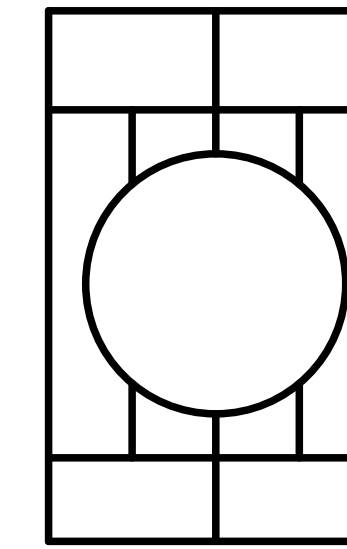


Administration Building Entry Improvements For:

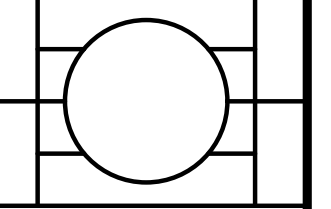
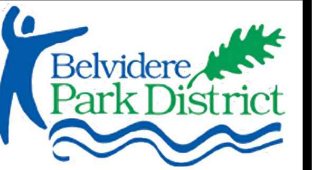
# Belvidere Township Park District

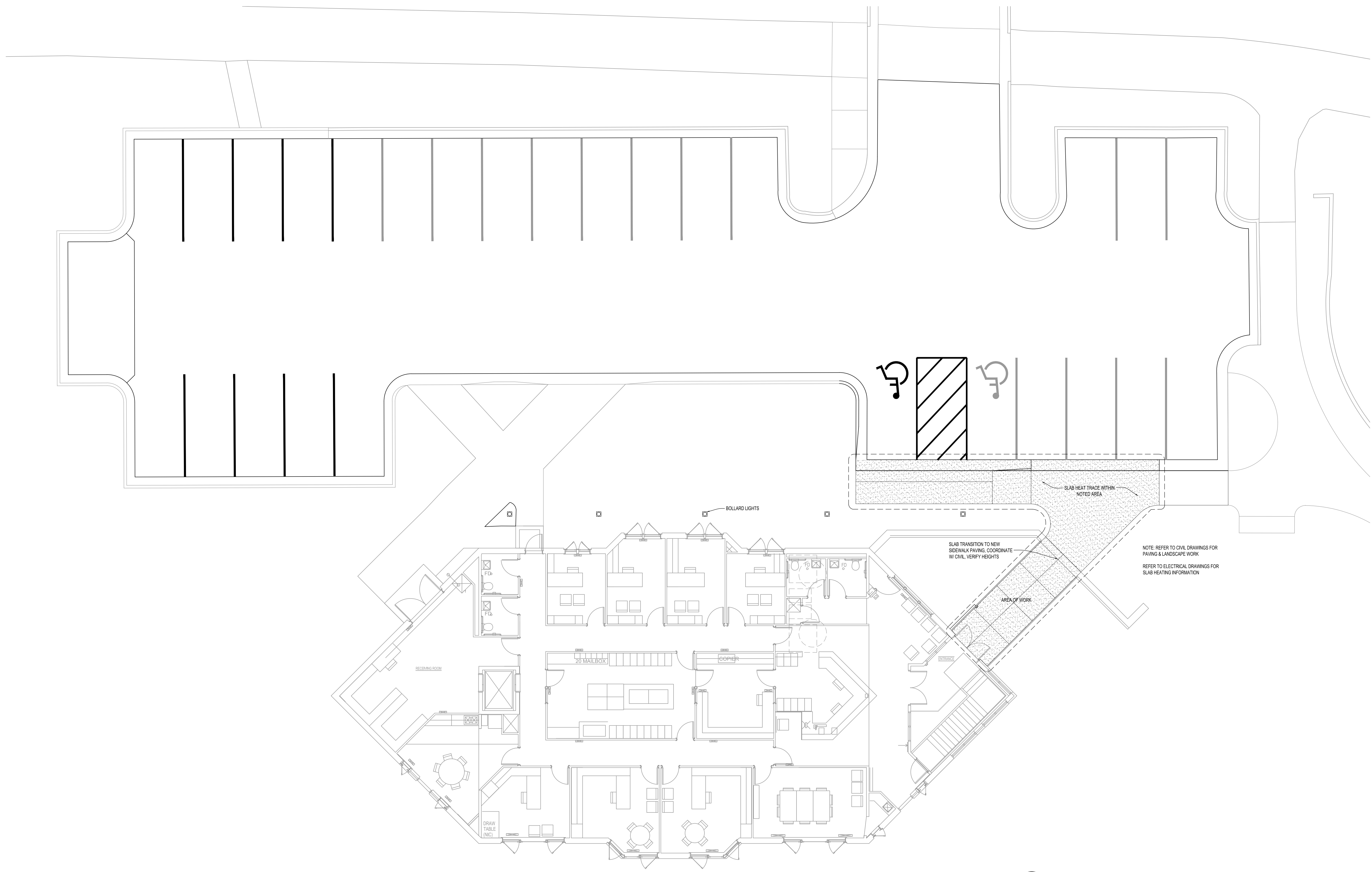
1006 West Lincoln Avenue, Belvidere, Illinois 61108



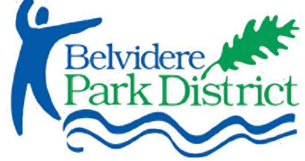
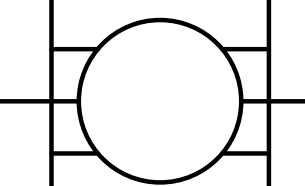
**Ollmann Ernest Martin Architects & Engineers**  
 200 South State Street Belvidere, Illinois 61008  
 815-544-7790 Phone  
 Professional Design Firm License No. 184-004048

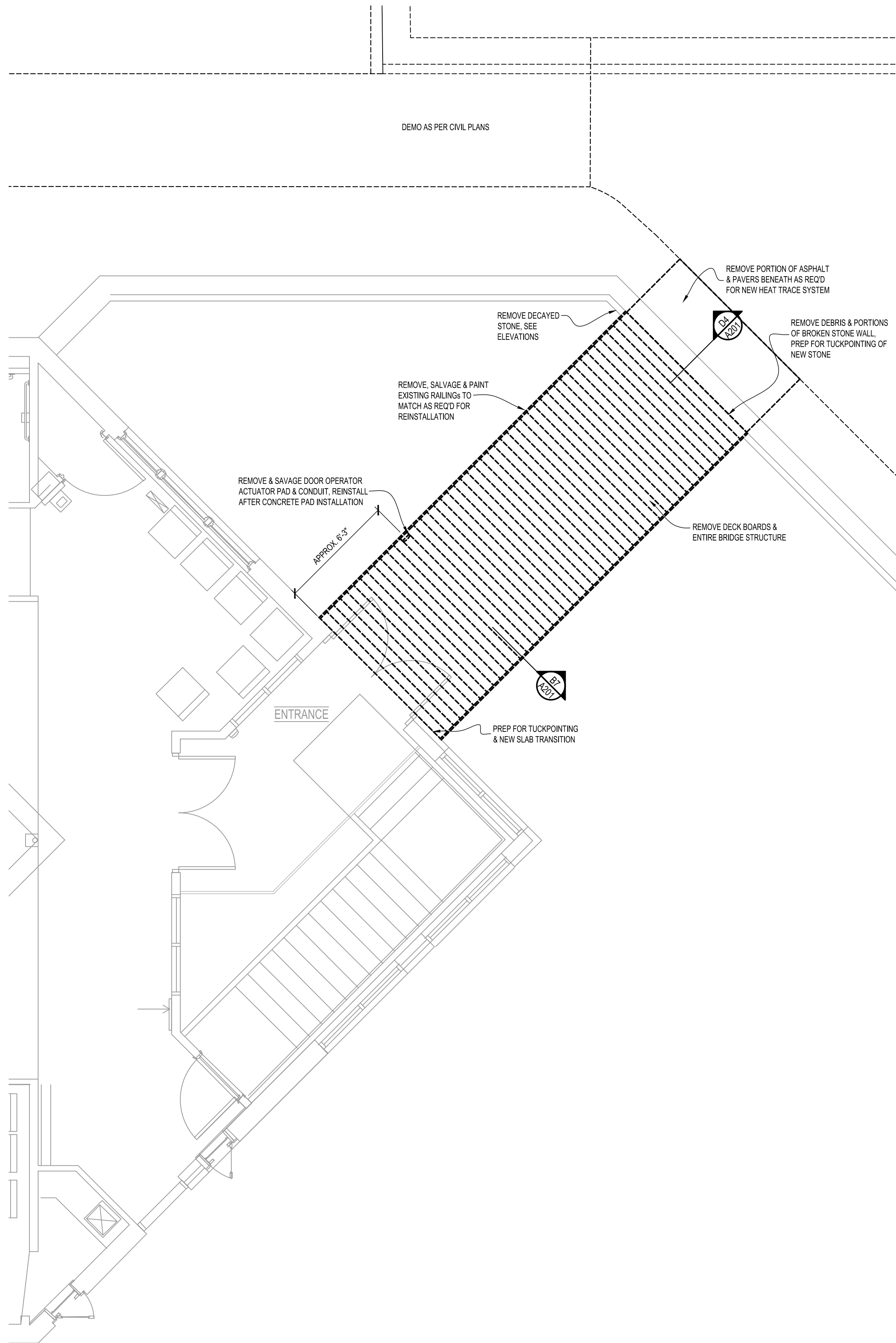
CODE ANALYSIS		SHEET INDEX					SEAL
PROJECT DESCRIPTION :		REFERENCE CODES : BELVIDERE, ILLINOIS					ARCHITECTURAL & STRUCTURAL OLLMANN ERNEST MARTIN ARCHITECTS & ENGINEERS
BELVIDERE TOWNSHIP PARK DISTRICT: ADMINISTRATION BUILDING SITE IMPROVEMENTS		2015 INTERNATIONAL BUILDING CODE (IBC) WITH AMENDMENTS 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) 2018 ILLINOIS ACCESSIBILITY CODE (IAC) 2014 ILLINOIS STATE PLUMBING CODE 2014 NATIONAL ELECTRIC CODE 2015 INTERNATIONAL MECHANICAL CODE (IMC) 2015 INTERNATIONAL FIRE CODE (IFC)					
		<b>GENERAL</b>					ELECTRICAL OLLMANN ERNEST MARTIN ARCHITECTS & ENGINEERS
		T101	TITLE SHEET	6-23-2022			
		<b>ARCHITECTURAL</b>					GENERAL NOTES DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TAKE PRECEDENCE. CONTACT ARCHITECT IF ANY DISCREPANCIES OCCUR.  THE ARCHITECT DOES NOT SUPERVISE, WILL NOT BE RESPONSIBLE FOR AND WILL NOT HAVE CONTROL OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS.  ALL CONTRACTORS SHALL BE RESPONSIBLE FOR WORK COMPLYING WITH LOCAL CODES.
		OA101	OVERALL FLOOR PLAN	6-23-2022			
		A101	ENTRY LEVEL FLOOR PLAN & DEMO PLAN	6-23-2022			
		A201	BUILDING SECTIONS & DETAILS	6-23-2022			
		<b>STRUCTURAL</b>					
		S100	ENTRY LEVEL SLAB & SLOPE PLAN				
		S101	ENTRY LEVEL FRAMING PLAN & FRAMING DEMO PLAN	6-23-2022			
		<b>ELECTRICAL</b>					
		E101	SITE ELECTRICAL & DEMO PLANS	6-23-2022			
		E201	ELECTRICAL SCHEDULES & DETAILS	6-23-2022			
		E301	ELECTRICAL SPECIFICATIONS	6-23-2022			
		E302	ELECTRICAL SPECIFICATIONS	6-23-2022			





**H7** OVERALL FLOOR PLAN  
 SCALE: 1/4" = 1'-0"

	Administration Building Entry Improvements For: <b>Belvidere Township Park District</b> 1006 W. Lincoln Avenue, Belvidere, Illinois 61008		<b>Ollmann Ernest Martin</b> <b>Architects &amp; Engineers</b> 200 South State Street Belvidere, Illinois 61008 815-544-7790 Phone	2022 <sup>®</sup>
<b>OVERALL FLOOR PLAN</b> <small>2022-023</small>	Date: 6-23-2022      Revision:	OA101		



**H5 ENTRY LEVEL DEMO PLAN**  
SCALE: 1/4" = 1'-0"

**MATERIAL AND SYMBOL KEY**

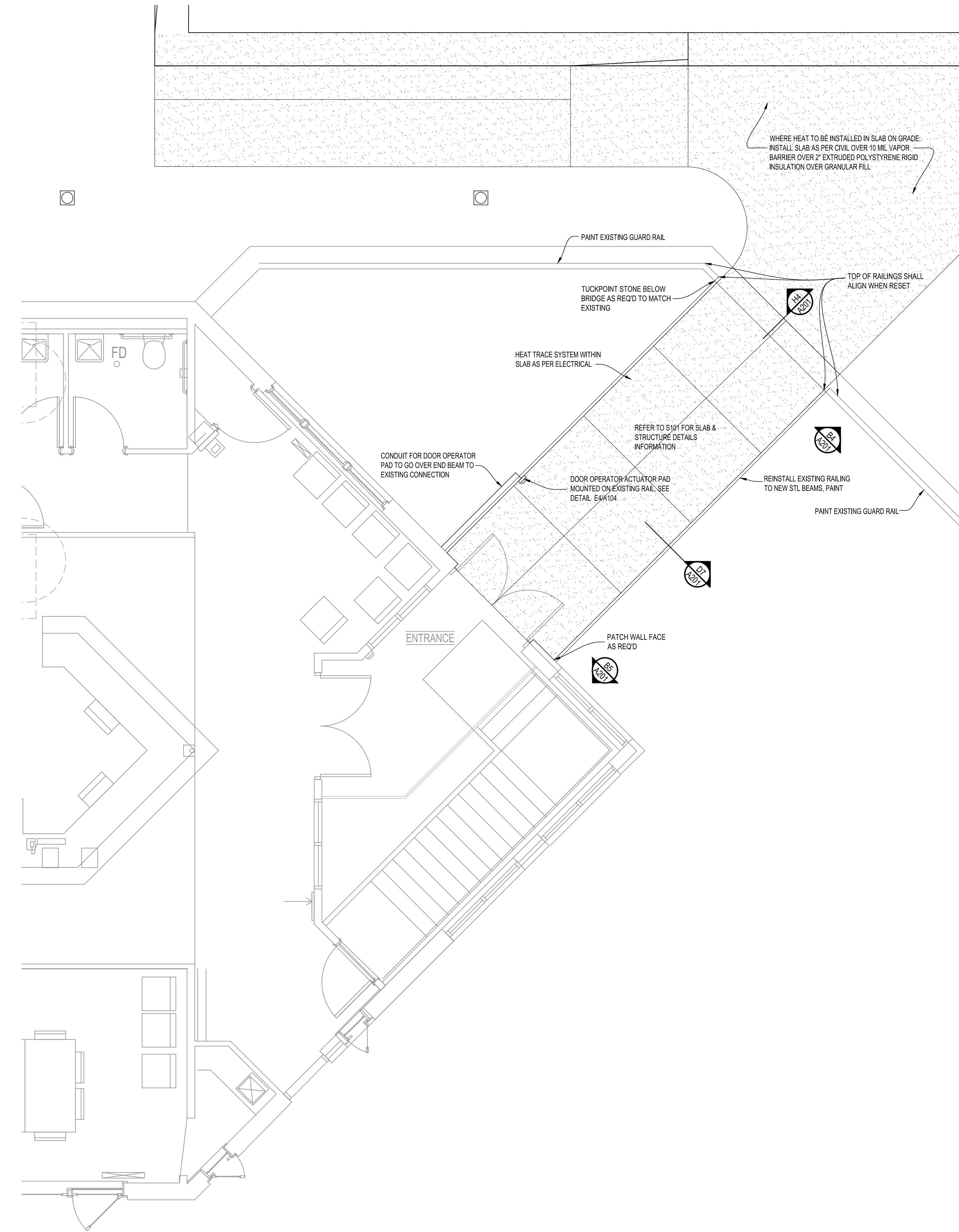
	CMU TO STRUCTURE ABOVE UNLESS NOTED
	WOOD OR METAL STUDS, BATT INSULATION, AND GYP BD TO DECK ABOVE U.N.O.
	WOOD OR METAL STUDS, GYP BD TO DECK ABOVE U.N.O. SEE
	DOOR NUMBER
	EXISTING DOOR
	INTERIOR SIGNAGE KEY
	DETAIL NUMBER
	SHEET NUMBER
	DETAIL NUMBER
	INTERIOR ELEVATION SHEET NUMBER
	TOILET ROOM KEY
	FIRE EXTINGUISHER, CABINET AND TANK
	INTERIOR ELEVATION-SEE A102
	WINDOW/BORROWED LITE KEY SEE SHEET A105

**Abbreviations**

FBO	FURNISHED BY OTHERS
VERIFY	VERIFY WITH APPROPRIATE SUPPLIER/OWNER
EXIST	EXISTING
ACT	SUSPENDED ACCOUTICAL TILE CEILING
VWC	VINYL WALL COVERING
EWC	ELECTRICAL WATER COOLER
FEC	FIRE EXTINGUISHER AND CABINET
GYP	5/8" GYPSUM BOARD WALL BOARD
MR GYP	5/8" MOISTURE RESISTANT GYPSUM BOARD
TB	4" TALL TACK BOARD
MB	4" TALL MARKER BOARD

**General Notes**

- COORDINATE WORK WITH ALL TRADES
- VERIFY FIELD CONDITIONS PRIOR TO INSTALLATION OF MATERIALS



**H7 ENTRY LEVEL FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

2022

**Administration Building Entry Improvements For:  
Belvidere Township Park District**  
1006 W. Lincoln Avenue, Belvidere, Illinois 61008

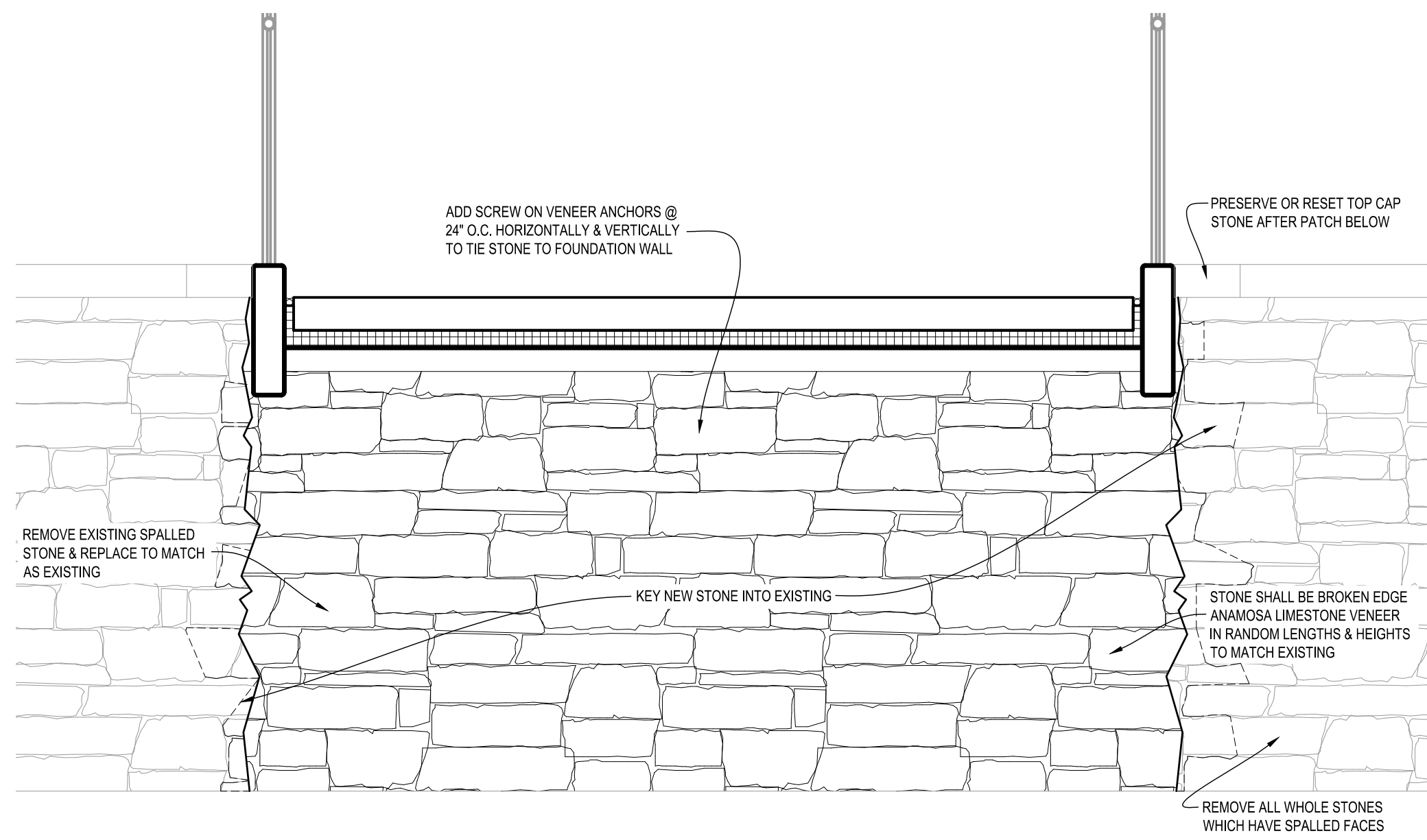
**Ollmann Ernest Martin  
Architects & Engineers**  
200 South State Street  
Belvidere, Illinois 61008  
815-544-7790 Phone

**ENTRY LEVEL FLOOR PLAN & DEMO PLAN**

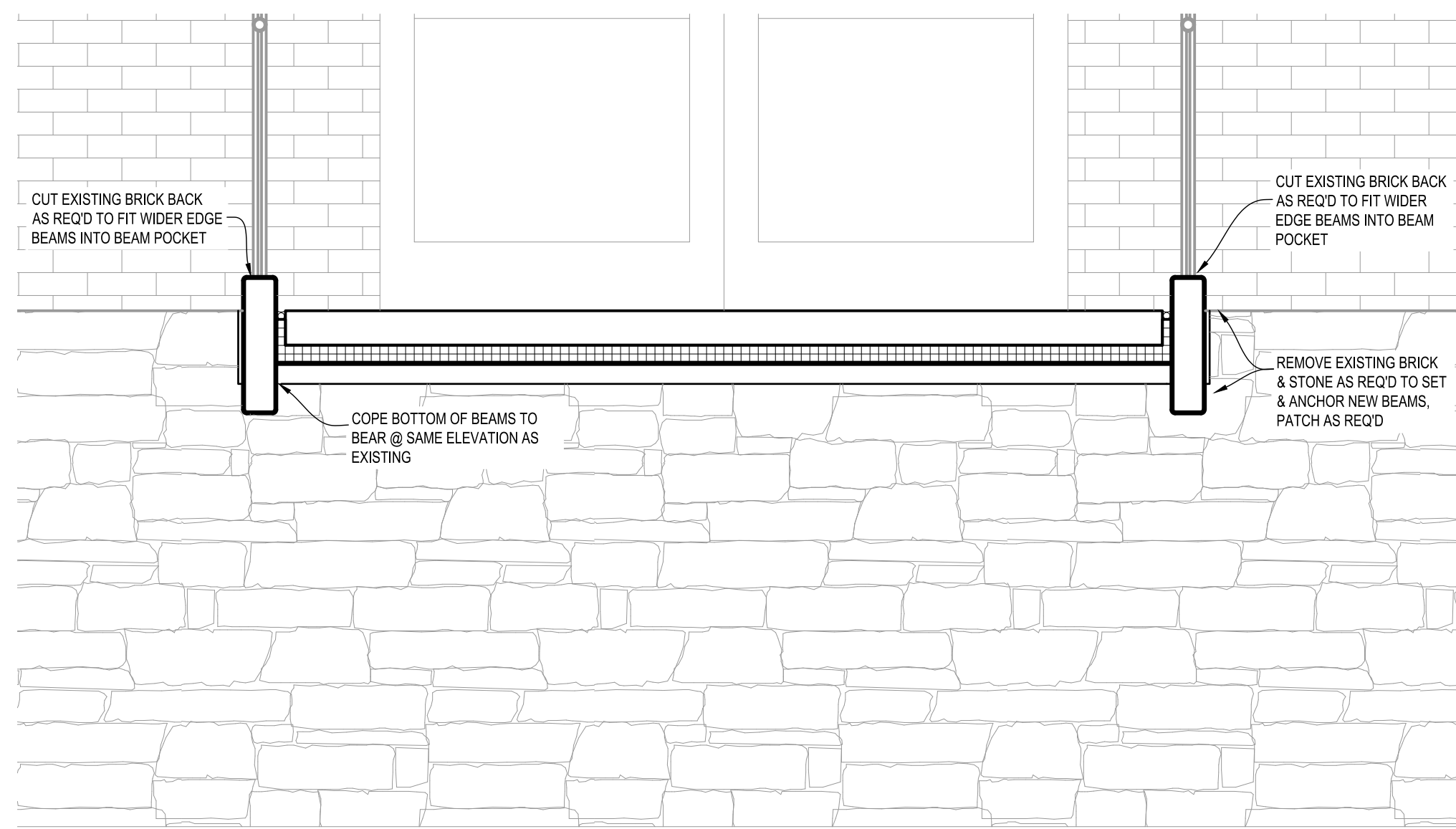
Date: 6-23-2022      Revision:

2022-023

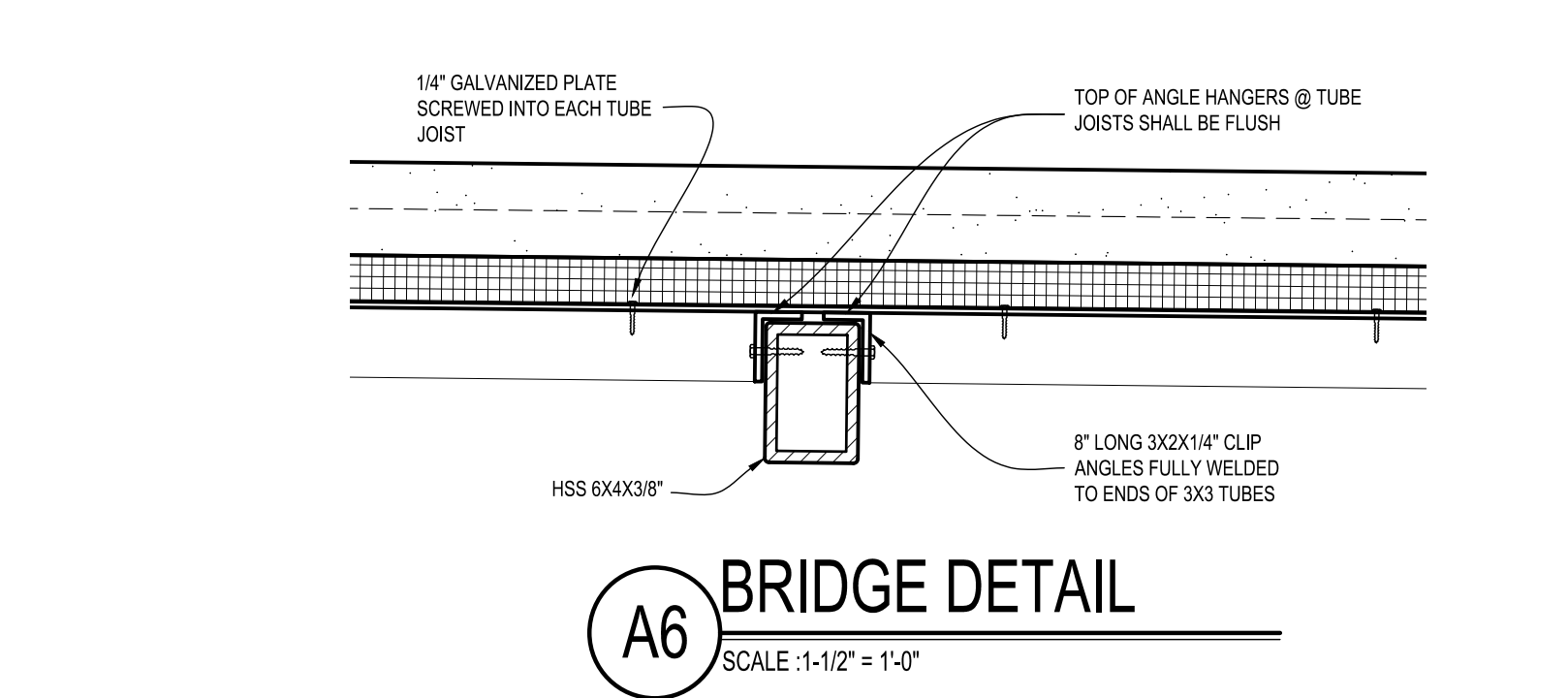
A101



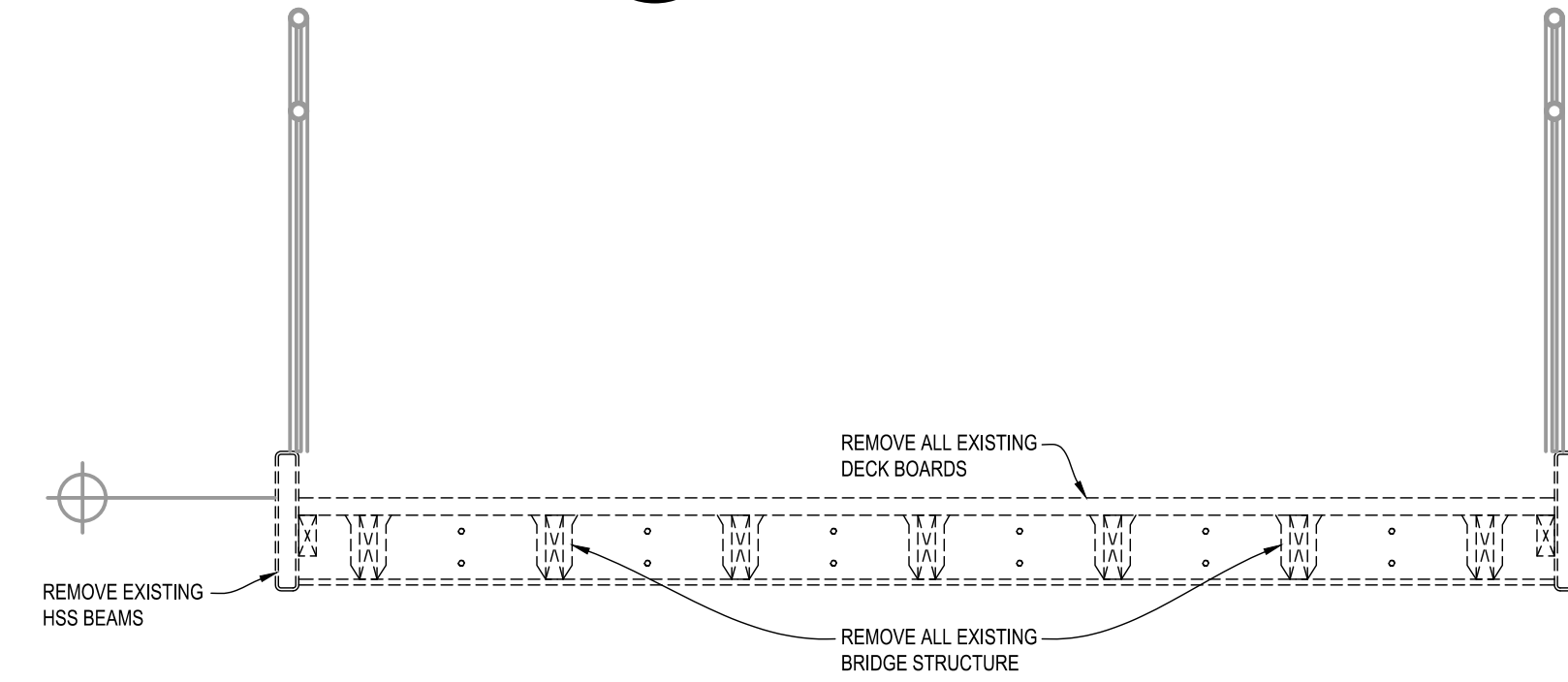
**B4** BRIDGE ELEVATION  
SCALE: 1/4" = 1'-0"



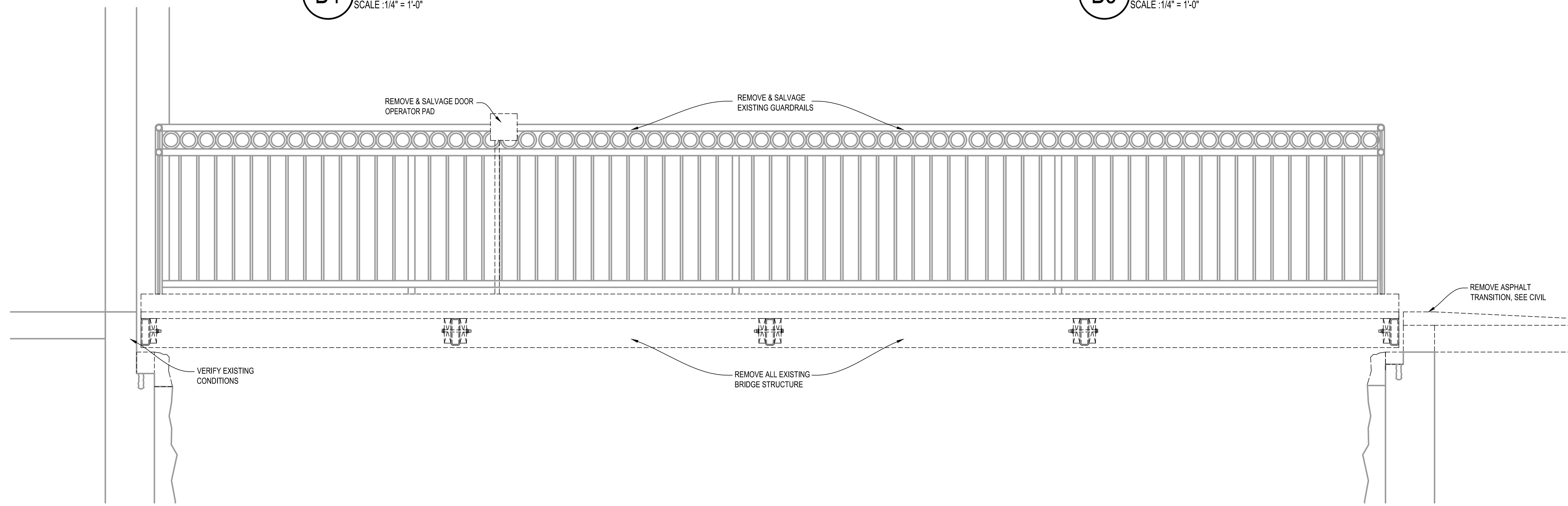
**B5** BRIDGE ELEVATION  
SCALE: 1/4" = 1'-0"



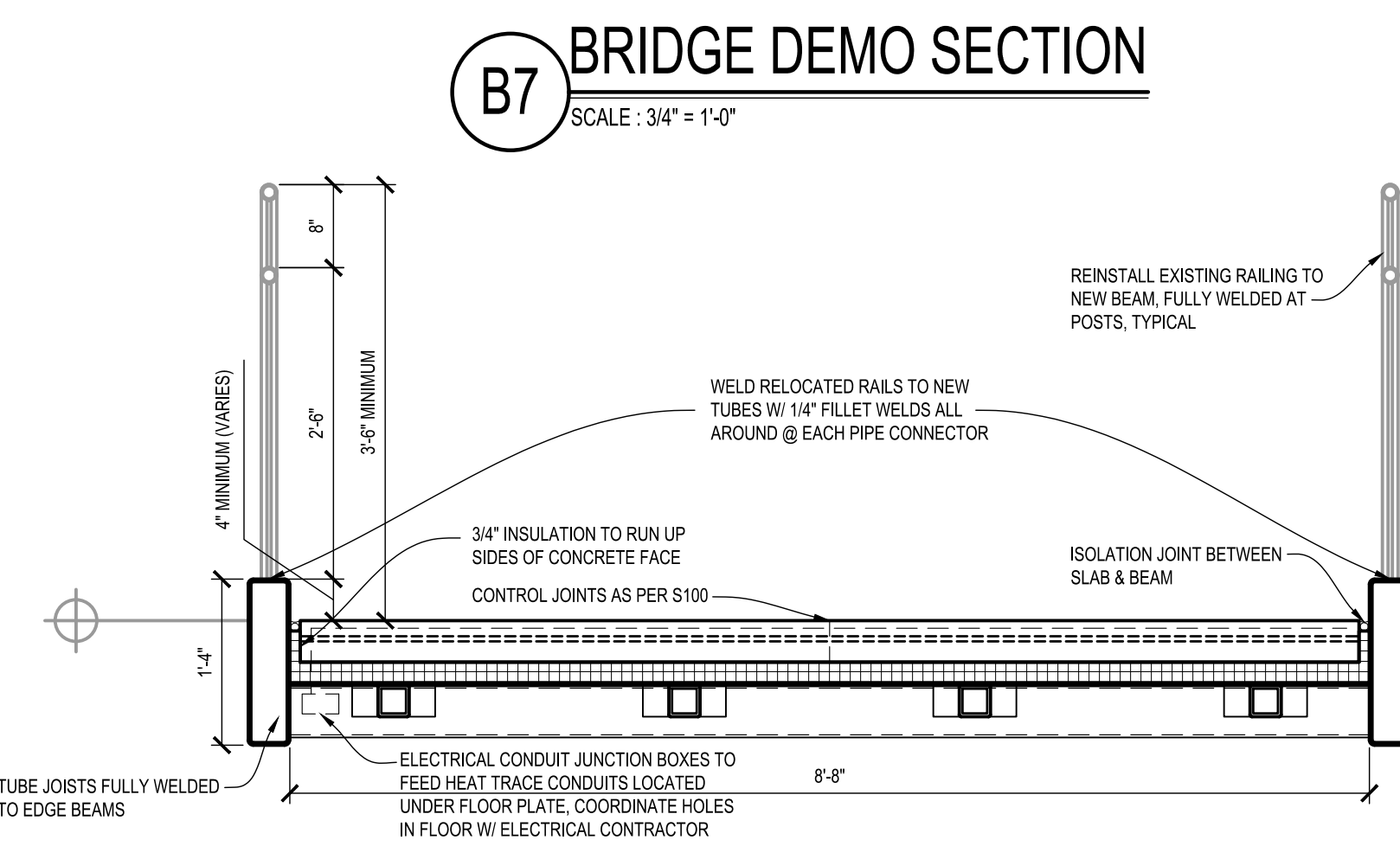
**A6** BRIDGE DETAIL  
SCALE: 1-1/2" = 1'-0"



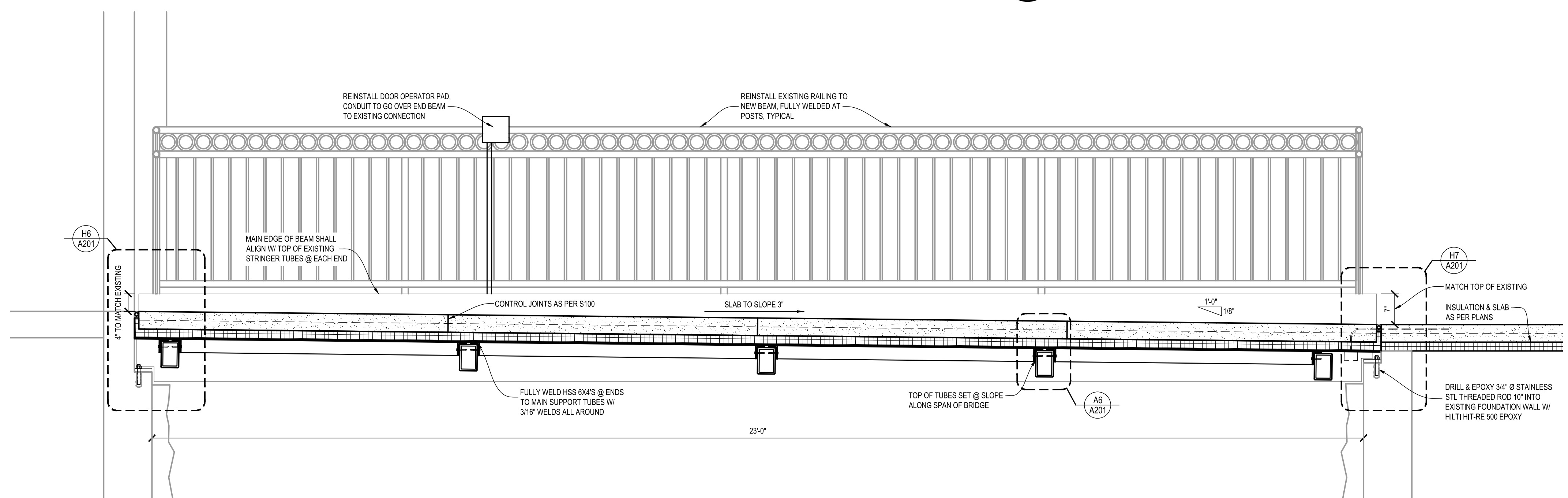
**B7** BRIDGE DEMO SECTION  
SCALE: 3/4" = 1'-0"



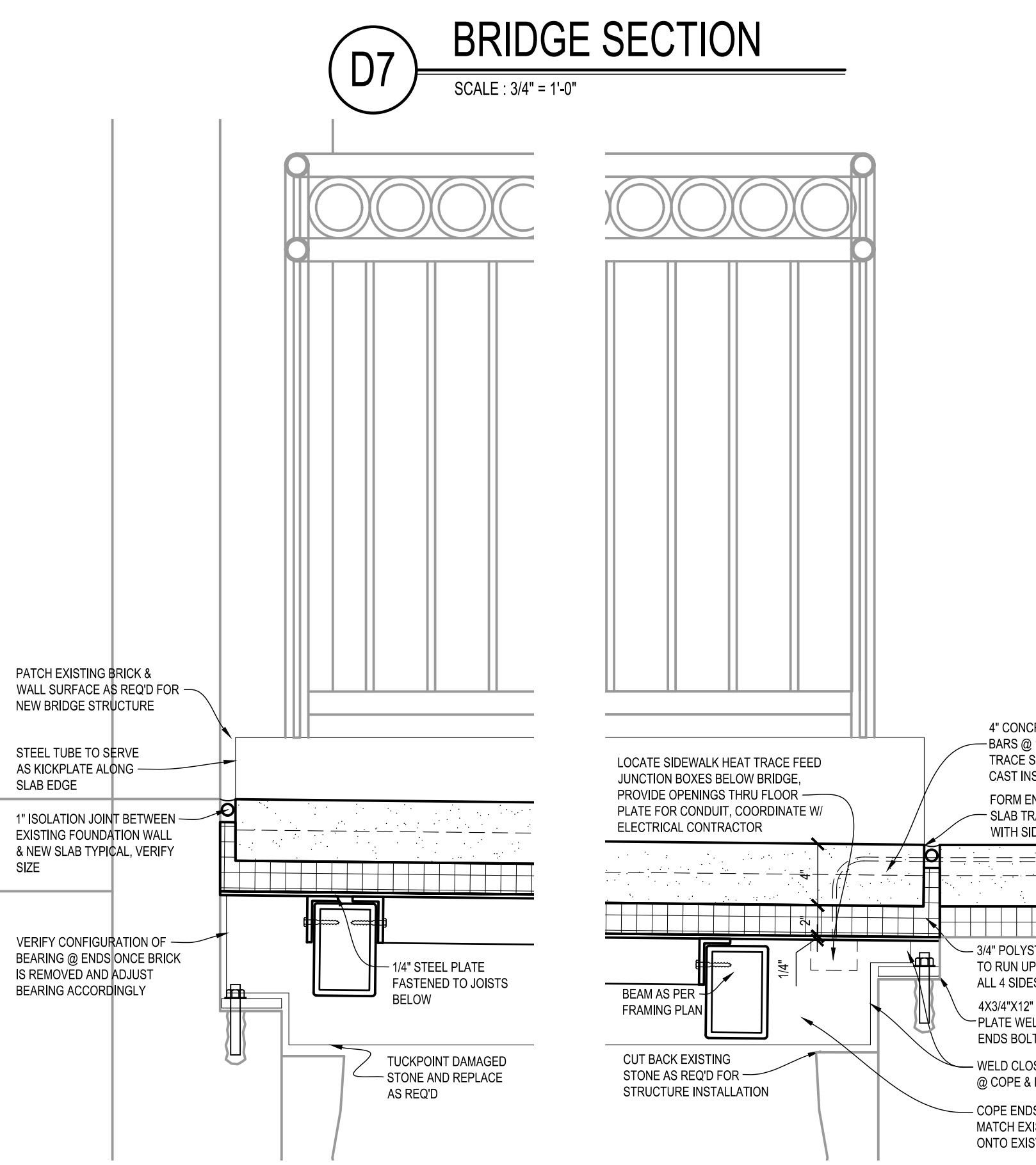
**D4** BRIDGE DEMO SECTION  
SCALE: 3/4" = 1'-0"



**D7** BRIDGE SECTION  
SCALE: 3/4" = 1'-0"



**H4** BRIDGE SECTION  
SCALE: 3/4" = 1'-0"



**H6** DETAIL  
SCALE: 1 1/2" = 1'-0"

**H7** DETAIL  
SCALE: 1 1/2" = 1'-0"

2022

Administration Building Entry Improvements For:  
**Belvidere Township Park District**  
1006 W. Lincoln Avenue, Belvidere, Illinois 61008

Belvidere Park District

Ollmann Ernest Martin  
Architects & Engineers  
200 South State Street  
Belvidere, Illinois 61008  
815-544-7790 Phone

BUILDING SECTIONS

2022-023

A201

Revision:  
Date: 6-23-2022

**DESIGN CRITERIA:**

THESE PLANS HAVE BEEN PREPARED BASED UPON THE 2018 INTERNATIONAL BUILDING CODE

DESIGN LOADS:	
RISK CATEGORY	II
WIND FACTOR	1.0
SNOW FACTOR	1.0
SNOW THERMAL FACTOR	1.2
SEISMIC FACTOR	1.0
ROOF LIVE LOAD	20 PSF
GROUND SNOW LOAD	25 PSF
MINIMUM ROOF SNOW LOAD	21 PSF
WIND SPEED	115 MPH ULTIMATE
WIND EXPOSURE CATEGORY	B
SEISMIC SITE CLASS:	D
SPECTRAL RESPONSE ACCELERATION SHORT	11.2%
SPECTRAL RESPONSE ACCELERATION ONE SEC	5.9%
SEISMIC IMPORTANCE FACTOR	1.0
SEISMIC DESIGN CATEGORY:	B
SPECTRAL RESPONSE COEFFICIENT - SHORT	0.119
SPECTRAL RESPONSE COEFFICIENT - 1 SECOND	0.094
SEISMIC RESPONSE COEFFICIENT C <sub>s</sub>	0.020
RESPONSE MODIFICATION FACTOR, R	6
ANALYSIS PROCEDURE USED	EQUIVALENT LATERAL FORCE ANALYSIS

**GENERAL STRUCTURAL STEEL NOTES**

- STRUCTURAL STEEL SHALL BE ASTM A992. EXCEPT PIPE COLUMNS SHALL BE ASTM A53 GRADE B. HSS MEMBERS SHALL BE ASTM A500 GRADE B. AND WIDE FLANGE MEMBERS TO BE ASTM A992. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF THE AISC SPECIFICATIONS, LATEST EDITION.
- SHOP CONNECTIONS: ASTM A325 HS BEARING BOLTS, OR WELDED E70XX.
- FIELD CONNECTIONS: ASTM A325 HS BOLTS BEARING TYPE, OR WELDED E70XX AND AS INDICATED ON THE DRAWINGS.
- BOLTS SHALL BE 3/4" DIAMETER UNLESS OTHERWISE NOTED.
- REFER TO ARCHITECTURAL DRAWINGS AND DETAILS FOR MISCELLANEOUS LINTELS, FRAMING ANCHORS, SHELF ANGLES, DETAIL ANGLES, BRACKETS, BRACES, WALL HEAD BRACING, ETC., REQUIRED TO BE FURNISHED UNDER THIS CONTRACT.
- DIMENSIONS SHOWN FOR MECHANICAL OPENINGS, EQUIPMENT, ETC., ARE APPROXIMATE AND MUST BE VERIFIED WITH THE INSTALLING CONTRACTOR. PROVIDE ROOF FRAMES FOR ROOF TOP EQUIPMENT, CURBS, FANS, ETC. SEE DETAIL FOR TYPICAL FRAME CONSTRUCTION.
- PROVIDE UNIFORM SLOPES BETWEEN ELEVATIONS SHOWN. SEE ARCHITECTURAL DETAILS.
- SPACE BEAMS AND JOISTS UNIFORMLY BETWEEN DIMENSIONS SHOWN ON PLANS UNLESS NOTED OTHERWISE.
- FASTEN STL PLATE TO STRUCTURE W/ #12 TEK SCREWS @ 12" O.C. ALL ALONG ALL SUPPORTS.
- REFER TO OTHER SHEETS FOR TYPICAL DETAILS WHICH MAY HAVE NOT BEEN REFERENCED FROM THIS SHEET OR OTHER SHEETS BUT YET STILL APPLY TO TYPICAL CONDITIONS.
- WELDS SHALL CONFORM TO AWS D1.1, E-70XX SERIES ELECTRODES, UNLESS NOTED. WELDING SHALL ONLY BE DONE BY CERTIFIED WELDERS.
- UNLESS OTHERWISE GIVEN OR REQUIRED, ALL WELDS SHALL BE 1/4" FILLET TYPE.

**PAINTING:**

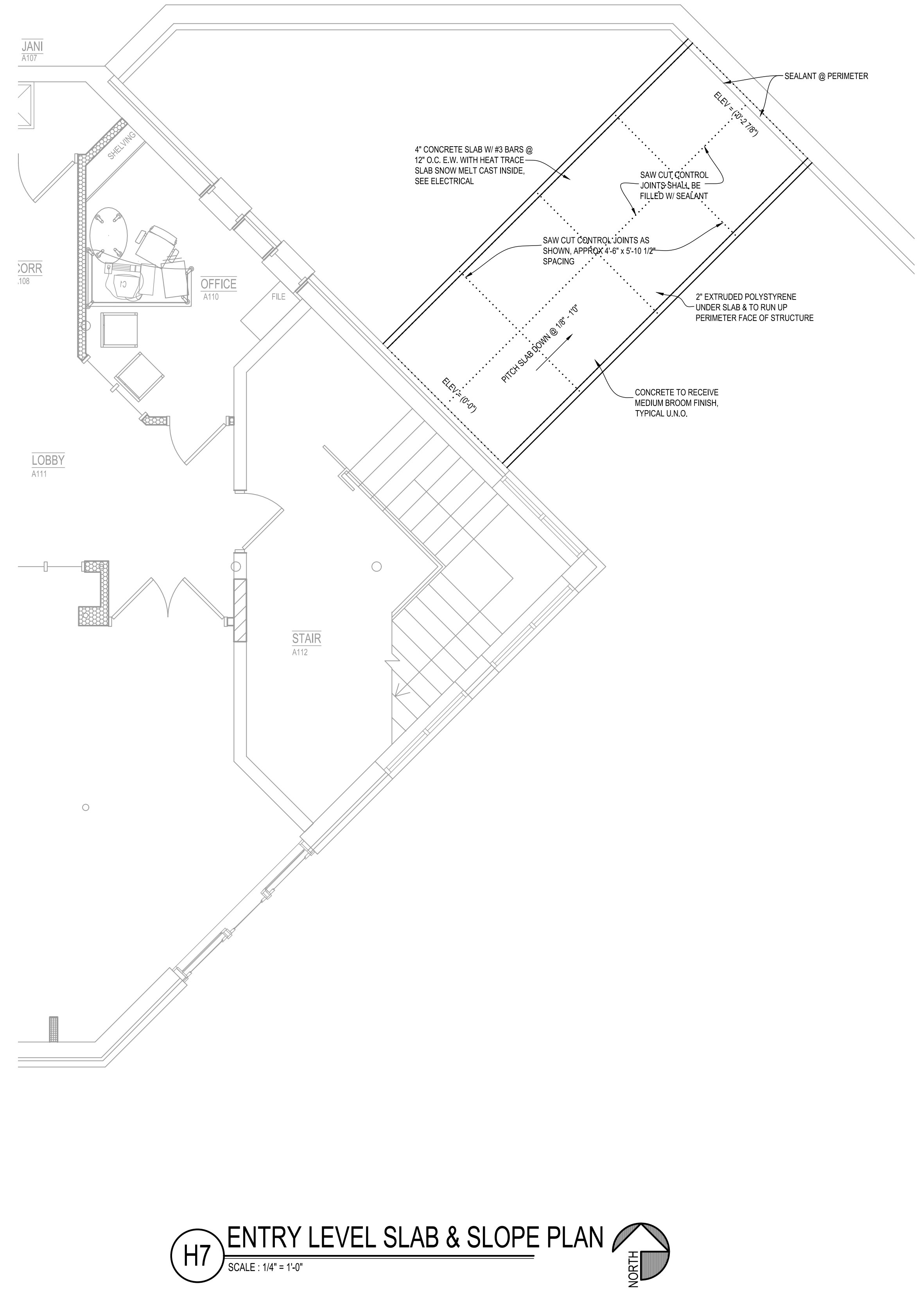
- COMPATIBILITY: PROVIDE FINISH COATS THAT ARE COMPATIBLE WITH SHOP PRIMERS AND EXISTING PAINTS. PROVIDE BARRIER COATS OVER INCOMPATIBLE PRIMERS AND PAINTS OR REMOVE AND REPRIME AS REQUIRED.
- PRIMERS AND UNDERCOAT PAINTS: SHALL BE PRODUCED BY SAME MANUFACTURER AS FINISH COATS.
- VOC: COMPLY WITH FEDERAL AND STATE REGULATIONS REGARDING VOLATILE ORGANIC COMPOUND (VOC) LEVELS.
- MANUFACTURER'S INSTRUCTIONS: COMPLY WITH MANUFACTURER'S PRINTED INSTRUCTIONS AND RECOMMENDATIONS.
- FIRE PRECAUTIONS: REMOVE OILY RAGS, WASTE, ETC., FROM BUILDING AT END OF EACH DAY'S WORK AND TAKE EVERY PRECAUTION TO AVOID DANGER OF FIRE. KEEP OILY RAGS, ETC. SUSCEPTIBLE TO SPONTANEOUS IGNITION, IN WATER FILLED METAL CANS WITH TIGHT LIDS OR IN FMRC-APPROVED CONTAINERS.
- PROTECTION: PROTECT SURROUNDING CONSTRUCTION, FROM DAMAGE AND SOILING DUE TO THE WORK OF THIS CONTRACT. LIMIT WORK, TRAFFIC AND MATERIAL STORAGE TO AREAS THAT HAVE BEEN PROTECTED.
- SURFACE PREPARATION OF NEW GALVANIZED STEEL: COMPLY WITH PAINT MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
  - REMOVE GREASE AND OIL RESIDUE FROM GALVANIZED SHEET METAL BY MECHANICAL METHODS TO PRODUCE CLEAN, LIGHTLY ETCHED SURFACES THAT PROMOTE ADHESION OF SUBSEQUENTLY APPLIED PAINTS.
- APPLICATION: COMPLY WITH PAINT MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
  - APPLY BY ROLLER OR BRUSH. DO NOT SPRAY.
  - TINT THE UNDERCOATS TO A SHADE SLIGHTLY LIGHTER THAN THAT OF SUCCEEDING COAT.
  - APPLY MATERIAL AT NOT LESS THAN THE MANUFACTURER'S RECOMMENDED SPREADING RATE, ESTABLISHING A TOTAL DRY FILM THICKNESS FOR EACH COAT AS RECOMMENDED BY COATING MANUFACTURER. GIVE SPECIAL ATTENTION TO ENSURE THAT ALL SURFACES, INCLUDING EDGES, CORNERS, CREVICES, WELDS, AND EXPOSED FASTENERS, RECEIVE A DRY FILM THICKNESS EQUIVALENT TO THAT ON FLAT SURFACES.
  - EACH COAT SHALL BE THOROUGHLY DRY BEFORE APPLYING SUCCEEDING COAT. DOUBLING-BACK TO ESTABLISH ADDITIONAL COATS SHALL NOT BE ALLOWED. COMPLY WITH MANUFACTURER'S RECOMMENDED CURING TIMES, RECOAT WINDOWS AND DRYING TIMES.
- ENGINEER'S INSPECTION: ALL WORK WHERE A COAT OF MATERIAL HAS BEEN APPLIED MUST BE INSPECTED AND APPROVED BY ENGINEER BEFORE APPLICATION OF SUCCEEDING SPECIFIED COAT; OTHERWISE NO CREDIT FOR THE COAT APPLIED WILL BE GIVEN AND THE WORK IN QUESTION SHALL BE RECOATED.
- CLEANING: AFTER COMPLETION OF PAINTING OPERATIONS, REMOVE THE TEMPORARY PROTECTIVE WRAPPINGS AND COVERINGS. REMOVE ALL PAINT DRIPS AND SPLATTERS FROM SURROUNDING SURFACES TO REMAIN. REMOVE ALL DEBRIS CAUSED BY WORK OF THIS CONTRACT AND LEGALLY DISPOSE OF.
- PAINTING SCHEDULE: PROVIDE THE FOLLOWING PAINT SYSTEM FOR BOTH THE EXISTING STEEL TO BE REPAINTED AND FOR THE NEW GALVANIZED STEEL.
  - PRIMER: 1 COAT OF TNEMC CHEMBUILD SERIES 135 IN DFT FOR CONVENTIONAL BUILD.
  - TOPCOATS: 2 COATS OF TNEMC CRU SERIES 290.
- POLYURETHANE BASE, SINGLE COMPONENT OR MULTI-COMPONENT, CHEMICAL CURING, SHORE A HARDNESS BETWEEN 15 AND 50, NON-STAINING, NON-BLEEDING, ONE OF THE FOLLOWING:
  - SONNEBORN 'SONOLASTIC NP1' OR 'SONOLASTIC NP2'
  - SIKA CHEMICAL CO. 'SIKAFLEX 1A'
  - PECORA 'DYNATROL II'
  - TREMCO 'DYMERIC 511'
  - TREMCO 'VULKEM 116' OR '227'

**GENERAL MASONRY NOTES**

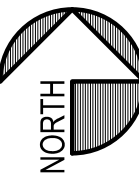
- CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES', ISSUED BY THE AMERICAN CONCRETE INSTITUTE/AMERICAN SOCIETY OF CIVIL ENGINEERS/THE MASONRY SOCIETY (ACI-530/ASCE 5/TMS 402), THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602) AND ALL APPLICABLE CODES AND REGULATIONS.
- GIVEN DESIGN DATA ASSUMES THE EXISTENCE OF ADEQUATE FIELD TESTING AND SUPERVISION OF CONSTRUCTION, FULFILLING THE 'WITH INSPECTION' CRITERIA OF THE CODE.
- MASONRY MATERIALS SHALL CONFORM TO THE LATEST EDITIONS OF THE SPECIFICATIONS:
  - MORTAR AND GROUT: MORTAR-ASTM C270 PORTLAND CEMENT-LIME, TYPE 'N'; GROUT-ASTM C 476.
    - PORTLAND CEMENT: ASTM C 150, TYPE I OR TYPE II
    - HYDRATED LIME: ASTM C 207, TYPE S
    - AGGREGATE FOR MORTAR: ASTM C 144
    - AGGREGATE FOR GROUT: ASTM C 404
- MORTAR SHALL BE TESTED BY AN APPROVED TESTING LABORATORY AS NOTED UNDER SPECIAL INSPECTIONS ON TITLE SHEET.
- AIR ENTRAINMENT, CALCIUM CHLORIDE AND/OR ADMIXTURES CONTAINING SAME SHALL NOT BE INCLUDED IN MORTAR OR GROUT.
- NO EXTERIOR MASONRY SHALL BE LAID WHEN OUTSIDE AIR TEMPERATURE IS LESS THAN 40 DEGREES F., UNLESS ADEQUATE PROTECTION IN ACCORDANCE WITH SECTION 1.8.C, 'COLD WEATHER CONSTRUCTION', OF ACI 530.1/ASCE 6/TMS 602, SPECIFICATIONS FOR MASONRY STRUCTURES, IS PROVIDED. FOR HOT WEATHER CONSTRUCTION REQUIREMENTS REFER TO SECTION 1.8.D.
- MASONRY WALLS SHALL BE ADEQUATELY BRACED DURING THEIR ERECTION AND UNTIL THEIR DESIGN SUPPORTS ARE IN PLACE TO WITHSTAND A HORIZONTAL LOAD OF 24 PSF.
- REMOVE EXCESS MORTAR AND MORTAR SMEARS FROM SURFACE OF MASONRY. CLEAN SOILED SURFACES WITH NON-ACIDIC CLEANING SOLUTION WHICH WILL NOT HARM MASONRY OR ADJACENT MATERIALS. USE NON-METALLIC TOOLS IN CLEANING PROCESS.
- PROTECT CONCRETE MASONRY AND CEMENTITIOUS MATERIALS FROM MOISTURE. DO NOT USE CEMENTITIOUS MATERIALS THAT HAVE BECOME DAMP. DO NOT INSTALL CONCRETE MASONRY THAT HAS BECOME WET UNTIL IT HAS DRIED.
- WALL STONE SHALL BE ANAMOSA STONE IN TYPE AS CALLED FOR ON PLANS QUARRIED FROM ANAMOSA, IOWA IN HEIGHTS RANGING FROM 2-1/2" TO 8" AND VARYING LENGTHS. COLOR SHALL BE UNIFORM BLEND TO MATCH EXISTING

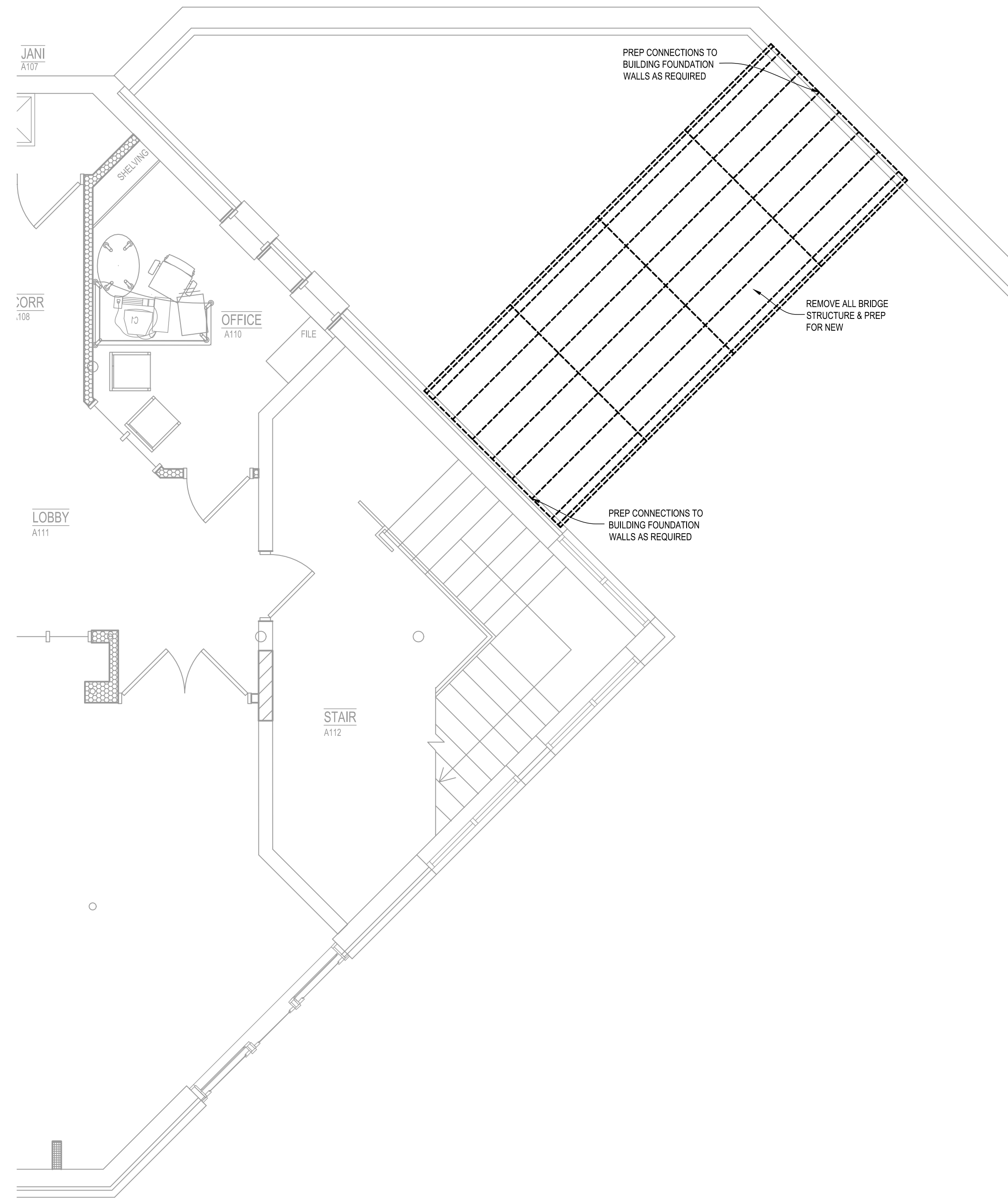
**GENERAL CONCRETE NOTES**

- CONCRETE**
- MATERIAL & WORKMANSHIP SHALL CONFORM TO THE LATEST EDITION OF THE 'BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE', ACI 318.
  - CONCRETE FOR SLABS ON GRADE & SIDEWALKS SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3500 POUNDS PER SQUARE INCH AT 28 DAYS.
  - AIR-ENTRAINING ADMIXTURE SHALL BE USED FOR ALL CONCRETE EXPOSED TO WEATHER.
  - NO CONCRETE SHALL BE Poured IN EXCAVATIONS CONTAINING WATER.
  - VERIFY LOCATIONS OF REQUIRED SLEEVES AND/OR BLOCKOUTS THROUGH FOUNDATION WALL WITH GENERAL CONTRACTOR AND ALL OTHER TRADES PRIOR TO CONSTRUCTION.
  - CONCRETE CONTRACTOR SHALL NOT POUR ANY CONCRETE IN ADVERSE WEATHER CONDITIONS OR WHEN SUCH CONDITIONS ARE FORECASTED FOR FOR THE TIME PERIOD FOLLOWING THE POUR, UNLESS PROPER CURING AND PROTECTION IS PROVIDED CONTINUOUSLY UNTIL CONCRETE DEVELOPS ITS DESIGN STRENGTH.
  - NO ALUMINUM OF ANY TYPE SHALL BE ALLOWED IN THE CONCRETE WORK UNLESS COATED TO PREVENT ALUMINUM-CONCRETE REACTION. THIS INCLUDES PUMPING THRU ALUMINUM PIPE.
  - SEE ARCHITECTURAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL OPENINGS, DEPRESSIONS, CURBS, FLOOR FINISHES, INSERTS AND OTHER EMBEDDED ITEMS. VERIFY SIZES AND LOCATION OF ALL OPENINGS IN CONCRETE PRIOR TO FORMING.
  - ALL SLABS ON GRADE SHALL BE REINFORCED W/ WELDED WIRE MESH (WWM OR WWF) OR FIBER REINFORCEMENT PER FOUNDATION PLAN U.N.O. SEE FOUNDATION PLANS FOR AREA. POURING UNIT IS AT THE DISCRETION OF THE CONTRACTOR. SAW CUT CONTROL JOINTS AS SOON AS POSSIBLE OR WITHIN 12 HOURS MAX. OF PLACING CONCRETE.
  - UNLESS OTHERWISE NOTED, PRINCIPAL REINFORCEMENT SHALL HAVE THE FOLLOWING CONCRETE PROTECTION:
    - SURFACES NOT FORMED.....3 INCH
    - FORMED SURFACES IN CONTACT WITH SOIL OR WATER OR EXPOSED TO WEATHER.....2 INCH
    - SLABS, WALLS, JOISTS.....3/4 INCH
- REINFORCING STEEL**
- BAR BENDING & PLACEMENT DTLS SHALL BE IN ACCORDANCE W/ THE 'ACI DETAILING MANUAL, SP-66', ACI 315, UNLESS OTHERWISE SHOWN OR NOTED.
  - ALL REINFORCING STEEL SHALL BE 'DEFORMED NEW BILLET STEEL BARS', ASTM A615 PLUS ASTM A615 (S1), GRADE 60.
  - WELDED WIRE FABRIC SHALL CONFORM TO ASTM SPECIFICATIONS ASTM A1064, PLAIN BAR.
  - ALL LAPS FOR REBAR, WHEN NOT DIMENSIONED ON DRAWINGS, SHALL BE 52 BAR DIAMETERS. LAPS FOR WELDED WIRE FABRIC SHALL BE 8' FOR 4' CROSS BAR SPACING & 10' FOR 6' CROSS BAR SPACING. AT ALL WALL CORNERS AND WALL INTERSECTIONS PROVIDE BARS TO MATCH ALL HORIZONTAL REINFORCING, OVERLAP 2-0" MINIMUM.
- BRIDGE INSULATION**
- RIGID INSULATION FOR BRIDGE SLAB: CLOSED CELL EXTRUDED POLYSTYRENE FOAM BOARD INSULATION, EACH LAYER 2" THICK, COMPLYING WITH ASTM C 578, TYPE IV, IN MANUFACTURER'S STANDARD SIZES.
    - MINIMUM R VALUE, PER 1" THICKNESS AT 40°F: 5.0.
    - MINIMUM COMPRESSIVE STRENGTH: 60 PSF.
    - MAXIMUM WATER ABSORPTION: 0.15% BY VOLUME.
  - INSULATION INSTALLATION FOR BRIDGE SLAB:
    - APPLY INSULATION IN MULTIPLE COURSES, ALTERNATING AND LAPPING JOINTS AT LEAST 6" BETWEEN COURSES.
    - KEEP JOINTS TIGHT, INCLUDING INTERSECTIONS WITH WALLS.
    - CAREFULLY CUT FOR PENETRATIONS, KEEPING INSULATION TIGHT TO PENETRATING PIPES.

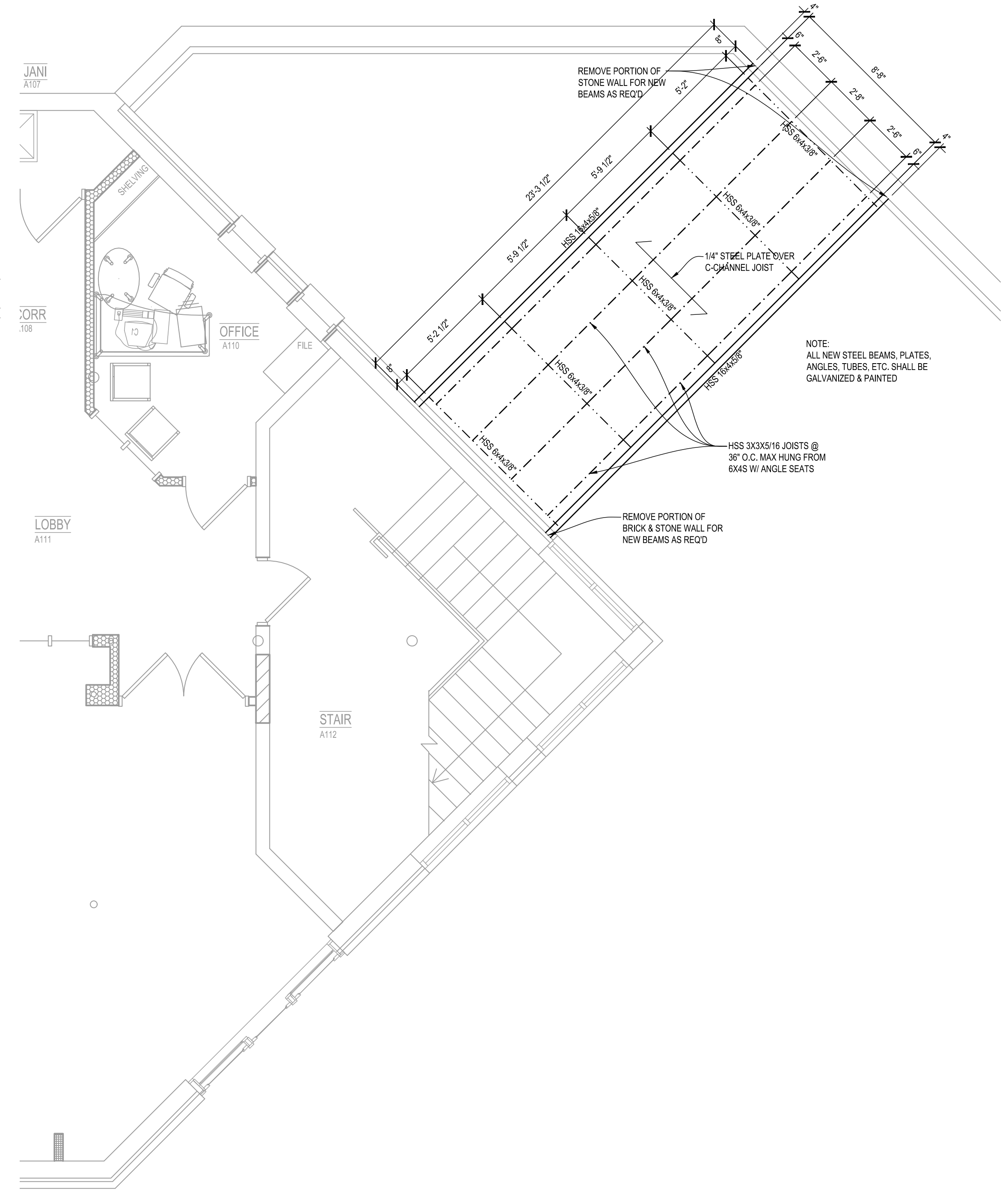


**H7 ENTRY LEVEL SLAB & SLOPE PLAN**  
 SCALE: 1/4" = 1'-0"

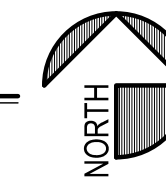


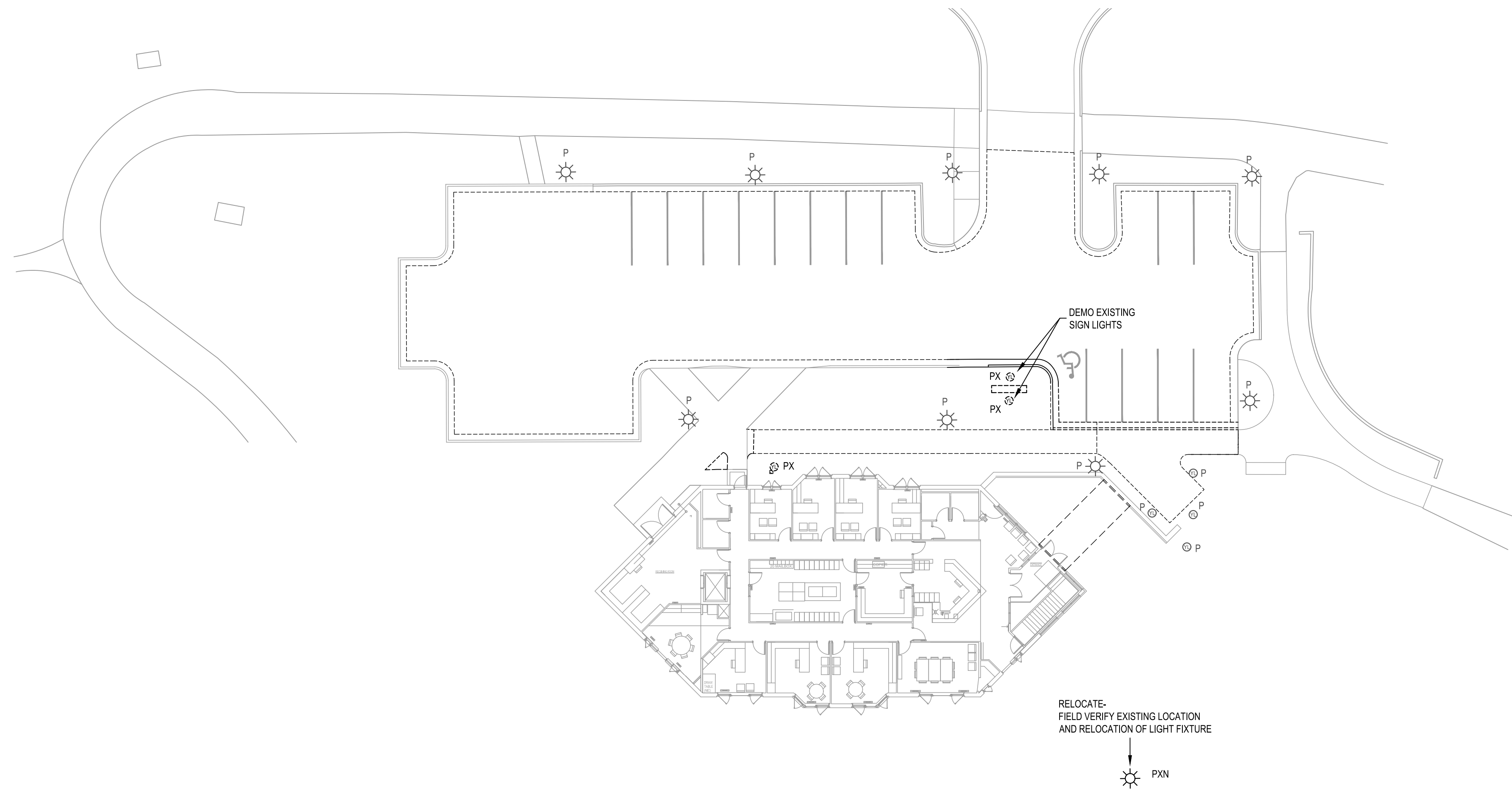


**H3** FRAMING DEMO PLAN  
SCALE: 1/4" = 1'-0"



**H7** FRAMING PLAN  
SCALE: 1/4" = 1'-0"

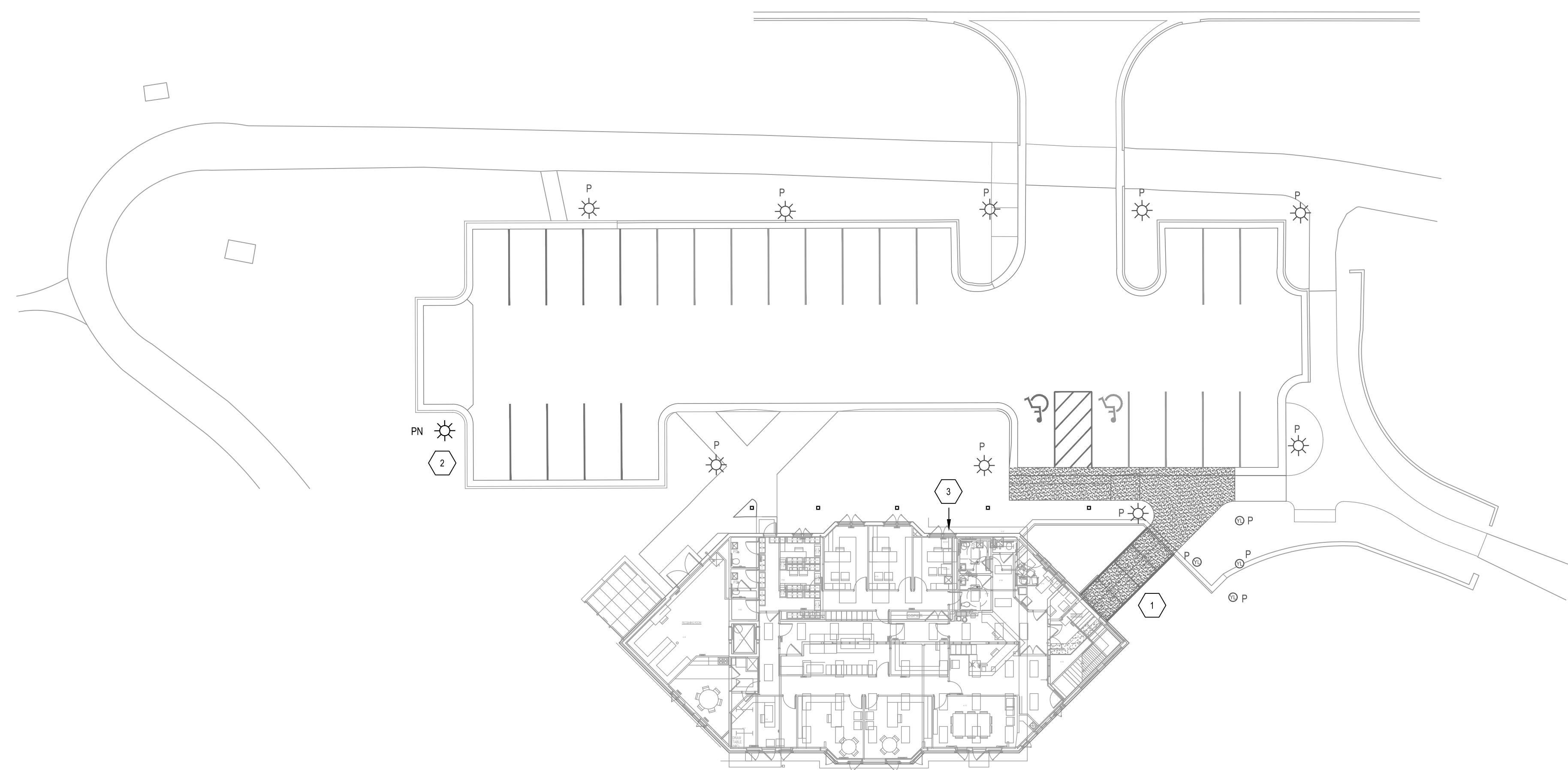




**ABBREVIATIONS**

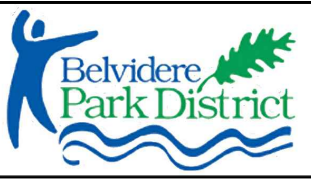
- P- PRESENT TO REMAIN.
- PX- PRESENT TO BE REMOVED.
- PXN- PRESENT TO BE REMOVED, CLEANED, BROUGHT TO OPERATING CONDITIONING AND RELOCATED.
- PN- FINAL LOCATION OF DEVICE ASSOCIATED WITH PXN.
- PX-DO- PRESENT TO BE REMOVED & DELIVERED TO OWNER.
- AC - ABOVE COUNTER LEVEL.
- BC - BELOW COUNTER LEVEL.
- WP - WEATHERPROOF.
- GFI - GROUND FAULT CURRENT INTERRUPTER.
- ASC - ABOVE SUSPENDED CEILING.
- CTC - CLOSE TO CEILING.

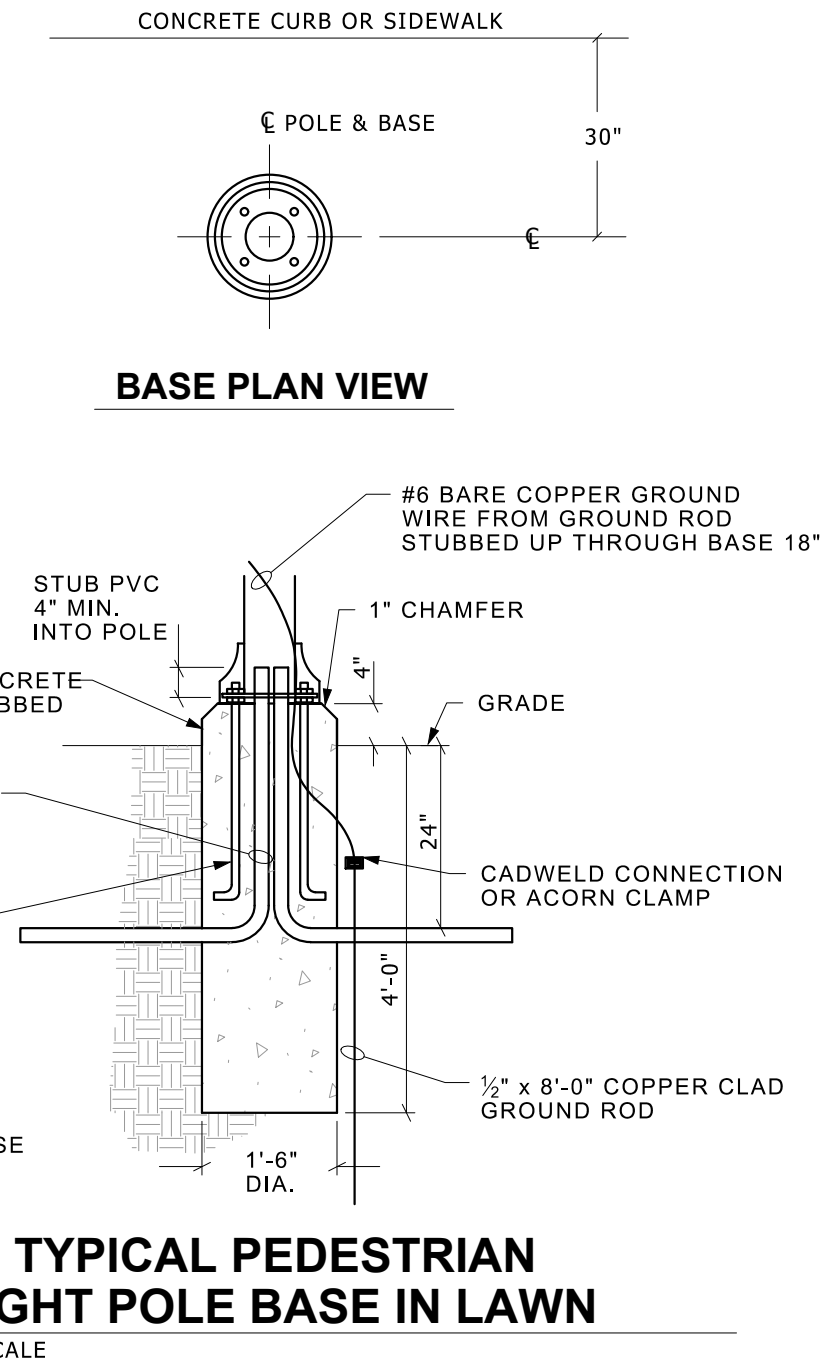
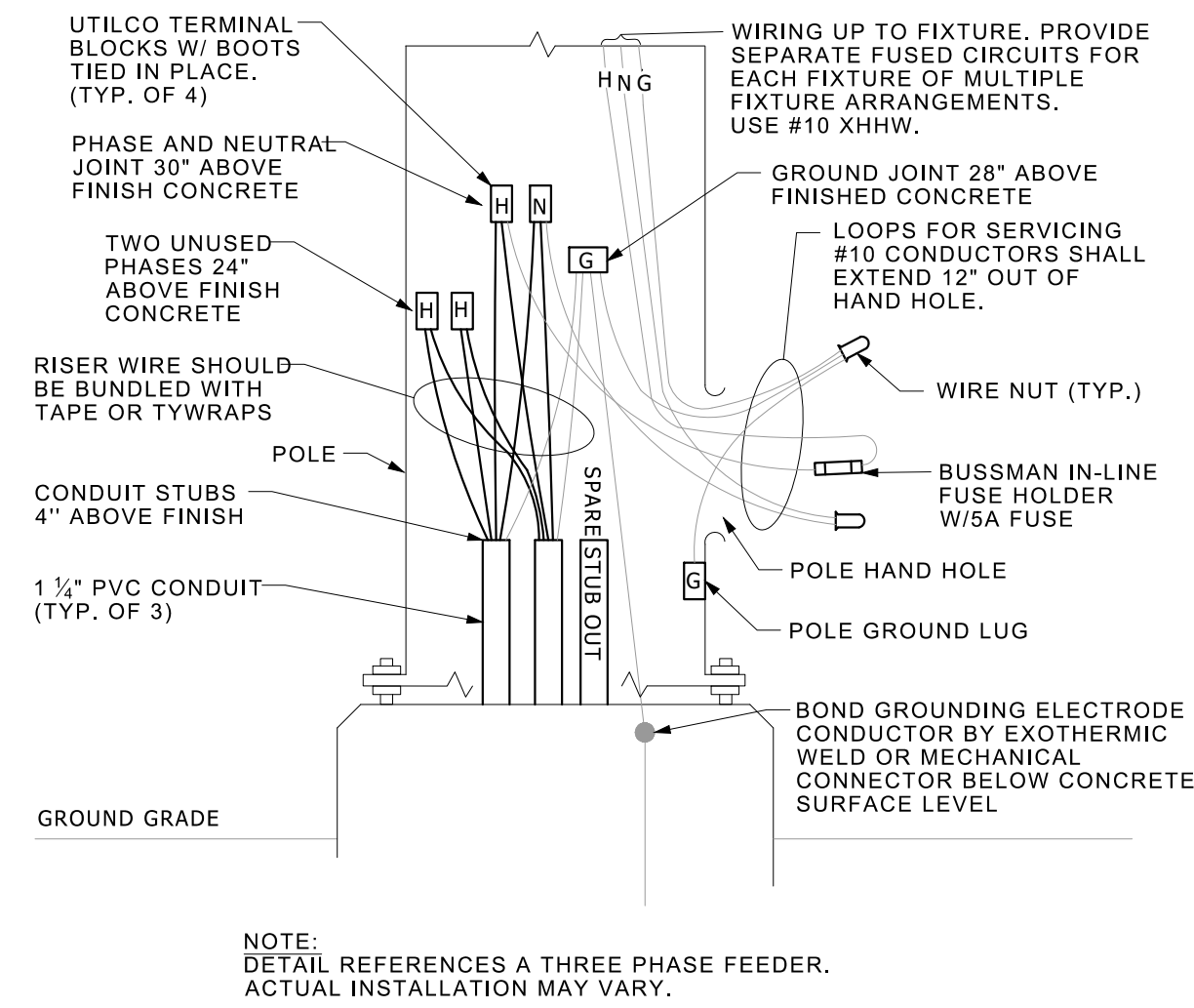
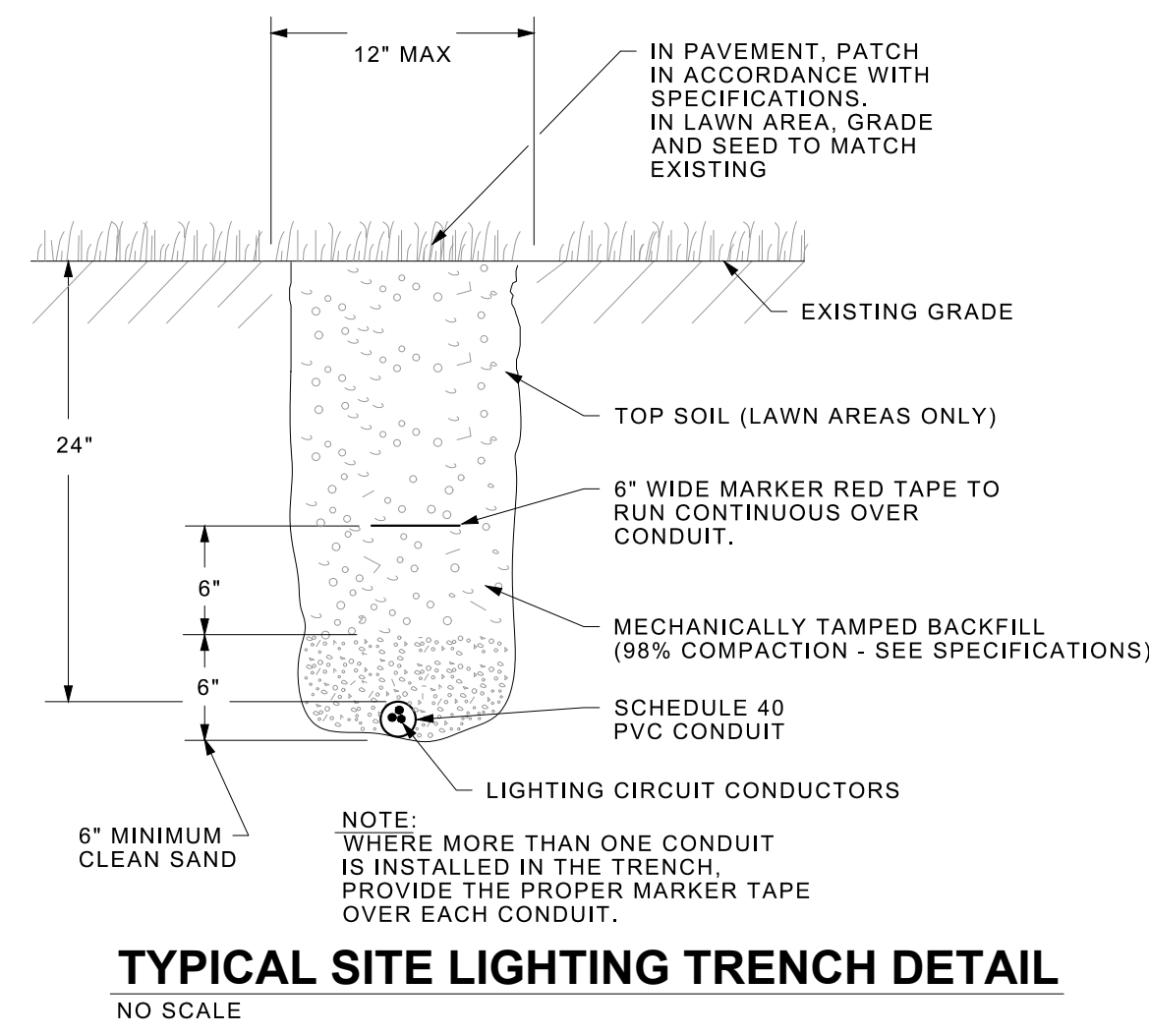
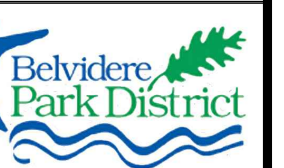
**1 SITE ELECTRICAL DEMO PLAN**  
SCALE: 1" = 20'-0"



- 1 SNOW MELT  
INCLUDE PROVISIONS IN BID TO PROVIDE SNOW MELT FOR THE BRIDGE AND SIDEWALK FOR BID PURPOSES ASSUME THE AREA TO BE PROVIDED WITH (5) CIRCUITS CONSISTING OF SNOW MELT CABLE IN CONDUIT SIMILAR TO RAYCHEM EMX-IR SELF REGULATING HEAT CABLE. DESIGN WATT DENSITY TO BE 34 WATTS PER SQUARE FOOT. PROVIDE WITH ALL NECESSARY HARDWARE FOR INSTALLATION INCLUDING BUT NOT LIMITED TO CABLE CONDUIT, JUNCTION BOXES, POWER CONNECTION KITS AND END SEALS, CRACK EXPANSION JOINTS, EXPANSION JOINTS, CABLE TIES, SNOW MELT CAUTION SIGN, ETC. PROVIDE A SLAB SENSOR, 150 AMP THREE PHASE POWER DISTRIBUTION PANEL WITH GFI BREAKERS FOR EACH CIRCUIT, AUTOMATIC SNOW MELTING CONTROLLER, OVERHEAD SNOW SENSOR. PROVIDE 208 VAC POWER WIRING (3) PHASE WITH NEUTRAL AND GROUND) FROM EXISTING SERVICE WITH A NEW 150 AMP BREAKER. INSTALLATION TO CONFORM TO MANUFACTURER REQUIREMENTS AND LAYOUT GUIDELINES. SEE ARCHITECTURAL FOR LOCATIONS OF JUNCTION BOXES & CONDUIT PATHS, COORDINGATE W/ STRUCTURAL.
- 2 EXISTING LIGHT FIXTURE TO BE RELOCATED - PROVIDE NEW CONCRETE BASE WITH REINFORCING REBAR. TIE IN POWER FROM EXISTING EXTERIOR POLE CIRCUIT AND CONTROL.
- 3 PROVIDE 120 VAC POWER FOR BACKLIT SIGN. PROVIDE CONTROL WITH A PHOTOCELL AND 24 HOUR 7 DAY TIMECLOCK.

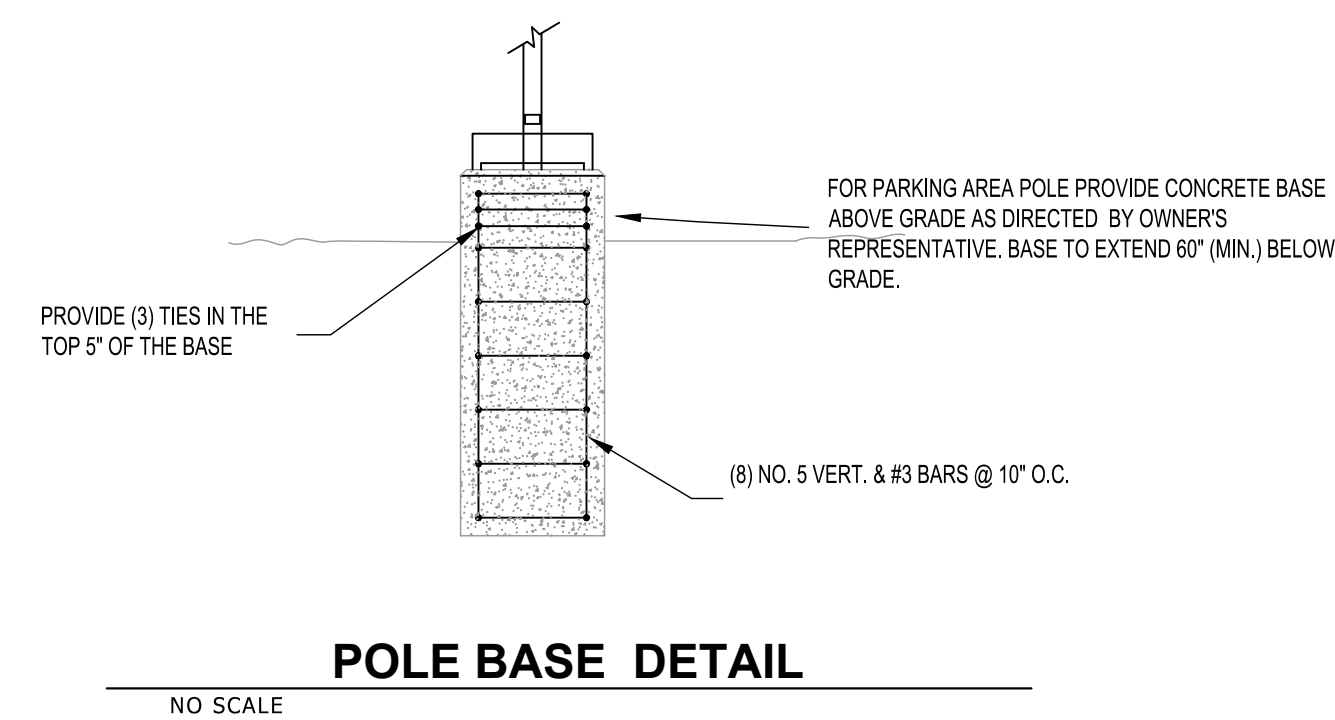
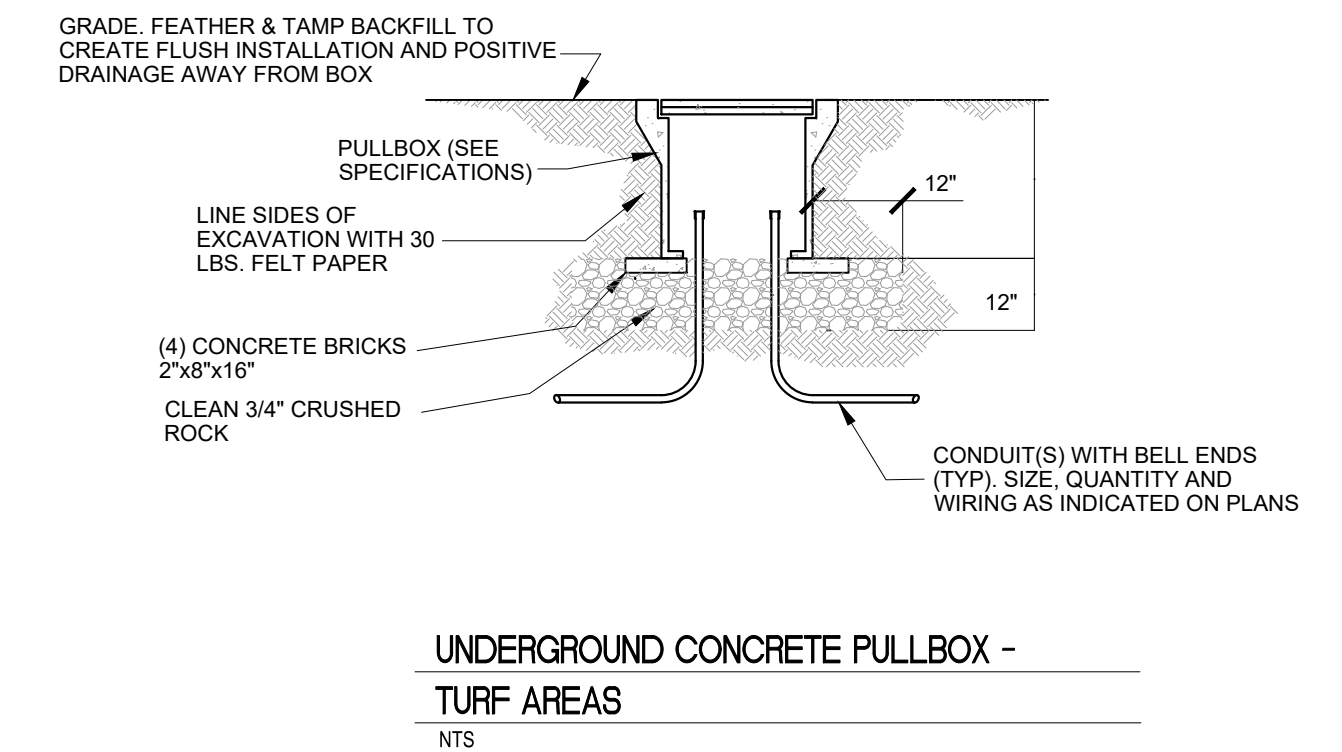
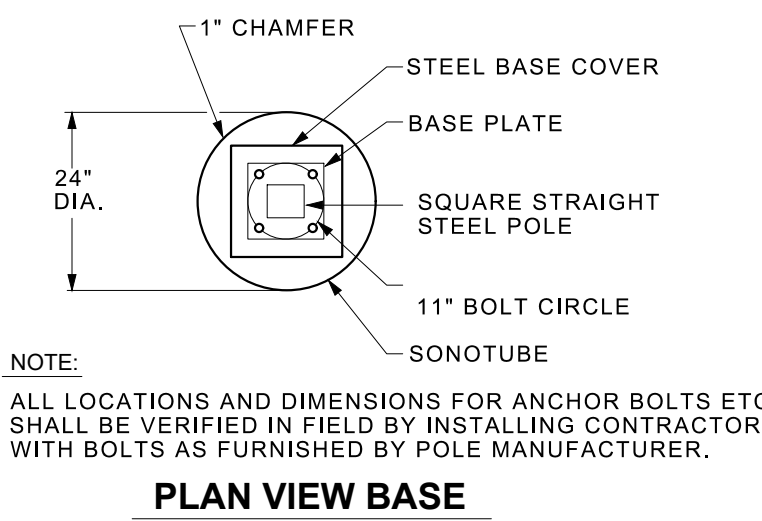
**2 SITE ELECTRICAL PLAN**  
SCALE: 1" = 20'-0"



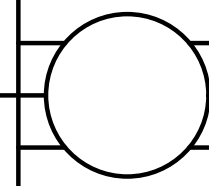
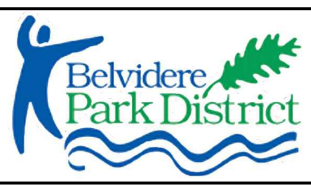


**ABBREVIATIONS**

- P- PRESENT TO REMAIN
- PX- PRESENT TO BE REMOVED
- PXN- PRESENT TO BE REMOVED, CLEANED, BROUGHT TO OPERATING CONDITIONING AND RELOCATED
- PN- FINAL LOCATION OF DEVICE ASSOCIATED WITH PXN
- PX-OC- PRESENT TO BE REMOVED & DELIVERED TO OWNER
- AC - ABOVE COUNTER LEVEL
- BC - BELOW COUNTER LEVEL
- WP - WEATHERPROOF
- GFI - GROUND FAULT CURRENT INTERRUPTER
- ASC - ABOVE SUSPENDED CEILING
- CTC - CLOSE TO CEILING







DIVISION 16 - ELECTRICAL
SECTION 16100 - BASIC ELECTRICAL MATERIALS AND METHODS
1.1 GENERAL
A. The following definitions apply to this Section:
1. EMT: Electrical metallic tubing.
2. FMC: Flexible metal conduit.
3. IMC: Intermediate metal conduit.
4. LFMC: Liquidtight flexible metal conduit.
5. RNC: Rigid nonmetallic conduit.
B. Coordinate chases, slots, inserts, sleeves, and openings with Owner.
1.2 PRODUCTS
A. Pipe Sleeves: ASTM A 53, Type E, Grade A, Schedule 40, galvanized steel, plain ends.
B. Cable Supports for Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug for nonarmored electrical cables in riser conduits. Body constructed of malleable-iron casting with hot-dip galvanized finish.
C. Concrete Forms and Reinforcement Materials:
1. Concrete: 3000-psi (20.7-MPa), 28-day compressive strength.
1.3 EXECUTION
A. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide the maximum possible headroom.
B. Materials and Components: Install level, plumb, and parallel and perpendicular to other building systems and components, unless otherwise indicated.
C. Equipment: Install to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.
D. Right of Way: Give to raceways and piping systems installed at a required slope.
E. Apply freestopping to cable and raceway penetrations of fire-rated floor and wall assemblies to achieve fire-resistance rating of the assembly.
F. Construct concrete bases of dimensions indicated, but not less than 4 inches (103 mm) larger, in both directions, than supported unit. Follow supported equipment manufacturer's anchorage recommendations and setting templates for anchor-bolt and tie locations, unless otherwise indicated. Use 3000-psi (20.7-MPa), 28-day compressive-strength concrete and reinforcement.
G. Protect existing electrical equipment and installations indicated to remain. If damaged or disturbed in the course of the Work, remove damaged portions and install new products of equal capacity, quality, and functionality.
H. Accessible Work: Remove exposed electrical equipment and installations, indicated to be demolished, in their entirety.
I. Abandoned Work: Cut and remove buried raceway and wiring indicated to be abandoned in place, 2 inches (50 mm) below the surface of adjacent construction. Cap raceways and patch surface to match existing finish.
J. Remove deminished material from Project site.
K. Remove, store, clean, reinstall, reconnect, and make operational components indicated for relocation.
L. Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved.
M. Repair and refinish disturbed finish materials and other surfaces to match adjacent undisturbed surfaces. Install new freestopping where existing freestopping has been disturbed. Repair and refinish materials and other surfaces by skilled mechanics of trades involved.
END OF SECTION 16050

DIVISION 16 - ELECTRICAL
SECTION 16060 - GROUNDING AND BONDING
PART 1 - GENERAL
1.1 SUMMARY
A. This Section includes methods and materials for grounding systems and equipment.
1.2 SUBMITTALS
A. Product Data: For each type of product indicated.
1.3 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
B. Comply with UL 467 for grounding and bonding materials and equipment.
PART 2 - PRODUCTS
2.1 CONDUCTORS
A. Insulated Conductors: Copper or tinned-copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
B. Bare Copper Conductors:
1. Solid Conductors: ASTM B 3.
2. Stranded Conductors: ASTM B 8.
3. Tinned Conductors: ASTM B 33.
4. Bonding Cable: 28 kmil, 14 strands of No. 17 AWG conductor, 1/4 inch (6 mm) in diameter.
5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
6. Bonding Jumper: Copper tape, braided conductors, terminated with copper females, 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.
7. Tinned Bonding Jumper: Tinned-copper tape, braided conductors, terminated with copper females, 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.
2.2 CONNECTORS
A. Listed and labeled by a nationally recognized testing laboratory acceptable to authorities having jurisdiction for applications in which used, and for specific types, sizes, and combinations of conductors and other items connected.
B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, bolted pressure-type, with at least two bolts.
1. Pipe Connectors: Clamp type, sized for pipe.
C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
2.3 GROUNDING ELECTRODES
A. Ground Rods: Copper-clad steel 5/8 in diameter by 96 inches.
PART 3 - EXECUTION
3.1 APPLICATIONS
A. Conductors: Install solid conductor for No.8 AWG and smaller, and stranded conductors for No. 6 AWG and larger, unless otherwise indicated.
B. Isolated Grounding Conductors: Green-colored insulation with continuous yellow stripe. On feeders with isolated ground, identify grounding conductor where visible to normal inspection, with alternating bands of green and yellow tape, with at least three bands of green and two bands of yellow.
C. Conductor Terminations and Connectors:
1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
2. Underground Connections: Welded connectors, except as otherwise indicated.
3. Connections to Structural Steel: Welded connectors.

EQUIPMENT GROUNDING
A. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
4. Feeders and branch circuits.
INSTALLATION
A. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
B. Ground Rods: Drive rods until tops are 2 inches (50 mm) below finished floor or final grade, unless otherwise indicated.
1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating, if any.
C. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance, except where routed through short lengths of conduit.
1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install so vibration is not transmitted to rigidly mounted equipment.
3. Use exothermic-welded connectors for outdoor locations, but if a disconnect-type connection is required, use a bolted clamp.
END OF SECTION 16060

DIVISION 16 - ELECTRICAL
SECTION 16075 - ELECTRICAL IDENTIFICATION
PART 1 - GENERAL
1.1 SUMMARY
A. Section Includes:
1. Identification of power and control cables.
2. Identification for conductors.
3. Underground-line warning tape.
4. Instruction signs.
5. Equipment identification labels.
6. Miscellaneous identification products.
1.2 SUBMITTALS
B. Product Data: For each electrical identification product indicated.
1.3 QUALITY ASSURANCE
A. Comply with ANSI A13.1.
B. Comply with NFPA 70.
C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
D. Comply with ANSI Z35.4 for safety signs and labels.
E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.
PART 2 - PRODUCTS
2.1 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS
A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
B. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
C. Write-On Tags: Polyester tag, 0.010 inch thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
5. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
6. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.
D. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
E. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches (50 mm) long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
2.2 CONDUCTOR IDENTIFICATION MATERIALS
A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.
B. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
C. Marker Tapes: Vinyl or vinyl-cooth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
2.3 UNDERGROUND-LINE WARNING TAPE
A. Tape:
1. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical utility lines.
2. Printing on tape shall be permanent and shall not be damaged by burial operations.
3. Tape material and ink shall be chemically inert, and not subject to degrading when exposed to acids, alkalis, and other destructive substances commonly found in soils.
B. Color and Printing:
1. Comply with ANSI Z35.1 through ANSI Z35.5.
2. Inscriptions for Red-Colored Tapes: ELECTRIC LINE, HIGH VOLTAGE.
2.4 INSTRUCTION SIGNS
A. Engraved, laminated acrylic or melamine plastic, minimum 1/16 inch (1.6 mm) thick for signs up to 20 sq. inches (129 sq. cm) and 1/8 inch (3.2 mm) thick for larger sizes.
1. Engraved legend with black letters on white face.
2. Punched or drilled for mechanical fasteners.
3. Framed with milled acrylic molding and arranged for attachment at applicable equipment.
B. Adhesive Film Label: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm).

DIVISION 16 - ELECTRICAL
SECTION 16120 - CONDUCTORS AND CABLES
PART 1 - GENERAL
1.1 SUMMARY
A. This Section includes the following:
1. Building wires and cables rated 600 V and less.
2. Connectors, splices, and terminations rated 600 V and less.
3. Sleeves and sleeve seals for cables.
1.2 SUBMITTALS
A. Product Data: For each type of product indicated.
B. Field quality-control test reports.
1.3 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
B. Comply with NFPA 70.
PART 2 - PRODUCTS
2.1 CONDUCTORS AND CABLES
A. Conductors are stranded, compressed 1350-H19, H16, or H26 aluminum, insulated with vulcanized interlinked polyethylene (VPI), Southwire's cross-linked polyethylene. Nutsails are triple yellow extruded stripe. Cables with "YES" neutrals have sequential footage markers. Conductors are durably surface printed for identification. Two phase conductors and one neutral conductor are cabled together to produce the triplex cable configuration. Conductors are also available parallelled.
2.2 CONNECTORS AND SPLICES
C. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. AFC Cable Systems, Inc.
2. Hubbell Power Systems, Inc.
3. O-Z/Gedney; EGS Electrical Group LLC.
4. JM; Electrical Products Division.
5. Tyco Electronics Corp.
6. Ideal Industries
C. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.
2.3 SLEEVES FOR CABLES
A. Steel Pipe Sleeves: ASTM A 53A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
C. Coordinate sleeve selection and application with selection and application of freestopping.
2.4 SLEEVE SEALS
D. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Advance Products & Systems, Inc.
2. Calpic, Inc.
3. Metalflex Co.
4. Pipeline Seal and Insulator, Inc.
B. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and cable.
1. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
2. Pressure Plates: Carbon steel. Include two for each sealing element.
3. Connecting Bolts and Nuts: Carbon steel with corrosion-resistant coating of length required to secure pressure plates to sealing elements. Include one for each sealing element.
PART 3 - EXECUTION
3.1 CONDUCTOR MATERIAL APPLICATIONS
A. Feeders: As indicated on the feeder schedule.
B. Branch Circuits: Copper, Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS
C. Feeders and Branch Circuits: Type THHN-THWN, single conductors in raceway.
3.3 INSTALLATION OF CONDUCTORS AND CABLES
A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
C. Use pulling means, including fish tape, cable rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
D. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
E. Support cables according to Division 16 Section "Electrical Supports."
F. Identify and color-code conductors and cables according to Division 16 Section "Electrical Identification."
G. Tighten electrical connectors and terminals according to manufacturer's published torque-lightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A.
H. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unsplined conductors.
3.4 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS
A. Coordinate sleeve selection and application with selection and application of freestopping.

DIVISION 16 - ELECTRICAL
SECTION 16120 - CONDUCTORS AND CABLES
PART 1 - GENERAL
1.1 SUMMARY
A. This Section includes the following:
1. Building wires and cables rated 600 V and less.
2. Connectors, splices, and terminations rated 600 V and less.
3. Sleeves and sleeve seals for cables.
1.2 SUBMITTALS
A. Product Data: For each type of product indicated.
B. Field quality-control test reports.
1.3 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
B. Comply with NFPA 70.
PART 2 - PRODUCTS
2.1 CONDUCTORS AND CABLES
A. Conductors are stranded, compressed 1350-H19, H16, or H26 aluminum, insulated with vulcanized interlinked polyethylene (VPI), Southwire's cross-linked polyethylene. Nutsails are triple yellow extruded stripe. Cables with "YES" neutrals have sequential footage markers. Conductors are durably surface printed for identification. Two phase conductors and one neutral conductor are cabled together to produce the triplex cable configuration. Conductors are also available parallelled.
2.2 CONNECTORS AND SPLICES
C. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. AFC Cable Systems, Inc.
2. Hubbell Power Systems, Inc.
3. O-Z/Gedney; EGS Electrical Group LLC.
4. JM; Electrical Products Division.
5. Tyco Electronics Corp.
6. Ideal Industries
C. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.
2.3 SLEEVES FOR CABLES
A. Steel Pipe Sleeves: ASTM A 53A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
C. Coordinate sleeve selection and application with selection and application of freestopping.
2.4 SLEEVE SEALS
D. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Advance Products & Systems, Inc.
2. Calpic, Inc.
3. Metalflex Co.
4. Pipeline Seal and Insulator, Inc.
B. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and cable.
1. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
2. Pressure Plates: Carbon steel. Include two for each sealing element.
3. Connecting Bolts and Nuts: Carbon steel with corrosion-resistant coating of length required to secure pressure plates to sealing elements. Include one for each sealing element.
PART 3 - EXECUTION
3.1 CONDUCTOR MATERIAL APPLICATIONS
A. Feeders: As indicated on the feeder schedule.
B. Branch Circuits: Copper, Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS
C. Feeders and Branch Circuits: Type THHN-THWN, single conductors in raceway.
3.3 INSTALLATION OF CONDUCTORS AND CABLES
A. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
C. Use pulling means, including fish tape, cable rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
D. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
E. Support cables according to Division 16 Section "Electrical Supports."
F. Identify and color-code conductors and cables according to Division 16 Section "Electrical Identification."
G. Tighten electrical connectors and terminals according to manufacturer's published torque-lightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A.
H. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unsplined conductors.
3.4 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS
A. Coordinate sleeve selection and application with selection and application of freestopping.

DIVISION 16 - ELECTRICAL
SECTION 16075 - ELECTRICAL IDENTIFICATION
PART 1 - GENERAL
1.1 SUMMARY
A. Section Includes:
1. Identification of power and control cables.
2. Identification for conductors.
3. Underground-line warning tape.
4. Instruction signs.
5. Equipment identification labels.
6. Miscellaneous identification products.
1.2 SUBMITTALS
B. Product Data: For each electrical identification product indicated.
1.3 QUALITY ASSURANCE
A. Comply with ANSI A13.1.
B. Comply with NFPA 70.
C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
D. Comply with ANSI Z35.4 for safety signs and labels.
E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.
PART 2 - PRODUCTS
2.1 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS
A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
B. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
C. Write-On Tags: Polyester tag, 0.010 inch thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
5. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.
6. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.
D. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
E. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches (50 mm) long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
2.2 CONDUCTOR IDENTIFICATION MATERIALS
A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.
B. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
C. Marker Tapes: Vinyl or vinyl-cooth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
2.3 UNDERGROUND-LINE WARNING TAPE
A. Tape:
1. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical utility lines.
2. Printing on tape shall be permanent and shall not be damaged by burial operations.
3. Tape material and ink shall be chemically inert, and not subject to degrading when exposed to acids, alkalis, and other destructive substances commonly found in soils.
B. Color and Printing:
1. Comply with ANSI Z35.1 through ANSI Z35.5.
2. Inscriptions for Red-Colored Tapes: ELECTRIC LINE, HIGH VOLTAGE.
2.4 INSTRUCTION SIGNS
A. Engraved, laminated acrylic or melamine plastic, minimum 1/16 inch (1.6 mm) thick for signs up to 20 sq. inches (129 sq. cm) and 1/8 inch (3.2 mm) thick for larger sizes.
1. Engraved legend with black letters on white face.
2. Punched or drilled for mechanical fasteners.
3. Framed with milled acrylic molding and arranged for attachment at applicable equipment.
B. Adhesive Film Label: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm).

