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G120	MOUNTING HEIGHTS			
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E401	ELECTRICAL RISER DIAGRAM			
E501	ELECTRICAL SCHEDULES			

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

JLG architects

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PROJECT GENERAL NOTES

A. FIRST LEVEL ELEVATION OF 100'-0" NOTED ON ARCHITECTURAL AND STRUCTURAL DRAWINGS EQUALS ELEVATION OF 818.5' NOTED ON CIVIL DRAWINGS.
B. THE OWNER'S NORMAL OPERATIONS WILL BE CONTINUED DURING CONSTRUCTION. THE CONSTRUCTION SHALL NOT INTERFERE WITH THESE OPERATIONS IN ANY WAY WITHOUT THE OWNER'S EXPRESSED CONSENT.
C. IT SHALL BE EACH TRADE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE AND FAMILIARIZE HIMSELF/HERSELF WITH ALL EXISTING CONDITIONS. EACH CONTRACTOR SHALL TAKE ALL NECESSARY FIELD MEASUREMENTS AND OTHERWISE VERIFY ALL DIMENSIONS AND EXISTING CONSTRUCTION CONDITIONS INDICATED AND/OR SHOWN ON THE DRAWINGS. SHOULD ANY ERROR OR INCONSISTENCY EXIST, THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK AFFECTED THEREBY UNTIL REPORTING THE SAME TO THE ARCHITECT AND THE OWNERS REPRESENTATIVE FOR CLARIFICATION AND/OR CORRECTION.
D. DIMENSIONS FOLLOWED BY +/- SHALL BE REVIEWED AND ALL NECESSARY ADJUSTMENTS MADE PRIOR TO FABRICATION AND/OR INSTALLATION OF WORK. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.
E. ALL EXISTING CONSTRUCTION AND SURFACES WHICH ARE TO REMAIN BUT ARE AFFECTED BY THE WORK UNDER THIS CONTRACT SHALL BE RESTORED AND REFINISHED TO MATCH THE CONSTRUCTION, FINISH AND ALIGNMENT OF THE EXISTING ADJACENT CONSTRUCTION AND FINISHES.
F. VERIFY QUANTITY, SIZE AND LOCATION OF ALL FLOOR, ROOF AND WALL OPENINGS FOR MECHANICAL AND ELECTRICAL WORK WITH THE APPROPRIATE TRADE. PROVIDE ALL OPENINGS SHOWN OR REQUIRED FOR COMPLETION OF WORK.
G. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH APPROPRIATE TRADES. COORDINATE SIZE & LOCATION OF ALL HOUSE-KEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH APPROPRIATE EQUIPMENT MANUFACTURER.
H. PROVIDE POSITIVE SLOPE TO ALL FLOOR DRAINS WHILE KEEPING FLOOR LEVEL AT WALL BASE CONDITION. PROVIDE FIRE WATCH DURING FIELD CUTTING AND WELDING OPERATIONS, MEETING OWNERS REQUIREMENTS.
I. THE EXTENT OF HATCHING ON DRAWINGS IS ONLY SUFFICIENT TO INDICATE THE NATURE OF THE CONSTRUCTION OR MATERIALS. TERMINATION OF THE HATCHING SHALL NOT BE CONSTRUED TO REPRESENT A CHANGE OR TERMINATION OF MATERIAL.
J. THE CONTRACTOR SHALL VERIFY THE EXISTENCE, LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES IN WORK AREAS PRIOR TO PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES SHALL BE DOCUMENTED AND FORWARDED TO ARCHITECT AND OWNERS REPRESENTATIVE FOR ACTION.
K. IT IS THE CONTRACTORS RESPONSIBILITY TO INVESTIGATE FIELD CONDITIONS AND PROVIDE AS NEEDED TEMPORARY SUPPORTS, SHORING AND/OR PROTECTION OF EXISTING STRUCTURES AND UNDERGROUND UTILITIES DURING EXECUTION OF WORK.
L. ALL WORK TO CONFORM TO THE REQUIREMENTS OF THE LOCAL AND STATE CODES.
M. RELEVANT DIMENSIONS AND ELEVATIONS FOR EQUIPMENT INSTALLATIONS SHALL BE VERIFIED AGAINST MANUFACTURERS CERTIFIED EQUIPMENT DRAWINGS.
N. DO NOT SCALE DRAWINGS TO DETERMINE SIZES AND DIMENSIONS. USE FIGURED DIMENSIONS ONLY. DIMENSIONS ARE TO FINISHED FACE OF WALLS UNLESS OTHERWISE NOTED. ALL PERIMETER DIMENSIONS ARE FROM FACE OF PERIMETER WALLS.
O. ALL PENETRATIONS TO FLOORS, CEILINGS AND WALLS SHALL BE SEALED AND FIRE STOPPED TO A FIRE RATING EQUAL TO THE CONSTRUCTION BEING PENETRATED.
P. NEW WORK SHALL ALIGN WITH AND MATCH EXISTING WORK UNLESS NOTED OTHERWISE.



PROJECT VICINITY MAP

DRAWING NOT TO SCALE

MATERIAL MATRIX

- CONCRETE; CUT/SURFACE PATTERN
- FILL; SEE STRUCTURAL
- BRICK; CUT PATTERN
- BRICK; SURFACE PATTERN
- CMU; CUT PATTERN
- CMU; SURFACE PATTERN
- BURNISHED CMU; SURFACE PATTERN
- GROUT; CUT PATTERN
- STONE; CUT PATTERN
- ALUMINUM; CUT PATTERN
- STEEL; CUT PATTERN
- MDF; CUT PATTERN
- PLYWOOD; CUT PATTERN
- SOLID SURFACE; CUT PATTERN
- WOOD; CUT PATTERN
- WOOD; SURFACE PATTERN
- METAL PANEL; SURFACE
- CORRUGATED METAL PANEL; SURFACE
- FLUSH METAL PANEL; SURFACE
- RIGID INSULATION; CUT PATTERN
- TAPERED INSULATION; SURFACE PATTERN
- SPANDREL GLAZING; SURFACE PATTERN
- GLAZING; SURFACE PATTERN
- A.C.T (1); SURFACE PATTERN
- A.C.T (2); SURFACE PATTERN
- A.C.T (3); SURFACE PATTERN
- A.C.T; CUT PATTERN
- CARPET TILE; SURFACE PATTERN
- ACCENT CARPET TILE; SURFACE PATTERN
- INTERIOR GYPSUM; CUT PATTERN
- EXTERIOR GYPSUM SHEATHING; CUT PATTERN
- TILE; CUT PATTERN
- EARTH; CUT PATTERN
- PEA ROCK; CUT PATTERN
- SAND; CUT PATTERN

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LIST OF ABBREVIATIONS

CODE	LIST OF ABBREVIATIONS DESCRIPTION
A/E	ARCHITECT/ENGINEER
AC	ALTERNATING CURRENT
ACI	AMERICAN CONCRETE INSTITUTE
ACM	ASBESTOS CONTAINING MATERIAL
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS W/DISABILITIES ACT
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ALUM	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ARCH	ARCHITECT
ASI	ARCHITECTURAL SUPPLEMENTAL INSTRUCTION
AWI	AMERICAN WOODWORKING INSTITUTE
BD	BOARD
BLDG	BUILDING
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BTU	BRITISH THERMAL UNITS
BUR	BUILT UP ROOFING
CAB	CABINET
CB	CATCH BASIN
CG	CORNER GUARD
CI	CAST IRON
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
CONC	CONCRETE
CPT	CARPET
CSMT	CASEMENT
CSWK	CASEWORK
CT	CERAMIC TILE
CUH	CABINET UNIT HEATER
CWT	CERAMIC WALL TILE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIST	DISTANCE
DOC	DOCUMENT

LIST OF ABBREVIATIONS

CODE	LIST OF ABBREVIATIONS DESCRIPTION
DR	DOOR
DTL	DETAIL
DW	DISHWASHER
DWG	DRAWING
EA	EACH
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EJ	EXPANSION JOINT
ELEC	ELECTRIC
ELEV	ELEVATOR/ELEVATION
EP	EPOXY PAINT
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
FD	FLOOR DRAIN
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FFE	FURNITURE, FIXTURE, AND EQUIPMENT
FHC	FIRE HOSE CABINET
FIN	FINISH
FLR	FLOOR
FND	FOUNDATION
FTG	FOOTING
FWC	FABRIC WALL COVERING
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERAL
GL	GLASS OR GLAZING
GWB	GYPSUM WALL BOARD
HB	HOSE BIB
HCP	HANDICAP
HDW	HARDWARE
HDWD	HARDWOOD
HM	HOLLOW METAL
HORZ	HORIZONTAL
HT	HEIGHT
IBC	INTERNATIONAL BUILDING CODE
INSUL	INSULATION
JAN	JANITOR
LAM	LAMINATE
LAV	LAVATORY
MAS	MASONRY
MB	MARKERBOARD
MDF	MEDIUM DENSITY FIBERBOARD
MECH	MECHANICAL
MH	MANHOLE
ML	MATCHLINE

LIST OF ABBREVIATIONS

CODE	LIST OF ABBREVIATIONS DESCRIPTION
MTL	METAL
MTL STD	METAL STUD
NC	NON COMBUSTIBLE
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OH	OVERHEAD
OSB	ORIENTED STRAND BOARD
PB	PARTICLE BOARD
PC	PRECAST
PLAM	PLASTIC LAMINATE
PLAST	PLASTER
PLYWD	PLYWOOD
PREV	PREVIOUS
PT	PAINT
PTD	PAPER TOWEL DISPENSER
RAD	RADIUS
REINF	REINFORCEMENT
REQ'D	REQUIRED
REV	REVERSE
RM	ROOM
RO	ROUGH OPENING
RTU	ROOF TOP UNIT
SD	SMOKE DETECTOR
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SPD	SOAP DISPENSER
SPEC	SPECIFICATIONS
SQ	SQUARE
SUSP	SUSPEND
TC	THIN COAT
TEMP	TEMPORARY/TEMPERATURE
TO	TOP OF
TP	TOILET PARTITIONS
TPD	TOILET PAPER DISPENSER
TRTD	TREATED
TS	TRANSITION STRIP
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
VCT	VINYL COMPOSITION TILE
W/	WITH
WD	WOOD
WDW	WINDOW

PROJECT SPEC ID LIST

SPEC ID	SPEC. SECTION & DESCRIPTION
BRICK TIE	04 2000 - BRICK TIE, EYE AND PINTLE
CFIN-1	03 3000 - STANDARD FLOAT FINISH
CMU-1	04 2000 - STANDARD GREY CMU
CRNR-1	07 4213 - METAL PANEL CORNER TRIM
CSLR-1	03 3000 - STANDARD SEALED CONCRETE
DOWNSPOUT-1	07 6200 - DOWNSPOUTS
EPDM-2	07 5300 - FULLY ADHERED EPDM ROOFING SYSTEM
FASCIA-1	07 6200 - ROOF FASCIA
FR STOP	07 8400 - THROUGH PENETRATION FIRESTOPPING
FUR-2	09 2116 - 2' FURRING
FUR-5	09 2116 - FIBERGLASS CLIP WITH Z-GIRT
GUTTER-1	07 6200 - GUTTERS
INSUL-1	07 2100 - XPS EXTRUDED POLYSTYRENE INSULATION
INSUL-2	07 2100 - XPS EXTRUDED POLYSTYRENE INSULATION
INSUL-21	07 2100 - UNFACED FIBERGLASS BATT INSULATION
INSUL-26	07 2100 - MINERAL FIBER BOARD INSULATION
INSUL-27	07 2100 - MINERAL FIBER BOARD FOUNDATION INSULATION
INSUL-36	07 2119 - CLOSED CELL SPRAY FOAM INSULATION
INSUL-50	07 5300 - FLAT POLYISOCYANURATE INSULATION (CONSTANT THICKNESS)
INSUL-51	07 5300 - TAPERED POLYISO OVER CONSTANT THICKNESS POLYISO
INSUL-60	07 5300 - FLAT MINERAL FIBER BOARD INSULATION (CONSTANT THICKNESS)
MET FAB-1	05 5000 - STEEL PIPE BOLLARD, 6 INCH DIAMETER, CONCRETE FILLED
MET STUD-1	05 4000 - STRUCTURAL STEEL STUDS
MTL PNL-10	07 4113 - METAL ROOF PANEL, NOT INSULATED.
MTL PNL-20	07 4213 - METAL WALL PANEL, SINGLE THICKNESS, NOT INSULATED
MTL SOF-1	07 4213 - PERFORATED METAL SOFFIT PANEL
RDG CAP-1	07 7200 - RIDGE CAP
RDG CAP-2	07 7200 - VENTED RIDGE CAP
SEALANT-1	07 9200 - JOINT SEALANT OR CAULKING WITH OR WITHOUT BACKER ROD
SMF-1	07 6200 - PREFINISHED GALVANIZED STEEL
SMF-2	07 6200 - PREFINISHED ALUMINUM
SMF-4	07 6200 - PREFINISHED METAL TRIM
SNOW GRD-1	07 7200 - SNOW GUARDS
TR PNL-1	08 4500 - TRANSLUCENT WALL PANEL
VPR RET-4	03 3000 - 15 MIL UNDERSLAB VAPOR RETARDER
VPR RET-5T	07 5400 - SELF-ADHERED ROOF DECK VAPOR RETARDER
VPR RET-10	07 2600 - SELF-ADHERED OR FLUID APPLIED VAPOR RETARDER
WD BLKG	06 1000 - WOOD BLOCKING
WD SHTG-30	06 1000 - 1/2" SHEATHING
WD SHTG-30F	06 1000 - 1/2" SHEATHING, FIRE RETARDANT TREATED
WD SHTG-31	06 1000 - 5/8" SHEATHING
WD SHTG-32	06 1000 - 3/4" SHEATHING
WEEP-2	04 2000 - COTTON WEEP

FINISH SPEC ID LIST

ID	DESCRIPTION
CFIN-2	033000 - -
PT-1	09 9123 - -

SYMBOLS LEGEND

ROOM IDENTIFICATION TAG
SAMPLE ROOM NAME — ROOM NAME
101 — ROOM NUMBER
150 SF — ROOM AREA

OPENING IDENTIFICATION TAGS
MARK — DOOR NUMBER
TYP / 100 — WINDOW IDENTIFICATION
CURTAINWALL / STOREFRONT IDENTIFICATION

COLUMN/GRID/LEVEL IDENTIFICATION
XX.X — NEW COLUMN / STRUCTURAL GRID
XX.X — EXISTING COLUMN / STRUCTURAL GRID
NAME, EL.= ELEVATION — ELEVATION DATUM

ASSEMBLY IDENTIFICATION
A4.25 — WALL / FLOOR / ROOF TAG

MATERIAL/OBJECT IDENTIFICATION
(?) — MATERIAL ID TAG

REVISION DELTA AND CLOUD
1 — REVISION TAG
REVISION CLOUD

DRAWING IDENTIFICATION
4A / X.XX — View Name — SCALE: 1/8" = 1'-0"
DRAWING NUMBER
DRAWING NAME
DRAWING SCALE
SHEET NUMBER

SECTION IDENTIFICATION
1 / A101
DIRECTION OF CUT
DRAWING NUMBER
SHEET NUMBER

DETAIL SECTION IDENTIFICATION
1 / A101 — Ref
DRAWING NUMBER
SHEET NUMBER

ELEVATION IDENTIFICATION
1 / A101 / 1
ELEVATION NUMBER
SHEET NUMBER

NORTH ARROW
PLAN NORTH
TRUE NORTH

SHEET KEYNOTES
XX — KEYNOTE

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PRELIMINARY
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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
06/26/25

PHASE
CONSTRUCTION DOCUMENTS

PROJECT
22263.01

SHEET
G101

TITLE SHEET

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SHEET SPEC ID LIST

SPEC ID	SPEC SECTION & DESCRIPTION
CFIN-1	03 3000 - STANDARD FLOAT FINISH
CMU-1	04 2000 - STANDARD GREY CMU
EPDM-2	07 5300 - FULLY ADHERED EPDM ROOFING SYSTEM
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VPR RET-10	07 2600 - SELF-ADHERED OR FLUID APPLIED VAPOR RETARDER

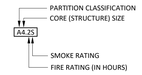
MEMBRANE LINETYPE LEGEND

UNDERSLAB VAPOR RETARDER (*VPR RET-4*)

VAPOR BARRIER *ROOF* (*VPR RET-ST*)

WEATHER BARRIER (*VPR RET-10*)

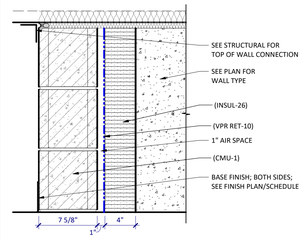
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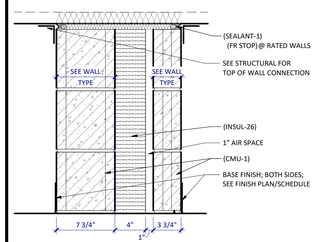
PARTITION CLASSIFICATIONS:

A ACOUSTIC FULL HEIGHT GYP. BD. WALL
F SINGLE SIDED GYP. BD. WALLS
M MASONRY WALLS
P PARTITION WALLS (TERMINATE 6" ABOVE CEILING)
S SHAFTWALLS

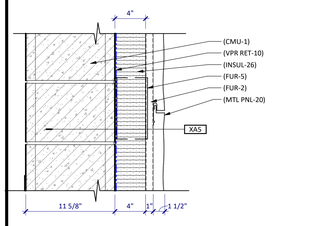
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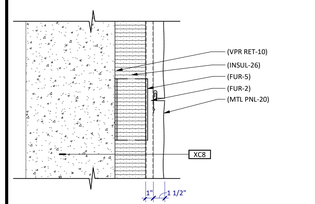
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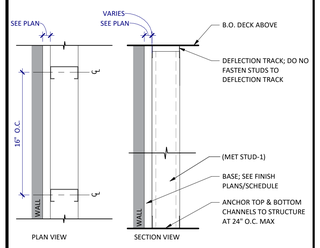


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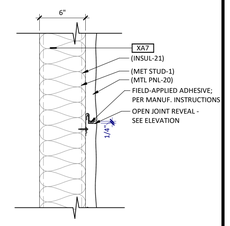
PARTITION TYPE 'XC8'

INT. WALL ASSEMBLIES



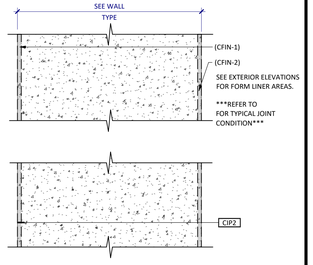
PARTITION TYPE 'F'

WALL TAG	STUD SIZE & SPACING	WIDTH	INT. FINISH	INSUL THICK	RATING	UL NO.	COMMENTS
F8	8" M.S. @ 16" O.C.	8 1/16"	(1) - 1/16" MTL LINER PNL-1	N/A	--	--	



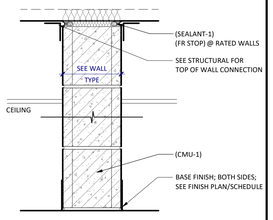
WALL TYPE 'XA'

WALL TAG	U-VALUE PROV.	U-VALUE REQ'D	UL LISTING	RATING	COMMENTS
XA7		VALUES BASED ON 2021 IECC		--	



WALL TYPE 'CIP'

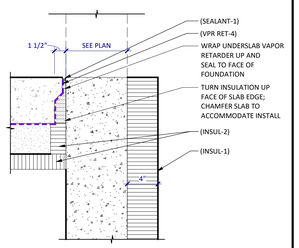
WALL TAG	Structure Description	Width	UL LISTING	RATING
CIP1	CAST-IN-PLACE	2' - 0"		--
CIP2	CAST-IN-PLACE	1' - 0"		--
CIP3	CAST-IN-PLACE	1' - 4"		--



PARTITION TYPE 'M'

WALL TAG	Structure Description	Width	UL LISTING	RATING	Comments
M8	8" CMU	7 5/8"		--	
M12.3	8" CMU	11 5/8"		3	CORES TO BE FULLY GROUTED

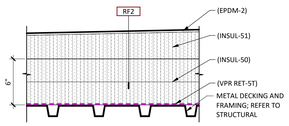
FDN. WALL ASSEMBLIES



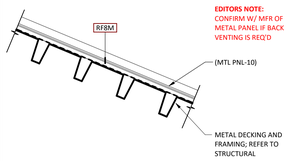
WALL TYPE 'FDN'

WALL TAG	U-VALUE PROV.	U-VALUE REQ'D	UL LISTING	RATING	COMMENTS

ROOF ASSEMBLIES

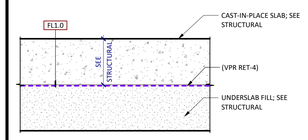


RF2 - POLYISO ROOF INSULATION - FULLY ADHERED

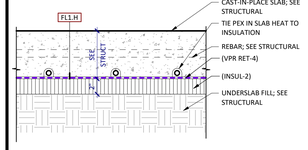


RF8.M - MTL PNL OVER T&G

FLOOR ASSEMBLIES



FL1.0 - SLAB ON GRADE



FL1.H - HEATED SLAB ON GRADE

ROOF TYPE 'RF'

ROOF TAG	U-VALUE PROV.	U-VALUE REQ'D	UL LISTING	RATING	COMMENTS
RF2	R-47 ABOVE DECK	R-30 ABOVE DECK			
RF8.M					

FLOOR TYPE 'FL'

FLOOR TAG	U-VALUE PROV.	U-VALUE REQ'D	UL LISTING	RATING	COMMENTS
FL1.0					
FL1.H					

WALL TYPE 'XC'

WALL TAG	Structure Description	Width	UL LISTING	RATING
XC3	8" CMU + 4" INSUL	1' - 0 5/8"		--
XC5	12" CMU + 3" INSUL	1' - 6 1/8"		3
XC8	12" CIP + 4" INSUL + MTL PNL	1' - 6 3/8"		2

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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
06/13/25

PHASE
CONSTRUCTION DOCUMENTS

PROJECT
22263.01

SHEET
G102

TYPICAL ASSEMBLIES

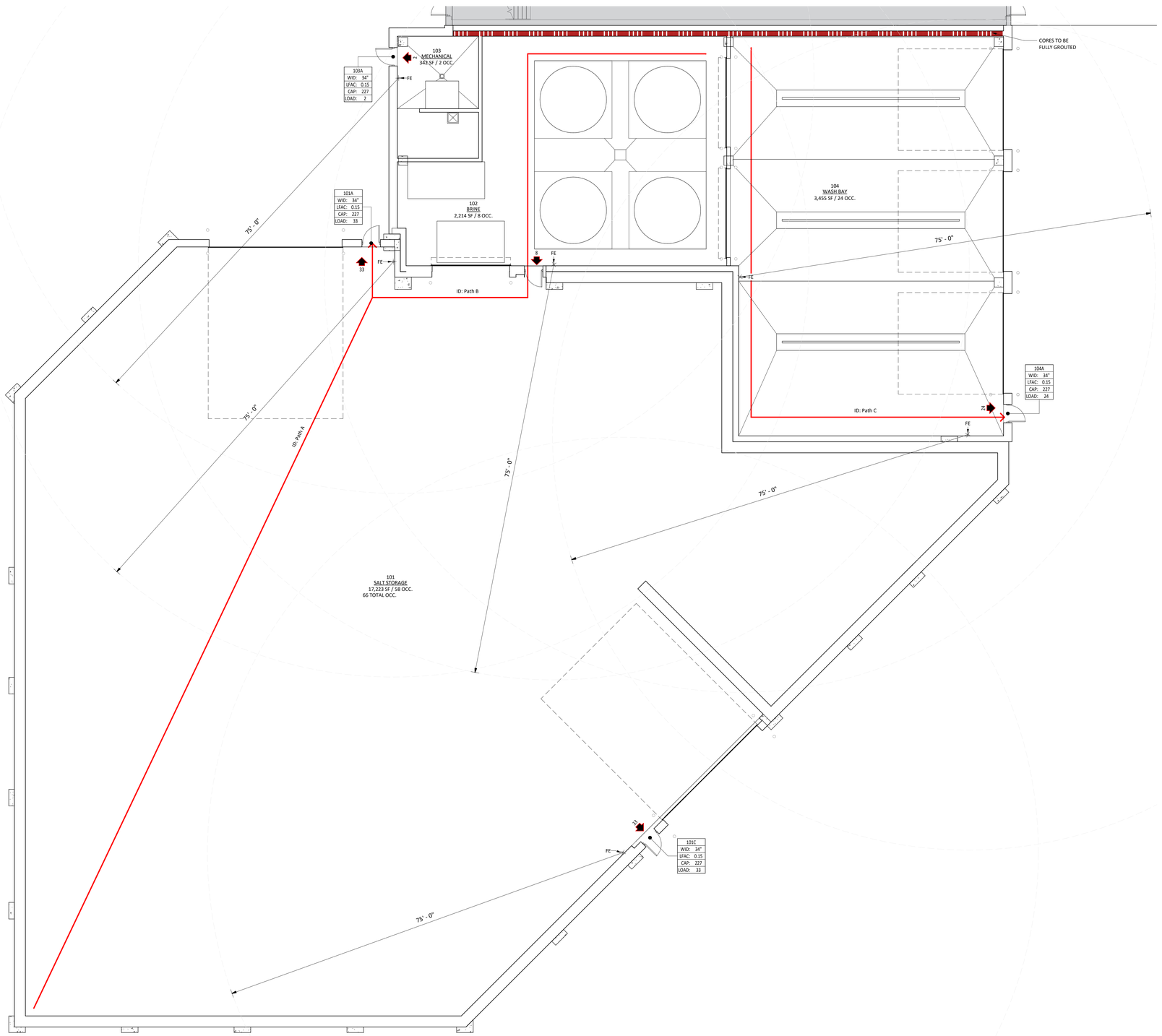
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OCCUPANCY LOAD SCHEDULE

NUMBER	NAME	AREA	OCCUPANCY CLASSIFICATION (IBC CHAPTER 3)	IBC CHAPTER 10 FUNCTION OF SPACE	SF PER OCC. LOAD FACTOR (OLF)	SF PER OCC. MEASUREMENT	OCCUPANT LOAD FIXED SEATS	OCCUPANT LOAD MAX. OCC. LOAD	REMARKS
MAIN FLOOR									
101	SALT STORAGE	17,223 SF	S-1	ACCESSORY STORAGE, MECH EQUIPMENT ROOM	300	GROSS	0	58	
102	BRINE	2,214 SF	S-1	ACCESSORY STORAGE, MECH EQUIPMENT ROOM	300	GROSS	0	8	
103	MECHANICAL	342 SF	S-1	ACCESSORY STORAGE, MECH EQUIPMENT ROOM	300	GROSS	0	2	
104	WASH BAY	3,455 SF	S-1	ACCESSORY STORAGE, MECH EQUIPMENT ROOM	300	GROSS	0	12	
MAIN FLOOR		23,234 SF					0	80	

TRAVEL DISTANCE

PATH ID	TRAVEL DISTANCE TOTAL	TRAVEL DISTANCE MAX DIST.	OCCUPANTS
Path A	151' - 10"	250' - 0"	58
Path B	113' - 11"	250' - 0"	8
Path C	112' - 5"	250' - 0"	23



7A / G111 SALT SHED LIFE SAFETY PLAN
SCALE: 1/8" = 1'-0"

LIFE SAFETY LEGEND

OCC. LOAD TAG

101 — NUMBER
Name — NAME
150 SF / 100 OCC. — AREA / OCCUPENT LOAD

EGRESS DATA TAG

NUMBER	ELEMENT ID NUMBER
WID: 34"	EGRESS WIDTH
LFAC: .2	EGRESS FACTOR
CAP: 170	EGRESS CAPACITY
LOAD: ###	EGRESS LOAD

(UNI-DIRECTION) EGRESS DIRECTION SYMBOL ***(BI-DIRECTION)***

EXIT — EGRESS DIRECTION TEXT — EXIT

257 (ECH+HR) — EGRESS DIRECTION+LOAD (CUMULATIVE COUNTS) — 257 (ECH+HR)

EGRESS SYMBOL

PE (ADA) — PUBLIC ENTRANCE, DOOR ID / NOTE, (ADA) = ACCESSIBLE ENTRANCE

#12 (EO) — NON-PUBLIC ENTRANCE, DOOR ID, (EO) = EXIT ONLY

HE (48) — HORIZONTAL EXIT, (##) = REQ. OPENING WIDTH IN INCHES

FIRE-RESISTANCE RATINGS

FIRE WALLS AND FIRE BARRIERS HAVING A REQUIRED FIRE-RESISTANCE RATING GREATER THAN 1 HOUR

3 HOUR RATED WALL

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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE: 06/13/25
PHASE: CONSTRUCTION DOCUMENTS
PROJECT: 22263.01
SHEET: G111
LIFE SAFETY PLAN

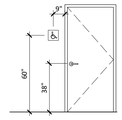
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KEYNOTES - ADA MOUNTING HEIGHTS

NO	NOTE
1	HATCHED OR DASHED SPACE INDICATES REQUIRED CLEAR FLOOR SPACE.
2	DOORWAYS SHALL HAVE A MINIMUM CLEAR OPENING OF 32 IN WITH THE DOOR OPEN 90 DEGREES, MEASURED BETWEEN THE FACE OF THE DOOR AND STOP.
3	HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE. LEVER OPERATED MECHANISMS, PUSH-TYPE MECHANISMS, AND U-SHAPED HANDLES ARE ACCEPTABLE DESIGNS.



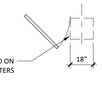
FIRE EXTINGUISHER



INTERIOR WALL MTD ROOM SIGNAGE

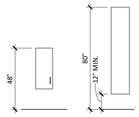
TACTILE CHARACTERS SHALL BE 48" MIN. ABOVE FIN. FLR. MEASURED TO THE BASELINE OF THE LOWEST TACTILE CHARACTER AND 60" MAX. TO THE BASELINE OF THE HIGHEST TACTILE CHARACTER.

SIGNAGE OR PLAQUE W/ TACTILE CHARACTER

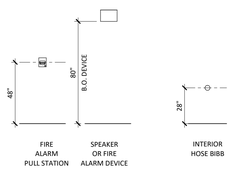


TACTILE SIGN PLAN VIEW

MOUNTING HEIGHTS - FIRE PROTECTION

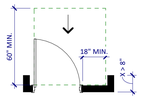


ELECTRICAL PANEL OR CABINET | POWER PANEL | ELECTRICAL PANEL OR CABINET

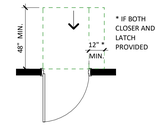


FIRE ALARM PULL STATION | SPEAKER OR FIRE ALARM DEVICE | INTERIOR HOSE BIBB

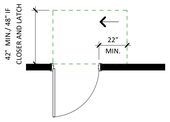
MOUNTING HEIGHTS - MISCELLANEOUS



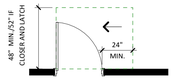
MANEUVERING CLEARANCE AT RECESSED MANUAL SWINGING DOORS - LATCH APPROACH - PULL SIDE



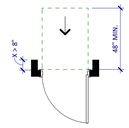
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS - FRONT APPROACH - PUSH SIDE EXISTING BUILDINGS



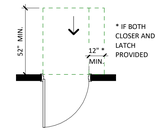
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS - HINGE APPROACH - PUSH SIDE



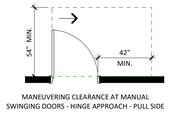
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS - LATCH APPROACH - PULL SIDE



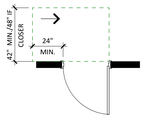
MANEUVERING CLEARANCE AT RECESSED MANUAL SWINGING DOORS - LATCH APPROACH - PUSH SIDE



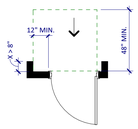
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS - FRONT APPROACH - PUSH SIDE NEW BUILDINGS



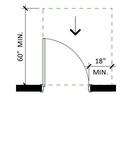
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS - HINGE APPROACH - PULL SIDE



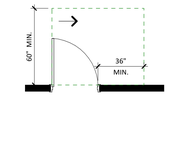
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS - LATCH APPROACH - PUSH



MANEUVERING CLEARANCE AT RECESSED MANUAL SWINGING DOOR WITH CLOSER - LATCH APPROACH - PUSH SIDE

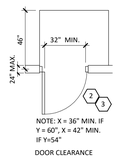


MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS - FRONT APPROACH - PULL SIDE



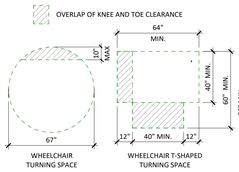
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS - HINGE APPROACH - PULL SIDE

MOUNTING HEIGHTS

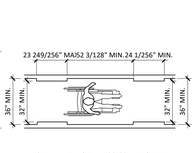


NOTE: X = 36" MIN. IF Y = 60", X = 42" MIN. IF Y=54"
DOOR CLEARANCE

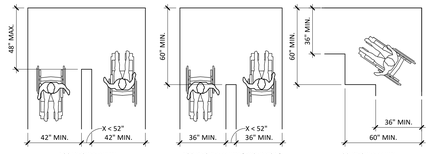
DOOR CLEARANCES



WHEELCHAIR TURNING SPACE | WHEELCHAIR T-SHAPED TURNING SPACE

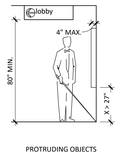


CLEAR WIDTH OF AN ACCESSIBLE ROUTE



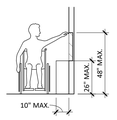
180 DEGREE TURN | 180 DEGREE TURN (EXCEPTION) | 90 DEGREE TURN

CLEAR WIDTH AT TURN

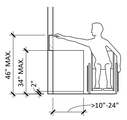


PROTRUDING OBJECTS

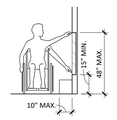
MOUNTING HEIGHTS AND HORIZONTAL CLEARANCES



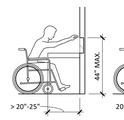
OBSTRUCTED HIGH SIDE REACH



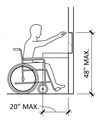
OBSTRUCTED HIGH SIDE REACH



UNOBSTRUCTED SIDE REACH



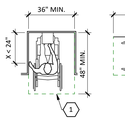
OBSTRUCTED FORWARD REACH



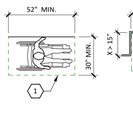
OBSTRUCTED FORWARD REACH



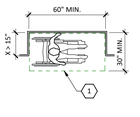
UNOBSTRUCTED FORWARD REACH



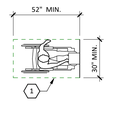
FORWARD APPROACH



PARALLEL SIDE APPROACH



PARALLEL APPROACH



FORWARD/PARALLEL APPROACH

MOUNTING HEIGHTS - REACHES

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PRELIMINARY
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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
06/13/25
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
G120
MOUNTING HEIGHTS

6/10/2025 3:59:38 PM

BUILDING STATISTICS	
Project Number:	*22263.01*
Project Name:	*Bloomington Fleet Repair Facility - Salt Shed*
Building Height	*0'-0"*
Site / Lot Area :	*56,116.0 SF*
Building Areas:	
FIRST FLOOR	*23,675.0 SF*
Total Building Area:	*23,675.0 SF*
ZONING / SITE REQUIREMENTS	
Zoning District:	*I2 Limited Industry*
Building Use:	*Maintenance Garage / Office*
Yard Requirements (setbacks):	
Front:	*30 Feet*
Sides:	*25 Feet*
Rear:	*25 Feet*
	SEE ALSO REQUIREMENTS BASED ON CONSTRUCTION TYPES
BUILDING CODE ANALYSIS - APPLICABLE GOVERNING CODES:	
Building Code:	*2020 Minnesota State Building Code*
Fire Code:	*2020 Minnesota State Fire Code*
Plumbing Code:	*2020 Minnesota State Plumbing Code*
Electrical Code:	*2023 National Electric Code*
Energy Code:	*2024 Minnesota State Energy Code*
Accessibility Code:	*2020 Minnesota Acessibility Code, 2009 ANSI A117.4 and 2010 ADA*
BUILDING CODE ANALYSIS - APPLICABLE GOVERNING CODES:	
CHAPTER 3 OCCUPANCY CLASSIFICATION AND USE	
OCCUPANCY CLASSIFICATION(S) BY CODE:	*S1 - Salt storage building*
CHAPTER 6 TYPES OF CONSTRUCTION	
SECTION 602 **CONSTRUCTION CLASSIFICATION**	
Construction type for this project shall be	*IIB*
How will the building be sprinklered :	*S1*
How many stories will this building be:	*1 story*
TABLE 601	
Primary structural frame (f) (see section 202)	*0*
Bearing Walls	
Exterior (e,f)	*0*
Interior	*0*
Nonbearing walls and partitions	
Exterior	*See Table 602*
Nonbearing walls and partitions	
Interior (d)	*0*
Floor construction and associated secondary members (see Sectio...	*0*
Roof construction and associated secondary members (see Section...	*0 c*
	a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.
	b. Except in Group F-1, H, M, and S-1 occupancies, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant wood members shall be allowed to be used for such unprotected members.
	c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed where a 1-hour or less fire-resistance rating is required.
	d. Not less than the fire-resistance rating required by other sections of this code.
	e. Not less than the fire-resistance rating based on fire separation distance (see Table 602).
	f. Not less than the fire-resistance rating as referenced in Section 704.10.
TABLE 602 RATING BASED ON FIRE SEPARATION...	
The occupancy group under evaluation shall be	***A,B,E,F-2,I,R(i), S-2, U(h)***
Fire separation distance (occupancy group-construction type)	***A,B,E,F-2,I,R(i), S-2, U(h)-IIB***
X<5 b	***1***
5<=X<10	***1***
10<=X<30	***0***
X>=30	***0***
CHAPTER 5 GENERAL BUILDING HEIGHTS AND AREAS	
SEPARATED OR NON-SEPARATED	***Non-Separated***
MOST RESTRICTIVE OCCUPANCY	***S-1***
508.2 Accessory occupancies	
	Accessory occupancies are those occupancies that are ancillary to the main occupancy of the building or portion thereof. Accessory occupancies shall comply with the provisions of Sections 508.2.1 through 508.2.4.
508.3 Nonseparated Occupancies	
	Buildings or portions of buildings that comply with the provisions of this section shall be considered as nonseparated occupancies.
508.3.1 Occupancy Classification	Nonseparated occupancies shall be individually classified in accordance with Section 302.1. The requirements of this code shall apply to each portion of the building based on the occupancy classification of that space. In addition, the most restrictive provisions of Chapter 9 that apply to the nonseparated occupancies shall apply to the total nonseparated occupancy area.
509 Incidental Uses	
509.1 General	Incidental uses located within single occupancy or mixed occupancy buildings shall comply with the provisions of this section. Incidental uses are ancillary functions associated with a given occupancy that generally pose a greater level of risk to that occupancy and are limited to those uses in Table 509.
509.2 Occupancy Classification	Incidental uses shall not be individually classified in accordance with Section 302.1. Incidental uses shall be included in the building occupancies within which they are located.
509.4 Separation and protection	The incidental uses listed Table 509 shall be separated from the remainder of the building or equipped with an automatic sprinkler system, or both, in accordance with the provisions of that table.
509.4.2.1 Protection Limitation	Where an automatic sprinkler system is provided in accordance with Table 509, only the space occupied by the incidental use need to be equipped with such a system.
	For this project sprinklered protection shall be utilized in lieu of rated walls as applicable with Section 509.4. Doors shall have smoke seals and walls constructed to be smoke tight
506 Building Area	
506.1 General	The floor area of a building shall be determined based on the type of construction, occupancy classification, whether there is an automatic sprinkler system installed throughout the building and the amount of building frontage on public way or open space.
506.2 Allowable area determination	The allowable area of a building shall be determined in accordance with the applicable provisions of Sections 506.2.1 through 506.2.4 and 506.3.
506.2.1 Single-occupancy, one-story buildings	
	The allowable area of a single-occupancy building with no more than one story above grade plane shall be determined in accordance with Equation 5-1:
Equation 5-1:	***Aa = At + (NSxIf)***
At	***70000***
NS	***17500***
If	***0.38***
Total Allowable Story Area:	***76650***
506.3 Frontage	
506.3 Frontage Increase	Every building shall adjoin or have access to a public way to receive an area factor increase based on frontage. Area factor increase shall be determined in accordance with Sections 506.3.1 through 506.3.3.
506.3.1 Frontage Increase	To qualify for an area factor increase based on frontage, a building shall have not less than 25 percent of its perimeter on a public way or open space. Such open space shall be either on the same lot or dedicated for public use and shall be accessed from a street or approved fire line.
	This project has greater than 25% of its perimeter facing a public way or open space. Refer to life safety plans/site plan.
506.3.2 Minimum frontage distance	To qualify for an area factor increase based on frontage, the public way or open space adjacent to the building perimeter shall have a minimum distance of 20 feet measured at right angles from the building face to any of the following: 1. The closest interior lot line. 2. The entire width of the street, alley or public way. 3. The exterior face of an adjacent building on the same property. Where the value of W is greater than 30 feet, a value of 30 feet shall be used in calculating the building area increase based on frontage, regardless of the actual width of the public way or open space. Where the value of W varies along the perimeter of the building, the calculation performed in accordance with Equation 5-5 shall be based on the weighted average calculated in accordance with Equation 5-4.
	Exceptions: 1. Where a building meets the requirements of Section 507, as applicable, except for compliance with the minimum 60-foot public way or yard requirement, and the value of W is greater than 30 feet, the value of W shall not exceed 60 feet.
506.3.3 Amount of increase	The area factor increase based on frontage shall be determined in accordance with Equation 5-5.
Equation 5-5:	***If = [F/P-0.25]W/30***
	0.38
504 Building Height and Number of Stories	
504.3 Height in feet	The maximum height, in feet, of a building shall not exceed the limits specified in Table 504.3.
Allowable number of stories:	*3*

Maximum allowable height (feet) Table 504.3:	*75-0" Allowed > 60'-8" Provided*
CHAPTER 9 FIRE PROTECTION AND LIFE SAFETY SYSTEMS	
903 Automatic sprinkler systems	Fire sprinkler is required and provided.
903.2.9 Group S-1- Automatic Sprinkler Systems	Proposed fire area exceeds 12,000 SF of floor area. An Automatic sprinkler system is required and provided.
907 Fire alarm and detection systems	Fire alram system is required and provided.
CHAPTER 10 MEANS OF EGRESS	
1003.2 Ceiling height	The means of egress shall have a ceiling height of not less than 7 fee 6 inches above the finished floor.
Exceptions:	1. Sloped ceiling in accordance with Section 1207.2. 2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with Section 1207.2. 3. Allowable projections in accordance with Section 1003.3. 4. Stair headroom in accordance with Section 1011.3. 5. Door height in accordance with Section 1010.1.1. 6. Ramp headroom in accordance with 1012.5.2. 7. The clear height of floor levels in vehicular and pedestrian traffic areas of public and private parking garages in accordance with Section 406.2.2. 8. Areas above and below mezzanine floors in accordance with Section 505.2.
1003.3 Protruding objects	Protruding objects on circulation paths shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.
1003.3.1 Headroom	Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2 where a minimum headroom of 80 inches is provided over any circulation paths, including walks, corridors, aisles and passageways. Not more than 50 percent of the ceiling area of a means of egress shall be reduced in height by protruding objects.
1005 Means of egress sizing	
1005.3.2 Other egress components	The capacity, in inches, of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.2 inch per occupant.
1005.5 Distribution of minimum width and required capacity	Where more than one exit, or access to more than one exit, is required, the means of egress shall be configured such that the loss of any one exit, shall not reduce the available capacity or width to less than 50 percent of the required capacity or width.
1006 Number of exits and exit access doorways	
Table 1006.2.1 Spaces with one exit or exit access doorway	
1006.2.2 Egress based on use	The numbers of exits shall be provided in the uses described in Section 1006.2.2.1 through 1006.2.2.6.
Total Occupant Load:	*89 (The building will only be occupied by 5 full time employees)*
1006.3.2 Egress based on occupant load	*4 exits required*
1007 Exit and exit access doorway configuration	
1007.1.1 Two exits or exit access doorways	*Exits shall be separated by not less than one third the maximum diagonal of the area served.*
1017 Exit access travel distance	
Table 1017.2 Exit access travel distance	*A,E,F-1,M,R,S-1/Sprinkled - 250 feet*
CHAPTER 11 ACCESSIBILITY	
1002 Compliance	
1102.1 Design	Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A117.1.
1104.1 Accessible route	At least one accessible route within the site shall be provided from public transportation stops, accessible parking, accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance served.
1104.2 Within a site	At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements and accessible spaces that are on the same site
1105.1 Public entrances	In addition to accessible entrances required by Sections 1105.1 through 1105.1.7, at least 60 percent of all public entrances shall be accessible.
	Total Entrances.60*
CHAPTER 13 ENERGY EFFICIENCY	
1301.1.1 Criteria	Buildings shall be designed and constructed in accordance with the International Energy Conservation Code.
CHAPTER 29 PLUMBING SYSTEMS	
2901.2 Minimum number of fixtures	Plumbing fixtures shall be provided in the minimum number as shown in Table 2902.1 based on the actual use of the building or space. Uses not shown in Table 2902.1 shall be considered individually by the code official. The number of occupants shall be determined by this code.

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Minneapolis, MN 55401
phone: (612) 746-4260

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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
06/13/25

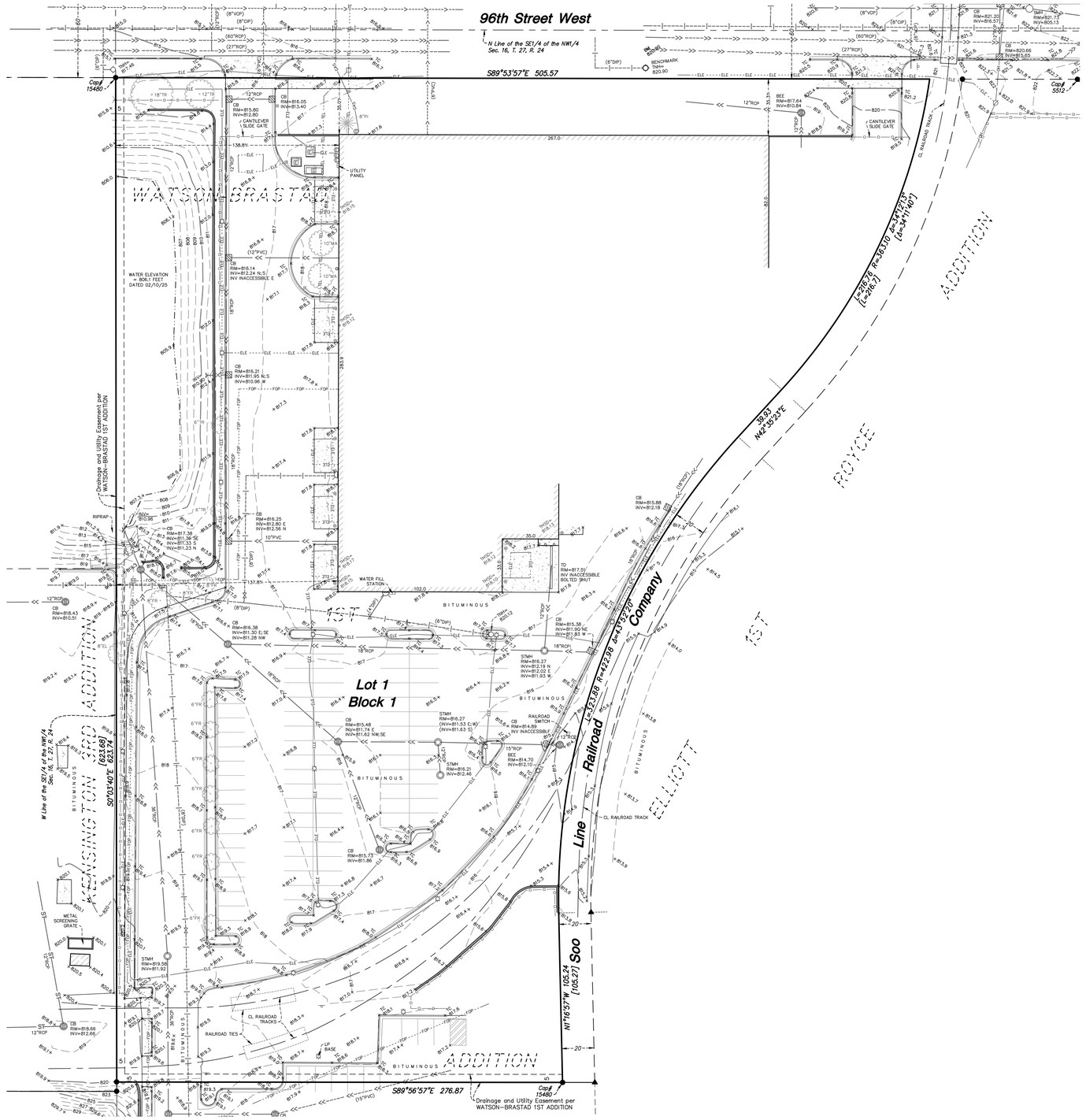
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CONSTRUCTION DOCUMENTS

PROJECT
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CODE REVIEW

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LEGEND

- FOUND 1/2 INCH OPEN IRON MONUMENT UNLESS SHOWN OTHERWISE
- SET 1/2 INCH X 14 INCH IRON MONUMENT, MARKED "LS 48988"
- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
- HYDRANT
- GATE VALVE
- ELECTRIC TRANSFORMER
- ELECTRIC METER
- GAS METER
- GUY WIRE
- HAND HOLE
- LIGHT POLE
- POWER POLE
- ROOF DRAIN
- TELEPHONE PEDESTAL
- SIGN
- (2) PARKING STALL COUNT
- DISABLED PARKING STALL
- [1] SCHEDULE B II ITEM

- STORM SEWER
- SANITARY SEWER
- WATERMAIN
- SANITARY SEWER SERVICE
- W WATER SERVICE
- ELE UNDERGROUND ELECTRIC
- FOP UNDERGROUND FIBER OPTIC
- GAS UNDERGROUND GAS
- TEL UNDERGROUND TELEPHONE
- OH OVERHEAD UTILITY
- CHAIN LINK FENCE
- CONCRETE CURB
- RETAINING WALL
- CONCRETE
- NO PARKING
- EXISTING BUILDING
- 972 CONTOUR
- x972.5 SPOT ELEVATION
- TREE LINE
- CONIFEROUS TREE
  - PI PINE
- DECIDUOUS TREE
  - AS ASH
  - MA MAPLE
  - TR TREE (GEN)

EXISTING CONDITIONS GENERAL NOTES

1. THE INFORMATION SHOWN ON THIS EXISTING CONDITIONS PLAN WAS PREPARED FROM AN A PARTIAL BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED BY LOUCKS. UTILITY INFORMATION SHOWN ON THIS PLAN, SUCH AS SANITARY SEWER, WATERMAIN, STORM SEWER, FORCEMAIN, ETC. IS PER RECORD PLANS PROVIDED BY THE CITY.

2. THE BEARINGS FOR THIS SURVEY ARE BASED ON THE HENNEPIN COUNTY COORDINATE SYSTEM NAD 83 (1986 ADJUST).

4. WE HAVE SHOWN BURIED STRUCTURES AND UTILITIES ON AND/OR SERVING THE SITE TO THE BEST OF OUR ABILITY, SUBJECT TO THE FOLLOWING RESTRICTIONS:
   - A. UTILITY OPERATORS DO NOT CONSISTENTLY RESPOND TO LOCATE REQUESTS THROUGH THE GOPHER STATE ONE CALL SERVICE FOR BOUNDARY AND LOCATION PURPOSES SUCH AS THIS.
   - B. THOSE UTILITY OPERATORS THAT DO RESPOND, OFTEN WILL NOT LOCATE SERVICES FROM THE MAIN LINE TO THE CUSTOMER'S STRUCTURE OR FACILITY - THEY CONSIDER THOSE SEGMENTS PRIVATE INSTALLATIONS THAT ARE OUTSIDE OF THEIR JURISDICTION. IF A PRIVATE SERVICE TO AN ADJOINER'S SITE CROSSES THIS SITE OR A SERVICE TO THIS SITE CROSSES AN ADJOINER, IT MAY NOT BE LOCATED SINCE MOST OPERATORS WILL NOT MARK SUCH "PRIVATE" SERVICES.
   - C. MAPS PROVIDED BY UTILITY OPERATORS, EITHER ALONG WITH A FIELD LOCATION OR IN LIEU OF SUCH A LOCATION, ARE VERY OFTEN INACCURATE OR INCONCLUSIVE. MAPS PROVIDED BY UTILITY OPERATORS ARE VERY OFTEN AT A VERY SMALL SCALE, OR NO SCALE.
   - D. EXTREME CAUTION MUST BE EXERCISED BEFORE AN EXCAVATION TAKES PLACE ON OR NEAR THE SITE. BEFORE DIGGING, YOU ARE REQUIRED BY LAW TO NOTIFY GOPHER STATE ONE CALL AT LEAST 48 HOURS IN ADVANCE AT 651-454-0002.
   - E. UTILITY INFORMATION SHOWN ON THIS PLAN, SUCH AS NATURAL GAS, ELECTRIC LINES, TELEPHONE LINES, FIBER OPTIC LINES, CABLE TELEVISION LINES, UNDERGROUND PIPELINES, ETC. WAS SUPPLIED OR LOCATED BY GOPHER STATE ONE CALL.
   - F. SNOW AND ICE CONDITIONS DURING WINTER MONTHS MAY OBSCURE OTHERWISE VISIBLE EVIDENCE OF A BURIED STRUCTURE OR UTILITY.

N

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SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM A PARTIAL BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED BY LOUCKS, INC. DATED 02/20/25.

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LANDSCAPE ARCHITECTURE
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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

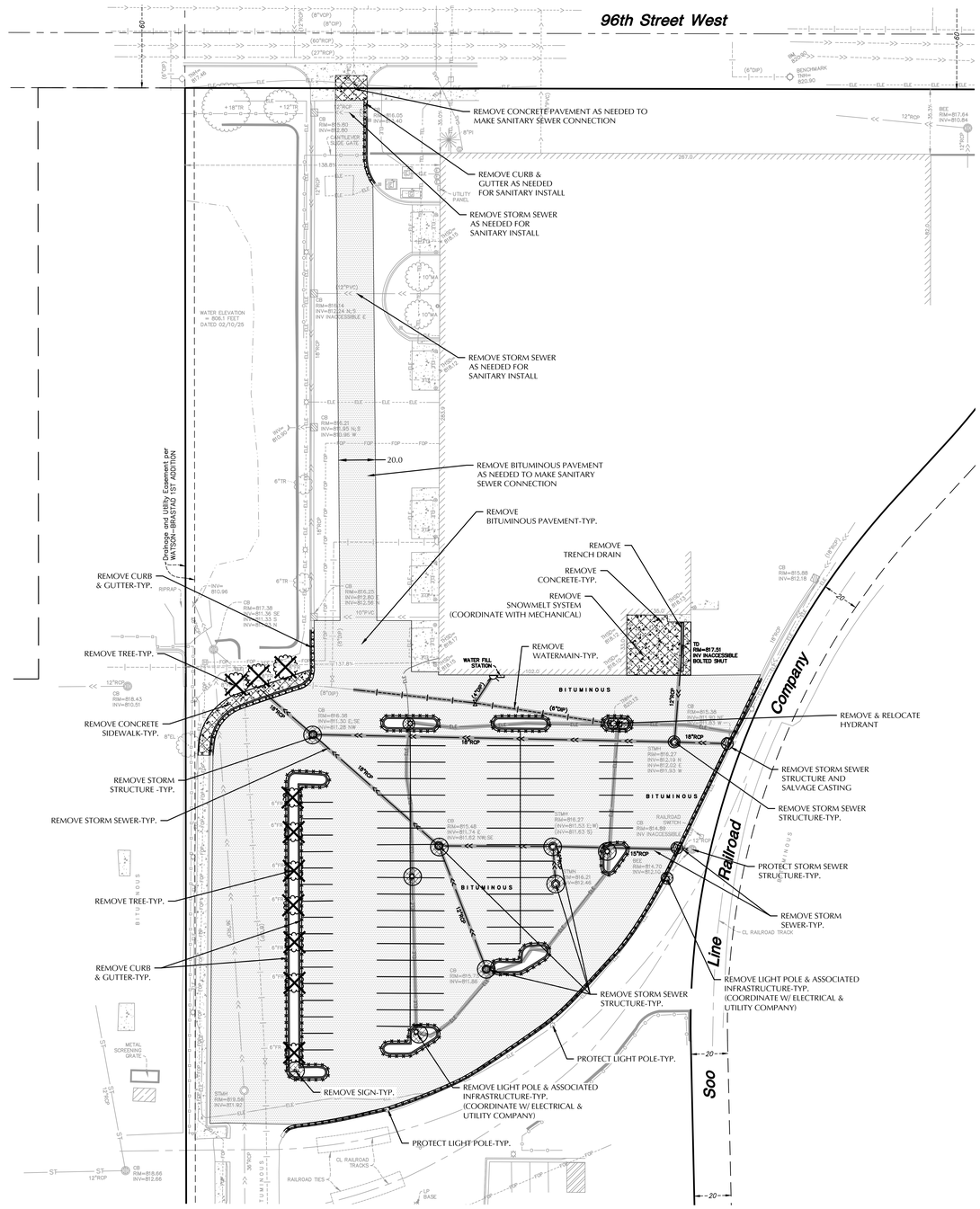
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CONSTRUCTION DOCUMENTS
PROJECT
22263.01
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C1-1
EXISTING CONDITIONS

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Michael J. St. Martin
License No. 24440
Date
NOT FOR CONSTRUCTION

Loucks Project No.	19815.0A
Project Lead	MJS
Drawn By	SLP
Checked By	MJS
Review Date	

4/16/2025 2:36:49 PM



DECONSTRUCTION LEGEND

- RECLAIM EXISTING BITUMINOUS PAVING
- REMOVE EXISTING CONCRETE PAVING, SIDEWALKS, ETC.
- MILL AND OVERLAY EXISTING PARKING LOT
- REMOVE EXISTING CURB & GUTTER, RETAINING WALLS, FENCE, ETC.
- REMOVE EXISTING UTILITIES
- REMOVE EXISTING MANHOLES, POWER POLES, LIGHT POLES, BOLLARDS, PARKING METERS, SIGNS, ETC.
- REMOVE EXISTING TREES

LEGEND

- FOUND 1/2 INCH OPEN IRON MONUMENT UNLESS SHOWN OTHERWISE
- SET 1/2 INCH X 14 INCH IRON MONUMENT, MARKED "LS 48988"
- CATCH BASIN
- STORM MANHOLE
- SANITARY MANHOLE
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- NO PARKING
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- 972 CONTOUR
- 972.5 SPOT ELEVATION
- TREE LINE
- CONIFEROUS TREE
- PI PINE
- DECIDUOUS TREE
- AS ASH
- MA MAPLE
- TR TREE (GEN)

SITE DECONSTRUCTION NOTES

1. CONTRACTOR SHALL REMOVE AND/OR RELOCATE EXISTING PRIVATE UTILITIES AS NECESSARY. CONTRACTOR TO COORDINATE ACTIVITIES WITH UTILITY COMPANIES & OWNER.
2. CLEAR AND GRUB AND REMOVE ALL TREES NOTED FOR REMOVAL, VEGETATION AND SITE DEBRIS WITHIN CONSTRUCTION LIMITS PRIOR TO GRADING. STRIP TOP SOIL AND STOCKPILE ON-SITE. ALL REMOVED MATERIAL SHALL BE HAULED FROM THE SITE DAILY. ALL CLEARING AND GRUBBING AND REMOVALS SHALL BE PERFORMED PER THE CONTRACT SPECIFICATIONS. EROSION CONTROL MEASURES SHALL BE IMMEDIATELY ESTABLISHED UPON REMOVAL. SEE THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) / GRADING & EROSION CONTROL PLAN.
3. CONTRACTOR SHALL PROTECT SURFACE AND SUBSURFACE FEATURES NOT NOTED FOR REMOVAL. CONTRACTOR TO NOTIFY ENGINEER WITH ANY CONFLICTS OR PLAN DISCREPANCIES.
4. CONTRACTOR TO SCHEDULE PRE-CONSTRUCTION MEETING(S) WITH UTILITY OWNER(S) TO DISCUSS DISCONNECTIONS AND/OR RELOCATIONS.
5. REFER TO LANDSCAPE PLAN FOR REMOVAL AND REPLACEMENT OF ON SITE TREES.
6. CONTRACTOR TO VERIFY LOCATION OF SEPTIC FIELD(S) & WELL(S) ON SITE. COORDINATE REMOVALS AND/OR ABANDONMENT WITH THE APPLICABLE GOVERNING AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPLICABLE PERMITS. WELLS ON THE PROPERTY SHALL BE SEALED BY A MINNESOTA DEPARTMENT OF HEALTH (MDH) LICENSED CONTRACTOR.
7. BITUMINOUS PAVEMENT REMOVALS ARE TO BE MADE TO A VERTICAL SAW CUT OR TO A NEAT MILLED EDGE.
8. CONCRETE PAVEMENT, SIDEWALK, CURB & GUTTER AND OTHER POURED CONCRETE ITEMS ARE TO BE REMOVED TO AN EXISTING EXPANSION OR CONTRACTION JOINT. SAW CUT AS NECESSARY FOR A NEAT EDGE OF REMOVAL.
9. ANY DAMAGE TO ITEMS NOT NOTED TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION WITH NO ADDITIONAL COMPENSATION.
10. CONTRACTOR SHALL COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAY WITH THE APPLICABLE GOVERNING AGENCIES. ALL WORK SHALL BE PERFORMED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
11. CONTRACTOR TO COORDINATE ALL WORK WITHIN THE ADJACENT PROPERTIES WITH THE OWNER AND ADJACENT PROPERTY OWNER.
12. CONTRACTOR TO COORDINATE DEMOLITION PHASING WITH ALL DISCIPLINES INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, & OWNER.
13. REFER TO THE GEOTECHNICAL REPORT PREPARED BY CHOSEN VALLEY TESTING, DATED JANUARY 13, 2025 FOR INFORMATION INCLUDING BUT NOT LIMITED TO GROUNDWATER CONDITIONS AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
14. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR ANY REPAIRS TO THE IRRIGATION SYSTEM THAT IS AFFECTED DURING CONSTRUCTION.

N

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SCALE IN FEET

NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM A PARTIAL BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED BY LOUCKS, INC. DATED 02/20/25.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Michael J. St. Martin
License No. 24440
Date
NOT FOR CONSTRUCTION

Loucks Project No.	19815.0A
Project Lead	MJS
Drawn By	SLP
Checked By	MJS
Review Date	

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REVISION SCHEDULE

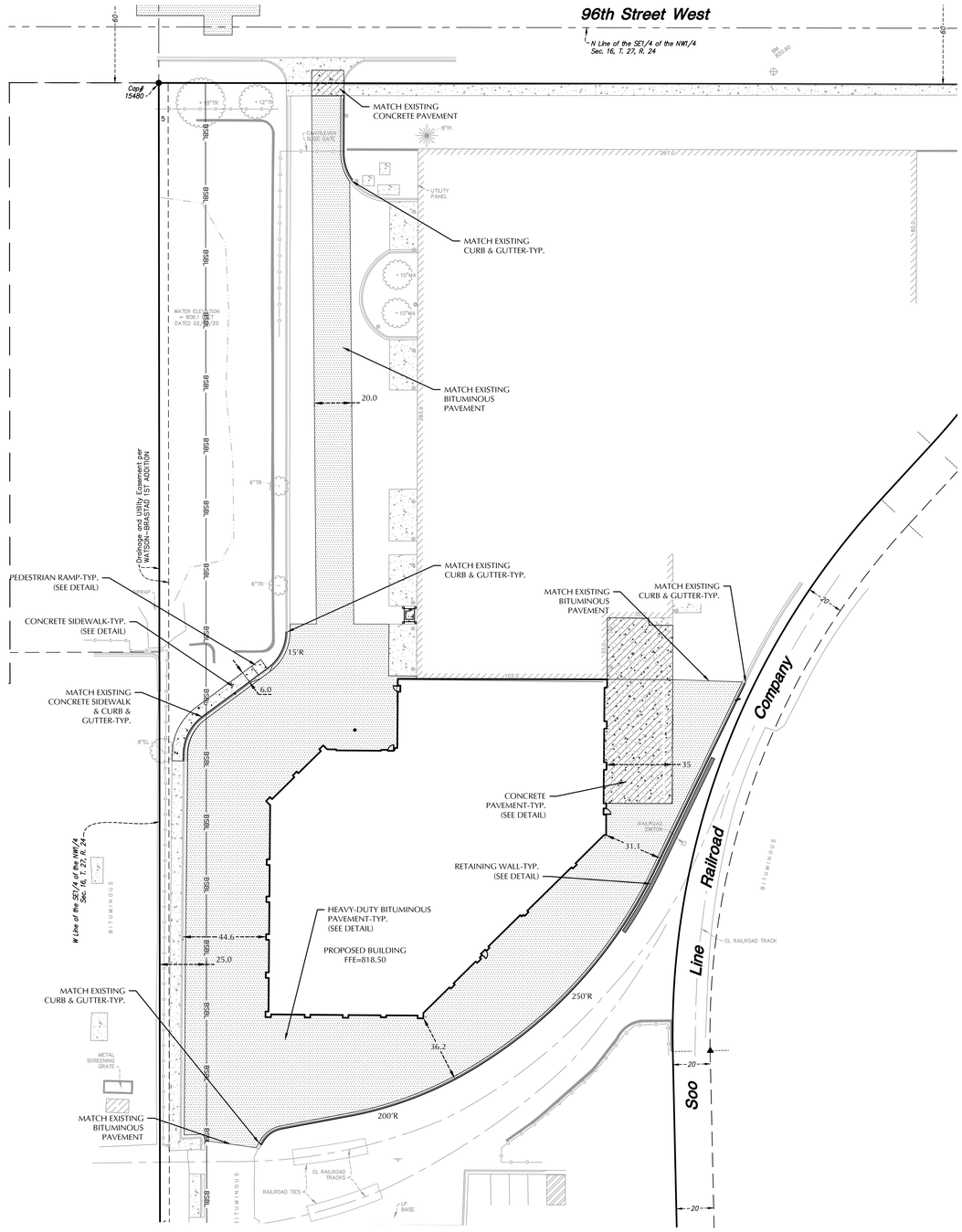
NO.	DESCRIPTION	DATE

PRELIMINARY
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CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
5/15/2025
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
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C1-2
DECONSTRUCTION PLAN

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SITE NOTES

1. ALL PAVING, CONCRETE CURB, GUTTER AND SIDEWALK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN PER THE DETAIL SHEET(S) AND APPLICABLE GOVERNING AGENCY REQUIREMENTS.
2. ACCESSIBLE PARKING AND ACCESSIBLE ROUTES SHALL BE PROVIDED PER CURRENT ADA STANDARDS AND APPLICABLE GOVERNING AGENCY REQUIREMENTS.
3. ALL CURB DIMENSIONS SHOWN ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
4. ALL BUILDING DIMENSIONS ARE TO THE OUTSIDE FACE OF WALL UNLESS OTHERWISE NOTED.
5. BITUMINOUS IMPREGNATED FIBER BOARD TO BE PLACED AT FULL DEPTH OF CONCRETE ADJACENT TO EXISTING STRUCTURES AND BEHIND CURB ADJACENT TO DRIVEWAYS AND SIDEWALKS.
6. SEE SITE ELECTRICAL PLAN FOR SITE LIGHTING.
7. REFER TO THE GEOTECHNICAL REPORT PREPARED BY CHOSEN VALLEY TESTING, DATED JANUARY 13, 2025 FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO PAVEMENTS AND EXTERIOR SLABS.

SITE DATA

CURRENT ZONING: I-2 LIMITED INDUSTRY DISTRICT
PROPOSED ZONING: I-2 LIMITED INDUSTRY DISTRICT

PROPERTY AREA (GROSS):	5.12 ± AC
DISTURBED AREA:	1.42 ± AC
EXISTING IMPERVIOUS AREA:	1.33 ± AC (94%)*
PROPOSED IMPERVIOUS AREA:	1.39 ± AC (98%)*

*IMPERVIOUS AREAS BASED ON DISTURBED AREA ONLY

GENERAL NOTES

1. MINNESOTA STATE STATUTE REQUIRES NOTIFICATION PER "GOPHER STATE ONE CALL" PRIOR TO COMMENCING ANY GRADING, EXCAVATION OR UNDERGROUND WORK.
2. THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR VARIATIONS FROM THE PLANS.
3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASE OF THIS PROJECT. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGES TO ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASE OF THIS PROJECT.
4. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGMEN AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE APPROPRIATE MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARDS.
5. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS ON THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
6. THE DUTY OF THE ENGINEER OR THE DEVELOPER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTORS PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTORS SAFETY MEASURES IN, OR NEAR THE CONSTRUCTION SITE.
7. BEFORE BEGINNING CONSTRUCTION THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH NPDES PERMIT REQUIREMENTS, BEST MANAGEMENT PRACTICES, STATE AND LOCAL REQUIREMENTS AND THE DETAILS SHOWN ON THE DETAIL SHEET(S) OF THE PROJECT PLANS.
8. ALL CONSTRUCTION PERMITS, APPLICATIONS AND FEES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
9. ALL ENTRANCES AND CONNECTIONS TO CITY STREETS SHALL BE CONSTRUCTED PER THE REQUIREMENTS OF THE STATE AND LOCAL JURISDICTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND NOTIFICATIONS AS REQUIRED.
10. ALL STREET REPAIRS AND PATCHING SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CITY. ALL TRAFFIC CONTROL SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL BE ESTABLISHED PER THE REQUIREMENTS OF THE MINNESOTA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE CITY. THIS SHALL INCLUDE ALL SIGNAGE, BARRICADES, FLASHERS AND FLAGGERS AS NEEDED. ALL PUBLIC STREETS SHALL BE OPEN TO TRAFFIC AT ALL TIMES.
11. ADJUST ALL EXISTING STRUCTURES, BOTH PUBLIC AND PRIVATE TO THE PROPOSED GRADES WHERE DISTURBED AND COMPLY WITH ALL REQUIREMENTS OF THE UTILITY OWNERS. STRUCTURES BEING RESET TO PAVED AREAS MUST MEET OWNERS REQUIREMENTS FOR TRAFFIC LOADING.
12. SUBGRADE PREPARATION SHALL BE PERFORMED IN ACCORDANCE WITH MNDOT 2112. THE TOP 3 FEET SHALL BE COMPACTED TO 100% OF THE STANDARD PROCTOR DENSITY.
13. AGGREGATE BASE SHALL BE MNDOT 2211 CLASS 5. COMPACTION SHALL BE BY THE QUALITY COMPACTION METHOD.
14. PLANT MIXED BITUMINOUS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH MNDOT 2360 WITH MIX DESIGN AS SHOWN ON THE DETAILS. COMPACTION SHALL BE BY THE ORDINARY COMPACTION METHOD.
15. CONCRETE CURB & GUTTER SHALL BE PERFORMED IN ACCORDANCE WITH MNDOT 2531. CURING SHALL BE BY THE MEMBRANE CURING METHOD. EXPANSION JOINTS EVERY 200 FEET AT ALL FIXED OBJECTS. CONTRACTIONS JOINTS EVERY 10 FEET.
16. CONCRETE WALK SHALL BE PERFORMED IN ACCORDANCE WITH MNDOT 2521. CURING SHALL BE BY THE MEMBRANE CURING METHOD. EXPANSION JOINTS AT ALL FIVES OBJECTS. CONTRACTION JOINTS EVERY 5 FEET.
17. WORKING HOURS ARE 7 AM - 7 PM (MONDAY - FRIDAY) AND 9 AM - 7 PM (SATURDAY.) A 48 HOUR NOTICE IS REQUIRED FOR SATURDAY WORK.
18. THE CONTRACTOR MUST HAVE A CITY LICENSE.
19. A CITY RIGHT-OF-WAY PERMIT IS REQUIRED TO WORK WITHIN CITY ROW.
20. A COUNTY RIGHT-OF-WAY PERMIT IS REQUIRED TO WORK WITHIN COUNTY ROW.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
mv	POST INDICATOR VALVE	mv
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
BM#	BENCHMARK	
B-	SOIL BORING	B-
2	PARKING STALL COUNT	2
	ACCESSIBLE PARKING STALL	
ST	STORM SEWER	ST
DT	DRAINTILE	DT
S	SANITARY SEWER	S
FM	FORCEMAIN	FM
W	WATERMAIN	W
SS	SANITARY SEWER SERVICE	SS
W	WATER SERVICE	W
ELE	UNDERGROUND ELECTRIC	ELE
FO	UNDERGROUND FIBER OPTIC	FO
GAS	UNDERGROUND GAS	GAS
TEL	UNDERGROUND TELEPHONE	TEL
OH	OVERHEAD UTILITY	OH
X	FENCE	X
O	CHAIN LINK FENCE	O
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
972	CONTOUR	972
972.5	SPOT ELEVATION	972.5
10%	DIRECTION OF FLOW	10%
	TREE LINE	
PSBL	PARKING SETBACK LINE	PSBL
BSBL	BUILDING SETBACK LINE	BSBL

PAVEMENT TYPES

- CONCRETE SIDEWALK
- CONCRETE PAVEMENT
- STANDARD BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT
- BITUMINOUS TRAIL PAVEMENT

NOTE:
SEE PAVEMENT SECTIONS ON DETAIL SHEET C8-1 FOR TYPE AND DEPTH INFORMATION.

CURB TYPES

- B612 CURB & GUTTER (STANDARD)
- B612 CURB & GUTTER (TIP OUT)
- FLAT CURB & GUTTER (STANDARD)
- FLAT CURB & GUTTER (TIP OUT)

NOTE:
SEE CURB & GUTTER DETAILS ON DETAIL SHEET

CALL BEFORE YOU DIG!
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TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

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THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

N

0 30 60
SCALE IN FEET

NOTE:
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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Michael J. St. Marie
License No. 24440
Date
NOT FOR CONSTRUCTION

Loucks Project No.	19815.0A
Project Lead	MJS
Drawn By	SLP
Checked By	MJS
Review Date	

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REVISION SCHEDULE

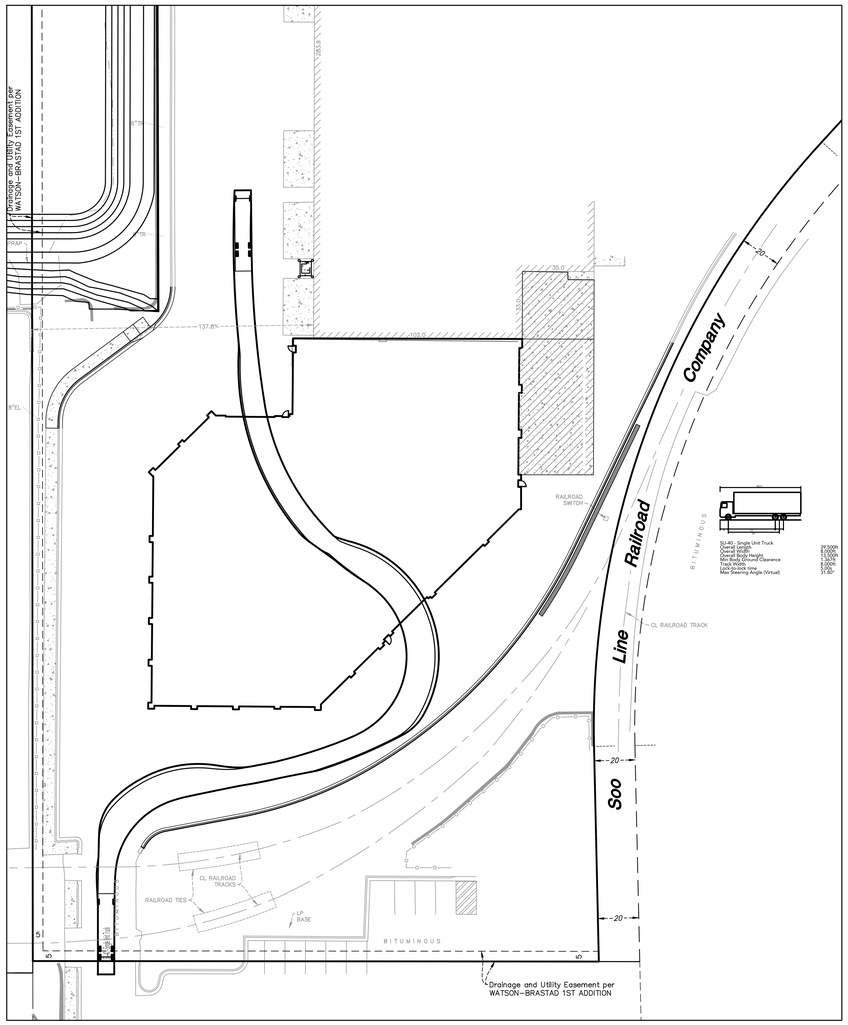
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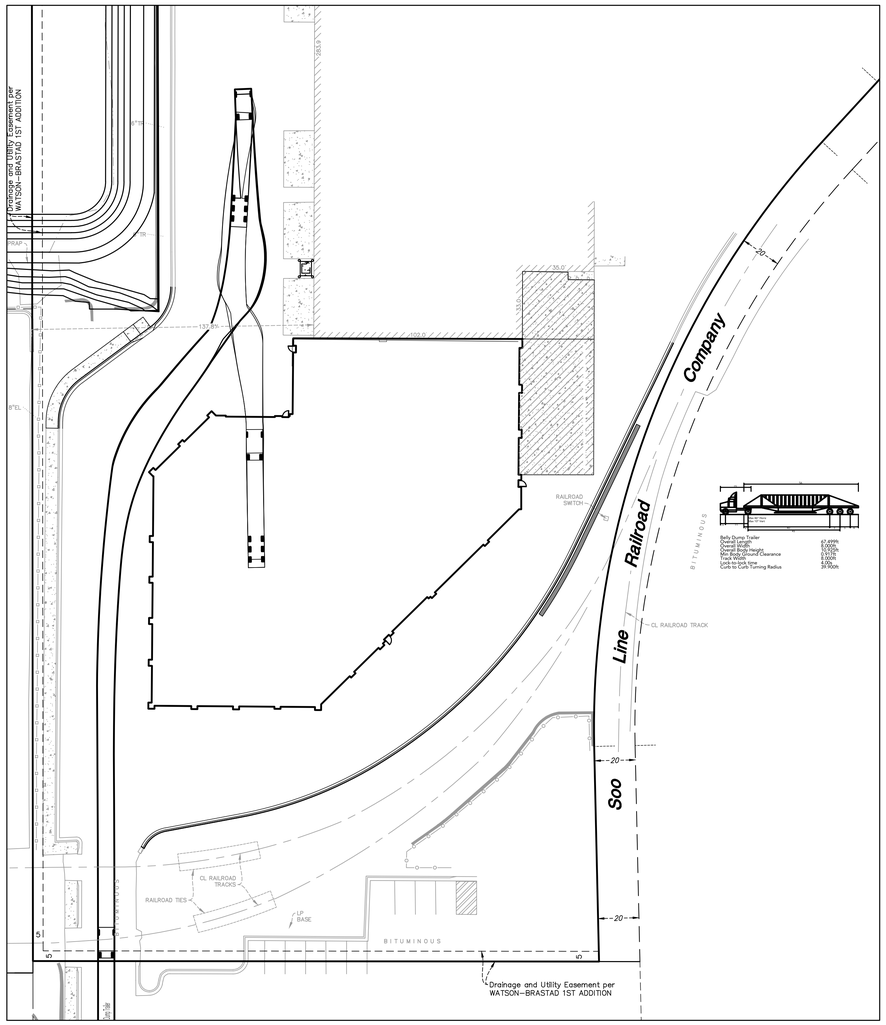
CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
5/15/2025
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
C2-1
SITE PLAN

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PLOW TRUCK LOADING - ENTER SITE FROM THE SOUTH AND ENTER SALT STORAGE BUILDING AT THE SOUTHEAST ENTRANCE



SALT DELIVERY TRUCK UNLOADING - ENTER SITE FROM THE SOUTH AND BACK INTO THE NORTH ENTRANCE

NOTE:
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CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

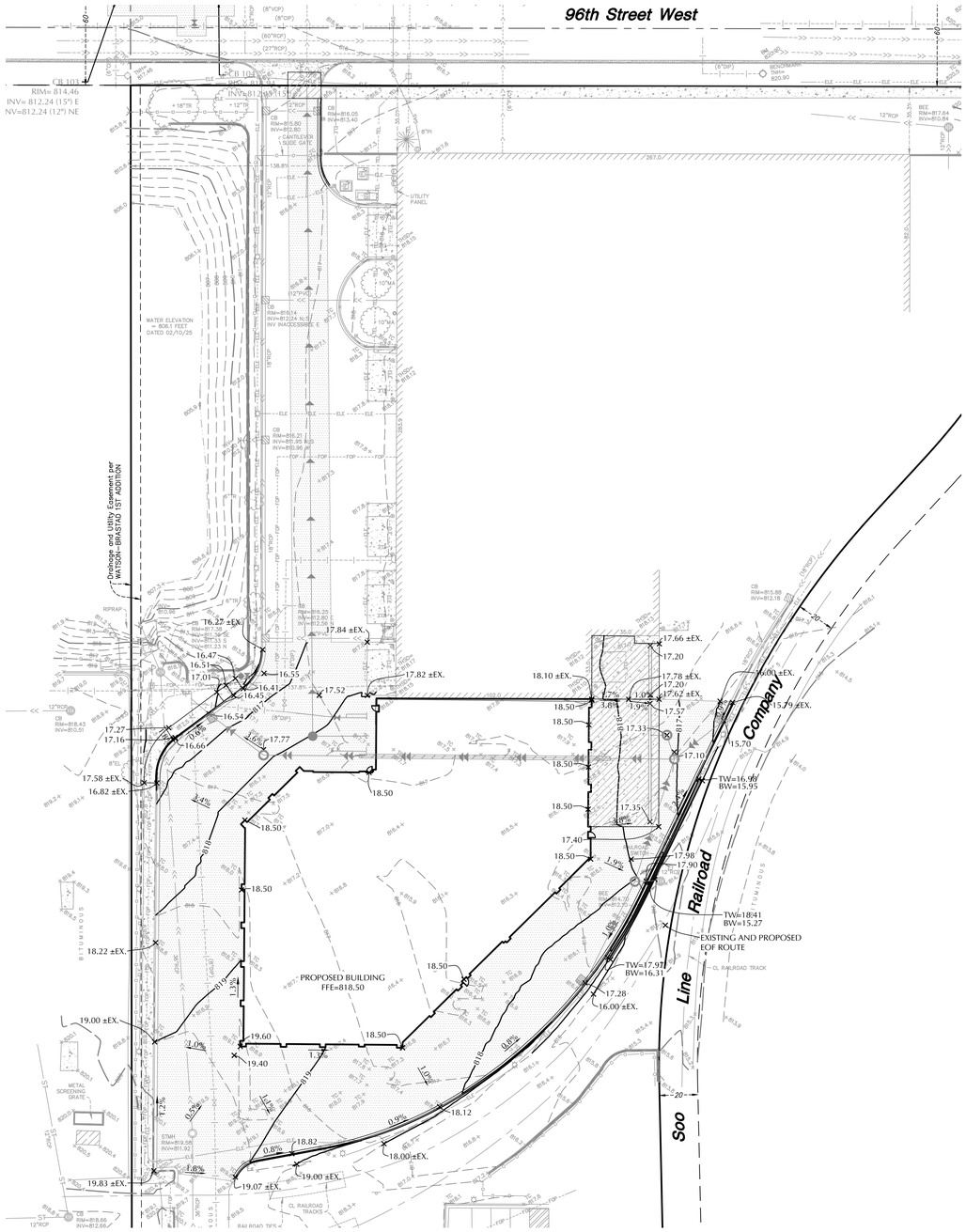
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5/15/2025
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
C2-2
TRUCK TURNING PLAN

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Michael J. St. Martin
License No. 24440
Date
NOT FOR CONSTRUCTION

Loucks Project No.	19815.0A
Project Lead	MJS
Drawn By	SLP
Checked By	MJS
Review Date	

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GRADING, DRAINAGE & EROSION CONTROL NOTES

1. SPOT ELEVATIONS REPRESENT FINISHED SURFACE GRADES, GUTTER/FLOW LINE, FACE OF BUILDING, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
2. ALL ACCESSIBLE ROUTES SHALL BE CONSTRUCTED WITH A CROSS SLOPE NOT EXCEEDING 2% AND A RUNNING SLOPE NOT EXCEEDING 5%.
3. AT TURNING POINTS ALONG THE ACCESSIBLE ROUTE THE PAVEMENT SHALL NOT EXCEED 2% IN ANY DIRECTION FOR AN AREA 60" IN DIAMETER.
4. ALL PUBLIC SIDEWALKS SHALL BE CONSTRUCTED WITH A CROSS SLOPE NOT EXCEEDING 2% AND A RUNNING SLOPE NOT EXCEEDING 5%.
5. CATCH BASINS AND MANHOLES IN PAVED AREAS SHALL BE SUMPED 0.04 FEET. ALL CATCH BASINS IN GUTTERS SHALL BE SUMPED 0.16 FEET. RIM ELEVATIONS SHOWN ON PLANS DO NOT REFLECT SUMPED ELEVATIONS.
6. REFER TO GEOTECHNICAL EVALUATION REPORT, DATED JANUARY 13, 2025 AS PREPARED BY CHOSEN VALLEY TESTING, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   A. REUSE OF ON-SITE SOILS
   B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   C. SITE GRADING AND SUBGRADE PREPARATION.
   D. PAVEMENTS AND EXTERIOR SLABS.
   E. TRENCH EXCAVATION AND BACKFILL.
   F. EXTERIOR UTILITY SUPPORTS.
   G. FROST PROTECTION.
7. EXISTING SOILS ARE ASSUMED TO BE POORLY GRADED SANDY SOILS (SP AND SM) PER THE UNIFIED SOIL CLASSIFICATION. CONTRACTOR TO NOTIFY ENGINEER IF EXISTING CONDITIONS DIFFER FROM ASSUMED SOIL CONDITIONS.
8. GRADING, INCLUDING BUT NOT LIMITED TO EXCAVATION AND BACKFILL, OF THE INFILTRATION AREA(S) SHALL BE ACCOMPLISHED USING LOW-IMPACT EARTH-MOVING EQUIPMENT TO PREVENT COMPACTION OF THE UNDERLYING SOILS. SMALL TRACKED DOZERS AND BOBCATS WITH RUNNER TRACKS ARE RECOMMENDED. NO WHEELED MACHINES SHALL BE USED.
9. SOIL BENEATH THE INFILTRATION AREA(S) SHALL BE RIPPED WITH A TOOTHED BUCKET TO REMOVE SOIL INTERFACE PRIOR TO BACKFILL.
10. CITY AND WATERSHED SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO CONSTRUCTION OF STORMWATER BMPS.
11. ALL DISTURBED UNPAVED AREAS ARE TO RECEIVE MINIMUM OF 4 INCHES OF TOP SOIL AND SEED/MULCH OR SOD. THESE AREAS SHALL BE WATERED/MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION IS ESTABLISHED. REFER TO THE LANDSCAPE PLANS, DETAILS AND SPECIFICATIONS FOR FINAL SITE STABILIZATION.
12. FOR SITE RETAINING WALLS "TW" EQUALS SURFACE GRADE AT TOP FACE OF WALL (NOT TOP OF WALL), "GW" EQUALS SURFACE GRADE AT WALL GRADE TRANSITION, AND "BW" EQUALS SURFACE GRADE AT BOTTOM FACE OF WALL (NOT BOTTOM OF BURIED WALL COURSES).
13. STREETS MUST BE CLEANED AND SWEPT WHENEVER TRACKING OF SEDIMENTS OCCURS AND BEFORE SITES ARE LEFT IDLE FOR WEEKENDS AND HOLIDAYS. A REGULAR SWEEPING SCHEDULE MUST BE ESTABLISHED.
14. DUST MUST BE ADEQUATELY CONTROLLED.
15. SEE SWPPP FOR ADDITIONAL EROSION CONTROL NOTES AND REQUIREMENTS.
16. SEE UTILITY PLAN FOR WATERMAIN, STORM SEWER, AND SANITARY SEWER INFORMATION.
17. SEE SITE PLAN FOR CURB AND BITUMINOUS TAPER LOCATIONS.
18. REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR BUILDING ELEVATIONS.
19. THE CONTRACTOR ALONG WITH THE OWNER SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM GOVERNING AUTHORITIES, INCLUDING ANY CITY PERMITS AND THE NPDES PERMIT.
20. INSTALL EROSION CONTROL AND TREE PROTECTION MEASURES BEFORE BEGINNING SITE GRADING ACTIVITIES. SOME EROSION CONTROLS SUCH AS BALE CHECKS AND TEMPORARY SILT PONDS MAY BE INSTALLED AS GRADING OCCURS IN SPECIFIC AREAS. MAINTAIN EROSION CONTROLS THROUGHOUT THE GRADING PROCESS AND REMOVE WHEN TURF HAS BEEN ESTABLISHED.
21. PER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM (NPDES/SDS) REQUIREMENTS, THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, CONCRETE, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS SHALL BE PROPERLY CONTAINED AND DISPOSED OF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND USING APPROVED METHODS OF CONTAINMENT SUCH AS PRE-FABRICATED WASHOUT CONTAINERS, CONCRETE WASHOUT TOTE, READY MIX TRUCKS WITH SELF-CONTAINED CHUTE CLEANOUT, ETC.
22. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF GRADING ACTIVITIES AS NEEDED PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.

LEGEND

EXISTING		PROPOSED
CB	CATCH BASIN	
SMH	STORM MANHOLE	
FES	FLARED END SECTION	
SAN MH	SANITARY MANHOLE	
HYD	HYDRANT	
GV	GATE VALVE	
PIV	POST INDICATOR VALVE	PIV
WMH / WELL	WATER MANHOLE / WELL	
LP	LIGHT POLE	
PP	POWER POLE	
EM	ELECTRIC METER	
GM	GAS METER	
TP	TELEPHONE PEDESTAL	
SIGN	SIGN	
BM@	BENCHMARK	
SB	SOIL BORING	
PSC	PARKING STALL COUNT	2
HC	ACCESSIBLE PARKING STALL	
SS	STORM SEWER	
DT	DRAINTILE	DT
SAN	SANITARY SEWER	
FM	FORCEMAIN	FM
W	WATERMAIN	W
S	SANITARY SEWER SERVICE	S
W	WATER SERVICE	W
ELE	UNDERGROUND ELECTRIC	ELE
FO	UNDERGROUND FIBER OPTIC	FO
GAS	UNDERGROUND GAS	GAS
TEL	UNDERGROUND TELEPHONE	TEL
OH	OVERHEAD UTILITY	OH
X	FENCE	X
O	CHAIN LINK FENCE	O
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
972	CONTOUR	972
972.5	SPOT ELEVATION	972.5 1.0%
	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	PSBL
	BUILDING SETBACK LINE	BSBL

PAVEMENT TYPES

- CONCRETE SIDEWALK
- CONCRETE PAVEMENT
- STANDARD BITUMINOUS PAVEMENT
- HEAVY DUTY BITUMINOUS PAVEMENT
- BITUMINOUS TRAIL PAVEMENT

NOTE:
SEE PAVEMENT SECTIONS ON DETAIL SHEET C8-1 FOR TYPE AND DEPTH INFORMATION.

CURB TYPES

- B612 CURB & GUTTER (STANDARD)
- B612 CURB & GUTTER (TIP OUT)
- FLAT CURB & GUTTER (STANDARD)
- FLAT CURB & GUTTER (TIP OUT)

NOTE:
SEE CURB & GUTTER DETAILS ON DETAIL SHEET

CALL BEFORE YOU DIG!
Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

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N

0 30 60
SCALE IN FEET

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REVISION SCHEDULE

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CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

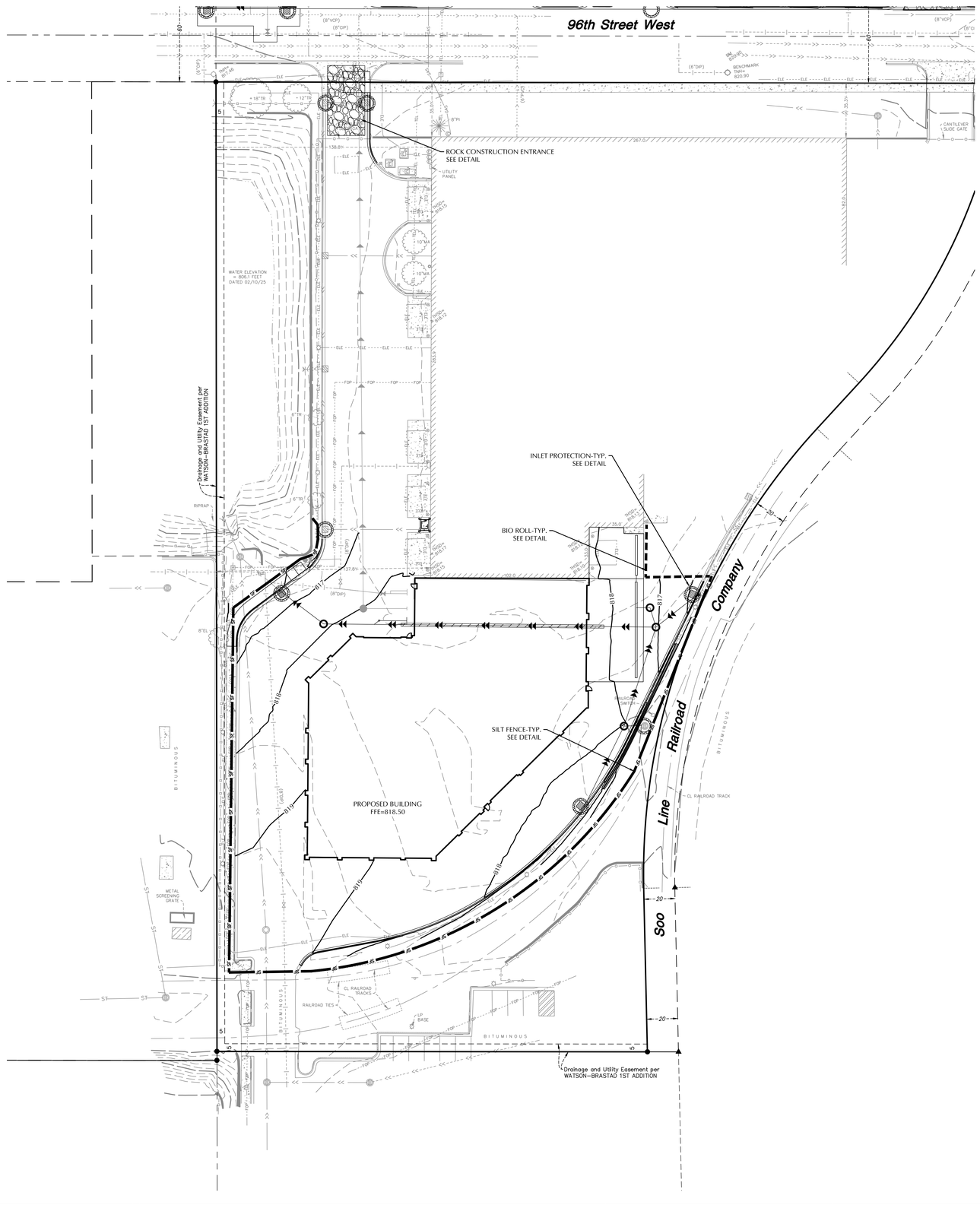
DATE
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PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
C3-1
GRADING PLAN

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Michael J. St. Marie
License No. 24440
Date
NOT FOR CONSTRUCTION

Loucks Project No.	19815.0A
Project Lead	MJS
Drawn By	SLP
Checked By	MJS
Review Date	

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LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
E	ELECTRIC METER	
G	GAS METER	
T	TELEPHONE PEDESTAL	
	SIGN	
BM	BENCHMARK	
SB	SOIL BORING	
2	PARKING STALL COUNT	2
	ACCESSIBLE PARKING STALL	
ST	STORM SEWER	ST
DT	DRAINTILE	DT
SN	SANITARY SEWER	SN
FM	FORCEMAIN	FM
W	WATERMAIN	W
S	SANITARY SEWER SERVICE	S
W	WATER SERVICE	W
ELE	UNDERGROUND ELECTRIC	ELE
FO	UNDERGROUND FIBER OPTIC	FO
GAS	UNDERGROUND GAS	GAS
TEL	UNDERGROUND TELEPHONE	TEL
OH	OVERHEAD UTILITY	OH
X	FENCE	X
O	CHAIN LINK FENCE	O
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
972	CONTOUR	972
972.5	SPOT ELEVATION	972.5
	DIRECTION OF FLOW	1.0%
	TREE LINE	
	PARKING SETBACK LINE	PSBL
	BUILDING SETBACK LINE	BSBL

SWPPP LEGEND

- SF — SILT FENCE
- BIO ROLLS
- INLET PROTECTION
- EXISTING DRAINAGE PATTERN
- PROPOSED DRAINAGE PATTERN
- EROSION CONTROL BLANKET

N

0 30 60
SCALE IN FEET

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Michael J. St. Marie
License No. 24440
Date NOT FOR CONSTRUCTION

Loucks Project No.	19815.0A
Project Lead	MJS
Drawn By	SLP
Checked By	MJS
Review Date	

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NO.	DESCRIPTION	DATE

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CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE 5/15/2025
PHASE CONSTRUCTION DOCUMENTS
PROJECT 22263.01
SHEET **C3-2**
SWPPP PLAN

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1. THE NATURE OF THIS PROJECT WILL CONSIST OF CONSTRUCTING THE DECONSTRUCTION OF 2 EXISTING BUILDINGS, A PROPOSED BUILDING, SURFACE PAVEMENTS, UTILITIES, AND UNDERGROUND STORMWATER MANAGEMENT SYSTEMS.

2. THE INTENDED SEQUENCING OF MAJOR CONSTRUCTION ACTIVITIES ARE AS FOLLOWS:

   A. INSTALL VEHICLE TRACKING BMP
   B. INSTALL INLET PROTECTION
   C. INSTALL SILT FENCE AROUND SITE
   D. CLEAR AND GRUB SITE
   E. STRIP AND STOCKPILE TOPSOIL
   F. REMOVE PAVEMENTS AND UTILITIES
   G. ROUGH GRADE SITE
   H. IMPORT CLEAN FILL FOR REPLACEMENT AND BALANCE
   I. INSTALL UTILITIES
   J. INSTALL BUILDING FOUNDATIONS
   K. INSTALL CURB AND GUTTER
   L. INSTALL PAVEMENTS AND WALKS
   M. FINAL GRADE SITE
   N. REMOVE ACCUMULATED SEDIMENT FROM STORMWATER SYSTEMS
   O. SEED AND MULCH
   P. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE SILT FENCE, INLET PROTECTION, AND RESEED ANY AREAS DISTURBED BY THE REMOVAL.

3. SITE DATA:

   DISTURBED AREA: ---- AC
   PRE-CONSTRUCTION IMPERVIOUS AREA: ---- AC
   POST-CONSTRUCTION IMPERVIOUS AREA: ---- AC

   GENERAL SOIL TYPE: SEE GEOTECHNICAL EVALUATION REPORT BY CHOSEN VALLEY TESTING
   HYDROLOGY INFORMATION: SEE HYDROLOGY REPORT PREPARED BY LOUCKS

4. EROSION AND SEDIMENT CONTROLS WERE DESIGNED TO EFFECTIVELY CONTROL STORMWATER RUNOFF WITHIN THE PROJECT AREAS. EROSION AND SEDIMENT CONTROL HAVE BEEN PROPOSED TO MINIMIZE CHANNEL EROSION AND SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS. FACTORS THAT WERE CONSIDERED INCLUDE PROPOSED IMPERVIOUS AREAS, SLOPE OF IMPERVIOUS SURFACES, STORMWATER INFRASTRUCTURE DISCHARGE POINTS, AND ANNUAL AVERAGE PRECIPITATION DATA FOR THE PROJECT AREA.

SWPPP NOTES TY RECEIVES AN AVERAGE OF 32 INCHES OF PRECIPITATION PER YEAR. THE FOLLOWING COUNTY 24-HOUR STORM EVENTS ARE BASED ON ATLAS 14 RAINFALL DATA:

   2-YR 2.86 INCHES
   10-YR 4.26 INCHES
   100-YR 7.32 INCHES

6. SEE "EXHIBIT: PROPOSED DRAINAGE AREAS" FOR SITE MAP WITH DRAINAGE AREA BOUNDARIES.

7. THE LOCATION OF AREAS NOT TO BE DISTURBED MUST BE IDENTIFIED WITH FLAGS, STAKES, SIGNS, SILT FENCE, ETC. BEFORE CONSTRUCTION BEGINS.

8. CONTRACTOR SHALL INSTALL RAIN GAUGE ON SITE.

9. GROUNDWATER & DEWATERING
   A. REFER TO THE GEOTECHNICAL REPORT (PROJECT 24713.24.MNT) PREPARED BY CHOSEN VALLEY DATED JANUARY 13, 2025 FOR INFORMATION INCLUDING BUT NOT LIMITED TO GROUNDWATER CONDITIONS AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   B. FOLLOW LOCAL, STATE, AND FEDERAL REGULATIONS FOR GROUNDWATER PUMPING AND OBTAIN ALL NECESSARY PERMITS. A WATER USE PERMIT FROM THE DNR IS REQUIRED WHEN WITHDRAWING MORE THAN 10,000 GALLONS OF WATER PER DAY OR 1 MILLION GALLONS PER YEAR.
   C. DISPERSE DISCHARGE USING APPROPRIATE ENERGY DISSIPATION MEASURES.
   D. BMPS SHALL BE USED TO PREVENT TURBID OR SEDIMENT LADEN WATERS FROM LEAVING SITE.
   E. DEWATERING SHALL NOT CAUSE NUISANCE CONDITIONS INCLUDING BUT NOT LIMITED TO EROSION OR SCOUR IN THE IMMEDIATE VICINITY OF DISCHARGE POINTS OR INUNDATION OF WETLANDS THAT CAUSES SIGNIFICANT ADVERSE IMPACTS TO THE WETLAND.

10. REFER TO THE GEOTECHNICAL REPORT FOR INFORMATION AND RECOMMENDATIONS RELATED TO SOIL CONTAMINATION.

11. ALL DISTURBED GROUND LEFT INACTIVE FOR SEVEN (7) OR MORE DAYS SHALL BE STABILIZED BY SEEDING OR SODDING (ONLY AVAILABLE PRIOR TO SEPTEMBER 15) OR BY MULCHING OR COVERING OR OTHER EQUIVALENT CONTROL MEASURE.

12. ON SLOPES 3:1 OR GREATER MAINTAIN SHEET FLOW AND MINIMIZE RILLS AND/OR GULLIES, SLOPE LENGTHS CAN NOT BE GREATER THAN 75 FEET.

13. ALL STORM DRAINS AND INLETS MUST BE PROTECTED UNTIL ALL SOURCES OF POTENTIAL DISCHARGE ARE STABILIZED.

14. SOIL COMPACTION SHALL BE MINIMIZED DURING CONSTRUCTION.

15. TEMPORARY SOIL STOCKPILES MUST HAVE EFFECTIVE SEDIMENT CONTROL AND CAN NOT BE PLACED IN SURFACE WATERS OR STORM WATER CONVEYANCE SYSTEMS. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT AMOUNT OF SILT, CLAY, OR ORGANIC COMPOUNDS ARE EXEMPT EX: CLEAN AGGREGATE STOCK PILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES.

16. SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED ON ALL DOWNGRADIENT PERIMETERS AND UPGRADIENT OF ANY BUFFER ZONES.

17. SEDIMENT LADEN WATER MUST BE DISCHARGED TO A SEDIMENTATION BASIN WHENEVER POSSIBLE. IF NOT POSSIBLE, IT MUST BE TREATED WITH THE APPROPRIATE BMP'S.

18. SOLID WASTE MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.

19. NO VEHICLE WASHING ALLOWED ON SITE.

20. NO ENGINE DEGREASING IS ALLOWED ON SITE.

21. THE OWNER IS RESPONSIBLE FOR COMPLIANCE WITH ALL TERMS AND CONDITIONS OF THE PERMIT. THE OPERATOR IS RESPONSIBLE FOR COMPLIANCE WITH SECTIONS 3, 4, 6-22, 24 AND APPLICABLE REQUIREMENTS FOR CONSTRUCTION ACTIVITY IN SECTION 23.

22. TERMINATION OF COVERAGE-PERMITTEE(S) WISHING TO TERMINATE COVERAGE MUST SUBMIT A NOTICE OF TERMINATION (NOT) TO THE MPCA. ALL PERMITTEE(S) MUST SUBMIT A NOT WITHIN 30 DAYS AFTER THE FOLLOWING CONDITIONS HAVE BEEN MET:

   A. PERMIT TERMINATION CONDITIONS, PER NPDES PERMIT SECTION 13.1 HAVE BEEN ACHIEVED ON ALL PORTIONS OF THE SITE FOR WHICH THE PERMITTEE IS RESPONSIBLE.
   A.A. PERMANENT UNIFORM PERENNIAL VEGETATIVE COVER MUST BE ESTABLISHED AT 70% DENSITY OF ITS EXPECTED FINAL GROWTH.
   A.B. THE PERMANENT STORMWATER TREATMENT SYSTEM IS CONSTRUCTED, MEETS ALL REQUIREMENTS, AND IS OPERATING AS DESIGNED.
   A.C. ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPS MUST BE REMOVED.
   A.D. CLEAN OUT SEDIMENT FROM CONVEYANCE SYSTEMS AND PERMANENT STORMWATER TREATMENT SYSTEMS (RETURN TO DESIGN CAPACITY).

23. INSPECTIONS
   A. INITIAL INSPECTION FOLLOWING SILT FENCE INSTALLATION BY CITY REPRESENTATIVE IS REQUIRED.
   B. EXPOSED SOIL AREAS: ONCE EVERY 7 DAYS AND WITHIN 24 HOURS FOLLOWING A 0.5" OVER 24 HOUR RAIN EVENT.
   C. STABILIZED AREAS: ONCE EVERY 30 DAYS
   D. FROZEN GROUND: AS SOON AS RUNOFF OCCURS OR PRIOR TO RESUMING CONSTRUCTION.
   E. INSPECTION AND MAINTENANCE RECORDS MUST BE RETAINED FOR 3 YEARS AFTER FILING OF THE NOTICE OF TERMINATION AND MUST INCLUDE: DATE AND TIME OF ACTION, NAME OF PERSON(S) CONDUCTING WORK, FINDING OF INSPECTIONS AND RECOMMENDATIONS FOR CORRECTIVE ACTION, DATE AND AMOUNT OF RAINFALL EVENTS GREATER THAN 0.5 INCHES IN A 24 HOUR PERIOD.
   F. OBSERVE ANY DISCHARGE OCCURRING ONSITE AND DOCUMENT CORRECTIVE ACTIONS TAKEN. DISCHARGE SHOULD BE DESCRIBED AND PHOTOGRAPHED.

24. MINIMUM MAINTENANCE
   A. ALL NONFUNCTIONAL BMPS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY OR AS SOON AS FIELD CONDITIONS ALLOW.
   B. REPAIR, REPLACE, OR SUPPLEMENT ALL PERIMETER CONTROL DEVICES WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES ½ THE HEIGHT OF THE DEVICE.
   C. SEDIMENT BASINS DRAINED AND SEDIMENT REMOVED WHEN REACHES 1/2 STORAGE VOLUME.
   D. SEDIMENT REMOVED FROM SURFACE WATERS WITHIN (7)SEVEN CALENDAR DAYS OF DISCOVERY.
   E. CONSTRUCTION SITE EXITS INSPECTED, TRACKED SEDIMENT REMOVED WITHIN (1)ONE CALENDAR DAY.
   F. PROVIDE COPIES OF EROSION INSPECTION RESULTS TO CITY ENGINEER FOR ALL EVENTS GREATER THAN ½" IN 24 HOURS.

25. THE SWPPP, INCLUDING ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS MUST BE KEPT AT THE SITE DURING CONSTRUCTION ACTIVITY BY THE PERMITTEE(S) WHO HAVE OPERATIONAL CONTROL OF THE SITE.

26. OWNER MUST KEEP RECORDS OF ALL PERMITS REQUIRED FOR THE PROJECT, THE SWPPP, ALL INSPECTIONS AND MAINTENANCE, PERMANENT OPERATION AND MAINTENANCE AGREEMENTS, AND REQUIRED CALCULATIONS FOR TEMPORARY AND PERMANENT STORM WATER MANAGEMENT SYSTEMS. THESE RECORDS MUST BE RETAINED FOR THREE YEARS AFTER FILING NPDES NOTICE OF TERMINATION.

27. SWPPP MUST BE AMENDED WHEN:
   A. THERE IS A CHANGE IN DESIGN, OPERATION, MAINTENANCE, WEATHER OR SEASONAL CONDITIONS THAT HAS A SIGNIFICANT EFFECT ON DISCHARGE
   B. INSPECTIONS INDICATE THAT THE SWPPP IS NOT EFFECTIVE AND DISCHARGE IS EXCEEDING WATER QUALITY STANDARDS.
   C. THE BMP'S IN THE SWPPP ARE NOT CONTROLLING POLLUTANTS IN DISCHARGES OR IS NOT CONSISTENT WITH THE TERMS AND CONDITIONS OF THE PERMIT.

28. CONCRETE WASHOUT AREA
   A. THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, CONCRETE, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS SHALL BE PROPERLY CONTAINED AND DISPOSED OF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND USING APPROVED METHODS OF CONTAINMENT SUCH AS PRE-FABRICATED WASHOUT CONTAINERS, CONCRETE WASHOUT TOTE, READY MIX TRUCKS WITH SELF-CONTAINED CHUTE CLEANOUT, ETC.
   B. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY.

29. IN THE EVENT OF ENCOUNTERING A WELL OR SPRING DURING CONSTRUCTION CONTRACTOR TO CEASE CONSTRUCTION ACTIVITY AND NOTIFY ENGINEER.

30. PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS AFTER CONNECTION TO A SURFACE WATER.

31. FINAL STABILIZATION
   FINAL STABILIZATION REQUIRES THAT ALL SOIL DISTURBING ACTIVITIES HAVE BEEN COMPLETED AND THAT DISTURBED AREAS ARE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH 70% OF THE EXPECTED FINAL DENSITY, AND THAT ALL PERMANENT PAVEMENTS HAVE BEEN INSTALLED. ALL TEMPORARY BMP'S SHALL BE REMOVED, DITCHES STABILIZED, AND SEDIMENT SHALL BE REMOVED FROM PERMANENT CONVEYANCES AND SEDIMENTATION BASINS IN ORDER TO RETURN THE POND TO DESIGN CAPACITY.

32. RESPONSIBILITIES
   A. THE OWNER MUST IDENTIFY A PERSON WHO WILL OVERSEE THE SWPPP IMPLEMENTATION AND THE PERSON RESPONSIBLE FOR INSPECTION AND MAINTENANCE:
   CONTACT: XXX
   COMPANY: XXX
   PHONE: XXX

   B. THE OWNER MUST IDENTIFY THE A PERSON WHO WILL BE RESPONSIBLE FOR LONG TERM OPERATIONS AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEM:
   CONTACT: XXX
   COMPANY: XXX
   PHONE: XXX

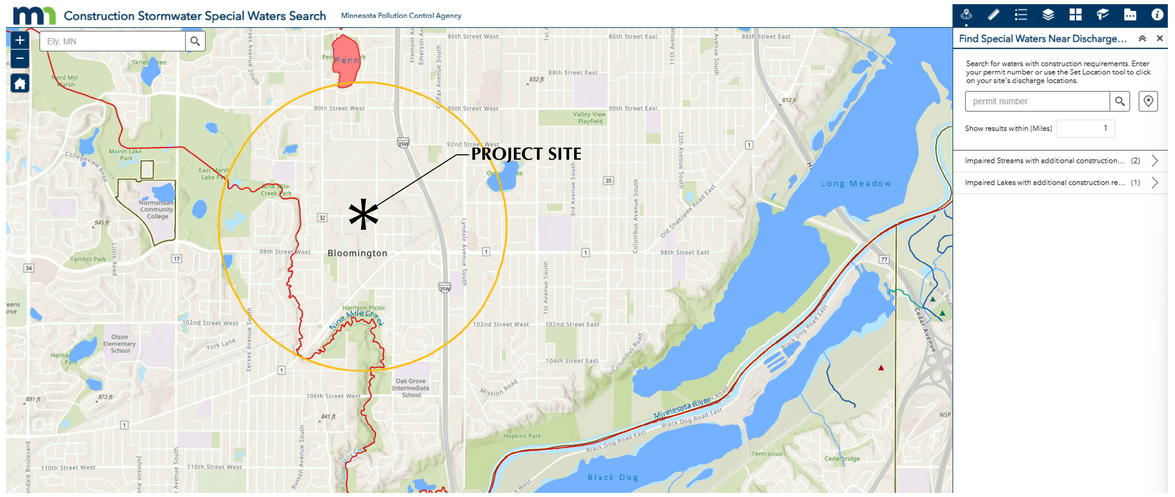
33. THE WATERSHED DISTRICT OR THE CITY MAY HAVE REQUIREMENTS FOR INSPECTIONS OR AS-BUILT DRAWINGS VERIFYING PROPER CONSTRUCTION OF THE BMPS.

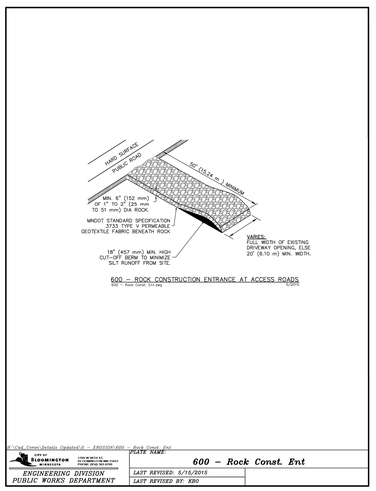
34. EROSION CONTROL DEVICES CANNOT BE REMOVED UNTIL THE WATERSHED DISTRICT HAS DETERMINED THE SITE HAS BEEN PERMANENTLY RESTABILIZED AND SHALL BE REMOVED WITHIN 30 DAYS THEREAFTER.

SITE VICINITY MAP



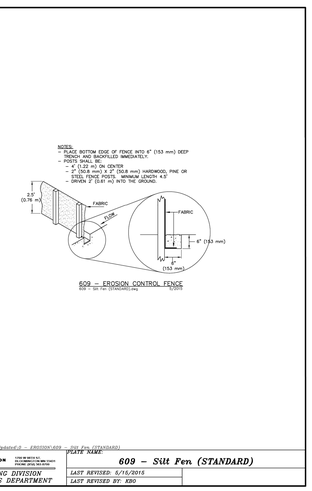
CONSTRUCTION STORMWATER SPECIAL WATERS SEARCH MAP





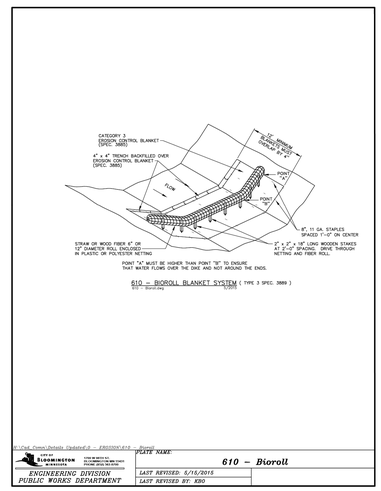
600 — ROCK CONSTRUCTION ENTRANCE AT ACCESS ROADS
600 — Rock Const. Ent.dwg 5/2015

G:\Civil_Comm\Details Updated\C-D — ERD3550\600 — Rock Const. Ent
CITY OF BLOOMINGTON MINNESOTA — ENGINEERING DIVISION, PUBLIC WORKS DEPARTMENT
PLATE NAME: 600 – Rock Const. Ent
LAST REVISED: 5/15/2015 — LAST REVISED BY: KBO



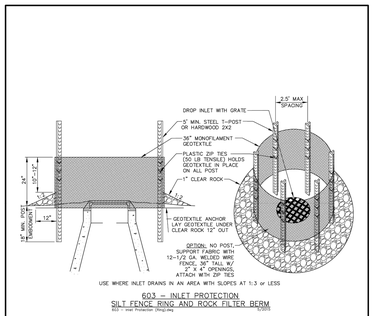
609 — EROSION CONTROL FENCE
609 — Silt Fen (STANDARD).dwg 5/2015

G:\Civil_Comm\Details Updated\C-D — ERD3550\600 — Silt Fen (STANDARD)
CITY OF BLOOMINGTON MINNESOTA — ENGINEERING DIVISION, PUBLIC WORKS DEPARTMENT
PLATE NAME: 609 – Silt Fen (STANDARD)
LAST REVISED: 5/15/2015 — LAST REVISED BY: KBO



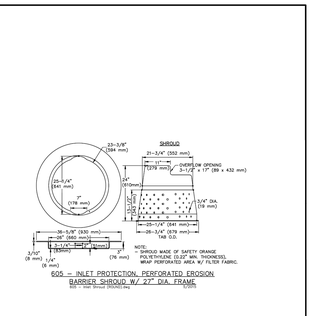
610 — BIOROLL BLANKET SYSTEM (TYPE 3 SPEC 3885)
610 — Bioroll.dwg

G:\Civil_Comm\Details Updated\C-D — ERD3550\610 — Bioroll
CITY OF BLOOMINGTON MINNESOTA — ENGINEERING DIVISION, PUBLIC WORKS DEPARTMENT
PLATE NAME: 610 – Bioroll
LAST REVISED: 5/15/2015 — LAST REVISED BY: KBO



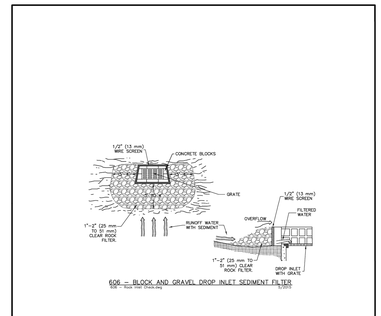
603 — INLET PROTECTION
SILT FENCE RING AND ROCK FILTER BERM
603 — Inlet Protection (Ring).dwg 5/2015

G:\Civil_Comm\Details Updated\C-D — ERD3550\603 — Inlet Protection (Ring)
CITY OF BLOOMINGTON MINNESOTA — ENGINEERING DIVISION, PUBLIC WORKS DEPARTMENT
PLATE NAME: 603 – Inlet Protection (Ring)
LAST REVISED: 5/15/2015 — LAST REVISED BY: KBO



605 — INLET PROTECTION, PERFORATED EROSION BARRIER SHROUD W/ 27" DIA. FRAME
605 — Inlet Shroud (ROUND).dwg 5/2015

G:\Civil_Comm\Details Updated\C-D — ERD3550\605 — Inlet Shroud (ROUND)
CITY OF BLOOMINGTON MINNESOTA — ENGINEERING DIVISION, PUBLIC WORKS DEPARTMENT
PLATE NAME: 605 – Inlet Shroud (ROUND)
LAST REVISED: 5/15/2015 — LAST REVISED BY: KBO



606 — BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER
606 — Rock Inlet Check.dwg 5/2015

G:\Civil_Comm\Details Updated\C-D — ERD3550\606 — Rock Inlet Check
CITY OF BLOOMINGTON MINNESOTA — ENGINEERING DIVISION, PUBLIC WORKS DEPARTMENT
PLATE NAME: 606 – Rock Inlet Check
LAST REVISED: 5/15/2015 — LAST REVISED BY: KBO

UNIVERSITY OF MINNESOTA
Zachary B. Moen
Design of Construction SWPPP (May 31 2025)

JLG architects
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LANDSCAPE ARCHITECTURE
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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

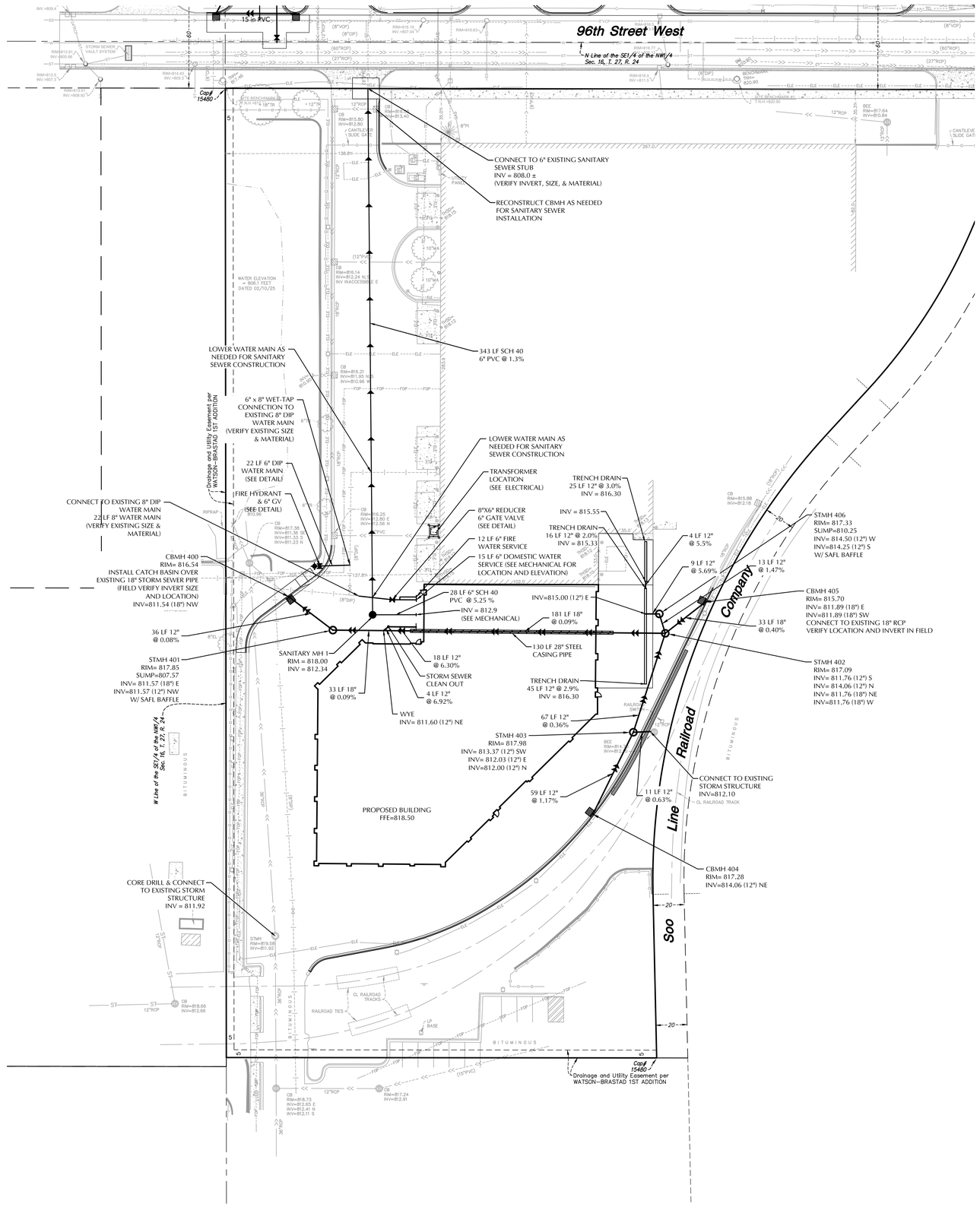
DATE
5/15/2025
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
C3-3
SWPPP NOTES

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Michael J. St. Martin
License No. 24440
Date
NOT FOR CONSTRUCTION

Loucks Project No.	19815.0A
Project Lead	MJS
Drawn By	SLP
Checked By	MJS
Review Date	

4/16/2025 2:36:49 PM



UTILITY PLAN NOTES

1. ALL STORM SEWER, SANITARY SEWER AND WATERMAIN UTILITIES SHALL BE FURNISHED AND INSTALLED PER THE REQUIREMENTS OF THE SPECIFICATIONS,THE MINNESOTA PLUMBING CODE, THE LOCAL GOVERNING UNIT, AND THE STANDARD UTILITIES SPECIFICATION OF THE CITY ENGINEERS ASSOCIATION OF MINNESOTA (CEAM), CURRENT EDITION.
2. ALL UTILITY PIPE BEDDING SHALL BE COMPACTED SAND OR FINE GRANULAR MATERIAL. ALL COMPACTION SHALL BE PERFORMED PER THE REQUIREMENTS OF THE CEAM SPECIFICATION AND THE GEOTECHNICAL REPORT.
3. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE PERFORMED PER THE REQUIREMENTS OF THE STATE AND LOCAL JURISDICTIONS. THE CITY DEPARTMENT OF ENGINEERING AND BUILDING INSPECTIONS DEPARTMENT AND THE CONSTRUCTION ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY WORK WITHIN THE PUBLIC RIGHT OF WAY, OR WORK IMPACTING PUBLIC UTILITIES.
4. ALL SITE UTILITY SERVICES SHALL TERMINATE 5' FROM THE EXTERIOR BUILDING WALL UNLESS OTHERWISE NOTED. THE SITE UTILITY CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR, MECHANICAL CONTRACTOR AND MECHANICAL ENGINEER TO DETERMINE THE RESPONSIBILITY OF BRINGING THE SERVICE(S) INTO THE BUILDING, INSPECTIONS AND TESTING PER APPLICABLE GOVERNING AGENCIES.
5. ALL NEW WATERMAIN AND SERVICES MUST HAVE A MINIMUM OF 8.0 FEET OF COVER. EXTRA DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM 18" VERTICAL SEPARATION TO SANITARY OR STORM SEWER LINES. THE CONTRACTOR SHALL FIELD ADJUST WATERMAIN TO AVOID CONFLICTS WITH SANITARY SEWER, STORM SEWER, AND SERVICES AS REQUIRED. INSULATION OF WATERMAIN AND SANITARY SEWER LINES SHALL BE PROVIDED WHERE 8.0 FEET MINIMUM DEPTH CAN NOT BE ATTAINED.
6. PER MINNESOTA DEPARTMENT OF LABOR & INDUSTRY REQUIREMENTS, A MINIMUM OF 18 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION IS REQUIRED FROM WATERMAIN TO ANY MANHOLE, SEPTIC SYSTEM, CATCH BASIN, SEWER PIPE, OR OTHER SOURCE OF CONTAMINATION, MEASURED FROM THE OUTER EDGE OF THE PIPE TO THE OUTER EDGE OF THE CONTAMINATION SOURCE UNLESS OTHERWISE SHOWN.
7. ALL STORM SEWER DOWNSPOUT COLLECTION PIPES AND WYES SHALL BE PVC (SCHEDULE 40).
8. CONTRACTOR TO SUBMIT SHOP DRAWINGS OF SANITARY & STORM STRUCTURE(S) AND UNDERGROUND SYSTEM(S) FOR ENGINEER'S REVIEW.
9. CONTRACTOR TO VERIFY UNDERLYING SOILS BENEATH ALL STORMWATER FACILITIES, AND PROVIDE DOCUMENTATION TO THE ENGINEER, PRIOR TO CONSTRUCTION OF THE FACILITIES.
10. ALL PORTIONS OF THE SANITARY & STORM SEWER SYSTEMS, INCLUDING CATCH BASINS, LOCATED WITHIN 10 FEET OF THE BUILDING OR WATER SERVICE LINE MUST BE TESTED ACCORDANCE WITH MINNESOTA RULES, PART 4714.
11. ALL FIRE HYDRANTS SHALL BE LOCATED 5 FEET BEHIND BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
12. HYDRANT USE: CONTRACTOR IS RESPONSIBLE TO NOTIFY ST PAUL REGIONAL WATER SERVICES WHEN THEY NEED TO USE A HYDRANT; ONLY PRE-AUTHORIZED HYDRANTS WILL BE USED. HYDRANTS TO BE OPERATED ONLY WITH PROPER EQUIPMENT SUCH AS A HYDRANT NUT WRENCH, NOT A PIPE WRENCH, HYDRANT METER IS AVAILABLE FROM ST PAUL REGIONAL WATER SERVICES. ANY TRUCK, ETC. FILLED FROM A HYDRANT MUST BE METERED, MUST HAVE PHYSICAL BREAK OR BACK-FLOW PREVENTER APPROVED BY ST. PAUL REGIONAL WATER SERVICES. ALSO APPLIES TO SUBCONTRACTORS.
13. OPERATING VALVES FOR TURNING WATER MAIN ON/OFF; ST PAUL REGIONAL WATER SERVICES WILL OPERATE ALL VALVES AND FILL ALL WATER MAINS (PUBLIC AND PRIVATE). CONTRACTOR SHALL GIVE AT LEAST 24 HOURS NOTICE TO HAVE WATER SHUT OFF AND SHALL NOTIFY IN WRITING, ALL AFFECTED CUSTOMERS AT LEAST 24 HOURS IN ADVANCE BEFORE SHUT OFF; ATTACH TO DOOR, ETC., NOT IN MAILBOXES.
14. TEMPORARY SERVICE: THE CONTRACTOR SHALL PROVIDE TEMPORARY SERVICE IF SERVICE CANNOT BE RESTORED SAME DAY. IF USING HYDRANT FOR TEMPORARY SERVICE, NOTIFY ST PAUL REGIONAL WATER SERVICES AND USE ONLY PRE-APPROVED HYDRANT AND SUPPLIED HYDRO METER WITH BACK FLOW. THE CONTRACTOR'S TEMPORARY MAIN SHALL BE DISINFECTED, FLUSHED AND BACTERIOLOGICAL ANALYSIS SHOWN NEGATIVE PRIOR TO PUTTING THE TEMPORARY SYSTEM IN SERVICE. THE TEMPORARY WATER SYSTEM SHALL BE IN PLACE PRIOR TO ST PAUL REGIONAL WATER SERVICES SHUTTING OFF ANY WATER MAINS.
15. REFER TO GEOTECHNICAL EVALUATION REPORT , DATED X, X AS PREPARED BY X, FOR AN EXISTING SUBSURFACE SITE CONDITION ANALYSIS AND CONSTRUCTION RECOMMENDATIONS INCLUDING BUT NOT LIMITED TO:
   - A. REUSE OF ON-SITE SOILS
   - B. GROUNDWATER AND RECOMMENDATIONS FOR EXCAVATION DEWATERING.
   - C. SITE GRADING AND SUBGRADE PREPARATION.
   - D. PAVEMENTS AND EXTERIOR SLABS.
   - E. TRENCH EXCAVATION AND BACKFILL.
   - F. EXTERIOR UTILITY SUPPORTS.
   - G. FROST PROTECTION.
13. CONTRACTOR SHALL PROVIDE AS-BUILT INFORMATION OF CONSTRUCTED UTILITIES (RECOMMENDED PRIOR TO BACKFILLING) PER APPLICABLE PERMIT REQUIREMENTS AND/OR DEVELOPMENT AGREEMENTS.
14. ALL UNUSED UTILITY SERVICES SHALL BE ABANDONED PER THE REQUIREMENTS OF THE APPLICABLE GOVERNING AGENCIES.
15. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED UTILITY PERMITS FROM THE APPLICABLE GOVERNING AGENCIES.

LEGEND

EXISTING		PROPOSED
	CATCH BASIN	
	STORM MANHOLE	
	FLARED END SECTION	
	SANITARY MANHOLE	
	HYDRANT	
	GATE VALVE	
	POST INDICATOR VALVE	
	WATER MANHOLE / WELL	
	LIGHT POLE	
	POWER POLE	
	ELECTRIC METER	
	GAS METER	
	TELEPHONE PEDESTAL	
	SIGN	
BMK	BENCHMARK	
B	SOIL BORING	
2	PARKING STALL COUNT	2
	ACCESSIBLE PARKING STALL	
SS	STORM SEWER	
DT	DRAINTILE	DT
SN	SANITARY SEWER	
FM	FORCEMAIN	FM
W	WATERMAIN	W
S	SANITARY SEWER SERVICE	
W	WATER SERVICE	W
ELE	UNDERGROUND ELECTRIC	ELE
FO	UNDERGROUND FIBER OPTIC	FO
GAS	UNDERGROUND GAS	GAS
TEL	UNDERGROUND TELEPHONE	TEL
OH	OVERHEAD UTILITY	OH
X X	FENCE	X X
O O	CHAIN LINK FENCE	O O
	CONCRETE CURB	
	RETAINING WALL	
	CONCRETE	
	NO PARKING	
	BUILDING	
972	CONTOUR	972
×972.5	SPOT ELEVATION	×972.5 1.0%
LOR	DIRECTION OF FLOW	
	TREE LINE	
	PARKING SETBACK LINE	PSBL
	BUILDING SETBACK LINE	BSBL

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710 South 2nd Street, 8th Floor
Minneapolis, MN 55401
phone: (612) 746-4260
www.jlgarchitects.com

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12755 Hwy 55, Suite R100
Plymout, MN 55441
763.424.5505
www.loucksinc.com

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
5/15/2025
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
C4-1
UTILITY PLAN

CALL BEFORE YOU DIG!
Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

N
0 30 60
SCALE IN FEET

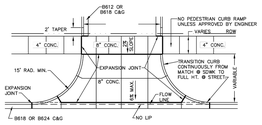
NOTE:
EXISTING CONDITIONS INFORMATION SHOWN IS FROM A PARTIAL BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED BY LOUCKS, INC. DATED 02/20/25.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Michael J. St. Marie
License No. 24440
Date
NOT FOR CONSTRUCTION

Loucks Project No.	19815.0A
Project Lead	MJS
Drawn By	SLP
Checked By	MJS
Review Date	

4/16/2025 2:36:49 PM

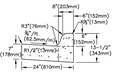
NOTE:
– EACH DRIVEWAY PANEL NOT TO EXCEED 100 SF.
– REINFORCEMENT BARS OR WELDED WIRE FABRIC (STEEL MESH) ARE NOT ALLOWED IN THE RIGHT-OF-WAY.
– IF PRESENT, STREET LIGHT, SIGNAL AND INTERCONNECT CONDUIT OR DIRECT BURIED STREET LIGHT WIRING MUST BE EXPOSED FOR INSPECTION PRIOR TO POUR



100 – NONRESIDENTIAL DRIVEWAY APPROACH WITH BOULEVARD SIDEWALK
100 – Drwy (Commercial).dwg 9/2015

M:\Cad_Comm\Details Updated\D — STREET\100 – Drwy (Commercial).dwg

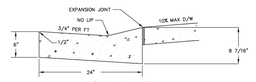
CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 100 – Drwy (Commercial)	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 6/5/2015	LAST REVISED BY: KBO



105 – B618 STANDARD CURB & GUTTER
105 – C&G 18"mm B618.dwg 9/2015

M:\Cad_Comm\Details Updated\D — STREET\105 – C&G (Bloom Std).dwg

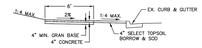
CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 105 – C&G (Bloom Std)	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 6/5/2015	LAST REVISED BY: KBO



111 – STANDARD DRIVEWAY CURB
111 – Std Driveway C&G.dwg 4/2015

M:\Cad_Comm\Details Updated\D — STREET\111 – Std Driveway C&G

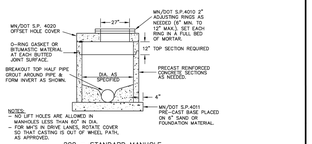
CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 111 – Std Driveway C&G	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 6/5/2015	LAST REVISED BY: KBO



120 – TYPICAL SIDEWALK INSTALLATION
120 – Typ Conc. Walk.dwg 9/2016

M:\Cad_Comm\Details Updated\D — 100 – STREET – commercial\120 – Typ Conc. Walk

CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 120 – Typ Conc. Walk	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 9/30/2016	LAST REVISED BY: KBO

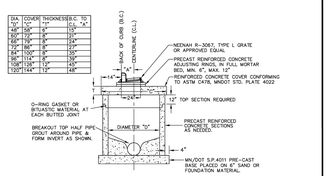


200 – STANDARD MANHOLE
DESIGN SPEC X, X & X
200 – STD_MH.DWG 4/2015

M:\Cad_Comm\Details Updated\D — 200 – STORM sewer\200 – Std MH

CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 200 – Std MH	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 9/13/2016	LAST REVISED BY: KBO

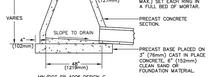
DIA	COVER THICKNESS	B.C. TO B.C.
48"	10"	19"
60"	12"	24"
66"	14"	27"
72"	16"	29"
84"	17.5"	33"
96"	19.5"	38"
108"	22"	43"
120"	24"	48"



201 – STANDARD MANHOLE w/ 2x3" CASTING
201 – STD MH (2X3 COV).DWG 9/2009

M:\Cad_Comm\Details Updated\D — 200 – STORM sewer\201 – Std MH (2x3 Cov)

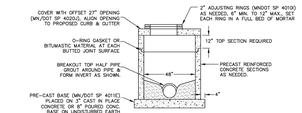
CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 201 – Std MH (2x3 Cov)	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 9/13/2016	LAST REVISED BY: KBO



202 – STD MH (TYPE G)
202 – STD MH (TYPE G).DWG 9/2005

M:\Cad_Comm\Details Updated\D — 200 – STORM sewer\202 – Std MH (Type G)

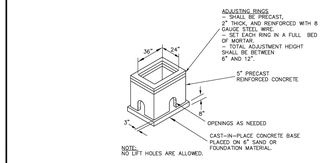
CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 202 – Std MH (Type G)	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 9/13/2016	LAST REVISED BY: KBO



203 – STD MH (CB–MH)
203 – STD MH (CB-MH).DWG 9/2015

M:\CAD_COMM\Details Updated\D — 200 – STORM\203 – STD MH (CB-MH)

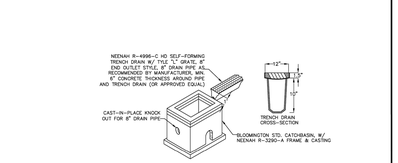
CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 203 – Std MH (CB–MH)	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 3/3/2023	LAST REVISED BY: KBO



206 – STD CB
206 – STD CB.DWG 9/2015

M:\Cad_Comm\Details Updated\D — 200 – STORM sewer\206 – Std CB

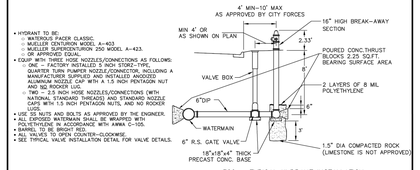
CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 206 – Std CB	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 9/14/2016	LAST REVISED BY: KBO



207 – STD CB (W–TRENCH DRAIN)
207 – STD CB (W-TRENCH DRAIN).DWG 9/2015

M:\Cad_Comm\Details Updated\D — 200 – STORM sewer\207 – Std CB (w-Trench Drain)

CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 207 – Std CB (w–Trench Drain)	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 9/14/2016	LAST REVISED BY: KBO

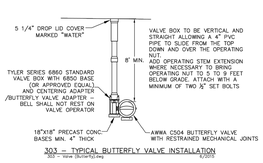


- HYDRANT TO BE:
  - WATEROUS PACER CLASSIC.
  - MUELLER CENTURION MODEL A–423.
  - MUELLER SUPERCENTURION 250 MODEL A–423.
- PAINT: SAFETY YELLOW.
- EQUIP WITH THREE HOSE NOZZLES/CONNECTIONS AS FOLLOWS:
  - ONE – FACTORY INSTALLED 5 INCH STORZ–TYPE, QUARTER TURN PUMPER NOZZLE/CONNECTION, INCLUDING A MANUFACTURER SUPPLIED AND INSTALLED ANODIZED ALUMINUM CAP CHAIN WITH A 1.5 INCH PENTAGON NUT AND NO ROCKER LUG.
  - TWO – 2.5 INCH HOSE NOZZLES/CONNECTIONS (WITH NATIONAL STANDARD THREADS) AND STANDARD NOZZLE CAPS WITH 1.5 INCH PENTAGON NUTS, AND NO ROCKER LUGS.
- USE SS NUTS AND BOLTS AS APPROVED BY THE ENGINEER.
- ALL EXPOSED WATERMAIN SHALL BE WRAPPED WITH 8 MIL POLYETHYLENE ENCASEMENT WITH AWWA C–105.
- BARREL TO BE BRIGHT RED.
- ALL VALVES TO OPEN COUNTER–CLOCKWISE.
- SEE TYPICAL VALVE INSTALLATION DETAIL FOR VALVE DETAILS.

300 – TYPICAL HYDRANT INSTALLATION
300 – Hyd Install.dwg 9/2015

M:\CAD_COMM\Details Updated\D — 300 – WATER\300 – Hyd Install

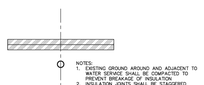
CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 300 – Hyd Install	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 2/24/2023	LAST REVISED BY: KBO



303 – TYPICAL BUTTERFLY VALVE INSTALLATION
303 – Valve (Butterfly).dwg 9/2015

M:\Cad_Comm\Details Updated\D — 300 – WATER\303 – Valve (Butterfly)

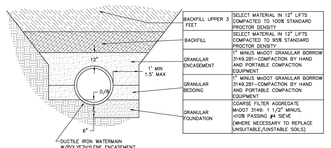
CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 303 – Valve (Butterfly)	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 6/15/2015	LAST REVISED BY: KBO



305 – WATER SERVICE INSULATION
305 – Wat Serv Insul.dwg 9/2015

M:\Cad_Comm\Details Updated\D — 300 – WATER\305 – Wat Serv Insul

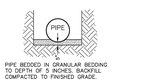
CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 305 – Wat Serv Insul	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 6/15/2015	LAST REVISED BY: KBO



308 – TYPICAL WATER MAIN INSTALLATION DETAIL
308 – Watermain Install.dwg 9/2015

M:\Cad_Comm\Details Updated\D — 300 – WATER\308 – Watermain Install

CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 308 – Watermain Install	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 6/15/2015	LAST REVISED BY: KBO



309 – PIPE BEDDING DETAIL
309 – Pipe Bedding.dwg 9/2015

M:\Cad_Comm\Details Updated\D — 300 – WATER\309 – Pipe Bedding

CITY OF BLOOMINGTON MINNESOTA	1700 W 98TH ST, BLOOMINGTON MN 55431 PHONE (952) 563-8760 PUBLIC WORKS DEPARTMENT	PLATE NAME: 309 – Pipe Bedding	
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 6/15/2015	LAST REVISED BY: KBO

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Minneapolis, MN 55401
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Plymouth, MN 55441
763.424.5505
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REVISION SCHEDULE

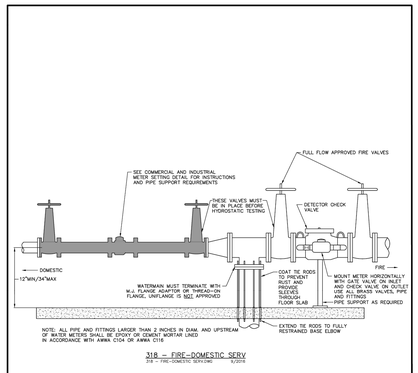
NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

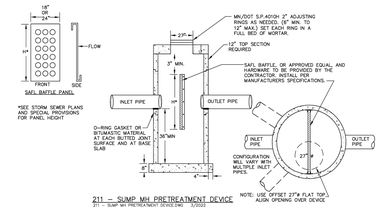
CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
5/15/2025
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
C8-1
DETAILS

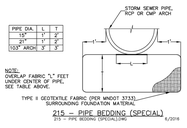
4/16/2025 2:36:49 PM



318 – FIRE–DOMESTIC SERV
318 – FIRE–DOMESTIC SERV.DWG 8/2015



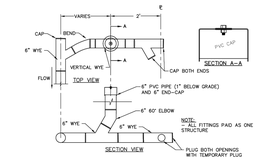
211 – SUMP MH PRETREATMENT DEVICE
211 – SUMP MH PRETREATMENT DEVICE.DWG 5/2022



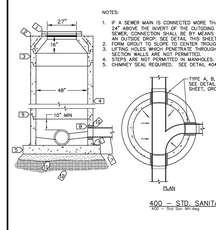
215 – PIPE BEDDING (SPECIAL)
215 – PIPE BEDDING (SPECIAL).DWG 8/2016



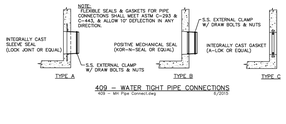
217 – DRN TILE (BEHIND CURB)
217 – DRN TILE (BEHIND CURB).DWG 8/2016



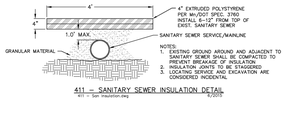
218 – DRN TILE (CLEANOUT)
218 – DRN TILE (CLEANOUT).DWG 8/2016



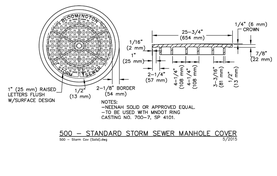
400 – STD. SANITARY SEWER MH
400 – STD SAN MH.dwg 8/2015



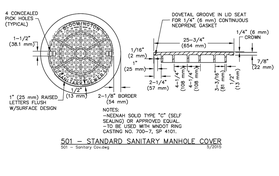
409 – WATER TIGHT PIPE CONNECTIONS
409 – MH Pipe Connect.dwg 8/2015



411 – SANITARY SEWER INSULATION DETAIL
411 – San Insulation.dwg 8/2015



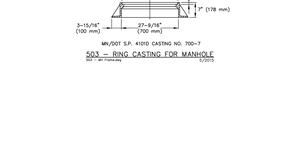
500 – STANDARD STORM SEWER MANHOLE COVER
500 – Storm Cov (Solid).dwg 5/2015



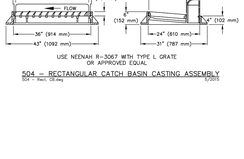
501 – STANDARD SANITARY MANHOLE COVER
501 – Sanitary Cov.dwg 5/2015



502 – RADIAL GRATE STORM MANHOLE COVER
502 – Radial Grate.dwg 8/2008



503 – RING CASTING FOR MANHOLE
503 – MH Frame.dwg 5/2015

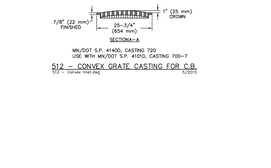


USE NEENAH R–3067 WITH TYPE L GRATE OR APPROVED EQUAL

504 – RECTANGULAR CATCH BASIN CASTING ASSEMBLY
504 – Rect. CB.dwg 8/2015



507 – STANDARD WATER MANHOLE LID
507 – Water Cov.dwg 5/2015



512 – CONVEX GRATE CASTING FOR C.B.
512 – Convex Inlet.dwg 5/2015

M:\Cad_Comm\Details Updated\D – 300 – WATER\318 – Fire–Domestic Serv.

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 318 – Fire–Domestic Serv
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 9/16/2016
		LAST REVISED BY: KBO

M:\CAD_COMM\Details Updated\D – 200 – STORM\211 – Sump MH Pretreatment Device

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 211 – Sump MH Pretreatment Device
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 3/9/2022
		LAST REVISED BY: KBO

M:\Cad_Comm\Details Updated\D – 200 – STORM compiled\215 – Pipe Bedding (Special)

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 215 – Pipe Bedding (Special)
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 9/14/2016
		LAST REVISED BY: KBO

M:\Cad_Comm\Details Updated\D – 200 – STORM compiled\217 – Drn Tile (Behind Curb)

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 217 – Drn Tile (Behind Curb)
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 9/14/2016
		LAST REVISED BY: KBO

M:\Cad_Comm\Details Updated\D – 200 – STORM compiled\218 – Drn Tile (Cleanout)

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 218 – Drn Tile (Cleanout)
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 9/14/2016
		LAST REVISED BY: KBO

M:\CAD_COMM\Details Updated\D-400 – SAN. SEWER\400 – Std San MH

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 400 – Std San MH
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 2/27/2023
		LAST REVISED BY: KBO

M:\Cad_Comm\Details Updated\D – CASTINGS\409 – MH Pipe Connect

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 409 – MH Pipe Connect
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 6/15/2015
		LAST REVISED BY: KBO

M:\CAD_COMM\Details Updated\D-400 – SAN. SEWER\411 – San Insulation

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 411 – San Insulation
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 2/27/2023
		LAST REVISED BY: KBO

M:\Cad_Comm\Details Updated\D – CASTINGS\500 – Storm Cov (Solid)

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 500 – Storm Cov (Solid)
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 5/15/2015
		LAST REVISED BY: KBO

M:\Cad_Comm\Details Updated\D – CASTINGS\501 – Sanitary Cov

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 501 – Sanitary Cov
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 5/15/2015
		LAST REVISED BY: KBO

M:\Cad_Comm\Details Updated\D – CASTINGS\502 – Radial Grate

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 502 – Radial Grate
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 5/15/2015
		LAST REVISED BY: KBO

M:\Cad_Comm\Details Updated\D – CASTINGS\503 – MH Frame

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 503 – MH Frame
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 5/15/2015
		LAST REVISED BY: KBO

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CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 504 – Rect. CB
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 5/15/2015
		LAST REVISED BY: KBO

M:\Cad_Comm\Details Updated\D – CASTINGS\507 – Water Cov

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 507 – Water Cov
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 5/15/2015
		LAST REVISED BY: KBO

M:\Cad_Comm\Details Updated\D – CASTINGS\512 – Convex Inlet

CITY OF BLOOMINGTON MINNESOTA	1700 W SIXTH ST BLOOMINGTON MN 55431 PHONE (952) 563-8700 FAX (952) 563-8709	PLATE NAME: 512 – Convex Inlet
ENGINEERING DIVISION PUBLIC WORKS DEPARTMENT		LAST REVISED: 5/15/2015
		LAST REVISED BY: KBO

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710 South 2nd Street, 8th Floor
Minneapolis, MN 55401
phone: (612) 746-4260
www.jlgarchitects.com
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LAND SURVEYING
LANDSCAPE ARCHITECTURE
12755 Hwy 55, Suite R100
Plymout, MN 55441
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www.loucksinc.com

REVISION SCHEDULE

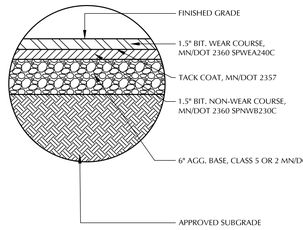
NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

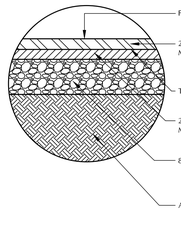
DATE
5/15/2025
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
C8-2
DETAILS

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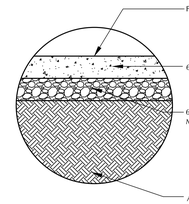
PAVEMENT SECTION BASED ON GEOTECHNICAL REPORT BY CHOSEN VALLEY TESTING, DATED JANUARY 13, 2025.

LOUCKS | **STANDARD BITUMINOUS PAVEMENT SECTION** | LOUCKS PLATE NO. **2031** | DRAWN 12/2016



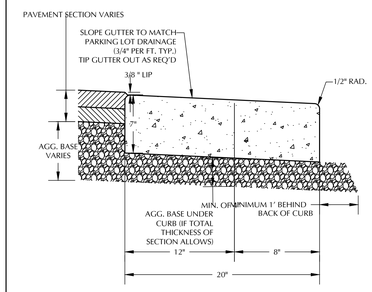
PAVEMENT SECTION BASED ON GEOTECHNICAL REPORT BY CHOSEN VALLEY TESTING, DATED JANUARY 13 ,2025.

LOUCKS | **HEAVY DUTY BITUMINOUS PAVEMENT SECTION** | LOUCKS PLATE NO. **2032** | DRAWN 12/2016



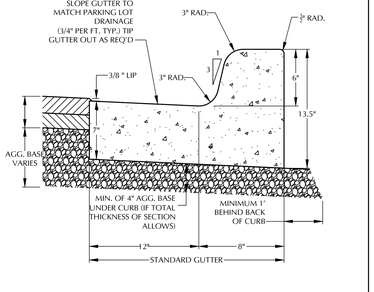
NOTES:
1. CONCRETE SHALL BE REINFORCED WITH ONE OF THE FOLLOWING:
   1.1. 6X6 W2.9 X W2.9 EPOXY COATED WELDED WIRE FABRIC AT MIDPOINT OF SLAB
   1.2. 3# PCY SYNTHETIC MACRO FIBERS
   1.3. OR APPROVED EQUAL
2. CONTRACTION JOINTS SHALL BE SAWED TO A DEPTH OF 1/4 TO 1/3 OF SLAB THICKNESS.
3. PROVIDE EXPANSION JOINTS IN ACCORDANCE WITH MNDOT 3702 AND 2301.
4. SAW CUTS SHOULD NOT CUT THROUGH THE WELDED WIRE FABRIC OR REINFORCING STEEL AND DOWELS SHOULD BE UTILIZED AT FORMED AND/OR COLD JOINTS.

LOUCKS | **CONCRETE PAVEMENT SECTION** | LOUCKS PLATE NO. **2033** | DRAWN 12/2016



SPECIFICATION NOTES:
1. UPON COMPLETION, CURBING SHOULD BE SPRAYED WITH A MEMBRANE CURING COMPOUND PER MNDOT 3754.
2. EXPANSION JOINTS AT MAX. SPACING OF 200'.
3. CONSTRUCT IN ACCORDANCE WITH MNDOT 2531.

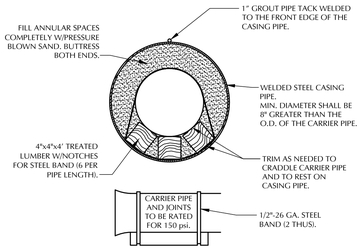
LOUCKS | **FLAT CURB AND GUTTER (12")** | LOUCKS PLATE NO. **2012** | DRAWN 1/2014



SPECIFICATION NOTES:
1. UPON COMPLETION, CURBING SHOULD BE SPRAYED WITH A MEMBRANE CURING COMPOUND PER MNDOT 3754.
2. EXPANSION JOINTS AT MAX. SPACING OF 200'.
3. CONSTRUCT IN ACCORDANCE WITH MNDOT 2531.

LOUCKS | **B6-12 STYLE CONCRETE CURB AND GUTTER** | LOUCKS PLATE NO. **2009** | DRAWN 2/2016

WELDED STEEL CASING DIAMETER	REQUIRED THICKNESS
UNDER 14"	0.188"
14",16"	0.282"
18"	0.312"
20"	0.344"
22"	0.375"
24"	0.406"
26"	0.438"
28",30"	0.469"
32"	0.500"



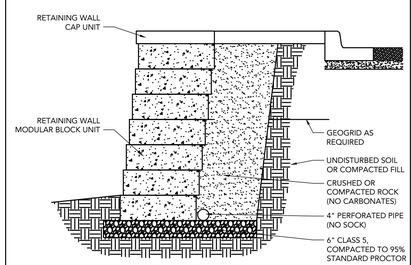
NOTE:
1. BLOCKING & STRAPPING MATERIALS SHALL BE APPROVED BY ENGINEER PRIOR TO USE.2 SETS OF WOOD BLOCKING ARE REQUIRED FOR EACH SECTION OF PIPE.
2. CONTRACTOR MAY UTILIZE SPACER BANDS IN PLACE OF GROUT. MUST BE APPROVED BY THE ENGINEER.

LOUCKS | **STEEL CASING FOR JACKING** | LOUCKS PLATE NO. **4009** | DRAWN 2/2016

NOTE:
CONTRACTOR TO PROVIDE RETAINING WALL DESIGN/SHOP DRAWINGS SIGNED BY A PROFESSIONAL ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR THE STEEL PIPE AND STEEL BRAIDED CABLE WITH ANCHOR SYSTEM EMBEDDED INTO THE 'SLEEVE IT' FOOTING ANCHOR FOR APPROVAL PRIOR TO CONSTRUCTION.

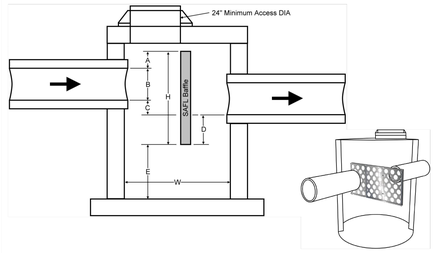
RETAINING WALL INFORMATION:
CMU MANUFACTURER: ANCHOR BLOCK
TYPE: DIAMOND PRO SMOOTH OR EQUAL VERIFY W/ OWNER PRIOR TO CONSTRUCITON
COLOR: T.B.D.



LOUCKS | RETAINING WALL | LOUCKS PLATE NO. **2048** | DRAWN 2/2016

Rev A.2 (05-09-2023)

SAFL BAFFLE SIZING REQUIREMENTS



A	0 to 6" 6" is ideal
B	Inlet pipe inside diameter
C	0 to 6" 0" is ideal
D	12"
E	36" Minimum. 48" or greater is ideal and results in less frequent sump cleanout
W	W = Sump diameter if round or width if rectangular
H	Baffle height = A + B + C + D
Purchase Baffle Size	W x H View the complete list of Available Baffle Sizes
	Also see: Bracing Guide & Stacking Guide
NOTE 1	If H is greater than 57" two SAFL Baffles may be stacked.
NOTE 2	75% of flow must be horizontal. No more than 25% falling from above
NOTE 3	This detail does not cover sizing the sump for sediment removal efficiency. Contact Upstream for sump sizing or use SHSAM Software
NOTE 4	For more information, see our Design Guide

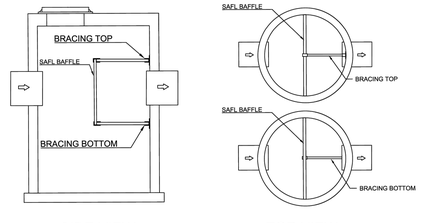
PATENT PROTECTED Patents: US #8663466B2 - US #8711507B2 - US #9506237B2 - CA #2742207

This generic detail does not encompass the sizing, fit, and applicability of the SAFL Baffle for this specific project. It is the ultimate responsibility of the design engineer to assure that the design is in compliance with all applicable laws and regulations. The SAFL Baffle is a patented technology of Upstream Technologies, Inc. Upstream Technologies does not approve plans, sizing, or system designs.

SAFL BAFFLE SIZING DETAIL
UPSTREAM TECHNOLOGIES INC.
5201 EAST RIVER ROAD, SUITE 303
FRIDLEY, MN 55421
651-237-5123

Rev A.2 (05-09-2023)

SAFL BAFFLE BRACING REQUIREMENTS



Guidance for Cross Bracing - SAFL Baffle

Pipe Inside Diameter (inches)	Bracing Needed Above This Flow (CFS)	Max Flow with 2 Braces (1 top, bottom)	Max Flow with 4 Braces (2 top, 2 bottom)
24	20	30	40
30	30	45	60
36	40	60	75
42	55	70	90
48	75	105	130
60	110	160	200

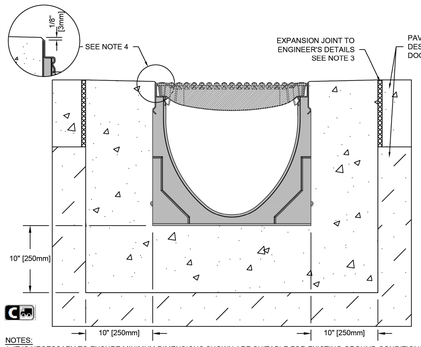
Note: Flows shown are maximum design flows with a slope of less than 3%. Contact Upstream Technologies if pipe slopes are 3% or greater.

Also see: Stacking Guide & Sizing Guide

PATENT PROTECTED Patents: US #8663466B2 - US #8711507B2 - US #9506237B2 - CA #2742207

This generic detail does not encompass the sizing, fit, and applicability of the SAFL Baffle for this specific project. It is the ultimate responsibility of the design engineer to assure that the design is in compliance with all applicable laws and regulations. The SAFL Baffle is a patented technology of Upstream Technologies, Inc. Upstream Technologies does not approve plans, sizing, or system designs.

SAFL BAFFLE BRACING DETAIL
UPSTREAM TECHNOLOGIES INC.
5201 EAST RIVER ROAD, SUITE 303
FRIDLEY, MN 55421
651-237-5123



NOTES:
1. IT IS NECESSARY TO ENSURE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR EXISTING GROUND CONDITIONS. *ENGINEERING ADVICE MAY BE REQUIRED.*
2. MINIMUM CONCRETE STRENGTH OF 4,000 PSI IS RECOMMENDED. CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CONTRACTION CONTROL JOINTS AND REINFORCEMENT ARE RECOMMENDED TO PROTECT CHANNEL AND CONCRETE SURROUND. *ENGINEERING ADVICE MAY BE REQUIRED.*
4. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROX. 1/8" [3mm] ABOVE THE TOP OF THE CHANNEL EDGE.
5. CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS. ENGINEERING ADVICE MAY BE REQUIRED TO DETERMINE PROPER LOAD CLASS.
6. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS.

SPECIFICATION CLAUSE

K300 KLASSIKDRAIN 'DRAINLOK' LOAD CLASS C

GENERAL
THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE K300 CHANNEL SYSTEM WITH GALVANIZED STEEL EDGE RAILS AS MANUFACTURED BY ACO POLYMER PRODUCTS, INC.

MATERIALS
CHANNELS SHALL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST-IN GALVANIZED STEEL EDGE RAIL. MINIMUM PROPERTIES OF POLYMER CONCRETE WILL BE AS FOLLOWS:

COMPRESSIVE STRENGTH:	14,000 PSI
FLEXURAL STRENGTH:	4,000 PSI
TENSILE STRENGTH:	1,500 PSI
WATER ABSORPTION:	0.07%
FROST PROOF	YES
DILUTE ACID AND ALKALI RESISTANT	YES
B117 SALT SPRAY TEST COMPLIANT	YES

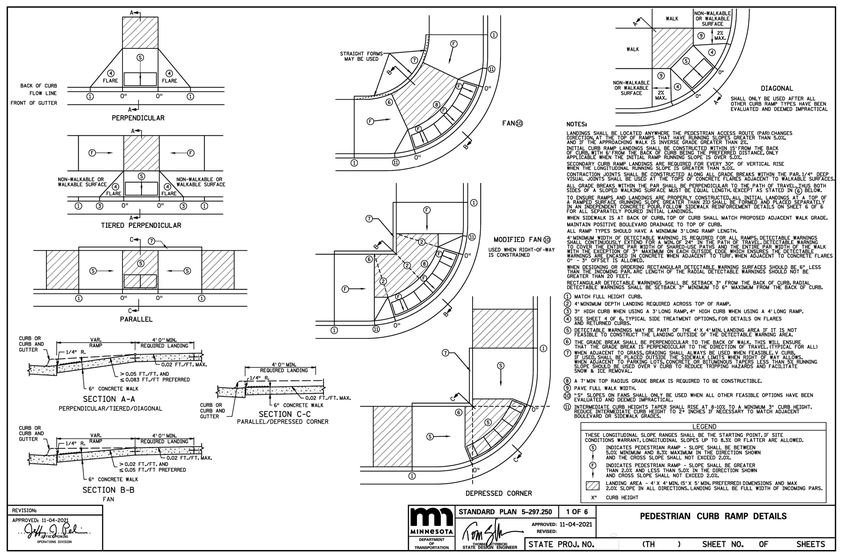
THE SYSTEM SHALL BE 12" (300mm) NOMINAL INTERNAL WIDTH WITH A 14.2" (390mm) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.5%. CHANNEL INVERT SHALL HAVE DEVELOPED "V" SHAPE. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT.

THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

CHANNEL SHALL WITHSTAND LOADING TO PROPER LOAD CLASS AS OUTLINED BY EN 1433. GRATE TYPE SHALL BE APPROPRIATE TO MEET THE SYSTEM LOAD CLASS SPECIFIED AND INTENDED APPLICATION. GRATES SHALL BE SECURED USING 'DRAINLOK' BOLTLESS LOCKING SYSTEM. CHANNEL AND GRATE SHALL BE CERTIFIED TO MEET THE SPECIFIED EN 1433 LOAD CLASS. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

K3D-C-ECP	K300 - KLASSIKDRAIN - LOAD CLASS: C	ACO Polymer Products, Inc.
ACO	Exposed Concrete Pavement	825 W. Beechcraft St, Casa Grande, AZ 85122, Tel: 520-421-9988, Fax: 520-421-9899
DATE: 08/18/16	INSTALLATION DRAWING - ACO DRAIN	9470 Pinecone Dr, Mentor, OH 44060, Tel: 440-639-7230, Fax: 440-639-7235
		4211 Pleasant Rd, Fort Mill, SC 29708, Tel: 440-639-7230, Fax: 803-802-1063

Arizona Tel: 888-490-9552 e-mail: sales@acousa.com Ohio Tel: 800-543-4764 www.acousa.com South Carolina Tel: 800-543-4764



NOTES:
LANDINGS SHALL BE LOCATED ANYWHERE THE PEDESTRIAN ACCESS ROUTE (PAR) CHANGES DIRECTION, AT THE TOP OF RAMPS THAT HAVE RUNNING SLOPES GREATER THAN 5.00%, AND AT THE APPROACHING WALK IS INVERSE GRADE GREATER THAN 2%.
INITIAL CURB RAMP LANDINGS SHALL BE CONSTRUCTED WITHIN 24" FROM THE BACK OF CURB. INTERMEDIATE CURB RAMP LANDINGS SHALL BE CONSTRUCTED AT RAMPS ONLY APPLICABLE WHEN THE INITIAL RAMP RUNNING SLOPE IS OVER 5.00%.
SECONDARY CURB RAMP LANDINGS ARE REQUIRED FOR EVERY 30" OF VERTICAL RISE WHEN THE CURB RAMP RUNNING SLOPE IS OVER 5.00%.
CONTRACTION JOINTS SHALL BE CONSTRUCTED ALONG ALL TRADE BREAKS WITHIN THE PAR.1/4" DEEP VISUAL JOINTS SHALL BE USED AT THE TOPS OF CONCRETE FLANKS ADJACENT TO WALKABLE SURFACES.
ALL GRADE BREAKS WITHIN THE PAR SHALL BE PERPENDICULAR TO THE PATH OF TRAVEL.CROSS BOTH EDGE OF A SLOPED WALKING SURFACE MUST BE EQUAL LENGTH, EXCEPT AS STATED IN (5) BELOW.
FLANGE SHALL BE LABELED ARE ACCEPTABLE CONSTRUCTED WITH LANDING AT LEAST AS WIDE AS THE WIDTH OF THE CURB RAMP, EXCLUSIVE OF FLARES, AND AT LEAST 4'-0" LONG. CURB RAMPS IN AN ENCLOSURE CONCRETE MUST FOLLOW SIDEWALK REINFORCEMENT DETAILS ON SHEET 4 OF 6 FOR ALL SEPARATELY POURED INITIAL LANDINGS.
WHEN SIDEWALK IS AT BACK OF CURB,TOP OF CURB SHALL MATCH PROPOSED ADJACENT WALK GRADE. WHEN SIDEWALK IS NOT AT BACK OF CURB, TOP OF CURB SHALL MATCH EXISTING ADJACENT WALK GRADE.
ALL RAMP TYPES SHOULD HAVE A MINIMUM 3' LONG RAMP LENGTH.
4" MINIMUM WIDTH OF DETECTABLE WARNING IS REQUIRED FOR ALL RAMPS.DETECTABLE WARNINGS SHALL CONTINUOUSLY EXTEND FOR A WIDTH OF 24" IN THE PATH OF TRAVEL.DETECTABLE WARNING SURFACE USE TRUNCATED DOME MATERIAL CHARACTERIZED BY RAISED TRUNCATED DOMES IN THE WALK SURFACE.THE FIRST MINIMUM 24" CHANNELIZATION LINE AND EXTENDING PERPENDICULAR TO THE WALK RUNNING SLOPE.DETECTABLE WARNINGS SHALL BE CONSTRUCTED AS SPECIFIED IN THE PLANS. WARNINGS ARE EXPECTED AT CONCRETE WALK ADJACENT 1'-0"ONLY WHEN ADJACENT TO CONCRETE FLARES AND DEPOSIT IS ALLOWED.
WHEN DETECTABLE WARNINGS RECTANGULAR DETECTABLE WARNING SURFACES SHOULD BE 4'-0" LESS THAN THE NOMINAL RAMP ARC LENGTH OF THE RADIAL DETECTABLE WARNINGS SHOULD NOT BE GREATER THAN 30 FEET.
RECTANGULAR DETECTABLE WARNINGS SHALL BE SETBACK 3" FROM THE BACK OF CURB.RADIAL DETECTABLE WARNINGS SHALL BE SETBACK 3" MINIMUM TO 6" MAXIMUM FROM THE BACK OF CURB.

1. MATCH FULL HEIGHT CURB.
2. 4'-MINIMUM DEPTH LANDING REQUIRED ACROSS TOP OF RAMP.
3. 3" HIGH CURB WHEN USING A 3'-LONG RAMP, 6" HIGH CURB WHEN USING A 4'-LONG RAMP.
4. SEE SHEET 4 OF 6 TYPICAL SIDE TREATMENT OPTIONS,FOR DETAILS ON FLARES AND RETAINED CURBS.
5. DETECTABLE WARNINGS MAY BE PART OF THE 4'-0" MIN.LANDING AREA IF IT IS NOT WITHIN THE PATH OF TRAVEL.DETECTABLE WARNINGS SHALL NOT BE PLACED ON RAMPS.
6. THE GRADE BREAK SHALL BE PERPENDICULAR TO THE BACK OF RAIL. THIS WILL ENSURE THAT THE GRADE BREAK IS PERPENDICULAR TO THE DIRECTION OF TRAVEL,TYPICAL FOR ALL
7. WHEN ADJACENT 3" GRASS SPACING SHALL ALWAYS BE USED WHEN FEASIBLE.(1) CURB RAMP,(2) LANDING,(3) ROADWAY SLOPES,(4) DRIVEWAY SLOPES,(5) GRADES WITHIN THE PEDESTRIAN WALKWAY.REFER TO TABLE 1 FOR CONSIDERATION OF ALLOWABLE TURNS LESS THAN 90 DEGREE TURNS.CURB RAMPS SHALL BE DESIGNED OVER V CURB TO REDUCE TRIPPING HAZARD AND FACILITATE SNOW REMOVAL.
8. A 1'-MIN TOP RADIUS GRADE BREAK IS REQUIRED TO BE CONSTRUCTIBLE.
9. PAVE FULL WALK WIDTH.
10. 1'-0" SLOPES ON FLARE SHALL ONLY BE USED WHEN ALL OTHER FEASIBLE OPTIONS HAVE BEEN EXHAUSTED AND IS NOT RECOMMENDED.
11. INTERMEDIATE CURB HEIGHTS (MIDDLE SHALL RISE AT 8.00% TO A MINIMUM 3" CURB HEIGHT, BEYOND THE INTERMEDIATE CURB HEIGHT TO 1'-0" SHOWS IF NECESSARY TO MATCH ADJACENT BOULEVARD OR SIDEWALK GRADES.

LEGEND
THESE LONGITUDINAL SLOPE RANGES SHALL BE THE STARTING POINT,IF SITE CONDITIONS WARRANT,LONGITUDINAL SLOPES UP TO 8.33 OR FLATTER ARE ALLOWED.
1. INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE BETWEEN 5.00 MINIMUM AND 8.33 MAXIMUM IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.00.
2. INDICATES PEDESTRIAN RAMP – SLOPE SHALL BE GREATER THAN 5.00 AND LESS THAN 8.00 IN THE DIRECTION SHOWN AND THE CROSS SLOPE SHALL NOT EXCEED 2.00.
LANDING AREA – 5'-0 X 4'-0MIN,5'-0 MIN,PREFERRED DIMENSIONS AND MAX 2.00 SLOPE IN ALL DIRECTIONS.LANDING SHALL BE FULL WIDTH OF INCOMING PARS.
X" CURB HEIGHT

REVISIONAL	STANDARD PLAN 5-297.250	1 OF 6	PEDESTRIAN CURB RAMP DETAILS
APPROVED: 11-04-2021	APPROVED: 11-04-2021		
OPERATIONS DIVISION	REVISED:		
MINNESOTA DEPARTMENT OF TRANSPORTATION	CHIEF STATE BRIDGE ENGINEER	STATE PROJ. NO. (TH)	SHEET NO. OF SHEETS

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Minneapolis, MN 55401
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REVISION SCHEDULE

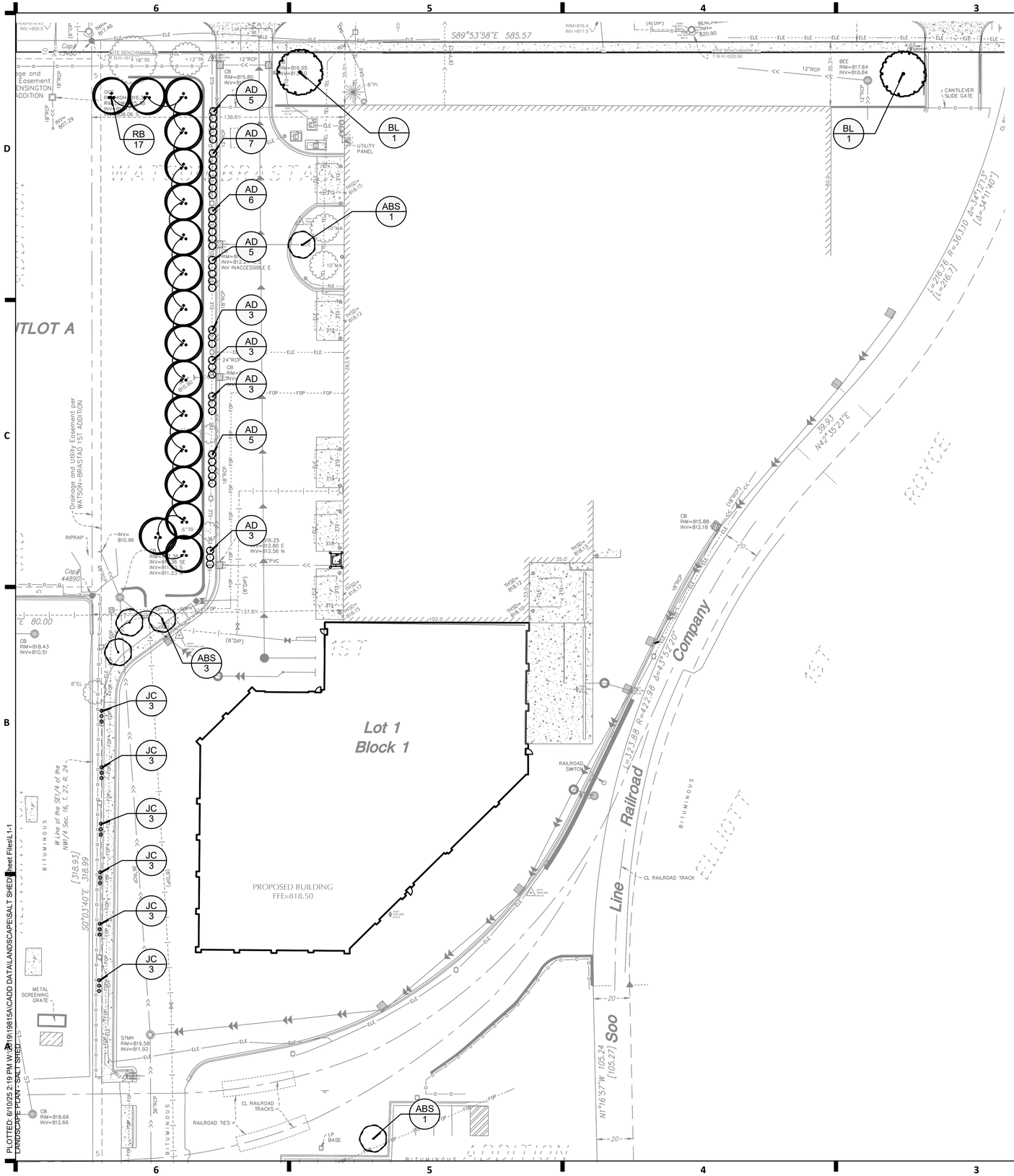
NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
5/15/2025
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
C8-3
DETAILS

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PLANT SCHEDULE					
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	SIZE
DECIDUOUS TREES					
RB	17	BETULA NIGRA	RIVER BIRCH	B & B	8` HGT
BL	2	TILIA AMERICANA `BOULEVARD`	BOULEVARD LINDEN	B & B	2.5"CAL
ORNAMENTAL TREES					
ABS	5	AMELANCHIER X GRANDIFLORA `AUTUMN BRILLIANCE`	AUTUMN BRILLIANCE SERVICEBERRY	B & B	1.5"CAL
SHRUBS					
AD	40	CORNUS SERICEA `ARTIC FIRE`	ARCTIC FIRE DOGWOOD	5 GAL	24" HGT
JC	18	JUNIPERUS COMMUNIS 'PENCIL POINT'	PENCIL POINT COMMON JUNIPER	5 GAL	24" HGT

LANDSCAPE REQUIREMENTS : [redacted]

TREE & SHRUB REQUIREMENTS
1 TREE PER 2,500 SF OF DEVELOPMENT LANDSCAPING AREA
1 SHRUB PER 1,000 SF OF DEVELOPMENT LANDSCAPING AREA

DEVELOPMENT LANDSCAPING AREA (DISTURBED AREA):
58,715 SF (1.35 AC.)
TREES REQUIRED - 24
SHRUBS REQUIRED - 58

EXISTING TREES WITHIN DEVELOPMENT LANDSCAPE AREA: 9
EXISTING TREES REMOVED: 9
EXISTING TREES SAVED: 0

EXISTING SHRUBS WITHIN DEVELOPMENT LANDSCAPE AREA: 0

NEW TREES PROVIDED : 24
NEW SHRUBS PROVIDED: 58

PARKING LOT SCREENING IS NOT REQUIRED. DISTANCE TO PARKING LOT FROM STREET IS GREATER THAN 40 FEET

SOIL FOR PARKING LOT ISLANDS SHOULD BE COMPOSED OF A 1:1:1 MIX OF SOIL, COMPOST AND SAND. THE EXISTING SOIL SHOULD BE EXCAVATED TO A MINIMUM DEPTH OF TWO FEET AND BE REPLACED WITH THE APPROVED SOILS MIX.

IRRIGATION/WATERING NOTES: [redacted]

IRRIGATION IS NOT PLANNED FOR THIS SITE. FOR THE HEALTH AND SURVIVAL OF ALL PROPOSED PLANTINGS, REGULAR WATERING OF THE PLANTINGS IS RECOMMENDED.

FOR ESTABLISHMENT OF PLANTINGS, THE CONTRACTOR IS TO REGULARLY WATER NEWLY INSTALLED PLANTINGS DURING PROJECT CONSTRUCTION. CONTRACTOR TO PROVIDE OWNER WITH WATERING RECOMMENDATIONS OR WATERING CONTRACT FOR THE ONE (1) YEAR WARRANTY PERIOD.

GENERAL NOTES: [redacted]

CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTING BID. CONTRACTOR TO INSPECT SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS RELATING TO THE NATURE AND SCOPE OF WORK.

VERIFY LAYOUT AND ANY DIMENSIONS SHOWN AND BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT ANY DISCREPANCIES WHICH MAY COMPROMISE THE DESIGN AND/OR INTENT OF THE PROJECT'S LAYOUT.

ASSURE COMPLIANCE WITH ALL APPLICABLE CODES AND REGULATIONS GOVERNING THE WORK OR MATERIALS SUPPLIED.

CONTRACTOR SHALL PROTECT ALL EXISTING ROADS, CURBS/GUTTERS, TRAILS, TREES, LAWNS AND SITE ELEMENTS DURING PLANTING OPERATIONS. ANY DAMAGE TO SAME SHALL BE REPAIRED AT NO COST TO THE OWNER.

CONTRACTOR SHALL VERIFY ALIGNMENT AND LOCATION OF ALL UNDERGROUND AND ABOVE GRADE UTILITIES AND PROVIDE THE NECESSARY PROTECTION FOR SAME BEFORE CONSTRUCTION / MATERIAL INSTALLATION BEGINS (MINIMUM 10' - 0" CLEARANCE).

ALL UNDERGROUND UTILITIES SHALL BE LAID SO THAT TRENCHES DO NOT CUT THROUGH ROOT SYSTEMS OF ANY EXISTING TREES TO REMAIN.

EXISTING CONTOURS, TRAILS, VEGETATION, CURB/GUTTER AND OTHER EXISTING ELEMENTS BASED UPON INFORMATION SUPPLIED TO LANDSCAPE ARCHITECT BY OTHERS. CONTRACTOR SHALL VERIFY ANY AND ALL DISCREPANCIES PRIOR TO CONSTRUCTION AND NOTIFY LANDSCAPE ARCHITECT OF SAME.

THE ALIGNMENT AND GRADES OF THE PROPOSED WALKS, TRAILS AND/OR ROADWAYS ARE SUBJECT TO FIELD ADJUSTMENT REQUIRED TO CONFORM TO LOCALIZED TOPOGRAPHIC CONDITIONS AND TO MINIMIZE TREE REMOVAL AND GRADING. ANY CHANGE IN ALIGNMENT MUST BE APPROVED BY LANDSCAPE ARCHITECT.

0 30 60
SCALE IN FEET

CALL BEFORE YOU DIG!
Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
04/11/2025
PHASE
DESIGN DEVELOPMENT
PROJECT
22263.01
SHEET
L1-1
LANDSCAPE PLAN

PLOTTED: 6/10/25 2:19 PM W:\2019\19815\CADD DATA\LANDSCAPES\SALT SHED LANDSCAPE PLAN - SALT SHED Sheet Files\L1-1

LANDSCAPE INSTALLATION:

GENERAL NOTES

COORDINATE THE PHASES OF CONSTRUCTION AND PLANTING INSTALLATION WITH OTHER CONTRACTORS WORKING ON SITE.

NO PLANTING WILL BE INSTALLED UNTIL COMPLETE GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.

ALL PLANTS TO BE INSTALLED AS PER PLANTING DETAILS. REMOVE ALL FLAGGING AND LABELS FROM PLANTS.

IF THE LANDSCAPE CONTRACTOR IS CONCERNED OR PERCEIVES ANY DEFICIENCIES IN THE PLANT SELECTIONS, SOIL CONDITIONS OR ANY OTHER SITE CONDITION WHICH MIGHT NEGATIVELY AFFECT PLANT ESTABLISHMENT, SURVIVAL OR GUARANTEE, HE MUST BRING THESE DEFICIENCIES TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO PROCUREMENT AND/OR INSTALLATION.

PROTECT ALL EXISTING TREES ON SITE SCHEDULED TO REMAIN. IF EXISTING TREES ARE DAMAGED IN ANY MANNER, ABOVE OR BELOW GROUND IN THE ROOT SYSTEM, AN ASPHALTIC TREE PRUNING PAINT SHOULD BE APPLIED IMMEDIATELY AFTER WOUNDING.

SOIL & GROUNDCOVER

ALL PLANTING AREAS RECEIVING GROUND COVER PLANTS, PERENNIALS, ANNUALS, AND/OR VINES SHALL RECEIVE A MINIMUM OF 24" DEPTH OF PLANTING SOIL (MNDOT 3877 - 2B OR EQUAL).

WHERE SOD/SEED ABUTS PAVED SURFACES, FINISHED GRADE OF SOD/SEED SHALL BE HELD 1" BELOW SURFACE ELEVATION OF TRAIL, SLAB, CURB, ETC. AND INSTALLED OVER A MIN. 4" TOPSOIL CLEAR OF STONES, ROOTS, GRASS, WEEDS, DEBRIS, AND OTHER FOREIGN NON-ORGANIC MATERIAL.

SOD ALL DESIGNATED AREAS DISTURBED DUE TO GRADING. SOD SHALL BE LAID PARALLEL TO THE CONTOURS AND SHALL HAVE STAGGERED JOINTS. ON SLOPES STEEPER THAN 3:1 OR IN DRAINAGE SWALES, THE SOD SHALL BE STAKED TO THE GROUND.

LANDSCAPE CONTRACTOR SHALL VERIFY THAT SOIL AND COMPACTION CONDITIONS ARE ADEQUATE TO ALLOW FOR PROPER DRAINAGE AT AND AROUND THE BUILDING SITE.

PLANTINGS INFO

ALL PLANT MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMEN. UNLESS NOTED OTHERWISE, ALL SHRUBS SHALL HAVE AT LEAST 5 CANES AT THE SPECIFIED MINIMUM SHRUB HEIGHT OR WIDTH. ORNAMENTAL TREES SHALL HAVE NO V CROTCHES AND SHALL BEGIN BRANCHING NO LOWER THAN 3' ABOVE ROOT BALL. STREET AND BOULEVARD TREES SHALL BEGIN BRANCHING NO LOWER THAN 5' ABOVE FINISHED GRADE.

ANY CONIFEROUS TREE PREVIOUSLY PRUNED FOR CHRISTMAS TREE SALES SHALL NOT BE USED. ALL CONIFEROUS TREES SHALL BE FULL FORM, NATURAL TO THE SPECIES, WITHOUT PRUNING.

PRIOR TO PLANTING, FIELD VERIFY THAT THE ROOT COLLAR/ROOT FLAIR IS LOCATED AT THE TOP OF THE BALLED & BURLAP TREE. IF THIS IS NOT THE CASE, SOIL SHALL BE REMOVED DOWN TO THE ROOT COLLAR/ROOT FLAIR. WHEN THE BALLED & BURLAP TREE IS PLANTED, THE ROOT COLLAR/ROOT FLAIR SHALL BE EVEN OR SLIGHTLY ABOVE FINISHED GRADE.

ALL PROPOSED PLANTS SHALL BE LOCATED AND STAKED AS SHOWN ON PLAN. ADJUSTMENTS IN LOCATION OF PROPOSED PLANT MATERIALS MAY BE NEEDED IN FIELD. SHOULD AN ADJUSTMENT BE ADVISED, THE LANDSCAPE ARCHITECT MUST BE NOTIFIED.

PLAN TAKES PRECEDENCE OVER PLANT SCHEDULE IF DISCREPANCIES IN QUANTITIES EXIST. SPECIFICATIONS TAKE PRECEDENCE OVER NOTES.

NO PLANT MATERIAL SUBSTITUTIONS WILL BE ACCEPTED UNLESS APPROVAL IS REQUESTED OF THE LANDSCAPE ARCHITECT BY THE LANDSCAPE CONTRACTOR PRIOR TO THE SUBMISSION OF A BID AND/OR QUOTATION.

WRAPPING MATERIAL SHALL BE CORRUGATED PVC PIPING 1" GREATER IN CALIPER THAN THE TREE BEING PROTECTED OR QUALITY, HEAVY, WATERPROOF CREPE PAPER MANUFACTURED FOR THIS PURPOSE. WRAP ALL DECIDUOUS TREES PLANTED IN THE FALL PRIOR TO 12-1 AND REMOVE ALL WRAPPING AFTER 5-1.

FERTILIZER

ALL PLANT MATERIALS SHALL BE FERTILIZED UPON INSTALLATION WITH A 27-3-3 SLOW RELEASE FERTILIZER MIXED IN WITH THE PLANTING SOIL PER THE MANUFACTURER'S INSTRUCTIONS. PLANTS MAY BE TREATED FOR SUMMER AND FALL INSTALLATION WITH AN APPLICATION OF GRANULAR 27-3-3 AT 6 OZ PER 2.5" CALIPER PER TREE AND 3 OZ PER SHRUB WITH AN ADDITIONAL APPLICATION OF 27-3-3 THE FOLLOWING SPRING IN THE TREE SAUCER.

EDGING FOR PLANTING BEDS

BLACK METAL EDGER TO BE USED TO CONTAIN SHRUBS, PERENNIALS, AND ANNUALS WHERE BED MEETS SOD/SEED UNLESS NOTED OTHERWISE.

PLANTING BED PREPARATION

ALL ANNUAL AND PERENNIAL PLANTING BEDS TO RECEIVE 3" DEEP SHREDDED HARDWOOD MULCH WITH NO WEED BARRIER.

ALL SHRUB BED MASSINGS TO RECEIVE 3" DEEP SHREDDED HARDWOOD MULCH AND FIBER MAT WEED BARRIER.

ALL TREES NOT IN PLANTING BEDS TO RECEIVE 4" DEEP SHREDDED HARDWOOD MULCH RING WITH NO MULCH IN DIRECT CONTACT WITH TREE TRUNK.

SPREAD GRANULAR PRE EMERGENT HERBICIDE (PREEN OR EQUAL) PER MANUFACTURER'S RECOMMENDATIONS UNDER ALL MULCHED AREAS.

MAINTENANCE STRIPS TO HAVE EDGER AND MULCH AS SPECIFIED/INDICATED ON DRAWING OR IN SPECIFICATION.

INSPECTION AND WARRANTY

CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR THE OWNER ACCEPTANCE INSPECTION OF ALL LANDSCAPE AND SITE IMPROVEMENTS.

CONTRACTOR IS RESPONSIBLE FOR ON-GOING MAINTENANCE OF ALL NEWLY INSTALLED MATERIALS UNTIL TIME OF OWNER ACCEPTANCE. ANY ACTS OF VANDALISM OR DAMAGE WHICH MAY OCCUR PRIOR TO OWNER ACCEPTANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL PROVIDE THE OWNER WITH A MAINTENANCE PROGRAM INCLUDING, BUT NOT NECESSARILY LIMITED TO, PRUNING, FERTILIZATION AND DISEASE/PEST CONTROL.

CONTRACTOR SHALL GUARANTEE NEW PLANT MATERIAL THROUGH ONE CALENDAR YEAR FROM THE DATE OF OWNER ACCEPTANCE.

WARRANTY (ONE FULL GROWING SEASON) FOR LANDSCAPE MATERIALS SHALL BEGIN ON THE DATE OF ACCEPTANCE BY THE LANDSCAPE ARCHITECT AFTER THE COMPLETION OF PLANTING OF ALL LANDSCAPE MATERIALS. NO PARTIAL ACCEPTANCE WILL BE CONSIDERED.

TIMING OF INSTALLATION

UNLESS NOTED OTHERWISE THE APPROPRIATE DATES FOR SPRING PLANT MATERIAL INSTALLATION AND SEED/SOD PLACEMENT IS FROM THE TIME GROUND HAS THAWED TO JUNE 15.

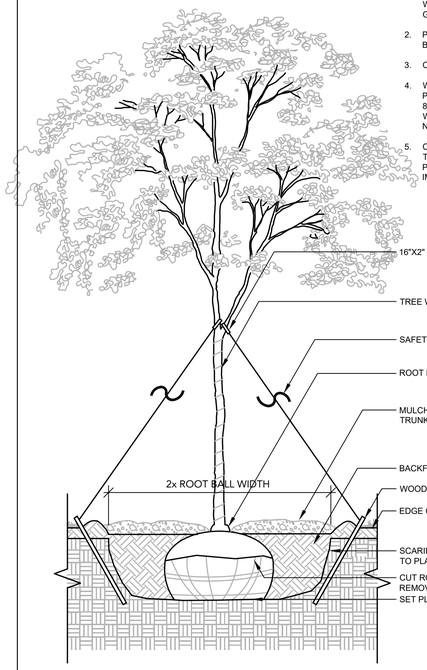
FALL SODDING IS GENERALLY ACCEPTABLE FROM AUGUST 15 - NOVEMBER 1. FALL SEEDING FROM AUGUST 15 - SEPTEMBER 15; DORMANT SEEDING IN THE FALL SHALL NOT OCCUR PRIOR TO NOVEMBER 1. FALL CONIFEROUS PLANTING MAY OCCUR FROM AUGUST 15 - OCTOBER 1 AND DECIDUOUS PLANTING FROM THE FIRST FROST UNTIL NOVEMBER 15. PLANTING OUTSIDE THESE DATES IS NOT RECOMMENDED. ANY ADJUSTMENT MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT.

TREES ARE NOT TO BE PRUNED, REMOVED OR TRANSPLANTED BETWEEN APRIL 15 AND JULY 1. NOTIFY LANDSCAPE ARCHITECT IF THESE DATES ARE UNAVOIDABLE.

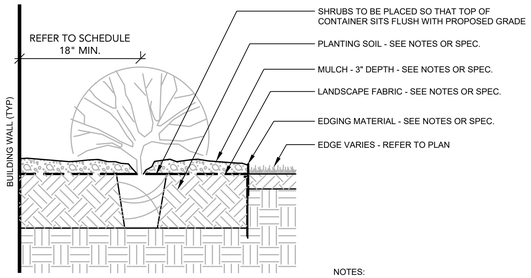
IRRIGATION NOTES:

IRRIGATION IS NOT PROPOSED AS PART OF THIS PROJECT.

IT SHALL BE THE LANDSCAPE CONTRACTORS RESPONSIBILITY TO INSURE THAT ALL SODDED/SEEDED AND PLANTED AREAS ARE WATERED REGULARLY UNTIL PLANTING/SOD/SEED HAS BEEN ESTABLISHED, INCLUDING THOSE AREAS DIRECTLY AROUND AND ABUTTING BUILDING FOUNDATION.



1 PLANTING - DECIDUOUS TREE — 3/4" = 1'-0" — LOUCKS PROJ-BL-01



2 PLANTING - SHRUB — 1" = 1'-0" — LOUCKS PROJ-BL-03

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REVISION SCHEDULE

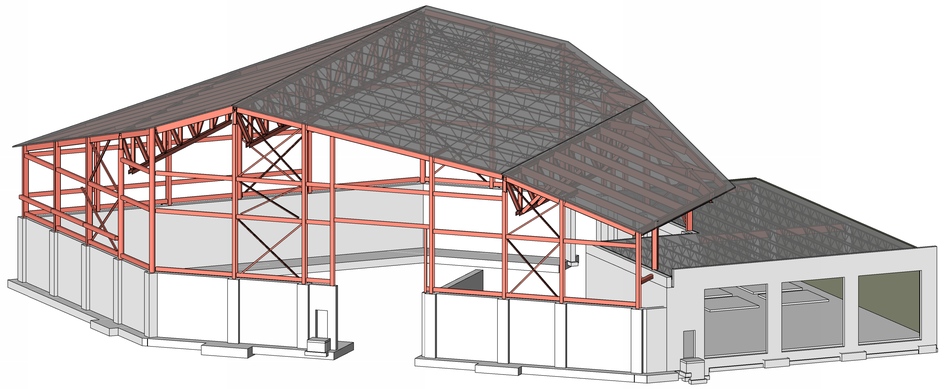
NO.	DESCRIPTION	DATE

PRELIMINARY
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CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
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DESIGN DEVELOPMENT
PROJECT
22263.01
SHEET
L2-1
LANDSCAPE DETAILS

PLOTTED: 5/22/25 9:48 AM W:\19\19815A\CADD DATA\LANDSCAPE\SALT SHED\Sheet Files\L2-1 LANDSCAPE DETAILS - SALT SHED
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SHEET LIST	
SHEET #	SHEET NAME
S001	LEGEND SHEET
S002	GENERAL STRUCTURAL NOTES
S101	ROOF LOAD MAP
S201	FOUNDATION PLAN
S202	INTERMEDIATE AND LOW ROOF FRAMING PLAN
S203	ROOF FRAMING PLAN
S301	BRACED FRAME ELEVATIONS AND DETAILS
S302	TRUSS ELEVATIONS AND DETAILS
S401	FOUNDATION SCHEDULES AND TYPICAL DETAILS
S403	MASONRY AND CONCRETE SCHEDULES AND TYPICAL DETAILS
S404	STEEL SCHEDULES AND TYPICAL DETAILS
S501	FOUNDATION DETAILS
S701	FRAMING DETAILS

STRUCTURAL ABBREVIATIONS:

A	
ADDL	ADDITIONAL
ADJ	ADJACENT
ALT	ALTERNATE
ALUM	ALUMINUM
AR	ANCHOR ROD
ARCH	ARCHITECT
B	
BDE	BOTTOM OF DECK ELEVATION
BFE	BOTTOM OF FOOTING ELEVATION
BM	BEAM
BOL	BOTTOM OF LINTEL
BOT	BOTTOM
BP	BEARING PLATE / BASE PLATE
BR	BOTTOM REINFORCING
BTWN	BETWEEN
C	
CA	COLUMN ABOVE
CANTL	CANTILEVER
CB	COLUMN BELOW
CFS	COLD-FORMED STEEL
CGS	CENTER OF GRAVITY STRAND
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLR	CLEAR
CLT	CROSS LAMINATED TIMBER
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN(S)	CONNECTION(S)
CONST	CONSTRUCTION
CONT	CONTINUOUS
COSP	CODE OF STANDARD PRACTICE
D	
d	NAIL DIAMETER
db	BAR DIAMETER
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEG	DEGREE
DEMO	DEMOLITION
DF	DOUGLAS FIR-LARCH
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DLT	DOWEL LAMINATED TIMBER
E	
EA	EACH
EF	EACH FACE
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EJ	EXPANSION JOINT
EMBED	EMBEDMENT
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY
E-W	EAST - WEST DIRECTION
(E)	EXISTING
EXP	EXPANSION
F	
FDN	FOUNDATION
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FLR	FLOOR
FS	FOOTING STEP
FT	FEET
FTG	FOOTING
FV	FIELD VERIFY

G	
GA	GAGE/GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GLB	GLUE LAMINATED BEAM
GLC	GLUE LAMINATED COLUMN
GLT	GLUE LAMINATED TIMBER
GR	GRADE
GSN	GENERAL STRUCTURAL NOTES
GWB	GYPSUM WALL BOARD
H	
HK	HOOK
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SHAPE
HT	HEIGHT
I	
ID	INSIDE DIAMETER
INCL	INCLUDE
ISF	INSIDE FACE
J	
JT	JOINT
JBE	JOIST BEARING ELEVATION
K	
K	KIPS
KLF	KIPS PER LINEAL FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
KO	KNOCK OUT
L	
LB(S)	POUND(S)
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LSL	LAMINATED STRAND LUMBER
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
LWT	LIGHT WEIGHT
LVL	LAMINATED VENEER LUMBER
M	
MAX	MAXIMUM
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL & PLUMBING
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MSR	MACHINE STRESS RATED
MTL	METAL
N	
NIC	NOT IN CONTRACT
N-S	NORTH - SOUTH DIRECTION
NLT	NAIL LAMINATED TIMBER
NTS	NOT TO SCALE
NWT	NORMAL WEIGHT
O	
OC	ON CENTER
OD	OUTSIDE DIAMETER
OSF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
O/O	OUT TO OUT
P	
PAF	POWER ACTUATED FASTENER
PC	PRECAST CONCRETE
PL	PLATE
PLF	POUNDS PER LINEAL FOOT
PLYWD	PLYWOOD
PRE FAB	PREFABRICATED
PROJ	PROJECTION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	POST TENSIONED

Q	
QTY	QUANTITY
R	
R	RADIUS
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCEMENT/REINFORCING
REQD	REQUIRED
REV	REVISION
RO	ROUGH OPENING
RSS	RUGGED STRUCTURAL SCREW
RTU	ROOF TOP UNIT
S	
SB	SOIL BORING
SC	SLIP CRITICAL
SCHED	SCHEDULE
SER	STRUCTURAL ENGINEER OF RECORD
SF	SQUARE FOOT
SIM	SIMILAR
SL	SNOW LOAD
SOG	SLAB ON GRADE
SPA	SPACES
SPEC	SPECIFICATION
SPF	SPRUCE PINE FIR
SS	STAINLESS STEEL
SSLT	SHORT-SLOT LOAD TRANSVERSE
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURE / STRUCTURAL
SYM	SYMMETRICAL
SYP	SOUTHERN YELLOW PINE
T	
T/G	TONGUE AND GROOVED
TBE	TOP OF BEAM ELEVATION
TDE	TOP OF DECK ELEVATION
TEMP	TEMPORARY
TFE	TOP OF FOOTING ELEVATION
TGBE	TOP OF GRADE BEAM ELEVATION
TPCE	TOP OF PILE CAP ELEVATION
TPCPE	TOP OF PRECAST PLANK ELEVATION
TPE	TOP OF PIER ELEVATION
TR	TOP REINFORCING
TRANS	TRANSVERSE
TSE	TOP OF SHEATHING ELEVATION
TSE	TOP OF SLAB ELEVATION
TSE	TOP OF SUBFLOOR ELEVATION
TWE	TOP OF WALL ELEVATION
TYP	TYPICAL
U	
UNO	UNLESS NOTED OTHERWISE
URM	UNREINFORCED MASONRY
V	
VERT	VERTICAL
W	
W/	WITH
W/O	WITHOUT
WD	WOOD
WF	WIDE FLANGE
WL	WIND LOAD
WP	WORK POINT
WT	WEIGHT
WWR	WELDED WIRE REINFORCING

MARKS AND SYMBOLS LEGEND:

MARKS:

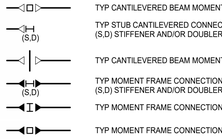
B1001	CONCRETE BEAM MARK NUMBER
B1001-PT	POST TENSIONED CONCRETE BEAM MARK NUMBER
BP1	BEARING / BASE PLATE MARK NUMBER
BRF1	BRACE FRAME MARK NUMBER
BR1	MILD STEEL BOTTOM REINFORCING MARK NUMBER
C1	COLUMN MARK NUMBER
CC1	CONCRETE COLUMN MARK NUMBER
CW1	CONCRETE WALL NUMBER
D1	STEEL DECK MARK NUMBER
DC1	DROP CAPITAL MARK NUMBER
DP1	DRILLED PIER MARK NUMBER
DPC1	DRILLED PIER CAP NUMBER
EP1	EMBEDDED PLATE MARK NUMBER
F1	SPREAD FOOTING MARK NUMBER
GB1	GRADE BEAM MARK NUMBER
H1	HEADER MARK NUMBER
HCP	HOLLOW CORE PLANK
HD1	HOLD DOWN MARK NUMBER
J10	JOIST MARK NUMBER
L1	LINTEL MARK NUMBER
MC1	MASONRY COLUMN MARK NUMBER
MF1	MOMENT FRAME MARK NUMBER
MW1	MASONRY WALL NUMBER
P1	PIER MARK NUMBER
PC1	PILE CAP MARK NUMBER
RD1	ROOF DECK MARK NUMBER
S1	SLAB MARK NUMBER
SC1	STEEL COLUMN MARK NUMBER
SR1	STUD RAIL REINFORCING MARK NUMBER
SW1	SHEAR WALL MARK NUMBER
T1	TRUSS MARK NUMBER
TR1	MILD STEEL TOP REINFORCING MARK NUMBER
W1	WALL MARK NUMBER
WC1	WOOD COLUMN MARK NUMBER
WF1	WALL FOOTING MARK NUMBER
WO1	WEB OPENING

GENERAL SYMBOLS:

- APPROXIMATE LOCATION OF DRAIN TILE
- MATCH LINE
- LINE OF DEMOLITION
- (?'-?") (?'-?") SLAB STEP LOCATION WITH ELEVATIONS
- SLAB STEP LOCATION
- CHANGE IN SLAB SLOPE
- CHANGE IN SLAB THICKNESS
- 1 KEYNOTE MARK NUMBER
- ? NEW BUILDING GRID LINE
- ? EXISTING BUILDING GRID LINE
- ELEVATION MARKER
- SHADED AREA INDICATES CUT THROUGH EXISTING CONSTRUCTION
- SHADED AREA INDICATES PROJECTION OF EXISTING CONSTRUCTION
- W1 WALL MARK NUMBER OR WALL TYPE
- APPROXIMATE LOCATION OF UTILITY PIPE PENETRATION THROUGH FOUNDATION WALL
- FS FOOTING STEP LOCATION
- SB1 APPROXIMATE LOCATION OF SOIL BORING
- COMPRESSION PILE
- TENSION / COMPRESSION PILE
- TEST PILE
- SPAN DIRECTION OF ELEMENT
- EXTENT OF ELEMENT
- CONTINUOUS EXTENT OF ELEMENT
- # Sxxx DETAIL CALLOUT
- # Sxxx ELEVATION CALLOUT

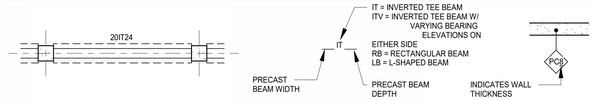
PLAN SYMBOLS LEGEND:

FOUNDATION SYSTEM:

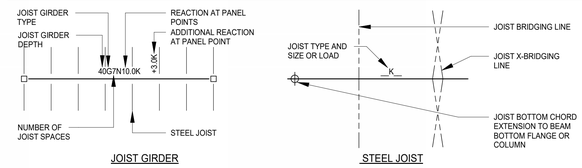


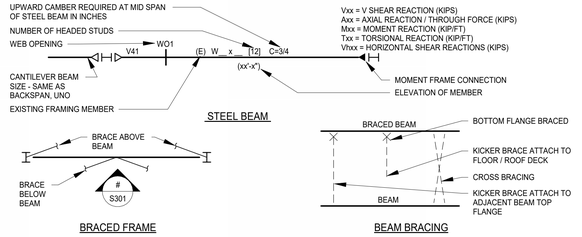
SPREAD FOOTING WALL FOOTING

PRECAST CONCRETE FRAMING SYSTEM:



STEEL FRAMING SYSTEM:





TYPICAL STEEL CONNECTION SYMBOLS:

- CA or CB — CB TYP BEAM BEARING ON COLUMN CA TYP TRANSFER BEAM COLUMN ABOVE
- CA or CB — CB TYP BEAM BEARING ON COLUMN CA TYP TRANSFER BEAM COLUMN ABOVE
- CA or CB — CB TYP BEAM BEARING ON COLUMN CA TYP TRANSFER BEAM COLUMN ABOVE
- (S,D) — TYP CANTILEVERED BEAM MOMENT CONNECTION (S,D) STIFFENER AND/OR DOUBLER WHERE INDICATED
- TYP CANTILEVERED BEAM MOMENT CONNECTION
- TYP CANTILEVERED BEAM MOMENT CONNECTION
- (S,D) — TYP STUB CANTILEVERED CONNECTION (S,D) STIFFENER AND/OR DOUBLER WHERE INDICATED
- TYP CANTILEVERED BEAM MOMENT CONNECTION.
- (S,D) — TYP MOMENT FRAME CONNECTION (S,D) STIFFENER AND/OR DOUBLER WHERE INDICATED
- TYP MOMENT FRAME CONNECTION
- TYP MOMENT FRAME CONNECTION
- TYP BEAM SHEAR SPLICE CONNECTION
- TYP DRAG STRUT OR COLLECTOR BEAM. DESIGN CONNECTION FOR AXIAL LOAD INDICATED ON PLAN IN ADDITION TO REQUIRED SHEAR LOAD. SEE TYPICAL SHEAR & AXIAL CONNECTION DETAILS
- TYP BRACING BEAM OR ROLL BEAM
- CONNECTION DESIGN FORCE
- CONNECTION DESIGN FORCE (REVERSIBLE)
- CONNECTION DESIGN MOMENT
- CONNECTION DESIGN MOMENT (REVERSIBLE)

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CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE

PHASE

PROJECT
22263.01

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LEGEND SHEET

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TYPICAL NOTES:
These notes specify the requirements for the design represented in these documents. The construction and materials shall comply with all the pertinent codes and references, plans, and details, including (but not limited to) those shown in architectural, civil, mechanical and electrical drawings.

The Contractor shall verify all dimensions and existing conditions in the field that affect construction prior to commencing work on the affected element or shop drawing submittals. Resolve any discrepancies with the Architect prior to construction.

The contract structural drawings and specifications represent the completed structure. The Contractor is responsible for bracing and shoring (without overstressing) all structural elements as necessary at any stage of construction until completion of the project. The Structural Engineer of Record is not responsible for the Contractor's means, methods, sequences or procedures of construction. Contractor shall recognize and consider effects of thermal movements of structural elements during construction period.

The Contractor is solely responsible for site safety including all temporary precautionary measures and safety programs. Site observation visits by the Structural Engineer of Record do not include review of the contractor's safety precautions.

Refer to architectural, mechanical and electrical drawings for locations, elevations, dimensions, and details of sleeves, inserts, openings, recesses, curbs, housekeeping pads, etc. that are not shown on the structural drawings and do not damage structural members.

Information shown in the structural drawings regarding existing conditions represents the current and general field conditions related to the new work, to the best of our knowledge. Report all discrepancies (unforeseen conditions) to the Architect for resolution prior to performing related new work.

Requests for information shall be submitted in writing and shall reference the part of the construction documents that is in question.

SPECIAL INSPECTIONS:
Special inspections required by the building code and these documents shall be provided in addition to inspections to be performed by the city in which the project is located.

Contractor shall read and understand their duties in the specification and under the building code for special inspections and coordinate as necessary the Owner's responsibilities.

The Special Inspectors shall be provided by the Owner and shall use current structural drawings incorporating all revisions and approved shop drawings.

Special inspection reports are to be submitted promptly and within 24 hours to the Structural Engineer of Record and Contractor from the time when inspections are performed.

The General Contractor shall provide timely notice (minimum 24 hours) to the Special Inspector and sufficient time for the Inspector to perform their inspection.

For a schedule of Special Structural Inspections required by the building code for this project, see the Special Inspection Schedule.

STRUCTURAL TEST AND SPECIAL INSPECTION SCHEDULE:

	Continuous	Periodic	None
1. STEEL CONSTRUCTION: Section 1705.2.1 and Table 1705.2.3			
1.1 Fabricator Documentation - Note (1)	☐	■	☐
1.2 High Strength Bolting-Bearing Material	☐	■	☐
1.3 High-Strength Bolting-Slip-Critical and Material	☐	☐	■
1.4 Steel Material, Seismic - Section 1705.12.1	☐	☐	■
1.5 Welds: Full and Part Pen and Multi-Pass Fillet	■	☐	☐
1.6 Welds: Single Pass Fillet for All Sections	☐	■	☐
1.7 Frame Joint Detail Compliance	☐	■	☐
1.8 Installation of open-web steel joist and joist girders (Section 1705.2.3 and Table 1705.2.3)			
1.8.1 End Connections - Welding or Bolted	☐	■	☐
1.8.2 Bridging - Horizontal or Diagonal			
1.8.2.1 Standard Bridging	☐	■	☐
1.8.2.2 Bridging that differs from the SJI Specifications listed in Section 2207.1	☐	■	☐
2. CONCRETE CONSTRUCTION: Section 1705.3 and Table 1705.3			
2.1 Member Shape and Size Compliance in Formwork	☐	■	☐
2.2 Reinf Steel and PT Tendons Size, Quantity and Placement	☐	■	☐
2.3 Weldability of Reinforcing and Welds	☐	■	☐
2.4 Anchors in Concrete	■	☐	☐
2.5 Use of Required Mix Design	☐	■	☐
2.6 Sample for Specimens and Tests	■	☐	☐
2.7 Placement of CIP Concrete and Shotcrete	■	☐	☐
2.8 Curing Compliance	☐	■	☐
2.9 Strength for Stressing PT Tendons	☐	■	☐
2.10 Prestressing Force Application	■	☐	☐
2.11 Grouting Bonded Tendons - Seismic	☐	☐	■
2.12 Strength for Formwork Removal	☐	■	☐
2.13 Erection of Precast Members	☐	■	☐
3. MASONRY CONSTRUCTION: Section 1705.4			
3.1 Level 2: TMS 602 Table 4			
3.1.1 Proportions of Site-Prepared Mortar	☐	■	☐
3.1.2 Sample Panel Construction	☐	■	☐
3.1.3 Grout Space	☐	■	☐
3.1.4 Placement of Reinforcement, Connectors and Anchors	☐	■	☐
3.1.5 Proportions of Site Prepared Grout	☐	■	☐
3.1.6 Placement of Masonry Units and Mortar Joint Construction	☐	■	☐
3.1.7 Size and Location of Structural Members	☐	■	☐
3.1.8 Welding of Reinforcement	■	☐	☐
3.1.9 Grout Placement	☐	■	☐
3.1.10 Preparation of Grout Specimens, Mortar Specimens and/or Prisms	☐	■	☐
3.2 Level 3: TMS 602 Table 4			
3.2.1 Proportions of Site-Prepared Mortar	☐	■	☐
3.2.2 Sample Panel Construction	■	☐	☐
3.2.3 Grout Space	■	☐	☐
3.2.4 Placement of Reinforcement, Connectors and Anchors	☐	☐	☐
3.2.5 Proportions of Site Prepared Grout	☐	■	☐
3.2.6 Placement of Masonry Units and Mortar Joint Construction	☐	■	☐
3.2.7 Size and Location of Structural Members	☐	■	☐
3.2.8 Welding of Reinforcement	■	☐	☐
3.2.9 Grout Placement	■	☐	☐
3.2.10 Preparation of Grout Specimens, Mortar Specimens and/or Prisms	■	☐	☐
4. WOOD CONSTRUCTION: Section 1705.5			
4.1 High Load Diaphragms			
4.1.1 Grade and Thickness of Panel Sheathing	☐	■	☐
4.1.2 Nominal Framing Member Size at Panel Edge	☐	■	☐
4.1.3 Nail Size and Length	☐	■	☐
4.1.4 Fastener Pattern, Spacing and Edge Margins	☐	■	☐
4.2 Metal-Plated Connected Wood Truss Spanning 60' or Greater			
4.2.1 Temporary Restraint/Bracing	☐	■	☐
4.2.2 Permanent Truss Member Restraint/Bracing	☐	■	☐
5. SOILS: Section 1705.6 and Table 1705.6			
5.1 Bearing Material, Capacity and Depth	☐	■	☐
5.2 Compacted Fill Compliance With Soils Report	■	☐	☐
6. DRIVEN DEEP FOUNDATION ELEMENTS: Section 1705.7 and Table 1705.7			
6.1 Pile Material, Size and Length	■	☐	☐
6.2 Test for Pile Capacity	■	☐	☐
6.3 Observation, Compliance and Records per Pile	■	☐	☐
7. CAST-IN-PLACE DEEP FOUNDATIONS: Section 1705.8 and Table 1705.8			
7.1 Observation, Compliance and Records per Pier	■	☐	☐
7.2 Placement location, plumbness, length, diameter, embedment into bedrock (if applicable) and end-bearing strata capacity	■	☐	☐

Notes:
1. When the fabricator does not meet the requirements of 1704.2.5.1.
2. Empirically designed masonry is excluded.

SHOP DRAWINGS:
Submit shop drawing schedule with construction schedule that includes consideration for review period. See specification for additional information.

General contractor shall submit shop drawings in digital format (.pdf) for structural review. Digital drawings shall meet the following requirements.

1. All pages are rotated, printed to scale with searchable text.
2. All transmittals shall be located as the first page of the submittal or as a separate file within one digital package.
3. Contractor digital review comments and their digital stamp shall be attached. Our review will not occur until the contractor has reviewed, coordinated with other trades and provided shop stamp.
4. MBJ will mark-up the digital set in red and return a digital file via email, ftp site or other means.

Under no circumstances will MBJ review shop drawings that are considered to be scanned/copied construction document submittals. The Detailer shall produce and submit original documents for review.

DELEGATED DESIGN AND DEFERRED SUBMITTALS:
The following items are a delegated design and shall be issued as deferred submittals per IBC. The delegated design submittal shall include shop drawings and an engineering analysis signed and sealed by the licensed design professional responsible for their preparation:
- Temporary Earth Retention System
- Concrete Formwork and Shoring
- Carbon Fiber Reinforced Polymer Concrete Strengthening
- Precast Concrete Hollow Core Planks
- Precast Structural Concrete
- Precast Concrete Wall Panels
- Architectural Precast Concrete
- Structural Steel Connections
- Steel Joist and Joist Girders
- Metal Stairs, Handrails and Guardrails
- Cold-Formed Steel Framing

The contractor shall retain a professional engineer licensed in the state where this project is located to design and detail delegated design items to meet the performance and design criteria indicated in the contract documents. Under no circumstances will MBJ review shop drawings that are considered to be scanned/copied construction document submittals. The Detailer shall produce and submit original documents for review.

All items issued as deferred submittals shall be issued a minimum of 30 days prior to installation and shall not be installed until their design and submittal documents have been reviewed for general conformance to the drawings by the General Contractor, the Structural Engineer of Record and the Building Official. A copy of the deferred submittal shall be forwarded to the Building Official after the Structural Engineer of Record has reviewed the documents and prior to the erection of the deferred submittal items.

DESIGN CODES AND STANDARDS:
2018 International Building Code, as amended and adopted by the State of Minnesota.

MATERIAL PROPERTIES:
Reinforcing Steel (Fy):

Typical	60,000 psi	ASTM A615 Grade 60
Weldable	60,000 psi	ASTM A706 Grade 60

Cast-in-Place Concrete (f'c) at 28 days, UNO:

Controlled Low	1,200 psi	Maximum
Strength Material (CLSM)	50 psi	Minimum
Footings	4,000 psi	
Piers and Walls	5,000 psi w/ air entrainment	
Columns	5,000 psi w/ air entrainment	
Exterior Concrete	5,000 psi w/ air entrainment	
All Concrete not otherwise noted	4,000 psi	

Concrete Masonry- Unit Strength (f'm):

F'm	2,000 psi
Typical Units:	2,000 psi per ASTM C90
Masonry Grout	2,000 psi
Masonry Mortar	ASTM C270, Type S

Structural Steel (Fy):

Wide Flanges:	50,000 psi	ASTM A992
Angles, Channels, Plates, and Bars	36,000 psi	ASTM A36
Rectangular HSS	46,000 psi	ASTM A500, Grade B
Round HSS	42,000 psi	ASTM A500, Grade B
Steel Pipe	35,000 psi	ASTM A53, Grade B

Structural Fasteners:

Typical High-Strength Bolts	120,000 psi	ASTM F3125 Grade A325
Twist-off Tension Control Bolts	120,000 psi	ASTM F3125 Grade1852, Type 1
High-Strength Bolts where noted	150,000 psi	ASTM F3125 Grade A490
Carbon Steel, Threaded Rods	36,000 psi	ASTM A36
Threaded Rods Grade B7 where noted	125,000 psi	ASTM A193
Stainless Steel, Threaded Rods	85,000 psi	ASTM F593
Anchor Rods, Grade 36 UNO	36,000 psi	ASTM F1554
Anchor Rods, Grade 55 where noted	55,000 psi	ASTM F1554
Anchor Rods Grade 105 where noted	105,000 psi	ASTM F1554
Direct Tension Indicator Washers where noted	ASTM F959	

Cold-Formed Steel Framing (Fy):

Studs, Joists, Braces-16 ga. and heavier	50,000 psi	ASTM A653
Studs, Joists, Braces-18 ga. and lighter	33,000 psi	ASTM A653
Track, Channels and Accessories	33,000 psi	ASTM A653

DESIGN LOADS:
LATERAL LOADS:
Risk Category: III
Wind Loads:
Primary Frame Wind Data:
Basic Wind Speed: V ult = 117 mph
Exposure Category: B
Internal Pressure
Coefficient (Gcpi): +0.18 or –0.18

Components and Cladding Wind Loads:
Exterior Component/Cladding: Supplier to develop based on code criteria and indicate on shop drawings.

Seismic Loads:
Primary Seismic Data: No design required

LATERAL LOAD RESISTING SYSTEM:
Steel frame is a "non-self-supporting" steel frame requiring interaction of the steel framing, floor/roof diaphragms and shear walls/ braced frames/moment frames. Contractor shall provide temporary bracing as necessary to provide support of framing until all attachments are complete, including structural steel, structural steel to diaphragm/shear walls, and diaphragm to shear walls.

The lateral-load-resisting system and diaphragm elements that provide for lateral strength and stability in the completed structure include the following:
- Floor and roof deck and attachments including concrete topping on steel deck.
- Fully connected moment frames, brace frames, masonry shear walls, or concrete shear walls
- Framing members indicated as drag struts.
- Framing members with axial loads indicated for connection design.

GRAVITY LOADS:
Dead Load: Refer to load map, unless noted otherwise.

Snow Load:
Ground Snow Load, Pg: 50 psf
Flat-Roof Snow Load, Pf: 46.2 psf
Snow Exposure Factor, Ce: 1.0
Snow Load Importance Factor, I: 1.1
Thermal Factor, Ct: 1.2
Unbalanced/Drift Snow Load: Refer to plan, UNO

Roof Live Load:
Live Load, (reducible): 20 psf
Net Uplift for Joist Design: 20 psf
Mechanical Room Hanging Loads: 40 psf
Mechanical and Electrical Equipment Units: Refer to drawings, for the units' locations, sizes, and weights.

Assumed Construction Live Loads:
Uniform load in addition to fluid concrete: 20 psf
Uniform load on bare deck: 50 psf
Concentrated Load: 150 pounds

Floor Live Loads:
Office Live Load, (reducible): 100 psf
Office Concentrated Load: 2000 lbs.
Partition: 0 psf

Mezzanine Loads, (Storage): 125 psf
Partition: 0 psf

Stairs: 100 psf
Stair Tread Concentrated Load: 300 lbs.
Catwalks: 75 psf

Mechanical Rooms: 125 psf
Mechanical Room Hanging Loads: 40 psf

Exterior Site Loads:
Unrestricted Vehicle Access: 250 psf
HS-20 Concentrated Wheel load: 16,000 lbs.
Fire truck (to be verified with the local jurisdiction):
Wheel load: _____ lbs.
Outrigger load: _____ lbs.

FOUNDATIONS:
Refer to geotechnical report number 24713.24.MNT by Chosen Valley Testing, dated January 13, 2025.

The Contractor shall verify the location of all existing and new underground utilities and tanks prior to beginning excavation.

For underground utilities adjacent to foundations and through foundations reference drawings for typical detail showing step footings below utilities as required to avoid undermining of structure by utilities.

CONVENTIONAL FOOTINGS:
Footings are designed for a maximum allowable soil bearing pressure of 3,000 pounds per square foot on undisturbed natural soil or compacted engineered fill. Soil bearing pressure is to be verified in the field during construction by a qualified Geotechnical Engineer.

All topsoil, fill, organic, and/or other unsuitable bearing material shall be removed below the footings and/or within the building area to the depths indicated in the geotechnical engineering report and extent of removal shall be field verified by the Geotechnical Engineer.

All excavations shall be observed by a qualified Geotechnical Engineer to verify removal of all unsuitable material,and confirm the proper preparation of bearing conditions. Rock excavation for individual footings is not expected to exceed five foot depth, UNO No mass excavation is anticipated. Blasting is not permitted.

For footings that do not bear on natural undisturbed soil, extend engineered fill laterally beyond bottom edge of footing per recommendations in the geotechnical report.

Foundation and retaining walls shall be back filled with free draining fill approved by the Geotechnical Engineer. Provide drainage board and perforated pipe as required by the contract documents and verify with the Architect and Civil Engineer.

Engineered fill shall not be placed on frozen material and frozen material shall not be used as engineered fill. Contractor shall provide any means necessary to prevent frost penetration under footings during construction.

Backfill equally on both sides of foundation walls to prevent overturning or lateral wall movement, or brace as necessary.

For stepping of wall footings reference drawings for detail.

RETAINING WALLS:
Backfill with free draining sand having less than 5% passing the No. 200 sieve and no more than 40% of the particles by weight finer than No. 40 sieve.

Zone of sand backfill as indicated on drawings.

Place sand backfill in lifts and compacted with portable compaction equipment to at least 95% of the maximum Standard Proctor dry density (ASTM D698)

Retaining walls are designed to resist the following equivalent fluid pressures based on sand backfill described above:
- Active Pressure = 35 psf / ft
- At-Rest pressure = 55 psf / ft
- Passive earth pressure = 350 psf / ft
- Internal friction angle = 35 Degree
- Unit weight = 125 pcf

Soil retaining walls are designed as restrained walls relying on floor or roof diaphragm for lateral support and shall not be backfilled prior to installation of supporting structure including floor/roof diaphragm. Concrete floor diaphragms shall achieve 75% of specified strength prior to backfilling.

Soil retaining walls indicated a cantilevered retaining walls shall be backfilled prior to installation of connecting construction.

REINFORCED CONCRETE:
The detailing, fabrication and erection of all reinforcing shall be done in accordance with the latest edition of ACI-315, "Manual of Standard Practice for Detailing Reinforced Concrete Structures and ACI-318, "Building Code Requirements for Structural Concrete."

All reinforcing bars are deformed and continuous, unless noted otherwise. Refer to drawings for reinforcing lap length schedule.

Provide suitable wire spacers, chairs, etc. for support of reinforcing steel in proper position while placing concrete. All bars shall be tied to prevent displacement while placing concrete. All chairs and slab bolsters shall be plastic or steel with plastic tips. When reinforcing steel is epoxy coated or p/t tendons are fully encapsulated, all chairs and slab bolsters shall be epoxy coated or plastic and all support bars shall be epoxy coated. Chairs are to be stable and resist tipping.

The fabricator shall submit a complete list of accessories and placing details with the shop drawings.

No horizontal construction joints shall be placed in beams, joists, or slabs, unless shown on drawings.

Locate vertical construction joints in beams and slabs at central one third of span. Refer to drawings for details. Submit proposed construction joint locations to the Structural Engineer of Record for review prior to placement of concrete. Where new concrete is placed against existing concrete, the existing concrete shall be roughened to a minimum 1/4" amplitude.

Refer to drawings for placement guidelines of embedded pipes, sleeves, and conduits. Conduits are not permitted in slabs 3 inches or less in thickness.

Conduit and piping shall be fabricated and installed so that cutting, bending, or displacement of reinforcement from its specified location is not required.

Concrete cover for pipe embedments with their fittings shall be at least 1-1/2 in. For concrete exposed to earth or weather, and at least 3/4 in. For concrete not exposed to weather, or not in contact with ground

Aluminum conduit, aluminum sleeves and aluminum embeds are not permitted in concrete.

All conduits shall be placed within the middle one-third of the slab thickness.

The maximum size of conduits shall be 1 1/4" diameter and shall be spaced no closer (to each other or reinforcing steel) than 4 inches unless prior approval is obtained from the structural engineer.

Sleeves and conduits shall pass perpendicularly through beams in the center third of the beam's depth. Embedded boxes shall not be located on the bottom face of beams and shall meet clearance requirements for beam reinforcing tendons and reinforcing steel.

Embedded boxes, sleeves and conduits shall not be placed within a distance of 2'-6" from the face of any column and shall not be placed within 1'-6" of any anchor without prior approval from the structural engineer.

In areas of high conduit concentration where it is not possible to meet the above requirements, consult the structural engineer prior to placement.

Provide a 3/4 inch chamfer for all exposed concrete corners. See architectural drawings for details and additional requirements.

Formwork and all shoring for flatwork shall be left in place until the concrete reaches at least 75 percent of the 28-day compressive strength. Design of shoring and reshoring is the responsibility of the Contractor and shall conform to ACI 347R and ACI 347.2R.
Concrete compressive strength testing used to determine flatwork stripping times shall be performed using one of the following methods:

CIPPOC and standard cylinders cured and stored in the same conditions as the flatwork.

Maturity testing properly calibrated and conducted by an approved testing agency.

Calcium chloride is not permitted as a concrete additive.

Concrete Cover on Reinforcing:

Topping Slab:	3/4" clear top
Slab on Grade:	upper third of slab
Concrete covers are intended to meet 2 hour rating requirements of IBC Section 721.1 prescriptive fire protection.	
Footings and Caissons:	3" clear bottom and sides
	2" clear top
Walls:	#5 and smaller 1 1/2" clear earth or weather face
	#6 and greater 2" clear earth or weather face
	3/4" interior face
Columns and Beams:	1 1/2" clear to ties or stirrups
Joists:	1" clear top
	3/4" clear bottom and sides
Slabs:	1" clear top
	3/4" clear bottom carbonate aggregate
	1" clear bottom siliceous aggregate

PRECAST CONCRETE - STRUCTURAL:
Comply with MNL-116 and /or MNL-117 of the Precast Concrete Institute, ACI- 318, and "Recommendations for Concrete Members Prestressed with Unbonded Tendons" by ACI-ASCE Joint Committee 423.

Precast, prestressed members shall be designed for in place loads and all other erection and handling loads, including superimposed loads shown on the drawings. Live load deflections shall be limited to span/360 at simple span floor members, 2 x span/360 at cantilever floor members, span/240 at simple span roof members and 2 x span/240 at cantilever roof members.

The Precast Manufacturer shall submit for review certified shop drawings and design calculations prepared by a qualified Professional Engineer who is registered in the state where the project occurs.

Prestressing strands shall conform to the ASTM – A416, "Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete"(including supplements) Grade 250K or 270K.

Precast manufacture shall design all connections material embedded into precast, all precast to precast connections and all other precast connections not fully detailed and designated as "CONNECTION BY PRECASTER"

Precast elements used as a diaphragm system shall be designed to resist all lateral forces as noted on the documents. The Precast Manufacturer shall be responsible for the complete design of the precast components and all connections necessary to provide a fully functional diaphragm.

Precast wall elements used as part of the lateral load resisting system shall be designed to resist all diaphragm reactions. The Precast Manufacturer shall be responsible for the complete design of the elements and all connections necessary to support in plane and out of plane forces.

Wall panels and connections to roof and floor structure shall be designed for lateral loads required by the referenced building code as well as the loads shown on plan. Where no load is shown parallel to the wall panels, design for a minimum in-plane load of 50 plf over the entire wall length. Anchorage of each wall panel to the structure at each level shall include a minimum design load of 300 pounds per linear foot perpendicular to the plane of the wall.

Where precast elements are used as the floor structure in areas assigned to exposure Class F3 or C2, the reinforcing steel must be epoxy coated or impermeable traffic coating must be applied.

Precast Manufacturer shall design and furnish steel headers for openings as necessary or as shown on the drawings.

The Welders for steel connections in precast shall be certified in accordance with AWS D1.1.

Provide spray applied fireproofing on all steel angles or ledges supporting the weight of the structural precast elements as required to achieve fire rating indicated by the Architectural drawings.

Refer to architectural drawings for fire rating requirements. All members, planks and beams, shall be designed for unrestrained conditions.

Provide dovetail masonry anchor slots in precast, prestressed concrete members when used as back-up for masonry veneer. Refer to architectural drawings.

Maximum differential camber between adjacent elements shall not exceed ¼" per 10'-0" of length but not greater than ¾". Contractor shall take all measures necessary to conform to these tolerances including but not limited to the adjustment of bearing heights.

Bearing pads shall be designed by the Precast Manufacturer and shall conform to one of the following:
A. Neoprene bearing pads shall conform to ASTM D-2240 and D-412 with durometer hardness of 60.
B. Elastomeric bearing pads shall be a homogeneous blend of ozone-resistant rubber elastomer and high strength random synthetic fiber cords cured together to form a durable material with uniform behavior in all directions equal to Masticord™ bearing pads as manufactured by JVI, Inc.

CONCRETE SLABS ON GRADE:
Slabs on grade shall be place in lane fashion.

The control or construction joints shall be placed as shown on the drawings. The joints shall align with the column grids and be spaced as noted below:

Exterior slabs	24 times slab thickness, maximum;
Interior slabs	36 times slab thickness, maximum;
Interior slabs with carpeting	48 times slab thickness, maximum.

The panels formed by control or construction joints shall not be "L" shaped, and a rectangular panel's aspect ratio shall not exceed 1.5.

Refer to the drawings for the typical slab on grade construction and saw cut control joint detail. Control and construction joints must be continuous and not offset.

Refer to drawings for detail of isolation diamonds or circles at columns.

Refer to drawings for reinforcing at re-entrant corners. Bend bars as necessary at obstructions.

Refer to the specification for the existence, type, and thickness of interior ground vapor retarder. Locate a vapor retarder directly beneath the slab on grade on top of a 6 inch compactable granular base. Refer to the specification for requirements for the compactable granular base.

Mechanically vibrate concrete around trench drains, floor ducts, construction joint dowels, loading docks, architectural features and other embedded items.

Refer to flooring manufacturer's specification for levelness, flatness and curing of concrete slabs on grade to receive special architectural floor finishes.

Where slab demolition occurs in slabs on grade, curbs and sidewalk areas, typically saw cut slabs for new work to the widths indicated on plan. Where such saw cuts would occur within 3 feet or less of an existing control or construction joint, remove slabs to the nearest existing control or construction joint. Dowel edges as indicated for typical slabs in other areas. Provide slab control joints in new slabs at locations to match existing slab control joints, and also a spacing to keep slab panel aspect ratios as square as possible, but at a spacing not to exceed 10'-0". Slab finishes shall match original existing finishes of surrounding slabs, subject to review of Architect.

REINFORCED MASONRY:
Masonry work shall conform to all requirements of ACI 530, "Building Code Requirements for Masonry Structures."

All masonry units are placed in running bond fashion. Corners shall have a standard bond by overlapping units.

Special shapes shall be provided for jambs, columns, pilasters, control joints, corners, and lintels.

All masonry walls shall have horizontal joint reinforcing spaced at 16" oc. Horizontal joint reinforcing shall be ladder style and fabricated with galvanized nine-gauge wire and shall include corner and intersecting wall pieces. Provide minimum 6" laps at all splices.

Vertical reinforcing shall be held in place by rebar positioners, crossties, chairs, or tying to every other layer of horizontal reinforcing steel. Refer to the detail in the drawings for vertical reinforcing bar location in a core.

Provide concrete cover of minimum 1/2" to face shell.

Refer to detail in the drawings for reinforcing bar lap lengths.

Extend vertical reinforcing from footings to 2" clear top of wall or to beam bearing. Extend vertical reinforcing into the next level of construction and lap in accordance with the lap schedule.

When typical vertical wall reinforcing is interrupted by long wall openings, provide typical vertical wall reinforcing above and below opening, and extend into horizontal bond beams. Refer to the schedule on the drawings, for masonry wall opening lintels and jamb reinforcing.

Provide vertical reinforcing at the ends of walls and at wall intersections to match specified reinforcing. Run reinforcing full height of walls.

All masonry units shall be placed with full face shell mortar coverage on horizontal and vertical face shells. Webs shall also have full mortar coverage around all grouted cells.

Fill block core at vertical reinforcing (8" minimum length along wall) with concrete grout. Filling cores with mortar is not allowed. Vibrate in place. Rodding and puddling are not allowed.

Maximum grout lift height is 5'-4". Maximum grout pour height is 8'-0", provide cleanouts if pour heights exceed 5'-4".

Masonry cement mortar is not allowed.

Calcium chloride or admixtures containing chloride shall not be used in mortar or grout.

For reinforced masonry bond beams, provide bent corner bars at corners and intersections that match reinforcing. Step bond beams as necessary to match roof slopes. Lap reinforcing bars per schedule.

For construction of masonry control joints refer to detail in drawings.

Unless noted otherwise on the drawings place control joints in masonry walls such that no straight run of wall exceeds 24'-0" and within 4'-0" of corners. Do not place control joints within 48 inches of a masonry opening jamb or a steel bearing plate.

Bond beams shall be constructed with flow through knock out bond beam blocks and reinforced with 2 - #5 continuous unless noted otherwise.

Place bond beam reinforcing continuously through control joints. Do not splice bond beam reinforcing within 6'-0" of a control joint.

Provide bond beam with reinforcing at all floor lines, roof lines, and top of walls. Refer to details in the drawings.

Grout below steel bearing plate and refer to the drawings for additional information.

Refer to drawings for reinforcing schedule, top of wall bracing, thickened bearing slab and lintel schedule for non-bearing masonry walls. Refer to Architectural drawings for location and extent.

MASONRY BEAMS:
For all masonry beams use lintel blocks.

Masonry beams are to bear 8" minimum at jambs. Extend vertical reinforcing through masonry beam bearing.

Extend horizontal reinforcing full length. Refer to detail in the drawings for stirrup configuration.

Grout masonry beams solid. Mechanically vibrate grout in place.

For brick angle supported by masonry refer to detail in the drawings.

Provide brick expansion joint vertically at the edge of the masonry opening. Stop brick angle at expansion joint. Refer to plan for wall elevation detail. Locate other brick expansion joints per architectural drawings.

LOOSE ANGLE BRICK LINTELS:
Fit lintel such that vertical leg is tight to back of brick, locate brick ties to backup at first bed joint above angle's vertical leg and provide minimum 8" support each end.

Refer to architectural drawings for locations and to structural drawings for lintel schedule.

POST-INSTALLED ANCHORS:
Post installed anchors to be installed in concrete base material shall have current ICC approval for use in both cracked and un-cracked concrete in accordance with ACI 355.2, ACI 355.4, ICC ES AC193 and ICC ES AC308.

Post-installed anchors to be installed in masonry base material shall have a current ICC approval for use in uncracked, fully grouted concrete masonry unit construction in accordance with ICC-ES AC01, ICC-ES AC58 and ICC-ES AC106. Contact Engineer of Record for anchorage to hollow masonry or unreinforced clay masonry not covered by this section.

Post-installed anchors shall only be used where specified on the construction documents. The Contractor shall obtain approval from the Engineer of Record prior to installing post-installed anchors in place of missing or misplaced cast-in-place anchors. Submit a work plan including proposed products for approval prior to commencing corrective work.

Post-installed adhesive anchors shall not be used for fire rated components supporting gravity loads.

Verify that supporting substrate and environmental conditions are consistent with the manufacturer's installation instructions and the ICC-ES report.

Post-installed anchors shall be installed in accordance with the manufacturer's installation instructions and the ICC-ES report, including hole drilling and cleaning.

The general contractor shall engage a testing company to locate existing reinforcing and other embedded items by non-destructive means (GPR, pacometer or other approved means) as necessary to accurately locate existing elements prior to beginning drilling operations. Do not cut or damage existing reinforcing or other embedded items unless explicitly approved by the Engineer of Record. Notify the EOR if there is a conflict between the anchor location and an embedded item.

Pre-approved products for post-installed anchors are listed below. See specifications for additional pre-approved products and substitution request requirements.

The following wedge anchor products are pre-approved:

Base Material	Product	ICC-ES Report
Concrete	Hilti Kwik Bolt TZ2	ESR-4266
Concrete	Simpson Strong Bolt 2	ESR-3037
Concrete	Dewalt Power Stud+ SD2	ESR-2502
Masonry (*)	Hilti Kwik Bolt 1	IAPMO ER-677
Masonry (*)	Simpson Strong Bolt 2	IAPMO ER-240
Masonry (*)	Dewalt Power Stud+ SD1	ESR-2966

The following sleeve anchor products are pre-approved:

Base Material	Product	ICC-ES Report
Concrete	Hilti HSL-3	ESR-1545
Concrete	Dewalt Power Bolt +	ESR-3260

The following screw anchor products are pre-approved:

Base Material	Product	ICC-ES Report
Concrete	Hilti Kwik HUS-EZ	ESR-3027
Concrete	Simpson Titen HD	ESR-2713
Concrete	Dewalt Screw Bolt+	ESR-3889
Masonry (*)	Hilti Kwik HUS-EZ	ESR-3056
Masonry (**)	Simpson Titen HD	ESR-1056
Masonry (*)	Dewalt Screw Bolt+	ESR-4042

The following adhesive anchor products are pre-approved:

Base Material	Product	ICC-ES Report
Concrete	Hilti HIT HY 200-V3	ESR-4868
Concrete	Hilti HIT HY 100	ESR-3574
Concrete	Hilti HIT RE 500-V3	ESR-3814
Concrete	Simpson AT 3G	ESR-5026
Concrete	Dewalt AC200+	ESR-4027
Concrete	Dewalt Pure110+	ESR-3298
Masonry (**)	Hilti HIT HY 270	ESR-4143/4144

The following power-actuated fastener products are pre-approved:

Base Material	Product	ICC-ES Report
Steel/Concrete/Masonry/Wood	Hilti Low Velocity	ESR-1663
Steel/Concrete/Masonry/Wood	Hilti X-U	ESR-2269
Steel/Concrete/Masonry/Wood	Simpson Powder-Actuated	ESR-2138
Steel/Concrete/Masonry/Wood	Dewalt Power-Driven	ESR-2024
Steel/Concrete/Masonry/Wood	Dewalt Trak-It	ESR-3275

(*) Indicates products listed are for anchorage to solid grouted concrete masonry units only.
(**) Indicated products listed are for anchorage to solid grouted or ungrouted concrete masonry units. Do not use anchors in ungrouted cells unless shown explicitly directed by Engineer of Record.

STRUCTURAL STEEL:
Structural steel shall be detailed, fabricated and erected in compliance with AISC Specification for the design, fabrication, erection of structural steel for building, and Code of Standard Practice, and OSHA steel erection standards.

All beams and girders shall be cambered at mid-span as indicated on the structural drawings. The cambers indicated shall be measured in the fabricators shop. Cambering tolerances shall be (-0", +1/2"). No center point cambering allowed.

Splicing structural members where not detailed on the drawings is prohibited without prior approval of the Structural Engineer of Record.

Modification of structural steel members in the field is not allowed without written approval by the Structural Engineer of Record.

All composite beams using the concrete slab as a compression flange are designed for unshored construction unless noted otherwise.

Anchor rods shall be minimum 3/4" diameter or as detailed in drawings.

Where weld sizes are not indicated provide minimum weld size as indicated in AISC table J2.4.

STRUCTURAL STEEL CONNECTIONS:
All steel connections are as indicated on the drawings except the following:
- All shear connections
- All brace frame connections
- All truss connections
- All beam connections with axial loads indicated
- All moment connections
- All miscellaneous connections where indicated as "Concept detail" or as "By Connection Engineer"

Submit calculations certified by a Professional Engineer who is licensed in the state where the project is located.

Connection engineer shall review shop drawings or fabrication model and and confirm in writing that their details have been appropriately applied in the shop drawings. The Engineer of Record will not release final review of shop drawings prior to recieving this confirmation.

Unless noted otherwise, design simple beam shear connections per the AISC Manual connection tables. Design connections for the reactions indicated on the plans or the minimum connection requirements indicated in the connection schedule. Reactions indicated on plan or within details supersede those indicated in the connection schedule.

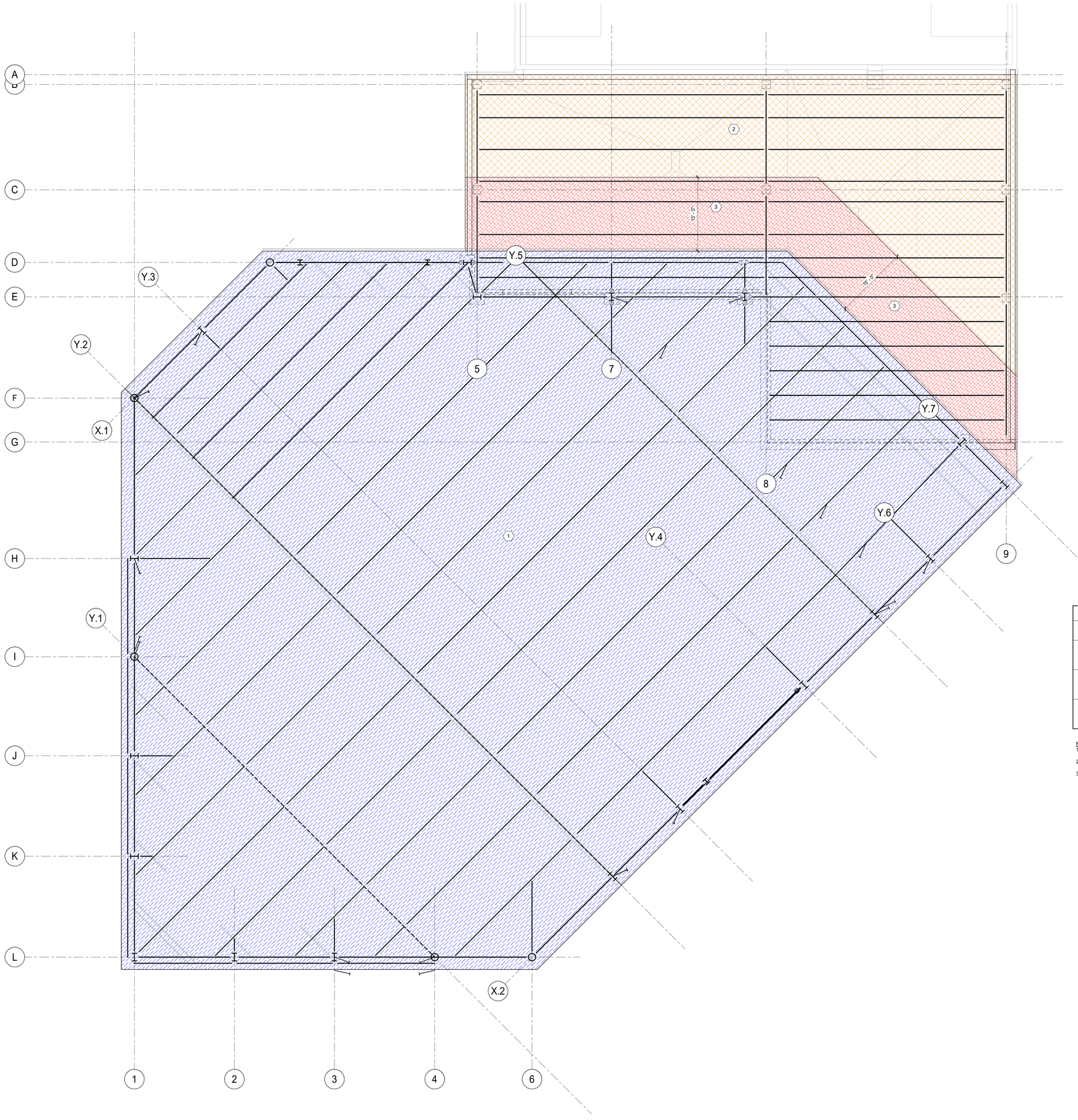
STRUCTURAL STEEL CONNECTIONS (Cont):
Shear connections shall be designed to resist eccentricity within the connection so that the resultant connection force is applied to the supporting members as follows:
- Beam to beam connections: at center of supporting beam
- Beam to column flange: at face of column flange
- Beam to column web: at face of column web
- Beam to HSS columns: at face of column
- Beam to embed plate: at face of embed

Unless detailed otherwise, beam shop connections may be welded or bolted and field connections are to be bolted. Bolts shall be a minimum 3/4" diameter for connections specified or detailed in the drawings. The fabricator may submit an alternate connection with the calculations that is certified by a professional engineer who is licensed in the state where the project is located.

All re-entrant corners must be shaped notch free per AWS D1.1 to a minimum radius of 1" except corners in connection material and beam copes.

Provide stiffeners and doublers where shown. Member reinforcements shall be the minimum of the size as indicated or as required by engineering analysis of the connection.

Welded connections shall be made in accordance with AWS D1.1 Structural Welding Code using E70XX electrodes unless noted otherwise. Weld sizes not shown or controlled by the required forces shall be AWS code minimum size. Welds shall be visually inspected for compliance with the AWS code visual inspection criteria. Welders shall be qualified in accordance with AWS D1.1 and



1 ROOF FRAMING PLAN

1/8" = 1'-0"

UNIFORM LOADING SCHEDULE					
LOAD MARK	MARK	SUPERIMPOSED DEAD LOAD (PSF)		LIVE OR SNOW LOAD (PSF)	
ROOF - HIGH	1	20	ROOFING, MEP, RIGID INSULATION	46.2 (UNREDUCIBLE)	SNOW AND APPLICABLE DRIFT
ROOF - LOW	2	20	ROOFING, MEP, RIGID INSULATION, CEILING	46.2 (UNREDUCIBLE)	SNOW AND APPLICABLE DRIFT
ROOF - 1	3	20	ROOFING, MEP, RIGID INSULATION	131 (UNREDUCIBLE)	SNOW AND APPLICABLE DRIFT

NOTES:
1. SUPERIMPOSED DEAD LOAD DOES NOT INCLUDE THE SELF WEIGHT OF PRIMARY STRUCTURE (STEEL JOISTS, TRUSSES, PURLINS, GIRDERS, ETC).
2. APPLICABLE SNOW DRIFT IS NOTED ON THE DIAGRAMS AND IS IN ADDITION TO THE FLAT ROOF SNOW LOAD NOTED IN THE TABLE. SEE THE SNOW DRIFT LOAD SCHEDULE FOR FURTHER CLARIFICATION.
3. VERIFY ALL WEIGHTS AND LOCATIONS OF ROOFTOP EQUIPMENT WITH MEP.

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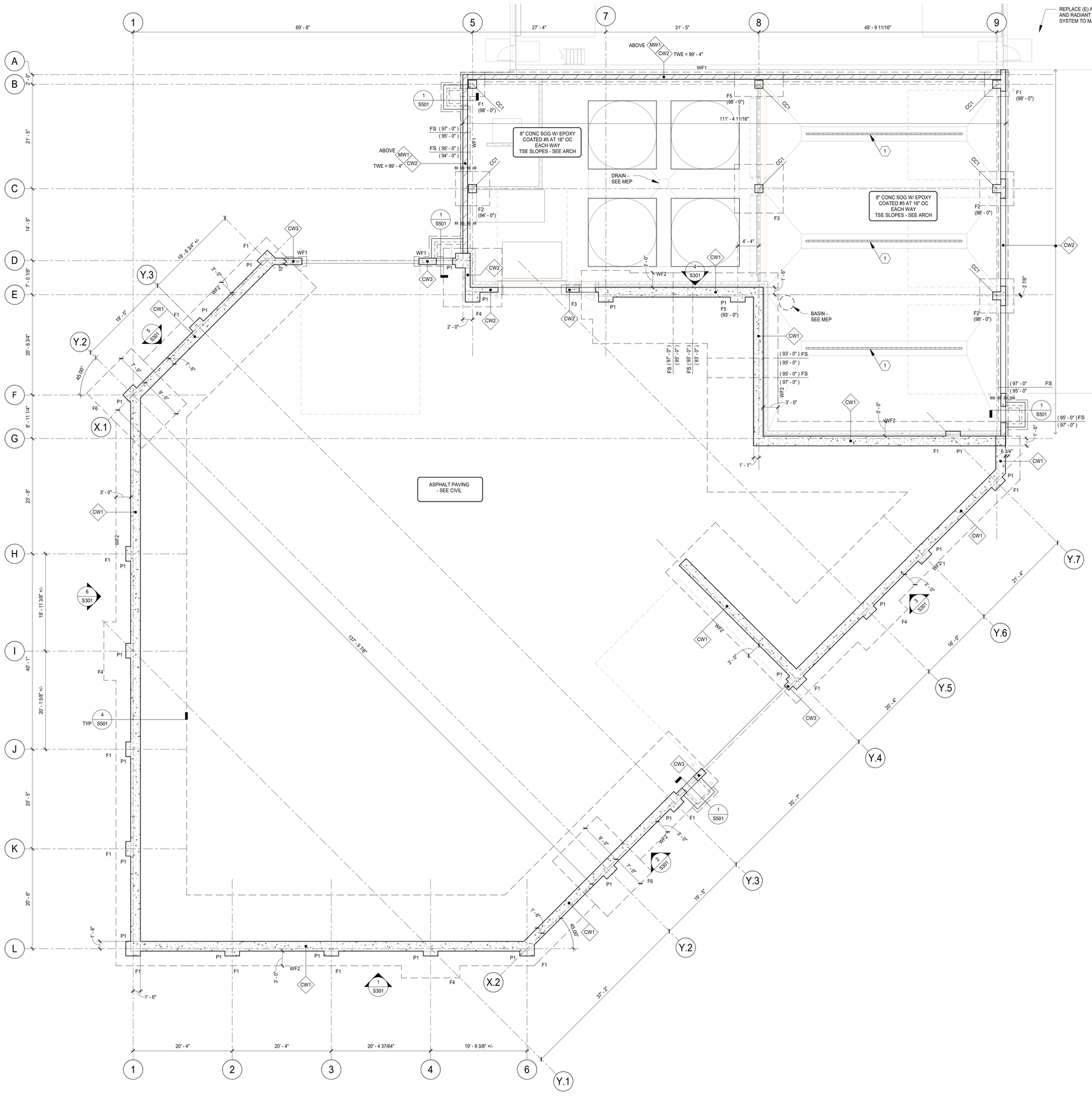
NO.	DESCRIPTION	DATE

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CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
04/22/25
PHASE
PROJECT
22263.01
SHEET
S101
ROOF LOAD MAP

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1 FOUNDATION PLAN

1/8" = 1'-0"

REFERENCE NOTES:

1. SEE SHEET S001 FOR SHEET INDEX, TYPICAL ABBREVIATIONS AND LEGENDS.
2. SEE SHEET S002 FOR GENERAL STRUCTURAL NOTES.
3. SEE SHEET S301 FOR BRACE FRAME ELEVATIONS.
4. SEE SHEET S302 FOR BRACE FRAME DETAILS.
5. SEE SHEET S401 FOR FOUNDATION SCHEDULES AND TYPICAL DETAILS.
6. SEE SHEET S402 FOR CONCRETE COLUMN AND BEAM SCHEDULES AND TYPICAL DETAILS.
7. SEE SHEET S403 FOR MASONRY SCHEDULES AND TYPICAL DETAILS.
8. SEE SHEET S404 FOR STEEL SCHEDULES AND TYPICAL DETAILS.
9. SEE SHEET S500 SERIES FOR FOUNDATION AND CONCRETE FRAMING DETAILS.
10. SEE SHEET S700 SERIES FOR FRAMING DETAILS.

PLAN NOTES (UNLESS NOTED OTHERWISE):

1. PROJECT DATUM ELEVATION 100'-0" = 818.50'. SEE CIVIL AND ARCHITECTURAL DRAWINGS.
2. TOP OF FOOTING ELEVATION (TFE) = 97'-0", UNLESS NOTED OTHERWISE ON PLAN AS (XX'-XX").
3. ALL FOOTINGS ARE CENTERED UNDER WALLS AND COLUMNS, UNLESS NOTED OTHERWISE.
4. SEE TYPICAL FOUNDATION DETAILS FOR UTILITY PENETRATIONS THROUGH FOUNDATIONS. SEE PLAN FOR APPROXIMATE LOCATIONS. VERIFY LOCATIONS AND ELEVATIONS WITH MECHANICAL DRAWINGS.
5. TOP OF PIER ELEVATION (TPE) = 114'-0", UNLESS NOTED OTHERWISE ON PLAN.
6. PROVIDE THICKENED SLAB-ON-GRADE UNDER NON-LOAD-BEARING MASONRY WALLS AND STAIR STRINGER BASES AS SHOWN IN THE TYPICAL DETAILS. SEE ARCHITECTURAL DRAWINGS FOR EXTENT AND LOCATIONS OF THESE ELEMENTS.
7. FOR SLAB JOINT LAYOUTS, SEE PLANS AND GENERAL STRUCTURAL NOTES FOR CRITERIA. FOR TYPICAL CONTROL AND CONSTRUCTION JOINTS SEE TYPICAL SLAB JOINTING DETAILS.
8. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING LOCATIONS AND DIMENSIONS OF RAMPS, SLAB SLOPES, SLAB STEPS AND SLAB DEPRESSIONS.
9. VERIFY SIZE, LOCATION AND INVERT ELEVATIONS FOR ALL UTILITIES, SITE STRUCTURES, SUMPS AND DRAINS WITH CIVIL, MECHANICAL, ELECTRICAL AND ARCHITECTURAL DRAWINGS.
10. SEE CIVIL / LANDSCAPE DRAWINGS FOR PAVING AND SITE DETAILS AT THE BUILDING EXTERIOR.

KEYNOTES:

1. INDICATES APPROXIMATE LOCATION AND EXTENT OF TRENCH DRAIN - SEE ARCHITECTURAL, MEP FOR EXACT LOCATION, ELEVATION, SLOPE, UNDERFLOOR PIPING, ETC. FOR TYPICAL DETAIL - SEE S/ S501.

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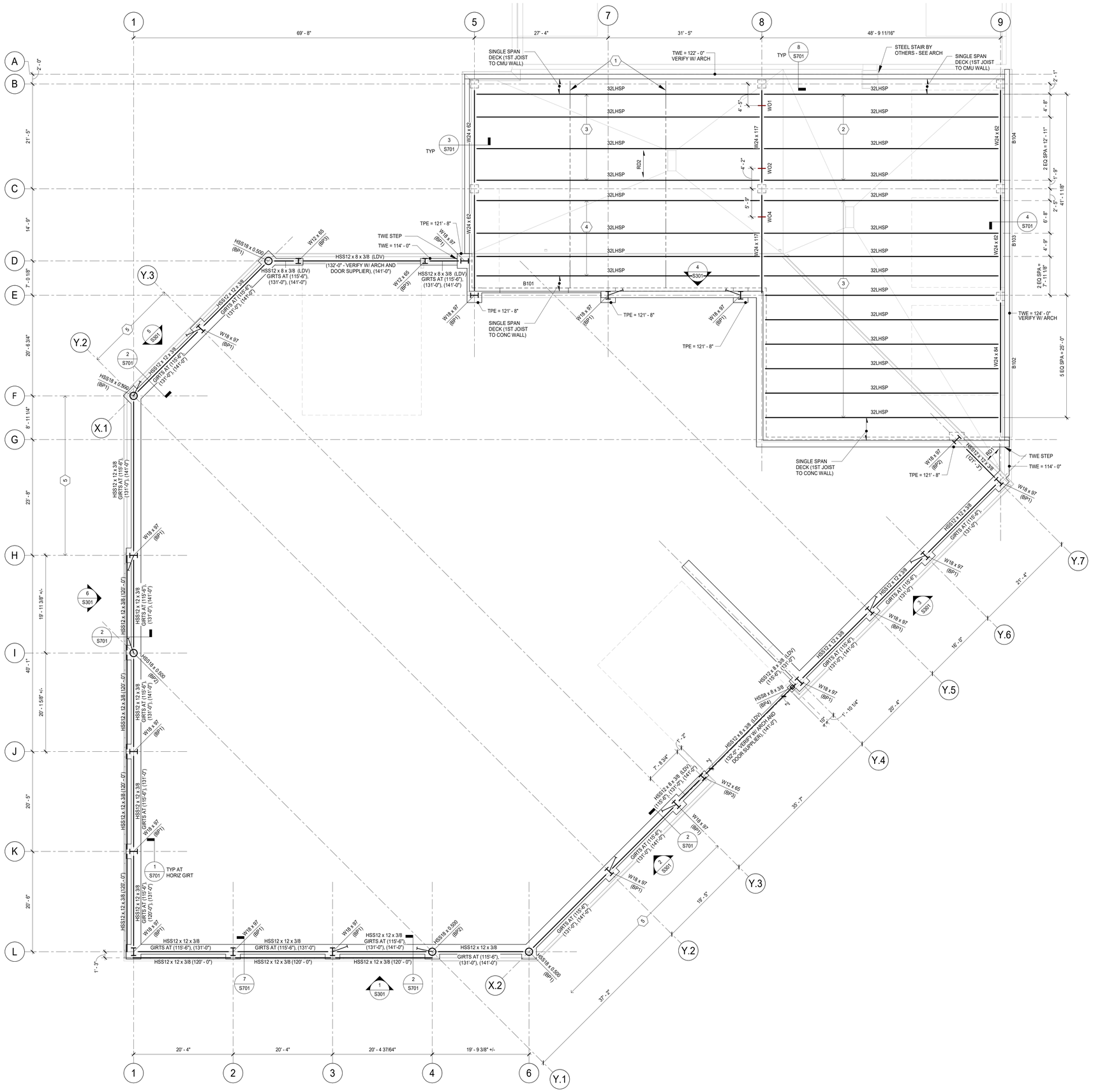
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S201

FOUNDATION PLAN

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1 T.O. PC BRINE ROOF

1/8" = 1'-0"

REFERENCE NOTES:

1. SEE SHEET S001 FOR SHEET INDEX, TYPICAL ABBREVIATIONS AND LEGENDS.
2. SEE SHEET S002 FOR GENERAL STRUCTURAL NOTES.
3. SEE SHEET S301 FOR BRACE FRAME ELEVATIONS.
4. SEE SHEET S302 FOR BRACE FRAME DETAILS.
5. SEE SHEET S401 FOR FOUNDATION SCHEDULES AND TYPICAL DETAILS.
6. SEE SHEET S402 FOR CONCRETE COLUMN AND BEAM SCHEDULES AND TYPICAL DETAILS.
7. SEE SHEET S403 FOR MASONRY SCHEDULES AND TYPICAL DETAILS.
8. SEE SHEET S404 FOR STEEL SCHEDULES AND TYPICAL DETAILS.
9. SEE SHEET S500 SERIES FOR FOUNDATION AND CONCRETE FRAMING DETAILS.
10. SEE SHEET S700 SERIES FOR FRAMING DETAILS.

PLAN NOTES (UNLESS NOTED OTHERWISE):

1. SEE THE GENERAL STRUCTURAL NOTES, TYPICAL DETAILS AND SYMBOLS LEGEND FOR STEEL BEAM CONNECTION REQUIREMENTS. SEE THE TYPICAL CONNECTION SCHEDULES AND DETAILS FOR ADDITIONAL INFORMATION.
2. TOP OF BEAM ELEVATION (TBE) = 121'-4 1/2", UNLESS NOTED OTHERWISE ON PLAN AS (XX'-XX").
3. JOIST BEARING ELEVATION (JBE) = 121'-4 1/2", UNLESS NOTED OTHERWISE ON PLAN AS (XX'-XX").
4. SEE PLAN AND SCHEDULES FOR COLUMN, WALL AND PIER INFORMATION.
5. VERIFY SIZE, LOCATION AND NUMBER OF ALL OPENINGS THROUGH FLOOR ROOF WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. SEE TYPICAL DETAILS FOR REQUIRED FRAMING AT OPENINGS.
6. EMBEDDED ITEMS SHALL NOT INTERFERE WITH SPECIFIED REINFORCING.
7. SEE __/S__ AND __/S__ FOR MECHANICAL UNIT SUPPORT AND JOIST STRENGTHENING DETAILS. VERIFY LOCATION, QUANTITY, SIZE AND OPERATING WEIGHT WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.

KEYNOTES:

1. INDICATES MINIMUM QUANTITY AND APPROXIMATE LOCATION OF JOIST BRIDGING. CONFIGURATION AND CONNECTIONS BY JOIST SUPPLIER.
2. INDICATES EXPECTED JOIST DESIGNATION OF 32LH13. FINAL JOIST DESIGN BY JOIST SUPPLIER. JOIST BEARING SEAT DEPTH TO BE 7 1/2".
3. INDICATES EXPECTED JOIST DESIGNATION OF 32LH16. FINAL JOIST DESIGN BY JOIST SUPPLIER. JOIST BEARING SEAT DEPTH TO BE 7 1/2".
4. INDICATES EXPECTED JOIST DESIGNATION OF 32LH19. FINAL JOIST DESIGN BY JOIST SUPPLIER. JOIST BEARING SEAT DEPTH TO BE 7 1/2".
5. EXTERIOR WALL STUD HEIGHT APPROXIMATELY 19'-0" ABOVE UPPERMOST GIRT. COLD FORMED STEEL SUPPLIER TO UTILIZE HEAVIER GAUGE AND/OR TIGHTER STUD SPACING AS REQUIRED.

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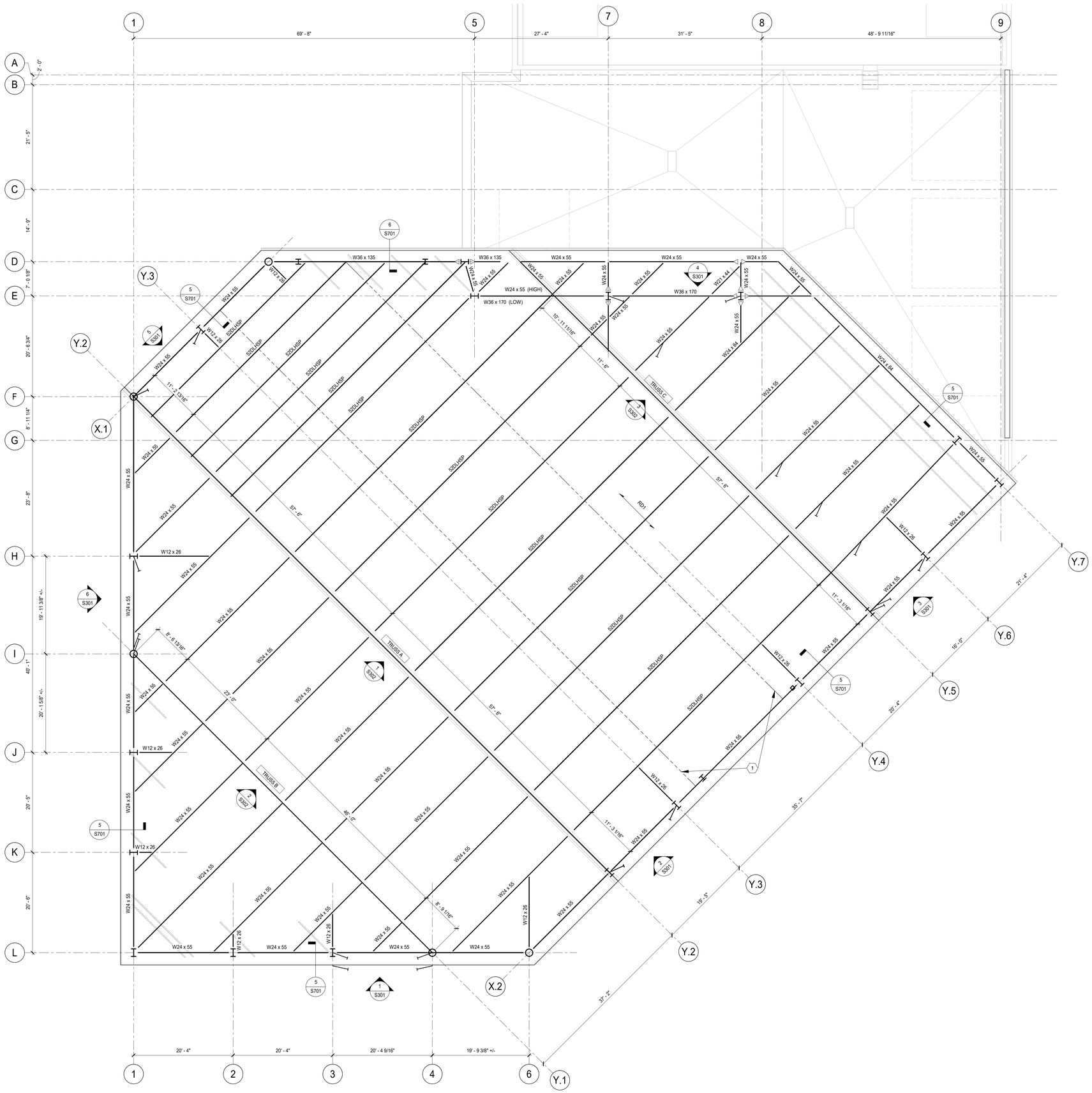
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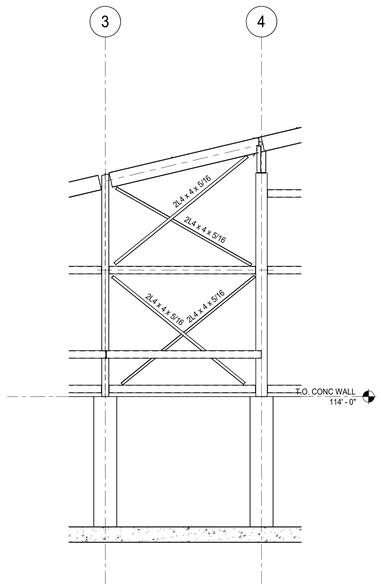
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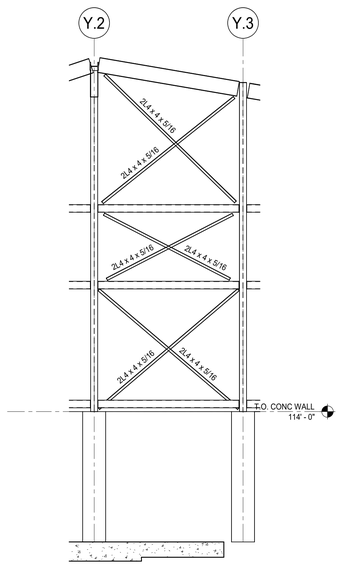
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S202
INTERMEDIATE AND LOW ROOF FRAMING PLAN

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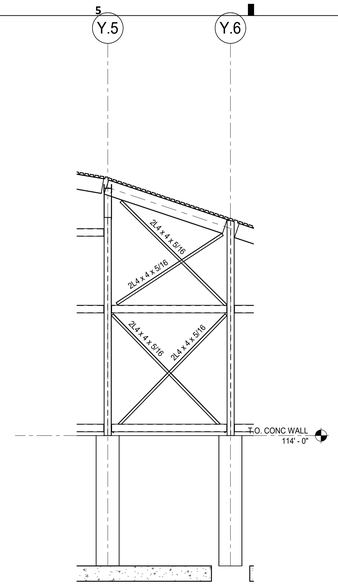

1
5
7
8
9
69' - 8"
27' - 4"
31' - 5"
48' - 9 11/16"
A
B
C
D
E
F
G
H
I
J
K
L
2' - 0"
21' - 5"
14' - 9"
7' - 0 1/8"
20' - 6 3/4"
8' - 11 1/4"
23' - 8"
19' - 11 3/8" +/-
40' - 1"
20' - 1 5/8" +/-
20' - 5"
20' - 6"
6 S701
Y.3
5 S701
W36 x 135
W36 x 135
W24 x 55
W24 x 55
W24 x 55
W24 x 55
W24 x 55 (HIGH)
W36 x 170 (LOW)
W24 x 55
W24 x 55
W24 x 55
4 S301
W24 x 55
W21 x 44
W24 x 55
W24 x 55
W36 x 170
W24 x 55
W24 x 55
W24 x 55
W24 x 55
W24 x 55



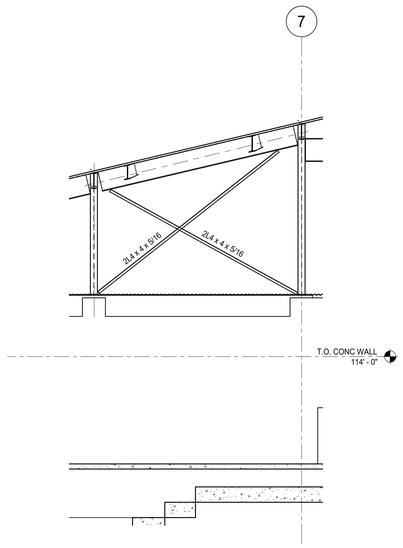
1 S301 BRACED FRAME ELEVATION BF-1 (GRID L)
1/8" = 1'-0"



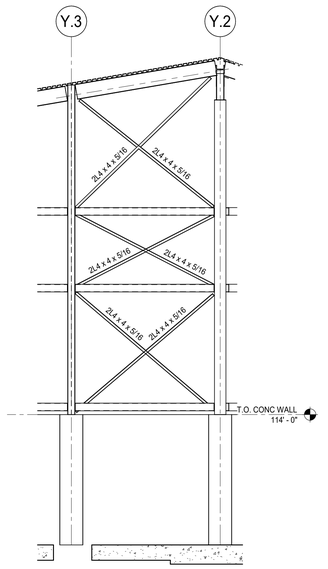
2 S301 BRACED FRAME ELEVATION BF-2 (GRID X.2)
1/8" = 1'-0"



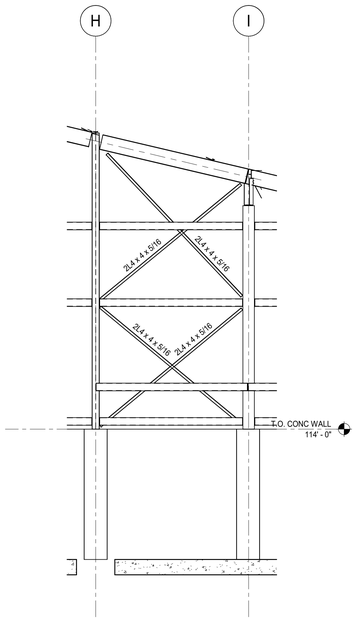
3 S301 BRACED FRAME ELEVATION BF-3 (GRID X.2)
1/8" = 1'-0"



4 S301 BRACED FRAME ELEVATION BF-4 (GRID E)
1/8" = 1'-0"



5 S301 BRACED FRAME ELEVATION BF-5 (GRID X.1)
1/8" = 1'-0"



6 S301 BRACED FRAME ELEVATION BF-6 (GRID 1)
1/8" = 1'-0"

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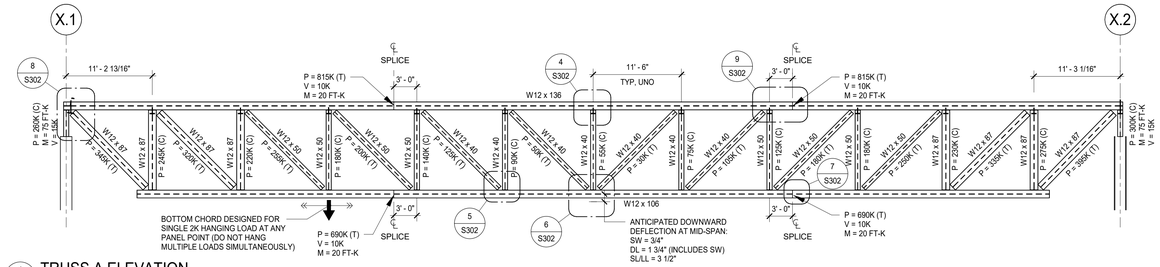
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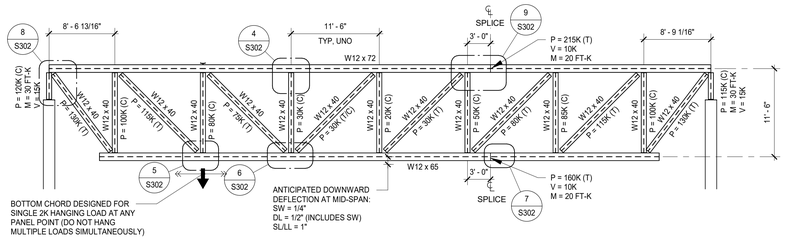
PROJECT
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SHEET
S301
BRACED FRAME ELEVATIONS AND DETAILS

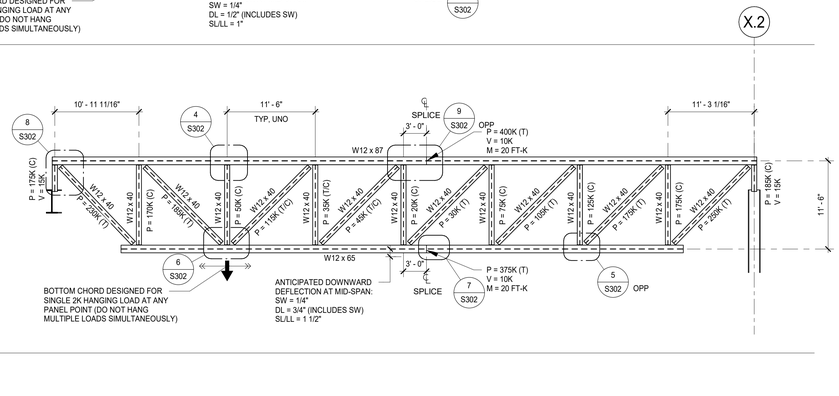
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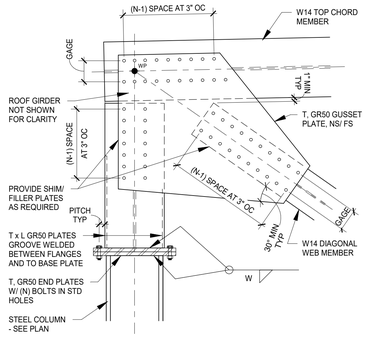
1 S302 TRUSS A ELEVATION
1/8" = 1'-0"



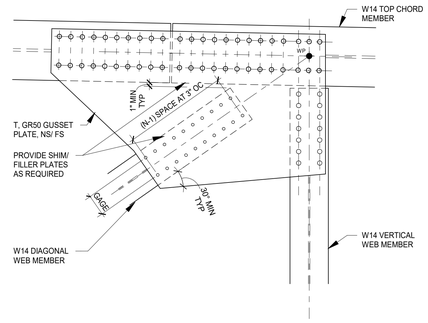
2 S302 TRUSS B ELEVATION
1/8" = 1'-0"



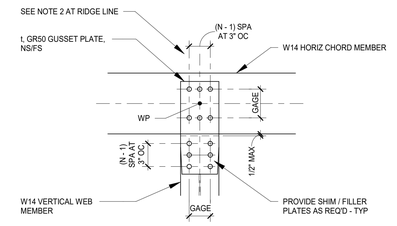
3 S302 TRUSS C ELEVATION
1/8" = 1'-0"



8 S302 TYPICAL TRUSS CONNECTION AT SUPPORT
3/4" = 1'-0"

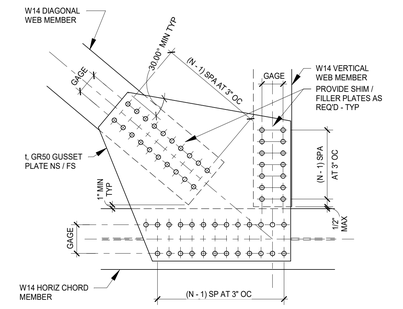


9 S302 TYPICAL TRUSS CONNECTION AT SPLICE
3/4" = 1'-0"



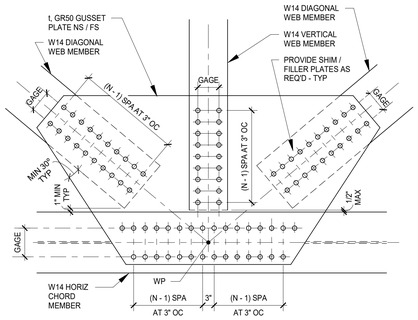
NOTES:
1. SEE GENERAL ROOF TRUSS CONNECTION NOTES.
2. KINK TOP CHORD AT RIDGE LINE WITH FULL CJP WELD.

4 S302 TYPICAL TRUSS CONNECTION
3/4" = 1'-0"

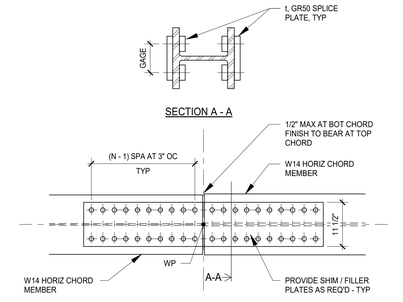


NOTES:
1. SEE GENERAL ROOF TRUSS CONNECTION NOTES.

5 S302 TYPICAL TRUSS CONNECTION
3/4" = 1'-0"



6 S302 TYPICAL TRUSS CONNECTION
3/4" = 1'-0"



NOTES:
1. SEE GENERAL ROOF TRUSS CONNECTION NOTES.

7 S302 TYPICAL TRUSS SPLICE CONNECTION
3/4" = 1'-0"

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MBJ

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE

PHASE

PROJECT
22263.01

SHEET
S302

TRUSS ELEVATIONS AND DETAILS

5/22/2025 1:00:11 PM

CONCRETE REINFORCING BAR LAP SPLICE SCHEDULE								
BAR SIZE	f'c = 3,000 PSI		f'c = 4,000 PSI		f'c = 5,000 PSI		f'c ≥ 6,000 PSI	
	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B
#3	18"	22"	16"	20"	14"	18"	12"	16"
#4	22"	30"	20"	26"	18"	22"	16"	20"
#5	28"	36"	24"	32"	22"	28"	20"	26"
#6	34"	44"	30"	38"	26"	34"	24"	32"
#7	48"	64"	42"	54"	38"	50"	34"	44"
#8	56"	72"	48"	62"	44"	56"	40"	52"
#9	62"	82"	54"	70"	48"	64"	44"	58"
#10	70"	92"	62"	80"	54"	70"	50"	64"
#11	78"	102"	68"	88"	60"	78"	56"	72"

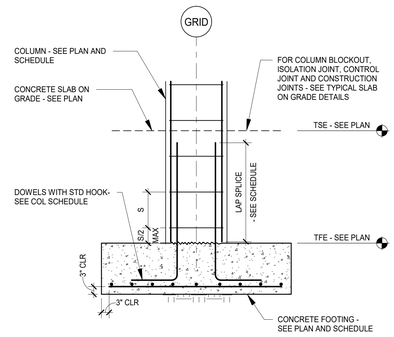
NOTES:
1. REINFORCING BAR LAP SPLICE SCHEDULE APPLIES TO UNCOATED, GRADE 60 REINFORCING BARS IN NORMAL WEIGHT CONCRETE.
2. PROVIDE CLASS A LAP UNLESS NOTED OTHERWISE.
3. FOR EPOXY COATED BAR, MULTIPLY THE ABOVE LENGTHS BY 1.5.
4. FOR LIGHT WEIGHT CONCRETE, MULTIPLY THE ABOVE LENGTHS BY 1.3.
5. FOR TOP BARS IN BEAMS AND HORIZONTAL WALL REINFORCING, MULTIPLY THE ABOVE LENGTHS BY 1.3.
6. MAXIMUM SPACING OF BARS BEING LAPPED IS ONE FIFTH THE LAP SPLICE LENGTH, NOT TO EXCEED 6".

1 S401 REINFORCING BAR LAP SPLICE SCHEDULE
NO SCALE

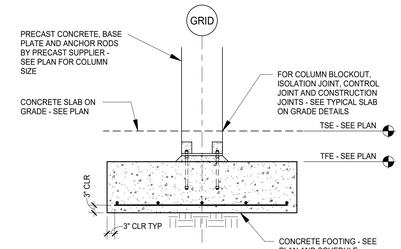
CONCRETE PAD FOOTING SCHEDULE								
MARK	SIZE			REINFORCING - BOTTOM BARS		REINFORCING - TOP BARS		COMMENTS
	LENGTH	WIDTH	THICKNESS	LONG	TRANS	LONG	TRANS	
F1	5' - 0"	5' - 0"	2' - 0"	6 - #6	6 - #6			
F2	7' - 0"	7' - 0"	2' - 0"	9 - #6	9 - #6			
F3	10' - 0"	10' - 0"	2' - 0"	12 - #6	12 - #6			
F4	12' - 0"	12' - 0"	2' - 0"	8 - #8	8 - #8			
F5	10' - 0"	5' - 0"	2' - 0"	6 - #6	#6 AT 9" OC			
F6	16' - 0"	13' - 0"	2' - 6"	9 - #8	7 - #8	9 - #8	7 - #8	

NOTES:
1. SEE TYPICAL FOOTING DETAILS FOR ADDITIONAL INFORMATION.
2. LONGITUDINAL (LONG) BARS ARE PARALLEL TO FOOTING LENGTH DIMENSION AND TRANSVERSE (TRANS) BARS ARE PARALLEL TO FOOTING WIDTH DIMENSION
3. CENTER FOOTING ON COLUMN, PIER OR WALL UNLESS NOTED OTHERWISE.
4. SEE GEOTECHNICAL REPORT FOR SUBGRADE REQUIREMENTS.
5. FOR RECTANGULAR FOOTINGS, LONGITUDINAL BARS ARE TO BE THE BOTTOM LAYER OF REINFORCING.

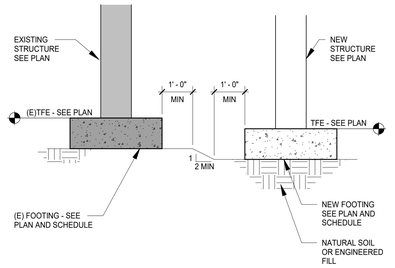
2 S401 CONCRETE PAD FOOTING SCHEDULE
NO SCALE



3 S401 TYPICAL COLUMN FOOTING DETAIL
NO SCALE



4 S401 TYPICAL INTERIOR PRECAST COLUMN FOOTING DETAIL
NO SCALE



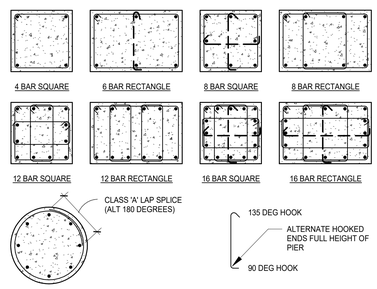
NOTES:
1. SLOPE MAY BE INCREASED TO 1:1 SLOPE AT BEDROCK OR AS ALLOWED BY THE GEOTECHNICAL REPORT.
2. WHERE ADJOINING/ADJACENT FOOTING ELEVATIONS DO NOT ALLOW SOIL SLOPES SHOWN, PROVIDE SOIL STABILIZATION OR RETENTION AS NEEDED.

5 S401 TYPICAL NEW FOOTING ADJACENT TO EXISTING FOOTING DETAIL
NO SCALE

PIER SCHEDULE				
PIER MARK	SIZE	REINFORCING		COMMENTS
		VERTICAL BARS	TIES	
P1	36 x 36	12 - #10	#4 AT 12" OC	PROVIDE 90 DEG HOOK AT TOP OF VERTS

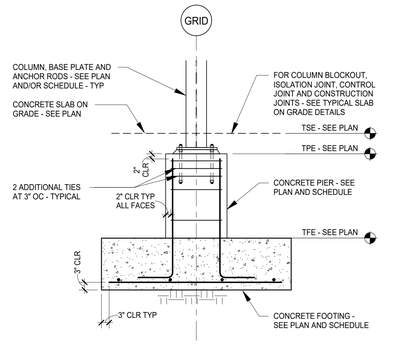
NOTES:
1. SEE TYPICAL COLUMN, PIER AND FOOTING DETAIL FOR ADDITIONAL INFORMATION.
2. SEE TYPICAL CONCRETE PIER BAR AND TIE LAYOUT FOR REINFORCING CONFIGURATIONS.
3. PROVIDE STANDARD 90 DEGREE HOOK AT VERTICAL (VERT) BARS TO FOOTING.
4. CONTRACTORS OPTION PROVIDE HOOKED DOWELS LAP SPLICED TO VERTICAL REINFORCING. MATCH SIZE AND LOCATION OF VERTICAL REINFORCING.

6 S401 CONCRETE PIER SCHEDULE
NO SCALE



NOTES:
1. IF CLEAR SPACING BETWEEN VERTICAL BARS IS GREATER THAN 6", PROVIDE ADDITIONAL CROSS TIES, SHOWN DASHED.

7 S401 CONCRETE PIER BAR AND TIE LAYOUT
NO SCALE



8 S401 TYPICAL WF COLUMN, CONCRETE PIER AND FOOTING DETAIL
NO SCALE

CONCRETE WALL FOOTING SCHEDULE							
MARK	WIDTH	THICKNESS	REINFORCING - BOTTOM BARS		REINFORCING - TOP BARS		COMMENTS
			LONG	TRANS	LONG	TRANS	
WF1	2' - 0"	1' - 0"	2 - #5	-	-	-	
WF2	14' - 6"	2' - 0"	5 - #7	SEE COMMENTS	8 - #7	#7 AT 12" OC	SEE S/S501

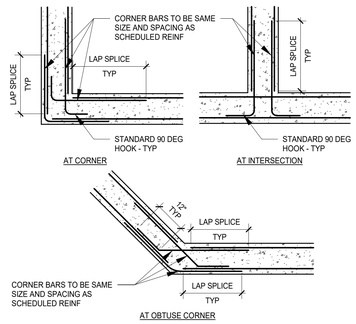
NOTES:
1. SEE TYPICAL WALL FOOTING DETAILS FOR ADDITIONAL INFORMATION.
2. LONGITUDINAL (LONG) REINFORCING IS CONTINUOUS. PROVIDE CLASS "A" LAP SPLICE TYP UNLESS NOTED OTHERWISE.
3. PROVIDE CORNER BARS AT CORNERS AND INTERSECTIONS.

9 S401 CONCRETE WALL FOOTING SCHEDULE
NO SCALE

CONCRETE WALL REINFORCING SCHEDULE									
MARK	WALL TYPE	CENTERED IN WALL		INSIDE FACE		OUTSIDE FACE		COMMENTS
		HORIZ	VERT	HORIZ	VERT	HORIZ	VERT	
CW1	24" CONC			SEE COMMENTS	#8 AT 12" OC	#5 AT 12" OC	#5 AT 18" OC	WITHIN BOT 6'-0" OF WALL: #5 AT 6" OC, REMAINDER OF WALL: #5 AT 12" OC HORIZ
CW2	12" CONC			#5 AT 12" OC	#5 AT 18" OC	#5 AT 12" OC	#5 AT 18" OC	
CW3	16" CONC			#5 AT 6" OC	#5 AT 18" OC	#5 AT 6" OC	#5 AT 18" OC	

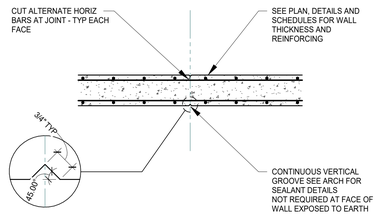
NOTES:
1. SEE TYPICAL WALL DETAILS FOR ADDITIONAL INFORMATION.
2. PROVIDE DOWELS AT FOUNDATION TO MATCH SIZE AND SPACING OF VERTICAL REINFORCING.

10 S401 CONCRETE WALL REINFORCING SCHEDULE
NO SCALE



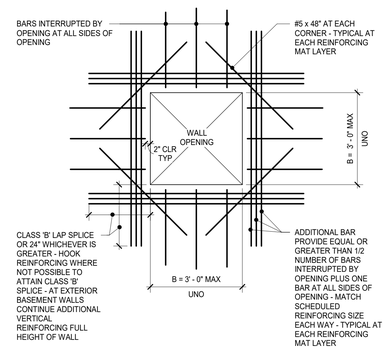
NOTES:
1. VERTICAL REINFORCING NOT SHOWN FOR CLARITY.

11 S401 TYPICAL CORNER BAR PLACING DETAIL
NO SCALE



NOTES:
1. SUBMIT PROPOSED JOINT LOCATIONS FOR APPROVAL IF NOT SHOWN ON DRAWINGS.
2. MAXIMUM SPACING OF CONTROL JOINTS IS 20 FT ON CENTER OR 1 1/2 TIMES THE WALL HEIGHT ON CENTER, WHICHEVER IS LESS.
3. DO NOT USE THIS DETAIL FOR SHEAR WALLS OR WALLS THAT SPAN HORIZONTALLY.

12 S401 TYPICAL VERTICAL CONTROL JOINT FOR CONCRETE WALLS
NO SCALE



13 S401 TYPICAL ADDITIONAL BAR PLACING DETAIL FOR WALL OPENING
NO SCALE

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FOUNDATION SCHEDULES AND TYPICAL DETAILS

6/22/2025 1:00:12 PM

CMU REINFORCING BAR LAP SPLICE SCHEDULE: f'm = 2000 PSI							
BAR SIZE	6" CMU	8" CMU		10" CMU		12" CMU	
	CASE 1	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	14"	14"	15"	14"	14"	14"	14"
#4	21"	18"	25"	18"	24"	18"	22"
#5	32"	22"	39"	22"	37"	22"	35"
#6	-	38"	54"	35"	54"	35"	54"
#7	-	52"	-	40"	63"	40"	63"
#8	-	-	-	61"	-	53"	72"

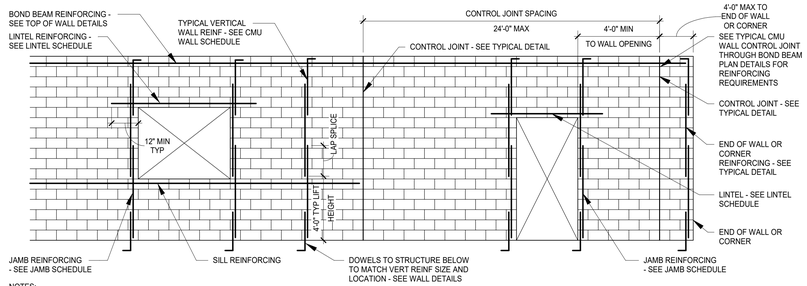
NOTES:
1. REINFORCING BAR LAP SPLICE SCHEDULE APPLIES TO UNCOATED, GRADE 60 REINFORCING BARS IN ASTM C 90 HOLLOW UNITS.
2. CASE 1: ONE BAR PER CELL LOCATED IN THE CENTER OF THE CELL.
   CASE 2: ALL OTHER CONDITIONS, INCLUDING TWO BARS PER CELL AND SINGLE BARS NOT LOCATED IN THE CENTER OF THE CELL.
3. FOR EPOXY COATED BAR, MULTIPLY THE ABOVE LENGTHS BY 1.5.
4. MAXIMUM SPACING OF BARS BEING LAPPED IS ONE FIFTH THE LAP SPLICE LENGTH, NOT TO EXCEED 8".
5. REINFORCING BARS SHALL BE LAPPED IN THE SAME CMU CELL.
6. ALL BARS MUST BE PLACED IN FULLY GROUTED CELLS OR BOND BEAMS.



CASE 1
ONE BAR PER CELL LOCATED IN THE CENTER OF THE CELL

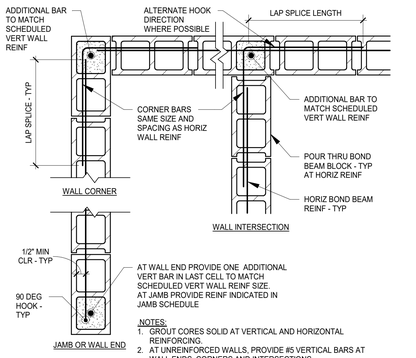
CASE 2
ALL OTHER CONDITIONS INCLUDING TWO BARS PER CELL AND SINGLE BARS NOT LOCATED IN THE CENTER OF THE CELL

1 S403 CMU REINFORCING BAR LAP SPLICE SCHEDULE
NO SCALE



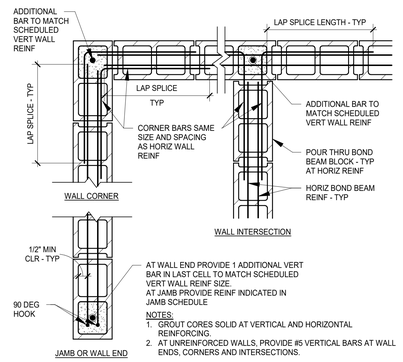
NOTES:
1. JAMB AND END OF WALL REINFORCING SHALL BE FULL HEIGHT OF WALL AND SHALL BE IN ADDITION TO TYPICAL VERTICAL WALL REINFORCING.
2. PROVIDE CONTROL JOINTS TO MEET SPACING REQUIREMENTS SHOWN AND AT LOCATIONS WHERE CHANGES IN WALL HEIGHT OCCUR, WHERE CHANGES IN WALL THICKNESS OCCUR, AND WHERE MOVEMENT JOINTS IN THE FLOOR ABOVE AND/OR BELOW OCCUR.
3. SEE ARCHITECTURAL DRAWINGS FOR CONTROL JOINT LOCATIONS AT NON-LOAD BEARING WALLS NOT SHOWN ON STRUCTURAL DRAWINGS.
4. SEE ARCHITECTURAL DRAWINGS FOR WALL OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS.
5. PROVIDE CLEANOUT AT BOTTOM COURSE FOR GROUT POURS GREATER THAN 5'-0" HIGH.
6. SILL REINFORCING SHALL BE LADDER JOINT REINFORCING IN THE FIRST OR SECOND MORTAR JOINT BELOW THE SILL OR A REINFORCED BOND BEAM. SILL REINFORCING SHALL EXTEND BETWEEN CONTROL JOINTS.
7. SEE NON-LOAD BEARING INTERIOR CMU WALL REINFORCING SCHEDULE FOR LINTEL AND JAMB REINFORCING REQUIRED AT NON-LOAD BEARING INTERIOR WALLS.

2 S403 TYPICAL CMU WALL REINFORCING SCHEMATIC
NO SCALE



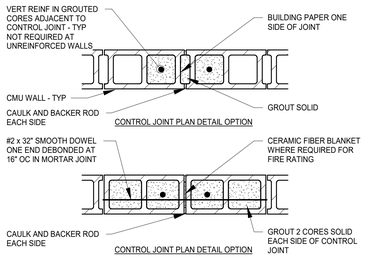
NOTES:
1. GROUT CORES SOLID AT VERTICAL AND HORIZONTAL REINFORCING.
2. AT UNREINFORCED WALLS, PROVIDE #5 VERTICAL BARS AT WALL ENDS, CORNERS AND INTERSECTIONS.

3 S403 TYPICAL CMU WALL REINFORCING PLAN DETAILS
NO SCALE



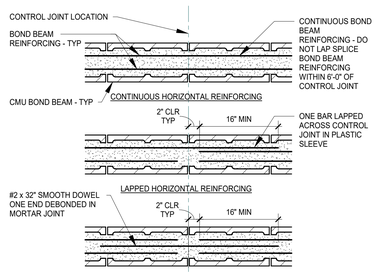
NOTES:
1. GROUT CORES SOLID AT VERTICAL AND HORIZONTAL REINFORCING.
2. AT UNREINFORCED WALLS, PROVIDE #5 VERTICAL BARS AT WALL ENDS, CORNERS AND INTERSECTIONS.

4 S403 TYPICAL CMU WALL REINFORCING PLAN DETAILS
NO SCALE



NOTES:
1. SEE ARCHITECTURAL DRAWINGS, GENERAL STRUCTURAL NOTES, TYPICAL CMU WALL REINFORCING SCHEMATIC AND TYPICAL CMU WALL CONTROL JOINT THROUGH BOND BEAM DETAILS FOR CONTROL JOINT REQUIREMENTS AND LOCATIONS.
2. TERMINATE HORIZONTAL JOINT REINFORCEMENT AT CONTROL JOINTS.
3. DO NOT TERMINATE LINTEL REINFORCING AT CONTROL JOINTS.

5 S403 TYPICAL CMU WALL CONTROL JOINT PLAN DETAILS
NO SCALE



NOTES:
1. SEE ARCHITECTURAL DRAWINGS, GENERAL STRUCTURAL NOTES, TYPICAL CMU WALL REINFORCING SCHEMATIC AND TYPICAL CMU WALL CONTROL JOINT DETAILS FOR CONTROL JOINT REQUIREMENTS AND LOCATIONS.
2. PROVIDE CONTINUOUS HORIZONTAL BOND BEAM REINFORCING THROUGH CONTROL JOINTS AT FLOOR AND ROOF LEVELS AND AS OTHERWISE INDICATED FOR CMU WALLS SHOWN ON THE STRUCTURAL DRAWINGS.
3. PROVIDE LAPPED OR DISCONTINOUS HORIZONTAL BOND BEAM REINFORCING AT CONTROL JOINTS UNLESS NOTED OTHERWISE FOR CMU WALLS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

6 S403 TYPICAL CMU WALL CONTROL JOINT THROUGH BOND BEAM PLAN DETAILS
NO SCALE

LOAD BEARING CMU WALL REINFORCING SCHEDULE						
		REINFORCING				
		VERTICAL				
MARK	NOMINAL THICKNESS	CENTERED IN WALL	INSIDE FACE	OUTSIDE FACE	BOND BEAM	COMMENTS
MW1	12"	#5 AT 48" OC			2 - #5 AT 4'-0" OC MAX	

NOTES:
1. SEE TYPICAL WALL DETAILS FOR ADDITIONAL INFORMATION.
2. PROVIDE DOWELS AT FOUNDATION TO MATCH SIZE AND SPACING OF VERTICAL REINFORCING.

7 S403 CMU WALL REINFORCING SCHEDULE
NO SCALE

NON-LOAD BEARING INTERIOR CMU WALL REINFORCING SCHEDULE											
			REINFORCING								
			WALL OPENING SIZE								
			≤ 4'-0"		≤ 8'-0"		≤ 12'-0"		≤ 16'-0"		
NOMINAL CMU WALL THICKNESS	WALL HEIGHT	VERTICAL FIELD	LINTEL	JAMB	LINTEL	JAMB	LINTEL	JAMB	LINTEL	JAMB	COMMENTS
6"	≤ 12'-0"	UNREINFORCED	8" HIGH 1 - #4	8" WIDE, 1 - #4	8" HIGH 1 - #6	8" WIDE, 1 - #6	16" HIGH 1 - #4	16" WIDE, 4 - #4	24" HIGH 1 - #5	24" WIDE, 3 - #6	
	≤ 18'-0"	#4 AT 48" OC		8" WIDE, 1 - #5		16" WIDE, 2 - #6		24" WIDE, 3 - #4		NOT PERMITTED	
8"	≤ 18'-0"	UNREINFORCED	8" HIGH 1 - #5	8" WIDE, 1 - #5	8" HIGH 2 - #5	8" WIDE, 1 - #5	16" HIGH 1 - #5	8" WIDE, 2 - #5	24" HIGH 2 - #5	16" WIDE, 4 - #5	
	≤ 24'-0"	#5 AT 48" OC		8" WIDE, 1 - #5		8" WIDE, 2 - #5		16" WIDE, 4 - #5		16" WIDE, 4 - #5	
10"	≤ 22'-0"	UNREINFORCED	8" HIGH 1 - #5	8" WIDE, 1 - #5	8" HIGH 2 - #5	8" WIDE, 1 - #5	16" HIGH 1 - #5	8" WIDE, 2 - #5	24" HIGH 2 - #5	16" WIDE, 4 - #5	
	≤ 30'-0"	#5 AT 48" OC		8" WIDE, 2 - #5		8" WIDE, 2 - #5		16" WIDE, 4 - #5		16" WIDE, 4 - #5	
12"	≤ 28'-0"	UNREINFORCED	8" HIGH 1 - #5	8" WIDE, 1 - #5	8" HIGH 2 - #5	8" WIDE, 2 - #5	16" HIGH 2 - #5	8" WIDE, 2 - #5	24" HIGH 2 - #5	16" WIDE, 4 - #5	
	≤ 36'-0"	#5 AT 48" OC		8" WIDE, 2 - #5		8" WIDE, 2 - #5		16" WIDE, 4 - #5		16" WIDE, 4 - #5	
16"	≤ 36'-0"	UNREINFORCED	8" HIGH 1 - #5	8" WIDE, 1 - #5	8" HIGH 2 - #5	8" WIDE, 2 - #5	16" HIGH 2 - #5	8" WIDE, 2 - #5	NOT PERMITTED		
	≤ 48'-0"	#5 AT 48" OC		8" WIDE, 2 - #5		8" WIDE, 2 - #5		8" WIDE, 4 - #5			

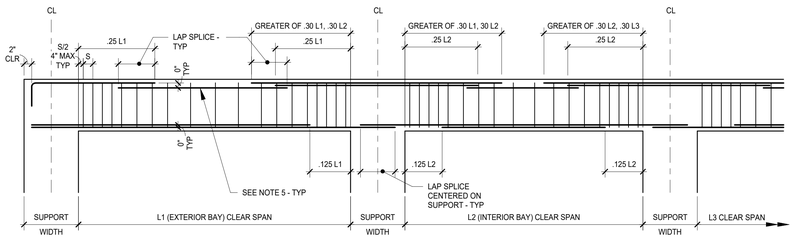
NOTES:
1. WALL HEIGHT INDICATES MAXIMUM ALLOWABLE VERTICAL CLEAR DISTANCE BETWEEN POINTS OF CONTINUOUS LATERAL WALL SUPPORT.
2. VERTICAL REINFORCEMENT SHALL BE LOCATED IN THE CENTER OF THE WALL.
3. CMU LINTELS SHALL BE GROUTED SOLID WITH A MINIMUM OF 2" BOTTOM COVER TO REINFORCING.
4. PROVIDE 8" BEARING ON JAMBS AT EACH END OF CMU LINTELS.
5. JAMB REINFORCING SPECIFIED SHALL BE EVENLY DISTRIBUTED ALONG THE JAMB WIDTH. AT LOCATIONS WITH 2 BARS PER CELL, BARS SHALL BE PLACED PER CASE 2 OF THE CMU REINFORCING BAR LAP SPLICE SCHEDULE.
6. SEE ARCH FOR LOCATIONS AND SIZES OF INTERIOR NON-LOAD BEARING CMU WALLS.
7. SEE TYPICAL CMU WALL DETAILS FOR ADDITIONAL INFORMATION.

8 S403 NON-LOAD BEARING INTERIOR CMU WALL REINFORCING SCHEDULE
NO SCALE

CONCRETE BEAM SCHEDULE																									
			LONGITUDINAL REINFORCING							STIRRUPS															
							WEST OR SOUTH		EAST OR NORTH		NUMBER OF STIRRUPS AT EACH END AT INDICATED SPACING														
BEAM MARK	WIDTH (IN)	DEPTH (IN)	BAR QTY AND SIZE	TOP	BOTTOM	SIDE	BEAM			SIZE	4"	6"	8"	10"	12"	16"	18"	24"							TYPE	COMMENTS
B101	12	36	3 - #5	X						#4															
			3 - #7		X																				
			3 - #5	X																					
B102	12	36	3 - #5	X						#4															
			3 - #5		X																				
			3 - #5	X																					
B103	12	36	SAME AS B102																						
B104	12	36	SAME AS B102																						

NOTES:
1. SEE TYPICAL BEAM REINFORCING SCHEMATIC, TYPICAL BEAM SECTIONS, STIRRUP TYPE SCHEDULE AND BEAM DETAILS FOR ADDITIONAL INFORMATION.
2. BAR LENGTHS NOTED ON THE SCHEDULE DO NOT INCLUDE HOOKS. HOOKS ARE TO BE ACI STANDARD HOOKS.
3. WHERE NO REINFORCING BAR LENGTH IS INDICATED IN THE SCHEDULE, USE REINFORCING BAR LENGTHS DEPICTED IN THE TYPICAL CONCRETE BEAM REINFORCING SCHEMATIC.
4. STIRRUPS ARE TO BE SPACED CONSECUTIVELY FROM THE FIRST STIRRUP SHOWN ON THE BEAM REINFORCING SCHEMATIC.
5. WHERE 'R' IS INDICATED FOR A STIRRUP SPACING, PROVIDE STIRRUPS AT THAT SPACING FOR THE REMAINING LENGTH OF THE BEAM.
6. MECHANICAL OPENINGS OR SLEEVES SHALL NOT PENETRATE BEAMS WITHOUT WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER.
7. AT BEAMS 40" AND WIDER WHERE TWO LEG STIRRUPS ARE SCHEDULED, PROVIDE FOUR LEG STIRRUPS AT THE FIRST 5 STIRRUP LOCATIONS AT BOTH BEAM ENDS TO MATCH SCHEDULED STIRRUP SIZE AND SPACING.
8. PROVIDE SCHEDULED BEAM REINFORCING STEEL IN ADDITION TO SCHEDULED WALL REINFORCEMENT.

9 S403 CONCRETE BEAM SCHEDULE
NO SCALE



NOTES:
1. SEE CONCRETE BEAM SCHEDULE FOR LONGITUDINAL REINFORCING, STIRRUPS AND STIRRUP SPACING.
2. BAR CUT OFFS SHOWN ABOVE ARE FOR TYPICAL CONDITIONS. LENGTHS INDICATED IN CONCRETE BEAM SCHEDULE SUPERCEDE THIS DETAIL.
3. DIMENSIONS TO LONGITUDINAL REINFORCING INDICATE BAR CUT OFF LOCATIONS. CUT OFF NO MORE THAN 50% OF SCHEDULED AREA OF REINFORCING STEEL AT ANY ONE LOCATION. MAINTAIN ONE BAR IN EACH STIRRUP CORNER.
4. WHERE MORE THAN ONE BAR SIZE IS SPECIFIED FOR BOTTOM BEAM REINFORCEMENT, ONLY THE SMALLER BARS SHALL BE CUT OFF.
5. WHERE NO TOP REINFORCING IS SCHEDULED, PROVIDE 4 - #6 CONTINUOUS AT BEAMS GREATER THAN 26" WIDE, 2 - #6 CONTINUOUS OTHERWISE.
6. SEE TYPICAL BEAM SECTIONS FOR ADDITIONAL INFORMATION.
7. PROVIDE ALL ADDITIONAL SUPPORT REINFORCING NECESSARY TO PREVENT THE DISPLACEMENT OF SCHEDULED STEEL PRIOR TO PLACEMENT OF CONCRETE.

10 S403 TYPICAL NON-PERIMETER CONCRETE BEAM REINFORCING SCHEMATIC
NO SCALE

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REVISION SCHEDULE		
NO.	DESCRIPTION	DATE

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CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE

PHASE

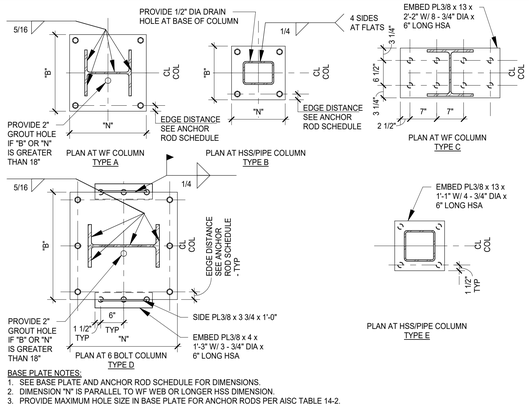
PROJECT
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SHEET
S403
MASONRY AND CONCRETE SCHEDULES AND TYPICAL DETAILS

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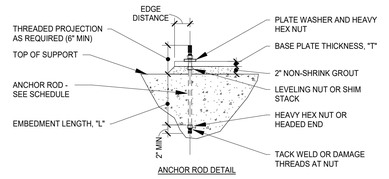
COLUMN BASE PLATE AND ANCHOR ROD SCHEDULE						
BASE PLATE MARK	BASE PLATE "N" (IN)	BASE PLATE "B" (IN)	BASE PLATE "T" (IN)	TYPE	ANCHOR ROD MARK	COMMENTS
BP1	28	28	1 3/4	D	AR1	
BP2				B		
BP3	-	-	3/8	C	-	EMBED PLATE
BP4	-	-	3/8	E	-	EMBED PLATE

SCHEDULE NOTES:
1. ANCHOR RODS SHALL BE ASTM F1554, GRADE 36, UNLESS NOTED OTHERWISE.
2. BASE PLATES SHALL BE ASTM A36, UNLESS NOTED OTHERWEISE.
3. MILL COLUMN BASE AND/OR BASE PLATE AS NECESSARY FOR FULL CONTACT.
4. BASE PLATE THICKNESS INDICATED IS MINIMUM THICKNESS AFTER MILLING.
5. SEE TYPICAL COLUMN BASE PLATE DETAILS FOR ADDITIONAL INFORMATION.
6. SEE ANCHOR ROD DETAIL AND SCHEDULE FOR ANCHOR ROD TYPE.



BASE PLATE NOTES:
1. SEE BASE PLATE AND ANCHOR ROD SCHEDULE FOR DIMENSIONS.
2. DIMENSION "N" IS PARALLEL TO WF WEB OR LONGER HSS DIMENSION.
3. PROVIDE MAXIMUM HOLE SIZE IN BASE PLATE FOR ANCHOR RODS PER AISC TABLE 14-2.

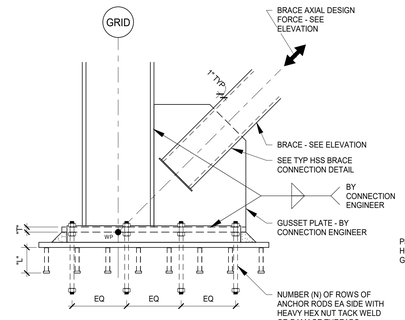
ANCHOR ROD SCHEDULE					
ANCHOR ROD MARK	DIA (IN)	EMBED "L" (IN)	MIN PLATE WASHER	EDGE DISTANCE	COMMENTS
AR1	1 1/4	30	1/2"	2"	



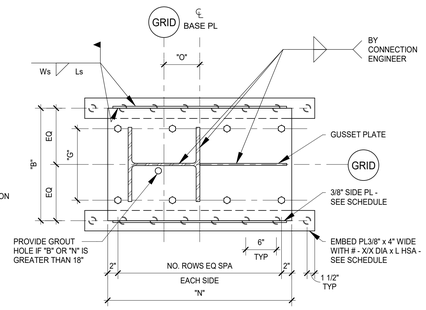
ANCHOR ROD DETAIL

ANCHOR ROD NOTES:
1. ANCHOR RODS SHALL NOT BE SET INTO CONCRETE AFTER CONCRETE IS CAST.
2. CONTRACTOR OPTION TO FORM BASE PLATE GROUT WITH VERTICAL EDGE PROVIDED THE FORMS ARE 1" MIN FROM EDGE OF BASE PLATE.

1 S404 COLUMN BASE PLATE AND ANCHOR ROD SCHEDULE AND DETAILS
NO SCALE



NOTES:
1. SEE TYPICAL COLUMN BASE PLATE DETAIL FOR ADDITIONAL INFORMATION. CONFLICTING INFORMATION GIVEN HERE SUPERCEDES THAT GIVEN IN TYPICAL BASE PLATE DETAIL FOR BRACED FRAME COLUMN/BASES.



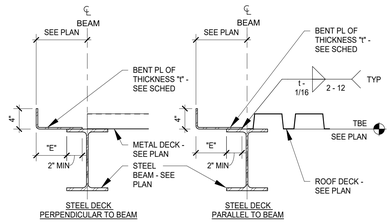
PLAN VIEW

2 S404 BRACED FRAME BASE PLATE - COLUMN FLANGE DETAIL
NO SCALE

FLOOR AND ROOF DECK SCHEDULE				
		CONCRETE TOPPING		
MARK	DECK TYPE	THICKNESS	REINFORCING	COMMENTS
RD1	3" - 18 GA WIDE RIB ROOF DECK	-	-	3 SPAN - TYP, UNO
RD2	1 1/2" - 18 GA WIDE RIB ROOF DECK	-	-	3 SPAN - TYP, UNO

NOTES:
1. SEE TYPICAL DECK ATTACHMENT SCHEDULES AND DETAILS FOR DECK ATTACHMENT INFORMATION.
2. SEE GENERAL STRUCTURAL NOTES FOR CONCRETE STRENGTH.
3. CONCRETE TOPPING THICKNESS IS FROM TOP OF STEEL DECK TO TOP OF CONCRETE.
4. SEE PLANS AND DETAILS FOR ADDITIONAL REINFORCING AND REINFORCING PLACEMENT AT CONCRETE SLABS ON METAL DECK.

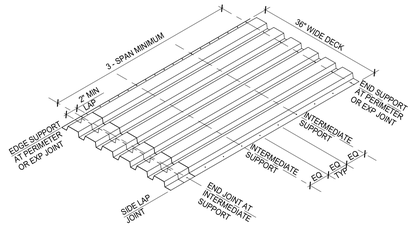
3 S404 FLOOR AND ROOF DECK SCHEDULE
NO SCALE



BENT PLATE ROOF DECK EDGE SCHEDULE		
MAX "E"	BENT PL "t"	COMMENTS
9"	1/4"	
12"	5/16"	
18"	3/8"	
24"	7/16"	

NOTES:
1. BENT PLATE SIZES SHOWN ON PLAN OR IN DETAILS SUPERCEDE THIS SCHEDULE.

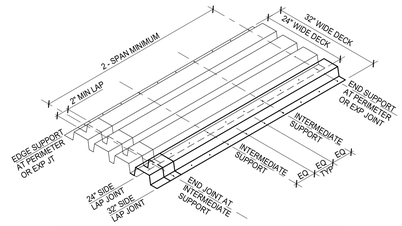
4 S404 TYPICAL ROOF EDGE SCHEDULE AND DETAIL
NO SCALE



DECK SUPPORT CONDITION	DECK ATTACHMENT
END SUPPORT	PUDDLE WELDS AT EACH LOW FLUTE
EDGE SUPPORT	PUDDLE WELDS AT 8" OC
INTERMEDIATE SUPPORT	PUDDLE WELDS AT EACH LOW FLUTE
END LAP JOINT	PUDDLE WELDS AT EACH LOW FLUTE
SIDE LAP JOINT	#10 TEK SCREWS - 5 PER SPAN

NOTES:
1. ALL PUDDLE (ARC-SPOT) WELDS SHALL BE 5/8" DIAMETER.
2. PROVIDE DECK ATTACHMENTS AT SPACING SHOWN UNLESS NOTED OTHERWISE ON DRAWINGS.
3. AT END LAP CONDITIONS, PUDDLE WELDS SHALL PROVIDE FUSION THROUGH BOTH DECK LAYERS.

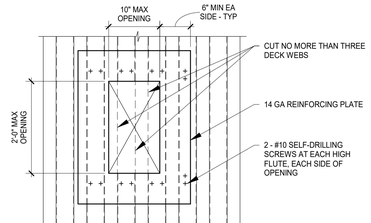
5 S404 TYPICAL 1 1/2" ROOF DECK ATTACHMENT SCHEDULE
NO SCALE



DECK SUPPORT CONDITION	DECK ATTACHMENT
END SUPPORT	PUDDLE WELDS AT EACH LOW FLUTE
EDGE SUPPORT	PUDDLE WELDS AT 12" OC
INTERMEDIATE SUPPORT	PUDDLE WELDS AT EACH LOW FLUTE
END LAP JOINT	PUDDLE WELDS AT EACH LOW FLUTE
SIDE LAP JOINT	#10 TEK SCREWS - XX PER SPAN

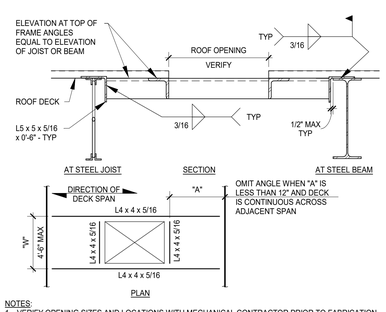
NOTES
1. ALL PUDDLE (ARC-SPOT) WELDS SHALL BE 5/8" DIAMETER.
2. PROVIDE DECK ATTACHMENTS AT SPACING SHOWN UNLESS NOTED OTHERWISE ON DRAWINGS.
3. AT END LAP CONDITIONS, PUDDLE WELDS SHALL PROVIDE FUSION THROUGH BOTH DECK LAYERS.
4. DECK MAY BE 24" OR 32" WIDE SHEETS

6 S404 TYPICAL 3" ROOF DECK ATTACHMENT SCHEDULE
NO SCALE



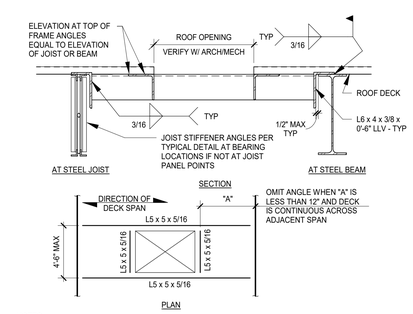
NOTES:
1. FOR OPENINGS THROUGH TWO OR MORE DECK FLUTES, PROVIDE TYPICAL ROOF OPENING FRAME DETAIL BEARING ON PRIMARY FRAMING.
2. AT GALVANIZED DECK, PROVIDE GALVANIZED REINFORCING PLATE.
3. CLUSTER OF OPENINGS IS CONSIDERED TO BE ONE OPENING. PROVIDE DECK SUPPORT ANGLES OR FRAME IF OPENINGS ARE LOCATED WITH LESS THAN 2' TIMES "D" CLEAR BETWEEN OPENING EDGES "D" IS LARGEST OF ADJACENT OPENING DIMENSIONS.

7 S404 TYPICAL 1 1/2" ROOF DECK OPENING DETAIL LESS THAN 2'-0" X 0'-10" (MINOR)
NO SCALE



NOTES:
1. VERIFY OPENING SIZES AND LOCATIONS WITH MECHANICAL CONTRACTOR PRIOR TO FABRICATION.
2. WELD DECK AT OPENING AT EACH FLUTE WITH PUDDLE WELDS PER TYP DECK ATTACHMENT DETAILS.
3. DO NOT CUT OPENING IN DECK UNTIL NECESSARY, CONTRACTOR TO COORDINATE.
4. THIS ROOF OPENING FRAME IS NOT DESIGNED TO SUPPORT THE WEIGHT OF ROOF TOP MECHANICAL EQUIPMENT WEIGHING OVER 400 LBS. EQUIPMENT SHALL BE SUPPORTED ON A STRUCTURAL CURB DESIGNED BY THE SUPPLIER TO SPAN TO THE PRIMARY STRUCTURAL FRAMING.

8 S404 TYPICAL 1 1/2" ROOF DECK OPENING DETAIL LESS THAN 4'-6" (PRINCIPAL)
NO SCALE



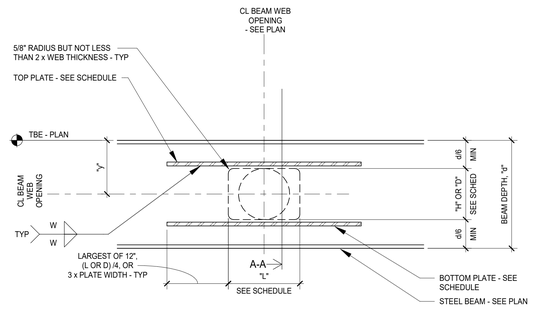
NOTES:
1. VERIFY OPENING SIZES AND LOCATIONS WITH MECHANICAL CONTRACTOR PRIOR TO FABRICATION.
2. WELD DECK AT OPENING AT EACH FLUTE WITH PUDDLE WELDS PER TYP DECK ATTACHMENT DETAILS.
3. DO NOT CUT OPENING IN DECK UNTIL NECESSARY, CONTRACTOR TO COORDINATE.
4. THIS ROOF OPENING FRAME IS NOT DESIGNED TO SUPPORT THE WEIGHT OF ROOF TOP MECHANICAL EQUIPMENT WEIGHING OVER 400 LBS. EQUIPMENT SHALL BE SUPPORTED ON A STRUCTURAL CURB DESIGNED BY THE SUPPLIER TO SPAN TO THE PRIMARY STRUCTURAL FRAMING.

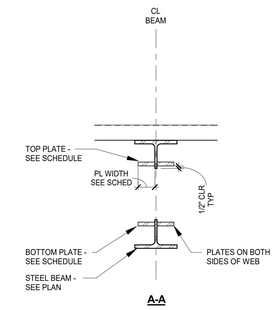
9 S404 TYPICAL 3" ROOF DECK OPENING DETAIL LESS THAN 4'-6" (PRINCIPAL)
NO SCALE

BEAM WEB OPENING SCHEDULE										
	MAXIMUM OPENING				TOP PLATE		BOTTOM PLATE			
MARK	LENGTH (IN) "L"	HEIGHT (IN) "H"	DIAMETER (IN) "D"	CENTERLINE (IN) "y"	WIDTH (IN)	THICKNESS (IN)	WIDTH (IN)	THICKNESS (IN)	WELD (IN) "W"	COMMENTS
WO1	-	-	6	12						
WO2	-	-	8	12						
WO3	-	-	12	12						
WO4	30	12	-	12	4	1/2	4	1/2	3/8	

NOTES:
1. VERIFY WEB OPENING SIZE REQUIRED WITH MECHANICAL AND ARCHITECT. PROVIDE OPENING SIZE REQUIRED BY MECHANICAL/ARCHITECT, NOT TO EXCEED MAXIMUM SIZE SCHEDULED.
2. PLATE REINFORCING GRADE TO MATCH GRADE OF BEAM UNLESS NOTED OTHERWISE.
3. SEE TYPICAL BEAM WEB OPENING DETAIL FOR ADDITIONAL INFORMATION.

10 S404 TYPICAL BEAM WEB OPENING SCHEDULE
NO SCALE





NOTES:
1. VERIFY BEAM WEB OPENING SIZES AND LOCATIONS WITH MECHANICAL AND ARCHITECT.
2. AT NON-COMPOSITE BEAMS THE CLEAR DISTANCE BETWEEN TWO BEAM WEB OPENINGS SHALL NOT BE LESS THAN MAX(H, 1.5D).
3. THE CLEAR DISTANCE BETWEEN A WEB OPENING AND THE END SUPPORT OR A CONCENTRATED LOAD SHALL NOT BE LESS THAN MAX(L, H, 1.5D, d).
4. THE SIZE AND LOCATION OF ALL BEAM WEB OPENINGS SHALL BE SHOWN ON THE SHOP DRAWINGS AND SUBMITTED TO THE STRUCTURAL ENGINEER PRIOR TO FABRICATION.
5. WHERE FIELD CUT WEB OPENINGS ARE REQUIRED, INSTALL TOP AND BOTTOM PLATE PRIOR TO FIELD CUTTING WEB OPENINGS.
6. SEE TYPICAL BEAM WEB OPENING SCHEDULE FOR ADDITIONAL INFORMATION.

11 S404 TYPICAL BEAM WEB OPENING DETAIL
NO SCALE

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CITY OF BLOOMINGTON
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BLOOMINGTON, MN

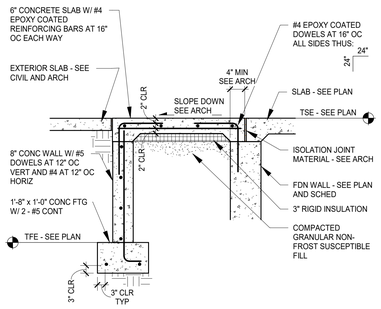
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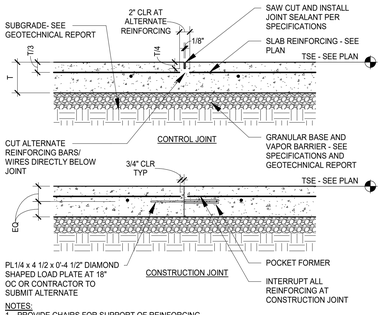
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SHEET
S404
STEEL SCHEDULES AND TYPICAL DETAILS

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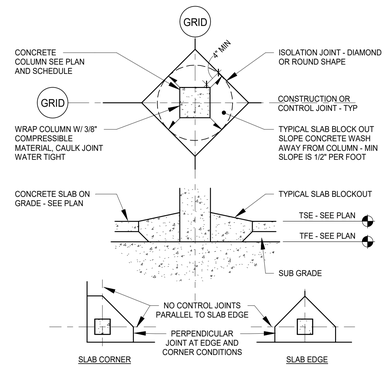


1 S501 TYPICAL CONCRETE STOOP DETAIL
NO SCALE

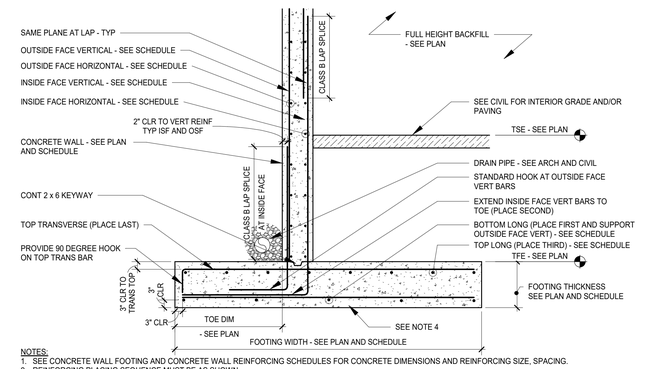


NOTES:
1. PROVIDE CHAIRS FOR SUPPORT OF REINFORCING.
2. AT EXTERIOR SLAB ON GRADE LOCATIONS, VAPOR BARRIER IS NOT REQUIRED.
3. PROVIDE DIAMOND SHAPED LOAD PLATE COMPLIANT WITH ACI 302.1 R.

2 S501 TYPICAL SLAB ON GRADE CONSTRUCTION
NO SCALE



3 S501 TYPICAL ISOLATION JOINT AT COLUMNS EXPOSED TO MOISTURE
NO SCALE



NOTES:
1. SEE CONCRETE WALL FOOTING AND CONCRETE WALL REINFORCING SCHEDULES FOR CONCRETE DIMENSIONS AND REINFORCING SIZE, SPACING.
2. REINFORCING PLACING SEQUENCE MUST BE AS SHOWN.
3. ALL REINFORCING STEEL TO BE EPOXY COATED.
4. IN AREAS WHERE COLUMN FOOTING IS PRESENT (SEE PLAN), PLACE SCHEDULED COLUMN REINFORCING IN ADDITION TO SCHEDULED RETAINING WALL REINFORCING.

4 S501 TYPICAL CANTILEVER RETAINING WALL SECTION
1/2" = 1'-0"

5 S501 TYPICAL SECTION AT TRENCH DRAIN
3/4" = 1'-0"

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BLOOMINGTON, MN

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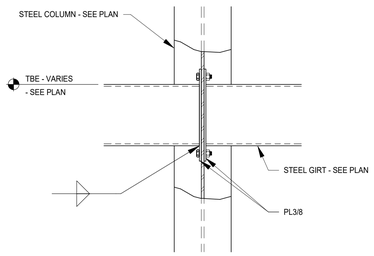
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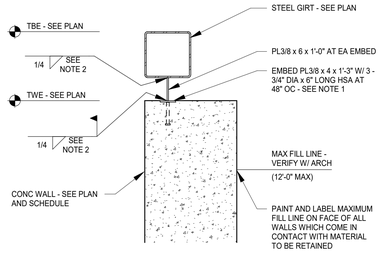
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S501

FOUNDATION DETAILS

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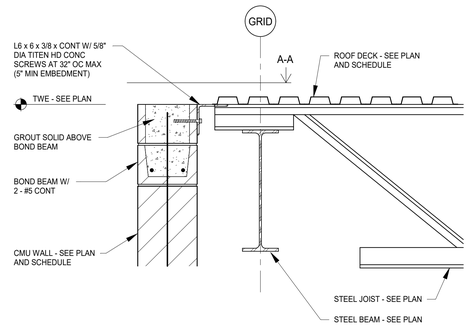


1 SECTION
S701 1" = 1'-0"

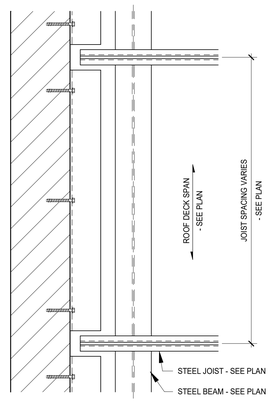


NOTES:
1. PROVIDE DETAIL AT 4'-0" OC MAXIMUM. MINIMUM 4 EMBEDS PER BRACED FRAME.
2. PROVIDE 9" WELD. SPREAD WELD OUT ALONG ENTIRE LENGTH OF PLATE IN EQUAL LENGTH SEGMENTS. MINIMUM LENGTH OF EACH SEGMENT SHALL BE 3" AND FIRST SEGMENT SHALL BE PLACED AT EACH END OF PLATE.

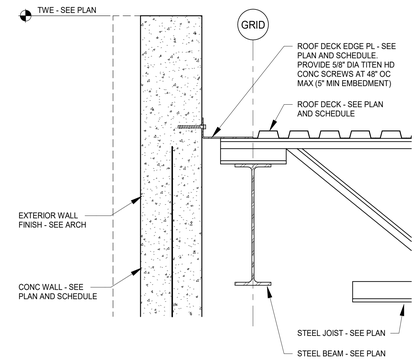
2 SECTION
S701 3/4" = 1'-0"



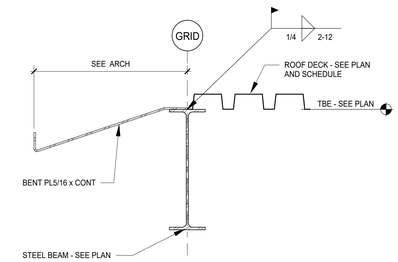
3 SECTION
S701 1" = 1'-0"



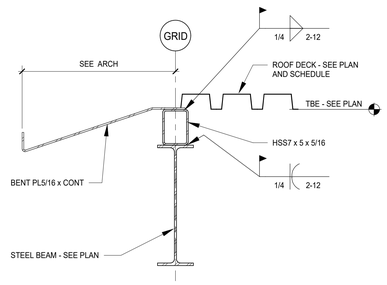
SECTION A-A (PLAN VIEW)



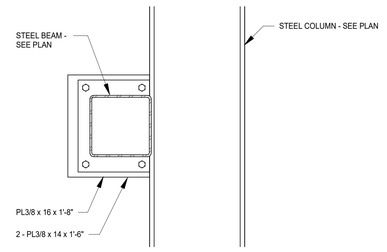
4 SECTION
S701 1" = 1'-0"



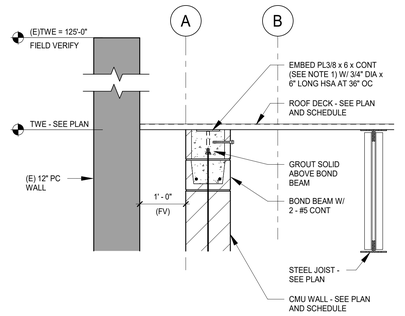
5 SECTION
S701 1" = 1'-0"



6 SECTION
S701 1" = 1'-0"

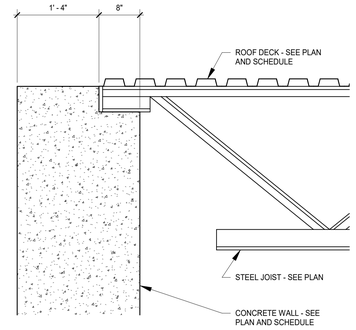


7 SECTION
S701 1" = 1'-0"



NOTES:
1. GENERAL CONTRACTOR'S OPTION TO FABRICATE EMBED PLATE IN 30'-0" LENGTHS.

8 SECTION
S701 3/4" = 1'-0"



9 SECTION
S701 1" = 1'-0"

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S701

FRAMING DETAILS

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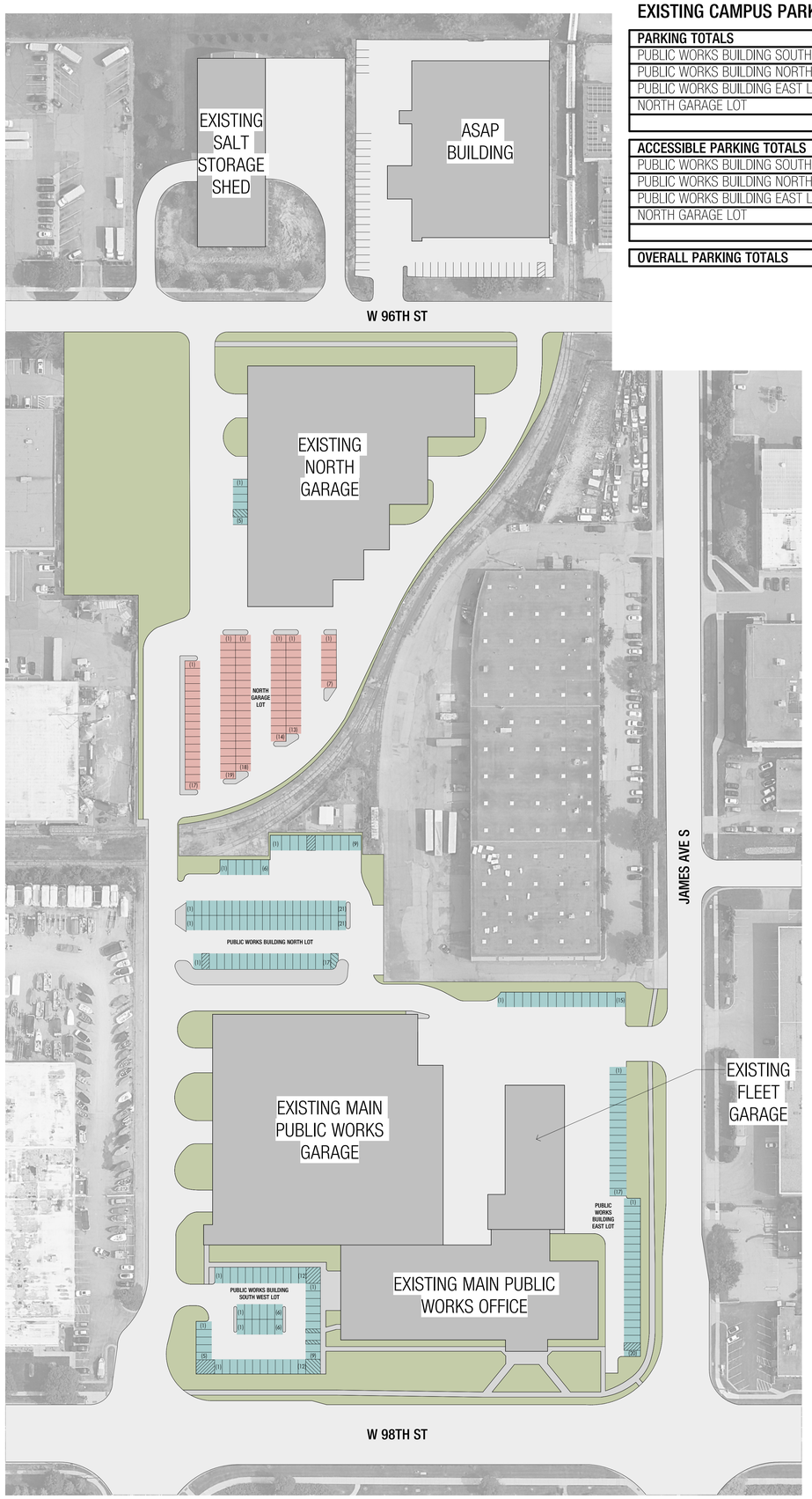
EXISTING CAMPUS PARKING TOTALS

PARKING TOTALS	# OF SPACES
PUBLIC WORKS BUILDING SOUTH WEST LOT	46
PUBLIC WORKS BUILDING NORTH LOT	74
PUBLIC WORKS BUILDING EAST LOT	50
NORTH GARAGE LOT	92
TOTALS	**262**

ACCESSIBLE PARKING TOTALS	# OF SPACES
PUBLIC WORKS BUILDING SOUTH WEST LOT	4
PUBLIC WORKS BUILDING NORTH LOT	0
PUBLIC WORKS BUILDING EAST LOT	2
NORTH GARAGE LOT	1
TOTALS	**7**

OVERALL PARKING TOTALS	269 SPACES

LEGEND
EXISTING TO REMAIN
EXISTING TO BE REMOVED



PUBLIC WORKS CAMPUS PARKING PLAN (EXISTING)

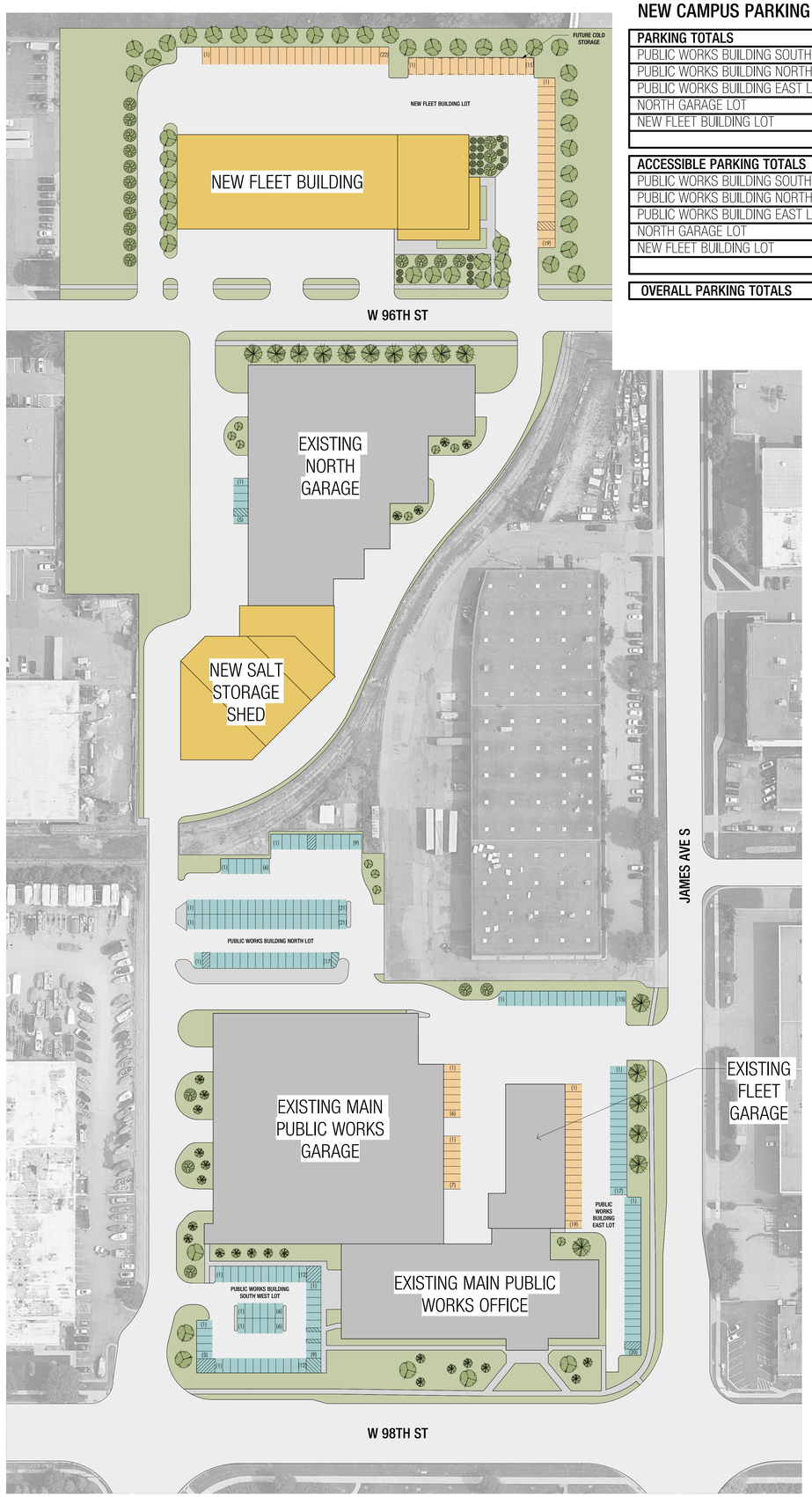
NEW CAMPUS PARKING TOTALS

PARKING TOTALS	# OF SPACES
PUBLIC WORKS BUILDING SOUTH WEST LOT	46
PUBLIC WORKS BUILDING NORTH LOT	74
PUBLIC WORKS BUILDING EAST LOT	82
NORTH GARAGE LOT	4
NEW FLEET BUILDING LOT	54
TOTALS	**260**

ACCESSIBLE PARKING TOTALS	# OF SPACES
PUBLIC WORKS BUILDING SOUTH WEST LOT	4
PUBLIC WORKS BUILDING NORTH LOT	0
PUBLIC WORKS BUILDING EAST LOT	2
NORTH GARAGE LOT	1
NEW FLEET BUILDING LOT	2
TOTALS	**9**

OVERALL PARKING TOTALS	269 SPACES

LEGEND
EXISTING TO REMAIN
EXISTING TO BE REMOVED
NEW



PUBLIC WORKS CAMPUS PARKING PLAN (NEW)

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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
06/05/25
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
A100
CAMPUS PARKING PLAN

6/10/2025 3:59:48 PM

KEYNOTES - DECONSTRUCTION

NO	NOTE	REV.
1	REMOVE EXISTING CONCRETE SLAB	
2	REMOVE EXISTING TRENCH DRAIN - SEE MECHANICAL	
3	EXISTING OVERHEAD DOOR TO REMAIN	
4	EXISTING BOLLARD TO REMAIN	
5	EXISTING DOOR, DOOR FRAME, DOOR HARDWARE, AND STOOP TO REMAIN	
6	EXISTING GUARDRAIL TO REMAIN	
7	REMOVE EXISTING BITUMINOUS PAVEMENT - SEE CIVIL	
8	EXISTING TO REMAIN	

GENERAL NOTES - DEMOLITION

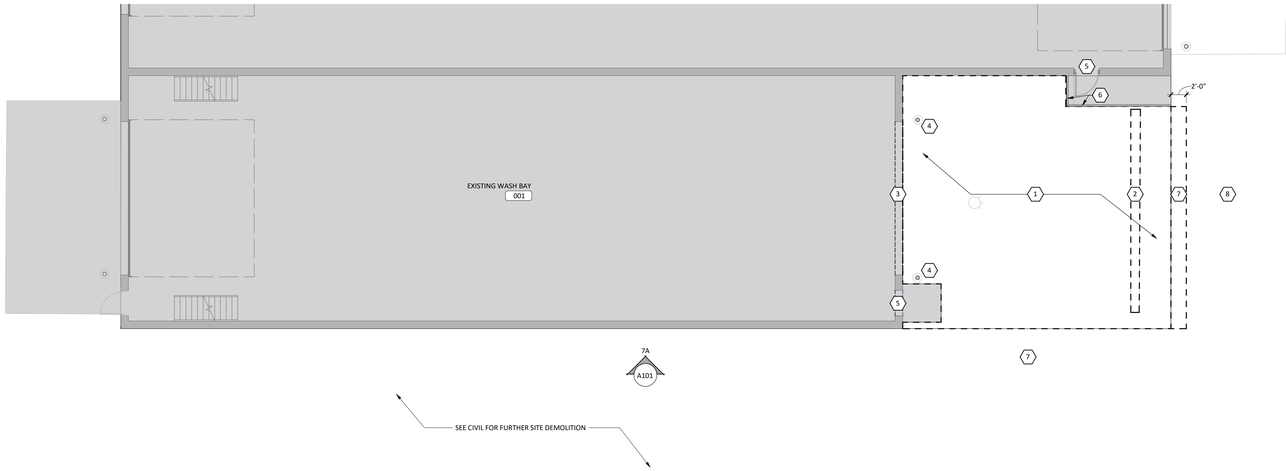
A. OWNER WILL OCCUPY PORTIONS OF THE NORTH VEHICLE STORAGE BUILDING IMMEDIATELY ADJACENT TO AREAS OF SELECTIVE DEMOLITION. CONDUCT SELECTIVE DEMOLITION WORK IN MANNER THAT WILL MINIMIZE NEED FOR DISRUPTION OF OWNER'S NORMAL OPERATIONS. REFER TO SPECIFICATIONS FOR MINIMUM ADVANCE NOTICE TO OWNER.
B. PROVIDE TEMPORARY BARRICADES AND OTHER FORMS OF PROTECTION TO PROTECT OWNER'S PERSONNEL AND GENERAL PUBLIC FROM INJURY DUE TO SELECTIVE DEMOLITION WORK.
C. PROVIDE 1 - HOUR FIRE RESISTANT CONSTRUCTION BARRIERS WHERE REQ'D TO PROTECT EXISTING CONSTRUCTION AND OWNERS OPERATIONS.
D. PRIOR TO CUTTING EXISTING CONSTRUCTION, LOCATE AND IDENTIFY SERVICES TO REMAIN IN OPERATION, INCLUDING ALL FLOOR PENETRATIONS. UNDOCUMENTED CONDITIONS, UTILITY RISERS, ETC. AND ANY WALLS THAT CONTAIN LIFE SAFETY VERTICAL RISERS THAT MUST REMAIN IN OPERATION DURING THE DEMOLITION WORK.
E. CONTRACTOR SHALL VERIFY ALL EXISTING BUILDING DIMENSIONS, PARTITION AND WALL LOCATIONS AND FLOOR ELEVATIONS IN FIELD AND NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES BEFORE THE START OF WORK.
F. WHEN UNANTICIPATED MECHANICAL, ELECTRICAL, OR STRUCTURAL ELEMENTS THAT CONFLICT WITH INTENDED FUNCTION OF DESIGN ARE ENCOUNTERED,INVESTIGATE AND MEASURE BOTH NATURE AND EXTENT OF THE CONFLICT AND NOTIFY OWNER'S REPRESENTATIVE.
G. MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING DEMOLITION OPERATIONS. DO NOT INTERRUPT UTILITIES SERVING OCCUPIED OR USED FACILITIES, EXCEPT WHEN AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION.
H. REPAIR DEMOLITION PERFORMED IN EXCESS OF THAT REQ'D. RETURN ELEMENTS OF CONSTRUCTION AND SURFACES TO REMAIN, TO THE CONDITION EXISTING PRIOR TO START OF OPERATIONS. REPAIR ADJACENT CONSTRUCTION OR SURFACES SOILED OR DAMAGED BY SELECTIVE DEMOLITION.
I. PROVIDE SHORING, BRACING AND ANY OTHER MEANS REQ'D TO PROTECT AND MAINTAIN THE SAFETY, INTEGRITY AND STABILITY OF ALL EXISTING AND NEW CONSTRUCTION.
J. REMOVAL OF ITEMS NOTED INCLUDES REMOVAL OF ANCHORS, ADHESIVES, HARDWARE, CONDUIT, WIRE, PIPING, ETC. FOR A COMPLETE REMOVAL OF THE ITEMS OR SYSTEMS.
K. ALL CONCRETE FLOOR SLABS NOTED TO BE REMOVED SHALL BE SAWCUT TO PROVIDE A NEAT JOINT.
L. SEE MECHANICAL, CIVIL, AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL SCOPE OF DEMOLITION WORK.
M. DEMOLITION OF ANY EXISTING CONSTRUCTION SHALL INCLUDE WHAT IS NECESSARY AND REQ'D TO ACCOMMODATE THE REQUIREMENTS OF NEW CONSTRUCTION. REFER TO THE APPROPRIATE DRAWINGS AS TO THE EXTENT OF NEW CONSTRUCTION TO REMAIN.
N. SURFACES SHALL BE CLEANED AND PREPPED WITHIN THE NEW MATERIALS GUIDELINES OF INSTALLATION OF THEIR PRODUCT IN EXISTING CONSTRUCTION.
O. ALL DEMOLITION SHALL COMPLY WITH APPLICABLE LOCAL CODES AND STATE CODES AND ORDINANCES.
P. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

DEMOLITION LEGEND

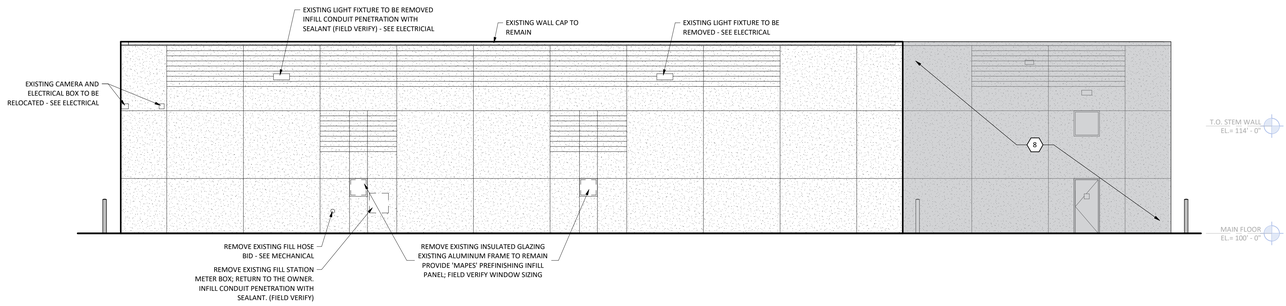
- EXISTING WALL/OBJECT TO REMAIN
- EXISTING WALL/OBJECT TO BE REMOVED
- EXISTING DOOR TO REMAIN
- EXISTING DOOR TO BE REMOVED
- FOR ENTIRE FLOOR IN SHADED AREA - COMPLETELY REMOVE ALL EXISTING FLOOR FINISHES (AT ROOMS AND/OR AREAS TO REMAIN AND RECEIVE NEW FLOOR FINISHES, LEAVE SUB-FLOOR CLEAN AND PREPARED FOR NEW WORK
- COMPLETELY REMOVE ALL EXISTING CEILINGS U.N.O. (EITHER LAY-IN, PLASTER, OR GYP BD INCLUDING ALL CURTAIN, CEILING MOUNTED EQUIPMENT, SUPPORTS, TRACKS, ETC.
- XX - DEMOLITION KEYNOTE

ALL DEMOLITION WORK REQUIRED IS NOT NECESSARILY LIMITED TO WHAT IS SHOWN ON THE DEMOLITION PLANS. THE INTENT IS TO REMOVE ALL MECHANICAL, ELECTRICAL AND ARCHITECTURAL ITEMS AS REQUIRED TO FACILITATE NEW CONSTRUCTION.

REFER TO FINISH SCHEDULE FOR ADDITIONAL FINISH WORK REQUIRED IN OTHER AREAS THAT ARE NOT DOCUMENTED TO RECEIVE AND DEMOLITION/REMOVAL WORK INDICATED ON DEMOLITION PLANS (TYPICAL).



7B A101 DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



7A A101 EXISTING NORTH GARAGE ELEVATION
SCALE: 1/8" = 1'-0"

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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE 06/13/25
PHASE CONSTRUCTION DOCUMENTS
PROJECT 22263.01
SHEET A101
DEMO PLAN & ELEVATIONS

6/10/2025 3:59:48 PM

SHEET SPEC ID LIST

SPEC ID	SPEC SECTION & DESCRIPTION
MET FAB-1	05 5000 - STEEL PIPE BOLLARD, 6 INCH DIAMETER, CONCRETE FILLED

KEYNOTES - FLOOR PLAN

NO	NOTE	REV.
1	NEW TRENCH DRAIN (4'-0" SEGMENTS)	
2	HOUSEKEEPING PAD - SEE MECHANICAL	
3	BRINE EQUIPMENT BY OWNER - SEE MECH & ELEC FOR CONNECTIONS	
4	NEW CONCRETE APRON - SEE STRUCTURAL	
5	FRP PANEL (4'-0" x 8'-0")	
7	NEW TRENCH DRAIN (2'-0" X 2'-0" GRATE)	

GENERAL NOTES - FLOOR PLAN

A. FOR TYPICAL HOUSEKEEPING CLOSETS ACCESSORIES REQUIREMENTS AND MOUNTING LOCATIONS SEE DWG G120.
B. ALL PARTITION TYPES ARE "M8" TYPICALLY UNLESS OTHERWISE NOTED.
C. COORDINATE PARTITION FIRE RATED REQUIREMENTS AS INDICATED ON REFLECTED CEILING PLANS - DRAWING SERIES A700.
D. COORDINATE DIMENSIONS W/ ASTERISK (IE - "X'-X") W/ EQUIPMENT VENDOR.
E. PROVIDE BULLNOSE ON ALL CMU OUTSIDE CORNERS - TYPICAL.
F. ALL DIMENSIONS INDICATED AS 'CLEAR' ARE TO FACE OF FINISH (GYPSUM, TILE, ETC.).
G. ALL MASONRY DIMENSIONS ARE TO FACE OF MASONRY UNLESS NOTED OTHERWISE.
H. ALL EXTERIOR OPENING DIMENSIONS ARE ROUGH OPENINGS.
I. COORDINATE ALL FLOOR OPENING DIMENSIONS AND CLEARANCES FOR DUCTWORK W/ MECHANICAL CONTRACTOR - TYPICAL.
J. COORDINATE AND/OR CONFIRM ANY DIMENSIONAL DISCREPANCIES WITH ARCHITECT PRIOR TO INSTALLATION.

FINISH SCHEDULE REMARKS

1. PAINT ALL METAL SURFACES AT STAIRS, INCLUDING, BUT NOT LIMITED TO: STRINGERS, RISERS, AND RAILINGS.
2. REFERENCE ELEVATIONS.
3. DRY FALL PAINT: PAINT ALL EXPOSED CEILING STRUCTURE, INCLUDING STRUCTURAL, MECHANICAL AND ELECTRICAL COMPONENTS, INCLUDING, BUT NOT LIMITED TO: CONDUITS, JUNCTION BOXES, PIPES, SUPPORT WIRES/CABLES, UNI-STRUTS. ALL EXPOSED GALVANIZED SURFACES TO BE PAINTED TO MATCH CEILING COLOR UNLESS NOTED OTHERWISE.
4. PAINT EXPOSED STEEL COLUMNS.
5. REFERENCE FINISH PLAN FOR ADDITIONAL INFORMATION.
6. FRP TO BE INSTALLED TO 8'-0" ABOVE FINISHED FLOOR.
7. REFER TO REFLECTED CEILING PLANS.

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	BASE	FLOOR	WALLS NORTH	WALLS EAST	WALLS SOUTH	WALLS WEST	CEILING	REMARKS	REV.
101	SALT STORAGE	--	ASPHALT					GALVANIZED DECK		
102	BRINE	--	SEALED CONCRETE	PT	PT	PT	PT	GALVANIZED DECK	PAINT CEILING WITH DRY FALL PAINT	
103	MECHANICAL	--	SEALED CONCRETE	PT	PT	PT	PT	GALVANIZED DECK	PAINT CEILING WITH DRY FALL PAINT	
104	WASH BAY	--	SEALED CONCRETE	PT	PT	PT	PT	GALVANIZED DECK	PAINT CEILING WITH DRY FALL PAINT	

7A / A201 OVERALL SALT SHED PLAN
SCALE: 1/8" = 1'-0"

3A / A201 SALT SHED EXTERIOR SLAB PLAN
SCALE: 1/8" = 1'-0"

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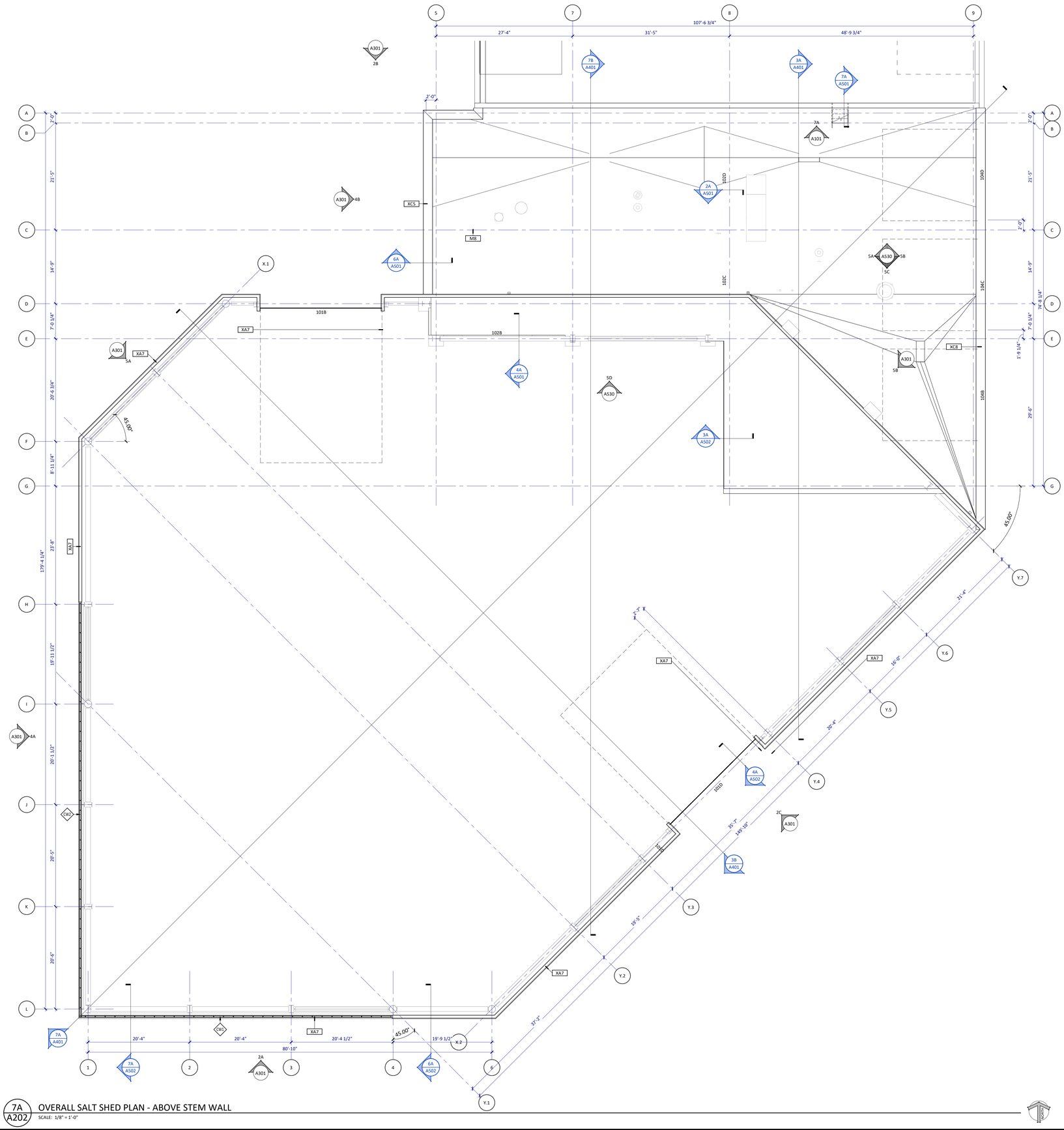
REVISION SCHEDULE

NO.	DESCRIPTION	DATE

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE 06/13/25
PHASE CONSTRUCTION DOCUMENTS
PROJECT 22263.01
SHEET A201
FLOOR PLAN

6/10/2025 3:59:51 PM



7A A202 OVERALL SALT SHED PLAN - ABOVE STEM WALL

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

6/10/2025 3:39:54 PM

SHEET SPEC ID LIST

SPEC ID	SPEC SECTION & DESCRIPTION

KEYNOTES - FLOOR PLAN

NO	NOTE	REV.

GENERAL NOTES - FLOOR PLAN

A. FOR TYPICAL HOUSEKEEPING CLOSETS ACCESSORIES REQUIREMENTS AND MOUNTING LOCATIONS SEE DWG G120.
B. ALL PARTITION TYPES ARE "M8" TYPICALLY UNLESS OTHERWISE NOTED.
C. COORDINATE PARTITION FIRE RATED REQUIREMENTS AS INDICATED ON REFLECTED CEILING PLANS - DRAWING SERIES A700.
D. COORDINATE DIMENSIONS W/ ASTERISK (IE - *X'-X") W/ EQUIPMENT VENDOR.
E. PROVIDE BULLNOSE ON ALL CMU OUTSIDE CORNERS - TYPICAL.
F. ALL DIMENSIONS INDICATED AS 'CLEAR' ARE TO FACE OF FINISH (GYPSUM, TILE, ETC.).
G. ALL MASONRY DIMENSIONS ARE TO FACE OF MASONRY UNLESS NOTED OTHERWISE.
H. ALL EXTERIOR OPENING DIMENSIONS ARE ROUGH OPENINGS.
I. COORDINATE ALL FLOOR OPENING DIMENSIONS AND CLEARANCES FOR DUCTWORK W/ MECHANICAL CONTRACTOR - TYPICAL.
J. COORDINATE AND/OR CONFIRM ANY DIMENSIONAL DISCREPANCIES WITH ARCHITECT PRIOR TO INSTALLATION.

FINISH SCHEDULE REMARKS

1. PAINT ALL METAL SURFACES AT STAIRS, INCLUDING, BUT NOT LIMITED TO: STRINGERS, RISERS, AND RAILINGS.
2. REFERENCE ELEVATIONS.
3. DRY FALL PAINT: PAINT ALL EXPOSED CEILING STRUCTURE, INCLUDING STRUCTURAL, MECHANICAL AND ELECTRICAL COMPONENTS, INCLUDING, BUT NOT LIMITED TO: CONDUITS, JUNCTION BOXES, PIPES, SUPPORT WIRES/CABLES, UNI-STRUTS. ALL EXPOSED GALVANIZED SURFACES TO BE PAINTED TO MATCH CEILING COLOR UNLESS NOTED OTHERWISE.
4. PAINT EXPOSED STEEL COLUMNS.
5. REFERENCE FINISH PLAN FOR ADDITIONAL INFORMATION.
6. FRP TO BE INSTALLED TO 8'-0" ABOVE FINISHED FLOOR.
7. REFER TO REFLECTED CEILING PLANS.

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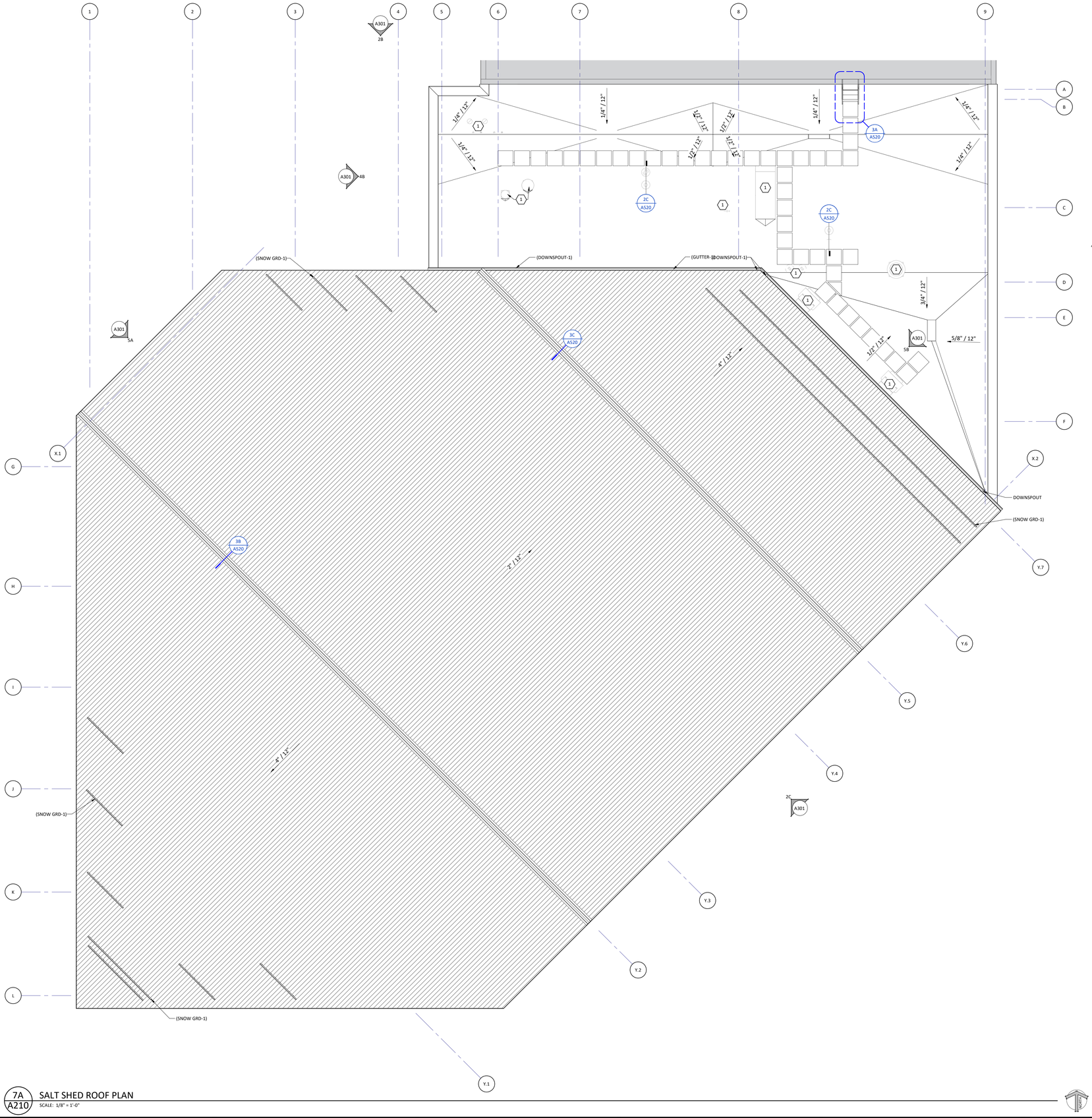
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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE 06/13/25
PHASE CONSTRUCTION DOCUMENTS
PROJECT 22263.01
SHEET A202
FLOOR PLAN - ABOVE STEM WALL



7A / A210 SALT SHED ROOF PLAN

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

SHEET SPEC ID LIST

SPEC ID	SPEC SECTION & DESCRIPTION
DOWNSPOUT-1	07 6200 - DOWNSPOUTS
GUTTER-1	07 6200 - GUTTERS
SNOW GRD-1	07 7200 - SNOW GUARDS

KEYNOTES - ROOF PLAN

NO	NOTE	REV.
1	MECHANICAL EQUIPMENT - SEE MECHANICAL	

GENERAL NOTES - ROOF PLAN

VERIFY WITH YOUR PROJECT SPECIFIC ROOF SYSTEM

A. COORDINATE FINAL SIZE AND FINAL LOCATION OF ALL EQUIPMENT SUPPORT WITH THE APPROPRIATE EQUIPMENT MANUFACTURER.
B. PROVIDE POSITIVE SLOPE TO ALL ROOF DRAINS. ROOF SLOPE TO BE 1/4" PER FOOT MINIMUM.
C. SEE DRAWING A520 FOR ROOF DETAILS. ROOFING CONTRACTOR TO VERIFY ALL ROOF DETAILS COMPLY WITH APPROVED ROOFING SYSTEM. IT IS THE RESPONSIBILITY OF THE ROOFING CONTRACTOR TO SUPPLY ANY ADDITIONAL DETAILS AND/OR MATERIALS TO ENSURE COMPLIANCE WITH WARRANTY.
D. REFER TO MECHANICAL AND ELECTRICAL DOCUMENTS FOR ALL PIPES, CURBS, VENTS, DUCTS, CONDUITS, AND OTHER FEATURES EXTENDING THROUGH ROOF SURFACES WHICH REQUIRE FLASHING AND COORDINATE SIZE AND LOCATION OF SAME.
E. FOR ROOF ASSEMBLY TYPES SEE SHEET #G102.
F. INLET OF OVERFLOW ROOF SUMPS SHALL BE LOCATED 2" ABOVE ROOF SUMP INLET (TYP) U.N.O.
G. SEE MECHANICAL DRAWINGS M101 FOR FINAL QUANTITIES & FINAL LOCATIONS OF VENTS THRU ROOF.
H. PROVIDE SPLASH BLOCK AT ALL PRIMARY AND SECONDARY RAIN CONDUCTOR TERMINATIONS ONTO SINGLE-PLY MEMBRANE ROOFING
I. INSTALL ROOF FRAMES PRIOR TO CUTTING & REMOVING OF ANY METAL DECK.
J. ROOF TOP WALKWAYS:
PRECAST CONCRETE WALKWAY PAVERS, 2'-0" X 2'-0" ON SINGLE-PLY MEMBRANE ROOFING SEE DETAIL X/A-XXX

SINGLE-PLY MEMBRANE WALK INSTALLED IN ACCORDANCE WITH ROOFING MANUFACTURERS REQUIREMENTS. SEE DETAIL XX/A-XX (SIZE RECOMMENDED BY MANUF.)

R.S. - ROOF SUMP
H.P. - HIGH POINT
O.S. - OVERFLOW ROOF SUMP
S.C. - SCUPPER
V.T.R. - VENT THRU ROOF

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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE: 06/13/25
PHASE: CONSTRUCTION DOCUMENTS
PROJECT: 22263.01
SHEET: A210
ROOF PLAN

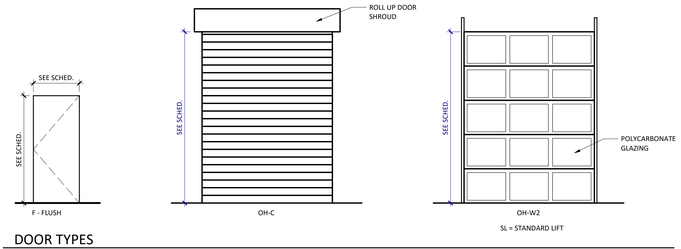
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DOOR SCHEDULE

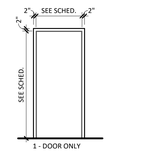
PANEL INFO				PANEL SIZE (*) = UNEQUAL PANELS			ROUGH OPENING		PANEL INFO				FRAME INFO			DETAIL INFO			NOTES	
NUMBER	HW SET	RATING	ROOM NAME	WIDTH	HEIGHT	THK	WIDTH	HEIGHT	DOOR TYPE	MAT'L	FINISH	GLZ	FRAME TYPE	MAT'L	FINISH	JAMB	HEAD	SILL	COMMENTS	REV.
MAIN FLOOR																				
101A	138.0		SALT STORAGE	3' - 0"	7' - 0"	1 3/4"	3' - 4"	7' - 4"	F	FRP	PREFIN	-	1A	SS	-	2A	2B			
101B	-		SALT STORAGE	24' - 0"	30' - 0"	1"	24' - 0"	30' - 0"	OH-S	ALUM	CLR. ANODIZED	SEE ELEV.	SL	GALV	-	7A & 7B	6C	6A		
101C	138.0		SALT STORAGE	3' - 0"	7' - 0"	1 3/4"	3' - 4"	7' - 4"	F	FRP	PREFIN	-	1A	SS	-					
101D	-		SALT STORAGE	24' - 0"	30' - 0"	1"	24' - 0"	30' - 0"	OH-S	ALUM	CLR. ANODIZED	SEE ELEV.	SL	GALV	-	7A & 7B	6C	6A		
102A	11.1		BRINE	3' - 0"	7' - 0"	1 3/4"	3' - 4"	7' - 4"	F	FRP	PREFIN	-	1A	SS	-	4A	4B			
102B	-		BRINE	14' - 0"	16' - 0"	1"	14' - 0"	16' - 0"	OH-C	ALUM	CLR. ANODIZED	SEE ELEV.	FM	ALUM	CLR. ANODIZED	2C	2D			
102C	-		BRINE	16' - 0"	16' - 0"	1"	16' - 0"	16' - 0"	OH-C	ALUM	CLR. ANODIZED	SEE ELEV.	FM	ALUM	CLR. ANODIZED	2C	2D			
102D	-		BRINE	16' - 0"	16' - 0"	1"	16' - 0"	16' - 0"	OH-C	ALUM	CLR. ANODIZED	SEE ELEV.	FM	ALUM	CLR. ANODIZED	2C	2D			
103A	138.0		MECHANICAL	3' - 0"	7' - 0"	1 3/4"	3' - 4"	7' - 4"	F	FRP	PREFIN	-	1A	SS	-	3A	3B			
104A	138.0		WASH BAY	3' - 0"	7' - 0"	1 3/4"	3' - 4"	7' - 4"	F	FRP	PREFIN	-	1A	SS	-					
104B	-		WASH BAY	18' - 0"	18' - 0"	1"	18' - 0"	18' - 0"	OH-S	ALUM	CLR. ANODIZED	SEE ELEV.	SL	GALV	-					
104C	-		WASH BAY	18' - 0"	18' - 0"	1"	18' - 0"	18' - 0"	OH-S	ALUM	CLR. ANODIZED	SEE ELEV.	SL	GALV	-					
104D	-		WASH BAY	18' - 0"	18' - 0"	1"	18' - 0"	18' - 0"	OH-S	ALUM	CLR. ANODIZED	SEE ELEV.	SL	GALV	-					

SHEET SPEC ID LIST

SPEC ID	SPEC SECTION & DESCRIPTION
INSUL-1	07 2100 - XPS EXTRUDED POLYSTYRENE INSULATION
SEALANT-1	07 9200 - JOINT SEALANT OR CAULKING WITH OR WITHOUT BACKER ROD
SMF-1	07 6200 - PREFINISHED GALVANIZED STEEL
SMF-2	07 6200 - PREFINISHED ALUMINUM
VPR RET-4	03 3000 - 15 MIL UNDERSLAB VAPOR RETARDER
WD BLKG	06 1000 - WOOD BLOCKING

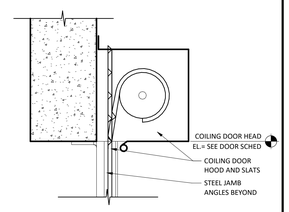


DOOR TYPES

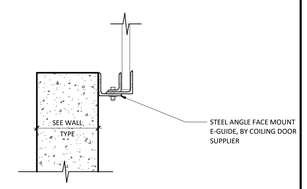


NOTE: "A" SUFFIX INDICATES 4" HEAD

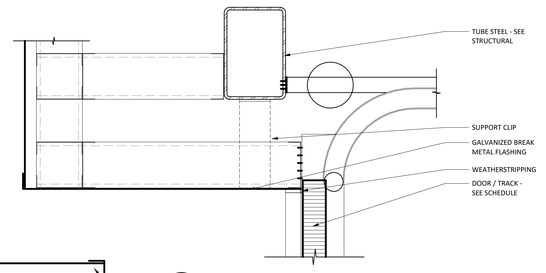
FRAME TYPES



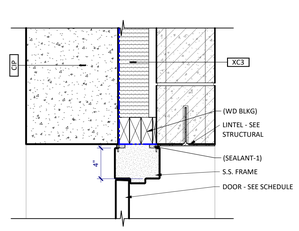
2D / A220 — OHC DOOR HEAD
SCALE: 1 1/2" = 1'-0"



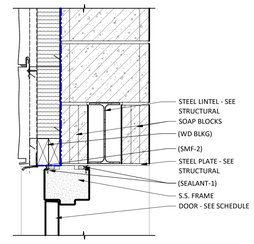
2C / A220 — OHC DOOR JAMB
SCALE: 1 1/2" = 1'-0"



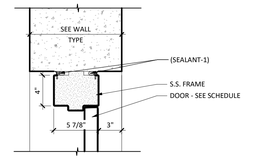
6C / A220 — HEAD @ DOOR 101B & 101D
SCALE: 1 1/2" = 1'-0"



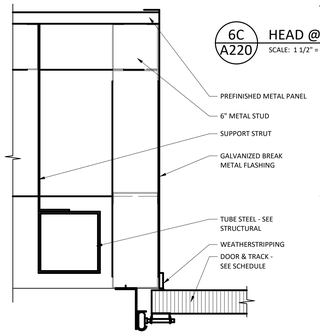
4B / A220 — H.M. HEAD @ DOOR 102A
SCALE: 1 1/2" = 1'-0"



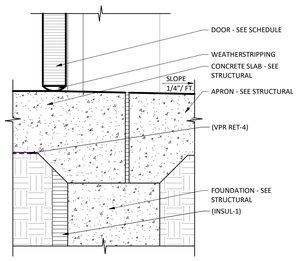
3B / A220 — S.S. HEAD @ XC5
SCALE: 1 1/2" = 1'-0"



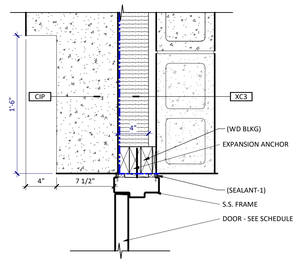
2B / A220 — S.S. HEAD @ C.I.P.
SCALE: 1 1/2" = 1'-0"



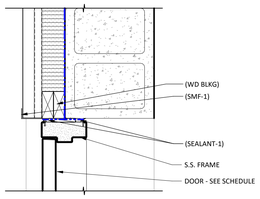
7B / A220 — UPPER JAMB @ DOOR 101B & 101D
SCALE: 1 1/2" = 1'-0"



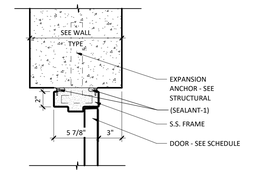
6A / A220 — OH DOOR SILL
SCALE: 1 1/2" = 1'-0"



4A / A220 — S.S. JAMB @ XC3/CIP
SCALE: 1 1/2" = 1'-0"



3A / A220 — S.S. JAMB @ XC5
SCALE: 1 1/2" = 1'-0"



2A / A220 — S.S. JAMB @ C.I.P.
SCALE: 1 1/2" = 1'-0"

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DATE
06/13/25
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
A220
DOOR SCHEDULE & DETAILS

6/10/2025 4:00:00 PM

SHEET SPEC ID LIST

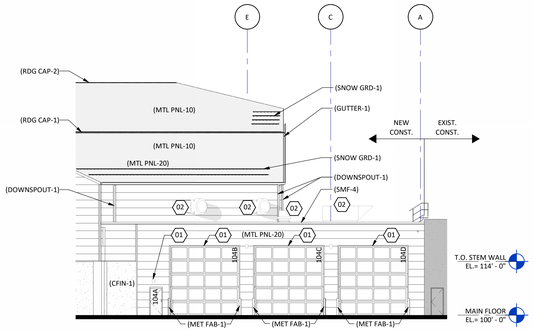
SPEC ID	SPEC SECTION & DESCRIPTION
CFIN-1	03 3000 - STANDARD FLOAT FINISH
CRNR-1	07 4213 - METAL PANEL CORNER TRIM
DOWNSPOUT-1	07 6200 - DOWNSPOUTS
FASCIA-1	07 6200 - ROOF FASCIA
GUTTER-1	07 6200 - GUTTERS
MET FAB-1	05 5000 - STEEL PIPE BOLLARD, 6 INCH DIAMETER, CONCRETE FILLED
MTL PNL-10	07 4113 - METAL ROOF PANEL, NOT INSULATED.
MTL PNL-20	07 4213 - METAL WALL PANEL, SINGLE THICKNESS, NOT INSULATED
MTL SOF-1	07 4213 - PERFORATED METAL SOFFIT PANEL
RDG CAP-1	07 7200 - RIDGE CAP
RDG CAP-2	07 7200 - VENTED RIDGE CAP
SMF-4	07 6200 - PREFINISHED METAL TRIM
SNOW GRD-1	07 7200 - SNOW GUARDS

KEYNOTES - EXTERIOR ELEV.

NO	NOTE	REV.
01	LIGHT FIXTURE - SEE ELECTRICAL	
02	MECHANICAL EQUIPMENT - SEE MECHANICAL	
03	CARD READER - SEE ELECTRICIAL	
04	ELECTRICIAL METER - SEE ELECTRICIAL	
05	OVERFLOW OUTLET - SEE MECHANICAL	
06	FIRE DEPARTMENT CONNECTION - SEE MECHANICAL	

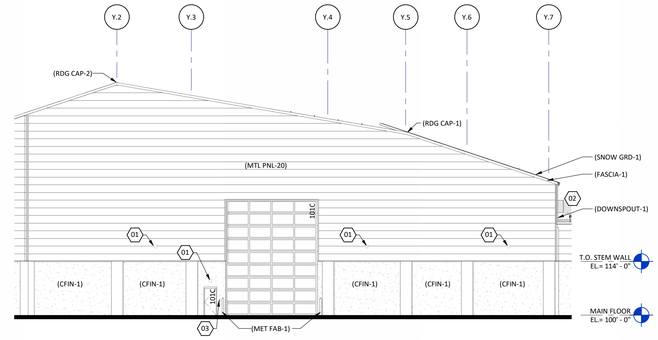
GENERAL NOTES - EXTERIOR ELEVATIONS

A. REFER TO GLAZING ELEVATIONS FOR STOREFRONT AND CURTAINWALL ELEVATIONS



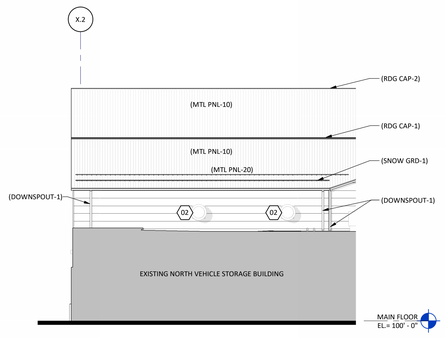
4C A301 EXTERIOR ELEVATION - EAST

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



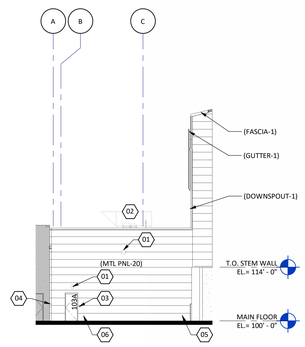
2C A301 EXTERIOR ELEVATION - SOUTHEAST

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



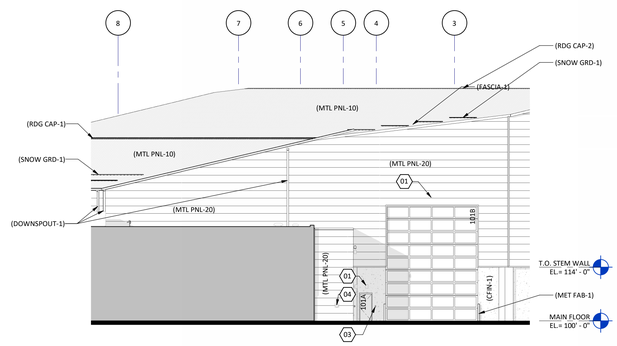
5B A301 EXTERIOR ELEVATION - NORTHEAST

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



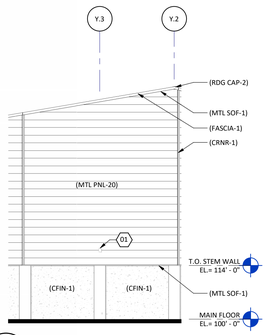
4B A301 EXTERIOR ELEVATION - WEST

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



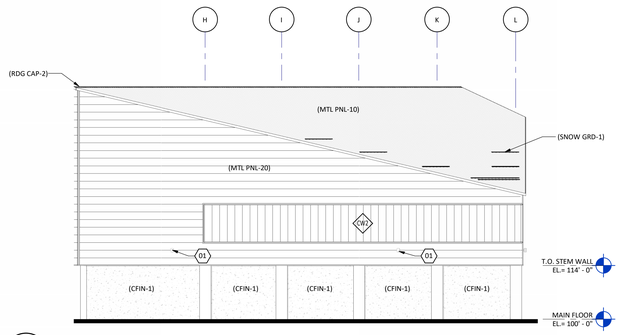
2B A301 EXTERIOR ELEVATION - NORTH

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



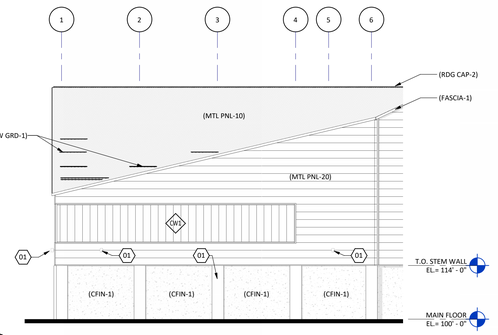
5A A301 EXTERIOR ELEVATION - NORTHWEST

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



4A A301 EXTERIOR ELEVATION - WEST 1

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



2A A301 EXTERIOR ELEVATION - SOUTH

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

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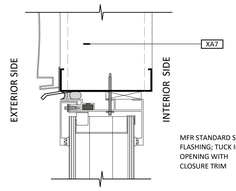
PROJECT
22263.01

SHEET
A301

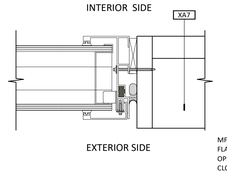
EXTERIOR ELEVATIONS

6/10/2025 4:00:07 PM

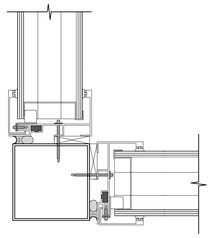
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SPEC ID	SPEC SECTION & DESCRIPTION
TR PNL-1	08 4500 - TRANSLUCENT WALL PANEL



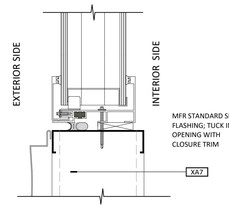
1E A310 KINGSPAN HEAD @ XA7
SCALE: 3" = 1'-0"



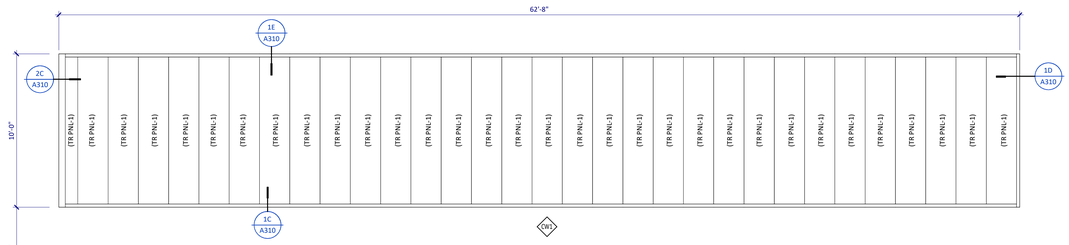
1D A310 KINGSPAN JAMB @ XA7
SCALE: 3" = 1'-0"



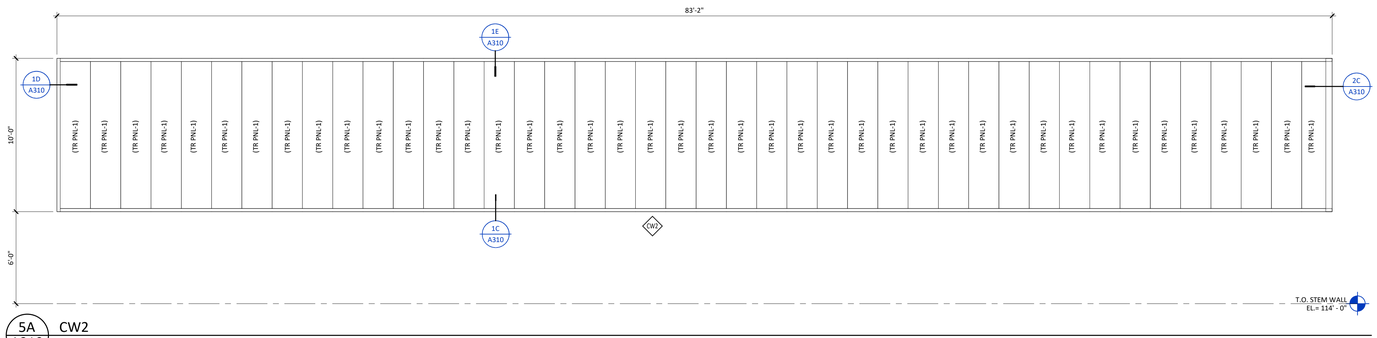
2C A310 KINGSPAN @ CORNER
SCALE: 3" = 1'-0"



1C A310 KINGSPAN SILL @ XA7
SCALE: 3" = 1'-0"



4B A310 CW1
SCALE: 1/4" = 1'-0"



5A A310 CW2
SCALE: 1/4" = 1'-0"

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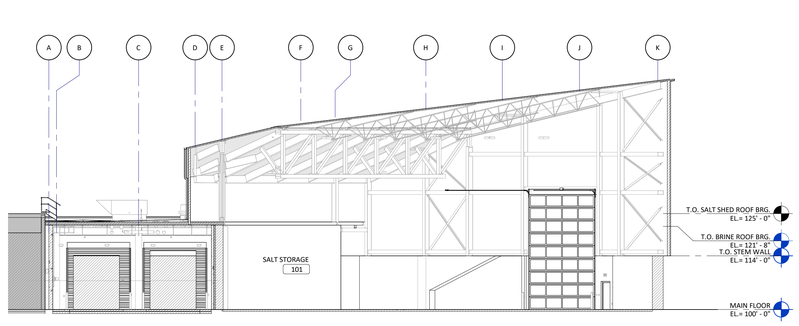
NO.	DESCRIPTION	DATE

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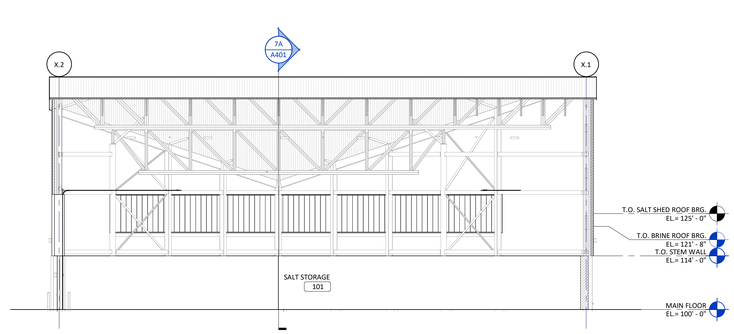
DATE
06/13/25
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PROJECT
22263.01
SHEET
A310
GLAZING ELEVATIONS & DETAILS

6/10/2025 4:00:08 PM

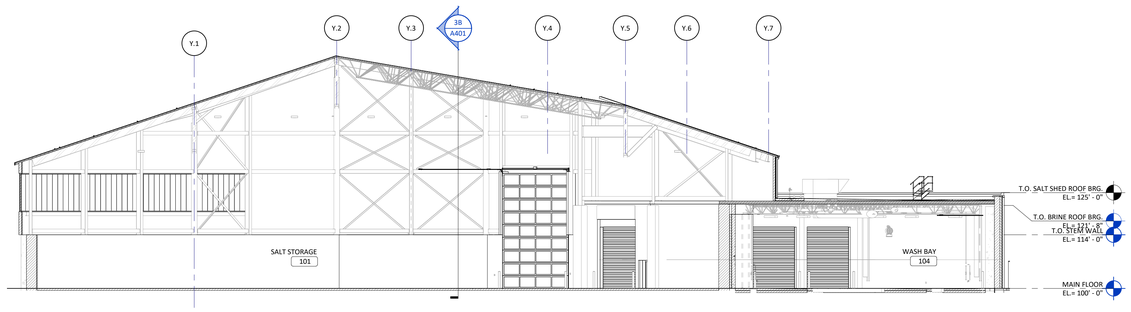
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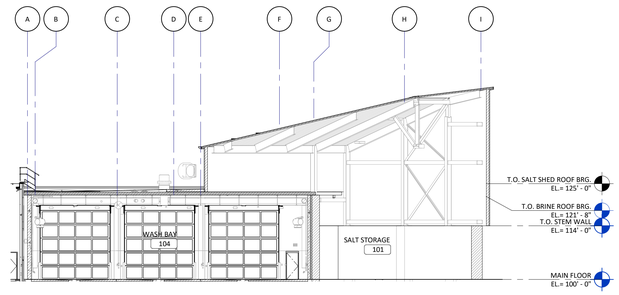
7B A401 BUILDING SECTION @ SALT SHED
SCALE: 1/16" = 1'-0"



3B A401 BUILDING SECTION @ SALT SHED
SCALE: 1/16" = 1'-0"



7A A401 BUILDING SECTION @ SALT SHED
SCALE: 1/16" = 1'-0"



3A A401 BUILDING SECTION @ SALT SHED
SCALE: 1/16" = 1'-0"

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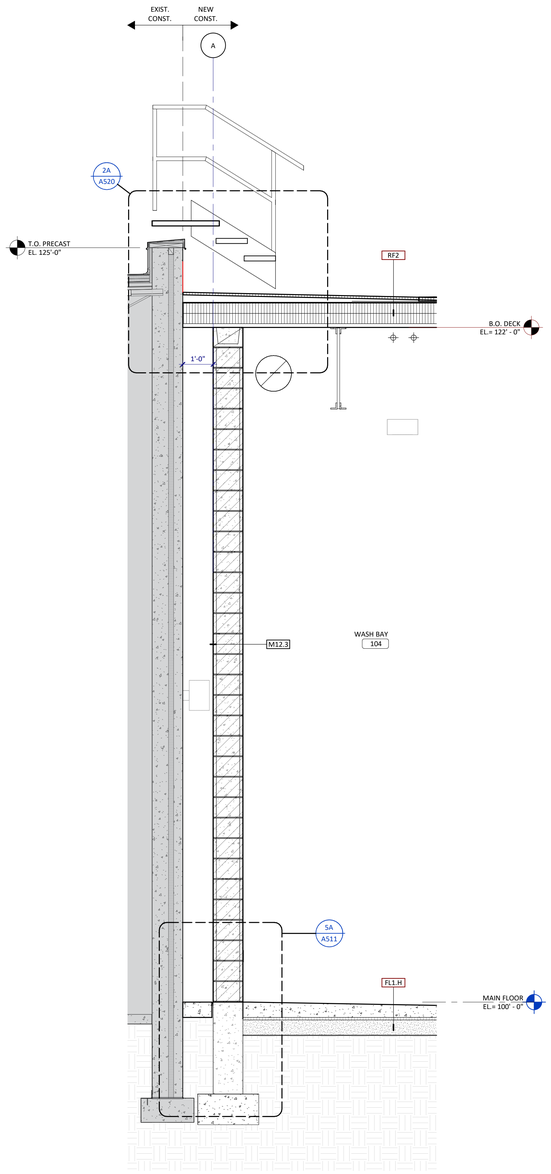
NO.	DESCRIPTION	DATE

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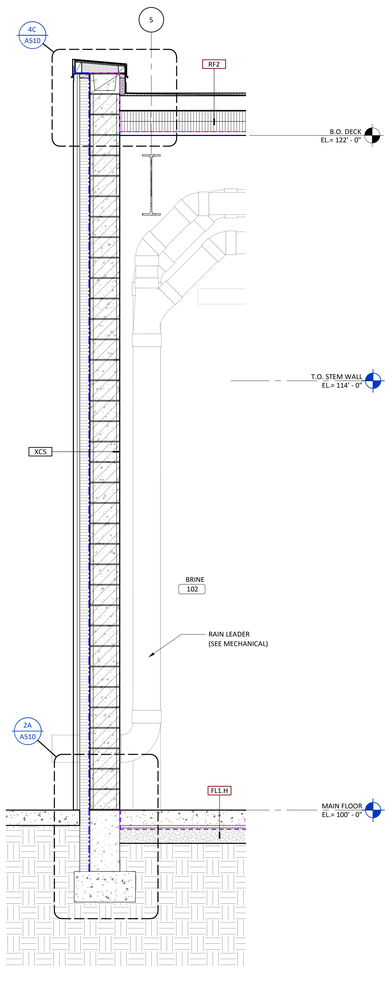
DATE
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PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
A401
BUILDING SECTIONS

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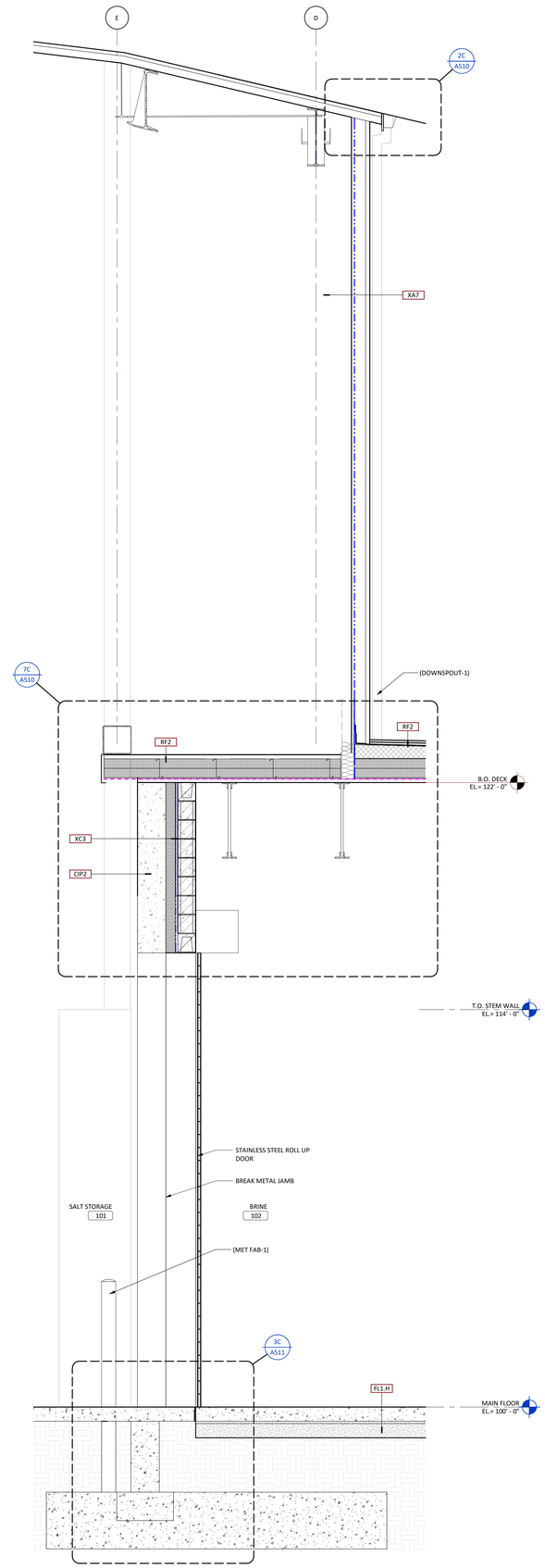
SHEET SPEC ID LIST	
SPEC ID	SPEC SECTION & DESCRIPTION
DOWNSPOUT-1	07 6200 - DOWNSPOUTS
MET FAB-1	05 5000 - STEEL PIPE BOLLARD, 6 INCH DIAMETER, CONCRETE FILLED



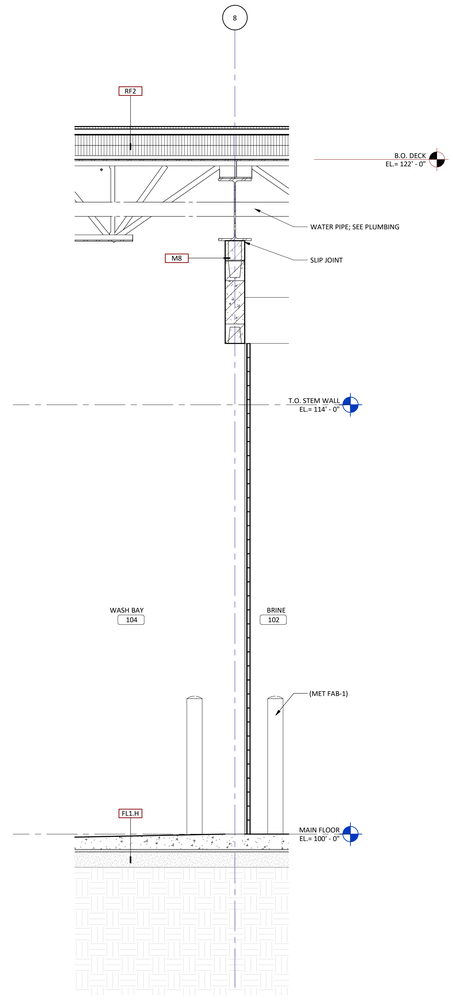
7A A501 WALL SECTION @ NORTH GARAGE
SCALE: 1/2" = 1'-0"



6A A501 WALL SECTION @ BRINE
SCALE: 1/2" = 1'-0"



4A A501 WALL SECTION @ BRINE COILING DOOR
SCALE: 1/2" = 1'-0"



2A A501 WALL SECTION @ BRINE
SCALE: 1/2" = 1'-0"

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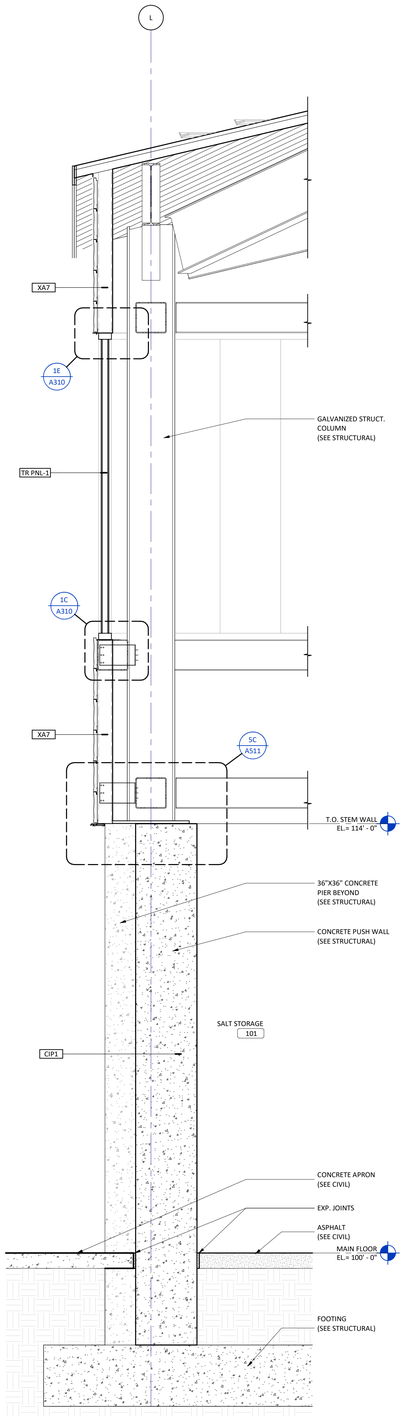
NO.	DESCRIPTION	DATE

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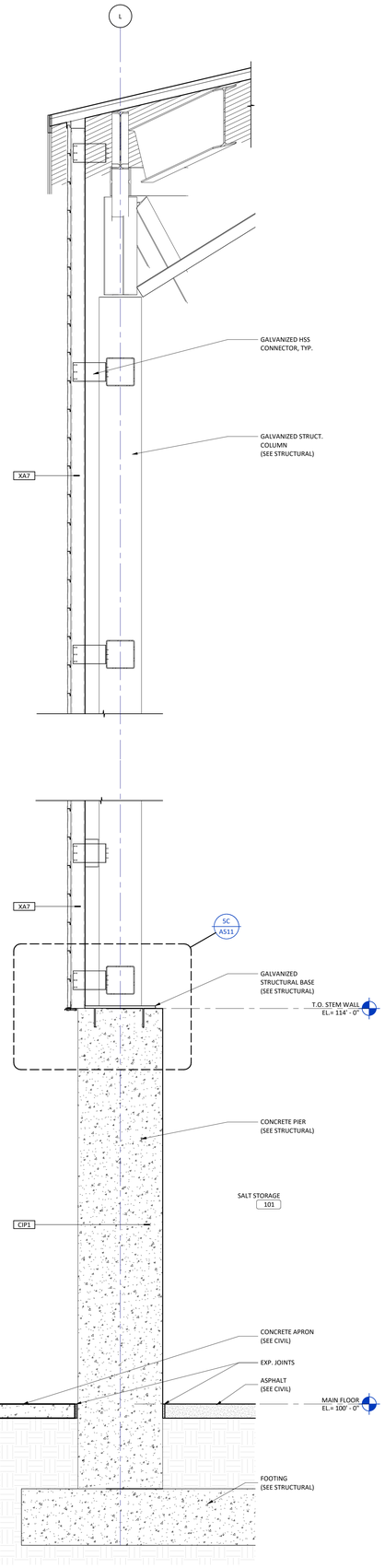
DATE
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PROJECT
22263.01
SHEET
A501
BRINE & WASH BAY WALL SECTIONS

6/10/2025 4:00:15 PM

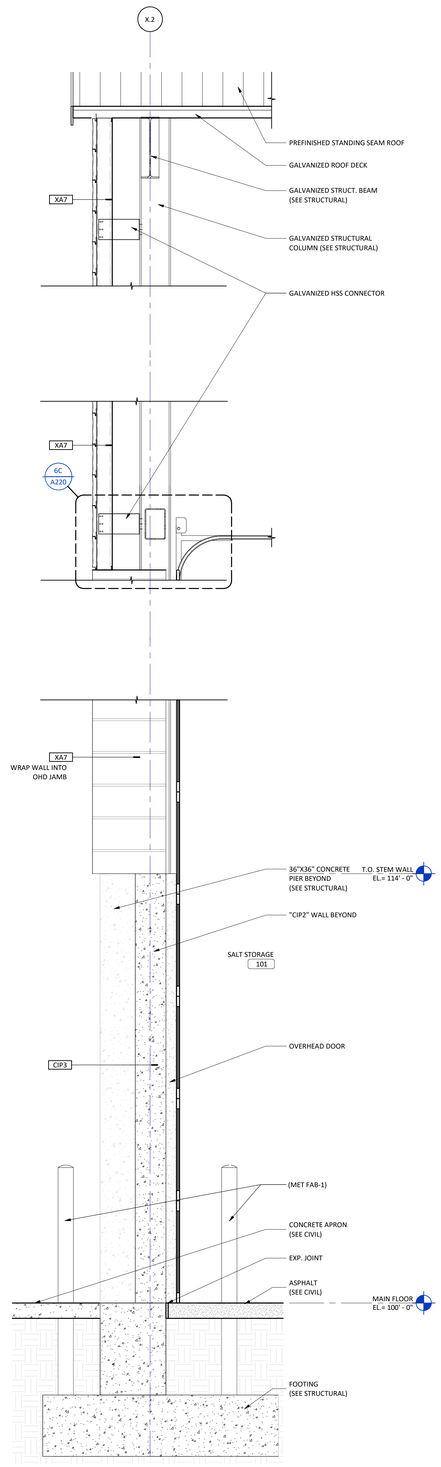
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SPEC ID	SPEC SECTION & DESCRIPTION
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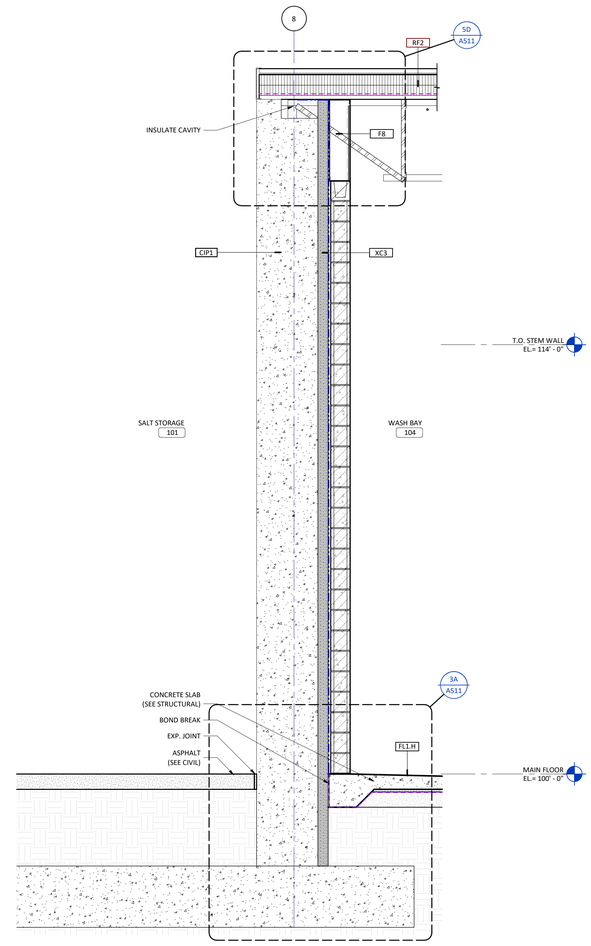
7A A502 WALL SECTION @ KINGSPAN
SCALE: 1/2" = 1'-0"



6A A502 WALL SECTION @ PIER
SCALE: 1/2" = 1'-0"



4A A502 WALL SECTION @ OVERHEAD DOOR
SCALE: 1/2" = 1'-0"



3A A502 WALL SECTION @ SALT SHED & WASH BAY
SCALE: 1/2" = 1'-0"

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SHEET
A502
SALT SHED WALL SECTIONS

6/10/2025 4:00:17 PM

SHEET SPEC ID LIST

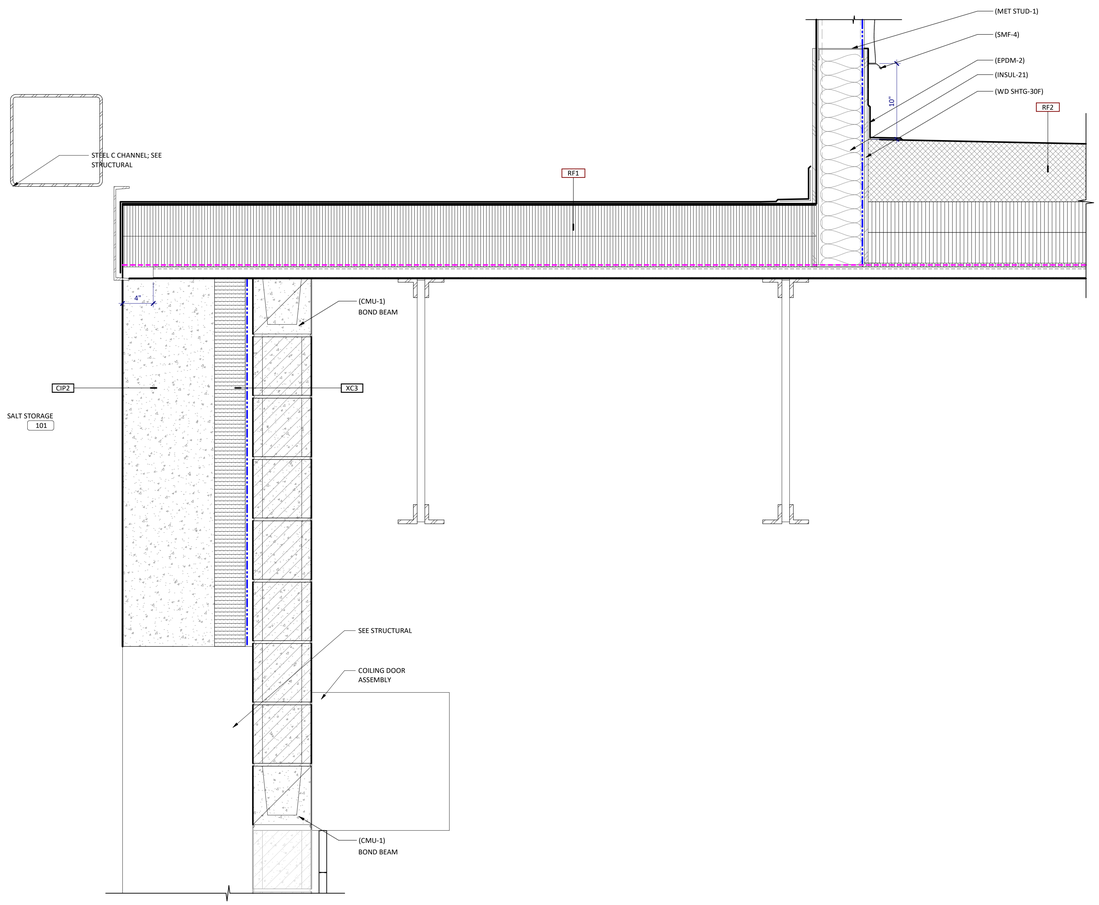
SPEC ID	SPEC SECTION & DESCRIPTION
CFIN-1	03 3000 - STANDARD FLOAT FINISH
CMU-1	04 2000 - STANDARD GREY CMU
DOWNSPOUT-1	07 6200 - DOWNSPOUTS
EPDM-2	07 5300 - FULLY ADHERED EPDM ROOFING SYSTEM
FASCIA-1	07 6200 - ROOF FASCIA
FUR-2	09 2116 - Z' FURRING
FUR-5	09 2116 - FIBERGLASS CLIP WITH Z-GIRT
GUTTER-1	07 6200 - GUTTERS
INSUL-1	07 2100 - XPS EXTRUDED POLYSTYRENE INSULATION
INSUL-21	07 2100 - UNFACED FIBERGLASS BATT INSULATION
INSUL-26	07 2100 - MINERAL FIBER BOARD INSULATION
MET STUD-1	05 4000 - STRUCTURAL STEEL STUDS
MTL PNL-20	07 4213 - METAL WALL PANEL, SINGLE THICKNESS, NOT INSULATED
SEALANT-1	07 9200 - JOINT SEALANT OR CAULKING WITH OR WITHOUT BACKER ROD
SMF-2	07 6200 - PREFINISHED ALUMINUM
SMF-4	07 6200 - PREFINISHED METAL TRIM
VPR RET-4	03 3000 - 15 MIL UNDERSLAB VAPOR RETARDER
WD BLKG	06 1000 - WOOD BLOCKING
WD SHTG-30	06 1000 - 1/2" SHEATHING
WD SHTG-30F	06 1000 - 1/2" SHEATHING, FIRE RETARDANT TREATED

MEMBRANE LINETYPE LEGEND

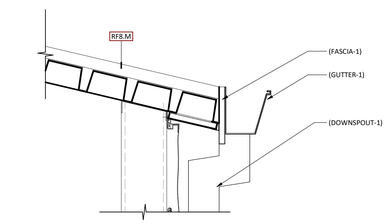
UNDERSLAB VAPOR RETARDER (*VPR RET-4*)

VAPOR BARRIER ROOF (*VPR RET-57*)

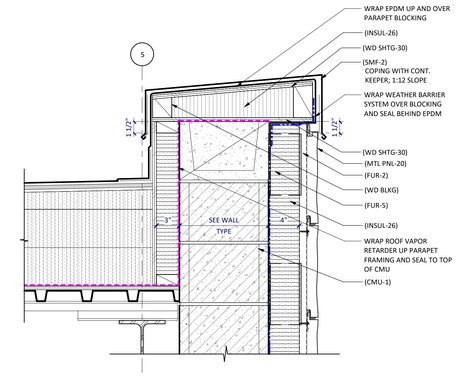
WEATHER BARRIER (*VPR RET-10*)



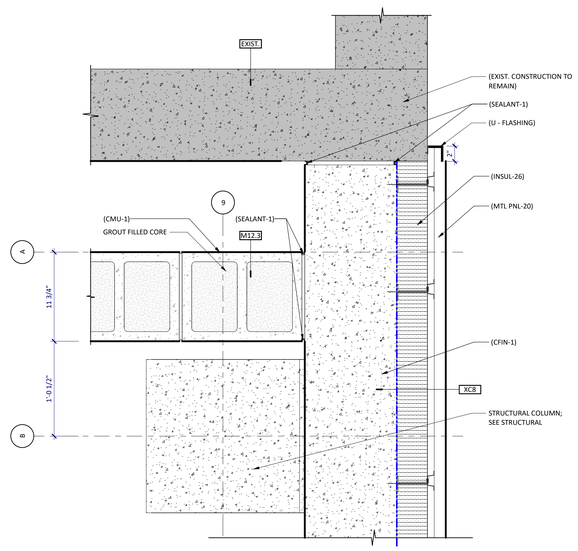
7C A510 DETAIL @ BRINE HOPPER O.H. DOOR
SCALE: 1 1/2" = 1'-0"



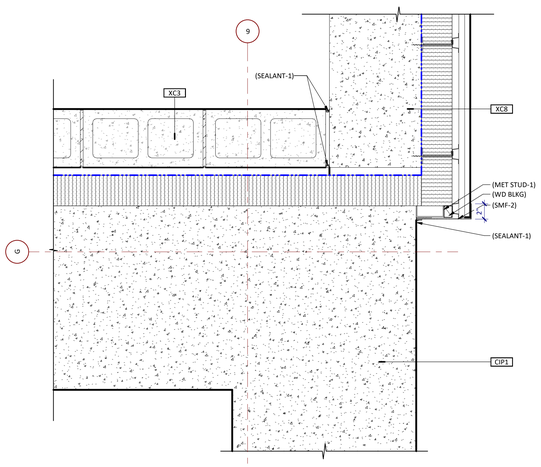
2C A510 DETAIL @ SALT SHED OVER BRINE EAVE
SCALE: 1 1/2" = 1'-0"



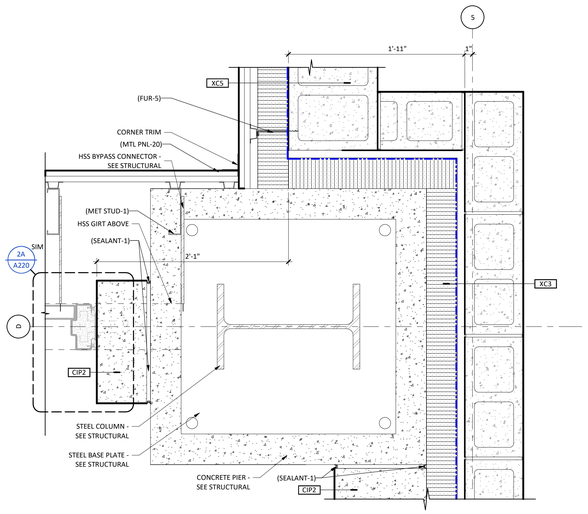
4C A510 MTL PNL OVER CMU DETAIL @ PARAPET
SCALE: 1 1/2" = 1'-0"



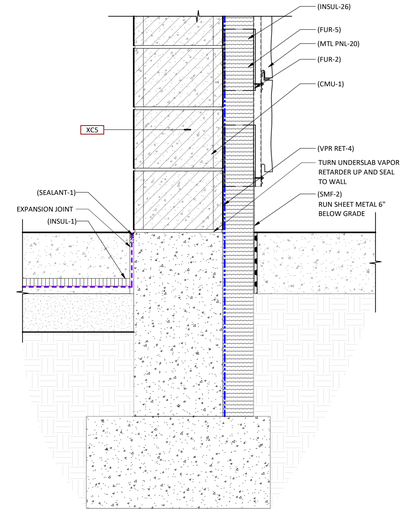
7A A510 DETAIL @ WASH BAY NE CORNER
SCALE: 1 1/2" = 1'-0"



6A A510 DETAIL @ WASH BAY SE CORNER
SCALE: 1 1/2" = 1'-0"



4A A510 DETAIL @ BRINE ROOM SW CORNER
SCALE: 1 1/2" = 1'-0"



2A A510 CIP FOUNDATION DETAIL @ BRINE ROOM
SCALE: 1 1/2" = 1'-0"

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NO.	DESCRIPTION	DATE

CITY OF BLOOMINGTON
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BLOOMINGTON, MN

DATE
06/13/25
PHASE
CONSTRUCTION DOCUMENTS
PROJECT
22263.01
SHEET
A510
EXTERIOR DETAILS

6/10/2025 4:00:18 PM

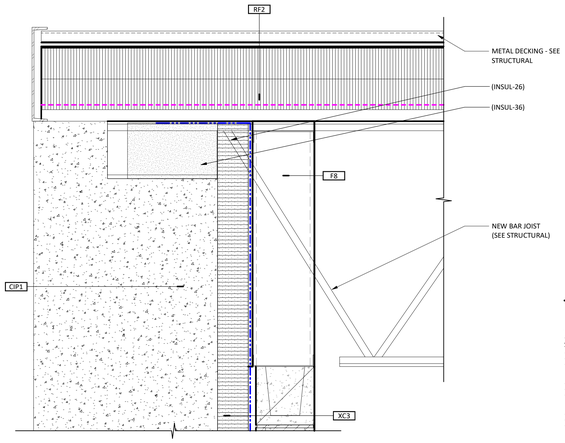
SHEET SPEC ID LIST	
SPEC ID	SPEC SECTION & DESCRIPTION
BRICK TIE	04 2000 - BRICK TIE, EYE AND PINTLE
CMU-1	04 2000 - STANDARD GREY CMU
INSUL-26	07 2100 - MINERAL FIBER BOARD INSULATION
INSUL-36	07 2119 - CLOSED CELL SPRAY FOAM INSULATION
MET STUD-1	05 4000 - STRUCTURAL STEEL STUDS
MTL PNL-20	07 4213 - METAL WALL PANEL, SINGLE THICKNESS, NOT INSULATED
SEALANT-1	07 9200 - JOINT SEALANT OR CAULKING WITH OR WITHOUT BACKER ROD
WEEP-2	04 2000 - COTTON WEEP

MEMBRANE LINETYPE LEGEND

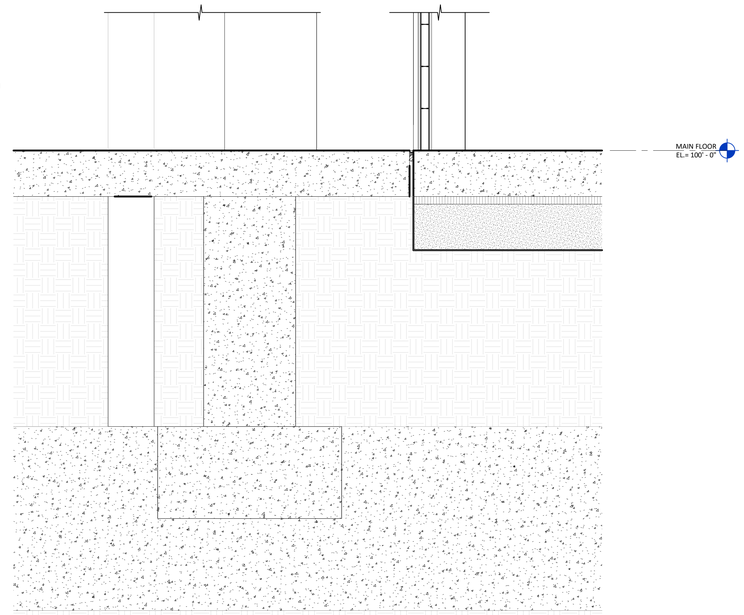
UNDERSLAB VAPOR RETARDER (*VPR RET-4*)

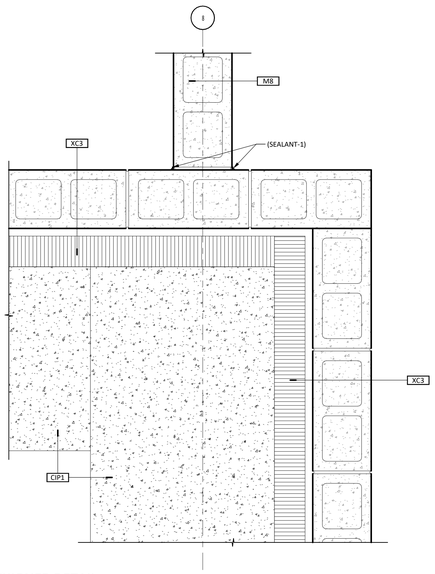
VAPOR BARRIER ROOF (*VPR RET-5T*)

WEATHER BARRIER (*VPR RET-10*)

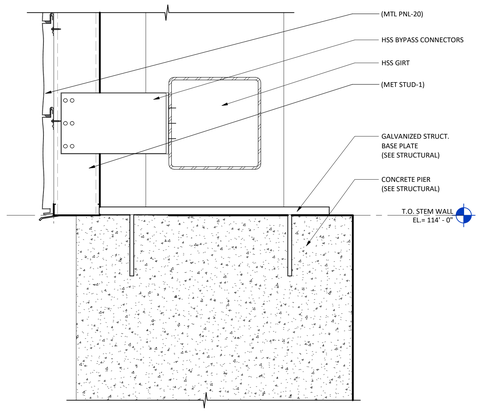


5D A511 DETAIL @ WASH BAY JOIST BRG.
SCALE: 1 1/2" = 1'-0"

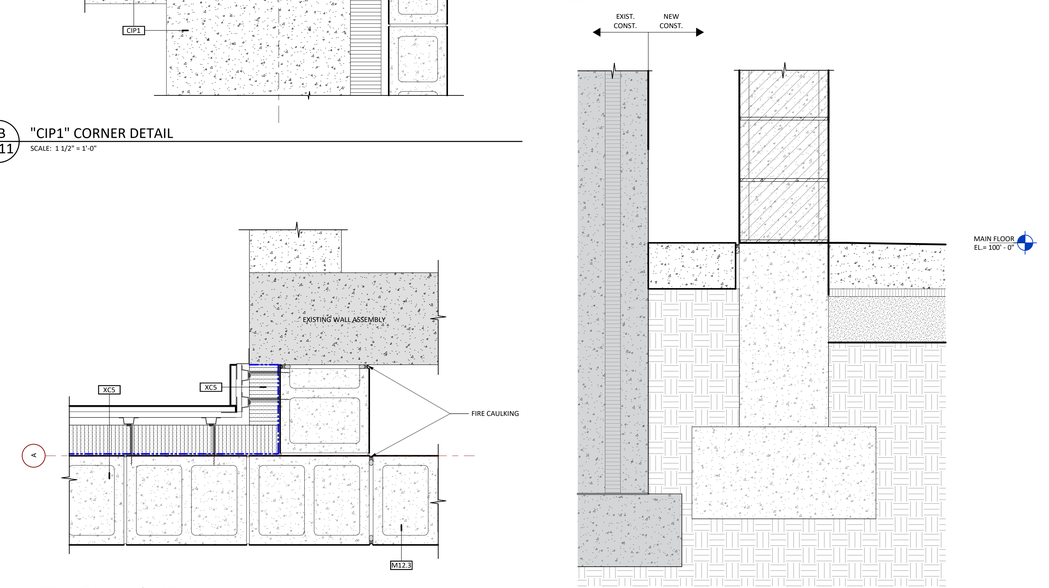




7B A511 "CIP1" CORNER DETAIL
SCALE: 1 1/2" = 1'-0"



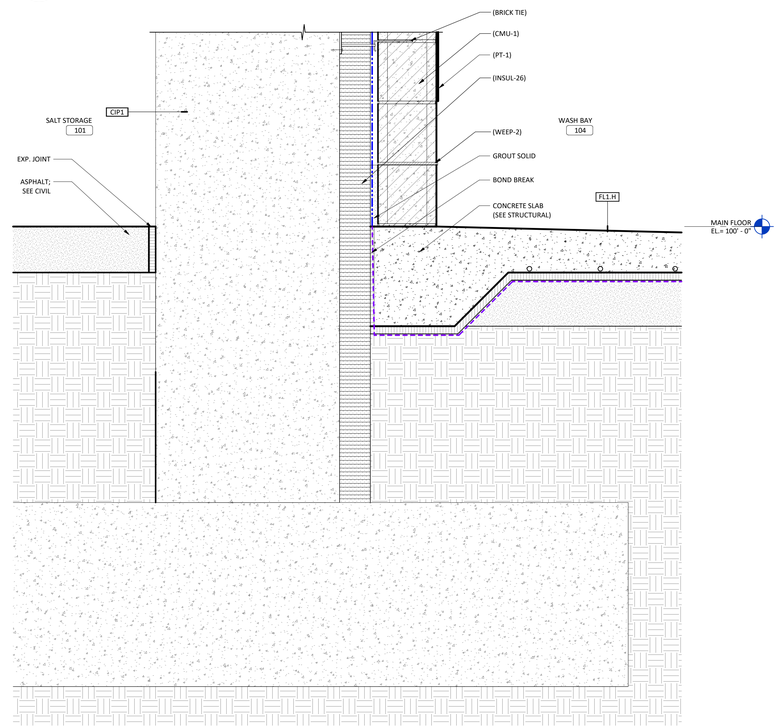
5C A511 DETAIL @ XA7 / CONCRETE PIER
SCALE: 1 1/2" = 1'-0"



5A A511 FOOTING DETAIL
SCALE: 1 1/2" = 1'-0"

7A A511 DETAIL @ M12.3 & XC5 WALL CONNECTION
SCALE: 1 1/2" = 1'-0"

3C A511 Detail 27
SCALE: 1 1/2" = 1'-0"



3A A511 DETAIL @ SALT SHED & WASH BAY FOUNDATION
SCALE: 1 1/2" = 1'-0"

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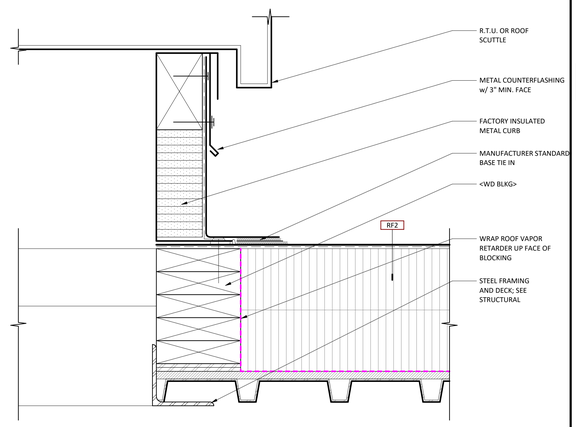
CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

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PROJECT
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A511
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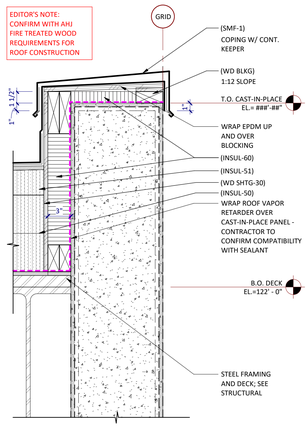
SHEET SPEC ID LIST

SPEC ID	SPEC SECTION & DESCRIPTION
CMU-1	04 2000 - STANDARD GREY CMU
EPDM-2	07 5300 - FULLY ADHERED EPDM ROOFING SYSTEM
INSUL-50	07 5300 - FLAT POLYISOCYANURATE INSULATION (CONSTANT THICKNESS)
INSUL-51	07 5300 - TAPERED POLYISO OVER CONSTANT THICKNESS POLYISO
INSUL-60	07 5300 - FLAT MINERAL FIBER BOARD INSULATION (CONSTANT THICKNESS)
MTL PNL-10	07 4113 - METAL ROOF PANEL, NOT INSULATED.
RDG CAP-1	07 7200 - RIDGE CAP
RDG CAP-2	07 7200 - VENTED RIDGE CAP
SEALANT-1	07 9200 - JOINT SEALANT OR CAULKING WITH OR WITHOUT BACKER ROD
SMF-1	07 6200 - PREFINISHED GALVANIZED STEEL
WD BLKG	06 1000 - WOOD BLOCKING
WD SHTG-30	06 1000 - 1/2" SHEATHING

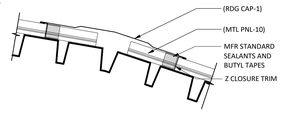


2D / A520 BASE TIE IN AT INSULATED CURB
SCALE: 3" = 1'-0"

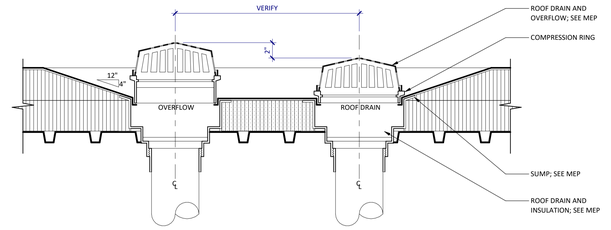
EDITOR'S NOTE: CONFIRM WITH AHJ FIRE TREATED WOOD REQUIREMENTS FOR ROOF CONSTRUCTION



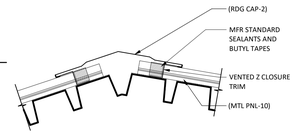
4B / A520 'XC5' PARAPET DETAIL
SCALE: 1 1/2" = 1'-0"



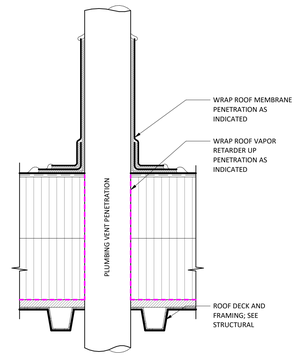
3C / A520 RIDGE CAP
SCALE: 1 1/2" = 1'-0"



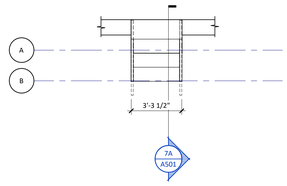
2C / A520 ROOF DRAIN DETAIL
SCALE: 1 1/2" = 1'-0"



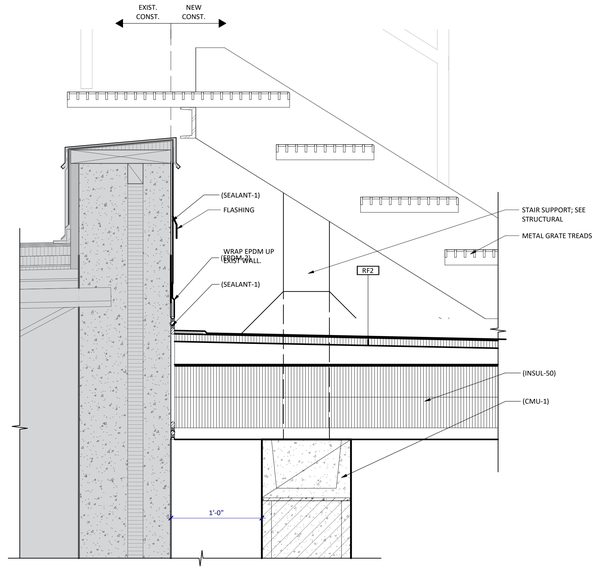
3B / A520 VENTED RIDGE CAP
SCALE: 1 1/2" = 1'-0"



4A / A520 PLUMBING VENT
SCALE: 3" = 1'-0"



3A / A520 ROOF STAIR @ NORTH GARAGE
SCALE: 1/4" = 1'-0"



2A / A520 DETAIL @ EXIST NORTH GARAGE PARAPET
SCALE: 1 1/2" = 1'-0"

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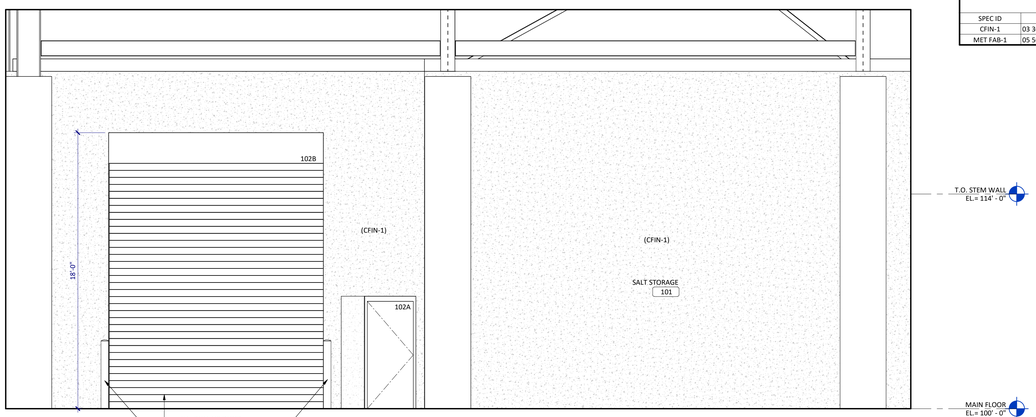
NO.	DESCRIPTION	DATE

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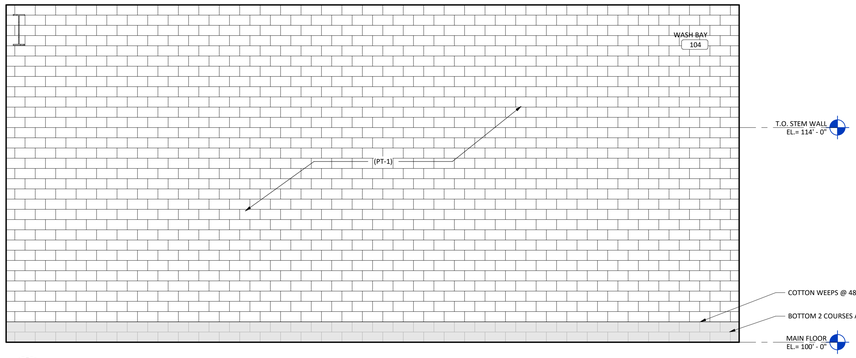
DATE: 06/13/25
PHASE: CONSTRUCTION DOCUMENTS
PROJECT: 22263.01
SHEET: A520
ROOF DETAILS

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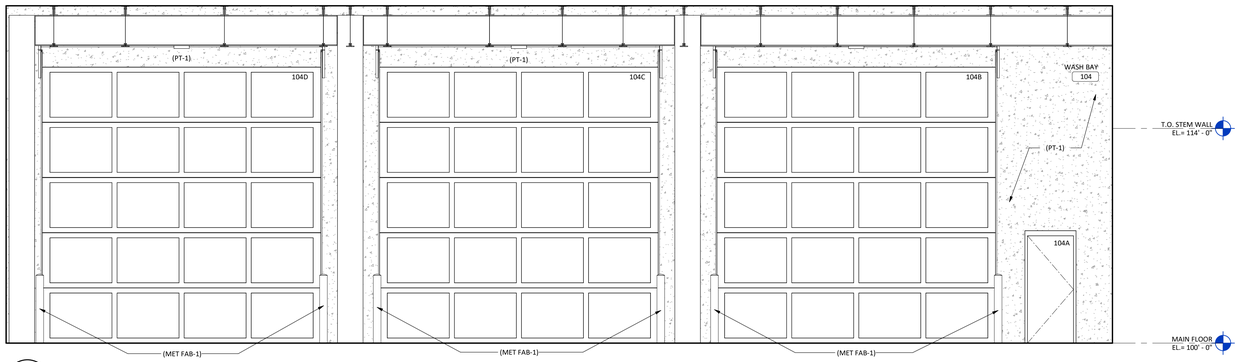
SHEET SPEC ID LIST	
SPEC ID	SPEC SECTION & DESCRIPTION
CFIN-1	03 3000 - STANDARD FLOAT FINISH
MET FAB-1	05 5000 - STEEL PIPE BOLLARD, 6 INCH DIAMETER, CONCRETE FILLED



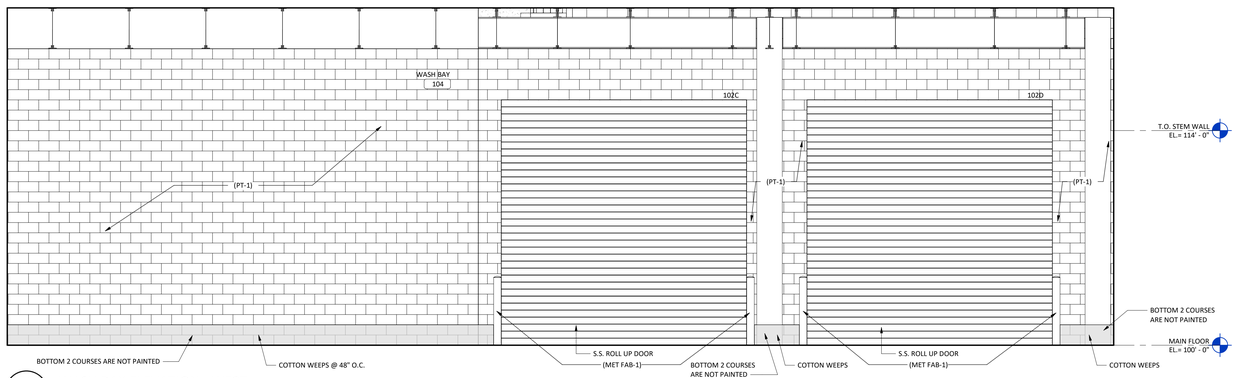
5D A530 SALT STORAGE ELEVATION - NORTH
SCALE: 1/4" = 1'-0"



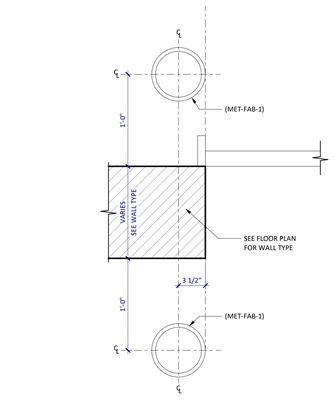
5C A530 WASH BAY ELEVATION - SOUTH
SCALE: 1/4" = 1'-0"



5B A530 WASH BAY ELEVATION - EAST
SCALE: 1/4" = 1'-0"

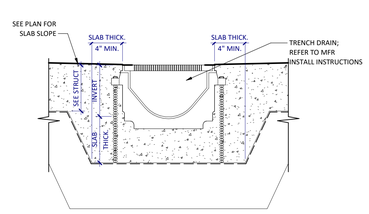


5A A530 WASH BAY ELEVATION - WEST
SCALE: 1/4" = 1'-0"

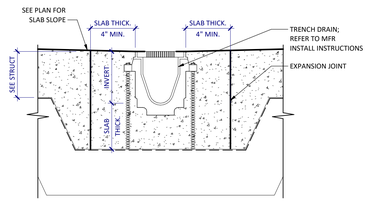


6D A530 BOLLARDS TYPICAL
SCALE: 1 1/2" = 1'-0"

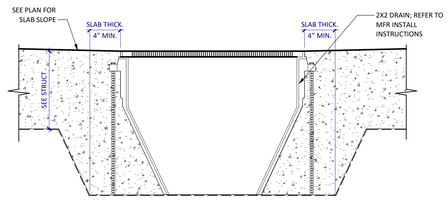
7A A530 BOLLARD SECTION
SCALE: 1 1/2" = 1'-0"



6C A530 TRENCH DRAIN @ EXTERIOR
SCALE: 1 1/2" = 1'-0"



6B A530 TRENCH DRAIN @ WASH BAY
SCALE: 1 1/2" = 1'-0"



6A A530 2X2 DRAIN @ BRINE ROOM
SCALE: 1 1/2" = 1'-0"

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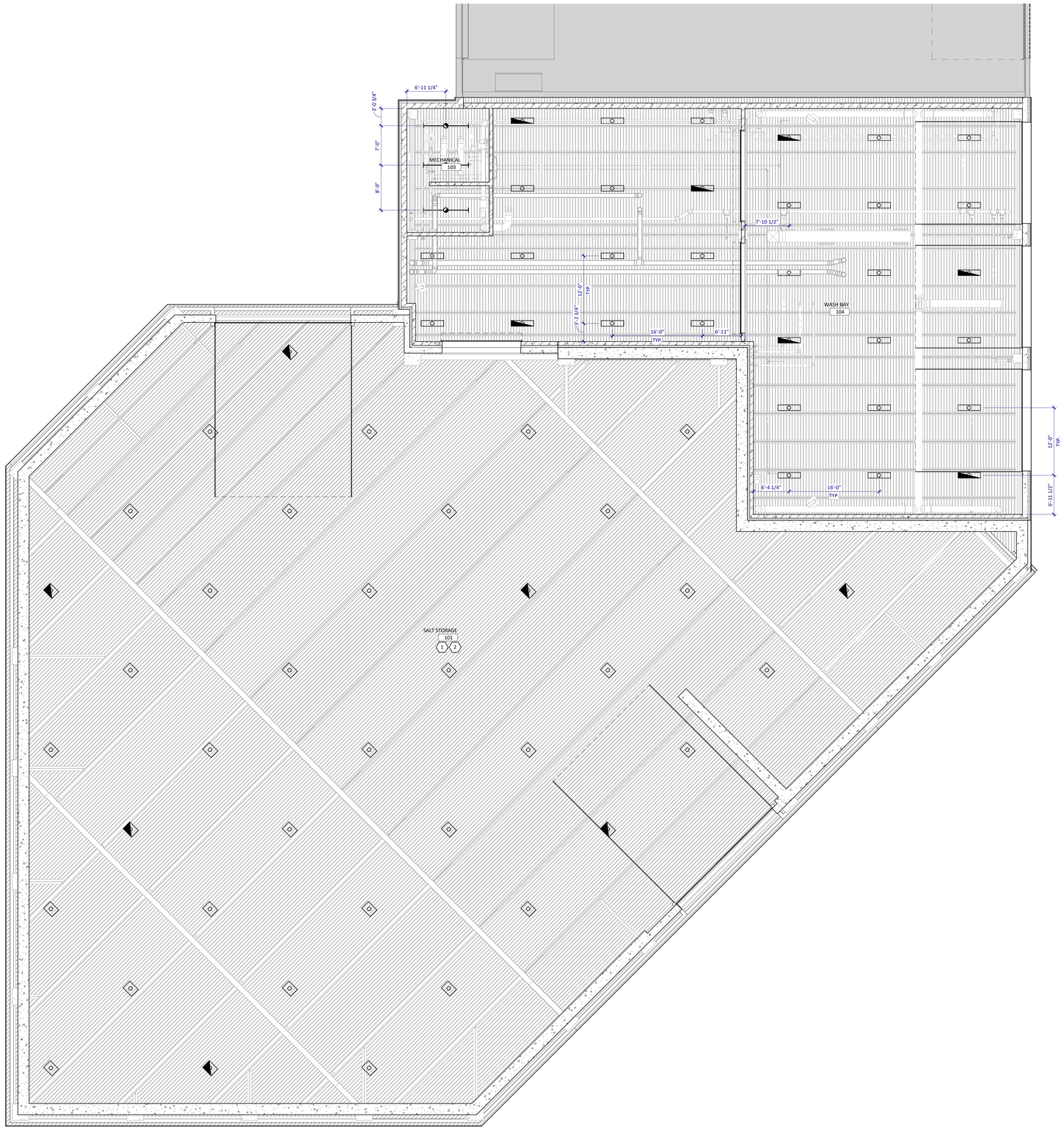
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PROJECT
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SHEET
A530
INTERIOR ELEVATIONS & DETAILS

6/10/2025 4:00:21 PM



7A / A701 MAIN FLOOR
SCALE: 1/8" = 1'-0"

SHEET SPEC ID LIST

SPEC ID	SPEC SECTION & DESCRIPTION

KEYNOTES - CEILING PLAN

NO	NOTE	REV.
1	EXPOSED DUCTWORK. (SEE MECHANICAL)	
2	EXPOSED METAL ROOF DECK TO BE GALVANIZED.	

GENERAL NOTES - RCP

1. COORDINATE FINAL SIZE AND FINAL LOCATION OF ALL ACCESS PANELS WITH TRADE REQUIRING SAME.
2. COORDINATE CEILING SUSPENSION SYSTEMS WITH OTHER CEILING SPACE EQUIPMENT SUPPORTING DEVICES.
3. FOR PARTITION TYPES, SEE SHEET G102.
4. REFER TO LIFE SAFETY PLANS FOR LOCATIONS OF FIRE AND SMOKE RATED PARTITIONS.
5. SPRINKLER HEADS TO BE LOCATED IN THE CENTER OF CEILING PANELS TYPICALLY.
6. PAINT ALL EXPOSED (VISUAL) CONSTRUCTION ABOVE CEILINGS INCLUDING BUT NOT LIMITED TO MECH. AND ELECTRICAL ITEMS. SEE NOTES ON SHEET FOR EXTENT OF SCOPE.
7. VERIFY EXACT LOCATIONS OF SOFFIT AND CEILING CONTROL JOINTS WITH THE ARCHITECTS REPRESENTATIVE IN THE FIELD.
8. REFER TO AQ-XX SERIES DRAWINGS FOR LOCATIONS OF CEILING MOUNTED EQUIPMENT, I.E. EMERGENCY SHOWER CURTAINS, FUME HOODS, ETC. REFER TO DETAILS "XX" FOR CONSTRUCTION.
9. SEE ELECTRICAL DRAWINGS FOR FIXTURE TYPES AND NIGHT LIGHT LOCATIONS.
10. PATCH AND REPAIR THE EXISTING CEILING PANELS AND GRID WHERE WALLS WERE REMOVED.
11. CONTRACTOR SHALL MAINTAIN THE FIRE RATING INTEGRITY OF ALL EXISTING PARTITIONS INDICATED AS FIRE RESISTANCE RATED. ADVISE THE ARCHITECT OF ANY PRE-EXISTING BREACHES DISCOVERED IN THE COURSE OF WORK.

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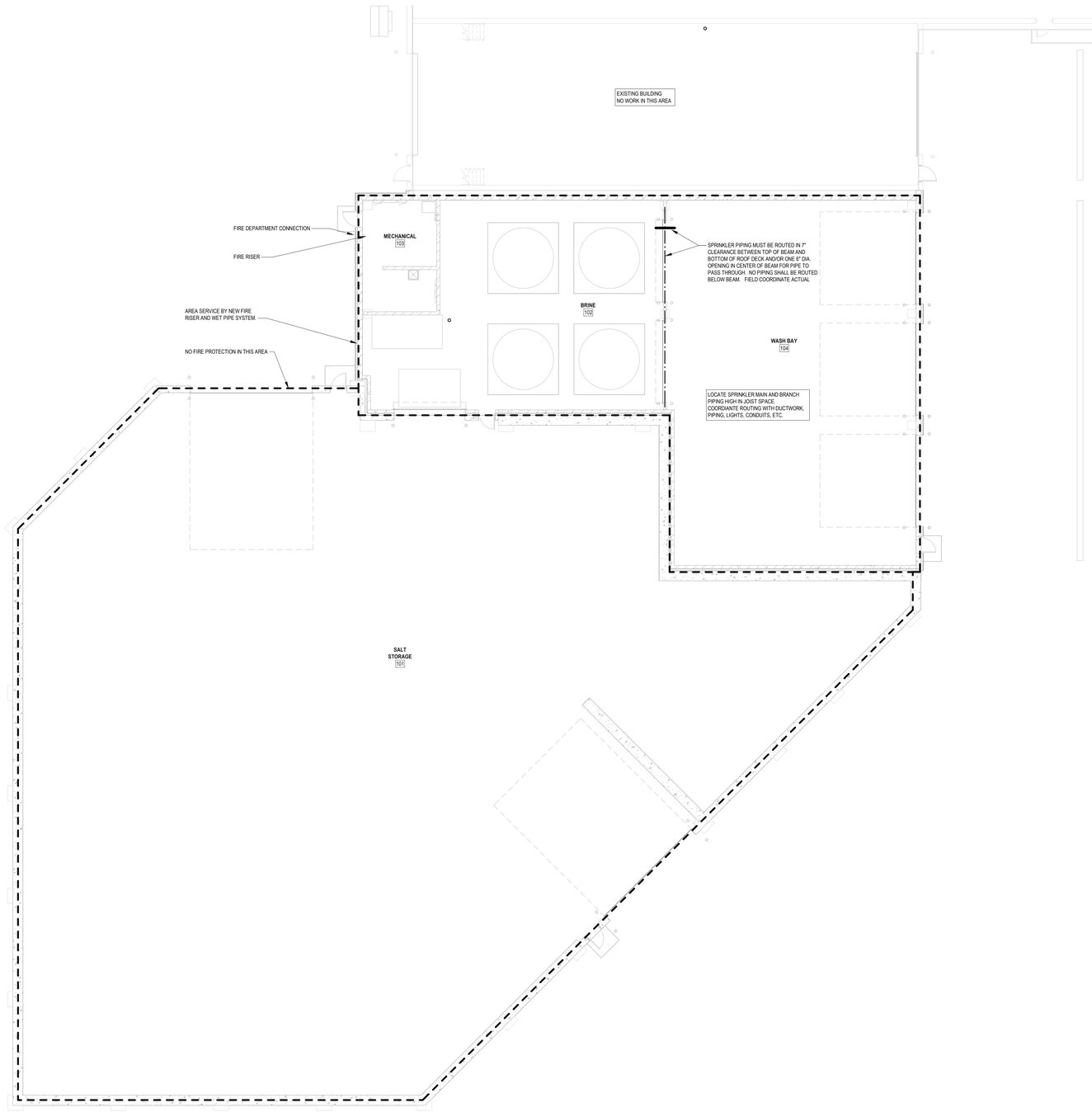
REVISION SCHEDULE

NO.	DESCRIPTION	DATE

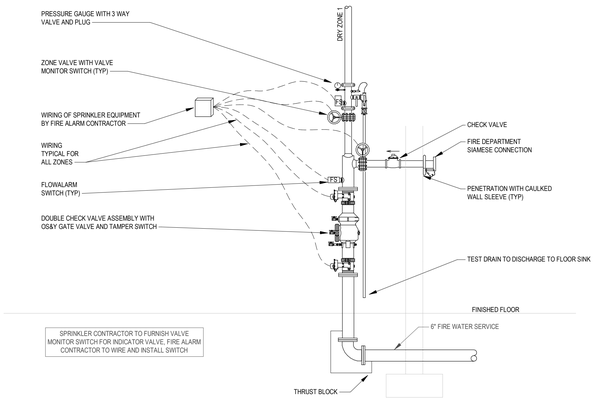
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PROJECT
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SHEET
A701
REFLECTED CEILING PLAN

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1 FIRE PROTECTION PLAN
SCALE: 1" = 10'-0"



2 FIRE PROTECTION RISER DETAIL
NO SCALE

GENERAL NOTES:

1. CONFIRMATION OF THE FINAL INSTALLED DESIGN IS THE SOLE RESPONSIBILITY OF CONTRACTOR.
2. PROVIDE SPRINKLER COVERAGE IN ALL AREAS ACCORDANCE WITH NFPA 13 (2016 EDITION) UNLESS NOTED OTHERWISE.
3. EXPOSED PIPING IS ONLY PERMITTED IN AREAS WITHOUT CEILINGS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
4. SYSTEM COMPONENTS, UNLESS NOTED OTHERWISE SHALL BE PER PROJECT SPECIFICATIONS.
5. COORDINATE WITH STRUCTURAL, MECHANICAL, AND ELECTRICAL ELEMENTS AND ANY ADDITIONAL SPRINKLERS REQUIRED PER NFPA 13 (2016) TO AVOID OBSTRUCTIONS OR PROVIDE ADEQUATE COVERAGE ABOVE AND BELOW ALL OBSTRUCTIONS WHETHER INDICATED OR NOT. FIELD VERIFY ALL LOCATIONS WITH ACTUAL FIELD CONDITIONS.
6. DRAWINGS SHALL BE APPROVED BY OWNER'S DESIGNATED REPRESENTATIVE PRIOR TO FABRICATION.
7. COMPONENTS OF THE SPRINKLER SYSTEM SHALL BE IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS, PROJECT SPECIFICATIONS AND THE REQUIREMENTS.
8. TESTING OF NEW SPRINKLER PIPING SHALL BE IN ACCORDANCE WITH NFPA 13 (2016).
9. TAMPER SWITCHES AND FLOW SWITCHES ARE PROVIDED AND INSTALLED BY THE FIRE PROTECTION CONTRACTOR AND WIRED BY OTHERS.
10. HANG ALL BRANCHLINE AND MAIN PIPING PER NFPA 13 (2016).
11. INSTALLATION SHALL BE IN ACCORDANCE WITH THE DESIGN DRAWINGS WITH SHOP DRAWING MODIFICATIONS FOR COORDINATION AND FABRICATION PURPOSES ONLY.
12. HIGH TEMPERATURE SPRINKLERS SHALL BE INSTALLED NEAR ALL HEAT PRODUCING EQUIPMENT IN ACCORDANCE WITH 8.3.2.5 OF NFPA 13 (2016).
13. SPRINKLERS ARE NOT REQUIRED IN NON ACCESSIBLE VERTICAL MECHANICAL OR ELECTRICAL SHAFTS PER SECTION 8.15.2.1.2 OF NFPA 13 (2016).
14. LOW POINTS IN THE SPRINKLER SYSTEM SHOULD BE CONNECTED WHERE PRACTICAL. THE AUXILIARY DRAIN VALVE SHALL BE ASSESSIBLE FROM THE FINISHED FLOOR AND PIPED TO FACILITY EXTERIOR. DRAINS SHALL HAVE CONCRETE SPLASH BLOCK OR SIMILAR METHOD TO CONTROL RUNOFF AND EROSION AT THE FACILITY EXTERIOR.
15. INDICATE ALL PIPE SUPPORTS AND LOCATIONS IN ACCORDANCE WITH NFPA 13 (2016) AND NFPA 25 (2018).
16. UNLESS NOTED OTHERWISE, ALL AREAS INCLUDE A WET SPRINKLER SYSTEM. TEMPERATURE MAINTAINED GREATER THAN OR EQUAL TO 40 DEGREES FAHRENHEIT AT ALL TIMES, AT THE RESPONSIBILITY OF THE OWNER.
17. ALL PENETRATIONS AT FIRE WALLS, FIRE BARRIERS AND SMOKE BARRIERS (OR OTHER RATED ASSEMBLIES) REQUIRED TO BE SEALED WITH APPROVED MEANS. SEE ARCHITECTURAL CODE PLANS FOR LOCATIONS OF ALL RATED ASSEMBLIES.
18. ALL SPRINKLER HEADS WITHIN A COMPARTMENT MUST BE OF THE SAME THERMAL SENSITIVITY (QUICK OR STANDARD) UNLESS PERMITTED BY NFPA 13.
19. ALL SPRINKLER PIPING ELEVATIONS ARE TO BE COORDINATED WITH STRUCTURE, CEILINGS, MECHANICAL, PLUMBING AND ELECTRICAL TRADES PRIOR TO ORDERING OF MATERIALS.
20. THE ENTIRE SYSTEM SHALL BE BE ABLE TO BE DRAINED COMPLETELY AT THE MAIN DRAIN IN THE MECHANICAL ROOM AT THE SPRINKLER RISER. IF ANY AUXILIARY DRAINS ARE REQUIRED FOR DRAINAGE, THE LOCATIONS SHALL BE APPROVED PRIOR TO INSTALLATION.

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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
5/22/25
PHASE

PROJECT
5015.0000

SHEET
FP101
FIRE PROTECTION PLAN

MECHANICAL PROJECT GENERAL NOTES

(NOTES APPLY TO ALL SHEETS)

1 WORK TO BE ACCOMPLISHED ON THESE DRAWINGS AND THE ACCOMPANYING SPECIFICATIONS INCLUDES THE FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY FOR THE PROPER COMPLETION OF ALL MECHANICAL WORK.

2 EXISTENCE OF ANY WIRES, CONDUITS, PIPES, DUCTS, OR OTHER FACILITIES ARE SHOWN IN A GENERAL WAY ONLY. IT WILL BE THE DUTY OF THE CONTRACTOR TO VISIT THE SITE AND MAKE EXACT DETERMINATION OF THE EXISTENCE OF ANY SUCH FACILITIES PRIOR TO THE SUBMISSION OF HIS BID. IT IS UNDERSTOOD THAT HE WILL BE RESPONSIBLE FOR MAKING THE EXACT DETERMINATION OF THE LOCATION AND CONDITION OF SUCH FACILITIES.

3 ALL REQUIRED FEES, PERMITS, AND INSPECTIONS SHALL BE OBTAINED AND/OR ARRANGED FOR BY THE CONTRACTOR UNDER THE SECTION OF THE SPECIFICATIONS FOR WHICH THEY ARE REQUIRED.

4 REGULAR INSPECTIONS SHALL BE ARRANGED BY THE CONTRACTOR AS REQUIRED BY ANY AND ALL REGULATIONS. ALL CHARGES FROM REGULATING AGENCIES FOR INSPECTIONS OF INSTALLATIONS OR REVIEW OF PLANS AND SPECIFICATIONS SHALL BE PAID BY THE CONTRACTOR.

5 CERTIFICATE OF FINAL INSPECTION. UNDER EACH APPLICABLE SECTION OF THE SPECIFICATIONS, CONTRACTOR SHALL, UPON COMPLETION OF THE WORK UNDER THAT SECTION, FURNISH A CERTIFICATE OF FINAL INSPECTION TO THE ENGINEER FROM THE INSPECTION DEPARTMENT HAVING JURISDICTION.

6 ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL CURRENT AND APPLICABLE CODES, SPECIFICATIONS, ORDINANCES, LAWS, REGULATIONS, INDUSTRY STANDARDS, AND UTILITY COMPANY REGULATIONS.

7 IN CASE OF DIFFERENCE AMONG BUILDING CODES, SPECIFICATIONS, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, AND UTILITY COMPANY REGULATIONS AND THE CONTRACT DOCUMENTS, THE MOST STRINGENT SHALL GOVERN. CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING OF ANY SUCH DIFFERENCE.

8 ALL APPLICABLE FEDERAL, STATE, LOCAL LAWS, ORDINANCES, AND LOCAL CODE AMENDMENTS SHALL BE ADHERED TO THROUGHOUT THE CONSTRUCTION PROJECT. THE TOTAL INSTALLATION SHALL COMPLY WITH ANY AND ALL REQUIREMENTS OF THE LEGALLY CONSTITUTED AUTHORITIES HAVING JURISDICTION INCLUDING THE APPLICABLE BUILDING CODE, THE APPLICABLE MECHANICAL CODE, AND THE APPLICABLE PLUMBING CODE.

9 NON-COMPLIANCE. SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE BUILDING CODES, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, AND UTILITY COMPANY REGULATIONS, HE SHALL BEAR ALL COSTS ARISING TO CORRECT THE DEFICIENCIES.

10 CONTRACTOR SHALL INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY PRE-CAUTIONS REQUIRED FOR HIS WORK, INCLUDING REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).

11 DRAWINGS ARE TO SCALE AS NOTED, BUT THE CONTRACTOR SHALL REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT LOCATION OF PARTITIONS, WALLS, BEAMS, SHAFTS, EQUIPMENT, ETC.

12 EACH TRADE SHALL OBTAIN DRAWINGS AND SPECIFICATIONS OF ALL OTHER TRADES AND COORDINATE HIS WORK WITH ALL OTHER TRADES.

13 DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, AND APPURTENANCES AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND WORK OF OTHER TRADES WILL PERMIT. MECHANICAL WORK SHALL CONFORM TO THE REQUIREMENTS SHOWN ON ALL OF THE DRAWINGS. ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER MECHANICAL DRAWINGS. BECAUSE OF THE SMALL SCALE OF THE MECHANICAL DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES THAT MAY BE REQUIRED.

14 DISCREPANCIES DISCOVERED BEFORE OR AFTER WORK HAS STARTED SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY, AND THE ENGINEER RESERVES THE RIGHT TO REQUIRE MINOR CHANGES IN THE WORK OF ANY CONTRACTOR TO ELIMINATE SUCH DISCREPANCIES WITH NO CHANGE IN CONTRACT COST.

15 PLANS AND SPECIFICATIONS ARE COMPLEMENTARY, AND WHAT IS CALLED FOR IN EITHER ONE SHALL BE AS BINDING AS IF CALLED FOR IN BOTH.

16 WHERE A DISAGREEMENT EXISTS BETWEEN THE PLANS AND SPECIFICATIONS, THE ITEM OR ARRANGEMENT OF BETTER QUALITY, GREATER QUANTITY, OR HIGHER COST SHALL BE INCLUDED IN THE BID.

17 ALL MATERIALS AND EQUIPMENT SHALL BE STORED IN SUCH A PLACE AND IN SUCH A MANNER THAT A MINIMUM OF CONGESTION WILL RESULT. THE PLACING OF SUCH MATERIALS AND EQUIPMENT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER.

18 EACH CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES IN THE INSTALLATION OF EQUIPMENT, PIPING, CONDUIT, AND DUCTWORK.

19 CONTRACTORS SHALL SOLVE ALL COORDINATION CONFLICTS AMONG THEMSELVES WHEN POSSIBLE. ENGINEER WILL ARBITRATE WHEN NECESSARY, AND HIS JUDGMENT WILL STAND, WITH NO ADDITIONAL COST TO THE OWNER.

20 ACCESS PANELS SHALL BE FURNISHED BY THE TRADE REQUIRING THEM AND DELIVERED TO THE GENERAL CONTRACTOR FOR INSTALLATION.

21 EACH TRADE SHALL PERFORM ALL REMOVING, CUTTING, PATCHING, AND REPLACEMENT OF ALL BUILDING STRUCTURE, SURFACES, AND FINISHING NECESSARY IN ORDER TO PERFORM THE WORK, UNLESS SUCH WORK HAS BEEN DELEGATED TO THE GENERAL CONTRACTOR/ANOTHER TRADE. HOWEVER, SPECIAL PERMISSION SHALL BE OBTAINED FROM THE ENGINEER BEFORE CUTTING STRUCTURAL MEMBERS OR FINISHED MATERIALS. ALL PATCHING SHALL BE PERFORMED IN SUCH A MANNER AS TO LEAVE NO VISIBLE TRACE AND TO RETURN THE PART AFFECTED TO THE CONDITION OF UNDISTURBED WORK. PATCHING WORK SHALL BE PERFORMED BY PERSONS EXPERIENCED, SKILLED, AND LICENSED FOR THE PARTICULAR TYPE OF WORK INVOLVED. INFERIOR WORK WILL NOT BE ACCEPTED. ALL HOLES IN MASONRY SHALL BE DRILLED WITH ROTARY DRILLS. IMPACT TOOLS SHALL NOT BE USED.

22 EACH TRADE SHALL BEAR THE EXPENSE OF ALL CUTTING, PATCHING, REPAIRING, OR REPLACING OF THE WORK OF OTHER TRADES REQUIRED BECAUSE OF HIS FAULT, ERROR, OR TARDINESS OF BECAUSE OF ANY DAMAGE DONE BY HIM.

23 EACH TRADE SHALL PROVIDE ALL HOLES AND OPENINGS REQUIRED FOR HIS WORK, UNLESS SUCH HOLES AND OPENINGS ARE SHOWN TO BE PROVIDED ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS.

24 EACH TRADE SHALL PERIODICALLY CLEAR AWAY ALL DEBRIS, SURPLUS MATERIALS, ETC., RESULTING FROM HIS WORK OR OPERATIONS, LEAVING THE JOB AND THE EQUIPMENT FURNISHED UNDER ANY OR ALL CONTRACTS IN A CLEAN CONDITION.

25 EACH TRADE SHALL TEST THE EQUIPMENT PROVIDED AND/OR INSTALLED UNDER THE SPECIFICATION AND SHALL DEMONSTRATE ITS PROPER OPERATION TO THE OWNER'S OPERATING ENGINEER.

26 EACH TRADE SHALL FURNISH, WITHOUT ADDITIONAL EXPENSE TO THE OWNER, THE SERVICES OF COMPETENT INSTRUCTORS, WHO WILL GIVE FULL INSTRUCTION IN THE CARE, ADJUSTMENT, AND OPERATION AND MAINTENANCE OF ALL PARTS OF THE EQUIPMENT TO THE OWNER'S PERMANENT EMPLOYEES WHO ARE TO HAVE CHARGE OF THE EQUIPMENT.

27 ALL WOOD NAILERS AND OTHER LUMBER WHICH IS INSTALLED IN CONTACT WITH METAL, CONCRETE, OR MASONRY SHALL BE PRESSURE TREATED AGAINST DECAY (UNLESS OTHERWISE NOTED).

28 MATERIAL EXPOSED WITHIN RETURN AIR PLENUM CEILINGS SHALL COMPLY WITH APPLICABLE CODE.

29 PLANS DO NOT INCLUDE ALL OFFSETS FOR COORDINATION WITH DUCT, PIPING, LIGHTING, AND STRUCTURAL SYSTEMS. PROVIDE ALLOWANCES FOR REQUIRED OFFSETS. PROVIDE OFFSETS AS REQUIRED.

30 BEFORE SUBMITTING A PROPOSAL ON THE WORK SHOWN ON THESE DRAWINGS AND ACCOMPANYING SPECIFICATIONS, EACH BIDDER SHALL EXAMINE THE SITE, CHECK AS TO THE MEANS OF MAKING CONNECTIONS TO SERVICES, AND SHALL BECOME FAMILIAR WITH ALL THE EXISTING CONDITIONS AND LIMITATIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTOR'S MISUNDERSTANDING AS TO THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS WHICH MAY AFFECT HIS WORK. ANY APPARENT VARIANCE OF THE PLAN OR SPECIFICATION FROM EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER DURING THE BID PERIOD SO CLARIFICATION CAN BE MADE BY ADDENDUM.

31 NORMAL USE OF THE FACILITY SHALL NOT BE DISTURBED, EXCEPT WITHIN THE IMMEDIATE CONSTRUCTION AREA. ALL WALKS, DRIVEWAYS, AND ENTRANCES SHALL BE KEPT CLEAR AND FREE OF ALL CONTRACTOR'S EQUIPMENT, MATERIAL, AND DEBRIS AT ALL TIMES.

32 CONTRACTOR SHALL THOROUGHLY EXAMINE THE EXISTING BUILDING WITH REGARD TO WHAT TEMPORARY MEASURES HE MUST TAKE IN ORDER TO PERMIT THE OWNER TO OCCUPY SPECIFIC AREAS OF THE BUILDING DURING THE VARIOUS CONSTRUCTION PHASES. REFER TO DIVISION 1, SECTION 1010, "SUMMARY OF WORK" FOR CONSTRUCTION SEQUENCING SCHEDULE. IN GENERAL, SYSTEMS MUST REMAIN IN USE IN THOSE DESIGNATED AREAS TO PERMIT THE OWNER TO FUNCTION IN A PRE-CONSTRUCTION MANNER.

33 EACH TRADE SHALL REMOVE EXISTING WORK THAT IS SHOWN, SPECIFIED, OR OBVIOUSLY NECESSARY FOR COMPLETION OF HIS WORK. OWNER SHALL HAVE THE OPTION OF RETAINING ANY ITEM OR MATERIAL REMOVED UNDER THIS CONTRACT. ITEMS OR MATERIALS NOT RETAINED BY OWNER SHALL BECOME THE PROPERTY OF THE TRADE AND SHALL BE REMOVED FROM THE PREMISES.

HVAC GENERAL NOTES

1 HVAC/SHEET METAL CONTRACTOR SHALL INITIATE THE COORDINATION PROCESS BY PROVIDING REPRODUCIBLE PLAN DRAWINGS SHOWING DUCTWORK AND EQUIPMENT. DRAWINGS WILL BE FORWARDED TO THE PIPING CONTRACTOR AND ELECTRICAL CONTRACTOR FOR INCLUSION OF THEIR SYSTEMS WORK.

2 ALL FLEX DUCT MUST BE INSTALLED PER THE ADC (AIR DIFFUSION COUNCIL) INSTALLATION STANDARDS (MOST CURRENT EDITION), INCLUDING A BEND RADIUS OF ONE DUCT DIAMETER OR GREATER, PROPERLY SEALED AND SECURED WITH 2 INCH BEADED COLLARS, PROPERLY SUPPORTED AND FULLY EXTENDED DUCT. FAN CALCULATIONS FOR THIS PROJECT WERE SIZED FOR A FOOT MAXIMUM FLEX DUCT INSTALLED PER THE ADC INSTALLATION STANDARDS. FLEX DUCT SHOWN ON PLANS IS FOR SCHEMATIC PURPOSES ONLY AND SHALL IN NO INSTANCE EXCEED 4 FOOT.

3 HVAC CONTRACTOR SHALL LINE THE INSIDE OF ALL RETURN/RELIEF/EXHAUST PLENUM BOXES PER SPECIFICATIONS. IF NO LINING IS REQUIRED, HVAC CONTRACTOR SHALL PAINT THE INSIDE FLAT BLACK.

4 HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR TESTED AND RATED FIRE STOP SYSTEMS FOR ALL THRU PENETRATIONS OF THE WALLS, FLOORS, AND ROOF ASSEMBLIES RESULTING FROM PIPING AND OTHER WORK UNDER HIS CONTRACT. REFER TO SPECIFICATION SECTION 07841 - FIRESTOPPING FOR REQUIREMENTS.

5 ALL DUCT SIZES ARE INTERNAL DIMENSIONS. CONTRACTOR SHALL INCREASE SHEET METAL SIZE IF DUCT RECEIVES INTERNAL LINER. SEE SPECIFICATIONS FOR INSULATION REQUIREMENTS.

6 DUCT ROOF PENETRATION SIZES TO ROOFTOP UNITS ARE SAME AS DUCT MAIN, UNLESS NOTED OTHERWISE. TRANSITION TO UNIT CONNECTION SIZES WITHIN ROOF CURBS.

7 LOCATIONS OF ORIFICESL-VENTS FOR FABRIC DUCTS ARE ORIENTED WHEN FACING THE DIRECTION OF AIRFLOW.

8 MAINTAIN A MINIMUM OF 10'-0" HORIZONTAL DISTANCE FROM ANY INTAKE TO EXHAUST OUTLET.

9 HVAC CONTRACTOR SHALL CLOSELY COORDINATE WITH GENERAL CONTRACTOR FOR EXACT FIRE AND FIRE/SMOKE DAMPER PENETRATION SIZES IN WALLS AND FLOORING. FLOOR OPENINGS PROVIDED BY PRECAST MANUFACTURER ARE OVERSIZED AND M.C. MUST RELAY EXACT (NOT NOMINAL) OPENING SIZE MEETING UL LISTING TO CONCRETE INSTALLER FOR FRAMING OUT FLOOR OPENING. FLOOR OPENING SHALL HAVE 0.5" FREE SPACE AROUND ALL FOUR SIDES OF DAMPER AT ANY TIME TO ALLOW FOR EXPANSION, NO EXCEPTIONS. INSTALL MOUNTING ANGLE ON ALL FOUR SIDES OF FIRE DAMPERS; ANGLES SHALL NOT BE SECURED TO FLOOR OR WALL. FIRE CAULKING AROUND DAMPERS IS STRICTLY PROHIBITED. REFER TO STANDARDS UL555 & UL555S AND DAMPER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

PLUMBING GENERAL NOTES

1 COORDINATE UNDERGROUND PIPING WITH GENERAL CONTRACTOR TO ENSURE PROPER FOOTING DEPTH CLEARANCE.

2 PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PLUMBING SYSTEM AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED BY CODE.

3 RUN STORM DRAIN, AND ALL VENT PIPING AT 1/8" PER FOOT SLOPE UNLESS NOTED OTHERWISE; AND WASTE PIPING AT 1/4" PER FOOT SLOPE UNLESS NOTED OTHERWISE.

4 ELEVATIONS SHOWN ARE TO THE INVERT OF ALL PIPING BASED ON ARCHITECTURAL FINISHED FLOOR ELEVATION (FFE) OF 100'-0", UNLESS NOTED OTHERWISE.

5 ADJUST SEWER INVERTS TO KEEP BOTTOM OF PIPES IN LINE WHERE PIPE SIZES CHANGE.

6 PROVIDE SHUTOFF VALVES IN ALL WATER PIPING SYSTEM BRANCHES IN WHICH BRANCH PIPING SERVES TWO OR MORE FIXTURES (NOT SHOWN FOR CLARITY) AND WHERE SHOWN ON PLAN AND RISERS.

7 INSTALL PIPING SO THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND OTHER ACCESSORIES REQUIRING ACCESS ARE ACCESSIBLE.

8 UNIONS AND/OR FLANGES SHALL BE INSTALLED AT EACH PIECE OF EQUIPMENT, IN BYPASSES, AND IN LONG RUNS (OVER 100') TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS.

9 ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.

10 ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE FULL SIZE OF PIPE BEFORE REDUCING SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS.

11 PROVIDE CLEANOUTS IN SANITARY AND STORM DRAINAGE SYSTEMS AT THE ENDS OF RUNS, AT CHANGES IN DIRECTION, NEAR THE BASE OF STACKS, EVERY 100' IN 4" AND LARGER HORIZONTAL RUNS, EVERY 50' IN 3" AND SMALLER HORIZONTAL RUNS, WHERE NOTED ON PLANS, AND WHERE REQUIRED BY CODE.

12 ALL VALVES SHALL BE INSTALLED SO THAT THE VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.

13 SEE PLUMBING RISERS FOR SIZING NOT SHOWN ON PLAN SHEETS (FOR CLARITY) AND SEE PLUMBING FIXTURE SCHEDULE FOR FIXTURE CONNECTIONS AND RUNOUT SIZES.

14 CONTRACTOR TO ENSURE THAT CLEANOUTS (FCO, WCO, CO) LOCATIONS DO NOT REST BELOW OR BEHIND CASEWORK.

15 PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL REMOVING, CUTTING, PATCHING, AND REPLACEMENT OF ALL BUILDING STRUCTURE, SURFACES, AND FINISHES REQUIRED TO COMPLETE WORK STATED IN THE CONTRACT DOCUMENTS.

16 PLUMBING CONTRACTOR TO COORDINATE COUNTER OPENINGS FOR NEW SINKS/LAVS WITH GENERAL CONTRACTOR PRIOR TO ORDERING MATERIALS.

17 PIPES SHOWN SPREAD APART ON PLANS FOR CLARITY. CONTRACTOR TO INSTALL PIPES TIGHT TOGETHER.

18 ALL UNDERGROUND DOMESTIC WATER PIPING SHALL BE SEAMLESS TYPE 'K' COPPER PIPING WITH NO JOINTS. SEE SPECIFICATIONS.

19 GAS PIPING SUPPORTS TO BE EVERY 5 FEET.

20 SEE ARCHITECTURAL ROOF PLAN FOR ROOF SLOPE AND SCUPPER SIZES/LOCATIONS.

21 REDUCED PRESSURE ZONE BACKFLOW PREVENTER (RPZ) SHALL BE INSTALLED AT AN ELEVATION BETWEEN 3'-0" AFF AND 6'-0" AFF AND LABELED INDICATING EQUIPMENT SERVED. RPZ'S SHALL BE INSPECTED AND TESTED ANNUALLY OR AT A RATE PER LOCAL CODES.

22 PIPING MATERIAL FOR SANITARY WASTE, PLUMBING VENTS, AND STORM SEWER SHALL BE CAST IRON WHERE PIPING RUNS THROUGH A RETURN-AIR PLENUM. REFERENCE APPLICABLE MECHANICAL CODE, WITH LOCAL AMENDMENTS. WHERE PIPING MATERIAL MUST BE PVC THE PIPE SHALL BE WRAPPED WITH 3M FIRE BARRIER WRAP AS DESCRIBED IN MECHANICAL SPECIFICATION.

23 FIRE CAULK ALL FLOOR PENETRATIONS AND WHERE PIPING PENETRATES RATED WALLS.

24 ALL PLUMBING INSTALLATION SHALL CONFORM TO STATE PLUMBING CODE WITH LOCAL AMENDMENTS.

25 WHERE NOT SPECIFICALLY INDICATED OTHERWISE, ALL GAS PIPING AND EQUIPMENT SHALL BE SUPPORTED PER THE SMACNA GUIDELINES FOR SEISMIC RESTRAINT AND CURRENT APPLICABLE STATE BUILDING CODE.

26 THE TOTAL INSTALLATION SHALL COMPLY WITH ANY AND ALL REQUIREMENTS OF THE LEGALLY CONSTITUTED AUTHORITIES HAVING JURISDICTION INCLUDING STATE BUILDING CODE, THE STATE MECHANICAL CODE, AND THE STATE PLUMBING CODE.

28 PLUMBING CONTRACTOR IS RESPONSIBLE TO REMOVE ALL SHAVINGS IN PVC/CPVC/ABS PIPING IN DOMESTIC WATER, SANITARY SEWER, AND STORM SEWER PIPING PRIOR TO LEAVING SITE.

29 PLUMBING CONTRACTOR IS RESPONSIBLE TO PURGE DOMESTIC WATER SYSTEM, INCLUDING BUT NOT LIMITING, ALL CW/HW/CHW PIPING, WATER HEATERS, VALVING, AND PLUMBING FIXTURES, OF ALL DELETERIOUS MATTER AND DISINFECT ENTIRE SYSTEM PRIOR TO UTILIZATION, AS DEFINED AND DESCRIBED IN APPLICABLE PLUMBING CODE.

MECHANICAL ABBREVIATIONS

AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AFMS	AIRFLOW MEASURING STATION
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AP	ACCESS PANEL(S)
APD	AIR PRESSURE DROP
ARCH	ARCHITECT(URAL)
AS	AIR SEPARATOR
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BLR	BOILER
BOD	BOTTOM OF DUCT
BTUH	BRITISH THERMAL UNIT PER HOUR
BWV	BACK WATER VALVE
CA	COMBUSTION AIR
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHW	CIRCULATING HOT WATER
CLG	CEILING
CLR	CORE LOOP WATER RETURN
CLS	CORE LOOP WATER SUPPLY
CO	CLEAN OUT
COND	CONDENSATE(R) (ER)
CONN	CONNECTION
CONT	CONTINUE(-OUS) (ED) (ATION)
CONTR	CONTRACTOR
CP	CIRCULATING PUMP
CR	CONDENSER RETURN
CRU	COMPUTER ROOM UNIT
CS	CONDENSER SUPPLY
CTE	CONNECT TO EXISTING
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CW	COLD WATER
CWR	CHILLER WATER RETURN
CWS	CHILLED WATER SUPPLY
DEG	DEGREE(S)
DH	DUCT HEATER
DIFF	DIFFUSER
DN	DOWN
DT	DRAIN TILE
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EHC	ELECTRIC HEATING COIL
EL	ELEVATION
ERU	ENERGY RECOVERY UNIT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXIST	EXISTING
F	FAHRENHEIT
FBO	FURNISHED BY OTHERS
FCO	FLOOR CLEAN OUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FD	FIRE DAMPER
FDC	FIRE DEPARTMENT CONNECTION
FDV	FIRE DEPARTMENT VALVE
FFD	FUNNEL FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FLR	FLOOR
FPM	FEET PER MINUTE
FS	FLOOR SINK
FT	FOOT, FEET
FTR	FINNED TUBE RADIATION
G	GAS
GA	GAUGE
GAL	GALLON
GC	GENERAL CONTRACTOR
GI	GREASE INTERCEPTOR
GPH	GALLON(S) PER HOUR
GPM	GALLON(S) PER MINUTE
GR	GRILLE
GW	GREASE WASTE (SANITARY)
H	HARD WATER
H-STAT	HUMIDISTAT
HB	HOSE BIBB
HOA	HAND-OFF-AUTO SWITCH
HP	HORSEPOWER
HP	HEAT PUMP
HTG	HEATING
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
ID	INDIRECT DRAIN
IE	INVERT ELEVATION
IN	INCH(ES)
INSUL	INSULATION
INV	INVERT
INV EL	INVERT ELEVATION
IRR	IRRIGATION WATER

MECHANICAL ABBREVIATIONS

L	LIQUID
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LF	LINEAL FOOT, FEET
LTA	LINED TRANSFER AIR
LV	LOUVER
LWT	LEAVING WATER TEMPERATURE
MAU	MAKEUP AIR UNIT
MAX	MAXIMUM
MB	MOP BASIN
MBH	1,000 BTUH
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MEZZ	MEZZANINE
MIN	MINIMUM
MISC	MISCELLANEOUS
#	NUMBER
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OC	ON CENTER
ORD	OVERFLOW ROOF DRAIN
OSD	OVERFLOW STORM DRAIN
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PG	PRESSURE GAUGE
PLBG	PLUMBING
PRV	POWER ROOF VENTILATOR
PRV	PRESSURE REDUCING VALVE
PRV	PRESSURE REGULATING VALVE
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE AND TEMPERATURE FITTING
RA	RETURN AIR
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REG	REGISTER
REQ	REQUIRED
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RL	REFRIGERANT LIQUID
RM	ROOM
RO	REVERSE OSMOSIS
RP	RADIANT PANEL
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE BACKFLOW PREVENTER
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
RWL	RAIN WATER LEADER
S	SUCTION
SA	SUPPLY AIR
SAN	SANITARY
SCCR	SHORT CIRCUIT CURRENT RATING
SCU	SELF CONTAINED UNIT
SCW	SOFTENED COLD WATER
SD	STORM DRAIN
SE	SEWAGE EJECTOR
SF	SUPPLY FAN, SQUARE FEET
SH	SHOWER
SP	STATIC PRESSURE, SUMP PUMP
SR	SUCTION RISER
SS	STAINLESS STEEL
ST	STORM
STM	STEAM
STP	STANDPIPE
SU	SUPPLY UNIT
T	THERMOSTAT, TEMPERED
T-STAT	THERMOSTAT
TA	TRANSFER AIR
TC	TEMPERATURE CONTROL(S)
TCC	TEMPERATURE CONTROL(S) CONTRACTOR
TD	TEMPERATURE DIFFERENTIAL
TMV	THERMOSTATIC MIXING VALVE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
V	VENT
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
VSD	VARIABLE SPEED DRIVE (MOTOR CONTROLLER)
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WH	WATER HEATER
WH	WALL HYDRANT
WP	WATERPROOF
WPD	WATER PRESSURE DROP
WS	WATER SOFTENER

MECHANICAL SYMBOL LEGEND

PLUMBING

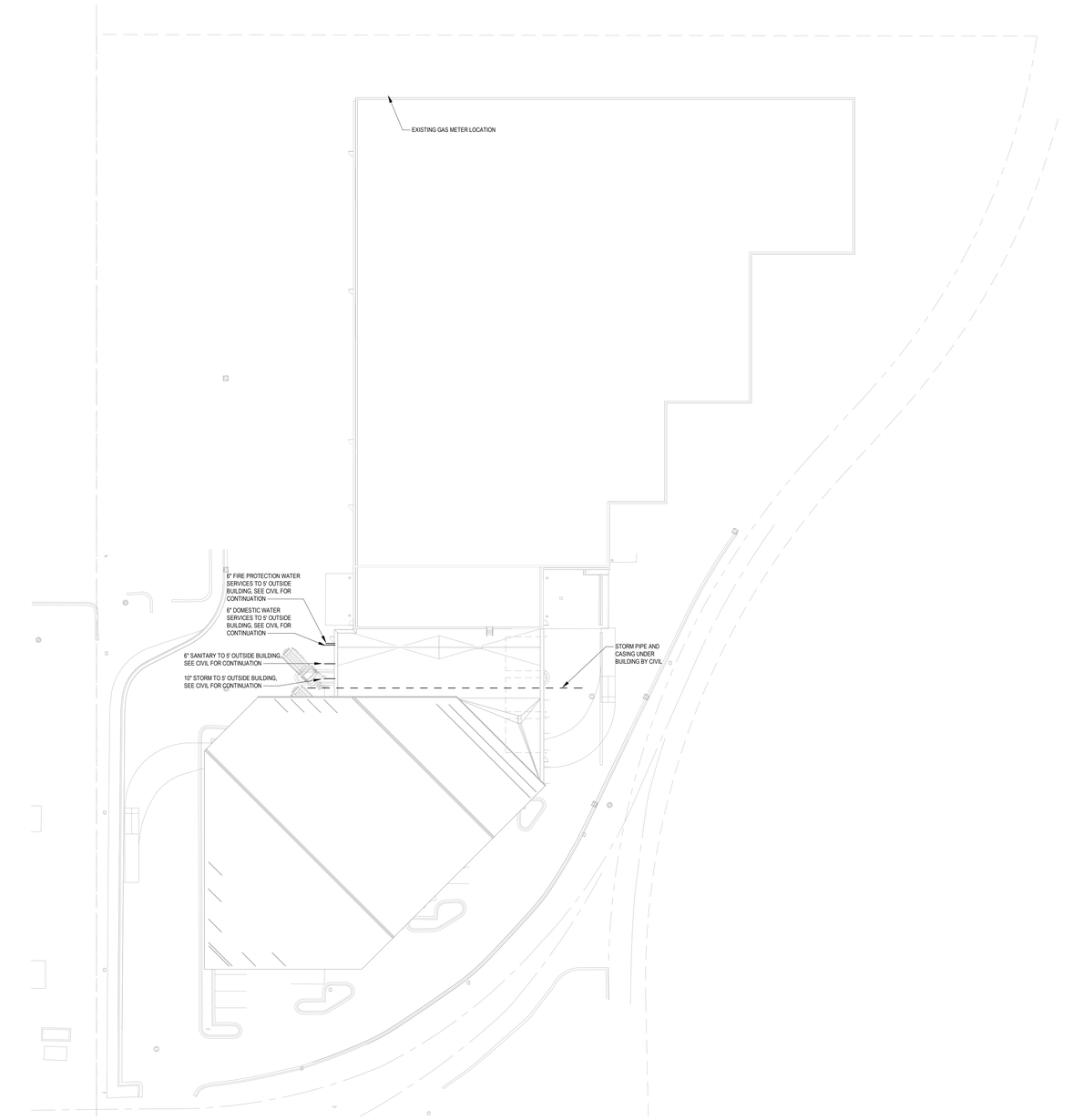
- SCW — DOMESTIC COLD WATER (SOFT)
- H — DOMESTIC COLD WATER (HARD)
- FCW — DOMESTIC FILTERED COLD WATER
- CW-FF — DOMESTIC COLD WATER (FLUSHING FIXTURES)
- NP — DOMESTIC COLD WATER (NON-POTABLE)
- T — TEMPERED DOMESTIC HOT WATER
- HW — DOMESTIC HOT WATER
- CHW — RECIRCULATION HOT WATER
- 140°HW — DOMESTIC HOT WATER (140° F)
- 140°CHW — RECIRCULATION DOMESTIC HOT WATER (140° F)
- W — SANITARY WASTE / PUMPED (PW)
- GW — GREASE WASTE
- FW — FLAMMABLE WASTE
- V — VENT
- AW — SANITARY WASTE (ACID)
- AV — VENT (ACID)
- SD — STORM DRAIN (PRIMARY) / PUMPED (PSD)
- OSD — OVERFLOW STORM DRAIN (OVERFLOW)
- DT — DRAIN TILE
- POOL — POOL DRAINAGE
- G — NATURAL GAS
- CD — CONDENSATE DRAIN PIPING
- CA — COMPRESSED AIR
- R## — PLUMBING RISER TAG

MISC. PIPING

- A — AQUASTAT
- PS — PRESSURE SWITCH
- FS — FLOW SWITCH
- TEMPERATURE GAUGE
- SENSOR TAP
- WATER HAMMER ARRESTOR
- PRESSURE GAUGE WITH ISOLATION VALVE
- OR — IN-LINE PUMP
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE-OFF BOTTOM / DOWN
- CLEANOUT - FLOOR (FCO)
- CO — CLEANOUT - CEILING (CO)
- PIPE CAP
- EXPANSION JOINT (LOOP)
- ECCENTRIC REDUCER
- PIPE ANCHOR
- CONCENTRIC REDUCER
- ALIGNMENT GUIDES
- FLEXIBLE CONNECTION
- GPM — CIRCUIT BALANCING VALVE
- CHECK VALVE
- STRAINER
- GATE VALVE
- STRAINER WITH BLOW DOWN
- GAS COCK VALVE
- PRESSURE REDUCING VALVE
- STOP & WASTE VALVE
- PRESSURE RELIEF VALVE
- BALL VALVE
- GPM — FLOW MEASURING STATION
- BUTTERFLY/SHUT-OFF VALVE
- FLOW LIMITING VALVE
- GLOBE VALVE
- SOLENOID VALVE
- CONTROL VALVE (2-WAY)
- CONTROL VALVE (3-WAY)
- GLOBE ANGLED VALVE
- DRAIN VALVE
- BFP — BACKFLOW PREVENTER
- AIR VENT - AUTOMATIC
- BWV — BACKWATER VALVE
- AIR VENT - MANUAL
- GAS PRESSURE REGULATOR
- FS — FLOW SWITCH
- FLOW DIRECTION
- HOPPER DRAIN / FLOOR SINK
- PIPE PITCH DIRECTION
- FLOOR DRAIN
- PIPE UNION
- WH — HYDRANT (WALL, ROOF, YARD)
- THERMOMETER
- HB — HOSE BIBB
- DSN — DOWNSPOUT NOZZLE

HVAC

- SA — SUPPLY AIR DUCT
- RA — RETURN AIR DUCT
- OA — OUTSIDE AIR DUCT
- TA — TRANSFER AIR DUCT
- CA — COMBUSTION AIR DUCT
- LTA — LINED TRANSFER AIR DUCT
- EA — EXHAUST AIR DUCT
- T — THERMOSTAT
- T S — THERMOSTAT SPLIT SYSTEM
- S — SPACE TEMPERATURE SENSOR
- T N — THERMOSTAT NIGHT SET BACK
- H — HUMIDISTAT
- T P — THERMOSTAT PROGRAMMABLE
- T H — COMB. TEMP. & HUM. SENSOR (INNOVENT)
- P — PRESSURE SENSOR
- T CO — CARBON MONOXIDE SENSOR
- C — COMB. TEMP. & HUM. SENSOR
- N O2 — NITROGEN DIOXIDE SENSOR
- C O2 — CARBON DIOXIDE SENSOR
- V OC — VOLATILE ORGANIC COMPOUND SENSOR
- D — DIESEL SENSOR
- C NO2 — CARBON MONOXIDE AND NITROGEN DIOXIDE SENSOR
- OA — OUTSIDE AIR SENSOR
- WALL SWITCH
- M — MOTORIZED DAMPER
- FS — FIRE/SMOKE DAMPER
- LD — LOW-LEAK MOTORIZED DAMPER
- S — SMOKE DAMPER
- BD — BACKDRAFT DAMPER
- F — FIRE DAMPER
- R — RADIATION DAMPER
- VOLUME DAMPER (MANUAL)
- SUPPLY AIR
- RO — VD (REMOTELY OPERATED)
- EXHAUST AIR
- ID — VD (IRIS CLOSURE)
- RETURN/TRANSFER AIR
- CEILING SUPPLY DIFFUSER
- FLOOR REGISTER
- SUPPLY AIR REGISTER
- LINEAR DIFFUSER
- RETURN AIR GRILLE / REGISTER
- FLEX DUCT
- EXHAUST AIR GRILLE / REGISTER
- ROOF (PRV) EXHAU



1 MECHANICAL SITE PLAN
SCALE: 1" = 30'-0"

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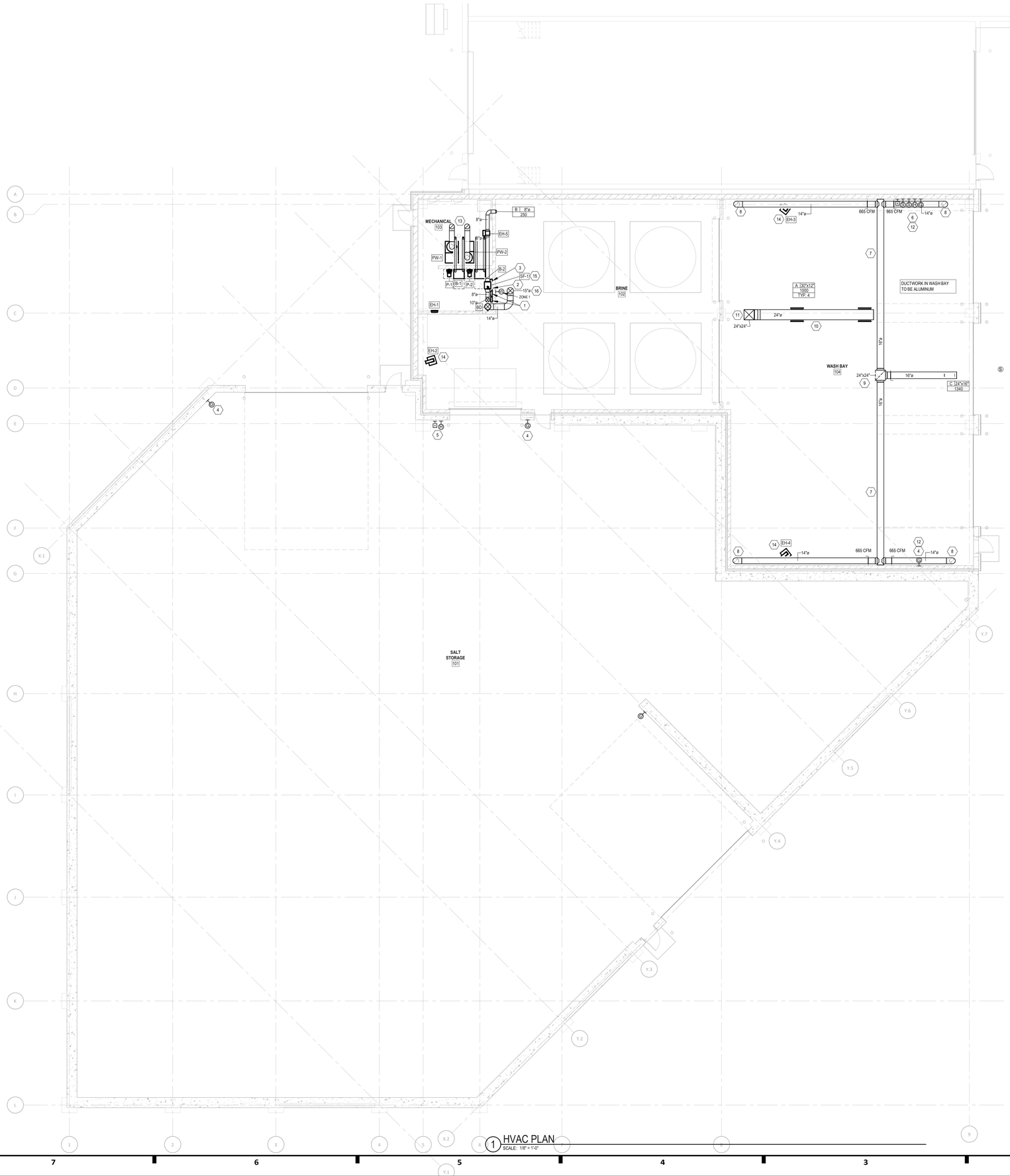
NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
5/22/25
PHASE

PROJECT
5015.0000
SHEET
M001
MECHANICAL SITE PLAN



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

GENERAL NOTES:

A. ALL DUCTWORK DIMENSIONS ON PLANS INDICATE INSIDE DIMENSIONS. SEE SPECIFICATION AND INSULATION SCHEDULE FOR REQUIREMENTS.

B. COORDINATE LOCATIONS OF WALL THERMOSTATS, WALL SENSORS, WALL SWITCHES, WALL MOUNTED CONTROL PANELS WITH ARCHITECT PRIOR TO INSTALLATION.

C. PROVIDE VOLUME DAMPERS FOR ALL DIFFUSERS AND GRILLES UNLESS INTEGRAL AS CALLED OUT ON DIFFUSER SCHEDULE OR AND OTHERWISE NOTED. PROVIDE REMOTE DAMPER ACTUATORS ON VOLUME DAMPERS WHERE NOT ACCESSIBLE.

D. RECTANGLE DUCTWORK, DUCT LENGTH AND ROUTING AFTER VAV BOX AND LOCATION OF DIFFUSER RUNOUT CONNECTION INTENTIONAL FOR SOUND DAMPENING IN SPACE.

KEY NOTES:

1. MAKE-UP UNIT REMOTE CONTROL PANEL FOR WAHSBAY WITH REMOTE TEMPERATURE SENSOR. MOUNT AT 60" ABOVE FLOOR.
2. RADIANT FLOOR / SNOW MELT CONTROL PANEL WITH REMOTE TEMPERATURE SENSORS. SEE 11/M501
3. FUME DETECTION CONTROL PANEL FOR WASHBAY & SALT STORAGE WITH REMOTE SENSORS. MOUNT AT 60" ABOVE FLOOR. SEE 12/M501
4. COMBINATION CONO2 SENSOR, MOUNT 60" ABOVE FLOOR.
5. HUMIDITY SENSOR & TIMER SWITCH.
6. COMBINATION CONO2 SENSOR, HUMIDITY SENSOR, RADIANT FLOOR WALL SENSOR, MAKE-UP AIR UNIT REMOTE SENSOR, & TIMER SWITCH. MOUNT AT 60" ABOVE FLOOR.
7. ROUTE EXHAUST DUCTWORK IN JOIST SPACE, COORDINATE WITH PIPING, CONDUITS, ETC.
8. DROP EXHAUST DUCT DOWN WALL TO 18" ABOVE FLOOR WITH 1" BIRDSCREEN OVER OPENING. COORDINATE LOCATION WITH PIPING, CONDUITS, ETC. PROVIDE PROTECTIVE CAGE, SEE DETAIL 3/M501.
9. EXTEND EXHAUST DUCT UP, TRANSITION AND EXTEND THROUGH ROOF TO EXHAUST FAN.
10. ROUTE MAKE-UP AIR DUCT UP PARTIALLY IN JOIST SPACE TIGHT TO BOTTOM OF JOIST CROSS BRACING. MOUNT GRILLES AT 45 DEG OFF HORIZONTAL. SEE DETAIL 1/M501
11. EXTEND SUPPLY DUCT UP, TRANSITION AND EXTEND THROUGH ROOF TO MAKE-UP AIR UNIT.
12. PROVIDE WATER PROOF SENSOR OR SENSOR ENCLOSURE WITHIN WASHBAY.
13. EXTEND FLUE FROM PRESSURE WASHER UP WALL, OFFSET WITH DRIP PAN AND EXTEND UP THROUGH ROOF. SIZE AND INSTALL FLUE PER MANUFACTURERS INSTRUCTIONS.
14. MOUNT UNIT HEATER OFF WALL WITH TOP AT 14'-0" ABOVE FLOOR. PROVIDE CUSTOM BRACKET TO MOUNT AND ANGLE.
15. HANG INLINE FAN AND ELECTRIC DUCT COIL FROM WALL WITH BOTTOM AT 10' ABOVE FLOOR. EXTEND INTAKE FROM FAN AND CONNECT TO INTAKE HOOD DROP WITH DRIP PAN.
16. EXTEND COMBUSTION AIR DUCT DOWN THROUGH ROOF FROM HOOD WITH DRIP PAN, ROUTE HORIZONTAL NEAR ROOF DECK, EXTEND INTO MECHAICAL ROOM AND PROVIDE MINIMUM 24" COLD AIR TRAP WITH INLET GRAVITY BACKDRAFT DAMPER

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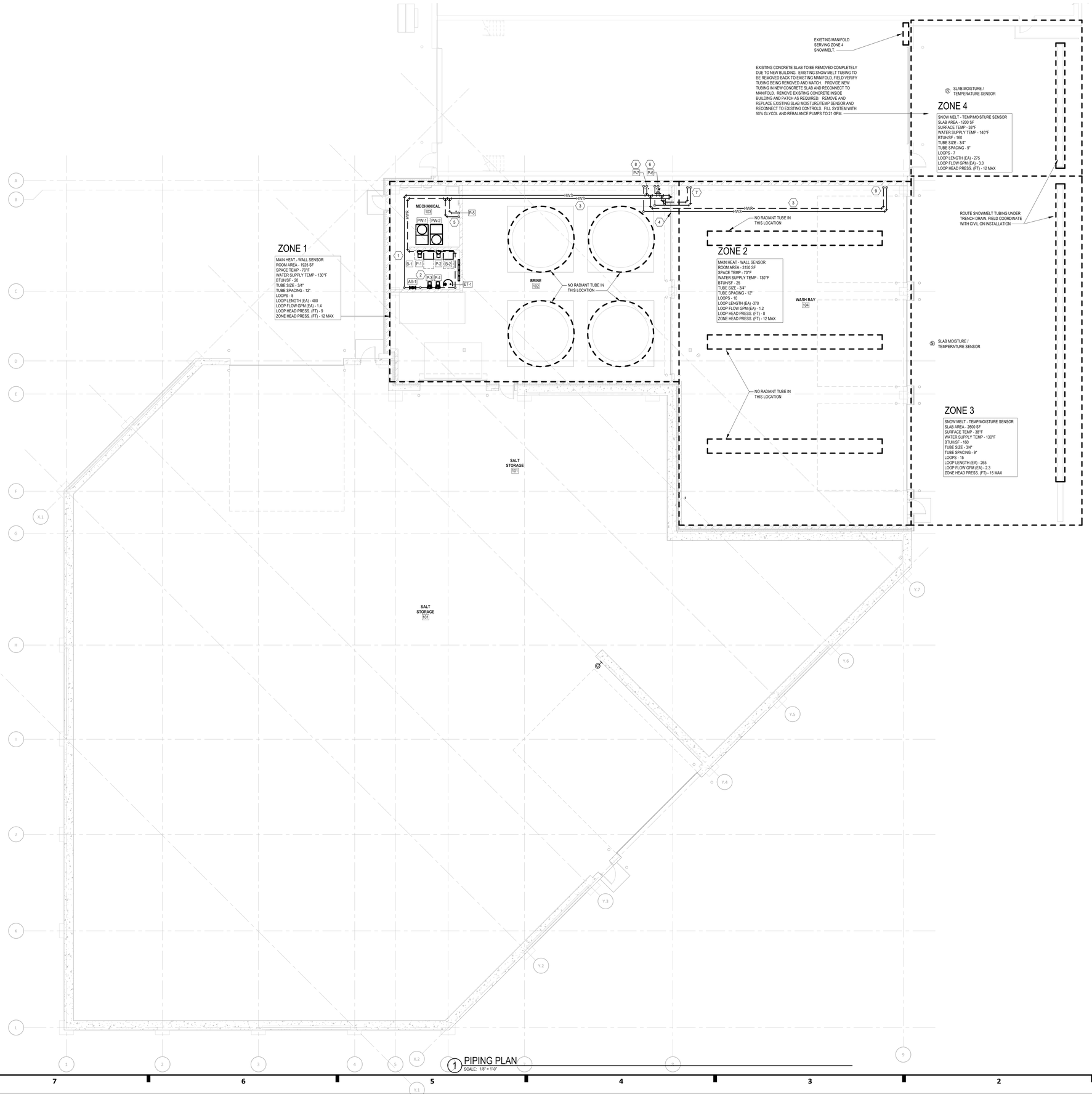
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CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
5/22/25
PHASE

PROJECT
5015.0000

SHEET
M201
HVAC PLAN



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

GENERAL NOTES:

A. COORDINATE PIPING LOCATIONS WITH CEILING HEIGHTS, LIGHTS, DUCTS AND STRUCTURE PRIOR TO DUCT FABRICATION/INSTALLATION.

B. LOCATE PIPING IN EXPOSED FINISHED AREAS IN JOIST SPACE OR HIGH NEAR BOTTOM OF STRUCTURAL PLANK UNLESS NOTED OTHERWISE.

KEY NOTES:

1. INSTALL BOILERS ON WALL AND EXTEND VENT & COMBUSTION AIR PIPING UP THROUGH ROOF, MAINTAIN 8' FROM ROOF EDGE. INSTALL BOILERS AND PIPE PER MANUFACTURERS INSTRUCTIONS.
2. MOUNT PUMPS AND VALVES ON WALL. EPANSION TANK ON 4" CONCRETE HOUSEKEEPING PAD. SEE BOILER PIPING DIAGRAM 9/M501.
3. ROUTE HWS/HWR PIPING JOIST SPACE. COORDINATE ROUTING WITH DUCTWORK, STORM PIPING, DOMESTIC WATER PIPING, ETC.
4. ROUTE PIPING OVER BEAM. PIPING SHALL NOT ROUTE BELOW BEAM.
5. P-5 - DROP 1" HWS/HWR PIPING DOWN ALONG WALL FROM HWS MAIN TO RADIANT FLOOR PUMP AND VALVES MOUNTED AT 8' ABOVE FLOOR. DROP PIPING FROM PUMP DOWN WALL TO MANIFOLDS AT 18" ABOVE FLOOR SERVING RADIANT ZONE 1. COORDINATE MANIFOLD LOCATION ELECTRICAL EQUIPMENT. SEE DETAIL 8/M501.
6. P-6 - DROP 1-1/4" HWS PIPING DOWN ALONG WALL FROM HWS MAIN TO RADIANT FLOOR PUMP AND VALVES MOUNTED AT 8' ABOVE FLOOR. EXTEND HWS UP WALL AND EXTEND TO MANIFOLD LOCATION.
7. DROP 1-1/4" HWS/HWR PIPING FROM PUMP DOWN WALL TO MANIFOLDS AT 18" ABOVE FLOOR SERVING RADIANT ZONE 2. COORDINATE MANIFOLD LOCATION WITH EXHAUST DUCTWORK. SEE DETAIL 8/M501. PROVIDE REMOVABLE 18 GAUGE STAINLESS STEEL SHROUD AROUND MANIFOLD AND TUBING. FIELD COORDINATE DIMENSIONS.
8. P-7 - DROP 2" HWS PIPING DOWN ALONG WALL FROM HWS MAIN TO RADIANT FLOOR PUMP AND VALVES MOUNTED AT 8' ABOVE FLOOR. EXTEND HWS UP WALL AND EXTEND TO MANIFOLD LOCAION.
9. DROP 2" HWS/HWR PIPING FROM PUMP DOWN WALL TO MANIFOLDS AT 18" ABOVE FLOOR SERVING SNOWMELT ZONE 3. COORDINATE MANIFOLD LOCATION WITH EXHAUST DUCTWORK. SEE DETAIL 8/M501. PROVIDE REMOVABLE 18 GAUGE STAINLESS STEEL SHROUD AROUND MANIFOLD AND TUBING. FIELD COORDINATE DIMENSIONS.

RADIANT FLOOR / SNOW MELT SYSTEM NOTES:

CONTRACTOR TO PROVIDE A COMPLETE SNOW MELT IN-SLAB HEATING DISTRIBUTION SYSTEM DESIGN. CONTRACTOR HAS THE OPTION TO MODIFY THE SPACING, # OF LOOPS, LOOP LENGTH, TUBE DIAMETER TO PROVIDE NOTED BTU/SF LISTED IN THE CONSTRUCTION DOCUMENT AND IS RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH ELECTRICAL CHANGES DUE TO DIFFERENT PUMPS.

CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM.

INTERIOR RADIANT FLOOR SHALL RUN BASED ON MAINTAINING SPACE TEMPERATURE (70°F ADJUSTABLE)

SNOW MELT SYSTEM SHALL RUN BASED ON MAINTAINING SLAB TEMPERATURE (xx°F ADJUSTABLE).

SUBMIT SHOP DRAWINGS FOR A COMPLETE SYSTEM INCLUDING EQUIPMENT, CLACULATIONS, LAYOUT, DESIGN AND CONTROLS.

CONTROLS AND CONTROL WIRING SHALL BE STANDALONE, PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. SEE CONTROL DIAGRAM XXX

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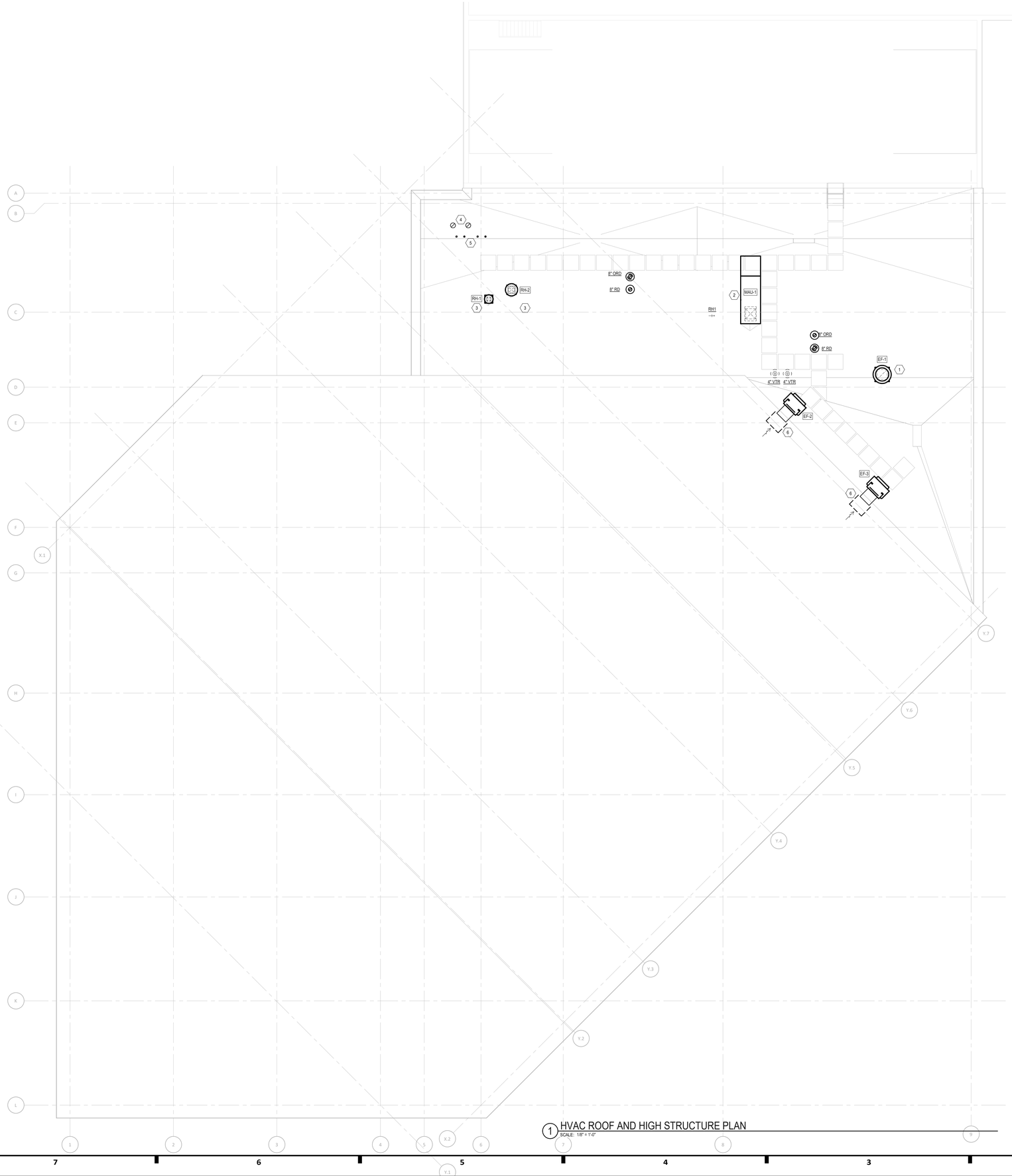
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CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
5/22/25
PHASE

PROJECT
5015.0000

SHEET
M301
PIPING PLAN



1 HVAC ROOF AND HIGH STRUCTURE PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

A. COORDINATE PIPING LOCATIONS WITH CEILING HEIGHTS, LIGHTS, DUCTS AND STRUCTURE PRIOR TO DUCT FABRICATION/INSTALLATION.

B. LOCATE PIPING IN EXPOSED FINISHED AREAS IN JOIST SPACE OR HIGH NEAR BOTTOM OF STRUCTURAL PLANK UNLESS NOTED OTHERWISE.

KEY NOTES:

1. INSTALL EXHAUST FAN AND CURB ON ROOF. EXTEND EXHAUST DUCT DOWN THORUGH ROOF. FIELD COORDINATE WITH STRUCTURE. MAINTAIN MINIMUM 15' FROM PARAPET. SEE DETAIL 4/M501
2. INSTALL MAKE-UP AIR UNIT AND CURB ON ROOF. EXTEND SUPPLY DUCT DOWN THORUGH ROOF. FIELD COORDINATE WITH STRUCTURE. MAINTAIN MINIMUM 10' FROM OUTSIDE AIR INTAKE TO EXHAUST. SEE DETAIL 5/M501.
3. INSTALL OUTSIDE AIR INTAKE HOOD AND CURB ON ROOF. EXTEND SUPPLY DUCT DOWN THORUGH ROOF. FIELD COORDINATE WITH STRUCTURE. MAINTAIN MINIMUM 10' FROM PARAPET AND TO FLUES. SEE DETAIL 6/M501.
4. PRESSURE WASHER FLUES UP THROUGH ROOF. SIZE AND INSTALL PER MANUFACTURERS INSTRUCTIONS.
5. BOILER FLUE & COMBUSTION AIR UP THROUGH ROOF. SIZE AND INSTALL PER MANUFACTURERS INSTRUCTIONS.
6. INSTALL EXHAUST FAN ON SIDE WALL OF BUILDING WITH MANUFACTURER BRACKET PER MANUFACTURERS INSTRUCTIONS. EXTEND 34x34 STAINLESS STEEL EXHAUST DUCT THROUGH WALL AND TERMINATE OPEN TO SPACE. PROVIDE 40"Wx40"Hx30"D STAINLESS STEEL FRAME WITH 1" SS WIRE MESH ON 5 SIDES AND ATTACH TO WALL WITH STAINLESS STEEL BOLTS.

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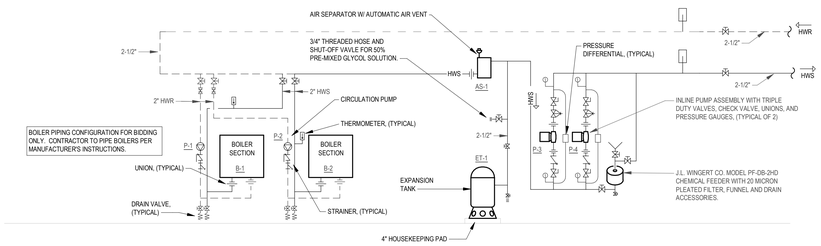
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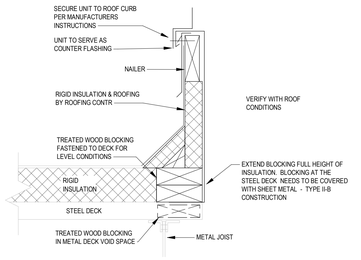
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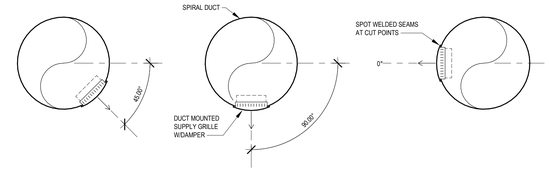
SHEET
M401
HVAC ROOF & HIGH STRUCTURE PLAN



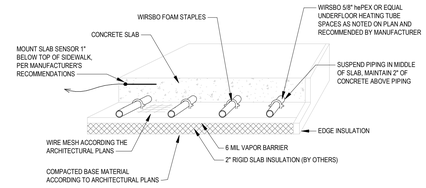
9 BOILER PIPING SCHEMATIC
NO SCALE



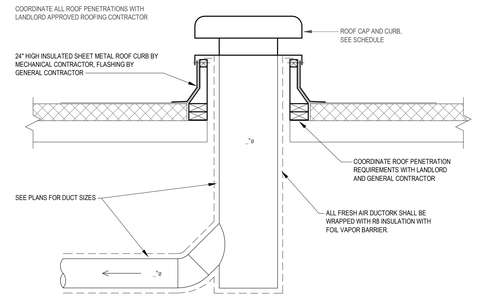
5 ROOF TOP CURB DETAIL
NO SCALE



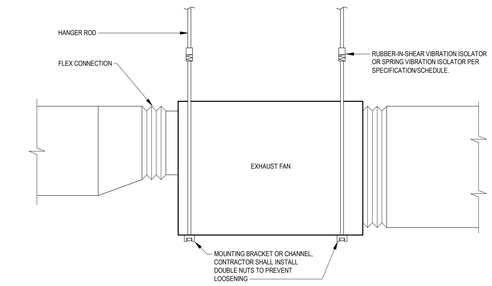
1 DUCT MOUNTED SUPPLY GRILLE DETAIL
NO SCALE



10 SLAB ON OR BELOW GRADE W/UNDERSLAB & EDGE INSULATION
NO SCALE



6 INTAKE ROOF HOOD DETAIL
NO SCALE



2 INLINE FAN DETAIL
NO SCALE

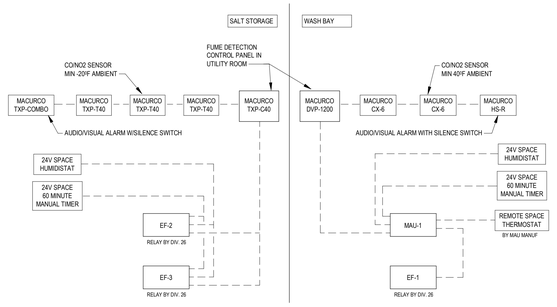
NOTES:
SALT STORAGE:
FUME DETECTION PANEL TXP-C40 SHALL BE LOCATED IN MECHANICAL ROOM. ZONE CO/NO2 SENSORS TXP-T40, REMOTE AUDIO/VISUAL ALARM, HUMIDISTAT AND MANUAL TIMER TO BE LOCATED IN SPACE AS NOTED ON PLAN.

ON DETECTION FROM CO/NO2 SYSTEM, HUMIDITY RISES ABOVE SET POINT AND/OR MANUAL TIMER IS ACTIVATED, EXHAUST FANS SHALL START.

WASH BAY STORAGE:
FUME DETECTION PANEL DVP-1200 SHALL BE LOCATED IN MECHANICAL ROOM. ZONE CO/NO2 SENSORS CX-6, REMOTE AUDIO/VISUAL ALARM, HUMIDISTAT AND MANUAL TIMER TO BE LOCATED IN SPACE AS NOTED ON PLAN.

ON DETECTION FROM CO/NO2 SYSTEM, HUMIDITY RISES ABOVE SET POINT AND/OR MANUAL TIMER IS ACTIVATED, MAKE-UP AIR UNIT AND EXHAUST FAN SHALL START.

PROVIDE MACURCO OR EQUAL. CONTROL VENDOR SHALL VERIFY AND PROVIDE COMPONENTS TO MEET THE SEQUENCE ABOVE. SEE SPECIFICATION 230993 FOR ADDITIONAL INFORMATION.



12 RADIANT FLOOR CONTROL DIAGRAM
SCALE: 1/8" = 1'-0"

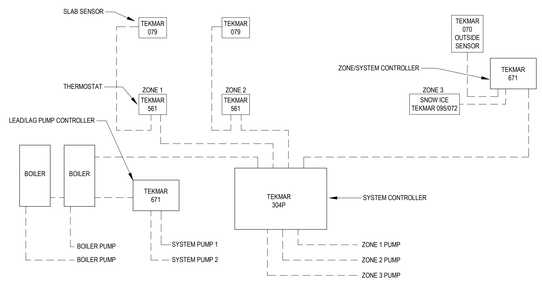
NOTES:
RADIANT FLOOR 304P CONTROLLER AND 561 ZONE THERMOSTATS SHALL BE LOCATED IN MECHANICAL ROOM. FLOOR SLAB SENSOR 079 TO BE LOCATED AS SHOWN ON PLAN TO CONTROL RADIANT ZONE.

SNOWMELT 671P CONTROLLERS SHALL BE LOCATED IN MECHANICAL ROOM. REMOTE SENSORS 095 & 072 SLAB SNOW/ICE SENSOR TO BE LOCATED AS INDICATED ON PLAN.

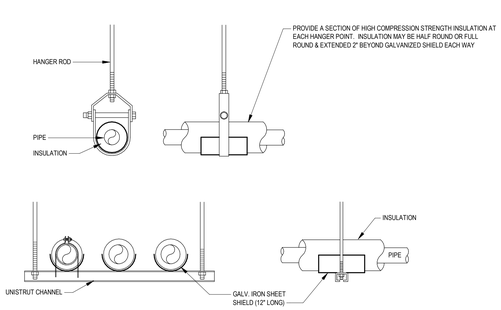
ON A DROP IN SLAB TEMPERATURE IN INTERIOR SPACE, CONTROLLER SHALL SIGNAL BOILER TO START. INTEGRAL BOILER CONTROLS SHALL START SYSTEM PUMP, PROVE FLOW AND BOILER SHALL MODULATE TO MAINTAIN SUPPLY WATER TEMPERATURE.

ON A DROP IN OUTSIDE AIR TEMPERATURE SHALL SIGNAL BOILER TO START. INTEGRAL BOILER CONTROLS SHALL START SYSTEM PUMP. PROVE FLOW, START BOILER PUMP AND BOILER SHALL MODULATE TO MAINTAIN SUPPLY WATER TEMPERATURE. TEKMAR 671 SHALL CONTROL SYSTEM BOILERS BASED ON EQUAL RUN TIME. TEKMAR 304P SHALL ACTIVATE ZONE PUMPS TO MAINTAIN SLAB TEMPERATURE, ACTIVATE FULL MELTING BASED ON SNOW/ICE SENSOR, ACTIVATE SYSTEM IDLING, MANUAL OVERRIDE, EXCERCISE SYSTEM.

PROVIDE TEKMAR OR EQUAL. CONTROL VENDOR SHALL VERIFY AND PROVIDE COMPONENTS TO MEET THE SEQUENCE ABOVE. SEE SPECIFICATION 230993 FOR ADDITIONAL INFORMATION.

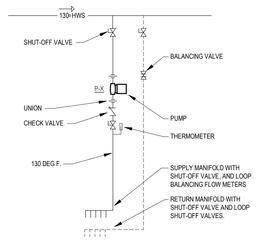


11 RADIANT FLOOR CONTROL DIAGRAM
SCALE: 1/8" = 1'-0"

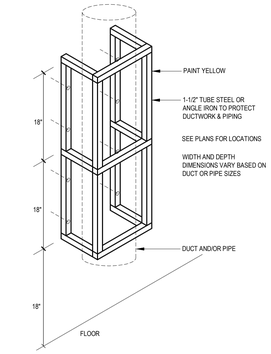


NOTES:
1. ATTACH SUPPORTS FOR ALL PIPING SUSPENDED FROM THE STEEL STRUCTURE TO THE TOP CORD OF JOISTS OR BEAMS.
2. PROVIDE COPPER OR PLASTIC COATED HANGERS FOR NON-INSULATED COPPER PIPE.

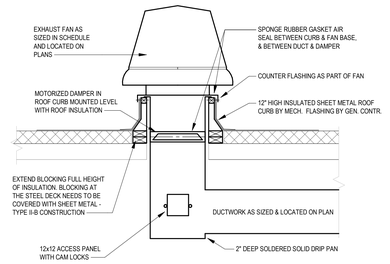
7 PIPE INSULATION DETAIL
NO SCALE



8 RADIANT FLOOR / SNOWMELT PIPING DETAIL
NO SCALE



3 PROTECTION CAGE DETAIL
NO SCALE



4 ROOF EXHAUST FAN DETAIL
NO SCALE

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SHEET
M501
HVAC DETAILS

MAKE UP AIR UNIT - GAS FIRED SCHEDULE

NOTES:
1. PROVIDE WITH DOUBLE WALL CONSTRUCTION, HINGED ACCESS PANELS, DISCONNECT, STARTER, ,DIRTY FILTER SWITCH, INLET AIR SENSOR, FREEZE PROTECTION, AIR PROVING SWITCH, MICROPROCESSOR STANDALONE CONTROLS. (SEE CONTROL SEQUENCE)
2. PROVIDE ROOF TOP MOUNTING PACKAGE, INTAKE HOOD WITH BIRDSCREEN & METAL MESH FILTER, V-BANK MERV 13 FILTER SECTION, HEATING SECTION, BLOWER SECTION, VFD, MOTORIZED DISCHARGE DAMPER, ENTERING AIR THERMOSTAT, INSULATED ROOF CURB.

					FAN DATA						HEATER DATA						ELECTRICAL DATA						
MARK	ROOM NUMBER	MANUFACTURER	MODEL	TYPE	AIRFLOW (CFM)	ESP (IN WG)	MOTOR BHP	MOTOR HP	EAT (°F)	LAT (°F)	INPUT (MBH)	OUTPUT (MBH)	THERMAL EFF. (%)	STAGES	FUEL	BURNER	FILTER	VOLTAGE	PHASE	MCA	MOCP	WEIGHT (LBS)	ROOF CURB HEIGHT	NOTES
MAU-1		GREENHECK	DGX-P122-H22-MF	ROOF MOUNTED - DIRECT FIRED	4000	0.6	1.82	3	-20	80	470	432	92	MOD	NG	DIRECT	MERV 13	480	3	6.9	15	1138	30"	1,2

BOILER - GAS FIRED SCHEDULE

NOTES:
1. PROVIDE WITH OPTIONAL CONDENSATE NEUTRALIZATION KIT, LOW WATER CUTOFF, CONCENTRIC VENT KIT, STANDALONE BOILER CONTROL WITH SEQUENCING MULTIPLE BOILERS FOR STANDALONE OPERATION (SEE CONTROL SEQUENCE)
2. CAPACITY BASED ON 50% GLYCOL

					WATER DATA					HEATER DATA				VENTING			ELECTRICAL DATA				
MARK	LOCATION	SERVES	MANUFACTURER	MODEL	GPM	WATER PD (FT)	EWT (°F)	LWT (°F)	CONN (IN)	INPUT (MBH)	OUTPUT (MBH)	MINIMUM TURN DOWN	WATER VOLUME (GAL)	VENT (IN)	AIR (IN)	MATERIAL	VOLTS	PHASE	FLA	WEIGHT (LBS)	NOTES
B-1	103	HYDRONIC SYSTEM	LOCHINVAR	WHN399	25	1.0	110	140	1-1/2	399	379.99-76.00	5:1	6.5	4	4	PVC/CPVC	120	1	2	270	1,2
B-2	103	HYDRONIC SYSTEM	LOCHINVAR	WHN399	25	1.0	110	140	1-1/2	399	379.99-76.00	5:1	6.5	4	4	PVC/CPVC	120	1	2	270	1,2

PUMP SCHEDULE

NOTES:
1. PUMP SIZING FOR BIDDING PURPOSES ONLY. FINAL PUMP SELECTION SHALL BE BASED ON FINAL RADIANT FLOOR AND SNOWMELT SHOP DRAWING
2. SIZING BASED ON 50% GLYCOL

									MOTOR DATA				
MARK	LOCATION	MANUFACTURER	MODEL	SYSTEM	SERVES	TYPE	WATER FLOW (GPM)	PUMP HEAD (FT WG)	HP	RPM	VOLTAGE	PHASE	NOTES
P-1	103	BELL & GOSSETT	PL-55	HYDRONIC	BOILER PUMP	INLINE	28	15	2/5	3250	120	1	2
P-2	103	BELL & GOSSETT	PL-55	HYDRONIC	BOILER PUMP	INLINE	28	15	2/5	3250	120	1	2
P-3	103	BELL & GOSSETT	e-90 1.5AB	HYDRONIC	SYSTEM PUMP	INLINE	56	30	1	1725	480	3	2
P-4	103	BELL & GOSSETT	e-90 1.5AB	HYDRONIC	SYSTEM PUMP	INLINE	56	30	1	1725	480	3	2
P-5	103	BELL & GOSSETT	PL-36	HYDRONIC	RADIANT FLOOR ZONE 1	INLINE	7	25	1/6	3300	120	1	1,2
P-6	102	BELL & GOSSETT	PL-36	HYDRONIC	RADIANT FLOOR ZONE 2	INLINE	12	25	1/6	3300	120	1	1,2
P-7	102	BELL & GOSSETT	e-90 1.5AB	HYDRONIC	SNOWMELT ZONE 3	INLINE	34.5	30	3/4	1725	480	3	1,2

AIR SEPARATOR SCHEDULE

NOTES:
1. SYSTEM CONTAINS 50% GLYCOL.

MARK	LOCATION	MANUFACTURER	MODEL	SERVICE	FLUID FLOW (GPM)	MAX PD (FT)	UNIT SIZE (IN)	NOTES
AS-1	103	SPIROTHERM	VDT 250 FL	RADIANT FLOOR / SNOWMELT	50	1.0	25"Hx7"DIA	1

EXPANSION TANK SCHEDULE

NOTES:
1. CAPACITY BASED ON 50% GLYCOL
2.

MARK	LOCATION	MANUFACTURER	MODEL	SERVICE	SYSTEM VOLUME (ESTIMATE - GAL)	MIN TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	ASME RATING (PSI)	OPERATING TEMP (°F)	SIZE D x H (IN)	NOTES
ET-1	103	BELL & GOSSETT	B-300	HYDRONIC SYSTEM	500	67	18	125	140	24 x 55	1

ELECTRIC HEAT SCHEDULE

NOTES:
1. PROVIDE WITH INTEGRAL THERMOSTAT, DISCONNECT SWITCH. SURFACE MOUNTING FRAME.
2. PROVIDE CORROSION RESISTANT STAINLESS STEEL UNIT HEATER, DICONNECT SWITCH, INTEGRAL THERMSOTAT, AND WALL HANGING BRACKET. LOW VOLTAGE
3. PROVIDE WITH SCR CONTROLLER, AIR FLOW SWITCH, DISCONNECT SWITCH, DUCT THERMOSTAT.

										ELECTRIC COIL DATA				
MARK	ROOM NUMBER	MANUFACTURER	MODEL	TYPE	DIMENSIONS	INSTALLATION	FINISH	MOUNT	CONTROLS	KW	WATTS	VOLTAGE	PHASE	NOTES
EH-1	103	BERKO	FRA	WALL FAN FORCED	-	SURFACE WALL	WHITE	SURFACE	INTEGRAL	3	-	277	1	1
EH-2	102	BERKO	BWD	UNIT HEATER	-	WALL/ROOM	---	HUNG	INTEGRAL	12.5	-	480	3	2
EH-3	104	BERKO	BWD	UNIT HEATER	-	WALL/ROOM	---	HUNG	INTEGRAL	12.5	-	480	3	2
EH-4	104	BERKO	BWD	UNIT HEATER	-	WALL/ROOM	---	HUNG	INTEGRAL	12.5	-	480	3	2
EH-5	103	THERMOLEC	MSC	DUCT HEATER	-	DUCT	---	FLANGED	INTEGRAL	6	-	480	3	3

DIFFUSER, REGISTER, & GRILLE SCHEDULE

NOTES:
1. PROVIDE WITH DAMPER/EXTRACTOR.

MARK	MANUFACTURER	MODEL	LOCATION	AIR	TYPE	MATERIAL	FEATURES	DAMPER	MAX STATIC P.D. (IN WG)	MAX NC	FINISH	NOTES
A	TITUS	S300FL	SURFACE	SUPPLY	GRILLE	ALLUMINUM	30"x12"	YES	0.1	30	WHITE	1
B	TITUS	R-300F	SURFACE	SUPPLY	GRILLE	ALLUMINUM	8" NECK	N	0.1	30	WHITE	
C	TITUS	350FL	SURFACE	EXHAUST	GRILLE	ALLUMINUM	24"x16"	N	0.1	30	WHITE	

FAN SCHEDULE

NOTES:
1. PROVIDE INSULATED ROOF CURB, CURB MOUNTED MOTORIZED DAMPER, DISCONNECT SWITCH, MOTOR MOUNTED SPEED CONTROL SWITCH, HINGE KIT WITH CABLE. DAMPER ACTUATOR TO BE SAME VOLTAGE AS FAN MOTOR.
2. PROVIDE SIDEWALL MOUNTING FAN, WALL MOUNTING BRACKET / 12" SIDE WALL MOUNTING CURB, STAINLESS STEEL SHAFT, DISCONNECT SWITCH, MOTOR MOUNTED SPEED CONTROL SWITCH. MOUNTING TYPE TO BE DETERMINED DURING SHOP DRAWINGS.
3. PROVIDE MOTORIZED DAMPER, DISCONNECT SWITCH, EXTERIOR FAN HOUSING MOUNTED SPEED CONTROL, VIBRATION ISOLATORS. DAMPER ACTUATOR TO BE SAME VOLTAGE AS FAN MOTOR.

						FAN DATA			MOTOR DATA							
MARK	LOCATION	SERVES	MANUFACTURER	MODEL	TYPE	CFM	ESP (IN WG)	RPM	DRIVE TYPE	WATTS	HP	VOLTAGE	PHASE	MAX SONES	ROOF CURB HEIGHT	NOTES
EF-1		WASHBAY	GREENHECK	GB-240-VG	ROOF	4000	0.6	675	DIRECT	-	2	480	3	15	30"	1
EF-2		SALT STORAGE	GREENHECK	CUBE-300-VGD	WALL	9000	0.8	700	BELT	-	3	480	3	20	-	2
EF-3		SALT STORAGE	GREENHECK	CUBE-300-VGD	WALL	9000	0.8	700	BELT	-	3	480	3	20	-	2
SF-1	103	BRINE ROOM	GREENHECK	SQ-98-VG	INLINE	250	0.6	1360	DIRECT	-	1/4	120	1	10	-	3

GRAVITY VENTILATOR SCHEDULE

NOTES:
1. PROVIDE WITH ROOF CURB, BIRD SCREEN
2. PROVIDE WITH ROOF CURB, BIRD SCREEN, COUNTER BALANCED GRAVITY INTAKE DAMPER

MARK	ROOM NO.	MANUFACTURER	MODEL	SERVES	TYPE	AIRFLOW (CFM)	MAX PD (IN WG)	OVERALL HOOD SIZE W x L x H (IN)	THROAT SIZE W x L x H (IN)	CURB HEIGHT (IN)	NOTES
RH-1		GREENHECK	GRSI-10	FRESH AIR	INTAKE	250	0.04	20.5 Ø x 7.75	10 x 10	30"	1
RH-2		GREENHECK	GRSI-15	COMBUSTION AIR	INTAKE	750	0.04	29 Ø x 10	16 x 16	30"	2

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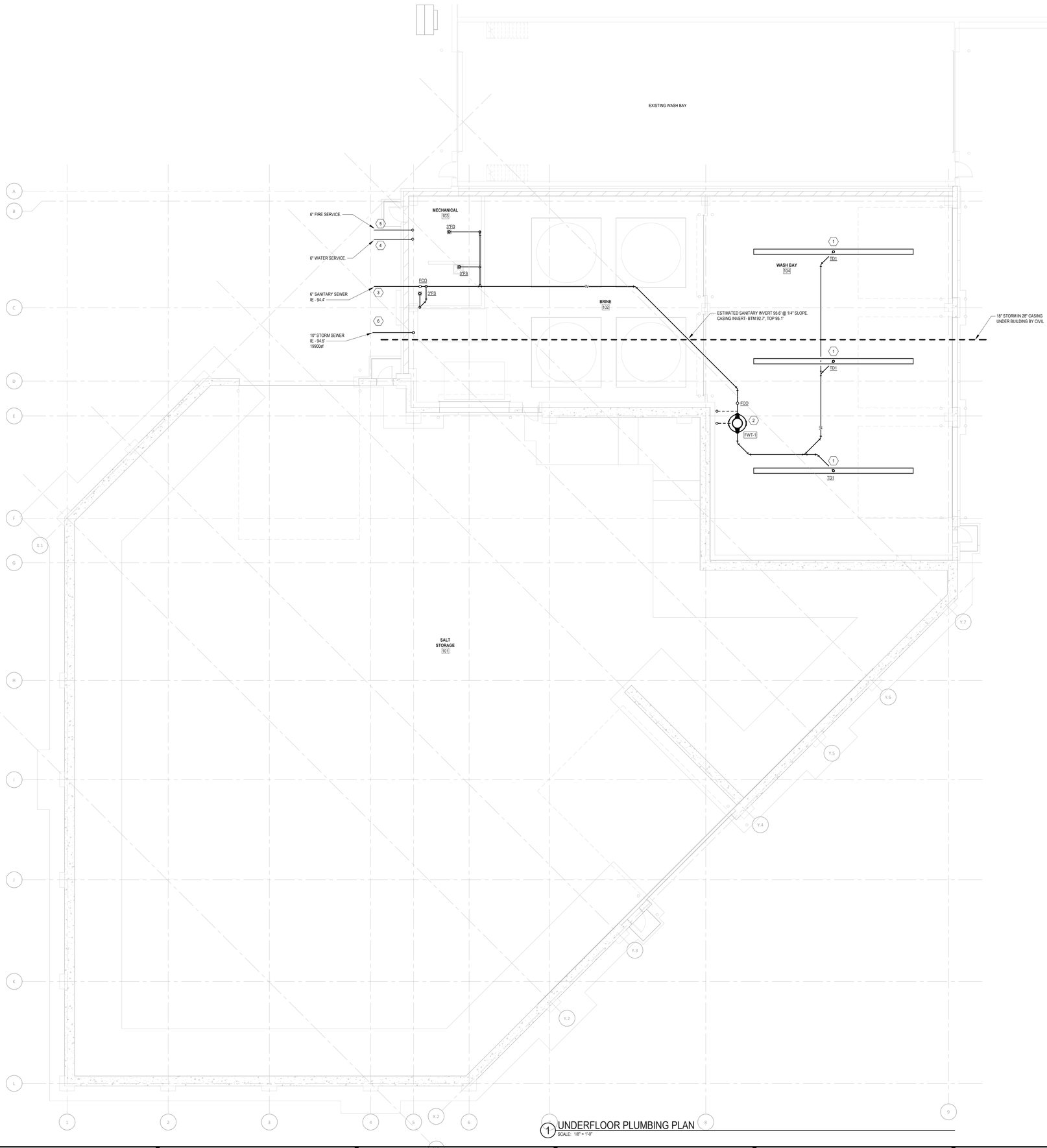
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PROJECT
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SHEET
M601
HVAC SCHEDULES



1 UNDERFLOOR PLUMBING PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

A. COORDINATE SLEEVE SIZES AND LOCATIONS FOR BELOW FLOOR PIPING WITH CONCRETE CONTRACTOR PRIOR TO FOOTING INSTALLATION.

B. SEE PLUMBING FIXTURE SCHEDULE AND PLUMBING RISER DIAGRAMS FOR DOMESTIC WATER, WASTE AND VENT PIPE SIZING.

KEY NOTES:

1. 4" NON-TRAPPED WASTE CONNECTION TO BOTTOM OF TRENCH DRAIN. CONNECT TO MAIN WITH 45 DEGREE FITTING FOR USE AS CLEANOUT.
2. CONNECT NON- TRAPPED TRENCH DRAINS TO FLAMMABLE WASTE TRAP. FIELD VERIFY INVERT ELEVATION. SLOPE VENT PIPING FROM TANK, AND VENT DOWN STREAM OF TANK TO WALL AT 45 DEGREE ANGLE. SEE DETAIL 1/P501
3. EXTEND 6" SANITARY TO 5' OUTSIDE BUILDING. COORDINATE LOCATION WITH CIVIL.
4. EXTEND 6" WATER SERVICE FROM 5' OUTSIDE BUILDING, UP INTO BUILDING. COORDINATE LOCATION WITH CIVIL.
5. EXTEND 6" FIRE SERVICE FROM 5' OUTSIDE BUILDING, UP INTO BUILDING. COORDINATE LOCATION WITH CIVIL.
6. EXTEND 10" STORM SEWER TO 5' OUTSIDE BUILDING. COORDINATE LOCATION WITH CIVIL.

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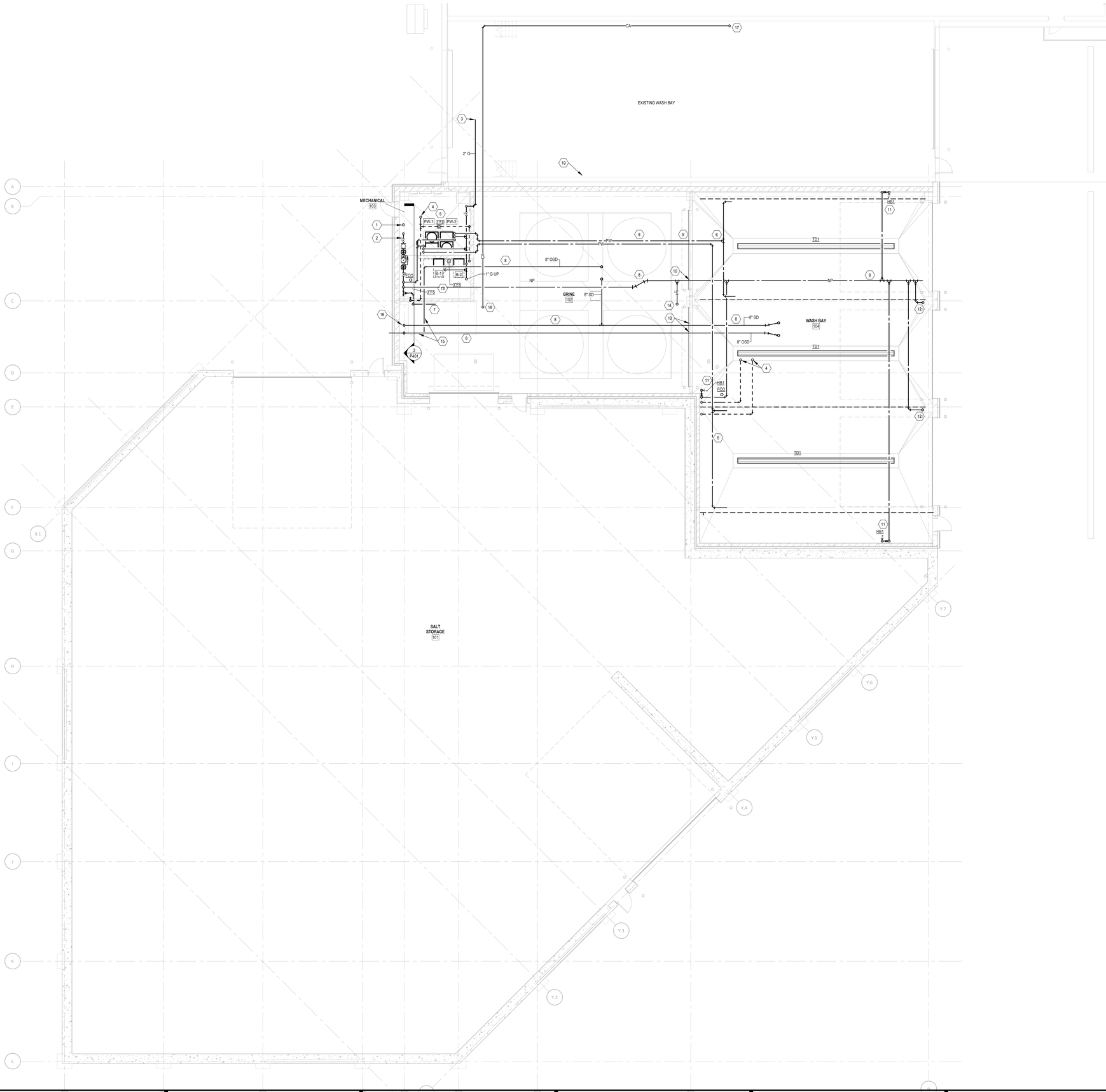
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SHEET
P200
UNDERFLOOR PLUMBING PLAN



1 PLUMBING PLAN

GENERAL NOTES:

A. COORDINATE PIPING LOCATIONS WITH CEILING HEIGHTS, LIGHTS, DUCTS, AND STRUCTURE PRIOR TO DUCT FABRICATION/INSTALLATION.

B. SEE PLUMBING FIXTURE SCHEDULE AND PLUMBING RISER DIAGRAMS FOR DOMESTIC WATER, WASTE AND VENT PIPE SIZING.

C. SEE GAS RISER DIAGRAM FOR PIPE SIZES AND ADDITIONAL INFORMATION.

KEY NOTES:

1. EXTEND 6" FIRE PROTECTION WATER SERVICE UP THROUGH FLOOR WITH BLIND FLANGE. SEE SHEET FP101.
2. EXTEND 6" DOMESTIC WATER SERVICE UP THROUGH FLOOR WITH SHUT-OFF VALVE, WATER METER, RPZ BACKFLOW PREVENTER AND PRV ON WALL. COORDINATE WATER METER SIZE WITH LOCAL UTILITY.
3. EXTEND NEW 2"@2psi GAS NORTH 280' THROUGH EXISTING BUILDING AND CONNECT TO EXISTING 4"@2psi IN NORTHWEST CORNER OF BUILDING. FIELD VERIFY ROUTING WITH EXISTING CONDITIONS. PROVIDE U-BEND EXPANSION OFFSET HALFWAY.
4. VENT PIPING UP THROUGH ROOF TO VTR.
5. INSTALL PRESSURE WASHER ON 4" HOUSEKEEPING PAD. INSTALL PER MANUFACTURERS INSTRUCTIONS. DROP 3/4" CW DOWN WALL AND CONNECT TO HOTSY SYSTEM WITH SHUT-OFF VALVE.
6. EXTEND 1/2" FROM HOTSY, TAP 1/2" OFF AND CONNCT TO EACH TROLLEY SYSTEM (SCH 80, SEAMLESS, RATED 3000 PSI). FIELD COORDINATE LOCATIONS BASED ON TROLLEY SYSTEM LOCATION AND CONNECTION POINTS. INSTALL PER MANUFACTURERS INSTRUCTIONS.
7. EXTEND 2" NP CW OFF WATER SERVICE AND EXTEND INTO BRINE ROOM WITH GATE VALVE AT 48" ABOVE FLOOR AND EXTEND TO BRINE SYSTEM. FIELD VERIFY LOCATION AND TERMINATION REQUIREMENTS WITH OWNER AND RELOCATED BRINE SYSTEM.
8. ROUTE PIPING IN JOIST SPACE - TYPICAL.
9. ROUTE PIPING ABOVE BEAM. NO PIPING SHALL BE ROUTED BELOW BEAM.
10. ROUTE PIPING THROUGH BEAM, SEE STRUCTRUAL PLANS FOR EXACT LOCATION OF OPENING. STORM PIPE ROUTING, SLOPE AND ROOF DRAIN LOCATION SHALL BE BASED ON BEAM OPENING LOCATIONS.
11. DROP 1-1/2" NP CW DOWN WALL TO WATER HAMMER ARRESTOR. 1-1/2" GATE VALVE WITH THREADED HOSE CONNECTION AT 36" ABOVE FLOOR. TAP 3/4" OFF 1-1/2" TO SHUT-OFF VALVE AND HOSE BIB AT 36" ABOVE FLOOR. COORDINATE LOCATION WITH OWNER PRIOR TO INSTALLATION.
12. DROP 2-1/2" NP CW DOWN WALL TO WATER HAMMER ARRESTOR. 2-1/2" GATE VALVE WITH THREADED HOSE CONNECTION AT 36" ABOVE FLOOR. COORDINATE LOCATION WITH OWNER PRIOR TO INSTALLATION.
13. EXTEND DRAIN FROM BOILERS TO FLOOR SINK WITH ACID NEUTRALIZATION KIT. SIZE AND INSTALL PER MANUFACTURERS INSTRUCTIONS.
14. EXTEND 1" CW UP THROUGH ROOF AND CONNECT TO ROOF HYDRANT. EXTEND 1/8" DRAIN CONNECTION FROM ROOF HYDRANT, TRANSITION TO 1/2" HARD PIPE, EXTEND INTO MECHANICAL ROOM, DROP DOWN WALL AND DISCHARGE INTO FLOOR SINK WITH AIR GAP.
15. ROUTE 8" OVERFLOW STORM FROM WEST ROOF DRAIN IN JOIST SPACE, DROP DOWN ALONG WALL. 8" STORM FROM EAST ROOF DRAIN TO BE BELOW JOISTS AND CONNECT IN VERTICAL RISER, TRANSITION TO 10" AND DROP TO DOWNSPOUT NOZZLE AT 18" ABOVE GRADE. SEE DETIAL 3/P501.
16. ROUTE 10" STORM IN JOIST SPACE, DROP DOWN WALL TO BELOW FLOOR WITH WALL CLEANOUT.
17. CONNECT 1/2" CA TO EXISTING AIR COMPRESSOR WITH SHUT-OFF VALVE. EXTEND UP WALL AND ROUTE THROUGH EXISTING HIGH NEAR BOTTOM OF STRUCTURE INTO NEW BRINE ROOM.
18. DROP 1/2" CA DOWN AND CONNECT TO RELOCATE BRINE EQUIPMENT WITH SHUT-OFF VALVE AND DIRT LEG. TAP OFF 1/2" AND CONNECT TO RELOCATED BRINE EQUIPMENT. FIELD COORDINATE LOCATION AND RELOCATION OF EXISTING COMPRESSED AIR REGULATORS.
19. REMOVE EXISTING 4" WATER SERVICE FROM ELBOW DOWN BELOW FLOOR AND OUT OF BUILDING. EXISTING VALVE ASSEMBLY (SHUT-OFF VALVE, RPZ BACKFLOW PREVENTOR, SOLENOID FLOW METER, ETC) TO REMAIN IN PLACE FOR FUTURE RELOCATION. REMOVE EXISTING EXTERIOR THREADED HOSE CONNECTION ON OUTSIDE OF BUILDING, THROUGH WALL AND TEMPORARY SECURE TO VALVE ASSEMBLY INSIDE BUILDING TO STORE FOR FUTURE RELOCATION. COORDINATE REMOVAL OF EXTERIOR CONTROL CABINET WITH OWNER AND TURN OVER TO OWNER FOR FUTURE RELOCATION. FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH OWNER.

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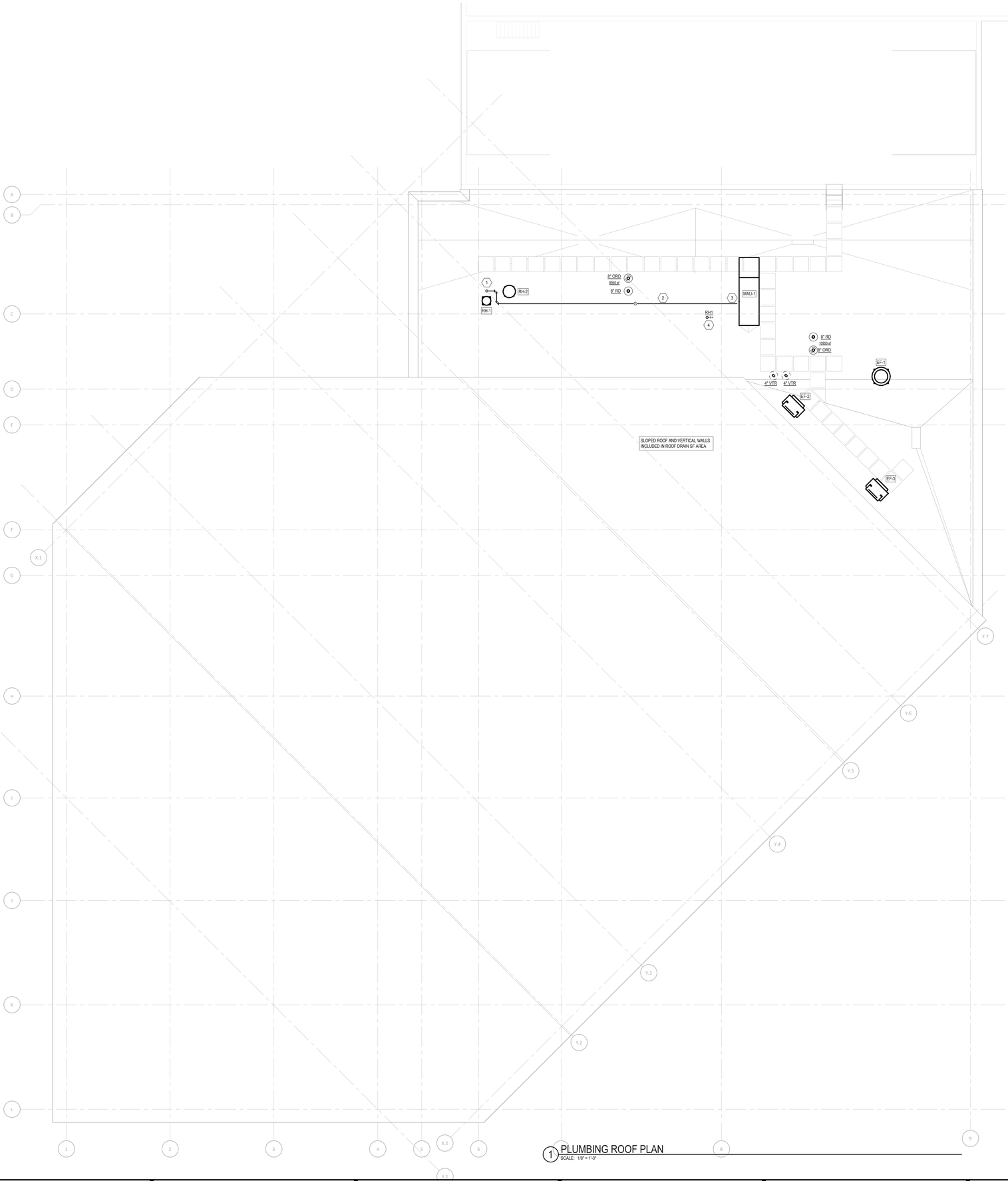
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P201
PLUMBING PLAN



1 PLUMBING ROOF PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

A. ROOF DRAIN SQUARE FOOT AREAS NEXT TO ROOF DRAINS INCLUDE VERTICAL WALL AREAS WHERE APPLICABLE.

KEY NOTES:

1. DROP GAS DOWN THROUGH ROOF, SEE DETAIL 4/P501.
2. ROUTE GAS PIPING ACROSS ROOF, SEE DETAIL 5/P501.
3. EXTEND GAS AND CONNECT TO MAKE-UP AIR UNIT WITH SHUT-OFF VALVE, DIRT LEG, REGULATOR AND UNION.
4. INSTALL ROOF HYDRANT AND ATTACH TO ROOF DECK. INSTALL PER MANUFACTURERS INSTRUCTIONS.

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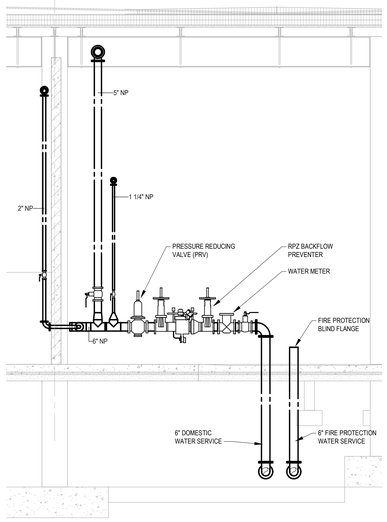
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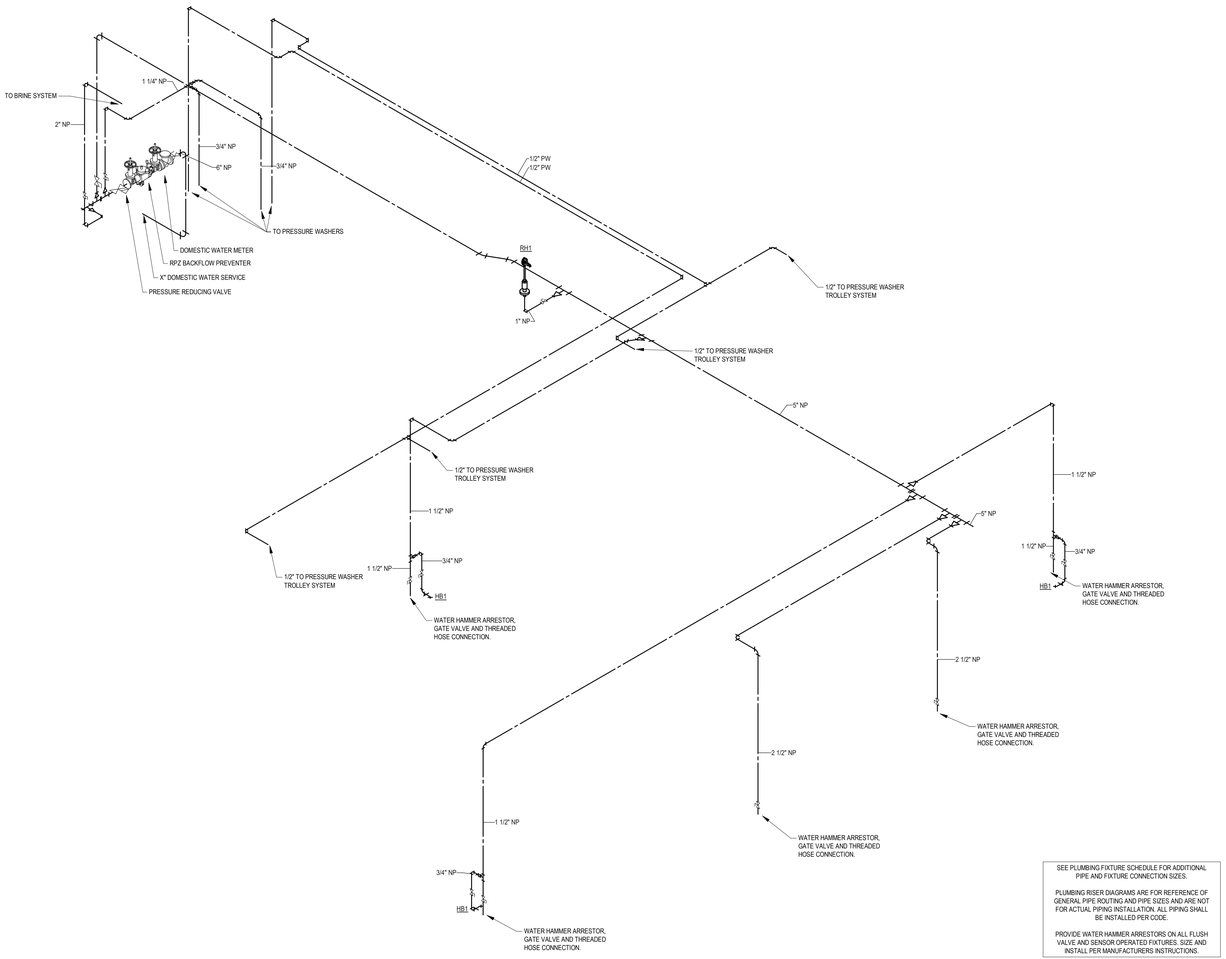
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PLUMBING ROOF PLAN



3 Section 8
NO SCALE

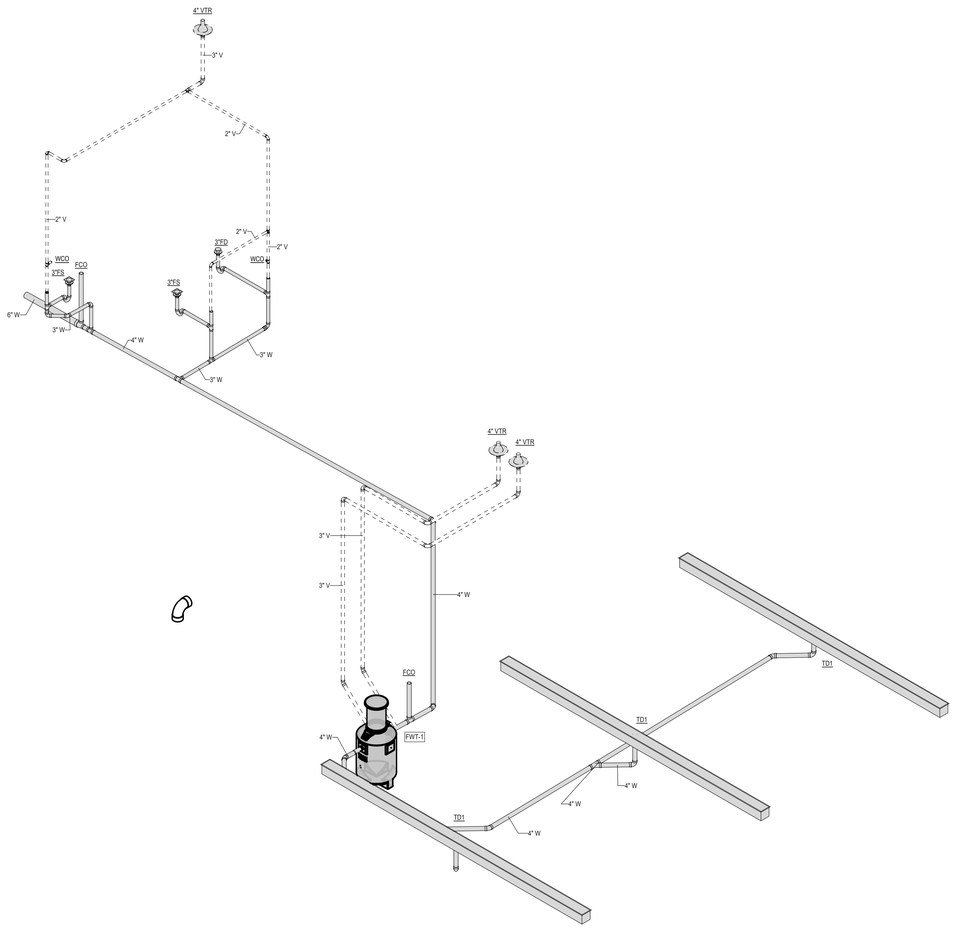


1 DOMESTIC RISER DIAGRAM
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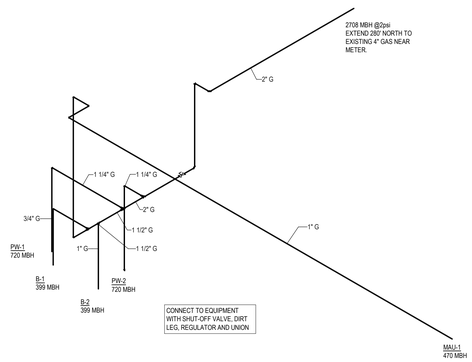
SEE PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL PIPE AND FIXTURE CONNECTION SIZES.

PLUMBING RISER DIAGRAMS ARE FOR REFERENCE OF GENERAL PIPE ROUTING AND PIPE SIZES AND ARE NOT FOR ACTUAL PIPING INSTALLATION. ALL PIPING SHALL BE INSTALLED PER CODE.

PROVIDE WATER HAMMER ARRESTORS ON ALL FLUSH VALVE AND SENSOR OPERATED FIXTURES. SIZE AND INSTALL PER MANUFACTURERS INSTRUCTIONS.



2 SANITARY RISER DIAGRAM
SCALE:



4 DOMESTIC RISER DIAGRAM
SCALE:

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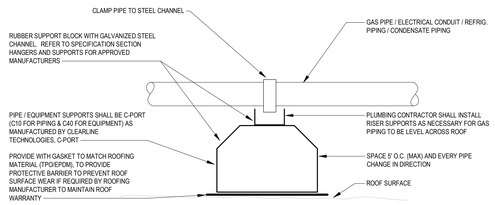
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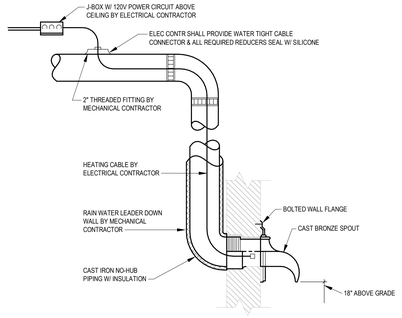
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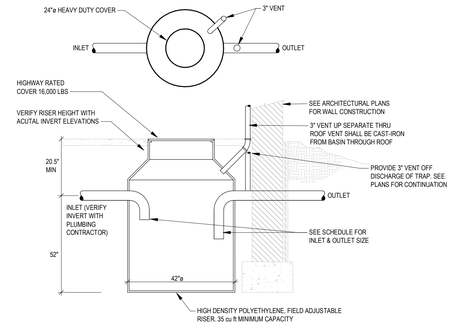
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PLUMBING RISER DIAGRAMS



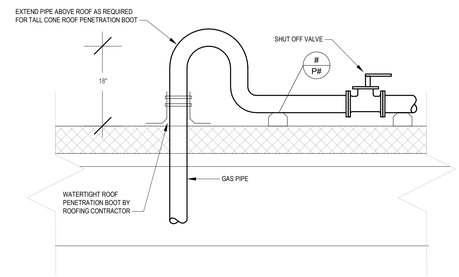
5 ROOF PIPE EQUIPMENT SUPPORT DETAIL
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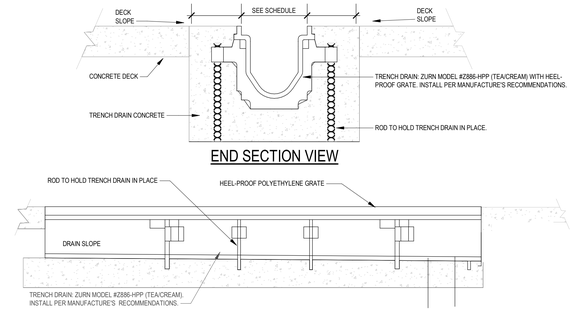
3 WALL SPOUT WITH HEAT TAPE DETAIL
NO SCALE



1 INFLAMMABLE WASTE TRAP DETAIL
NO SCALE



4 GAS PIPE ROOF PENETRATION DETAIL
NO SCALE



2 INTERIOR TRENCH DRAIN DETAIL
NO SCALE

PRESSURE WASHER SCHEDULE

NOTES:
1. PROVIDE COMPLETE PRESSURE WASHER SYSTEM AND ACCESSORIES. SEE SPECIFICATION.

MARK	ROOM NUMBER	MANUFACTURER	MODEL	PSI	INPUT (MBH)	GPM	VENT SIZE (IN)	HP	ELECTRICAL DATA			WEIGHT (LBS)	NOTES
									VOLTS	PHASE	FLA		
PW-1	103	HOTSY	5735SS	3000	720	8	12	20	480	3	21	1471	1
PW-2	103	HOTSY	5735SS	3000	720	8	12	20	480	3	21	1471	1

TRENCH DRAIN SCHEDULE

NOTES:
1. PROVIDE12" WIDE TRENCH DRAIN WITH STAINLESS STEEL FRAME, CLASS E DUCTILE IRON GRATE, BOTTOM DOME STRAINER, END CAPS, AND ALL COMPONENTS FOR COMPLETE INSTALLATION.
2. TRENCH DRAIN SECTIONS SHALL SLOPE TOWARDS EACH DRAIN LOCATION WITH HIGH POINT CENTERED BETWEEN. CONTRACTOR TO SPLICE AND JOIN SECTIONS AS REQUIRED FOR ONE CONTINOU...

MARK	QTY.	MANUFACTURER	MODEL	TOTAL LENGTH (FT)	OUTLET SECTION		MATERIAL	NOTES
					QTY.	PIPE SIZE (IN)		
TD1	3	ZURN	Z882-HDS	32.0	1	4"	HDPE	1,2

FLAMMABLE WASTE TRAP SCHEDULE

NOTES:
1. PROVIDE WITH OPTIONAL RISER, HOLD DOWN KIT, 16,000 LBS RATED COVER.

MARK	ROOM NUMBER	MANUFACTURER	MODEL	CAPACITY (CUBIC FEET)	SANITARY INLET/OUTLET DIAMETER	VENT DIA.	TANK INSIDE DIA.	WEIGHT (LBS)	NOTES
FWT-1		STREM	FWT-35	35	4"	3"	42	175	1

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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
5/22/25
PHASE
PROJECT
5015.0000
SHEET
P501
PLUMBING DETAILS & SCHEDULES

ELECTRICAL GENERAL NOTES

1 ANY ELECTRICAL BOX THAT BECOMES ABANDONED DURING THE COURSE OF THE PROJECT SHALL HAVE A BLANK COVERPLATE.

2 WHERE OTHER ELECTRICAL DEVICES ARE LOCATED ADJACENT TO LIGHT SWITCHES, MOUNT ALL DEVICES AT THE SAME CENTER LINE ELEVATION.

3 ALIGN DEVICES VERTICALLY WHERE DEVICES OF DIFFERENT MOUNTING HEIGHTS ARE INDICATED CLOSE TO OTHER DEVICES.

4 DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK.

5 ALL EMPTY RACEWAY SYSTEMS SHALL HAVE A PULLWIRE OR EQUAL AND SHALL BE IDENTIFIED AT ALL JUNCTION, PULL, AND TERMINATION POINTS, USING PERMANENT METALLIC TAGS. TAG SHALL INDICATE INTENDED USE OF CONDUIT, ORIGINATION AND TERMINATION POINTS OF EACH INDIVIDUAL CONDUIT.

6 IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. THE ENGINEER RESERVES THE RIGHT TO APPROVE METHODS AND MATERIALS NOT REFLECTED HEREIN.

7 EACH BIDDER SHALL EXAMINE THE BIDDING DOCUMENTS CAREFULLY AND, NOT LATER THAN SEVEN DAYS PRIOR TO THE DATE OF RECEIPT OF BIDS, SHALL MAKE WRITTEN REQUEST TO THE ARCHITECT FOR INTERPRETATION OR CORRECTION OF ANY DISCREPANCIES, AMBIGUITY, INCONSISTENCY, OR ERROR THEREIN WHICH HE MAY DISCOVER. ANY INTERPRETATION OR CORRECTION WILL BE ISSUED AS AN ADDENDUM BY THE ARCHITECT, ONLY A WRITTEN INTERPRETATION OR CORRECTION BY ADDENDUM SHALL BE BINDING. NO BIDDER SHALL RELY UPON INTERPRETATIONS OR CORRECTIONS GIVEN BY ANY OTHER METHOD. IF DISCREPANCIES, AMBIGUITY, INCONSISTENCY, OR ERROR ARE NOT COVERED BY ADDENDUM OR WRITTEN DIRECTIVE CONTRACTOR SHALL INCLUDE IN HIS BID, LABOR, MATERIALS, AND METHODS OF CONSTRUCTION RESULTING IN HIGHER COST, AFTER AWARD OF CONTRACT, NO ALLOWANCE OR EXTRA COMPENSATION WILL BE MADE IN BEHALF OF THE CONTRACTOR DUE TO HIS FAILURE TO MAKE THE WRITTEN REQUESTS AS DESCRIBED ABOVE.

8 THE PERSON SUBMITTING THE REQUEST WILL BE RESPONSIBLE FOR ITS PROMPT DELIVERY. FAILURE TO SO REQUEST CLARIFICATION OF ANY INADEQUACY, OMISSION, OR CONFLICT WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY. THE SIGNING OF THE CONTRACT WILL BE CONSIDERED AS IMPLICITLY DENOTING THAT THE CONTRACTOR HAS A THOROUGH COMPREHENSION OF THE FULL INTENT AND SCOPE OF THE WORKING DRAWINGS AND SPECIFICATIONS.

9 CONTRACTOR SHALL VISIT SITE PRIOR TO BID AND VERIFY THAT CONDITIONS ARE AS INDICATED. CONTRACTOR SHALL INCLUDE IN HIS BID, COSTS REQUIRED TO MAKE HIS WORK MEET EXISTING CONDITIONS.

10 WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT.

11 WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE, AND NATIONAL CODES AND ORDINANCES.

12 PROVIDE PERMITS AND INSPECTIONS REQUIRED.

13 GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.

14 VERIFY THE EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.

15 SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.

16 PROVIDE EXTERIOR PULL BOXES AND HANDHOLES AS REQUIRED TO COMPLETE WORK INDICATED. SPLICES IN EXTERIOR PULL BOXES AND HANDHOLES SHALL BE MADE WATERPROOF USING "SCOTCHCAST" SPLICE KIT OR APPROVED EQUAL. SEAL ENDS OF CONDUITS AND DUCTS WITH "DUCTSEAL" OR APPROVED EQUAL.

17 VERIFY EXACT LOCATIONS OF EXISTING AND NEW UNDERGROUND UTILITIES, PIPING, AND RACEWAY SYSTEMS PRIOR TO TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL, EXCAVATION, SUPPORTS, SERVICE FEEDERS (CONDUIT AND/OR WIRE), PULLBOXES, TRANSFORMER PADS, SAWCUTTING AND PATCHING, CONCRETE/PAVING, ETC. REQUIRED. BACKFILL TRENCHES TO AND PATCH TO MATCH EXISTING. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT UTILITY COMPANY DRAWINGS AND REQUIREMENTS. CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO WORK.

18 CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING OR FACTORY WIRING IN EQUIPMENT PROVIDED BY THIS CONTRACTOR.

19 CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT, OR INSTALLATION METHODS.

20 SYSTEMS SHALL BE COMPLETE, OPERABLE, AND READY FOR CONTINUOUS OPERATION. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC. SHALL BE CONNECTED AND OPERABLE.

21 CONDUITS PENETRATING THRU ROOF SHALL BE CONSTRUCTED IN CONFORMANCE WITH ARCHITECTURAL ROOFING SECTION(S) AND "SHEET METAL FLASHING AND TRIM" SECTION 076200.

22 ALL ELECTRICAL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY UL OR OTHER RECOGNIZED TESTING FACILITY.

23 REFER TO ARCHITECTURAL CASEWORK ELEVATIONS FOR ADDITIONAL INFORMATION ON LOCATION OF ELECTRICAL DEVICES MOUNTED IN OR NEAR CASEWORK. COORDINATE MOUNTING HEIGHT AND PLACEMENT OF DEVICES DESIGNATED "AC" (ABOVE COUNTER). REPORT DISCREPANCIES TO ENGINEER PRIOR TO INSTALLATION.

24 PROVIDE FIRE RATED SEALS ON PENETRATIONS IN FIRE RATED FLOORS AND WALLS. REFER TO CODE PLANS FOR RATED FLOOR AND WALL LOCATIONS.

25 PROVIDE ACOUSTICAL SEALANT ON ALL WALL PENETRATIONS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR DETAILS.

26 WHERE CONDUITS ARE INSTALLED EMBEDDED IN CONCRETE POURS, THE OUTSIDE DIAMETER OF THE CONDUITS SHALL NOT EXCEED 1/3 OF THE MINIMUM THICKNESS OF THE SLAB, SHALL BE SPACED NO CLOSER THAN 3 CONDUIT DIAMETERS ON CENTER, AND SHALL NOT CROSS OVER EACH OTHER. CONDUIT SHALL BE INSTALLED IN MIDDLE THIRD OF SLAB. USE APPROVED SUPPORTS FOR CONDUIT.

POWER GENERAL NOTES

1 VERIFY LOCATION OF ALL MOTORS AND EQUIPMENT BEFORE ROUGH-IN. SEE MECHANICAL DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT. PROVIDE SERVICE TO AND CONNECT EQUIPMENT AS REQUIRED.

2 ELECTRICAL CONTRACTOR SHALL PROVIDE CONTROLS, INTERLOCKS, ACCESSORIES, ETC., IN MOTOR CONTROL STARTERS AS REQUIRED BY THE TEMPERATURE CONTROL CONTRACTOR. STARTERS SHALL CONTAIN 120V CONTROL TRANSFORMER, PILOT LIGHT, AND PUSHBUTTONS OR SELECTOR SWITCH AS REQUIRED. IN ADDITION TO OTHER ITEMS (AUXILIARY CONTACTS, DOOR SWITCHES, RELAYS, ETC.) REQUIRED. SUBMIT ELEMENTARY CONTROL DIAGRAMS FOR APPROVAL. SUBMITTALS SHALL INCLUDE INDICATION OF PRIOR REVIEW AND ACCEPTANCE BY TEMPERATURE CONTROL CONTRACTOR. REFER TO MECHANICAL DRAWINGS AND TEMPERATURE CONTROL DIAGRAMS FOR ADDITIONAL CONDUIT, WIRE, RELAYS, TRANSFORMERS, CONNECTIONS, ETC. REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

3 INTERRUPTING RATINGS NOTED IN SCHEDULES SHALL APPLY TO ENTIRE PANELBOARD AND/OR SWITCHBOARD. ALL EQUIPMENT COMPRISING PANELS AND/OR SWITCHBOARDS SHALL BE FULLY RATED FOR SHORT CIRCUIT CURRENT NOTED.

4 RECEPTACLES WHICH ARE SHOWN WALL MOUNTED ON THE ELECTRICAL DRAWINGS ON WALLS WHICH, ON THE ARCHITECTURAL DRAWINGS AND ELEVATIONS ARE SHOWN AS GLASS OR PARTITIONS, SHALL BE FLUSH FLOOR DUPLEX RECEPTACLES MOUNTED ADJACENT TO BASE OR WALLS.

5 PROVIDE ENGRAVED NAMEPLATES ON SWITCHBOARDS, PANELBOARDS, DISCONNECT SWITCHES, MOTOR CONTROL CENTERS, TRANSFORMERS, ETC., INDICATING EQUIPMENT DESIGNATION (OR DESIGNATION OF EQUIPMENT SERVED) AND VOLTAGE.

6 FINAL CONNECTIONS TO EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.

7 ADJUST MOUNTING HEIGHTS OF ALL OUTLETS IF REQURED SO AS NOT TO INTERFERE WITH RADIATION. VERIFY CHANGES WITH ENGINEER.

8 PANEL DIRECTORIES SHALL BE REMOVABLE. SUBMIT PROPOSED SCHEDULE OF DIRECTORIES TO OWNER FOR APPROVAL. ROOM NAMES AND NUMBERS SHALL BE AS DIRECTED BY OWNER. DIRECTORIES SHALL BE TYPED AND INSTALLED UNDER CLEAR PLASTIC COVERS.

9 ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC RACEWAYS. RACEWAYS IN SLAB-ON-GRADE OR BELOW GRADE SHALL BE SCHEDULE 40 PVC. TRANSITIONS FROM BELOW TO ABOVE GRADE SHALL BE WITH RIGID STEEL ELBOWS WITH PVC JACKET OR PROVIDED EQUAL PROTECTION. EMT FITTINGS SHALL BE MALLEABLE IRON OR STEEL. CONNECTORS SHALL BE INSULATED THROAT TYPE.

10 ALL BRANCH CIRCUIT AND FEEDER CONDUITS SHALL HAVE A CODE SIZED COPPER GROUNDING CONDUCTOR. INCREASE CONDUIT SIZE AS REQUIRED.

11 FINAL CONNECTIONS TO MOTORS, TRANSFORMERS, AND OTHER VIBRATING EQUIPMENT SHALL BE WITH LIQUIDTIGHT FLEX METAL CONDUIT AND FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS, OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.

12 BRANCH CIRCUITS RATED 120V, LONGER THAN 75' AND RATED 277V, LONGER THAN 200' (CONDUCTOR LENGTH) SHALL BE A MINIMUM WIRE SIZE OF #10 (LINE, NEUTRAL, AND GROUND) THROUGHOUT.

13 PULLBOXES, CABINETS, ETC. MOUNTED ON THE EXTERIOR AT GRADE LEVEL, SHALL BE WEATHERPROOF TYPE WITH HINGED LOCKABLE COVERS SECURED WITH TAMPERPROOF SCREWS.

14 DO NOT SHARE NEUTRALS, EXCEPT ON BREAKERS WITH HANDLE TIES. MULTIWIRE BRANCH CIRCUITS SHALL HAVE HANDLE TIES PER NEC 210. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE HANDLE TIED BREAKERS.

15 PROVIDE WITH SHOP DRAWINGS SUBMITTAL, 1/4" SCALE LAYOUT DRAWINGS OF ROOMS WITH ELECTRICAL SWITCHGEAR AND TRANSFORMERS. LAYOUTS SHALL SHOW LOCATIONS OF AND SHALL BE COORDINATED WITH MECHANICAL EQUIPMENT AND EQUIPMENT SHALL BE DRAWN TO SCALE.

16 PROVIDE INSULATED BUSHINGS OVER CONDUIT ENDS AT ROUGH-IN AND CONDUIT SLEEVE LOCATIONS PRIOR TO INSTALLATION OF ANY CABLING.

17 PROVIDE 120V POWER TO EACH SMOKE, FIRE/SMOKE DAMPER. COORDINATE WITH MECHANICAL FOR EXACT DAMPER LOCATIONS.

18 COORDINATE UNDERGROUND CONDUIT INSTALLATION WITH FOOTING ELEVATIONS. CUTTING AND/OR DRILLING THROUGH FOOTINGS IS NOT ACCEPTABLE. SEE STRUCTURAL DETAILS FOR FOOTING ELEVATIONS. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, UNLESS NOTED OTHERWISE.

19 PROVIDE SELF ADHESIVE IDENTIFICATION INSIDE COVER OF EACH FUSIBLE SWITCH, INDICATING SIZE AND TYPE OF FUSES PROVIDED.

20 ELECTRICAL REQUIREMENTS AND RATINGS FOR MECHANICAL EQUIPMENT ARE INDICATED IN THE MOTOR SCHEDULES. EQUIPMENT LOCATIONS ARE INDICATED ON DRAWINGS FOR COORDINATION PURPOSES. COORDINATE EXACT LOCATIONS WITH MECHANICAL.

21 DISCONNECTS AND/OR TOGGLE SWITCHES FOR EQUIPMENT SHALL NOT BE MOUNTED DIRECTLY TO THE EQUIPMENT. PROVIDE INDEPENDENT SUPPORT.

22 ALL JUNCTION BOXES SHOWN SHALL BE 4"x4" WITH SINGLE GANG MUDRING, UNLESS INDICATED OTHERWISE.

23 ALL EXTERIOR RATED WEATHERPROOF GFCI RECEPTACLES SHALL BE MOUNTED AT 24" AFF UNLESS NOTED OTHERWISE. PROVIDE HEAVY DUTY WET LOCATION WHILE IN USE COVER.

LIGHTING GENERAL NOTES

1 IN MECHANICAL, ELECTRICAL, AND COMMUNICATION EQUIPMENT ROOMS, CONDUIT FOR LIGHTING FIXTURES MAY BE RUN EXPOSED.

2 LETTER THUS "A" - INDICATES TYPE OF LIGHTING FIXTURES. REFER TO LIGHTING FIXTURE TYPES AS NOTED ON THE LIGHTING FIXTURE SCHEDULE. CIRCUIT INDICATED THUS: "AXX" WHERE "XX" INDICATES CIRCUIT NUMBER.

3 COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF FIXTURES IN MECHANICAL ROOMS WITH DUCTS, PIPES, AND EQUIPMENT. MOUNT FIXTURES BELOW DUCTS AND PIPES AND AVOID MOUNTING FIXTURES OVER EQUIPMENT. SUPPORT FIXTURES INDEPENDENTLY OF DUCTS, PIPES, AND EQUIPMENT.

4 LIGHT SWITCHES SHALL BE MOUNTED ON LATCH SIDE OF DOOR WITHIN 12" OF DOOR/SIDELIGHT FRAMING, UNLESS NOTED OTHERWISE. LIGHT SWITCHES INSTALLED ADJACENT TO DOOR SWINGS SHALL BE MOUNTED CLEAR OF DOOR SWING AND WITHIN 12" OF DOOR IN OPEN POSITION. COORDINATE LOCATION WITH OTHER WALL DEVICES.

5 COORDINATE ALL LIGHTING LOCATIONS WITH MECHANICAL DUCTWORK AND PIPING PRIOR TO INSTALLATION.

6 UNLESS SPECIFICALLY NOTED, REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR EXACT EXTERIOR FIXTURE MOUNTING HEIGHTS AND LOCATIONS.

7 REFER TO ARCHITECTURAL ELEVATIONS AND REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHTING FIXTURES AND DEVICES.

8 MOUNT ALL EXIT LIGHTS DIRECTLY ABOVE DOOR 1'-0" FROM TOP OF OPENING, WHEREVER POSSIBLE. WHERE CEILINGS ARE 10'-0" OR BELOW, MOUNT IN CEILING ABOVE DOOR. REFER TO DETAIL SHEETS FOR TYPICAL EXIT SIGN MOUNTING.

9 ALL LIGHTING FIXTURES LOCATED SO AS TO DISRUPT A FIRE RATED CEILING ARE TO BE ENCLOSED OR SURROUNDED IN A FIRE PROTECTION MATERIAL AND FIBER BOARD. PROTECTION MATERIAL IS TO BE INSTALLED AS PER THE FIRE RESISTANCE INDEX. VERIFY WITH ARCHITECTURAL DRAWINGS THE HOUR RATINGS AND TYPE OF CEILINGS TO BE USED.

10 MOUNTING HEIGHTS SHOWN FOR WALL MOUNTED FIXTURES ARE TO CENTER. MOUNTING HEIGHTS SHOWN FOR PENDANT FIXTURES ARE TO BOTTOM OF FIXTURE.

11 OCCUPANCY SENSORS SHALL CONTROL ALL LIGHTS IN ROOM SERVED, UNLESS NOTED OTHERWISE. ELECTRICAL CONTRACTOR TO PROVIDE RELAY PACKS AS REQUIRED FOR DIFFERENT VOLTAGES, CIRCUITS, AND DIMMER CONTROLLED LIGHTS. REFER TO DETAIL SHEETS FOR OCCUPANCY SENSOR WIRING.

12 DO NOT SHARE NEUTRALS ON LIGHTING CIRCUITS.

13 RECESSED LIGHT FIXTURES INSTALLED IN GYP BOARD OR PLASTER CEILINGS SHALL HAVE PLASTER FRAMES INSTALLED PRIOR TO CEILING MATERIAL.

14 RECESSED FIXTURES INSTALLED INDOORS AND IN POTENTIAL CONTACT WITH INSULATION SHALL BE THERMALLY PROTECTED (IC RATED).

15 VERIFY TYPE OF CEILING CONSTRUCTION FOR PROPER MOUNTING OF ALL RECESSED LIGHT FIXTURES. INSTALLATION OF LIGHT FIXTURES SHALL COMPLY WITH ALL INTERNATIONAL BUILDING CODE REQUIREMENTS.

16 PROVIDE TWO INDEPENDENT SUPPORTS FOR ALL RECESSED LIGHT FIXTURES.

17 INTERIOR LIGHTING VACANCY AND OCCUPANCY SENSORS SHALL OPERATE WITH A 20 MINUTE DELAY OR LESS.

18 FIXTURES INDICATED AS BEING ON EMERGENCY SHALL BE PROVIDED WITH SELF-CONTAINED BATTERY POWERED INVERTER UNIT FOR DIRECT MOUNTING IN FIXTURE, UNLESS NOTED OTHERWISE. BATTERY SHALL OPERATE FIXTURE FOR A MINIMUM OF 90 MINUTES. ROUTE UNSWITCHED HOT TO FIXTURE.

SPECIAL SYSTEM GENERAL NOTES

1 ALL LOW-VOLTAGE SYSTEM CONDUITS SHALL HAVE LONG RADIUS SWEEPS.

2 PROVIDE POWER TO FIRE ALARM NAC PANELS AS REQUIRED BASED ON REVIEWED FIRE ALARM SHOP DRAWINGS. USE SPARE BREAKERS IN NEAREST 120V ELECTRICAL PANEL. NAC PANELS SHALL BE LOCATED IN ELECTRICAL ROOMS WHENEVER POSSIBLE.

3 PROVIDE 2-GANG J-BOX WITH SINGLE GANG MUDRING AND BLANK COVER PLATE FOR DATA, VOICE, AND TV LOCATIONS. ROUTE 1"C. UP INTO CONCEALED ACCESSIBLE CEILING SPACE. PROVIDE NYLON BUSHINGS AND PULL STRINGS.

4 DATA AND TV ROUGH-INS SHALL BE MOUNTED AT THE SAME ELEVATION AND WITHIN 12" OF THE ADJACENT POWER RECEPTACLE. REFER TO POWER PLANS FOR LOCATIONS.

5 PROVIDE INSULATED BUSHINGS OVER CONDUIT ENDS AT ROUGH-IN AND CONDUIT SLEEVE LOCATIONS PRIOR TO INSTALLATION OF ANY CABLING.

6 DEVICES INSTALLED IN THE CEILING GRID SHALL BE CENTERED IN THE TILE. CORRIDOR DEVICES SHALL BE MOUNTED IN A STRAIGHT LINE AS SHOWN ON PLANS.

7 LOCATE SMOKE DETECTORS AND SMOKE ALARMS AT LEAST 3' FROM SUPPLY AIR DIFFUSERS.

8 PROVIDE CIRCUIT BREAKER "LOCK-ON" DEVICES FOR FACP AND NAC CIRCUIT(S).

9 ALL WALL PENETRATIONS FOR FIRE ALARM WIRING SHALL BE IN CONDUIT. FIRE ALARM CONTRACTOR SHALL NOT INSTALL FIRE ALARM CABLING IN SLEEVES FOR OTHER LOW-VOLTAGE SYSTEMS.

10 PROVIDE 1"C TO EACH FLOOR BOX DATA/PHONE OR TV OUTLET SHOWN (FOR EACH SYMBOL). ROUTE TO NEAREST WALL AND UP INTO CONCEALED ACCESSIBLE CEILING SPACE. PROVIDE NYLON BUSHINGS AND PULL STRING IN CONDUIT.

11 COORDINATE LOCATIONS OF ALL DEVICES WITH WALL FINISHES. DO NOT INSTALL IN MIRRORS. REFER TO ARCHITECTURAL ELEVATIONS.

12 ALL LOW-VOLTAGE CABLING SHALL BE CONCEALED IN ACCESSIBLE CEILINGS, RACEWAY, OR CABLE TRAYS.

13 FIRE ALARM SYSTEM SPEAKER/STROBES SHALL BE FURNISHED AND WIRED FOR INDEPENDENT OPERATION OF SPEAKERS AND STROBE. PROVIDE UL LISTED FUNCTION ON FIRE ALARM CONTROL PANEL TO PERMIT SILENCING OF SPEAKERS WHILE STROBES CONTINUE TO FUNCTION.

14 COORDINATE CABLE TRAY ROUTING WITH ALL TRADES. MAINTAIN 6" SEPARATION FROM LIGHT FIXTURE BALLAST/DRIVERS. REFER TO CABLE TRAY DETAILS FOR WALL PENETRATIONS.

15 ALL SLEEVES INDICATED FOR FUTURE DISTRIBUTED ANTENNA SYSTEM (DAS) SHALL NOT BE USED FOR ANY OTHER CABLING. SLEEVES SHALL BE SIZED AS (1) 2"C. THROUGH WALLS AND (1) 2"C. THROUGH FLOORS, UNLESS NOTED OTHERWISE. LABEL ALL SLEEVES FOR DISTRIBUTED ANTENNA SYSTEM "DAS ONLY".

16 PROVIDE 2-GANG J-BOX WITH 2-GANG MUDRING AND BLANK COVER PLATE FOR MM' TYPE DATA BOXES. ROUTE (2) 1 ¼"C. UP INTO CONCEALED ACCESSIBLE CEILING SPACE. PROVIDE NYLON BUSHINGS AND PULL STRING IN CONDUITS. SEE SPECIFICATIONS FOR MORE INFORMATION.

17 PROVIDE BLANK 4-POSITION FACEPLATE FOR ALL DATA OUTLET LOCATIONS WITH A "0" DESIGNATION FOR CABLE QUANTITIES.

18 CABLES SHALL BE SUPPORTED FROM STRUCTURE VIA APPROVED J-HOOKS SPECIFIED WHERE NO CABLE TRAY IS PRESENT.

19 VINYL TIE STRAPS ARE PROHIBITED THROUGHOUT. UTILIZE VELCRO TIE STRAPS TO BUNDLE CABLES THROUGHOUT THE FACILITY.

20 CABLE ENDS (INSIDE BOX AND AT BACK OF PATCH PANELS) SHALL BE LABELED. SEE SPECIFICATIONS. FACEPLATES AND PATCH PANELS FACES SHALL ALSO BE LABELED.

21 CONTRACTOR SHALL PROVIDE LADDER RACK IN EACH DATA CLOSET. THE LAYOUTS SHOWN ARE DIAGRAMATIC ONLY AND SHALL BE THE MINIMUM LEVEL. ACCESSORIES SUCH AS RADIOUS CURVES, SUPPORTS, WATERFALLS, ETC. ARE NOT SHOWN, BUT SHALL BE INCLUDED. PROVIDE ADDITIONAL LADDER RACK TO SUPPORT CABLES AS REQUIRED.

22 SEE TECHNOLOGY RISERS FOR MORE INFORMATION ABOUT TECHNOLOGY ROOM LAYOUTS.

23 BACKBONE CABLING SHALL BE INSTALLED IN DEDICATED PATHWAYS. DO NOT INSTALL UTP AND OTHER CABLES WITH BACKBONE CABLES WHEN IN CONDUIT. BACKBONE AND OTHER CABLES CAN SHARE CABLE TRAY AND LADDER RACK.

24 FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE DEVICES, CONDUIT, WIRES, AND CABLE AS DIRECTED BY EQUIPMENT MANUFACTURER. MATERIALS, EQUIPMENT, AND WORKMANSHIP SHALL MEET PREVAILING CODES. THE SYSTEM SHALL BE COMPLETE AND OPERABLE IN EVERY RESPECT.

25 CONTRACTOR SHALL PROVIDE ALL CONDUIT, J-BOXES FOR SOUND SYSTEM COMPLETE RACEWAY SYSTEM. CONDUIT SHALL BE A MINIMUM OF ¾" UNLESS NOTED. SOUND SYSTEM CONTRACTOR SHALL FURNISH AND INSTALL SPEAKER WIRE, VOLUME CONTROLS, MICROPHONES, AMPLIFIERS, SPLITTERS, ETC.

26 TELEVISION SYSTEM. CONTRACTOR SHALL PROVIDE ALL CONDUIT, AND J-BOXES (MINIMUM TWO-GANG) FOR A COMPLETE RACEWAY SYSTEM. CONDUIT SHALL BE A MINIMUM OF ¾" UNLESS NOTED. TV OUTLETS, CABLE, AMPLIFIERS, SPLITTERS, ANTENNA WITH MAST, ETC., BY OTHERS.

27 SECURITY SYSTEM. CONTRACTOR SHALL PROVIDE ALL CONDUIT, AND J-BOXES (MINIMUM TWO-GANG) FOR A COMPLETE RACEWAY SYSTEM. CONDUIT SHALL BE A MINIMUM OF ¾" UNLESS NOTED. SECURITY SYSTEM CONTRACTOR SHALL INSTALL SECURITY PANELS, CAMERAS, WIRE, SECURITY DEVICES, ETC.

ELECTRICAL ABBREVIATIONS

1P	1 POLE (NUMBER DENOTES QUANTITY)
1P1W	1 POLE, 1 WIRE (NUMBER DENOTES QUANTITY)
2W	2 WIRE (NUMBER DENOTES QUANTITY)
72"	MOUNTING HEIGHT (CENTERLINE TO FLOOR OR GRADE)
A	AMPERE
AC	ABOVE COUNTER
AF	AMP FRAME
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ARCH	ARCHITECTURAL)
AS	AMP SWITCH
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
BCE	BUILDING CONTROLLER ENCLOSURE
BLDG	BUILDING
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CD	CANDELA
CKT	CIRCUIT
CLG	CEILING
CONN	CONNECTION
CONT	CONTINUE) (OUS) (ED) (ATION)
CONTR	CONTRACTOR
CP	CORD AND PLUG
CT	CURRENT TRANSFORMER
CTE	CONNECT TO EXISTING
CU	COPPER
DC	DIRECT CURRENT
DISC	DISCONNECT
DOWN	DOWN
DSD	DUCT SMOKE DETECTOR
DWG	DRAWING
Δ	DELTA
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRICAL METALLIC TUBING
EOL	END OF LINE
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
FA	FIRE ALARM
FBO	FURNISHED BY OTHERS
FLA	FULL LOAD AMPS
FMC	FLEXIBLE METALLIC CONDUIT
FUSW	FUSE/SWITCH RATINGS (AMPS)
GC	GENERAL CONTRACTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFPE	GROUND FAULT PROTECTION EQUIPMENT
GND	GROUND
GRC	GALVANIZED RIGID CONDUIT
HOA	HAND-OFF-AUTO SWITCH
HP	HORSEPOWER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HZ	HERTZ
IAM	INDIVIDUAL ADDRESSABLE MODULE
IG	ISOLATED GROUND
IMC	INTERMEDIATE METALLIC CONDUIT
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERE
KVAR	KILOVOLT AMPERE REACTIVE
KW	KILOWATT
LCT	LOAD CENTER TYPE
LFMC	LIQUID TIGHT FLEXIBLE METALLIC CONDUIT
LFNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
LTG	LIGHTING
MAG	MAGNETIC
MAX	MAXIMUM
MC	METAL CLAD CABLE
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTS	MANUAL TRANSFER SWITCH
#	NUMBER
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OL	OVERLOAD
P	POLE
PB	PULL BOX
PIV	POST INDICATING VALVE
PNL	PANEL
PR	PAIR
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE CONDUIT
PWR	POWER
Ø OR PH	PHASE
REQ	REQUIRED
RSC	RIGID STEEL CONDUIT
SCCR	SHORT CIRCUIT CURRENT RATING
SEC	SECONDARY
SIG	SIGNAL
SP	SPARE
SS	STAINLESS STEEL
SSNR	SOFT START NON-REVERSING
SSR	SOFT START REVERSING
STP	SHIELDED TWISTED PAIR
SW	SWITCH
SWBD	SWITCHBOARD
T-STAT	THERMOSTAT
TT	THERMAL TOGGLE
TYP	TYPICAL
UG	UNDERGROUND
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
WP	WEATHERPROOF
XFMR	TRANSFORMER
Y	WYE

ELECTRICAL SYMBOL LEGEND

POWER

SYMBOL	DESCRIPTION	MTG HT
^{XX} / ^{XX}	RECEPTACLE TYPE LEGEND WP = WEATHERPROOF SS = STAINLESS STEEL FACEPLACE GFCI = GROUND FAULT USB = USB TYPE RECEPTACLE TT = TAMPERPROOF RECEPTACLE H = HOSPITAL GRADE RECEPTACLE	18"
	FOURPLEX RECEPTACLE	18"
	SIMPLEX RECEPTACLE	18"
	CEILING MOUNTED DUPLEX RECEPTACLE	CEILING
	DUPLEX RECEPTACLE, LOWER SWITCHED	18"
	FOURPLEX RECEPTACLE, SWITCHED	18"
	DUPLEX RECEPTACLE, SWITCHED	18"
	HORIZONTAL MOUNT DUPLEX RECEPTACLE	18"
^{XX}	SPECIAL PURPOSE RECEPTACLE - LETTER INDICATES TYPE - SEE NOTE 3	18"
^{XX}	CEILING MOUNT SPECIAL PURPOSE RECEPTACLE - LETTER INDICATES TYPE - SEE NOTE 3	CEILING
	DUPLEX RECEPTACLE, EMERGENCY CIRCUIT	18"
	FOURPLEX RECEPTACLE, EMERGENCY CIRCUIT	18"
	RECESSED JUNCTION BOX W/ FLEX CONNECTION	
^{XX}	RECESSED JUNCTION BOX - LETTER INDICATES TYPE - SEE NOTE 4	CEILING
^{XX}	SURFACE MOUNTED JUNCTION BOX - LETTER INDICATES TYPE - SEE NOTE 4	CEILING
^{XX}	RECESSED JUNCTION BOX, WAL - LETTER INDICATES TYPE - SEE NOTE 4	18"
^{XX}	SURFACE MOUNTED JUNCTION BOX, WALL - LETTER INDICATES TYPE - SEE NOTE 4	18"
	FLOOR BOX WITH DEVICES INDICATED	FLOOR
PB	PULLBOX SIZED AS REQUIRED OR NOTED	

POWER DISTRIBUTION

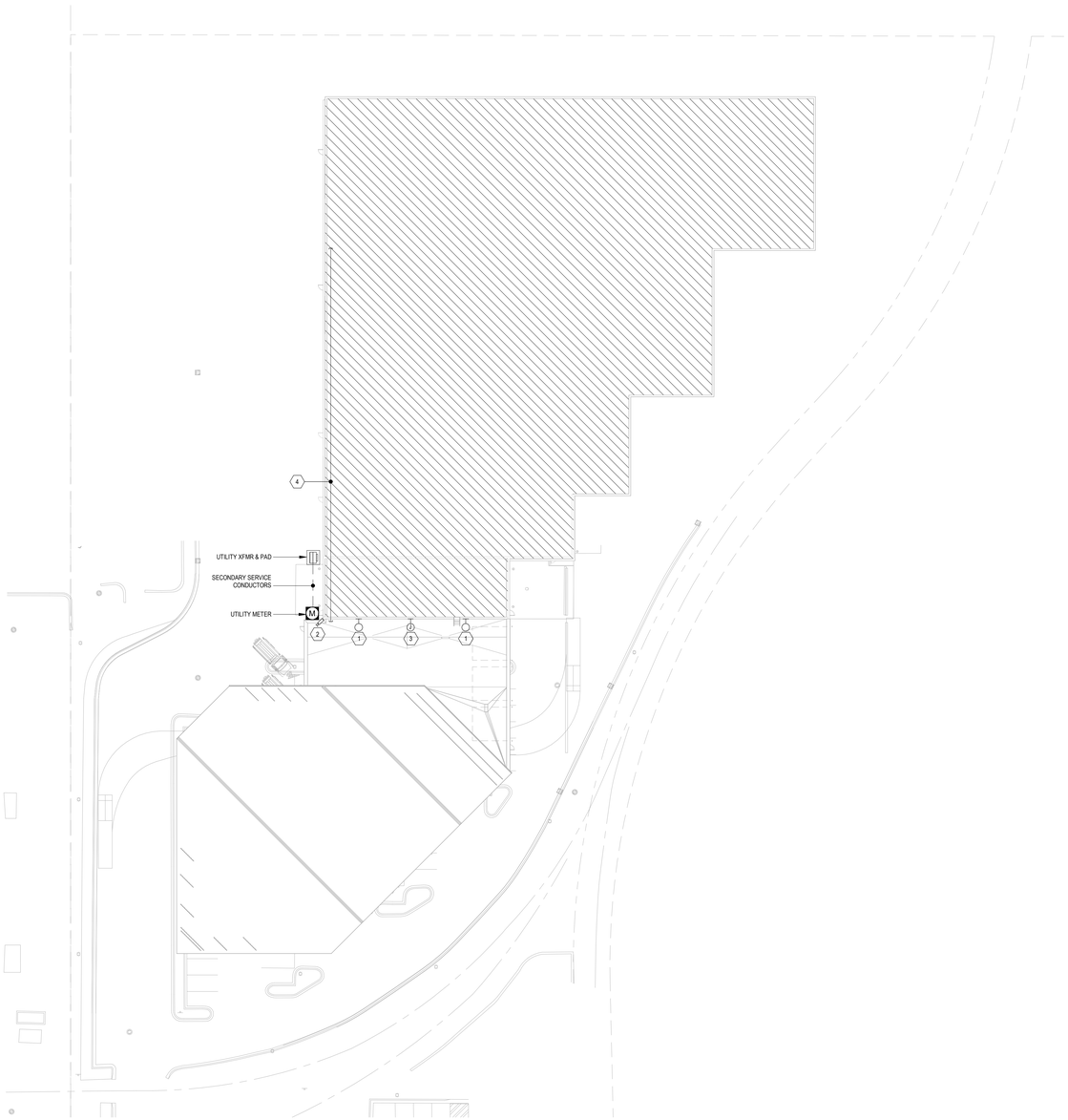
SYMBOL	DESCRIPTION	MTG HT
	GENERATOR - SIZE VARIES	
	TRANSFORMER - SIZE VARIES	
	PANELBOARD	WALL OR FLOOR
	SWITCHBOARD/DISTRIBUTION PANELBOARD	WALL OR FLO

GENERAL NOTES:

A. SEE SHEET E000 FOR ADDITIONAL ELECTRICAL GENERAL NOTES.

KEY NOTES:

1. DISCONNECT AND CAREFULLY REMOVE EXISTING WALL MOUNTED LIGHT FIXTURE AND TURN OVER TO OWNER.
2. DISCONNECT AND CAREFULLY REMOVE EXISTING SECURITY CAMERA AND MOUNTING HARDWARE. STORE IN SECURE PLACE FOR RELOCATION.
3. DISCONNECT EXISTING TRUCK FILL CONTROL PANEL. COORDINATE ALL WORK WITH OWNER.
4. PROVIDE 3" EMPTY CONDUIT FROM MECHANICAL 103 TO FIBER HEAD END IN NOTH SHOP. APPROXIMATE LOCATION SHOWN IN NORTH SHOP. VERIFY IN FIELD PRIOR TO BID.



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

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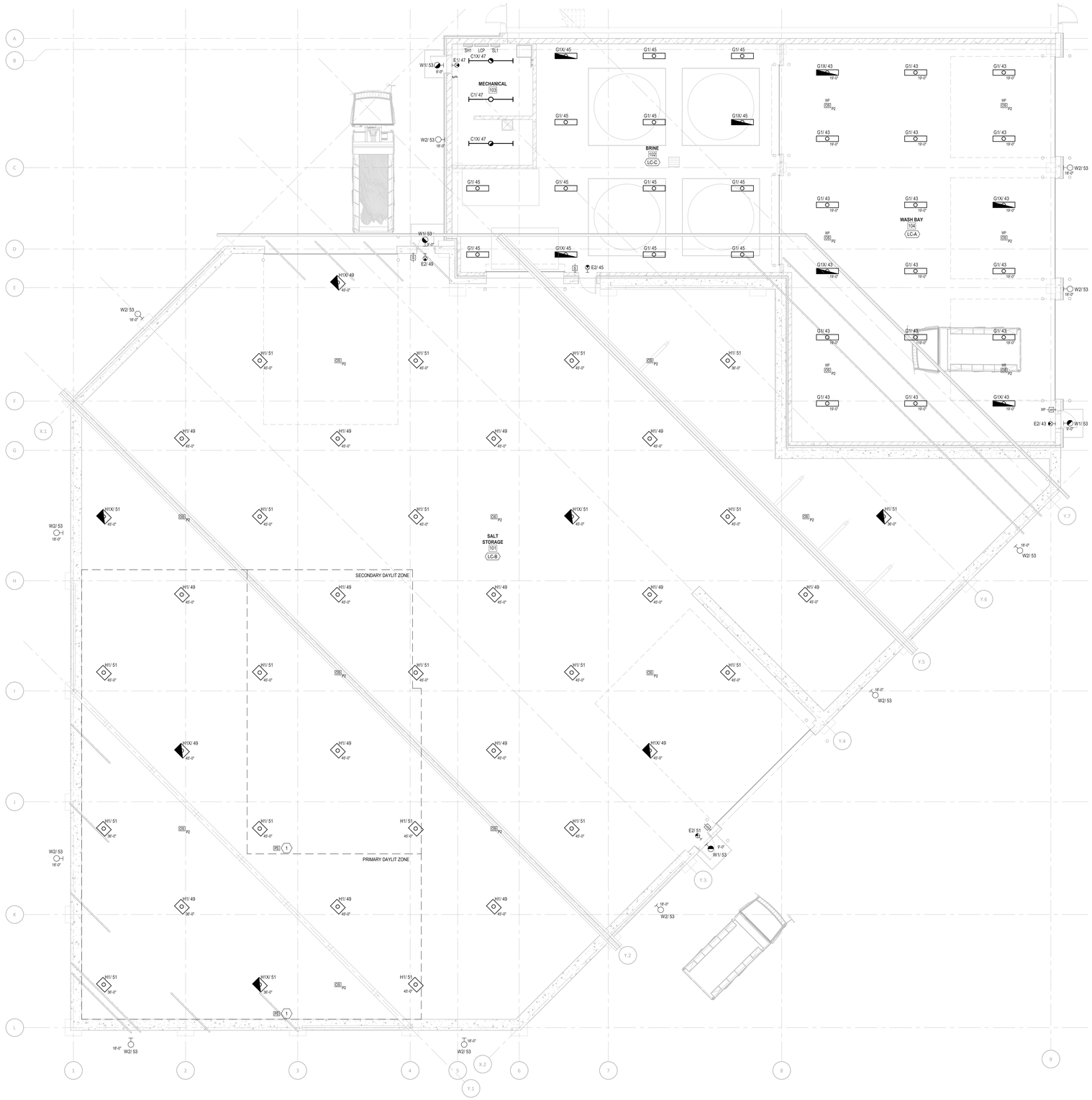
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5/22/25
PHASE

PROJECT
5015.0000
SHEET
E001
ELECTRICAL SITE PLAN



1 LIGHTING PLAN - SALT SHED
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

A. SEE SHEET E000 FOR ADDITIONAL ELECTRICAL GENERAL NOTES.

B. ALL CONDUIT DEVICES, ETC. LOCATED ON PRECAST WALL SHALL BE SURFACE MOUNTED. ALL CONDUIT, DEVICES, ETC. LOCATED AT CONCRETE BLOCK OR STUD WALLS SHALL BE RECESSED WITHIN WALLS.

C. ALL LIGHTING SHALL BE CIRCUITED TO PANEL SH1 UNLESS NOTED OTHERWISE.

KEY NOTES:

1. PHOTOSENSOR FOR DAYLIGHT HARVESTING CONTROL OF FIXTURES WITHIN DAYLIGHTING ZONE. PROVIDE ROOM CONTROLLER AS REQUIRED AND INTERFACE WITH OTHER INDICATED CONTROLS. FIXTURES SHALL DIM TOGETHER ACROSS DAYLIGHTING ZONE WHERE APPLICABLE.

LIGHTING CONTROL SUMMARY

GENERAL NOTES:

1. IF NO CONTROL STRATEGY IS LISTED, LIGHTING CONTROLS SHALL BE MANUAL, LINE VOLTAGE (WITH 0-10 V DIMMING, WHERE SHOWN) AND CONTAIN NO AUTOMATIC FUNCTION.
2. SEE PLANS FOR TYPE, LOCATION AND QUANTITY OF SENSORS.
3. TIME SCHEDULES SHALL BE DEFINED BY THE OWNER. PROVIDE A COORDINATION MEETING WITH THE OWNER TO DETERMINE SCHEDULES.
4. ALL LIGHTING CONTROLS SHALL BE COMMISSIONED. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. THE TYPICAL SPACES LISTED IN EACH SEQUENCE ARE NOT INTENDED TO BE ALL INCLUSIVE, OR EXCLUSIVE TO ANY SPACE AND ARE LISTED AS GENERAL REFERENCE ONLY.
6. ADDITIONAL BUTTONS ARE PERMITTED TO COMPLY WITH THE CONTROL REQUIREMENTS LISTED BELOW.

LC-A	
OCC SENSOR FUNCTION:	OCCUPANCY, 100% ON / OFF
TIME-SWITCH FUNCTION:	NONE
MANUAL LTG CONTROL:	2-BUTTON ON / OFF (WHERE PRESENT)
DAYLIGHT RESPONSE:	NONE
TYPICAL SPACES:	WASHBAY

LC-B	
OCC SENSOR FUNCTION:	OCCUPANCY, 100% ON / OFF
TIME-SWITCH FUNCTION:	NONE
MANUAL LTG CONTROL:	2-BUTTON ON / OFF
DAYLIGHT RESPONSE:	CEILING MOUNTED PHOTOCELL, CONTINOUS DIMMING IN DAYLIT ZONE (WHERE PRESENT)
TYPICAL SPACES:	SALT STORAGE

LC-C	
OCC SENSOR FUNCTION:	NONE
TIME-SWITCH FUNCTION:	NONE
MANUAL LTG CONTROL:	2-BUTTON ON / OFF
DAYLIGHT RESPONSE:	NONE
TYPICAL SPACES:	BRINE

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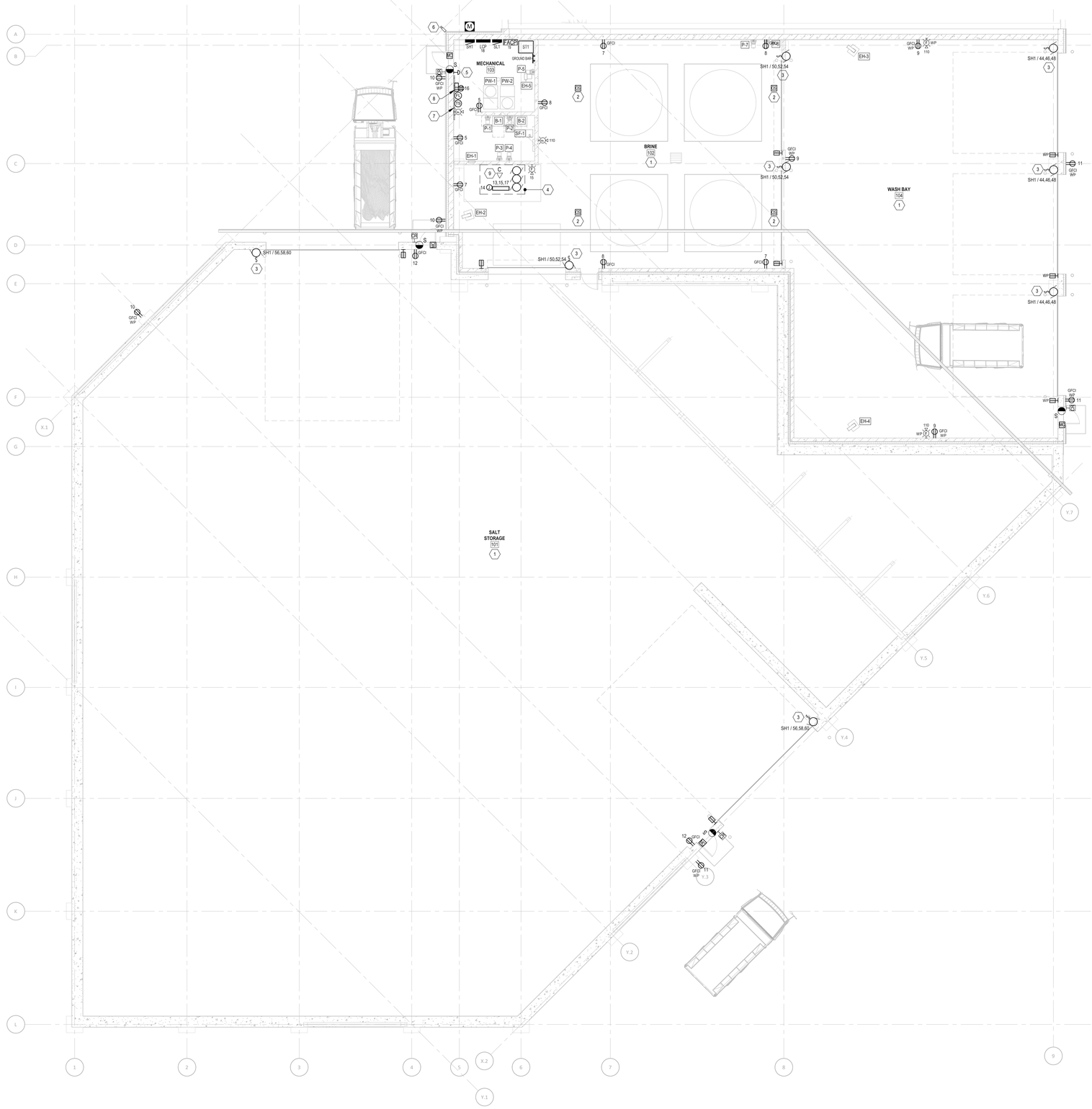
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SHEET
E101
LIGHTING PLAN



1 POWER & SYSTEMS PLAN - SALT SHED
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

A. SEE SHEET E000 FOR ADDITIONAL ELECTRICAL GENERAL NOTES.

B. ALL CONDUIT DEVICES, ETC. LOCATED ON PRECAST WALL SHALL BE SURFACE MOUNTED. ALL CONDUIT, DEVICES, ETC. LOCATED AT CONCRETE BLOCK OR STUD WALLS SHALL BE RECESSED WITHIN WALLS.

C. ALL 120/208V ELECTRICAL DEVICES SHALL BE CIRCUITED TO PANEL SL1 UNLESS NOTED OTHERWISE.

KEY NOTES:

1. ALL ACCESSIBLE 120V 20A RECEPTACLES IN THIS AREA SHALL UTILIZE GFCI RECEPTACLES IN LIEU OF GFCI BREAKERS. DO NOT USE FEED THROUGH CONFIGURATION OF GFCI RECEPTACLES. MOUNT AT 48" UNLESS INDICATED OTHERWISE.
2. OCCUPANCY SENSOR IS FOR VENTILATION SYSTEM CONTROL ONLY. ALL LIGHTING IN THIS AREA IS CONTROLLED BY SWITCHES. REFER TO MECHANICAL PLANS FOR MORE INFORMATION. OCCUPANCY SENSOR SHALL BE WATTSTOPPER #W8300-B W/ HBL3 LENS OR EQUAL, PROVIDE POWER PACK(S) AS REQUIRED. COORDINATE WITH MECHANICAL CONTROL CONTRACTOR.
3. ROUTE POWER THROUGH DISCONNECT AND CONNECT POWER TO UNIT. INSTALL UP/DOWN/STOP PUSHBUTTON SUPPLIED WITH DOOR AND MAKE ALL FINAL CONNECTIONS. VERIFY ALL COMPONANTS ARE RATED FOR WET LOCATIONS AS NEEDED.
4. PROVIDE (1) 50A 208V 3Ø AND (1) 20A 120V 1Ø CONNECTION TO RELOCATED BRINE CONTROL PANEL. COORDINATE EXACT LOCATION AND ALL REQUIREMENTS WITH OWNER.
5. EPO SWITCH FOR BOILERS AND PRESSURE WASHER SHUTOFF. CONFIRM LOCATION WITH AHJ.
6. RELOCATED SECURITY CAMERA AND CORNER MOUNTING HARDWARE. EXTEND FROM PREVIOUS LOCATION AS NECESSARY. COORDINATE ALL WORK WITH OWNERS IT DEPARTMENT.
7. PROVIDE 4' X 8' 3/4" PLYWOOD PAINTED WHITE WITH FLAME RETARDANT PAINT.
8. PROVIDE 18" x 18" x 8" HINGED CABINET FOR ACCESS CONTROL EQUIPMENT MOUNTED AT 8'-0" AFF. PROVIDE (1) FOURPLEX RECEPATCLE ON A DEDICATED CIRCUIT MOUNTED INSIDE.
9. PROVIDE JUNCTION BOX AND CONDUIT BACK TO IT CABINET IN MECHANICAL 103. PROVIDE CAT6 CABINET WITH 15' OF SLACK COILED IN STRUCTURE ABOVE.

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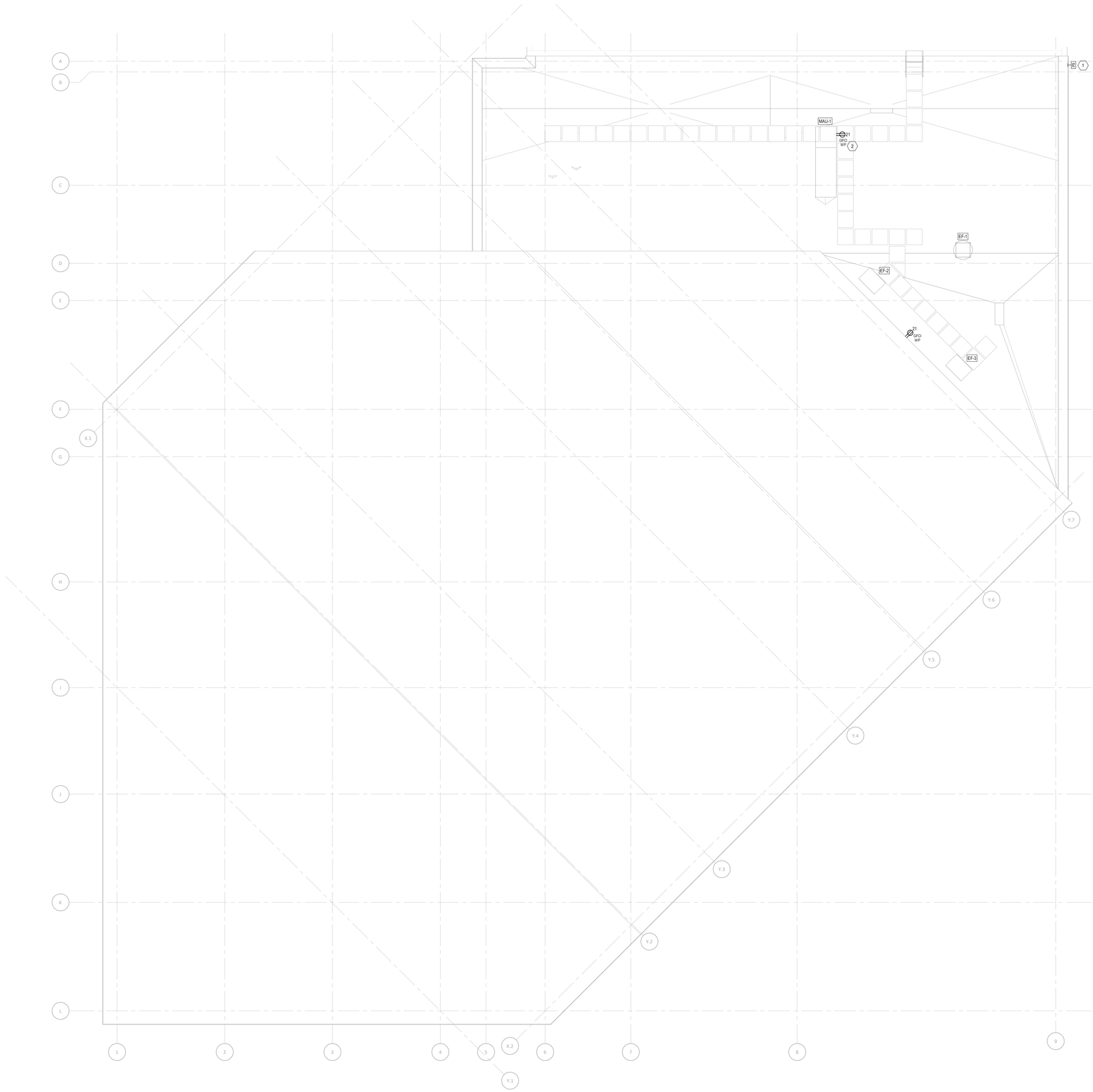
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SHEET
E201
POWER & SYSTEMS PLAN



1 ELECTRICAL ROOF PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

A. SEE SHEET E001 FOR ADDITIONAL ELECTRICAL GENERAL NOTES.

B. ALL CONDUIT DEVICES, ETC. LOCATED ON ROOF SHALL BE SURFACE MOUNTED.

C. ALL 120/208V ELECTRICAL DEVICES SHALL BE CIRCUITED TO PANEL SL1 UNLESS NOTED OTHERWISE.

KEY NOTES:

1. PROVIDE PHOTOCELL FOR CONTROL OF EXTERIOR LIGHTS. MOUNT ON NORTHEAST CORNER OF PARAPET. REFER TO LIGHTING CONTROL PANEL SCHEDULE ON SHEET E601 FOR ADDITIONAL INFORMATION.

2. PROVIDE 120V 20A CONNECTION TO GFCI DUPLEX RECEPTACLE PROVIDED BY MANUFACTURER.

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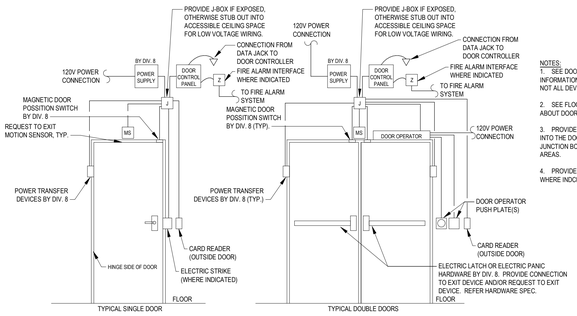
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SHEET
E202
ELECTRICAL ROOF PLAN



NOTES:

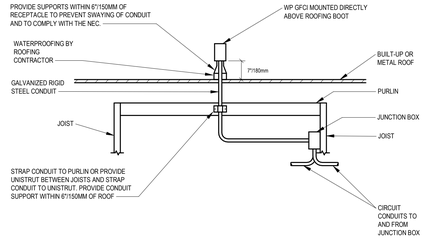
1. SEE DOOR HARDWARE SPECIFICATION FOR MORE INFORMATION ABOUT DOOR HARDWARE CONNECTION. NOT ALL DEVICES MAY BE INCLUDED ON ALL DOORS.

2. SEE FLOOR PLANS FOR ADDITIONAL INFORMATION ABOUT DOOR HARDWARE CONNECTIONS.

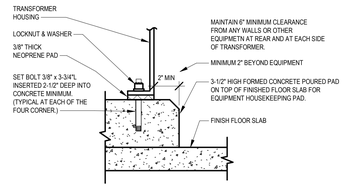
3. PROVIDE 1/2C. FOR ALL EXPOSED CABLING AND INTO THE DOOR FRAME. PROVIDE EXTRA DEEP JUNCTION BOX FOR CONNECTIONS IN EXPOSED AREAS.

4. PROVIDE FIRE ALARM CONNECTION TO ALL DOOR WHERE INDICIATED ON PLANS.

1 DOOR WIRING DETAILS
NO SCALE



2 ROOF RECEPTACLE MOUNTING DETAIL
NO SCALE



3 TRANSFORMER PAD MOUNT
NO SCALE

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SHEET
E301
ELECTRICAL DETAILS

3Ø FEEDER SCHEDULE

GENERAL NOTES:

A. APPROVED CONDUCTOR INSULATIONS: THHN/THWN, THHN/THWN-2, XHHW-2. REFER TO PROJECT SPECIFICATIONS FOR INSULATION TYPE REQUIRED WITH VARYING CONDUCTOR SIZES AND...
B. CONDUIT TYPE REQUIREMENTS VARY DEPENDING ON APPLICATION AND LOCATION OF FEEDER. REFER TO PROJECT SPECIFICATIONS FOR REQUIREMENTS.
C. NEUTRAL SHALL BE THE SAME SIZE AS THE PHASE CONDUCTOR UNLESS OTHERWISE NOTED.

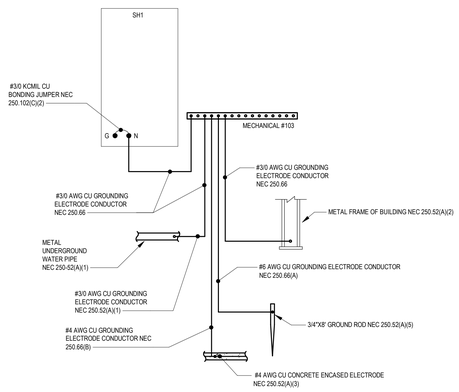
	COPPER		COMPACT STRAND ALUMINUM ALLOY		
MARK (AMPACITY)	FEEDER 3W (NO NEUTRAL) PH-GND-C	FEEDER 4W (W/ NEUTRAL) PH-GND-C	FEEDER 3W (NO NEUTRAL) PH-GND-C	FEEDER 4W (W/ NEUTRAL) PH-GND-C	MARK (AMPACITY)
20	3#12 - 1#12 GND - 3/4"C	4#12 - 1#12 GND - 3/4"C	---	---	20
30	3#10 - 1#10 GND - 3/4"C	4#10 - 1#10 GND - 3/4"C	---	---	30
40	3#8 - 1#10 GND - 3/4"C	4#8 - 1#10 GND - 1"C	---	---	40
50	3#6 - 1#10 GND - 1"C	4#6 - 1#10 GND - 1"C	---	---	50
50T	---	4#6 - 1#8 GND (SSBJ) - 1"C	---	---	50T
60	3#4 - 1#10 GND - 1"C	4#4 - 1#10 GND - 1 1/4"C	---	---	60
70	3#4 - 1#8 GND - 1 1/4"C	4#4 - 1#8 GND - 1 1/4"C	---	---	70
80	3#3 - 1#8 GND - 1 1/4"C	4#3 - 1#8 GND - 1 1/4"C	---	---	80
90	3#2 - 1#8 GND - 1 1/4"C	4#2 - 1#8 GND - 1 1/2"C	---	---	90
100	3#1 - 1#8 GND - 1 1/2"C	4#1 - 1#8 GND - 1 1/2"C	3#1/0 - 1#6 GND - 1 1/2"C	4#1/0 - 1#6 GND - 2"C	100
100P	3#3 - 1#8 GND - 1 1/4"C	4#3 - 1#8 GND - 1 1/4"C	3#1 - 1#6 GND - 1 1/2"C	4#1 - 1#6 GND - 1 1/2"C	100P
100T	---	4#3 - 1#8 GND (SSBJ) - 1 1/4"C	---	4#1 - 1#6 GND (SSBJ) - 1 1/2"C	100T
125	3#1 - 1#6 GND - 1 1/2"C	4#1 - 1#6 GND - 1 1/2"C	3#2/0 - 1#4 GND - 2"C	4#2/0 - 1#4 GND - 2"C	125
150	3#1/0 - 1#6 GND - 1 1/2"C	4#1/0 - 1#6 GND - 2"C	3#3/0 - 1#4 GND - 2"C	4#3/0 - 1#4 GND - 2 1/2"C	150
150T	---	4#1/0 - 1#6 GND (SSBJ) - 2"C	---	4#3/0 - 1#4 GND (SSBJ) - 2 1/2"C	150T
175	3#2/0 - 1#6 GND - 2"C	4#2/0 - 1#6 GND - 2"C	3#4/0 - 1#4 GND - 2"C	4#4/0 - 1#4 GND - 2 1/2"C	175
200	3#3/0 - 1#6 GND - 2"C	4#3/0 - 1#6 GND - 2"C	3#250 - 1#4 GND - 2 1/2"C	4#250 - 1#4 GND - 3"C	200
225	3#4/0 - 1#4 GND - 2"C	4#4/0 - 1#4 GND - 2 1/2"C	3#300 - 1#2 GND - 2 1/2"C	4#300 - 1#2 GND - 3"C	225
225T	---	4#4/0 - 1#2 GND (SSBJ) - 2 1/2"C	---	4#300 - 1#1/0 GND (SSBJ) - 3"C	225T
250	3#250 - 1#4 GND - 2-1/2"C	4#250 - 1#4 GND - 3"C	3#350 - 1#2 GND - 3"C	4#350 - 1#2 GND - 3"C	250
300	3#350 - 1#4 GND - 3"C	4#350 - 1#4 GND - 3"C	3#500 - 1#2 GND - 3"C	4#500 - 1#2 GND - 3-1/2"C	300
400	3#500 - 1#3 GND - 3"C	4#500 - 1#3 GND - 3-1/2"C	3#750 - 1#1 GND - 3-1/2"C	4#750 - 1#1 GND - 4"C	400
400P	(2 SETS) 3#3/0 - 1#3 GND - 2"C	(2 SETS) 4#3/0 - 1#3 GND - 2 1/2"C	(2 SETS) 3#250 - 1#1 GND - 2 1/2"C	(2 SETS) 4#250 - 1#1 GND - 3"C	400P
400T	---	(2 SETS) 4#3/0 - 1#1/0 GND (SSBJ) - 2 1/2"C	---	(2 SETS) 4#250 - 1#1/0 GND (SSBJ) - 3"C	400T
500	(2 SETS) 3#250 - 1#2 GND - 2 1/2"C	(2 SETS) 4#250 - 1#2 GND - 3"C	(2 SETS) 3#350 - 1#1/0 GND - 3"C	(2 SETS) 4#350 - 1#1/0 GND - 3"C	500
500T	---	(2 SETS) 4#250 - 1#1/0 GND (SSBJ) - 3"C	---	(2 SETS) 4#350 - 1#3/0 GND (SSBJ) - 3"C	500T
600	(2 SETS) 3#350 - 1#1 GND - 2"C	(2 SETS) 4#350 - 1#1 GND - 3"C	(2 SETS) 3#500 - 1#2/0 GND - 2"C	(2 SETS) 4#500 - 1#2/0 GND - 3 1/2"C	600
800	(2 SETS) 3#500 - 1#1/0 GND - 3"C	(2 SETS) 4#500 - 1#1/0 GND - 3-1/2"C	(2 SETS) 3#750 - 1#3/0 GND - 3 1/2"C	(2 SETS) 4#750 - 1#3/0 GND - 4"C	800
800P	(3 SETS) 3#300 - 1#1/0 GND - 2 1/2"C	(3 SETS) 4#300 - 1#1/0 GND - 3"C	(3 SETS) 3#400 - 1#3/0 GND - 3"C	(3 SETS) 4#400 - 1#3/0 GND - 3 1/2"C	800P
800T	---	(3 SETS) 4#300 - 1#2/0 GND (SSBJ) - 3"C	---	(3 SETS) 4#400 - 1#4/0 GND (SSBJ) - 3 1/2"C	800T
1000	(3 SETS) 3#400 - 1#2/0 GND - 3"C	(3 SETS) 4#400 - 1#2/0 GND - 3"C	(3 SETS) 3#500 - 1#4/0 GND - 3 1/2"C	(3 SETS) 4#500 - 1#4/0 GND - 4"C	1000
1000T	---	(3 SETS) 4#400 - 1#3/0 GND (SSBJ) - 3 1/2"C	---	(3 SETS) 4#600 - 1#250 GND (SSBJ) - 4"C	1000T
1200	(4 SETS) 3#350 - 1#3/0 GND - 3"C	(4 SETS) 4#350 - 1#3/0 GND - 3"C	(4 SETS) 3#500 - 1#250 GND - 3 1/2"C	(4 SETS) 4#500 - 1#250 GND - 3 1/2"C	1200
1600	(5 SETS) 3#400 - 1#4/0 GND - 3"C	(5 SETS) 4#400 - 1#4/0 GND - 3 1/2"C	(5 SETS) 3#500 - 1#350 GND - 3 1/2"C	(5 SETS) 4#500 - 1#350 GND - 4"C	1600
1600T	---	(5 SETS) 4#400 - 1#250 GND (SSBJ) - 3 1/2"C	---	(5 SETS) 4#600 - 1#400 GND (SSBJ) - 4"C	1600T
2000	(6 SETS) 3#400 - 1#250 GND - 3"C	(6 SETS) 4#400 - 1#250 GND - 3 1/2"C	(6 SETS) 3#600 - 1#400 GND - 3-1/2"C	(6 SETS) 4#600 - 1#400 GND - 4"C	2000

TRANSFORMER SCHEDULE

ITEM	PRIMARY (DELTA)	SECONDARY (WYE)	SIZE	TRANSFORMER GROUND ELECTRODE CONDUCTOR (CU)	MOUNTING	WEIGHT (LBS)
ST1	480V, 3-PHASE, 3-WIRE	120/208V, 3-PHASE, 4-WIRE	75 kVA	#2 AWG	PAD	710

GENERAL NOTES:

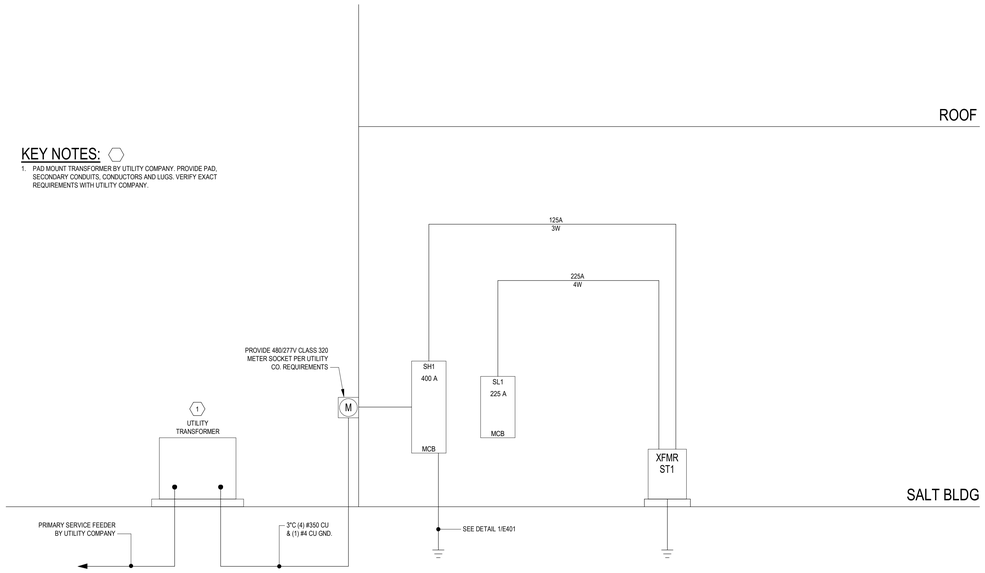
A. ALL GROUNDING ELECTRODE CONDUCTORS PENETRATING THROUGH FOUNDATION WALL OR BASEMENT INTERIOR FLOOR SLAB SHALL BE TRANSITIONED TO SOLID ROD A MINIMUM OF 2'-0" TO EITHER SIDE OF WATERPROOFING MEMBRANE TO ALLOW FOR HEAT WELD BY WATERPROOFING CONTRACTOR.



1 MAIN BUILDING GROUNDING ELECTRODE SYSTEM
NO SCALE

KEY NOTES:

1. PAD MOUNT TRANSFORMER BY UTILITY COMPANY. PROVIDE PAD, SECONDARY CONDUITS, CONDUCTORS AND LUGS. VERIFY EXACT REQUIREMENTS WITH UTILITY COMPANY.



2 ELECTRAL RISER DIAGRAM
NO SCALE

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Edina, MN 55439
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REVISION SCHEDULE

NO.	DESCRIPTION	DATE

PRELIMINARY
NOT FOR CONSTRUCTION

CITY OF BLOOMINGTON
SALT STORAGE BUILDING
BLOOMINGTON, MN

DATE
5/22/25
PHASE

PROJECT
5015.0000

SHEET
E401
ELECTRICAL RISER DIAGRAM

MOTOR SCHEDULE

ABBREVIATIONS:
MAG - MAGNETIC, HOA - HAND/OFF/AUTOMATIC, SS - START/STOP, TT - THERMAL TOGGLE, PB - PUSHBUTTON, START - STARTER, EMS - ENERGY MANAGEMENT SYSTEM, BAS - BUILDING AUTOMATION SYSTEM, F.A. - FIRE ALARM, DSD - DUCT SMOKE DETECTOR, MFR - MANUFACTURER

GENERAL NOTES:
A. CONFIRM ALL CONNECTIONS TO MECHANICAL EQUIPMENT WITH SHOP DRAWINGS PRIOR TO ROUGH-IN.
B. DISCONNECTS SHALL NOT BE MOUNTED DIRECTLY TO MECHANICAL EQUIPMENT.
C. ALL FEEDERS TO MECHANICAL EQUIPMENT SHALL BE COPPER.
D. XXXXXX.

NOTES:
1. WIRE THROUGH MOTORIZED DAMPER TO EXHAUST FAN.
2. PROVIDE RED MUSHROOM BUTTON NEAR MECHANICAL/ELECTRICAL DOOR FOR EMERGENCY SHUTDOWN OF ALL BOILERS AND PRESSURE WASHERS, PILLA ELECTRIC #SSD120N1 WITH #PILCLHCOV1 COVER. MOUNT AT 72" AFF. SEE PLANS FOR LOCATIONS.
3. PROVIDE TOGGLE SWITCH FOR DISCONNECT.
4. INSTALL DISCONNECT PROVIDED BY MANUFACTURER.
5. PROVIDE 20A RELAY WITH 24V CONTROL COIL FOR CONTROL VIA BAS.
6. PROVIDE NEMA 3R DISCONNECT AT UNIT FOR DISCONNECT.
7.
8.
9.
10.
11.
12. XXXXX.
13. XXXXX.
14. XXXXX.
15. XXXXX.

MOTOR NO.	LOCATION		KW	UNIT FLA	UNIT HP	UNIT MCA	VOLTS	PHASE	STARTER				DISC FUSW	DISC BY	CONTROL DEVICE			INTERLOCK			PANEL	CIRCUIT	BREAKER	FEEDER PH-G-C	NOTES	MOTOR NO.
	ROOM NAME	ROOM NO							TYPE	SIZE	LOC	BY			DEVICE	FURNISHED BY	WIRED BY	DEVICE	FURNISHED BY	WIRED BY						
BOILER - GAS SCHEDULE																										
B-1	MECHANICAL	103	0.24	2	--	2.5	120	1	--	--	--	--	TOGGLE	ELEC				EPO	ELEC	ELEC	SL1	1	15	12-12-1/2"	2,3	B-1
B-2	MECHANICAL	103	0.24	2	--	2.5	120	1	--	--	--	--	TOGGLE	ELEC				EPO	ELEC	ELEC	SL1	1	15	12-12-1/2"	2,3	B-2
FAN SCHEDULE																										
EF-1			2.7	3.3	2	4	480	3	NEMA	00	--	ELEC	INTEGRAL	MFR				MOTORIZED DAMPER	MECH	ELEC	SH1	2,4,6	15	12-12-3/4"	1,4	EF-1
EF-2			4	4.8	3	6.2	480	3	NEMA	0	--	ELEC	INTEGRAL	MFR				--	--	--	SH1	7,9,11	15	12-12-3/4"		EF-2
EF-3			4	4.8	3	6.2	480	3	NEMA	0	--	ELEC	INTEGRAL	MFR				--	--	--	SH1	8,10,12	15	12-12-3/4"		EF-3
SF-1	MECHANICAL	103	0.4	3.6	1/4	5	120	1	RELAY	20A 1P	--	ELEC	TOGGLE	MFR				MOTORIZED DAMPER	MECH	ELEC	SL1	2	15	12-12-3/4"	1,4	SF-1
MAKE UP AIR UNIT - GAS FIRED SCHEDULE																										
MAU-1			4.6	5.5	3	6.9	480	3	INTEGRAL	--	--	MFR	INTEGRAL	MFR				--	--	--	SH1	13,15,17	15	12-12-3/4"		MAU-1
PRESSURE WASHER HOT WATER SCHEDULE																										
PW-1	MECHANICAL	103	17.5	21	20	26.3	480	3	INTEGRAL	--	--	MFR	-30	ELEC	--	--	--	EPO	ELEC	ELEC	SH1	14,16,18	30	10-10-3/4	2	PW-1
PW-2	MECHANICAL	103	17.5	21	20	26.3	480	3	INTEGRAL	--	--	MFR	-30	ELEC	--	--	--	EPO	ELEC	ELEC	SH1	22,24,26	30	10-10-3/4	2	PW-2
PUMP SCHEDULE																										
P-1	MECHANICAL	103	0.6	4.7	2/5	5.9	120	1	RELAY	20A 1P	--	ELEC	TOGGLE	ELEC				--	--	--	SL1	4	20	12-12-1/2"	3,5	P-1
P-2	MECHANICAL	103	0.6	4.7	2/5	5.9	120	1	RELAY	20A 1P	--	ELEC	TOGGLE	ELEC				--	--	--	SL1	4	20	12-12-1/2"	3,5	P-2
P-3	MECHANICAL	103	1.7	2.1	1	2.6	480	3	NEMA	00	--	ELEC	-30	ELEC				--	--	--	SH1	19,21,23	20	12-12-3/4"		P-3
P-4	MECHANICAL	103	1.7	2.1	1	2.6	480	3	NEMA	00	--	ELEC	-30	ELEC				--	--	--	SH1	19,21,23	20	12-12-3/4"		P-4
P-5	MECHANICAL	103	0.3	2.1	1/6	2.6	120	1	RELAY	20A 1P	--	ELEC	TOGGLE	ELEC				--	--	--	SL1	6	20	12-12-1/2"	3,5	P-5
P-6	BRINE	102	0.3	2.1	1/6	2.6	120	1	RELAY	20A 1P	--	ELEC	WP TOGGLE	ELEC				--	--	--	SL1	6	20	12-12-1/2"	3,5	P-6
P-7	BRINE	102	1.3	1.6	3/4	2	480	3	NEMA	00	--	ELEC	-30	ELEC				--	--	--	SH1	25,27,29	20	12-12-3/4"	6	P-7
UNIT HEATER SCHEDULE - ELECTRIC																										
EH-1	MECHANICAL	103	3	10.8	--	13.5	277	1	--	--	--	--	INTEGRAL	MFR	T-STAT	MFR	MFR	--	--	--	SH1	30	20	12-12-1/2"		EH-1
EH-2	BRINE	102	12.5	15	--	18.8	480	3	--	--	--	--	INTEGRAL	MFR	T-STAT	MFR	MFR	--	--	--	SH1	32,34,36	20	12-12-3/4"		EH-2
EH-3	WASH BAY	104	12.5	15	--	18.8	480	3	--	--	--	--	INTEGRAL	MFR	T-STAT	MFR	MFR	--	--	--	SH1	31,33,35	20	12-12-3/4"		EH-3
EH-4	WASH BAY	104	12.5	15	--	18.8	480	3	--	--	--	--	INTEGRAL	MFR	T-STAT	MFR	MFR	--	--	--	SH1	38,40,42	20	12-12-3/4"		EH-4
EH-5	MECHANICAL	103	6	7.2	--	9	480	3	--	--	--	--	INTEGRAL	MFR	T-STAT	MFR	MFR	--	--	--	SH1	37,39,41	20	12-12-3/4"		EH-5

LIGHTING CONTROL PANEL

NOTES:
1. RELAYS SHALL BE 30A IP, UNLESS NOTED OTHERWISE.
2. OBTAIN SCHEDULE FROM OWNER AND PROGRAM SYSTEM. ALL CONTROL PROGRAMMING SHALL BE BY THE CONTRACTOR AS DIRECTED B...
3.
4.
5.

TS - TIMESWITCH, PC - PHOTOCELL, SW - MANUAL CONTROL SWITCHES (SHOWN ON DRAWINGS)

RELAY #	PANEL / CKT NO.	CONTROL DESCRIPTION	CONNECTION TYPE	AREA	NOTES
1	SH1\53	PS,TC	277V	BUILDING EXTERIOR	
2		SPARE			
3		SPARE			
4		SPARE			
5		SPARE			
6		SPARE			
7		SPARE			
8		SPARE			

LIGHT FIXTURE SCHEDULE

GENERAL NOTES:
A. CATALOG NUMBER INDICATES BASIC FIXTURE TYPE REQUIRED FOR THIS PROJECT AND MAY NOT BE COMPLETE. VERIFY WITH MANUFACTURER TO INCLUDE ALL OPTIONS AND ACCESSORIES REQUIRED FOR THIS INSTALLATION.
B. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING FIXTURE LOCATIONS, MOUNTING, AND REQUIREMENTS WITH ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS PRIOR TO ORDERING FIXTURES.
C. ALL FINISHES SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO ORDERING FIXTURES. FINISH SELECTION TO BE FROM MANUFACTURER'S STANDARD FINISHES UNLESS NOTED OTHERWISE. FINISHES SHALL BE VERIFIED AT THE TIME OF SHOP DRAWING SUBMITTAL.
D. SEE SPECIFICATIONS FOR EXTRA MATERIALS REQUIRED FOR LIGHT FIXTURES.
E. SAMPLES OF ALL FIXTURES SHALL BE AVAILABLE AT THE ENGINEERS REQUEST DURING SHOP DRAWING REVIEW.
F. COORDINATE THE COMPATIBILITY OF DIMMING WITH SPECIFIED CONTROLS. DIMMING SHALL BE ACCOMPLISHED WITH NO VISIBLE FLICKER.
G. NO SUBSTITUTIONS SHALL BE ACCEPTED WITHOUT PRIOR APPROVAL BY THE ENGINEER.
H. EQUALS ARE ACCEPTABLE AND WILL BE REVIEWED AS PART OF THE SHOP DRAWING PROCESS.

TYPE	DESCRIPTION	VOLT	LAMPS TYPE	LAMPS QTY.	VA / FIXT.	MANUFACTURER	CATALOG NUMBER	EQUAL MANUFACTURERS	NOTES	TYPE
C1	8' LED STRIP LIGHT FIXTURE. 10000 LUMENS. SNAP ON FROSTED DIFFUSER. 80 CRI.	UNIV	LED 3500K		68	LITHONIA	ZL1N-L96-10000LM-FST-MVOLT-35K-80CRI-WH	METALUX, ELITE, COLUMBIA		C1
C1X	8' LED STRIP LIGHT FIXTURE. 10000 LUMENS. SNAP ON FROSTED DIFFUSER. 80 CRI. 90 MINUTE BATTERY BACKUP.	UNIV	LED 3500K		68	LITHONIA	ZL1N-L96-10000LM-FST-MVOLT-35K-80CRI-E10W-WH	METALUX, ELITE, COLUMBIA		C1X
E1	LED EXIT SIGN. WHITE THERMOPLASTIC HOUSING WITH RED STENCIL LETTERING. 90 MINUTE BATTERY BACKUP.	UNIV	LED	4	SURE-LITES	LPX-7-1-R-SD	LITHONIA, COMPASS LIFE SAFETY, ISOLITE			E1
E2	LED EXIT SIGN. WHITE THERMOPLASTIC HOUSING WITH RED STENCIL LETTERING. WET LOCATION LISTED. 90 MINUTE BATTERY BACKUP.	UNIV	LED	4	SURE-LITES	LPXW-7-1-R-WH-SD	LITHONIA, COMPASS LIFE SAFETY, ISOLITE			E2
G1	4' LED SURFACE MOUNTED LIGHT FIXTURE. 10000 LUMEN PACKAGE. MEDIUM DISTRIBUTION. GASKETED POLYCARBONATE LOW PROFILE LENS. 80CRI.	UNIV	LED 4000K		58	LITHONIA	FEML48-10000LM-LPPCL-MD-MVOLT-GZ10-40K-80CRI	HE WILLIAMS, METALUX, METALUMEN		G1
G1X	4' LED SURFACE MOUNTED LIGHT FIXTURE. 10000 LUMEN PACKAGE. MEDIUM DISTRIBUTION. GASKETED POLYCARBONATE LOW PROFILE LENS. 80CRI. 90 MINUTE BATTERY BACKUP.	UNIV	LED 4000K		58	LITHONIA	FEML48-10000LM-LPPCL-MD-MVOLT-GZ10-40K-80CRI-E10WMC P	HE WILLIAMS, METALUX, METALUMEN		G1X
H1	LED HIGHBAYT LIGHT FIXTURE. 24000 LUMEN PACKAGE. FULLY SEALED FROSTED ACRYLIC LENS. 70 CRI. WHITE FINISH. 6' CORD WITH TWIST LOCK PLUG.	UNIV	LED 4000K	155	LITHONIA	XIB-L24-24000LM-AFMD-MVOLT-GZ10-40K-70CRI-CPTLWWL-DW HXD	HE WILLIAMS, METALUX, METALUMEN			H1
H1X	LED HIGHBAYT LIGHT FIXTURE. 24000 LUMEN PACKAGE. FULLY SEALED FROSTED ACRYLIC LENS. 70 CRI. WHITE FINISH. 6' CORD WITH TWIST LOCK PLUG. 90 MINUTE BATTERY BACKUP.	UNIV	LED 4000K	155	LITHONIA	XIB-L24-24000LM-AFMD-MVOLT-GZ10-40K-70CRI-IE18WCPHECW	HE WILLIAMS, METALUX, METALUMEN			H1X
W1	WALL MOUNTED EXTERIOR LED SCONCE FIXTURE. 2000 LUMEN PACKAGE. PRECISION REFRACTIVE OPTIC. 80 CRI. 4000K. TYPE 2 DISTRIBUTION. DARK BRONZE FINISH. COLD WEATHER 90 MINUTE BATTERY BACKUP.	UNIV	LED 4000K	35	LITHONIA	WDGE2-LED-P4-40K-80CRI-VF-MVOLT-SRM-E2OWC-DDBXD	MCGRAW-EDISON, BEACON, ELITE			W1
W2	WALL MOUNTED EXTERIOR LED SCONCE FIXTURE. 16,000 LUMEN PACKAGE. PRECISION REFRACTIVE OPTIC. 80 CRI. 4000K. TYPE 3 DISTRIBUTION. DARK BRONZE FINISH.	UNIV	LED 4000K	106	LITHONIA	WDGE4-LED-P2-40K-80CRI-R3-MVOLT-SRM-DDBXD	MCGRAW-EDISON, BEACON, ELITE			W2

PANEL: SH1

LOCATION: MECHANICAL 103
BUS RATING: 400 A
MAIN BREAKER: 300 A
VOLTS: 480/277 Wye
PHASES: 3
WIRES: 4
AVAILABLE FAULT CURRENT: 17,421
MOUNTING: SURFACE
FED FROM: SEE RISER
ENCLOSURE: NEMA 1

NOTES:
1. SERVICE ENTRANCE RATED.
2. PROVIDE SUB-FEED CIRCUIT BREAKER.

CKT	CIRCUIT DESCRIPTION	CB	P	A		B		C		P	CB	CIRCUIT DESCRIPTION	CKT
1					900				3	15	EF-1	2
3							900			--	--	--	4
5									900	--	--	--	6
7	EF-2	15	3	1333	1333				3	15	EF-3	8
9	--	--	--			1333	1333			--	--	--	10
11	--	--	--					1333	1333	--	--	--	12
13	MAU-1	15	3	1533	5833				3	30	PW-1	14
15	--	--	--			1533	5833			--	--	--	16
17	--	--	--					1533	5833	--	--	--	18
19	P-3, P-4	20	3	3400	--				1	--	SHUNT TRIP BREAKER	20
21	--	--	--			3400	5833			3	30	PW-2	22
23	--	--	--					3400	5833	--	--	--	24
25	P-7	20	3	1300	5833					--	--	--	26
27	--	--	--			1300	--			1	--	SHUNT TRIP BREAKER	28
29	--	--	--					1300	3000	1	20	EH-1	30
31	EH-3	20	3	4167	4167					3	20	EH-2	32
33	--	--	--			4167	4167			--	--	--	34
35	--	--	--					4167	4167	--	--	--	36
37	EH-5	20	3	2000	4167					3	20	EH-4	38
39	--	--	--			2000	4167			--	--	--	40
41	--	--	--					2000	4167	--	--	--	42
43	LTG, WASH BAY 104	20	1	1048	2493					3	20	OH DOOR OPERATORS, WASH BAY 104	44
45	LTG, BRINE 102	20	1			816	2493			--	--	--	46
47	LTG, MECHANICAL 103	20	1					208	2493	--	--	--	48
49	LTG, SALT STORAGE 101	20	1	2639	2493					3	20	OH DOOR OPERATORS, BRINE 102	50
51	LTG, SALT STORAGE 101	20	1			3414	2493			--	--	--	52
53	LTG, EXTERIOR	20	1					1306	2493	--	--	--	54
55					1662					3	20	OH DOOR OPERATORS, SALT STORAGE 101	56
57							1662			--	--	--	58
59									1662	--	--	--	60
61													62
63													64
65													66
67													68
69													70
71													72
73													74
75													76
77													78
79	ST1 NOTE 2	125	3	7796									80
81	--	--	--			7836							82
83	--	--	--					7196					84
	TOTAL LOAD:			53926 VA		54486 VA		54325 VA					
	TOTAL AMPS:			195 A		197 A		196 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Electric Heat	46500 VA	100.00%	46500 VA		
Largest Motor	17500 VA	125.00%	21875 VA	**CONNECTED LOAD:**	162727 VA
Lighting	9367 VA	125.00%	11708 VA	**ESTIMATED DEMAND:**	169370 VA
Motor	84032 VA	100.00%	84032 VA	**CONNECTED CURRENT:**	196 A
Other	1500 VA	100.00%	1500 VA	**EMD CURRENT:**	204 A
Receptacle	4140 VA	100.00%	4140 VA		

PANEL: SL1

LOCATION: MECHANICAL 103
BUS RATING: 225 A
MAIN BREAKER: 225 A
VOLTS: 120/208 Wye
PHASES: 3
WIRES: 4
AVAILABLE FAULT CURRENT: 11,084
MOUNTING: SURFACE
FED FROM: SEE RISER
ENCLOSURE: Type 1

NOTES:

CKT	CIRCUIT DESCRIPTION	CB	P	A		B		C		P	CB	CIRCUIT DESCRIPTION	CKT
1	B-1, B-2	20	1	480	400					1	15	SF-1	2
3	SHUNT TRIP BREAKER	--	1			--	1200			1	20	P-1, P-2	4
5	RECEPTS, MECHANICAL 103	20	1					360	600	1	20	P-5, P-6	6
7	RECEPTS, BRINE 102	20	1	540	540					1	20	RECEPTS, BRINE 102	8
9	RECEPTS, WASH BAY 104	20	1			540	540			1	20	RECEPTS, EXTERIOR	10
11	RECEPTS, EXTERIOR	20	1					540	360	1	20	RECEPTS, SALT STORAGE 101	12
13	BRINE CONTROL	50	3	4836	500					1	20	BRINE CONTROL	14
15	--	--	--			4836	360			1	20	RECEPTS, ACCESS CONTROL CABINET	16
17	--	--	--					4836	500	1	20	LCP	18
19	FACP	20	1	500									20
21	RCPTS, ROOF	20	1			360							22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
	TOTAL LOAD:			7796 VA		7836 VA		7196 VA					
	TOTAL AMPS:			66 A		66 A		60 A					

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Motor	17188 VA	100.00%	17188 VA		
Other	1500 VA	100.00%	1500 VA	**CONNECTED LOAD:**	22828 VA
Receptacle	4140 VA	100.00%	4140 VA	**ESTIMATED DEMAND:**	22828 VA
				CONNECTED CURRENT:	63 A
				EMD CURRENT:	63 A

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