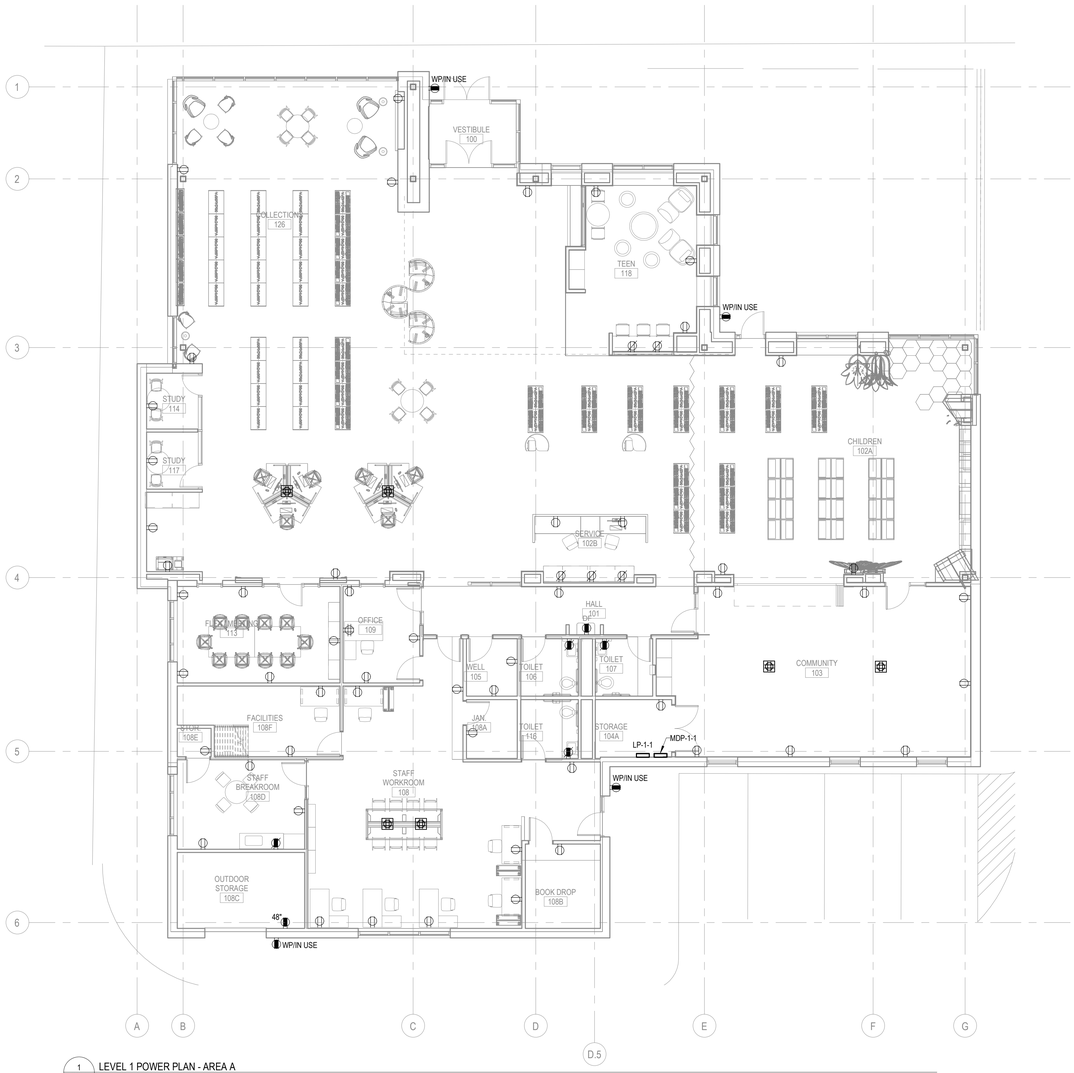

1 / E311 LEVEL 1 POWER PLAN - AREA A
1/8" = 1'-0"

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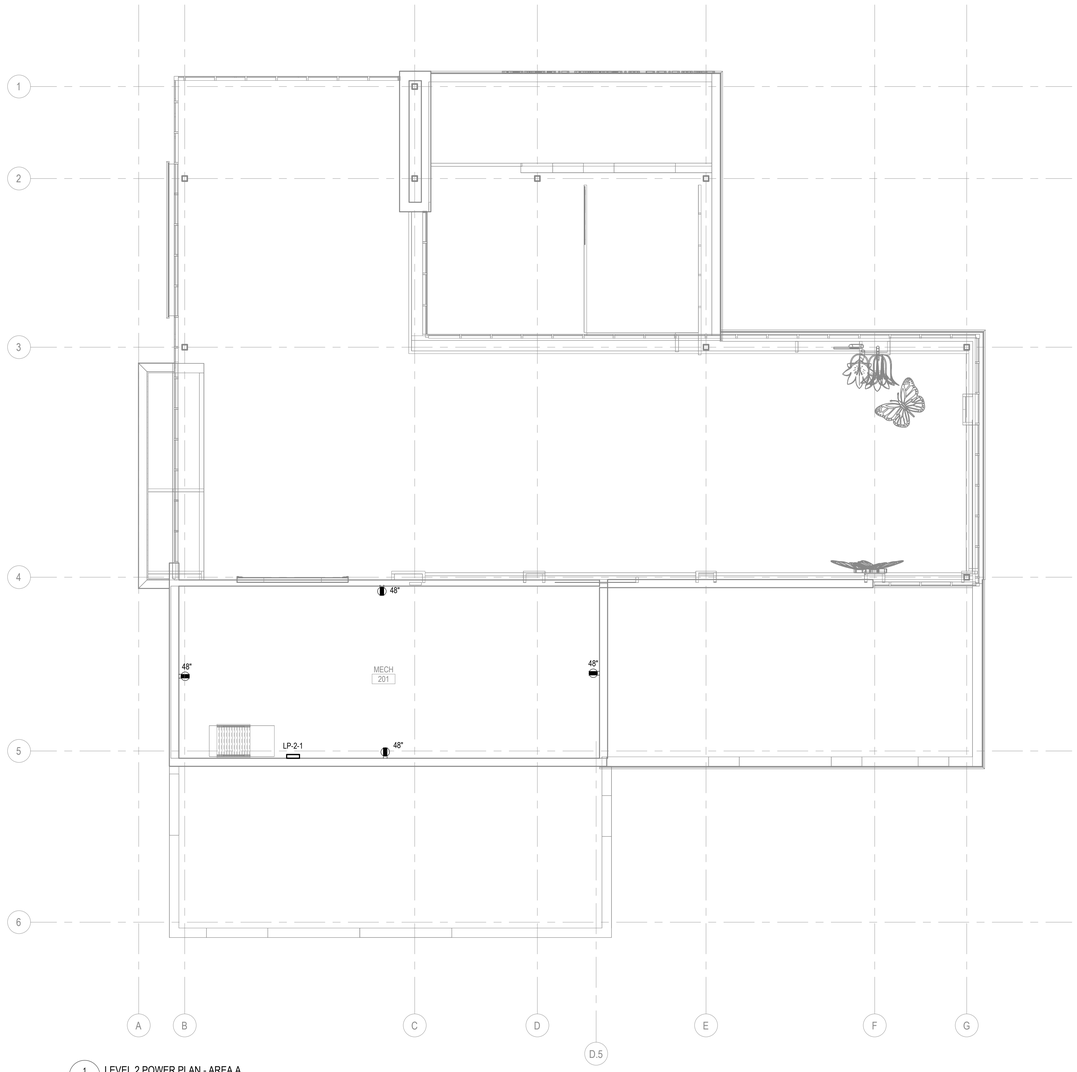

1 / E321 LEVEL 2 POWER PLAN - AREA A
1/8" = 1'-0"

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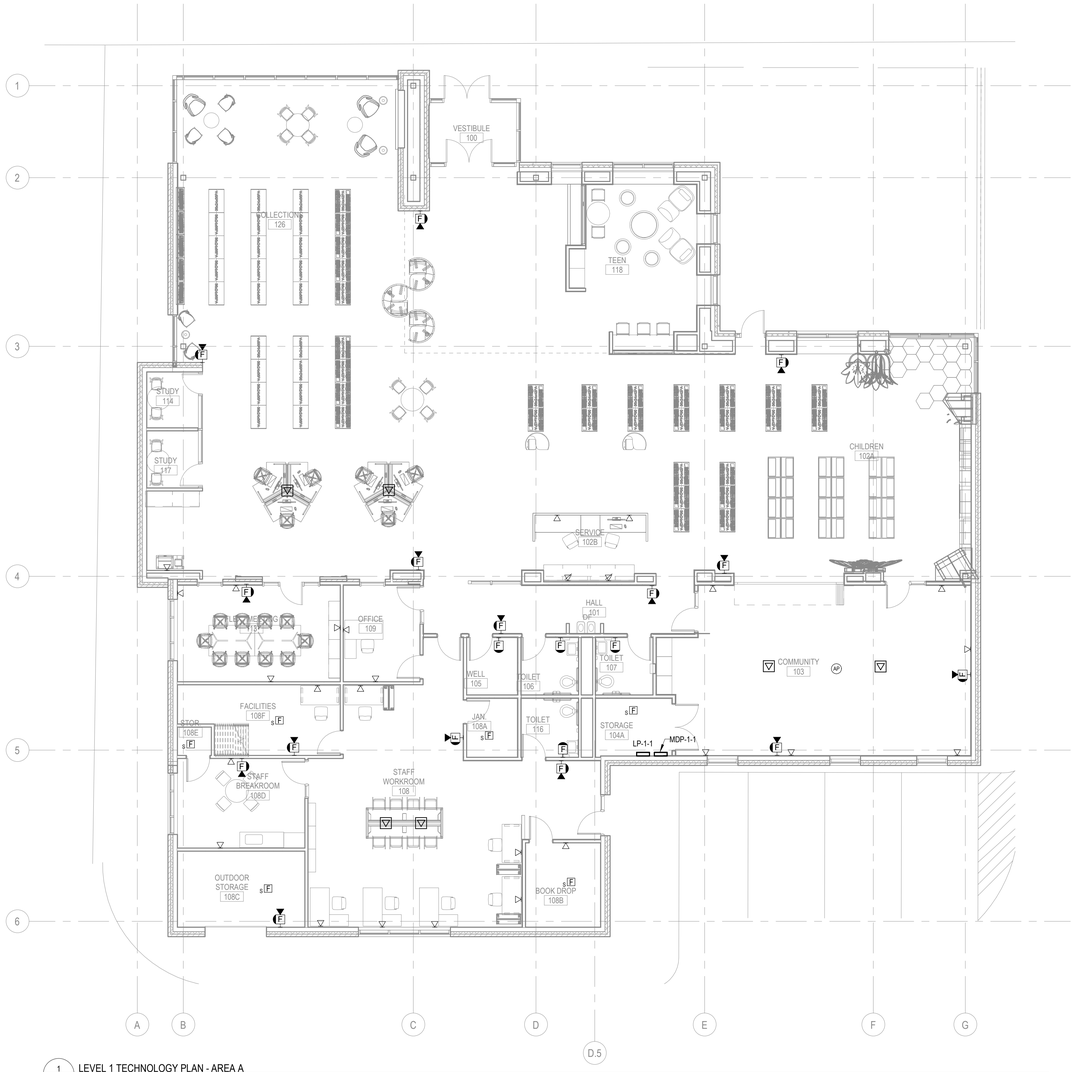

1 / E411 LEVEL 1 TECHNOLOGY PLAN - AREA A
1/8" = 1'-0"

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LEVEL 1
TECHNOLOGY PLAN
- AREA A

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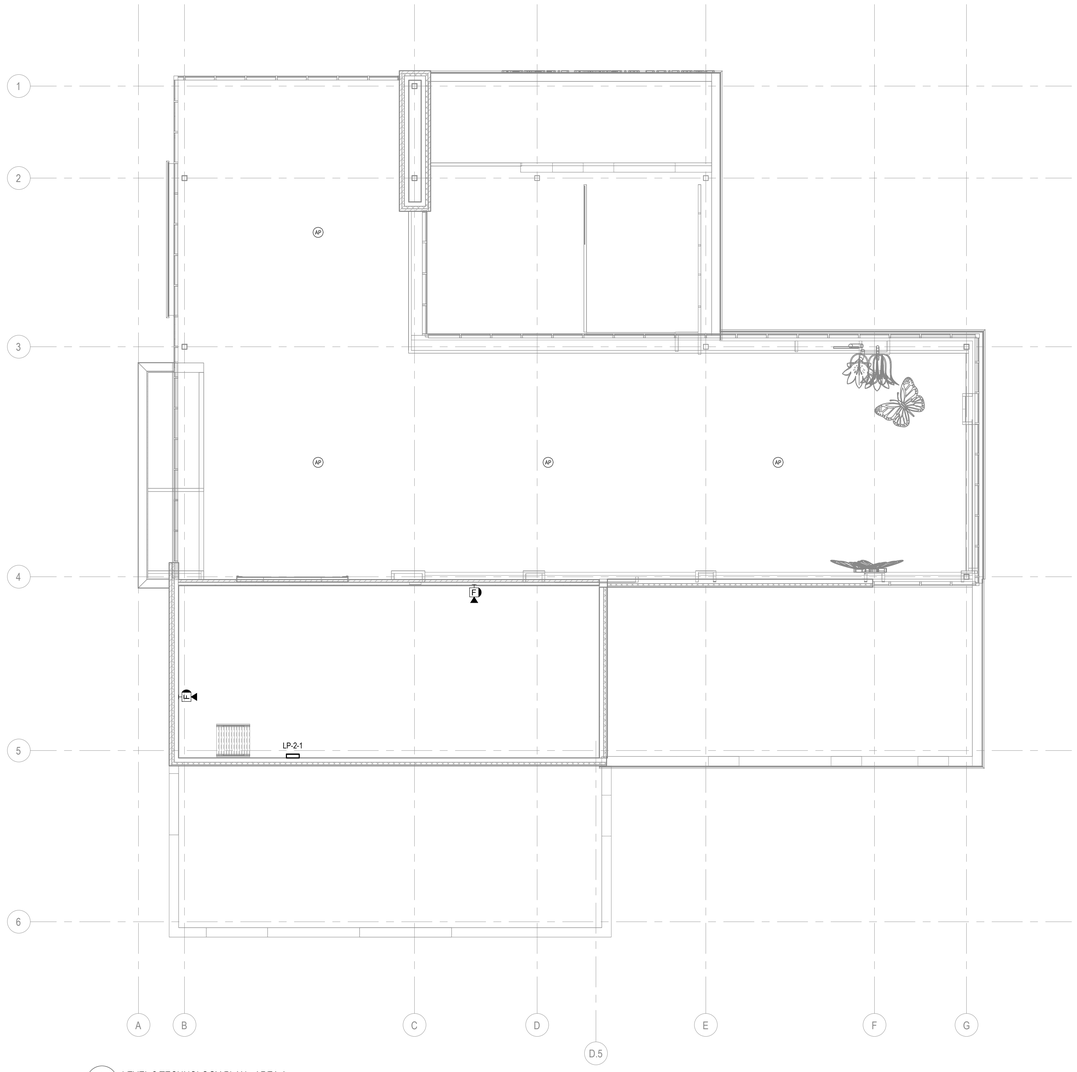

1 / E421 LEVEL 2 TECHNOLOGY PLAN - AREA A
1/8" = 1'-0"

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LEVEL 2 TECHNOLOGY PLAN - AREA A

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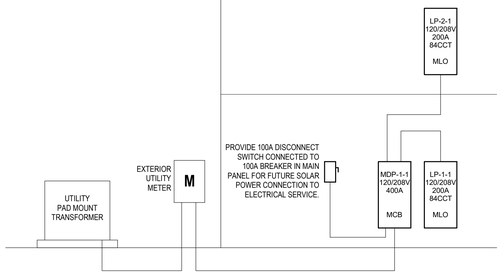

1 / E601 SINGLE LINE DIAGRAM
NOT TO SCALE

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ELECTRICAL SINGLE LINE DIAGRAM

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LIGHTING CONTROLS SEQUENCE OF OPERATIONS SCHEDULE

TYPICAL LIGHTING AREA	SWITCH TYPE	SWITCH FUCTIONS			SENSOR FUNCTIONS	ILLUMINATION LEVEL (FOOT-CANDLES)	POSITION OF MEASUREMENT (HORIZONTAL PLANE)
		MANUAL ON	MANUAL OFF	MANUAL DIMMING	VACANCY		
BREAK ROOM/ STAFF LOUNGE	(1) LOW VOLTAGE SWITCH	YES	YES	YES	YES	30	TABLE (2.5' ABOVE THE FLOOR)
CLASSROOM	(1) LOW VOLTAGE SWITCH	YES	YES	YES	YES	40	TABLE (2.5' ABOVE THE FLOOR)
CLASSROOM - SPECIAL ED	(2) LOW VOLTAGE SWITCH	YES	YES	YES	YES	40	TABLE (2.5' ABOVE THE FLOOR)
CORRIDORS/ MAIN LOBBY	OCCUPANY SENSORS	NO	NO	NO	NO	20	FLOOR
COT AREA	(1) LOW VOLTAGE SWITCH PER COT	YES	YES	YES	NO	50	TABLE (2.5' ABOVE THE FLOOR)
DATA	LINE VOLTAGE	YES	YES	NO	NO	20	FLOOR
DISHWASHING ROOM	(1) LOW VOLTAGE SWITCH	YES	YES	NO	NO	50	COUNTER TOP (2.5' ABOVE THE FLOOR)
ELEC	LINE VOLTAGE	YES	YES	NO	NO	20	FLOOR
EXTERIOR - ENTRANCE/ EXIT	ASTRONOMICAL TIME CONTROL SWITCH W/ OVERRIDE SWITCH					5-10	FINISHED GRADE
INDIVIDUAL TOILET	WALL SENSOR	NO	NO	NO	NO	20	FLOOR
KITCHEN	(2) LOW VOLTAGE SWITCH	YES	YES	NO	NO	50	COUNTER TOP (2.5' ABOVE THE FLOOR)
LUNCH ROOM	(4) LOW VOLTAGE SWITCH	YES	YES	YES	NO	30	TABLE (2.5' ABOVE THE FLOOR)
MECH	LINE VOLTAGE	YES	YES	NO	NO	20	FLOOR
MEDIA CENTER	(4) LOW VOLTAGE SWITCH	YES	YES	YES	YES	40	TABLE (2.5' ABOVE THE FLOOR)
NURSE WORK AREA	(1) LOW VOLTAGE SWITCH	YES	YES	YES	YES	30	TABLE (2.5' ABOVE THE FLOOR)
PRIVATE OFFICES - INTERIOR	(1) LOW VOLTAGE SWITCH	YES	YES	YES	YES	30	TABLE (2.5' ABOVE THE FLOOR)
PRIVATE OFFICES - PERIMETER	(1) LOW VOLTAGE SWITCH	YES	YES	YES	YES	30	TABLE (2.5' ABOVE THE FLOOR)
SMALL - OPEN OFFICE	(1) LOW VOLTAGE SWITCH	YES	YES	YES	NO	30	TABLE (2.5' ABOVE THE FLOOR)
STAFF / STUDENT TOILET	OCCUPANCY SENSORS	NO	NO	NO	NO	20	FLOOR
STORAGE	(1) LOW VOLTAGE SWITCH	YES	YES	NO	NO	20	FLOOR

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	CIRCUIT VOLTAGE	MOUNTING	LAMP	LUMENS	CRI	COLOR TEMPERATURE	CONNECTED (VA)	EFFICACY	BALLAST/DRIVER	LENS/LOUVER	MANUFACTURER	CATALOG SERIES	NOTE
A1	2X4 RECESSED,TROFFFER, EXTRUDED ALUMINUM AND NARROW FRAME WITH MATTE WHITE FINISH	120 V	RECESSED, ACT CEILING	LED	4800 lm	80	3500 K	42 VA	97 lm/W	0-10V DIMMING DRIVER	FLAT ACRYLIC LENS	MARK LIGHTING, OR APPROVED EQUAL BY LUMENWERX, FOCAL POINT - EQUATION 2, METALUX, LEDALITE	WHSPR LCTR-2X4-4800LM-35K -80CR1-MIN1-ZT-MVO LT-SWC	
B1	2X2 RECESSED,TROFFER, EXTRUDED ALUMINUM AND NARROW FRAME WITH MATTE WHITE FINISH	120 V	RECESSED, ACT CEILING	LED	3400 lm	80	3500 K	30 VA	100 lm/W	0-10V DIMMING DRIVER	FLAT ACRYLIC LENS	MARK LIGHTING, OR APPROVED EQUAL BY LUMENWERX, FOCAL POINT - EQUATION 2, METALUX, LEDALITE	WHSPR LCTR-2X2-3300LM-35K -80CR1-MIN1-ZT-MVO LT-SWC	
E1	SINGLE FACE LED EXIT SIGN, DIE-CAST ALUMINUM HOUSING, BRUSHED ALUMINUM FACEPLATE WITH MATTE WHITE TRIM FINISH, UNIVERSAL DIRECTIONAL ARROWS SINGLE FACE ARROWS AS INDICATED ON DRAWINGS	277 V	UNIVERSAL MOUNT	LED	<varies>	N/A	4000 K	1 VA	<varies>	AC ONLY	WHITE DIE-CAST STENCIL FACE, GREEN LETTERS	LITHONIA, OR APPROVED EQUAL BY BEGHELLI, ISOLITE, SURELITES, LIGHTALARM	LE-S-W-1-G	<varies>
P1	2' HEXAGONAL DIRECT LED PENDANT	120 V	AIR CRAFT CABLE	LED	3100 lm	80+	3500 K	57 VA	97 lm/W	0-10V DIMMING DRIVER	FLAT ACRYLIC LENS	CORELITE	NB-SW-2T8-1D-120-AC 48-ST-xx-DL2	
P2	8' LINEAR DIRECT/INDIRECT LED PENDANT	120 V	AIR CRAFT CABLE	LED	9168 lm	80+	3500 K	96 VA	97 lm/W	0-10V DIMMING DRIVER	FLAT ACRYLIC LENS	CORELITE	LSA-LED-U/PON-8FT-3 500K-IN-MED-D-MED-UNV-DB-W-AC-FL-FL-NA-NA-DC-STD	
R1	2"X6' RECESSED LINEAR LED	120 V	RECESSED, ACT CEILING	LED	2844 lm	80+	3500 K	30 VA	97 lm/W	0-10V DIMMING DRIVER	FLAT ACRYLIC LENS	CORELITE	LSR2-6-35-LOW-UNV-DB-W-T-FL-NA-NA-NA	
R2	2"3' RECESSED LINEAR LED	120 V	RECESSED, ACT CEILING	LED	2422 lm	80+	3500 K	15 VA	97 lm/W	0-10V DIMMING DRIVER	FLAT ACRYLIC LENS	CORELITE	LSR2-3-35-LOW-UNV-DB-W-T-FL-NA-NA-NA	
R3	4"X6' RECESSED LINEAR LED	120 V	RECESSED, ACT CEILING	LED	3540 lm	80+	3500 K	42 VA	97 lm/W	0-10V DIMMING DRIVER	FLAT ACRYLIC LENS	CORELITE	LSR4-6-35-MED-UNV-DB-W-T-FL-NA-NA-NA	
R4	4"X4' RECESSED LINEAR LED	120 V	RECESSED, GYP OR ACT CEILING	LED	2360 lm	80+	3500 K	28 VA	97 lm/W	0-10V DIMMING DRIVER	FLAT ACRYLIC LENS	CORELITE	LSR4-4-35-MED-UNV-DB-W-F-FL-NA-NA-NA	
S1	1X4 RECESSED, EDGE-LIT FLAT PANEL, EXTRUDED ALUMINUM AND NARROW FRAME, SURFACE MOUNT TROFFER KIT, WITH MATTE WHITE FINISH	120 V	SURFACE, CEILING	LED	4000 lm	80	3500 K	27 VA	97 lm/W	0-10V DIMMING DRIVER	FLAT ACRYLIC LENS	LITHONIA, OR APPROVED EQUAL BY COLUMBIA, METALUX, DAYBRITE	CLX-L48-4000LM-SEF-FDL-MVOLT-GZ10-35K -80CRI	
V1	WALL MOUNTED FIXTURE	120 V	SURFACE, WALL	LED	2982 lm	80+	3500 K	30 VA	149 lm/W	0-10V DIMMING DRIVER	FLAT ACRYLIC LENS	TERON LIGHTING	VCL24-L20.1-TE550-12 0-277V-TW-35K-TP	
W1	LED WEDGE WALLPACK	120 V	SURFACE, WALL	LED	2000 lm	80+	3500 K	15 VA	149 lm/W	---	---	LITHONIA, OR APPROVED EQUAL BY COLUMBIA, HOLOPHANE, HE WILLIAMS, METALUX, MERCURY	WDGE1 LED-P2-35K-80CRI-VF-MVOLT-PE-DDBXD	

GENERAL NOTES:
A. LUMINAIRE MANUFACTURERS INDICATED BY SERIES SHALL MATCH LUMINAIRE MANUFACTURER WITH FULL CATALOG NUMBER GIVEN.
B. ALL LUMINAIRES SHALL BE PAINTED AFTER FABRICATION (PAF).
C. ACRYLIC LENS SHALL BE .125 MINIMUM THICKNESS.
D. LED DRIVERS SHALL BE ELECTRONIC, PROGRAM RAPID START, BY ADVANCE OR EQUIVALENT.
E. LED DRIVERS SHALL BE MULTI-VOLTAGE TYPE WHEN AVAILABLE.
F. EXPOSED SURFACES OF LUMINAIRES SHALL BE WHITE, PAINTED AFTER FABRICATION (PAF), UNLESS NOTED OTHERWISE.

NOTES:
1.

LIGHTING FIXTURE SCHEDULE (EXTERIORS)

TYPE	DESCRIPTION	CIRCUIT VOLTAGE	MOUNTING	LAMP	LUMENS	CRI	COLOR TEMPERATURE	CONNECTED (VA)	EFFICACY	BALLAST/DRIVER	LENS/LOUVER	MANUFACTURER	CATALOG SERIES	NOTE

GENERAL NOTES:
A. LUMINAIRE MANUFACTURERS INDICATED BY SERIES SHALL MATCH LUMINAIRE MANUFACTURER WITH FULL CATALOG NUMBER GIVEN.
B. ALL LUMINAIRES SHALL BE PAINTED AFTER FABRICATION (PAF).
C. ACRYLIC LENS SHALL BE .125 MINIMUM THICKNESS.
D. LED DRIVERS SHALL BE ELECTRONIC, PROGRAM RAPID START, BY ADVANCE OR EQUIVALENT.
E. LED DRIVERS SHALL BE MULTI-VOLTAGE TYPE WHEN AVAILABLE.
F. EXPOSED SURFACES OF LUMINAIRES SHALL BE WHITE, PAINTED AFTER FABRICATION (PAF), UNLESS NOTED OTHERWISE.

NOTES:
1.

LSE ARCHITECTS

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No.	Date	Revision Description

75% DESIGN DEVELOPEMENT

LUMINAIRE SCHEDULES

Project	22-0009	**Drawing Number**
Date	XX/XX/2021	
Drawn by	Author	
Checked by	Checker	**E801**

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MOTOR & EQUIPMENT SCHEDULE

UNIT NO. / TAG	DESCRIPTION	LOCATION		H.P.	WATT'S (W)	CONNECTED VOLTAGE(V)	PHASE	FLA (A)	MCA (A)	MOCP (A)	MIN. S.C.C.R (A)	CONTROLLER			DISCONNECT			CONTROLLED BY	DUCT SMOKE DETECTION	CONDUIT & WIRE SIZE & QUANTITY	PANEL	CIRCUIT #	NOTES
		NAME	NUMBER									TYPE	STARTER SIZE	FURN/INSTALED BY	NEMA RATING	SIZE	FURN/INSTALLED BY						

GENERAL NOTES:
A. DIVISION 26 CONTRACTOR TO VERIFY EQUIPMENT SPECIFICATION INFORMATION WITH CORRESPONDING MECHANICAL SCHEDULES AND SHOP DRAWINGS PRIOR TO INSTALLATION.
B. DIVISION 22 OR 23 CONTRACTOR SHALL BE RESPONSIBLE FOR HANDLING, INSTALLATION, CONTROLS AND CONTROL WIRING OF ALL MECHANICAL EQUIPMENT LISTED UNLESS NOTED OTHERWISE.
C. DIVISION 26 CONTRACTOR TO SHALL BE RESPONSIBLE FOR PROVIDING REQUIRED ELECTRICAL INTERCONNECTING POWER WIRING BETWEEN STARTER/VFD'S, DISCONNECTS AND CONNECTIONS TO MECHANICAL EQUIPMENT LISTED UNLESS NOTED OTHERWISE.
D. DUCT SMOKE DETECTORS SHALL BE PROVIDED ON BOTH THE SUPPLY AND RETURN DUCT WHEN INDICATED ON SCHEDULE.
E. DUCT SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY DIVISION 26 CONTRACTOR, INSTALLED BY DIVISION 23 CONTRACTOR.
F. ALL EQUIPMENT SIZES, LOADS, HP RATINGS, CIRCUIT BREAKER SIZES, STARTER SIZES, CONNECTION TYPE, AND CONDUIT/WIRE SIZES ARE AS PER THE SIZES AND BASIS OF DESIGN EQUIPMENT COORDINATED DURING DESIGN WITH THE VARIOUS DISCIPLINES. ALL REVISIONS AFTER BID (PER EQUIPMENT SUBMITTALS AND ACTUAL SUPPLIED EQUIPMENT) SHALL BE CONSOLIDATED INTO A SINGLE CONFIRMING RFI SUBMITTED BY THE ELECTRICAL CONTRACTOR SHOWING REDLINED PROPOSED REVISIONS TO BE REVIEWED BY KFI.

NOTES:
1. PROVIDE DEDICATED 120 VOLT, 20 AMP CIRCUIT TO UNIT FOR GENERAL PURPOSE GFCI OUTLETS AND GENERAL LIGHTING.
2.

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Key Plan

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No.	Date	Revision Description

75% DESIGN DEVELOPEMENT

MOTOR & EQUIPMENT SCHEDULES

Project	22-0009	**Drawing Number**
Date	XX/XX/2021	
Drawn by	Author	
Checked by	Checker	**E802**

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00 21 13 Instructions to Bidders
00 22 13 Supplementary Instructions to Bidders
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00 26 00 Procurement Substitution Procedures
With Attachment
1. Procurement Substitution Request Form

00 31 26 Existing Hazardous Materials Information
With Attachment
1. Report

00 31 32 Geotechnical Data
With Attachment
1. Geotechnical Report

00 41 00 Bid Form
00 43 13 Bid Security Form
With Attachment
1. A310B2010, Bid Bond

00 43 22 Unit Prices Form

Contracting Requirements

Specifier: Verify the following with the Owner and insert AIA document or other document accordingly.

00 52 00 Agreement Form
With Attachment
1. AIA Document B ***[insert t document number, title, and year edition]***

00 61 13 Performance and Payment Bond Form
With Attachment
1. A312B2010, Performance Bond and Payment Bond

00 72 00 General Conditions of the Contract

With Attachment
1. AIA Document A201-2007, General Conditions to the Contract for Construction

00 73 00 Supplementary Conditions
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01 33 33 Electronic Drawings
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DIVISION 22 - PLUMBING

Refer to Project Manual - Volume 2 of 2 - Engineering for Specifications to this Division of the Work

DIVISION 23 - HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

Refer to Project Manual - Volume 2 of 2 - Engineering for Specifications to this Division of the Work

DIVISION 25 - INTEGRATED AUTOMATION

Refer to Project Manual - Volume 2 of 2 - Engineering for Specifications to this Division of the Work

DIVISION 26 - ELECTRICAL

Refer to Project Manual - Volume 2 of 2 - Engineering for Specifications to this Division of the Work

DIVISION 27 - COMMUNICATIONS

Refer to Project Manual - Volume 2 of 2 - Engineering for Specifications to this Division of the Work

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

Refer to Project Manual - Volume 2 of 2 - Engineering for Specifications to this Division of the Work

DIVISION 31 - EARTHWORK

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Refer to Project Manual - Volume 2 of 2 - Engineering for Specifications to this Division of the Work

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Refer to Project Manual - Volume 1 of 2 - Architectural for Procurement Requirements which apply to the entire Project.

Contracting Requirements

Refer to Project Manual - Volume 1 of 2 - Architectural for Contracting Requirements which apply to the entire Project.

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Refer to Project Manual - Volume 1 of 2 - Architectural for General Requirements which apply to the entire Project.

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Estimated Costs Worksheet

Saint Paul Public Library

Hamline Midway Library	2023 Construction Start	2024 Construction Start		2025 Construction Start	
		Low	High	Low	High
Estimated Construction Cost	$ 6,168,651	$ 6,631,300	$ 6,785,516	$ 6,962,865	$ 7,464,067.71
Estimated FFE	$ 500,000	$ 537,500	$ 550,000	$ 564,375	$ 605,000.00
Owner's Contingency	$ 308,433	$ 331,565	$ 339,276	$ 348,143	$ 373,203.39
Estimated Design, Energy Modeling, Commisioning, Testing and Inspections & Owner Fees	$ 1,150,000	$ 1,236,250	$ 1,265,000	$ 1,298,063	$ 1,391,500.00
Project Cost	**$ 8,127,083.55**	**$ 8,736,614.82**	**$ 8,939,791.91**	**$ 9,173,445.56**	**$ 9,833,771.10**

*Low assumes 7.5% inflation in 2023-2024 and 5% inflation in 2024-2025. High assumes 10% inflation each year.

ESTIMATE of PROBABLE COST - DETAIL | 75% DESIGN Development - v1.1

EDEN Job No:	**22108 SPPL**
Job Name:	**St. Paul Public Libraries**
Date:	20-Oct-22
Prepared for:	**LSE Architects**
Prepared by:	EDEN Resources
In Care of/Owner:	City of Saint Paul
Avg., Building:	10,561
Avg., Site:	17,500
Location:	St. Paul, MN 551xx

Basis of Estimate - EOPC

Design Development, commission plans, by LSE Architects dated 9/29 to 10/3/2022
Building & Site ESTIMATE - Hamline Midway / Hayden Heights / Riverview Libraries

LINE	Description of Work		CSI-Div	Quantity	UoM	$/Unit	Budgeted ($)
	ST. PAUL PUBIC LIBRARIES - MULTI-SITE			**10.754 GSF | HAMLINE Midway New Construction, 1-story**			
	Building & Site Systems 'complete' include: demo, sitework, earthwork, utilties, substructure, Structure - concrete, masonry, steel, Exteriors - metal panel, curtainwall, glazing, Interior Fit-out, Mechanical Electrical, Plumbing, Low-Voltage/Security, Fire Supression-Protection, FFE/MFE. Considers Design (q4.2022-q1.2023) Construction (2023-'24) Occupancy & Duration of Warranty (2024), Inflation, and Contingency.						
	GENERAL CONSTRUCTION		INFLATION INCL.	3.50%	10,754		
0							
1	**SITE/EARTHWORK & DEMOLITION**		**DIV 31**	$ 17.19	SF	$ 184,863	
2	SITE - ENVIRONMENTALS, SOIL REMEDIATION	PH-II / NA	31230	0	CY	$ 40.00	$ -
3	SITE - PROTECTION, EROSION CONTROL MEASURES		31230	1	LS	$ 12,900.00	$ 12,900
4	SITE - CLEARING, GRUBBING		31100	1	ACRE	$ 7,270.00	$ 7,270
5	SITE - BUILDING, LOW RISE DEMO		02510	1	WK	$ 25,000.00	$ 25,000
6	SITE -BUILDING INTERIOR, SELECTIVE DEMO COMPLETE		02510	10,754	SF	$ 3.00	$ 32,262
7	SITE - REMOVALS FLATWORK, LOTS, PERIMETER WALKS		31230	1,620	SF	$ 3.88	$ 6,286
8	SITE -REMOVALS, DEMO UG, EXCAVATION, TRENCH, BACKFILL		31230	426	CY	$ 69.55	$ 29,623
9	SITE - GRADING, FINISH GRADE		31230	14,250	SF	$ 4.55	$ 64,838
10	SITE - BUILDING SOG, SAND, SOILS		31230	0	SF	$ 2.80	$ -
11	FACTOR - INFLATION, DESIGN CONTINGENCY		31230	3.5	PERC	$ 6,685.00	$ 6,685
12	**SITE UTILITIES**		**DIV 33**	$ 10.81	SF	$ 116,242	
13	UTILITIES - WATER, STORM, SANITARY, GAS		33110	295	LF	$ 92.94	$ 27,417
14	UTILITIES - ELECTRIC, POWER, FIBER, OPTICS		33110	1	LS	$ 1,650.00	$ 1,650
15	UTILITIES - TIE-IN, PRIMARY S/W/S CONNECTIONS		33110	8	EA	$ 6,500.00	$ 52,000
16	UTILITIES - BELOW GRADE, SWR - PERIMETER DRAINTILE		33110	855	LF	$ 9.83	$ 8,405
17	UTILITIES - MISC & MISC. MANHOLES		33110	6	EA	$ 2,000.00	$ 12,000
18	UTILITIES - U/G TANKS, DISC/RECONNECT		33110	1	EA	$ 10,850.00	$ 10,850
19	UTILITIES - METERS, CODE, REGULATORY - LOCAL		33110	0	LS	$ -	$ -
20	FACTOR - INFLATION, DESIGN CONTINGENCY		33110	3.5	PERC	$ 3,920.00	$ 3,920
21	**SITE IMPROVEMENTS**		**DIV 32**	$ 19.09	SF	$ 205,257	
22	CONCRETE PAVING		32120	2,255	SF	$ 14.25	$ 32,134
23	CONCRETE EXTERIOR PADS, 6" - 8" EQUIP'T PAD		32120	455	SF	$ 17.20	$ 7,826
24	ASPHALT PAVING		32120	620	SY	$ 33.00	$ 20,460
25	SITE PAVERS, PERVIOUS PAVING - BITUMINOUS (HAML-M)		32120	3,300	SF	$ 13.25	$ 43,725
26	SITE PEDESTRIAN, WALK, CONC. BENCH		32120	0	EA	$ 2,125.00	$ -
27	CONCRETE CURBS, ISLANDS, APRON, BUMPERS, BOLLARDS - PREFAB		32120	6	EA	$ 1,055.00	$ 6,330
28	PARKING LOT STRIPING		32120	6	EA	$ 705.00	$ 4,230
29	PARKING LOT SIGNAGE		32120	1	LS	$ 1,500.00	$ 1,500
30	PERIMETER SITE IMPROVEMENTS, FENCING	INCL. IN MISC-M	32120	0	LF	$ 215.00	$ -
31	SITE LANDSCAPING		32120	2,240	SF	$ 18.00	$ 40,320
32	PLANTER LANDSCAPING		32120	200	EA	$ 45.00	$ 9,000
33	UNDERGROUND IRRIGATION SYSTEMS		32120	0.5	ACRE	$ 22,255.00	$ 11,128
34	PLANTER IRRIGATION		32120	1	ALLW	$ 1,550.00	$ 1,550
35	SITE TRASH ENCLOSURE -AHJ, SAINT PAUL, VERIFY		32120	1	EA	$ 15,125.00	$ 15,125
36	SITE LIGHTING - BUILDING DOWNLIGHTING, PAVER UPLIGHTS		32120	1	ALLW	$ 5,000.00	$ 5,000
37	FACTOR - INFLATION, DESIGN CONTINGENCY		31230	3.5	PERC	$ 6,930.00	$ 6,930

ESTIMATE of PROBABLE COST - DETAIL | 75% DESIGN Development - v1.1

EDEN Job No:	**22108 SPPL**
Job Name:	**St. Paul Public Libraries**
Date:	20-Oct-22
Prepared for:	**LSE Architects**
Prepared by:	EDEN Resources
In Care of/Owner:	City of Saint Paul
Avg., Building:	10,561
Avg., Site:	17,500
Location:	St. Paul, MN 551xx

Basis of Estimate - EOPC

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0	**GENERAL CONSTRUCTION**	INFLATION INCL.	3.50%	10,754		
38	**SUBSTRUCTURE - (CONCRETE, MASONRY)**	**DIV 3**	$ 32.79	SF	$ 352,587.12	
39	SUBSTRUCTURE - FOOTINGS, PAD	03310	23.0	CY	$ 881.45	$ 20,273
40	SUBSTRUCTURE - FOOTINGS , CONTINOUS STRIP	03310	9.4	CY	$ 953.15	$ 9,002
41	SUBSTRUCTURE - FOOTINGS, STRIP CONTINUOUS	03310	52.0	CY	$ 569.75	$ 29,648
42	CONCRETE STOOPS - ENTRY **ADD ALT: DEDUCT ALT**	03310	0	EA	$ 5,500.00	$ -
43	SUBSTRUCTURE-DEPRESSED, ENH. SLAB AT ELEVATOR, MACHINE RM	03310	0	SF	$ 27.31	$ -
44	BUILDNG CONC. 4" SLAB ON GRADE, VB	03310	10,754	SF	$ 6.55	$ 70,439
45	BUILDING CONCRETE SOMD, ELEVATED SLAB, 6" - 8" REINF.	03310	1,600	SF	$ 11.25	$ 18,000
46	BUILDING CONCRETE	03310	0	SF	$ 13.85	$ -
47	ADJUSTMENT - DESIGN OPTION **VE/S: REDUCE MECH'L PH SF**	03310	(350)	SF	$ 95.00	$ (33,250)
48	PRECAST ORNAMENTAL, STAIR/S - N/A	03480	0	FLT	$ 4,335.00	$ -
49	PRECAST WALL PANELS	03480	0.00	FLT	$ 32,555.00	$ -
50	MASONRY - CMU, EXTERIOR/CORE WALLS UTILITY	04200	3,300	SF	$ 40.00	$ 132,000
51	MASONRY - EXTERIOR, FACE BRICK RE-USE **HAML-M/HAYD-Y / <5%**	04200	11,000	SF	$ 2.75	$ 30,250
52	ADJUSTMENT - DESIGN OPTION **VE/S: REDUCE BRICK, INT'R**	04211	(800)	SF	$ 20.00	$ (16,000)
53	SUBGRADE THERMAL INSULATION, WATER VAPOR BARRIER	07440	13,500	SF	$ 5.95	$ 80,325
54	FACTOR - INFLATION, DESIGN CONTINGENCY	07210	3.5	PERC	$ 11,900.00	$ 11,900
55	**STRUCTURAL**	**DIV 5**	$ 56.72	SF	$ 609,964.95	
56	STRUCTURE - STRUCTURAL STEEL FURNISH	05120	89	TONS	$ 3,975.00	$ 354,769
57	STRUCTURE - STRUCTURAL STEEL INSTALL	05105	89	TONS	$ 1,450.00	$ 129,413
58	STRUCTURE - STEEL FIREPROOFING, BEAMS - NA	05105	0	LF	$ 65.00	$ -
59	STRUCTURAL METALS, TESTING & INSPECTIONS	05105	10,754	SF	$ 1.55	$ 16,669
60	METALS - INTERIORS	05500	500	SF	$ 50.00	$ 25,000
61	ORNAMENTAL METALS - UNISTRUT, LINTELS, RAILINGS EXT'R	05500	300	LF	$ 145.00	$ 43,500
62	MISC. METALS - DECORATIVE	05500	1	ALLW	$ 20,000.00	$ 20,000
63	FACTOR - INFLATION, DESIGN CONTINGENCY	31230	3.5	PERC	$ 20,615.00	$ 20,615
64						$ -

ESTIMATE of PROBABLE COST - DETAIL | 75% DESIGN Development - v1.1

EDEN Job No:	**22108 SPPL**
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Prepared by:	EDEN Resources
In Care of/Owner:	City of Saint Paul
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	GENERAL CONSTRUCTION	INFLATION INCL.	3.50%	10,754		
0						
65	**CARPENTRY**	**DIV 6**	$ 25.09	SF	$ 269,831.25	
66	ROUGH CARPENTRY - LABOR	06100	12	WKS	$ 8,924.00	$ 107,088
67	FINISH CARPENTRY - LABOR	06100	12	WKS	$ 7,500.00	$ 90,000
68	MISC CARPENTRY	06400	1	LS	$ 15,000.00	$ 15,000
69	CARPENTRY - MATERIALS, BUILT-INS	06400	2,689	SF	$ 14.50	$ 38,983
70	MISC CARPENTRY	06400	0	SF	$ 15.00	$ -
71	MILLWORK, CASEWORK	06400	125	LF	$ 77.00	$ 9,625
72	FACTOR - INFLATION, DESIGN CONTINGENCY	31230	3.5	PERC	$ 9,135.00	$ 9,135
73						
74	**MOISTURE, THERMAL PROTECTION**	**DIV 7**	$ 49.26	SF	$ 529,751.70	
75	EXTERIOR WATERPROOFING, INSULATION VAPOR-AIR BARRIER	07100	10,754	SF	$ 5.95	$ 63,986
76	EXTERIOR WALL	07210	0	SF	$ 25.00	$ -
77	SPECIAL EXTERIOR - STONEWOOD, PANELIZED	07400	0	SF	$ 55.00	$ -
78	SUBSTRATE ON CMU BLOCK WALL, FURR/BLOCKING	07400	1,500	SF	$ 10.00	$ 15,000
79	METAL PANEL SIDING - SPNDR'LS, PARAPET, PH	07400	3,695	SF	$ 55.00	$ 203,225
80	METAL PANEL SIDING - IMPRESSION, UPGRADE	07400	0	SF	$ 15.55	$ -
81	MEMBRANE ROOFING-1 BASE, SHEET ROOFING, TPO, EPDM	07500	10,754	SF	$ 18.95	$ 203,788
82	MEMBRANE ROOFING-2 - SLATE ROOF	07500	0	SF	$ 25.00	$ -
83	SPRAY FIREPROOFING, FIRESTOP VERTICAL PENETR	07820	1	ALLW	$ 13,500.00	$ 13,500
84	JOINT SEALING	07900	10,754	SF	$ 1.15	$ 12,367
85	FACTOR - INFLATION, DESIGN CONTINGENCY	31230	3.5	PERC	$ 17,885.00	$ 17,885
86						
87	**OPENINGS - DOORS, ENTRANCES**	**DIV 8**	$ 50.11	SF	$ 538,835.00	
88	DOORS FRAMES HARDWARE	08110	54	EA	$ 1,550.00	$ 83,700
89	SPECIAL DOORS	08300	2	EA	$ 2,500.00	$ 5,000
90	SECTIONAL OVERHEAD DOORS	08360	0	EA	$ 12,500.00	$ -
91	ENTRANCES & STOREFRONTS, FIXED INSUL. GLAZING	08400	1,900	SF	$ 87.98	$ 167,153
92	EXTERIOR CURTAINWALL	08804	2,150	SF	$ 95.55	$ 205,433
93	EXTERIOR CURTAINWALL - TO SPEC NOTE: LOW-E	08804	0	SF	$ 42.45	$ -
94	GLAZING - SKYLIGHT, DAYLIGHTING **ADD ALT-HAYH**	08804	0	SF	$ 72.00	$ -
95	INTERIOR GLASS, GLAZING, TRANSLUCENTS	08804	0	SF	$ 65.00	$ -
96	INTERIOR GLAZING, HM FRAMES, SIDELITES	08804	1	ALLW	$ 42,350.00	$ 42,350
97	EXTERIOR LOUVERS, MECHANICAL PH	08804	2	LOT	$ 8,500.00	$ 17,000
98	FACTOR - INFLATION, DESIGN CONTINGENCY	31230	3.5	PERC	$ 18,200.00	$ 18,200
99						

ESTIMATE of PROBABLE COST - DETAIL | 75% DESIGN Development - v1.1

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0	**GENERAL CONSTRUCTION**	INFLATION INCL.	3.50%	10,754		
100	**FINISHES**	**DIV 9**	$ 71.66	SF	$ 770,591.00	
101	INTERIOR PLASTER, STUCCO	09200	0	LS	$ -	$ -
102	DRYWALL, FRAMING LEVEL 4 FINISH COMPLETE	09250	15,000	SF	$ 19.95	$ 299,250
103	DRYWALL, FRAMING LEVEL 3 FINISH MISC.	09250	15,000	SF	$ 15.75	$ 236,250
104	CERAMIC TILE - WALLS	09310	1,250	SF	$ 16.00	$ 20,000
105	CERAMIC TILE - FLOORS	09310	0	SF	$ 25.00	$ -
106	ACOUSTICAL CEILING TILE	09510	10,754	SF	$ 6.50	$ 69,901
107	RESILIENT FLOORING - LVT, VCT	09650	3,000	SF	$ 5.15	$ 15,450
108	RESILIENT FLOORING - LVT, PLANK - SPECIALIZED	09650	0	SF	$ -	$ -
109	CARPET FLOORING	09680	975	YDS	$ 51.00	$ 49,725
110	SPECIAL FLOORING	09690	1	ALLW	$ 10,000.00	$ 10,000
111	PAINTING EXTERIOR	09900	9,000	SF	$ 2.10	$ 18,900
112	PAINTING - HPC	09900	1,010	LF	$ 15.00	$ 15,150
113	PAINTING - INTERIOR	09900	31,500	SF	$ 2.10	$ 66,150
114	PAINTING - MISC. SPECIALIZED, METALS	09900	1	LS	$ 5,000.00	$ 5,000
115	MISC. FINISHES - FRP WALLS	09949	0	SF	$ 2.00	$ -
116	ADJUSTMENT - DESIGN OPTION VE/S: **REDUCE WD CEILING/WAINSCC**	06400	(790)	SF	$ 77.50	$ (61,225)
117	FACTOR - INFLATION, DESIGN CONTINGENCY	31230	3.5	PERC	$ 26,040.00	$ 26,040
118						
119	**SPECIAL EQUIPMENT**	**DIV 10**	$ 2.92	SF	$ 31,360.00	
120	MISC. SPECIALTIES	10100	1	LS	$ 10,500.00	$ 10,500
121	TOILET PARTITIONS	10160	0	EA-LOC	$ 12,555.00	$ -
122	RESTROOM SPECIALTIES - RECESSED STAINLESS STEEL DISPOSALS	10160	0	LS	$ 28,125.00	$ -
123	ACCESS FLOORING	10270	0	LS	$ -	$ -
124	LOADING DOCK EQUIPMENT	11160	0	LS	$ -	$ -
125	LOUVERS, WALL VENTS, SCREENINGS - INTERIORS	10290	5	EA	$ 3,955.00	$ 19,775
126	FACTOR - INFLATION, DESIGN CONTINGENCY	31230	3.5	PERC	$ 1,085.00	$ 1,085
127	**CONVEYING SYSTEMS**	**DIV 14**	$ -	SF	$ -	
128	ELEVATORS - 3,500-5,000 LBS, HYDRAULIC or TRACTION (FLR-1,2)	14200	0	STOPS	$ 150,000.00	$ -
129	ELEVATORS - MISC. INTERIOR CAB UPGRADE, STAINLESS PANELS-FULL	14200	0	CAB	$ 33,250.00	$ -
130	ESCALATORS	14300	0	LS	$ -	$ -
131	MISC. CONVEYORS	14310	0	LS	$ -	$ -
132	FACTOR - INFLATION, DESIGN CONTINGENCY	31230	3.5	PERC	$ -	$ -

ESTIMATE of PROBABLE COST - DETAIL | 75% DESIGN Development - v1.1

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0	**GENERAL CONSTRUCTION**	INFLATION INCL.	3.50%	10,754		
133	**PLUMBING**	**DIV 15**	$ 14.51	SF	$ 156,063.70	
134	BASIC BUILDING PLUMBING - COMPLETE	15400	10,754	SF	$ 14.05	$ 151,094
135	MISC. PLUMBING NOTE: INCL. HYDRONIC-P	15450	0	SF	$ 5.00	$ -
136	FACTOR - INFLATION, DESIGN CONTINGENCY	31230	3.5	PERC	$ 4,970.00	$ 4,970
137	**FIRE PROTECTION**	**DIV 21**	$ 5.24	SF	$ 56,334.70	
138	FIRE PROTECTION SYSTEMS - COMPLETE NOTE: DRY-PIPE	21000	10,754	LS	$ 4.55	$ 48,931
139	FIRE PROTECTION - CONNECTIONS, AHJ. & RISERS W-STAIR	21000	1	ALLW	$ 5,500.00	$ 5,500
140	FACTOR - INFLATION, DESIGN CONTINGENCY	31230	3.5	PERC	$ 1,904.00	$ 1,904
141	**MECHANICAL**	**DIV 23**	$ 47.84	SF	$ 514,521.70	
142	REFRIGERATION	23000	0	LS	$ -	$ -
143	HVAC - COMPLETE (RETRO'S, HIGH-EFFICIENCY SYSTEM PACKAGE)	23000	10,754	SF	$ 44.50	$ 478,553
144	HVAC - BASE+	23000	0	SF	$ 6.50	$ -
145	HVAC - INCREMENTAL **ADD ALTERNATE-1: ACQUAF /** GEOTHERMAL	23000	0	EXCL.	$ 295,000.00	$ -
146	Misc. HVAC #1 - BUILDING ESCAL. METALS, INSUL.	23000	10,754	SF	$ 1.10	$ 11,829
147	Misc. HVAC #2 - HYDRONIC PIPING SYSTEM	23000	10,754	SF	$ 5.95	$ 63,986
148	TAB, CxA	23000	10,754	LS	$ 2.00	$ 21,508
149	ADJUSTMENT - DESIGN OPTION **VE/S: REDUCE MECH'L PH SF**	03310	(350)	SF	$ 225.00	$ (78,750)
150	FACTOR - INFLATION, DESIGN CONTINGENCY	31230	3.5	PERC	$ 17,395.00	$ 17,395
151	**ELECTRICAL**	**DIV 26**	$ 31.06	SF	$ 333,998.30	
152	POWER SYSTEMS - COMPLETE	DIV 26	10,754	SF	$ 23.00	$ 247,342
153	ELECTRICAL LIGHTING	16050	10,754	SF	$ 6.00	$ 64,524
154	ELECTRICAL EQUIPMENT - RENTAL/REPAIR/ACCESS	16050	0	LS	$ -	$ -
155	GENERATOR SYSTEM EXCL. EMERGENCY BACK-UP, NA	16620	0	LS	$ 122,500.00	$ -
156	ELECTRICAL - FIRE ALARM	16720	10,754	SF	$ 1.95	$ 20,970
157	MISC ELECTRICAL - RENEWABLES **ADD ALTERNATE-2: PV PANELS**	16890	0	KW	$ 3,300.00	$ -
158	MISC ELECTRICAL	16890	0	LS	$ -	$ -
159	FACTOR - INFLATION, DESIGN CONTINGENCY	31230	3.5	PERC	$ 1,162.00	$ 1,162
160	**SAFETY, SECURITY, COMMUNICATIONS - OWNER FFE/MFE**	**DIV 27**	$ 4.36	SF	$ 46,887.50	
161	SECURITY BUILDING SYSTEM - COMPLETE	27000	0	SF	$ 1.25	$ -
162	LOW VOLTAGE - TELECOM, CABLE, DIGITAL, WIRELESS, ACCESS	27730	10,754	SF	$ 4.00	$ 43,016
163	SOFTWARE, HARDWARE, PROGRAMMING	27730	0.25	WK	$ 8,500.00	$ 2,125
164	CONTRACTOR LABOR, CxA	27730	0	LS	$ 12,000.00	$ -
165	CABLE SYSTEMS, TRAY, RIGGING	27730	0	LS	$ -	$ -
166	FACTOR - INFLATION, DESIGN CONTINGENCY	27730	3.5	PERC	$ 1,746.50	$ 1,747

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LINE	Description of Work	CSI-Div	Quantity	UoM	$/Unit	Budgeted ($)
	ST. PAUL PUBIC LIBRARIES - MULTI-SITE		**10.754 GSF | HAMLINE Midway New Construction, 1-story**			
	Building & Site Systems 'complete' include: demo, sitework, earthwork, utilties, substructure, Structure - concrete, masonry, steel, Exteriors - metal panel, curtainwall, glazing, Interior Fit-out, Mechanical Electrical, Plumbing, Low-Voltage/Security, Fire Supression-Protection, FFE/MFE. Considers Design (q4.2022-q1.2023) Construction (2023-'24) Occupancy & Duration of Warranty (2024), Inflation, and Contingency.					
0	**GENERAL CONSTRUCTION**	INFLATION INCL.	3.50%	10,754		
167	**FF&E, SIGNAGE**	**DIV 50**	$ 2.63	SF	$ 28,283.02	
168	EXTERIOR SIGNAGE - MONUMENT, PYLON	50005	0	LS	$ -	$ -
169	EXTERIOR BUILDING SIGNS	50010	1	LS	$ -	$ -
170	SIGN CONSULTING / DESIGN SERVICES	50018	0	LS	$ -	$ -
171	INTERIOR SIGNAGE, WAYFINDING	50005	10,754	SF	$ 1.55	$ 16,669
172	FURNITURE & FIXTURES, FREESTANDING - EXCLUDED, BY OWNER	50800	0	LS	$ -	$ -
173	EQUIPMENT - EXCLUDED, PURCHASE BY OWNER; INSTALL BY GC	50800	10,754	SF	$ 1.08	$ 11,614
174	ART & MISC DÉCOR **FF&E: BY OWNER, EXCL.**	50800	0	ALLW	$ 28,500.00	$ -
175	FF&E COORDINATION **MOVE-STORAGE-INSTALL, BY OWNER, EXCL.**	50800	0.0	WK	$ 7,500.00	$ -
176			**10.754 GSF | HAMLINE Midway**			
177	**Building & Site Construction SUB-TOTAL**					**$ 4,745,372**
178	**CONTRACTOR - GENERAL CONDITIONS**	**DIV 01**	$ 441.27	SF		
179	PUBLIC ARTWORK, 1% min.	EXCL. OWNER FFE	1.0	PERC	$ 47,453.72	**$ 47,454**
180	GENERAL CONTRACTOR - FEE		6.95%	$	$ 333,961.40	**$ 333,961**
181	**SUBTOTAL-II**		$ 476.73	SF		**$ 5,126,788**
182	**CONTRACTOR - GENERAL CONDITIONS**					
183	GENERAL CONTRACTOR - SUPERVISION, MGMT, OH	01500	46	WK	$ 17,495.00	**$ 804,595**
184	CONTINGENCY, CONSTRUCTION (5% - 10%)		5.0	PERC	$ 237,268.62	**$ 237,269**
185	ESCALATION, BEYOND 12/2023 (INCL. 2024, 2025)					
186	Construction **ESTIMATE TOTAL**		$ 573.61	SF		**$ 6,168,651**
187						

ESTIMATE of PROBABLE COST - DETAIL | 75% DESIGN Development - v1.1

EDEN Job No:	**22108 SPPL**
Job Name:	**St. Paul Public Libraries**
Date:	20-Oct-22
Prepared for:	**LSE Architects**
Prepared by:	EDEN Resources
In Care of/Owner:	City of Saint Paul
Avg., Building:	10,561
Avg., Site:	17,500
Location:	St. Paul, MN 551xx

Basis of Estimate - EOPC

Design Development, commission plans, by LSE Architects dated 9/29 to 10/3/2022
Building & Site ESTIMATE - Hamline Midway / Hayden Heights / Riverview Libraries

Description of Work	CSI-Div	Quantity	UoM	$/Unit	Budgeted ($)
ST. PAUL PUBIC LIBRARIES - MULTI-SITE		**10.754 GSF | HAMLINE Midway New Construction, 1-story**			
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LINE 0 **GENERAL CONSTRUCTION**	INFLATION INCL.	3.50%	10,754		

188 **SECTION C - DESIGN DEVELOPMENT - 75% SET**

189 **BASIS OF ESTIMATE**

190 1. Design Development Estimate for St. Paul Public Libraries, Report & Plans consider major buildng systems, types, and finishes
191 2. This (EOPC) Estimate of Probable Cost is based on design development sets, 57-73 pages per site, prepared by LSE Architects
192 3. Considers Exterior & Interior Improvements, Major Renovation, Remodel, or New Construction - cited per design
193 4. Considers recommended design (2022-q1.2023) and construction (q3.2023-2024); duration to construct, varies/site
194 5. Narrative of systems, scope, project priorities, and existing conditions/assessments - designated by Architect, LSE
195 6. INCLUDES - minor Reclaim, ReUse, Salvage, Regional sourcing of materials, where applicable (brick, masonry, stone)
196 7. INCLUDES - Utilties- storm, water, sanitary, gas, electrical, fiber, optics within 5' of building. Recommend Utility local
197 8. INCLUDES - concessionary costs for primary building system inspections and testing - structural, or exterior glazing
198 9. NOTE: OAC Team to inform & elect options for gross up factors; for constraints & extraordinary conditions
199 10. EXCLUDES - Contaiminated soil removals (if/as present), hazardous materials, SAC/WAC, Special Inspections & Testing
200 11. EXCLUDES - Renewable Energy Enhancements - Photovoltaics, Geothermal. INCLUDES thermal/envelope considerations
201 12. INCLUDES - EOPC(osts) for Sustainable Design & Construciton; Mn B3 Guidelines; Energy Efficiency Baseline - 80%
202 13. INCLUDES - Contingency for Hamline Midway ($ 240K), Escalation Local/Domestic Market: Minneapolis-St. Paul
203 14. EXCLUDES - ADD/DEDUCT Alternates
204 15. INCLUDES - Preliminary VALUE ENGINEERING / VALUE SELECTION options; additional options incl. exterior CMU ilo Mpanel, Clerestory

SAINT PAUL PUBLIC LIBRARY

EXTERIOR

HAMLINE MIDWAY LIBRARY • DESIGN REPORT

LSE ARCHITECTS

SAINT PAUL PUBLIC LIBRARY

EXTERIOR

HAMLINE MIDWAY LIBRARY • DESIGN REPORT

LSE ARCHITECTS

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