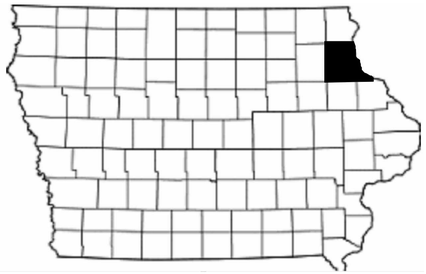
LOCATION: CLAYTON COUNTY



OPERA HOUSE RENOVATION

VOLGA CITY, IOWA

May 15, 2020

VOLGA CITY

NESC
CONSULTANTS

IOWA™
CIVIL & ENVIRONMENTAL
ENGINEERING

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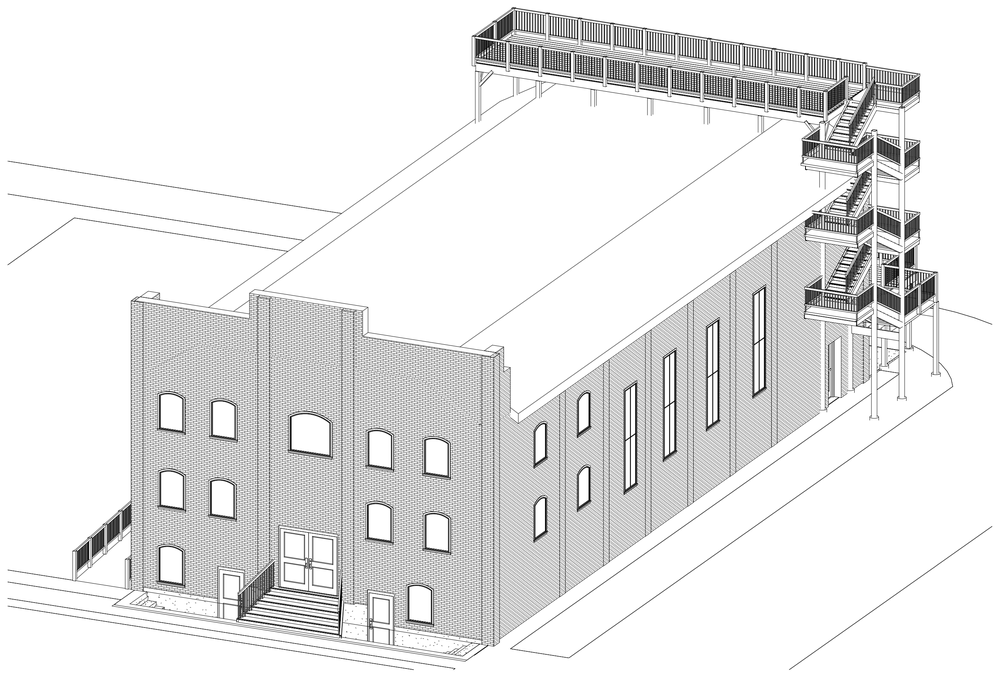

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DATE : 05/15/2020
DRAWN BY: NECS
REVISION:

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OPERA HOUSE RENOVATION
VOLGA CITY, IOWA

SHEET NAME
TITLE SHEET

SHEET NO.
T-1

GOVERNING CODES AND DESIGN STANDARDS:

THE BUILDING ADDITIONS AND RENOVATIONS HAVE BEEN DESIGNED TO COMPLY WITH:

IBC 2015
ACI 318-14
ASCE 2010
NDS 2015

GENERAL NOTES:

1. NEITHER THE PROFESSIONAL ACTIVITIES OF THE ENGINEER, NOR THE PRESENCE OF THE ENGINEER OR THEIR EMPLOYEES AND SUBCONSULTANTS AT THE CONSTRUCTION SITE SHALL RELIEVE THE CONTRACTOR AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCING, TECHNOLOGIES OR PROCEDURES OF THE CONSTRUCTION WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES.

2. ALL DRAWINGS AND SPECIFICATIONS ARE CONSIDERED TO BE PART OF THE CONTRACTED DOCUMENTS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS , DETAILS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION.

3. ALL DIMENSIONS AND SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOBSITE PRIOR TO CONSTRUCTION. IF DISCREPANCIES ARE ENCOUNTERED, OR CONDITIONS DEVELOP THAT ARE NOT COVERED BY THE CONTRACT DOCUMENTS, THE AUTHORITY OF RISK SHALL BE NOTIFIED FOR CLARIFICATION.

4. STRUCTURAL DRAWINGS AND DETAILS INCLUDE DESIGN DIMENSIONS AND REQUIREMENTS FOR STRUCTURAL INTEGRITY BUT DO NOT SHOW ALL DETAIL DIMENSION TO FIT INTRICATE ARCHITECTURAL AND MECHANICAL DETAILS. THE CONTRACTOR SHALL SO CONSTRUCT THE WORK SO IT WILL CONFORM TO THE CLEARANCES REQUIRED BY ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DESIGN.

5. DO NOT SCALE DRAWINGS. PRINTED DIMENSIONS HAVE PRECEDENCE OVER SCALED DRAWINGS AND LARGE-SCALE DRAWINGS OVER SMALL-SCALE DRAWINGS. CONTRACTOR TO DETERMINE FINAL DIMENSION WITH AUTHORITY OF RISK.

6. TYPICAL DETAILS SHALL APPLY UNLESS SPECIFICALLY DETAILED OTHERWISE. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.

7. THE CONTRACT DOCUMENTS, DETAILS, AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE AND SAFETY OF THE WORKMEN DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, BRACING AND SHORING FOR LOADS SUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE AUTHORITY OF RISK OR THE STRUCTURAL ENGINEER OR RECORD SHALL NOT INCLUDE INSPECTION OF APPROVAL OF THE ABOVE ITEMS AND DOES NOT IN ANY WAY RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITIES FOR THE ABOVE.

8. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRACE CONTRACTORS. OPENING SIZES AND LOCATIONS SHOWN FOR DUCTS, PIPES, INSERTS AND OTHER PENETRATION WHEN SHOWN ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED PRIOR TO FORMING.

9. ACCESS ALONG ALL ADJACENT STREETS SHALL BE MANITAINED AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE CITY.

10. ELEVATIONS ARE BASED ON THE FIRST FLOOR ELEVATION OF (+0' - 0") WHICH IS EQUIVALENT TO CIVIL ELEVATION (+792.0').

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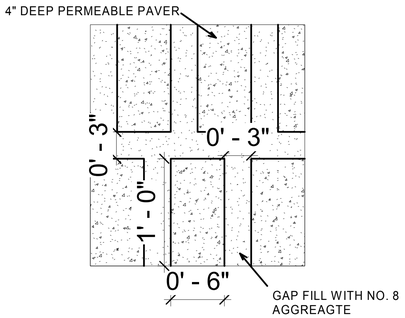
OPERA HOUSE RENOVATION
VOLGA CITY, IOWA

SHEET NAME
GENERAL NOTES

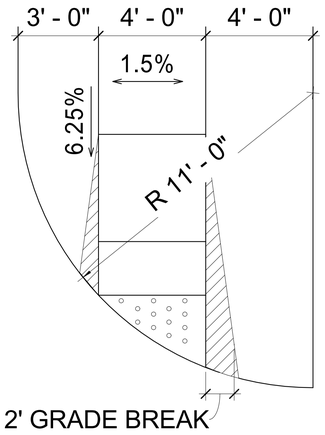
SHEET NO.
T-2

CIVIL NOTES:

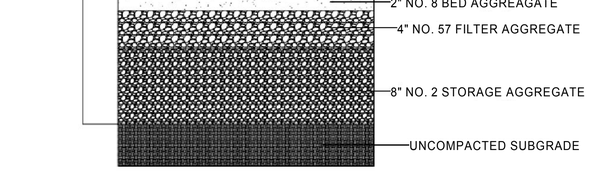
1. ALL EXCAVATIONS SHALL BE PROPERLY AND SAFELY BACKFILLED.
2. ADEQUATE DRAINAGE SHALL BE PROVIDED BY MEANS OF EITHER WEEP-HOLES WITH PERMEABLE MATERIAL INSTALLED BEHIND FOUNDATION WALL OR BY MEANS OF A SYSTEM OF SUBDRAINS.
3. SEDIMENT AND VEGETATION ACCUMULATION ON THE SURFACE AND IN BETWEEN THE PAVERS WILL BE ROUTINELY CLEARNED TO ENSURE ADEQUATE WATER DRAINAGE.



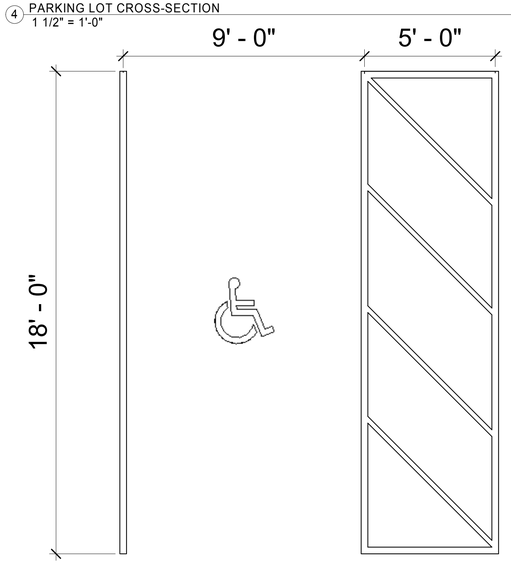
② PERMEABLE PAVER DETAIL
1 1/2" = 1'-0"



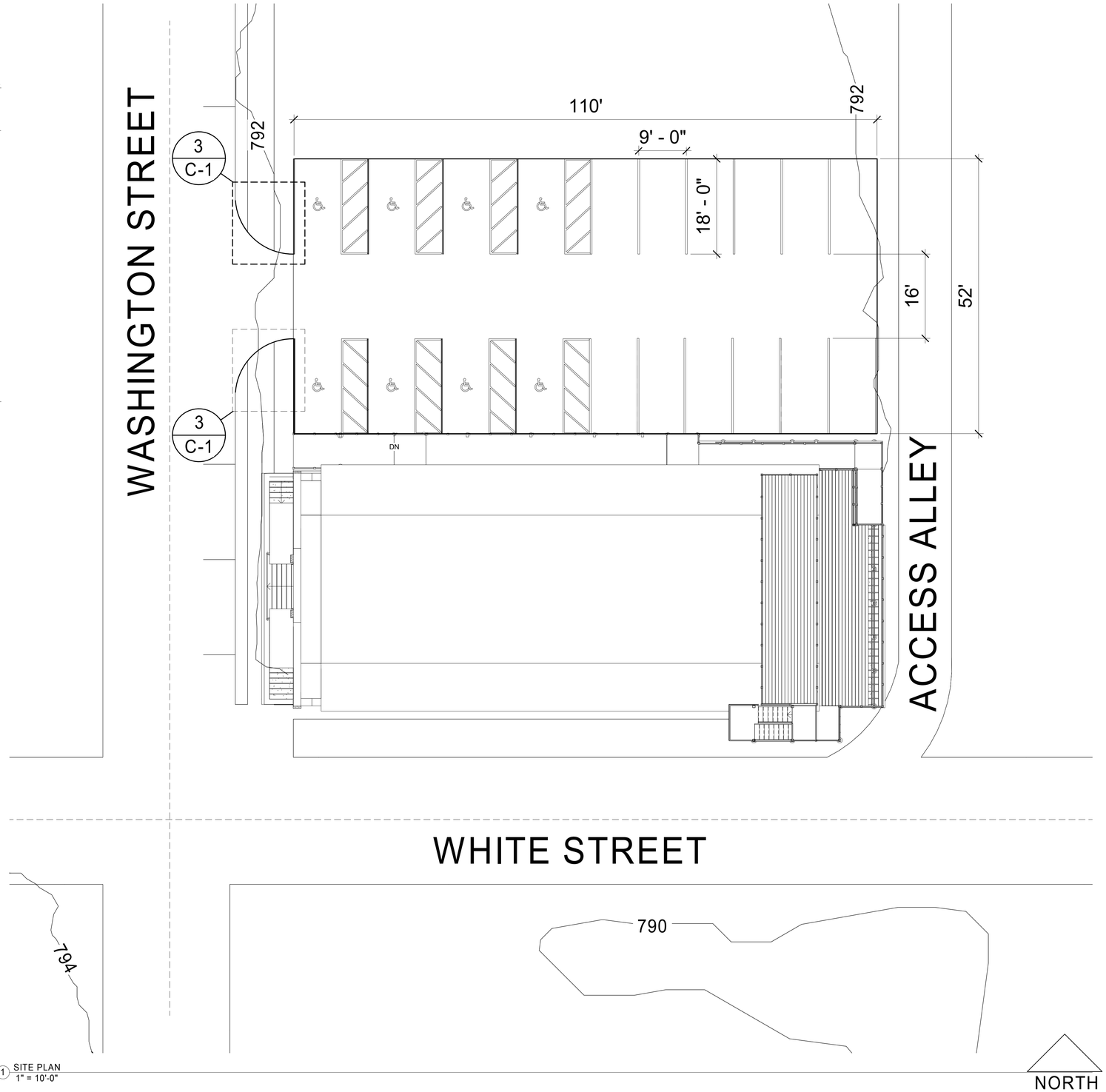
③ TURNING RADIUS
3/8" = 1'-0"



④ PARKING LOT CROSS-SECTION
1 1/2" = 1'-0"



⑤ ADA PARKING STALL
3/8" = 1'-0"



① SITE PLAN
1" = 10'-0"

NORTH

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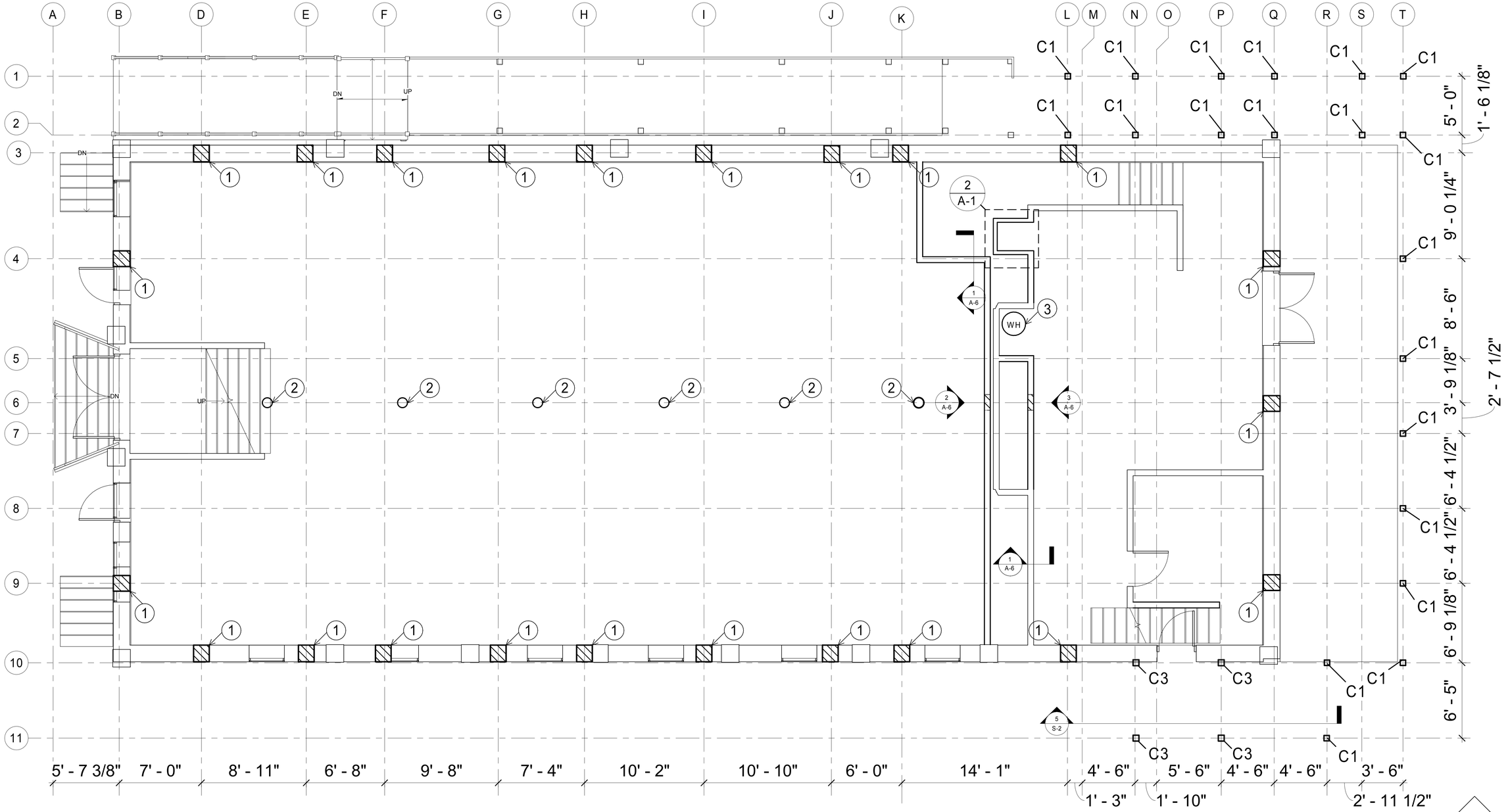
SHEET NAME
SITE PLAN

SHEET NO.
C-1



1 BASEMENT PLAN
1/4" = 1'-0"

PLAN NOTES:

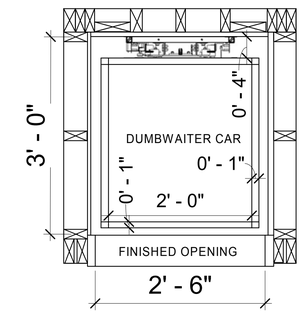
1. SEE DETAIL 8/S-1 AND 1/S-2 FOR FOOTING TYPE.
2. SEE S-1 FOR COLUMN SIZES.

KEYNOTES:

(1) FLOOD VENT LOCATIONS. SEE 4/A-6 FOR VENT DETAIL AND ISTALLATION INSTRUCTIONS.

(2) WATERPROOFED COLUMN LOCATIONS. SEE A-6 FOR APPLICATION NOTES.

(3) SEE A-6 FOR WATERPROOFING INTSTRUCTIONS.



2 DUMBWAITER DETAIL
1" = 1'-0"

NOTES:

1. USE A POWERLIFT DUMBWAITER 100 (24"x24"X30") CAR.
2. MOUNT MOTOR ON TOP OF UNIT.

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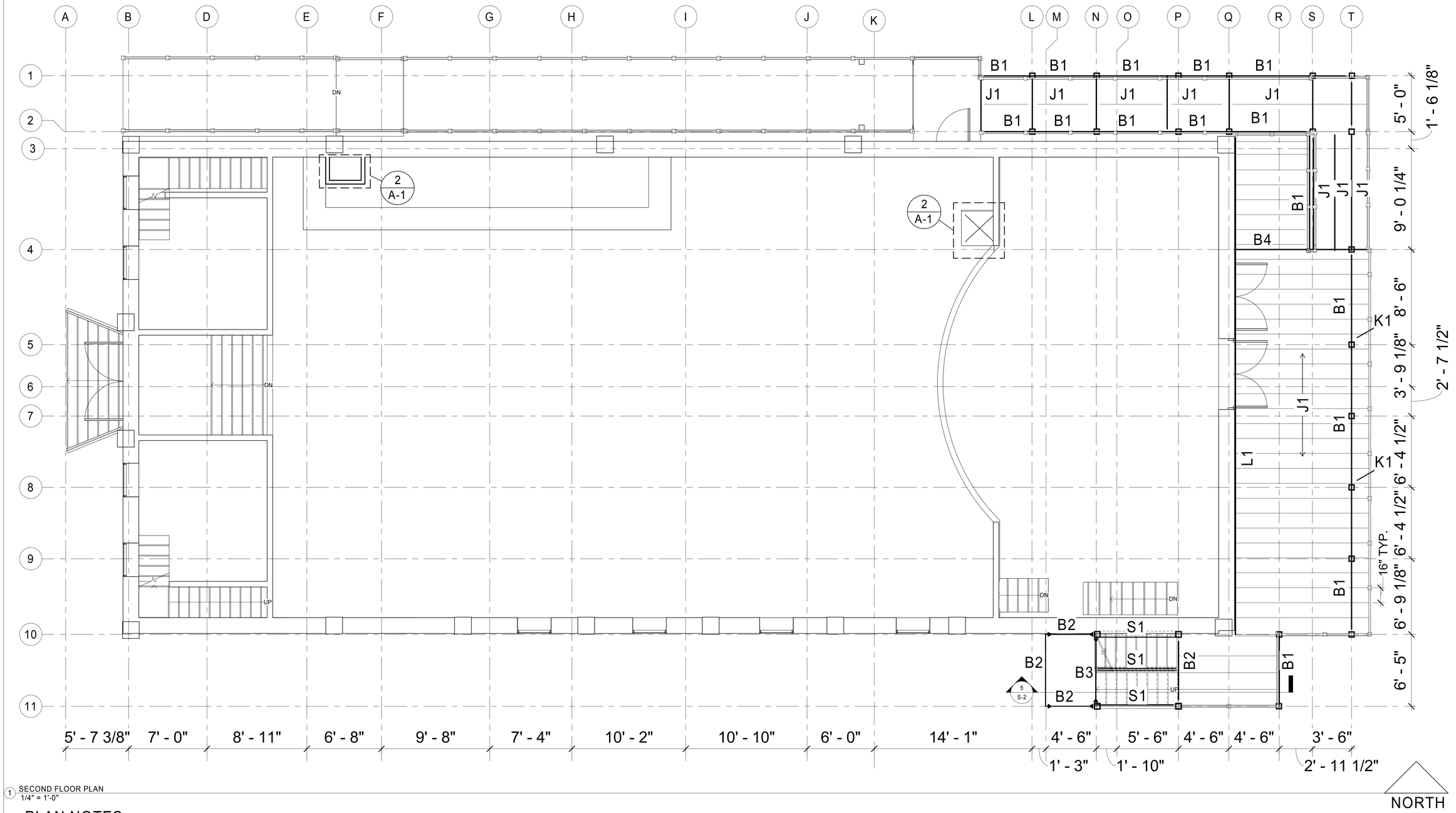
OPERA HOUSE RENOVATION

VOLGA CITY, IOWA

SHEET NAME
BASEMENT PLAN

SHEET NO.
A-1



1 SECOND FLOOR PLAN
1/4" = 1'-0"

PLAN NOTES:

1. SEE S-1 FOR TIMBER MEMBER SCHEDULE.
2. DECK PLANKS ARE TO BE PRESSURE TREATED SOURTHERN PINE #2 1X8 BOARDS.
3. SEE S-1 FOR STEEL MEMBER SCHEDULE.

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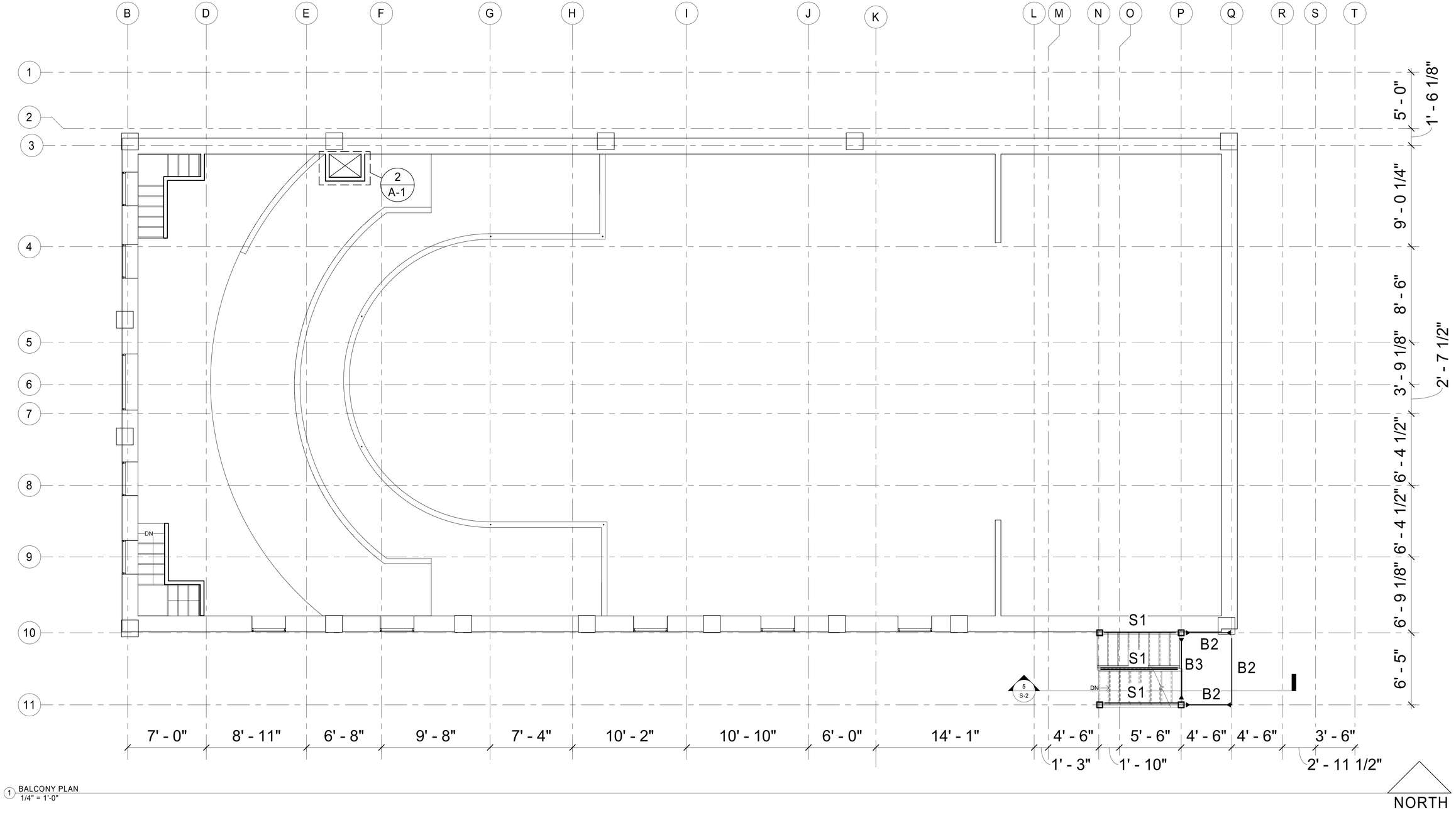
VOLGA CITY, IOWA

SHEET NAME
SECOND FLOOR PLAN

SHEET NO.
A-2



1 BALCONY PLAN
1/4" = 1'-0"

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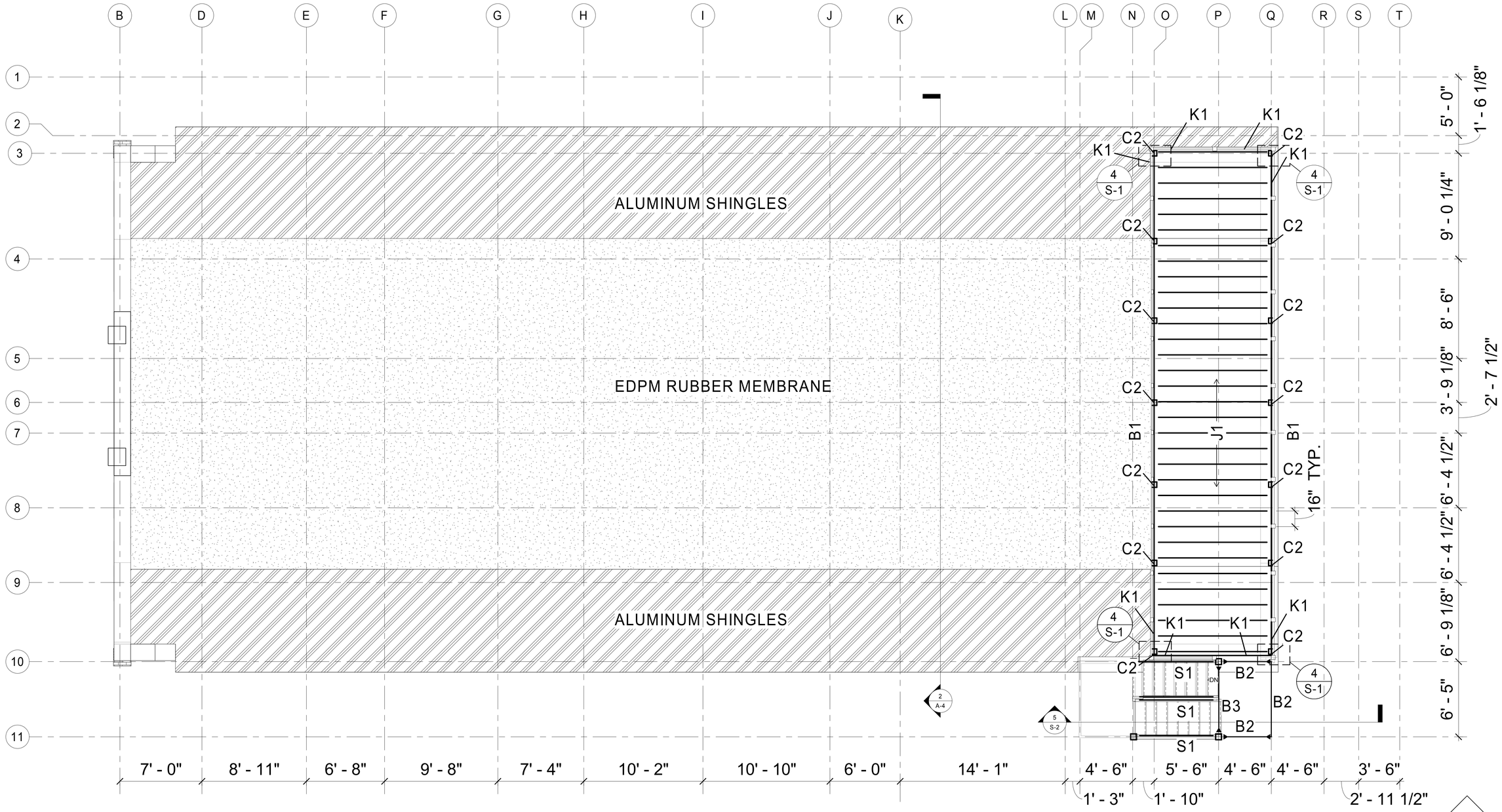
OPERA HOUSE RENOVATION

VOLGA CITY, IOWA

SHEET NAME
BALCONY PLAN

SHEET NO.
A-3

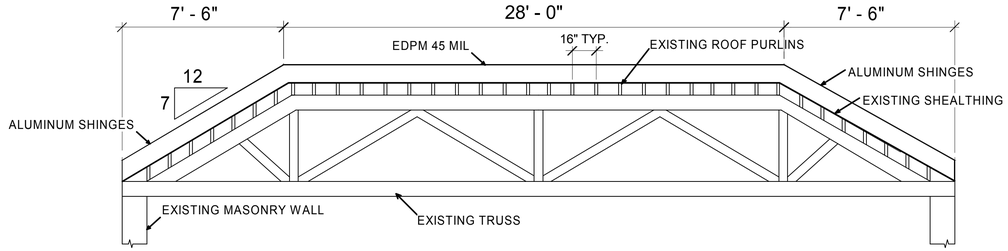


1 ROOF PLAN
1/4" = 1'-0"

PLAN NOTES:

1. SEE S-2 FOR ROOFING MATERIAL INSTALLATION INSTRUCTIONS.
2. ROOFTOP DECK IS TO BEAR ON EXISTING MASONRY WALL (2/S-2) AND EXISTING ROOF TRUSS, SEE (1/S-1).
3. SEE S-1 FOR TIMBER MEMBER SCHEDULE.
4. DECK PLANKS ARE TO BE PRESSURE TREATED SOURTHERN PINE #2 1X8 BOARDS.

MATERIAL	QUANTITY	UNIT
RUBBER MEMBRANE	2583	SF
TIN SHINGLES	1476	SF



2 ROOF SYSTEM SECTION
1/4" = 1'-0"

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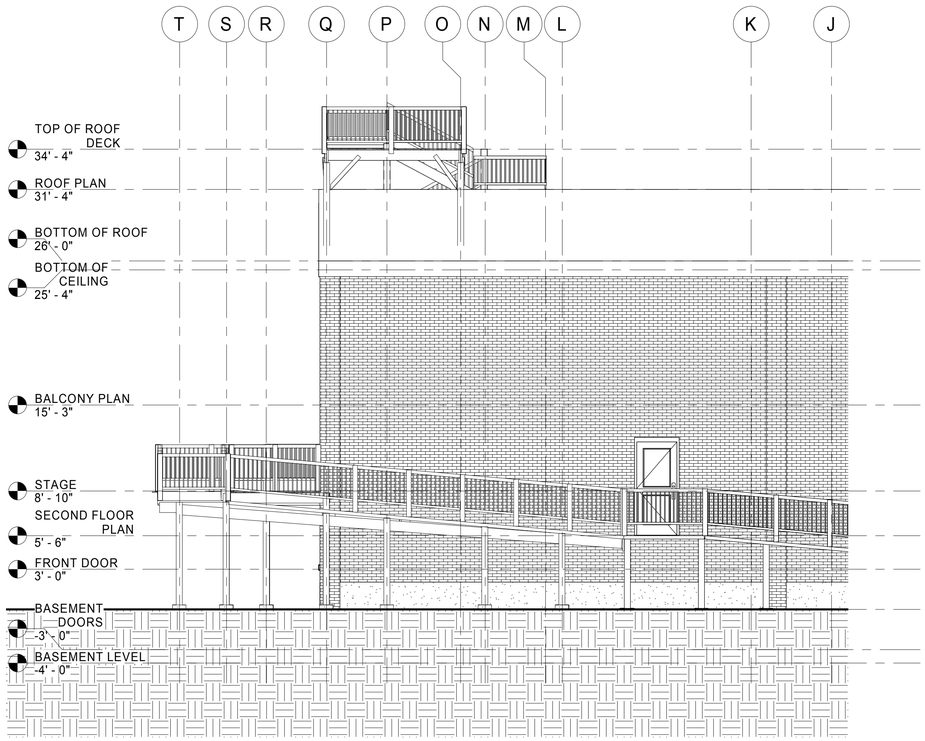
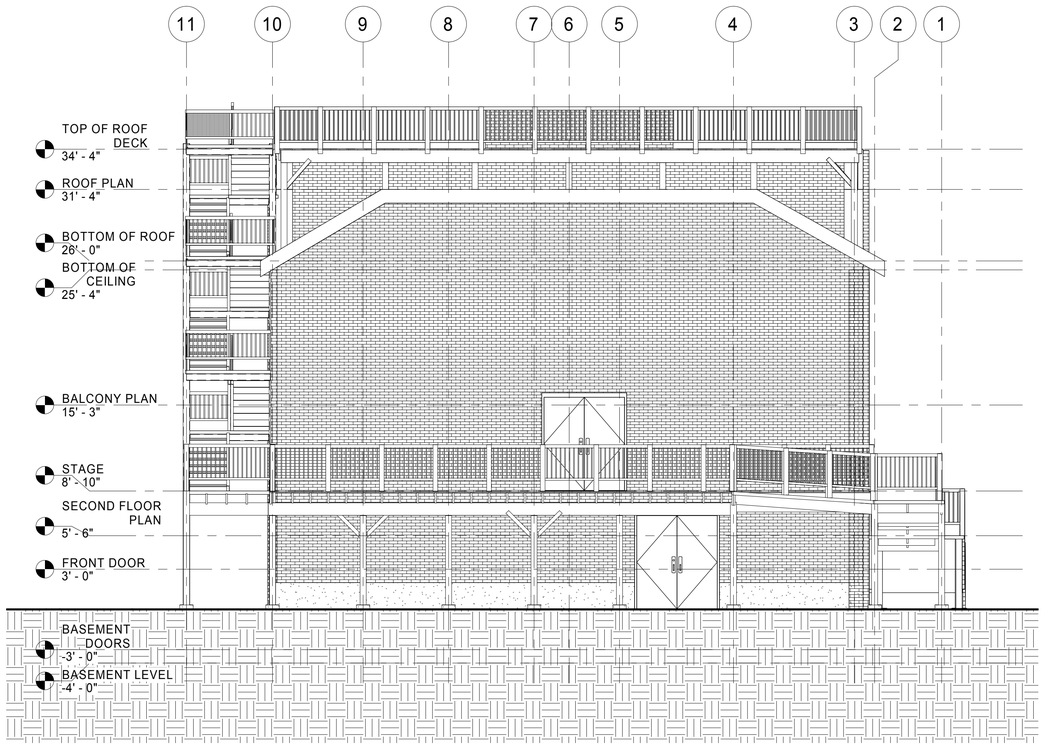
SHEET NAME
ROOF PLAN

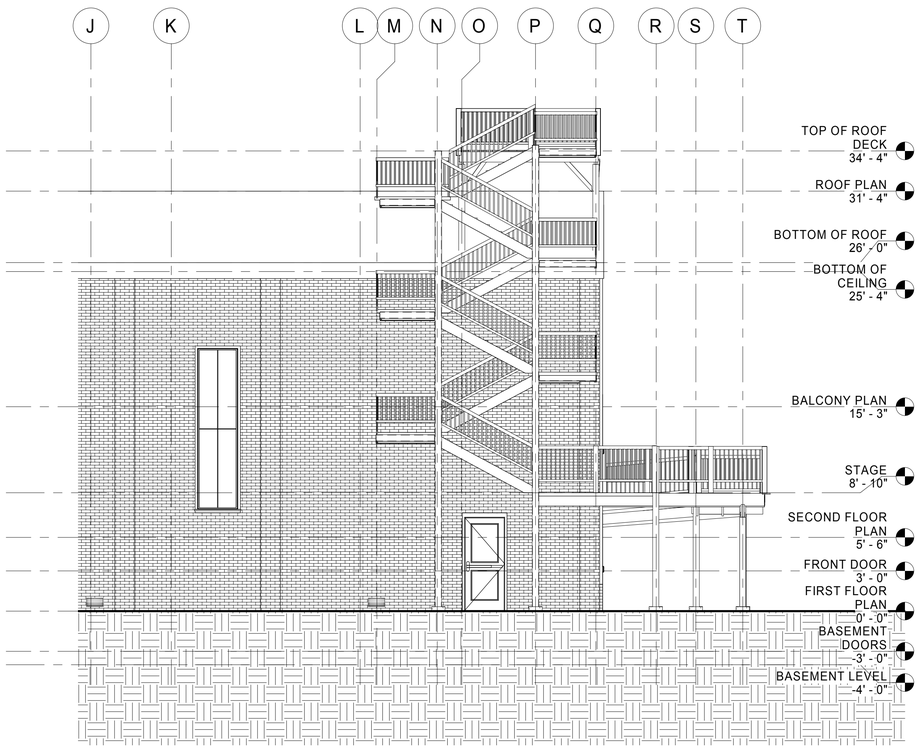
SHEET NO.
A-4



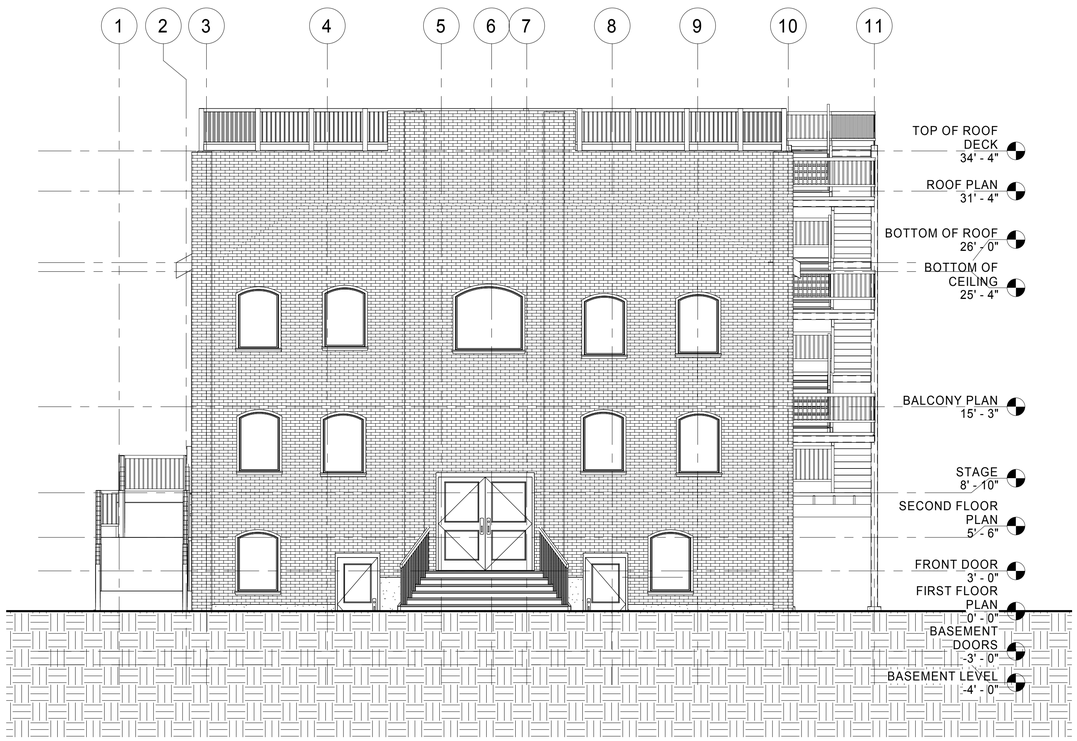
1 NORTH DECK ELEVATION
3/16" = 1'-0"



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



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



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

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OPERA HOUSE RENOVATION

VOLGA CITY, IOWA

SHEET NAME
BUILDING ELEVATIONS

SHEET NO.
A-5

WATERPROOFING NOTES:

1. APPLY SELF ADHESIVE WATER PROOF MEMBRANE TO BASEMENT COLUMNS. SEE A-3 FOR LOCATIONS.
2. PLACE FLOOD VENTS IN NORTH AND SOUTH EXTERIOR WALLS AND INTERIOR WALLS IN ACCORDANCE TO BASEMENT PLAN.
3. APPLY UTILITY WATER COVER TO HOT WATER HEATER BEFORE FLOOD EVENT. SEE A-3 FOR LOCATIONS.
4. WATERPROOFING QUANTITIES:

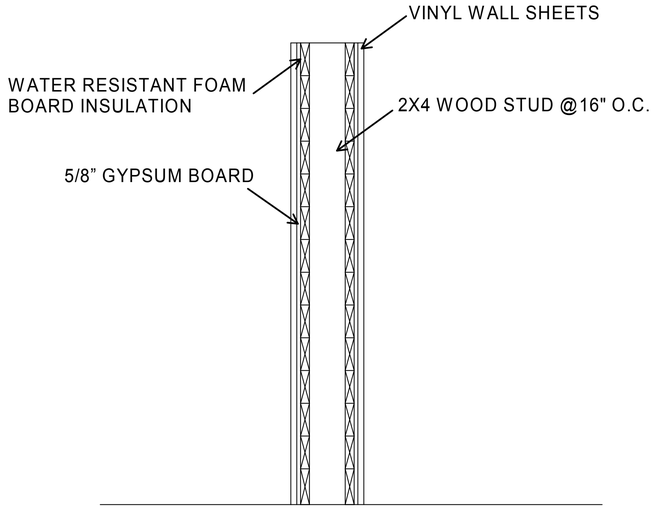
MATERIAL	APPLY ONTO	QUANTITY	ALTERNATIVES
FLOOD VENTS	SPECIFIED WALLS	25	SMART VENT 1540-520, FREEDOM FLOOD VENT FFV-1608-W, ICC BREAKWAY FLOOD VENT
VINYL SIDING	SPECIFIED WALLS	847.25 SF	THRIFTY WHITE PANELBOARD, WESTMINSTER WHITE OAK PANEL, SMOOTH WEATHERED BARNBOARD WALL PANEL
WATERPROOFING MEMBRANE	INTERIOR WALLS	1 GAL	MAPEL MAPELASTIC AQUADEFENSE, LATICRETE HYDRO BAN, RADONSEAL
UTILITY COVER	Hot Water Heater	1 COVER	COBIA HOT WATER HEATER COVER

INSTULATION INSTRUCTIONS:

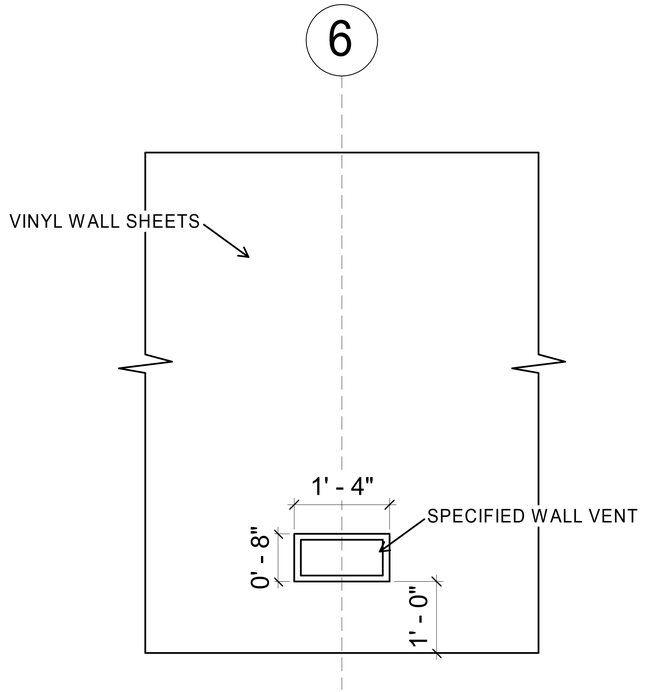
VINYL SHEETS:
SEE MANUFACTUER PROVIDED INSTALLATION INSTRUCTIONS

WATERPROOFING MEMBRANE:
SEE MANUFACTUER APPLICATION INSTRUCTIONS

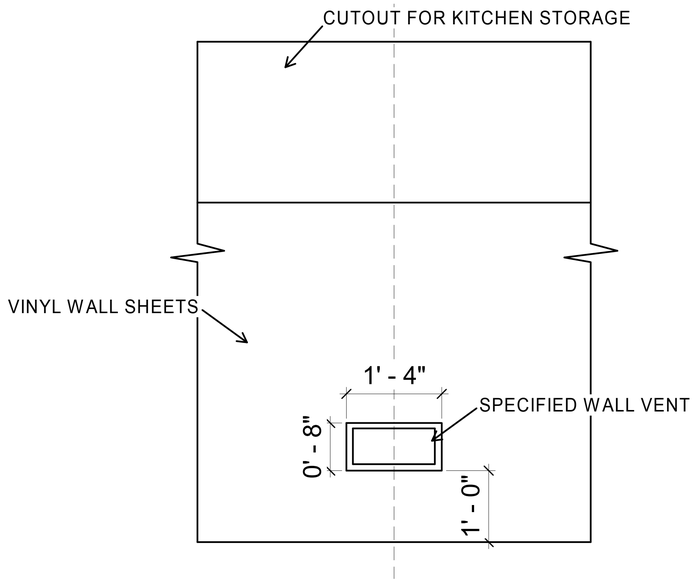
FLOOD VENTS:
1. CUT A OPENING OF 16 1/4" X 8 1/4" INTO DESIGNATED LOCATIONS.
2. REMOVE VENT FROM FRAME AND INSTALL SPRING CLIPS TO THE OUTSIDE OF FRAME AT DESIGNATED LOCATIONS.
3. APPLY A THIN BEAD OF CAULK TO THE INSIDE FLANGE.
4. INSERT VENT FRAME INTO OPENING WITH TAG FACING DOWN.
5. ALLOW FRAME TO TACK FOR 20 MINUTES.
6. INSTALL VENT DOOR INTO FRAME.
7. INSERT SECURITY CLIPS INTO FRAME WITH NEEDLE NOSE PLIERS .



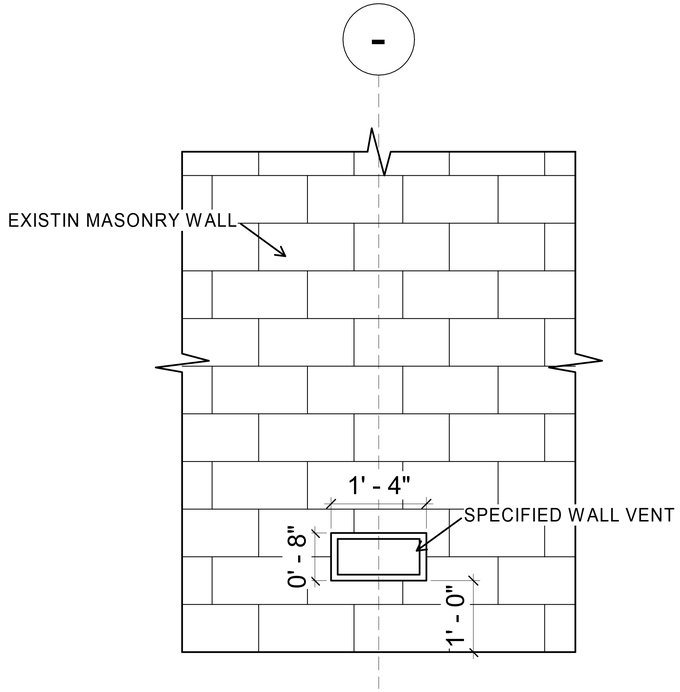
1 WALL WATERPROOFING DETAIL
1" = 1'-0"



2 WEST BASEMENT SEPARATION WALL
1" = 1'-0"



3 EAST KITCHEN WALL
1" = 1'-0"



4 FLOOD VENT IN EXTERIOR WALL
1" = 1'-0"

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VOLGA CITY, IOWA

SHEET NAME
FLOOD PROTECTION NOTES

SHEET NO.
A-6

STRUCTURAL NOTES:

DESIGN CRITERIA AND LOADS

1. OCCUPANCY RISK CATEGORY: II
   BUILDING OCCUPANCY LOAD: 286

2. WIND:
   BASIC WIND SPEED: 115 MPH
   IMPORTANCE FACTOR: 1.0
   EXPOSURE CLASS: C

3. LIVE LOADS:
   ASSEMBLY SPACES: 100 PSF
   TYPICAL ROOF: 20 PSF

4. SNOW:
   GROUND SNOW: 30 PSF
   SNOW EXPOSURE FACTOR: 0.9
   THERMAL FACTOR: 1.0
   FLAT ROOF SNOW: 19 PSF
   DESIGN SNOW: 30 PSF

STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO ASTM STANDARDS AS NOTED BELOW:

HSS SHAPES	ASTM A1085	Fy = 50 KSI
CHANNEL SHAPES	ASTM A36	Fy = 36 KSI
BASE AND CONNECTION PLATES	ASTM A36	Fy = 36 KSI
ANCOR RODS	ASTM F1554. GR B	Fy = 36 KSI

2. ALL ABOVE STRUCTURAL STEEL IS TO BE GALVANIZED.

3. STANDARD BOLT HOLES IN STEEL SHALL BE 1/16 INCH LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLT USED.

4. STAIR PLATFORMS, STAIRS RISER, AND STAIR TREADS ARE TO BE NILES INTERNATIONAL 1/2" 18 GAGE CARBON STEEL PLANELS.

STEEL MEMBER SCHEDULE	
MARK	TYPE
S1	C15x40
B2	HSS4x2x1/8
B3	C15x40
C3	HSS5x5x5/16

TIMBER

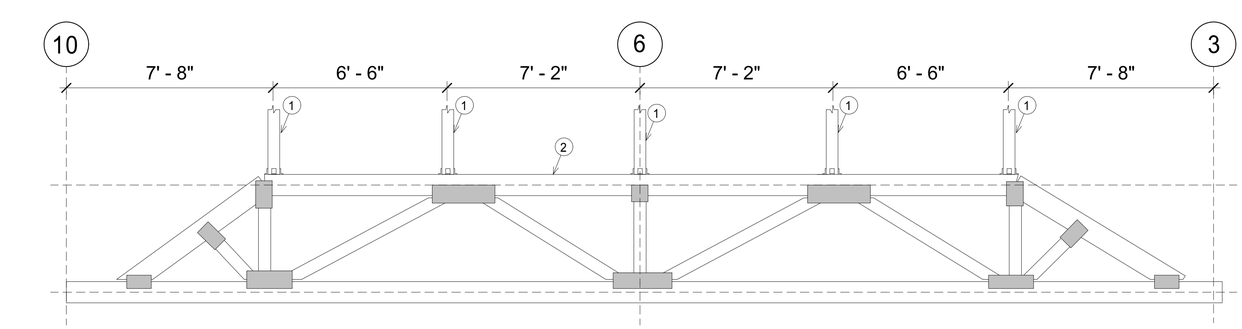
1. ALL TIMBER CONSTRUCTION SHALL BE PRESSURE TREATED SOUTHERN PINE NO. 2 (OR BETTER).

2. TIMBER CONNECTORS SERVING AS THE BASIS OF DESIGN ARE SHOWN AND SPECIFIED IN THE CONNECTION DETAILS. ALL SPECIFIED CONNECTORS ARE TAKEN FROM THE 2019 SIMPSON WOOD CONNECTORS CATALOG.

3. ACCEPTABLE ALTERNATIVE CONNECTORS MAY BE SUPPLIED PROVIDED THE QUANTITY AND CONFIGURATION MATCH THE CAPACITY OF THE DESIGN CONNECTOR QUANTITY AND CONFIGURATION. ALL CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.

4. DECK GUARD RAILS WILL BE 42" TALL MEASURED FROM THE TOP OF THE DECK PLANKS WITH A 2X4 TOP RAIL AND 2X3 BALUSTERS SPACED EVERY 4" O.C. RAIL POSTS WILL BE SECURED WITH (2) 1/2" CARRIAGE BOLTS.

TIMBER MEMBER SCHEDULE	
MARK	TYPE
J1	2X10
L1	2X10
B1	(2) 2X12
B4	(4) 2x12
C1	4X4
C2	6X6
K1	4X4



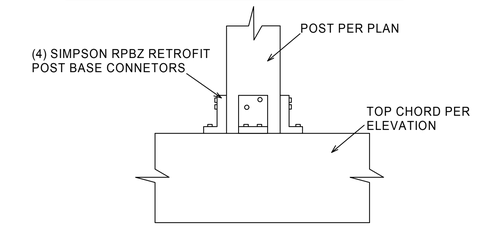
1 TRUSS ELEVATION
3/8" = 1'-0"

NOTES:

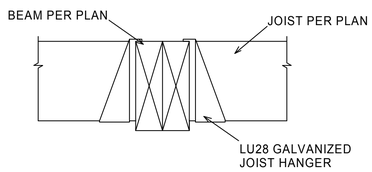
1. DECK POST PER PLAN
2. SEE DETAIL 5/S-1 FOR POST TO TOP CHORD CONNECTION.

KEYNOTES NOTES:

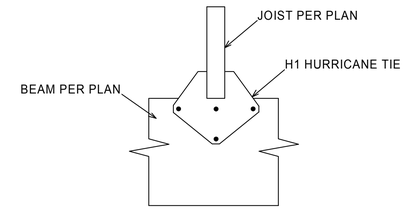
1. DECK POST PER PLAN
2. REPLACE EXISITING TOP CHORD WITH A (4) 2X10



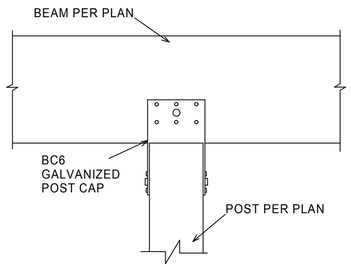
2 POST TO TOP CHORD CONNECTION
1 1/2" = 1'-0"



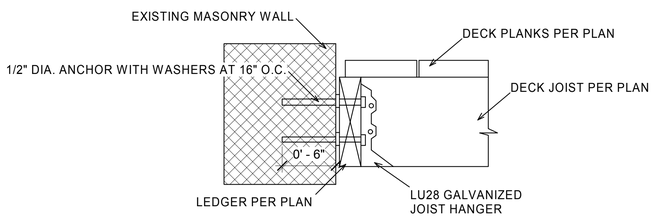
3 JOIST TO BEAM CONNECTION
1 1/2" = 1'-0"



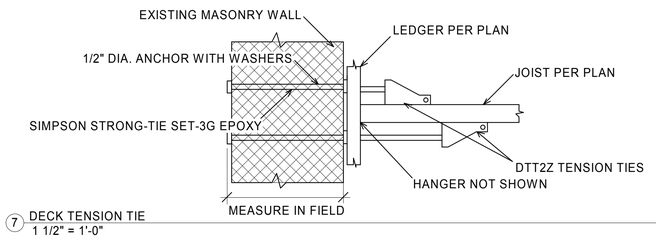
4 WRAP-AROUND DECK JOISTS TO BEAM
1 1/2" = 1'-0"



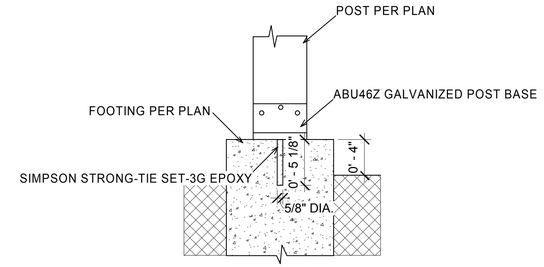
5 BEAM TO POST CONNECTION
1 1/2" = 1'-0"



6 LEDGER TO MASONRY WALL
1 1/2" = 1'-0"



7 DECK TENSION TIE
1 1/2" = 1'-0"



8 DECK POST TO FOOTING
1 1/2" = 1'-0"

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PROJECT: OPERA HOUSE RENOVATION
DATE: 05/15/2020
DRAWN BY: NECS
REVISION:

EDUCATIONAL - NOT FOR CONSTRUCTION

OPERA HOUSE RENOVATION

VOLGA CITY, IOWA

SHEET NAME
STRUCTURAL NOTES AND DETAILS

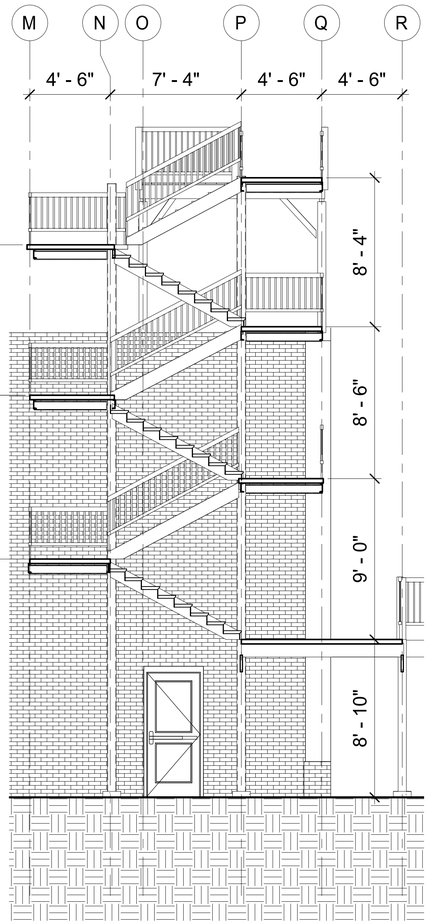
SHEET NO.
S-1

EDPM INSTALLATION INSTRUCTIONS:

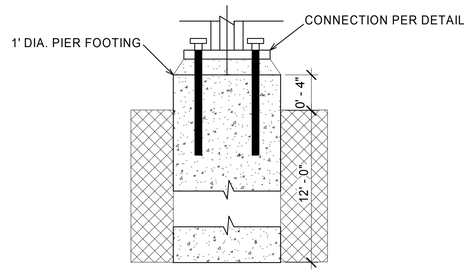
1. CLEAN THE ROOF SURFACE PRIOR TO INSTALLATION.
2. INSTALL DRIP BATTEN.
3. INSTALL BACK DRIP TRIM
4. ALLOW THE RUBBER MEMBRANE TO RELAX IN POSITION FOR 30 MINUTES.
5. ROLL EDPM BACK TO EXPOSE ROOF.
6. APPLY WATER BASED DECK ADHESIVE. IMMEDIATELY ROLL THE EDPM BACK INTO POSITION.
7. SWEEP EDPM TO REMOVE TRAPPED AIR.
8. APPLY A THIN COAT OF CONTACT ADHESIVE TO THE EDPM PERIMETER.
9. TRIM EXCESS RUBBER MEMBRANE TO FIT ROOF GEOMETRY.

ALUMINUM SHINGLE INSTALLATION INSTRUCTIONS:

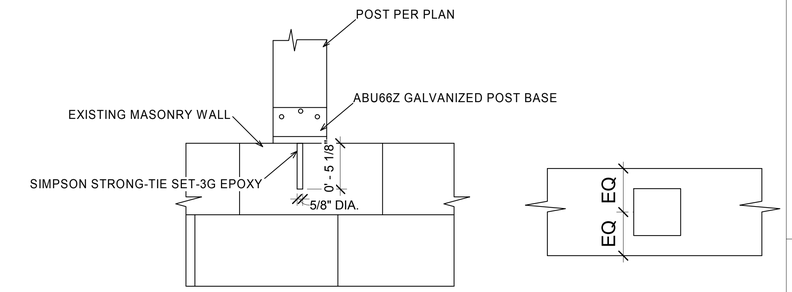
1. FASTENERS ARE TO BE 11 OR 12 GAUGE GALVANIZED STEEL NAILS.
2. ENSURE ROOF SHEALTHING IS SMOOTH, DRY AND FREE FROM WARPED SURFACES
3. INSTALL ROOF UNDERLAYMENT ON ROOF SHEALTHING.
4. FASTEN UNDERLAYMENT WITH (2) ROWS OF NAILS 18" O.C. IN A STAGGER PATTERN.
5. ATTACH METAL FLASHING TO THE EDGES OF THE ROOF.
6. START SHINGLE INSTALLATION AT BOTTOM LEFT ROOF CORNER WITH A FULL SHINGLE. SLIDE SHINGLE INTO FLASHING.
7. INSTALL SHINGLE ROW BY ROW. AT THE END EACH ROW, CUT THE RIGHT SIDE OF THE SHINGLE TO FIT THE REMAINING SPACE AND SLIDE THE SHINGLE INTO THE CORRESPODING FLASHING.
8. CUT 2" NOTCH IN THE RETURN OF THE BOTTOM LIP (BUTT EDGE OF SHINGLE) IN LINE WITH GABLES OR SIDEWALLS TO ALLOW WATER TO DRAIN FREELY.
9. AT RIDGES, LINE THE CUT EDGE OF SHINGLES UP AGAINST ONE ANOTHER AND FASTEN THROUGH SHINGLES WITH AT LEAST TWO FASTENERS PER SHINGLE.



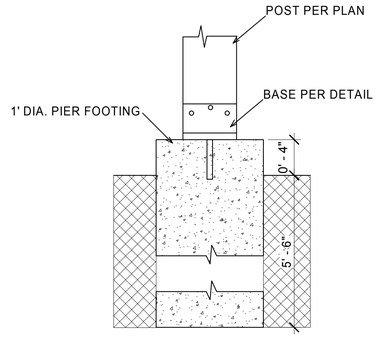
5 SOUTH STAIR SECTION
1/4" = 1'-0"



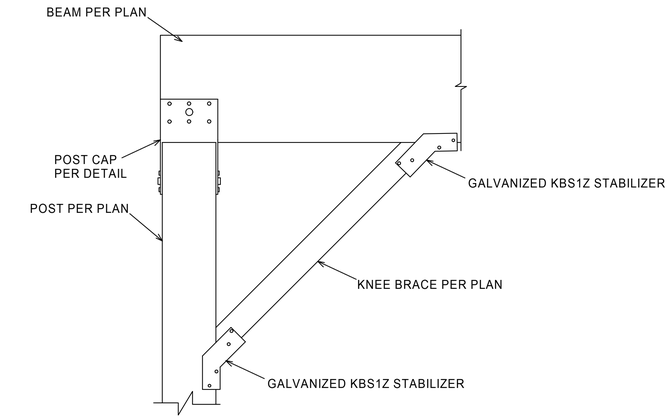
1 STAIR FOOTING DETAIL
1 1/2" = 1'-0"



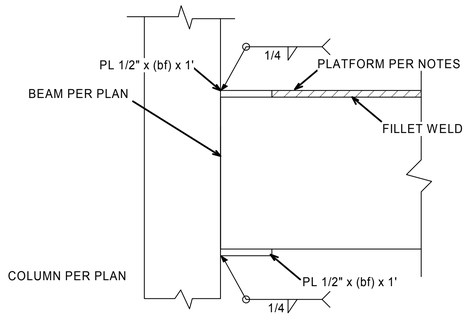
2 DECK POST TO MASONRY WALL
1 1/2" = 1'-0"



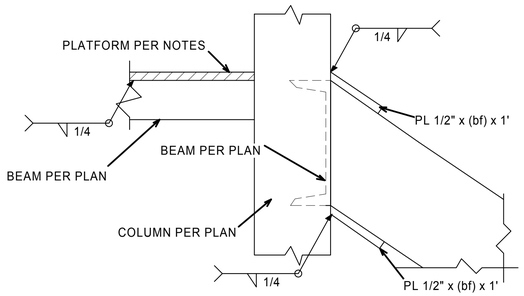
3 DECK FOOTING DETAIL
1 1/2" = 1'-0"



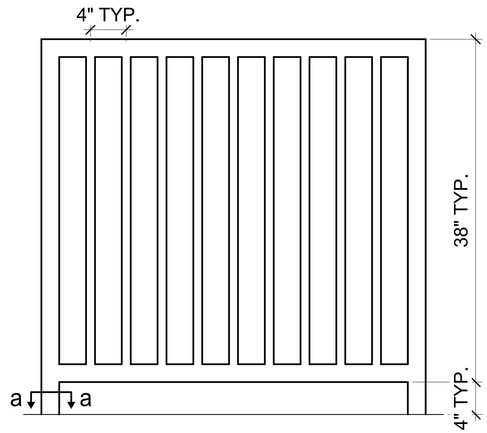
4 KNEE BRACE TO POST AND BEAM
1 1/2" = 1'-0"



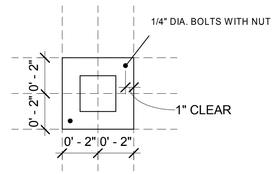
6 STEEL BEAM TO COLUMN
1 1/2" = 1'-0"



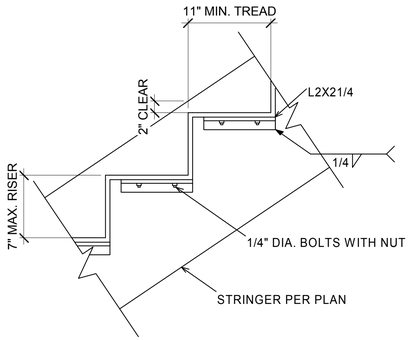
7 STRINGER TO COLUMN
1 1/2" = 1'-0"



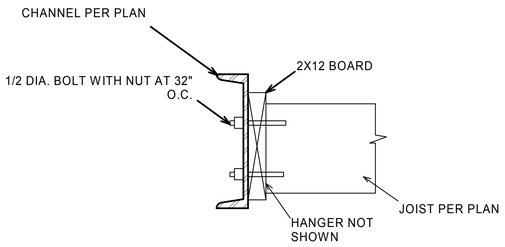
8 STANDARD STEEL GUARD RAIL
1 1/2" = 1'-0"



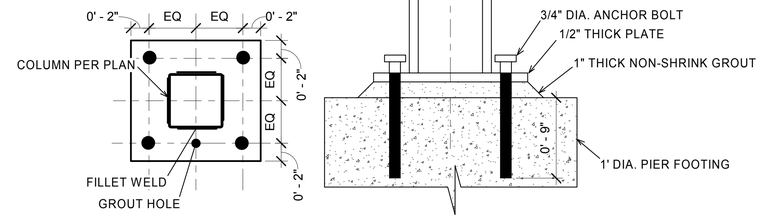
9 a-a
3" = 1'-0"



10 STAIR TREADS TO STRINGER
1 1/2" = 1'-0"



11 WOOD JOIST TO STEEL BEAM
1 1/2" = 1'-0"



12 HSS COLUMN TO FOUNDATION
1 1/2" = 1'-0"

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VOLGA CITY, IOWA

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SHEET NO.
S-2