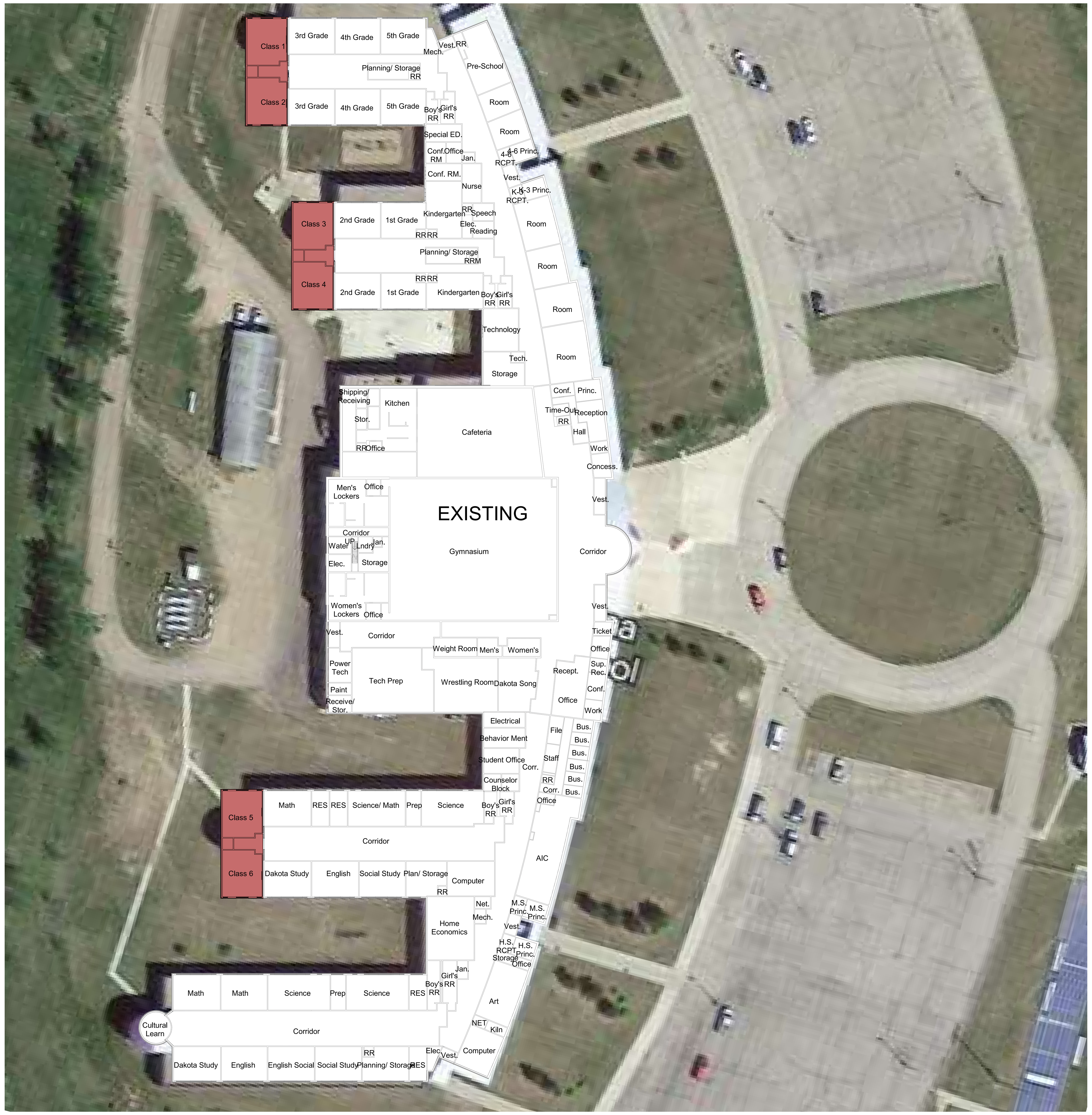
TIOSPA ZINA SCHOOL
CLASSROOM ADDITION
AGENCY VILLAGE, SOUTH DAKOTA



1 Site
1" = 40'-0"

HKG Architects, INC
Architects, A.I.A.
Aberdeen, South Dakota

Project Directory

ARCHITECT:
HKG ARCHITECTS, INC
524 S. ARCH ST.,
ABERDEEN, SD 57401
(605) 225-6820
FAX: (605) 225-7770

STRUCTURAL:
SOLIEN & LARSON
3330FIECHTNER DRIVE STE 206
FARGO, ND 58103
(701) 235-5593

MECHANICAL & ELECTRICAL:
WEST PLAINS ENGINEERING, INC.
4609 S. TECHLINK CIRCLE
SIOUX FALLS, SD 57106
(605) 362-3753

CIVIL:
HELMS & ASSOCIATES
416 PRODUCTION ST. N.
PO BOX 111
ABERDEEN, SD 57401
(605) 225-1212

Sheet List

Sheet Number	Sheet Name
A1	Titlesheet
A2	Code Analysis & ADA Notes
C1	Site Topographic Survey
C2	Demolition Plan
C3	Plan Notes
C4	Grading And Fencing Plan
C5	Grading Plan
C6	Utility Plan
C7	Utility Plan
C8	Details
C9	Details
C10	Details
C11	Details
A3	Demolition Plan
A4	Floor Plan
A5	Elevations
A6	Roof Plan & Details
A7	Reflected Ceiling Plan & Sections
A8	Schedules & Details
A9	Dryvit Details
S1	Foundation Plans
S2	Roof Framing Plans
S3	Sections & Details

Sheet List

Sheet Number	Sheet Name
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M2	HVAC Ventilation Demolition Plans
M3	Plumbing Floor Plans
M4	HVAC Piping Plans
M5	HVAC Ventilation Plans
M6	Mechanical Schedules & Details
E1	Power/ Communications Demolition Plans
E2	Power/ Communications Demolition Plans
E3	Lighting Demolition Plans
E4	Lighting Demolition Plans
E5	Lighting Protection Demolition Plans
E6	First Floor Power Plans
E7	First Floor Power Plans
E8	First Floor Technology Plans
E9	First Floor Technology Plans
E10	First Floor Lighting Plans
E11	First Floor Lighting Plans
E12	Lighting Protection Plans
E13	Lighting Protection Plans
E14	Electrical Details
E15	Electrical Schedules
F1	Fire Protection Legend & Details & Demolition Plans
F2	Fire Protections Plans

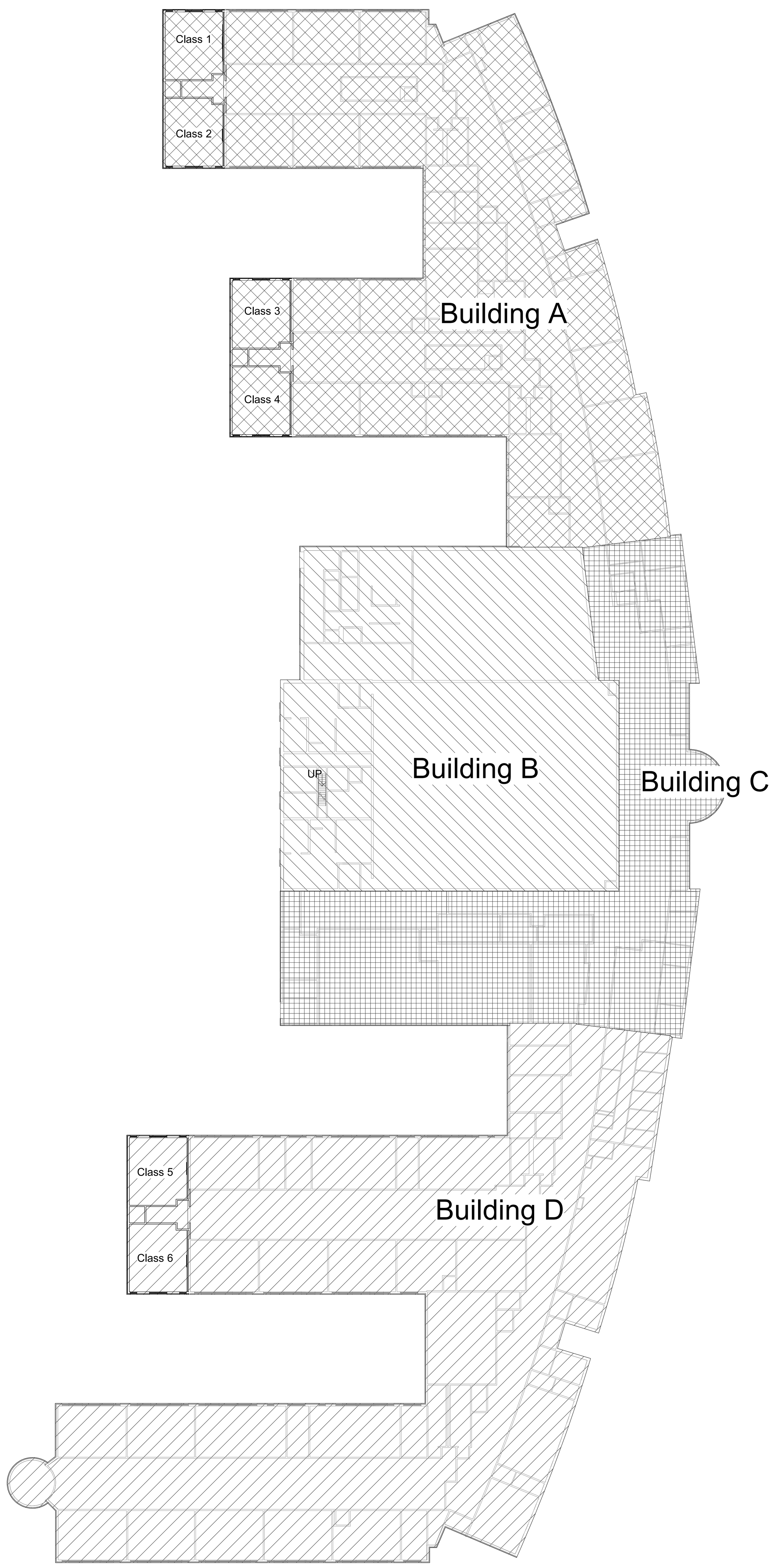
Plans for
Tiospa Zina School
Classroom Addition
Agency Village, South Dakota

Titlesheet

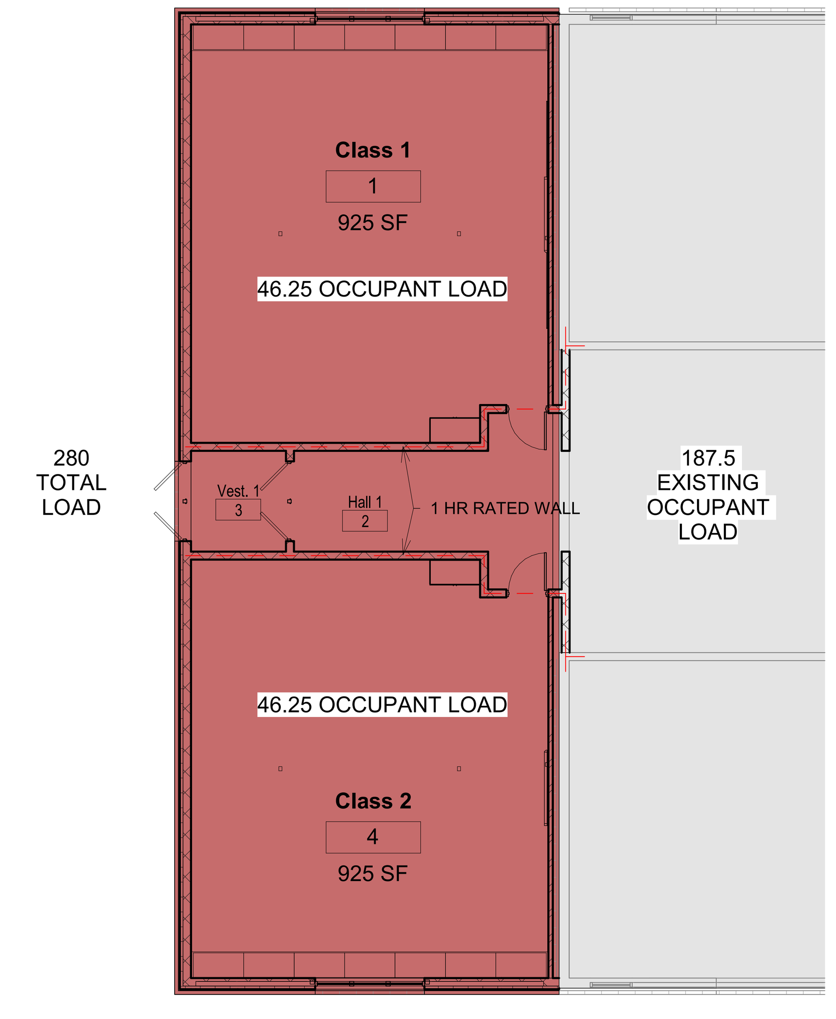
A1

HKG Architects, Inc. Aberdeen, S.D.

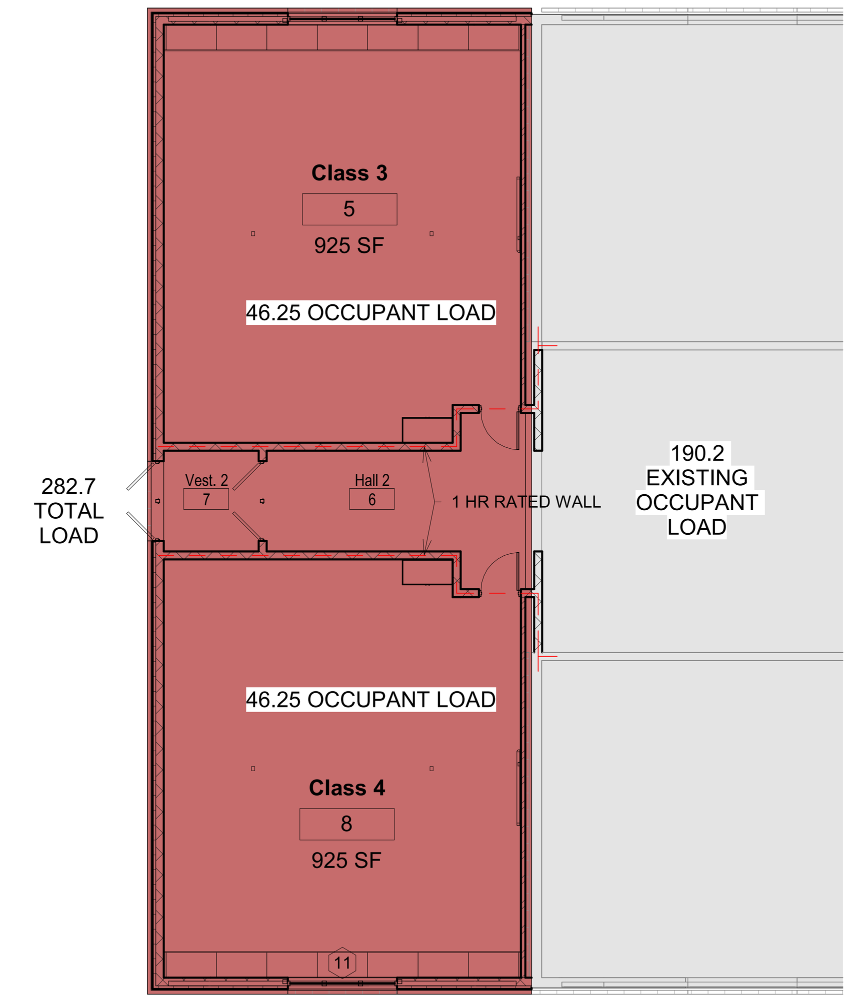
11/22/24 2024-0032



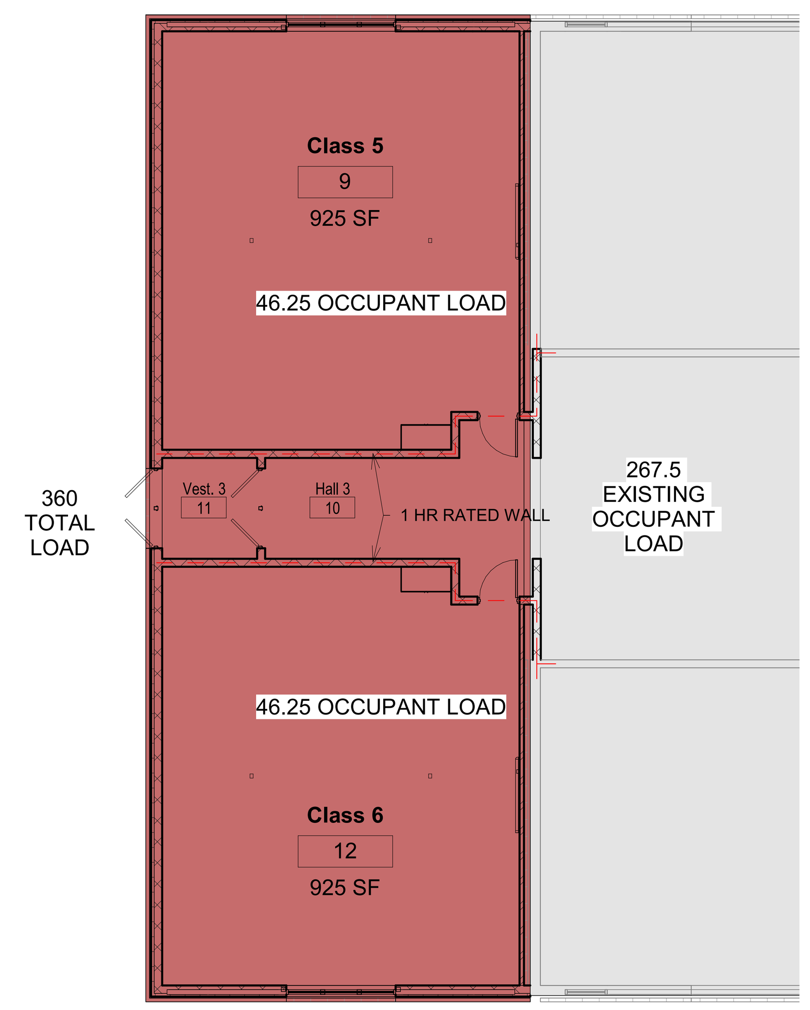
4 Building Breakdowns
1" = 40'-0"



1 Building A Code Analysis Plan
1" = 10'-0"



2 Building A Code Analysis Plan Cont.
1" = 10'-0"



3 Building D Code Analysis Plan
1" = 10'-0"

CODE ANALYSIS

Plan Analysis is Based on the 2024 International Building Code.

Building Size Fire Area

Building A	37,690 S.F.
Building B	26,552 S.F.
Building C	20,840 S.F.
Building D	46,333 S.F.
Total	1,311,415 S.F.

Section 305

Occupancy Classification = E

Table 504.3

Allowable Building Height in Feet Above Grade Plane
E Occupancy Type II-B = 75 Feet
16' - 8" < 75'

Table 504.4

Allowable Number of Stories Above Grade Plane
E Occupancy S1 (Sprinkled) = Type II-B - 3 Story

Table 506.2

Allowable Area Factor in Square Feet
E Occupancy S1, Type II-B = 58,000 S.F.

Fire-Resistance Rating Requirements for Building Elements - Type II-B

Structural Frame:		0
Bearing Walls:	Exterior	0
	Interior	0
Non-Bearing Walls:	Exterior	0
	Interior	0
Floor Construction:		0
Roof Construction:		0

NOTE:
Table 707.3.10 Fire-Resistance-Rating requirements for fire barriers, fire walls or horizontal assemblies between fire areas = 2 hours.

Table 1004.5

Maximum Floor Area
Allowances per occupant
Education - Classroom Area = 20 net
925 Classroom Area/20 = 46.25 Occupant Load

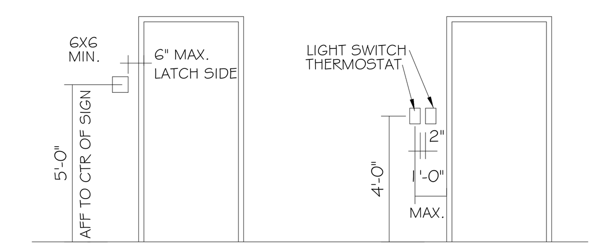
Plumbing Fixture Calculations
Table 2902.1

E-Occ Building A. = 1,066.3
(128 M, 234 W)

Water Closets	Men	10
	Women	10
	Family/ Unisex	8
Lavatories	Men	8
	Women	8
	Family/ Unisex	8
Service Sink		1

E-Occ Building D. = 946.06
(128 M, 234 W)

Water Closets	Men	10
	Women	10
	Family/ Unisex	2
Lavatories	Men	7
	Women	7
	Family/ Unisex	2
Service Sink		1



SIGNAGE AT DOOR
SCALE: 1/4" = 1'-0"

SWITCH AT DOOR
SCALE: 1/4" = 1'-0"

*MATCH EXISTING DOOR SIGNAGE

1. ADA UNOBSTRUCTED REACH RANGES (AFF.)
   A. ADA FORWARD REACH = 48" MAX./15" MIN.
   B. ADA SIDE REACH = 48" MAX/15" MIN.

2. DOOR HARDWARE:
   (MEASURED AFF. TO C.L. OF HARDWARE)
   A. STANDARD MOUNTING HEIGHTS:
      1. PUSH PLATES = 42"
      2. PULL PLATES = 42"
      3. KNOBS/LEVERS = 40"
      4. PANIC EXIT = 42" TO CENTERLINE OF BAR
      5. KICK PLATE:
         WIDTH = DOOR WIDTH MINUS 2" CENTERED
         HEIGHT = 16" FROM B.O. DOOR
      6. THRESHOLDS:
         STANDARD = 1/2" MAX.
         AT EXT. SLIDING DOORS = 3/4"
   B. ADA HARDWARE = 34" MIN. TO 48" MAX.

3. COUNTERTOPS: (MEASURED AFF. TO SINK RIM/COUNTERTOP)
   A. STANDARD MOUNTING = 36" MAX.
   B. ADA ACCESSIBLE = 28" MIN. TO 48" MAX.

4. COAT HOOKS:
   A. STANDARD = 68"
   B. ADA ACCESSIBLE = 48" MIN. TO 54" MAX.

5. CHALKBOARDS/TACK BOARDS/ MARKER BOARDS:
   A. STANDARD MOUNTING = 32: TO 39" (TO BOTTOM)
   B. STANDARD MOUNTING = 80" (TO TOP)
   C. VERIFY WITH INDIVIDUAL INSTRUCTOR

6. THERMOSTATS & CONTROL DEVICES (TO TOP)
   A. STANDARD MOUNTING = 42 3/4" MAX.
   B. ADA FORWARD REACH = 48" MAX. & 15" MIN.
   C. ADA SIDE REACH = 48" MAX. & 15" MIN.

7. LIGHT SWITCHES & CARD READERS: (TO C.L.)
   A. STANDARD MOUNTING = 42 3/4" MAX.
   B. ADA FORWARD REACH = 48" MAX. & 15" MIN.

8. CONVINCE RECEPTACLES:
   (ELECTRICAL/TELEPHONE/DATA)
   A. STANDARD = 18 3/4"
   B. ADA ACCESSIBILITY = 15" MIN.

9. EXIT LIGHTS: (STANDARD WALL MOUNTED)
   A. 2" MIN. BELOW CEILING
   B. 2" MON. ABOVE DOOR FRAME
   C. EQUAL SPACE - CEILING TO TOP OF FRAME

10. SMOKE AND/OR HEAT DETECTORS
   A. STANDARD = CEILING HEIGHT

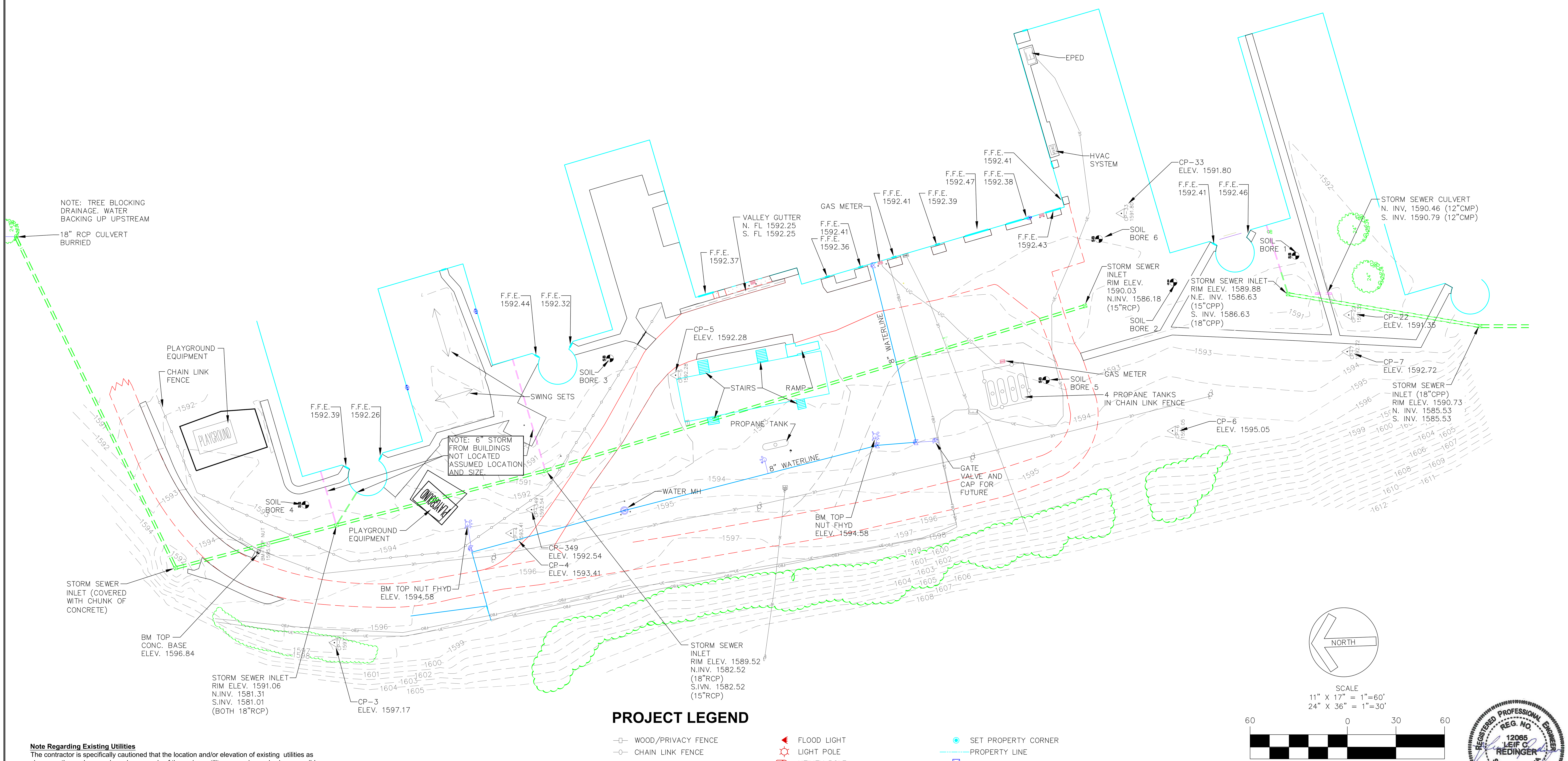
11. HORN/SPEAKER/VISUAL/SIGNALS:
   A. STANDARD = 80" AFF. OR 6' BELOW CEILING
      WHICH EVER IS LOWER

12. ROOM SIGNAGE FOR ROOM NAMES (TO C.L.)
   A. STANDARD = 60" AFF. AND WITHIN 18" OF
      LATCH SIDE OF DOOR.

REGISTERED PROFESSIONAL ARCHITECT
REG. NO.
DEAN MARSKE
SOUTH DAKOTA

hkg architects

REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	Code Analysis & ADA Notes	DRAWN BY CH TRACED BY ___ CHECKED BY AS	A2 OF- 6
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



PROJECT LEGEND

- WOOD/PRIVACY FENCE
- CHAIN LINK FENCE
- BARBED WIRE FENCE
- STORM SEWER PIPE/CULVERT
- STORM SEWER MANHOLE
- STORM SEWER FLARED END
- STORM SEWER INLET
- SANITARY SEWER PIPE
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- WATERMAIN PIPE
- WATER VALVE
- FIRE HYDRANT
- CURB STOP
- YARD HYDRANT
- FLOOD LIGHT
- LIGHT POLE
- UTILITY POLE
- ELECTRICAL PEDESTAL
- OHE — OVERHEAD POWER
- UE — UNDERGROUND ELECTRICAL
- GV GAS VALVE
- UG — UNDERGROUND GAS LINE
- UT — UNDERGROUND TELEPHONE LINE
- FO — UNDERGROUND FIBER OPTIC LINE
- CTV — UNDERGROUND CABLE TV LINE
- TELECOM PEDESTAL
- CABLE TV PEDESTAL
- FOUND PROPERTY CORNER
- SOIL BORING
- SET PROPERTY CORNER
- PROPERTY LINE
- MAILBOX
- SIGN
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSHES/SHRUBS
- TREE GROVE/SHELTER BELT
- BUILDING
- ASPHALT SURFACING
- CONCRETE SURFACING
- GRAVEL SURFACING
- CONCRETE CURB AND GUTTER

Note Regarding Existing Utilities

The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor shall call the appropriate utility companies at least 48 hours before any excavation to request exact field location of utilities.

It is the responsibility of the contractor to relocate all utilities requiring relocation. It is the responsibility of the contractor to verify in the field, the locations of existing water mains, water services, sewer mains and sewer services. The contractor shall be responsible for locating and preserving all existing utilities in their present condition. Existing utilities shown on the plans are for general information only and are to be located by the contractor prior to the start of construction.

Existing utilities included but not limited to:
Underground and overhead electrical
Underground and overhead cable television
Underground water system
Underground sewer system
Underground and overhead telephone
Underground natural gas

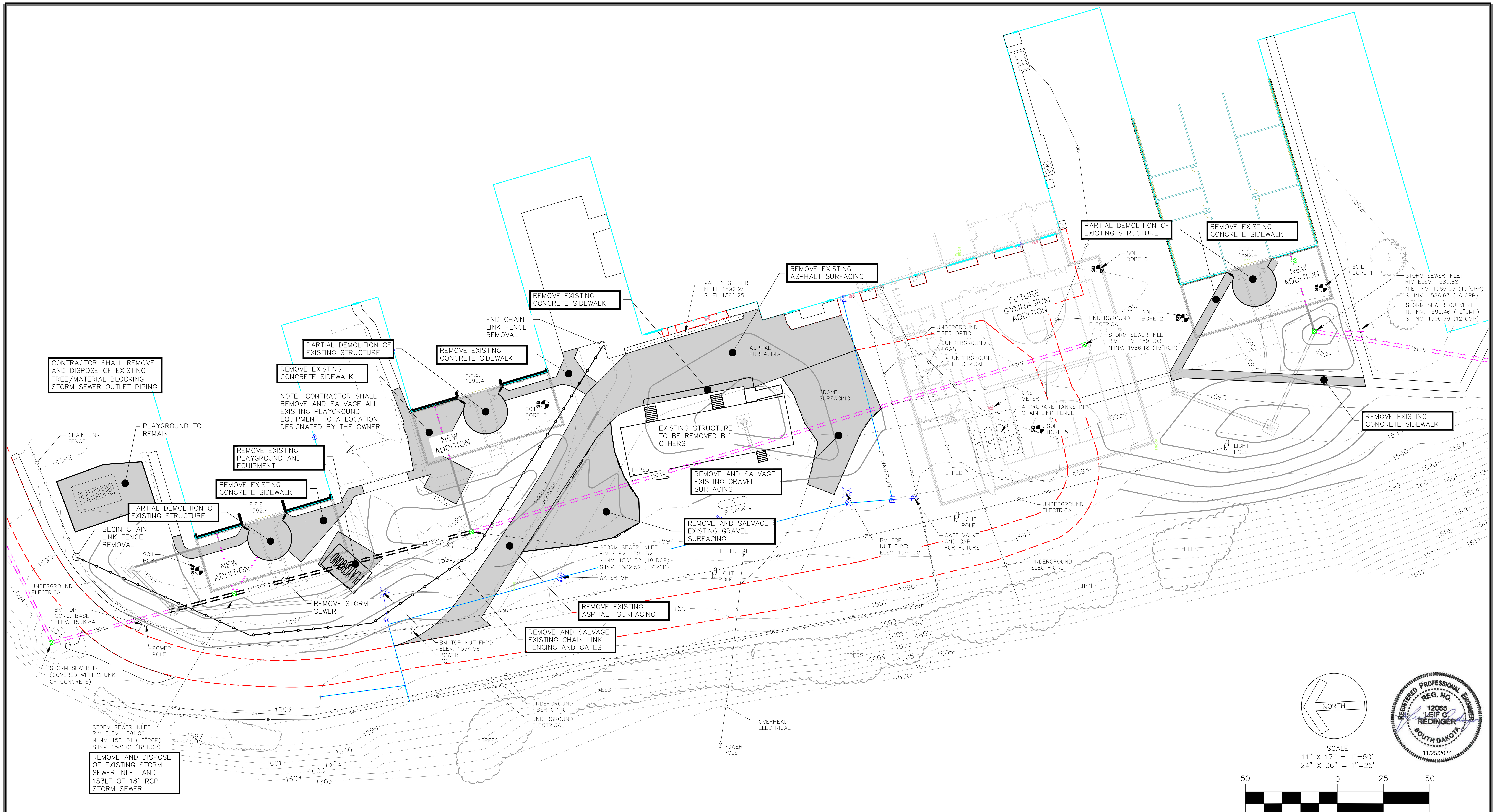
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 12065
LEIF C. REDINGER
SOUTH DAKOTA
11/25/2024

Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS

416 Production St N.
P.O. Box 111,
VP. No:Aberdeen, S.D. 57402
Phone: 605.225.1212,
Fax: 605.225.3189
Email:
bobb@helmsengineering.com

hkg architects	REVISED DATE / CERT. NO.	**Plans for** TIOSPA ZINA SCHOOL Classroom Addition Site Design AGENCY VILLAGE, SOUTH DAKOTA	**SITE TOPOGRAPHIC SURVEY**	DRAWN BY CDH TRACED BY ___ CHECKED BY LCR
		Helms and Associates Aberdeen, S.D.		DATE 11/2023

C-1 OF 11
PROJECT NO. 2023-0015



Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS
416 Production St N.
P.O. Box 111,
VP. No:Aberdeen, S.D. 57402
Phone: 605.225.1212,
Fax: 605.225.3189
Email:
bobb@helmsengineering.com

hkg architects

REVISED DATE	**Plans for** TIOSPA ZINA SCHOOL Classroom Addition Site Design AGENCY VILLAGE, SOUTH DAKOTA	**DEMOLITION PLAN**	DRAWN BY CDH	TRACED BY ___	CHECKED BY LCR
CERT. NO.	Helms and Associates Aberdeen, S.D.		DATE 11/2023	C-2 OF 11	PROJECT NO. 2023-0015

GENERAL PLAN NOTES

The designs represented in these plans are in accordance with established practices of Civil Engineering for the design functions and uses intended by the Owner. However, neither Helms and Associates, nor its personnel can or do warranty these designs or plans as constructed except in the specific cases where Helms and Associates personnel observe and control the physical construction on a contemporary basis at the site.

The Contractor shall take all precautions necessary to avoid property damage to adjacent properties during the construction phases of this project. The Contractor will be held solely responsible for any damages to the adjacent properties occurring during the construction phases of this project.

PROJECT CLEANUP AND SAFETY

All asphalt and concrete from streets, driveways, curb and gutter, and sidewalk crossings shall be disposed of in accordance with the waste disposal requirements in these plans. All work associated with the disposal shall be the responsibility of the Contractor and shall be considered incidental to the work items performed.

The top 6 inches, of any area to be seeded, shall be backfilled with clean topsoil, raked free of clods and debris, and seeded by the Contractor. The Contractor shall clean the entire site on a daily basis and should not restrict local traffic over night.

In accordance with generally accepted construction practices, the Contractor is solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement applies continuously and is not limited to normal working hours.

The duty of the Engineer or Owner to conduct construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

SEQUENCE OF OPERATIONS AND TRAFFIC CONTROL

During construction of the project, the existing traffic control devices shall be removed, reset or relocated as necessary by the Contractor to safely control traffic through or around the project. Devices no longer needed shall be neatly stockpiled on the project at a location designated by the Engineer.

Throughout the project, the Contractor must maintain access to site at all times.

The Contractor shall have qualified personnel to be responsible for traffic control items 24 hours per day and 7 days per week. The Contractor shall be responsible for maintaining all existing traffic control signing for safety of traveling public. Construction operations will be allowed during daylight hours only, unless otherwise allowed by the Engineer.

WASTE DISPOSAL

All material generated by this project must be disposed of at a permitted site. Depending on what material is generated and whether it is contaminated or uncontaminated will determine which permitted facility can accept it. Permitted facilities include construction and demolition debris sites, restricted use sites, and regional landfills. Contact the SD DANR Waste Management Program at 605-773-3153 to identify locally permitted disposal sites for various categories of contaminated and uncontaminated materials.

Permitted MSW facilities in the area are the Roberts County Landfill located near Sisseton.

Failure to comply with the requirements for proper disposal may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with loading and transporting waste to the disposal site(s) shall be incidental to the various contract items.

STORM DRAINAGE PROVISIONS

Since the proposed construction activities involves the disturbance of more than 1-acre, an EPA National Pollutant Discharge Elimination Systems (NPDES) storm water general permit for South Dakota construction activities is required. The owner will file a Notice of Intent with the NPDES department prior to start of construction activities. The Contractor will be required to sign the Owner's Storm Water Pollution Prevention Plan as provided in the plan sheets. A copy of this plan will be required to be on-site during construction activities.

The Contractor shall provide for and maintain drainage of storm waters away from existing buildings, homes, and exposed surfaces or provide immediate pumping of ponded areas on the work site. No compensation will be made for damage resulting from improper drainage during construction.

EXISTING UTILITIES

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The Contractor shall call the appropriate utility companies at least 48 hours before any excavation to request exact field location of utilities. It is the responsibility of the Contractor to relocate or, coordinate relocation of, all utilities requiring relocation.

It is the responsibility of the Contractor to verify in the field, the locations of existing watermains, water services, sewermains, and sewer services. The Contractor shall be responsible for having the existing underground utilities located in the construction area. Underground utilities damaged by the Contractor due to negligence shall be repaired at the Contractor's expense. The Contractor shall be responsible for locating and preserving all existing utilities in their present condition. Existing utilities shown on the plans are for general information only and are to be located by the Contractor prior to the start of construction.

Local contact for water and sewer utilities is:
Lake Traverse Utility Commissions
John Cloud, III
Email: john@swo.nsn.gov Phone Number: (605) 698-4211
Address:
45662 Veterans Memorial DR.
PO Box 747
Agency Village, SD 57262
All utilities SD-ONE CALL
P.O.C. 1-800-781-7474

CLEARING AND GRUBBING OF TREES

No separate payment will be made for clearing and grubbing for shrubs and trees as necessary to complete the work. The Contractor shall make every effort to not disturb the existing trees. Tree and shrub removal shall be incidental to the project.

WATER FOR COMPACTION

The Contractor may utilize water from the local water system. Water shall be obtained from a pre-arranged location with the owners LTVC. Water utilized from the communities water system shall be measured with a meter or by load count with a tank of uniform volume. If Contractor prefers different source of water supply, Contractor shall obtain all permits required and source shall be approved by Engineer.

SALVAGEABLE MATERIALS

All materials salvaged by the Contractor that are not incorporated into the project or as noted in the plans shall remain the property of the Owner. The Contractor shall be responsible for the removal and transportation of all salvaged materials to a site selected by the Owner.

WATERMAIN AND SEWERMAIN SEPARATION & LOCATION CONFLICTS

Sewermains shall be laid at least 10' horizontally from any watermain. If the two mains cross, there shall be a minimum of 18" from the crown of the sewermain to the invert of the watermain. Watermain shall be field verified and the new sewermain installed to provide 10' separation.
Where water crosses the sewermain, the water shall be cased 10' on each side. This shall be paid for as "Watermain Casing Pipe". Where only sewermain is being replaced the sewermain pipe installed shall be SDR21 in a 20' length centered on the existing watermain. The quantity may vary from the plans. No adjustment will be made to the contract unit price for variations in the quantity of casing pipe.

EXISTING CULVERTS AND STORM SEWER

Contractor is responsible for culverts/storm sewer damaged by his men or equipment through negligence. Culverts will be protected and returned to original condition if removed or disturbed. Culverts/Storm Sewer that are to be replaced in the project will be paid for per linear foot.

If the water shall cross the storm sewer there shall be a minimum of 18" from the crown of the storm sewer to the invert of the watermain. If the watermain crosses under the storm sewer or the 18" minimum cannot be achieved, the watermain shall be cased 10' on each side, or the storm sewer replaced with watermain quality pipe 10' on each side this shall be paid for as "Watermain Casing Pipe".

CUTTING ASPHALT SURFACING

Contractor shall cut existing streets and sidewalks in areas shown on plans or as directed by the Engineer. Costs for cutting shall be considered subsidiary work to other contract items with no separate payment considered.

Where the new asphalt surfacing meets existing asphalt surfacing, the existing asphalt shall be cut to the full depth of asphalt to create a straight vertical edge for the tie in. All costs associated with this cutting shall be incidental to the related pavement repair items.

An asphalt cutting wheel or milling may be used to cut asphalt surfacing along trenches if, by demonstration, it is shown that the cutting wheel/mill will provide a straight edge with minimal breakage of the asphalt along the sides of the trench. It may be necessary for the Contractor to cut the trench width at a width less than full width and then cut the asphalt to the full width just prior to street repair. If the asphalt cutting wheel, in the opinion of the Engineer, does not create a satisfactory edge for repairing the streets, the Contractor shall saw cut the asphalt to provide straight and vertical edges.

SALVAGING, STOCKPILING, AND PLACING TOPSOIL

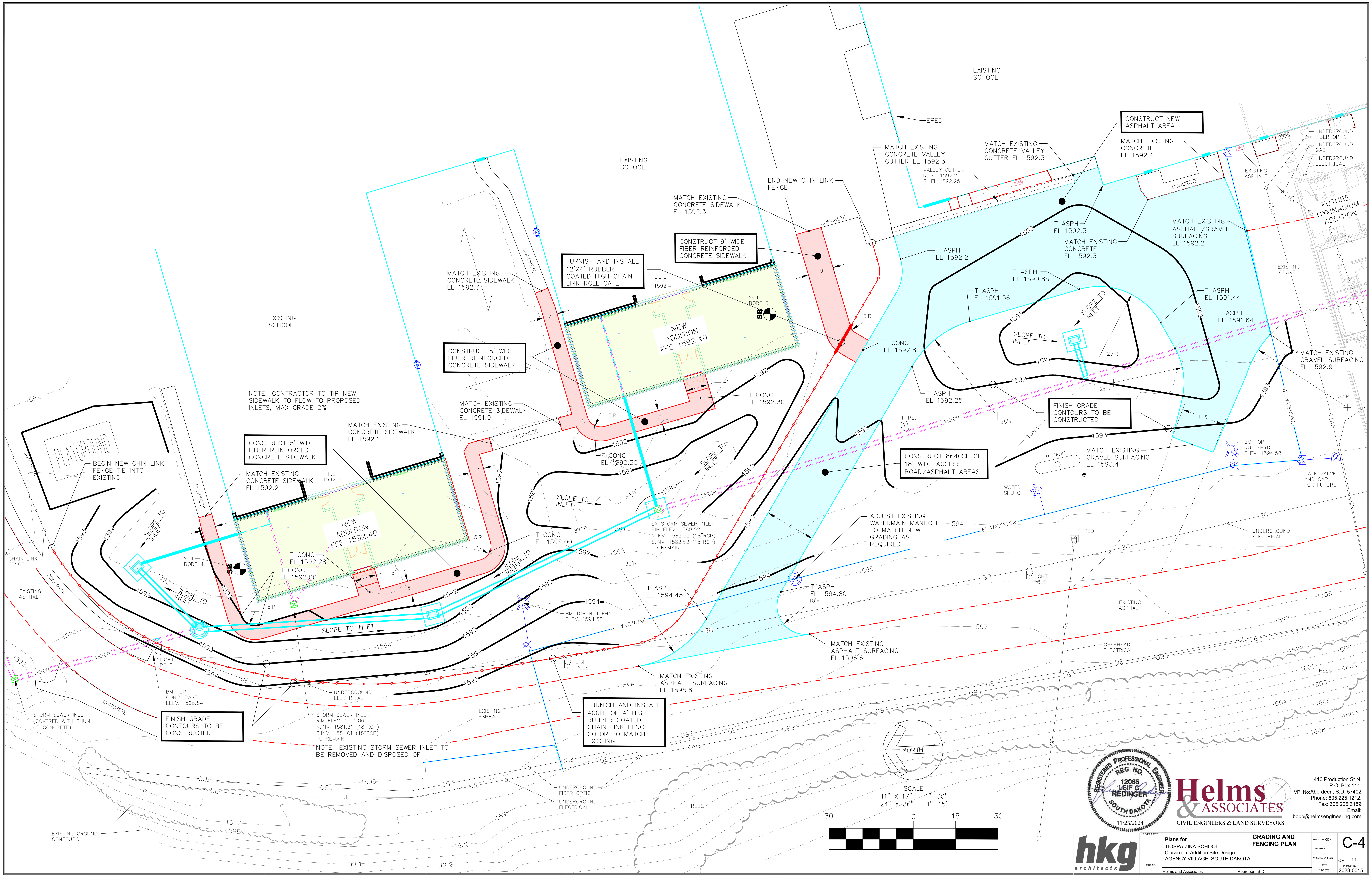
The Contractor shall remove a minimum of eight (8) inches of soil cover for topsoiling operations. The Contractor shall separate the material during excavation to prevent contamination with other excavated materials. The Contractor shall place a minimum of six (6) inches of topsoil evenly over the disturbed areas upon completion of grading operations. If sufficient topsoil is not available, or the Contractor fails to salvage clean topsoil, the Contractor shall provide topsoil to complete topsoil operations.

Measurement and payment for all topsoiling operations shall be as specified in the specifications. See Section 31 23 16 for topsoiling requirements and Section 32 92 19 for seeding and fertilizing requirements.

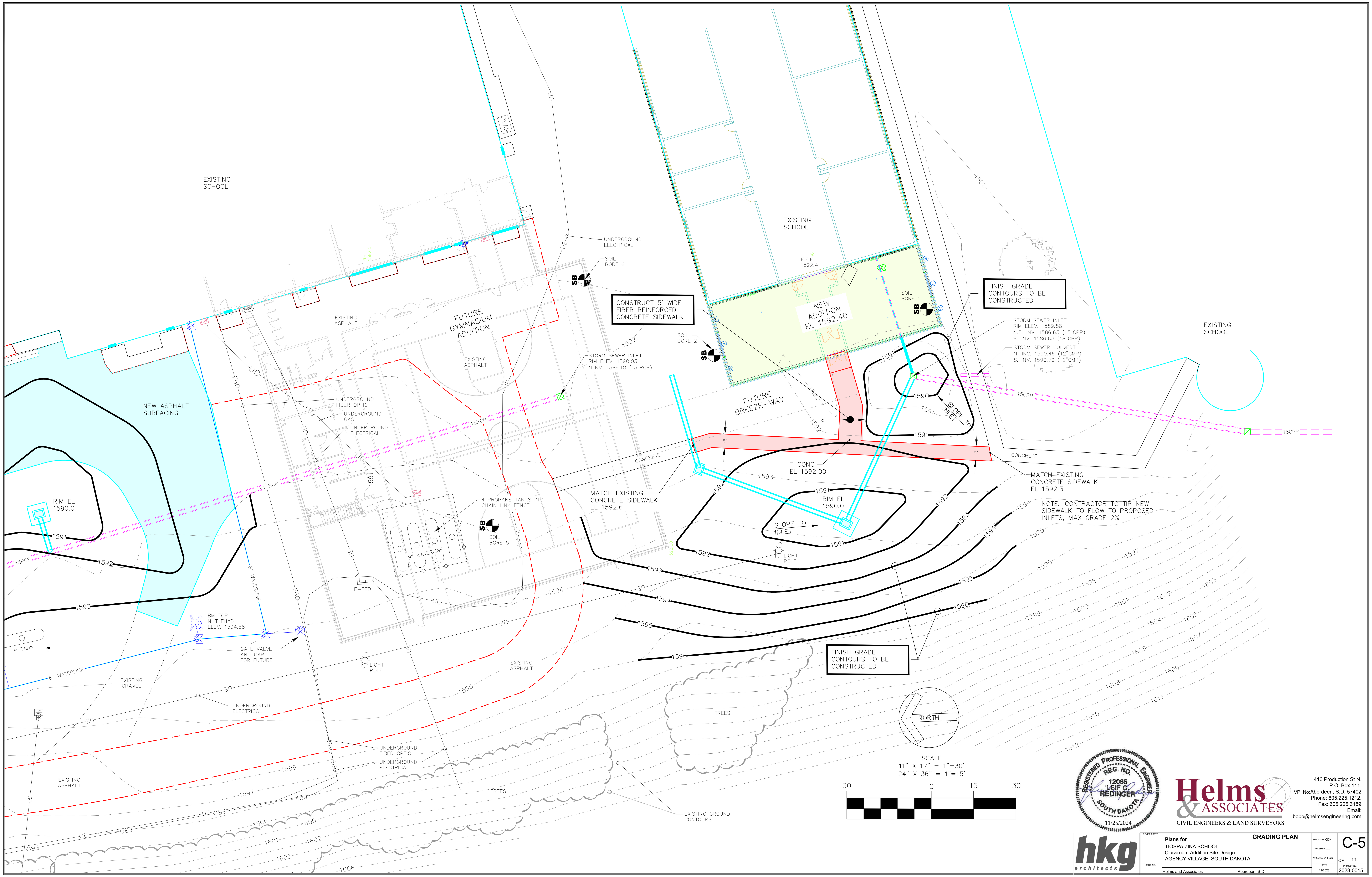
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 12065
LEIF C. REDINGER
SOUTH DAKOTA
11/25/2024

Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS
416 Production St N.
P.O. Box 111,
VP. No:Aberdeen, S.D. 57402
Phone: 605.225.1212,
Fax: 605.225.3189
Email:
bobb@helmsengineering.com

hkg architects	REVISED DATE CERT. NO.	Plans for TIOSPA ZINA SCHOOL Classroom Addition Site Design AGENCY VILLAGE, SOUTH DAKOTA	Plan Notes	DRAWN BY CDH TRACED BY ___ CHECKED BY LCR	C-3 OF 11
		Helms and Associates	Aberdeen, S.D.	DATE 11/2023	PROJECT NO. 2023-0015



EXISTING SCHOOL
EXISTING SCHOOL
EXISTING SCHOOL
EPED
CONSTRUCT NEW ASPHALT AREA
MATCH EXISTING CONCRETE VALLEY GUTTER EL 1592.3
MATCH EXISTING CONCRETE VALLEY GUTTER EL 1592.3
MATCH EXISTING CONCRETE EL 1592.4
VALLEY GUTTER N. FL 1592.25 S. FL 1592.25
UNDERGROUND FIBER OPTIC
UNDERGROUND GAS
UNDERGROUND ELECTRICAL
EXISTING ASPHALT
FUTURE GYMNASIUM ADDITION
END NEW CHIN LINK FENCE
MATCH EXISTING CONCRETE SIDEWALK EL 1592.3
CONSTRUCT 9' WIDE FIBER REINFORCED CONCRETE SIDEWALK
FURNISH AND INSTALL 12'X4' RUBBER COATED HIGH CHAIN LINK ROLL GATE
F.F.E. 1592.4
SOIL BORE 3
NEW ADDITION FFE 1592.40
MATCH EXISTING CONCRETE SIDEWALK EL 1592.3
CONSTRUCT 5' WIDE FIBER REINFORCED CONCRETE SIDEWALK
T ASPH EL 1592.3
T ASPH EL 1592.2
MATCH EXISTING CONCRETE EL 1592.3
MATCH EXISTING ASPHALT/GRAVEL SURFACING EL 1592.2
EXISTING GRAVEL
T ASPH EL 1590.85
T ASPH EL 1591.56
T ASPH EL 1591.44
T ASPH EL 1591.64
SLOPE TO INLET
SLOPE TO INLET
T CONC EL 1592.8
T ASPH EL 1592.25
MATCH EXISTING GRAVEL SURFACING EL 1592.9
FINISH GRADE CONTOURS TO BE CONSTRUCTED
NOTE: CONTRACTOR TO TIP NEW SIDEWALK TO FLOW TO PROPOSED INLETS, MAX GRADE 2%
MATCH EXISTING CONCRETE SIDEWALK EL 1591.9
T CONC EL 1592.30
MATCH EXISTING CONCRETE SIDEWALK EL 1592.1
T CONC EL 1592.30
CONSTRUCT 8640SF OF 18' WIDE ACCESS ROAD/ASPHALT AREAS
MATCH EXISTING GRAVEL SURFACING EL 1593.4
P TANK
WATER SHUTOFF
BM TOP NUT FHYD ELEV. 1594.58
GATE VALVE AND CAP FOR FUTURE
8" WATERLINE
PLAYGROUND
BEGIN NEW CHIN LINK FENCE TIE INTO EXISTING
CONSTRUCT 5' WIDE FIBER REINFORCED CONCRETE SIDEWALK
MATCH EXISTING CONCRETE SIDEWALK EL 1592.2
F.F.E. 1592.4
NEW ADDITION FFE 1592.40
SLOPE TO INLET
SOIL BORE 4
T CONC EL 1592.28
T CONC EL 1592.00
T CONC EL 1592.00
SLOPE TO INLET
SLOPE TO INLET
SLOPE TO INLET
SLOPE TO INLET
EX STORM SEWER INLET RIM ELEV. 1589.52 N.INV. 1582.52 (18"RCP) S.INV. 1582.52 (15"RCP) TO REMAIN
ADJUST EXISTING WATERMAIN MANHOLE TO MATCH NEW GRADING AS REQUIRED
T ASPH EL 1594.45
T ASPH EL 1594.80
CHAIN LINK FENCE
EXISTING ASPHALT
BM TOP NUT FHYD ELEV. 1594.58
LIGHT POLE
LIGHT POLE
LIGHT POLE
T-PED
UNDERGROUND ELECTRICAL
EXISTING ASPHALT
OVERHEAD ELECTRICAL
MATCH EXISTING ASPHALT SURFACING EL 1596.6
MATCH EXISTING ASPHALT SURFACING EL 1595.6
BM TOP CONC. BASE ELEV. 1596.84
STORM SEWER INLET (COVERED WITH CHUNK OF CONCRETE)
FINISH GRADE CONTOURS TO BE CONSTRUCTED
UNDERGROUND ELECTRICAL
STORM SEWER INLET RIM ELEV. 1591.06 N.INV. 1581.31 (18"RCP) S.INV. 1581.01 (18"RCP) TO REMAIN
NOTE: EXISTING STORM SEWER INLET TO BE REMOVED AND DISPOSED OF
FURNISH AND INSTALL 400LF OF 4' HIGH RUBBER COATED CHAIN LINK FENCE, COLOR TO MATCH EXISTING
EXISTING ASPHALT
UNDERGROUND FIBER OPTIC
UNDERGROUND ELECTRICAL
TREES
TREES
EXISTING GROUND CONTOURS
NORTH
SCALE
11" X 17" = 1"=30'
24" X 36" = 1"=15'
30 15 0 15 30
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 12065
LEIF C. REDINGER
SOUTH DAKOTA
11/25/2024
hkg architects
Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS
416 Production St N.
P.O. Box 111,
Aberdeen, S.D. 57402
Phone: 605.225.1212,
Fax: 605.225.3189
Email: bobb@helmsengineering.com
Plans for
TIOSPA ZINA SCHOOL
Classroom Addition Site Design
AGENCY VILLAGE, SOUTH DAKOTA
Helms and Associates
Aberdeen, S.D.
GRADING AND FENCING PLAN
C-4
OF 11
2023-0015



REGISTERED PROFESSIONAL ENGINEER REG. NO. 12065 LEIF C. REDINGER SOUTH DAKOTA
11/25/2024

Helms & Associates
CIVIL ENGINEERS & LAND SURVEYORS
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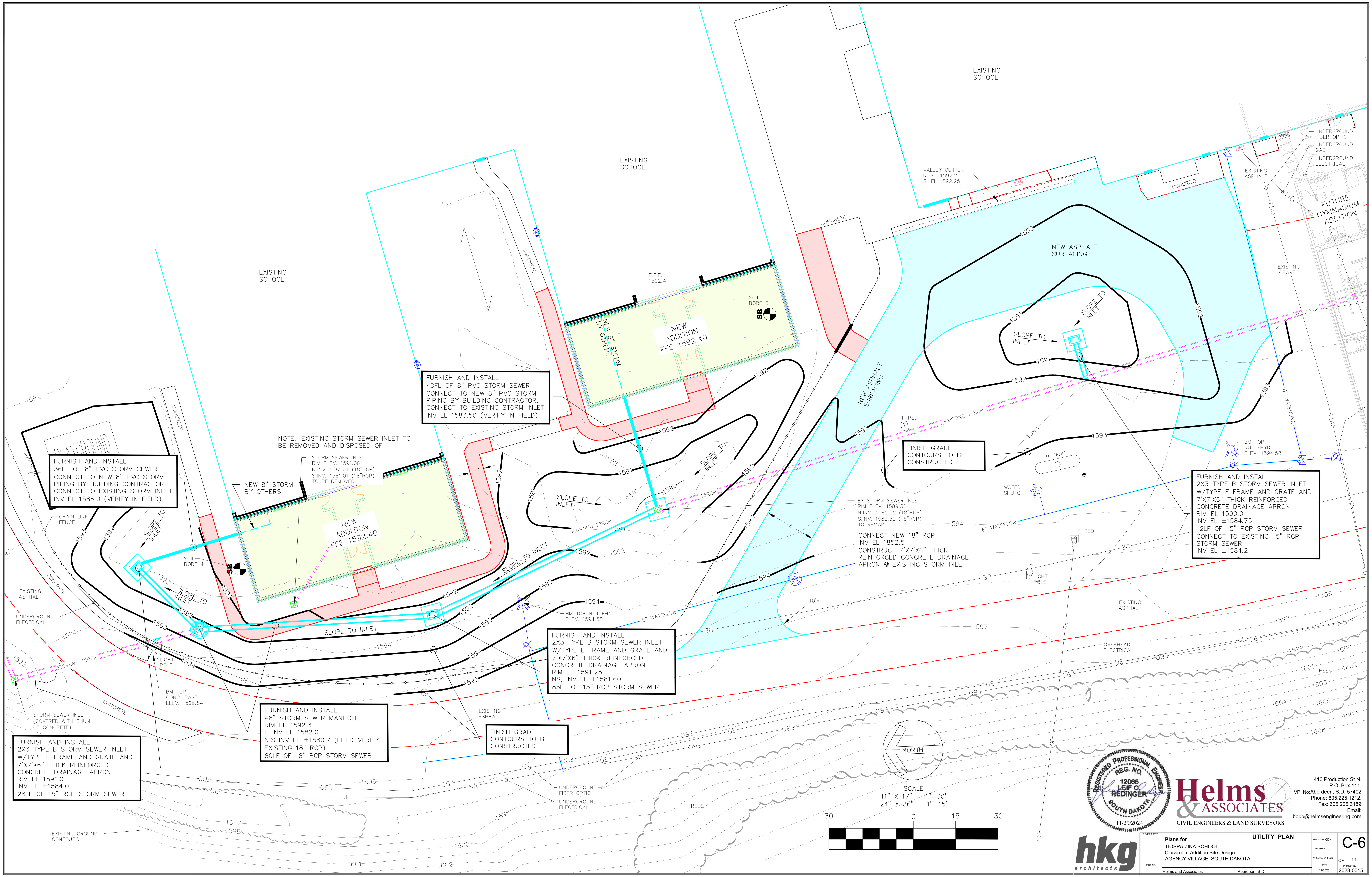
hkg architects

REVISED DATE	Plans for TIOSPA ZINA SCHOOL Classroom Addition Site Design AGENCY VILLAGE, SOUTH DAKOTA	GRADING PLAN	DRAWN BY CDH TRACED BY ___ CHECKED BY LCR	C-5 OF 11
CERT. NO.	Helms and Associates Aberdeen, S.D.		DATE 11/2023	PROJECT NO. 2023-0015


EXISTING SCHOOL
EXISTING SCHOOL
EXISTING SCHOOL
NEW ADDITION FFE 1592.40
NEW ADDITION FFE 1592.40
F.F.E. 1592.4
NEW ASPHALT SURFACING
NEW ASPHALT SURFACING
FUTURE GYMNASIUM ADDITION
PLAYGROUND
FURNISH AND INSTALL 40FL OF 8" PVC STORM SEWER CONNECT TO NEW 8" PVC STORM PIPING BY BUILDING CONTRACTOR, CONNECT TO EXISTING STORM INLET INV EL 1583.50 (VERIFY IN FIELD)
NOTE: EXISTING STORM SEWER INLET TO BE REMOVED AND DISPOSED OF
STORM SEWER INLET RIM ELEV. 1591.06 N.INV. 1581.31 (18"RCP) S.INV. 1581.01 (18"RCP) TO BE REMOVED
NEW 8" STORM BY OTHERS
NEW 8" STORM BY OTHERS
FURNISH AND INSTALL 36FL OF 8" PVC STORM SEWER CONNECT TO NEW 8" PVC STORM PIPING BY BUILDING CONTRACTOR, CONNECT TO EXISTING STORM INLET INV EL 1586.0 (VERIFY IN FIELD)
FINISH GRADE CONTOURS TO BE CONSTRUCTED
EX STORM SEWER INLET RIM ELEV. 1589.52 N.INV. 1582.52 (18"RCP) S.INV. 1582.52 (15"RCP) TO REMAIN
CONNECT NEW 18" RCP INV EL 1852.5 CONSTRUCT 7'X7'X6" THICK REINFORCED CONCRETE DRAINAGE APRON @ EXISTING STORM INLET
FURNISH AND INSTALL 2X3 TYPE B STORM SEWER INLET W/TYPE E FRAME AND GRATE AND 7'X7'X6" THICK REINFORCED CONCRETE DRAINAGE APRON RIM EL 1590.0 INV EL ±1584.75 12LF OF 15" RCP STORM SEWER CONNECT TO EXISTING 15" RCP STORM SEWER INV EL ±1584.2
FURNISH AND INSTALL 2X3 TYPE B STORM SEWER INLET W/TYPE E FRAME AND GRATE AND 7'X7'X6" THICK REINFORCED CONCRETE DRAINAGE APRON RIM EL 1591.25 NS, INV EL ±1581.60 85LF OF 15" RCP STORM SEWER
FURNISH AND INSTALL 48" STORM SEWER MANHOLE RIM EL 1592.3 E INV EL 1582.0 N,S INV EL ±1580.7 (FIELD VERIFY EXISTING 18" RCP) 80LF OF 18" RCP STORM SEWER
FINISH GRADE CONTOURS TO BE CONSTRUCTED
FURNISH AND INSTALL 2X3 TYPE B STORM SEWER INLET W/TYPE E FRAME AND GRATE AND 7'X7'X6" THICK REINFORCED CONCRETE DRAINAGE APRON RIM EL 1591.0 INV EL ±1584.0 28LF OF 15" RCP STORM SEWER
STORM SEWER INLET (COVERED WITH CHUNK OF CONCRETE)
BM TOP CONC. BASE ELEV. 1596.84
BM TOP NUT FHYD ELEV. 1594.58
BM TOP NUT FHYD ELEV. 1594.58
VALLEY GUTTER N. FL 1592.25 S. FL 1592.25
SLOPE TO INLET
EXISTING 18RCP
EXISTING 15RCP
8" WATERLINE
UNDERGROUND FIBER OPTIC
UNDERGROUND GAS
UNDERGROUND ELECTRICAL
OVERHEAD ELECTRICAL
EXISTING GROUND CONTOURS
EXISTING ASPHALT
EXISTING GRAVEL
CONCRETE
CHAIN LINK FENCE
SOIL BORE 3
SOIL BORE 4
LIGHT POLE
WATER SHUTOFF
P TANK
T-PED
TREES
NORTH
SCALE 11" X 17" = 1"=30' 24" X 36" = 1"=15'
30 0 15 30
REGISTERED PROFESSIONAL ENGINEER REG. NO. 12065 LEIF C. REDINGER SOUTH DAKOTA 11/25/2024
Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS
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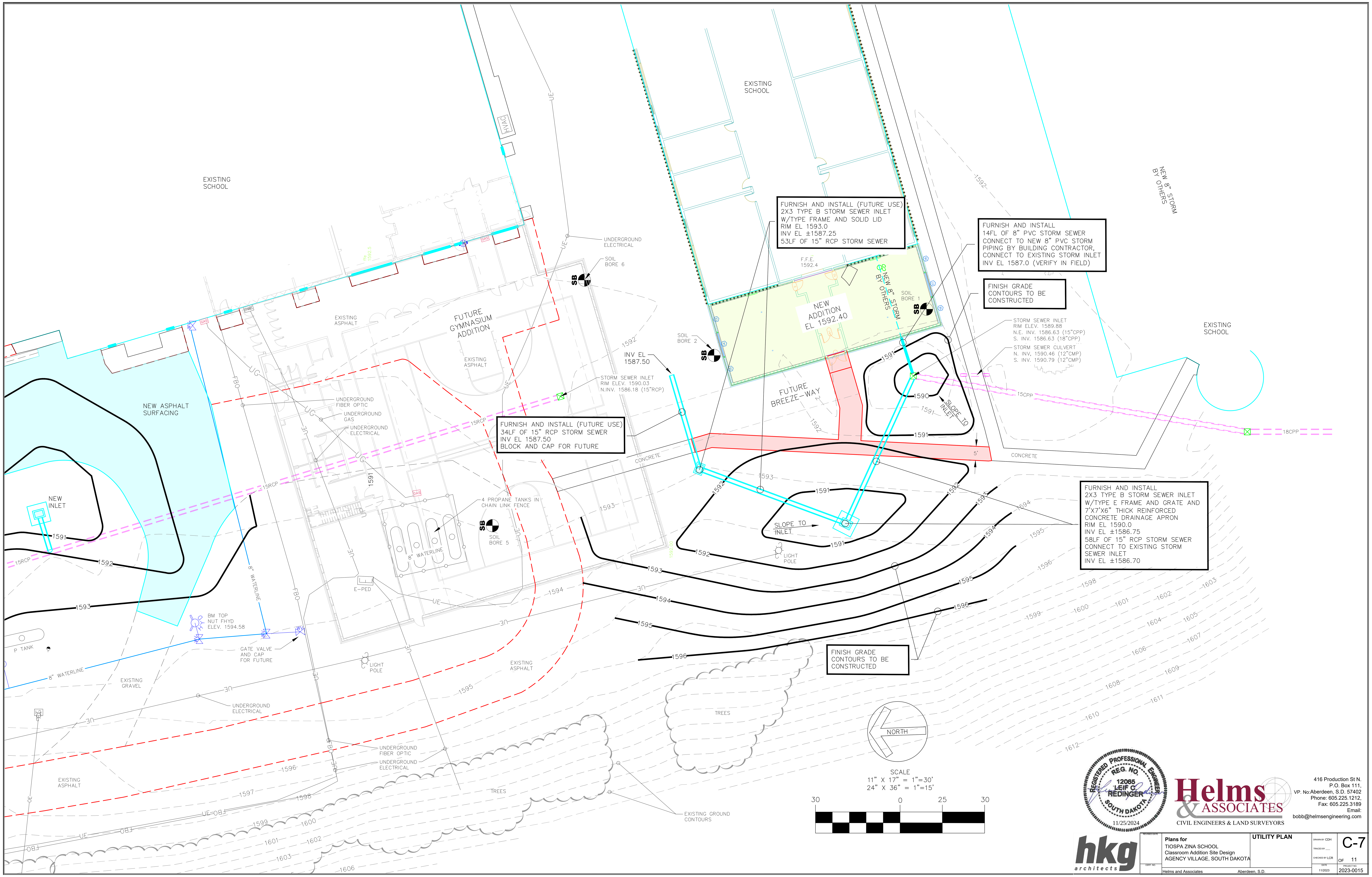
Plans for TIOSPA ZINA SCHOOL Classroom Addition Site Design AGENCY VILLAGE, SOUTH DAKOTA
UTILITY PLAN
C-6 OF 11
Helms and Associates Aberdeen, S.D.
2023-0015



REGISTERED PROFESSIONAL ENGINEER
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LEIF C. REDINGER
SOUTH DAKOTA
11/25/2024

hkg architects

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416 Production St N.
P.O. Box 111,
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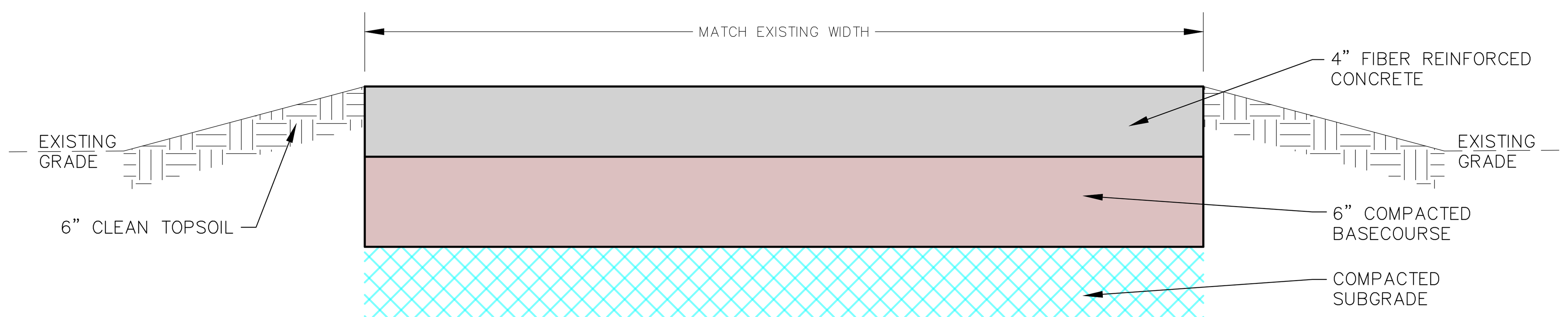
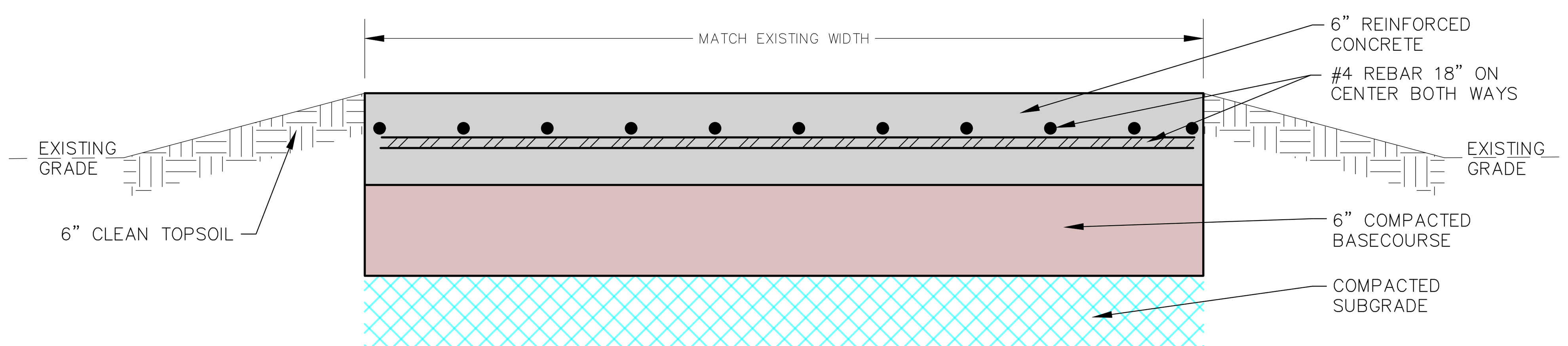
REVISED DATE	**Plans for** TIOSPA ZINA SCHOOL Classroom Addition Site Design AGENCY VILLAGE, SOUTH DAKOTA	**UTILITY PLAN**	DRAWN BY CDH TRACED BY ___ CHECKED BY LCR	C-7 OF 11
CERT. NO.	Helms and Associates Aberdeen, S.D.		DATE 11/2023	PROJECT NO. 2023-0015



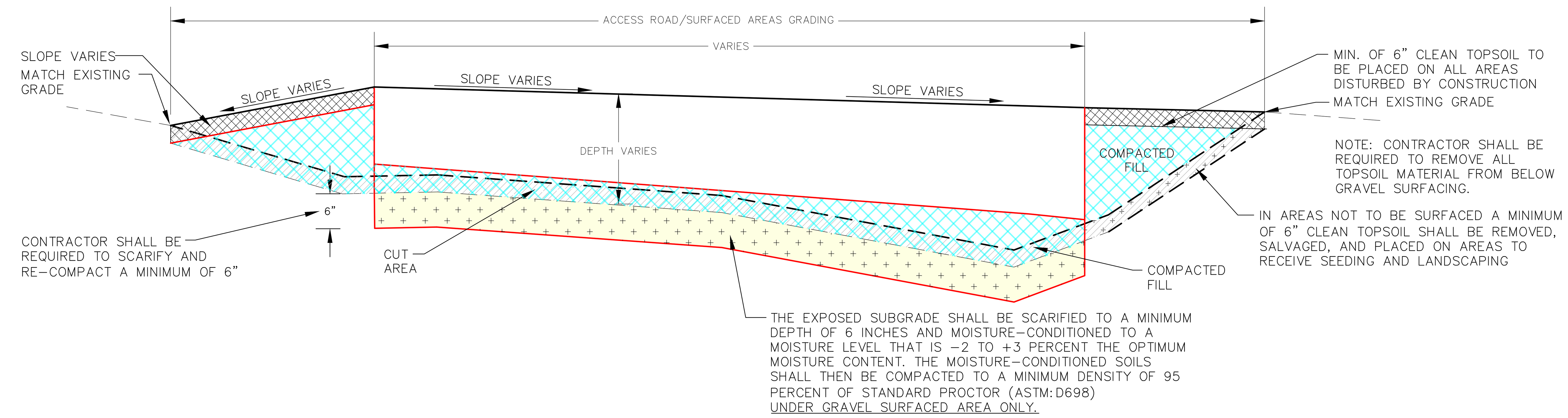
CONCRETE SIDEWALK DETAIL

NO SCALE



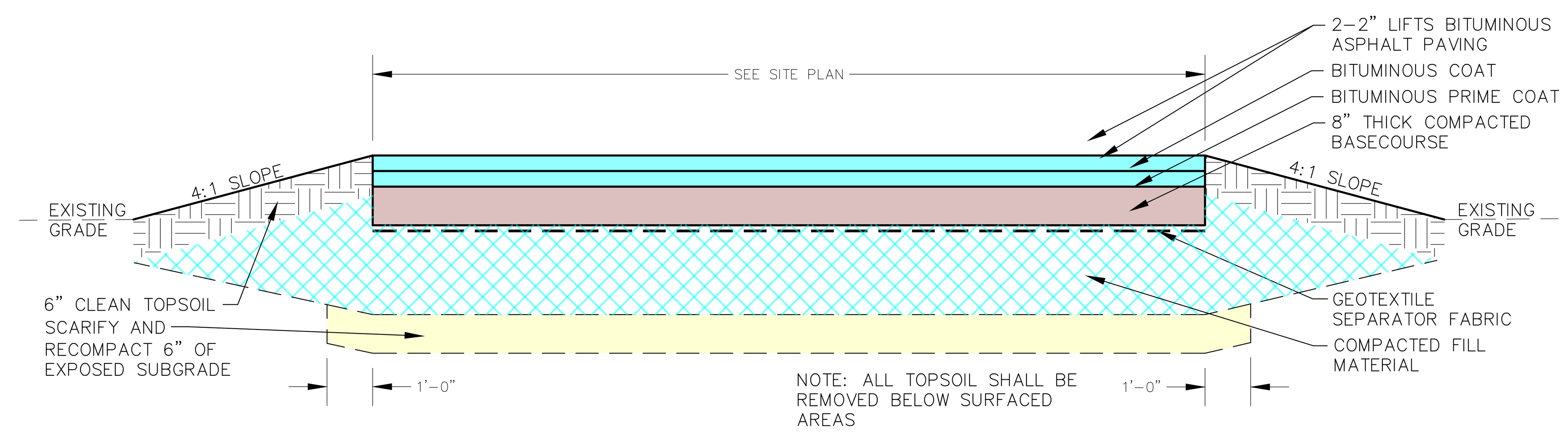
REINFORCED CONCRETE REPAIR DETAIL

NO SCALE



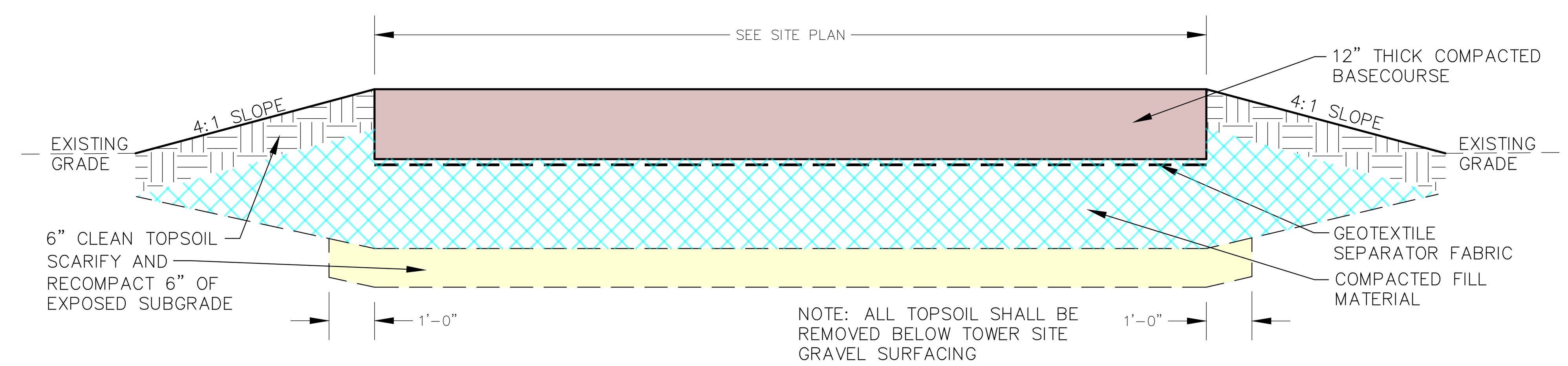
ACCESS ROAD/SURFACED AREAS GRADING SECTION

NO SCALE



GRAVEL SURFACING DETAIL

NO SCALE



GRAVEL SURFACING DETAIL

NO SCALE

REGISTERED PROFESSIONAL ENGINEER REG. NO. 12065 LEIF C. REDINGER SOUTH DAKOTA
11/25/2024

Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS

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Email:
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hkg architects

Plans for
TIOSPA ZINA SCHOOL
Classroom Addition Site Design
AGENCY VILLAGE, SOUTH DAKOTA

DETAILS

DRAWN BY: CDH
CHECKED BY: LCR
11/2023

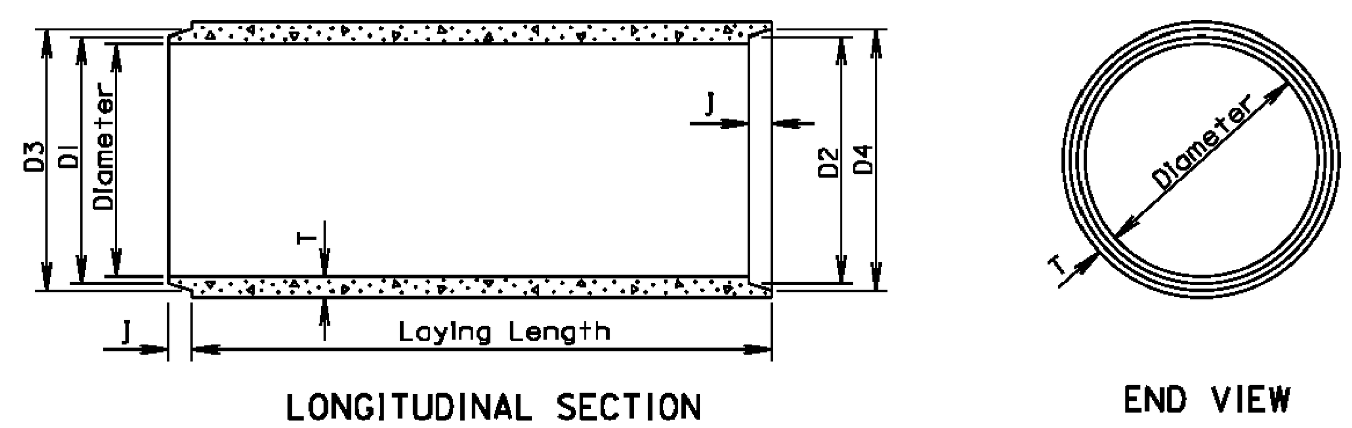
C-8
OF 11

Helms and Associates Aberdeen, S.D.

2023-0015

TOLERANCES IN DIMENSIONS

Diameter: ±1.5% for 24" Dia. or less and ±1% or 3/8" whichever is more for 27" Dia. or greater.
Diameters at Joints: ± 3/16" for 30" Dia. or less and ± 1/4" for 36" or greater.
Length of Joint (J): ± 1/4".
Wall thickness (T): not less than design T by more than 5% or 3/16", whichever is greater.
Laying length: shall not underrun by more than 1/2".



GENERAL NOTES:

Construction of R.C.P. shall conform to the requirements of Section 990 of the Specifications.

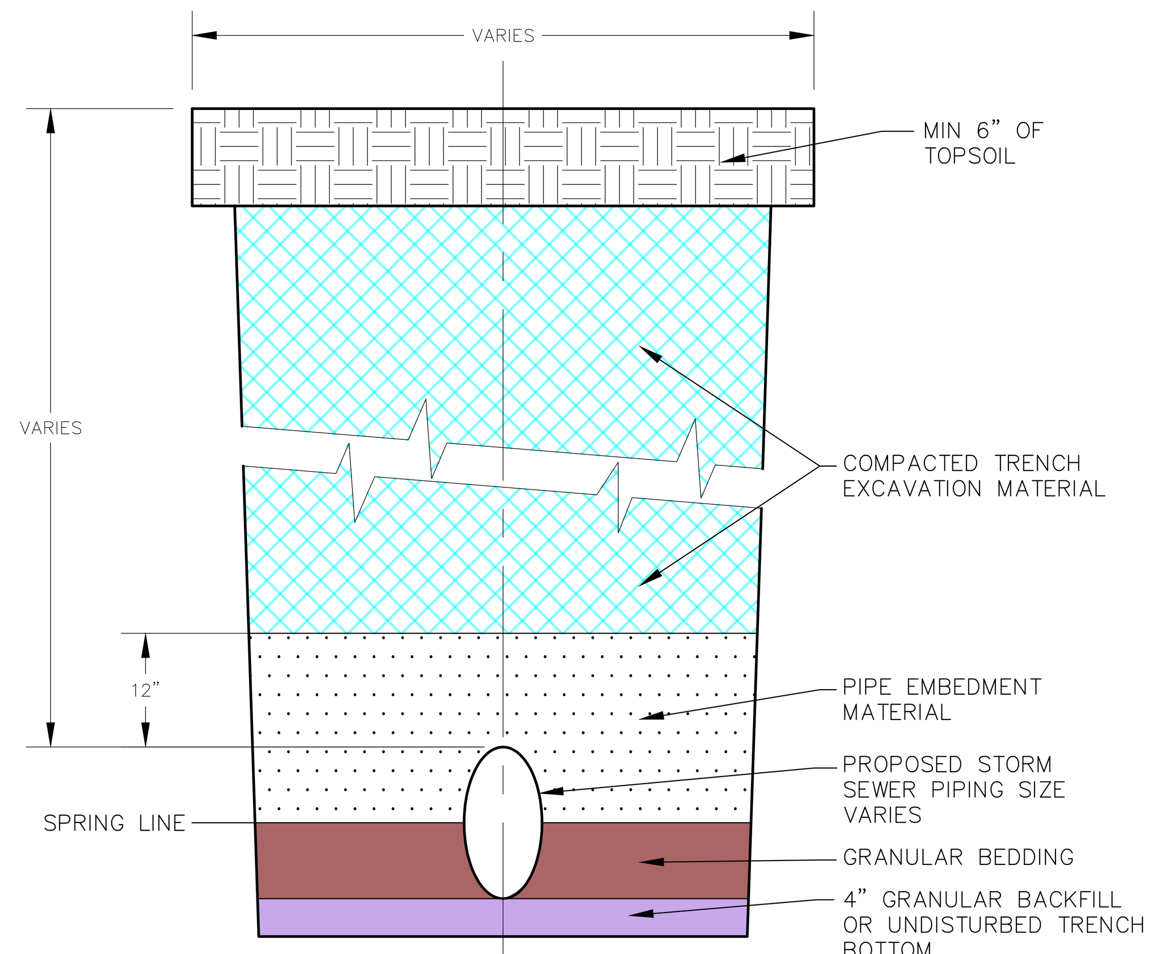
Not more than 2 four-foot sections shall be permitted near the ends of any culvert. Four-foot lengths shall be used only to secure the required length of culvert.

Diam. (In.)	Approx. Wt./Ft. (lb.)	T (In.)	J (In.)	D1 (In.)	D2 (In.)	D3 (In.)	D4 (In.)
12	92	2	1 3/4	13 1/4	13 5/8	13 7/8	14 1/4
15	127	2 1/4	2	16 1/2	16 7/8	17 1/4	17 5/8
18	168	2 1/2	2 1/4	19 5/8	20	20 3/8	20 3/4
21	214	2 3/4	2 1/2	22 7/8	23 1/4	23 3/4	24 1/8
24	265	3	2 3/4	26	26 3/8	27	27 3/8
27	322	3 1/4	3	29 1/4	29 5/8	30 1/4	30 5/8
30	384	3 1/2	3 1/4	32 3/8	32 3/4	33 1/2	33 7/8
36	524	4	3 3/4	38 3/4	39 1/4	40	40 1/2
42	685	4 1/2	4	45 1/8	45 5/8	46 1/2	47
48	867	5	4 1/2	51 1/2	52	53	53 1/2
54	1070	5 1/2	4 1/2	57 7/8	58 3/8	59 3/8	59 7/8
60	1296	6	5	64 1/4	64 3/4	66	66 1/2
66	1542	6 1/2	5 1/2	70 5/8	71 1/8	72 1/2	73
72	1810	7	6	77	77 1/2	79	79 1/2
78	2098	7 1/2	6 1/2	83 3/8	83 7/8	85 5/8	86 1/8
84	2410	8	7	89 3/4	90 1/4	92 1/8	92 5/8
90	2740	8 1/2	7	95 3/4	96 1/4	98 1/8	98 5/8
96	2950	9	7	102 1/8	102 5/8	104 1/2	105
102	3075	9 1/2	7 1/2	109	109 1/2	111 1/2	112
108	3870	10	7 1/2	115 1/2	116	118	118 1/2

June 26, 2015

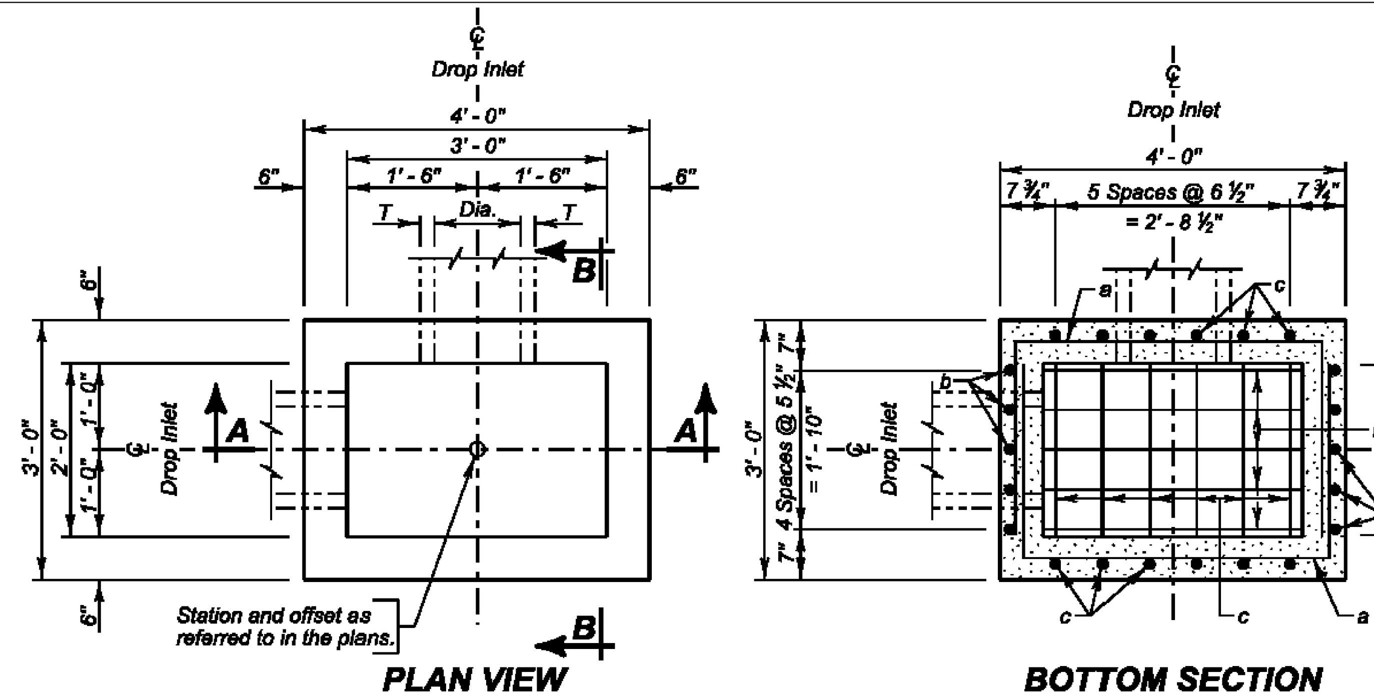
REINFORCED CONCRETE PIPE DETAIL

NO SCALE



STORM SEWER PIPING TRENCH DETAIL

NO SCALE



ESTIMATED QUANTITIES			
ITEM	UNIT	CONSTANT QUANTITY	VARIABLE QUANTITY
* Class M6 Concrete	Cu. Yd.	0.26	0.22H
Reinforcing Steel	Lb.	51.19	28.97H
Frame and Grate Assembly	Each	1	——

DROP INLETS FOR 12" TO 24" DIAMETER PIPE

SPECIFICATIONS

Design Specifications: AASHTO LRFD Bridge Design Specifications, 2012 Edition.

Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, Current Edition and required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

GENERAL NOTES:

Design Live Load: HL-93. No construction loading in excess of legal load was considered.

Reinforcing steel shall conform to ASTM A615 grade 60. The d bars shall be lapped 12 inches with the b and c bars. Cut and bend reinforcing steel as required to place pipe(s) through the drop inlet wall.

Drop inlet may be precast. If precast drop inlet details differ from this standard plate, submit a checked design done by a SD registered P.E. and shop plans to the Office of Bridge Design for approval.

* *Reduce total quantities of concrete by the amount of concrete displaced by the pipe(s). The total quantity of concrete shall be computed to the nearest hundredth of a cubic yard. The total quantity of reinforcing steel shall be computed to the nearest pound.*

Drop inlet shown may be modified by the addition or omission of connecting pipes as noted elsewhere in the plans. All pipes entering drop inlet must fit between the inside face of walls and shall not enter through the corners.

Maximum R.C.P. diameter shall not exceed 18 inches on the 2-foot wide side and shall not exceed 24 inches (24 inches for R.C. arch) on the 3-foot wide side of the drop inlet.

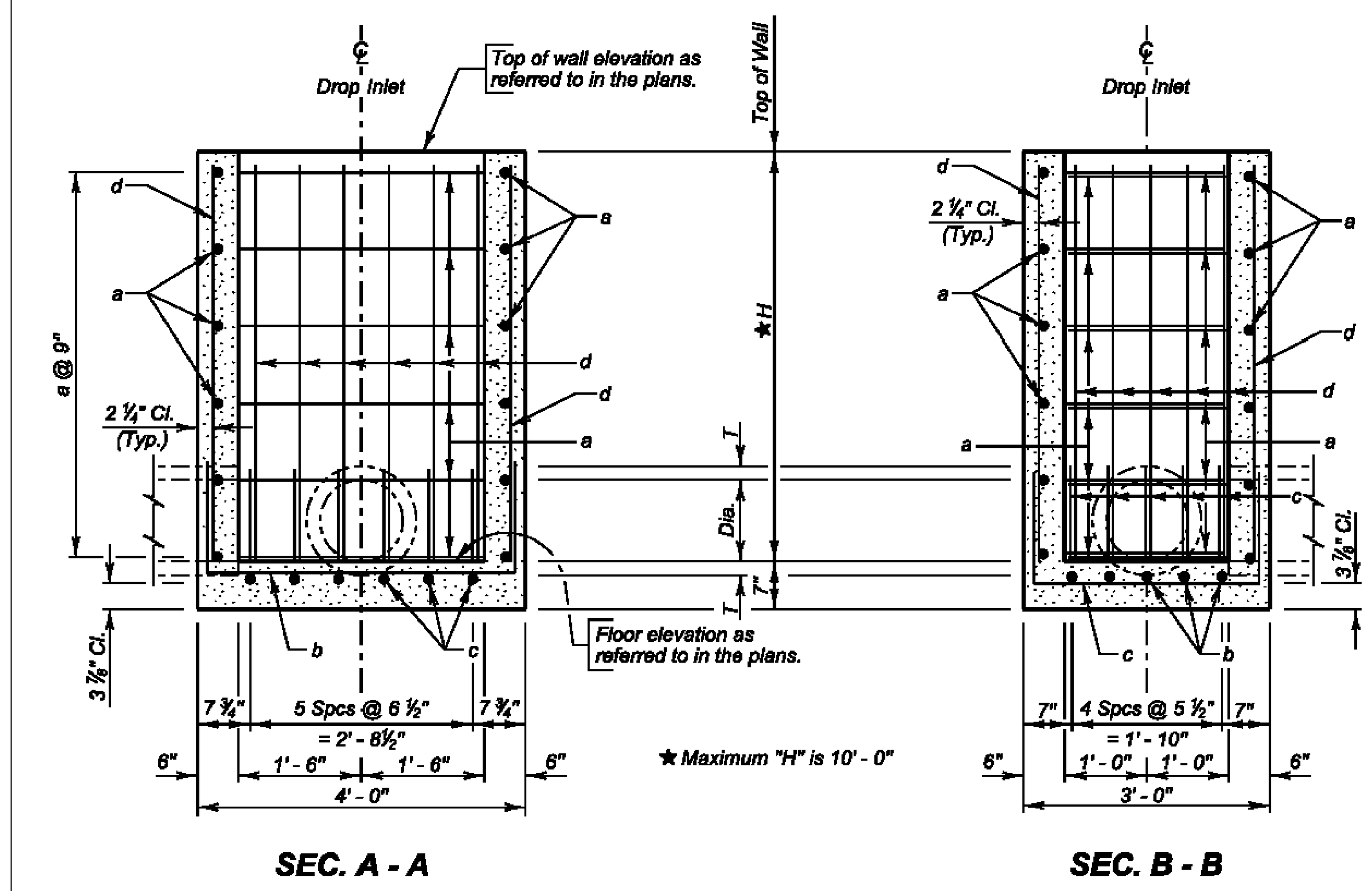
The dimension of H is in feet. Maximum H is 10 feet.

PIPE DISPLACEMENT REDUCTIONS			
	Diameter (Inches)	Wall T (Inches)	Class M6 Concrete (Cu. Yd.)
R.C.P.	12	2	0.03
	15	2 ¼	0.04
	18	2 ½	0.05
	24	3	0.09
R.C. ARCH	18	2 ½	0.05
	24	3 ½	0.09

March 31, 2024

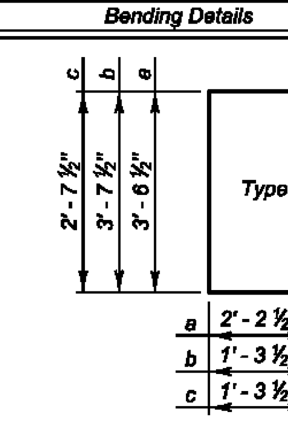
2'X3' TYPE B REINFORCED CONCRETE DROP INLET DETAIL

NO SCALE



REINFORCING SCHEDULE				
Mk.	No.	Size	Length	Type
a	2.67H	4	8' - 0"	17
b	5	5	6' - 3"	17
c	6	4	5' - 3"	17
d	22	4	H - 2"	Str.

Bending Details



NOTE:
All dimensions are out to out of bars.

March 31, 2024

2'X3' TYPE B REINFORCED CONCRETE DROP INLET DETAIL

NO SCALE

REGISTERED PROFESSIONAL ENGINEER
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LEIF C. REDINGER
SOUTH DAKOTA
11/25/2024

Helms & ASSOCIATES
CIVIL ENGINEERS & LAND SURVEYORS
416 Production St N.
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VP. No:Aberdeen, S.D. 57402
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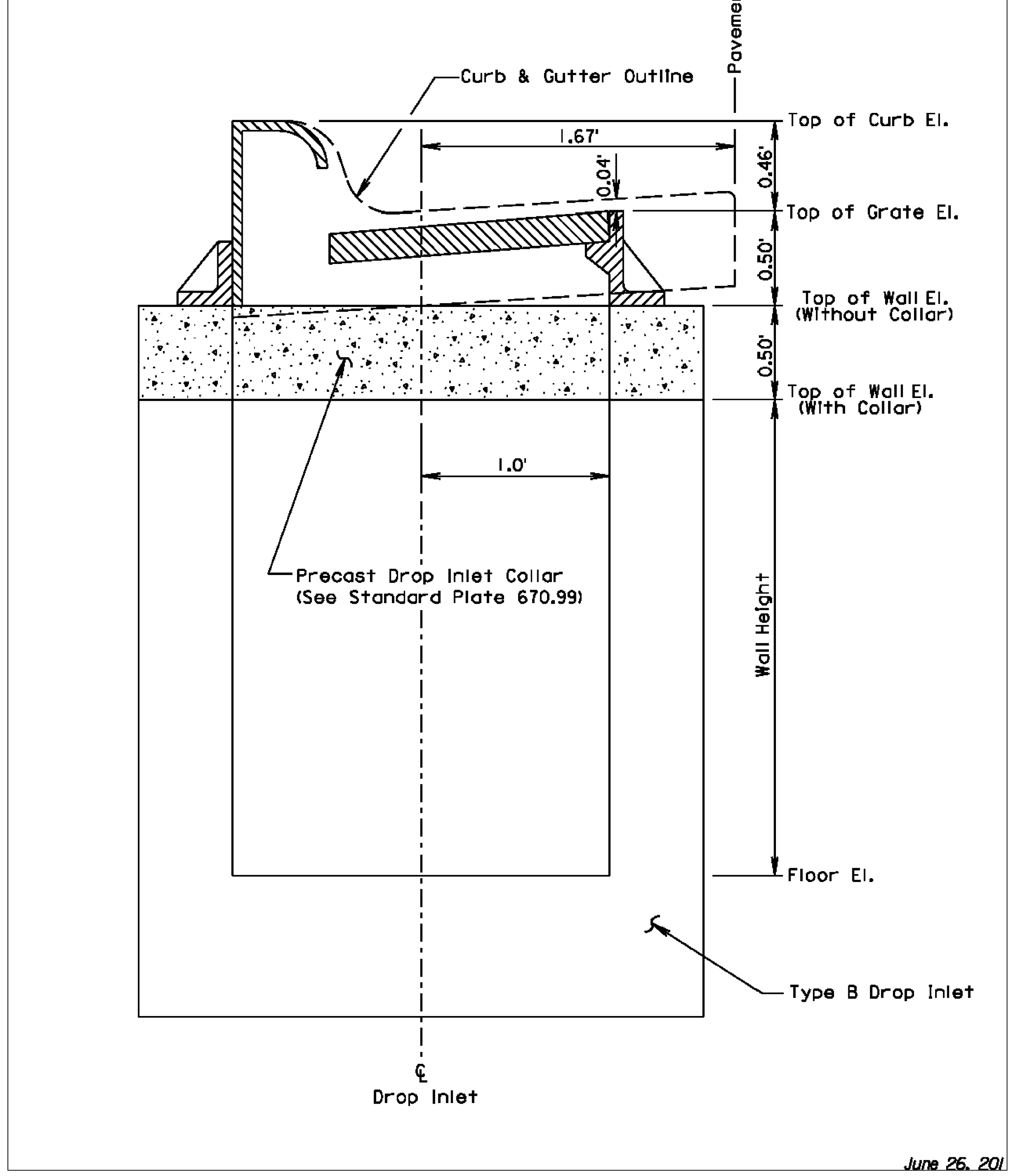
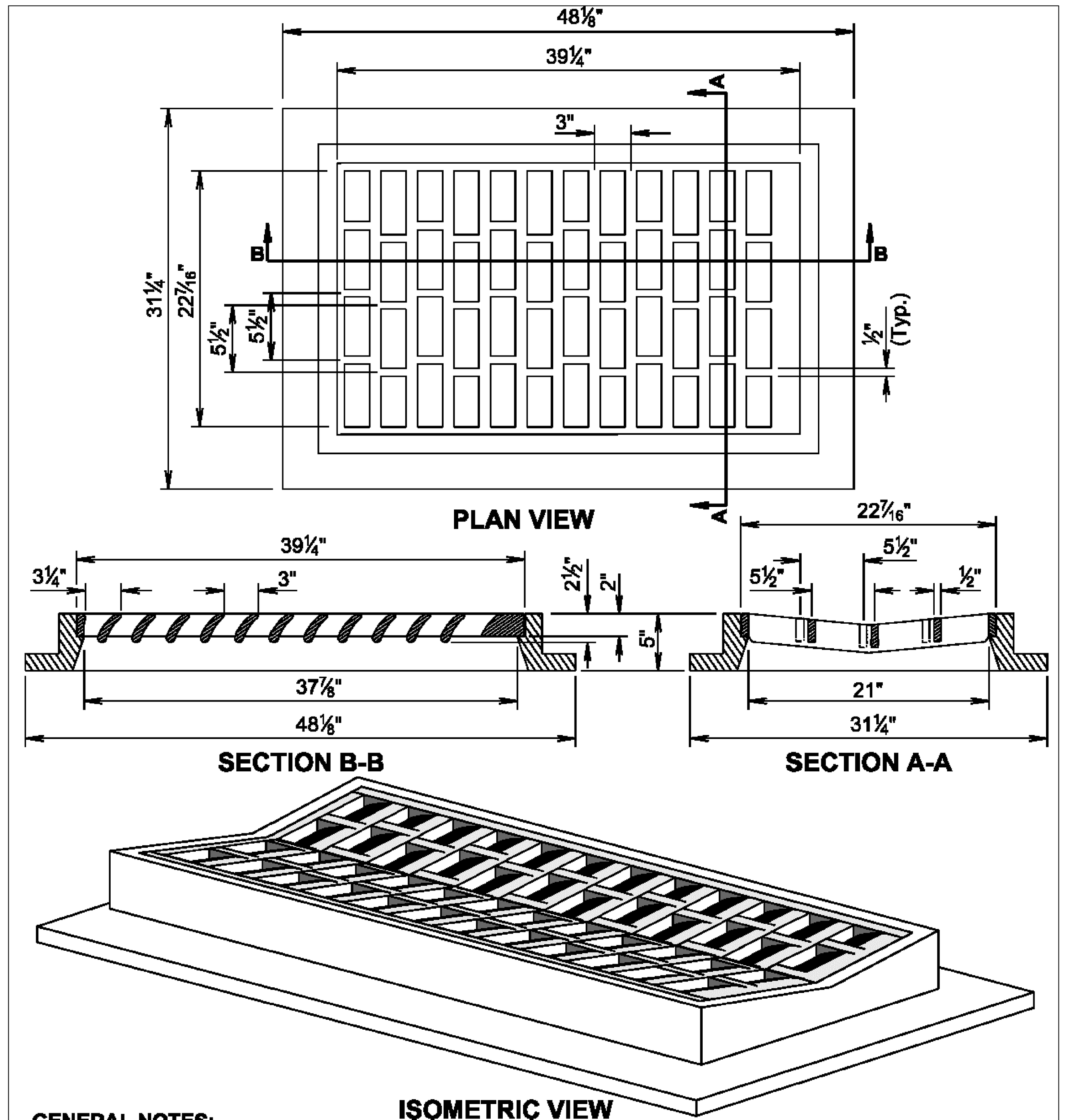
hkg architects

REVISED DATE	Plans for TIOSPA ZINA SCHOOL Classroom Addition Site Design AGENCY VILLAGE, SOUTH DAKOTA	DETAILS	DRAWN BY CDH TRACED BY ___ CHECKED BY LCR	C-9 OF 11
CERT. NO.	Helms and Associates Aberdeen, S.D.		DATE 11/2023	PROJECT NO. 2023-0015

GENERAL NOTE:
Top of grate elevation shall be 0.04' below theoretical elevation of gutter.



INSTALLATION OF A TYPE B DROP INLET DETAIL
NO SCALE



GENERAL NOTES:

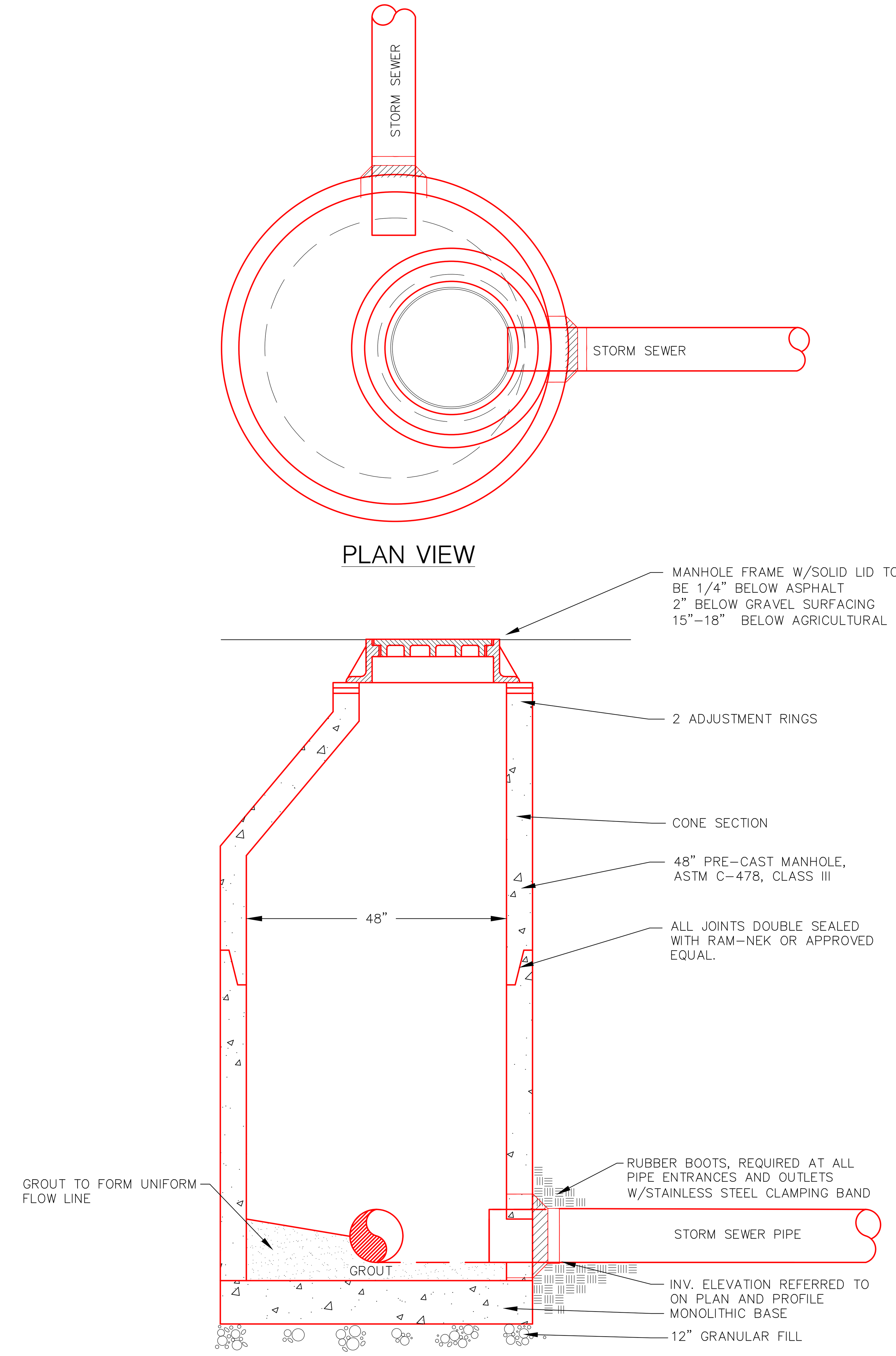
The product dimensions may vary from those shown on the standard plate depending on the manufacturer. Grate size and configuration will be similar to the standard plate for hydraulic capacity and bicycle safety. Any variation in dimensions will be approved by the Engineer and the type E frame and grate will be from a manufacturer on the approved products list.

Design load for the grate will meet the requirements of AASHTO HL-93.

The type E frame and grate is used typically with valley gutter and type P gutter.

June 1, 2022

TYPE E FRAME AND GRATE DETAIL
NO SCALE



ELEVATION VIEW
48" STORM SEWER MANHOLE DETAIL
NO SCALE

REGISTERED PROFESSIONAL ENGINEER REG. NO. 12065 LEIF C. REDINGER SOUTH DAKOTA
11/25/2024

Helms & ASSOCIATES
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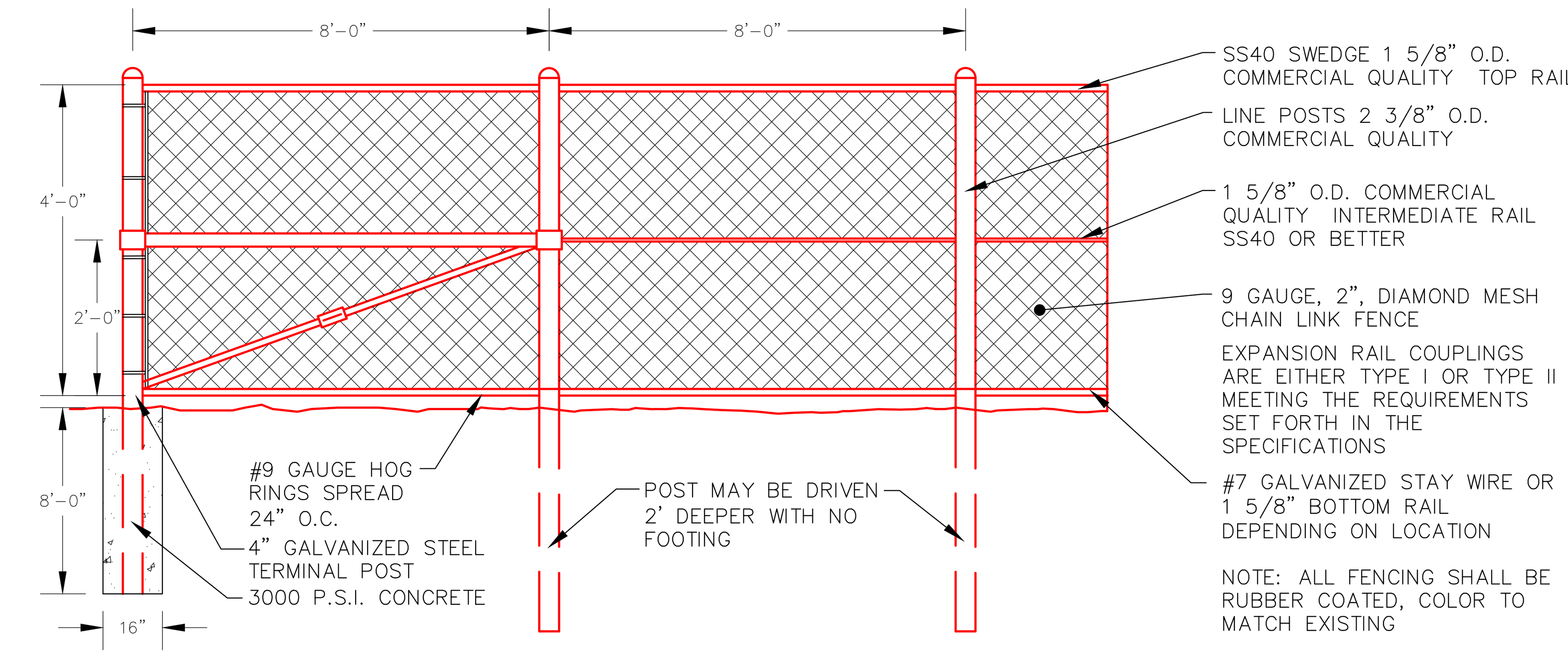
Plans for
TIOSPA ZINA SCHOOL
Classroom Addition Site Design
AGENCY VILLAGE, SOUTH DAKOTA

DETAILS

Helms and Associates Aberdeen, S.D.

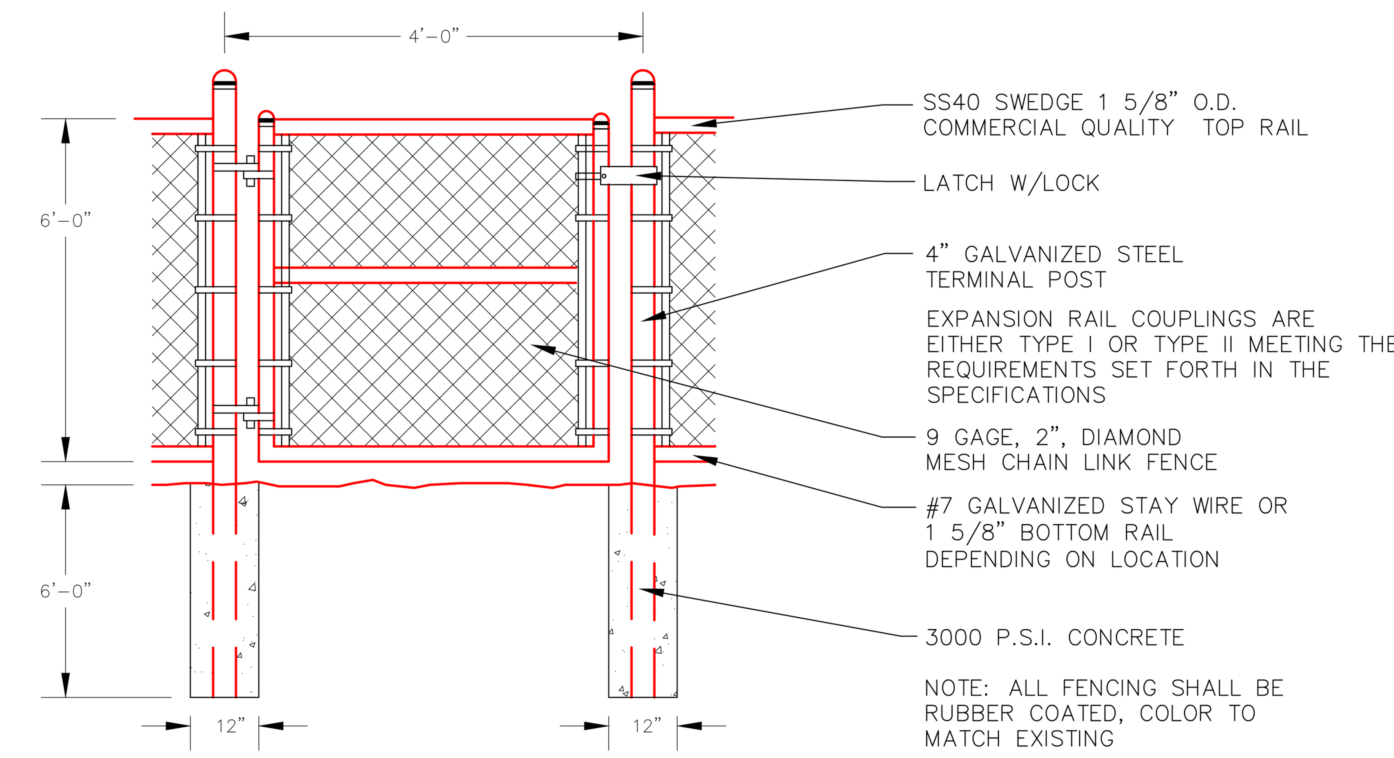
C-10
OF 11
2023-0015

NOTE: SELECT POSTS CAN BE DRIVEN IN LIGHT OF CONCRETE FOOTINGS. IF POSTS ARE TO BE DRIVEN THEY SHALL BE TO A MIN. DEPTH OF 6'



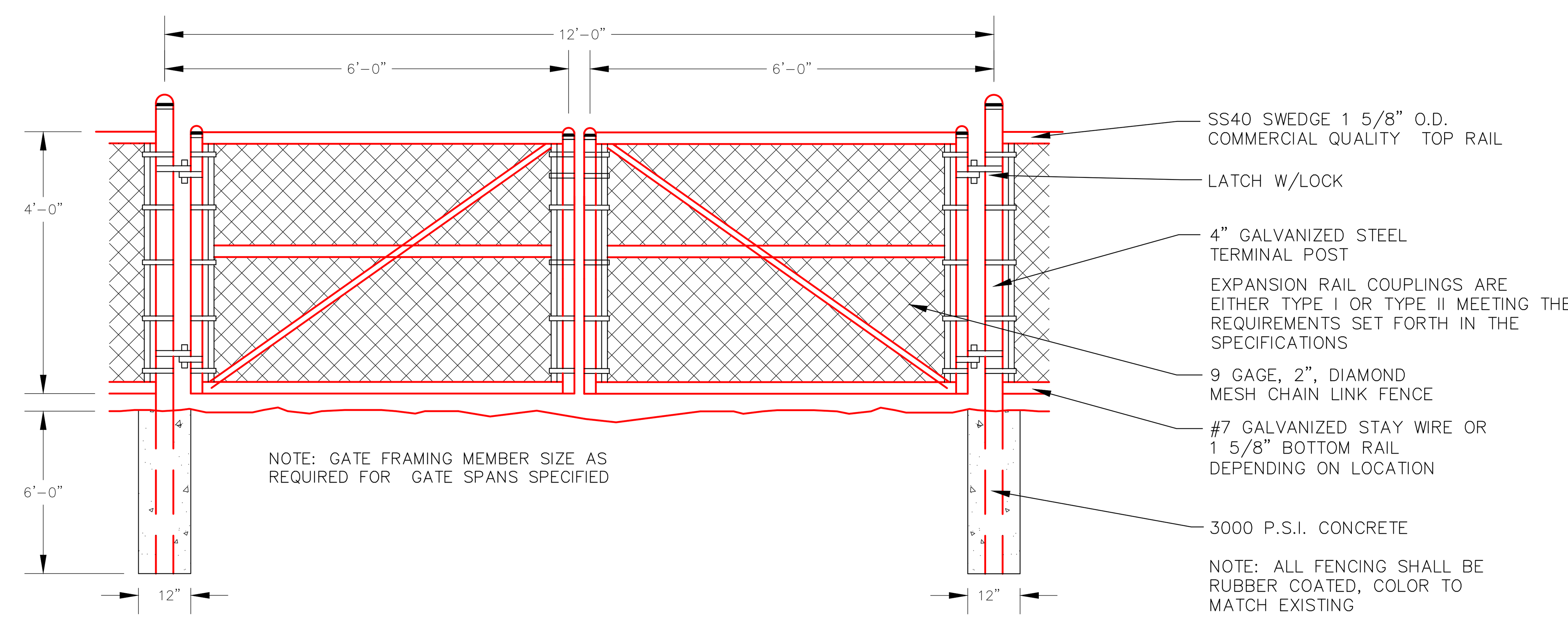
4' HIGH CHAIN LINK FENCE DETAIL

NO SCALE



4' WIDE WALK THROUGH GATE DETAIL

NO SCALE



12' WIDE MANUAL SWING GATE DETAIL

NO SCALE

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416 Production St N.
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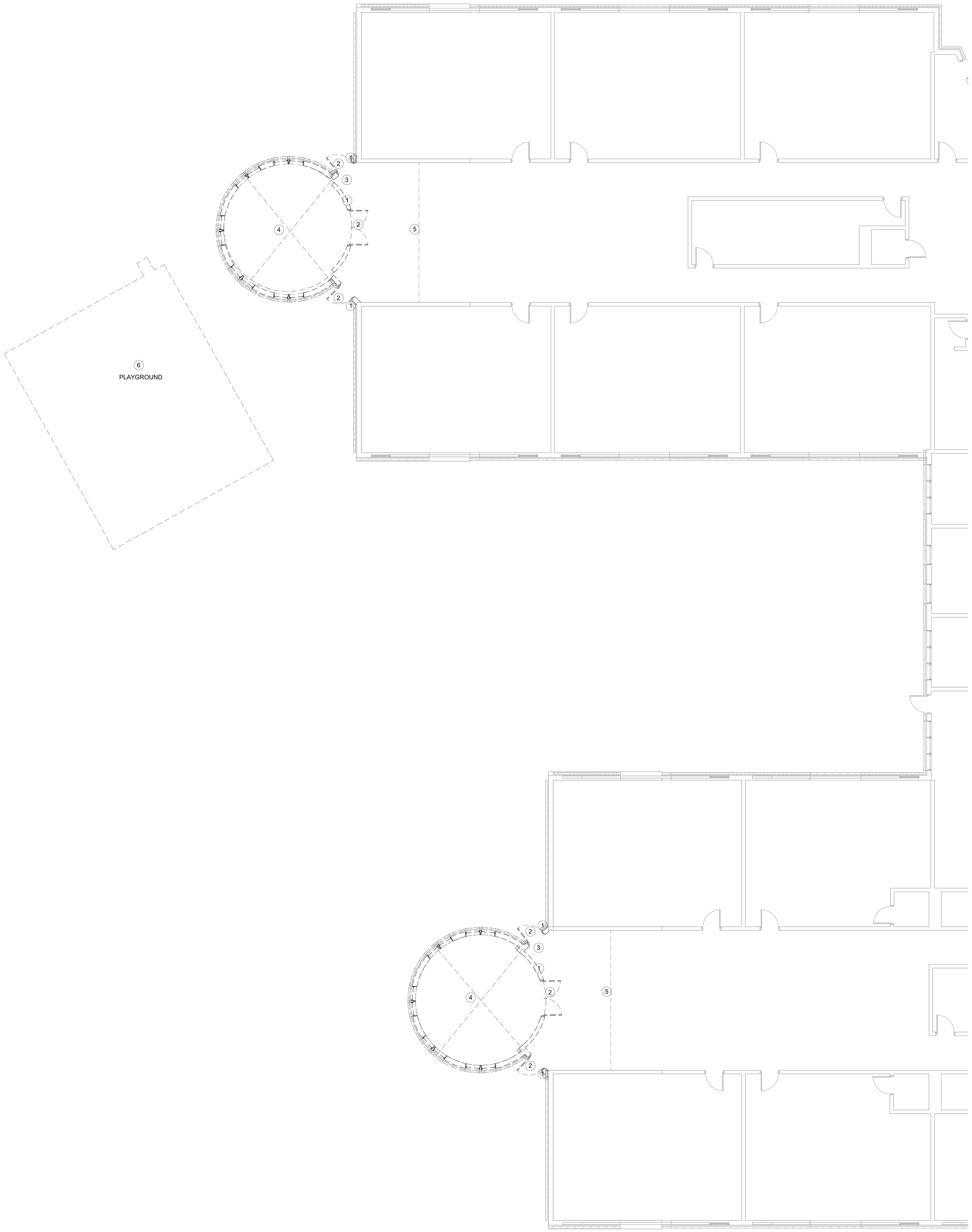
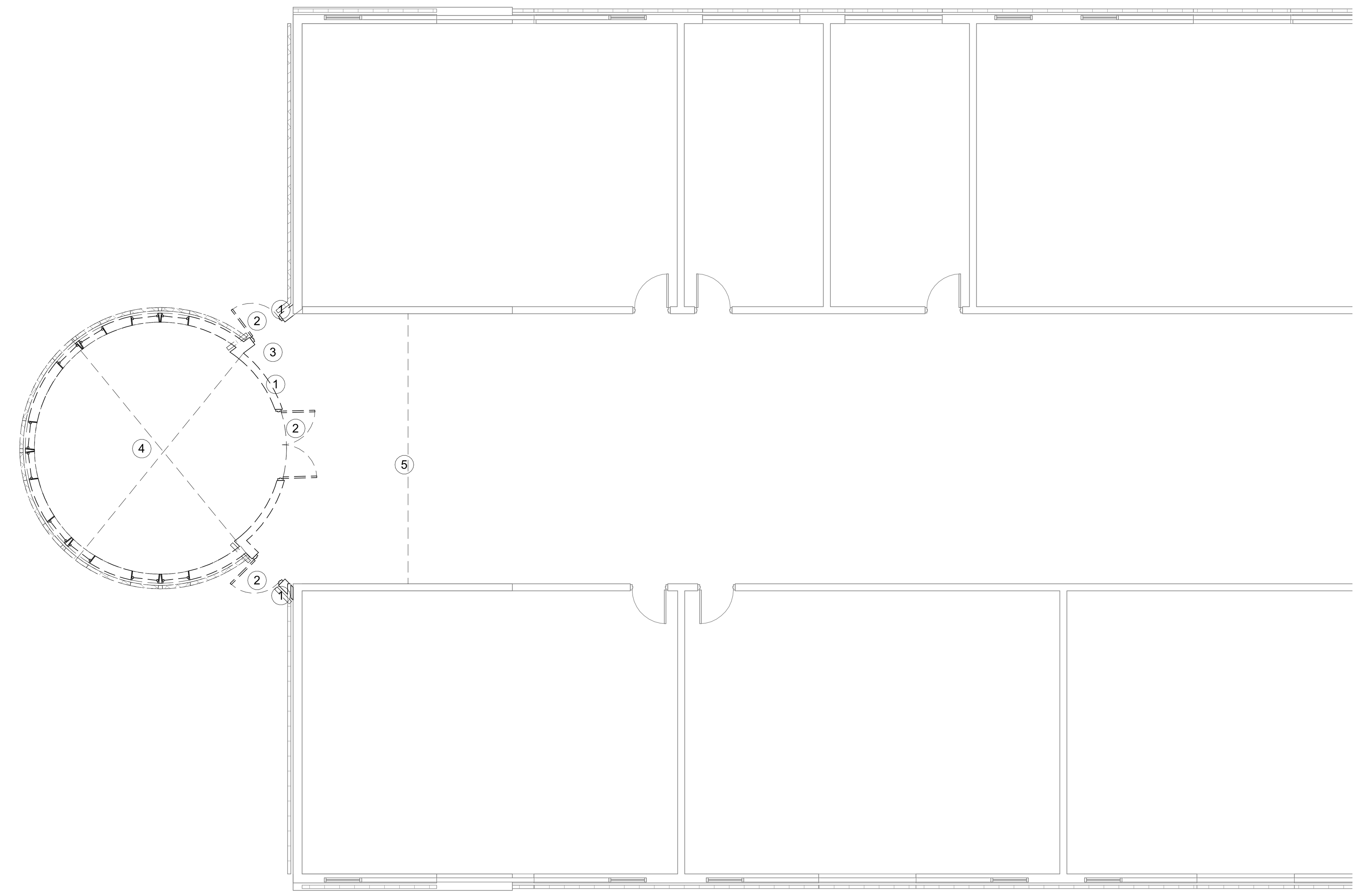
REVISED DATE	Plans for TIOSPA ZINA SCHOOL Classroom Addition Site Design AGENCY VILLAGE, SOUTH DAKOTA	DETAILS	DRAWN BY CDH TRACED BY ___ CHECKED BY LCR	C-11 OF 11
CERT. NO.	Helms and Associates	Aberdeen, S.D.	DATE 11/2023	PROJECT NO. 2023-0015



1 Building A Demolition Plan
1/8" = 1'-0"



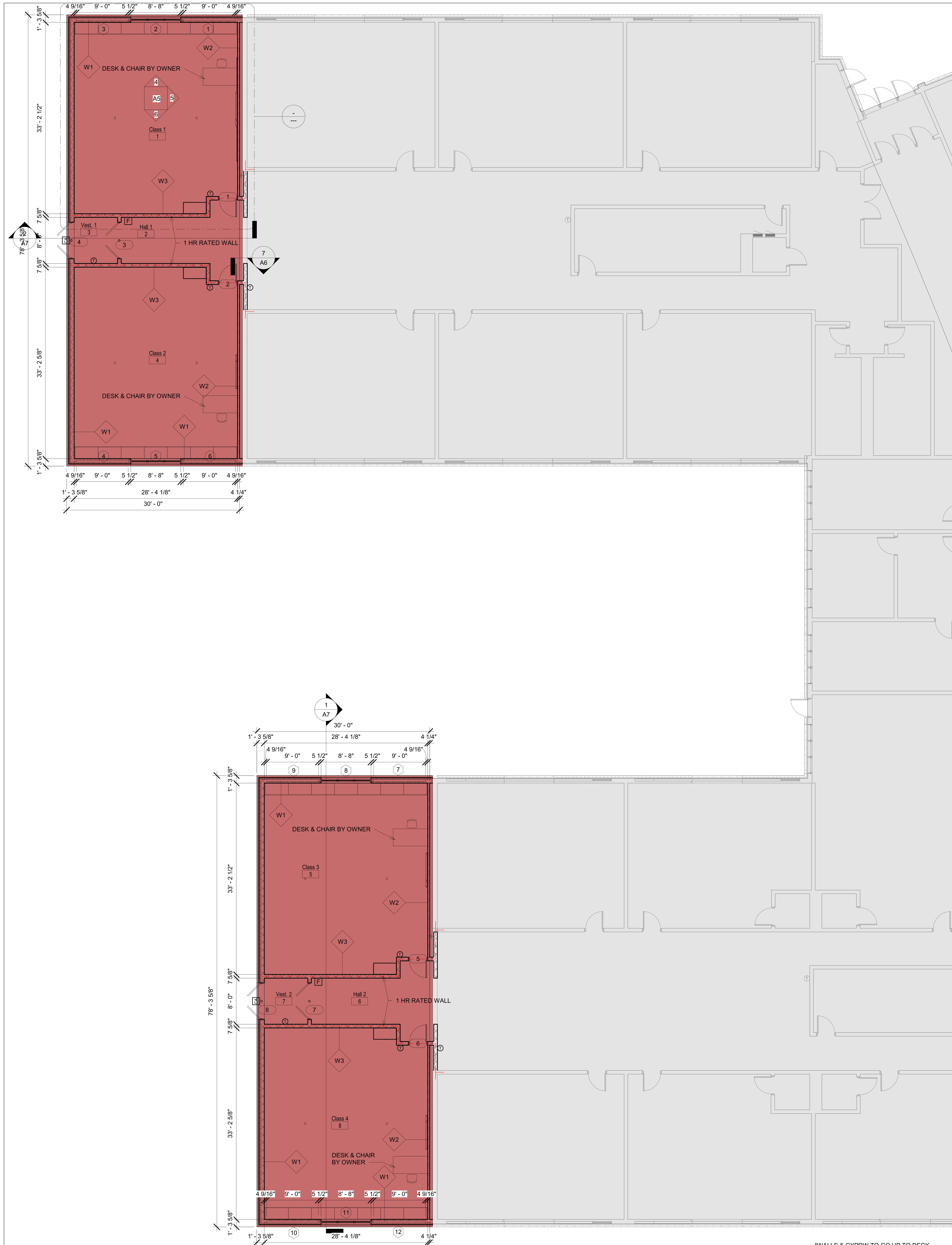
2 Building D Demolition Plan
1/8" = 1'-0"

KEY-

1. REMOVE WALLS & FOUNDATION IN ITS ENTIRETY-DISPOSE OF.
2. REMOVE EXISTING DOOR & FRAME.
3. REMOVE FLOORING-DISPOSE OF.
4. REMOVE CIRCULAR BUILDING IN IT'S ENTIRETY, INCLUDING ROOF, WALLS, FOUNDATION, SLAB, & ALL FINISHES. ROOF IS TO BE REMOVED ONLY BACK TO THE START OF THE EXISTING CLASSROOMS AND HALLWAY, PATH & REPAIR ROOF AS REQUIRED FOR NEW EXTERIOR WALL TIE IN.
5. REMOVE & DISPOSE OF CONCRETE SLAB UP TO NEAREST CONTROL JOINT, OR 10'-0" IN. TIE NEW CONCRETE INTO EXISTING. TIE NEW FLOORING INTO EXISTING. PATCH FLOOR, WALLS, & BASE AS REQUIRED.
6. CONTRACTOR TO REMOVE AND STORE EXISTING PLAYGROUND ON SITE IN IT'S ENTIRETY. COORDINATE STORAGE LOCATION WITH OWNER. THIS INCLUDES ANY EQUIPMENT & BORDER WALLS. REMOVE & DISPOSE OF CONCRETE.

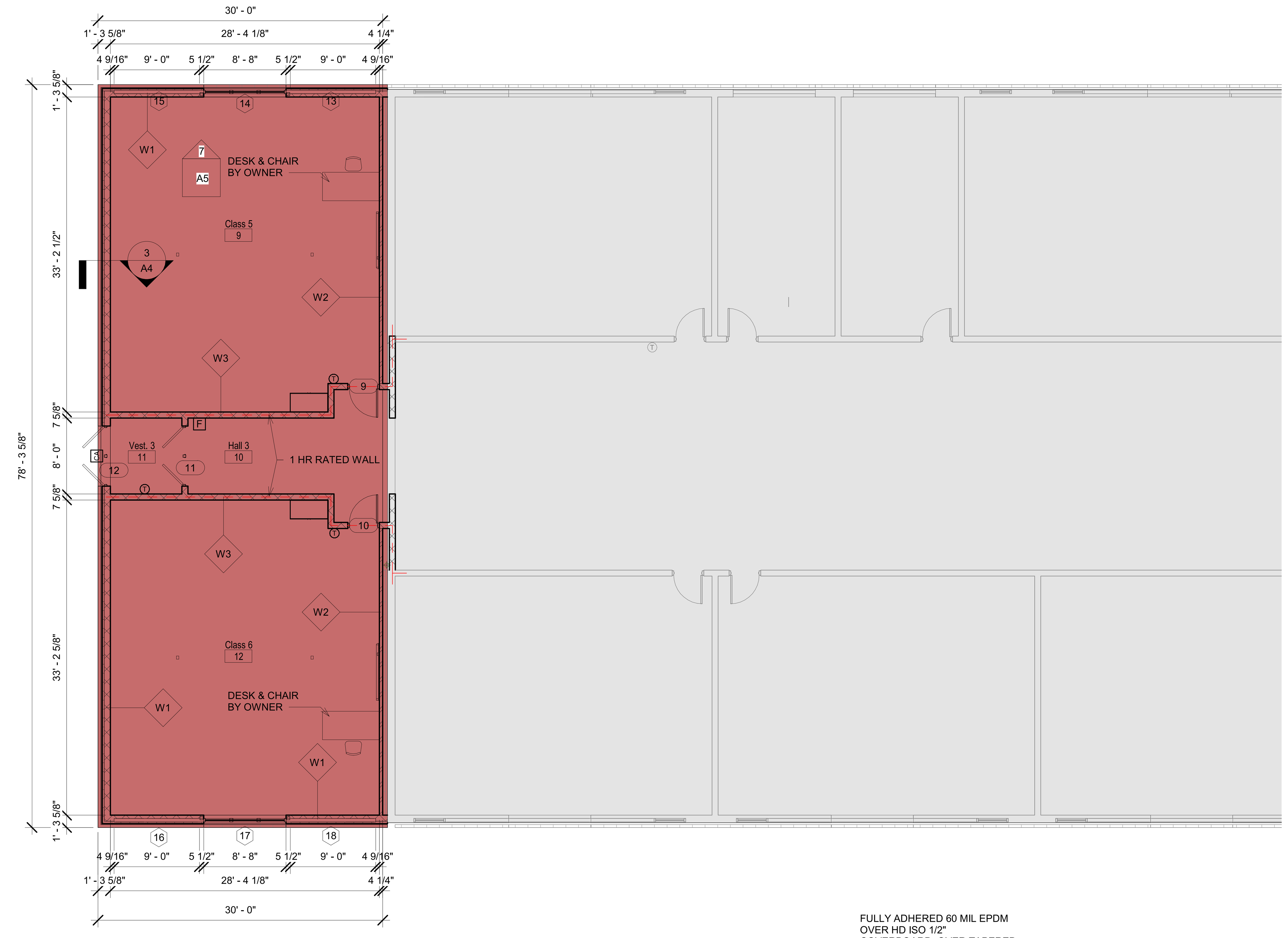
hkg architects

REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	Demolition Plan	DRAWN BY CH TRACED BY ___ CHECKED BY AS	A3 OF- 6
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



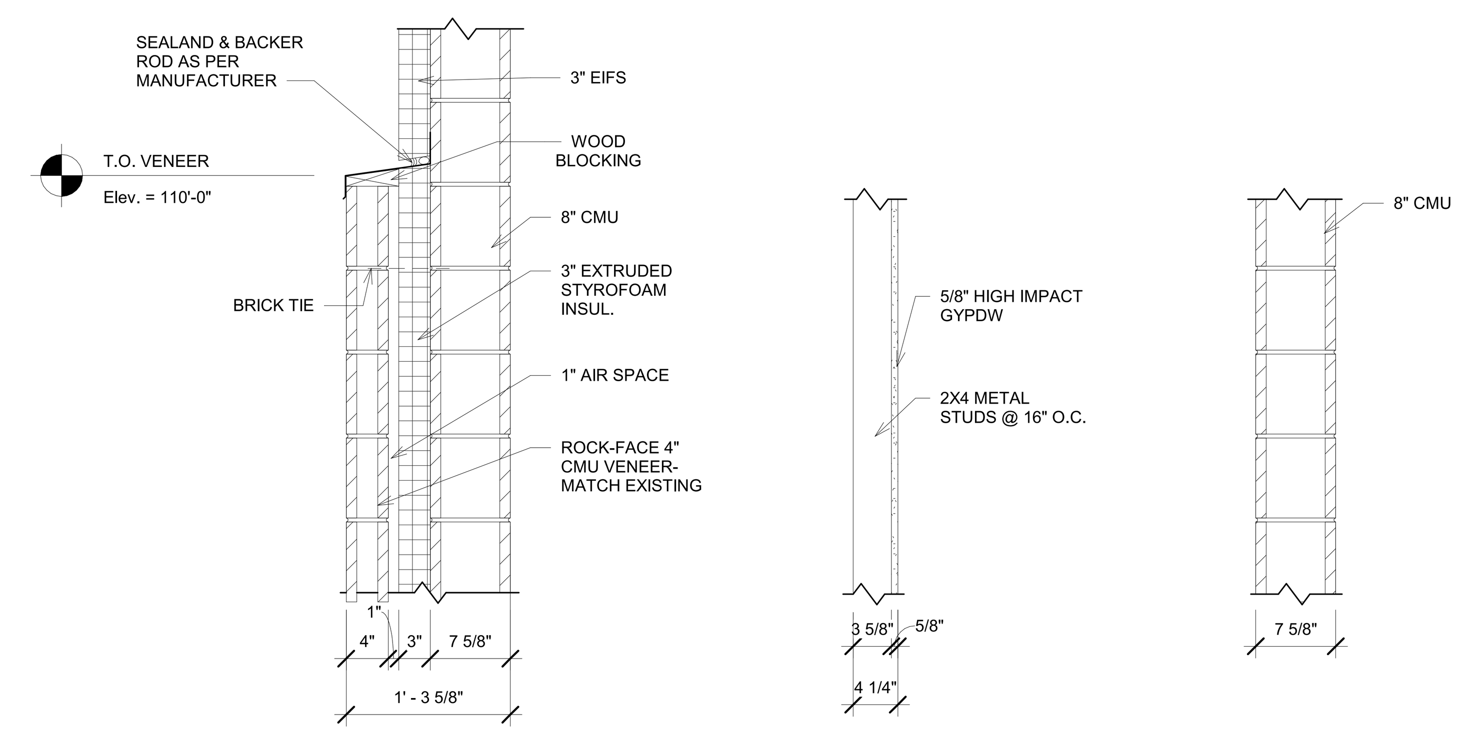
1 Building A Classroom Additions
1/8" = 1'-0"

*WALLS & GYPDW TO GO UP TO DECK UNLESS NOTED OTHERWISE.



2 Building D Classroom Addition
1/8" = 1'-0"

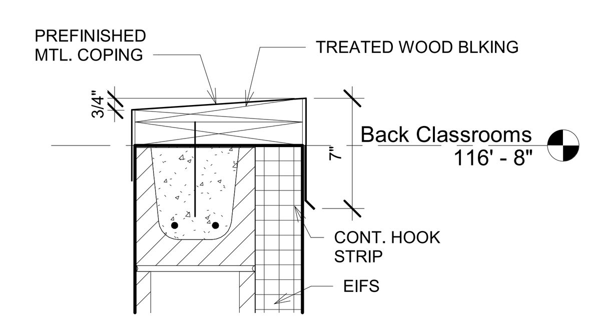
*WALLS & GYPDW TO GO UP TO DECK UNLESS NOTED OTHERWISE.



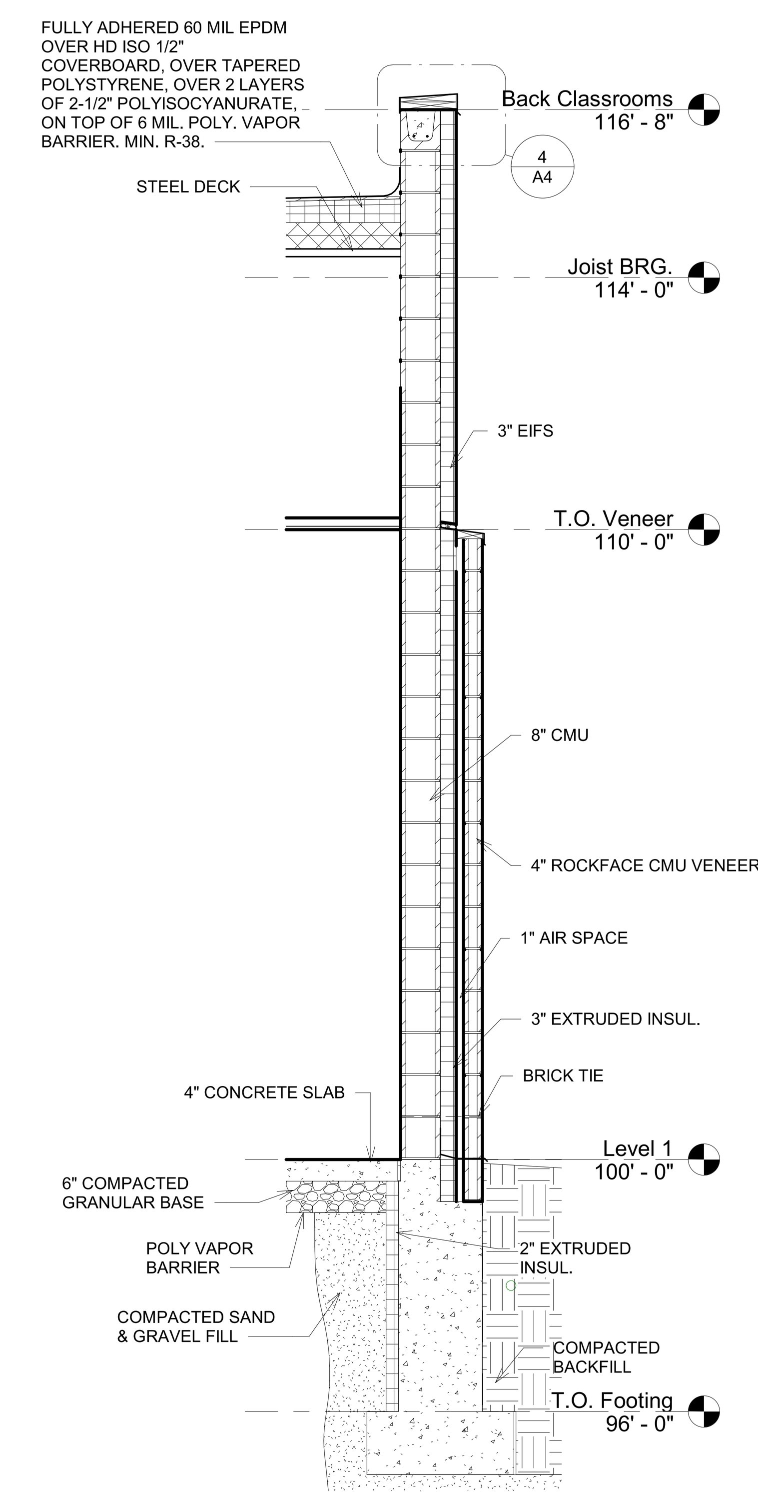
W1 Exterior Wall

W2 Interior 4 7/8"

W3 Interior 8" CMU



4 TYP. MAS. Parapet
1 1/2" = 1'-0"



3 Wall Section
1/2" = 1'-0"

Single Addition = 2,319 SF
Total Additions = 6,957 SF

hkg architects

Plans for
Tiospa Zina School
Classroom Addition
Agency Village, South Dakota

Floor Plan

A4

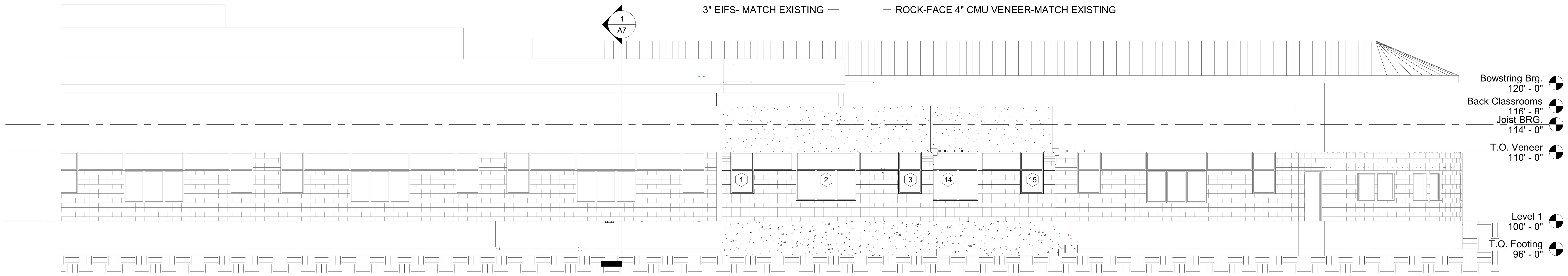
CH

11/22/24

2024-0032

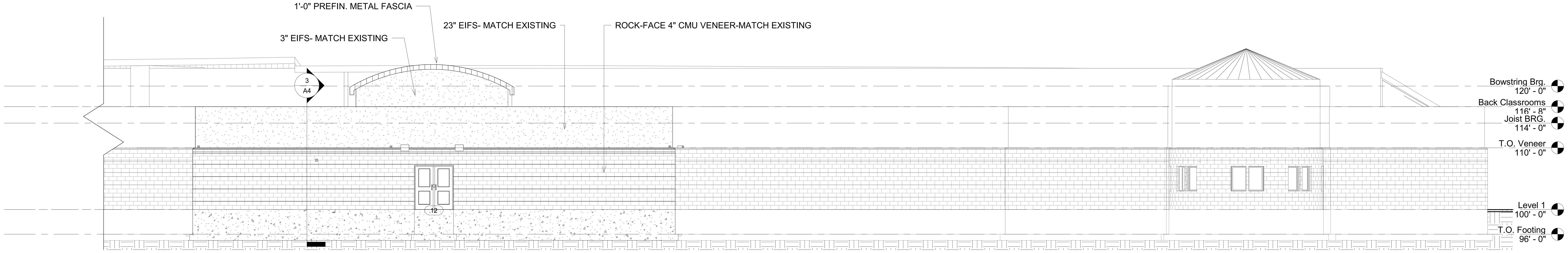
HKG Architects, Inc.

Aberdeen, S.D.

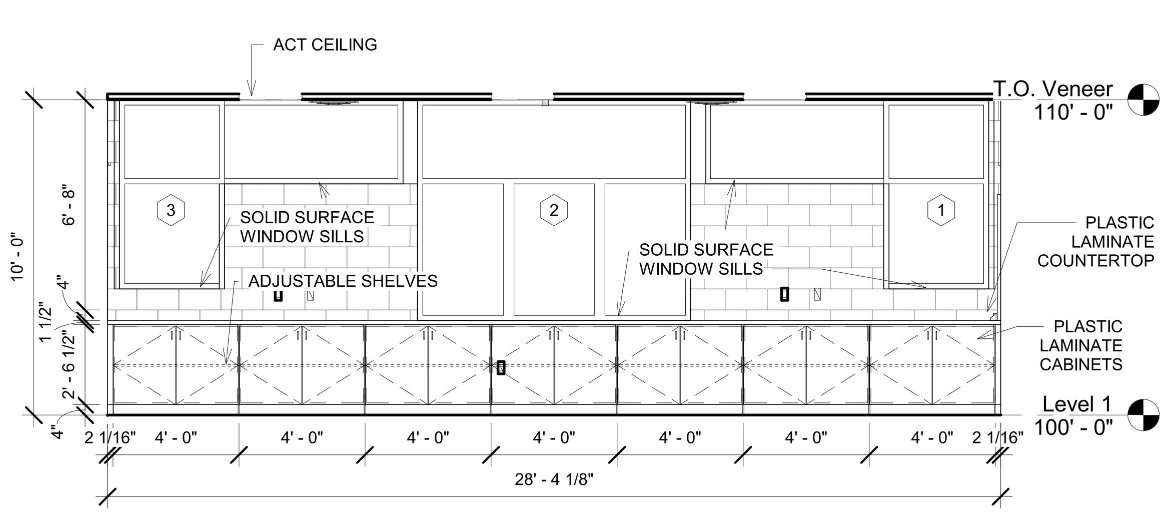


1 North
1/8" = 1'-0"

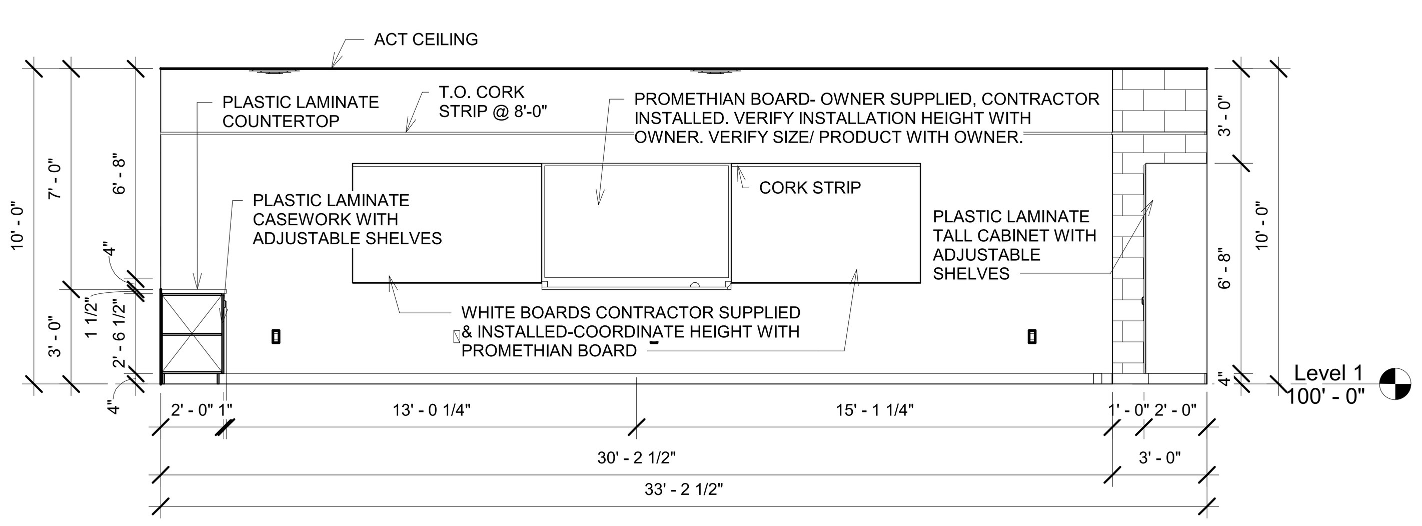
2 West
1/8" = 1'-0"



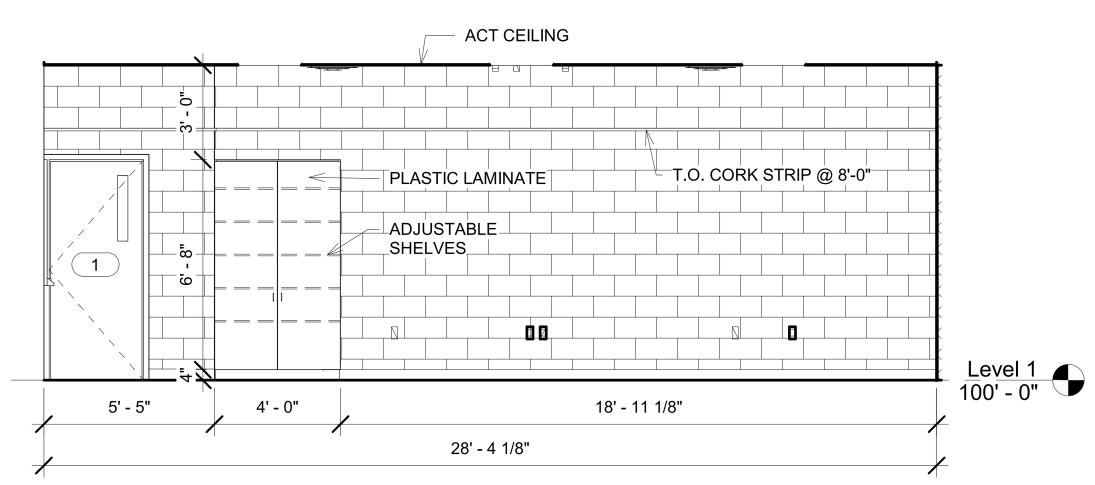
3 West Cont.
1/8" = 1'-0"



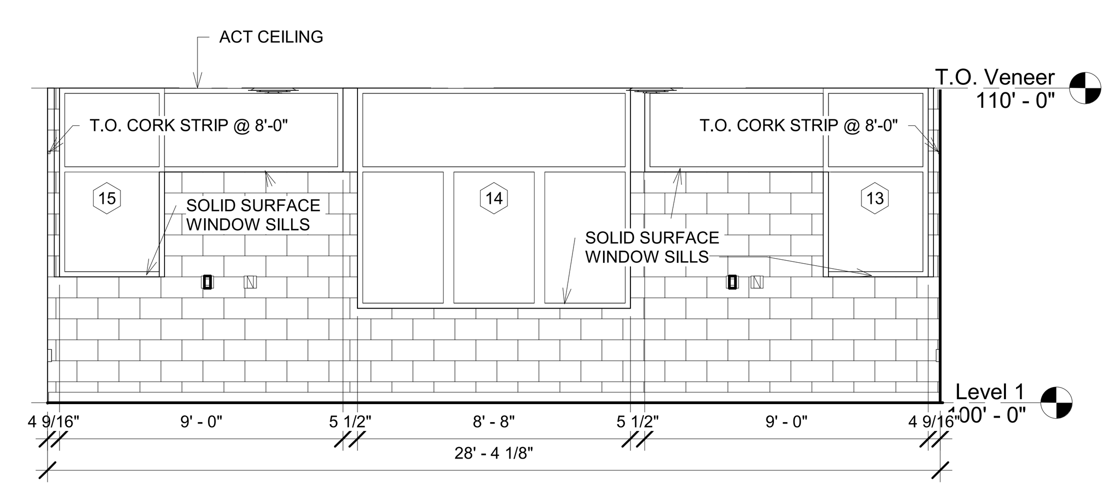
4 Typ. Class Casework
1/4" = 1'-0"



5 Teaching Wall
1/4" = 1'-0"

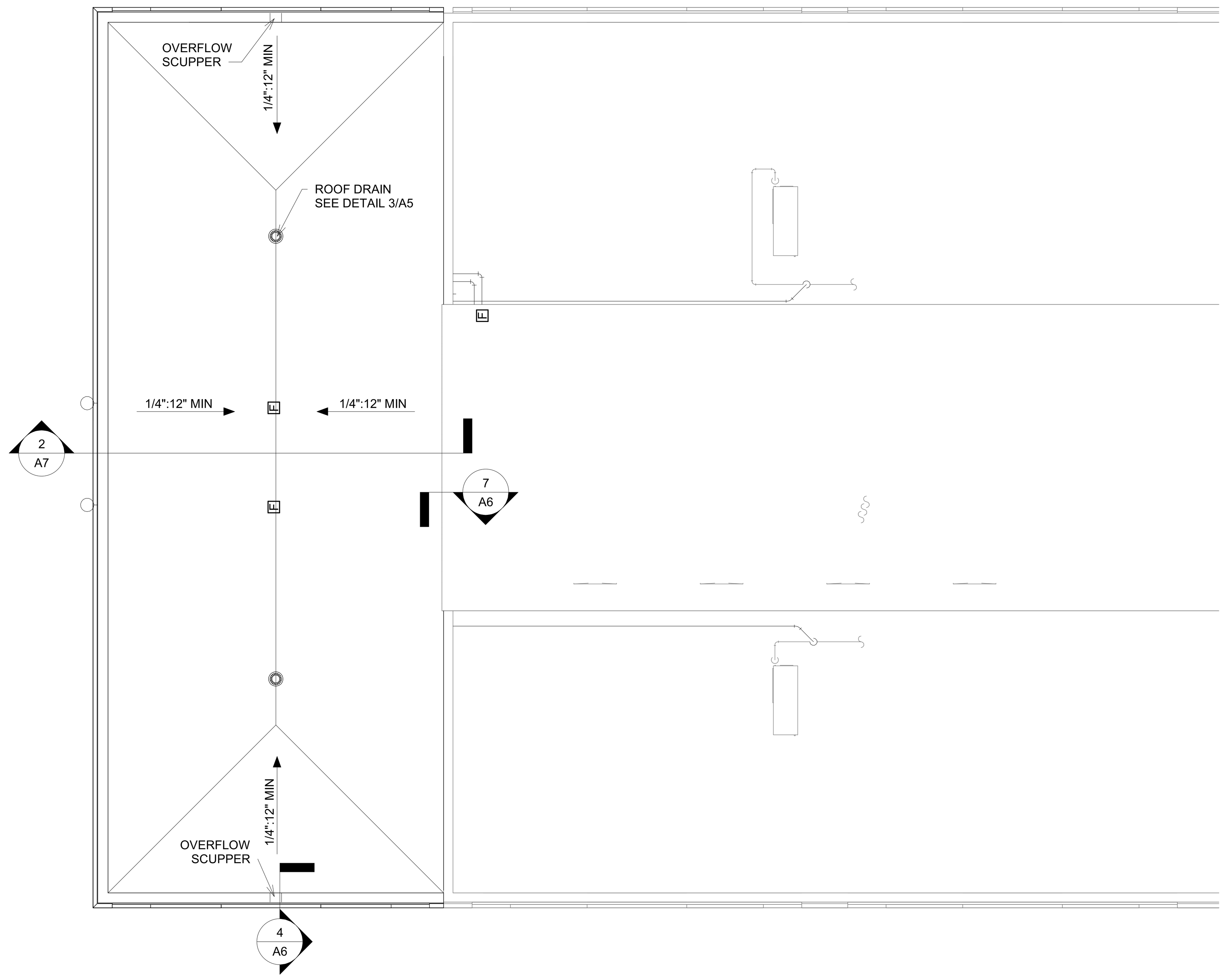


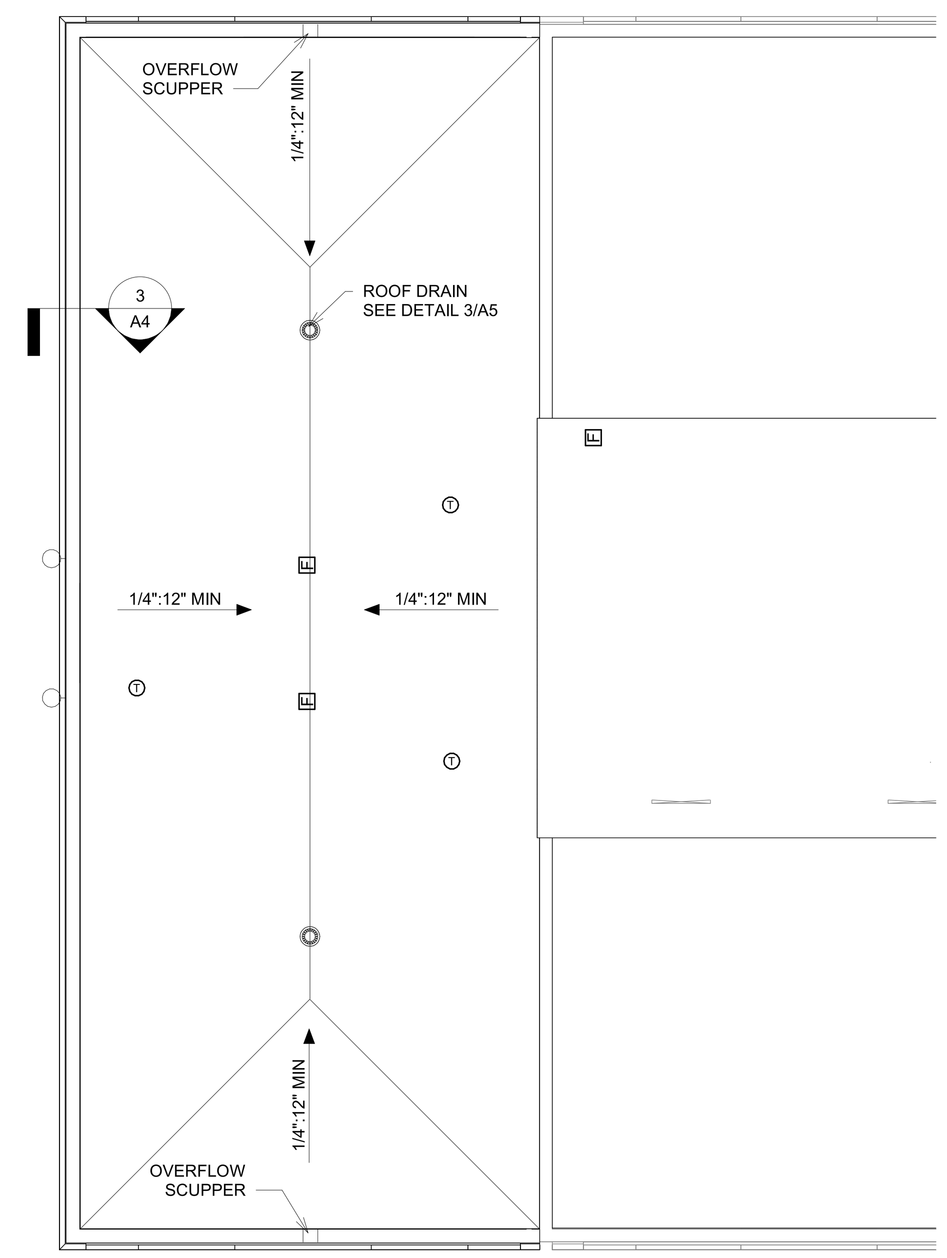
6 Typ. Tall Class Casework
1/4" = 1'-0"



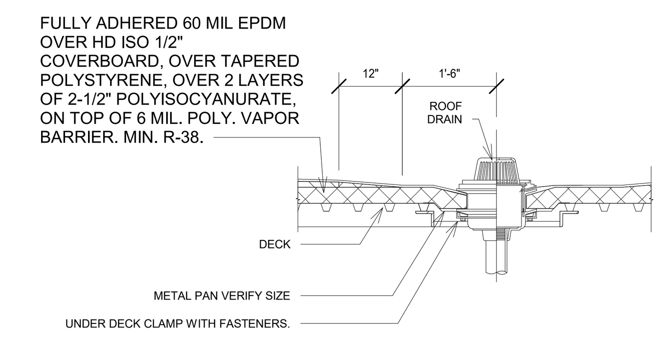
7 Typ Class Exterior Wall No Casework
1/4" = 1'-0"

REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	Elevations	DRAWN BY CH TRACED BY ___ CHECKED BY AS	A5 OF- 6
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032

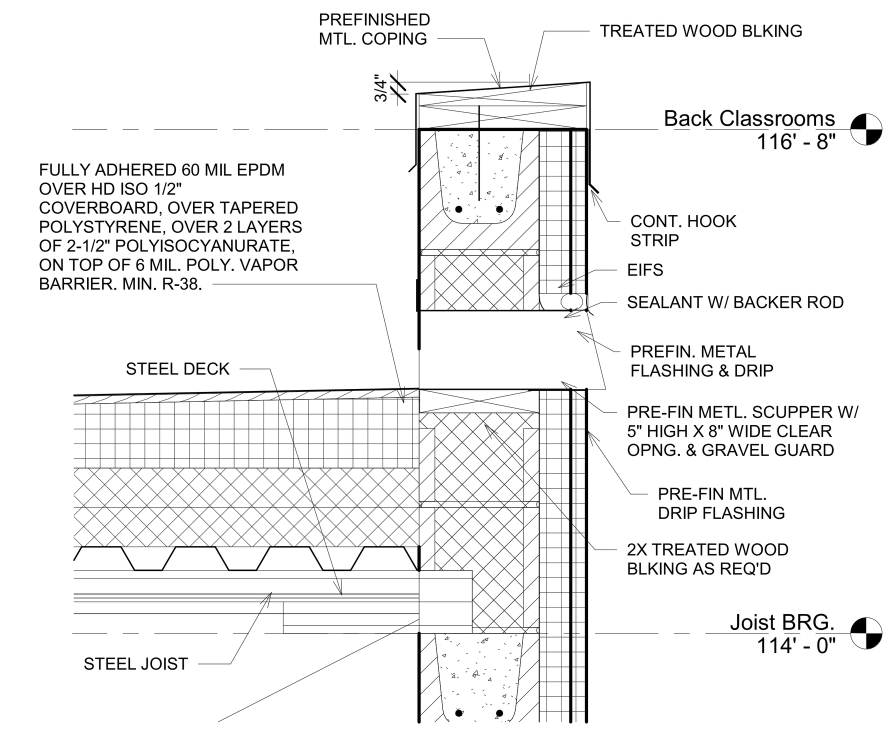




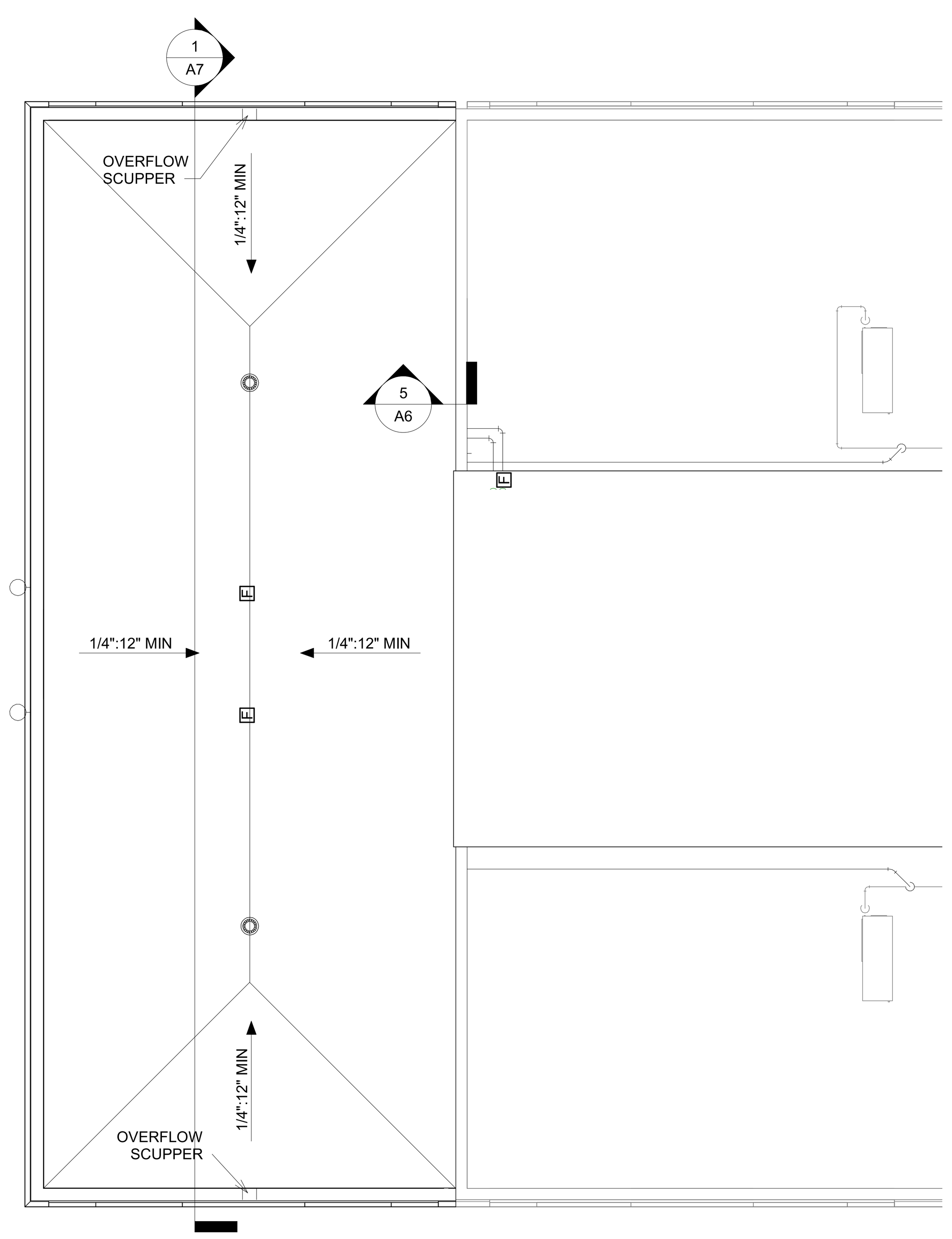
2 Roof Plan Cont.
1/8" = 1'-0"



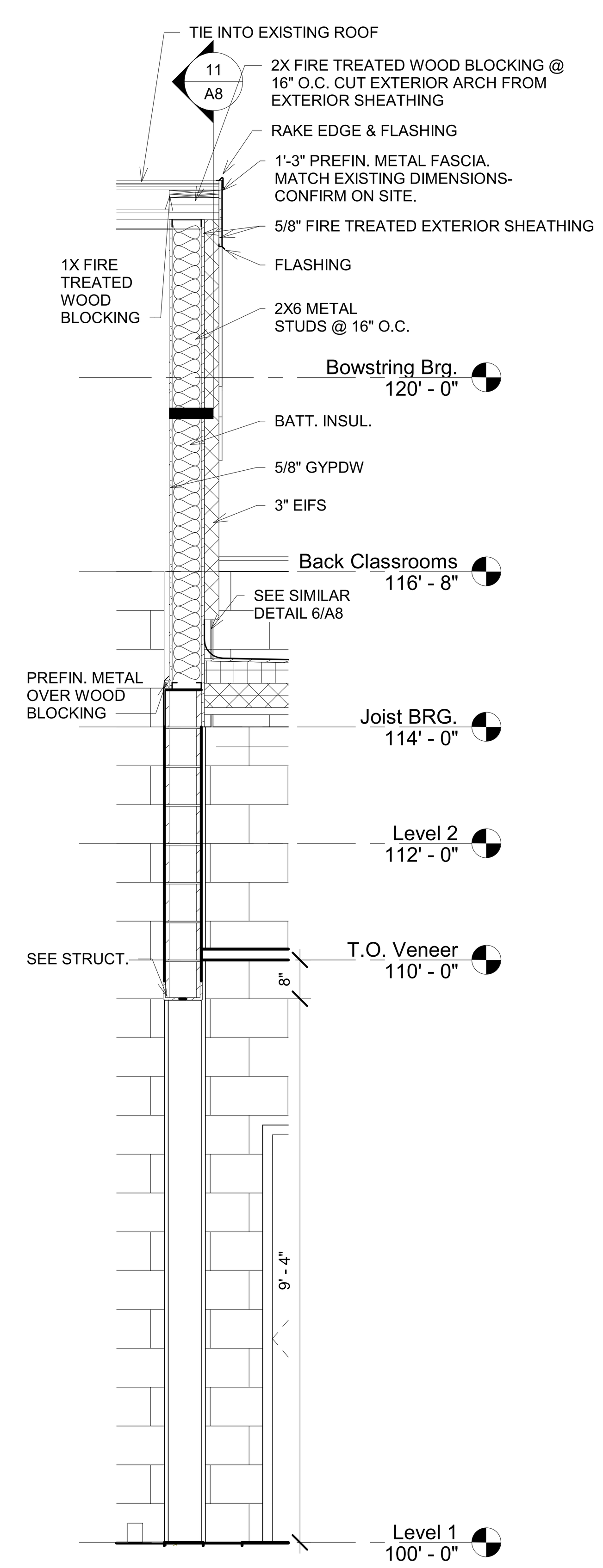
3 Roof Drain Detail
1/2" = 1'-0"



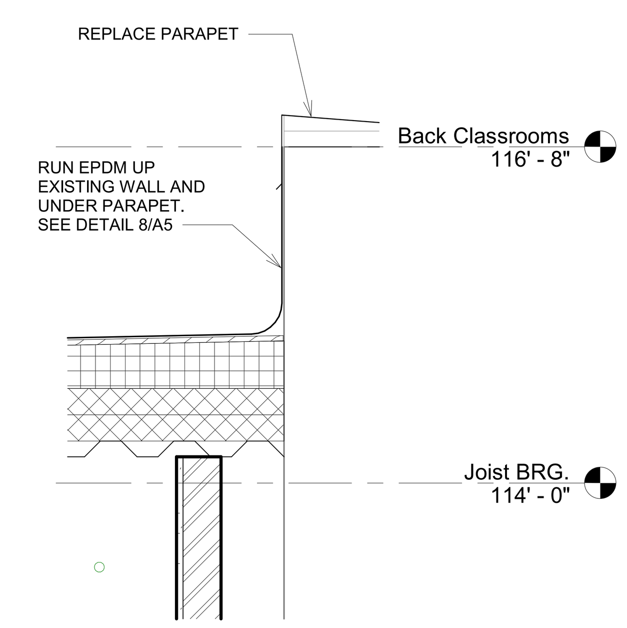
4 Scupper Detail
1 1/2" = 1'-0"



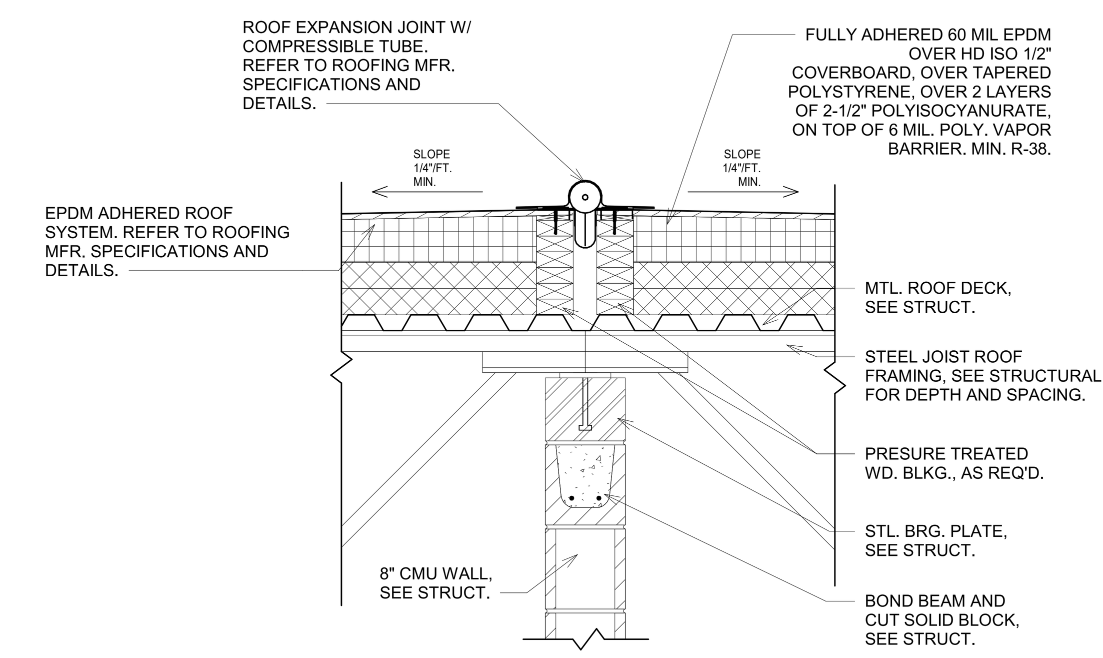
1 Building A Roof Plan
1/8" = 1'-0"



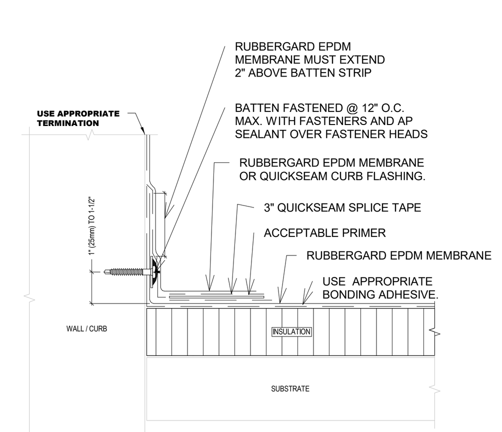
7 Wall Section & Bulkhead
1/2" = 1'-0"



5 Roof Connection
1" = 1'-0"



6 Roof Expansion Joint
1" = 1'-0"



NOTES:

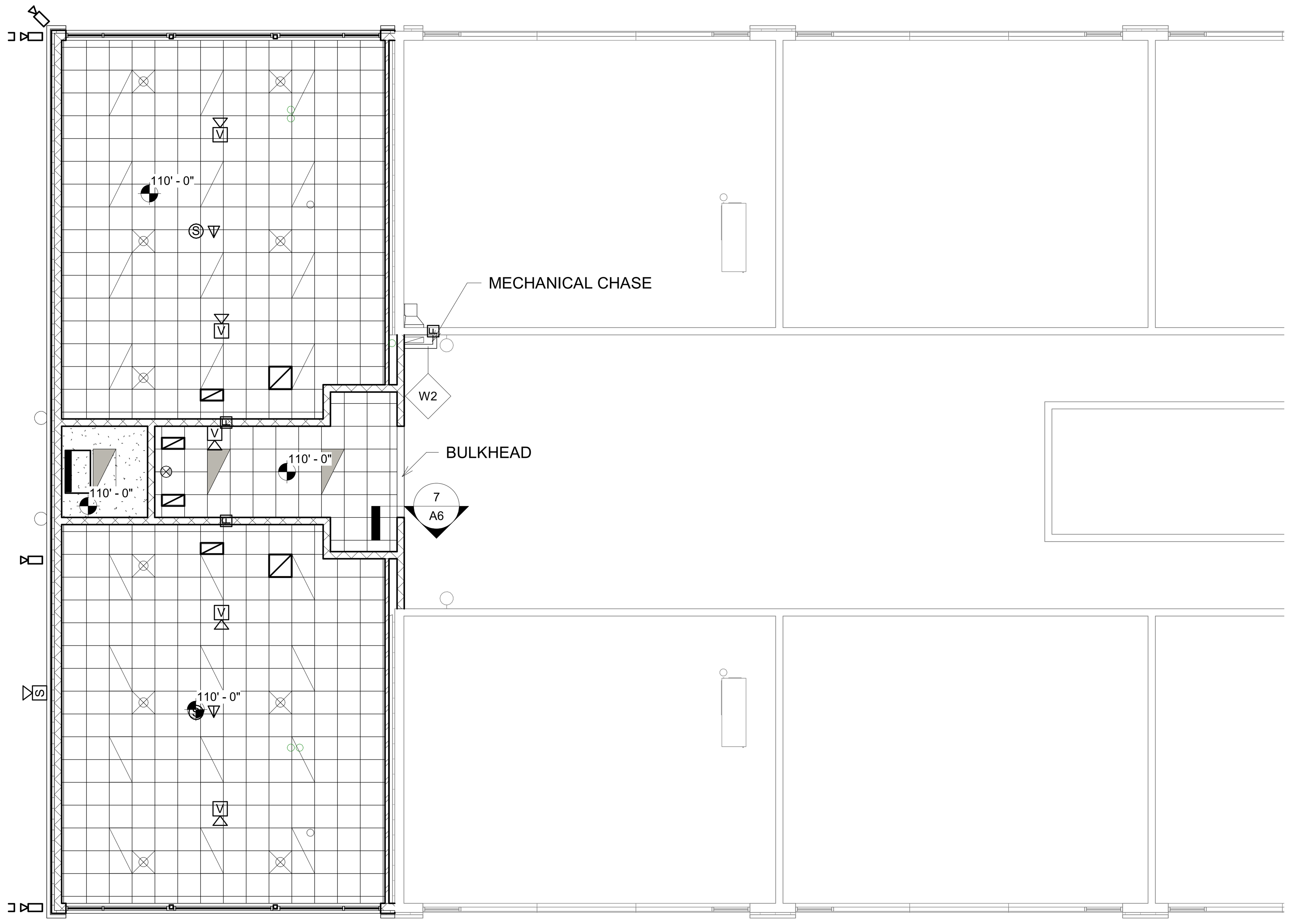
1. REFER TO FIRESTONE WEBSITE FOR THE MOST CURRENT INFORMATION.
2. POLYMER OR METAL BATTEN STRIP ACCEPTABLE FOR WOOD OR METAL SUBSTRATE. METAL BATTEN MUST BE USED WITH MASONRY SUBSTRATE.
3. REFER TO BT-16 & BT-17 FOR MEMBRANE SECUREMENT AT CORNERS.
4. BONDING ADHESIVE REQUIRED BETWEEN MEMBRANE AND INSULATION FOR FULLY ADHERED SYSTEMS.

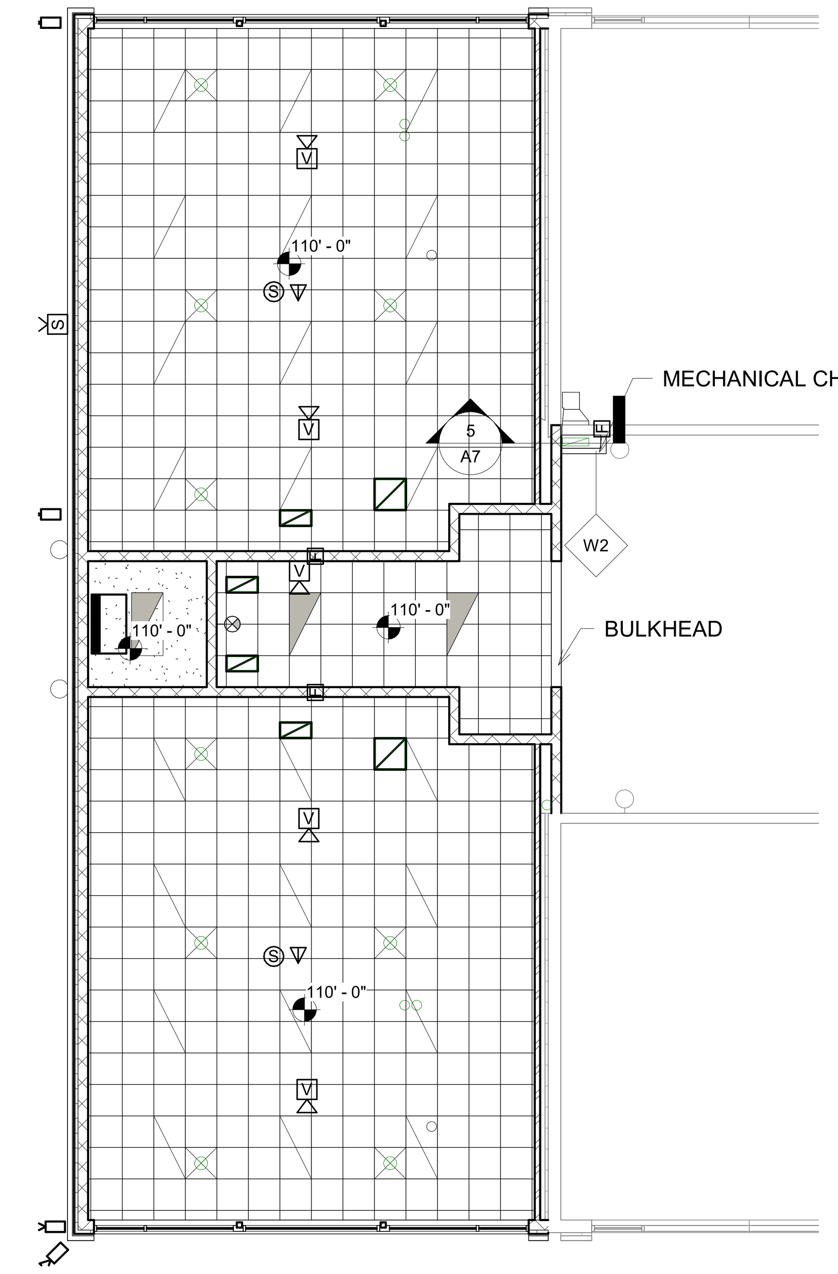
8 Typ. Roof Attachment
3" = 1'-0"

REGISTERED PROFESSIONAL ARCHITECT REG. NO. DEAN MARSKE SOUTH DAKOTA

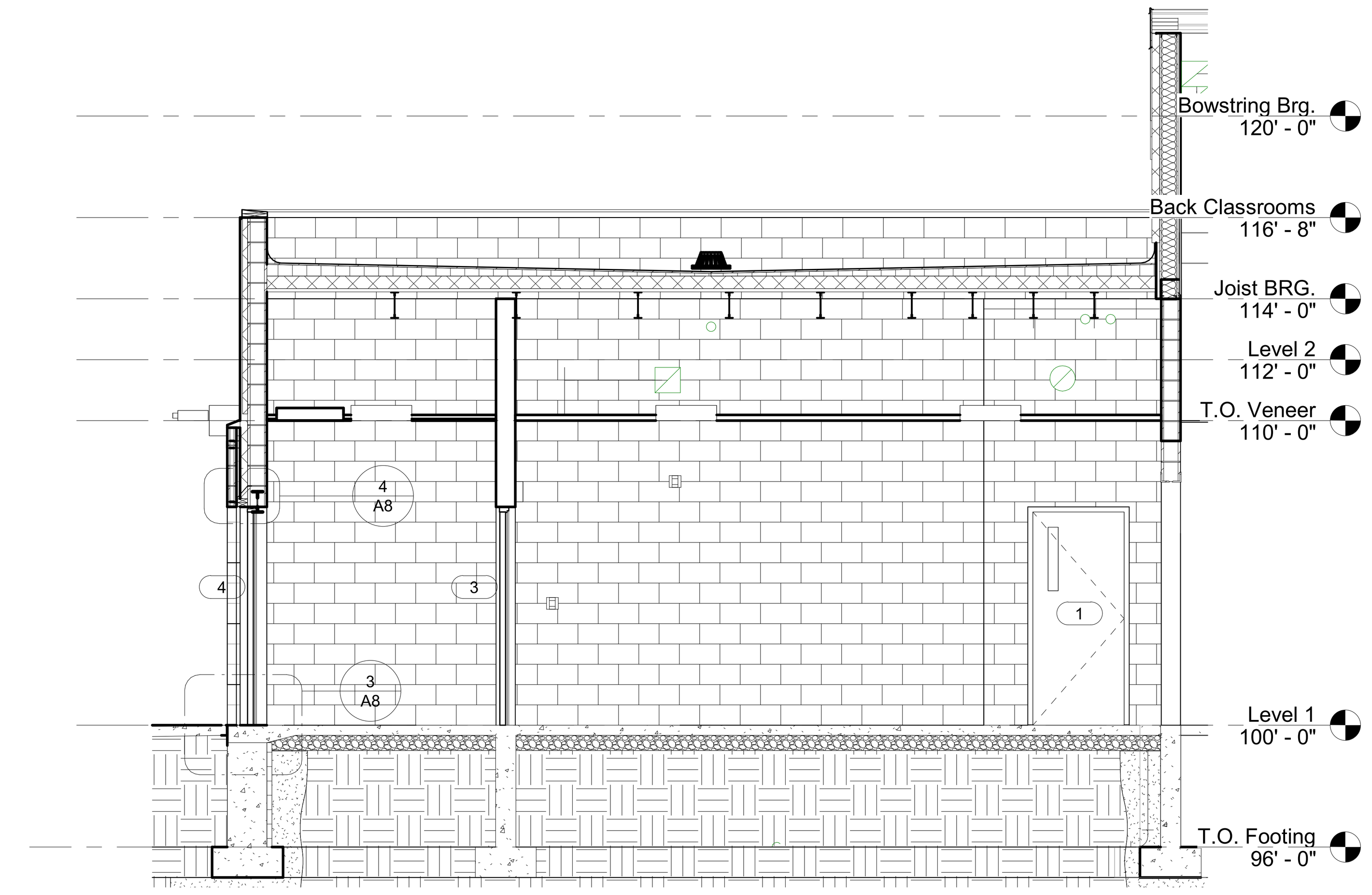
hkg architects

REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	Roof Plan & Details	DRAWN BY CH TRACED BY ___ CHECKED BY AS	A6 OF- 6
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032

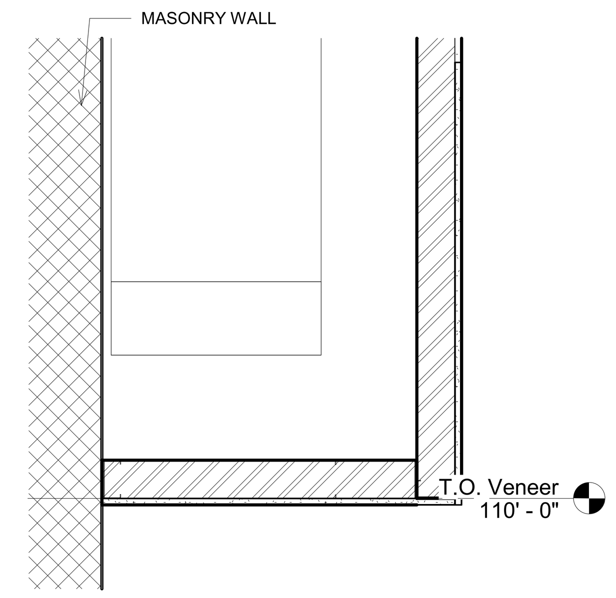




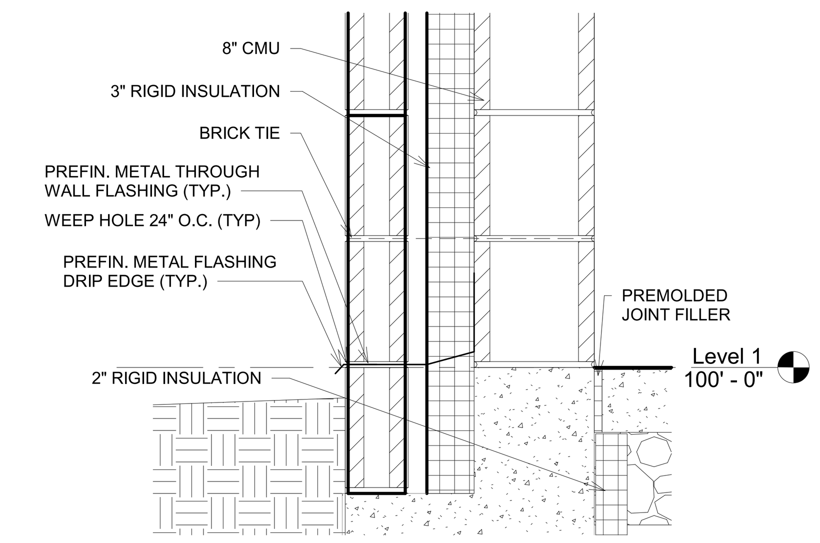
4 Building D RCP
1/8" = 1'-0"



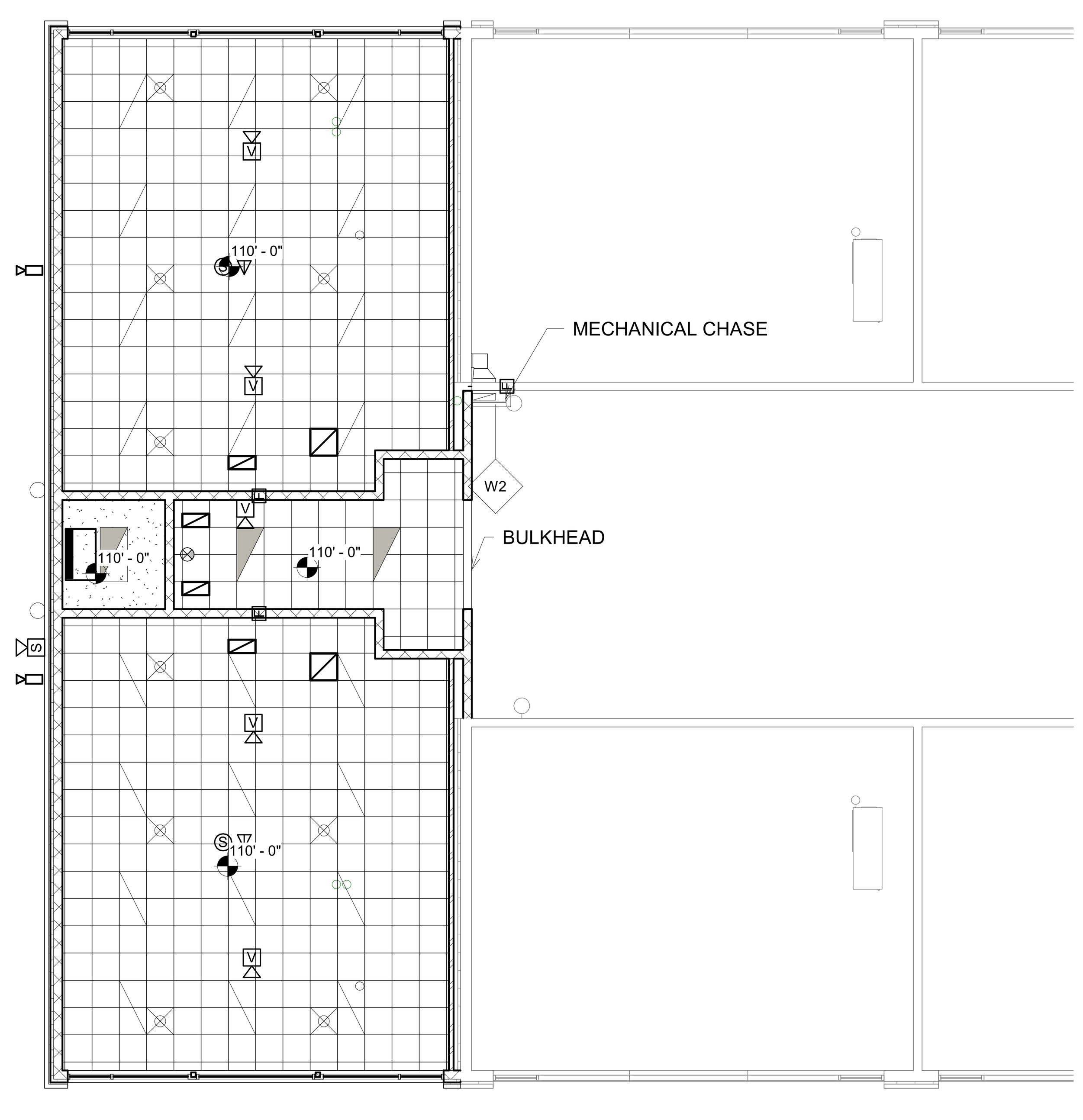
2 Section 1
1/4" = 1'-0"



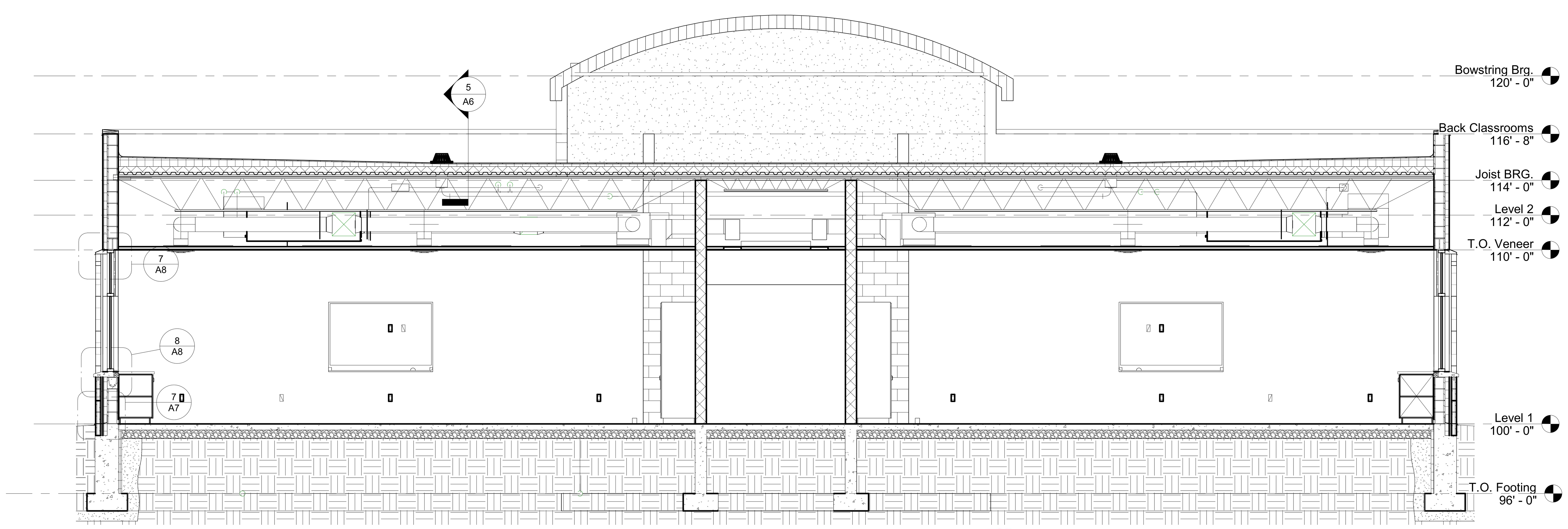
5 Mech. Chase
1" = 1'-0"



7 Flashing @ Veneer/ Grade
1 1/2" = 1'-0"

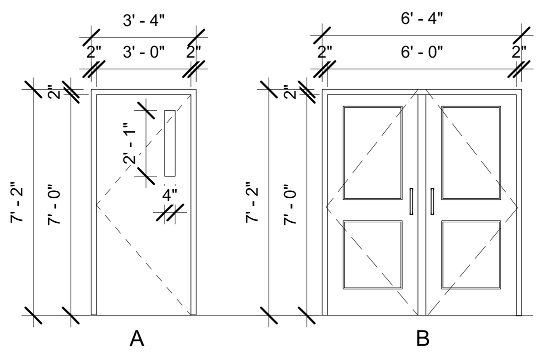


3 Building A RCP
1/8" = 1'-0"

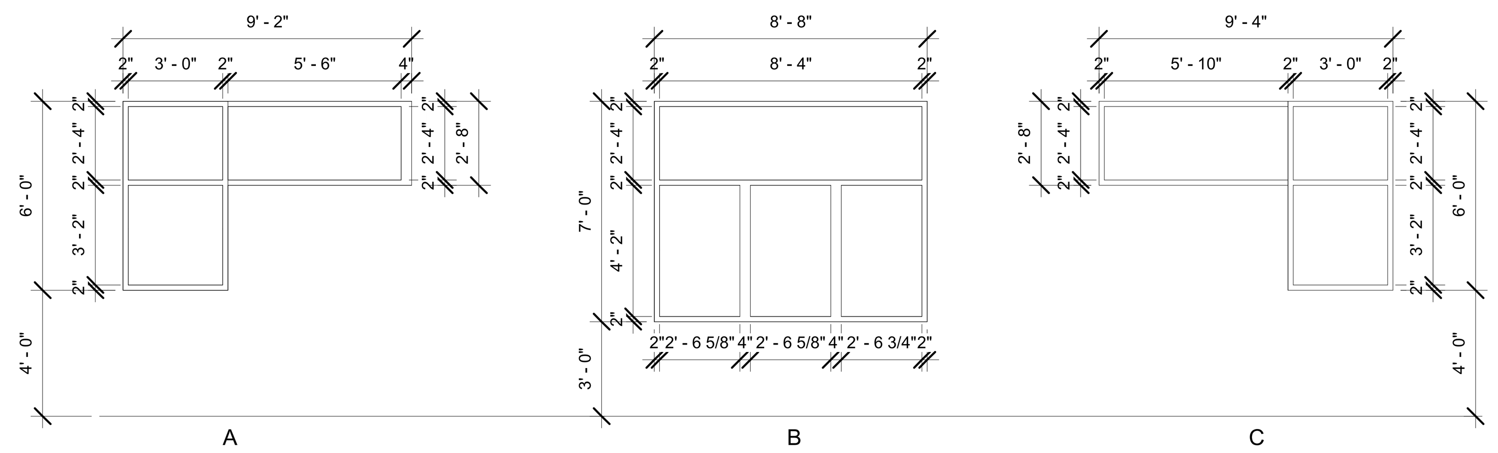


1 Section 2
1/4" = 1'-0"

REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	Reflected Ceiling Plan & Sections	DRAWN BY CH TRACED BY ___ CHECKED BY AS
			A7 OF- 6
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.	DATE 11/22/24	PROJECT NO. 2024-0032

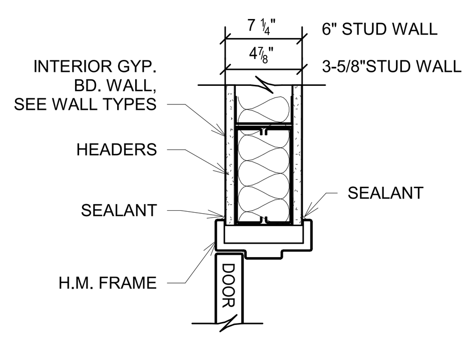


Door Schedule								
Mark	Width	Height	Thickness	Door Type	Door Material	Door Frame	Door Details	Comments
1	3' - 0"	7' - 0"	0' - 1 3/4"	A	Wood	HM	1/A7 & 2/A7	20 MIN. RATED
2	3' - 0"	7' - 0"	0' - 1 3/4"	A	Wood	HM	1/A7 & 2/A7	20 MIN. RATED
3	6' - 6"	9' - 1"	0' - 0"	B	Alum	Alum Insul.	3/A7, 4/A7, 5/A7	
4	6' - 6"	9' - 1"	0' - 0"	B	Alum	Alum Insul.	3/A7, 4/A7, 5/A7	
5	3' - 0"	7' - 0"	0' - 1 3/4"	A	Wood	HM	1/A7 & 2/A7	20 MIN. RATED
6	3' - 0"	7' - 0"	0' - 1 3/4"	A	Wood	HM	1/A7 & 2/A7	20 MIN. RATED
7	6' - 6"	9' - 1"	0' - 0"	B	Alum	Alum Insul.	3/A7, 4/A7, 5/A7	
8	6' - 6"	9' - 1"	0' - 0"	B	Alum	Alum Insul.	3/A7, 4/A7, 5/A7	
9	3' - 0"	7' - 0"	0' - 1 3/4"	A	Wood	HM	1/A7 & 2/A7	20 MIN. RATED
10	3' - 0"	7' - 0"	0' - 1 3/4"	A	Wood	HM	1/A7 & 2/A7	20 MIN. RATED
11	6' - 6"	9' - 1"	0' - 0"	B	Alum	Alum Insul.	3/A7, 4/A7, 5/A7	
12	6' - 6"	9' - 1"	0' - 0"	B	Alum	Alum Insul.	3/A7, 4/A7, 5/A7	

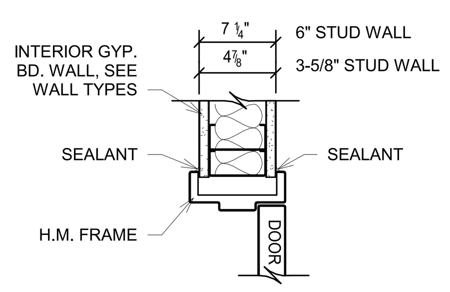


Window Schedule							
Mark	Width	Height	Type	Glazing	Detail	Frame	Comments
1	3' - 0"	6' - 0"	A	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
2	4' - 0"	7' - 0"	B	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
3	3' - 0"	6' - 0"	C	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
4	3' - 0"	6' - 0"	A	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
5	4' - 0"	7' - 0"	B	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
6	3' - 0"	6' - 0"	C	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
7	3' - 0"	6' - 0"	A	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
8	4' - 0"	7' - 0"	B	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
9	3' - 0"	6' - 0"	C	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
10	3' - 0"	6' - 0"	A	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
11	4' - 0"	7' - 0"	B	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
12	3' - 0"	6' - 0"	C	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
13	3' - 0"	6' - 0"	A	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
14	4' - 0"	7' - 0"	B	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
15	3' - 0"	6' - 0"	C	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
16	3' - 0"	6' - 0"	A	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
17	4' - 0"	7' - 0"	B	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	
18	3' - 0"	6' - 0"	C	1" Annealed Insulated W/ Low-E	6/A7, 7/A7, 8/A7, 9/A7	ALUM	

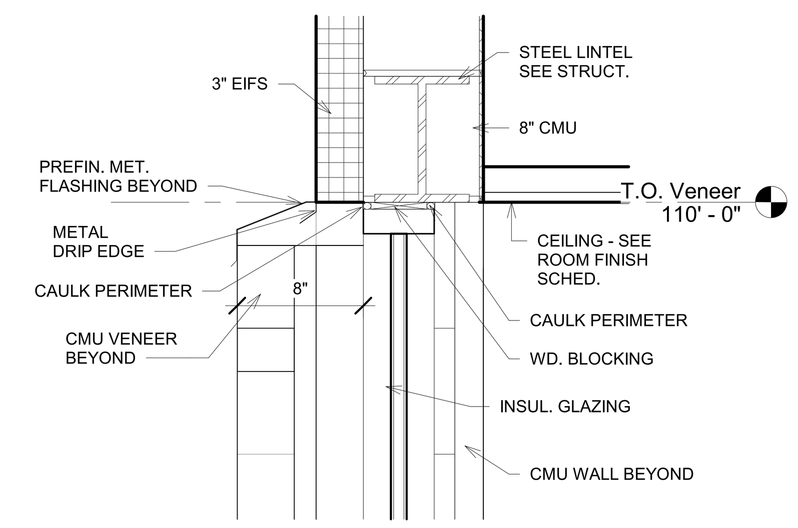
Room Schedule							
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	CLG. Height	Comments
1	Class 1	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU & GYPDW	ACT	10'-0"	
2	Hall 1	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU	ACT	10'-0"	
3	Vest. 1	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU	GYPDW	10'-0"	
4	Class 2	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU & GYPDW	ACT	10'-0"	
5	Class 3	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU & GYPDW	ACT	10'-0"	
6	Hall 2	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU	ACT	10'-0"	
7	Vest. 2	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU	GYPDW	10'-0"	
8	Class 4	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU & GYPDW	ACT	10'-0"	
9	Class 5	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU & GYPDW	ACT	10'-0"	
10	Hall 3	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU	ACT	10'-0"	
11	Vest. 3	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU	GYPDW	10'-0"	
12	Class 6	Armstrong Flooring VCT Imperial Texture 52500 Carnival White	Vinyl	CMU & GYPDW	ACT	10'-0"	



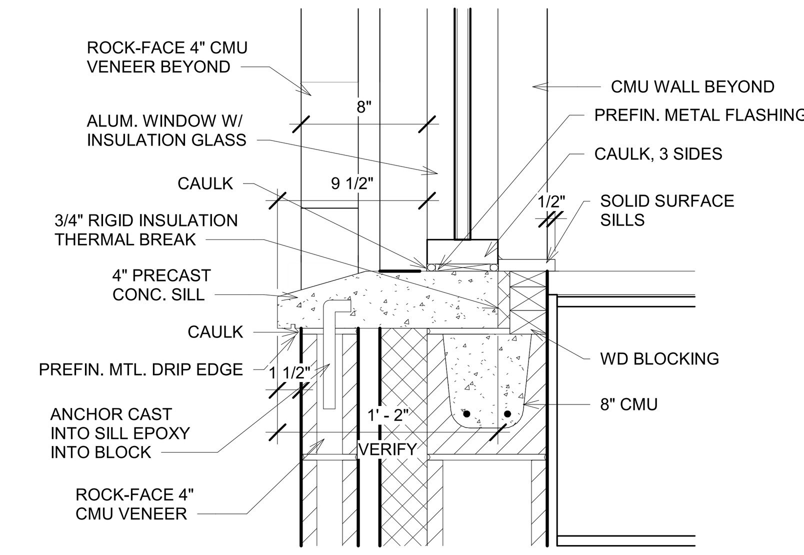
1 Typ HM Door Head Details
1 1/2" = 1'-0"



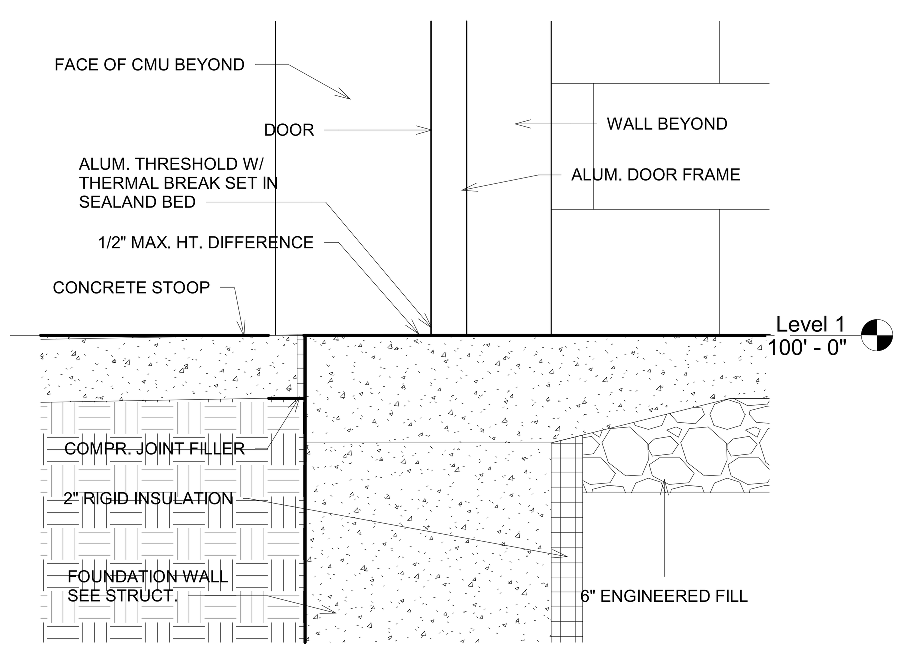
2 TYP. HM Jamb Detail
1 1/2" = 1'-0"



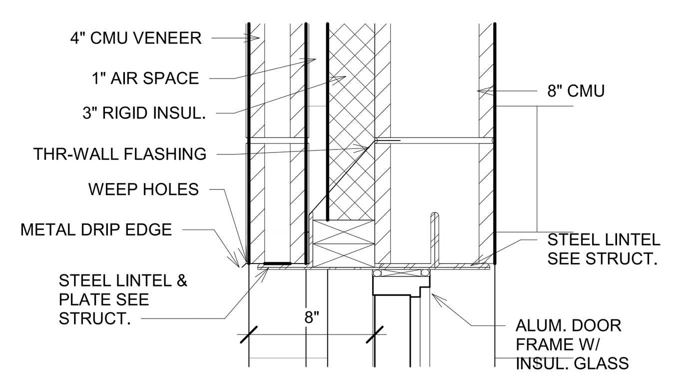
7 Alum. Window Head @ EIFS
1 1/2" = 1'-0"



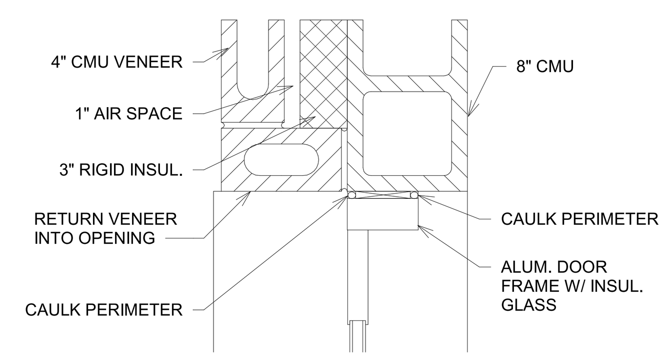
8 Alum. Window Sill @ CMU
1 1/2" = 1'-0"



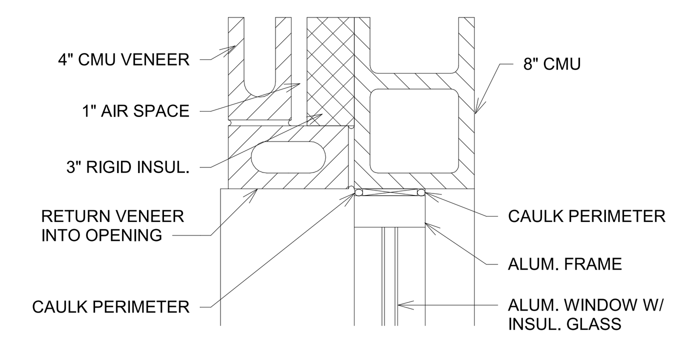
3 Exterior Door Sill
1 1/2" = 1'-0"



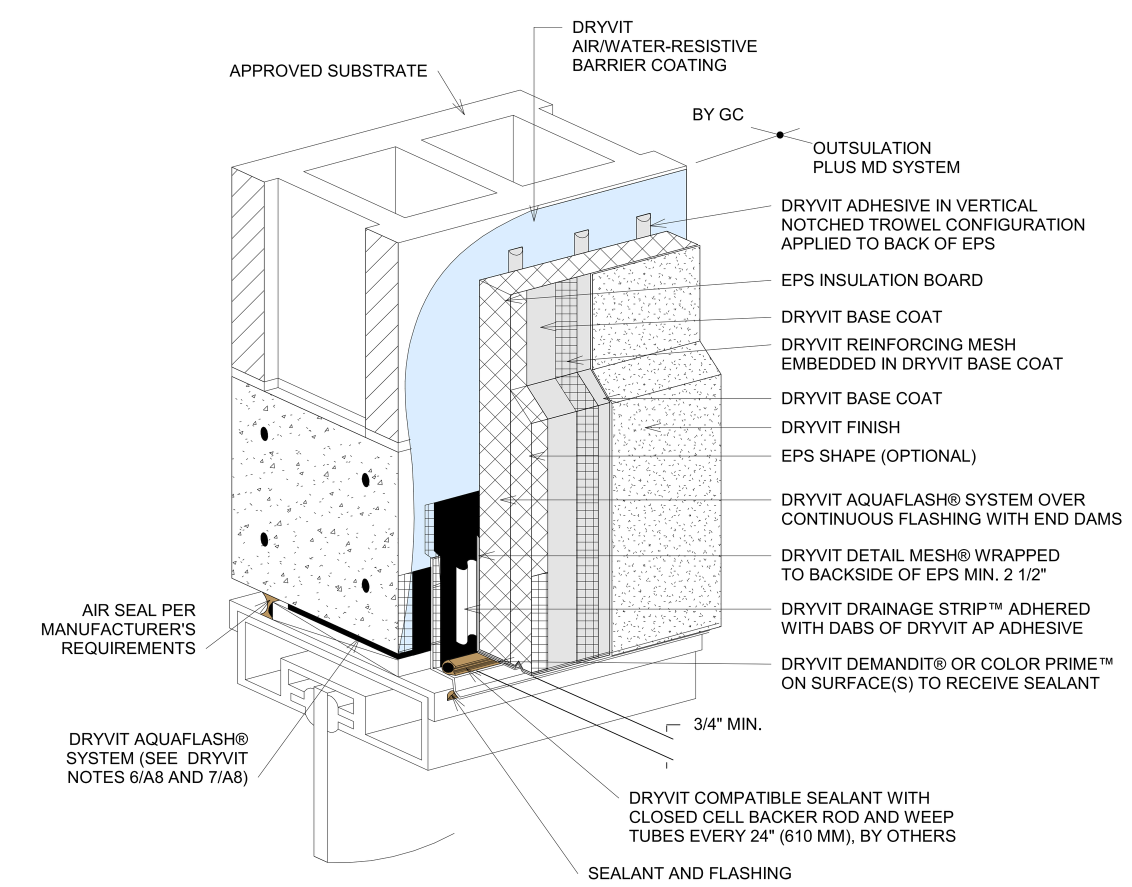
4 Alum. Door Head
1 1/2" = 1'-0"



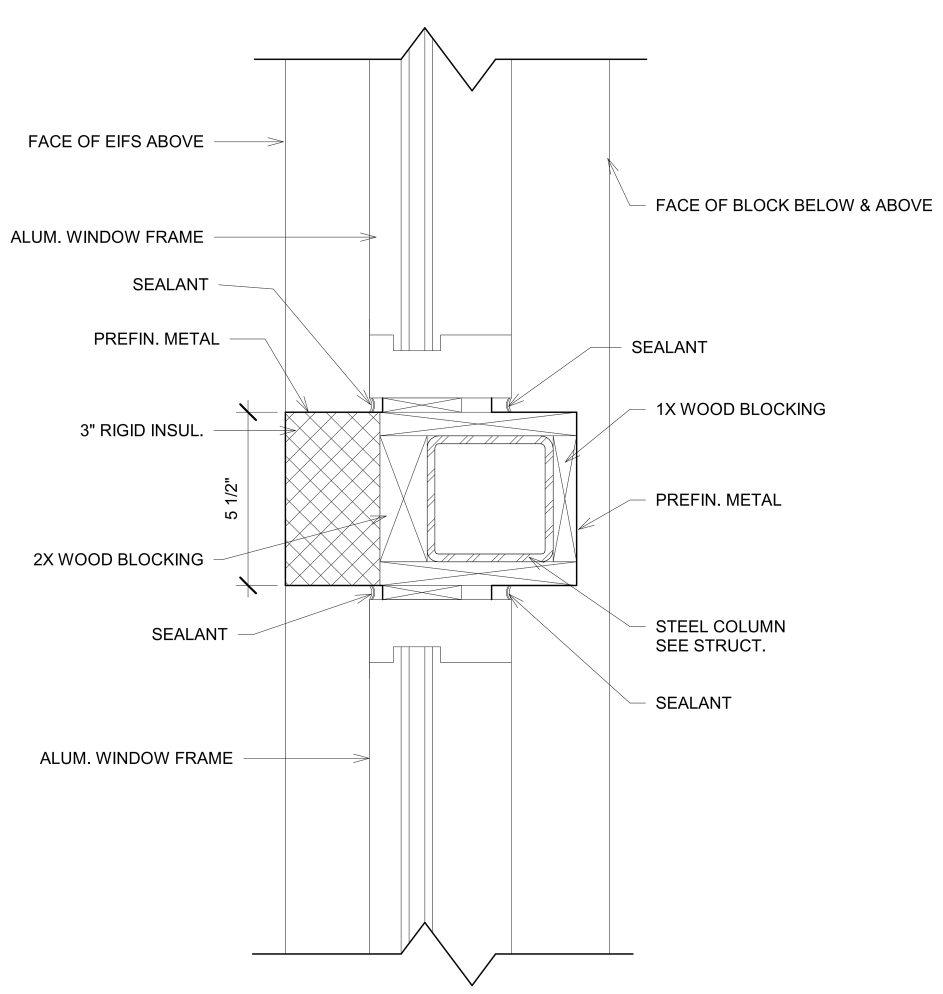
5 Alum. Door Jamb
1 1/2" = 1'-0"



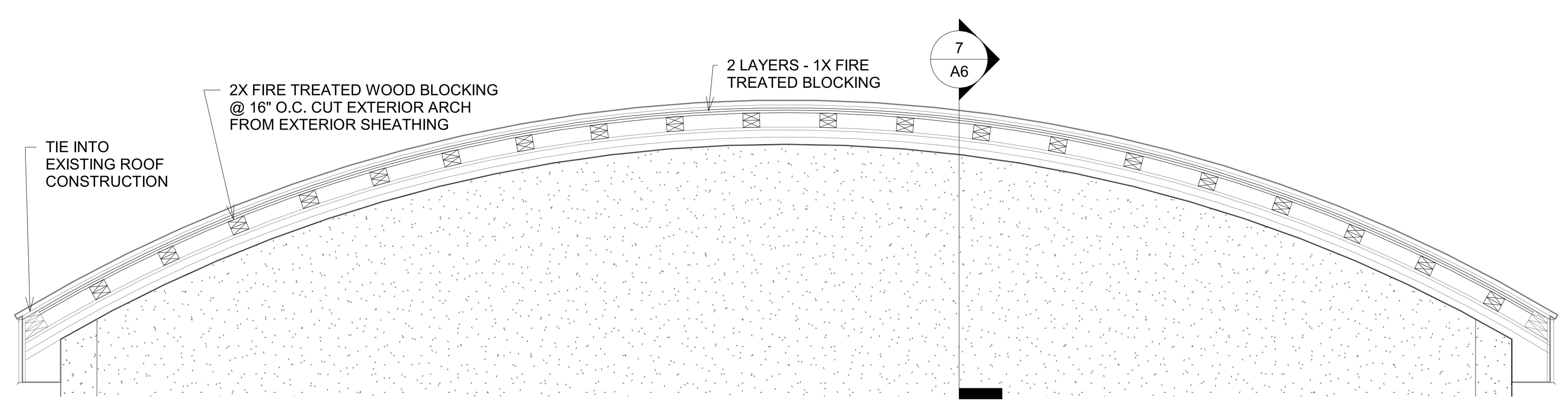
6 Alum. Window Jamb @ CMU
1 1/2" = 1'-0"



9 Dryvit Window Head Detail
12" = 1'-0"



10 Alum. Window Frame @ Column
3" = 1'-0"



11 Roof End Construction
1/2" = 1'-0"

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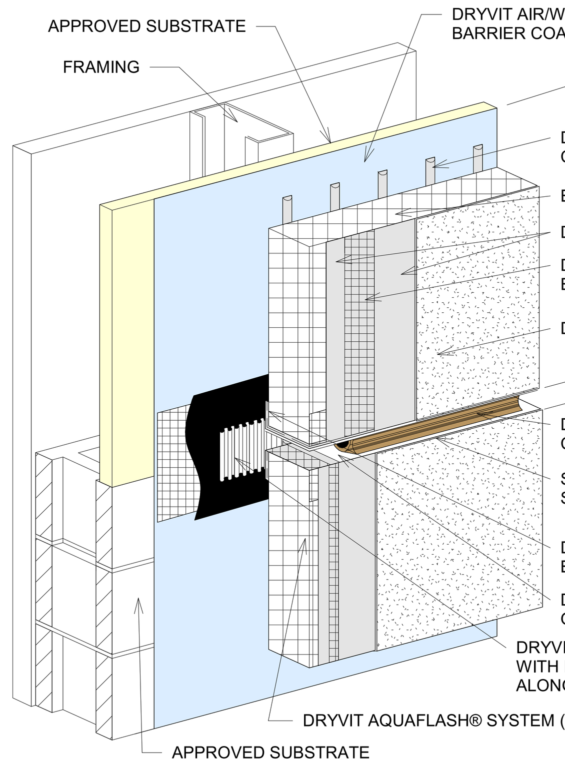
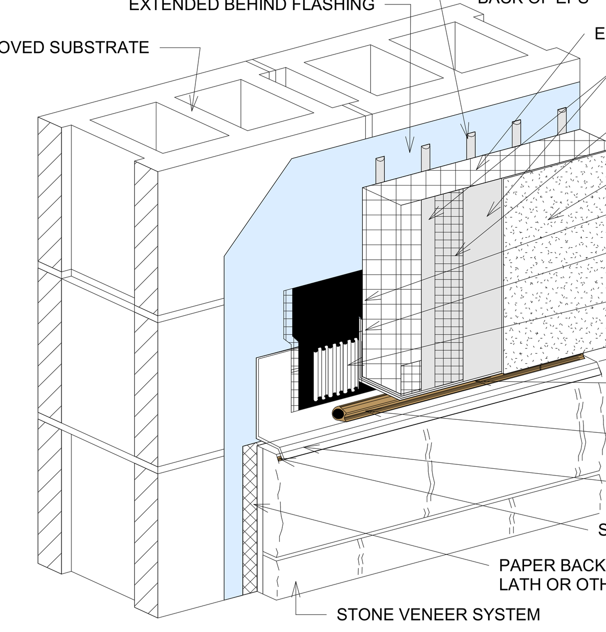
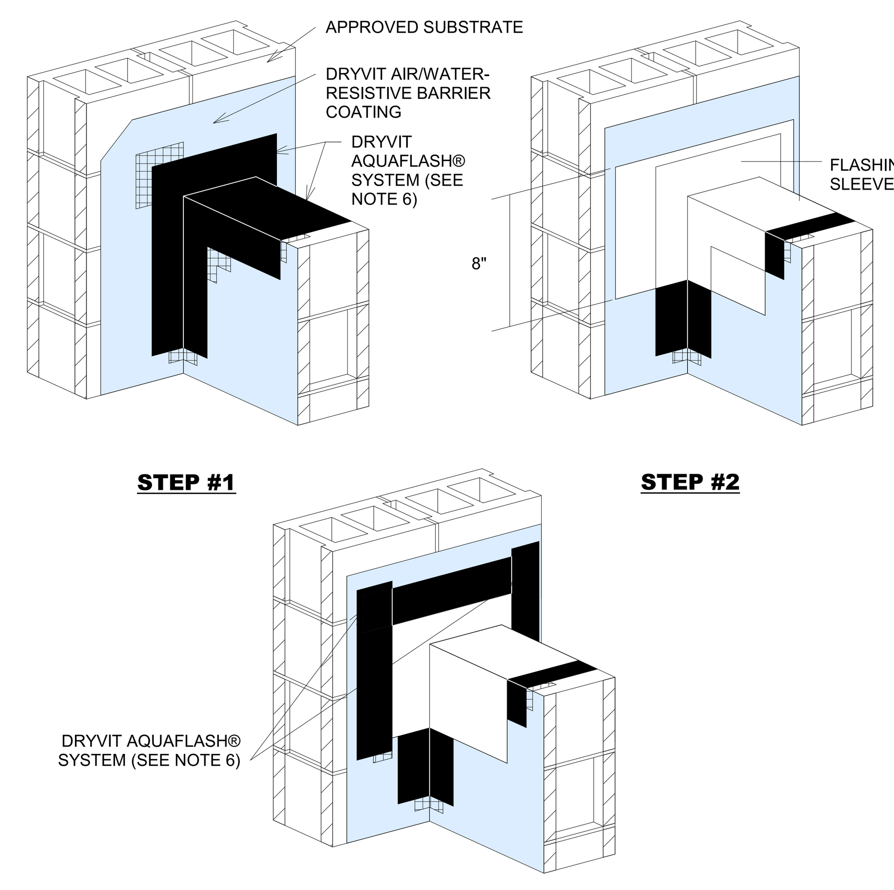
REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	Schedules & Details	DRAWN BY CH TRACED BY ___ CHECKED BY AS	A8 OF- 6
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



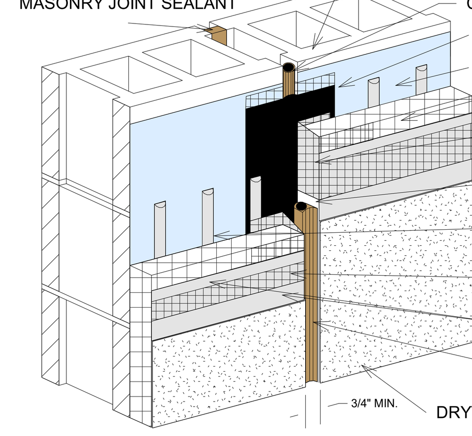
1 Horizontal Joint - Substrate Change
12" = 1'-0"



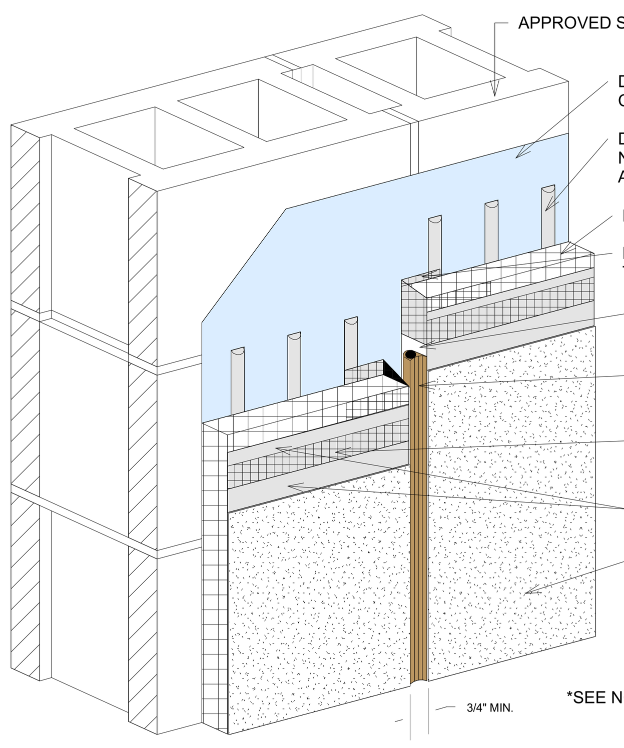
2 Stone Veneer to Dryvit Transition
12" = 1'-0"



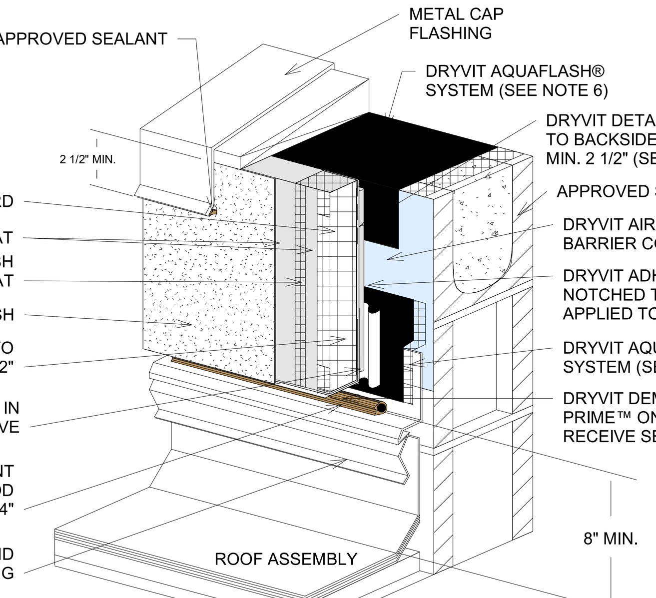
3 Prep @ Parapet/ Wall Intersection
12" = 1'-0"



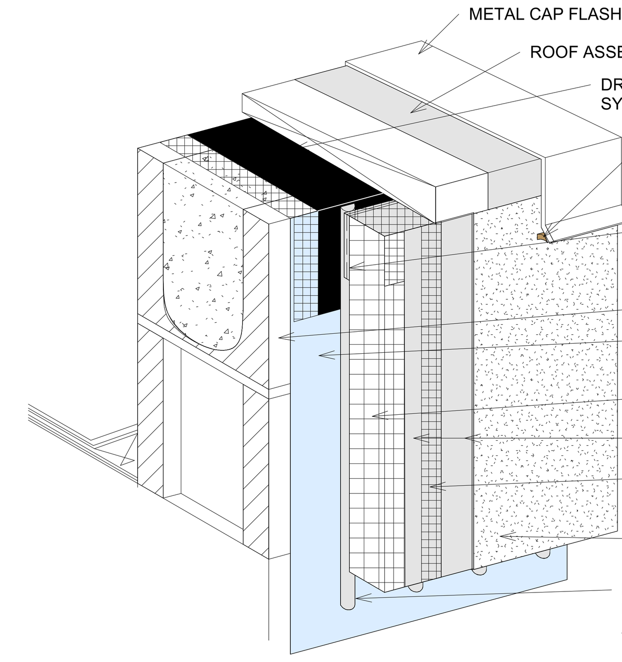
4 Masonry Control Joint
12" = 1'-0"



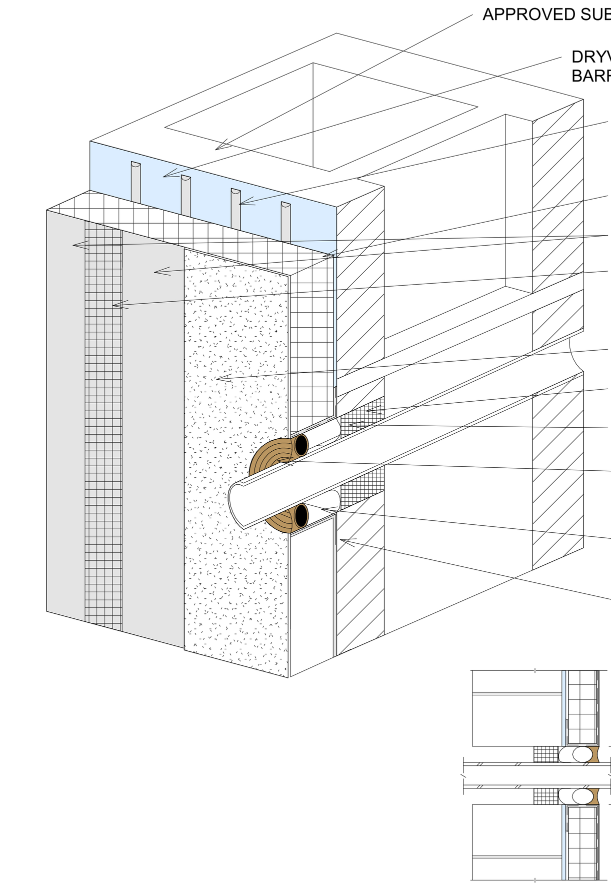
5 Vertical Expansion Joint
12" = 1'-0"



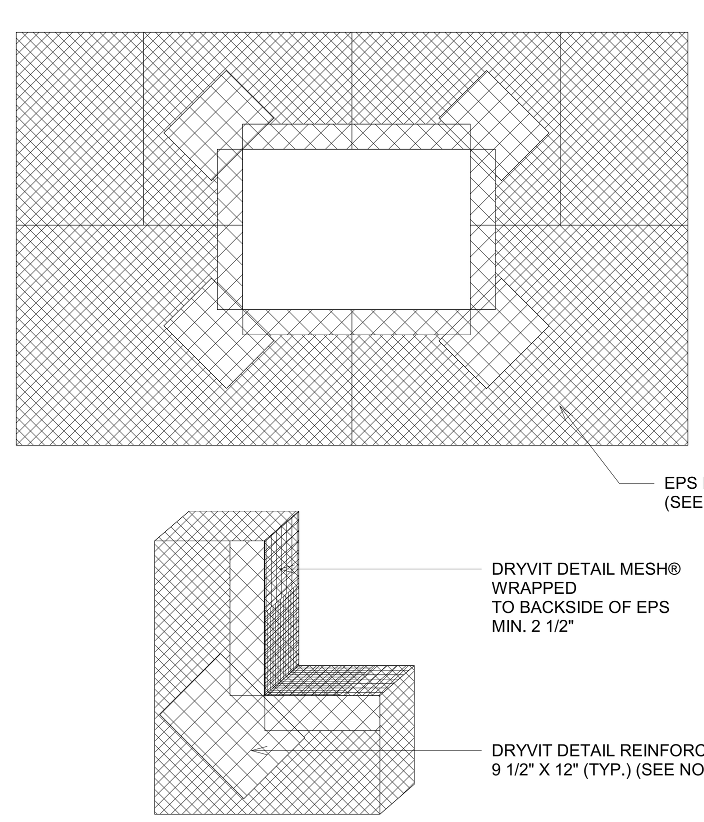
6 Roof Flashing @ Parapet
12" = 1'-0"



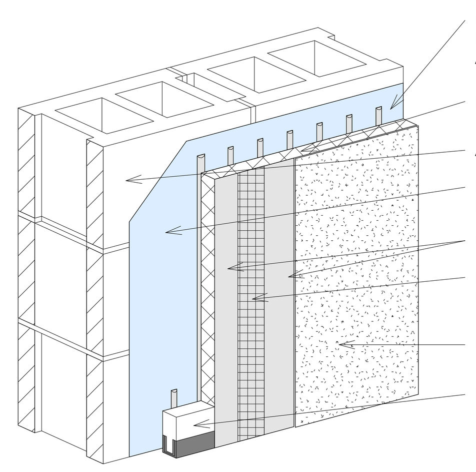
7 Dryvit Parapet
12" = 1'-0"



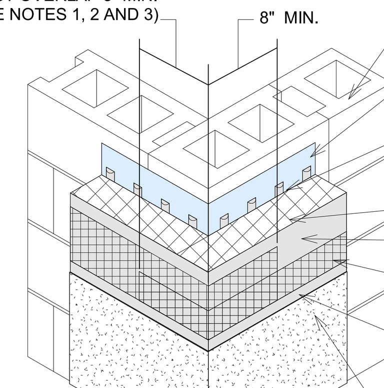
8 Dryvit Penetration
12" = 1'-0"



9 EPS Penetration Prep
12" = 1'-0"



10 Dryvit System
12" = 1'-0"



11 Dryvit Outside Corner
12" = 1'-0"

DRYVIT NOTES-

1. DOUBLE WRAP OUTSIDE CORNERS WITH REINFORCING MECH OR USE CORNER MESH.
2. DO NOT LAP REINFORCING MESH WITHIN 8" OF A CORNER.
3. OUTSIDE INSULATION BOARD EDGES SHALL BE OFFSET.
4. LOCATE INSULATION BOARDS SUCH THAT BOARD EDGES DO NOT ALIGN WITH CORNERS OF PENETRATION.
5. APPLY A PIECE OF A 9 1/2" X 12" DETAIL REINFORCING MESH DIAGONALLY AT EACH CORNER.
6. DRYVIT FLASHING TAPE SURFACE CONDITIONER AND DRYVIT FLASHING TAPE MAY BE USED IN LIEU OF DRYVIT AQUAFLASH SYSTEM.
7. DRYVIT AIR/ WATER-RESISTIVE BARRIER COATING IS AN ALTERNATE OPTION AT JAMB AND HEAD CONDITION.
8. EXTEND ROOFING MEMBRANE ACROSS TOP OF PARAPET AND DOWN FACE OF WALL.
9. EDGE WRAPPING METHOD IS ACCEPTABLE IN LIEU OF BACK WRAPPING. REINFORCING MESH MUST BE FULLY EMBEDDED IN BASE COAT AT EPS EDGE AND MUST EXTEND ONTO SUBTRATE 2 1/2" MIN.
10. SEALANT SHALL NOT BE IN DIRECT CONTACT WITH ASPHALTIC ADHESIVE ON DRYVIT FLASHING TAPE. COVER DRYVIT FLASHING TAPE LAPS WITH POLYTHYLENE TAPE OR BACKER ROD.
11. EIFS EXPANSION JOINTS ARE REQUIRED IN CONTINUOUS ELEVATIONS AT INTERVALS NOT EXCEEDING 75 FT.
12. LOCATE EXTERNAL SEALAND JOINT WITHIN 2 1/2" OF SUBSTRATE JOINT.

REGISTERED PROFESSIONAL ARCHITECT
DEAN MARSKE
SOUTH DAKOTA

hkg architects

Plans for
Tiospa Zina School
Classroom Addition
Agency Village, South Dakota

Dryvit Details

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11/22/24
2024-0032

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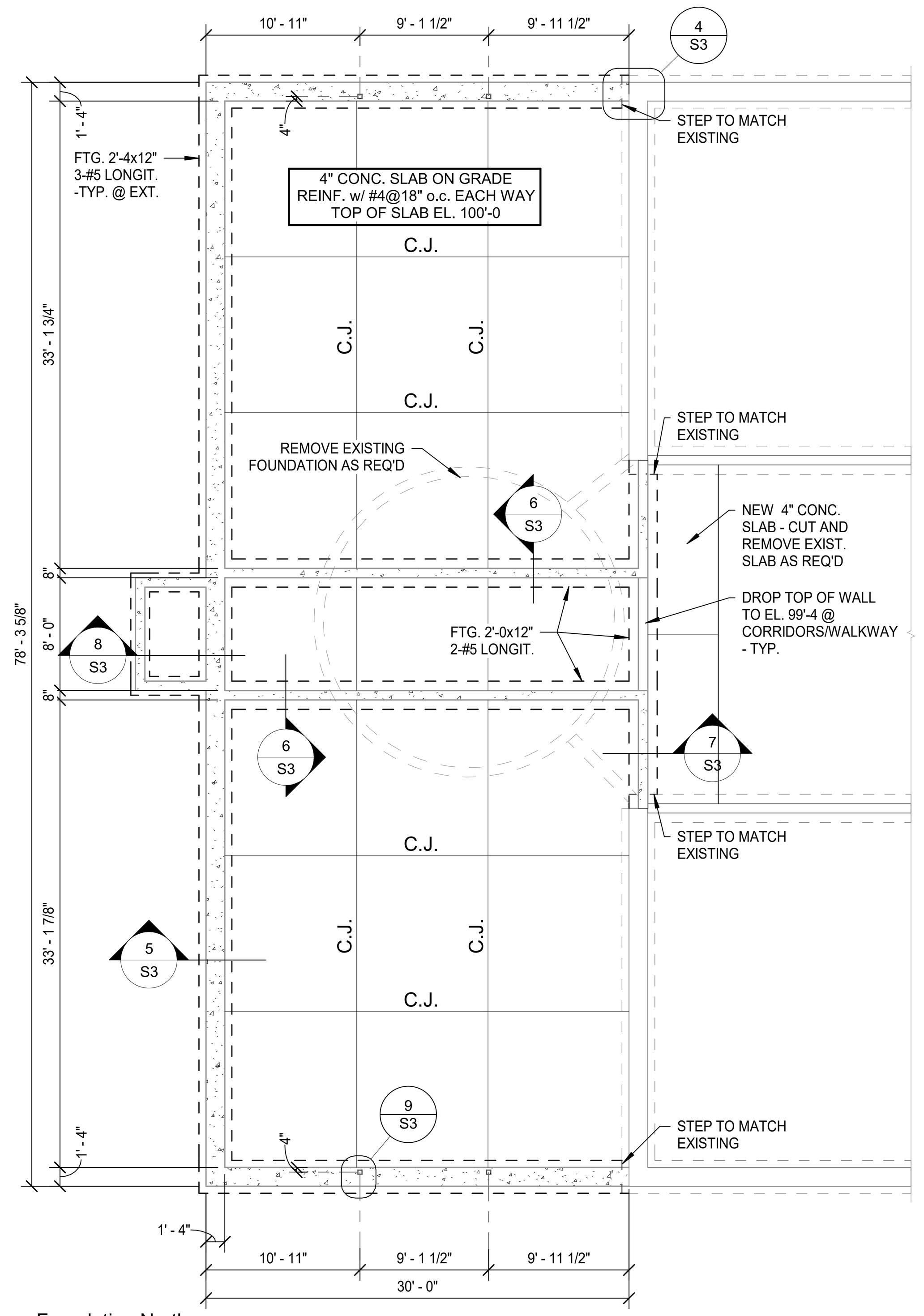
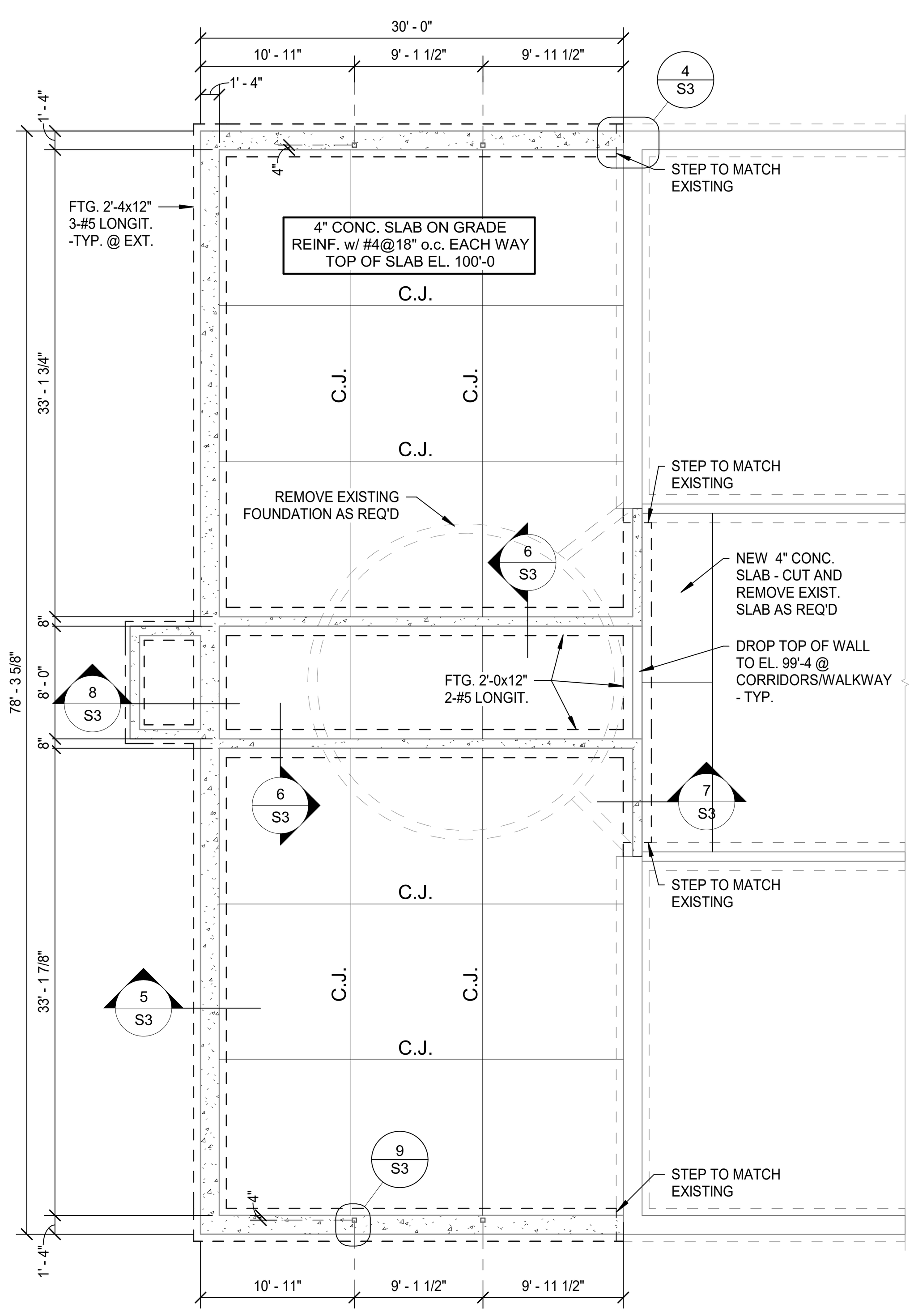
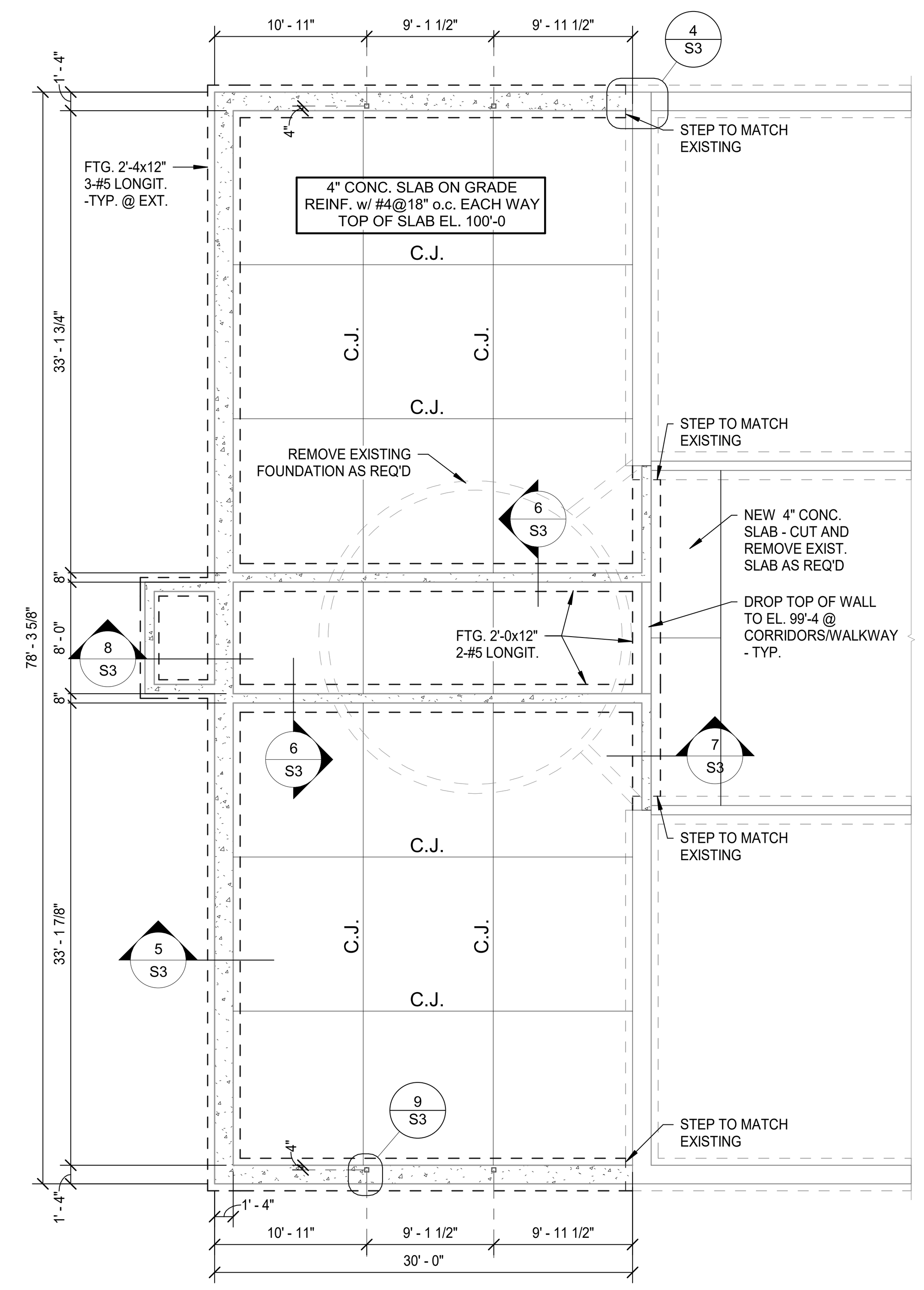


1 Foundation North
1/8" = 1'-0"



2 Foundation Middle
1/8" = 1'-0"



3 Foundation South
1/8" = 1'-0"

GENERAL STRUCTURAL NOTES

1. Design Codes Used:
   IBC 2021
   ACI Concrete Code
   AISC Code - ASD

2. Design Loads:
   Roof Snow Load:
   Pf = 38.5 PSF + Drift (Balanaced)
   Unbalanced snow load as per ASCE 7-16 Secction 7
   Pg = 50 PSF
   Ce = 1.0
   Is = 1.1
   Ct = 1.0

   Live Load:
   Public — 100 PSF

   Wind Load:
   V_{ULT} = 120 MPH Basic Wind Speed
   Risk Category = III
   Wind Exposure C
   Internal Pressure Coefficient +/- 0.18

3. Design Stresses Used:

Concrete	
- Slabs on Grade	3000 PSI @ 28 Days
- Footings & Foundation Walls	3000 PSI @ 28 Days
- Exterior Exposed	4500 PSI @ 28 Days (air entrained)
- Structural Slabs	4000 PSI @ 28 Days
- Masonry Strength	f'm = 1500 PSI
Steel	
- W Shapes	Fy = 50 KSI (ASTM A992)
- Tubes	Fy = 46 KSI (ASTM A500 Grade B)
- Angles, Channels, Bars	Fy = 36 KSI (ASTM A36)
- Pipes	Fy = 35 KSI (ASTM A53)
Reinforcing Steel	60 KSI (ASTM A615-60)
Soil Bearing Pressure	3000 PSF

4. CONCRETE COVERAGE for reinforcing shall be as follows:

Footings	3 inches
Columns and Piers	1 1/2 inches
Slabs on Grade	midheight for a single layer
Walls	1 1/2 inches @ exterior 3/4 inch @ interior
Structural Slabs	3/4 inch unless noted

   PROVIDE BAR SUPPORTS AND SPACERS in accordance with the ACI Detailing Manual.

5. REINFORCING STEEL to be bent and placed in accordance with ACI code. All splices to be 38db for #6 bar or smaller, 48 db for #7 bar and larger.

6. FOOTINGS to rest on undisturbed soil or engineered backfill. All walls and piers to center on footing unless otherwise noted. All footing elevations are given to the top of footings. -See Soils Report for Site Recommendations.

7. ALL FOUNDATION WALLS to be laterally supported before backfilling. Vertical construction joints to be keyed.

8. OPENINGS in concrete FOUNDATION WALLS shall be reinforced with 2-#5 bars each side, extending 2'-0" past the face of the opening unless otherwise noted.

9. SHOP DRAWINGS
   a. Submit electronic copies of the following shop drawings to the architect/engineer for review prior to fabrication.
      1. CONCRETE REINFORCING and mix designs for each class of concrete.
      2. STRUCTURAL STEEL
      3. ROOF JOISTS AND DECK

10. PORTLAND CEMENT to be ASTM C150, Type 1 & 1A.

11. CONCRETE to be in accordance with ACI 301. Maximum shale content shall not exceed 0.5% for exposed concrete.

12. CONTROL AND CONSTRUCTION JOINTS to be located as shown as on the plan or at contractor's option - not to exceed 10'-0" o.c.

13. PROVIDE NON-SHRINK Metallic Grout under Base Plates and Non-Shrink Grout for all Dowels.

14. MASONRY TO CONSIST OF ASTM C90 Hollow Core, Grade N, normal weight, Concrete Masonry Units. Joint Reinforcing to be LAdder type formed from cold-drawn steel wire conforming to ASTM 82, consisting of deformed longitudinal rodds with cross rods welded at interiors not exceeding 16" o.c.

15. MORTAR:

Exterior above grade / Interior bearing walls	Type S
Interior partitions	Type N or S
Exterior below grade	Type S

   Masonry grout to be f'c = 2000 PSI Minimum. See ACI530 TABLE 1.20.1 for grout spacement requirements and maximum pour heights.

16. PROVIDE TEMPORARY BRACING during masonry erection. Maintain in place until Building Structure provides permanent bracing.

17. AT MASONRY CONTROL JOINTS do not continue horizontal joint reinforcement across control joints. In Exterior Walls provide vertical open joint at 24 feet on center maximum. In Interior Walls provide vertical open joint at 30 feet on center maximum. Coordinate with the Architectural plans

18. ROOF JOISTS to be designed for 10 PSF net uplift - Typical.

19. CARPENTRY
   Beams/Wood Studs — Hem Fir, SPF #2, or better

20. Refer to IBC table or MN Building Code for typical nailing not shown. Table 2304.10.2.

21. ALL STRUCTURAL STEEL to be fabricated and erected in accordance with the AISC code. Connections not detailed are to be designed in accordance with the AISC detailing for steel construction. Shop connections to be welded. Field connections to be double clip angle connection bolted with 3/4" diameter high strength bolts (ASTM A325).

   WHEN REACTIONS for structural members are not given on the plan, connections shall be designed by fabricator to support one-half the total uniform load capacity shown in the maximum uniform load tables in the current steel construction manual, for the given beam, span, and grade of steel specified.

22. Cold formed steel 'C' studs/joists
   18 GA. - 20 GA. — Fy = 33 KSI
   16 GA. or thicker — Fy = 50 KSI
   General Contractor shall provide all lateral roof bracing as required by Field Installation Guide for cold form steel roof trusses by Light Gauge Steel Engineers Association.

23. STEEL LINTELS shall have a minimum end bearing on masonry of 6 inches but not less than 1 inch of bearing for each foot of opening width. For openings not otherwise indicated, provide masonry lintels with 2 - #4 reinforcing bars in 8" bond beam. Grout solid to 3 crs. Below lintel bearing, with a minimum of 8 inches bearing at each end. Steel lintels shall bear on embed plate 7"x3/8" @ 8" CMU, 9"x3/8" @ 10" CMU, 11"x3/8" @12" CMU with 2-1/2" stud anchors. Field weld lintel to embed.

24. Steel Stud Partition Walls & Lintels to be designed by Supplier. If they do not come off of standard charts provide Engineered Calculations and shops.

24. Provide 100 lineal feet of L 3-1/2" x 3-1/2" x 5/16" to be used at the Architect/Engineer's discretion, or for mechanical lintels through existing walls.

25. Contractor Field Verify all new lintels in existing walls have the correct plate width.

26. SEE MECHANICAL, ELECTRICAL & ARCHITECTURAL DRAWINGS for all openings and inserts not shown on the plan. All opening sizes and locations to be verified with mechnical and electrical contractors.

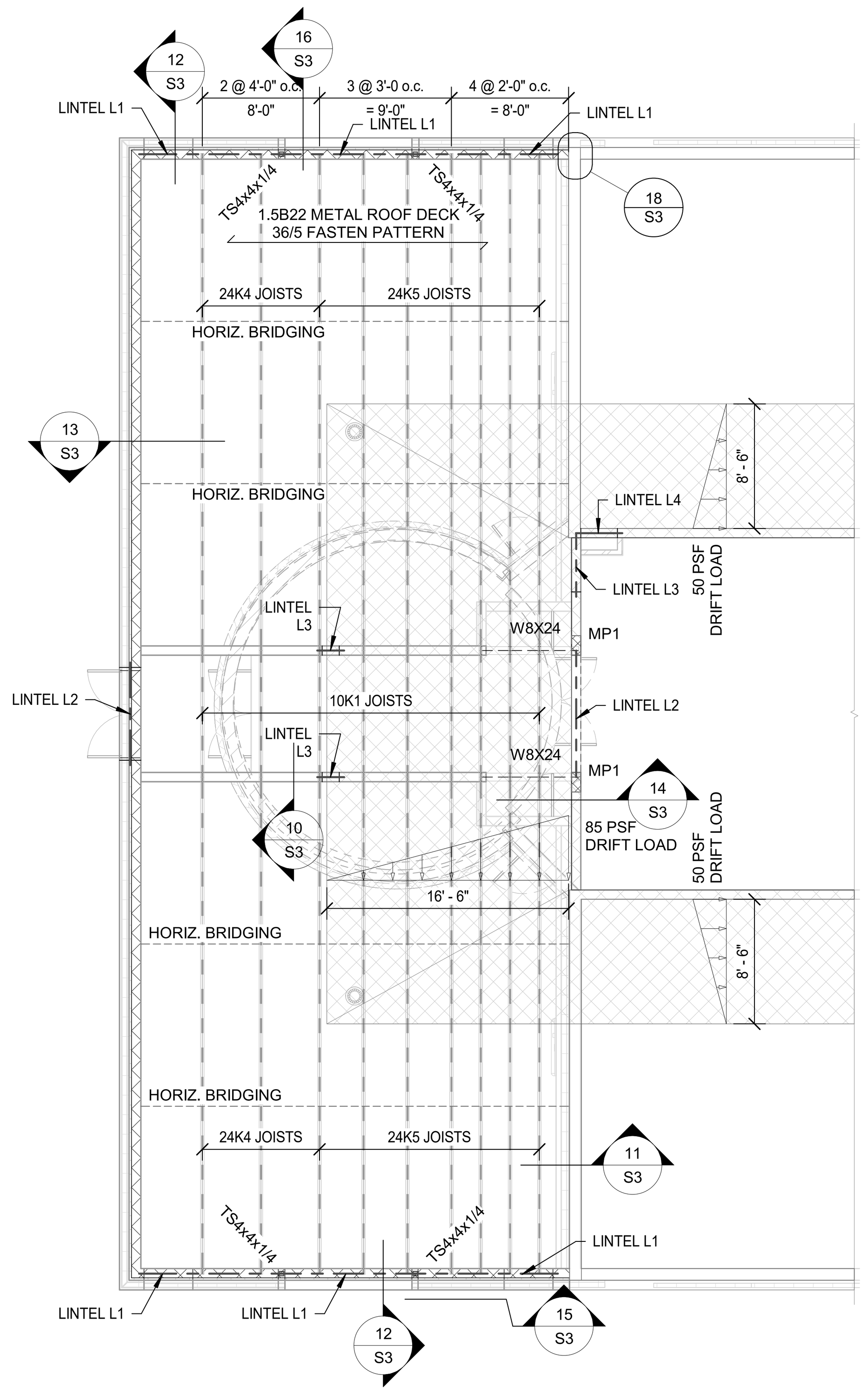
27. IF DIMENSIONAL DISCREPANCIES occur between the field and the project dimension, or between the Architectural and Structural plans, verify correct dimesnions with the Architect/Engineer before they are used for construction.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 14044
STEVEN S. VONDAL
SOUTH DAKOTA

SOLIEN & LARSON ENGINEERING
CONSULTING STRUCTURAL ENGINEERS
3330 FIECHTNER DRIVE, SUITE 206
FARGO, NORTH DAKOTA 58103
TELEPHONE (701) 235-5593 FAX (701) 235-5594

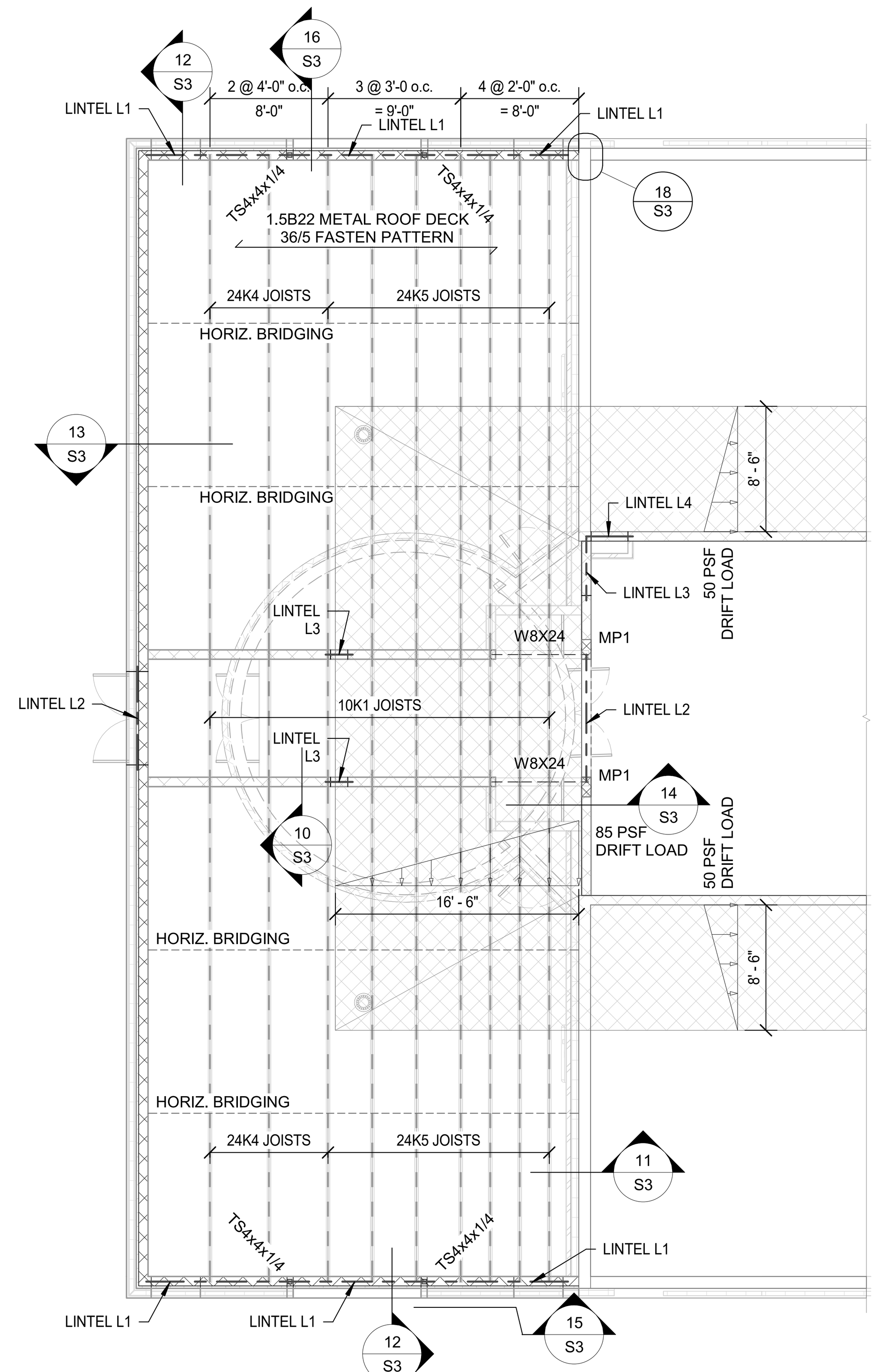
hkg architects

REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	Foundation Plans	DRAWN BY LT CHECKED BY SV	S1 OF- 2
CERT. NO.	HKG Architects, Inc. — Aberdeen, S.D.		DATE 11/11/24	PROJECT NO. 24116



1 Roof Framing North
1/8" = 1'-0"

NOTE:
1). JOIST BRN'G/TOP OF STEEL EL. 114'-0 U.N.O.
2). 'MP1' = 8"x16" MASONRY PILASTER REINF. w/ 4-#5 VERT/DWLS 1/4" TIES @ 8" o.c.



2 Roof Framing Middle
1/8" = 1'-0"

NOTE:
1). JOIST BRN'G/TOP OF STEEL EL. 114'-0 U.N.O.
2). 'MP1' = 8"x16" MASONRY PILASTER REINF. w/ 4-#5 VERT/DWLS 1/4" TIES @ 8" o.c.

LINTEL SCHEDULE

MARK	LINTEL	R.O.	REMARKS
L1	W8x24 - SILL 8"x16" BOND BEAM 2 - #4 TOP & BOTTOM	10'-0 MAX.	ATTACH TO TS4x4 @ JAMB BETWEEN WINDOWS, OTHER END OF BEAM ON 2 CORES, 1-#5 PER CORE
L2	W8x13 w/ 7"x1/4" BOTTOM PL.	6'-0 TO 8'-0	BEAR ON 1 CORE REINF. w/ 1-#5 KING POST 1 CORE 1-#5
L3	2 - L3 1/2x3 1/2x5/16	2'-0 TO 3'-0	BEAR ON 1 CORE REINF. w/ 1-#5
L4	2 - L5x3 1/2x1/4	3'-0	VERIFY w/ ARCH. IF LINTEL CAN BE EXPOSED OR TO BE IN WALL @ EXISTING. PROVIDE 1/2" DIA. THRU-BOLTS @ 24" o.c. IF EXPOSED

NOTE: 1). VERIFY ALL LINTEL OPENING WIDTHS, ELEVATIOONS, AND LOCATIONS WITH THE ARCHITECTURAL PLANS.

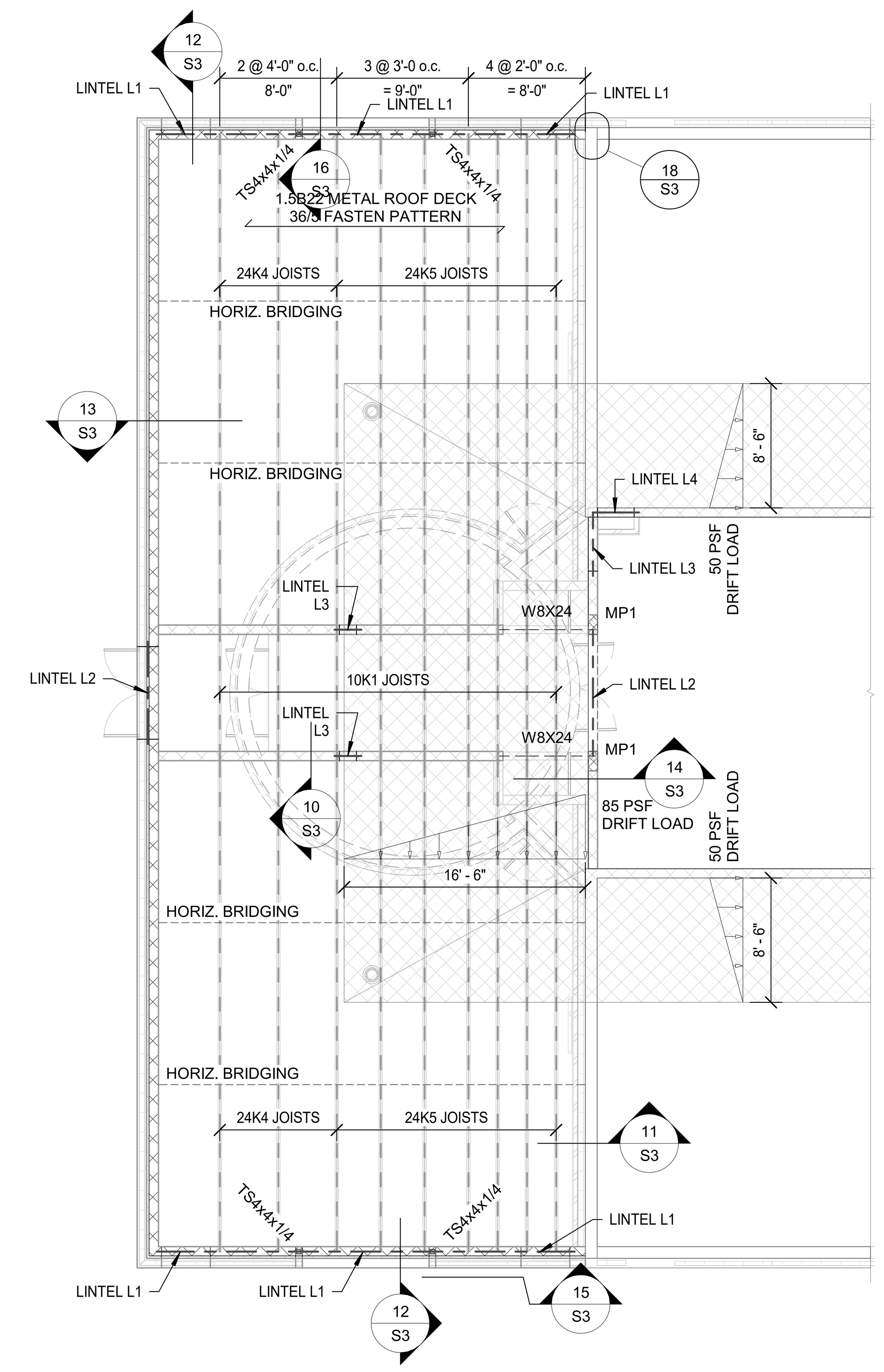
ROOF TRUSS LOADING:

ROOF SNOW LOAD: Pf = 38.5 PSF + DRIFT
PG = 50 PSF
Ce = 1.0
Is = 1.1
Ct = 1.0

DEAD LOAD: 17 PSF TOP CHORD
8 PSF BOTTOM CHORD

LIVE LOAD: 100 PSF PUBLIC

WIND LOAD: BASIC WIND SPEED 120 MPH
WIND EXPOSURE C
INTERNAL PRESSURE COEFICIENT ± .18



3 Roof Framing South
1/8" = 1'-0"

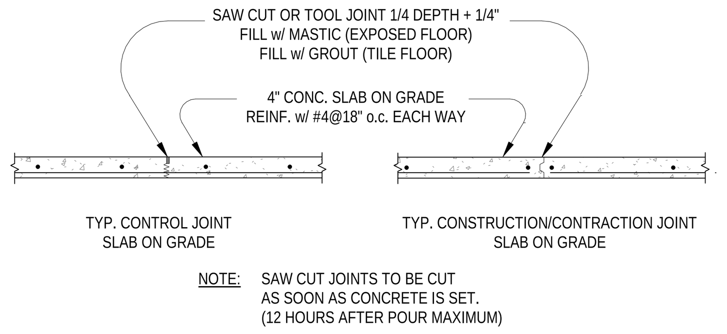
NOTE:
1). JOIST BRN'G/TOP OF STEEL EL. 114'-0 U.N.O.
2). 'MP1' = 8"x16" MASONRY PILASTER REINF. w/ 4-#5 VERT/DWLS 1/4" TIES @ 8" o.c.

SOLIEN & LARSON ENGINEERING
CONSULTING STRUCTURAL ENGINEERS
3330 FIECHTNER DRIVE, SUITE 206
FARGO, NORTH DAKOTA 58103
TELEPHONE (701) 235-5593 FAX (701) 235-5594

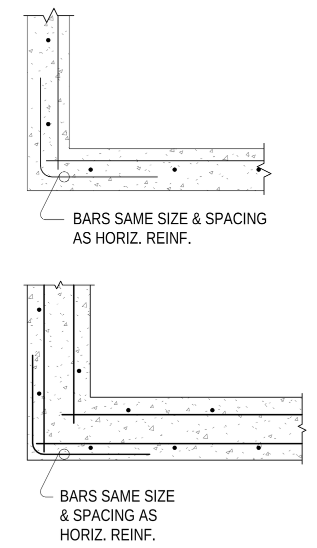
hkg architects

REGISTERED PROFESSIONAL ENGINEER REG. NO. 14044 STEVEN S. VONDAL SOUTH DAKOTA

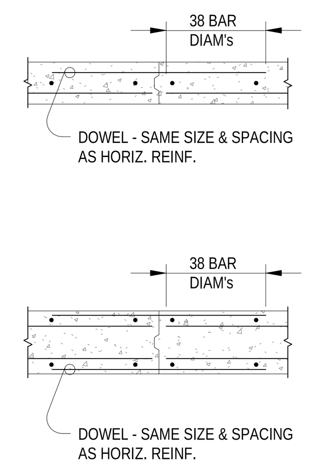
REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	Roof Framing Plans	DRAWN BY LT / CHECKED BY SV	S2 OF- 2
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/11/24	PROJECT NO. 24116



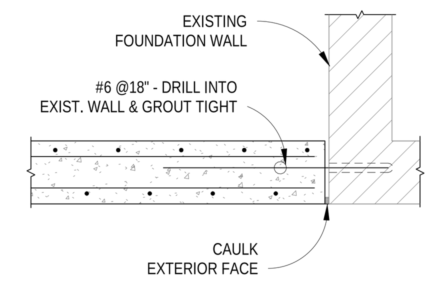
1 TYP. CONCRETE SLAB
1/2" = 1'-0"



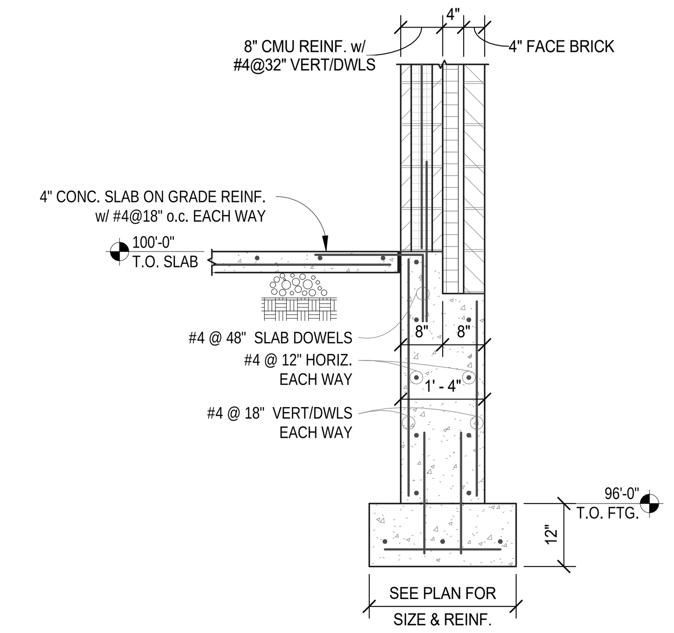
2 TYP. CORNER WALL REINF.
1/2" = 1'-0"



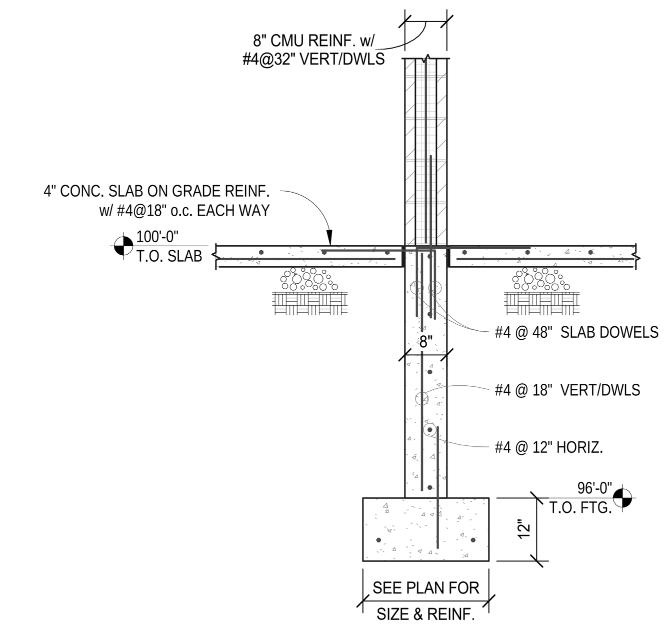
3 TYP. CONSTRUCTION JOINT
1/2" = 1'-0"



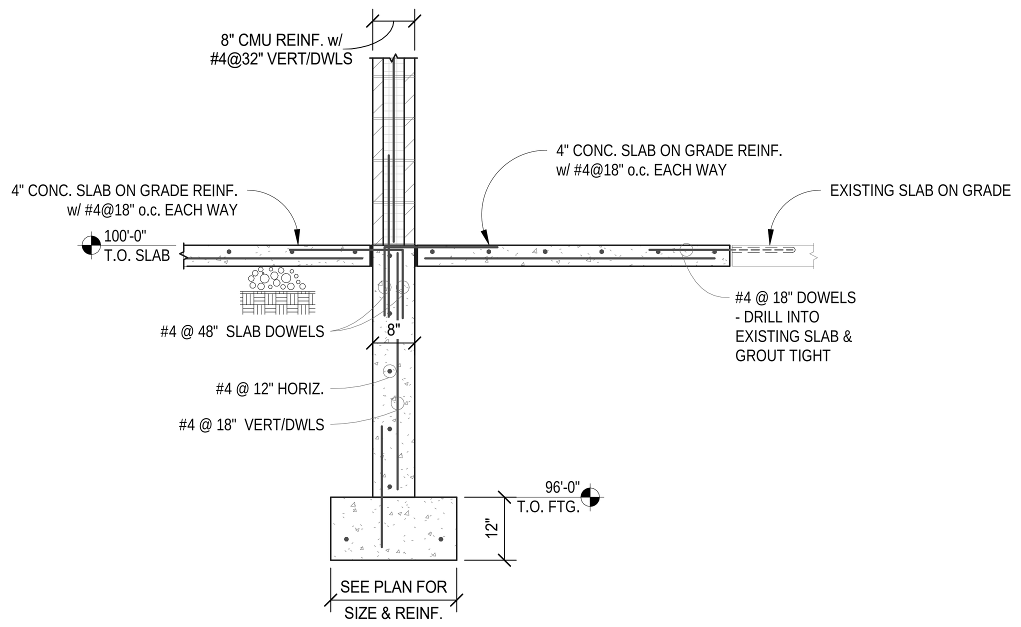
4 TYP. NEW FND. TO EXISTING
1/2" = 1'-0"



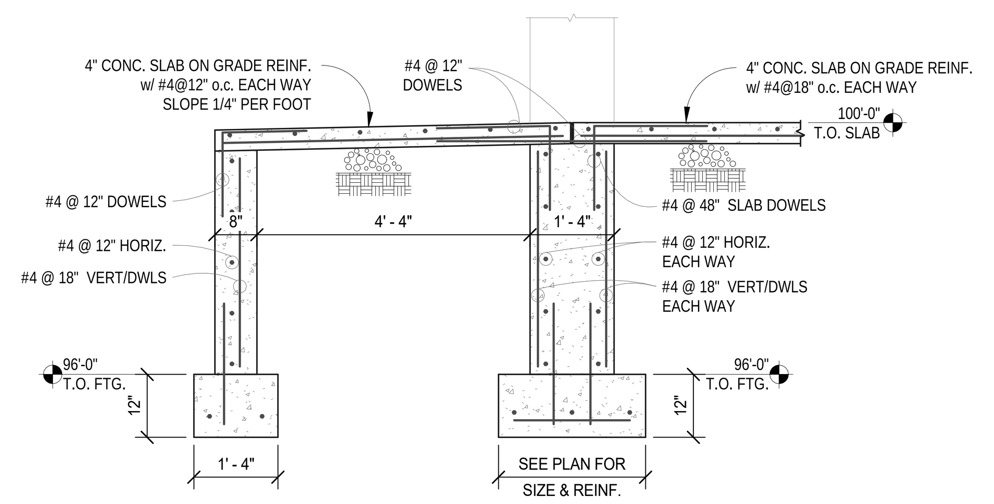
5 WALL SECTION
1/2" = 1'-0"



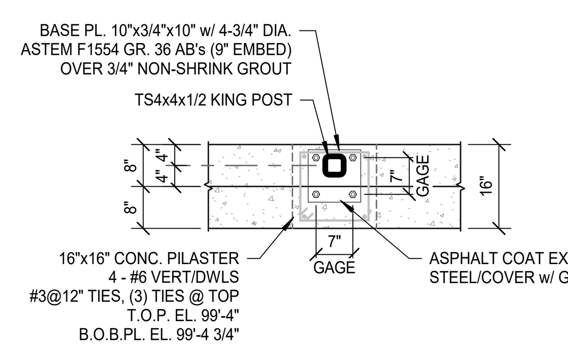
6 INT. WALL SECTION
1/2" = 1'-0"



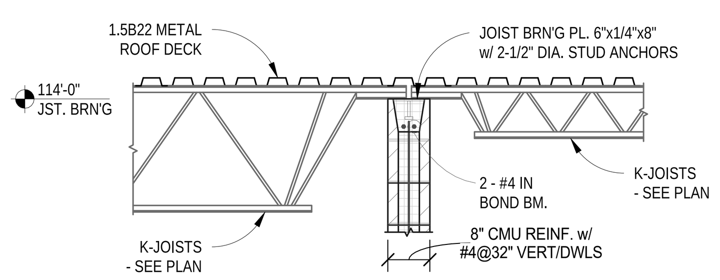
7 INT. SECTION @ EXIST.
1/2" = 1'-0"



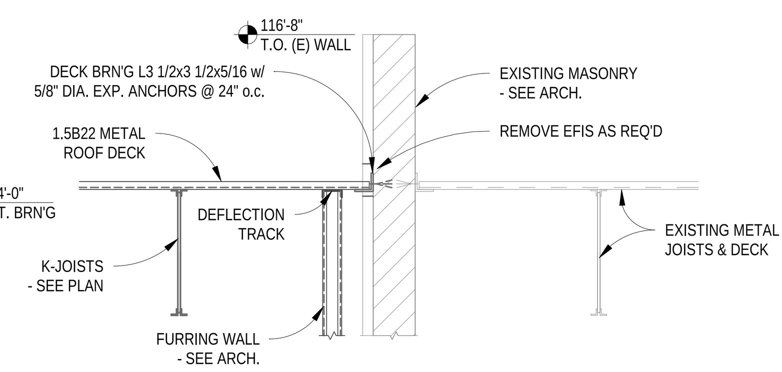
8 STOOP SECTION
1/2" = 1'-0"



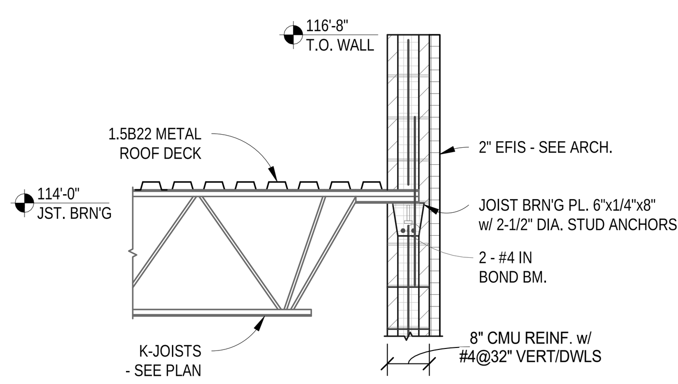
9 BASE PLATE DETAIL
1/2" = 1'-0"



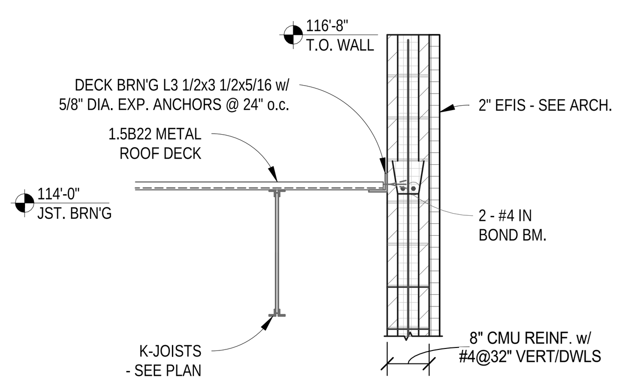
10 DOUBLE JOIST BRN'G SECTION
1/2" = 1'-0"



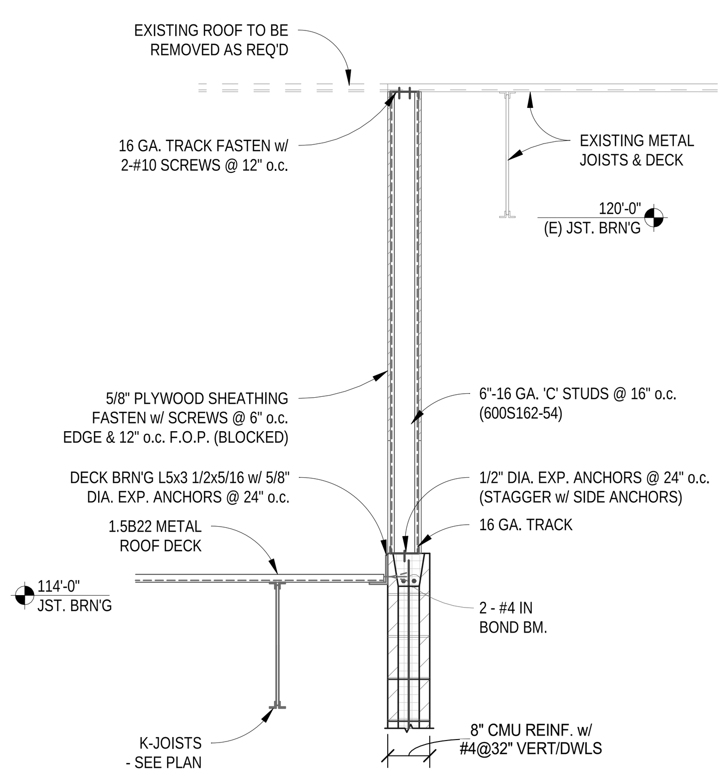
11 DECK BRN'G @ EXIST.
1/2" = 1'-0"



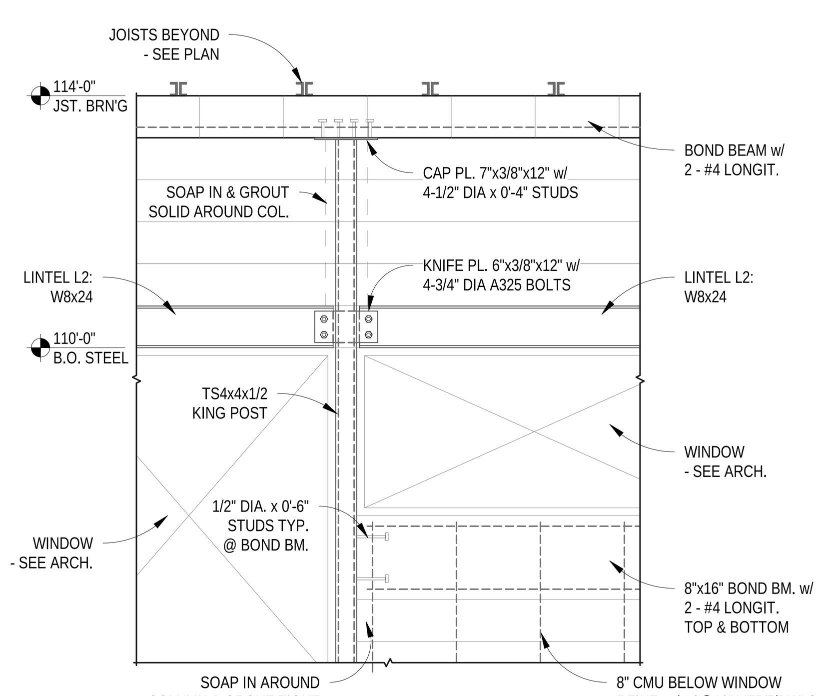
12 JOIST BRN'G SECTION
1/2" = 1'-0"



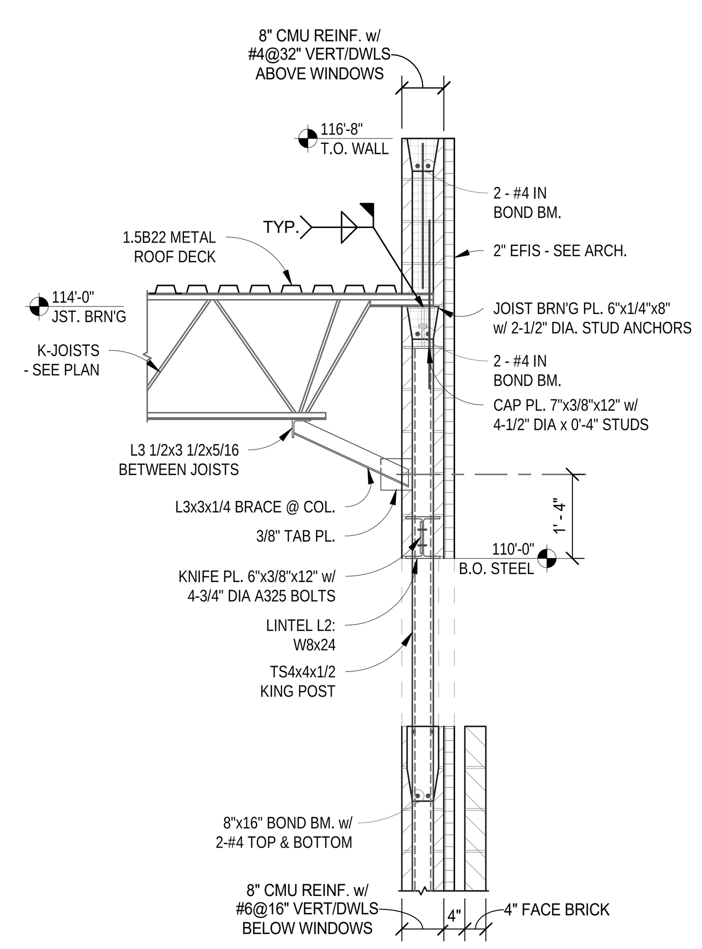
13 DECK BRN'G SECTION
1/2" = 1'-0"



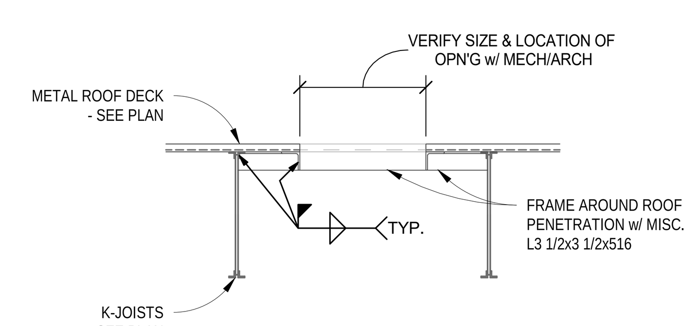
14 DECK BRN'G @ HIGH EXIST.
1/2" = 1'-0"



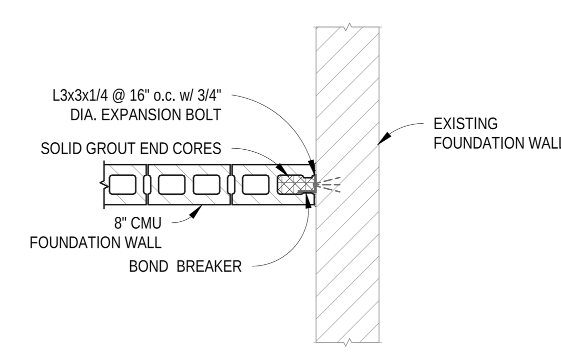
15 KING POST SECTION
1/2" = 1'-0"



16 JOIST BRN'G @ KING POST
1/2" = 1'-0"



17 TYP. ROOF PENETRATION
1/2" = 1'-0"



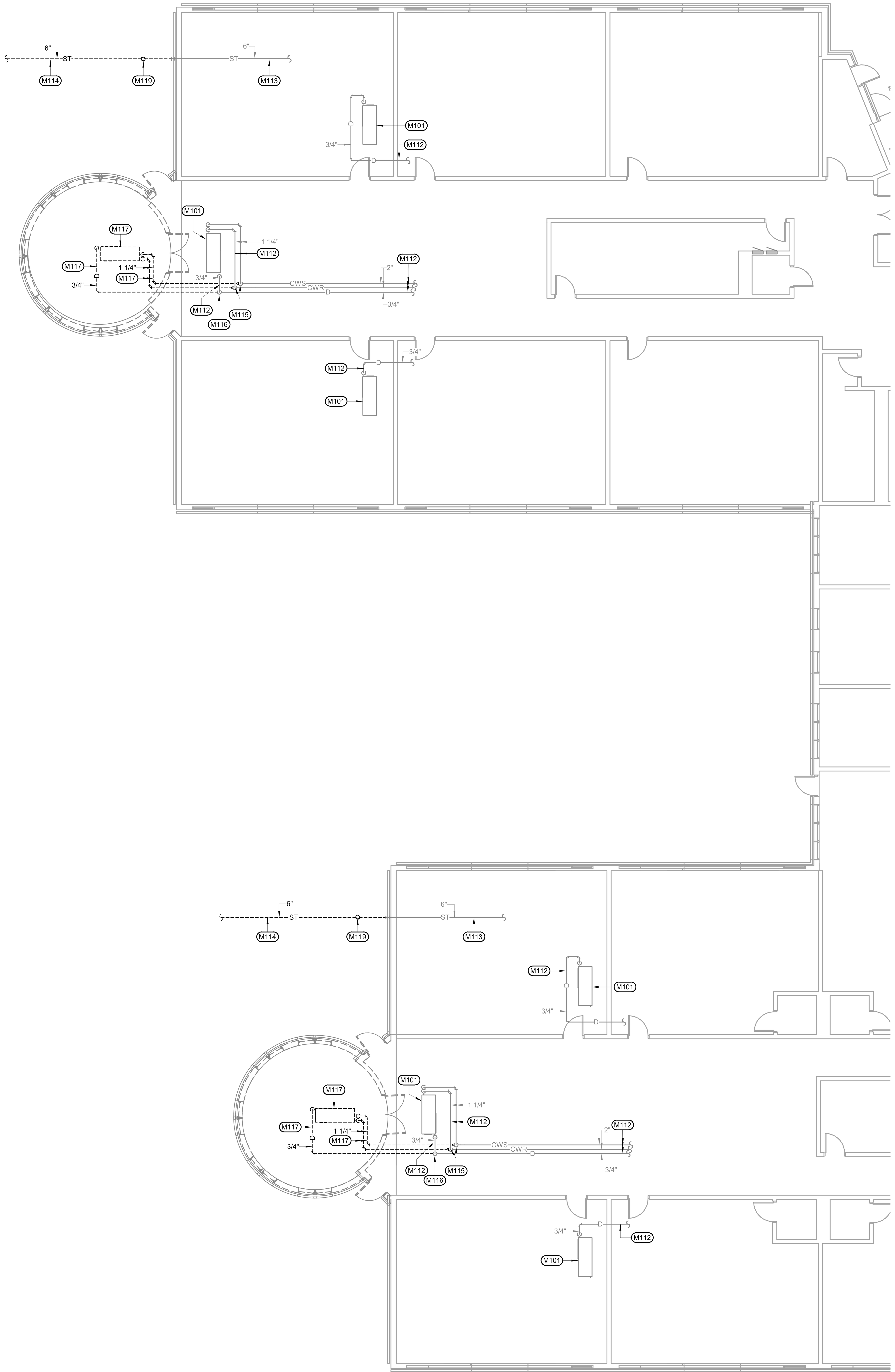
18 MASONRY INTO EXIST.
1/2" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
14044
STEVEN S. VONDAL
SOUTH DAKOTA

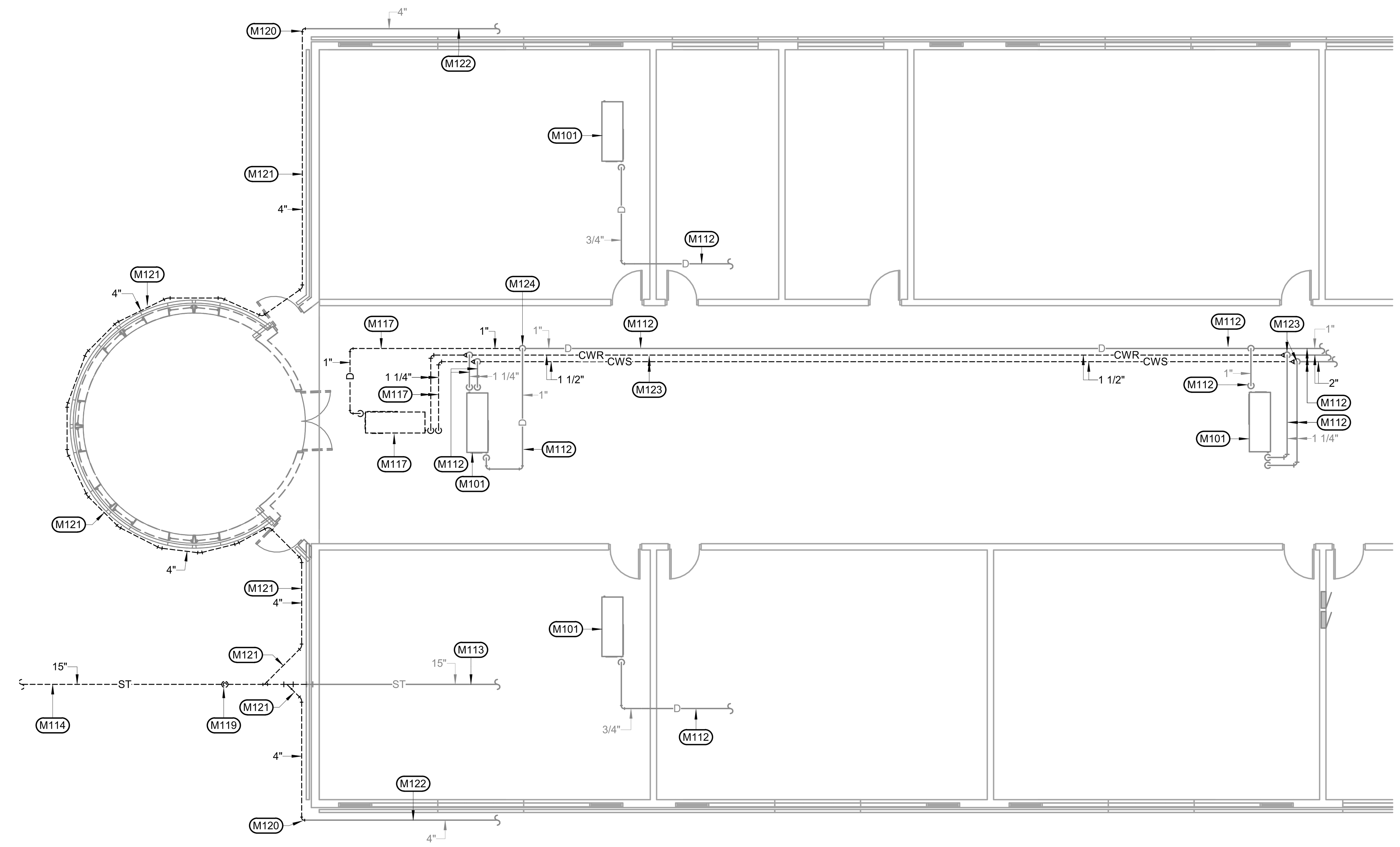
SOLIEN & LARSON ENGINEERING
CONSULTING STRUCTURAL ENGINEERS
3330 FIECHTNER DRIVE, SUITE 206
FARGO, NORTH DAKOTA 58103
TELEPHONE (701) 235-5593 FAX (701) 235-5594

hkg architects

REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	Sections & Details	DRAWN BY LT CHECKED BY SV	S3 OF- 2
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/11/24	PROJECT NO. 24116



1 PLUMBING & HVAC PIPING DEMOLITION PLAN - NORTH
1/8" = 1'-0"



2 PLUMBING & HVAC PIPING DEMOLITION PLAN - SOUTH
1/8" = 1'-0"

MECHANICAL DEMOLITION MISCELLANEOUS NOTES

A DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ ENGINEER.

B COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 72 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.

C OWNER SHALL HAVE FIRST SALVAGE RIGHTS OF ALL MATERIALS AND EQUIPMENT. CONTRACTOR SHALL DISPOSE OF ANY MATERIAL OR EQUIPMENT NOT TO BE SALVAGED BY OWNER AT NO ADDITIONAL COST TO THE PROJECT.

D COORDINATE CUTTING AND PATCHING OF ALL SURFACES WITH GENERAL CONTRACTOR.

E ITEMS INDICATED AS DASHED ARE TO BE REMOVED, ITEMS INDICATED AS LIGHT ARE TO REMAIN. ITEMS INDICATED AS DARK ARE NEW.

F SEAL OFF AREAS WHERE DEMOLITION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS WITHIN THE DEMOLITION AREA.

G PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.

H MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS –BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

I PLUMBING CONTRACTOR SHALL RECLAIM ALL EXISTING FLUID DRAINED FROM CONDENSER WATER SYSTEM FOR REUNIFICATION INTO SYSTEM

MECHANICAL SPECIFIC NOTES

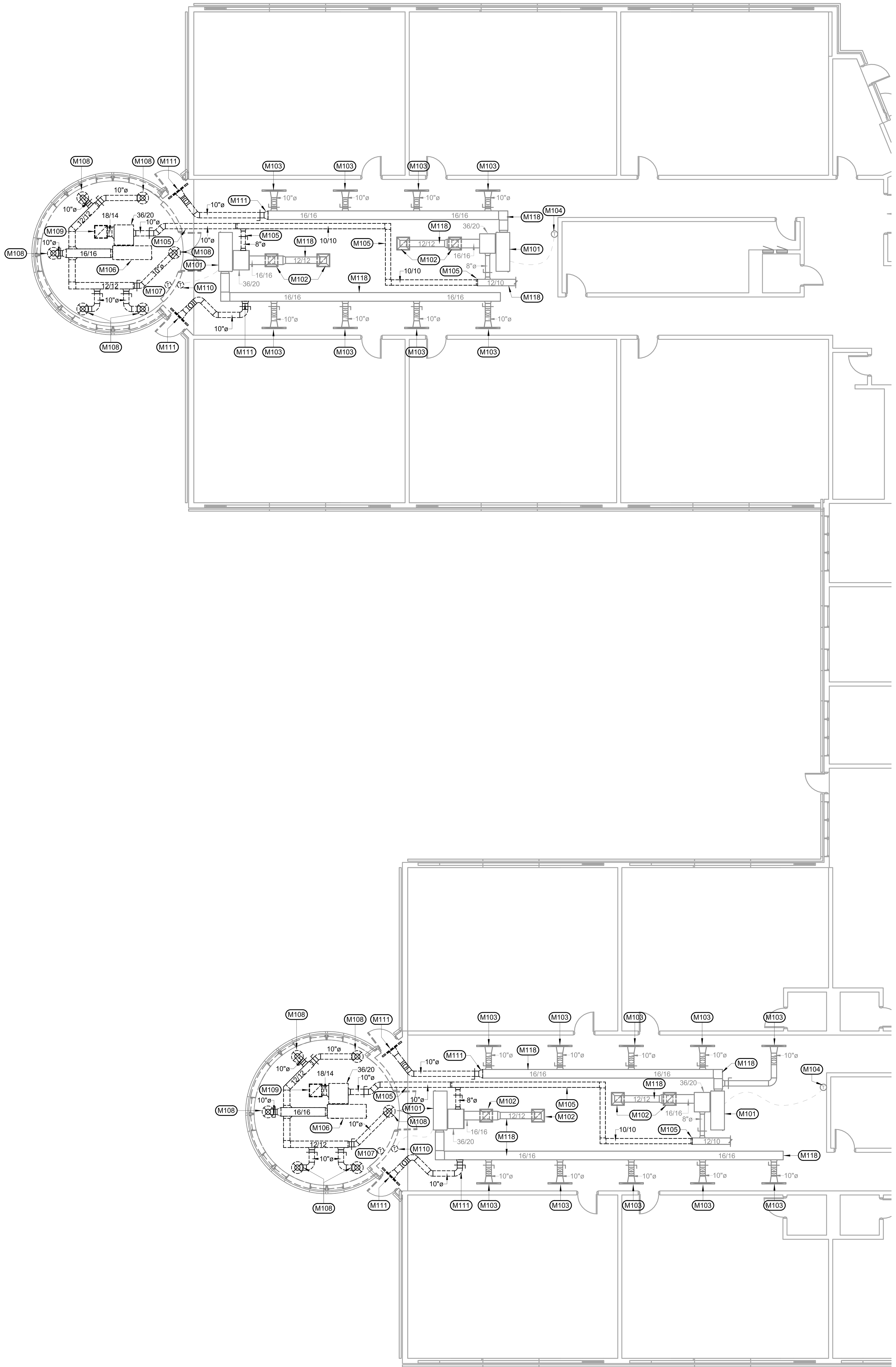
#	MECHANICAL SPECIFIC NOTES
M101	EXISTING HEAT PUMP ABOVE CEILING TO REMAIN AND BE REUSED AT LOCATION SHOWN.
M112	EXISTING PIPING TO REMAIN AND BE REUSED ABOVE CEILING AT LOCATION SHOWN.
M113	EXISTING STORM DRAIN PIPING TO REMAIN AND BE REUSED BELOW FLOOR AT LOCATION SHOWN.
M114	REMOVE UNDERGROUND STORM DRAIN PIPING ON SITE AT LOCATION SHOWN, APPROXIMATELY 35'-0" WEST OF EXISTING EXTERIOR WALL. THIS WILL ALLOW PIPING TO BE REPLACED WITH NEW PIPING BELOW BUILDING ADDITION AS SHOWN ON PLUMBING PLANS.
M115	REMOVE 1-1/4" CWS/CWR PIPING BACK TO POINT INDICATED AND CAP OPENINGS IN MAINS WATERTIGHT.
M116	REMOVE 3/4" CONDENSATE DRAIN PIPING BACK TO POINT INDICATED AND CAP OPENINGS IN MAINS WATERTIGHT.
M117	REMOVE EXISTING HEAT PUMP ABOVE CEILING AT LOCATION SHOWN, ALONG WITH ALL CONNECTED CWS/CWR AND CONDENSATE DRAIN PIPING. ALSO REMOVE EXISTING CONDENSATE PUMP ADJACENT TO THE HEAT PUMP.
M119	REMOVE EXISTING GRADE CLEANOUT AT LOCATION SHOWN.
M120	REMOVE FOUNDATION DRAIN TILE TO POINT SHOWN AND PREPARE EXISTING FOR CONNECTION AND EXTENSION OF NEW DRAIN TILE AS SHOWN ON PLUMBING PLANS.
M121	REMOVE FOUNDATION DRAIN TILE AT LOCATION SHOWN. REMOVE DRAIN TILE TO EXISTING UNDERGROUND 15" STORM AS SHOWN.
M122	EXISTING FOUNDATION DRAIN TILE TO REMAIN AND BE REUSED AT LOCATION SHOWN.
M123	REMOVE EXISTING 1-1/2" CWS/CWR PIPING BACK TO EXISTING 2" CWS/CWR PIPING AT LOCATION SHOWN AND PREPARE 2" CWS/CWR PIPING FOR CONNECTION AND EXTENSION OF NEW PIPING AS SHOWN ON HVAC PIPING PLANS.
M124	REMOVE 1" CONDENSATE DRAIN PIPING BACK TO POINT INDICATED AND CAP OPENINGS IN MAINS WATERTIGHT.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9613
STUART W. OSTER
SOUTH DAKOTA
11-22-2024

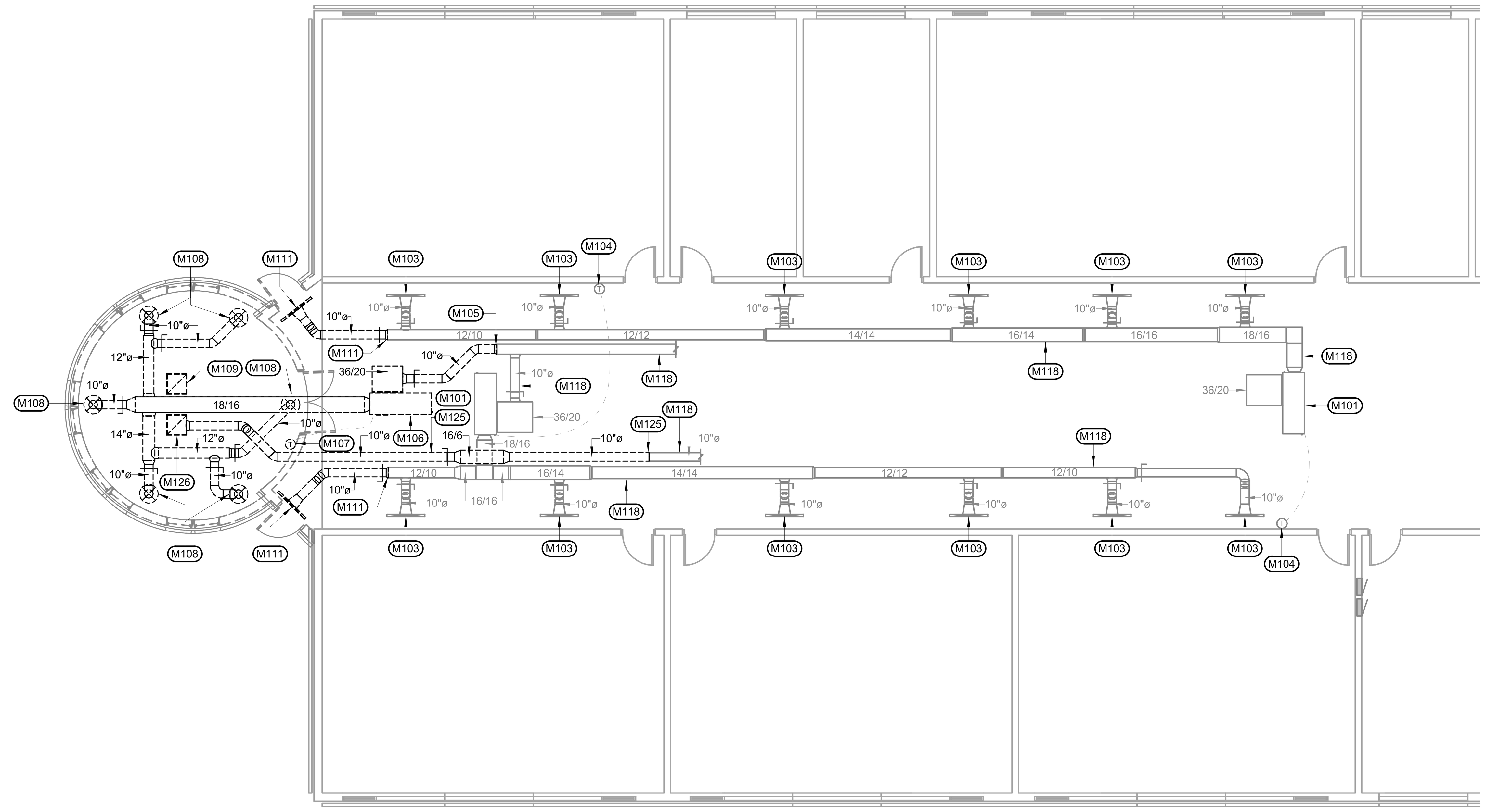
WPE# BS24057
WPE WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE ▪ SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 ▪ FAX: (605) 362-3759
WWW.WESTPLAINSENGINEERING.COM
RAPID CITY, SD ▪ SIOUX FALLS, SD ▪ CASPER, WY ▪ CEDAR RAPIDS, IA

hkg architects

REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	PLUMBING & HVAC PIPING DEMOLITION PLANS	DRAWN BY BS TRACED BY CHECKED BY SO	M1
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 HVAC DEMOLITION PLAN - NORTH
1/8" = 1'-0"



2 HVAC DEMOLITION PLAN - SOUTH
1/8" = 1'-0"

MECHANICAL DEMOLITION MISCELLANEOUS NOTES

A DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ ENGINEER.

B COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 72 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.

C OWNER SHALL HAVE FIRST SALVAGE RIGHTS OF ALL MATERIALS AND EQUIPMENT. CONTRACTOR SHALL DISPOSE OF ANY MATERIAL OR EQUIPMENT NOT TO BE SALVAGED BY OWNER AT NO ADDITIONAL COST TO THE PROJECT.

D COORDINATE CUTTING AND PATCHING OF ALL SURFACES WITH GENERAL CONTRACTOR.

E ITEMS INDICATED AS DASHED ARE TO BE REMOVED, ITEMS INDICATED AS LIGHT ARE TO REMAIN. ITEMS INDICATED AS DARK ARE NEW.

F SEAL OFF AREAS WHERE DEMOLITION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS WITHIN THE DEMOLITION AREA.

G PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.

H MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS –BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

I PLUMBING CONTRACTOR SHALL RECLAIM ALL EXISTING FLUID DRAINED FROM CONDENSER WATER SYSTEM FOR REUNIFICATION INTO SYSTEM

MECHANICAL SPECIFIC NOTES

M101 EXISTING HEAT PUMP ABOVE CEILING TO REMAIN AND BE REUSED AT LOCATION SHOWN.

M102 EXISTING RETURN AIR GRILLE IN CEILING TO REMAIN AND BE REUSED. REUSE EXISTING CONNECTED RETURN AIR DUCTWORK AS SHOWN.

M103 EXISTING SUPPLY AIR DIFFUSER IN CEILING TO REMAIN AND BE REUSED. REUSE EXISTING CONNECTED SUPPLY AIR DUCTWORK AS SHOWN.

M104 EXISTING THERMOSTAT FOR HEAT PUMP INDICATED TO REMAIN ON WALL AND BE REUSED AT LOCATION SHOWN.

M105 REMOVE OUTSIDE AIR VENTILATION DUCTWORK BACK TO POINT SHOWN AND PREPARE EXISTING DUCTWORK FOR CONNECTION AND EXTENSION OF NEW DUCTWORK AS SHOWN ON HVAC PLANS.

M106 REMOVE EXISTING HEAT PUMP ABOVE CEILING AT LOCATION SHOWN, ALONG WITH ALL CONNECTED DUCTWORK AND CONTROLS.

M107 REMOVE THERMOSTAT ON WALL FOR HEAT PUMP BEING REMOVED.

M108 REMOVE SUSPENDED ROUND SUPPLY AIR DIFFUSER AND ALL CONNECTED SUPPLY AIR DUCTWORK FROM HEAT PUMP AS SHOWN.

M109 REMOVE RETURN AIR GRILLE IN CEILING AND ALL CONNECTED RETURN AIR DUCTWORK TO HEAT PUMP AS SHOWN.

M110 REMOVE THERMOSTAT ON WALL FOR HEAT PUMP TO REMAIN. THERMOSTAT TO BE RELOCATED TO LOCATION SHOWN ON HVAC PLANS.

M111 REMOVE SUPPLY AIR DIFFUSER IN CEILING. REMOVE CONNECTED SUPPLY AIR DUCTWORK BACK TO SERVING MAIN SHOWN AND CAP OPENING IN MAIN AIRTIGHT.

M118 REUSE EXISTING DUCTWORK ABOVE CEILING AS SHOWN.

M125 REMOVE EXHAUST AIR DUCTWORK BACK TO POINT SHOWN AND PREPARE EXISTING DUCTWORK FOR CONNECTION AND EXTENSION OF NEW DUCTWORK AS SHOWN ON HVAC PLANS.

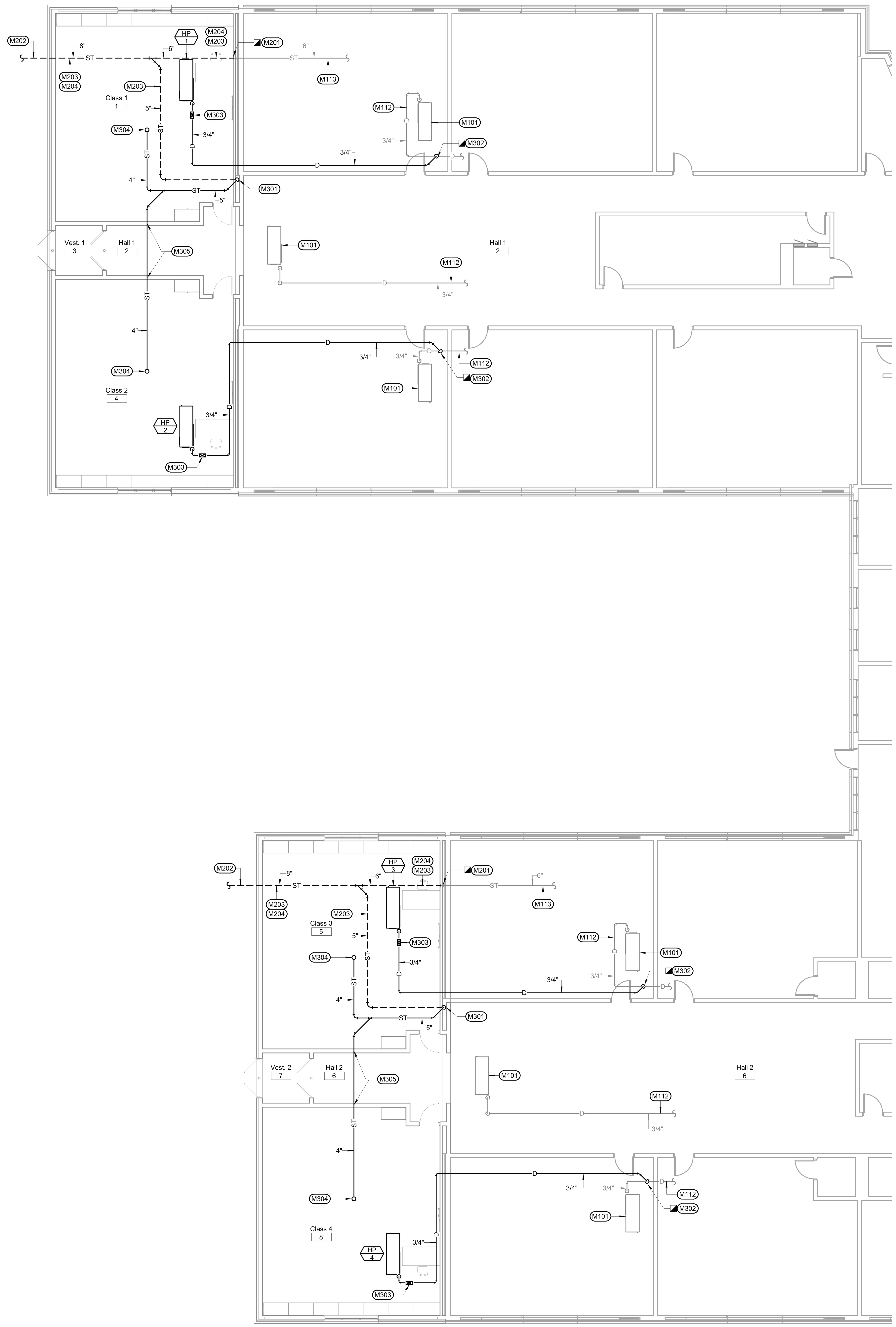
M126 REMOVE EXHAUST AIR GRILLE IN CEILING AT LOCATION SHOWN.

REGISTERED PROFESSIONAL ENGINEER REG. NO. 6813 STUART W. OSTER SOUTH DAKOTA
11-22-2024

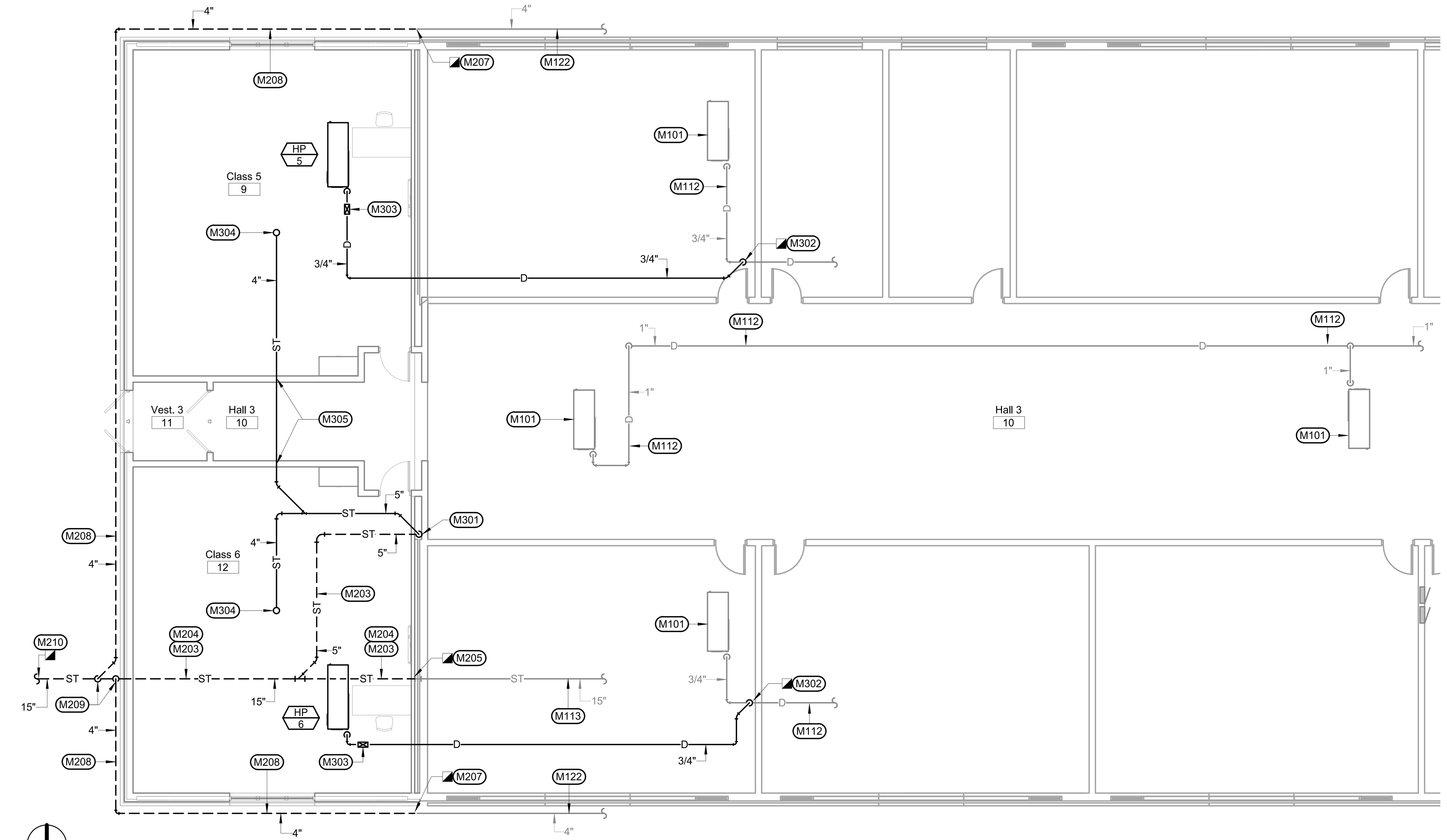
WPE# BS24057
WPE WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE • SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 • FAX: (605) 362-3759
WWW.WESTPLAINSENGINEERING.COM
RAPID CITY, SD • SIOUX FALLS, SD • CASPER, WY • CEDAR RAPIDS, IA

hkg architects

REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	HVAC VENTILATION DEMOLITION PLANS	DRAWN BY BS TRACED BY ___ CHECKED BY SO	M2
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 PLUMBING FLOOR PLAN - NORTH
1/8" = 1'-0"



2 PLUMBING FLOOR PLAN - SOUTH
1/8" = 1'-0"

UNDERFLOOR PLUMBING MISCELLANEOUS NOTES

A DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ ENGINEER.

B COORDINATE ALL UNDERGROUND PIPING WITH FOOTING, FOUNDATION, AND ALL OTHER TRADES. PROVIDE SLEEVES AND OFFSETS AS REQUIRED TO AVOID CONFLICT.

C COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 72 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.

D PROVIDE CLEANOUTS AS REQUIRED BY CODE AND AUTHORITY HAVING JURISDICTION.

E PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.

F ITEMS INDICATED AS LIGHT ARE EXISTING AND ITEMS INDICATED AS DARK ARE NEW.

G SEAL OFF AREAS WHERE CONSTRUCTION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS WITHIN CONSTRUCTION AREA.

H COORDINATE LOCATIONS OF ALL SERVICES WITH SITE CONTRACTOR.

I MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF “AS –BUILT” CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

PLUMBING MISCELLANEOUS NOTES

A DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.

B DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.

C COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 72 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.

D COORDINATE PIPING LAYOUTS WITH ALL EXISTING CONDITIONS. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.

E OBTAIN AND COORDINATE ALL “HOT WORK PERMITS” WITH OWNER FOR ALL WORK WHICH REQUIRES SAID PERMIT.

F PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.

G ITEMS INDICATED AS LIGHT ARE EXISTING AND ITEMS INDICATED AS DARK ARE NEW.

H SEAL OFF AREAS WHERE CONSTRUCTION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS, WITHIN CONSTRUCTION AREA.

I MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF “AS –BUILT” CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

J COORDINATE LOCATIONS OF ALL SERVICES WITH SITE CONTRACTOR.

MECHANICAL SPECIFIC NOTES

M101 EXISTING HEAT PUMP ABOVE CEILING TO REMAIN AND BE REUSED AT LOCATION SHOWN.

M112 EXISTING PIPING TO REMAIN AND BE REUSED ABOVE CEILING AT LOCATION SHOWN.

M113 EXISTING STORM DRAIN PIPING TO REMAIN AND BE REUSED BELOW FLOOR AT LOCATION SHOWN.

M122 EXISTING FOUNDATION DRAIN TILE TO REMAIN AND BE REUSED AT LOCATION SHOWN.

M201 CONNECT NEW 6" STORM DRAIN PIPING TO EXISTING PIPING AT EXISTING FOUNDATION WALL AT LOCATION SHOWN.

M202 ROUTE 8" STORM DRAIN PIPING TO 5 FEET OUTSIDE OF NEW EXTERIOR WALL FOR CONNECTION BY THE SITE UTILITY CONTRACTOR. REFER TO CIVIL PLANS FOR CONTINUATION OF PIPING. COORDINATE INVERT OF PIPING WITH THE SITE UTILITY CONTRACTOR.

M203 DASHED PIPING INDICATES PIPING BELOW GROUND AT LOCATION SHOWN.

M204 ROUTE UNDERGROUND STORM DRAIN PIPING ALONG SAME ROUTE AS EXISTING PIPING BEING REMOVED. SEE DEMOLITION PLANS FOR LOCATION OF EXISTING PIPING.

M205 CONNECT NEW 15" STORM DRAIN PIPING TO EXISTING PIPING AT EXISTING FOUNDATION WALL AT LOCATION SHOWN.

M207 CONNECT NEW 5" DRAIN TILE TO EXISTING PIPING AT EXISTING FOUNDATION WALL AT LOCATION SHOWN.

M208 ROUTE NEW DRAIN TILE ADJACENT TO NEW FOOTING AT LOCATION SHOWN.

M209 ROUTE 4" DRAIN TILE INTO TOP OF 15" STORM DRAIN PIPING WITH WYE FITTING AT LOCATION SHOWN.

M210 CONNECT NEW 15" STORM TO EXISTING 15" SITE STORM PIPING AT APPROXIMATE LOCATION SHOWN JUST OUTSIDE OF NEW EXTERIOR WALL.

M301 ROUTE 5" ST PIPING DOWN IN CHASE TO BELOW FLOOR AT LOCATION SHOWN.

M302 CONNECT NEW 3/4" CONDENSATE DRAIN PIPING TO EXISTING PIPING ABOVE CEILING AT LOCATION SHOWN. CONNECT INTO TOP OF EXISTING MAIN WITH WYE FITTING.

M303 PROVIDE CONDENSATE PUMP ADJACENT TO UNIT, EQUAL TO LITTLE GIANT VCCA-20ULS LOW PROFILE CONDENSATE PUMP (45 GPH AT 25' HEAD, 120/1/60 POWER, 1.5A). ROUTE 3/4" CONDENSATE DRAIN FROM HEAT PUMP TO PUMP, AND FROM PUMP AS SHOWN ON PLANS. UTILIZE TRANSITION FITTINGS TO CONNECT PIPING TO INLET/DISCHARGE CONNECTIONS ON PUMP. PLUMBING CONTRACTOR TO WIRE FROM OVERFLOW CONTACT SWITCH ON PUMP TO HEAT PUMP CONTROLLER SO THAT HEAT PUMP SHUTS DOWN UPON HEAT LEVEL CONDENSATE IN PUMP. PROVIDE PUMP WITH HARDWIRE KIT SO PUMP CAN BE HARDWIRED TO ELECTRICAL JUNCTION BOX ABOVE CEILING (NOT CORD AND PLUG).

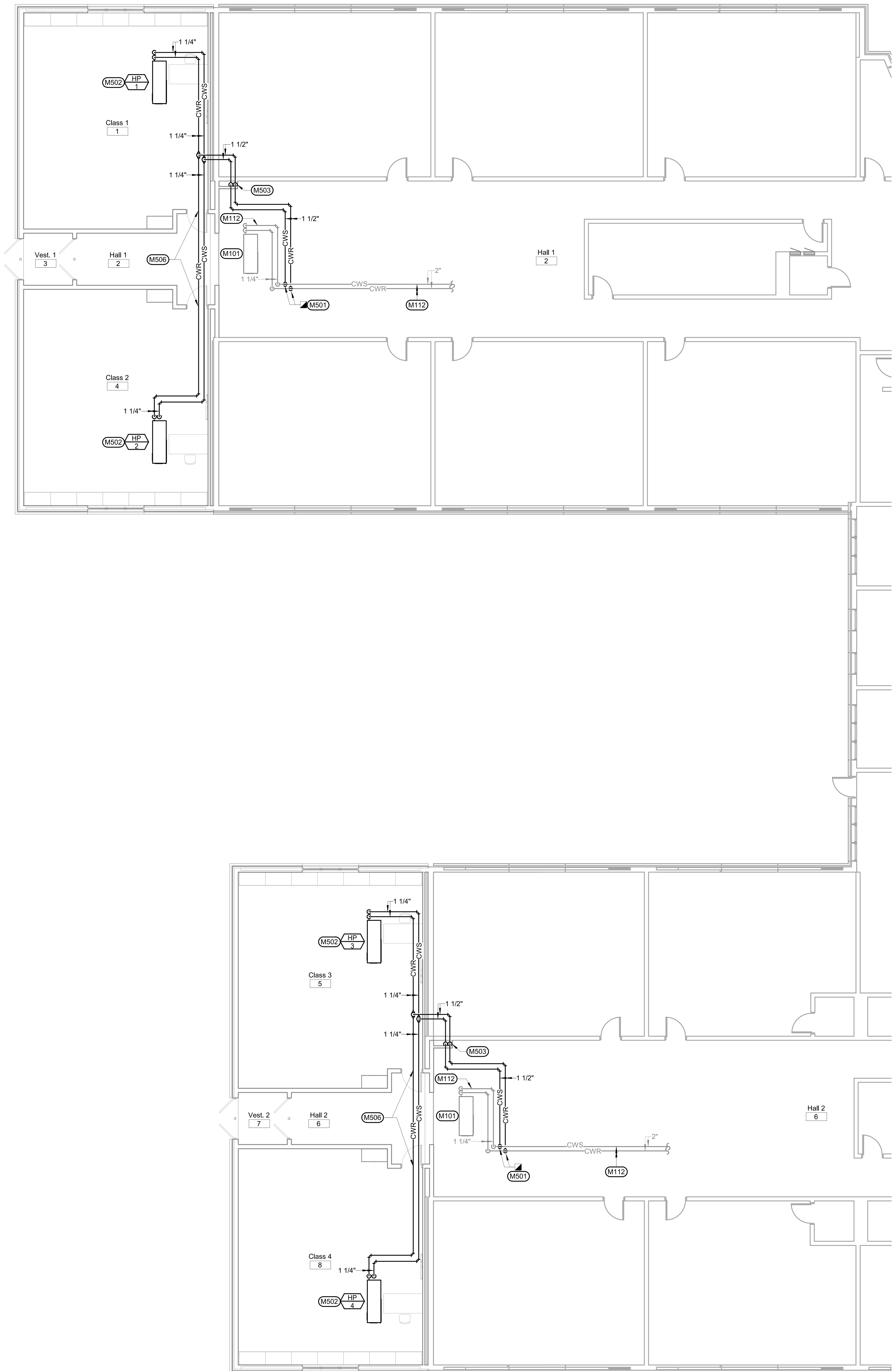
M304 4" ST UP TO ROOF DRAIN.

M305 SEAL PIPING PENETRATION THROUGH WALL WITH FIRESEAL CAULK.

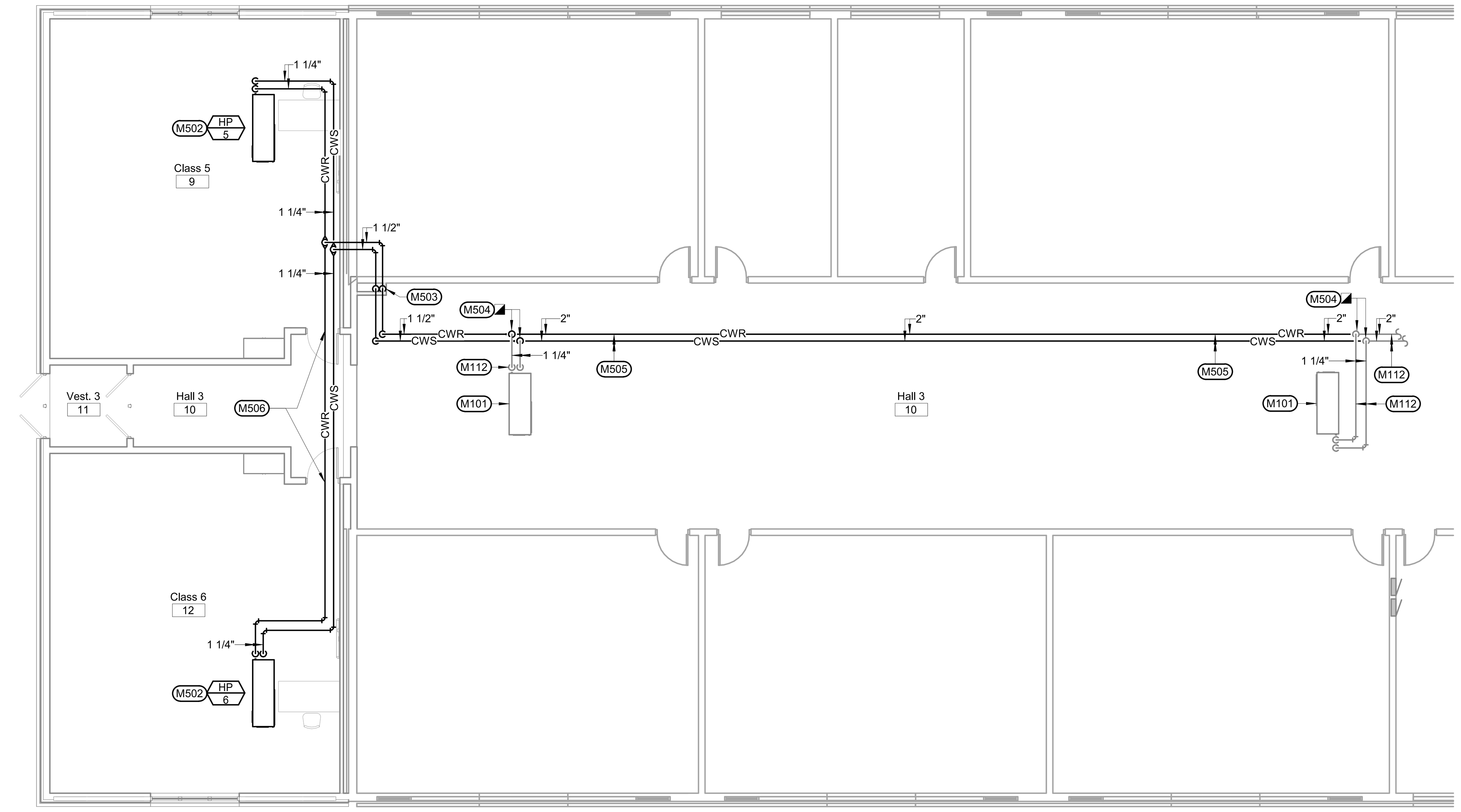
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9613
STUART W. OSTER
SOUTH DAKOTA
11-22-2024

WPE# BS24057
WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE ▪ SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 ▪ FAX: (605) 362-3759
WWW.WESTPLAINSENGINEERING.COM
RAPID CITY, SD ▪ SIOUX FALLS, SD ▪ CASPER, WY ▪ CEDAR RAPIDS, IA

REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	PLUMBING FLOOR PLANS	DRAWN BY BS TRACED BY ___ CHECKED BY SO	M3
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 HVAC PIPING FLOOR PLAN - NORTH
1/8" = 1'-0"



2 HVAC PIPING FLOOR PLAN - SOUTH
1/8" = 1'-0"

HVAC PIPING MISCELLANEOUS NOTES

A DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.

B DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.

C COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 72 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.

D COORDINATE PIPING LAYOUTS WITH ALL EXISTING CONDITIONS. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.

E COORDINATE CUTTING AND PATCHING OF ALL SURFACES WITH GENERAL CONTRACTOR.

F PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.

G ITEMS INDICATED AS LIGHT ARE EXISTING AND ITEMS INDICATED AS DARK ARE NEW.

H SEAL OFF AREAS WHERE CONSTRUCTION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS WITHIN CONSTRUCTION AREA.

I MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS –BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

MECHANICAL SPECIFIC NOTES

#	
M101	EXISTING HEAT PUMP ABOVE CEILING TO REMAIN AND BE REUSED AT LOCATION SHOWN.
M112	EXISTING PIPING TO REMAIN AND BE REUSED ABOVE CEILING AT LOCATION SHOWN.
M501	CONNECT NEW CONDENSER WATER SUPPLY AND RETURN (CWS/CWR) PIPING TO EXISTING PIPING AT LOCATION SHOWN. CONNECT TO TOP OF MAINS AS INDICATED.
M502	SEE DETAILS FOR SCHEMATICS OF CWS/CWR PIPING CONNECTION TO HEAT PUMP.
M503	DROP 1-1/2" CWS/R PIPING DOWN IN NEW CHASE, FROM HIGH CEILING AREA TO ABOVE LOW CEILING IN EXISTING ADJACENT CLASSROOM. ROUTE BESIDE NEW DUCTWORK AT THIS LOCATION. COORDINATE WITH HVAC CONTRACTOR.
M504	CONNECT NEW CONDENSER WATER SUPPLY AND RETURN (CWS/CWR) PIPING TO EXISTING PIPING AT LOCATION SHOWN.
M505	ROUTE NEW PIPING ABOVE CEILING AT LOCATION SHOWN. FOLLOW SAME ROUTE AS CWS/CWR PIPING BEING REMOVED AS SHOWN ON HVAC PIPING DEMOLITION PLANS.
M506	SEAL PIPING PENETRATION THROUGH WALL WITH FIRESEAL CAULK.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9813
STUART W. OSTER
SOUTH DAKOTA
11-22-2024

WPE# BS24057
WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE • SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 • FAX: (605) 362-3759
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RAPID CITY, SD • SIOUX FALLS, SD • CASPER, WY • CEDAR RAPIDS, IA

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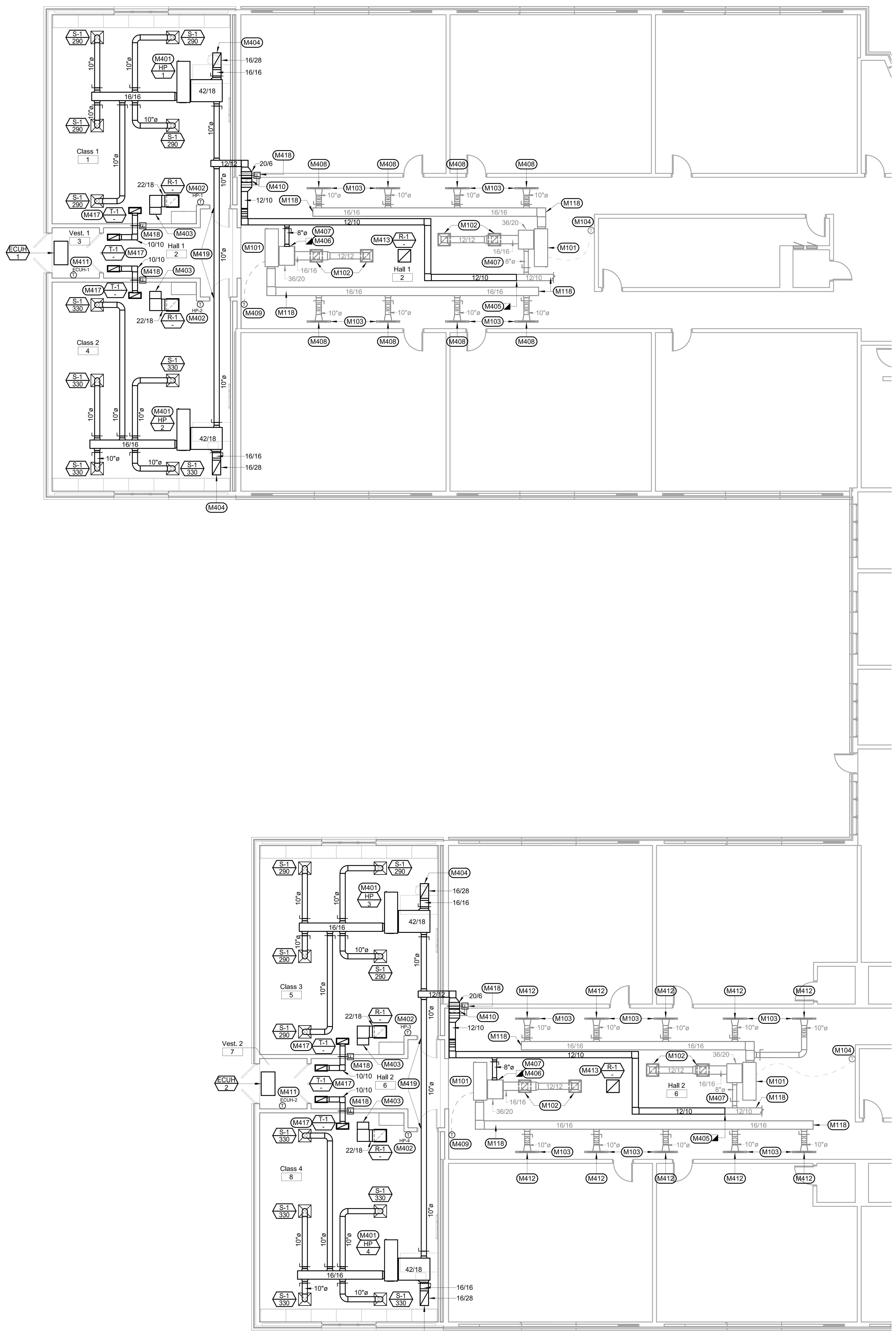
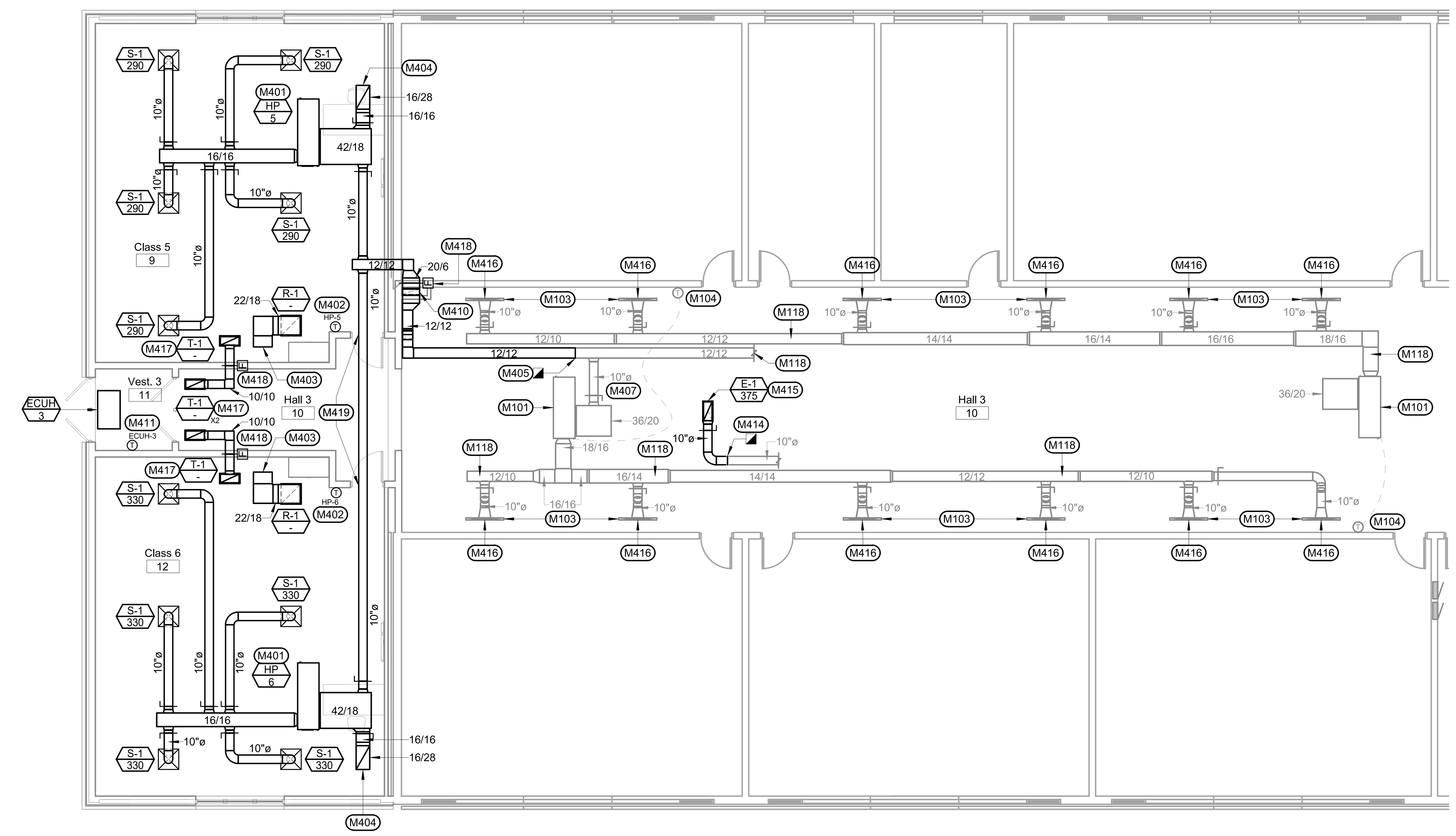
REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	HVAC PIPING PLANS	DRAWN BY BS / TRACED BY ___ / CHECKED BY SO	M4
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 HVAC VENTILATION FLOOR PLAN - NORTH
1/8" = 1'-0"



2 HVAC VENTILATION FLOOR PLAN - SOUTH
1/8" = 1'-0"

HVAC VENTILATION MISCELLANEOUS NOTES

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B DO NOT ROUTE DUCTWORK ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.

C COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 72 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.

D COORDINATE DUCTWORK LAYOUTS WITH ALL EXISTING CONDITIONS. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.

E COORDINATE CUTTING AND PATCHING OF ALL SURFACES WITH GENERAL CONTRACTOR.

F PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.

G ITEMS INDICATED AS LIGHT ARE EXISTING AND ITEMS INDICATED AS DARK ARE NEW.

H FLEXIBLE DUCTWORK SHALL BE LIMITED TO 3'-0" MAXIMUM LENGTH.

I SEAL OFF AREAS WHERE CONSTRUCTION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS WITHIN CONSTRUCTION AREA.

J NO FLEXIBLE DUCTWORK IS ALLOWED ON THE RETURN AIR DUCTWORK.

K TEMPERATURE CONTROL CONTRACTOR SHALL PROVIDE ALL LOW VOLTAGE AND LINE VOLTAGE CONTROL WIRING AS REQUIRED FOR COMPLETE OPERATION OF ALL MECHANICAL EQUIPMENT.

L MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS –BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

M ALL MITERED DUCTWORK SHALL HAVE TURNING VANES INSTALLED

MECHANICAL SPECIFIC NOTES

#	
M101	EXISTING HEAT PUMP ABOVE CEILING TO REMAIN AND BE REUSED AT LOCATION SHOWN.
M102	EXISTING RETURN AIR GRILLE IN CEILING TO REMAIN AND BE REUSED. REUSE EXISTING CONNECTED RETURN AIR DUCTWORK AS SHOWN.
M103	EXISTING SUPPLY AIR DIFFUSER IN CEILING TO REMAIN AND BE REUSED. REUSE EXISTING CONNECTED SUPPLY AIR DUCTWORK AS SHOWN.
M104	EXISTING THERMOSTAT FOR HEAT PUMP INDICATED TO REMAIN ON WALL AND BE REUSED AT LOCATION SHOWN.
M118	REUSE EXISTING DUCTWORK ABOVE CEILING AS SHOWN.
M401	INSTALL HEAT PUMP ABOVE CEILING AT LOCATION. MOUNT TIGHT TO BOTTOM OF STRUCTURE WITH THREADED RODS AND VIBRATION ISOLATORS. PROVIDE FLEXIBLE DUCTWORK CONNECTORS AT SUPPLY AND RETURN AIR DUCTWORKS CONNECTIONS TO UNIT.
M402	COMBINATION SPACE HUMIDISTAT/THERMOSTAT TO BE PROVIDED BY THE HEAT PUMP MANUFACTURER. DEVICE TO BE INSTALLED ON WALL BY THE MECHANICAL CONTRACTOR AND WIRED TO THE HEAT PUMP CONTROLLER BY THE TEMPERATURE CONTROLS CONTRACTOR.
M403	PROVIDE 1" LINED SOUND ELBOW (SIZE AS SHOWN) AT LOCATION SHOWN. TRANSITION TO NECK SIZE ON RETURN AIR GRILLE.
M404	PROVIDE SCREENED OPENING (SIZE AS SHOWN) ON TOP OF RETURN AIR DUCTWORK AT LOCATION SHOWN.
M405	CONNECT NEW OUTSIDE AIR VENTILATION DUCTWORK TO EXISTING DUCTWORK AT LOCATION SHOWN.
M406	CONNECT NEW OUTSIDE AIR VENTILATION DUCTWORK TO EXISTING RETURN AIR PLENUM ON HEAT PUMP AT LOCATION SHOWN. BALANCE TO 65 CFM.
M407	BALANCING EXISTING OUTSIDE AIR VENTILATION TO EXISTING HEAT PUMP TO 65 CFM.
M408	REBALANCE AIRFLOW FROM EXISTING SUPPLY AIR DIFFUSER TO 260 CFM.
M409	TEMPERATURE CONTROLS CONTRACTOR TO RELOCATE/REWIRE EXISTING SENSOR FOR EXISTING HEAT PUMP TO LOCATION SHOWN.
M410	DROP DUCTWORK DOWN IN NEW CHASE, FROM HIGH CEILING AREA TO ABOVE LOW CEILING IN EXISTING ADJACENT CLASSROOM. ROUTE BESIDE NEW CONDENSER WATER PIPING IN CHASE. COORDINATE WITH THE PLUMBING CONTRACTOR.
M411	THERMOSTAT FOR ELECTRIC UNIT HEATER TO BE PROVIDED BY THE UNIT MANUFACTURER FOR FIELD INSTALLATION ON WALL BY THE MECHANICAL CONTRACTOR.
M412	REBALANCE AIRFLOW FROM EXISTING SUPPLY AIR DIFFUSER TO 250 CFM.
M413	PROVIDE OPEN RETURN AIR GRILLE IN EXISTING CEILING AT APPROXIMATE LOCATION SHOWN. COORDINATE WITH EXISTING REFLECTED CEILING PLAN. GRILLE PLACEMENT CAN GO IN ANY LOCATION OF HIGH BAY ACT AREA.
M414	CONNECT NEW EXHAUST AIR DUCTWORK TO EXISTING DUCTWORK AT LOCATION SHOWN.
M415	PROVIDE NEW EXHAUST AIR GRILLE IN EXISTING CEILING AT APPROXIMATE LOCATION SHOWN. COORDINATE WITH EXISTING REFLECTED CEILING PLAN. GRILLE PLACEMENT CAN GO IN ANY LOCATION OF HIGH BAY ACT AREA.
M416	REBALANCE AIRFLOW FROM EXISTING SUPPLY AIR DIFFUSER TO 225 CFM.
M417	PROVIDE 1" LINED DUCTWORK (SIZE AS SHOWN) BETWEEN TRANSFER GRILLES IN CEILING. TRANSITION TO NECK SIZE ON TRANSFER AIR GRILLE.
M418	PROVIDE FIRE DAMPER AT RATED WALL PENETRATION AT LOCATION SHOWN.
M419	SEAL DUCTWORK PENETRATION THROUGH WALL WITH FIRESEAL CAULK.

REGISTERED PROFESSIONAL ENGINEER REG. NO. 6613 STUART W. OSTER SOUTH DAKOTA

11-22-2024

WPE# BS24057
WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE ▪ SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 ▪ FAX: (605) 362-3759
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RAPID CITY, SD ▪ SIOUX FALLS, SD ▪ CASPER, WY ▪ CEDAR RAPIDS, IA

hkg architects

REVISED DATE

CERT. NO.

Plans for
Tiospa Zina School
Classroom Addition
Agency Village, South Dakota

HKG Architects, Inc. Aberdeen, S.D.

HVAC VENTILATION PLANS

DRAWN BY BS
TRACED BY
CHECKED BY SO

DATE 11/22/24
PROJECT NO. 2024-0032

M5

MECHANICAL SYMBOLS

THESE SYMBOLS COMPRISE A STANDARD LIST; NOT ALL SYMBOLS MAY APPEAR ON THIS PROJECT.

PIPING SYSTEMS IDENTIFICATION

- CW — COLD WATER
- HW — HOT WATER
- RHW — RECIRCULATING HOT WATER
- SAN — SANITARY WASTE
- D — EQUIPMENT DRAIN
- F — FIRE SPRINKLER
- G — NATURAL GAS
- CWR — CHILLED WATER RETURN
- CWS — CHILLED WATER SUPPLY
- HWR — HOT WATER HEATING RETURN
- HWS — HOT WATER HEATING SUPPLY
- LS — LAWN SPRINKLER
- SCW — SOFT COLD WATER
- SHW — SOFT HOT WATER
- SRHW — SOFT RECIRCULATING HOT WATER
- PC — PUMPED CONDENSATE
- PD — PUMP DISCHARGE
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- CA — COMPRESSED AIR
- ST — STORM PIPING
- OST — OVERFLOW STORM
- V — VENT PIPING

FITTINGS - VALVES - ACCESSORIES

- PIPE CONNECTION
- TEE DOWN
- REDUCER OR INCREASER
- UNION
- PIPE PITCH DOWN
- DIRECTION OF FLOW
- CURB STOP
- SHUT OFF VALVE
- BACK FLOW PREVENTER
- WH — WALL HYDRANT
- STRAINER
- CONTROL VALVE
- PRESSURE REDUCING VALVE
- AIR VENT
- PRESSURE/TEMPERATURE TAP
- PRESSURE GAUGE
- FLOW CONTROL VALVE
- STRAINER VALVE
- CO — CLEAN OUT ABOVE FLOOR
- WCO — WALL CLEAN OUT
- AREA DRAIN
- FD — FLOOR DRAIN
- RAD-1 5'-0" (TYPE FINNED ELEMENT; FINNED ELEMENT LENGTH) — RADIATION DESIGNATION
- THERMOSTAT
- NIGHT THERMOSTAT
- THERMOSTAT W/ LOCKABLE COVER
- ELBOW DOWN
- ELBOW UP
- CAPPED OUTLET
- FLEXIBLE PIPE CONNECTION
- EXPANSION JOINT, PIPE GUIDE
- PIPE ANCHOR
- CHECK VALVE
- DOMESTIC WATER TEMPERING VALVE
- BALANCING VALVE
- HB — HOSE BIB
- STEAM TRAP
- PRESSURE RELIEF VALVE
- 3-WAY CONTROL VALVE
- FLOW MEASURING DEVICE
- STATIC PRESSURE SENSOR
- THERMOMETER
- PRESSURE DIFFERENTIAL SENSOR
- RADIATION ELEMENT
- CO — CLEAN OUT IN FLOOR
- FS — FLOOR SINK
- ORD — OVERFLOW ROOF DRAIN
- RD — ROOF DRAIN
- DEMOLITION HATCHING
- HUMIDISTAT
- CONNECT TO EXISTING SERVICE

ADDITIONAL PIPING SYSTEMS IDENTIFICATION

- A — CLINICAL AND LAB AIR
- AV — ACID RESISTANT VENT
- AW — ABOVE FLOOR ACID WASTE
- CR — CONDENSER WATER RETURN
- CS — CONDENSER WATER SUPPLY
- FOG — FUEL OIL GAUGE
- FOR — FUEL OIL RETURN
- FOS — FUEL OIL SUPPLY
- FOV — FUEL OIL VENT
- GE — GAS EVACUATION
- GLWR — GROUND LOOP WATER RETURN
- GLWS — GROUND LOOP WATER SUPPLY
- HG — HOT GAS
- HPR — HIGH PRESSURE RETURN
- HPS — HIGH PRESSURE STEAM
- HPWR — HEAT PUMP WATER RETURN
- HPWS — HEAT PUMP WATER SUPPLY
- LP — LIQUIFIED PETROLEUM GAS
- LPR — LOW PRESSURE RETURN
- LPS — LOW PRESSURE STEAM
- MPR — MEDIUM PRESSURE RETURN
- MPS — MEDIUM PRESSURE STEAM
- N — NITROGEN
- NO — NITROUS OXIDE
- O — OXYGEN
- VAC — CLINICAL AND LAB VACUUM

VENTILATION SYMBOLS

THESE SYMBOLS COMPRISE A STANDARD LIST; NOT ALL SYMBOLS MAY APPEAR ON THIS PROJECT.

- SUPPLY DUCT (UP & DOWN)
- RETURN DUCT (UP & DOWN)
- EXHAUST DUCT (UP & DOWN)
- W — STANDARD RADIUS ELBOW R EQUAL W (MINIMUM)
- DUCT TURN WITH TURN VANES
- FLEXIBLE DUCT CONNECTION
- SPIRAL DUCTWORK
- LOW PRESSURE DUCTWORK MAX 2" W.G. PRESSURE
- MEDIUM PRESSURE DUCTWORK 2"-6" W.G. PRESSURE
- B - BACKDRAFT DAMPER; C - COMBINATION FIRE/SMOKE DAMPER; F - FIRE DAMPER; M - MOTORIZED DAMPER; S - SMOKE DAMPER
- MANUAL VOLUME DAMPER
- 1/2 A, A — BRANCH DUCT INTO SIDE OF MAIN DUCT
- R OR D — DUCT RISE OR DROP IN DIRECTION OF AIR FLOW
- 12/8 — DUCT DIMENSION- WIDTH x DEPTH
- DUCT INSULATION (SEE SPECIFICATION)
- DUCT TURN AND AIR SPLIT TYPE TAKEOFF (NON-ADJUSTABLE)
- S-1 (TYPE OF EQUIP) 200 (CFM) — GRILLE, REGISTER & DIFFUSER DESIGNATION SUPPLY, RETURN, EXHAUST, & TRANSFER
- EF (TYPE OF EQUIP) 1 (EQUIP. NO.) — EQUIPMENT DESIGNATION
- FLEX DUCT (5' MAXIMUM)

MECHANICAL ABBREVIATIONS

THESE TERMS COMPRISE A STANDARD LIST; NOT ALL TERMS MAY APPEAR ON THIS PROJECT.

AC	alternating current
ACU	air conditioning unit
AFF	above finished floor
AHU	air handling unit
AIR COND	air condition(-ing, -ed)
ALT	altitude
AMB	ambient
ANSI	American National Standards Institute
APPROX	approximate
AVG	average
BARO	barometer(-tric)
BARO PR	pressure, barometric
BHP	brake horse power
BP	boiling point
BTU	British thermal unit
°C	Celsius
CFM	cubic feet per minute
CLG LOAD	cooling load
CMPR	compressor
COND	condens(-er, -ing, -ation)
C to C	center to center
CU FT	cubic feet
CU IN	cubic inch
DEG or °	degree
DENS	density
DIA	diameter
DPT	dew-point temperature
ID	diameter, inside
DBT	dry-bulb temperature
DIFF	difference or delta
DIR RADN	direct radiation
EAT	entering air temperature
EDR	equivalent direct radiation
EFF	efficiency
EL	elevation
ENT	entering
EVAP	evaporat(-e, -ing, -ed, -or)
EWT	entering water temperature
EXP	expansion
°F	Fahrenheit
FA	face area
FP	freezing point
FPM	feet per minute
FT	foot or feet
F to F	face to face
FT LB	foot-pound
FVEL	face velocity
GA	gage or gauge
GAL	gallons
GPD	gallons per day
GPH	gallons per hour
GPM	gallons per minute
GR	grains
GTD	greatest temperature difference
HD	head
HG	heat gain
HGT	height
HP	horse power
HPS	high pressure steam
HR	hour(s)
HTHW	high temperature hot water
IHP	indicated horse power
IPS	International Pipe Size
K	thermal conductivity
kW	kilowatt
KWH	kilowatt hour
LAT	leaving air temperature
LBS	pounds
LF	linear feet
LG	length
LH	latent heat
LHG	heat gain, latent
LIQ	liquid
LPS	low pressure steam
LSHVAC	load-sharing (hybrid) HVAC system
LTHW	low-temp hot water
LWT	leaving water temperature
MAX	maximum
MCF	thousand cubic feet
MET	mean effective temperature
MFR	mass flow rate
MIN	minimum, minute
MPS	medium pressure steam
MTD	mean temperature difference
MTHW	medium temperature hot water
N/A	not applicable
NC	noise criteria
N C	normally closed
N I C	not in contract
N O	normally open
N T S	not to scale
OA	outside air
OD	diameter, outside
OZ	ounce
%	percent
PD	pressure drop or difference
PH	phase (electrical)
PPM	parts per million
PRESS	pressure
PRI	primary
PSF	pounds per square foot
PSFA	psf absolute
PSFG	psf gage
PSI	pounds per square inch
PSIA	psi absolute
PSIG	psi gage
QT	quart
R12, R22	refrigerant (12, 22, etc.)
R	thermal resistance
RA	return air
RAD	radiat(-e, -or)
RADN	radiation
RCVR	receiver
RECIRC	recirculat(-e, -or)
RES	resist(-ance, -ivity, -or)
REV	revolutions
RH	relative humidity
RP	radiant panel
RPM	revolutions per minute
SA	supply air
SAT	saturation
SCFM	cfm, standard conditions
SF	safety factor
SFT HP	shaft horsepower
SG	specific gravity
SH	sensible heat
SHG	sensible heat gain
SHR	sensible heat ratio
SL	sea level
SPEC	specification
SP HT	specific heat
SP	pressure, static
SPLY	supply
SP VOL	specific volume
SQ	square
STD	standard
SUCT	suction
T	time
TC	thermocouple
TD	temperature difference
TE	temperature entering
TEMP	temperature
THKNS	thick(-ness)
TL	temperature leaving
TONS	tons of refrigeration
TOT HT	total heat
T STAT	thermostat
VAC	vacuum
V	volt
VA	volt ampere
VAP PR	pressure, vapor
VAP PRF	vapor proof
VAR	variable
VAV	variable air volume
VEL	velocity
VENT	ventilation, vent
VERT	vertical
VISC	viscocity
VOL	volume
VP	pressure, dynamic (velocity)
W	watt
WB	wet bulb
WBT	wet bulb temperature
WH	watt-hour
WT	weight
YD	yard
YR	year
Z	zone

WATER SOURCE HEAT PUMP SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	CFM	Min O.A. CFM	E.S.P.	COOLING CAP (MBH)	REJ (MBH)	EAT DB	EAT WB	LAT DB	LAT WB	EER	HEATING CAP (MBH)	ABS (MBH)	LAT DB	COP	FLOW GPM	WPD	ELECTRIC VOLTAGE	PHASES	MCA	COMMENTS
HP	1	DAKIN	WSTH048	1450	385	0.75 in-wg	45034	54530	79 °F	65 °F	59 °F	55 °F	16.2	35270	26741	54 °F	4.1	11	8 ftH2O	208	1	35 A	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
HP	2	DAKIN	WSTH048	1650	385	0.75 in-wg	45638	55381	79 °F	65 °F	59 °F	56 °F	16	36567	27851	56 °F	4.2	12	9.4 ftH2O	208	1	35 A	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
HP	3	DAKIN	WSTH048	1450	385	0.75 in-wg	45034	54530	79 °F	65 °F	59 °F	55 °F	16.2	35270	26741	54 °F	4.1	11	8 ftH2O	208	1	35 A	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
HP	4	DAKIN	WSTH048	1650	385	0.75 in-wg	45638	55381	79 °F	65 °F	59 °F	56 °F	16	36567	27851	56 °F	4.2	12	9.4 ftH2O	208	1	35 A	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
HP	5	DAKIN	WSTH048	1450	385	0.75 in-wg	45034	54530	79 °F	65 °F	59 °F	55 °F	16.2	35270	26741	54 °F	4.1	11	8 ftH2O	208	1	35 A	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
HP	6	DAKIN	WSTH048	1650	385	0.75 in-wg	45638	55381	79 °F	65 °F	59 °F	56 °F	16	36467	27851	56 °F	4.2	12	9.4 ftH2O	208	1	35 A	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16

COMMENTS:

1. PROVIDE WITH FACTORY INSTALLED DISCONNECT SWITCH FOR SINGLE POINT POWER CONNECTION TO THE EQUIPMENT.
2. PROVIDE WITH STAINLESS STEEL DRAIN PAN.
3. HEATING CAPACITY BASED ON 30F EWT AT THE EAT AND GPM INDICATED.
4. COOLING CAPACITY BASED ON 80F EWT AT THE EAT AND GPM INDICATED.
5. FLUID TO THE 25% PROPYLENE GLYCOL ON THE GEOTHERMAL WATER SIDE.
6. PROVIDE WITH 2" FILTER RACK AND MERV 8 FILTERS TO BE MOUNTED ON THE UNIT RETURN AIR OPENING.
7. PROVIDE WITH FACTORY INSTALLED AND PIPED HOT GAS REHEAT COIL ON REFRIGERATION SYSTEM FOR DEHUMIDIFICATION.
8. PROVIDE WITH COMPRESSOR SOUND BLANKETS.
9. PROVIDE WITH DIRECT DRIVE ECM FAN MOTOR WITH MINIMUM 3 SELECTABLE SPEEDS.
10. REFRIGERANT IN UNIT IS R-32. R-454B REFRIGERANT SHALL ALSO BE ALLOWED AS LONG AS PERFORMANCE INDICATED IS MET.
11. HORIZONTAL CONFIGURATION UNIT. SUSPEND UNIT FROM STRUCTURE ABOVE WITH THREADED RODS AND VIBRATION ISOLATORS SHIPPED LOOSE WITH EQUIP1MENT.
12. PROVIDE WITH FACTORY INSTALLED CONTROLLER WITH BACNET INTERFACE CARD FOR CONNECTION TO BAS. FACTORY CONTROLLER SHALL ACCEPT THE MINIMUM POINTS FROM THE BUILDING AUTOMATION SYSTEM: 1. UNIT ENABLE/DISABLE, 2. UNIT HEATING MODE, 3. UNIT COOLING MODE, 4. UNIT DEHUMIDIFICATION MODE, 5. UNIT COMMON ALARM.
13. PROVIDE WITH MANUFACTURER'S SPACE TEMPERATURE AND HUMIDITY SENSOR FOR FIELD INSTALLATION BY THE MECHANICAL CONTRACTOR.
14. PROVIDE WITH 5 YEAR EXTENDED COMPRESSOR WARRANTY.
15. PROVIDE WITH FACTORY INSTALLED 2-WAY CONTROL VALVE ON CONDENSER WATER PIPING CIRCUIT INSIDE UNIT, TO SHUT OFF WATER FLOW WHENEVER COMPRESSORS ARE NOT OPERATING.
16. PROVIDE ONE COMPRESSOR WITH TWO STAGES HEATING/COOLING. COMPRESSOR SHALL BE SCROLL TYPE.

REGISTER GRILLES AND DIFFUSER SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	NOMINAL SIZE WIDTH	LENGTH	THROAT SIZE WIDTH	LENGTH	DIA.	MAX CFM	S.P.D.	NC	FRAME	COMMENTS
E	1	KRUEGER	EGC5	12"	24"	10"	22"		900	0.05 in-wg	22	LAY-IN	1,2
R	1	KRUEGER	EGC5	24"	24"	22"	22"		1800	0.05 in-wg	25	LAY-IN	1,2
S	1	KRUEGER	51400	24"	24"			10"	350	0.08 in-wg	19	LAY-IN	1,3
T	1	KRUEGER	EGC5	12"	24"	10"	22"		900	0.05 in-wg	15	LAY-IN	1,2

COMMENTS:

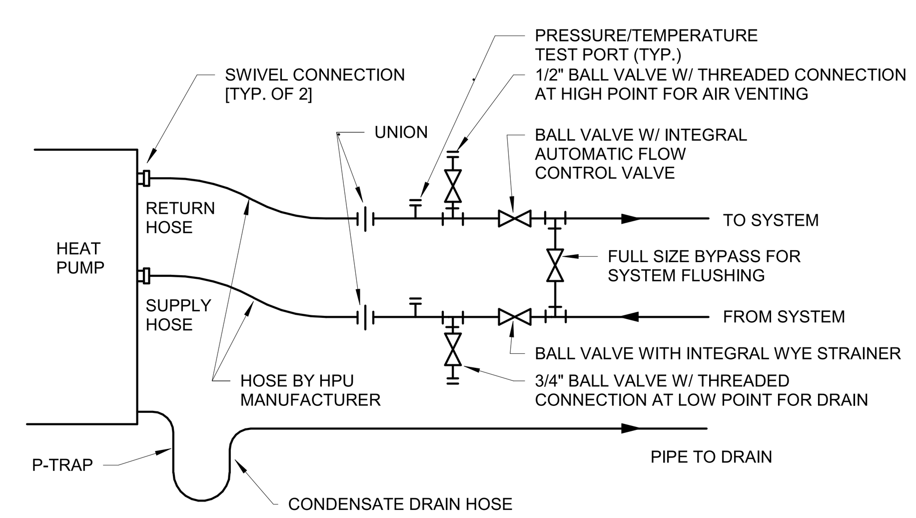
1. PROVIDE WITH FACTORY STANDARD WHITE FINISH.
2. ALUMINUM EGGCRATE GRILE WITH 1/2X1/2X1/2 ALUMINUM CORE AND BORDER.
3. LOUVERED ALUMINUM DIFFUSER.

ELECTRIC HEAT SCHEDULE

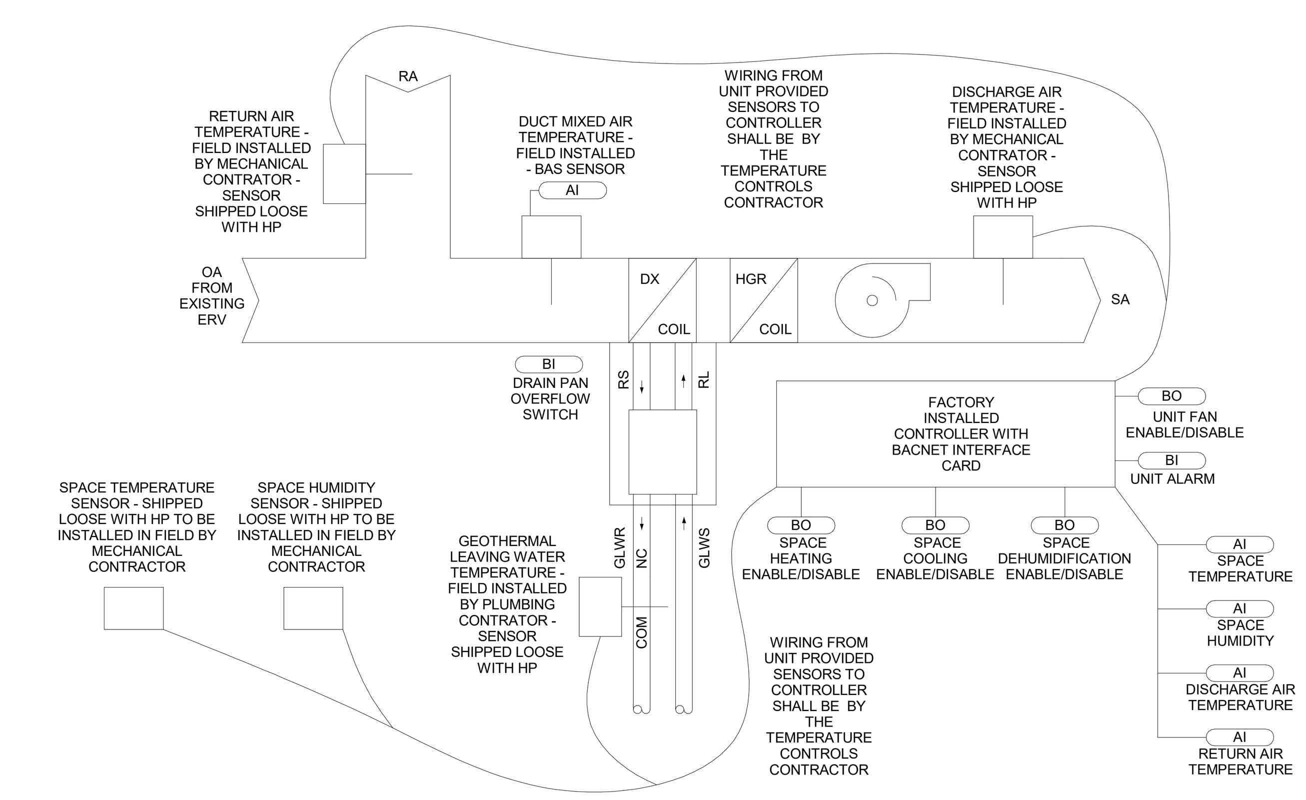
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	CFM	EAT	ELECTRICAL KW	VOLTAGE	PHASES	COMMENTS
ECUH	1	MARLEY	CUH945	500	70 °F	6	208	1	1,2,3,4
ECUH	2	MARLEY	CUH945	500	70 °F	6	208	1	1,2,3,4
ECUH	3	MARLEY	CUH945	500	70 °F	6	208	1	1,2,3,4

COMMENTS:

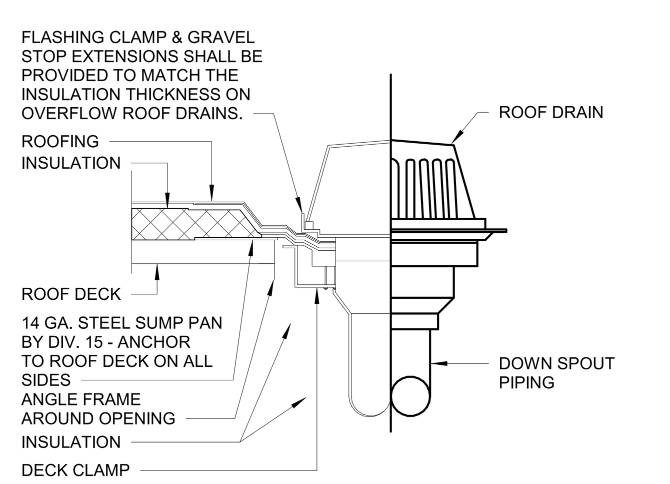
1. PROVIDE WITH FACTORY INSTALLED POWER DISCONNECT SWITCH.
2. PROVIDE WITH THERMAL OVERLOAD PROTECTION.
3. PROVIDE WITH THERMOSTAT FOR FIELD MOUNTING BY THE MECHANICAL CONTRACTOR.
4. CABINET UNIT HEATER, FULLY RECESSED CEILING MOUNTED, FRONT BOTTOM IN, FRONT TOP OUT STAMPED GRILLES. COLOR TO BE SELECTED BY THE PROJECT ARCHITECT.



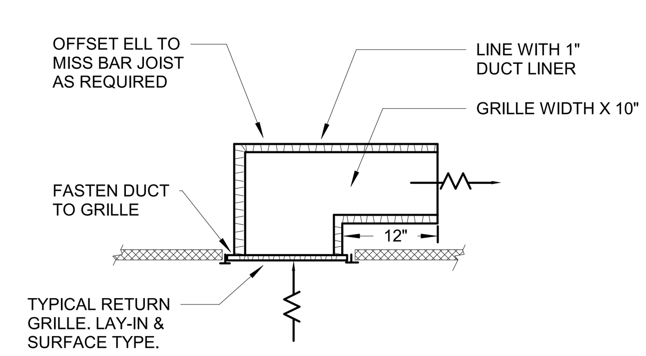
1 HEAT PUMP PIPING DETAIL
NO SCALE



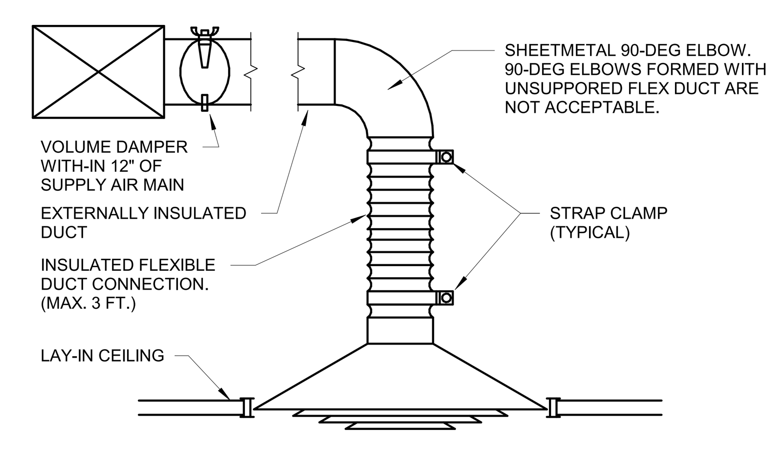
2 HEAT PUMPS CONTROL DETAIL
NO SCALE



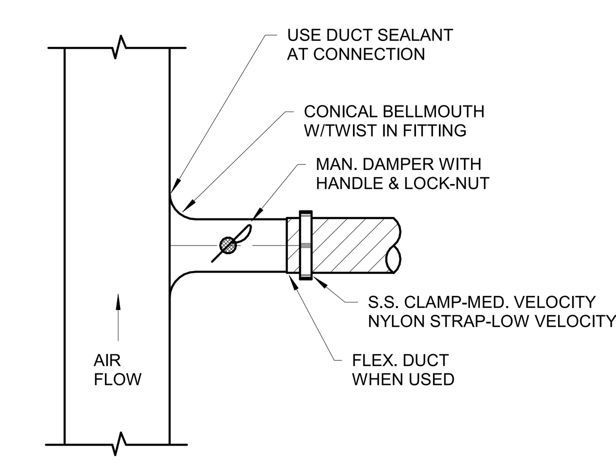
3 ROOF DRAIN DETAIL
NO SCALE



4 INSULATED RETURN ELBOW DETAIL
NO SCALE



5 DIFFUSER MOUNTING DETAIL
NO SCALE



6 ROUND DUCT TAKE-OFF DETAIL
NO SCALE

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9613
STUART W. OSTER
11-22-2024
SOUTH DAKOTA

WPE# BS24057

WPE WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE ▪ SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 ▪ FAX: (605) 362-3759
WWW.WESTPLAINSENGINEERING.COM
RAPID CITY, SD ▪ SIOUX FALLS, SD ▪ CASPER, WY ▪ CEDAR RAPIDS, IA

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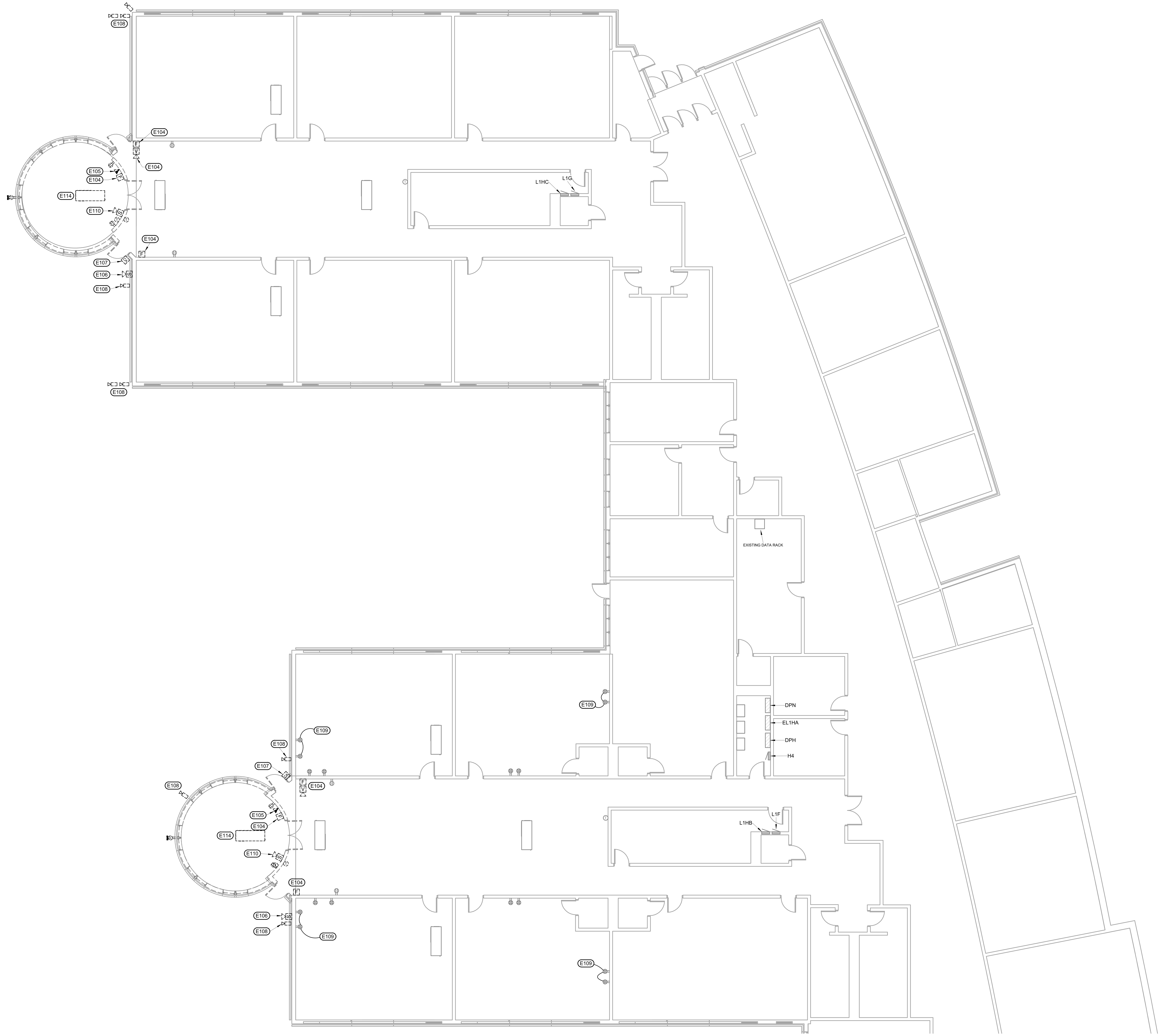
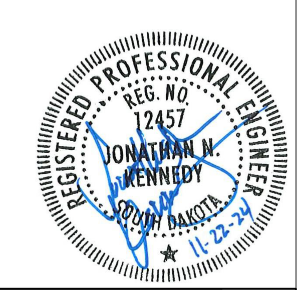
REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	MECHANICAL SCHEDULES & DETAILS	DRAWN BY BS TRACED BY CHECKED BY SO	M6
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 POWER/COMMUNICATIONS DEMOLITION PLAN - NORTH
1/8" = 1'-0"

#	ELECTRICAL SPECIFIC NOTES
E104	REMOVE EXISTING FIRE ALARM DEVICE AND SALVAGE TO THE OWNER.
E105	REMOVE VOICE/DATA DEVICE AND ASSOCIATED COMMUNICATIONS CABLE BACK TO THE SOURCE. FOR DATA DEVICES TERMINATED TO PATCH PANELS, REMOVE LABELING AT PATCH PANEL.
E106	REMOVE EXISTING HORN-TYPE SPEAKER AND SALVAGE TO THE OWNER. COIL EXISTING SPEAKER WIRE ABOVE THE CEILING OF THE EXISTING CLASSROOM. SPEAKER WILL BE RELOCATED TO NEW EXTERIOR CONSTRUCTION.
E107	REMOVE CARD ACCESS DEVICE AND SALVAGE TO THE OWNER. THIS DEVICE SHALL BE REUSED ON NEW EXTERIOR DOOR. REMOVE EXISTING CONDUCTORS.
E108	REMOVE VIDEO SURVEILLANCE CAMERA AND SALVAGE TO THE OWNER. REMOVE EXISTING CONDUCTORS BACK TO THE SOURCE.
E109	DISCONNECT EXISTING RECEPTACLES FROM THE ELECTRICAL CIRCUIT. MAINTAIN BRANCH CIRCUIT HOME RUN AS THIS CIRCUIT WILL BE UTILIZED TO SERVE NEW ELECTRICAL LOADS IN THE BUILDING ADDITION. THE EXISTING ELECTRICAL DEVICES SHALL REMAIN AND THEY WILL BE CONNECTED TO AN EXISTING CIRCUIT SERVING OTHER DEVICES IN THIS ROOM.
E110	REMOVE EXISTING INDOOR PAGING SPEAKER. SALVAGE TO THE OWNER. REMOVE CONDUCTORS.
E114	MECHANICAL EQUIPMENT, THIS ROOM, TO BE REMOVED. DISCONNECT EQUIPMENT FROM THE BRANCH CIRCUIT. MAINTAIN BRANCH CIRCUIT HOME RUN AS IT WILL BE UTILIZED TO SERVE NEW EQUIPMENT.



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PHONE: (605) 362-3753 ▪ FAX: (605) 362-3759
WWW.WESTPLAINSENGINEERING.COM
RAPID CITY, SD ▪ SIOUX FALLS, SD ▪ CASPER, WY ▪ CEDAR RAPIDS, IA

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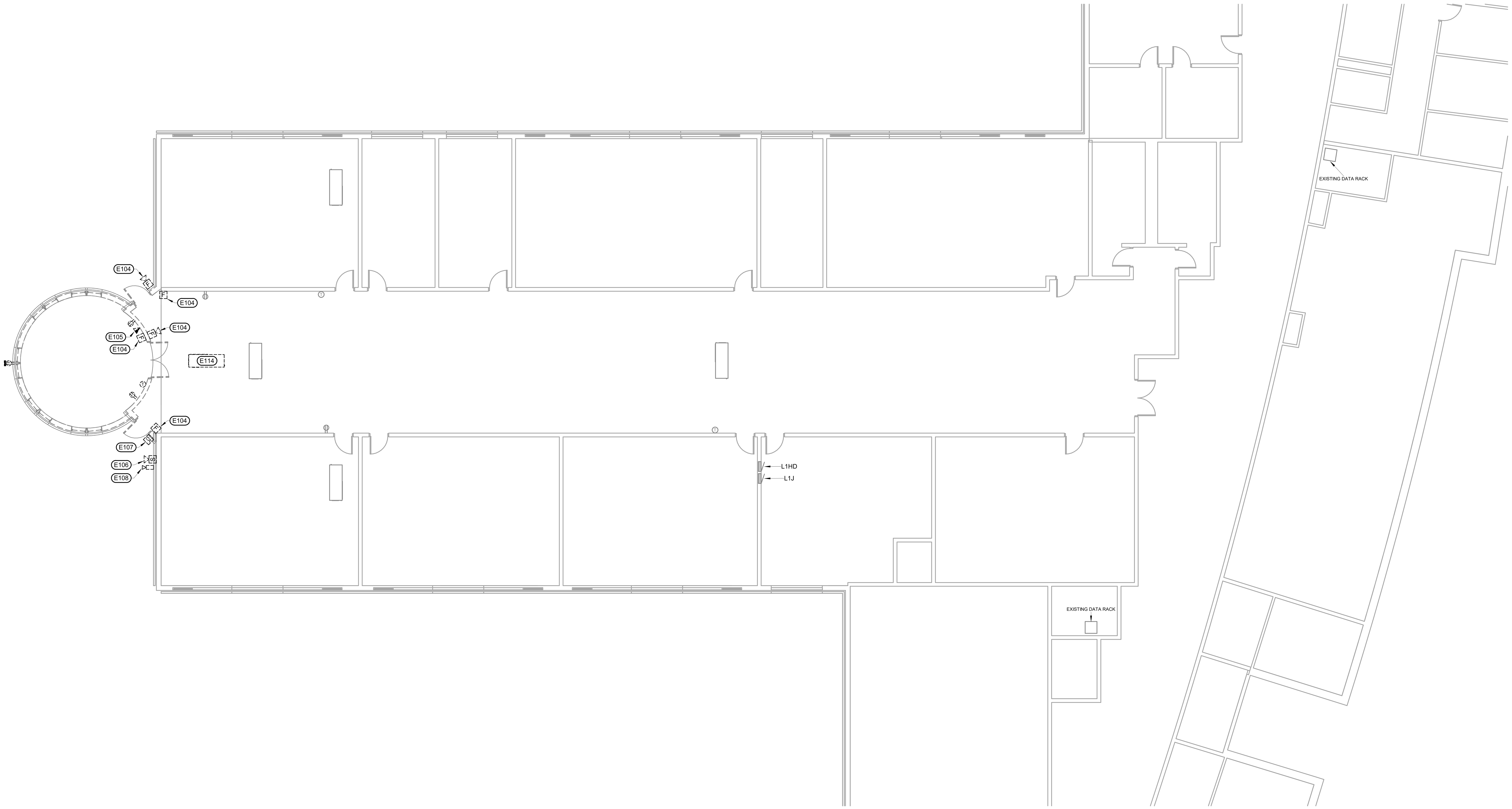
REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	POWER/COMMUNICATIONS DEMOLTION PLANS	DRAWN BY JM TRACED BY CHECKED BY JK	E1
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



① POWER/COMMUNICATIONS DEMOLITION PLAN - SOUTH
1/8" = 1'-0"

ELECTRICAL SPECIFIC NOTES

#	
E104	REMOVE EXISTING FIRE ALARM DEVICE AND SALVAGE TO THE OWNER.
E105	REMOVE VOICE/DATA DEVICE AND ASSOCIATED COMMUNICATIONS CABLE BACK TO THE SOURCE. FOR DATA DEVICES TERMINATED TO PATCH PANELS, REMOVE LABELING AT PATCH PANEL.
E106	REMOVE EXISTING HORN-TYPE SPEAKER AND SALVAGE TO THE OWNER. COIL EXISTING SPEAKER WIRE ABOVE THE CEILING OF THE EXISTING CLASSROOM. SPEAKER WILL BE RELOCATED TO NEW EXTERIOR CONSTRUCTION.
E107	REMOVE CARD ACCESS DEVICE AND SALVAGE TO THE OWNER. THIS DEVICE SHALL BE REUSED ON NEW EXTERIOR DOOR. REMOVE EXISTING CONDUCTORS.
E108	REMOVE VIDEO SURVEILLANCE CAMERA AND SALVAGE TO THE OWNER. REMOVE EXISTING CONDUCTORS BACK TO THE SOURCE.
E114	MECHANICAL EQUIPMENT, THIS ROOM, TO BE REMOVED. DISCONNECT EQUIPMENT FROM THE BRANCH CIRCUIT. MAINTAIN BRANCH CIRCUIT HOME RUN AS IT WILL BE UTILIZED TO SERVE NEW EQUIPMENT.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 12457
JONATHAN N. KENNEDY
SOUTH DAKOTA
11-22-24

WPE# BS24057
WPE WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE ▪ SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 ▪ FAX: (605) 362-3759
WWW.WESTPLAINSENGINEERING.COM
RAPID CITY, SD ▪ SIOUX FALLS, SD ▪ CASPER, WY ▪ CEDAR RAPIDS, IA

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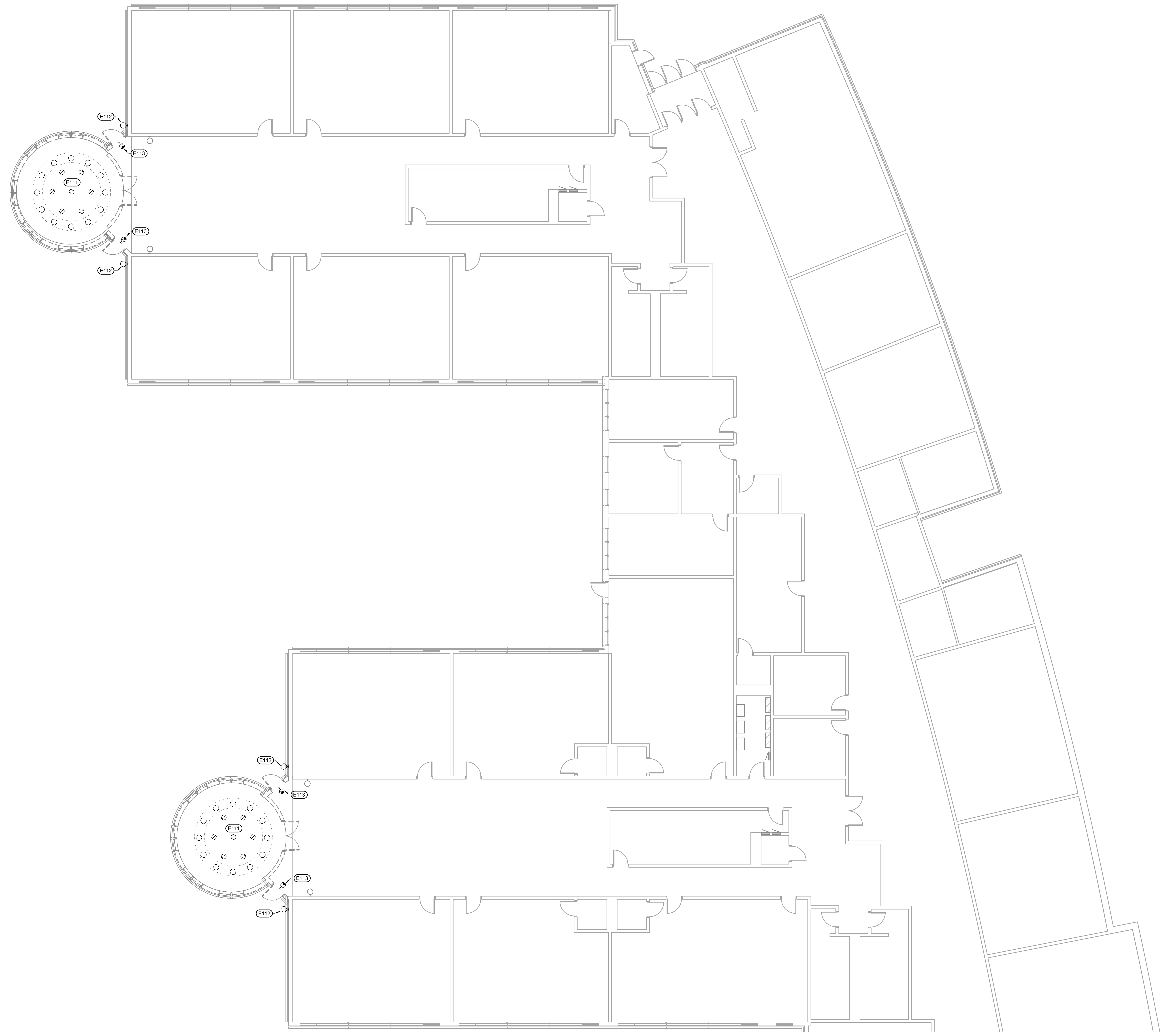
REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	POWER/COMMUNICATIONS DEMOLTION PLANS	DRAWN BY JM TRACED BY ___ CHECKED BY JK	E2
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 LIGHTING DEMOLITION PLAN - NORTH
1/8" = 1'-0"

ELECTRICAL SPECIFIC NOTES

#	
E111	REMOVE ALL LIGHTING IN THIS ROOM. THE ROUND DOWNLIGHTS ARE CONNECTED TO A DEDICATED 120-VOLT, 20-AMP CIRCUIT IN THE LIGHTING AND APPLIANCE PANEL SERVING THIS AREA. THE BRANCH CIRCUIT HOME RUN MAY BE REUSED TO SERVE NEW LOADS IN THE BUILDING ADDITION.
E112	REMOVE EXTERIOR LIGHT FIXTURE. SALVAGE TO THE OWNER.
E113	REMOVE EXIT LIGHT FIXTURE. SALVAGE TO THE OWNER.

REGISTERED PROFESSIONAL ENGINEER REG. NO. 5813 STUART W. OSTER SOUTH DAKOTA
11-22-2024

WPE# BS24057

WPE WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE ▪ SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 ▪ FAX: (605) 362-3759
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RAPID CITY, SD ▪ SIOUX FALLS, SD ▪ CASPER, WY ▪ CEDAR RAPIDS, IA

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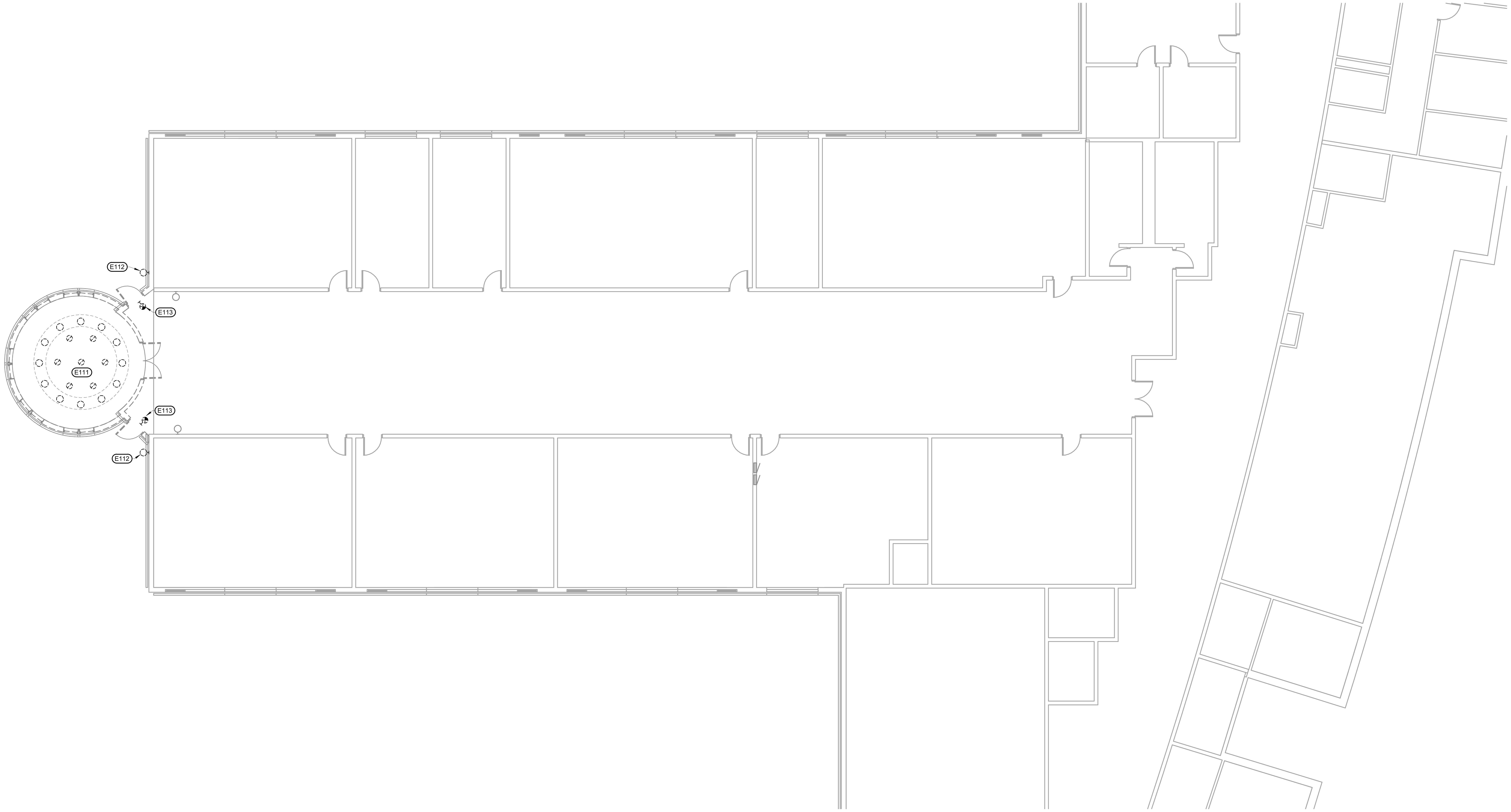
REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	LIGHTING DEMOLTION PLANS	DRAWN BY JM TRACED BY CHECKED BY JK	E3
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 LIGHTING DEMOLITION PLAN - SOUTH
1/8" = 1'-0"

ELECTRICAL SPECIFIC NOTES

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REGISTERED PROFESSIONAL ENGINEER
REG. NO. 12457
JONATHAN N. KENNEDY
SOUTH DAKOTA
11-22-24

WPE# BS24057

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RAPID CITY, SD • SIOUX FALLS, SD • CASPER, WY • CEDAR RAPIDS, IA

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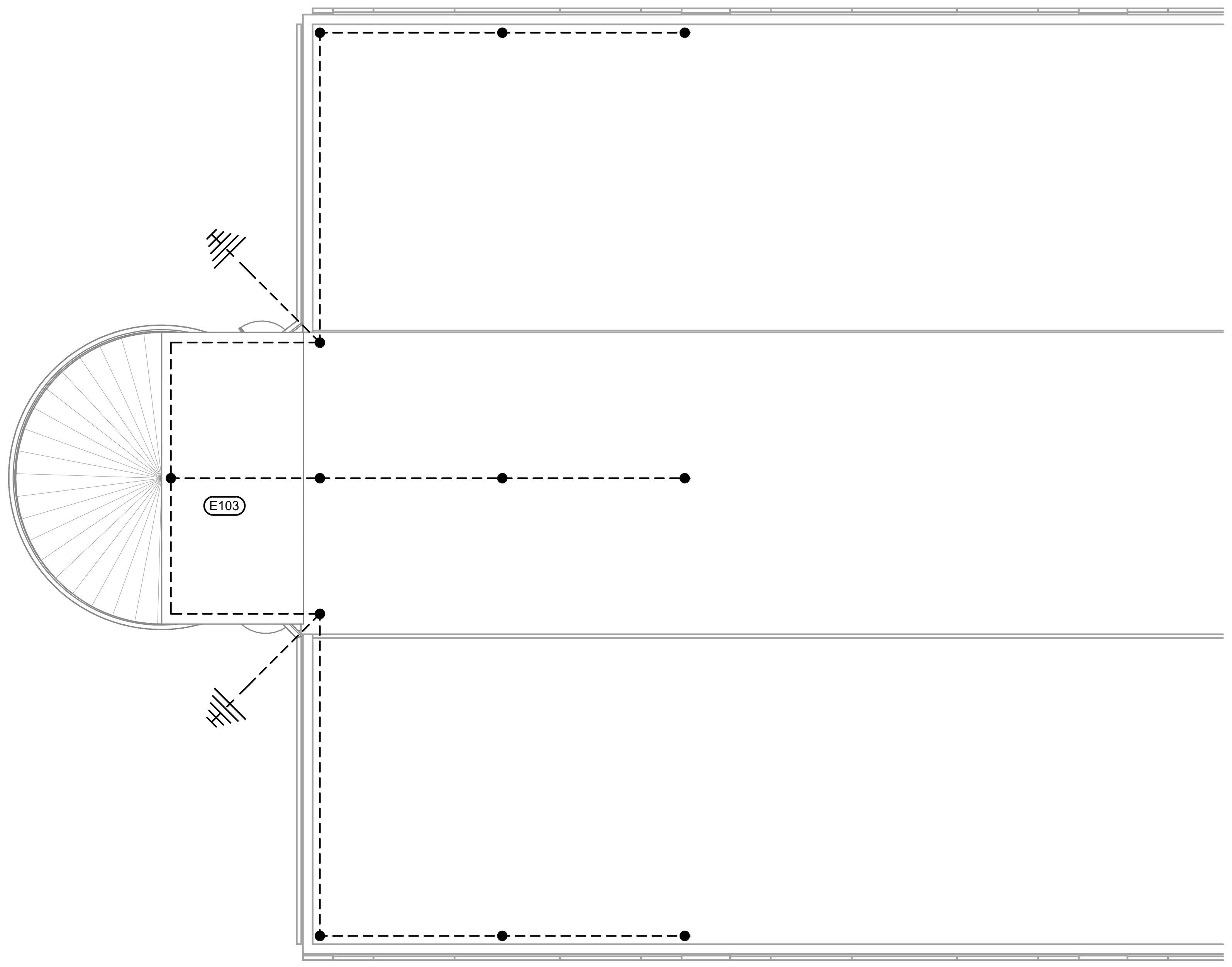
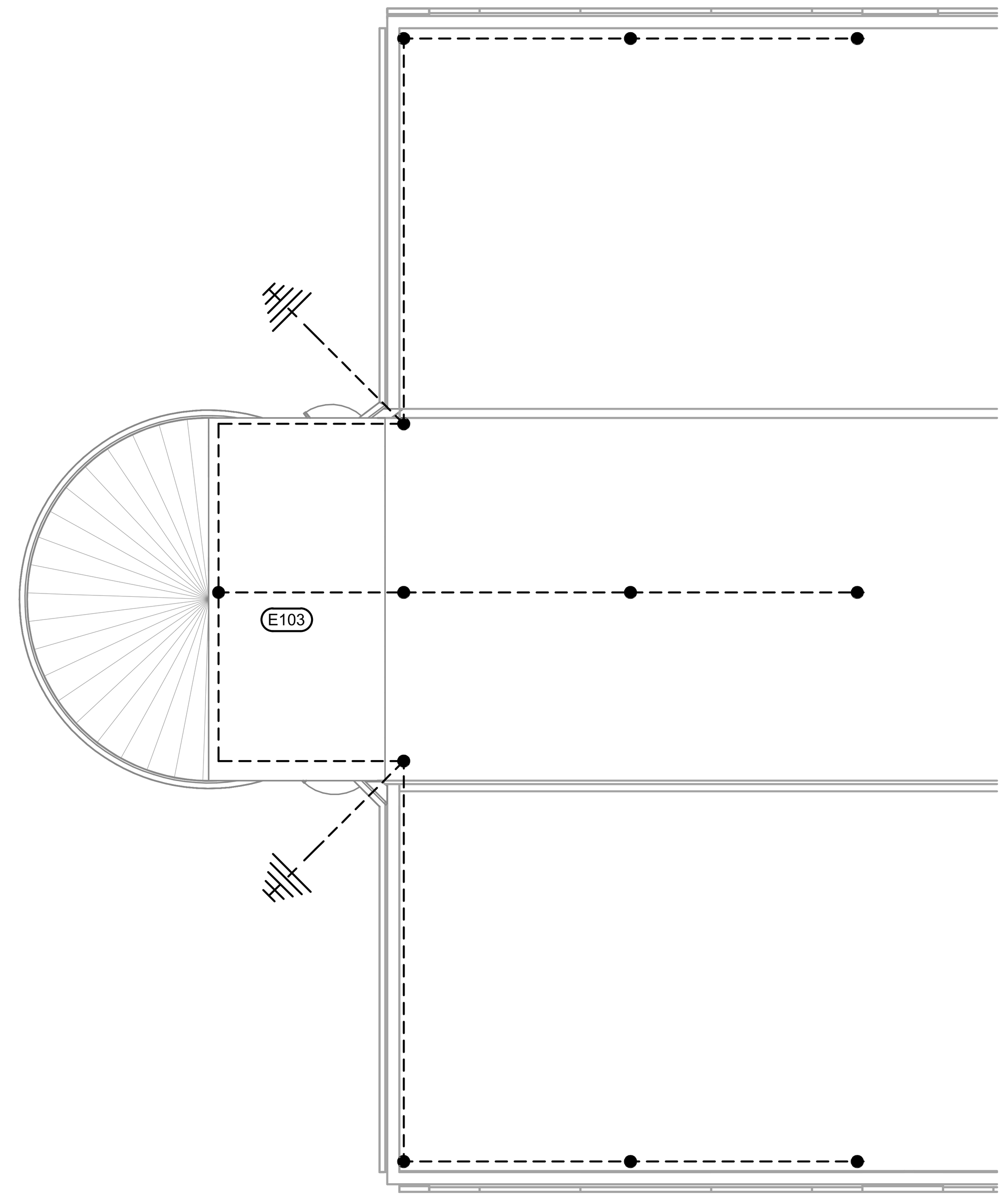
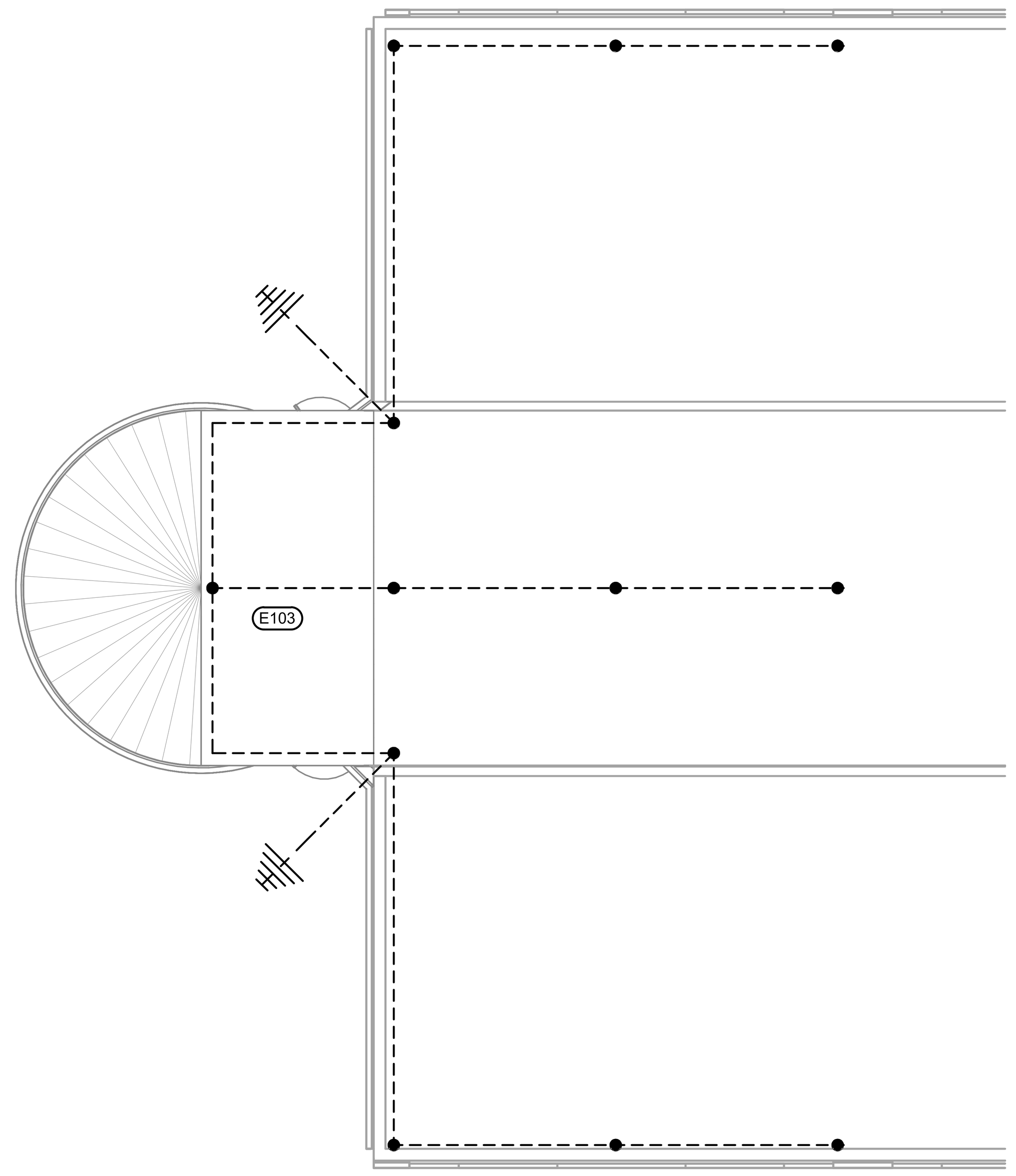
REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	LIGHTING DEMOLTION PLANS	DRAWN BY JM TRACED BY CHECKED BY JK	E4
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032







#	ELECTRICAL SPECIFIC NOTES
E103	REMOVE ALL LIGHTNING PROTECTION WIRE AND DEVICES FROM ROOF OF AREA BEING DEMOLISHED.

2 LIGHTNING PROTECTION DEMOLITION PLAN - SOUTH
1/8" = 1'-0"

1 LIGHTNING PROTECTION DEMOLITION PLAN - NORTH
1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 12457
JONATHAN N. KENNEDY
SOUTH DAKOTA
11-22-24

WPE# BS24057
WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE ▪ SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 ▪ FAX: (605) 362-3759
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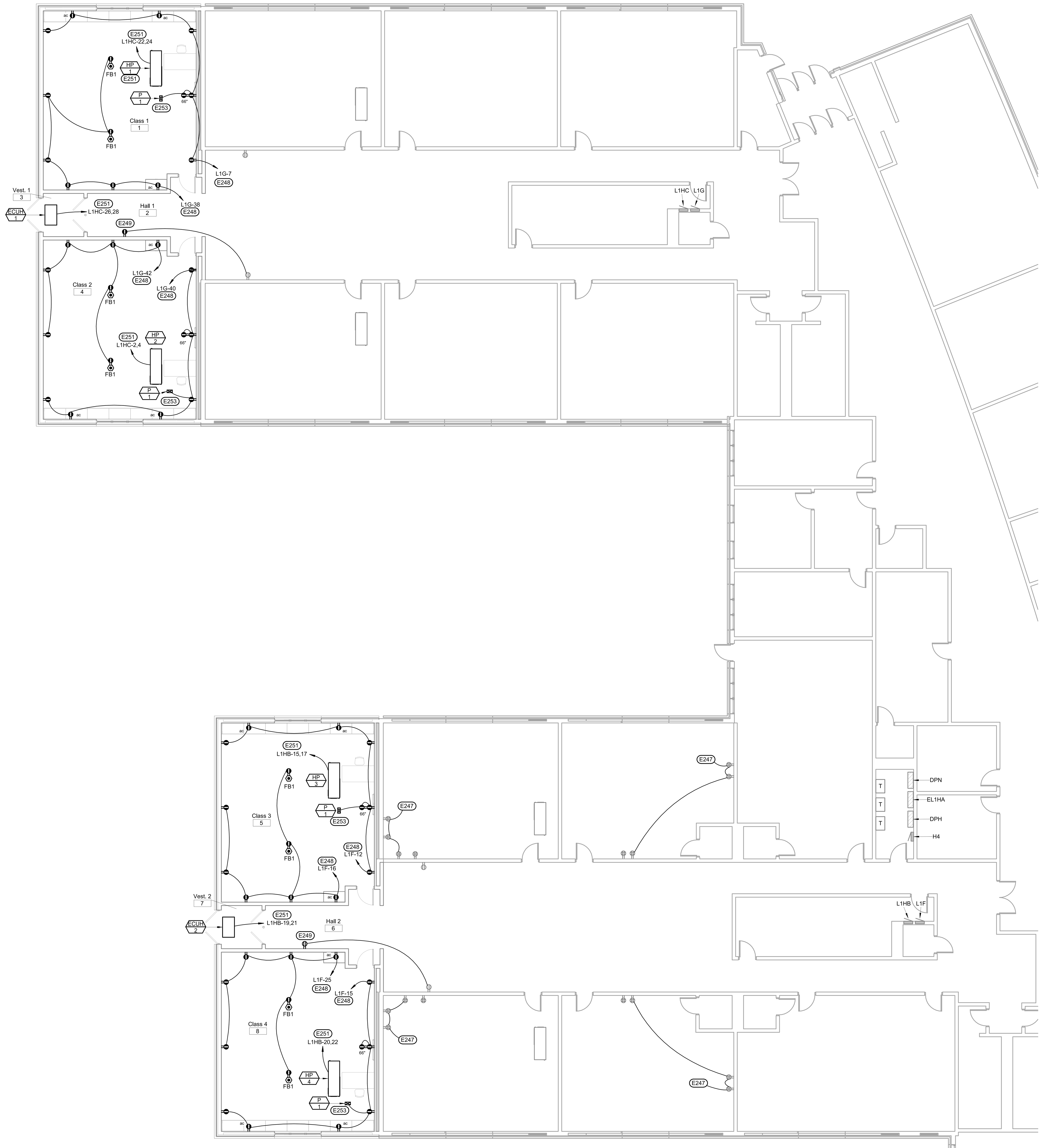
REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	LIGHTNING PROTECTION DEMOLTION PLANS	DRAWN BY JM TRACED BY ___ CHECKED BY JK	E5
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 POWER FLOOR PLAN - NORTH
1/8" = 1'-0"

ELECTRICAL SPECIFIC NOTES

#	
E247	CONNECT EXISTING RECEPTACLES TO AN EXISTING 120-VOLT, 20-AMP BRANCH CIRCUIT SERVING OTHER RECEPTACLES IN THIS ROOM.
E248	CONNECT TO AN EXISTING 120-VOLT, 20-AMP BRANCH CIRCUIT IN THE PANELBOARD INDICATED. CIRCUIT MADE AVAILABLE AS A RESULT OF ELECTRICAL DEMOLITION IN THIS AREA. PROVIDE AN UPDATED TYPED PANEL DIRECTORY UPON COMPLETION. PROVIDE #12 CIRCUIT CONDUCTORS.
E249	CONNECT NEW DEVICE TO AN EXISTING UNSWITCHED 120-VOLT, 20-AMP BRANCH CIRCUIT SERVING OTHER RECEPTACLES THIS AREA.
E251	CONNECT TO A NEW 50-AMP, 2-POLE CIRCUIT BREAKER IN THE EXISTING PANEL INDICATED. PROVIDE #8 BRANCH CIRCUIT CONDUCTORS. NEW CIRCUIT BREAKER SHALL MATCH PROPERTIES OF THE EXISTING PANEL. PROVIDE UPDATED TYPED PANEL DIRECTORY UPON COMPLETION.
E253	PUMP SHALL BE WIRED DIRECTLY ABOVE CEILING SPACE.

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REG. NO. 12457
JONATHAN N. KENNEDY
SOUTH DAKOTA
11-22-24

WPE# BS24057
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4609 SOUTH TECHLINK CIRCLE • SIOUX FALLS, SD 57106
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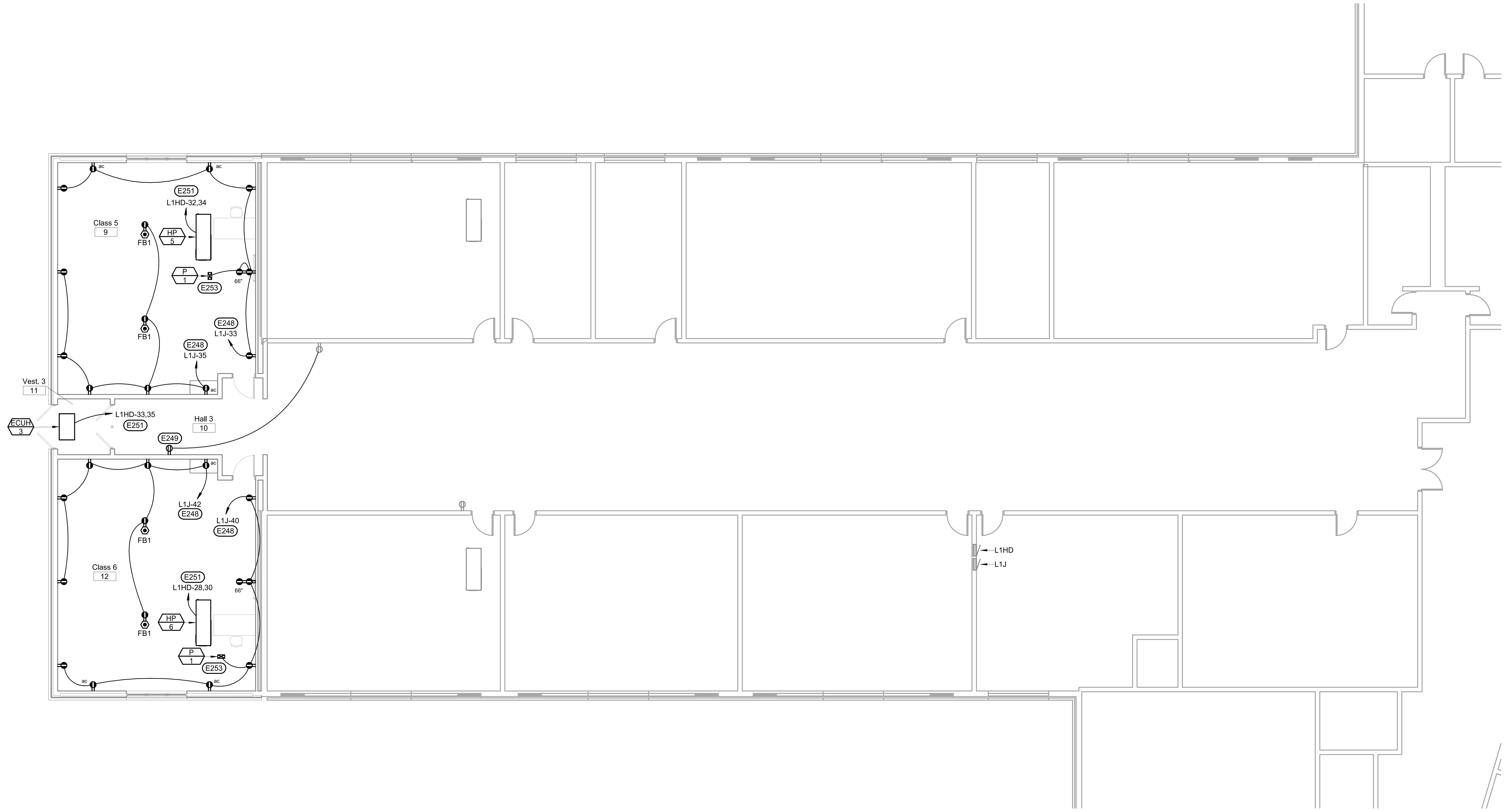
REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	FIRST FLOOR POWER PLANS	DRAWN BY JM TRACED BY ___ CHECKED BY JK	E6
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032

#	ELECTRICAL SPECIFIC NOTES
E248	CONNECT TO AN EXISTING 120-VOLT, 20-AMP BRANCH CIRCUIT IN THE PANELBOARD INDICATED. CIRCUIT MADE AVAILABLE AS A RESULT OF ELECTRICAL DEMOLITION IN THIS AREA. PROVIDE AN UPDATED TYPED PANEL DIRECTORY UPON COMPLETION. PROVIDE #12 CIRCUIT CONDUCTORS.
E249	CONNECT NEW DEVICE TO AN EXISTING UNSWITCHED 120-VOLT, 20-AMP BRANCH CIRCUIT SERVING OTHER RECEPTACLES THIS AREA.
E251	CONNECT TO A NEW 50-AMP, 2-POLE CIRCUIT BREAKER IN THE EXISTING PANEL INDICATED. PROVIDE #8 BRANCH CIRCUIT CONDUCTORS. NEW CIRCUIT BREAKER SHALL MATCH PROPERTIES OF THE EXISTING PANEL. PROVIDE UPDATED TYPED PANEL DIRECTORY UPON COMPLETION.
E253	PUMP SHALL BE WIRED DIRECTLY ABOVE CEILING SPACE.



1 POWER FLOOR PLAN - SOUTH
1/8" = 1'-0"

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REVISED DATE

CERT. NO.

Plans for
Tiospa Zina School
Classroom Addition
Agency Village, South Dakota

HKG Architects, Inc. Aberdeen, S.D.

FIRST FLOOR POWER PLANS

DRAWN BY JM
TRACED BY
CHECKED BY JK

E7

DATE 11/22/24
PROJECT NO. 2024-0032

1 TECHNOLOGY FLOOR PLAN - NORTH
1/8" = 1'-0"

ELECTRICAL SPECIFIC NOTES

#	
E323	CONNECT NEW DATA DEVICES TO AN EXISTING DATA RACK SERVING OTHER DEVICES, THIS AREA. PROVIDE A NEW PATCH PANEL IN THE EXISTING RACK AND TERMINATE NEW DEVICE. PROVIDE LABELING AT BOTH THE PATCH PANEL AND THE OUTLET DEVICE. COORDINATE NAMING/NUMBERING WITH OWNER. TYPICAL OF ALL DATA AND WAP DEVICES.
E324	PROVIDE A DATA CABLE FOR OWNER-PROVIDE WIRELESS ACCESS POINT. CABLE SHALL BE TERMINATED AT THE PATCH PANEL AND AT THE WAP END (WITH AN RJ-45 CONNECTOR). PROVIDE A 15-FOOT SERVICE LOOP AT THE WAP END. COIL ABOVE THE ACCESSIBLE CEILING. PROVIDE LABELING AT BOTH THE PATCH PANEL AND AT THE CABLE END.
E325	SEE TYPICAL CLASSROOM OUTLET DETAIL ON SHEET E600 FOR WIRING BETWEEN DESK LOCATIONS (D1 AND D2) AND THE LECTURE WALL LOCATION.
E326	REINSTALL AN EXISTING FIRE ALARM PULL STATION, REMOVED DURING DEMOLITION.
E327	REINSTALL AN EXISTING FIRE ALARM VOICE/STROBE DEVICE, REMOVED DURING DEMOLITION.
E328	PROVIDE A NEW FIRE ALARM VOICE/STROBE DEVICE. CONNECT TO THE EXISTING SYSTEM.
E329	EXISTING CAMERA TO BE INSTALLED ON NEW CONSTRUCTION. PROVIDE A NEW WIRING TO CAMERA LOCATION FROM THE SOURCE PREVIOUSLY SERVING CAMERAS REMOVED FROM THIS AREA. PROVIDE NEW CABLE, TYPE TO MATCH EXISTING. COORDINATE EXACT LOCATION WITH THE OWNER PRIOR TO ROUGH-IN.
E330	PROVIDE A NEW OVERHEAD PAGING SPEAKER AND CONNECT TO THE EXISTING PAGING SYSTEM IN THE BUILDING. PROVIDE NEW WIRING AS REQUIRED.
E331	REINSTALL AN EXISTING EXTERIOR HORN-TYPE SPEAKER. COORDINATE EXACT LOCATION WITH THE OWNER PRIOR TO ROUGH-IN. PROVIDE NEW WIRING AS REQUIRED.

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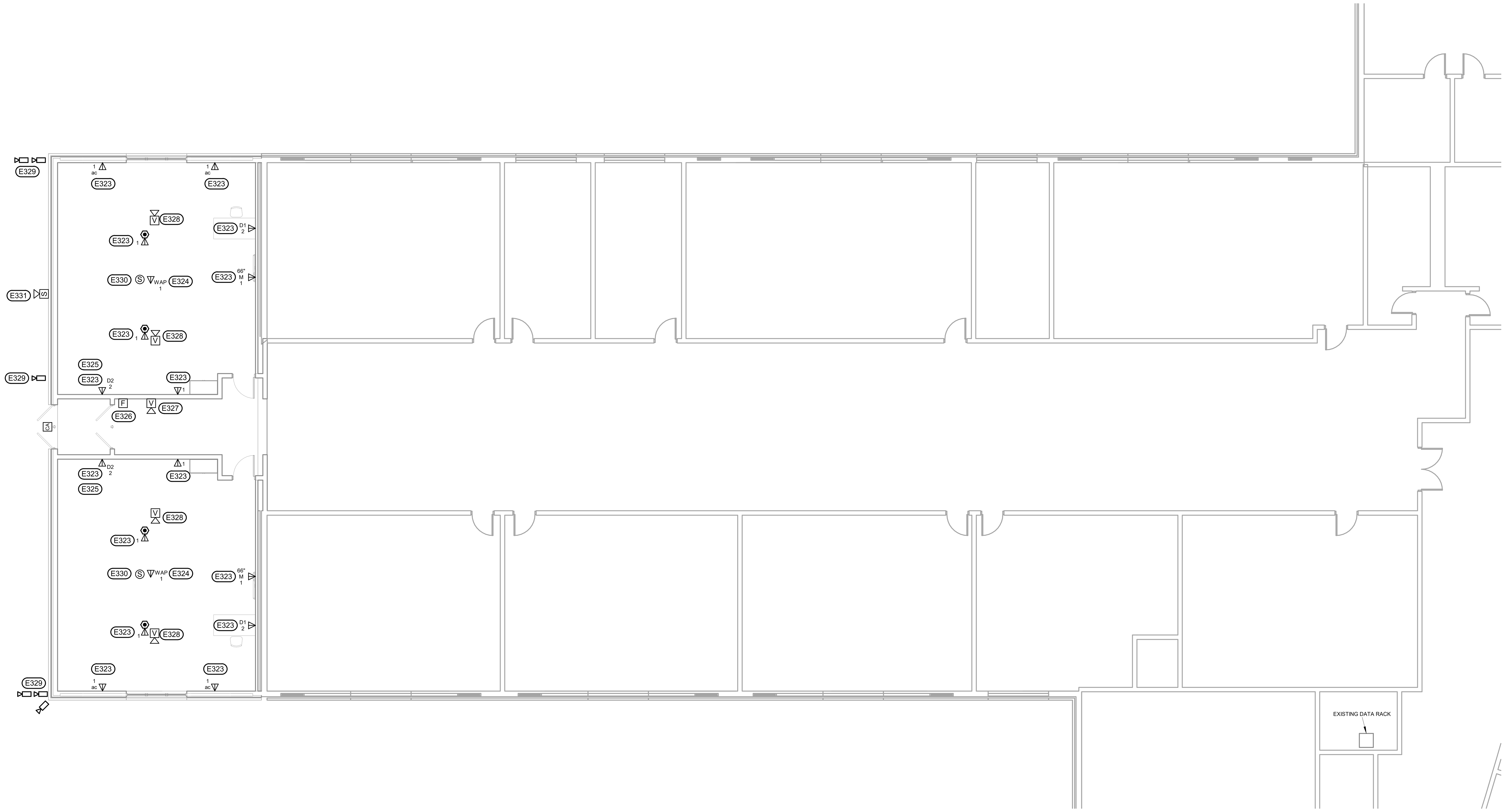
REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	FIRST FLOOR TECHNOLOGY PLANS	DRAWN BY JM TRACED BY ___ CHECKED BY JK	E8
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 TECHNOLOGY FLOOR PLAN - SOUTH
1/8" = 1'-0"

ELECTRICAL SPECIFIC NOTES

#	
E323	CONNECT NEW DATA DEVICES TO AN EXISTING DATA RACK SERVING OTHER DEVICES, THIS AREA. PROVIDE A NEW PATCH PANEL IN THE EXISTING RACK AND TERMINATE NEW DEVICE. PROVIDE LABELING AT BOTH THE PATCH PANEL AND THE OUTLET DEVICE. COORDINATE NAMING/NUMBERING WITH OWNER. TYPICAL OF ALL DATA AND WAP DEVICES.
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WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE • SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 • FAX: (605) 362-3759
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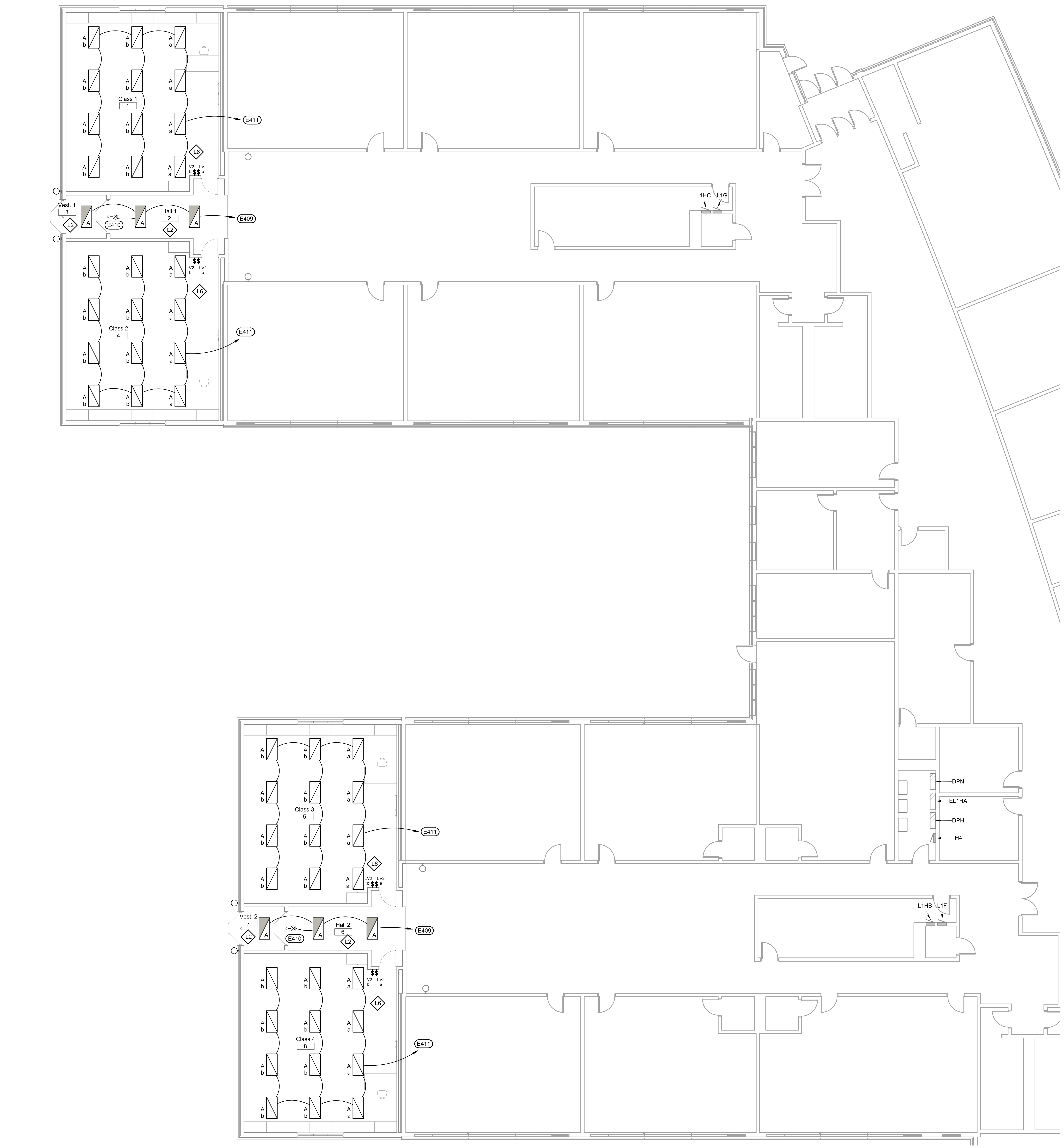
REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	FIRST FLOOR TECHNOLOGY PLANS	DRAWN BY JM TRACED BY ___ CHECKED BY JK	E9
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 LIGHTING FLOOR PLAN - NORTH
1/8" = 1'-0"

LIGHTING CONTROL SEQUENCE OF OPERATIONS

L2 SEQUENCE 2 - LIGHTING WITHIN A DEFINED ROOM OR SPACE SHALL BE CONTROLLABLE BY MEANS OF LOCAL OCCUPANCY SENSORS. LIGHTS SHALL BE PERMITTED TO BE ALL ON AND ALL OFF. OCCUPANCY SENSORS SHALL BE PROVIDED FOR 100% COMPLETE MINOR MOTION COVERAGE IN THE ROOM OR SPACE. OCCUPANCY SENSORS MAY BE CEILING MOUNTED IF CEILINGS ARE PRESENT. THE CONTRACTOR SHALL CONFIRM THE PRESENCE OF A CEILING WITH THE DOCUMENTS. OCCUPANCY SENSORS SHALL TURN LIGHTS OFF AND ON (I.E. AUTO-ON, AUTO-OFF). PROVIDE A UL LISTED EMERGENCY RELAY TO OVERRIDE OCCUPANCY SENSOR WHEN IN EMERGENCY MODE.

L6 SEQUENCE 6 - LIGHTING WITHIN A DEFINED ROOM OR SPACE SHALL BE CONTROLLABLE BY MEANS OF LOCAL LOW-VOLTAGE SWITCHES AND OCCUPANCY SENSORS. LIGHTS SHALL BE PERMITTED TO BE ALL ON, ALL OFF, AND DIMMABLE TO USER-DESIRED LEVELS. LIGHTING SWITCH ZONES ARE DEPICTED ON THE DRAWINGS. WHERE NO SWITCH ZONES ARE INDICATED THE ROOM/SPACE SHALL BE CONTROLLED AS ONE ZONE. LOW-VOLTAGE LIGHT SWITCHES ARE ALSO SHOWN ON THE DRAWINGS. OCCUPANCY SENSORS SHALL BE PROVIDED FOR 100% COMPLETE MINOR MOTION COVERAGE IN THE ROOM OR SPACE. OCCUPANCY SENSORS SHALL BE CEILING MOUNTED, AND WALL-MOUNTED WHERE NO CEILING IS PRESENT. THE CONTRACTOR SHALL CONFIRM THE PRESENCE OF A CEILING WITH THE DOCUMENTS. OCCUPANCY SENSORS SHALL TURN LIGHTS OFF ONLY (I.E. MANUAL ON).

ELECTRICAL SPECIFIC NOTES

E409 CONNECT TO THE EXISTING CIRCUIT SERVING OTHER EMERGENCY LIGHT FIXTURES IN THIS AREA. PROVIDE #12 BRANCH CIRCUIT CONDUCTORS. PROVIDE A UL-LISTED LIGHTING TRANSFER RELAY TO OVERRIDE LIGHTING CONTROLS SO FIXTURES OPERATE AT 100% OUTPUT IN EMERGENCY OPERATION.

E410 REINSTALL EXISTING EXIT LIGHT FIXTURE.

E411 CONNECT TO AN EXISTING 277-VOLT CIRCUIT SERVING OTHER LIGHTS, THIS AREA. PROVIDE #12 BRANCH CIRCUIT CONDUCTORS.

LIGHTING/SWITCHING KEY

LOW VOLTAGE SWITCHES
^{LV1} - ON / OFF
^{LV2} - ON / OFF / DIMMING

LINE VOLTAGE SWITCHES
^{LINE} - ON / OFF

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WPE# BS24057
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PHONE: (605) 362-3753 • FAX: (605) 362-3759
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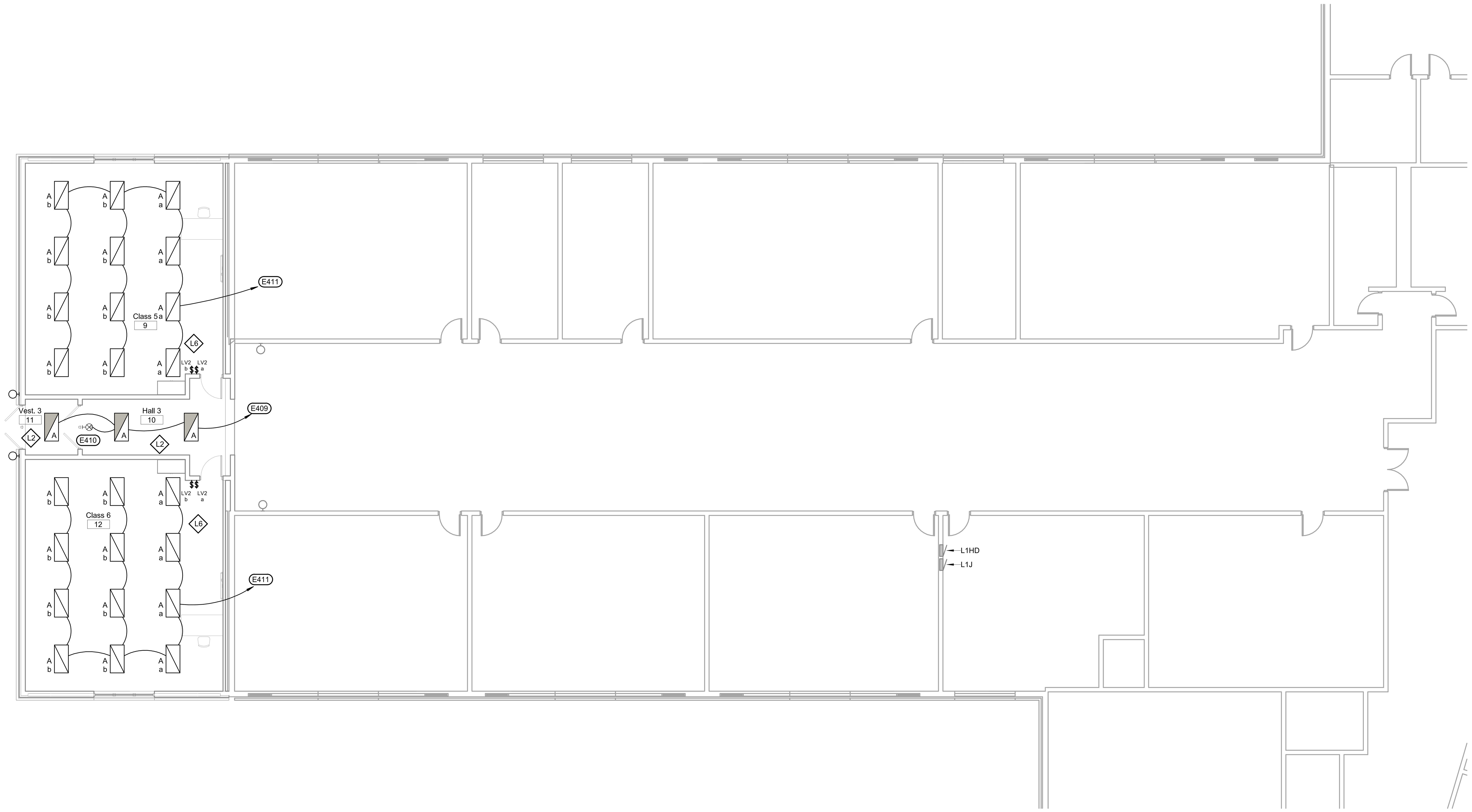
REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	FIRST FLOOR LIGHTING PLANS	DRAWN BY JM TRACED BY ___ CHECKED BY JK	E10
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 LIGHTING FLOOR PLAN - SOUTH
1/8" = 1'-0"

LIGHTING CONTROL SEQUENCE OF OPERATIONS

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ELECTRICAL SPECIFIC NOTES

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LIGHTING/SWITCHING KEY

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^{LV1} - ON / OFF
^{LV2} - ON / OFF / DIMMING

LINE VOLTAGE SWITCHES
^{LINE} - ON / OFF

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11-22-24

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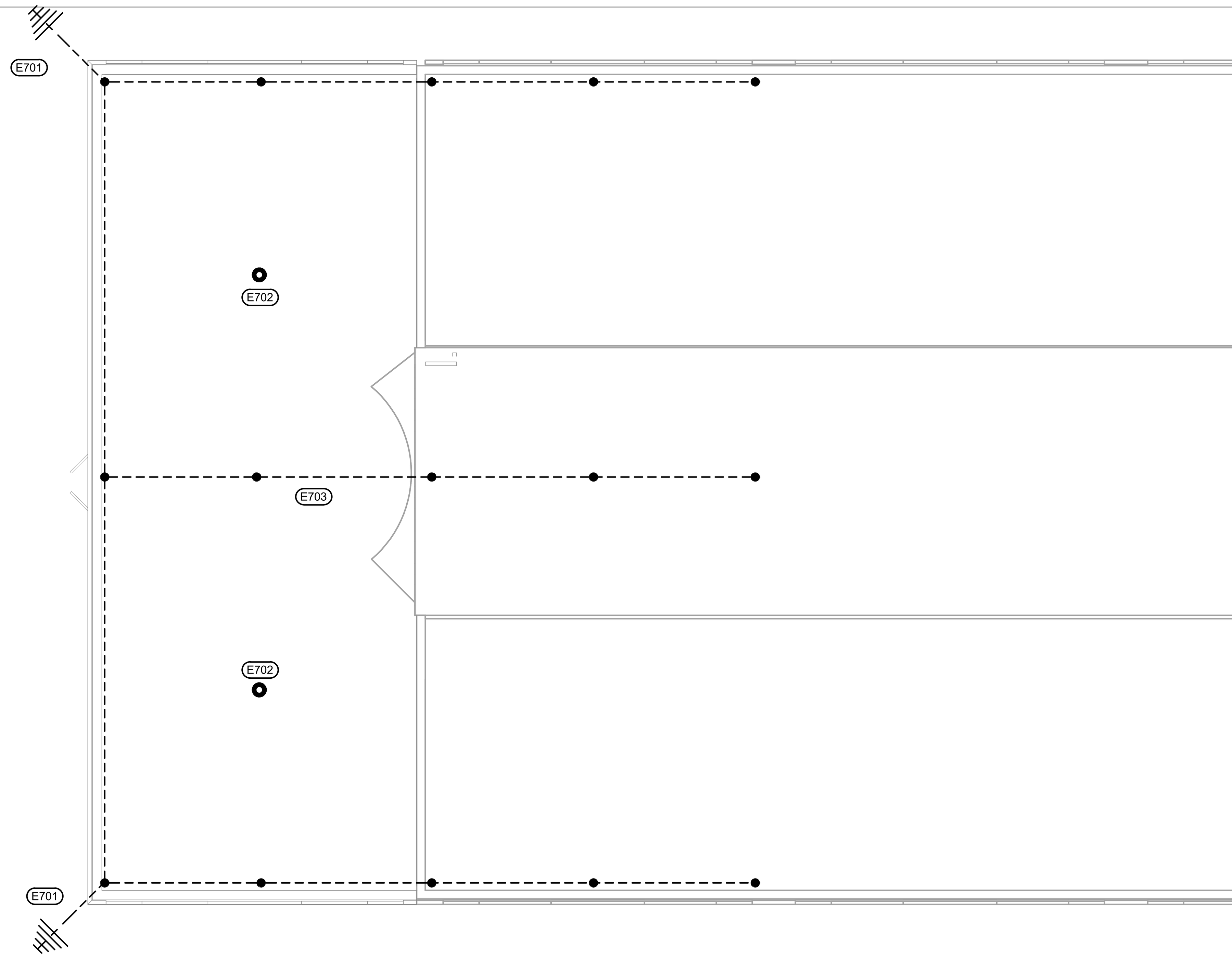
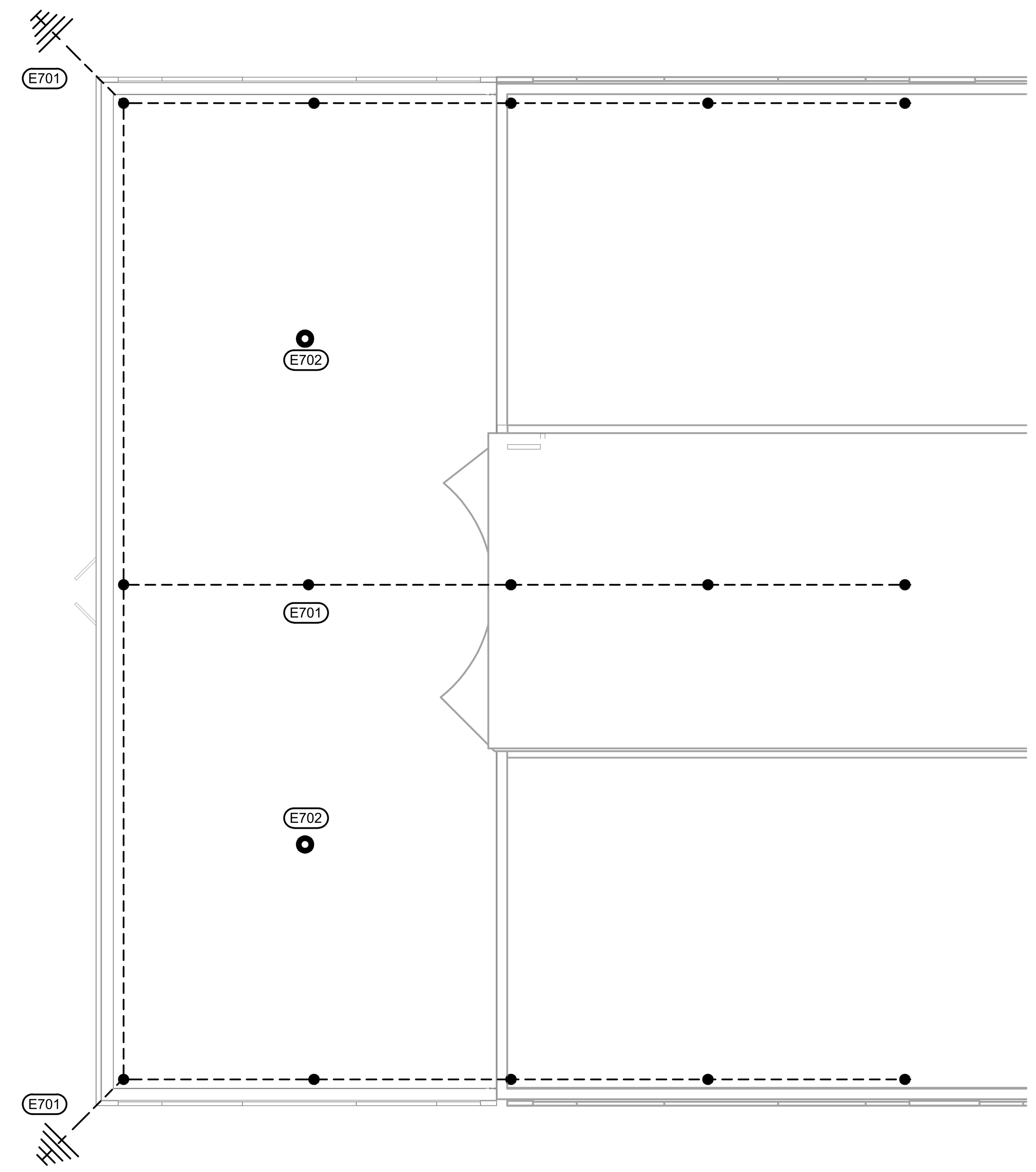
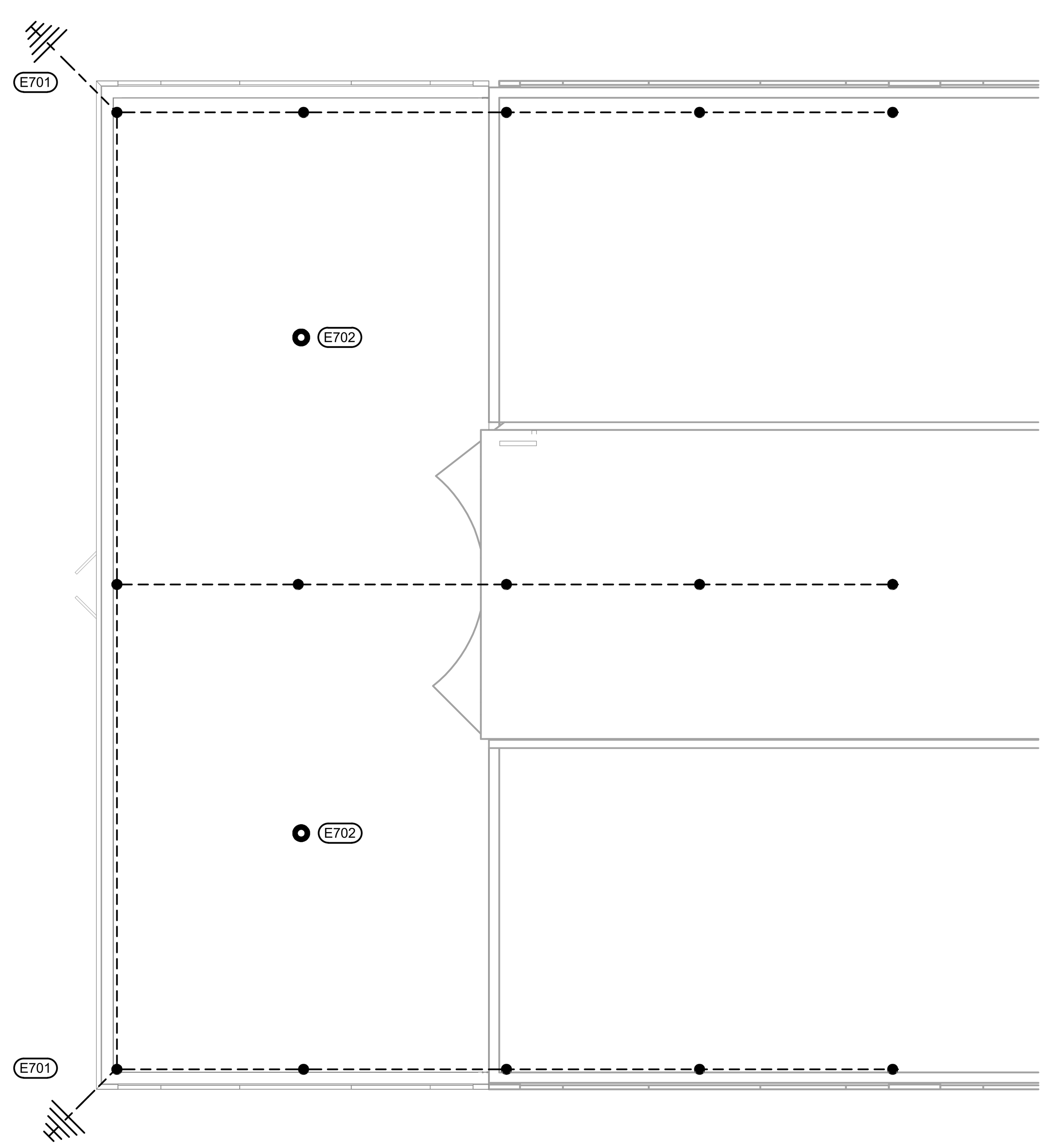
REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	FIRST FLOOR LIGHTING PLANS	DRAWN BY JM TRACED BY CHECKED BY JK	E11
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032

#	ELECTRICAL SPECIFIC NOTES
E701	ALL GROUND ROD LOCATIONS SHALL BE INSTALLED WITH TEST WELL SIMILAR TO DETAIL 11.
E702	REFER TO DRAWINGS FOR LOCATIONS OF ROOF VENTS AND ROOF DRAINS. BOND AS REQUIRED IN SPECIFICATIONS.
E703	CONNECT NEW LIGHTING PROTECTION TO EXISTING LIGHTING PROTECTION ACCORDING TO CODE AND SPECIFICATIONS.





2 LIGHTNING PROTECTION PLAN - SOUTH
1/8" = 1'-0"



1 LIGHTNING PROTECTION PLAN - NORTH
1/8" = 1'-0"

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REG. NO. 12457
JONATHAN N. KENNEDY
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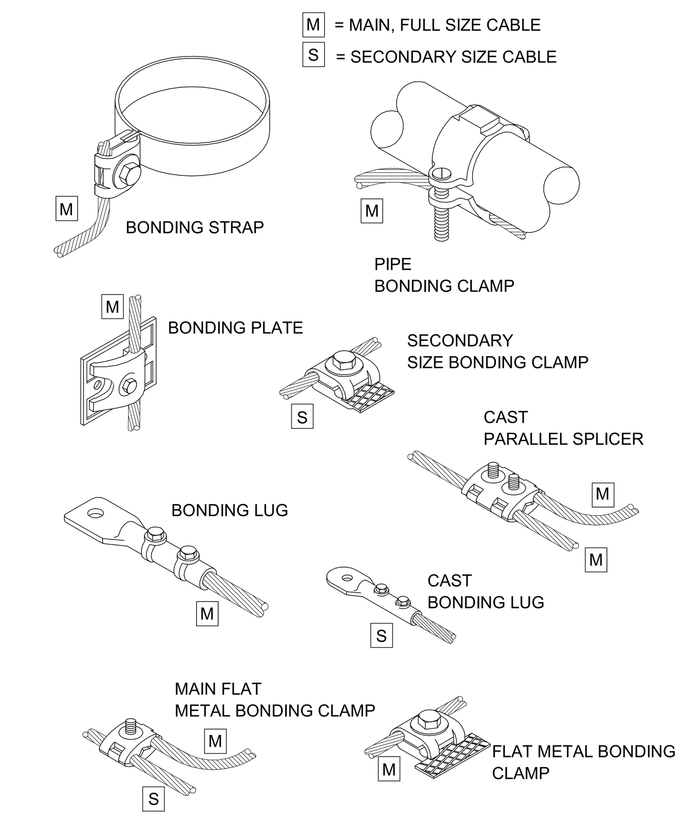
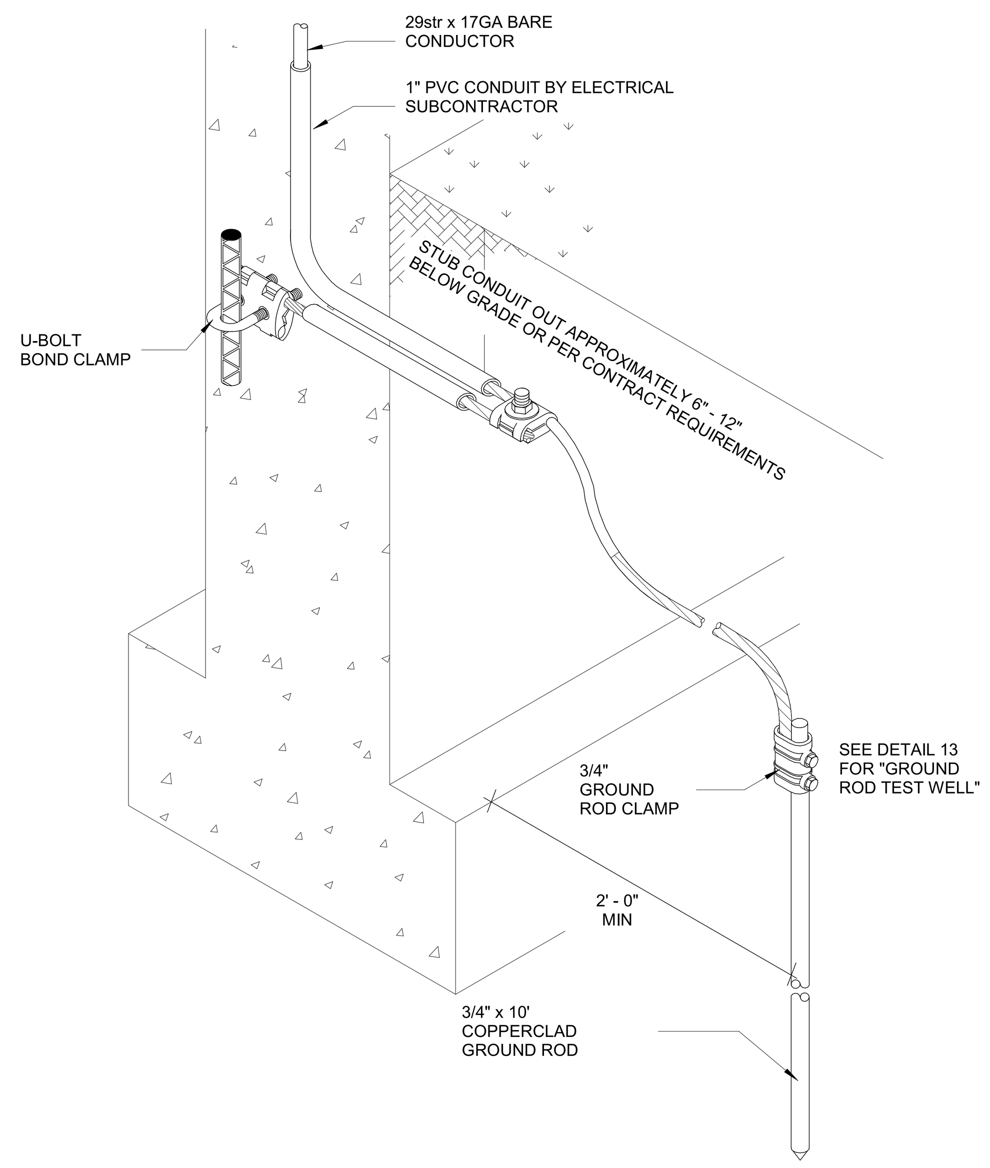
REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	LIGHTNING PROTECTION PLANS	DRAWN BY JM TRACED BY ___ CHECKED BY JK	E12
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032

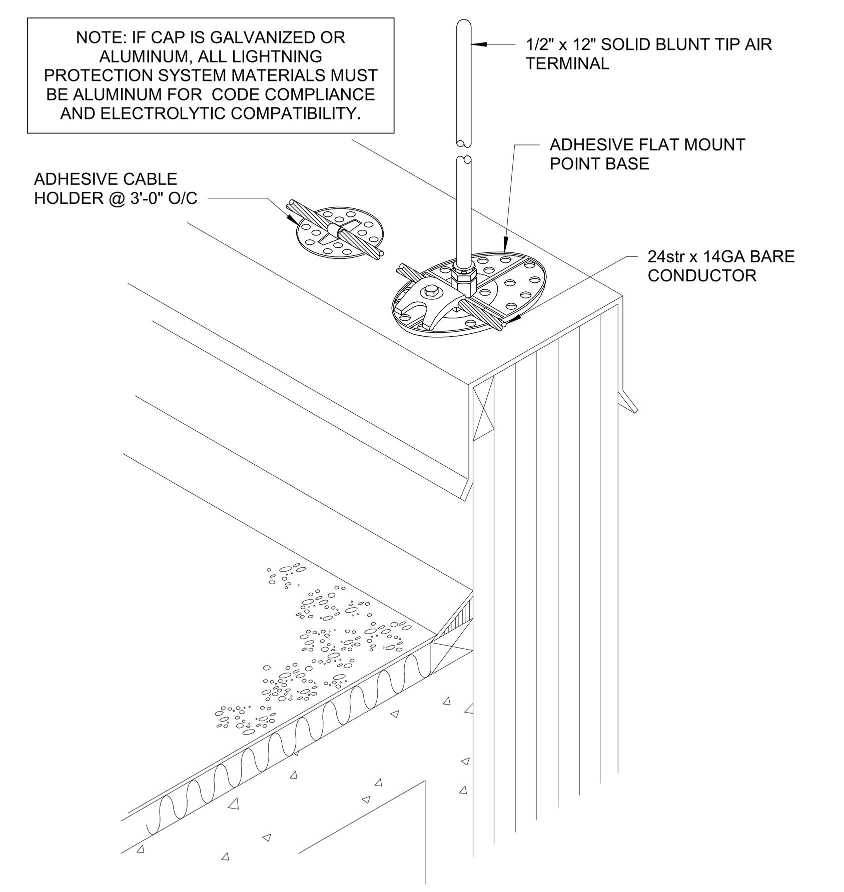
ELECTRICAL SPECIFIC NOTES



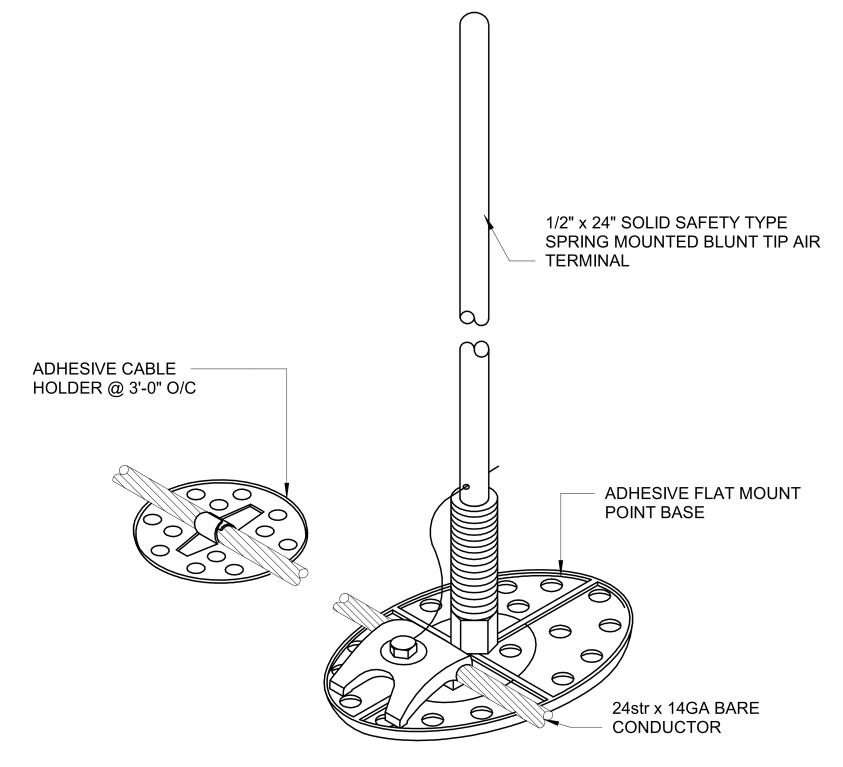
8 TYPICAL BONDING & SPLICING DETAILS
NO SCALE



5 GROUND ROD DETAIL
NO SCALE



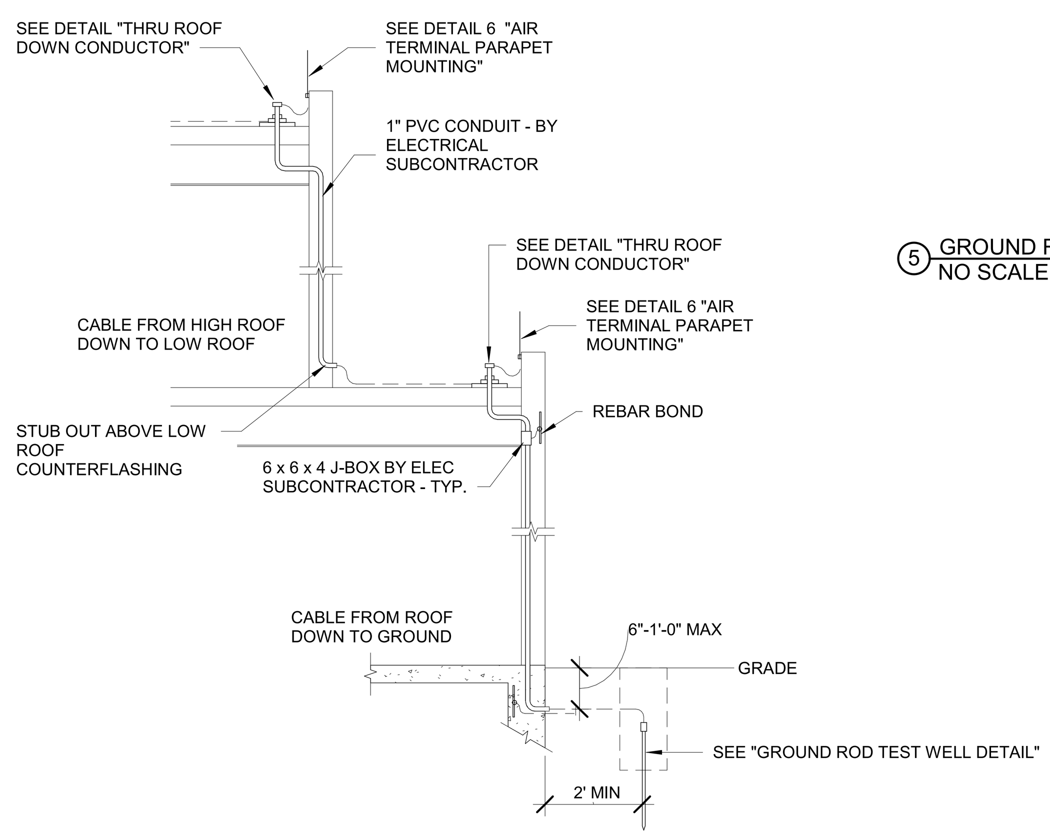
2 AIR TERMINAL ADHERE TO PARAPET
NO SCALE



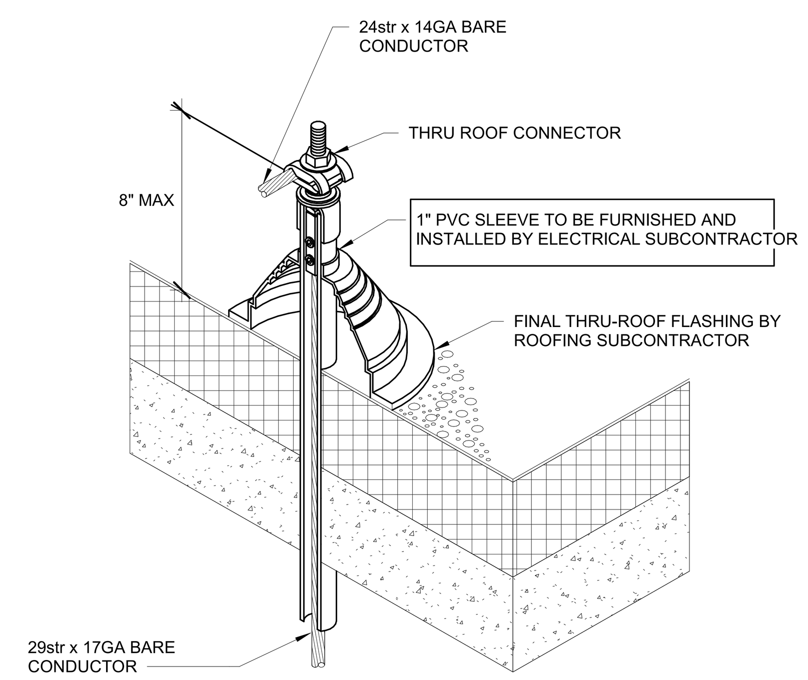
1 AIR TERMINAL
NO SCALE

LIGHTNING PROTECTION LEGEND

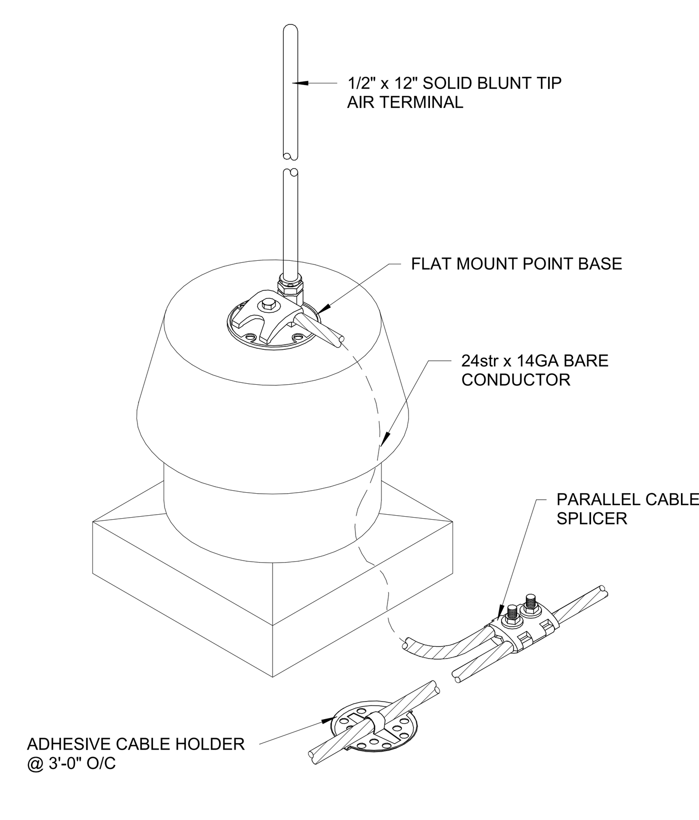
●	AIR TERMINAL LOCATION	----------	No. LPC126 COPPER GROUND LOOP CONDUCTOR (MIN. CLASS 2 CABLE)
□	THROUGH ROOF CONNECTION LOCATION	———	No. LPA141 ALUMINUM SECONDARY BONDING (#4 AWG)
∈	THROUGH WALL CONNECTION LOCATION	◙	EXHAUST FAN
—╫╫	GROUND ROD LOCATION WITH TEST WELL	▭	MISC. MECHANICAL EQUIPMENT
﹏□	THROUGH ROOF CABLE TO STEEL LOCATION	○	VENT THROUGH ROOF
— — — —	No. LPC120 COPPER CABLE (#2 AWG)	⊗	ROOF DRAIN
—··—··—	No. LPC126 COPPER CABLE (MIN. CLASS 2 CABLE)	A.F.G	ABOVE FINISHED GRADE
— — —	No. LPC151 COPPER SECONDARY BONDING WIRE (#6) AWG		



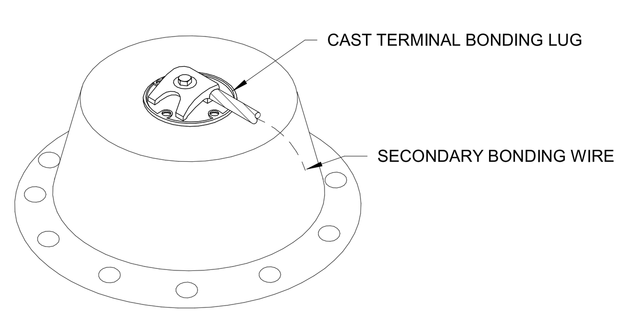
9 TYPICAL DOWN LEAD ROUTING
NO SCALE



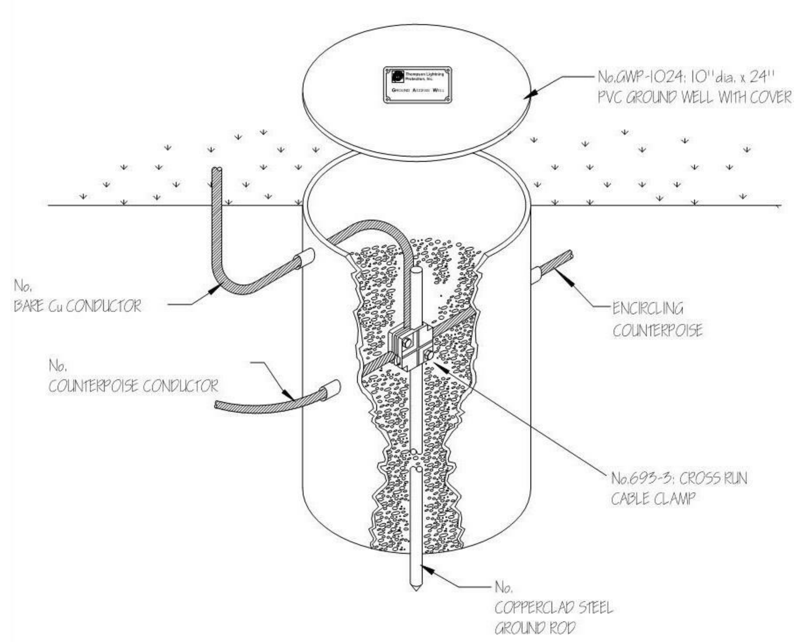
6 THRU ROOF DOWN CONDUCTOR
NO SCALE



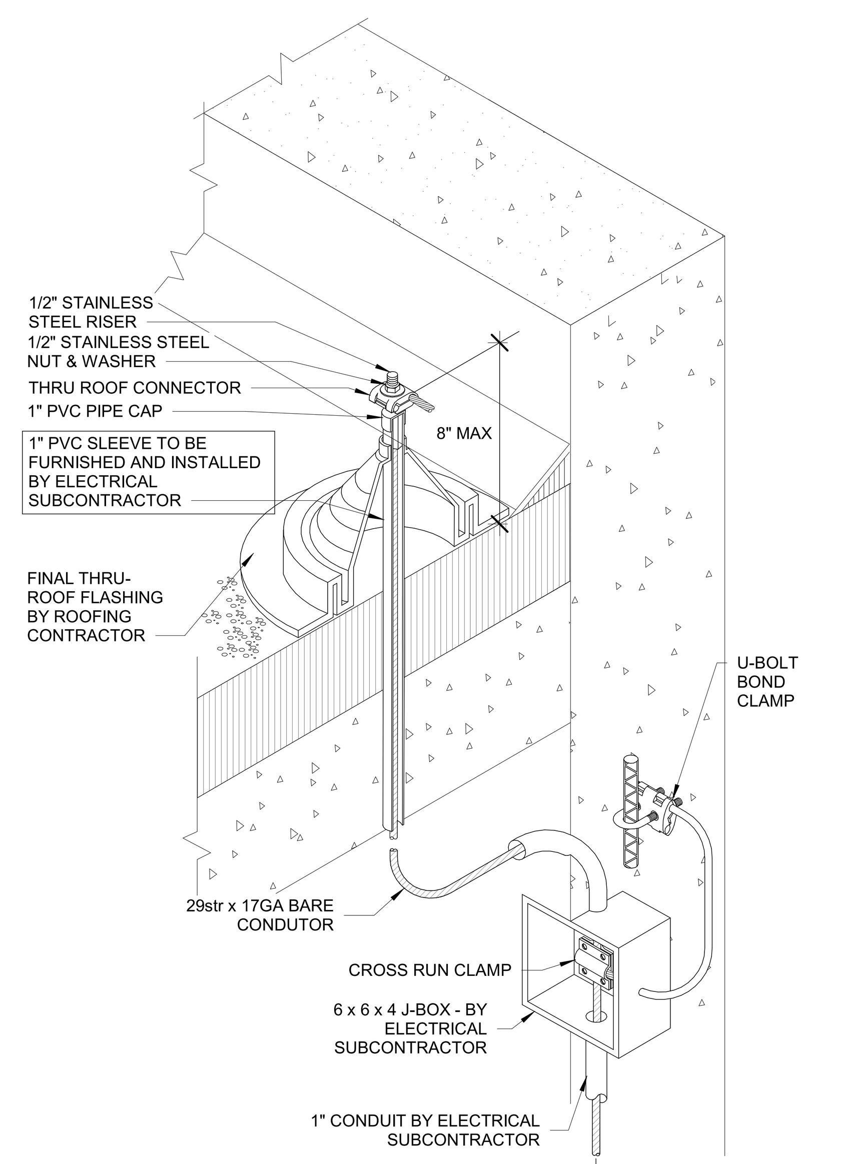
3 AIR TERMINAL AT EQUIPMENT
NO SCALE



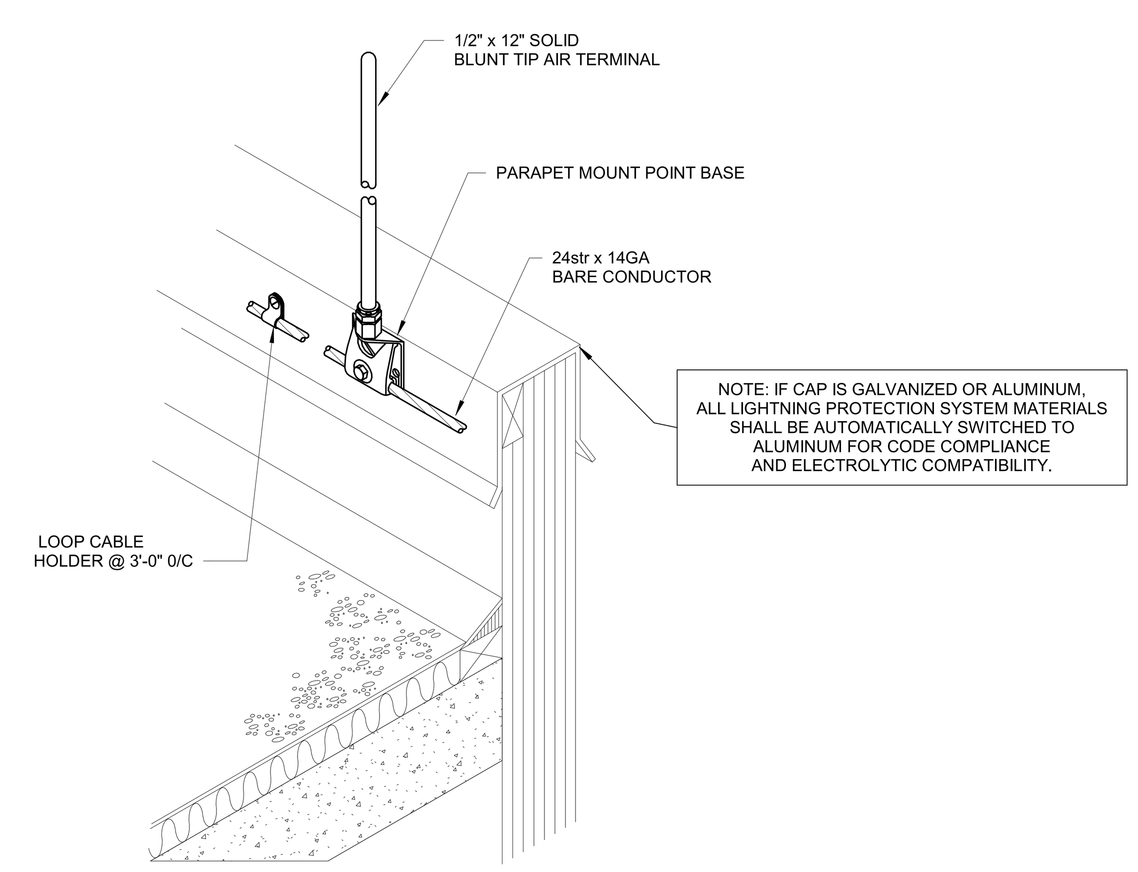
10 TYPICAL ROOF DRAIN BOND
NO SCALE



11 TYPICAL GROUND ROD TEST WELL
NO SCALE



7 THRU ROOF TO DOWN CONDUCTOR WITH BONDING
NO SCALE



4 AIR TERMINAL- PARAPET MOUNTING
NO SCALE

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 12457
JONATHAN N. KENNEDY
SOUTH DAKOTA
11-22-24

WPE# BS24057
WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE ▪ SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 ▪ FAX: (605) 362-3759
WWW.WESTPLAINSENGINEERING.COM
RAPID CITY, SD ▪ SIOUX FALLS, SD ▪ CASPER, WY ▪ CEDAR RAPIDS, IA

hkg architects

REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	LIGHTNING PROTECTION PLANS	DRAWN BY JM TRACED BY CHECKED BY JK	E13
CERT. NO.	HKG Architects, Inc.	Aberdeen, S.D.	DATE 11/22/24	PROJECT NO. 2024-0032

ELECTRICAL SYMBOLS

THESE SYMBOLS COMPRISE A STANDARD LIST. NOT ALL SYMBOLS MAY APPEAR ON THIS PROJECT.
ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE ABOVE FINISHED FLOOR. MOUNTING HEIGHTS INDICATED ON ARCH. WALL ELEVATIONS ORAS NOTED SPECIFICALLY ON THE DRAWINGS OR IN THE SPECIFICATIONS SHALL TAKE PRECEDENCE OVER MOUNTING HEIGHTS LISTED BELOW.

LIGHTING

- CEILING SURFACE MOUNT FIXTURE. (Capital letter indicates fixture type. Small letter indicates switching. Typical for all fixture types)
- EMERGENCY CEILING SURFACE MOUNT FIXTURE
- WALL FIXTURE
- EMERGENCY WALL FIXTURE
- RECESSED FIXTURE
- EMERGENCY RECESSED FIXTURE
- EXTERIOR POLE LIGHT
- BOLLARD LIGHT
- SURFACE MOUNT FIXTURE
- EMERGENCY SURFACE MOUNT FIXTURE
- RECESSED FIXTURE
- EMERGENCY RECESSED FIXTURE
- WALL FIXTURE
- FLOOD LIGHT
- TRACK LIGHT
- PC PHOTO ELECTRIC CELL
- LC LIGHTING CONTACTOR (54"M.H.)
- TC TIME CLOCK (60" M.H.)
- EMERGENCY LIGHTING W/BATTERY PACK
- CEILING EXIT LIGHT (FACE(S) SHADED, ARROW INDICATES CHEVRON)
- WALL EXIT LIGHT (FACE(S) SHADED, ARROW INDICATES CHEVRON)
- OS OCCUPANCY SENSOR
- SINGLE POLE SWITCH (46" M.H.)
- DOUBLE POLE SWITCH (46" M.H.)
- THREE-WAY SWITCH (46" M.H.)
- FOUR-WAY SWITCH (46" M.H.)
- SWITCH WITH PILOT (46" M.H.)
- KEY OPERATED SWITCH (46" M.H.)
- MOMENTARY CONTACT SWITCH (60" M.H.)
- DIMMER SWITCH (46" M.H.)
- TIMER SWITCH (60" M.H.)
- VARIABLE SPEED SWITCH
- FUSED SWITCH

POWER

- PUSH BUTTON STATION (62" M.H.)
- DOUBLE PUSH BUTTON STATION
- EMERGENCY SHUTDOWN PUSHBUTTON
- ISOLATED GROUND RECEPTACLE (18" M.H.)
- DUPLEX CONVENIENCE RECEPTACLE (18" M.H.)
- SINGLE RECEPTACLE (18" M.H.)
- DOUBLE DUPLEX CONVENIENCE RECEPTACLE (18" M.H.)
- DOUBLE DUPLEX CONVENIENCE RECEPTACLE (18" M.H.)
- SPLIT WIRED DUPLEX RECEPTACLE (18" M.H)
- SAFETY CONVENIENCE RECEPTACLE
- POWER RECEPTACLE
- EMERGENCY DUPLEX RECEPTACLE
- TWIST LOCK RECEPTACLE
- GFI DUPLEX CONVENIENCE RECEPTACLE
- GFI DOUBLE DUPLEX CONVENIENCE RECEPTACLE
- SPECIAL PURPOSE OUTLET OR CONNECTION
- CORD/PLUG
- CORD REEL
- CEILING DUPLEX RECEPTACLE
- FLUSH FLOOR DUPLEX RECEPTACLE
- FLUSH FLOOR DOUBLE DUPLEX RECEPTACLE
- FLUSH FLOOR MULTI-SERVICE OUTLET (WITH DEVICES INDICATED)
- DP MULTI-SERVICE POLE (WITH DEVICES INDICATED)
- B BLANK OUTLET
- J JUNCTION BOX
- P PULL BOX
- MOTOR
- DISCONNECT SWITCH
- GAP GENERATOR ANNUNCIATOR PANEL
- ATS AUTOMATIC TRANSFER SWITCH
- VFD VARIABLE FREQUENCY DRIVE
- VFD COMBINATION VARIABLE FREQUENCY DRIVE DISCONNECT
- MAGNETIC STARTER
- COMBINATION STARTER/DISCONNECT
- MOTOR THERMAL SWITCH
- TR TRANSFORMER
- ELECTRIC METER
- SWITCHBOARD/DISTRIBUTION PANEL SECTION
- PANELBOARD OR LOAD CENTER
- PANELBOARD OR LOAD CENTER (EXISTING TO REMAIN)
- TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR
- CIRCUIT BREAKER
- FUSE
- H HUMIDISTAT
- T THERMOSTAT
- R REMOTE HVAC SENSOR
- RADIANT HEAT PANEL
- BASEBOARD OR COVE ELEC. HEAT
- ELECTRIC UNIT HEATER
- ELECTRIC CABINET UNIT HEATER
- M MOTORIZED DAMPER
- BUS DUCT
- SURFACE MOUNT RACEWAY
- CEILING PADDLE FAN
- XX # TYPE OF EQUIPMENT / EQUIPMENT NUMBER — SEE SCHEDULES
- ROOFTOP EQUIPMENT/CIRCUITING
- EXISTING EQUIPMENT/CIRCUITING
- GROUND
- UG CONDUIT IN FLOOR OR UNDERGROUND
- PNL-1,2,3 CONDUIT IN WALL OR CEILING SPACE, CROSS MARKS INDICATE NUMBER OF WIRES, NO MARKS INDICATE TWO WIRES. ARROWS INDICATE HOME RUNS TO PANEL. NUMBERS INDICATE PANEL AND CIRCUIT IN PANEL.
- SWITCHLEG
- TRAVELER
- HOT
- NEUTRAL WIRE
- INDICATES SEPARATE GROUND WIRE TO BE INSTALLED IN RACEWAY

TELECOM

- SPECIAL EQUIPMENT CABINET-AS NOTED
- TERMINATION BOARD - AS NOTED
- CABLE TRAY
- INTERCOM
- TELEPHONE/VOICE OUTLET (18" M.H.)
- WALL PHONE (46" M.H.)
- DATA OUTLET (18" M.H.)
- CEILING MOUNT DATA OUTLET
- COMBINATION VOICE/DATA OUTLET (18" M.H.)
- TV TELEVISION OUTLET (18" M.H.)
- TV CEILING MOUNT TELEVISION OUTLET

FIRE ALARM

- F FIRE ALARM MANUAL STATION (46" M.H.)
- D HEAT DETECTOR (RATE OF RISE)
- D HEAT DETECTOR (FIXED TEMP. ONLY)
- SD UNITARY TYPE SMOKE DETECTOR
- SD SMOKE DETECTOR
- SD DUCT SMOKE DETECTOR
- BD BEAM DETECTOR TRANSMITTER
- BD BEAM DETECTOR RECEIVER
- RT REMOTE TEST STATION
- HS COMB HEAT/SMOKE DETECTOR
- FS FLOW SWITCH
- PS PRESSURE SWITCH
- TS TAMPER SWITCH
- FR FIRE ALARM CUT-OFF RELAY
- RA REMOTE ANNUNCIATOR
- DH DOOR HOLDER
- MM MONITOR MODULE
- CM CONTROL MODULE
- CH FIRE ALARM CHIME/STROBE
- F FIRE ALARM HORN/STROBE (80"M.H)
- F CEILING MOUNT FIRE ALARM HORN/STROBE
- V FIRE ALARM VOICE/STROBE (80"M.H)
- V CEILING MOUNT FIRE ALARM VOICE/STROBE
- H MINI FIRE ALARM HORN
- M MINI FIRE ALARM HORN/STROBE
- S PROJECTION HORN
- ST FIRE ALARM STROBE (80" M.H.)
- ST CEILING MOUNT FIRE ALARM STROBE
- F FIRE ALARM BELL (98" M.H.)
- C COMBINATION FIRE/SMOKE DAMPER
- FAAP FIRE ALARM ANNUNCIATOR PANEL
- FACP FIRE ALARM CONTROL PANEL
- FIRE FIGHTER PHONE JACK

SOUND AND SECURITY

- S FLUSH SPEAKER
- S SURFACE SPEAKER
- S PAGING HORN
- V COLUME CONTROL (46" M.H.)
- M MICROPHONE OUTLET (18" M.H.)
- AUX AUXILIARY OUTLET
- AMP AMPLIFIER
- SURVEILLANCE VIDEO CAMERA
- CEILING MOUNTED SURVEILLANCE VIDEO CAMERA
- PTZ SURVEILLANCE VIDEO CAMERA - PAN/TILT/ZOOM
- VM SURVEILLANCE VIDEO MONITOR
- VR SURVEILLANCE VIDEO RECORDER
- VS SURVEILLANCE VIDEO SWITCHER
- ACP ALARM CONTROL PANEL
- BAA BURGLAR ALARM ANNUNCIATOR
- ANTENNA (AS NOTED)
- AS ALARM PANIC SWITCH
- DS ALARM DOOR SWITCH
- DR DOOR RELEASE MECHANISM
- MD ALARM MOTION DETECTOR
- SP ALARM SHUNT PAD
- KP ALARM KEYPAD
- CA CARD ACCESS
- IC SECURITY INTERCOM (54" M.H.)
- RX REQUEST EXIT PUSH BUTTON

CLOCKS AND BELLS

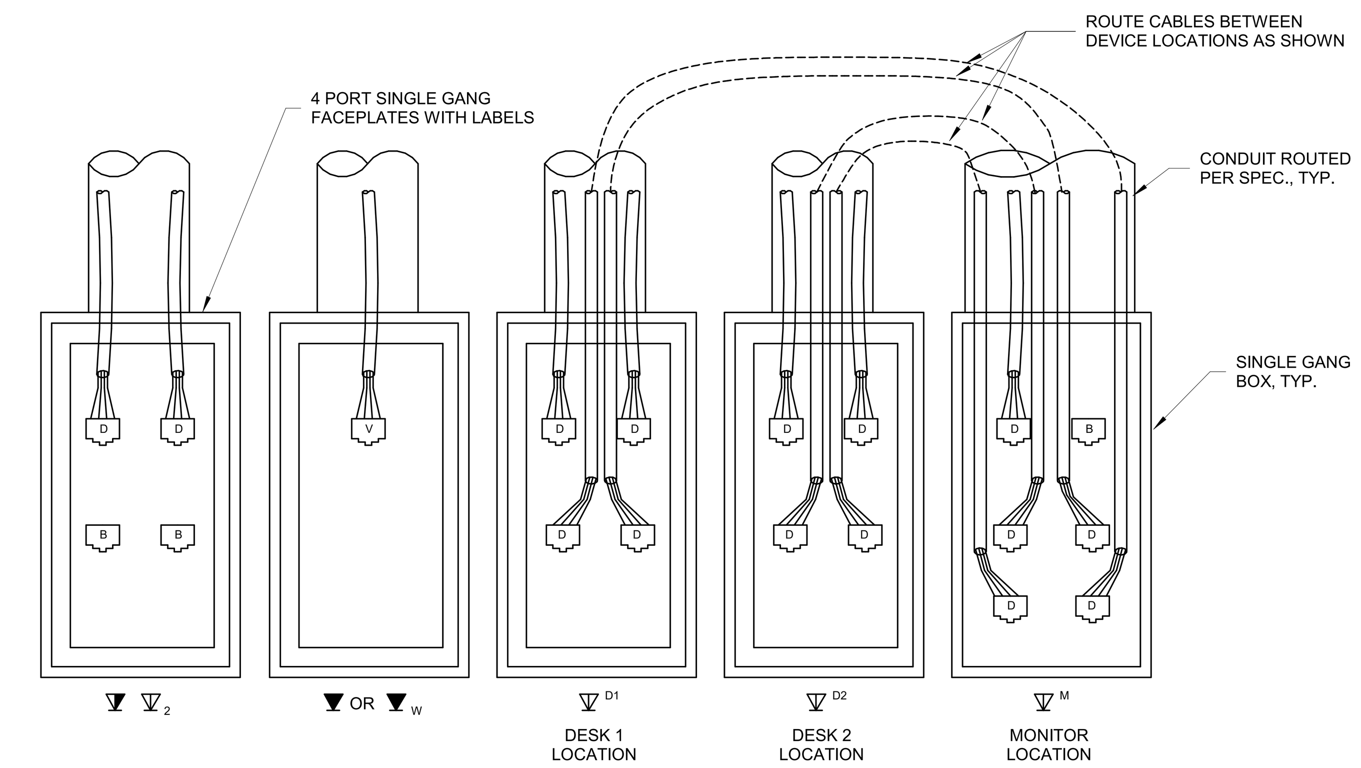
- SINGLE FACE CLOCK
- C CLOCK HANGER OUTLET
- GPS WIRELESS CLOCK SYSTEM TRANSMITTER/RECEIVER
- BELL (98"M.H.)
- DOUBLE FACE CLOCK

ELECTRICAL ABBREVIATIONS

A STANDARD LIST. NOT ALL WORDS APPEAR IN THESE DRAWINGS.

SEE SPECIFICATION SECTION "EQUIPMENT WIRING" FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

A or AMP	AMPERE
A/C	AIR CONDITIONING
A/E or AE	ARCHITECT & ENGINEER
ac	ABOVE COUNTER
AC	ALTERNATING CURRENT
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AFI or AFCI	ARC FAULT CIRCUIT INTERRUPTER
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AIC	AMPERES INTERRUPTING CURRENT
AL	ALUMINUM
ANN	ANNUNCIATOR
AS	AUTOMATIC SENSORS
AWG	AMERICAN WIRE GAUGE
bc	BELOW COUNTER
BC	BELOW COUNTER
BH	BASKETBALL HOOP OPER
BL	BLEACHER ELECTRIC OPERATOR
BRD or BD	BOARD
BUH	BLAST UNIT HEATER
C or COND	CONDUIT
C/B or CB	CIRCUIT BREAKER
CAT	CATEGORY
CCT or CKT	CIRCUIT
CM	CARBON MONOXIDE SENSOR
CO	CARBON MONOXIDE
COMB	COMBINATION
CONF	CONFERENCE
CP	CEILING PROJECTOR
CTC	CABLE TERMINATION CABINET
Cu or CU	COPPER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
DC	DIRECT CURRENT
DC	DISTRIBUTION CABINET
DP	DISTRIBUTION PANEL
DISC	DISCONNECT
DISP	DISPOSAL
DL	DOCK LEVELER
DN or DWN	DOWN
DR	DOOR
DW	DISHWASHER
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EC	ELECTRICAL CABINET
EF	EXHAUST FAN
EH	ELECTRICAL HEAT
ELEC	ELECTRIC OR ELECTRICAL
EHD	ELECTRIC HAND DRYER
EM or EMERG	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EX	EXISTING
EXP	EXPLOSION PROOF
F or FUS	FUSE OR FUSIBLE
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FL, FLU or FLUOR	FLUORESCENT
FLA	FULL LOAD AMPERES
FVNR	FULL VOLTAGE, NON-REVERSING
FVR	FULL VOLTAGE, REVERSING
GC	GENERAL CONTRACTOR
GD	GARBAGE DISPOSAL
GEN	GENERATOR
GFI or GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRC	GALVANIZED RIGID CONDUIT
GND or GRND	GROUND
H & AC	HEATING & AIR CONDITIONING
H & V	HEATING & VENTILATING
HA	HANDICAP ACCESS DOOR
HD	HAND DRYER
HID	HIGH INTENSITY DISCHARGE
HP	HORSE POWER
HPS	HIGH PRESSURE SODIUM
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HZ	HERTZ (CYCLES/SEC)
IC	INTERRUPTING CURRENT
IGR	ISOLATED GROUND RECEPTACLE
IMC	INTERMEDIATE METAL CONDUIT
INC	INCANDESCENT
ISO	ISOLATED OR ISOLATION
J, JB or J-BOX	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT - AMPERE
KVAR	KILOVOLT - AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT - HOUR
LA	LIGHTNING ARRESTOR
LT	LIGHT
LTG	LIGHTING
LTS	LIGHTS
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MFS	MAIN FUSIBLE SWITCH
MH	METAL HALIDE
MLO	MAIN LUG ONLY
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MTS	MOTOR THERMAL SWITCH
MV	MERCURY VAPOR
MW	MICROWAVE
NA or N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEU, NEUT or N	NEUTRAL
NF	NON-FUSED
NL	NIGHT LIGHT
NO	NORMALLY OPEN
OFF, OF, or OFC	OFFICE
OH	OVERHEAD
OHD	OVERHEAD DOOR
P	POLE
PA	PUBLIC ADDRESS
PB	PUSH BUTTON
PH	PHASE
PLBG	PLUMBING
PNL	PANEL
PR or pr	PAIR
PRV	POWER ROOF VENTILATOR
PS	PULL SWITCH
PS	PROJECTION SCREEN
PTZ	PAN TILT ZOOM
PVC	POLYVINYL CHLORIDE
PWR	POWER
RCP	REFLECTED CEILING PLAN
REC or RECEPT	RECEPTACLE
REF or REFRIG	REFRIGERATOR
RH	RADIANT HEAT
RH	RANGE HOOD
RLY	RELAY
RM	ROOM
RMS	ROOT MEAN SQUARE
SCC	SHORT CIRCUIT CURRENT
SD	SMOKE DETECTOR
SFR	SAFETY RECEPTACLE
SFTY	SAFETY
SHLD	SHIELD OR SHIELDED
SIG	SIGNAL
SMR	SURFACE MOUNT RACEWAY
SN	SOLID NEUTRAL
SP	SUMP PUMP
SPECS	SPECIFICATIONS
SPKR	SPEAKER
SPR	SPLIT WIRE RECEPTACLE
SW	SWITCH
SWBD	SWITCH BOARD
TC	TEMPERATURE CONTROL
TC	TELEPHONE CABINET
TCC	TEMPERATURE CONTROL CONTRACTOR
TEL	TELEPHONE
TL	TWIST LOCK
TR, TRANS or TRFMR	TRANSFORMER
TTB	TELEPHONE TERMINATION BOARD
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UV	UNIT VENTILATOR
V	VOLT
VFD	VARIABLE FREQUENCY DRIVE
W	WATT
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WTR or H20	WATER
WS	WINDOW SHADE
XFMR	TRANSFORMER
Y	WYE CONNECTION
ϕ	PHASE
Δ	DELTA



*V=VOICE, D=DATA, B=BLANK COVER
#INDICATED # OF WIRED (ACTIVE) DATA JACKS

-SEE SPECIFICATIONS FOR MATERIAL TYPES: DRAWINGS REFLECT QUANTITIES ONLY.
-CABLES TO NEAREST IDF UNLESS OTHERWISE NOTED.

1 COMMUNICATIONS OUTLET DETAILS
NO SCALE

LIGHTING FIXTURE SCHEDULE

FIXTURE MARK	FIXTURE TYPE	FIXTURE DIFFUSER	VOLTAGE	LAMP NUMBER AND WATTS	LAMP TYPE	MOUNTING TYPE	MOUNTING HEIGHT	MANUFACTURER	MODEL	COMMENTS
A	2X4 LED TROFFER	FROSTED ACRYLIC	UNIV.	39.6W - 5049 LUMENS	LED 4000K	RECESS	CEILING	METALUX	24CZ2	0-10V DRIVER (1%-100% DIMMING)

STARTER DISCONNECT SCHEDULE

UNIT TYPE	UNIT NUMBER	KW	MOTOR HP	MOTOR MCA	VOLTAGE	PHASES	STARTER TYPE	CONTROL	DISCONNECT SWITCH SIZE	COMMENTS
ECUH	1	6	1 hp		208 V	1	INTEGRAL	BY DIV 23	INTEGRAL	
ECUH	2	6	1 hp		208 V	1	INTEGRAL	BY DIV 23	INTEGRAL	
ECUH	3	6	1 hp		208 V	1	INTEGRAL	BY DIV 23	INTEGRAL	
HP	1			35 A	208 V	1	INTEGRAL	BY DIV 23	INTEGRAL	
HP	2			35 A	208 V	1	INTEGRAL	BY DIV 23	INTEGRAL	
HP	3			35 A	208 V	1	INTEGRAL	BY DIV 23	INTEGRAL	
HP	4			35 A	208 V	1	INTEGRAL	BY DIV 23	INTEGRAL	
HP	5			35 A	208 V	1	INTEGRAL	BY DIV 23	INTEGRAL	
HP	6			35 A	208 V	1	INTEGRAL	BY DIV 23	INTEGRAL	

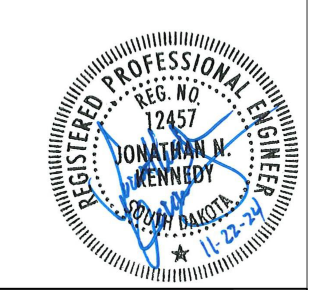
E-FLOOR BOX SCHEDULE

UNIT TYPE	DESCRIPTION	CONDUIT QUANTITY AND SIZE: POWER	DATA	A/V	SPARE	MANUFACTURER AND SERIES	COVER ASSEMBLY	NOTES
FB1	RECESSED FLOOR BOX	(1)-1"	(1)-1"	-	-	LEGRAND WIREMOLD RFBA OR EQUAL	6CTC2AA	FOR ON GRADE USE

NOTES:

GENERAL ITEMS:
A. PROVIDE ALL NECESSARY DEVICE PLATES, DIVIDERS, AND ACCESSORIES FOR COMPLETE SYSTEM
B. COORDINATE EXACT LOCATION WITH OWNER.
C. POWER MAY BE DAISY CHAINED BETWEEN ADJACENT BOXES BUT COMMUNICATIOINS CONDUITS MUST BE SEPARATE HOMERUN FOR EACH BOX.
D. COORDINATED FINISH AT TIME OF SHOP DRAWINGS.

1. SEE FLOOR PLAN FOR QUANTITY OF RECEPTACLES AND COMMUNICATIONS CABLES.
2. CORE DRILL CONCRETE FLOOR
3. EXTEND COMMUNICATION CONDUIT UP WALL TO CABLE TRAY.
4. EXTEND COMMUNICATION CONDUIT UP WALL TO ABOVE ACCESSIBLE CEILING WITHIN THE SAME ROOM.
5. VERIFY CONCRETE DEPTH WITH STRUCTURAL PLANS - MODIFY FLOOR SYSTEM AS REQUIRED.
6. WATER RESISTANT



WPE# BS24057
WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE • SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 • FAX: (605) 362-3759
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RAPID CITY, SD • SIOUX FALLS, SD • CASPER, WY • CEDAR RAPIDS, IA

hkg architects

REVISED DATE

CERT. NO.

Plans for
Tiospa Zina School
Classroom Addition
Agency Village, South Dakota

HKG Architects, Inc. Aberdeen, S.D.

ELECTRICAL DETAILS

DRAWN BY JM
TRACED BY
CHECKED BY JK

E14

DATE 11/22/24
PROJECT NO. 2024-0032

L1G

VOLTS:	120/208 Wye	PHASES:	3	WIRE:	4
AIC RATING:		LOCATION:		MAIN CAPACITY:	250 A
MOUNTING:	RECESSED	FEEDER SIZE:		MAIN CONNECTION:	
				MAIN TYPE:	TYPE 1

CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A (WATTS)		B (WATTS)		C (WATTS)		BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	LOAD TYPE	CKT
1	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	2
3		EXISTING CIRCUIT	12	20 A	1				360	--			--	1	--		EXISTING CIRCUIT	--	4
5	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	6
7		NEW RECEP	12	20 A	1		1260	--					--	1	--		EXISTING CIRCUIT	--	8
9	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	10
11	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	12
13	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	14
15	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	16
17	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	18
19	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	20
21	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	22
23	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	24
25	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	26
27	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	28
29	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	30
31	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	32
33	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	34
35	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	36
37	--	EXISTING CIRCUIT		--	1	--	--	1260						1	20 A	12	NEW RECEP		38
39	--	EXISTING CIRCUIT		--	1	--			--	1260				1	20 A	12	NEW RECEP		40
41	--	EXISTING CIRCUIT		--	1	--					--	1260		1	20 A	12	NEW RECEP		42
						TOTAL CONNECTED LOAD:	2520 W		1620 W		1260 W		AMPS:		15 A	LOAD:	5400 W		

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
HVAC	0 VA	0.00%	0 VA		
Power	5400 VA	100.00%	5400 VA	TOTAL CONN. LOAD:	5400 VA
				TOTAL EST. DEMAND LOAD:	5400 VA
				TOTAL CONN. CURRENT:	15 A
				TOTAL EST. DEMAND CURRENT:	15 A

THIS IS AN EXISTING PANEL

L1HC

VOLTS:	120/208 Wye	PHASES:	3	WIRE:	4
AIC RATING:		LOCATION:		MAIN CAPACITY:	250 A
MOUNTING:	RECESSED	FEEDER SIZE:		MAIN CONNECTION:	
				MAIN TYPE:	TYPE 1

CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A (WATTS)		B (WATTS)		C (WATTS)		BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	LOAD TYPE	CKT
1	--	EXISTING CIRCUIT		--	3	--	--	3037						2	50 A	8	HP-2		2
3									--	3037									4
5											--	--	--	2	--		EXISTING CIRCUIT	--	6
7	--	EXISTING CIRCUIT		--	2	--	--	--											8
9									--	--			--	2	--		EXISTING CIRCUIT	--	10
11	--	EXISTING CIRCUIT		--	2	--					--	--							12
13							--	--					--	2	--		EXISTING CIRCUIT	--	14
15	--	EXISTING CIRCUIT		--	2	--			--	--									16
17											--	--	--	2	--		EXISTING CIRCUIT	--	18
19	--	EXISTING CIRCUIT		--	2	--	--	--											20
21									--	3037				2	50 A	8	HP-1		22
23	--	OPEN		--	1	--					--	3037							24
25	--	OPEN		--	1	--	--	3000						2	50 A	8	ECUH-1		26
27	--	OPEN		--	1	--			--	3000									28
29	--	OPEN		--	1	--					--	--	--	1	--		OPEN	--	30
31	--	OPEN		--	1	--	--	--					--	1	--		OPEN	--	32
33	--	OPEN		--	1	--			--	--			--	1	--		OPEN	--	34
35	--	OPEN		--	1	--					--	--	--	1	--		OPEN	--	36
37	--	EXISTING CIRCUIT		--	3	--	--	--					--	3	--		EXISTING CIRCUIT	--	38
39									--	--									40
41											--	--							42
						TOTAL CONNECTED LOAD:	6037 W		9074 W		3037 W		AMPS:		50 A	LOAD:	18147 W		

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Motor	6000 VA	125.00%	7500 VA		
Other	12147 VA	100.00%	12147 VA	TOTAL CONN. LOAD:	18147 VA
				TOTAL EST. DEMAND LOAD:	19647 VA
				TOTAL CONN. CURRENT:	50 A
				TOTAL EST. DEMAND CURRENT:	55 A

THIS IS AN EXISTING PANEL

L1F

VOLTS:	120/208 Wye	PHASES:	3	WIRE:	4
AIC RATING:		LOCATION:		MAIN CAPACITY:	250 A
MOUNTING:	RECESSED	FEEDER SIZE:		MAIN CONNECTION:	
				MAIN TYPE:	TYPE 1

CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A (WATTS)		B (WATTS)		C (WATTS)		BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	LOAD TYPE	CKT
1	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	2
3	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	4
5	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	6
7	--	OPEN		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	8
9	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	10
11	--	EXISTING CIRCUIT		--	1	--					--	1260		1	20 A	12	NEW RECEP		12
13	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT		14
15		NEW RECEP	12	20 A	1				1260	1260				1	20 A	12	NEW RECEP		16
17	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	18
19	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	20
21	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	22
23	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	24
25		NEW RECEP	12	20 A	1		1260	--					--	1	--		EXISTING CIRCUIT	--	26
27	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	28
29	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	30
31	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	32
33	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	34
35	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	36
37	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	38
39	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	40
41	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	42
						TOTAL CONNECTED LOAD:	1260 W		2520 W		1260 W		AMPS:		14 A	LOAD:	5040 W		

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
HVAC	0 VA	0.00%	0 VA		
Power	5040 VA	100.00%	5040 VA	TOTAL CONN. LOAD:	5040 VA
				TOTAL EST. DEMAND LOAD:	5040 VA
				TOTAL CONN. CURRENT:	14 A
				TOTAL EST. DEMAND CURRENT:	14 A

THIS IS AN EXISTING PANEL

L1HB

VOLTS:	120/208 Wye	PHASES:	3	WIRE:	4
AIC RATING:		LOCATION:		MAIN CAPACITY:	250 A
MOUNTING:	RECESSED	FEEDER SIZE:		MAIN CONNECTION:	
				MAIN TYPE:	TYPE 1

CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A (WATTS)		B (WATTS)		C (WATTS)		BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	LOAD TYPE	CKT
1	--	OPEN		--	1	--	--	--					--	1	--		OPEN	--	2
3	--	EXISTING CIRCUIT		--	2	--			--	--			--	1	--		OPEN	--	4
5											--	--	--	1	--		OPEN	--	6
7	--	EXISTING CIRCUIT		--	2	--	--	--					--	2	--		EXISTING CIRCUIT	--	8
9									--	--									10
11	--	EXISTING CIRCUIT		--	2	--					--	--	--	2	--		EXISTING CIRCUIT	--	12
13							--	--											14
15		HP-3	8	50 A	2				3037	--			--	2	--		EXISTING CIRCUIT	--	16
17											3037	--							18
19		ECUH-2	8	50 A	2		3000	3037						2	50 A	8	HP-4		20
21									3000	3037									22
23	--	EXISTING CIRCUIT		--	2	--					--	--	--	1	--		OPEN	--	24
25							--	--					--	1	--		OPEN	--	26
27	--	EXISTING CIRCUIT		--	2	--			--	--			--	1	--		OPEN	--	28
29											--	--	--	1	--		OPEN	--	30
31	--	EXISTING CIRCUIT		--	2	--	--	--					--	1	--		OPEN	--	32
33									--	--			--	1	--		OPEN	--	34
35	--	OPEN		--	1	--					--	--	--	1	--		OPEN	--	36
37	--	OPEN		--	1	--	--	--					--	1	--		OPEN	--	38
39	--	OPEN		--	1	--			--	--			--	1	--		OPEN	--	40
41	--	OPEN		--	1	--					--	--	--	1	--		OPEN	--	42
						TOTAL CONNECTED LOAD:	6037 W		9074 W		3037 W		AMPS:		50 A	LOAD:	18148 W		

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Motor	6000 VA	125.00%	7500 VA		
Other	12148 VA	100.00%	12148 VA	TOTAL CONN. LOAD:	18148 VA
				TOTAL EST. DEMAND LOAD:	19648 VA
				TOTAL CONN. CURRENT:	50 A
				TOTAL EST. DEMAND CURRENT:	55 A

THIS IS AN EXISTING PANEL

L1J

VOLTS:	120/208 Wye	PHASES:	3	WIRE:	4
AIC RATING:		LOCATION:		MAIN CAPACITY:	250 A
MOUNTING:	RECESSED	FEEDER SIZE:		MAIN CONNECTION:	
				MAIN TYPE:	TYPE 1

CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A (WATTS)		B (WATTS)		C (WATTS)		BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	LOAD TYPE	CKT
1	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	2
3	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	4
5	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	6
7	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	8
9	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	10
11	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	12
13	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	14
15	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	16
17	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	18
19	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	20
21	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	22
23	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	24
25	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	26
27	--	EXISTING CIRCUIT		--	1	--			--	--			--	1	--		EXISTING CIRCUIT	--	28
29	--	EXISTING CIRCUIT		--	1	--					--	--	--	1	--		EXISTING CIRCUIT	--	30
31	--	EXISTING CIRCUIT		--	1	--	--	--					--	1	--		EXISTING CIRCUIT	--	32
33		NEW RECEP	12	20 A	1				1260	--			--	1	--		EXISTING CIRCUIT	--	34
35		NEW RECEP	12	20 A	1						1260	--	--	1	--		EXISTING CIRCUIT	--	36
37		EXISTING CIRCUIT	12	20 A	1		540	--					--	1	--		EXISTING CIRCUIT	--	38
39	--	EXISTING CIRCUIT		--	1	--			--	1260				1	20 A	12	NEW RECEP		40
41	--	EXISTING CIRCUIT		--	1	--					--	1260		1	20 A	12	NEW RECEP		42
						TOTAL CONNECTED LOAD:	540 W		2520 W		2520 W		AMPS:		15 A	LOAD:	5580 W		

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
HVAC	0 VA	0.00%	0 VA		
Power	5580 VA	100.00%	5580 VA	TOTAL CONN. LOAD:	5580 VA
				TOTAL EST. DEMAND LOAD:	5580 VA
				TOTAL CONN. CURRENT:	15 A
				TOTAL EST. DEMAND CURRENT:	15 A

THIS IS AN EXISTING PANEL

L1HD

VOLTS:	120/208 Wye	PHASES:	3	WIRE:	4
AIC RATING:		LOCATION:		MAIN CAPACITY:	250 A
MOUNTING:	RECESSED	FEEDER SIZE:		MAIN CONNECTION:	
				MAIN TYPE:	TYPE 1

CKT	LOAD TYPE	ITEM FED	WIRE SIZE	AMPS	POLES	BREAKER TYPE	A (WATTS)		B (WATTS)		C (WATTS)		BREAKER TYPE	POLES	AMPS	WIRE SIZE	ITEM FED	LOAD TYPE	CKT
1	--	EXISTING CIRCUIT		--	2	--	--	--											2
3									--	--			--	3	--		EXISTING CIRCUIT	--	4
5											--	--							6
7	--	EXISTING CIRCUIT		--	3	--	--	--											8
9									--	--			--	3	--		EXISTING CIRCUIT	--	10
11											--	--							12
13	--	EXISTING CIRCUIT		--	3	--	--	--											14
15									--	--			--	3	--		EXISTING CIRCUIT	--	16
17											--	--							18
19	--	EXISTING CIRCUIT		--	3	--	--	--											20
21									--	--			--	3	--		EXISTING CIRCUIT	--	22
23											--	--							24
25	--	EXISTING CIRCUIT		--	3	--	--	--					--	1	--		EXISTING CIRCUIT	--	26
27									--	3037				2	50 A	8	HP-6		28
29	--	EXISTING CIRCUIT		--	1	--					--	3037							30
31	--	EXISTING CIRCUIT		--	1	--	--	3037						2	50 A	8	HP-5		32
33		ECUH-3	8	50 A	2				3000	3037									34
35											3000	--	--	1	--		OPEN	--	36
37	--	OPEN		--	1	--	--	--					--	1	--		OPEN	--	38
39	--	OPEN		--	1	--			--	--			--	1	--		OPEN	--	40
41	--	OPEN		--	1	--					--	--	--	1	--		OPEN	--	42
						TOTAL CONNECTED LOAD:	3037 W		9074 W		6037 W		AMPS:		50 A	LOAD:	18148 W		

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Motor	6000 VA	125.00%	7500 VA		
Other	12148 VA	100.00%	12148 VA	TOTAL CONN. LOAD:	18148 VA
				TOTAL EST. DEMAND LOAD:	19648 VA
				TOTAL CONN. CURRENT:	50 A
				TOTAL EST. DEMAND CURRENT:	55 A

THIS IS AN EXISTING PANEL

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 12457
JONATHAN N. KENNEDY
SOUTH DAKOTA
11-22-24

WPE WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE • SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 • FAX: (605) 362-3759

hkg architects

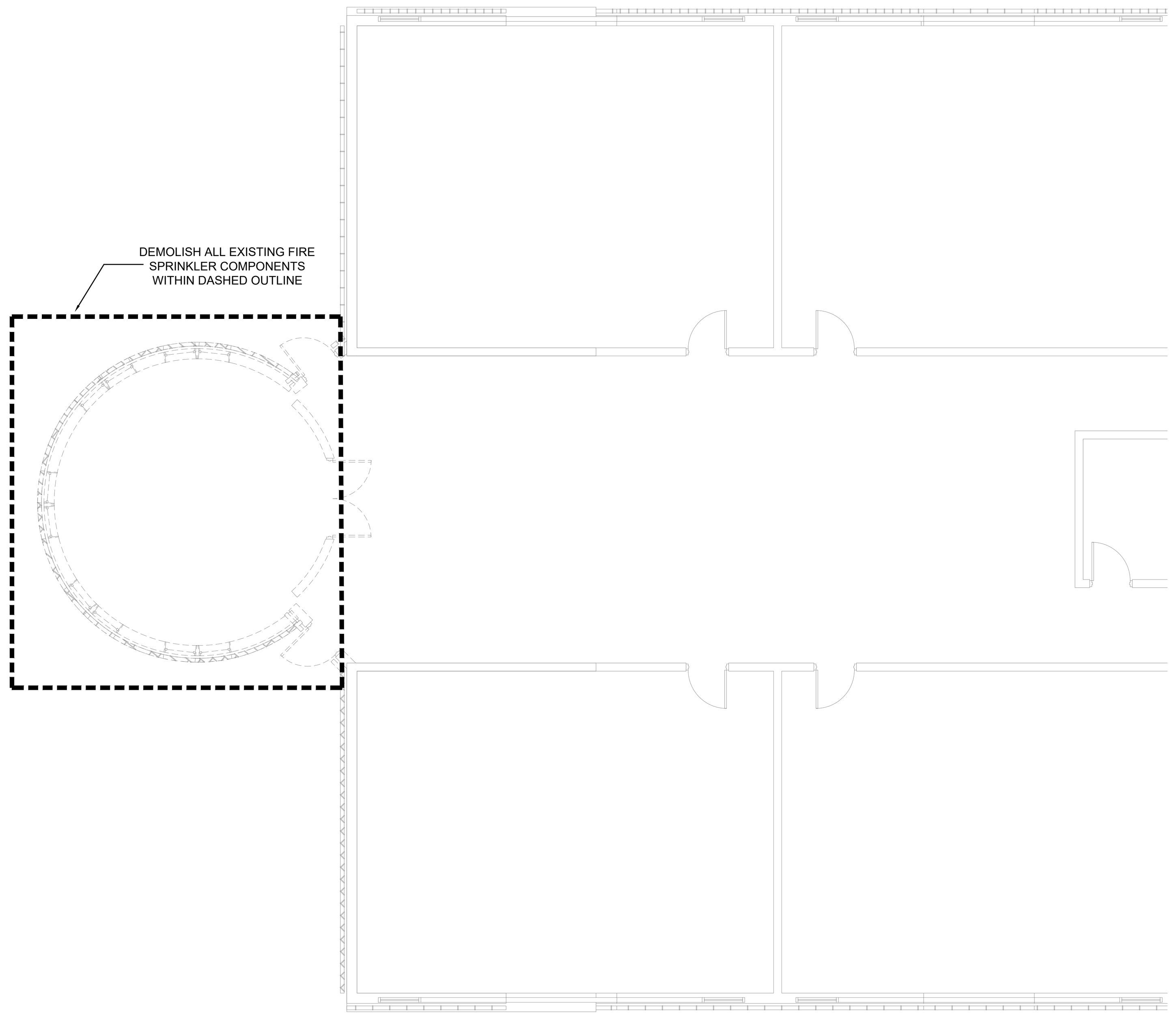
Plans for
Tiospa Zina School
Classroom Addition
Agency Village, South Dakota

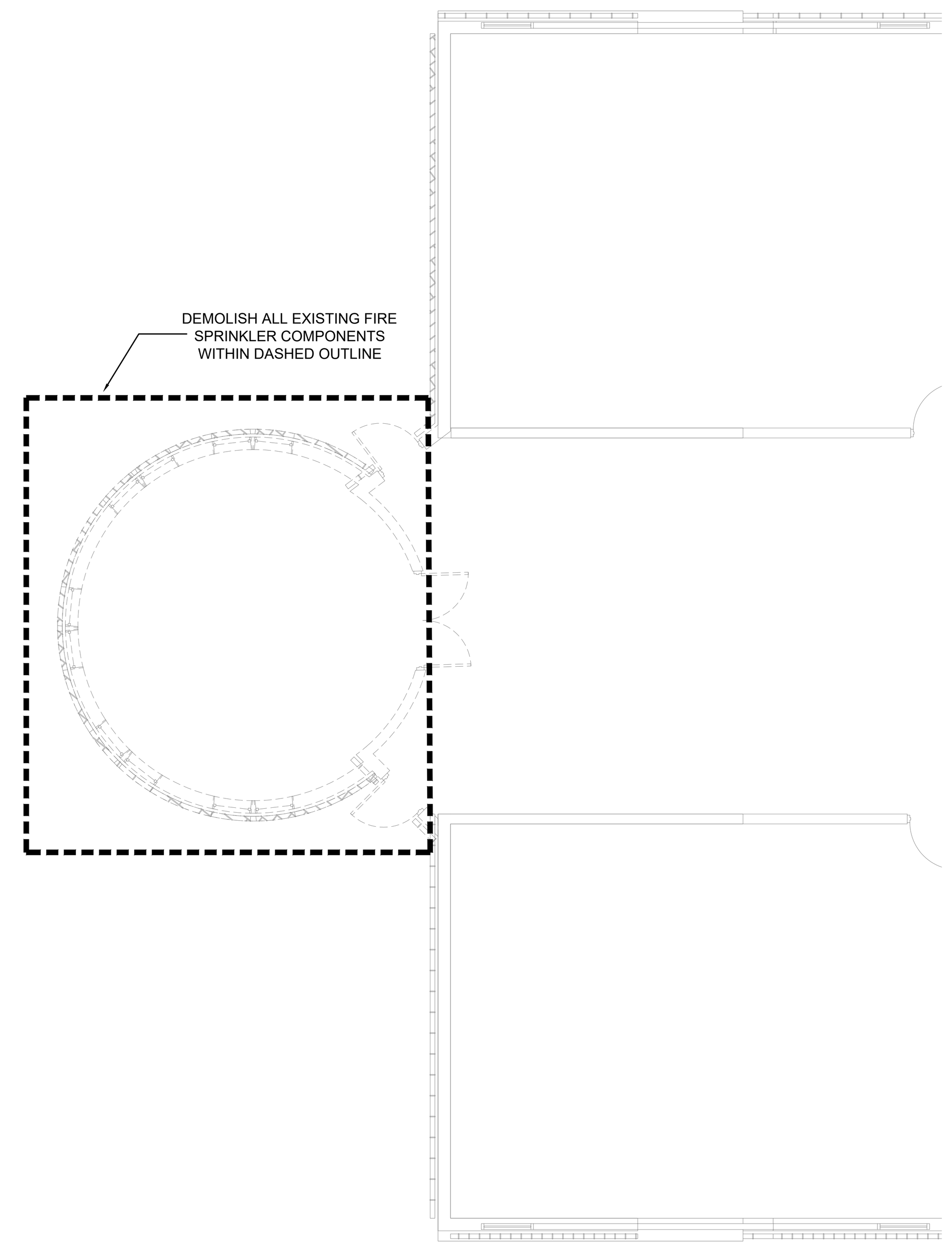
HKG Architects, Inc. Aberdeen, S.D.

ELECTRICAL SCHEDULES

E15

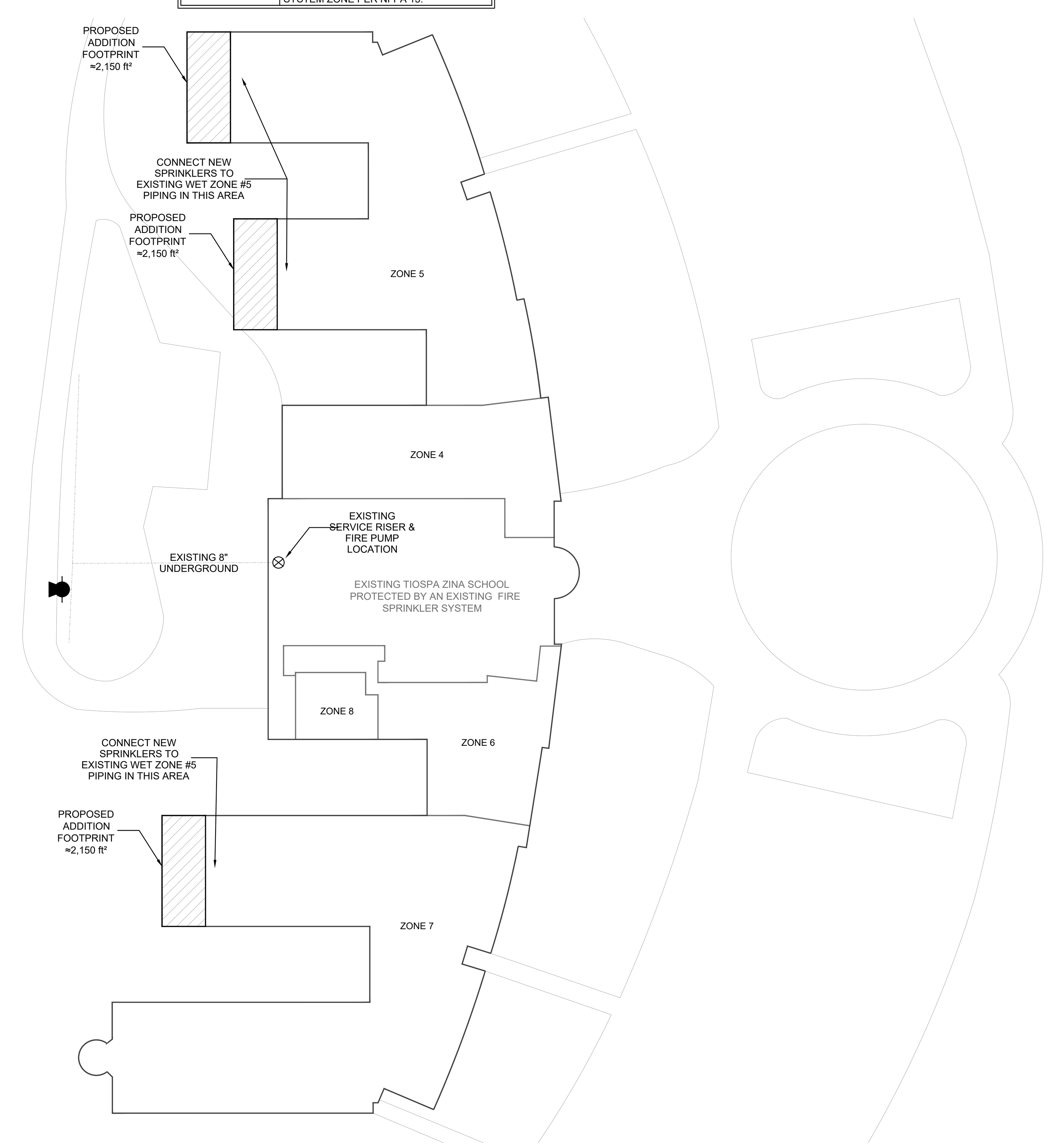
11/22/24 | 2024-0032



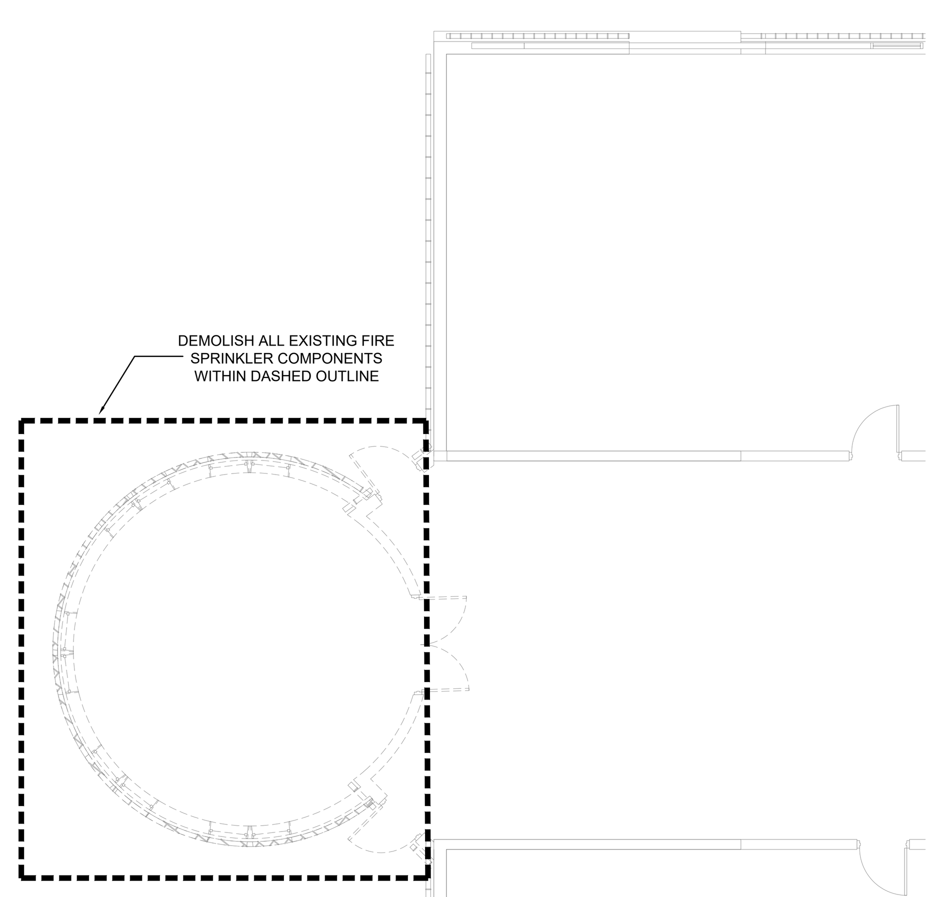


2 FIRE PROTECTION DEMOLITION PLAN - SOUTH
1/8" = 1'-0"

PROJECT NAME	PROPOSED TIOSPA ZINA SCHOOL BUILDING ADDITIONS
SCOPE OF WORK	BUILDING ADDITIONS TO BE SERVED BY TYING INTO THE NEAREST HYDRAULICALLY CAPABLE POINT ON THE ADJACENT EXISTING SPRINKLER SYSTEM ZONE PER NFPA 13.



2 FIRE PROTECTION SITE PLAN
1/8" = 1'-0"



1 FIRE PROTECTION DEMOLITION PLAN - NORTH
1/8" = 1'-0"

GENERAL NOTES

1. THIS PROJECT INCLUDES THE DESIGN, INSTALLATION, AND EXTENSION OF TWO (2) EXISTING WET ZONE SYSTEMS FOR PROTECTION OF THE BUILDING ADDITIONS PER NFPA 13 (2022 ed.).
2. FINAL PIPE SIZING AND LOCATION IS TO BE DETERMINED BY THE FIRE SPRINKLER CONTRACTOR AND IS SUBJECT TO APPROVAL BY THE ENGINEER. NOT ALL REQUIRED PIPING IS SHOWN.
3. REFER TO SPECIFICATION DIVISIONS 21 10 00 FOR ADDITIONAL FIRE SPRINKLER SYSTEM INFORMATION.
4. ALL SPRINKLERS IN LIGHT HAZARD OCCUPANCIES INCLUDING PUBLIC AREAS ARE TO BE OF THE QUICK RESPONSE TYPE.
5. SPRINKLERS ARE REQUIRED TO BE PROTECTED DURING PAINTING.
6. SPRINKLERS SHALL BE LOCATED IN THE CENTER POINT OF SQUARE CEILING TILES AND ALLOWED TO BE IN THE QUARTER AND/OR CENTER POINTS OF RECTANGULAR CEILING PANELS.
7. SPRINKLER GUARDS ARE TO BE INSTALLED ON ALL EXPOSED SPRINKLERS ELEVATED BELOW 7'-0" AND THROUGHOUT AREAS WHERE HEADS ARE EXPOSED TO INTERFERENCE DAMAGE.
8. ALL SYSTEMS PIPING AND FITTINGS TO MEET THE REQUIREMENTS OF NFPA 13.
9. REQUIRED SYSTEM TESTING IS THE RESPONSIBILITY OF THE FIRE SPRINKLER CONTRACTOR PER NFPA 25.
10. NOT ALL REQUIRED SPRINKLERS AND PIPING ARE SHOWN. CONSIDERATION OF ADDITIONAL SPRINKLERS, PIPING, AND FITTINGS DUE TO INTERFERENCE WITH OTHER TRADES, OBSTRUCTIONS, IMPROVED AESTHETICS, OR OWNER/AHJ REQUESTS SHALL BE MADE PRIOR TO BID BY THE FIRE SPRINKLER CONTRACTOR.
11. FIRE SPRINKLER CONTRACTOR TO PROVIDE ALL NECESSARY MATERIAL, INCLUDING BUT NOT LIMITED TO, SPRINKLERS,PIPING, VALVES, AND LABOR TO PROVIDE COMPLETE SYSTEM(S) TO COMPLY WITH NFPA 13 AND LOCAL BUILDING CODES. ALL HYDRAULIC CALCULATIONS AND PIPE SIZING ARE THE RESPONSIBILITY OF THE FIRE PROTECTION CONTRACTOR. ANY AND ALL CLARIFICATIONS TO BID DOCUMENTS SHALL BE MADE PRIOR TO BID.
12. UPRIGHT SPRINKLERS TO HAVE A BRASS FINISH THROUGHOUT.
13. ALL GROOVED STEEL PIPING SHALL BE SCHEDULE 10 MINIMUM.
14. ALL THREADED STEEL PIPING SHALL BE SCHEDULE 40.
15. ALL DRY PIPING SHALL BE SCHEDULE 40.
16. ALL PIPING PENETRATING EXTERIOR WALLS SHALL BE GALVANIZED SCHEDULE 40.
17. ALL THREADED FITTINGS SHALL BE DUCTILE IRON.
18. LISTED FLEX PIPING TO PENDENT HEADS IN CEILINGS IS ALLOWED FOR THIS PROJECT IF PROVEN HYDRAULICALLY.
19. CPVC PIPING IS NOT ALLOWED FOR THIS PROJECT.
20. FURNISH AND INSTALL AN AUTOMATIC AIR VENT FOR EACH WET ZONE. AUTOMATIC AIR VENT SHALL BE LOCATED NEAR A HIGH POINT IN THE WET SYSTEM THAT ALLOWS FOR THE MAXIMUM AMOUNT OF AIR REMOVAL FROM THAT SYSTEM.
21. ALL MATERIAL BEING INSTALLED MUST BE NEW AND LISTED FOR USE.
22. THE FIRE SPRINKLER CONTRACTOR SHALL VERIFY LOCATIONS AND ROUTING OF PIPE PRIOR TO BID. NO ALLOWANCES FOR EXTRA FITTINGS, PIPING, SPRINKLERS, ETC. WILL BE ALLOWED AFTER AWARD OF CONTRACT.
23. PIPING SHOWN ON THESE PLANS IS CONCEPTUAL BUT SHALL BE CLOSELY FOLLOWED BY THE FIRE SPRINKLER CONTRACTOR. ANY MAJOR CHANGES TO WHAT IS BEING INDICATED ON THESE PLANS SHALL FIRST BE APPROVED BY THE ARCHITECT AND ENGINEER.
24. ALL ARCHITECTURAL, MECHANICAL, STRUCTURAL, CIVIL, & ELECTRICAL FEATURES INDICATED ON THE FP SHEETS SHALL BE VERIFIED BY CONSULTING THE A/M/S,C,&E SHEETS.
25. ALL SPRINKLERS LOCATED NEAR HEAT PRODUCING DEVICES SHALL BE PROVIDED WITH THE APPROPRIATE TEMPERATURE RATING PER THE REQUIREMENTS OF NFPA 13.
26. THESE PLANS SHALL BE USED AS A GENERAL GUIDE IN THE GENERATION OF THE FIRE SPRINKLER CONTRACTOR'S BID AND MAY NOT INDICATE THE ENTIRE EXTENT OF SPRINKLER PROTECTION REQUIRED. ANY AREAS REQUIRED TO BE PROTECTED PER NFPA 13 THAT MAY OR MAY NOT BE INDICATED AS REQUIRING PROTECTION ON THESE PLANS SHALL BE INCLUDED IN THE FIRE SPRINKLER CONTRACTOR'S BID. NO ALLOWANCES FOR EXTRAS WILL BE ALLOWED AFTER AWARD OF CONTRACT.
27. THE FIRE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE SIZE, TYPE, AND LOCATION OF ALL EXISTING BUILDING COMPONENTS THAT ARE TO REMAIN. NOT ALL EXISTING COMPONENTS THAT ARE TO REMAIN ARE INDICATED ON THESE PLANS. NO ALLOWANCES FOR EXTRA FITTINGS, PIPING, SPRINKLERS, ETC. WILL BE ALLOWED AFTER AWARD OF CONTRACT.
28. SPARE SPRINKLERS SHALL BE PROVIDED PER THE REQUIREMENTS OF NFPA-13.
29. CONTRACTOR TO PROVIDE OWNER WITH COPY OF NFPA-25.
30. THE FIRE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE SIZE, TYPE, AND LOCATION OF ALL EXISTING BUILDING COMPONENTS THAT ARE TO REMAIN. NOT ALL EXISTING COMPONENTS THAT ARE TO REMAIN ARE INDICATED ON THESE PLANS. NO ALLOWANCES FOR EXTRA FITTINGS, PIPING, SPRINKLERS, ETC. WILL BE ALLOWED AFTER AWARD OF CONTRACT.

OCCUPANCY HAZARD CLASSIFICATIONS:

- SEE PLAN FOR HAZARD NOTATIONS. ALL AREAS TO BE DESIGNED AS LIGHT HAZARD UNLESS NOTED OTHERWISE
- LIGHT HAZARD OCCUPANCIES
  - 0.10 GPM/SQ.FT PER MOST DEMANDING 1500 SQ.FT.
- OH1 ORDINARY HAZARD GROUP 1 OCCUPANCIES
  - 0.15 GPM/SQ.FT PER MOST DEMANDING 1500 SQ.FT.
- OH2 ORDINARY HAZARD GROUP 2 OCCUPANCIES
  - 0.20 GPM/SQ.FT PER MOST DEMANDING 1500 SQ.FT.
- REMOTE AREA REDUCTIONS WILL BE ALLOWED PER NFPA 13
- REMOTE AREA INCREASES ARE REQUIRED PER NFPA 13
- REQUIRED SYSTEM PRESSURE SHALL BE A MINIMUM OF 5 PSI LESS THAN THAT WHICH IS AVAILABLE AT SPRINKLER SYSTEM DEMAND PLUS HOSE ALLOWANCE

REGISTERED PROFESSIONAL ENGINEER
REGISTRATION NUMBER 10403
CRAIG R. TASCHNER
SOUTH DAKOTA
11-22-24

FEI# 242.283

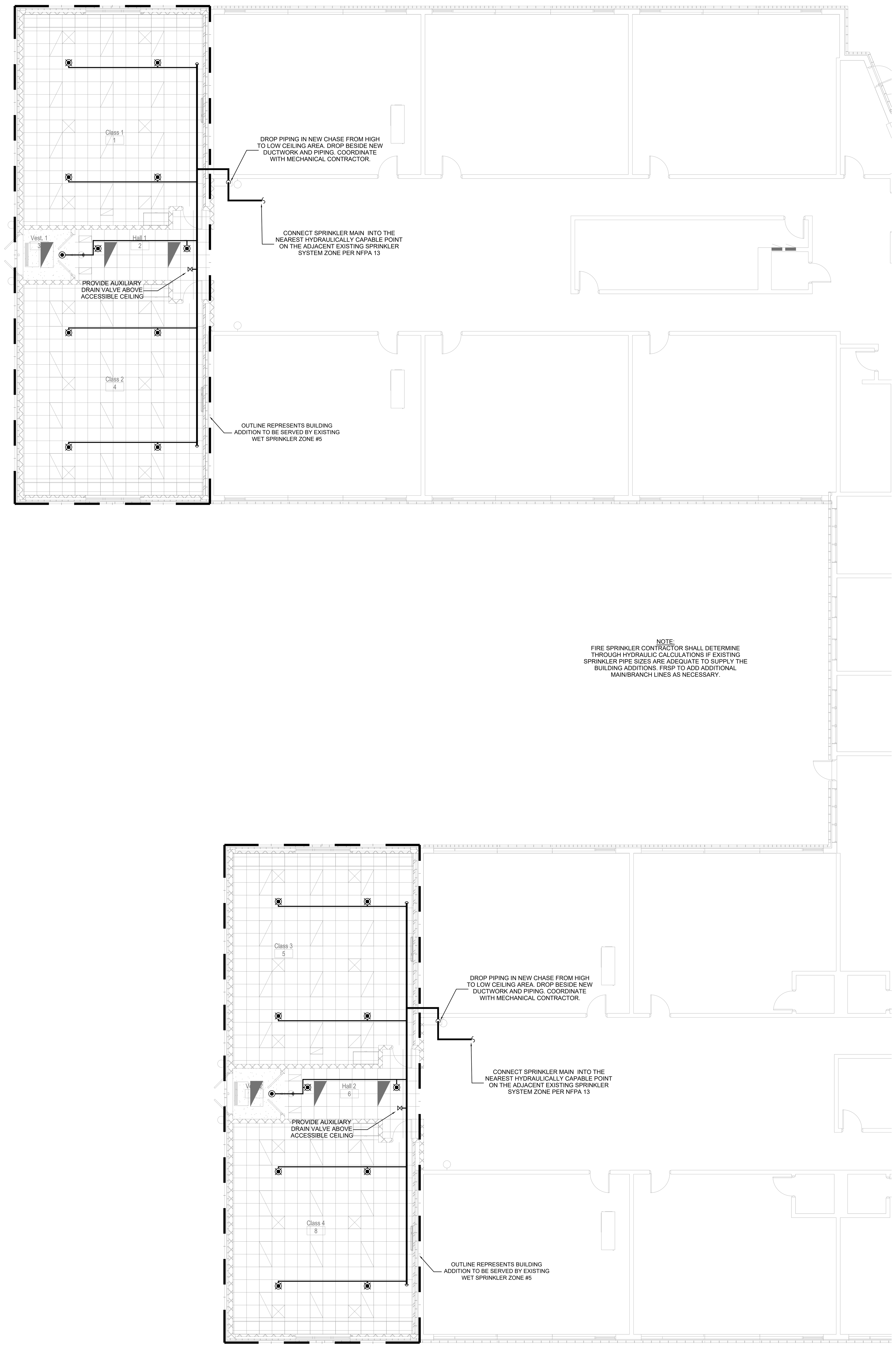
FIRE ENGINEERING
PO BOX 386 ▪ SIOUX FALLS, SD 57101
PHONE: (605) 543-5170
WWW.FIRE-ENGR.COM
FIRE PROTECTION ENGINEERING CONSULTANTS

WPE# BS24057

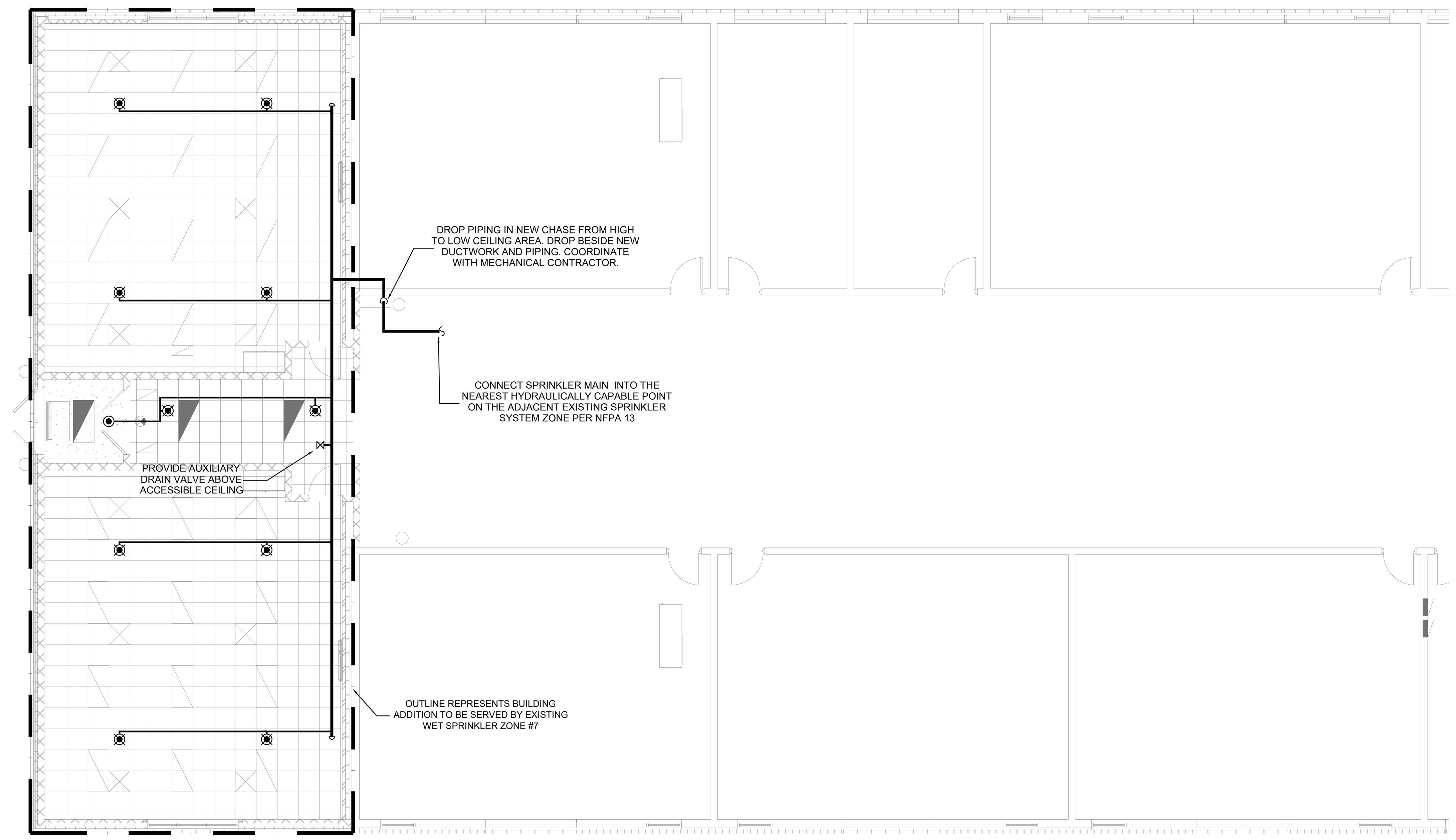
WPE WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE ▪ SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 ▪ FAX: (605) 362-3759
WWW.WESTPLAINSENGINEERING.COM
RAPID CITY, SD ▪ SIOUX FALLS, SD ▪ CASPER, WY ▪ CEDAR RAPIDS, IA

hkg architects

REVISED DATE	**Plans for** Tiospa Zina School Classroom Addition Agency Village, South Dakota	FIRE PROTECTION LEGEND & DETAILS & DEMOLITION PLANS	DRAWN BY SG / TRACED BY ___ / CHECKED BY CT	F1
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032



1 FIRE PROTECTION FLOOR PLAN - NORTH
1/8" = 1'-0"



2 FIRE PROTECTION FLOOR PLAN - SOUTH
1/8" = 1'-0"

SYM	POSITION	FINISH	TEMP	K	NPT	SIN	MFG.	MODEL#	ESCUTCHEON	NOTES
◉	PENDENT	MATCH EXISTING	155°	5.6	1/2"	TY3231	TYCO	TY-FRB	MATCH EXISTING	1, 2
⊗	PENDENT	MATCH EXISTING	155°	11.2	3/4"	TY5237	TYCO	EC-11	MATCH EXISTING	1, 2

NOTES:
1. STANDARD COVERAGE OR EXTENDED COVERAGE SPRINKLERS MAY BE USED AT THE CONTRACTOR'S OPTION WHERE PROVEN HYDRAULICALLY
2. MATCH SPRINKLER FINISH AND ESCUTCHEON TYPE WITH EXISTING ADJACENT SPRINKLERS

GENERAL NOTES (APPLIES TO ALL SPRINKLERS):
- SPRINKLER INDICATED MAY BE SUBSTITUTED FOR EQUAL MAKE AND MODEL
- INTERMEDIATE TEMPERATURE RATED SPRINKLERS SHALL BE USED IN ALL MECHANICAL AND ELECTRICAL ROOMS
- ALL SPRINKLERS NEAR HEAT PRODUCING DEVICES SHALL BE PROVIDED WITH THE APPROPRIATE TEMPERATURE RATING PER THE REQUIREMENTS OF NFPA 13
- SPRINKLER GUARDS ARE TO BE INSTALLED ON ALL EXPOSED SPRINKLERS ELEVATED BELOW 7'-0", SIDEWALL SPRINKLERS LOCATED BELOW OVERHEAD DOORS, AND THROUGHOUT AREAS WHERE HEADS ARE EXPOSED TO INTERFERENCE DAMAGE

3 FIRE PROTECTION SPRINKLER LEGEND
1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
REGISTRATION NUMBER 10403
CRAIG R. TASCHNER
SOUTH DAKOTA
11-22-24

FEI# 242.283
FIRE ENGINEERING
PO BOX 386 ▪ SIOUX FALLS, SD 57101
PHONE: (605) 543-5170
WWW.FIRE-ENGR.COM
FIRE PROTECTION ENGINEERING CONSULTANTS

WPE# BS24057
WPE WEST PLAINS ENGINEERING, INC.
4609 SOUTH TECHLINK CIRCLE · SIOUX FALLS, SD 57106
PHONE: (605) 362-3753 · FAX: (605) 362-3759
WWW.WESTPLAINSENGINEERING.COM
RAPID CITY, SD · SIOUX FALLS, SD · CASPER, WY · CEDAR RAPIDS, IA

hkg architects

REVISED DATE	Plans for Tiospa Zina School Classroom Addition Agency Village, South Dakota	FIRE PROTECTION PLANS	DRAWN BY SG TRACED BY ___ CHECKED BY CT	F2
CERT. NO.	HKG Architects, Inc. Aberdeen, S.D.		DATE 11/22/24	PROJECT NO. 2024-0032