

BISHOP INTERNATIONAL AIRPORT

FLINT, MICHIGAN

TERMINAL ROOF REPLACEMENT PROJECT

BISHOP INTERNATIONAL AIRPORT

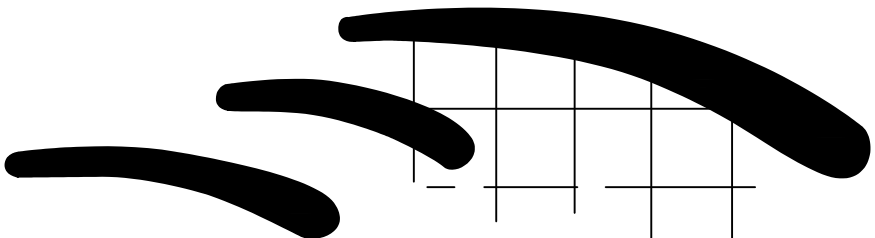
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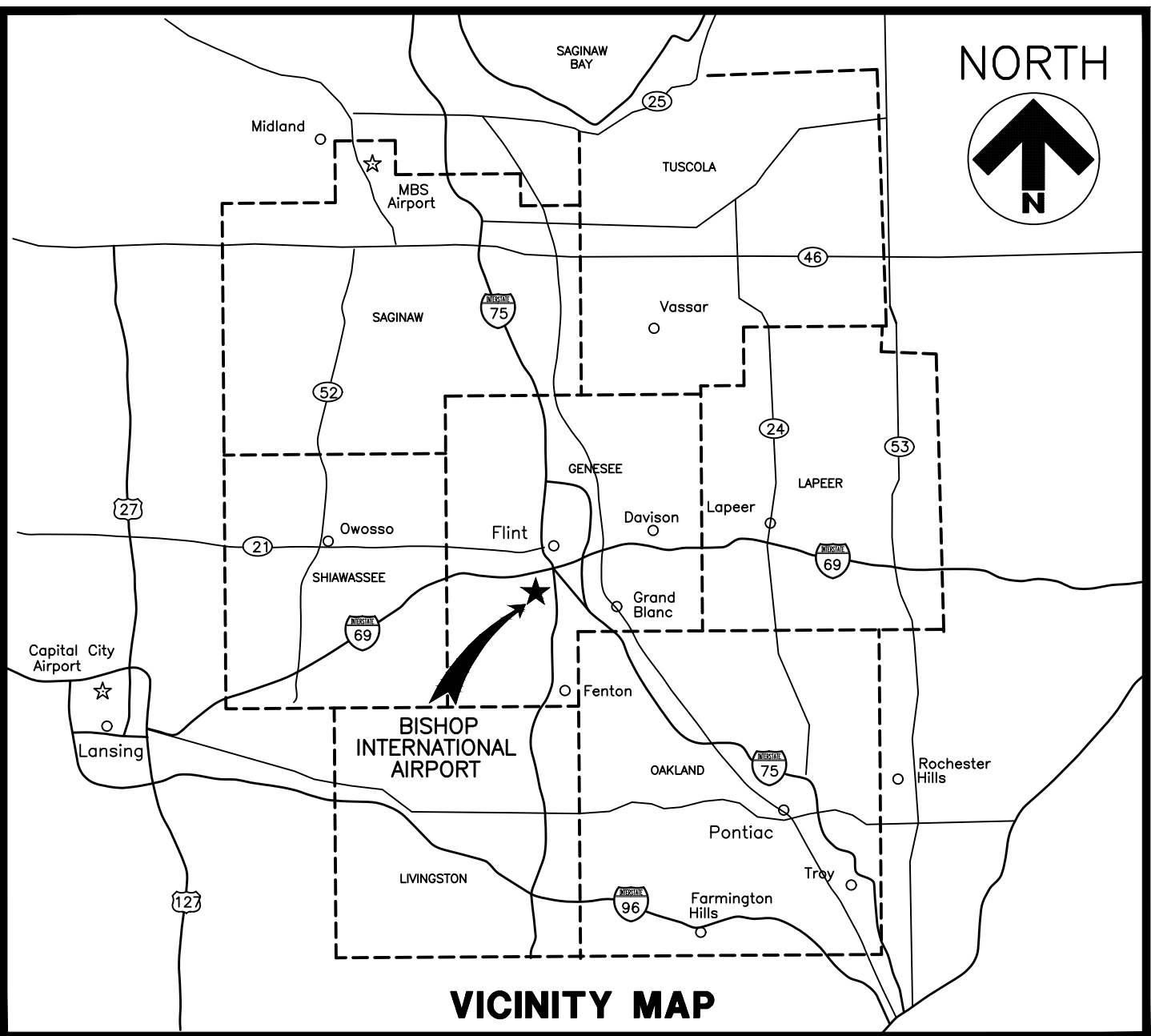
RS&H PROJECT NUMBER: 2100077.000



Bishop International Airport Authority

DEVELOPER

BISHOP INTERNATIONAL AIRPORT AUTHORITY
G-3425 WEST BRISTOL ROAD
FLINT, MICHIGAN 48507-3183
810-235-6560



VICINITY MAP

INDEX OF DRAWINGS

| | |
|---------------------|--|
| C01 | COVER SHEET |
| <u>GENERAL</u> | |
| G001 | GENERAL NOTES, ABBREVIATIONS AND SYMBOLS |
| G002 | PROJECT STAGING, SAFETY AND SECURITY |
| G003 | PHASING AND GENERAL INFORMATION |
| <u>STRUCTURAL</u> | |
| S001 | GENERAL STRUCTURAL NOTES – 1 |
| S001 | GENERAL STRUCTURAL NOTES – 2 |
| <u>ARCHITECTURE</u> | |
| G100 | SITE CONDITION PHOTOS |
| G101 | SITE CONDITION PHOTOS |
| D130 | OVERALL ROOF DEMO PLAN |
| A130 | OVERALL ROOF PLAN |
| A130A | PARTIAL ROOF PLAN – AREA A |
| A130B | PARTIAL ROOF PLAN – AREA B |
| A130C | PARTIAL ROOF PLAN – AREA C |
| A130D | PARTIAL ROOF PLAN – AREA D |
| A320 | BUILDING SECTION |
| A501A | ROOF DETAILS – DEMO |
| A501B | ROOF DETAILS – DEMO |
| A502A | ROOF DETAILS – NEW |
| A502B | ROOF DETAILS – NEW |
| A503 | ROOF DETAILS |
| A504 | ROOF DETAILS |
| A505 | ROOF DETAILS |
| A506 | ENLARGED PLAN AND ROOF DETAILS |
| <u>MECHANICAL</u> | |
| MP001 | MECHANICAL AND PLUMBING ABBREVIATIONS, GENERAL NOTES AND SYMBOLS |
| M130A | MECHANICAL PARTIAL PLAN – AREA A |
| M130B | MECHANICAL PARTIAL PLAN – AREA B |
| M130C | MECHANICAL PARTIAL PLAN – AREA C |
| M130D | MECHANICAL PARTIAL PLAN – AREA D |
| <u>ELECTRICAL</u> | |
| E001 | ELECTRICAL LEGEND AND GENERAL NOTES |
| E130 | ELECTRICAL OVERALL ROOF PLAN |
| E130A | ELECTRICAL PARTIAL PLAN – AREA A |
| E130B | ELECTRICAL PARTIAL PLAN – AREA B |
| E130C | ELECTRICAL PARTIAL PLAN – AREA C |
| E130D | ELECTRICAL PARTIAL PLAN – AREA D |
| E501 | ELECTRICAL GROUNDING DETAILS |

BID DOCUMENTS

CONSTRUCTION SCHEDULE

ESTIMATED START DATE: TBD
ESTIMATED COMPLETION DATE: OCTOBER 31, 2023


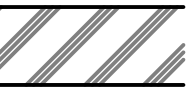


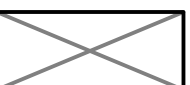


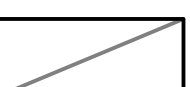
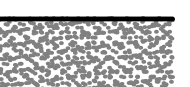


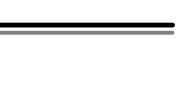
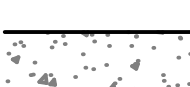





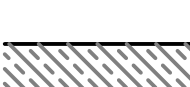
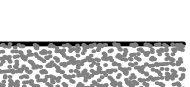
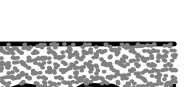








RS&H

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NOVEMBER 14, 2022

THIS DOCUMENT SHOULD BE PRINTED IN COLOR
IMPORANT DESIGN INFORMATION MAY NOT BE CORRECTLY
INTERPRETED NOR EASILY DECIPHERED IF PRINTED IN
GRAYSCALE.

| ABBREVIATIONS LEGEND | | | |
|---|---|---|--|
| ABBREVIATIONS WHEN USED IN COMPOSITION MAY INCLUDE PERIODS FOR CLARIFICATION | | | |
| AB ANCHOR BOLT ACOUS ACOUSTICAL ACT ACOUSTICAL CEILING TILE AD AREA DRAIN ADH ADHESIVE ADJ ADJUSTABLE AFF ABOVE FINISHED FLOOR AGG AGGREGATE A/C AIR CONDITIONING ALUM ALUMINUM ALT ALTERNATE ANOD ANODIZED ANCH ANCHOR ANNING ANNUNCIATOR AP ACCESS PANEL APPROX APPROXIMATE ARCH ARCHITECTURAL ASPH ASPHALT ASST ASSISTANT AUTO AUTOMATIC B/ BOTTOM OF BB BASEBOARD BD BOARD BITUM BITUMINOUS BLDG BUILDING BLK BLOCK BLKG BLOCKING BM BEAM BNK BENCH MARK BOT BOTTOM BR BRICK BRG BEARING BSMT BASEMENT B.T.B. BACK TO BACK B.U.R. BUILT-UP ROOFING CAB CABINET CB CATCH BASIN C.BD. CHALK BOARD CEM CEMENT CEMPLACEMENT PLASTER CG CORNER GUARD CIRC CIRCULATION CK CORK CK. BD. CORK BOARD CL CENTER LINE CLR CLEAR CLG CEILING CLO CLOSET CM CENTIMETER CMT CERAMIC TILE CMTB CERAMIC TILE BASE CMU CONCRETE MASONRY UNIT CO CLEANOUT COL COLUMN CONC CONCRETE CONF CONFERENCE CONN CONNECTION CONST CONSTRUCTION CONT CONTINUOUS CONTR CONTRACTOR COORD COORDINATE CORR CORRIDOR CPT CARPET CJ CONTROL JOINT CTR CENTER CTSK COUNTERSUNK CCTV CLOSED CIRCUIT TV CU CUBIC CUST CUSTODIAN CW COLD WATER D.BD. DISPLAY BOARD DBL DOUBLE DEG DEGREE DEMO DEMOLISH DEPT DEPARTMENT DF DRINKING FOUNTAIN DIA DIAMETER DIAG DIAGONAL | DIFF DIFFUSER DIM DIMENSION DISP DISPENSER DIV DIVISION D.J. DEFLECTION JOINT DN DOWN DOOR DOOR D.O. DOOR OPENING D.P. DAMPPROOFING DR DOOR DS DOWNSPOUT DTL DETAIL D.W. DISTILLED WATER DWG DRAWING DWT DUMBWAITER E EAST EA EACH EL ELEVATION ELAS ELASTOMERIC ELEC ELECTRICAL ELEV ELEVATOR EMER EMERGENCY ENCL ENCLOSURE ENGR ENGINEER ENT ENTRANCE EXP EXPANSION JOINT EO ELECTRIC OUTLET E. PNL. ELECTRICAL PANEL EQ EQUAL EQUIP EQUIPMENT EWC ELECTRIC WATER COOLER EXC EXCAVATION EXH EXHAUST EXIST EXISTING EXP EXPANSION EXPO EXPOSED EXT EXTERIOR F/ FACE OF FA FIRE ALARM FB. FABRIC F.C. FOOT CONTROL FD FLOOR DRAIN FDN FOUNDATION FE FIRE EXTINGUISHER FEC FIRE EXTINGUISHER CABINET FEL FINISHED FLOOR LEVEL FHC FIRE HOSE CABINET FHVC FIRE HOSE VALVE CABINET FIMS FLAT HEAD MACHINE SCREW FIR FIRE HOSE RACK FIN FINISH FIXT FIXTURE FL FLOOR FLEX FLEXIBLE FLUOR FLUORESCENT FRFR FIREPROOF FRTW FIRE RETARDANT FRTW TREATED WOOD FT FOOT (FEET) F.T.F. FACE TO FACE FTG FOOTING F.T.R. FIN TUBE RADIATION FURN FURNISH FUR FURRING FUT FUTURE GA GAUGE GALV GALVANIZED GEN GENERAL GFRG GLASS FIBER GFRG REINFORCED CONCRETE GFRG GLASS FIBER GLD GLASS GND GROUND GPLAS GYPSUM PLASTER GR GRADE GT GREASE TRAP GWB GYPSUM BOARD | HB HOSE BIBB HC HOLLOW CORE HDWD HARDWOOD HDW HARDWARE HM HOLLOW METAL HO HOLD OPEN HORIZ HORIZONTAL HP HIGH POINT HR HOUR HT HEIGHT HTG HEATING HYAC HEATING, VENTILATING, AIR CONDITIONING HW HOT WATER HYD HYDRANT I.D. INSIDE DIAMETER IN INCHES INCAND INCANDESCENT INCL INCLUDED INSUL INSULATION INT INTERIOR INTERM INTERMEDIATE INV. EL. INVERT ELEVATION JAN JANITOR JANITOR'S CLOSET JT JOINT KD KNOCK DOWN KO KNOCK OUT KIT KITCHEN K.S. KNEE SPACE L LABORATORY LAQ LACQUER LAM LAMINATE(D) LAUN LAUNDRY LAV LAVATORY LB(S) POUND(S) LF LINEAR FOOT LJ LEFT HAND LKR LOCKER LP LOW POINT LT LIGHT LT. WT. LIGHTWEIGHT M METER MACH MACHINE MAINT MAINTENANCE MAS MASONRY MATL MATERIAL MAX MAXIMUM M.BD. MARKER BOARD MCB METAL CORNER BEAD MECH MECHANICAL MEMB MEMBRANE MEZZ MEZZANINE MFR MANUFACTURER MH MANHOLE MIN MINIMUM MISC MISCELLANEOUS MM MILLIMETER M.O. MOVABLE MTD MOUNTED MTG MOUNTING MTL METAL MUL MULLION MDF MEDIUM DENSITY FIBERBOARD N NORTH N.I.C. NOT IN CONTRACT NO NUMBER NOM NOMINAL N.T.S. NOT TO SCALE OA OVERALL OC ON CENTER O.D. OUTSIDE DIAMETER | OFD OVERFLOW DRAIN OFFICE OFFICE OH OVERHEAD OPNG OPENING OPP OPPOSITE OPP. HOPPOSITE HAND PA PUBLIC ADDRESS PAV PAYING PC PRE-CAST PF PANEL FABRIC PL PLATE P. LAMPLASTIC LAMINATE PLAS PLASTER PLMB PLUMBING PLYWDPLYWOOD PT PAINT PNL PANEL POL POLISHED POS POINT OF SALE PR PAIR PRJ PROJECT PROP PROPERTY PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PTD PAINTED PTN PARTITION P.T.S. PNEUMATIC TUBE STATION Q QUARRY TILE QTY QUANTITY R RISER RECEP RECEPTION REINF REINFORCING R/W RIGHT-OF-WAY RAD RADIUS RUB RUBBER BASE RCP ROOF DRAIN RH RIGHT HAND REC RECESSED REF REFERENCE REFR REFRIGERATOR REINF REINFORCED REQD REQUIRED RESIL RESILIENT REV REVISION RFG ROOFING RM ROOM RND ROUGH OPENING S SOUTH SAN SANITARY SC SOLID CORE SCHSCHEDULE SD SOAP DISPENSER SECT SECTION SECURSECURITY SF SQUARE FOOT (FEET) SG STRUCTURAL GLAZED TILE SH SHELVES (SHELF) SHR SHOWER SHT. SHEET SIM. SIMILAR SK. SINK SP STANDPIPE SPEC SPECIFICATION SPKR SPEAKER SQ SQUARE S.SK SERVICE SINK S.S.T. STAINLESS STEEL ST STAIN STA STATION STONE STONE STC SOUND TRANSMISSION CLASS STD STANDARD STL STEEL STOR STORAGE STRUCTSTRUCTURAL SUSP SUSPENDED SV SHEET VINYL |

| MATERIALS | | | |
|---|---|---|--|
|  COMPACTED SOIL |  ORNAMENTAL METAL |  RESILIENT FLOORING | |
|  UNDISTURBED SOIL |  CONTINUOUS WOOD FRAMING |  PLASTIC LAMINATE | |
|  SAND |  WOOD BLOCKING |  LEAD-LINED GYPSUM WALLBOARD | |
|  BITUMINOUS PAVING |  FINISH WOODWORK |  GLAZING | |
|  CONCRETE |  PLYWOOD |  ACOUSTICAL CEILING BOARD | |
|  TERRAZZO |  PARTICLE BOARD |  SEALANT AND BACKER ROD | |
|  CUT STONE |  GYPSUM WALLBOARD |  SPRAY-ON FIREPROOFING | |
|  CONCRETE MASONRY UNIT |  WATERPROOFING | | |
|  STRUCTURAL CLAY TILE UNIT MASONRY |  RIGID INSULATION | | |
|  STEEL |  BATT INSULATION | | |
|  ALUMINUM |  CARPETING | | |

| SYMBOLS LEGEND | |
|--|--|
| NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS LISTED APPLY TO THIS PROJECT. REFER TO CONSTRUCTION DOCUMENTS FOR SCOPE OF WORK | |
| <p>SHEET NUMBER</p> <p>A-100</p> <p>SHEET NUMBER</p> <p>DISOPLINE LETTER</p> | <p>PARTIAL PLAN AND DETAIL TARGETS</p> <p>PLAN OR DETAIL DESIGNATION</p> <p>4 A-212</p> <p>4 A-212</p> <p>SHEET NUMBER</p> <p>EXTERIOR ELEVATION TARGETS</p> <p>4</p> <p>ELEVATION DESIGNATION</p> <p>4 A-433</p> <p>SHEET NUMBER</p> <p>INTERIOR ELEVATION TARGETS</p> <p>4</p> <p>ELEVATION DESIGNATION</p> <p>3 A-501</p> <p>1</p> <p>2</p> <p>SHEET NUMBER</p> <p>DOOR NUMBERS</p> <p>65210</p> <p>EQUIPMENT DESIGNATION</p> <p>46450A</p> <p>TOILET ACCESSORY SYMBOL</p> <p>GB3</p> <p>WINDOW TYPE SYMBOLS</p> <p>W1</p> <p>WINDOW TYPE</p> <p>W1</p> <p>EXTERIOR WINDOW TYPE</p> <p>W1</p> <p>FRAME TYPE</p> <p>W1</p> <p>GLASS TYPE</p> <p>INTERIOR WINDOW TYPE</p> <p>PARTITION TARGETS</p> <p>1</p> <p>1</p> <p>DRAWING REVISION</p> <p>REVISION NUMBER</p> <p>4</p> <p>FENCING (WITH POSTS)</p> <p>F.S.</p> <p>FLOOR SINK</p> <p>F.S.</p> <p>FLOOR DRAIN</p> <p>F.D.</p> <p>OVERFLOW DRAIN AND ROOF DRAIN</p> <p>OVERFLOW DRAIN</p> <p>ROOF DRAIN</p> <p>SHOWER HEAD</p> <p>SHOWER HEAD</p> <p>FIRE HOSE CABINET (RECESSED AND SURFACE MOUNTED)</p> <p>FHC</p> <p>FHC</p> <p>FIRE EXTINGUISHER CABINET (RECESSED AND SURFACE MOUNTED)</p> <p>FEC</p> <p>FEC</p> <p>WALL-MOUNTED FIRE EXTINGUISHER</p> <p>FE</p> |
| <p>ROOM NAMES AND NUMBERS</p> <p>OFFICE</p> <p>ROOM NAME</p> <p>00 SF</p> <p>ROOM NUMBER</p> <p>00</p> <p>AREA</p> <p>00</p> <p>OCCUPANCY</p> <p>00</p> <p>FINISH</p> | <p>GRAPHIC SCALE</p> <p>0 8' 4' 2'</p> <p>SCALE: 1/4" = 1'-0"</p> <p>COLUMN SYMBOLS & CENTER LINES</p> <p>8</p> <p>A</p> <p>CIRCULAR LABELS REPRESENT EXISTING COLUMNS</p> <p>LETTERS = HORIZONTAL</p> <p>NUMBERS = VERTICAL</p> <p>LEVEL 1</p> <p>EL. 0'-0"</p> <p>SPOT ELEVATION</p> <p>LEVEL 2</p> <p>EL. 10'-0"</p> <p>EXISTING ELEVATION</p> <p>LEVEL 1</p> <p>EL. 10'-0"</p> <p>MATCH LINE</p> <p>MATCH LINE</p> <p>SEE SHEET A2.10</p> <p>SHEET NUMBER ON WHICH CONTINUATION IS FOUND</p> <p>PROPERTY LINE</p> <p>BUILDING SECTION TARGETS</p> <p>SECTION DESIGNATION</p> <p>5</p> <p>5 A4.33</p> <p>SHEET NUMBER</p> <p>WALL SECTION TARGETS</p> <p>SECTION DESIGNATION</p> <p>4</p> <p>4 A4.33</p> <p>SHEET NUMBER</p> <p>DETAIL SECTION TARGETS</p> <p>SECTION DESIGNATION</p> <p>4</p> <p>4 A6.33</p> <p>SHEET NUMBER</p> <p>ROOF TOP UNIT</p> <p>REFER TO MECHANICAL FOR TYPE</p> <p>RTU-1</p> |
| <p>SYMBOLS</p> <p>& AND</p> <p>ANGLE</p> <p>AT</p> <p>BY (LOWERCASE)</p> <p>CENTER LINE</p> <p>CHANNEL</p> <p>DEGREE</p> <p>DIAMETER</p> <p>DOUBLE ANGLE</p> <p>NUMBER</p> <p>PLATE</p> <p>PLUS OR MINUS</p> <p>SQUARE FEET</p> | |

GENERAL NOTES

- ALL NOTES ARE TO BE REVIEWED AND APPLIED TO RELATED BUILDING COMPONENTS. NOTES APPEAR ON VARIOUS SHEETS FOR DIFFERENT SYSTEMS AND MATERIALS. SHEETS ARE TO BE REVIEWED AND NOTES ON ANY ONE SHEET ARE TO BE APPLIED ON RELATED DRAWINGS AND DETAILS.
- DO NOT SCALE THE DRAWINGS. THE DRAWINGS ARE NOT NECESSARILY TO SCALE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE PRIOR TO THE START OF CONSTRUCTION. IF DISCREPANCIES ARE FOUND, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION BEFORE COMMENCING THE WORK. EXPLICIT DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALE.
- DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE SHOWN. WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, CONSULT THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
- ANY DETAILS, SYSTEMS, MATERIALS, (I.E. ARCHITECTURAL, STRUCTURAL, MECHANICAL, ETC.) WHICH ARE PROPOSED TO BE CHANGED MUST FIRST BE REVIEWED BY THE OWNER, ARCHITECT AND GENERAL CONTRACTOR PRIOR TO THE PREPARATION OF SHOP DRAWINGS.
- THESE GENERAL NOTES ARE NOT INTENDED TO REPLACE SPECIFICATIONS – REFER TO SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES.
- AREAS AND PERIMETERS ARE APPROXIMATE AND FOR REFERENCE ONLY. VERIFY QUANTITIES AND DIMENSIONS IN FIELD.
- NO DEVIATIONS FROM THESE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- DO NOT SCALE DIMENSIONS FROM DRAWINGS – THE CONTRACTOR SHALL REQUEST NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS FROM THE ARCHITECT.
- ALL DIMENSIONS ORIGINATE FROM EXISTING FACE OF WALLS & ARE TO FACE OF FRAMING AT NEW WORK OR CENTER OF DOORS, WINDOWS AND OPENINGS UNLESS NOTED OTHERWISE.
- DETAILS SHOWN ON DRAWINGS ARE TYPICAL FOR ALL SIMILAR CONDITIONS.
- DRAWING NOTES AND SPECIFICATIONS ARE INSTRUCTIONS TO THE CONTRACTOR AND APPLY TO ALL THE WORK UNLESS MORE SPECIFIC INFORMATION IS SHOWN ELSEWHERE ON THE DRAWINGS OR WRITTEN IN THE SPECIFICATIONS – IN THE EVENT OF CONFLICTING INSTRUCTIONS, THE ARCHITECT SHALL DETERMINE WHAT CONTROLS THE CONTRACT DOCUMENTS ARE COMPLEMENTARY WHAT IS REQUIRED BY ONE SHALL BE REQUIRED BY ALL.
- PRINCIPAL OPENINGS IN THE STRUCTURE ARE SHOWN ON THESE DRAWINGS – THE GENERAL CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR REQUIRED OPENINGS. GENERAL CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH ALL SUB-CONTRACTORS PRIOR TO CONSTRUCTION.
- STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION – THE CONTRACTOR SHALL SUPERVISE CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCE, AND APPLICABLE SAFETY REGULATIONS TO BE FOLLOWED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING THE WORK OF THE SUB-CONTRACTORS – THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE BUILDING OWNER, TENANT OR HIS REPRESENTATIVES THE DELIVERY AND INSTALLATION OF ITEMS BEING PROVIDED AND INSTALLED BY OTHERS.
- MECHANICAL, PLUMBING AND ELECTRICAL WORK RELATED TO DEMOLITION AND NEW INSTALLATION OF COMPONENTS SHALL COMPLY WITH ALL APPLICABLE CODES.
- ALL MATERIALS, FABRICATION AND INSTALLATION SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS AND SPECIFICATIONS FOR EACH DIVISION OF WORK.
- CONSTRUCTION MUST COMPLY WITH APPLICABLE CODES AND ORDINANCES, LAWS AND SAFETY ORDERS AS DIRECTED BY LOCAL JURISDICTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY ORDERING OF MATERIALS INCLUDED IN THESE CONTRACT DOCUMENTS – SOME ITEMS IN THESE DOCUMENTS MAY REQUIRE LONG LEAD TIMES OR SPECIAL COORDINATION. SUBSTITUTIONS WILL NOT BE ALLOWED FOR MATERIAL NOT ORDERED IN A TIMELY FASHION.
- CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS, (BOTH NEW AND EXISTING) REPORTING ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH ANY PHASE OF THE WORK. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
- CONTRACTOR SHALL CLEAN, PATCH AND REPAIR ALL SURFACES DAMAGED BY DEMOLITION, ALTERATION OR INSTALLATION OF THE WORK.
- ALL REQUESTS FROM INFORMATION PROMPTED BY THE BUILDING OFFICIALS SHALL INCLUDE A COPY OF THE BUILDING OFFICIALS' COMMENTS AND THE BUILDING INSPECTORS FIELD REPORT TO ENSURE AN ACCURATE AND TIMELY RESPONSE.
- CONTRACTOR AND SUBCONTRACTOR SHALL ALL BE LICENSED TO PERFORM THEIR REQUESTED DUTIES AS REQUIRED IN ACCORDANCE WITH LOCAL STANDARDS.
- CONTRACTOR SHALL COMPARE STRUCTURAL SECTIONS WITH ARCHITECTURAL SECTIONS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
- THE CONTRACTOR SHALL COORDINATE ALL DEMO AND NEW WORK ACTIVITIES WITH THE AIRPORT PRIOR TO PROCEEDING.
- MOCK UPS (AS REQUIRED) SHALL BE CONSTRUCTED BY THE CONTRACTOR PRIOR TO BEGINNING DEMOLITION WORK.
- WHERE MATERIALS ARE APPLIED TO, OR ARE IN DIRECT CONTACT WITH WORK INSTALLED BY ANOTHER SUBCONTRACTOR, COMMENCEMENT OF WORK IMPLIES ACCEPTANCE OF THE SUBSTRATE AS SUITABLE FOR THE APPLICATION INTENDED.
- ISOLATE DISSIMILAR METALS TO PREVENT GALVANIC CORROSION.
- OPENINGS IN RATED WALL, FLOOR, CEILING AND ROOF ASSEMBLIES SHALL BE SEALED WITH PENETRATION SEALANT SYSTEMS MEETING OR EXCEEDING THE REQUIRED FIRE RESISTIVE RATINGS.
- FIELD MEASURE AND CONFIRM DIMENSIONS FOR OWNER PROVIDED EQUIPMENT.
- ALL NON-GALVANIZED EXTERIOR EXPOSED STEEL TO RECEIVE HIGH PERFORMANCE COATING.
- DO NOT OBSTRUCT ACCESS TO EXISTING EXITS, OR REDUCE THE WIDTH OF PUBLIC CORRIDORS.
- PENETRATIONS IN THE EXTERIOR BUILDING WALL ARE NOT ALLOWED UNLESS INDICATED IN DOCUMENTS.
- ALL ROOF PENETRATIONS REQUIRED FOR INSTALLATION OF MECHANICAL UNITS, EQUIPMENT CURBS, VENTS, ETC. MUST BE DONE PER MANUFACTURER'S RECOMMENDATIONS TO ENSURE ALL WARRANTIES ARE MAINTAINED. PROVIDE FLASHING, COUNTER FLASHING, SEALANT, ETC. AS REQUIRED TO PROVIDE WATERPROOF CONDITION, TYPICAL AT ALL ROOF PENETRATIONS.

RS&H

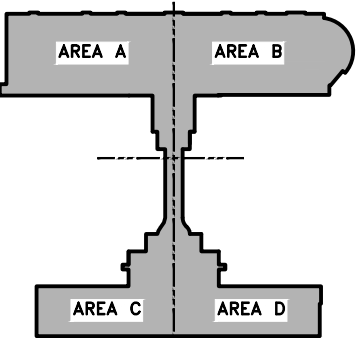
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Bishop International Airport

**BISHOP
INTERNATIONAL
AIRPORT**

CONSULTANTS



KEYPLAN

REVISIONS

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SHEET TITLE
**GENERAL
NOTES,
ABBREVIATIONS
AND SYMBOLS**

SHEET NUMBER

G001

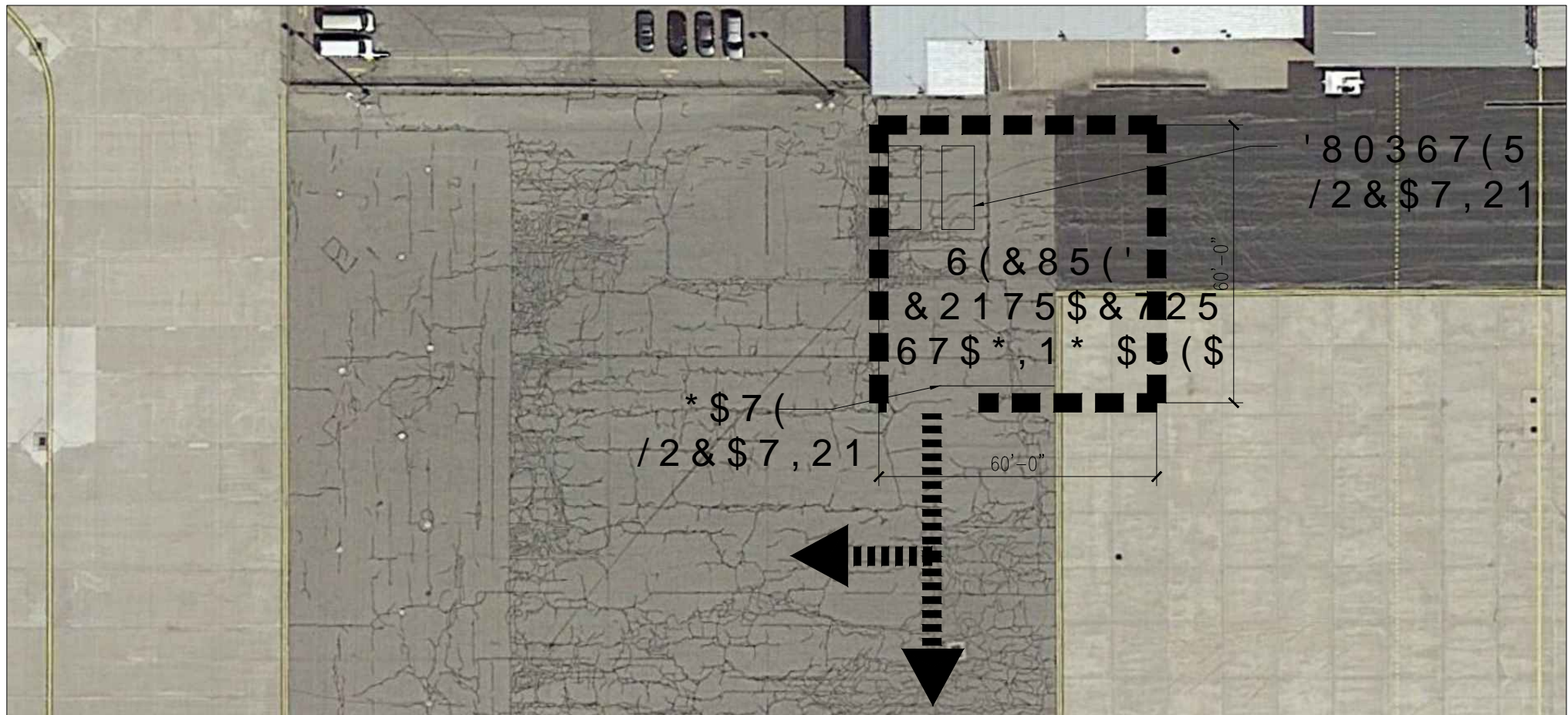
**BID
DOCUMENTS**



1
G002

SCALE: NTS

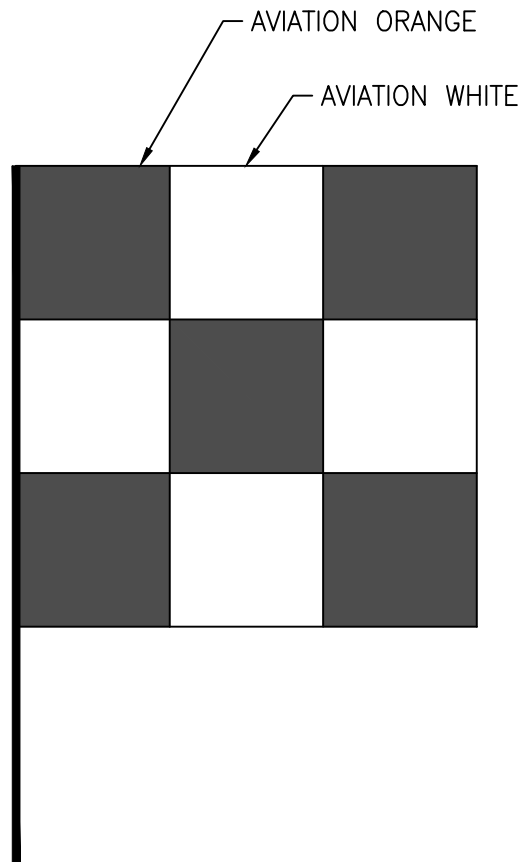
OVERALL SITE PLAN AND HAUL ROUTE



2
G002

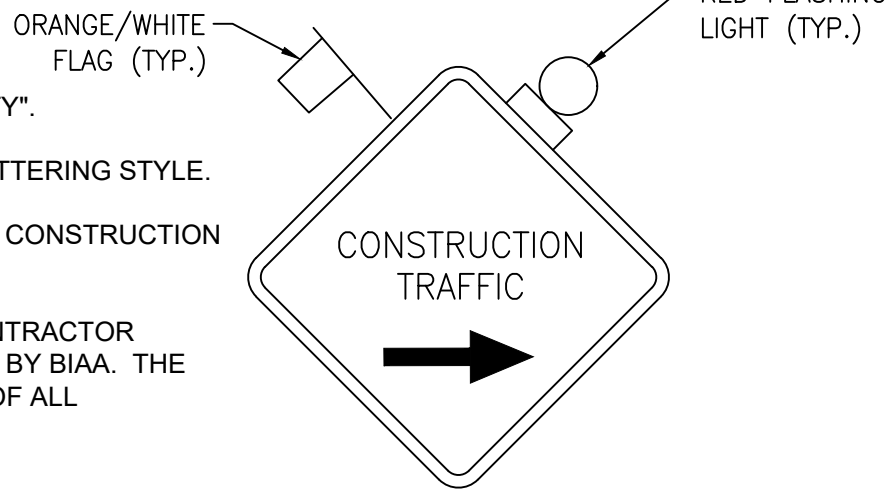
SCALE: NTS

STAGING AREA - ENLARGED PLAN



NOTES:

- ALL COSTS SHALL BE INCIDENTAL TO ITEM G-102-11.1, "SAFETY AND SECURITY".
- SIGN LETTERS ARE TO BE BLACK, MINIMUM HEIGHT OF 3", AND BE A BOLD LETTERING STYLE.
- SIGN SHALL BE LOCATED HIGH ENOUGH TO ALLOW EASY VIEWING FROM ALL CONSTRUCTION VEHICLES ENTERING THE CONSTRUCTION SITE.
- CONSTRUCTION SIGNS MAY NEED TO BE SUPPLIED AND PLACED BY THE CONTRACTOR DURING ALL PHASES DEPENDING ON HAUL ROUTES USED, OR AS REQUIRED BY BIAA. THE CONTRACTOR SHALL COORDINATE THE EXACT PLACEMENT AND LOCATION OF ALL CONSTRUCTION TRAFFIC SIGNS WITH THE RPR AND AIRPORT OPERATIONS.
- SIGN MOUNTING PER MDOT STANDARD SPECIFICATIONS.
- ARROW DIRECTIONS ON SIGNS MAY VARY.



3
G002

CONSTRUCTION TRAFFIC SIGN

SCALE: NTS

4
G002

CONSTRUCTION TRAFFIC SIGN

SCALE: NTS

AIRPORT'S SAFETY AND SECURITY REQUIREMENTS

SAFETY

- THE CONTRACTOR SHALL ACQUAINT HIS SUPERVISORS AND EMPLOYEES OF THE AIRPORT ACTIVITY AND OPERATIONS THAT ARE INHERENT TO THIS ACTIVE AIR CARRIER AIRPORT AND SHALL CONDUCT THE CONSTRUCTION ACTIVITIES TO CONFORM TO ALL ROUTINE AND EMERGENCY AIR TRAFFIC REQUIREMENTS AND GUIDELINES ON SAFETY AS SPECIFIED WITHIN AND INCLUDED IN THE REFERENCE MATERIAL IN PARAGRAPH NO. 11 BELOW.
- THE CONTRACTOR'S FOREMAN AND SUPERVISORS SHALL RECEIVE CONTRACT AREA FAMILIARITY FROM BIAA AIRPORT OPERATIONS PRIOR TO BEGINNING CONSTRUCTION AND SHALL BRIEF ALL NEW CONTRACTOR EMPLOYEES ON HAUL ROUTE LOCATIONS, CONTRACT AREA LIMITS, EQUIPMENT PARKING, STOCKPILES, ESCORTING REQUIREMENTS, FOREIGN OBJECT DEBRIS (FOD), VEHICLE IDENTIFICATION, AND REPORTING ACCIDENTS, INJURIES AND INCIDENTS.
- ALL CONTRACTOR VEHICLES THAT ARE AUTHORIZED TO OPERATE ON THE AIRPORT SHALL DISPLAY IN FULL VIEW ABOVE THE VEHICLE A FLASHING AMBER (YELLOW) DOME-TYPE LIGHT OR A 3' X 3' OR LARGER, ORANGE AND WHITE CHECKERBOARD FLAG, EACH CHECKERBOARD COLOR BEING 1-FOOT SQUARE, (SEE CONSTRUCTION SAFETY FLAG DETAIL). ANY VEHICLE OPERATING ON THE AIRPORT DURING THE HOURS OF DARKNESS SHALL BE EQUIPPED WITH A FLASHING AMBER (YELLOW) DOME LIGHT, MOUNTED ON TOP OF THE VEHICLE AND OF SUCH INTENSITY TO CONFORM TO LOCAL CODES FOR MAINTENANCE AND EMERGENCY VEHICLES.
- AT NO TIME SHALL CONTRACTOR VEHICLES OR PERSONNEL ENTER PORTIONS OF THE SECURE AIRCRAFT OPERATIONS AREA (AOA) OUTSIDE THE CONTRACT AREAS UNLESS ESCORTED BY BIAA PERSONNEL.
- ALL CONTRACTOR VEHICLES THAT ARE REQUIRED TO OPERATE ON OR ACROSS ACTIVE RUNWAYS, TAXIWAYS, APRONS AND RUNWAY APPROACH AND PROTECTION ZONES SHALL DO SO UNDER THE DIRECT CONTROL OF A BIAA PROVIDED ESCORT. ALL AIRCRAFT TRAFFIC ON RUNWAYS, TAXIWAYS AND APRONS SHALL HAVE PRIORITY (I.E. RIGHT-OF-WAY) OVER CONTRACTOR'S TRAFFIC.
- NO RUNWAY, TAXIWAY, APRON OR AIRPORT ROADWAY SHALL BE CLOSED WITHOUT WRITTEN APPROVAL OF THE BIAA, TO ENABLE NECESSARY "NOTICES TO AIRMEN" (NOTAM) OR ADVISORIES TO AIRPORT SERVICES OR TENANTS, A MINIMUM OF 48 HOURS WRITTEN NOTICE REQUESTING CLOSING SHALL BE DIRECTED TO THE ENGINEER WHO WILL COORDINATE THE REQUEST WITH BIAA AIRPORT OPERATIONS.
- ANY CONSTRUCTION ACTIVITY WITHIN THE RUNWAY SAFETY AREA (RSA) OF AN ACTIVE RUNWAY OR WITHIN THE TAXIWAY OBJECT FREE AREA (TOFA) OF AN ACTIVE TAXIWAY OR OPEN EXCAVATIONS IN EXCESS OF THREE INCHES DEEP WITHIN THE ABOVE AREAS WILL REQUIRE CLOSURE OF THE AFFECTED RUNWAY OR TAXIWAY, UNLESS OTHERWISE APPROVED BY BIAA AIRPORT OPERATIONS. CLOSURE COORDINATION REQUIREMENTS ARE INCLUDED IN PARAGRAPH 5 ABOVE. CONSTRUCTION ACTIVITIES IN THESE AREAS WILL REQUIRE ESCORT BY BIAA PERSONNEL.
- ANY ACTIVITY INVOLVING OPEN FLAME OR PRODUCING HEAT AND/OR SPARKS ARE PROHIBITED UNLESS A HOT WORK PERMIT DETAILING ADEQUATE FIRE AND SAFETY PRECAUTIONS HAVE BEEN TAKEN IS RECEIVED FROM THE BIAA FIRE DEPARTMENT. THIS INCLUDES BUT IS NOT LIMITED TO CUTTING, GRINDING, SOLDERING, THAWING PIPE, AND WELDING. TO REQUEST A HOT WORK PERMIT, CONTACT THE BIAA FIRE DEPARTMENT AT 810-235-0606.
- STOCKPILED MATERIAL SHALL BE CONSTRAINED IN A MANNER TO PREVENT MOVEMENT RESULTING FROM AIRCRAFT JET BLAST OR WIND CONDITIONS IN EXCESS OF TEN KNOTS. STOCKPILE HEIGHT SHALL BE LESS THAN 15 FEET, AND OUTSIDE THE OBJECT FREE AREAS OF ALL OPERATIONAL RUNWAYS AND TAXIWAYS.
- FOREIGN OBJECT DEBRIS (FOD); DEBRIS, WASTE AND LOOSE MATERIAL CAPABLE OF CAUSING DAMAGE TO AIRCRAFT LANDING GEAR, PROPELLERS AND JET ENGINES SHALL NOT REMAIN ON OR NEAR ACTIVE AIRCRAFT MOVEMENT AREAS. MATERIALS CAPABLE OF CREATING FOD MUST BE CONTINUOUSLY REMOVED DURING THE CONSTRUCTION PROJECT.
- THE CONTRACTOR IS DIRECTED TO COMPLY WITH AND ACQUAINT HIS/HER EMPLOYEES WITH THE FOLLOWING SAFETY GUIDELINES, RELATED MATERIALS AND FAA ADVISORY CIRCULARS:

150/5200-18 (CURRENT EDITION)

150/5210-5 (CURRENT EDITION)

150/5370-2 (CURRENT EDITION)

"AIRPORT SAFETY-SELF INSPECTION"

"PAINTING, MARKING & LIGHTING OF VEHICLES USED ON AIRPORTS"

"OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION"

COPIES OF THESE DOCUMENTS ARE AVAILABLE AT FAA.GOV.
- CONSTRUCTION DURING THE PROJECT MAY BE HALTED AT ANY TIME BY BIAA IF IT IS DETERMINED TO BE IN THE BEST INTEREST OF AIRPORT OPERATIONS OR SAFETY. THE CONTRACTOR MAY BE DIRECTED TO REMOVE EQUIPMENT AND/OR EVACUATE THE SITE IN ORDER TO ENABLE AIRCRAFT OPERATIONS. NECESSARY EXTENSIONS IN CONTRACT TIME WILL BE GRANTED OR A STOP WORK ORDER WILL BE ISSUED DUE TO THESE DELAYS, HOWEVER, THERE WILL BE NO ADJUSTMENTS IN CONTRACT PRICE DUE TO THESE DELAYS.
- THE CONTRACTOR SHALL NOT STOCKPILE MATERIAL, OR PARK VEHICLES/EQUIPMENT NOT IN USE WITHIN THE LIMITS OF OBJECT FREE AREAS FOR ANY OPEN OR CLOSED RUNWAY OR TAXIWAY UNLESS PROMINENTLY MARKED WITH FLAGS AND LIGHTED BY APPROVED LIGHTS DURING HOURS OF RESTRICTED VISIBILITY AND DARKNESS.

SECURITY

- GENERAL INTENT: IT IS INTENDED THAT THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE AIRPORT SECURITY PLAN AND WITH THE SECURITY REQUIREMENTS SPECIFIED HEREIN. THE CONTRACTOR SHALL DESIGNATE TO THE ENGINEER, IN WRITING, THE NAME OF HIS GENERAL CONTRACTOR AUTHORIZED SIGNATORY ("AS"). THE "AS" SHALL REPRESENT THE CONTRACTOR ON THE SECURITY REQUIREMENTS FOR THE CONTRACT.
- CONTRACTOR PERSONNEL SECURITY ORIENTATION: THE "AS" SHALL BE RESPONSIBLE FOR BRIEFING ALL CONTRACTOR PERSONNEL ON SECURITY REQUIREMENTS. ALL NEW CONTRACTOR EMPLOYEES SHALL BE BRIEFED ON SECURITY REQUIREMENTS PRIOR TO WORKING IN THE CONSTRUCTION AREA.
- ACCESS TO THE SITE: THE CONTRACTOR'S ACCESS TO THE SITE SHALL BE AS SHOWN ON THE PLANS. NO OTHER ACCESS POINTS SHALL BE ALLOWED UNLESS APPROVED BY THE AIRPORT. ALL CONTRACTOR TRAFFIC AUTHORIZED TO ENTER THE SITE SHALL BE EXPERIENCED IN THE ROUTE OR GUIDED BY CONTRACTOR PERSONNEL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL TO AND FROM THE VARIOUS CONSTRUCTION AREAS ON THE SITE, AND FOR THE OPERATION AND SECURITY OF THE ACCESS GATE TO THE SITE. THE CONTRACTOR'S FLAGMAN OR TRAFFIC CONTROL PERSON SHALL MONITOR AND COORDINATE ALL CONTRACTOR TRAFFIC AT THE ACCESS GATE WITH SECURITY. THE CONTRACTOR SHALL NOT PERMIT ANY UNAUTHORIZED CONSTRUCTION PERSONNEL OR TRAFFIC ON THE SITE. ACCESS GATES TO THE SITE SHALL BE LOCKED AND SECURED AT ALL TIMES WHEN NOT ATTENDED BY THE CONTRACTOR. IF THE CONTRACTOR CHOOSES TO LEAVE ANY ACCESS GATE OPEN, IT SHALL BE ATTENDED BY CONTRACTOR PERSONNEL WHO ARE FAMILIAR WITH THE REQUIREMENTS OF THE BIAA SECURITY PROGRAM. DIRECTIONAL SIGNAGE FROM THE ACCESS GATE ALONG THE DELIVERY ROUTE TO THE STORAGE AREA, PLANT SITE OR WORK SITE SHALL BE AS DIRECTED BY THE AIRPORT AND OR ENGINEER/ARCHITECT.
- MATERIALS DELIVERY TO THE SITE: ALL CONTRACTOR'S MATERIAL ORDERS FOR DELIVERY TO THE WORK SITE WILL USE AS A DELIVERY ADDRESS, THE STREET NAME ASSIGNED TO THE ACCESS POINT AT THE CONTRACTOR'S STAGING SITE AT THE AIRPORT. THE NAME "BISHOP INTERNATIONAL AIRPORT" SHALL NOT BE USED IN THE DELIVERY ADDRESS AT ANY TIME. THIS WILL PRECLUDE DELIVERY TRUCKS FROM ENTERING INTO THE TERMINAL COMPLEX, OR TAKING SHORT CUTS THROUGH THE PERIMETER GATES AND ENTERING INTO AIRCRAFT OPERATIONS AREA INADVERTENTLY.
- CONSTRUCTION AREA LIMITS: THE LIMITS OF CONSTRUCTION, MATERIAL STORAGE AREAS, PLANT SITE, EQUIPMENT STORAGE AREAS, PARKING AREAS AND OTHER AREAS DEFINED AS REQUIRED FOR THE CONTRACTORS EXCLUSIVE USE DURING CONSTRUCTION SHALL BE MARKED BY THE CONTRACTOR. THE CONTRACTOR SHALL ERCT AND MAINTAIN AROUND THE PERIMETER OF THESE AREAS SUITABLE FENCING, MARKING AND/OR WARNING DEVICES VISIBLE FOR DAY/NIGHT USE. TEMPORARY BARRICADES, FLAGGING AND FLASHING WARNING LIGHTS WILL BE REQUIRED AT CRITICAL ACCESS POINTS. TYPE OF MARKING AND WARNING DEVICES SHALL BE APPROVED BY BIAA, THROUGH AIRPORT PROJECT MANAGER.
- IDENTIFICATION - PERSONNEL: ALL EMPLOYEES, AGENTS, VENDORS, INVITEES, ETC. OF THE CONTRACTOR OR SUBCONTRACTORS REQUIRING DAILY ACCESS TO THE CONSTRUCTION SITE SHALL, IN ACCORDANCE WITH THE BIAA SECURITY PROGRAM, BE REQUIRED TO DISPLAY BIAA-ISSUED IDENTIFICATION. ACQUIRING A BADGE WILL ENTAIL A CRIMINAL HISTORY BACKGROUND CHECK AND FINGERPRINTING, PERFORMED BY BIAA SECURITY STAFF. APPROXIMATE TIME TO ACQUIRE A BADGE IS 2 WEEKS FROM THE TIME THE INITIAL APPLICATION IS GIVEN TO BIAA SECURITY STAFF. THESE BADGES WILL BE IDENTIFIED NUMERICALLY AND ISSUED TO INDIVIDUAL EMPLOYEES WITH A PERMANENT RECORD MAINTAINED ON EACH INDIVIDUAL TO WHOM A BADGE IS ISSUED. BADGES MUST BE RETURNED WITHIN 1 WEEK OF PROJECT COMPLETION. ANY BADGE NOT RETURNED WILL INCUR A BADGE FEE OF \$50. IF A CONTRACTOR OR SUBCONTRACTOR EMPLOYEE IS TERMINATED OR IS REMOVED FROM THE PROJECT, THEIR BADGE MUST BE RETURNED TO BIAA SECURITY STAFF WITHIN 48 HOURS. A NON-REFUNDABLE CHARGE OF \$50 WILL BE REQUIRED FOR EACH BADGE ISSUED. THE COST IS TO BE INCLUDED IN ITEM G-102-11.1, "SAFETY AND SECURITY". ALL CONTRACTOR AND SUBCONTRACTOR EMPLOYEES SHALL HAVE UNDERGO AIRPORT OPERATIONS AREA ACCESS TRAINING. THIS TRAINING SESSION WILL BE ADMINISTERED BY BIAA SECURITY STAFF, AND TAKES APPROXIMATELY ONE (1) HOUR. THIS IS IN ADDITION TO THE TRAINING IDENTIFIED IN PARAGRAPH 2 OF SAFETY NOTES. THIS BADGING REQUIREMENT WILL NOT APPLY TO TRUCK DRIVERS MAKING MATERIAL DELIVERIES TO AND FROM THE SITE, PROVIDED THAT THEY DO NOT EXIT THEIR VEHICLE WHILE INSIDE THE SECURE AREA. NON-BADGED INDIVIDUALS MUST BE ESCORTED AT ALL TIMES BY AN APPROPRIATELY BADGED EMPLOYEE WITH ESCORT AUTHORITY. **THE CONTRACTOR SHALL, AT ALL TIMES, HAVE A BADGED SUPERVISOR ON SITE DURING ALL OPERATIONS INCLUDING ALL SUB CONTRACTOR OPERATIONS.** ADDITIONAL INFORMATION CAN BE FOUND ON THE BIAA BADGING WEBSITE AT:

<https://www.bishopairport.org/business-fnt/about-fnt/public-safety/badging-process>
- IDENTIFICATION - VEHICLES: EACH VEHICLE THAT ACCESSES THE CONSTRUCTION SITE IS REQUIRED TO DISPLAY A LARGE COMPANY LOGO ON BOTH SIDES OF THE VEHICLE AND ADVISE BIAA SECURITY AND OPERATIONS, THROUGH THE AIRPORT PROJECT MANAGER, OF A CURRENT LIST OF COMPANIES AUTHORIZED TO ENTER AND CONDUCT WORK ON THE AIRPORT. CONTRACTOR EMPLOYEE VEHICLES SHALL BE RESTRICTED TO THE CONTRACTOR'S EMPLOYEE PARKING AREA AND ARE NOT ALLOWED ON THE AOA AT ANY TIME.
- FINES: PAYMENT OF ALL FINES ASSESSED TO BISHOP INTERNATIONAL AIRPORT DUE TO VIOLATIONS BY THE CONTRACTOR OF FAA/ TSA SECURITY OR SAFETY REQUIREMENTS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

GENERAL STAGING AREA NOTES

- PROVIDE SECURE FENCING PERIMETER AT FOUR SIDES FOR STAGING OF MATERIALS IN AREA INDICATED ON STAGING AREA - ENLARGED PLAN 2/G002. GC IS RESPONSIBLE FOR FENCING/GATE, INSTALLATION AND MAINTAINING SECURITY. FENCING SHALL BE SELF SUPPORTING AND SHALL NOT ATTACH TO BUILDING(S) OR ADJACENT FENCING.
- PROVIDE LOCKABLE GATE ACCESS. GATE SHALL BE SECURED WHEN AREA IS NOT IN USE.
- STAGING AREA SHALL BE NO LARGER THAN AREA SHOWN ON PLANS BUT CAN BE REDUCED AS REQUIRED AND SHALL BE UTILIZED FOR STORAGE OF MATERIALS, EQUIPMENT, PARKING, PORTA POTTY, AND TEMPORARY LOCATION FOR DEBRIS. TWO DUMPSTER LOCATIONS SHOWN ON PLAN BUT TOTAL NUMBER AND LOCATION WITHIN STAGING AREA IS PER GENERAL CONTRACTOR. NOTE ALL DEBRIS IS TO BE REMOVED DAILY U.O.N. FROM TERMINAL AREA, APRON AND SECURED AREAS. DUMPSTERS DO NOT NEED TO BE REMOVED DAILY BUT NEED TO HAVE ABILITY TO SECURE DEBRIS FROM AIRBORN AND MUST HAVE ABILITY TO SECURE. ALL PROJECT MATERIAL(S) MUST BE STORED IN STAGING AREA AS INDICATED ON DRAWINGS. NO EXCEPTIONS WITHOUT WRITTEN APPROVAL FROM BIAA PROJECT MANAGER OR OWNER REPRESENTATIVE IN ADVANCE.
- ALL EMPLOYEES AND SUB CONTRACTORS UTILIZING THE STAGING AREA IN THE SECURED AREA WILL REQUIRE BIAA BADGING WITH NO EXCEPTIONS. CONTRACTOR EMPLOYEE PERSONAL VEHICLES ARE NOT ALLOWED ON THE AIRFIELD AT ANY TIME UNLESS APPROVED BY BIAA.
- EMPLOYEE PARKING IS LIMITED TO STAGING AREA ONLY (WITHIN FENCE). ALL EMPLOYEES MUST PARK IN THE STAGING AREA OFF OF BISHOP INTERNATIONAL AIRPORT STREET. IF ADDITIONAL PARKING IS REQUIRED IT IS THE RESPONSIBILITY OF THE GC TO COORDINATE REMOTE LOCATION AND TRANSPORTATION FOR EMPLOYEES TO SITE.
- GENERAL CONTRACTOR TO PROVIDE FLASHING LIGHTS AT TOP OF FENCING AROUND THE PERIMETER OF ENTIRE STAGING AREA OR AS DIRECTED BY BIAA.

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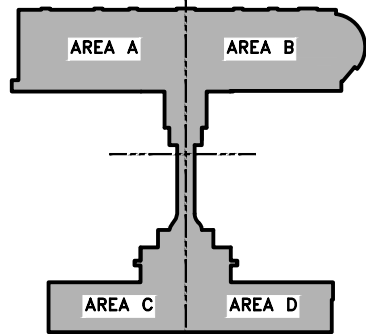
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Bishop International Airport

**BISHOP
INTERNATIONAL
AIRPORT**

CONSULTANTS



KEYPLAN

REVISIONS

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DATE ISSUED: MARCH 14, 2022

REVIEWED BY: MI

DRAWN BY: PN

DESIGNED BY: PN

FAA PROJECT NUMBER

N/A

MDOT PROJECT NUMBER

N/A

RS&H PROJECT NUMBER
210-00-077.000

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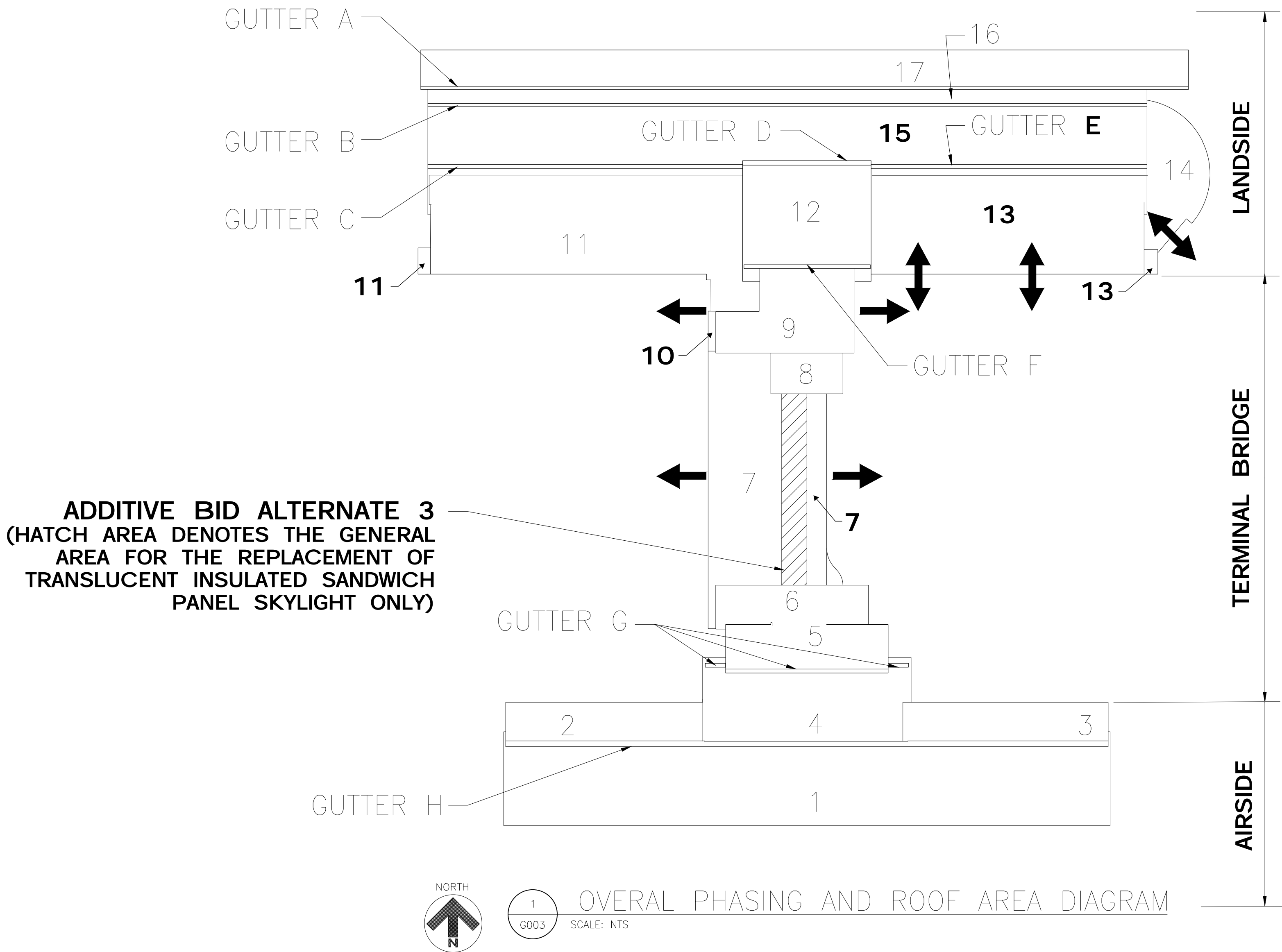
SHEET TITLE

**PROJECT
STAGING,
SAFETY AND
SECURITY**

SHEET NUMBER

G002

**BID
DOCUMENTS**



PHASING NOTES

- AREAS IDENTIFIED ON PHASING DIAGRAM INDICATE THREE GENERAL AREAS OF WORK TO BE COMPLETED. THE SUGGESTED PHASING IS BASED ON THE IMMEDIATE NEEDS OF THE AIRPORT WHERE ROOFING FAILURES HAVE AND OR ARE OCCURRING. ACTUAL SEQUENCE OF PHASING TO BE MODIFIED BY THE GENERAL CONTRACTOR AND OWNER DUE TO BEING LOCATED ON AN ACTIVE AIRPORT SITE. INTENTION OF PHASING IS TO SHOW AREAS OF WORK THAT NEED TO BE COMPLETED PRIOR TO MOVING ON TO ANOTHER PHASE. ONLY ONE PHASE CAN BE WORKED ON AT A TIME. PHASING DIAGRAM ALSO INDICATES THE ROOF AREAS AND GUTTER AREA TO BE COMPLETED UNDER EACH PHASE. SEE PHASE DESCRIPTION FOR ADDITIONAL INFORMATION.
- ALL AREAS OF WORK LISTED UNDER PHASING DIAGRAM AND OR OUTLINED IN THIS SET OF DRAWINGS REGARDLESS OF PHASE SHALL BE INCLUDED IN SUBMITTED BID SCHEDULE.

HOURS OF WORK DAYTIME HOURS: DAYLIGHT HOURS - 7:00AM TO 5:00PM
NIGHTTIME HOURS: SUNDAY NIGHT THROUGH FRIDAY MORNING

BID SCHEDULE

| AREA OF WORK | TYPE OF ROOF | OVERVIEW OF WORK IN AREA |
|------------------|------------------|--|
| BASE BID | | |
| GUTTER A | EXISTING GUTTER | LOCATED ON ROOF AREA 17, WORK REQUIRED MODIFICATION OF +/- 8'-0" OF THE EXISTING SSMR |
| GUTTER B | EXISTING GUTTER | LOCATED ON ROOF AREA 16, WORK REQUIRED MODIFICATION OF +/- 8'-0" OF THE EXISTING SSMR |
| GUTTER C,D,E | EXISTING GUTTER | LOCATED ON ROOF AREA 15 WORK REQUIRED MODIFICATION OF +/- 8'-0" OF THE EXISTING SSMR |
| AREA 11 | FLAT/SLOPED ROOF | RE-ROOF AREA AS INDICATED ON PLANS AND SPECIFICATIONS |
| AREA 13 | FLAT/SLOPED ROOF | RE-ROOF AREA AS INDICATED ON PLANS AND SPECIFICATIONS |
| AREAS 12, 15, 17 | EXISTING SSMR | NO ANTICIPATED WORK IN THESE AREAS WITH THE EXCEPTION OF ADJACENT GUTTERS. SEE GUTTER AREAS FOR ADDITIONAL INFORMATION |
| GUTTER F | EXISTING GUTTER | NO ANTICIPATED WORK IN THIS AREA |

ADDITIVE BID ALTERNATE 1

| | | |
|----------|------------------|---|
| GUTTER G | EXISTING GUTTER | LOCATED ON ROOF AREA 4 WORK REQUIRED MODIFICATION OF +/- 8'-0" OF THE EXISTING SSMR |
| AREA 5 | FLAT/SLOPED ROOF | RE-ROOF AREA AS INDICATED ON PLANS AND SPECIFICATIONS |
| AREA 6 | FLAT/SLOPED ROOF | RE-ROOF AREA AS INDICATED ON PLANS AND SPECIFICATIONS |
| AREA 7 | FLAT/SLOPED ROOF | RE-ROOF AREA AS INDICATED ON PLANS AND SPECIFICATIONS |
| AREA 8 | FLAT/SLOPED ROOF | RE-ROOF AREA AS INDICATED ON PLANS AND SPECIFICATIONS |
| AREA 9 | FLAT/SLOPED ROOF | RE-ROOF AREA AS INDICATED ON PLANS AND SPECIFICATIONS |
| AREA 10 | FLAT/SLOPED ROOF | RE-ROOF AREA AS INDICATED ON PLANS AND SPECIFICATIONS |
| AREA 14 | FLAT/SLOPED ROOF | RE-ROOF AREA AS INDICATED ON PLANS AND SPECIFICATIONS |
| AREA 4 | EXISTING SSMR | NO ANTICIPATED WORK IN THIS AREA WITH THE EXCEPTION OF GUTTER "G". SEE GUTTER AREA FOR ADDITIONAL INFORMATION |

ADDITIVE BID ALTERNATE 2

| | | |
|----------|------------------|---|
| GUTTER H | EXISTING GUTTER | LOCATED ON ROOF AREA 1 WORK REQUIRED MODIFICATION OF +/- 8'-0" OF THE EXISTING SSMR |
| AREA 2 | FLAT/SLOPED ROOF | RE-ROOF AREA AS INDICATED ON PLANS AND SPECIFICATIONS |
| AREA 3 | FLAT/SLOPED ROOF | RE-ROOF AREA AS INDICATED ON PLANS AND SPECIFICATIONS |
| AREA 1 | EXISTING SSMR | NO ANTICIPATED WORK IN THIS AREA WITH THE EXCEPTION OF GUTTER "H". SEE GUTTER AREA FOR ADDITIONAL INFORMATION |

ADDITIVE BID ALTERNATE 3

REPLACEMENT OF TRANSLUCENT INSULATED SANDWICH PANEL SKYLIGHT

PHASING LEGEND

← AREA ACCESS POINTS TO AND FROM TERMINAL BUILDER THAT MUST REMAIN ACCESSIBLE AT ALL TIMES. ALL OTHER ACCESS AREAS MUST BE COORDINATED AND APPROVED BY BIAA.

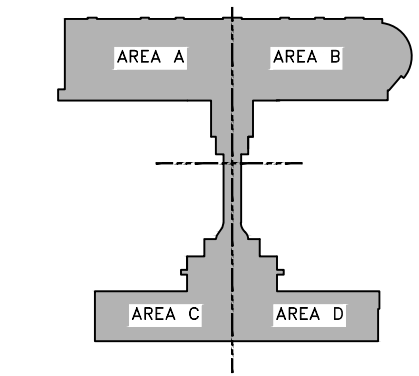
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KEY PLAN

REVISIONS

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DATE ISSUED: NOVEMBER 14, 2022
REVIEWED BY: TR
DRAWN BY: RH
DESIGNED BY: RH

FAA PROJECT NUMBER
N/A
MDOT PROJECT NUMBER
N/A
RS&H PROJECT NUMBER
210-00-077.000

SHEET TITLE
PROJECT PHASING AND GENERAL ROOF ACCESS

SHEET NUMBER
G003
BID DOCUMENTS

DESIGN CRITERIA:

- DESIGN PER:
2015 MICHIGAN BUILDING CODE
2015 MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS
1. LIVE LOADS (PER ASCE 7-10):
ROOF*.....20 PSF
2. WIND LOADS (PER ASCE 7-10):
ULTIMATE DESIGN WIND SPEED, Vult.....120 MPH
NOMINAL DESIGN WIND SPEED, Vasd.....93 MPH
RISK CATEGORY.....III
WIND EXPOSURE CATEGORY.....C
INTERNAL PRESSURE COEFFICIENT.....+/-0.18
COMPONENTS AND CLADDING PRESSURES.....SEE 1/S001
3. SEISMIC DESIGN DATA (PER ASCE 7-10):
RISK CATEGORY.....III
SEISMIC IMPORTANCE FACTOR.....I_s = 1.25
MAPPED SPECTRAL RESPONSE ACCELERATIONS.....S_s = 0.075
MAPPED SPECTRAL RESPONSE ACCELERATIONS.....S₁ = 0.042
SPECTRAL RESPONSE COEFFICIENT.....S_{rs} = 0.08
SPECTRAL RESPONSE COEFFICIENT.....S_{ri} = 0.068
SITE CLASS*.....D
SEISMIC DESIGN CATEGORY.....B
4. SNOW LOADS (PER ASCE 7-10):
GROUND SNOW LOAD.....P_g = 30 PSF
FLAT ROOF SNOW LOAD.....P_f = 21 PSF
SNOW EXPOSURE FACTOR*.....C_e = 0.9
SNOW IMPORTANCE FACTOR.....I_s = 1.1
THERMAL FACTOR*.....C_t = 1.0
SNOW DRIFT LOADING.....SEE S002
- * DENOTES INFORMATION OBTAINED FROM STRUCTURAL RECORD DRAWINGS FOR LANDSIDE EXPANSION, DATED 09/15/2003.

ULTIMATE ROOF WIND PRESSURES FOR LOW ROOF AREAS BETWEEN GL 1 AND 6 (PSF)

| ZONE | EFFECTIVE WIND AREA (SF) | | | |
|-----------|--------------------------|-------|-------|-------|
| | < 10 | 20 | 50 | 100 |
| 1 | -34.4 | -33.4 | -32.1 | -31.2 |
| 2 | -59.8 | -55.0 | -48.7 | -43.9 |
| 3 | -88.4 | -82.7 | -75.1 | -69.3 |
| ALL ZONES | 21.6 | 19.7 | 17.2 | 16.0 |

ULTIMATE WALL WIND PRESSURES FOR LOW ROOF AREAS BETWEEN GL 1 AND 6 (PSF)

| ZONE | EFFECTIVE WIND AREA (SF) | | | |
|-----------|--------------------------|-------|-------|-------|
| | < 10 | 20 | 50 | 100 |
| 4 | -40.7 | -39.0 | -36.8 | -35.1 |
| 5 | -50.3 | -46.9 | -42.4 | -39.0 |
| ALL ZONES | 37.5 | 35.8 | 33.6 | 31.9 |

ULTIMATE ROOF WIND PRESSURES FOR HIGH ROOF BETWEEN GL 4 AND 8 AND ALL ROOF SURFACES BETWEEN GL 8 AND 20 (PSF)

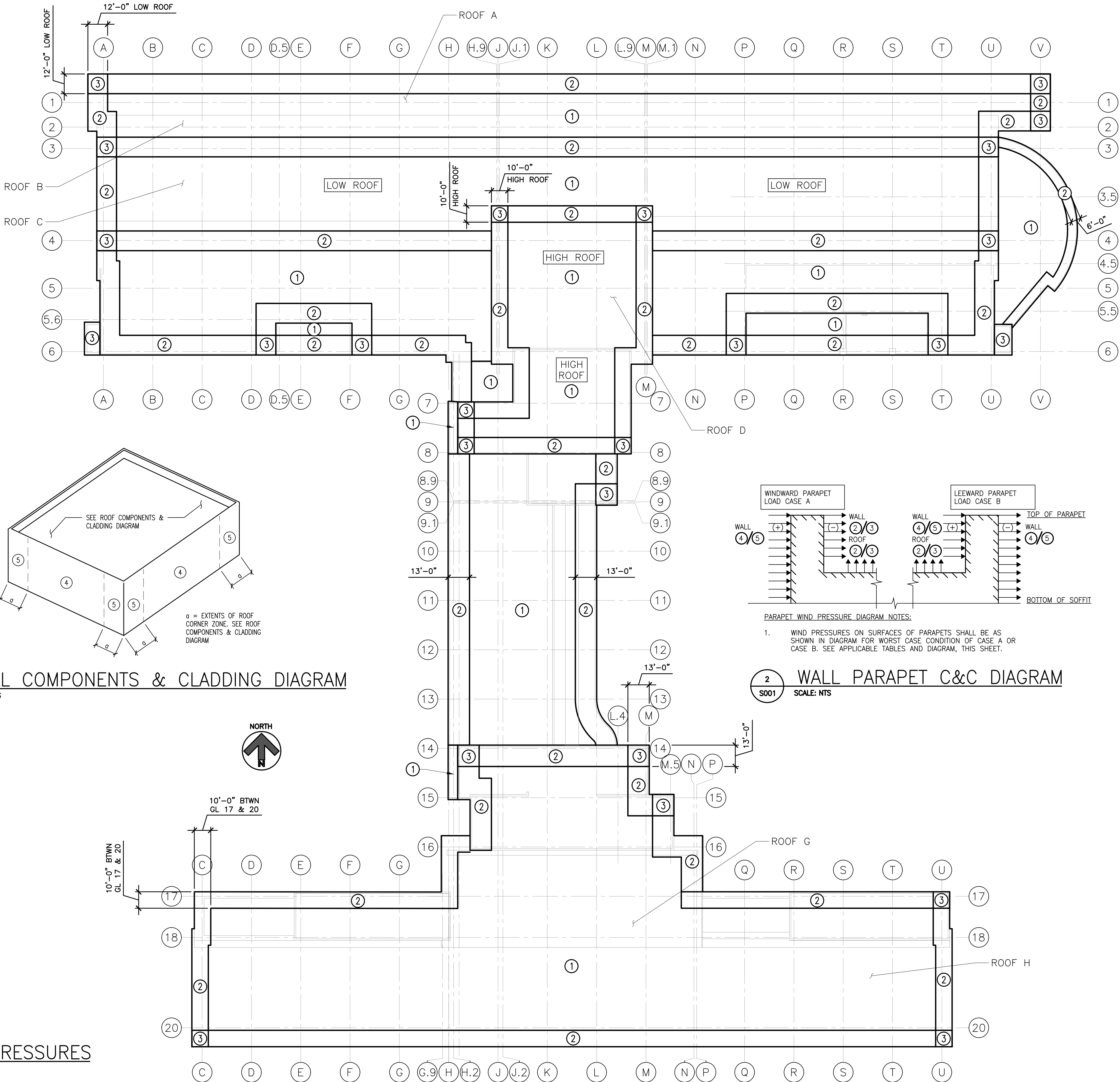
| ZONE | EFFECTIVE WIND AREA (SF) | | | |
|-----------|--------------------------|-------|-------|-------|
| | < 10 | 20 | 50 | 100 |
| 1 | -39.2 | -38.2 | -36.8 | -35.8 |
| 2 | -65.7 | -58.7 | -49.5 | -42.5 |
| 3 | -98.9 | -81.9 | -59.5 | -42.5 |
| ALL ZONES | 16.0 | 16.0 | 16.0 | 16.0 |

ULTIMATE WALL WIND PRESSURES FOR HIGH ROOF BETWEEN GL 4 AND 8 AND ALL ROOF SURFACES BETWEEN GL 8 AND 20 (PSF)

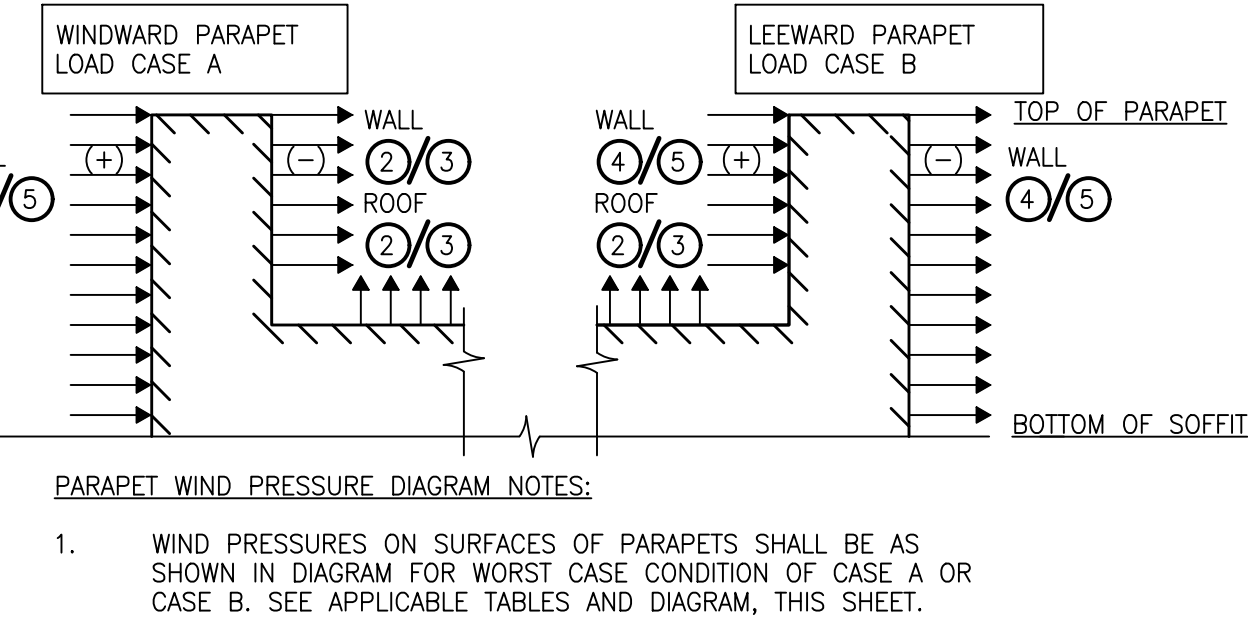
| ZONE | EFFECTIVE WIND AREA (SF) | | | |
|-----------|--------------------------|-------|-------|-------|
| | < 10 | 20 | 50 | 100 |
| 4 | -38.8 | -37.2 | -35.1 | -33.6 |
| 5 | -47.8 | -44.6 | -40.4 | -37.2 |
| ALL ZONES | 35.8 | 34.3 | 32.2 | 30.6 |

- NOTES:
1. EDGE ZONE (a) IS DISTANCE FROM CORNERS OF BUILDINGS AND IS SHOWN ON DIAGRAM ABOVE.
2. POSITIVE AND NEGATIVE SIGNS SIGNIFY PRESSURES ACTING TOWARDS AND AWAY FROM THE BUILDING SURFACES, RESPECTIVELY.
3. FOR EFFECTIVE AREAS BETWEEN VALUES GIVEN, LINEAR INTERPOLATION MAY BE USED. OTHERWISE USE THE LOWER EFFECTIVE AREA.
4. CALCULATE NET UPLIFT PRESSURES USING ASCE 7 LOAD COMBINATIONS: 0.6D+0.6W (ASD) OR 0.9D+W (LRFD)

1
S001
COMPONENT AND CLADDING WIND PRESSURES
SCALE: NTS



3
S001
WALL COMPONENTS & CLADDING DIAGRAM
SCALE: NTS



- PARAPET WIND PRESSURE DIAGRAM NOTES:
1. WIND PRESSURES ON SURFACES OF PARAPETS SHALL BE AS SHOWN IN DIAGRAM FOR WORST CASE CONDITION OF CASE A OR CASE B. SEE APPLICABLE TABLES AND DIAGRAM, THIS SHEET.

2
S001
WALL PARAPET C&C DIAGRAM
SCALE: NTS

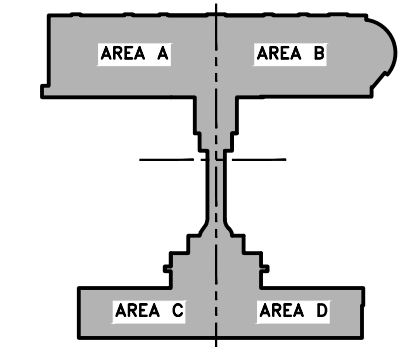


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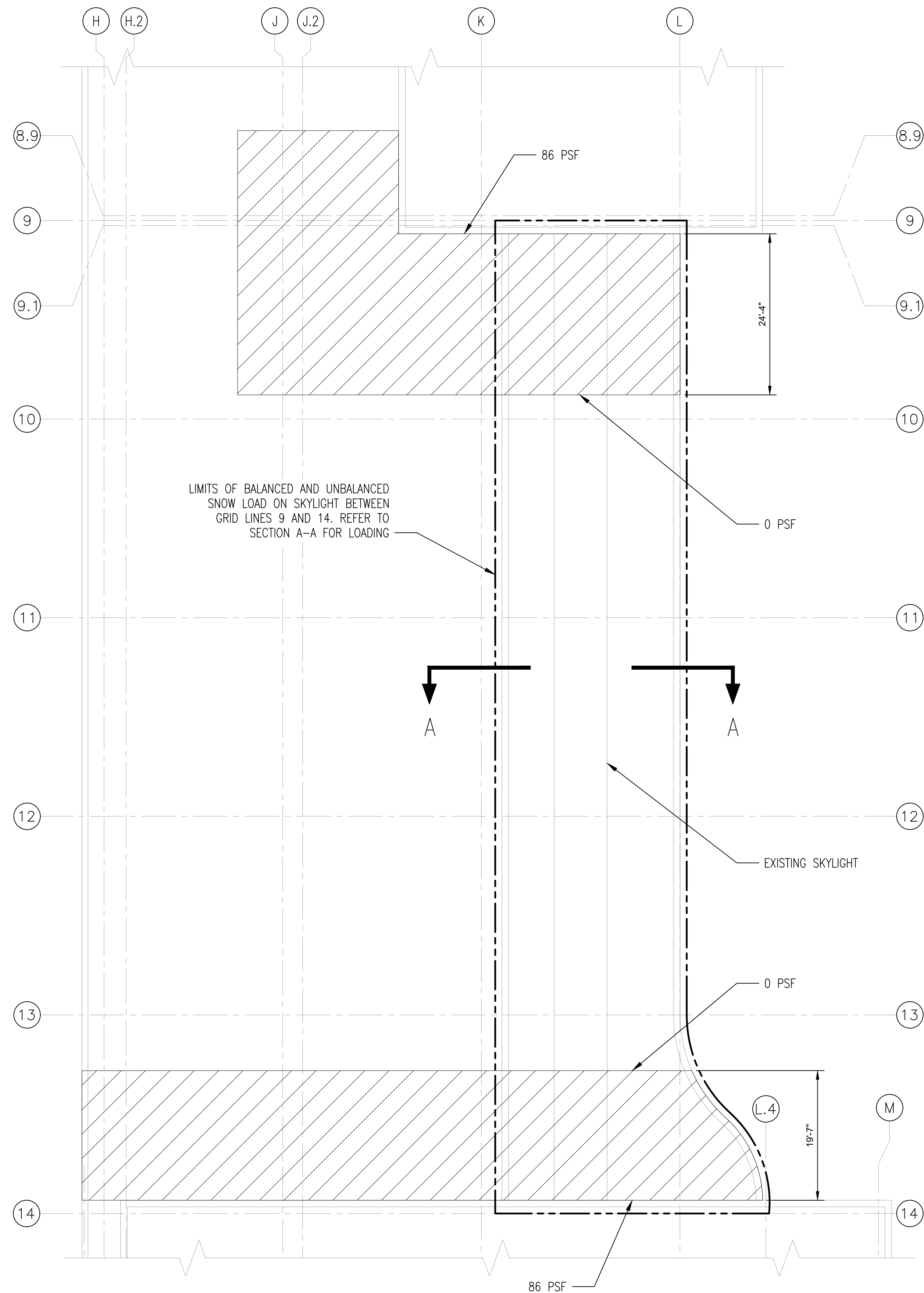
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GENERAL
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NOTES - 1

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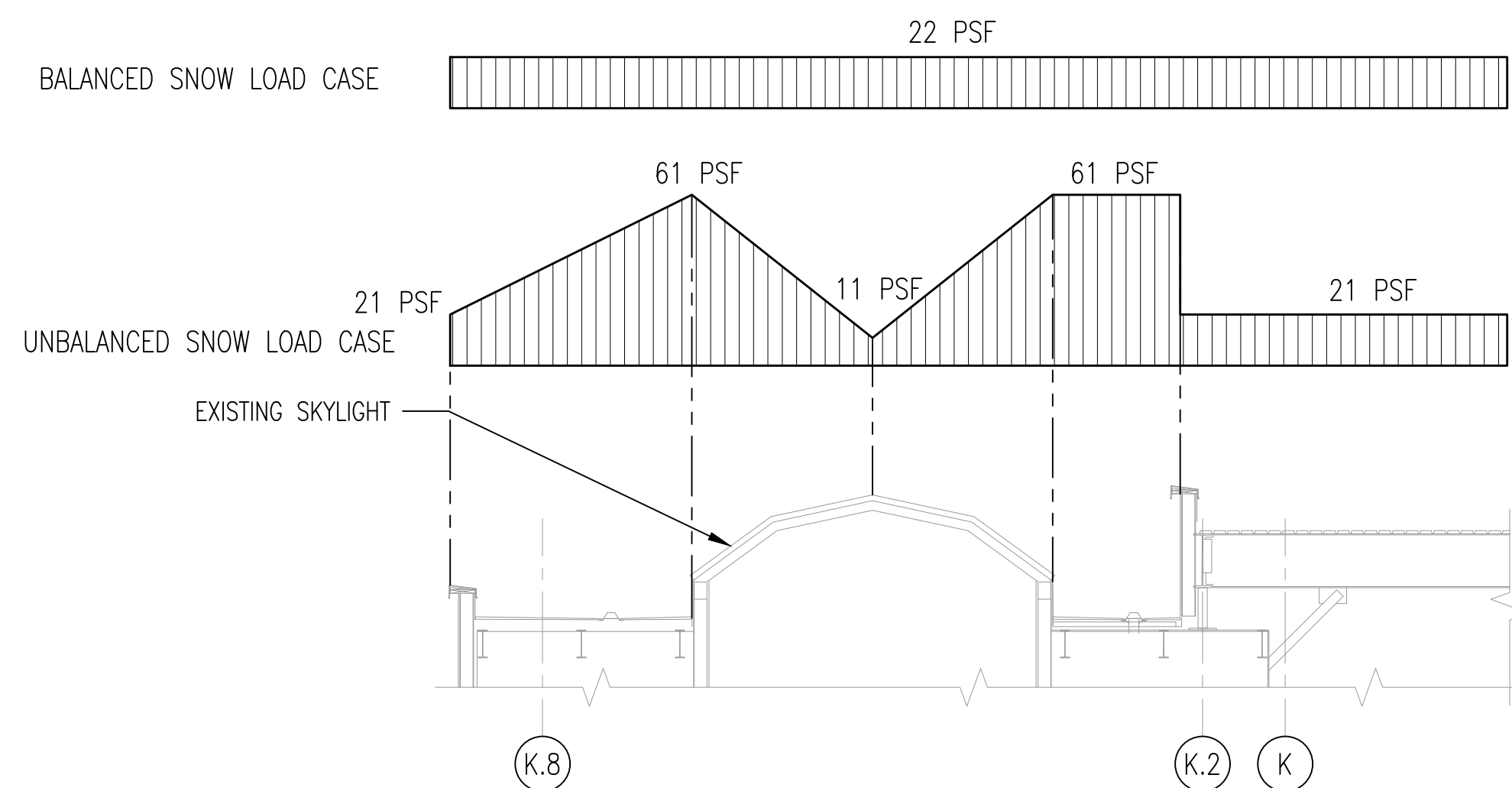
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1
S002

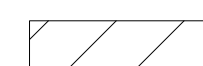
ROOF SNOW LOADING – PARTIAL PLAN

SCALE: 3/32"=1'-0"



A-A
S002
SECTION
SCALE: NTS

LEGEND:

 ROOF SNOW DRIFT LOAD, USE LINEAR INTERPOLATION BETWEEN POINTS. SNOW DRIFT LOAD IS IN ADDITION TO BALANCED SNOW LOAD CASE.

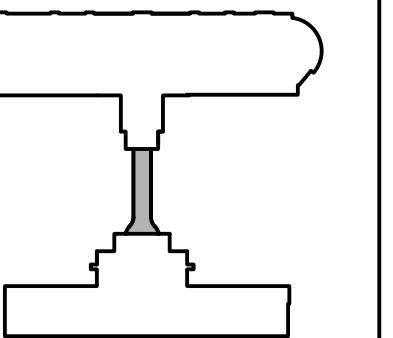
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**GENERAL
STRUCTURAL
NOTES - 2**

SHEET NUMBER

S002

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PHOTOGRAPH 1



PHOTOGRAPH 2



PHOTOGRAPH 3



PHOTOGRAPH 4



PHOTOGRAPH 5



PHOTOGRAPH 6



PHOTOGRAPH 7



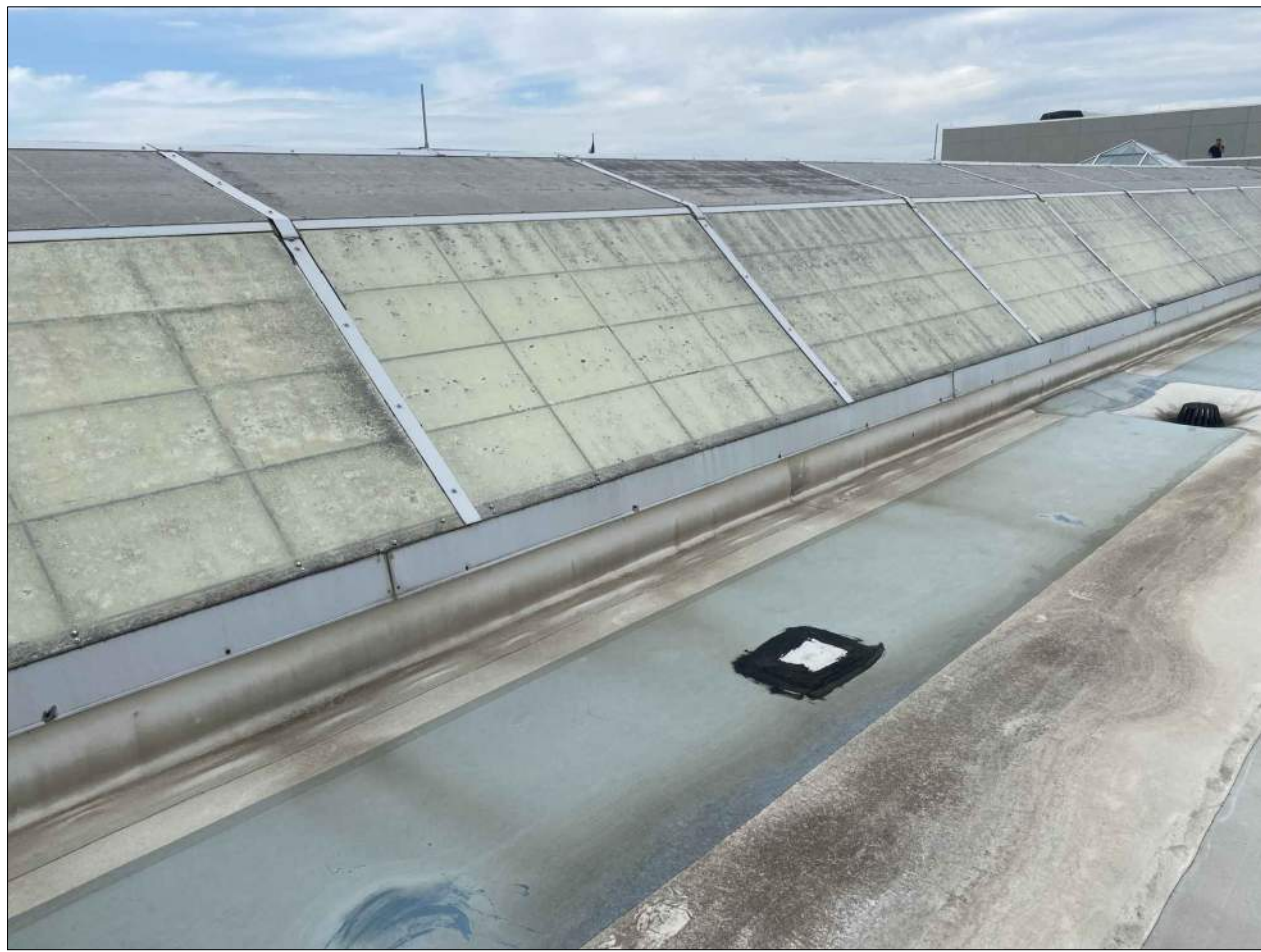
PHOTOGRAPH 8



PHOTOGRAPH 9



PHOTOGRAPH 10



PHOTOGRAPH 11



PHOTOGRAPH 12

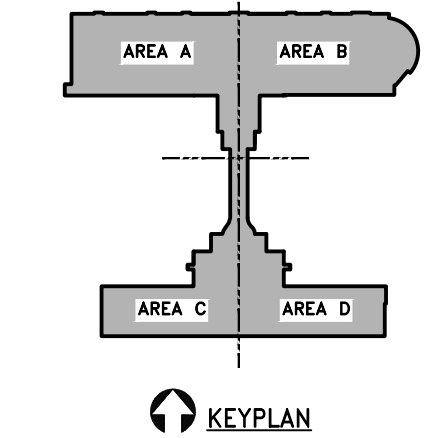
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**SITE
CONDITION
PHOTOS**

SHEET NUMBER

G100

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PHOTOGRAPH 13



PHOTOGRAPH 14



PHOTOGRAPH 15



PHOTOGRAPH 16



PHOTOGRAPH 17



PHOTOGRAPH 18



PHOTOGRAPH 19



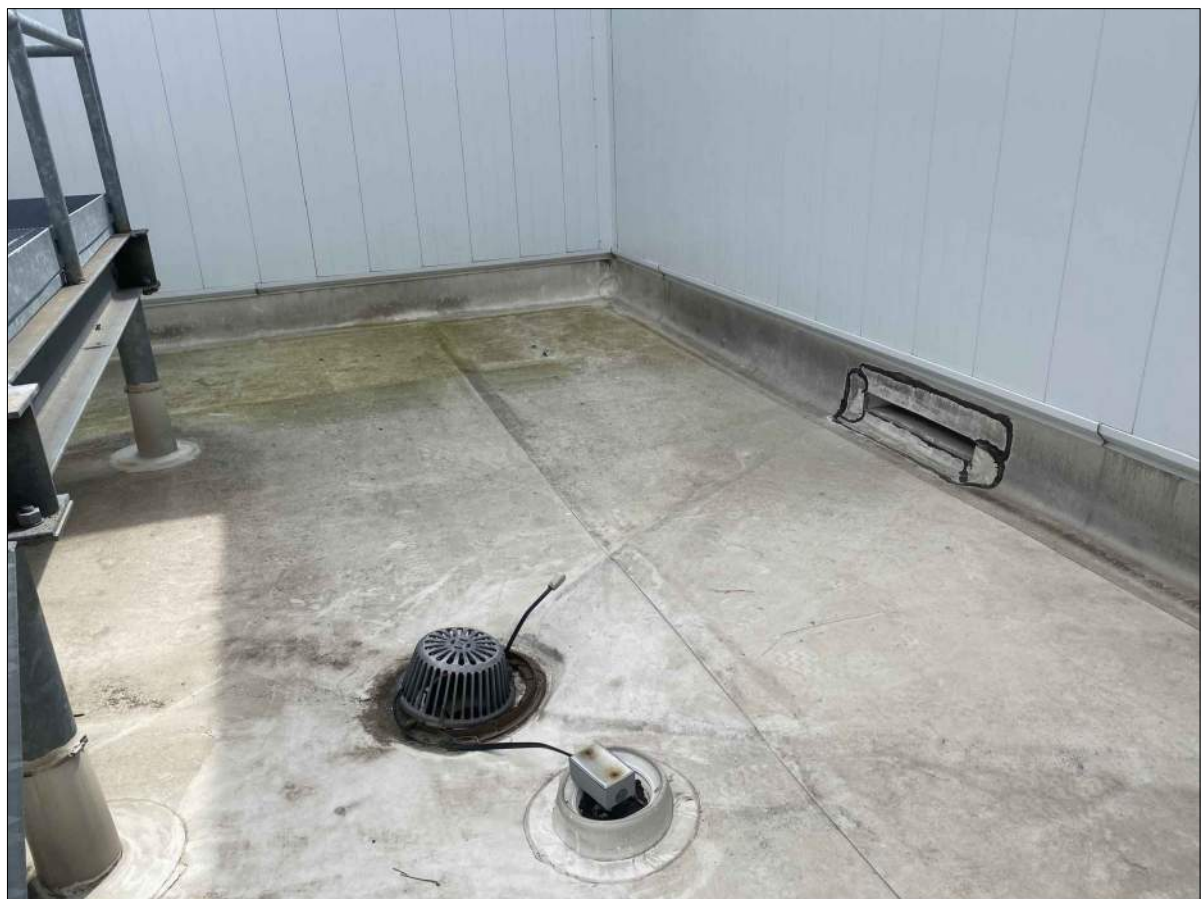
PHOTOGRAPH 20



PHOTOGRAPH 21



PHOTOGRAPH 22



PHOTOGRAPH 23



PHOTOGRAPH 24

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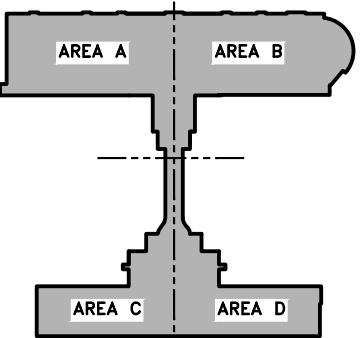
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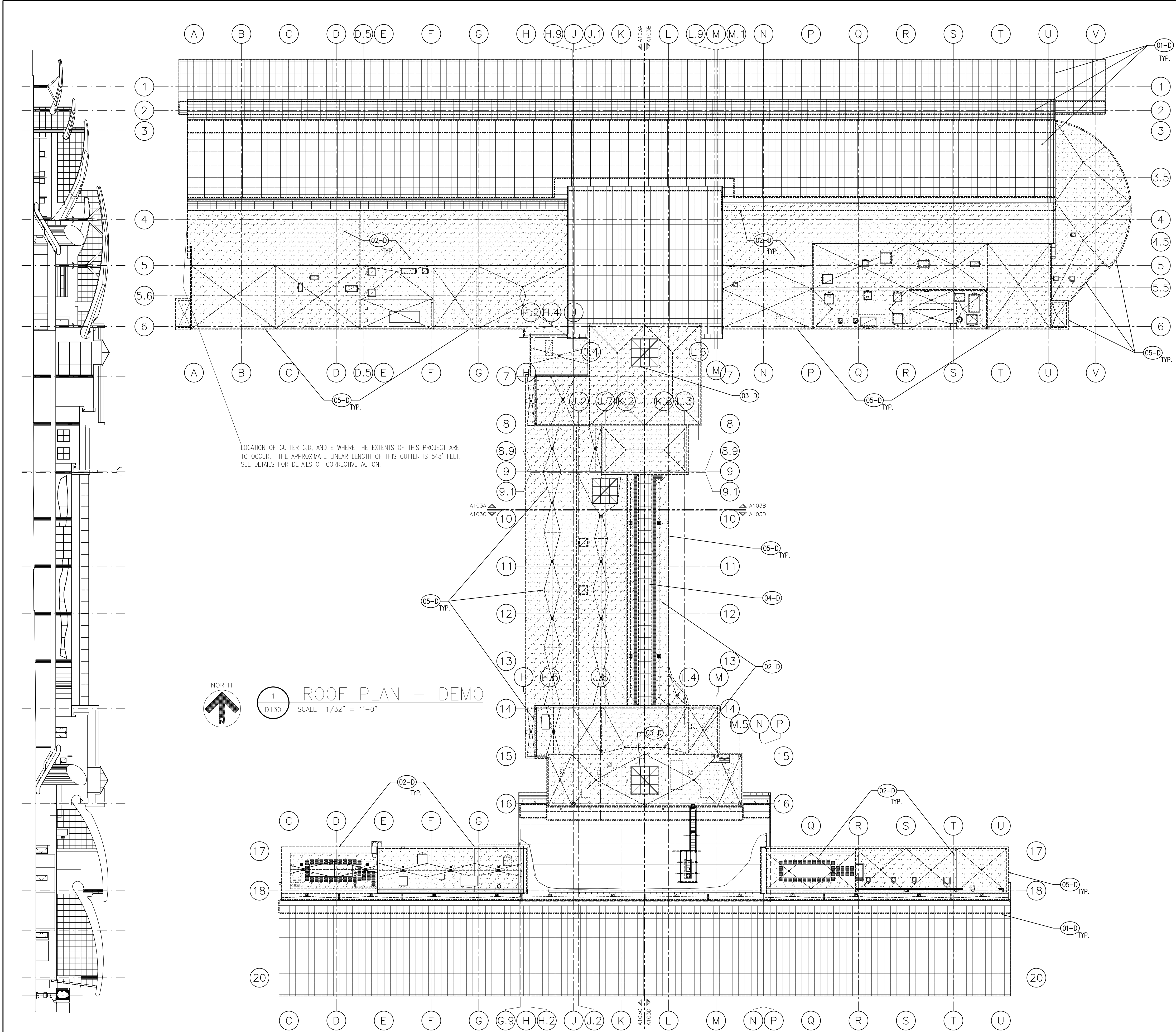
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CONDITION
PHOTOS**

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GENERAL ROOFING NOTES

- DEMOLITION INCLUDES THE REMOVAL AND DISPOSAL OF ALL REMOVING MEMBRANES, FLASHING, COUNTER FLASHING, INSULATION, ETC. AS REQUIRED FOR NEW ROOFING MEMBRANE AND OR AS INDICATED BY PLANS AND DETAILS.
- ALL DEBRIS IS TO BE REMOVED FROM THE JOBSITE DAILY TO LIMIT FOREIGN OBJECT DEBRIS (FOD) FROM ENTERING THE AIRPORT OPERATIONS AREA(S). ALL DEBRIS MUST BE REMOVED TO DUMPSTER LOCATED UN STAGING AREA AND OFFSITE AS INDICATED ON PROJECT STAGING SHEETS.
- CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL AIRPORT TRAFFIC DURING CONSTRUCTION. ALL MOVEMENT IN AIRPORT OPERATIONS MUST BE COORDINATED WITH THE AIRPORT PRIOR TO WORK.
- EXISTING TRANSLUCENT FIBERGLASS INSULATED PANEL(S) SKYLIGHT TO BE DEMOLISHED AND DISCARDED AS PART OF CONSTRUCTION, SEE PHASE "B" FOR AREA OF WORK. THIS WORK SHALL BE DONE IN CONJUGATION WITH INSTALLATION OF NEW ROOF MEMBRANE AND INSTALLATION OF NEW TRANSLUCENT FIBERGLASS INSULATED PANEL(S).
- PROTECT ALL SURROUNDING AREA OF WORK FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE AND SHALL REPAIR ANY DAMAGE CREATED DURING THIS PROJECT IN A TIMELY MANNER. DEMOLITION MUST BE DONE IN MANNER TO LIMIT THE AMOUNT OF BEING COMPLETED AT A TIME TO LIMIT ANY OPEN CONDITIONS AND TO PREVENT DAMAGE INTERNAL TO THE TERMINAL BUILDING.
- DEMOLITION MUST BE DONE IN MANNER TO LIMIT ANY OPEN CONDITIONS AND TO PREVENT DAMAGE INTERNAL TO THE TERMINAL BUILDING.
- CONTRACTOR TO SCHEDULE AND COORDINATE WITH AIRPORT AND TENANTS PRIOR TO BEGINNING DEMOLITION WORK. MAINTAIN EXISTING OPERATIONS, PROTECT EXISTING FINISHES AND EQUIPMENT, AND RESTORE FINISHES AND(EQUIPMENT IF DAMAGED) REMOVED OR DAMAGED AS PART OF THE WORK OF THIS PROJECT.
- NEITHER THE A/E OR OWNER GUARANTEE THE ACCURACY OF THE EXISTING CONDITIONS DEFINED WITHIN THE CONTRACT DOCUMENTS OR RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS.
- DEMOLITION WORK SHALL BE PHASED TO ACCOMMODATE NEW WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND SEQUENCING NEW AND DEMO WORK, IN ORDER TO PROVIDE A FINISHED AND OCCUPIED /USEABLE SPACE AT THE COMPLETION OF EACH PHASE OF THE WORK.
- ALL DEMOLITION WORK, TEMPORARY REMOVAL OF EXISTING ELEMENTS, AND REINSTALLATION OF TEMPORARILY REMOVED ELEMENTS, FOR INSTALLATION OF NEW WORK SHALL BE INCLUDED IN THE GENERAL CONTRACTOR'S BID. ANY STRUCTURAL FRAMING TO BE DEMOLISHED BY GENERAL CONTRACTOR SHALL BE REVIEWED IN THE FIELD BY THE STRUCTURAL ENGINEER PRIOR TO DEMO WORK PROCEEDING, AS PART OF PRE-DEMOLITION MEETING.
- WHEN ITEMS ARE SHOWN AS DEMOLISHED, ALL ASSOCIATED ABANDONED CONDUIT, WIRE HANGERS, STRAPS, AND SUPPORTS MUST ALSO BE REMOVED.
- EXISTING UTILITIES ARE TO BE MAINTAINED DURING CONSTRUCTION. G.C. SHALL NOTIFY THE AIRPORT AUTHORITY OF ANY UTILITY DISRUPTIONS 72 HOURS IN ADVANCE AND PROVIDE INTERIM UTILITIES AS REQUIRED.
- REFERENCE OTHER DISCIPLINES -STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE ALARM, ETC. FOR ADDITIONAL DEMOLITION REQUIREMENTS.
- THE AIRPORT/AIRLINE OPERATIONS SHALL BE MAINTAINED AT ALL TIMES; THE CONTRACTOR'S WORK MAY BE INTERRUPTED IF AIRPORT/AIRLINE OPERATIONS ARE IMPACTED; THE CONTRACTOR'S SCHEDULE & SEQUENCE OF WORK SHALL BE COORDINATED WITH THE AIRPORT & AIRLINES.
- THE CONTRACTOR IS TO PROTECT EXISTING FINISHES AND BUILDING ENVELOPE, AND MAKE REPAIRS TO THE EXISTING FINISHES AND FIRE PROOFING WHERE DAMAGED AS PART OF THE NEW WORK ASSOCIATED WITH THIS PROJECT.
- NOTES APPEAR ON VARIOUS DRAWINGS FOR DIFFERENT SYSTEMS AND MATERIALS. REVIEW ALL SHEETS AND APPLY NOTES TO RELATED BUILDING COMPONENTS.
- REFER TO COMPLETE SET OF ISSUED CONTRACT DOCUMENTS FOR OTHER APPLICABLE NOTES, ABBREVIATIONS, AND SYMBOLS.
- DEMOLITION NOTES ARE TO DEFINE INTENT. DEMOLITION SHALL INCLUDE ALL ITEMS INDICATED ON THE PLANS AND ALL OTHER ITEMS REQUIRED TO BE DEMOLISHED IN ORDER TO ACCOMPLISH NEW CONSTRUCTION AND FINISHES INDICED ELSEWHERE ON THE ENTIRE SET OF CONTRACT DOCUMENTS. ALL CONTRACTOR(S), SUBCONTRACTORS AND VENDORS SHALL FIELD VERIFY ALL PRIOR TO DEMOLITION.
- CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, FITTING AND PATCHING OF THE WORK NECESSARY TO MAKE ITS SEVERAL PARTS FIT TOGETHER PROPERLY AND PERMIT INSTALLATION OF REPLACEMENT WORK BY HIS OWN FORCES OR HIS SUBCONTRACTORS, AND TO FULLY REPAIR AND REFINISH DISTURBED STRUCTURE AND SURFACES.
- UTILITIES SUCH AS ELECTRIC,SANITARY, LIGHTING, ETC., SHALL NOT BE INTERRUPTED AT ANY TIME W/OUT 72 HOUR NOTICE TO AND APPROVAL BY THE OWNER.
- OCCUPANTS SHALL BE PROTECTED FROM WEATHER & CONSTRUCTION ACTIVITIES AT ALL TIMES.
- REMOVE DEMOLITION MATERIALS AND DEBRIS FROM PROJECT SITE AS SPECIFIED. DEMOLITION MATERIALS AND DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL CODE REQUIREMENTS AND IS THE REQUIREMENT OF THE GENERAL CONTRACTOR. ALL WORK AREAS MUST BE CLEANED DAILY AND PRIOR TO ANY INCOMING WEATHER EVENTS.
- THE OWNER RESERVES THE RIGHT TO SALVAGE ANY EQUIPMENT OR MATERIALS. A FINAL REMOVAL DATE WILL BE AGREED UPON PRIOR TO THE CONTRACTOR COMMENCING WORK. ANY ITEMS REMAINING AFTER THAT SHALL BE DISPOSED OF BY THE CONTRACTOR.

LEGEND

- INDICATES AREA OF FLAT AND OR LOW ROOF AREAS TO RECEIVE DEMOLITION OF EXISTING ROOF. NOT AREAS INCLUDED PORTION OF MEMBRANE THAT TURNS UP WALLS.
- INDICATES AREAS OF STANDING SEAM METAL ROOFING WITH SELECTIVE DEMOLITION, SEE PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- INDICATES APPROXIMATE AREA SSMR REMOVAL
- INDICATES AREA OF COPING (FLASHING, COUNTER FLASHING, BLOCKING, ETC.) TO BE DEMO'D

KEYNOTES

- EXISTING STANDING SEAM ROOF SYSTEM TO REMAIN WITH SELECTIVE DEMOLITION AT GUTTERS, SEE PLANS AND DETAILS FOR ADDITIONAL INFORMATION. ALL SSMR SIDE SKIRTS, FASCIA, TRIMS AND ASSOCIATED METAL PANELS TO REMAIN, TYPICAL.
- AREA OF EXISTING SINGLE MEMBRANE ROOF MEMBRANE SYSTEM TO BE REMOVED INCLUDING INSULATION, COVER BOARDS, FLASHING, COUNTER FLASHING, ETC. AS REQUIRED FOR NEW ROOF MEMBRANE SYSTEM AND RELATED ELEMENTS.
- SKYLIGHT TO REMAIN. COORDINATE WITH NEW ROOFING SYSTEM.
- EXISTING TRANSLUCENT INSULATED FIBERGLASS PANELS TO BE DEMOLISHED. EXISTING ALUMINUM FRAMING TO REMAIN, DEMO AS REQUIRED FOR NEW PANELS, SEE SHEET A506 FOR ADDITIONAL INFORMATION AND SPECIFICATIONS.
- COPING, FLASHING, COUNTER FLASHING, BLOCKING, ETC. TO BE DEMOLISHED AS INDICATED ON DETAILS. SEE PLANS AND DETAILS FOR ADDITIONAL INFORMATION.

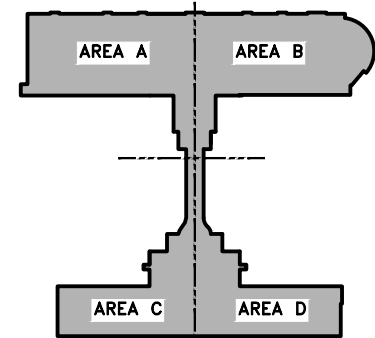
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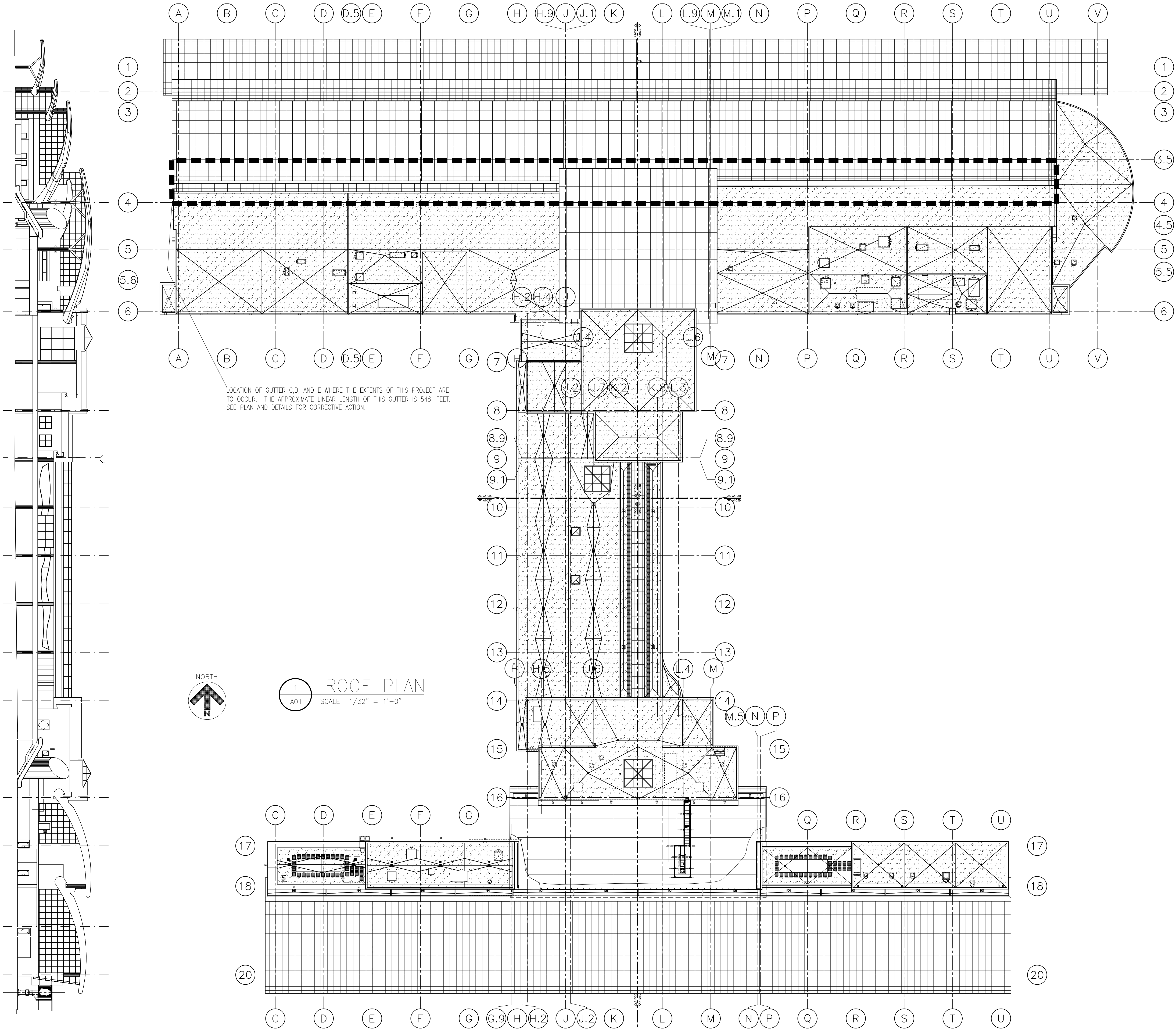
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**OVERALL ROOF
PLAN- DEMO**

SHEET NUMBER

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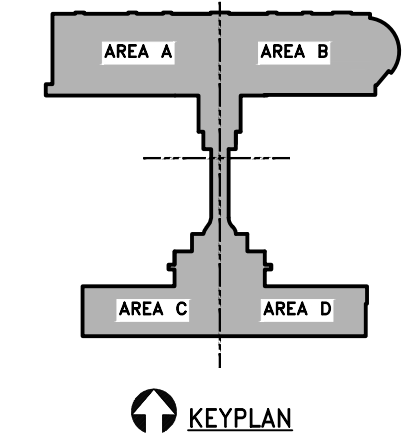


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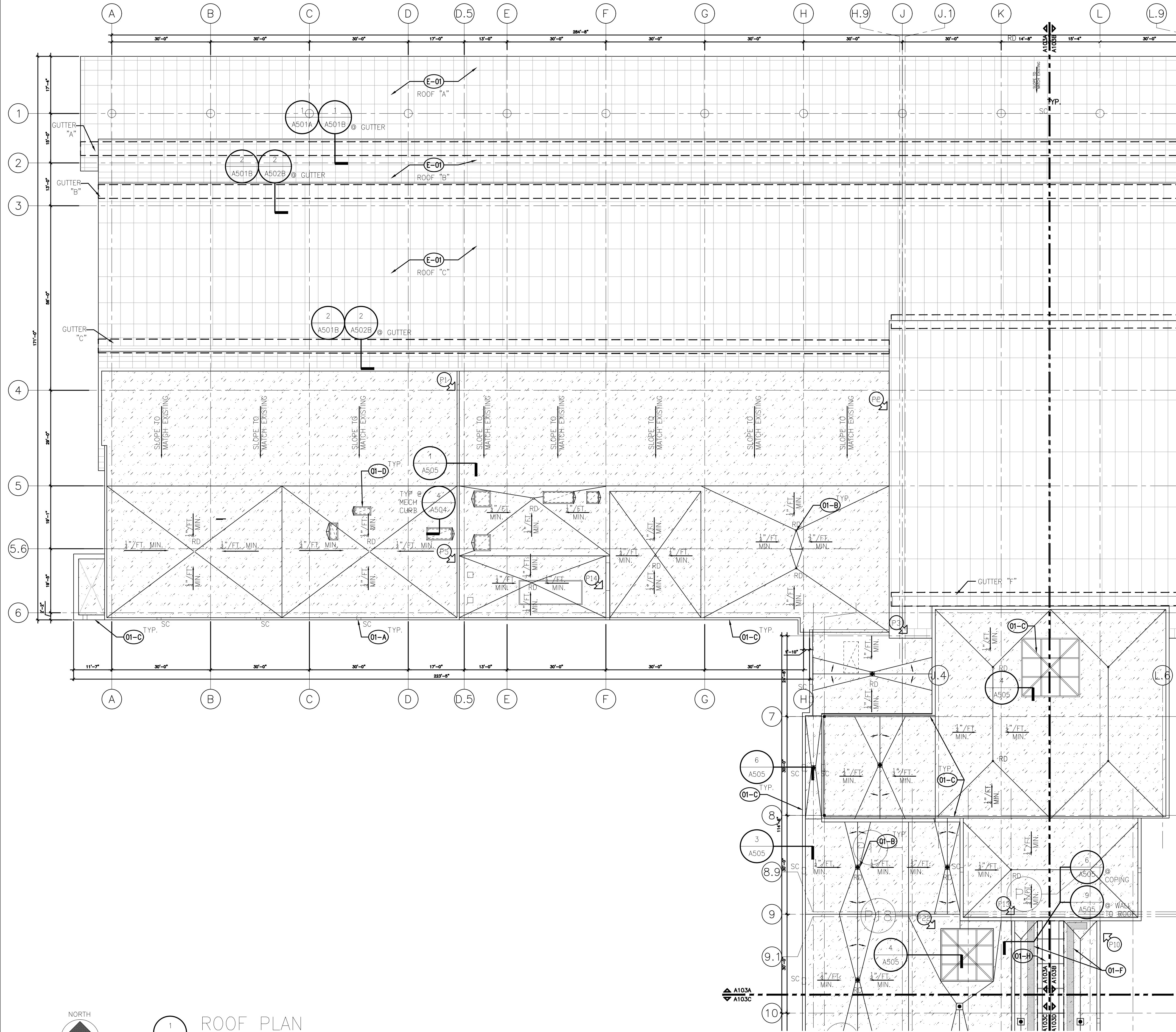
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GENERAL PROJECT NOTES

- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
- CONTRACTOR SHALL PREPARE AND PROVIDE A DEMOLITION AND CONSTRUCTION SCHEDULE PLAN TO THE OWNER FOR APPROVAL. SCHEDULE IS REQUIRED PRIOR TO THE START OF WORK. SCHEDULE SHOULD BE COORDINATED WITH PHASING AS INDICATED ON G003.
- CONTRACTOR SHALL NOTIFY BUILDING OWNER IN ADVANCE IF ANY WORK REQUIRES SHUTDOWN OR INTERRUPTION OF BUILDING SERVICES OR SYSTEMS (INCLUDED HVAC SYSTEMS).
- PROVIDE PROTECTIVE BARRIERS AND SIGNAGE AROUND LIMITS OF CONSTRUCTION, AND ALL AREAS OF ROOFTOP ACCESS. COORDINATE SECURITY, FIRE PROTECTION, AND SAFETY PROCEDURES WITH OWNER. PROPER PLANNING AND ADVANCE NOTICE (24 HRS MIN.) IS REQUIRED.
- PROVIDE DUST BARRIERS AS NECESSARY TO PROTECT EXISTING AREAS FROM DUST AND DEBRIS. PROTECT EXISTING ELEMENTS TO REMAIN. REPAIR AND REPAINT ADJACENT SURFACES DAMAGED OR MARRED AS A RESULT OF CONSTRUCTION WORK. DEBRIS MUST BE REMOVED DAILY.
- CONTRACTOR SHALL VERIFY FINAL FINISH SELECTIONS WITH A/E AND OWNER AND SUBMIT SAMPLES AS REQ'D.

GENERAL ROOFING NOTES

- PROJECT CONSISTS OF THE DEMOLITION OF EXISTING ROOF MEMBRANES ON TERMINAL ROOF, RIGID INSULATION, COVER BOARDS FLASHING, COUNTER FLASHING AND COPING AS REQUIRED FOR A NEW PVC ROOF MEMBRANE SYSTEM. WORK ALSO INCLUDED MINOR MODIFICATIONS TO THE EXISTING STANDING SEAM METAL ROOF (SSMR) TO ALLOW FOR A NEW EPDM ROOF AT SELECT GUTTERS. THE NEW PVC MEMBRANE SYSTEM SHALL BE FULLY ADHERED WITH BONDING ADHESIVE OVER A MINIMUM OF 2 LAYERS OF ROOF INSULATION WITH STAGGERED JOINTS. IN THOSE HIGH TRAFFIC AREAS (AROUND WALK OFF MATS, LADDER/LANDINGS AND MECHANICAL AREAS), AN ADDITIONAL LAYER OF 1/2" HD POLYISO (OR SIMILAR) TO BE UTILIZED. THIS IS ALLOWABLE TO BE A LAMINATED COMBO BOARD TO REDUCE THE FASTENERS AND MINIMIZE HANDLING. THE ROOF INSULATION WILL BE SECURED INTO THE METAL DECK WITH SCREWS AND PLATES TO ACHIEVE A I-90 WIND UPLIFT RATING AND AS REQUIRED BY MANUFACTURE. AREA OVER CONCRETE DECKING INSULATION ADHESIVE SHOULD BE USED FOR INSULATION ATTACHMENT. ALL SHEET METAL FLASHINGS SHALL BE REMOVED AND REPLACED. INSULATION SHALL HAVE AN R VALUE OF R30 OR 5.2" OF POLYISO INSULATION (OR EQUAL). SEE GUTTER DETAILS FOR AREAS WHERE EPDM ROOFING IS TO BE UTILIZED.
- ALL EXISTING STANDING SEAM (S.S.M.R) SHALL REMAIN UNLESS OTHERWISE INDICATED ON PLANS. SEE GUTTER DETAILS FOR SELECTIVE DEMOLITION.
- ALL ROOFTOP MECHANICAL UNITS ARE TO BE TEMPORARILY REMOVED AS REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW ROOFING SYSTEM. SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. ALL MECHANICAL AND ELECTRICAL PENETRATIONS TO RECEIVE NEW BOOTS, SLEEVES, ETC. AS REQUIRED BY ROOFING MANUFACTURER TO MEET ALL WARRANTIES (THIS INCLUDED STRUCTURAL SUPPORTS FOR MECHANICAL EQUIPMENT).
- SEE DETAILS AND MECHANICAL FOR NOTES REGARDING EXISTING DRAINS.
- CONTRACTOR TO VERIFY ALL NEW MATERIALS AND SYSTEMS ARE COMPATIBLE WITH EXISTING MATERIALS AND SUBSTRATES TO REMAIN. INSTALL ALL NEW MATERIALS AS REQUIRED PER MANUFACTURES REQUIREMENTS TO MEET ALL WARRANTIES.
- CONTRACTOR TO PROVIDE A FULL ASSESSMENT OF ALL EQUIPMENT PRIOR TO CONSTRUCTION TO INVENTORY/CATALOG ALL ROOFTOP EQUIPMENT, SEE MECHANICAL FOR ADDITIONAL INFORMATION.

LEGEND

- INDICATES AREA OF FLAT AND OR LOW ROOF AREAS TO RECEIVE DEMOLITION OF EXISTING ROOF AND INSTALLATION OF NEW ROOF AS NOTED IN DOCUMENTS. NOTE: SEE DETAILS WHERE MEMBRANE RUN VERTICALLY UP PARAPETS.
- WALK OFF MAT. PROVIDE EXTRA LAYER 1/2" OF HD POLYISO IN AREAS OF WALK OFF MATS
- INDICATES AREA OF COPING TO BE DEMO'D AND REPLACED AS INDICATED ON PLANS AND DETAILS, TYPICAL.
- PHOTO LOCATION FOR PHOTOS ON G100 AND G101

MATERIAL KEYNOTES

- SCUPPER DRAIN TO BE REMOVED IN ITS ENTIRETY INCLUDING ALL SEALANT AND MISC. HARDWARE. INSTALL NEW TWO PIECE SCUPPER, SEE DETAIL NOTED ON ROOF PLANS FOR ADDITIONAL INFORMATION. SIM TO 2/A503.
- EXISTING ROOF DRAIN AND STRAINER TO BE REMOVED AND CLEANED AND REINSTALLED AFTER INSTALLATION OF NEW SINGLE PLY ROOF MEMBRANE, SEE DETAIL A/A504 FOR ADDITIONAL INFORMATION. ALL PVC STRAINERS TO BE REPLACED WITH CAST IRON STRAINERS. SEE 5/A504, TYPICAL AT ROOF DRAIN.
- EXISTING PARAPET WITH ROOF COPING TO BE DEMOLISHED AND REPLACED WITH NEW METAL COPING, SEE DETAILS FOR ADDITIONAL INFORMATION. SIM TO 6/A503 U.O.N.
- EXISTING ROOF CURB MOUNTED MECHANICAL EQUIPMENT. TEMPORARILY REMOVE ROOF EQUIPMENT TO ALLOW FOR DEMO OF EXCISING ROOF AND INSTALLATION OF NEW ROOFING MEMBRANE SYSTEM. PROVIDE CRICKETS AS REQUIRED AND OR INDICATED TO SECURE POSITIVE STORM DRAINAGE AROUND CURBS. SEE 4/A504 FOR DETAIL AT CURB CONDITION.
- PLUMBING STACK TO REMAIN, INSTALL NEW FLASHING BOOT AS REQUIRED FOR NEW ROOFING, SEE PLANS AND DETAIL 2/A504 FOR ADDITIONAL INFORMATION.
- NEW MANUF. WALK OFF MATS, AN ADDITIONAL LAYER OF 1/2" HD POLYISO (OR SIMILAR) TO BE UTILIZED IN THIS AREA
- ROOF MOUNTED CONDENSING UNITS
- TRANSLUCENT FIBERGLASS INSULATED SANDWICH PANEL SKYLIGHT SYSTEM TO DEMO'D AND REPLACED, SEE SEE A506 FOR ENLARGED PLANS, DETAILS AND ADDITIONAL INFORMATION.

MATERIAL KEYNOTES EXISITNG

- EXISTING STANDING SEAM METAL ROOF TO REMAIN U.O.N. AND ARE IDENTIFIED AS ROOF 1,4,12,15,16 AND 17 ON SHEET G003. ASSOCIATED GUTTERS TO BE REPLACED WHICH REQUIRED SELECTIVE REMOVAL OF PORTIONS OF SSMR. SEE SECTION 1/A3.20 AND ROOF PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- EXISTING METAL SKIRT PANEL TO REMAIN
- EXISTING ROOF LADDER TO REMAIN
- EXISTING SKYLIGHT SYSTEM TO REMAIN, SEE 4/A404 FOR DETAIL AT SKYLIGHT CURB/SILL
- EXISTING GUTTER SYSTEM TO REMAIN
- EXISTING DOWNSPOUT AND STRAINER TO REMAIN
- EXISTING ROOF ACCESS LADDER TO REMAIN



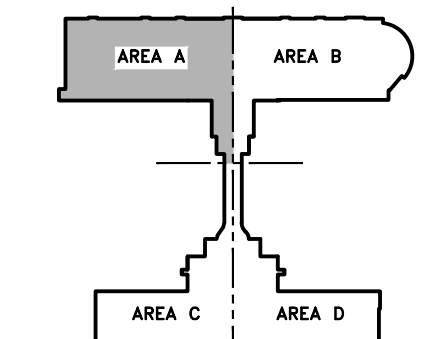
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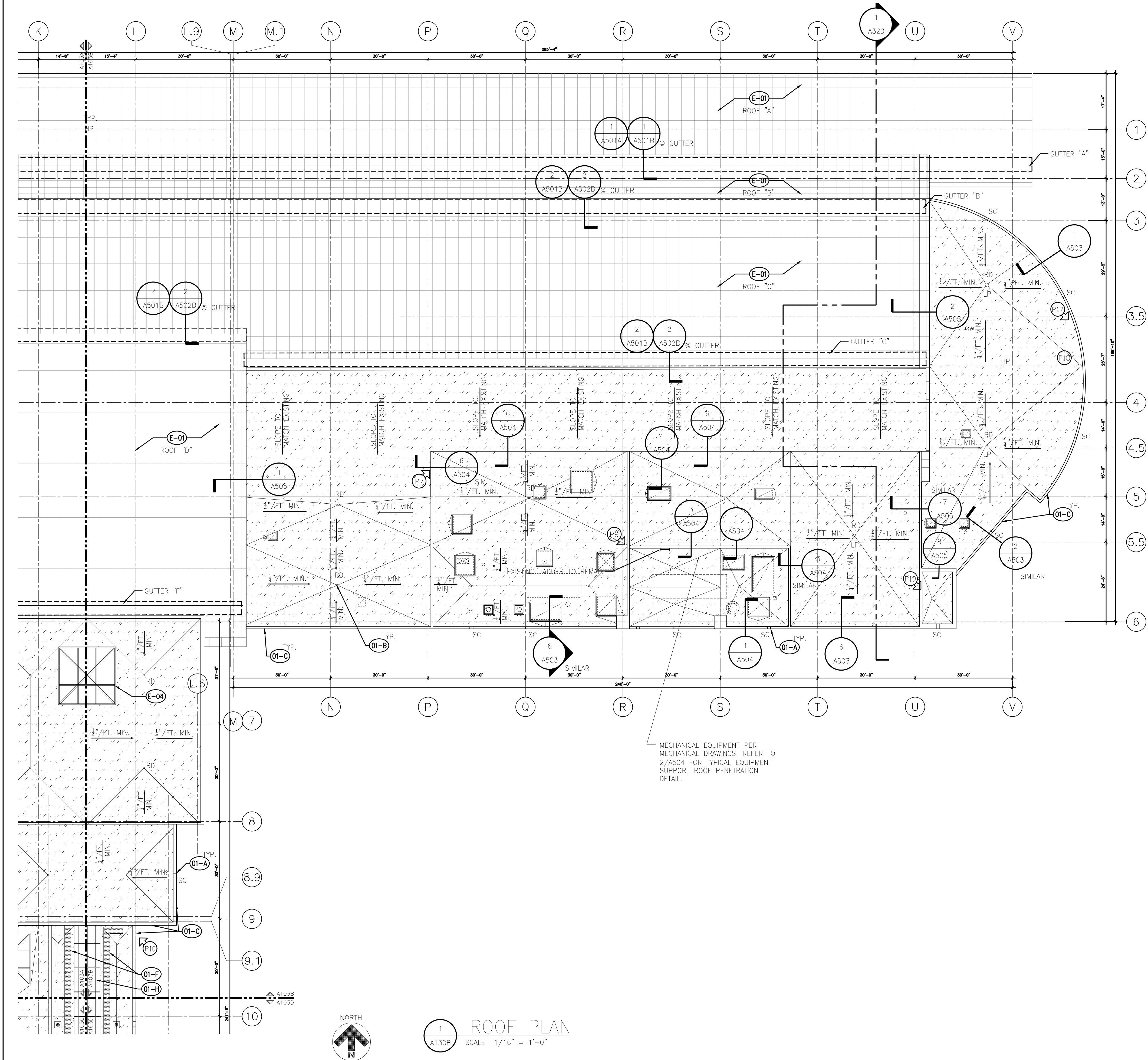
SHEET TITLE

**PARTIAL ROOF
PLAN - AREA A**

SHEET NUMBER

A130A

**BID
DOCUMENTS**



GENERAL PROJECT NOTES

- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
- CONTRACTOR SHALL PREPARE AND PROVIDE A DEMOLITION AND CONSTRUCTION SCHEDULE PLAN TO THE OWNER FOR APPROVAL. SCHEDULE IS REQUIRED PRIOR TO THE START OF WORK. SCHEDULE SHOULD BE COORDINATED WITH PHASING AS INDICATED ON G003.
- CONTRACTOR SHALL NOTIFY BUILDING OWNER IN ADVANCE IF ANY WORK REQUIRES SHUTDOWN OR INTERRUPTION OF BUILDING SERVICES OR SYSTEMS (INCLUDED HVAC SYSTEMS).
- PROVIDE PROTECTIVE BARRIERS AND SIGNAGE AROUND LIMITS OF CONSTRUCTION, AND ALL AREAS OF ROOFTOP ACCESS. COORDINATE SECURITY, FIRE PROTECTION, AND SAFETY PROCEDURES WITH OWNER. PROPER PLANNING AND ADVANCE NOTICE (24 HRS MIN.) IS REQUIRED.
- PROVIDE DUST BARRIERS AS NECESSARY TO PROTECT EXISTING AREAS FROM DUST AND DEBRIS. PROTECT EXISTING ELEMENTS TO REMAIN. REPAIR AND REPAINT ADJACENT SURFACES DAMAGED OR MARRED AS A RESULT OF CONSTRUCTION WORK. DEBRIS MUST BE REMOVED DAILY.
- CONTRACTOR SHALL VERIFY FINAL FINISH SELECTIONS WITH A/E AND OWNER AND SUBMIT SAMPLES AS REQ'D.

GENERAL ROOFING NOTES

- PROJECT CONSISTS OF THE DEMOLITION OF EXISTING ROOF MEMBRANES ON TERMINAL ROOF, RIGID INSULATION, COVER BOARDS FLASHING, COUNTER FLASHING AND COPING AS REQUIRED FOR A NEW PVC ROOF MEMBRANE SYSTEM. WORK ALSO INCLUDED MINOR MODIFICATIONS TO THE EXISTING STANDING SEAM METAL ROOF (SSMR) TO ALLOW FOR A NEW EPDM ROOF AT SELECT GUTTERS. THE NEW PVC MEMBRANE SYSTEM SHALL BE FULLY ADHERED WITH BONDING ADHESIVE OVER A MINIMUM OF 2 LAYERS OF ROOF INSULATION WITH STAGGERED JOINTS. IN THOSE HIGH TRAFFIC AREAS (AROUND WALK OFF MATS, LADDER/LANDINGS AND MECHANICAL AREAS), AN ADDITIONAL LAYER OF 1/2" HD POLYISO (OR SIMILAR) TO BE UTILIZED. THIS IS ALLOWABLE TO BE A LAMINATED COMBO BOARD TO REDUCE THE FASTENERS AND MINIMIZE HANDLING. THE ROOF INSULATION WILL BE SECURED INTO THE METAL DECK WITH SCREWS AND PLATES TO ACHIEVE A 1-90 WIND UPLIFT RATING AND AS REQUIRED BY MANUFACTURE. AREA OVER CONCRETE DECKING INSULATION ADHESIVE SHOULD BE USED FOR INSULATION ATTACHMENT. ALL SHEET METAL FLASHINGS SHALL BE REMOVED AND REPLACED. INSULATION SHALL HAVE AN R VALUE OF R30 OR 5.2" OF POLYISO INSULATION (OR EQUAL). SEE GUTTER DETAILS FOR AREAS WHERE EPDM ROOFING IS TO BE UTILIZED.
- ALL EXISTING STANDING SEAM (S.S.M.R) SHALL REMAIN UNLESS OTHERWISE INDICATED ON PLANS. SEE GUTTER DETAILS FOR SELECTIVE DEMOLITION.
- ALL ROOFTOP MECHANICAL UNITS ARE TO BE TEMPORARILY REMOVED AS REQUIRED FOR DEMOLITION AND INSTALLATION OF NEW ROOFING SYSTEM. SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. ALL MECHANICAL AND ELECTRICAL PENETRATIONS TO RECEIVE NEW BOOTS, SLEEVES, ETC. AS REQUIRED BY ROOFING MANUFACTURER TO MEET ALL WARRANTIES (THIS INCLUDED STRUCTURAL SUPPORTS FOR MECHANICAL EQUIPMENT).
- SEE DETAILS AND MECHANICAL FOR NOTES REGARDING EXISTING DRAINS.
- CONTRACTOR TO VERIFY ALL NEW MATERIALS AND SYSTEMS ARE COMPATIBLE WITH EXISTING MATERIALS AND SUBSTRATES TO REMAIN. INSTALL ALL NEW MATERIALS AS REQUIRED PER MANUFACTURES REQUIREMENTS TO MEET ALL WARRANTIES.
- CONTRACTOR TO PROVIDE A FULL ASSESSMENT OF ALL EQUIPMENT PRIOR TO CONSTRUCTION TO INVENTORY/CATALOG ALL ROOFTOP EQUIPMENT, SEE MECHANICAL FOR ADDITIONAL INFORMATION.

LEGEND

- INDICATES AREA OF FLAT AND OR LOW ROOF AREAS TO RECEIVE DEMOLITION OF EXISTING ROOF AND INSTALLATION OF NEW ROOF AS NOTED IN DOCUMENTS. NOTE: SEE DETAILS WHERE MEMBRANE RUN VERTICALLY UP PARAPETS.
- WALK OFF MAT. PROVIDE EXTRA LAYER 1/2" OF HD POLYISO IN AREAS OF WALK OFF MATS
- INDICATES AREA OF COPING TO BE DEMO'D AND REPLACED AS INDICATED ON PLANS AND DETAILS, TYPICAL.
- PHOTO LOCATION FOR PHOTOS ON G100 AND G101

MATERIAL KEYNOTES

- SCUPPER DRAIN TO BE REMOVED IN ITS ENTIRETY INCLUDING ALL SEALANT AND MISC. HARDWARE. INSTALL NEW TWO PIECE SCUPPER, SEE DETAIL NOTED ON ROOF PLANS FOR ADDITIONAL INFORMATION. SIM TO 2/A503.
- EXISTING ROOF DRAIN AND STRAINER TO BE REMOVED AND CLEANED AND REINSTALLED AFTER INSTALLATION OF NEW SINGLE PLY ROOF MEMBRANE, SEE DETAIL A/A504 FOR ADDITIONAL INFORMATION. ALL PVC STRAINERS TO BE REPLACED WITH CAST IRON STRAINERS. SEE 5/A504, TYPICAL AT ROOF DRAIN.
- EXISTING PARAPET WITH ROOF COPING TO BE DEMOLISHED AND REPLACED WITH NEW METAL COPING, SEE DETAILS FOR ADDITIONAL INFORMATION. SIM TO 6/A503 U.O.N.
- EXISTING ROOF CURB MOUNTED MECHANICAL EQUIPMENT. TEMPORARILY REMOVE ROOF EQUIPMENT TO ALLOW FOR DEMO OF EXCISING ROOF AND INSTALLATION OF NEW ROOFING MEMBRANE SYSTEM. PROVIDE CRICKETS AS REQUIRED AND OR INDICATED TO SECURE POSITIVE STORM DRAINAGE AROUND CURBS. SEE 4/A504 FOR DETAIL AT CURB CONDITION.
- PLUMBING STACK TO REMAIN, INSTALL NEW FLASHING BOOT AS REQUIRED FOR NEW ROOFING, SEE PLANS AND DETAIL 2/A504 FOR ADDITIONAL INFORMATION.
- NEW MANUF. WALK OFF MATS, AN ADDITIONAL LAYER OF 1/2" HD POLYISO (OR SIMILAR) TO BE UTILIZED IN THIS AREA
- ROOF MOUNTED CONDENSING UNITS
- TRANSLUCENT FIBERGLASS INSULATED SANDWICH PANEL SKYLIGHT SYSTEM TO DEMO'D AND REPLACED, SEE SEE A506 FOR ENLARGED PLANS, DETAILS AND ADDITIONAL INFORMATION.

MATERIAL KEYNOTES EXISITNG

- EXISTING STANDING SEAM METAL ROOF TO REMAIN U.O.N. AND ARE IDENTIFIED AS ROOF 1,4,12,15,16 AND 17 ON SHEET G003. ASSOCIATED GUTTERS TO BE REPLACED WHICH REQUIRED SELECTIVE REMOVAL OF PORTIONS OF SSMR. SEE SECTION 1/A3.20 AND ROOF PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
- EXISTING METAL SKIRT PANEL TO REMAIN
- EXISTING ROOF LADDER TO REMAIN
- EXISTING SKYLIGHT SYSTEM TO REMAIN, SEE 4/A404 FOR DETAIL AT SKYLIGHT CURB/SILL
- EXISTING GUTTER SYSTEM TO REMAIN
- EXISTING DOWNSPOUT AND STRAINER TO REMAIN
- EXISTING ROOF ACCESS LADDER TO REMAIN

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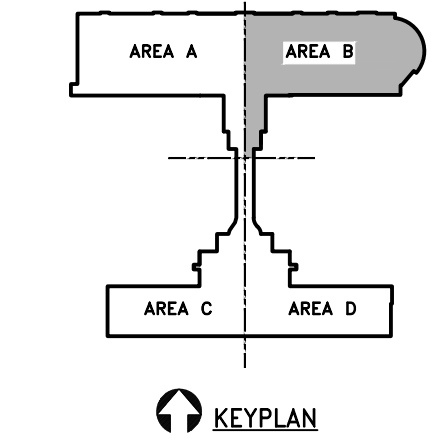
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| DATE ISSUED: MARCH 14, 2022 | | |
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| DESIGNED BY: RH | | |

FAA PROJECT NUMBER
N/A

MDOT PROJECT NUMBER
N/A

RS&H PROJECT NUMBER
210-00-077.000

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SHEET TITLE

PARTIAL ROOF PLAN - AREA B

SHEET NUMBER

A130B

BID DOCUMENTS

GENERAL PROJECT NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
2. CONTRACTOR SHALL PREPARE AND PROVIDE A DEMOLITION AND CONSTRUCTION SCHEDULE PLAN TO THE OWNER FOR APPROVAL. SCHEDULE IS REQUIRED PRIOR TO THE START OF WORK. SCHEDULE SHOULD BE COORDINATED WITH PHASING AS INDICATED ON G003.
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GENERAL ROOFING NOTES

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- PHOTO LOCATION FOR PHOTOS ON G100 AND G101

MATERIAL KEYNOTES

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MATERIAL KEYNOTES EXISITNG

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- EXISTING METAL SKIRT PANEL TO REMAIN
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- EXISTING DOWNSPOUT AND STRAINER TO REMAIN
- EXISTING ROOF ACCESS LADDER TO REMAIN

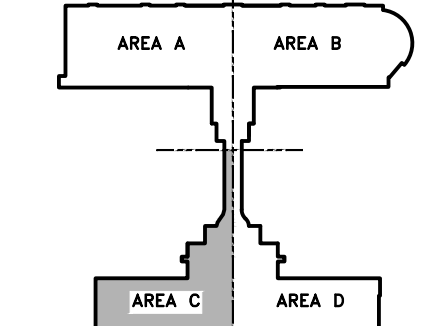


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DATE ISSUED: MARCH 14, 2022
REVIEWED BY: TR
DRAWN BY: RH
DESIGNED BY: RH

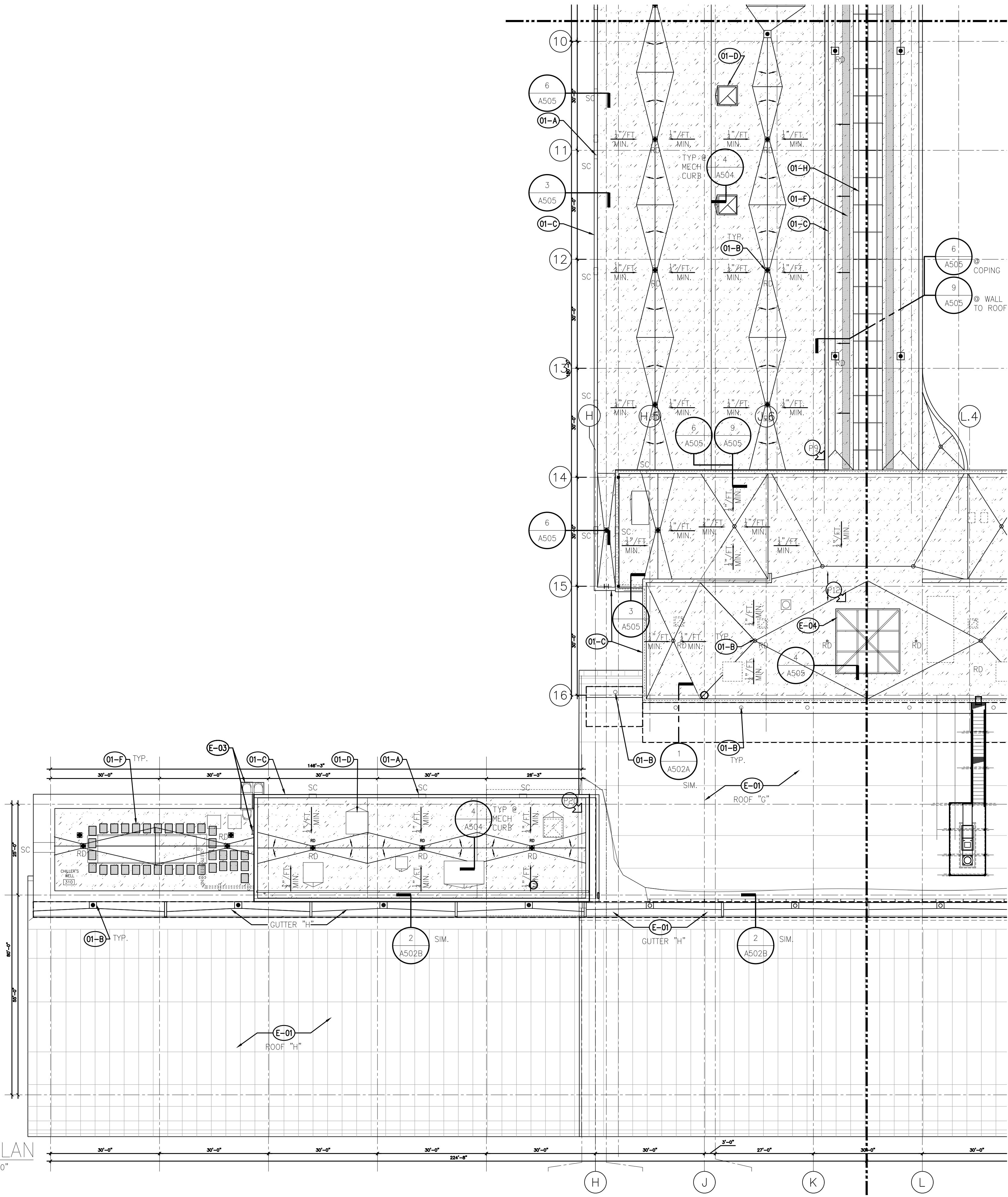
FAA PROJECT NUMBER
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MDOT PROJECT NUMBER
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RS&H PROJECT NUMBER
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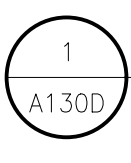
PARTIAL ROOF
PLAN - AREA C

SHEET NUMBER
A130C
BID
DOCUMENTS



1 ROOF PLAN
SCALE 1/16" = 1'-0"





SCALE 1/16" = 1'-0'

BID DOCUMENTS

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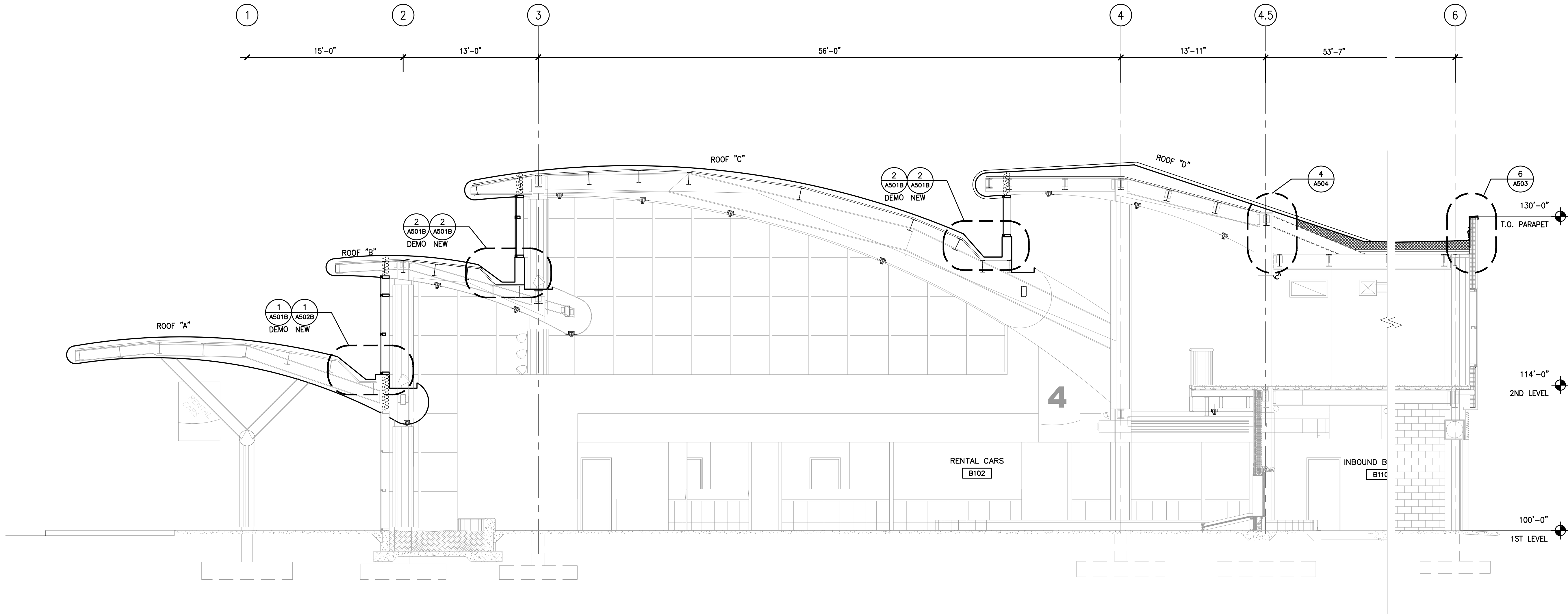
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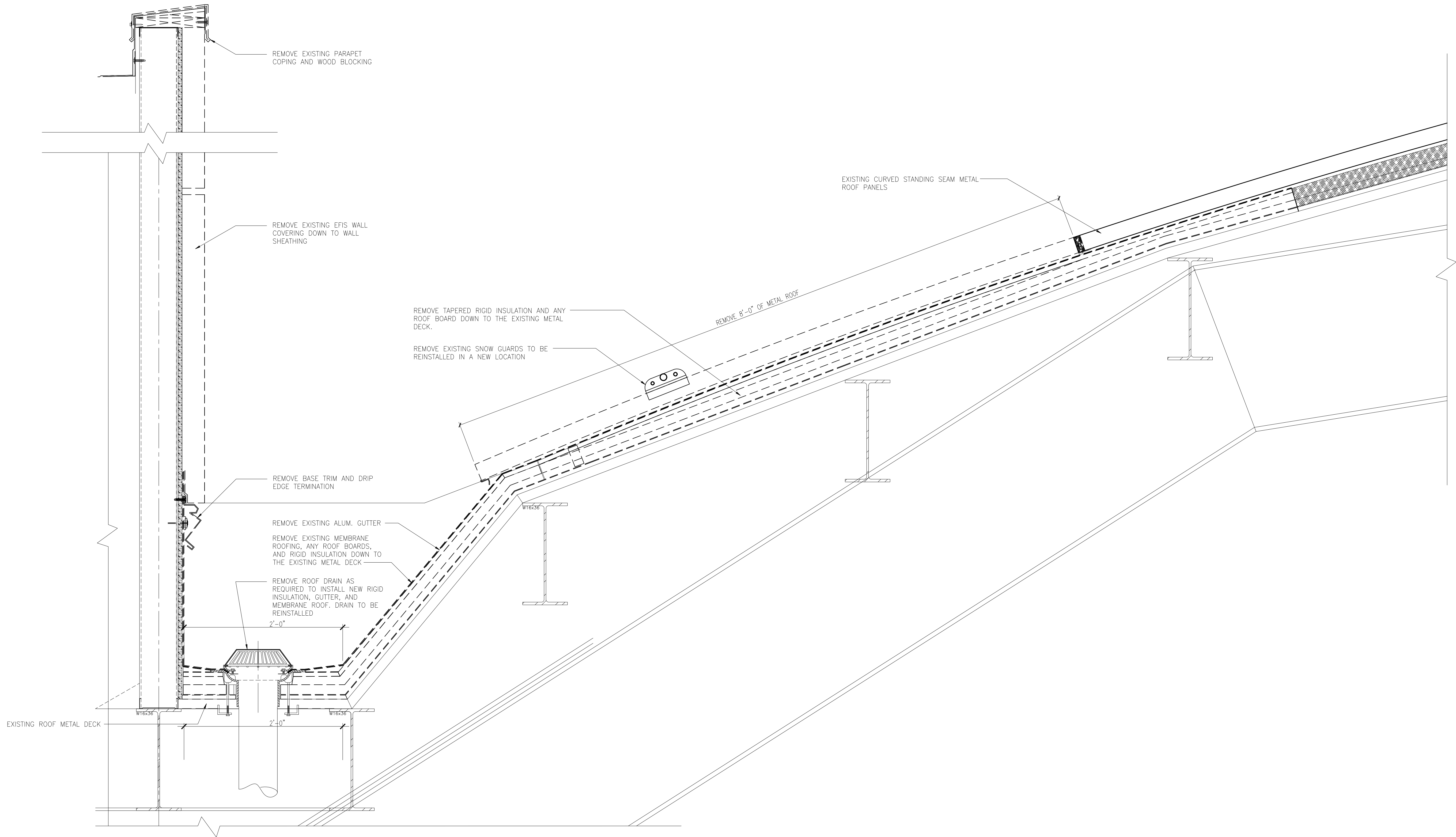
SHEET TITLE
BUILDING SECTION

SHEET NUMBER
A320

BID DOCUMENTS



1 BUILDING CROSS SECTION
A320 SCALE: 3/16"=1'-0"



1 GUTTER D SECTION
A501 SCALE 1-1/2" = 1'-0"

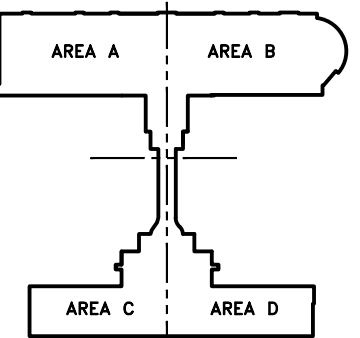


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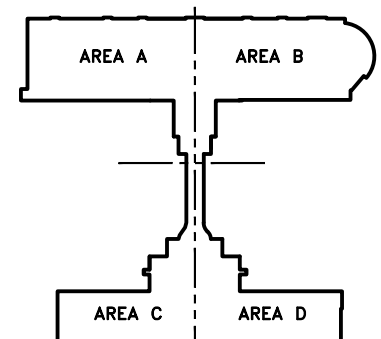
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SHEET TITLE

DEMOLITION
DETAILS

SHEET NUMBER
A501A
BID
DOCUMENTS

GENERAL NOTE: GUTTER DETAIL IS INTENDED TO REPRESENT A TYPICAL CONDITION. ACTUAL WALL CONFIGURATIONS AND FLASHING DETAILS MAY VARY; FIELD VERIFY ALL CONDITIONS PRIOR TO COMMENCING WORK.

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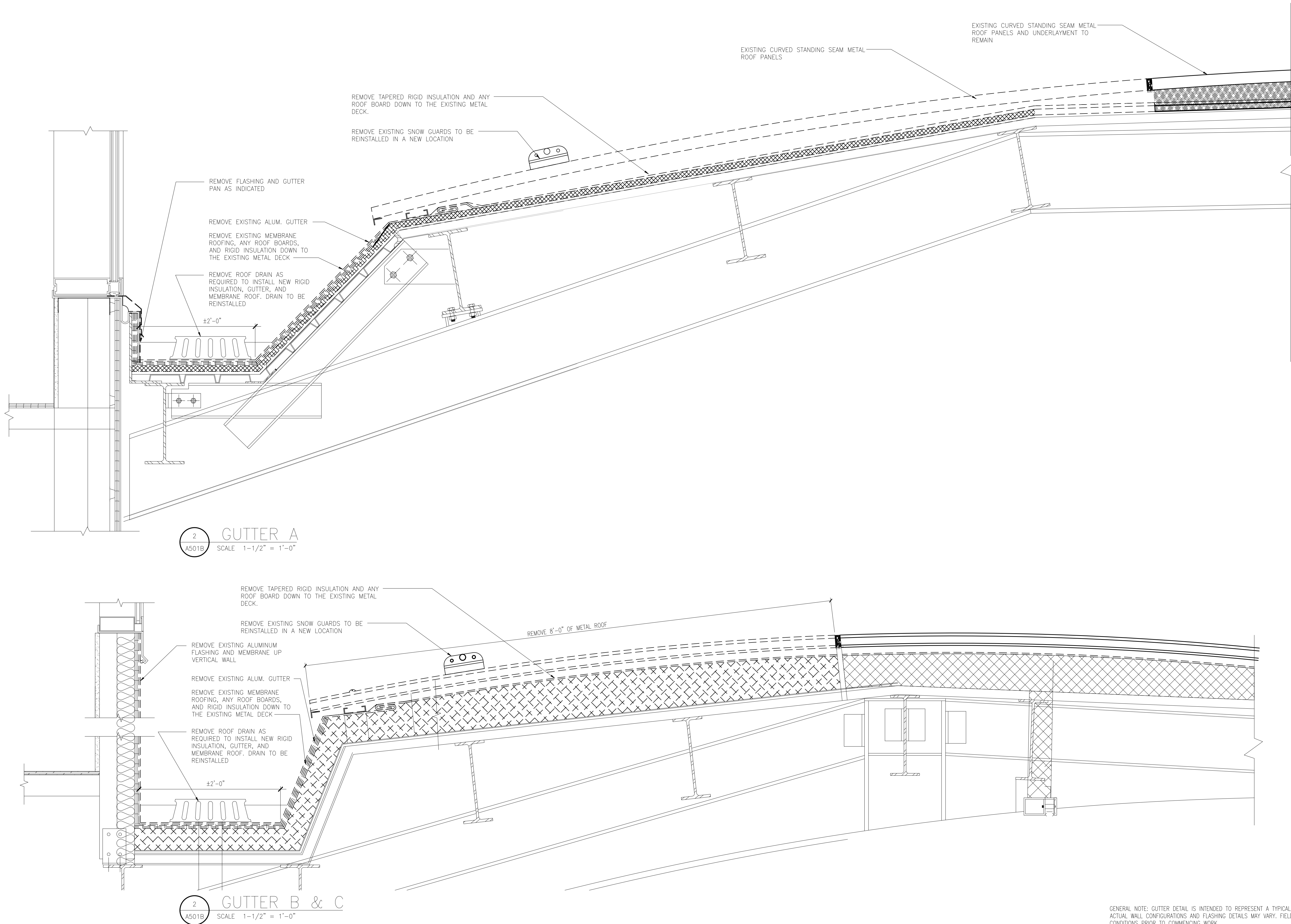
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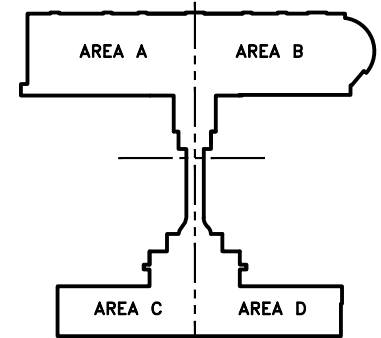
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SHEET TITLE

DEMOLITION
DETAILS

SHEET NUMBER
A501B
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GENERAL NOTE: GUTTER DETAIL IS INTENDED TO REPRESENT A TYPICAL CONDITION. ACTUAL WALL CONFIGURATIONS AND FLASHING DETAILS MAY VARY; FIELD VERIFY ALL CONDITIONS PRIOR TO COMMENCING WORK.



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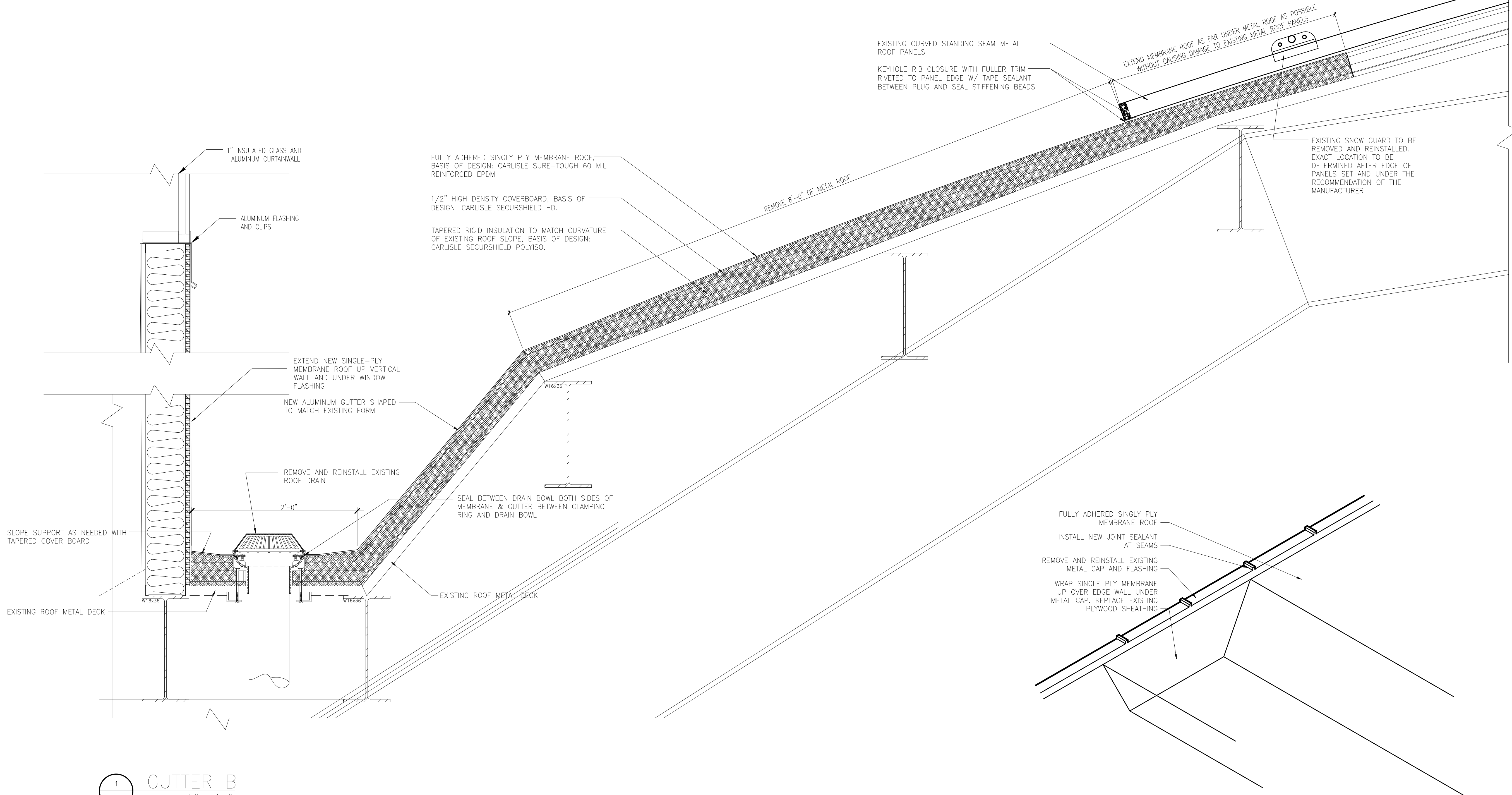
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ROOF DETAILS

SHEET NUMBER

A502A

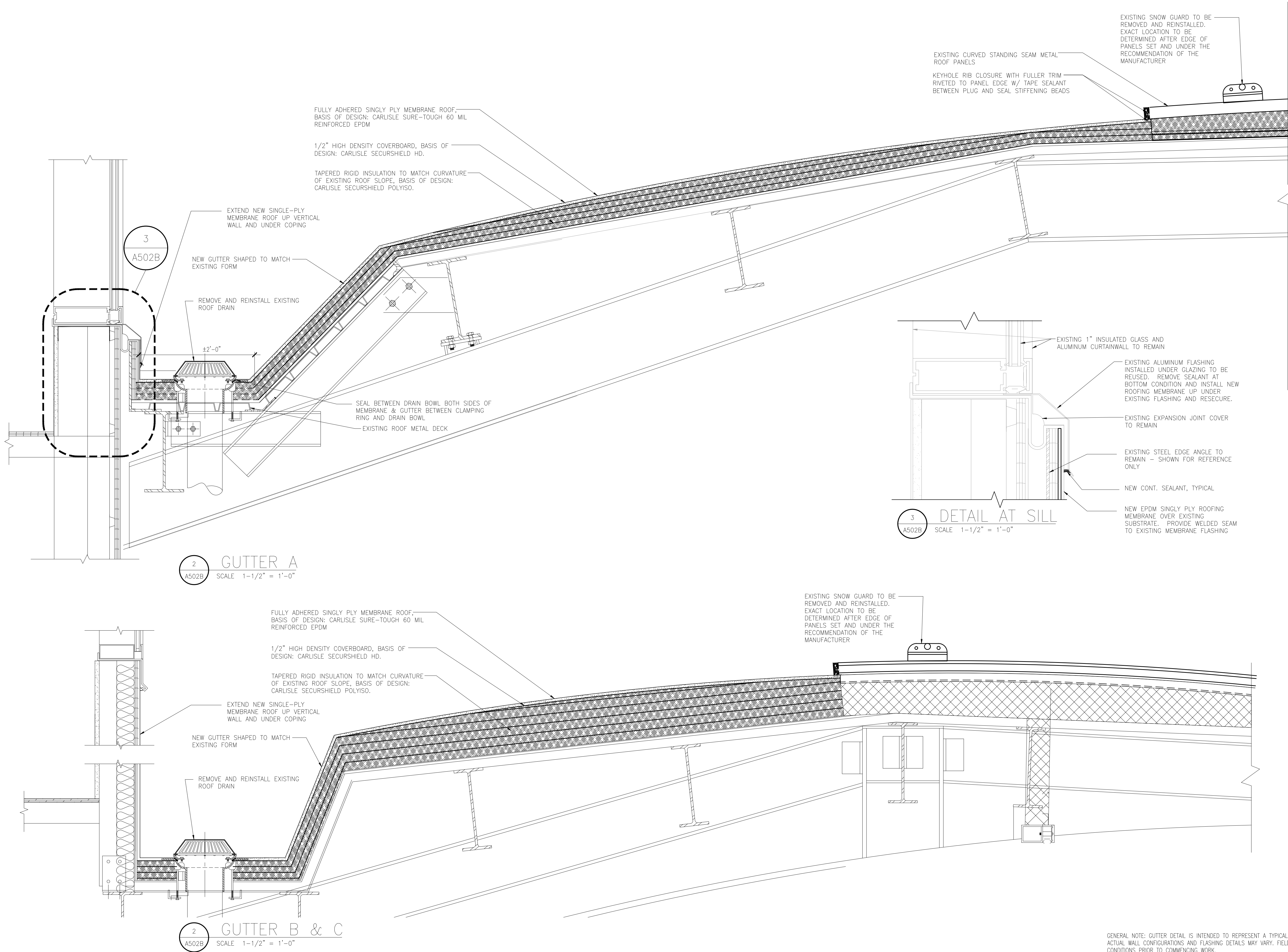
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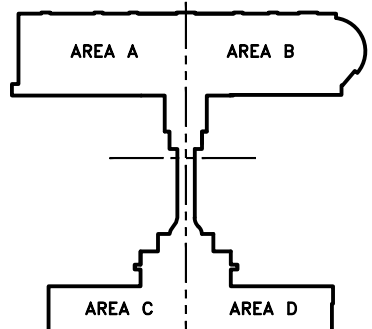
1
A502 GUTTER B
SCALE 1-1/2" = 1'-0"

2
A502 GUTTER EDGE AXONOMETRIC
SCALE NTS

GENERAL NOTE: GUTTER DETAIL IS INTENDED TO REPRESENT A TYPICAL CONDITION. ACTUAL WALL CONFIGURATIONS AND FLASHING DETAILS MAY VARY; FIELD VERIFY ALL CONDITIONS PRIOR TO COMMENCING WORK.



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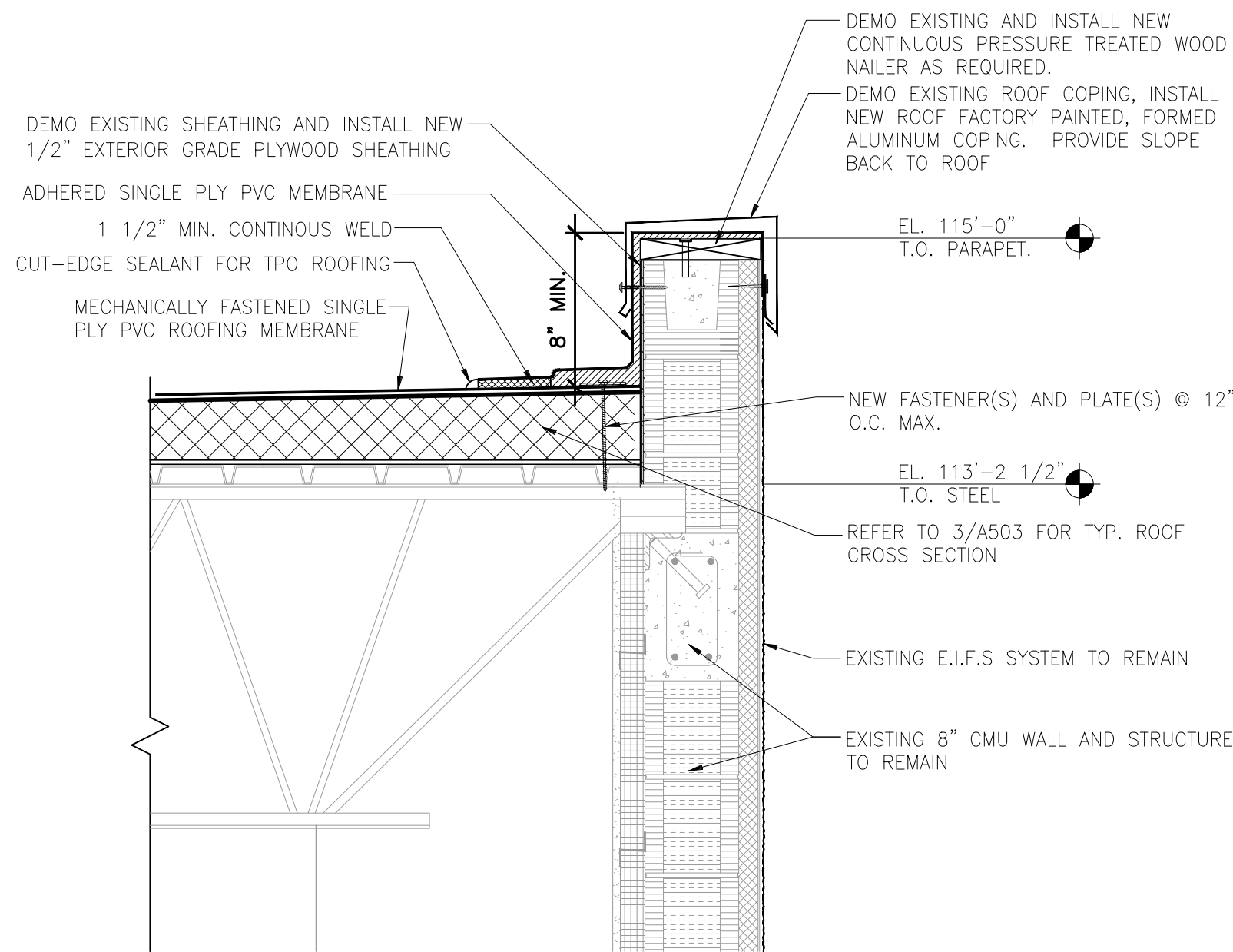
**DEMOLITION
DETAILS**

SHEET NUMBER

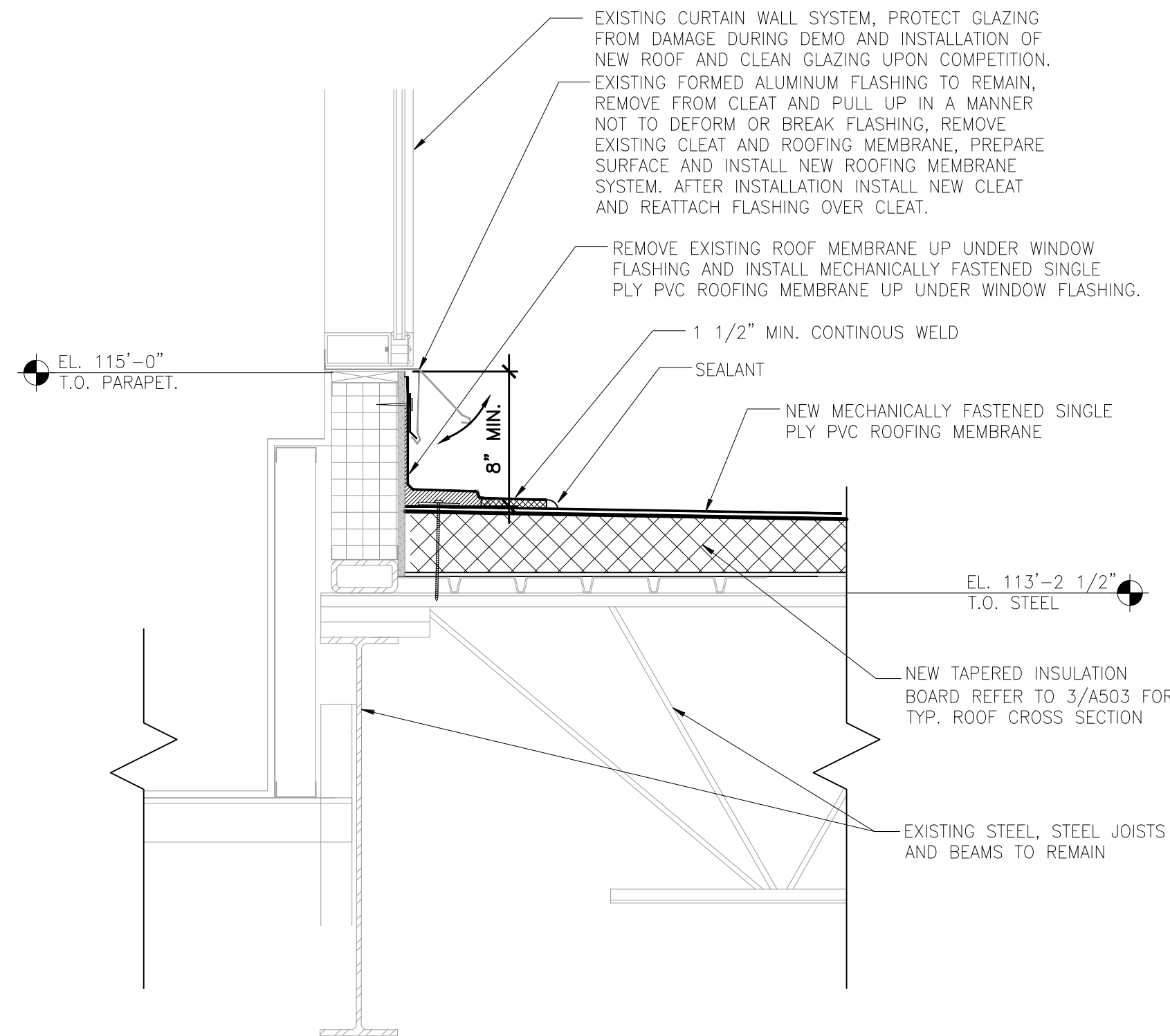
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DOCUMENTS**

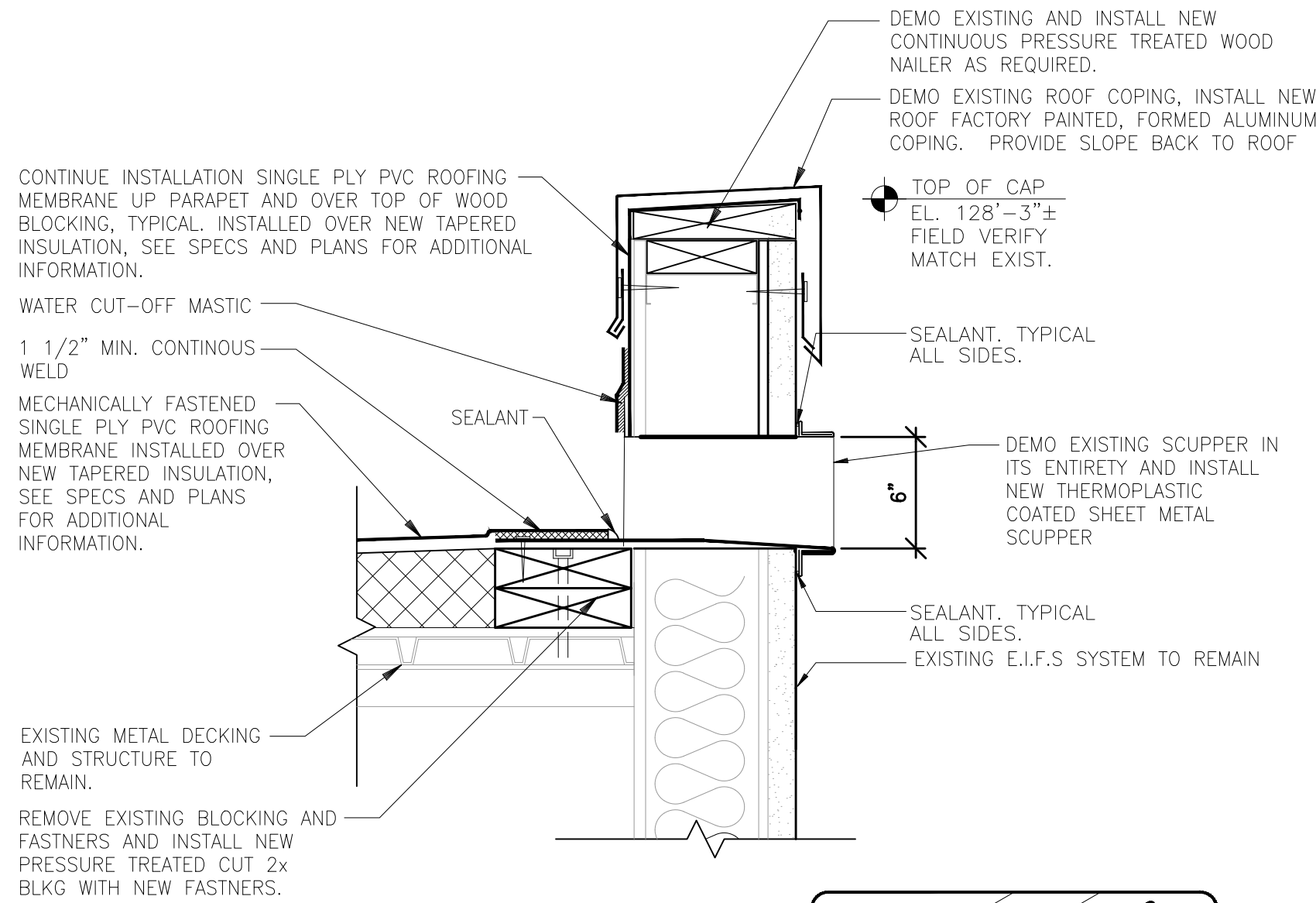
GENERAL NOTE: GUTTER DETAIL IS INTENDED TO REPRESENT A TYPICAL CONDITION. ACTUAL WALL CONFIGURATIONS AND FLASHING DETAILS MAY VARY; FIELD VERIFY ALL CONDITIONS PRIOR TO COMMENCING WORK.



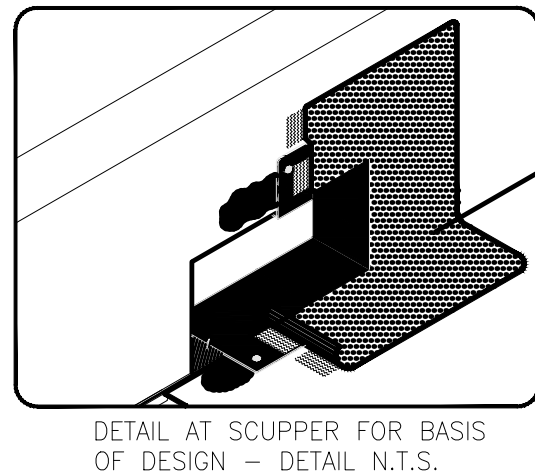
1 PARAPET DETAIL
A503 SCALE: 1" = 1'-0"



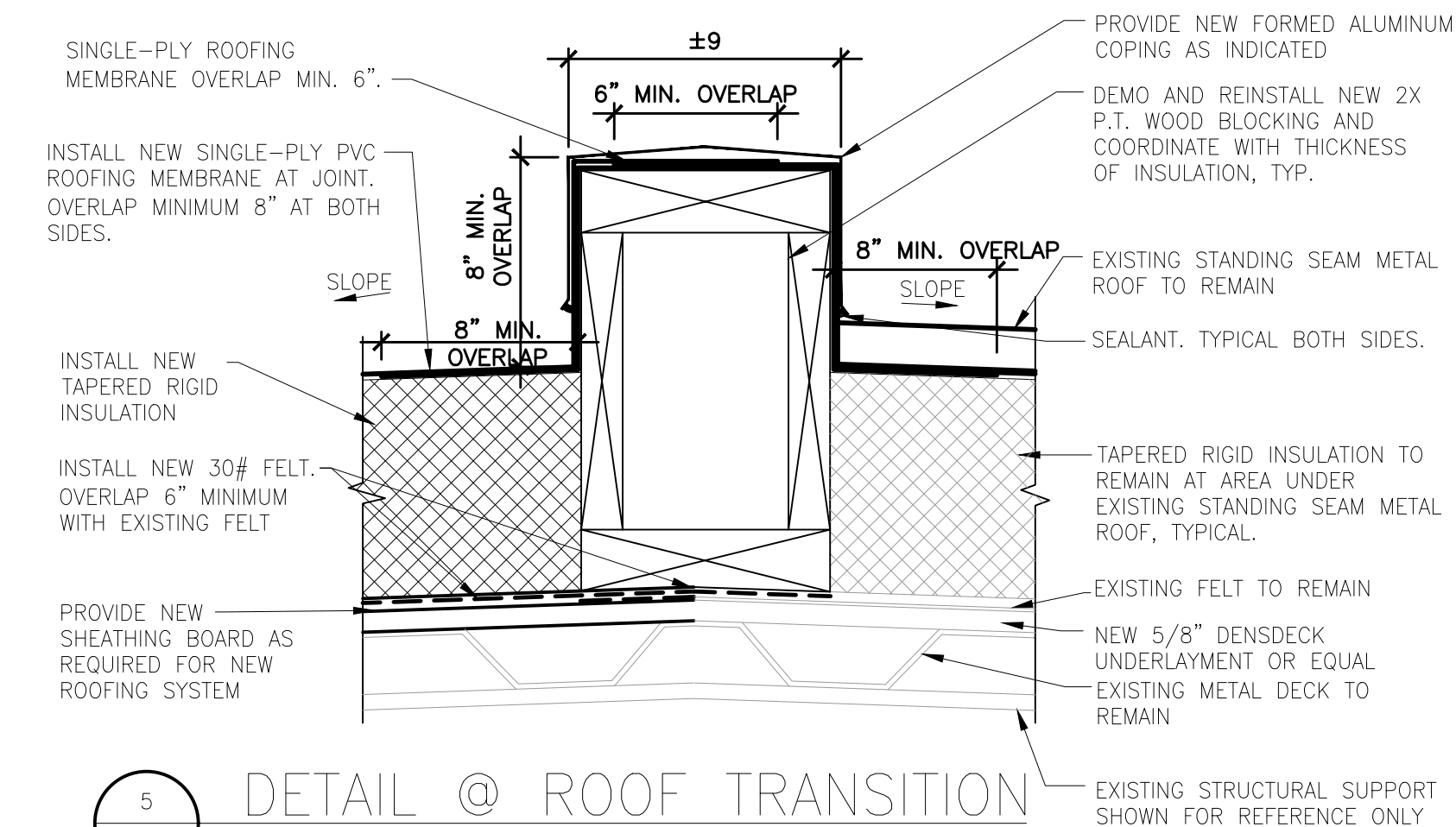
4 DETAIL AT CURTAIN WALL
A503 SCALE: 1" = 1'-0"



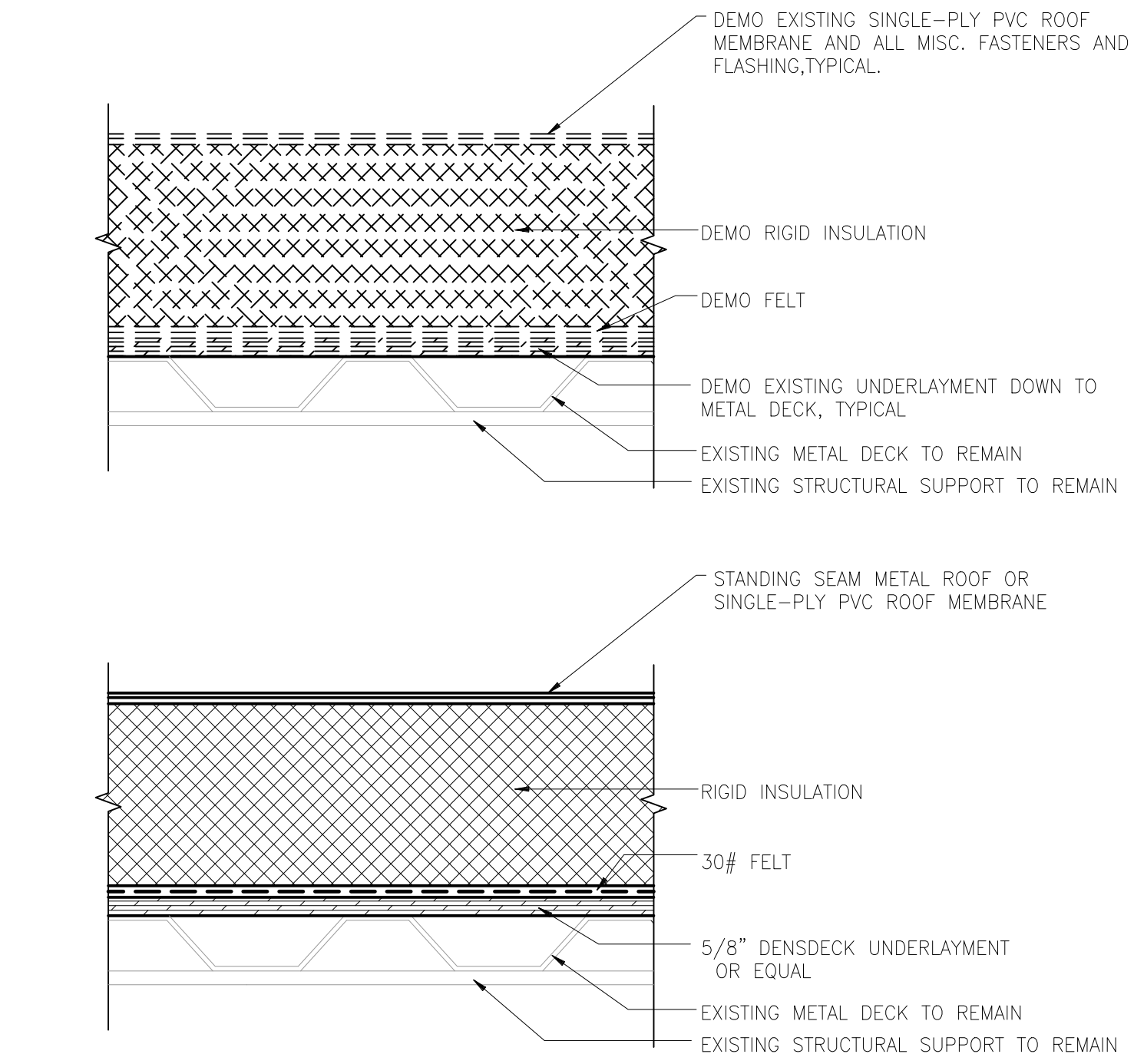
- TYPICAL SCUPPER NOTES:
1. WOOD NAILERS ARE INSTALLED ONLY AT SCUPPERS TO SECURE METAL SLEEVE AND MUST EXTEND PAST THE WIDTH OF METAL SLEEVE FLANGE.
 2. INSTALL WALL FLASHING PRIOR TO SCUPPER INSTALLATION.
 3. METAL SCUPPER BOX MUST HAVE CONTINUOUS FLANGES WITH ROUNDED CORNERS. SOLDER ALL SCUPPER SEAMS WATER-TIGHT.
 4. WATER CUT-OFF MASTIC UNDER SCUPPER FLANGE MUST BE UNDER CONSTANT COMPRESSION.
 5. SCUPPER FLANGES MUST BE TOTALLY COVERED BY NON-REINFORCED FLASHING WITH MINIMUM 2" (5cm) COVERAGE PAST NAIL HEAD.



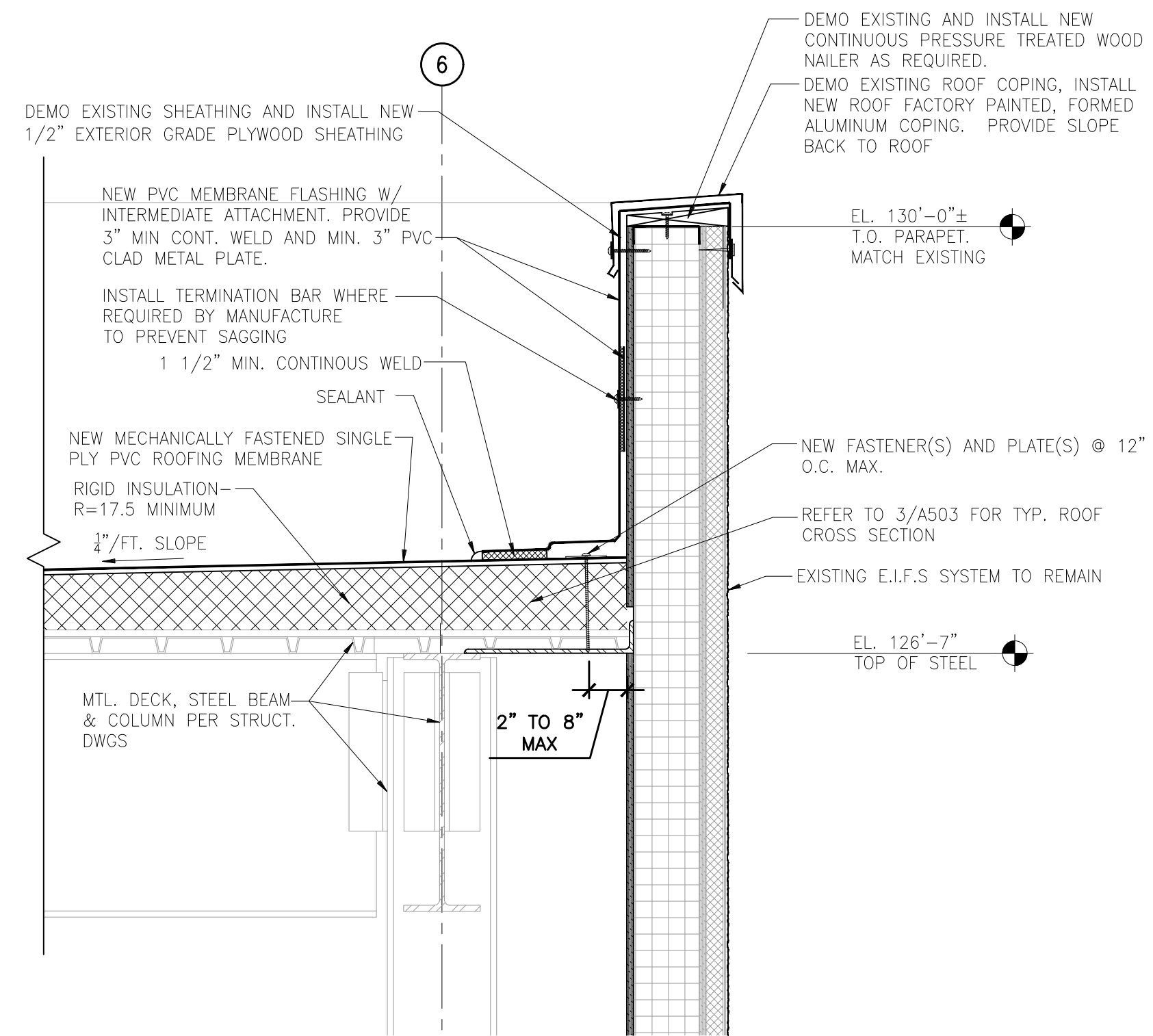
2 PARAPET DETAIL @ SCUPPER
A503 SCALE: 1 1/2" = 1'-0"



5 DETAIL @ ROOF TRANSITION
A503 SCALE: 3" = 1'-0"



3 TYPICAL ROOF CROSS SECTION
A504 SCALE: 3" = 1'-0"



6 PARAPET DETAIL
A503 SCALE: 1" = 1'-0"

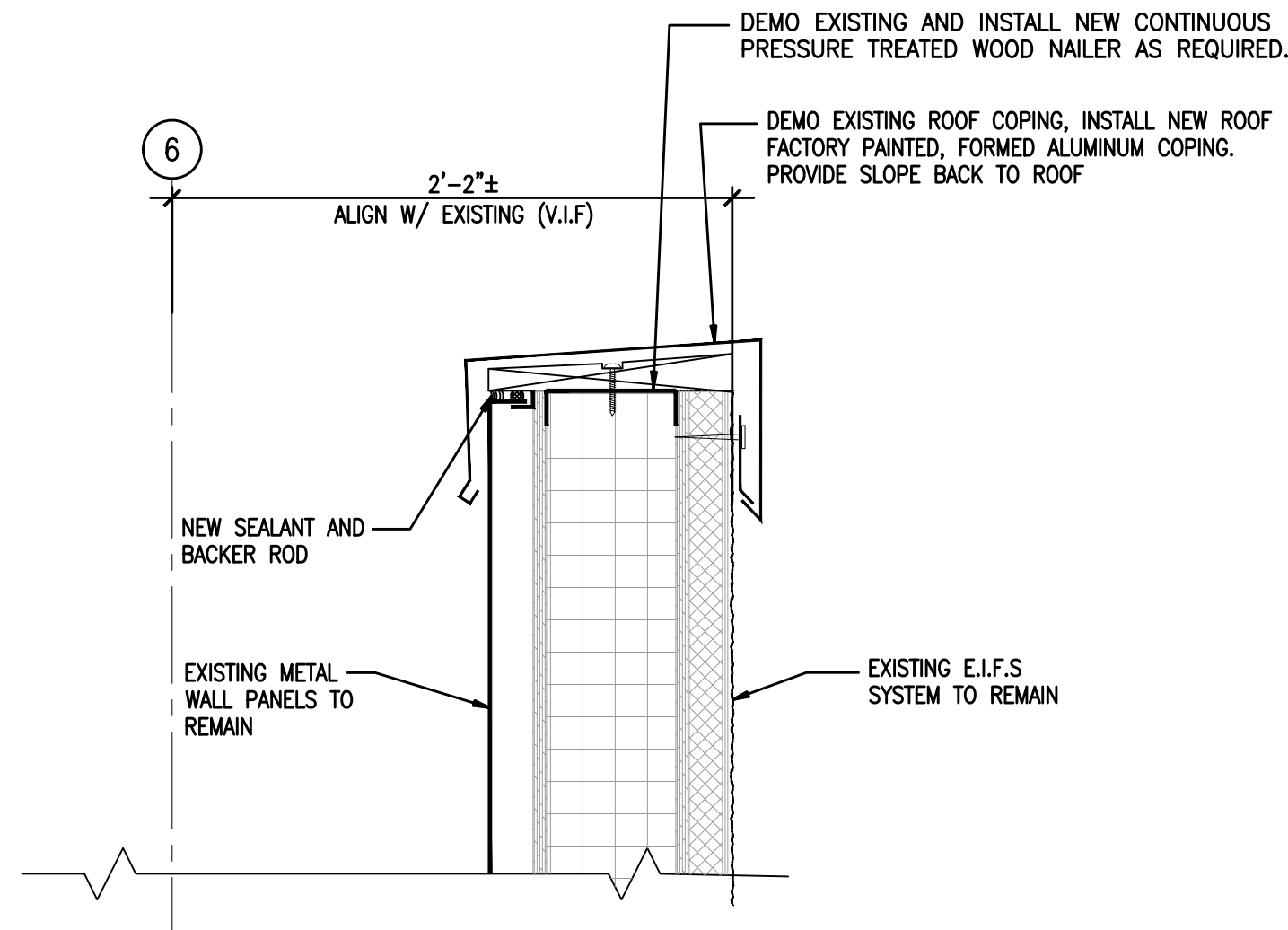
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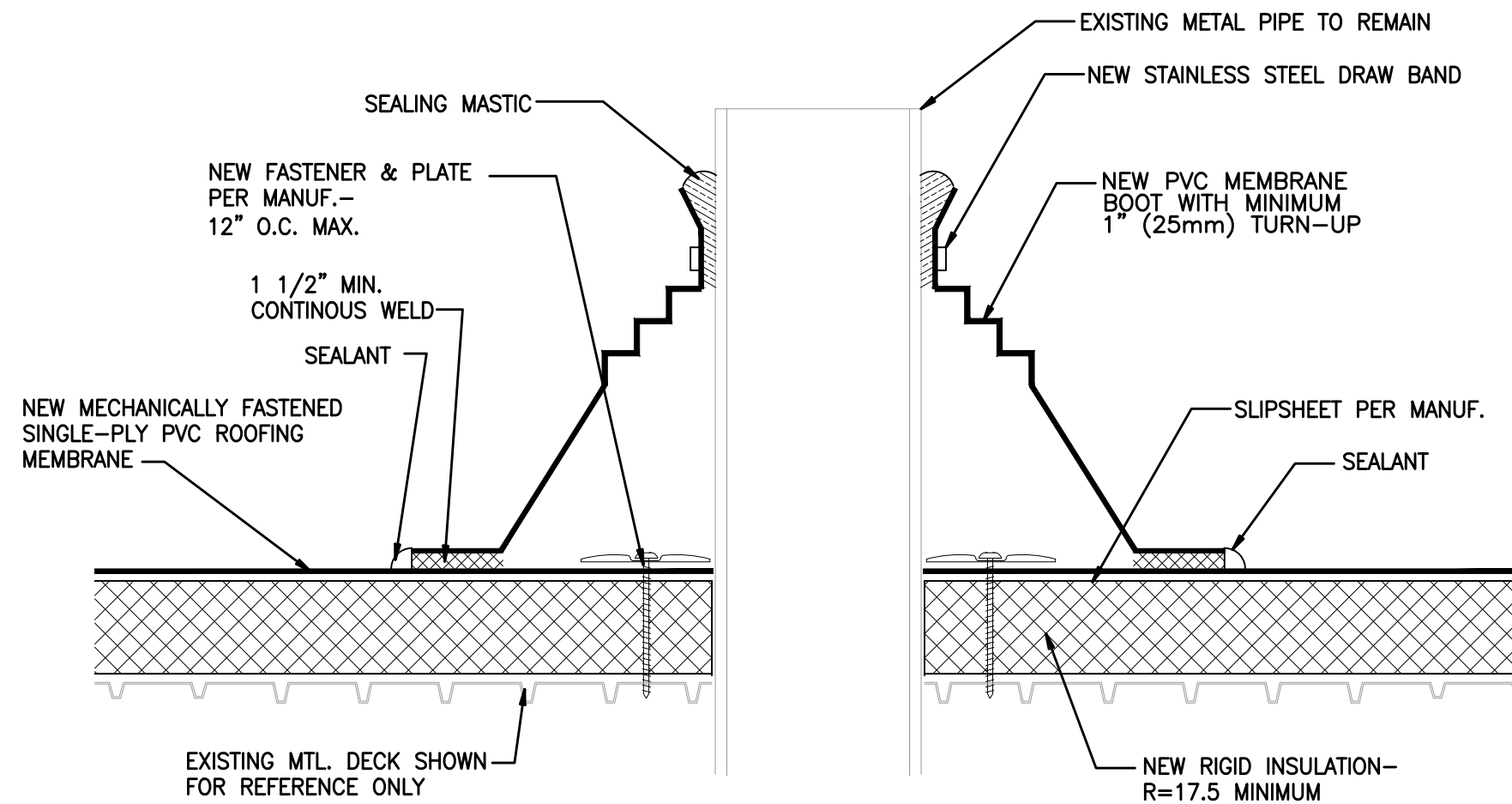
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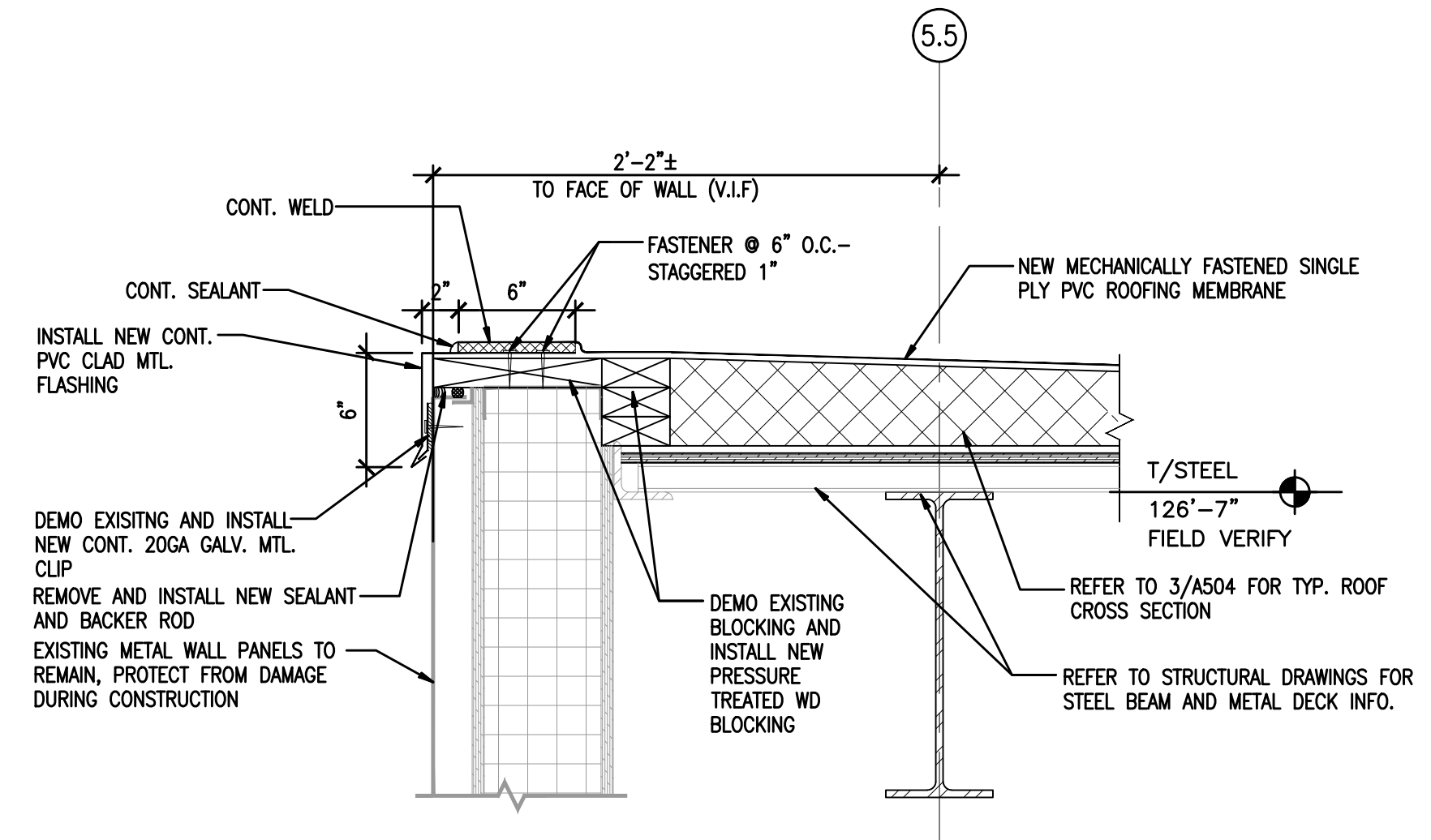
ROOF DETAILS



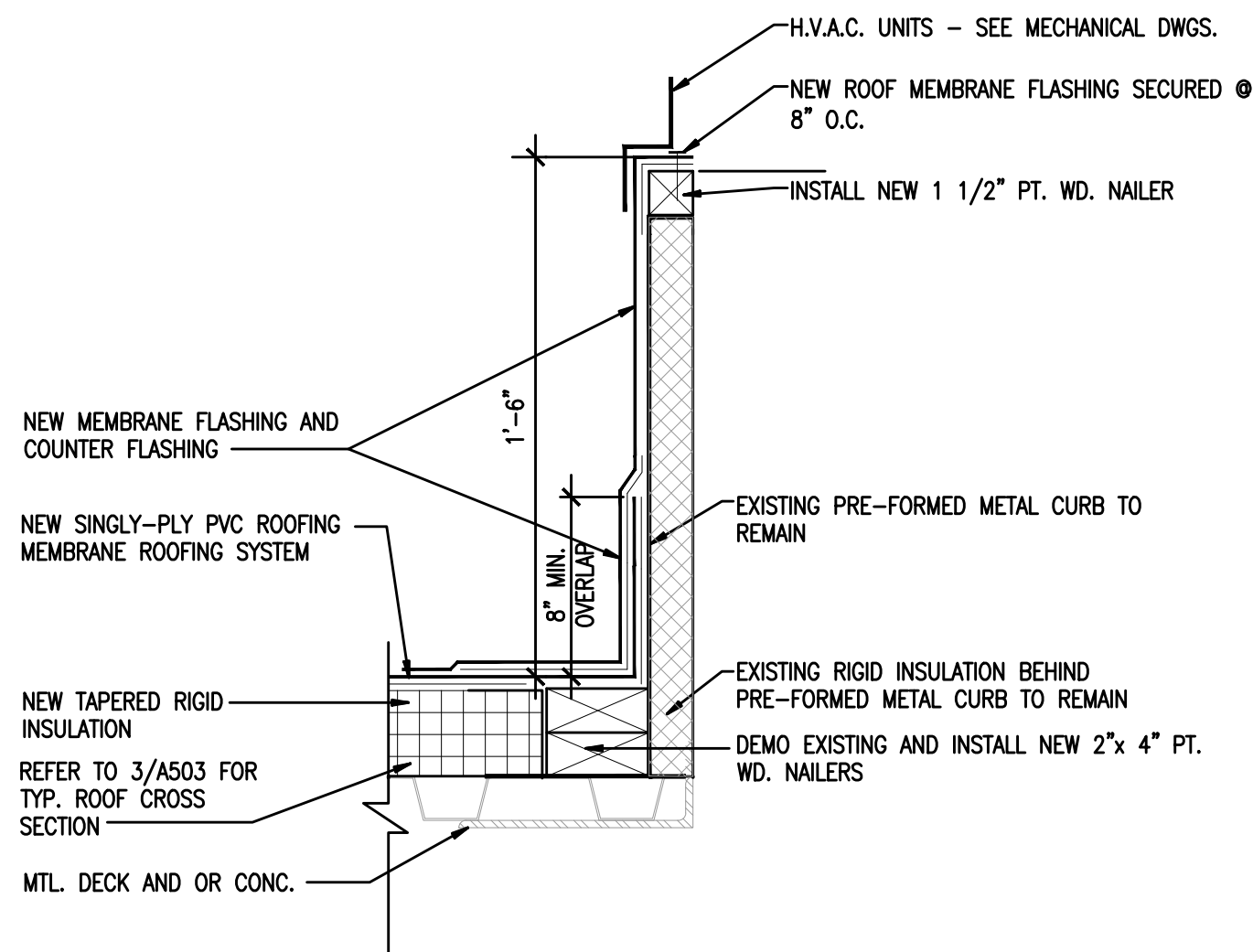
1 ROOF DETAIL @ PARAPET
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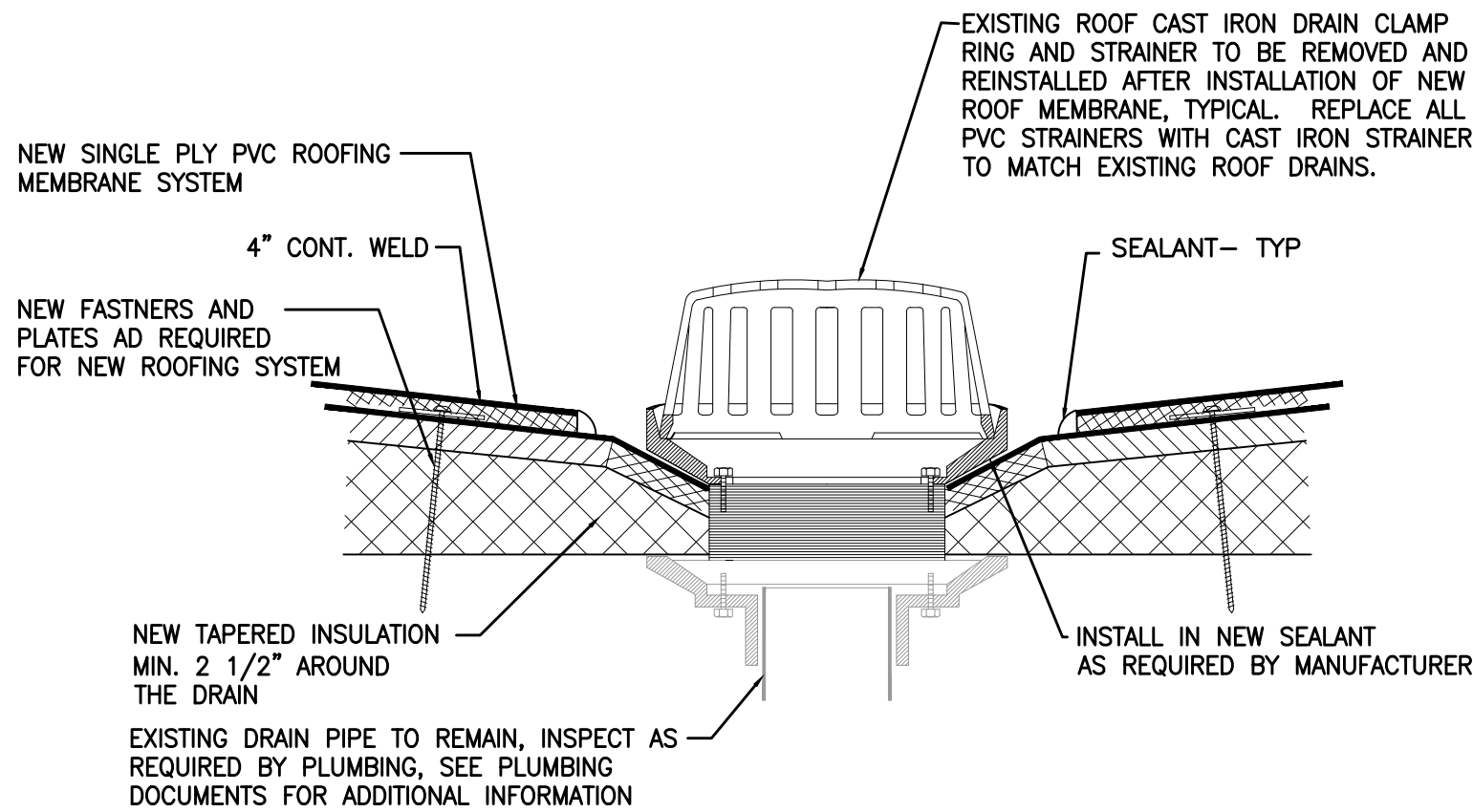
2 MECHANICAL EQUIP. SUPPORT
A504 SCALE: 1" = 1'-0"



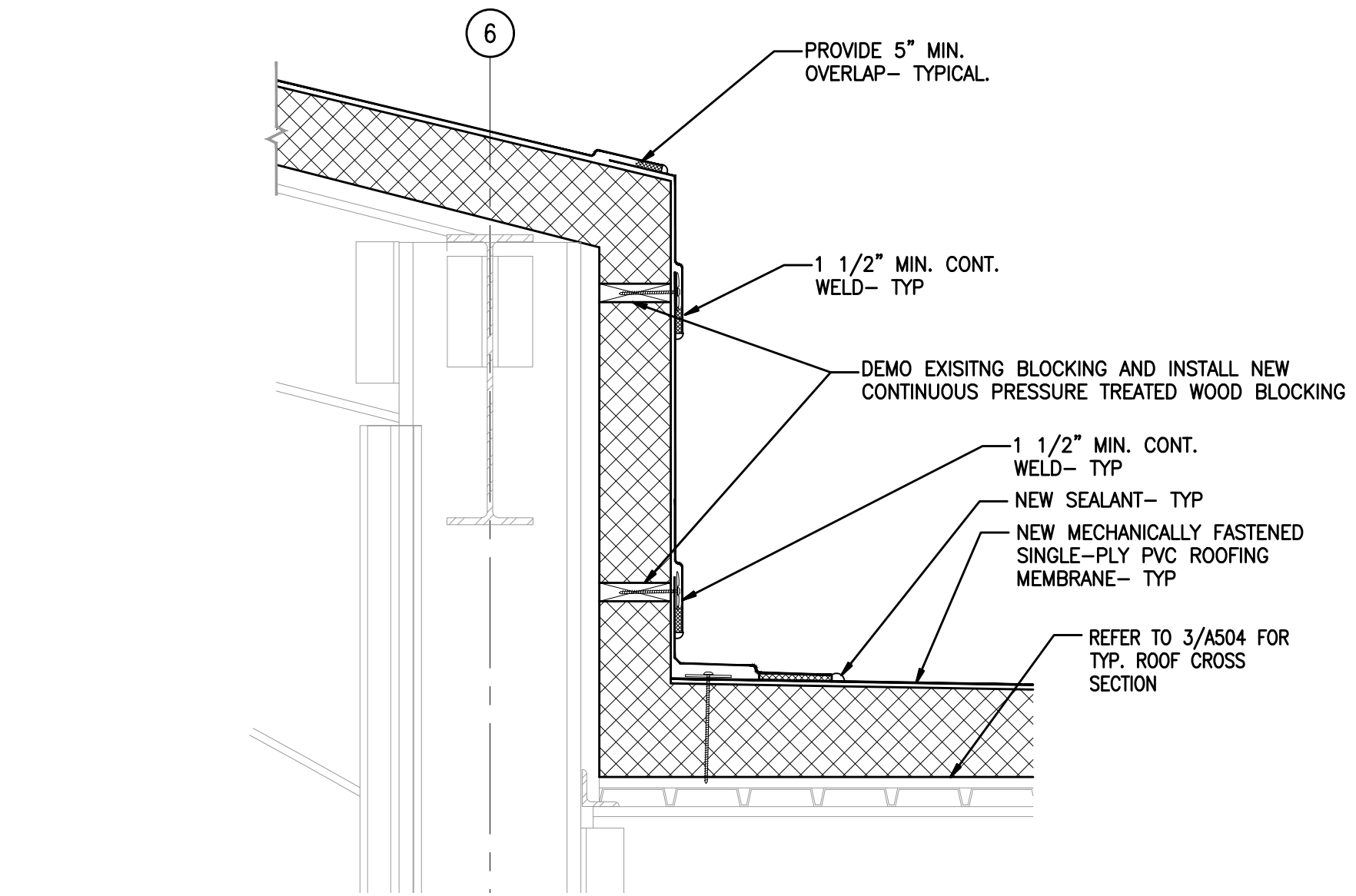
3 ROOF DETAIL @ EDGE CONDITION
A504 SCALE: 1'-1/2" = 1'-0"



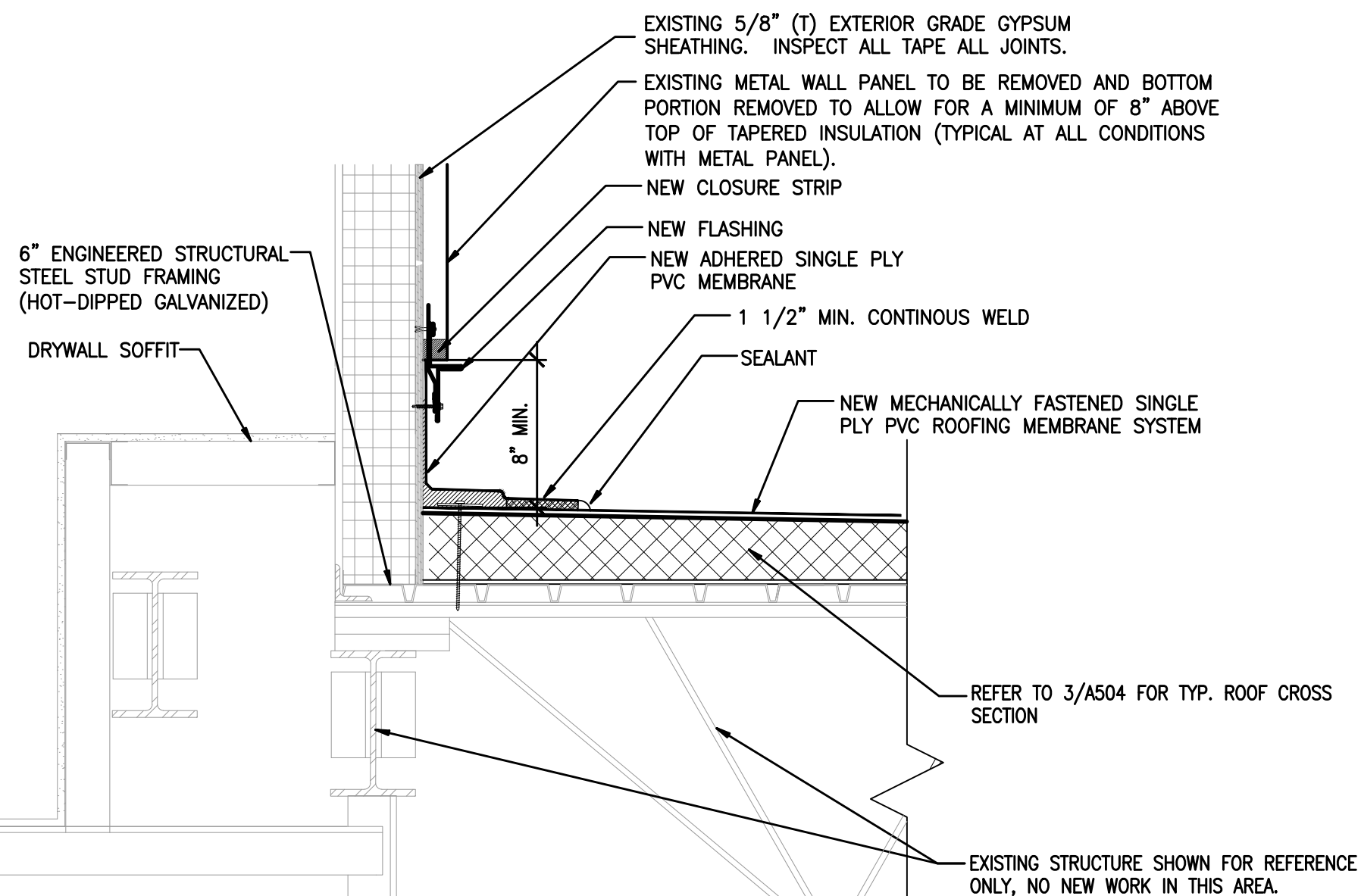
4 ROOF DETAIL @ MECH CURB
A504 SCALE: 1" = 1'-0"



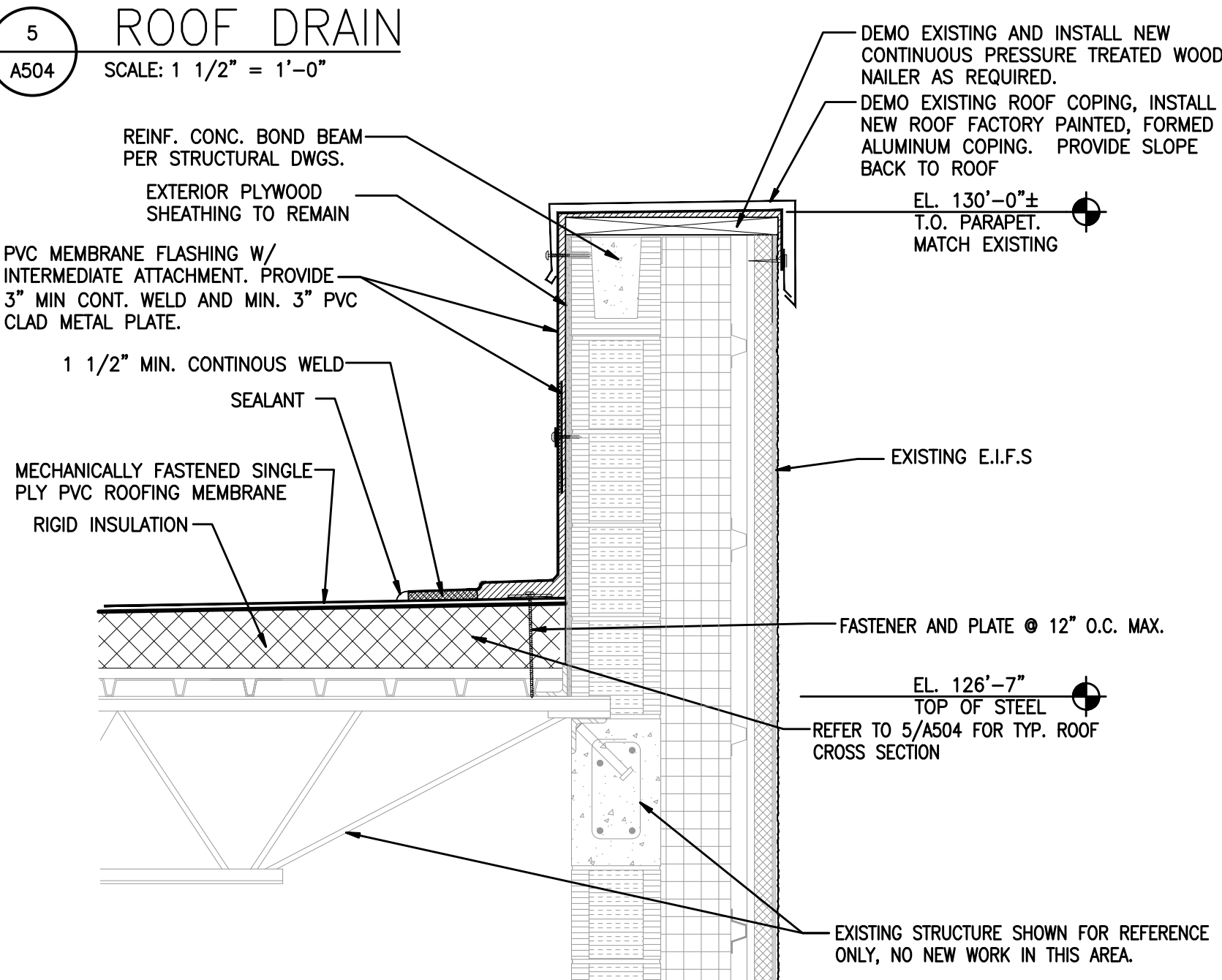
5 ROOF DRAIN
A504 SCALE: 1 1/2" = 1'-0"



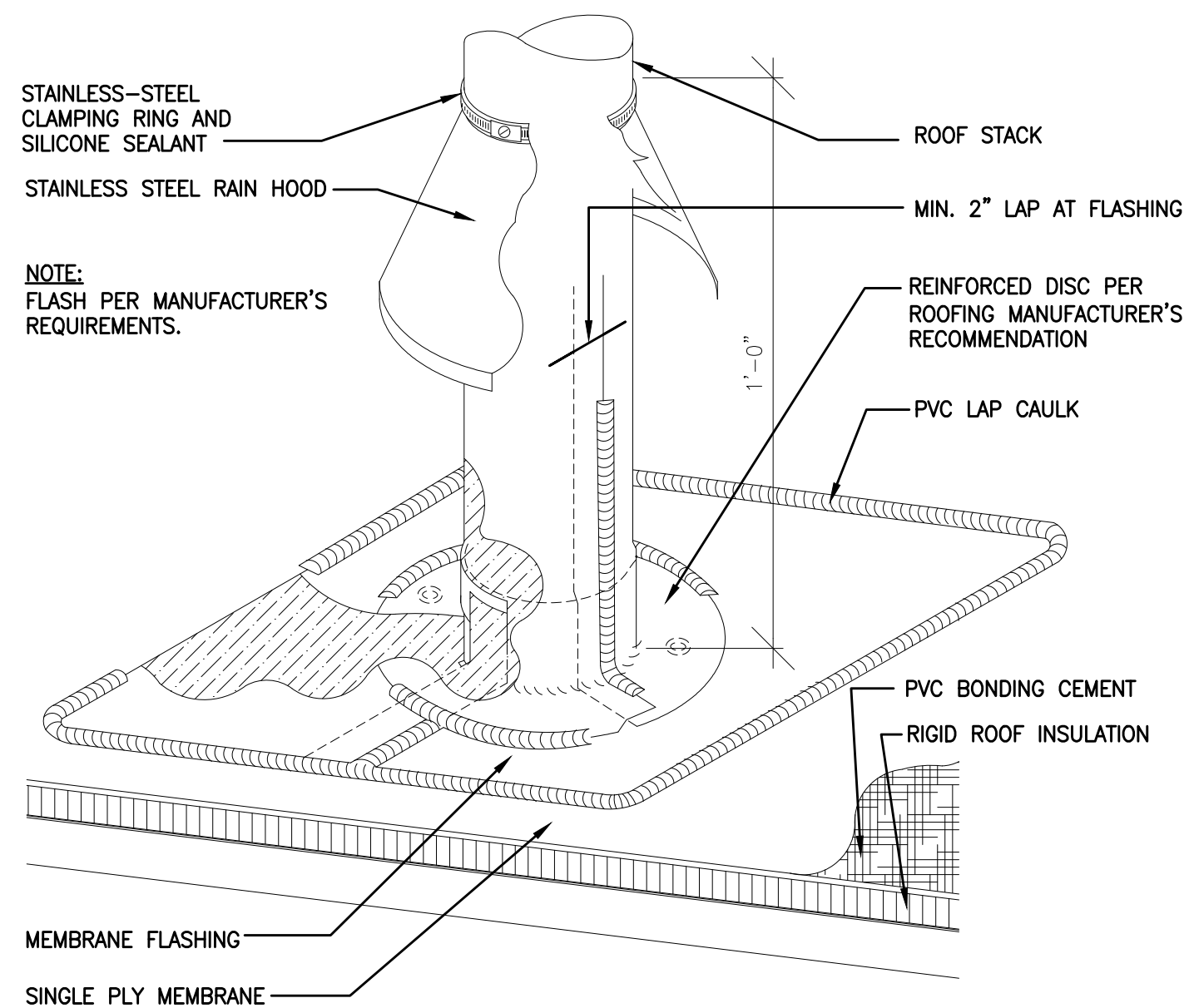
6 PARAPET DETAIL
A504 SCALE: 1" = 1'-0"



7 WALL FLASHING @ METAL WALL PANELS
A505 SCALE: 1" = 1'-0"



8 WALL FLASHING AND COPING DETAIL
A505 SCALE: 1" = 1'-0"



9 ROOF PENETRATION DETAIL
A504 SCALE: 3" = 1'-0"

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RS&H PROJECT NUMBER
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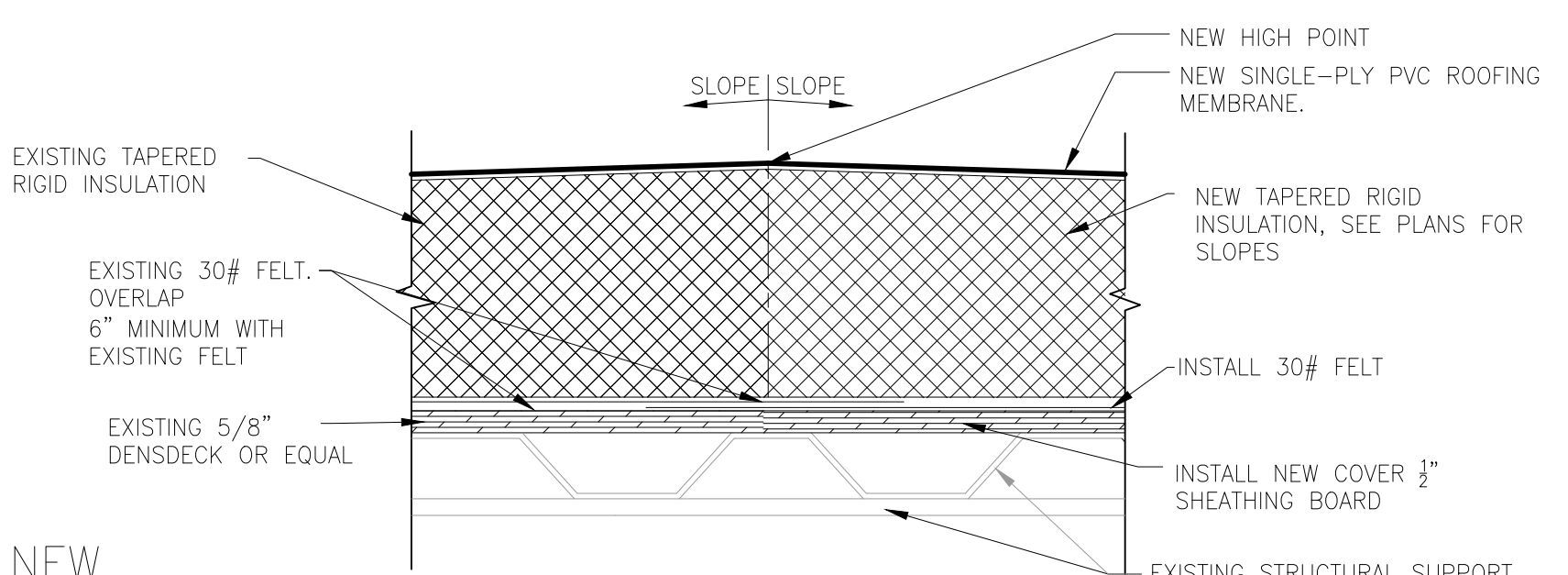
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ROOF DETAILS

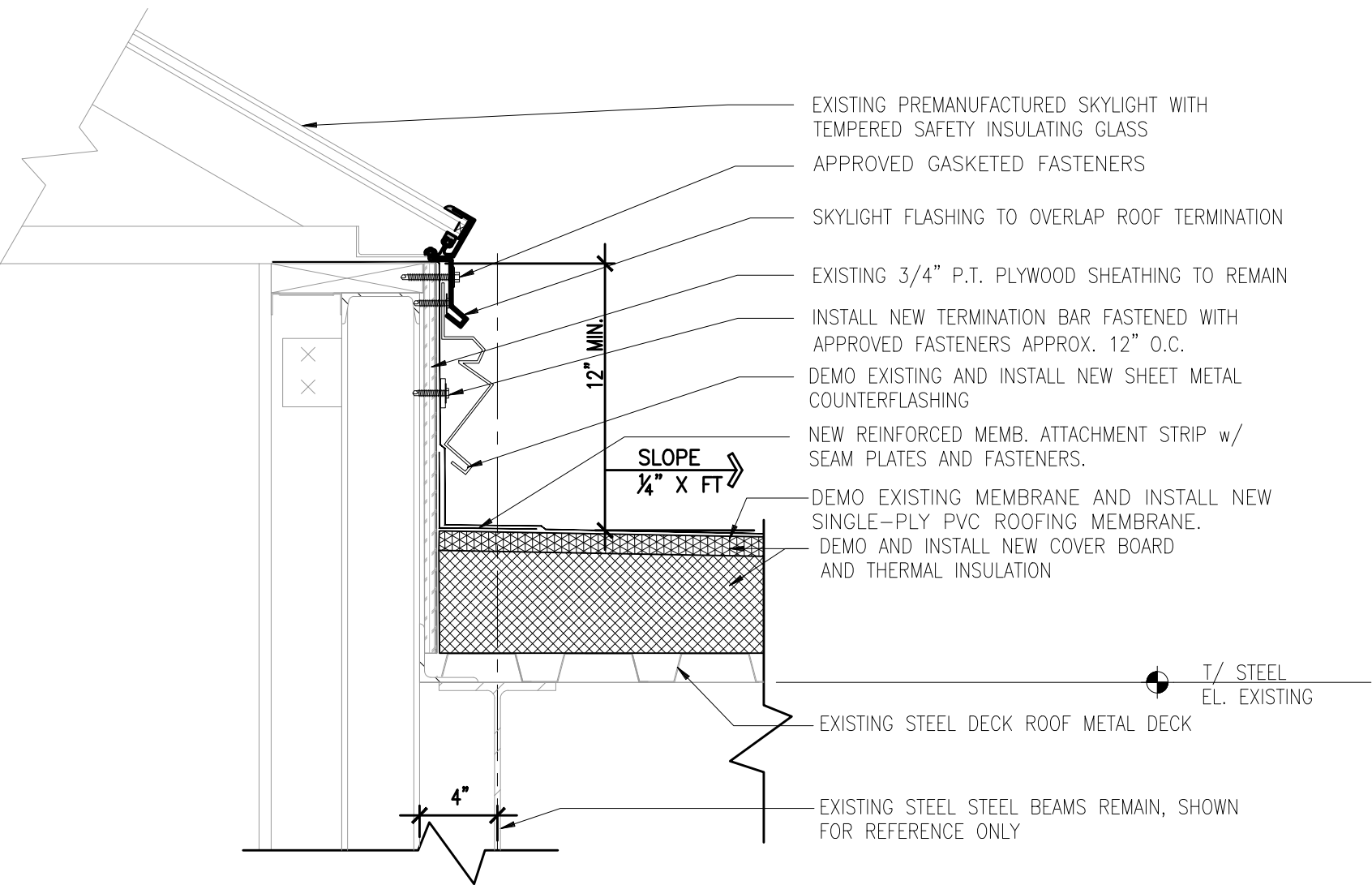
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BID DOCUMENTS

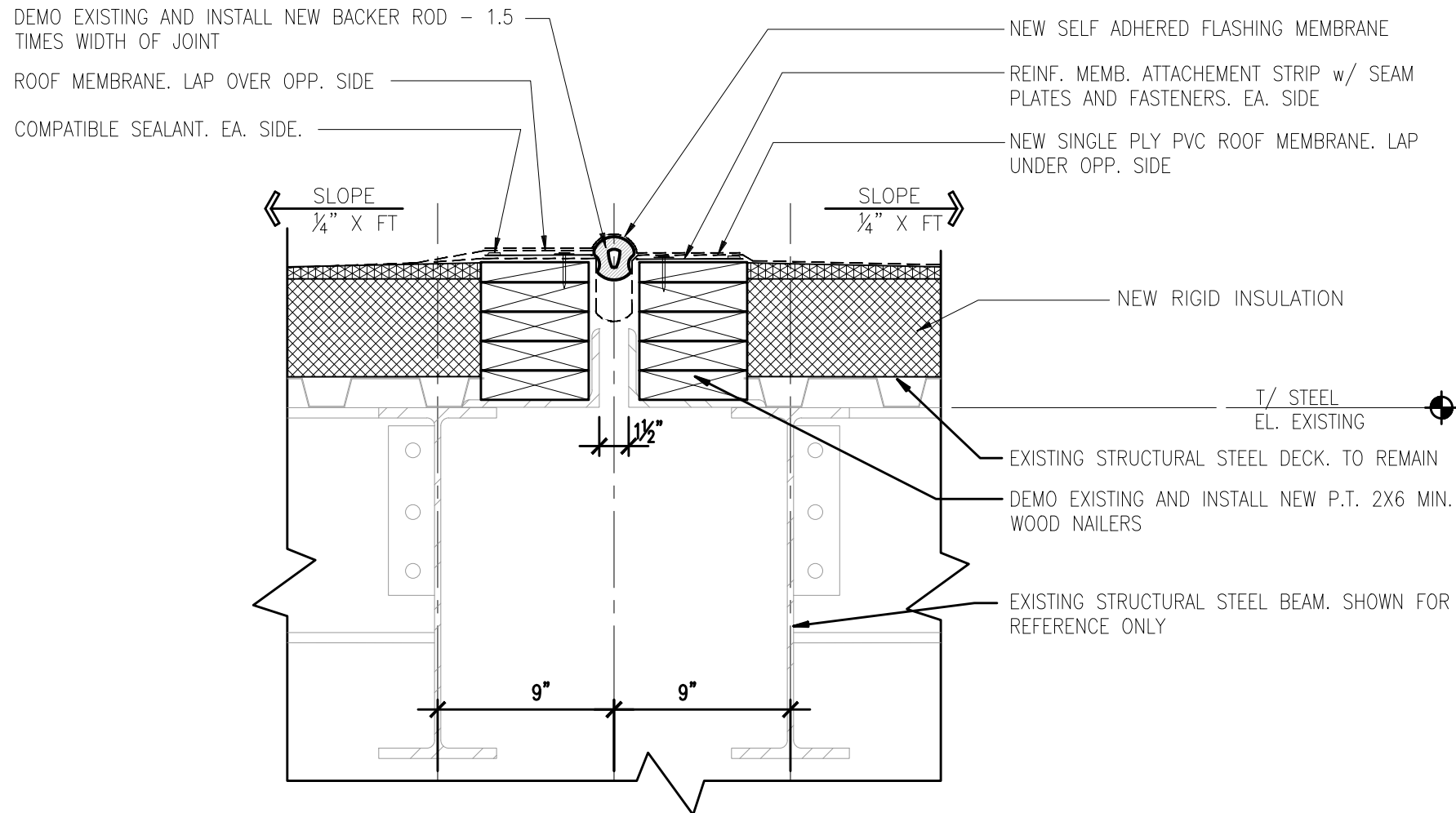
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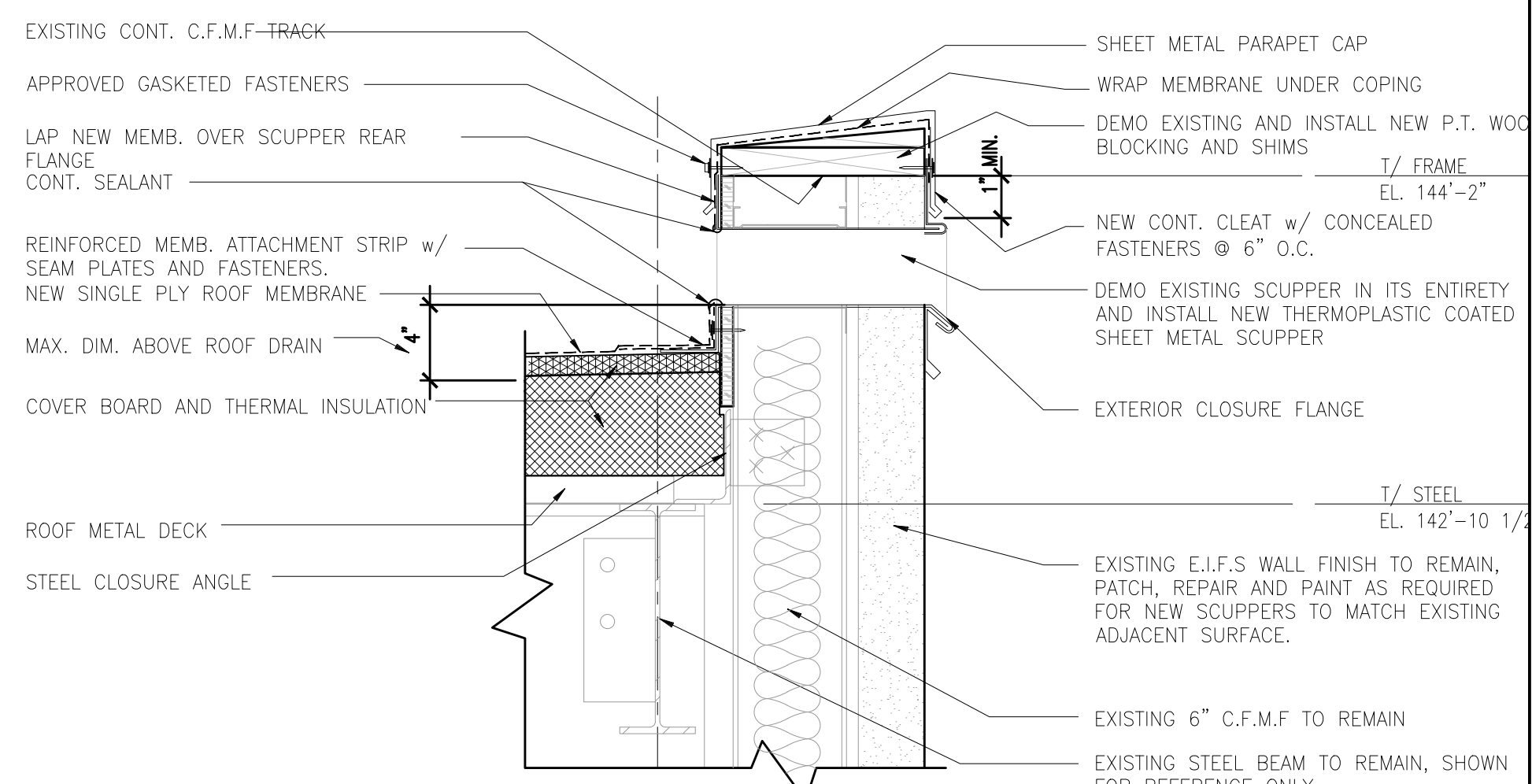
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A505
DETAIL @ ROOF TRANSITION
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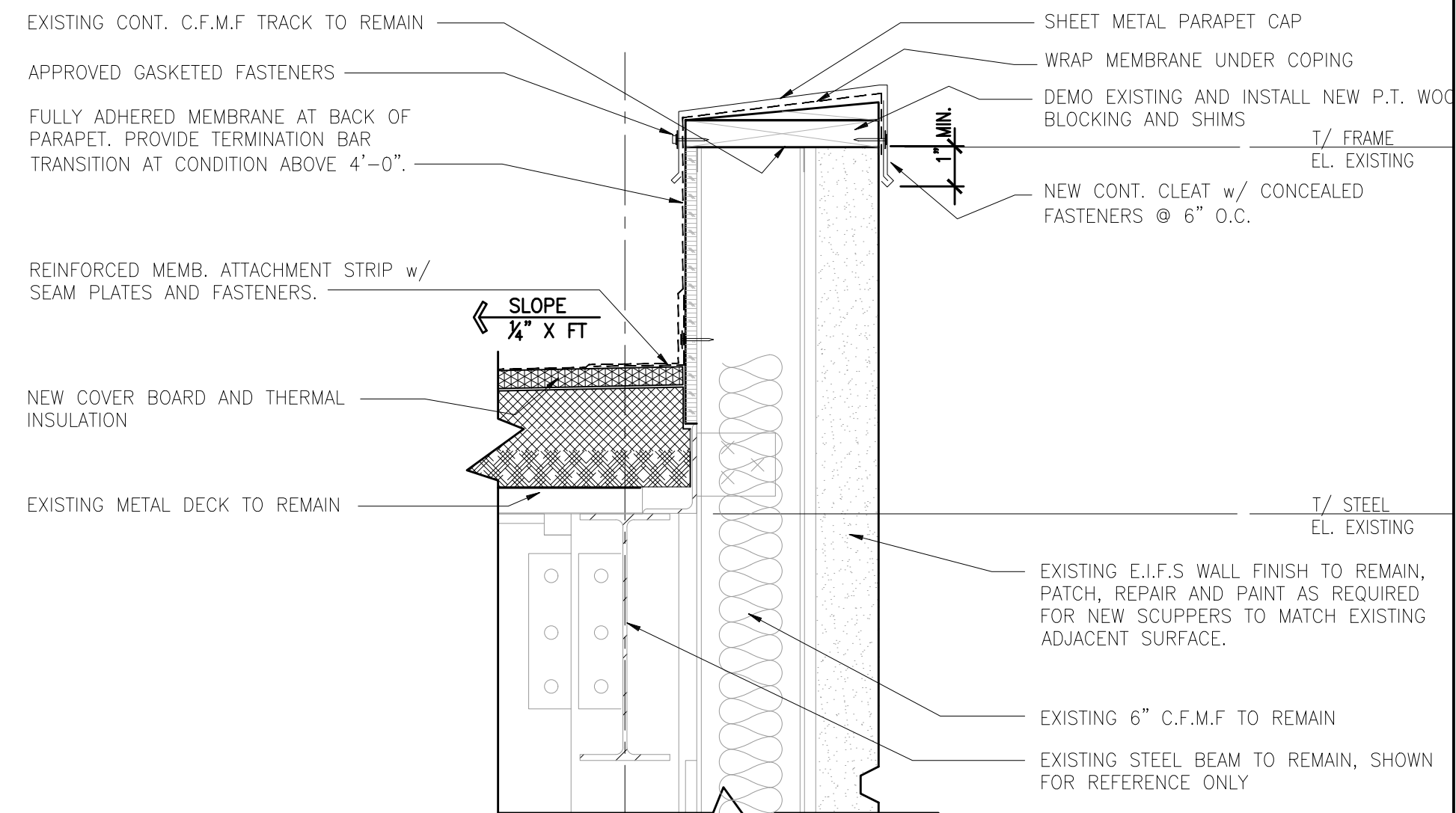
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A505
SKYLIGHT CURB
SCALE: 1 1/2"=1'-0"



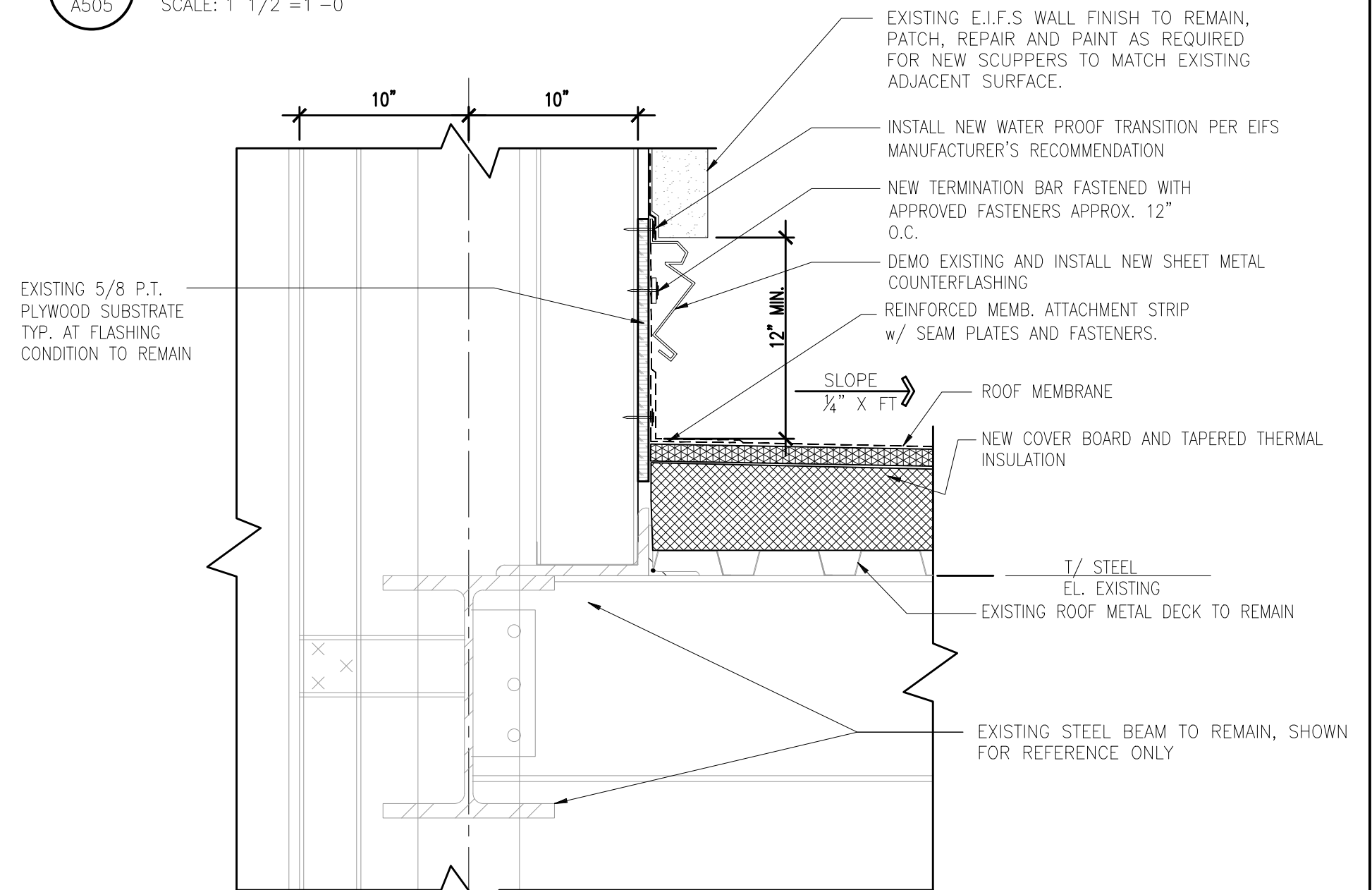
2
A505
DETAIL @ EXPANSION JOINT
SCALE: 1 1/2"=1'-0"



3
A505
DETAIL @ SCUPPER
SCALE: 1 1/2"=1'-0"



6
A505
DETAIL @ PARAPET
SCALE: 1 1/2"=1'-0"



9
A505
DETAIL @ WALL TO ROOF
SCALE: 1 1/2"=1'-0"

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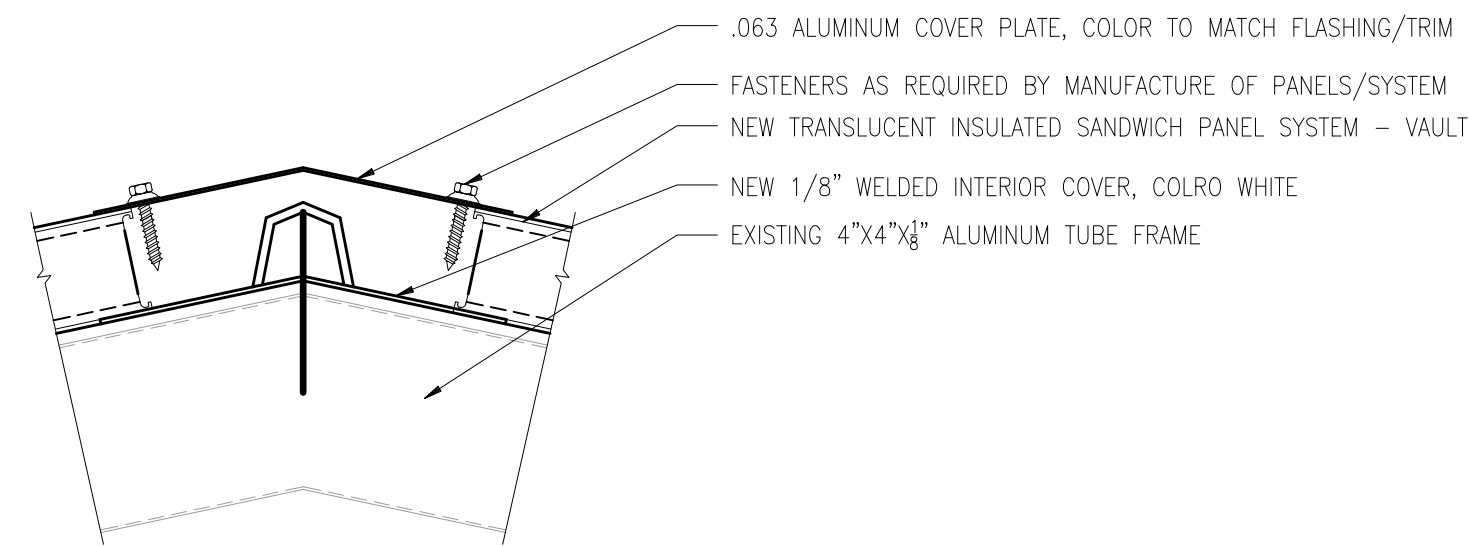
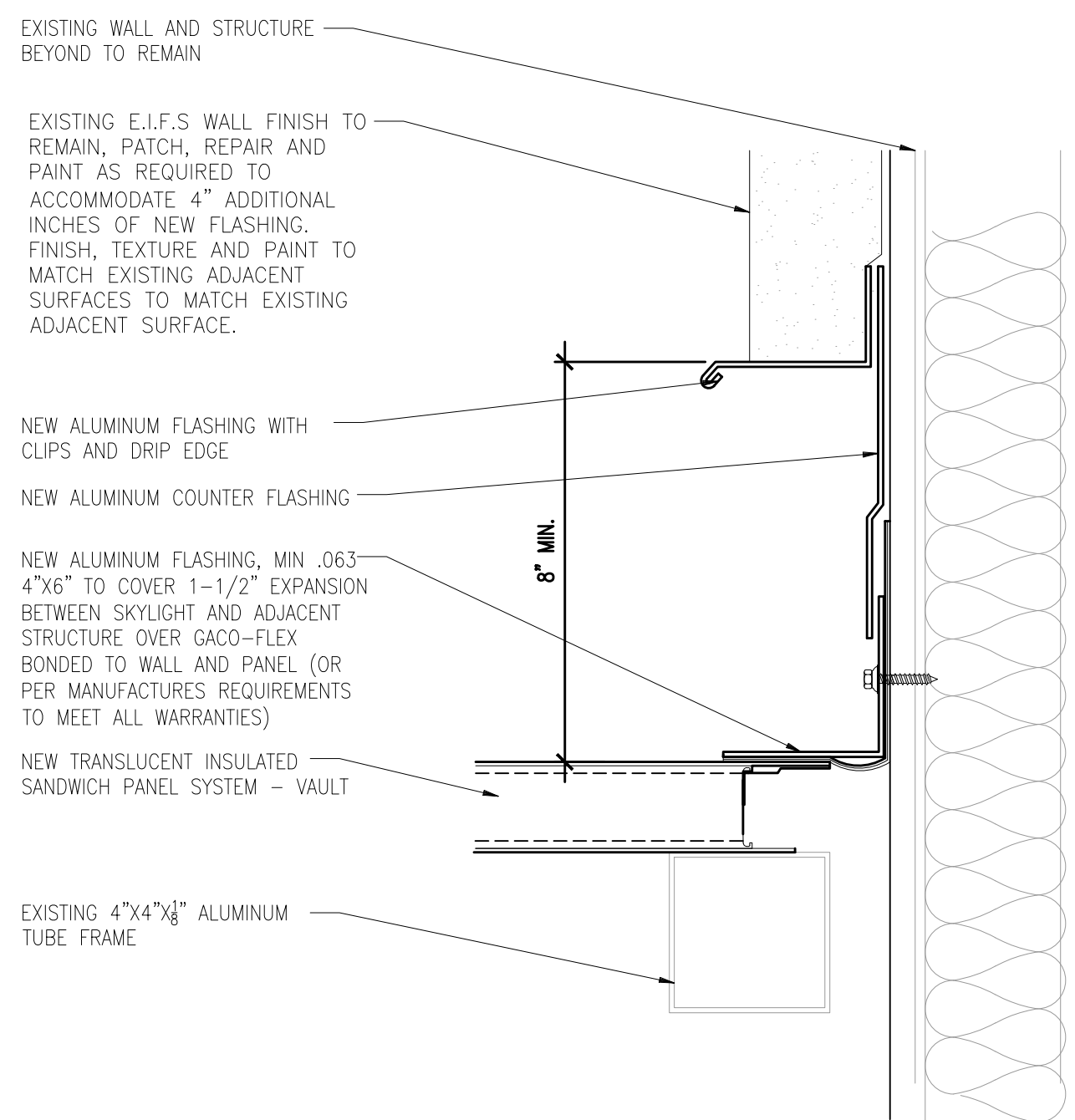
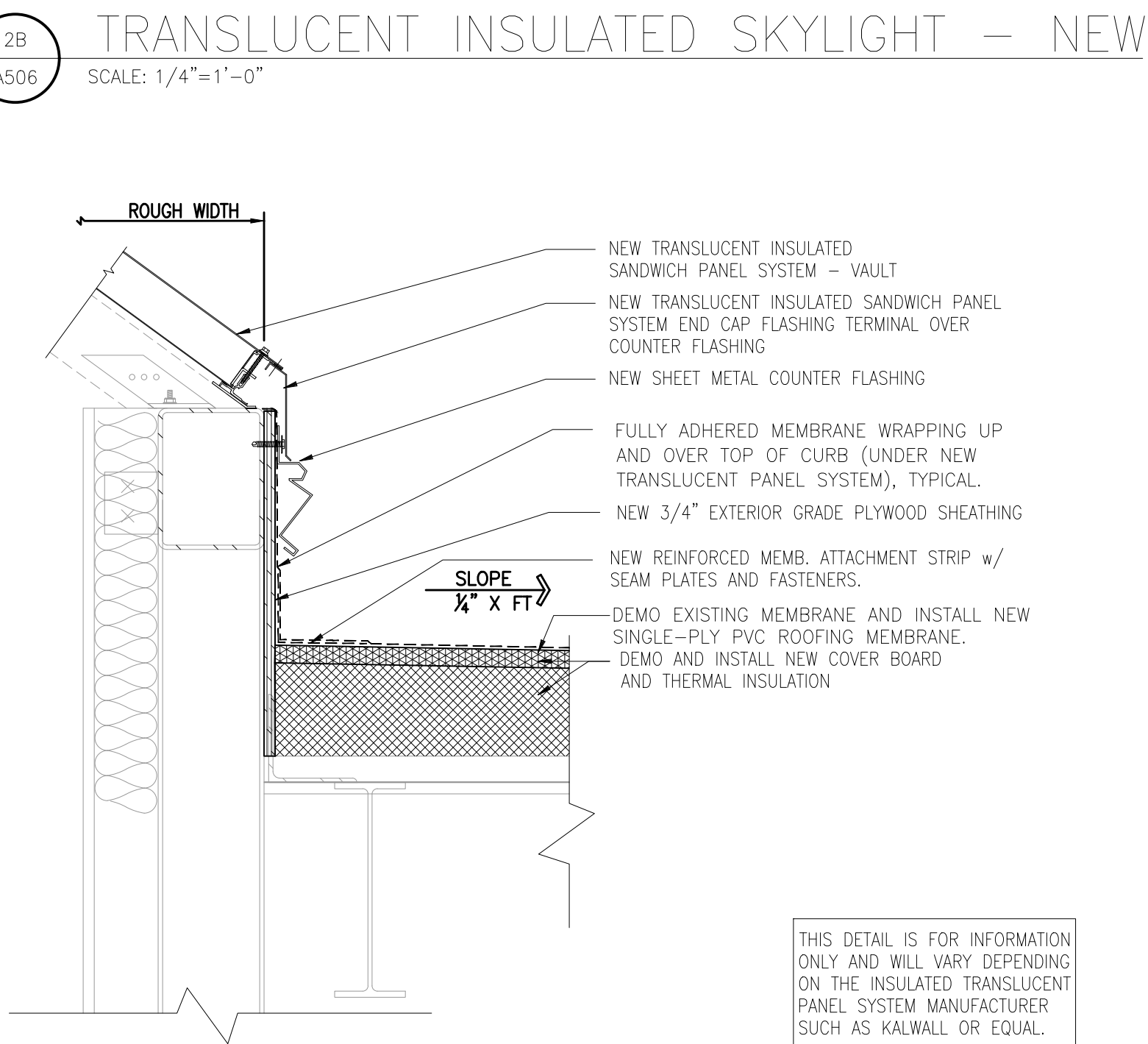
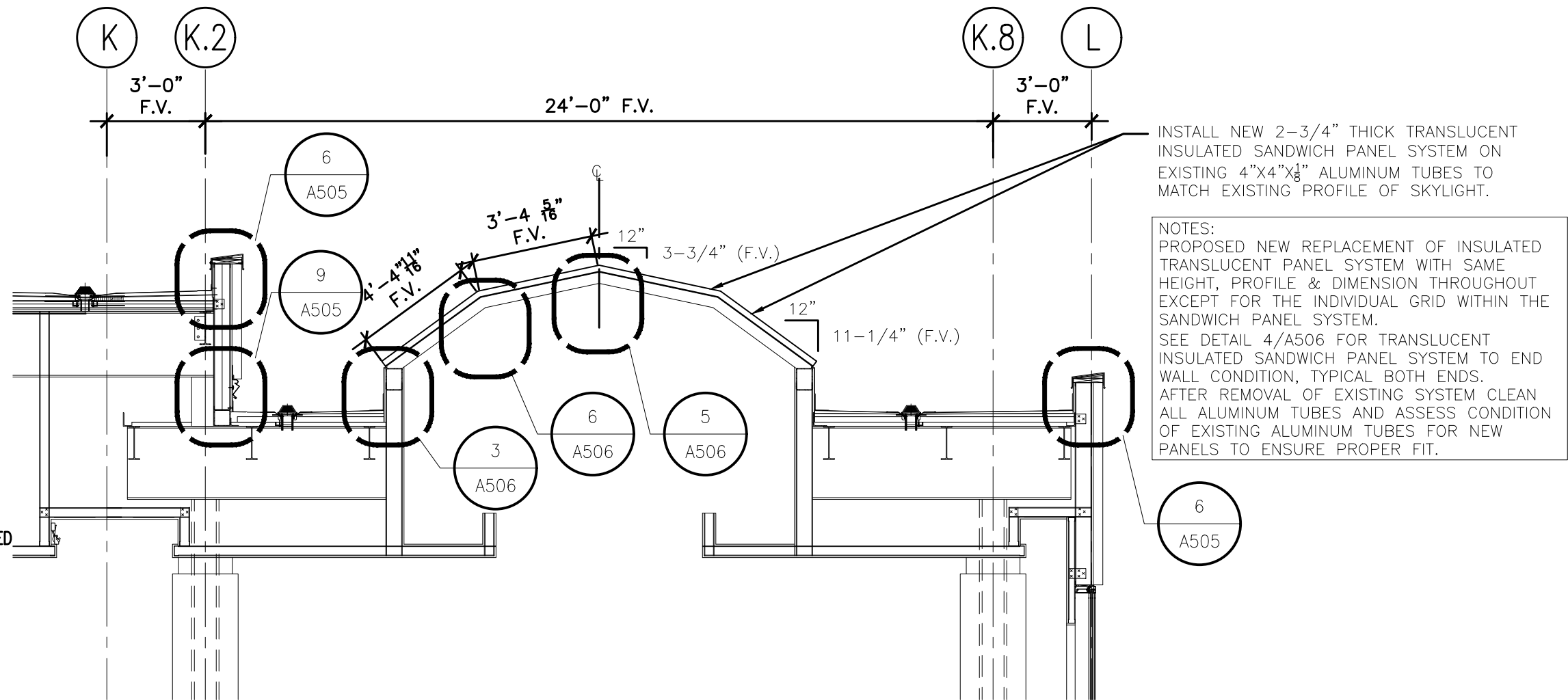
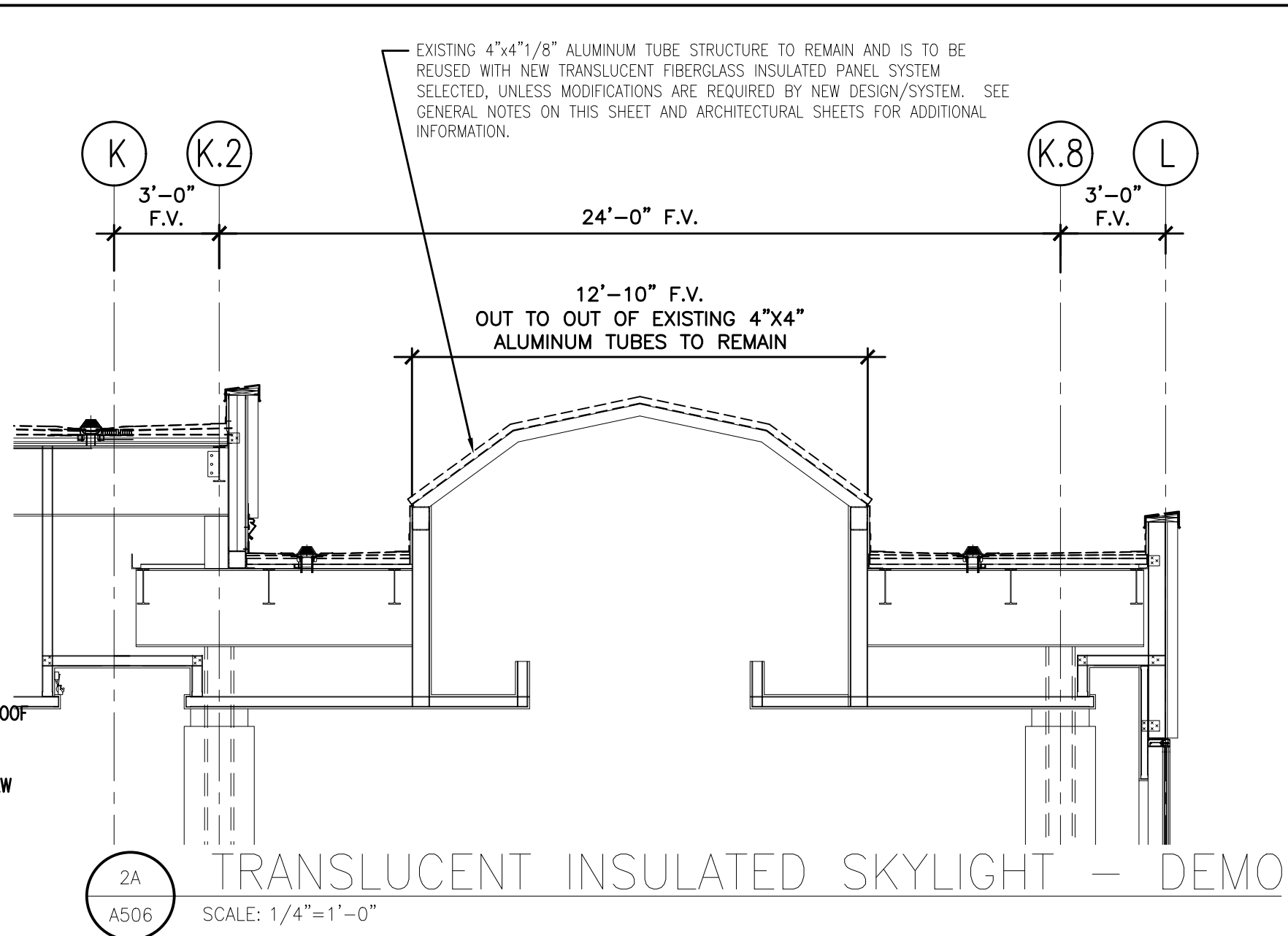
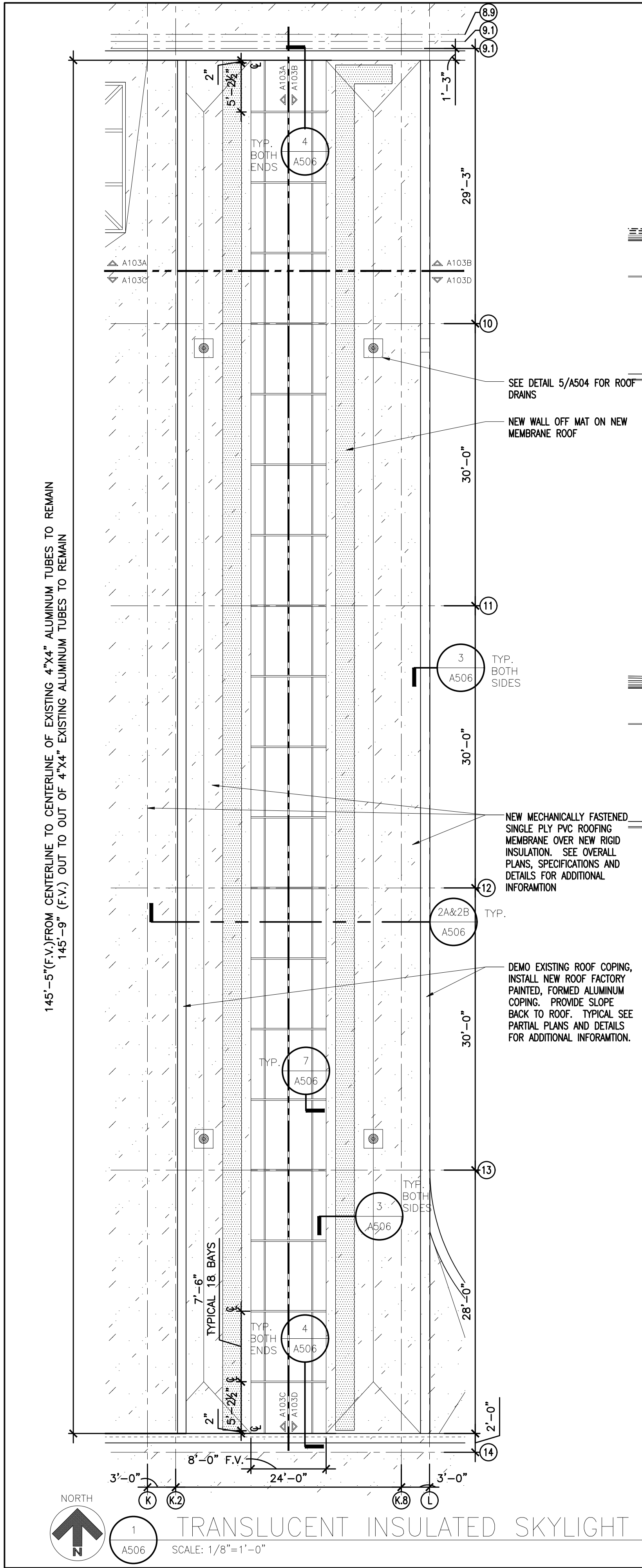
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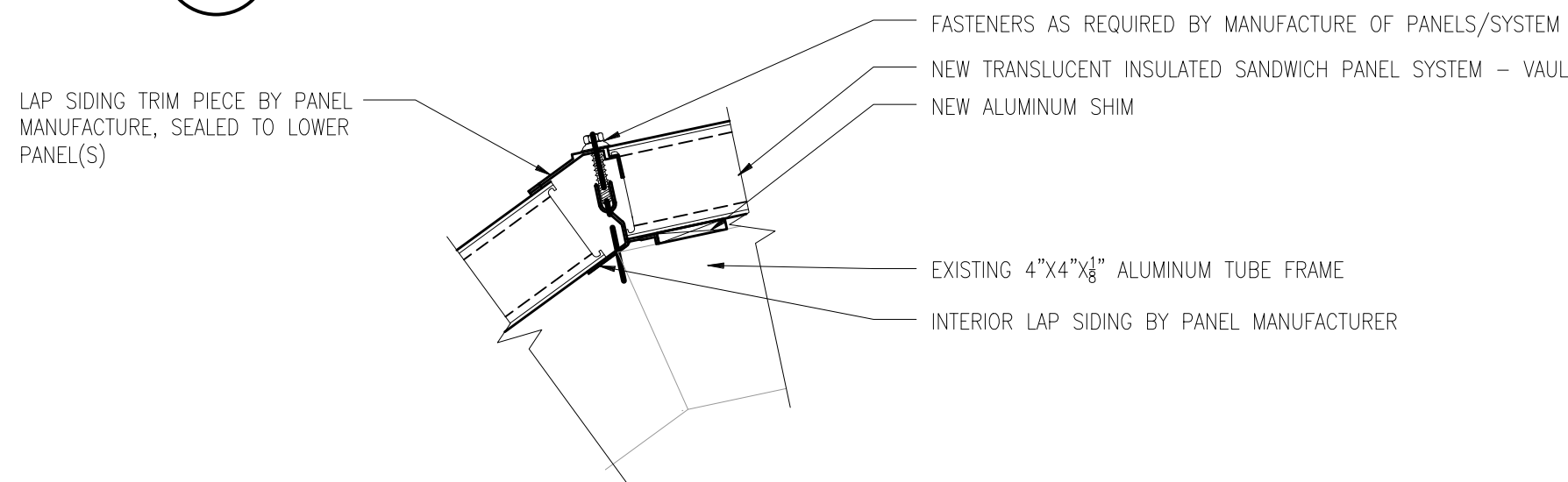
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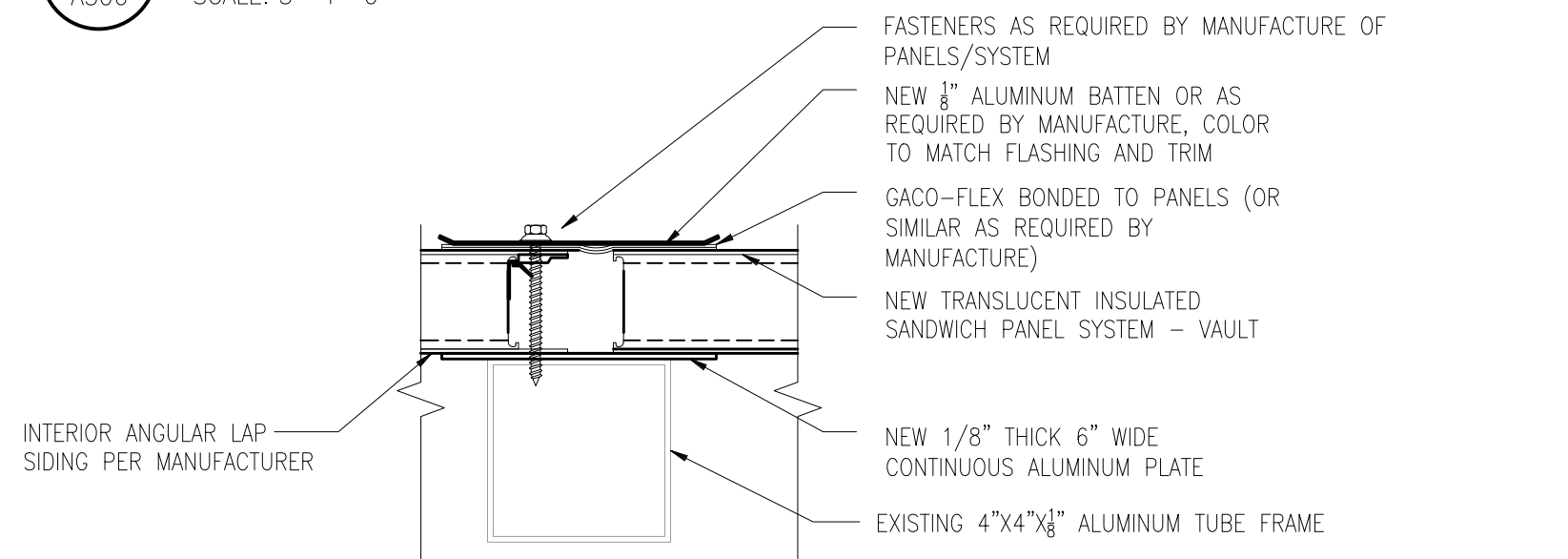
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A505
BID
DOCUMENTS



5 SKYLIGHT - DETAIL AT RIDGE
A506 SCALE: 3"=1'-0"



6 SKYLIGHT - DETAIL AT PANEL VAULT FACET
A506 SCALE: 3"=1'-0"



7 SKYLIGHT - DETAIL BETWEEN PANELS
A506 SCALE: 3"=1'-0"

GENERAL SHEET NOTES:

1. SELECTIVE DEMOLITION INCLUDES ALL EXISTING KALWALL PANEL ENCLOSURE SYSTEM FROM THE ROOF CURB UP. THIS INCLUDES ALL INSULATED TRANSLUCENT WALL PANELS, TRIMS, FLASHING ELEMENTS. ALUMINUM TUBES FOR THE VAULT PANELS SHALL REMAIN UNTIL FURTHER NOTICE FROM CONTRACTOR, SEE GENERAL NOTE 3 (BELOW). ALL ENCLOSURE SYSTEM(S) ABOVE THE ROOF CURB ARE TO BE REPLACED AS INDICATED ON THE DRAWINGS. CLEAN, PREP, THE EXISTING STRUCTURAL STEEL FRAME AND ALUMINUM TUBES, OTHER MISCELLANEOUS ITEMS SUCH AS EXISTING CONDUITS, LIGHTNING PROTECTION, JUNCTION BOXES, ETC. EITHER FOR PAINTING AND/OR REINSTALLATIONS.

2. REPLACE EXISTING KALWALL WITH SIMILAR NEW KALWALL PRE-ENGINEERED ENCLOSURE SYSTEM OR AN EQUIVALENT INSULATED TRANSLUCENT FIBERGLASS PANEL AS INDICATE ON THE DRAWINGS. CONTRACTOR AND HIS/HER ENCLOSURE EXPERTS SHALL DETERMINE IF THE EXISTING ALUMINUM TUBES ARE TO REMAIN AND BE REUSED OR DEMOLISHED. THE NEW ENCLOSURE SYSTEM SHALL INCLUDE ANY RELATED FLASHING, TRIMS, AND OTHER MISCELLANEOUS ITEMS.

3. DESIGN INTENT IS TO REUSE THE EXISTING 4" X 4"-1/8" ALUMINUM TUBE STRUCTURE AT UNDERSIDE OF EXISTING PANELS AT THE VAULT. REUSE ALUMINUM TUBES WITH NEW TRANSLUCENT FIBERGLASS INSULATED PANEL SYSTEM SELECTED IF NEW TRANSLUCENT FIBERGLASS INSULATED PANEL SYSTEM PANEL WIDTHS ALIGN WITH EXISTING ALUMINUM FRAMING TO MAINTAIN EXISTING ROOF GEOMETRY. CLEAN AND TOUCH UP ALUMINUM TUBES AND ATTACHMENT HARDWARE TO LIKE NEW CONDITION PRIOR TO INSTALLATION OF NEW SYSTEM, TYPICAL. IF NEW OR ADDITIONAL ALUMINUM STRUCTURAL SUPPORTS ARE REQUIRED FOR NEW INSTALLATION AND OR ENGINEERING OF NEW SYSTEM THEN THE ASSOCIATED COST MUST BE INCLUDED IN THE BASE BID COST FOR THE SYSTEM, THIS INCLUDES ANY DEMOLITION AND DEBRIS REMOVAL.

4. REMOVE ANY LOOSE PAINT AND FILL HOLES IN EXISTING ALUMINUM TUBES OR EXPOSED STEEL STRUCTURE, PREP AND PAINT REQUIRED FOR NEW DESIGN / INSTALLATION.

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SHEET TITLE

**ENLARGED
PLAN AND
ROOF DETAILS**

SHEET NUMBER

A506

**BID
DOCUMENTS**

SECTION 22 PLUMBING AND SECTION 23 HEATING, VENTILATION AND AIR CONDITIONING

22 05 00 & 23 05 00 COMMON WORK RESULTS FOR HVAC & PLUMBING

GENERAL REQUIREMENTS

REQUIREMENTS UNDER DIVISION ONE AND THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS SHALL BE PART OF THIS SECTION. CONTRACTOR SHALL BECOME THOROUGHLY ACQUAINTED WITH ITS CONTENTS AS TO REQUIREMENTS THAT AFFECT THIS DIVISION OR SECTION. THE WORK REQUIRED UNDER THIS SECTION INCLUDES MATERIAL, EQUIPMENT, APPLIANCES, TRANSPORTATION, SERVICES, AND LABOR REQUIRED TO COMPLETE THE ENTIRE SYSTEM AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

THE SPECIFICATIONS AND DRAWINGS FOR THE PROJECT ARE COMPLEMENTARY AND PORTIONS OF THE WORK DESCRIBED IN ONE SHALL BE PROVIDED AS IF DESCRIBED IN BOTH. IN THE EVENT OF DISCREPANCIES, NOTIFY THE ENGINEER AND REQUEST CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK INVOLVED.

DEFINITIONS

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS.

PROVIDE: THE TERM "PROVIDE" MEANS TO FURNISH, TRANSPORT, INSTALL, CONNECT, WARRANT, AND START-UP INCLUDEVELY.

FURNISHED BY OWNER OR FURNISHED BY OTHERS: THE ITEM WILL BE FURNISHED BY THE OWNER OR OTHERS. IT IS TO BE INSTALLED AND CONNECTED UNDER THE REQUIREMENTS OF THIS DIVISION, COMPLETE AND READY FOR OPERATION, INCLUDING ITEMS INCIDENTAL TO THE WORK, INCLUDING SERVICES NECESSARY FOR PROPER INSTALLATION AND OPERATION. THE INSTALLATION SHALL BE INCLUDED UNDER THE GUARANTEE REQUIRED BY THIS DIVISION.

ENGINEER: WHERE REFERENCED IN THIS DIVISION, "ENGINEER" IS THE ENGINEER OF RECORD AND THE DESIGN PROFESSIONAL FOR THE WORK UNDER THIS DIVISION, AND IS A CONSULTANT TO AND AN AUTHORIZED REPRESENTATIVE OF, THE ARCHITECT, AS DEFINED IN THE GENERAL AND/OR SUPPLEMENTARY CONDITIONS. WHEN USED IN THIS DIVISION, IT MEANS INCREASED INVOLVEMENT BY, AND OBLIGATIONS TO, THE ENGINEER IN ADDITION TO INVOLVEMENT BY, AND OBLIGATIONS TO, THE "ARCHITECT".

AHJ: THE LOCAL CODE AND/OR INSPECTION AGENCY (AUTHORITY) HAVING JURISDICTION OVER THE WORK.

THE TERMS "APPROVED EQUALLY," "EQUIVALENT," OR "EQUAL" ARE USED SYNONYMOUSLY AND SHALL MEAN ACCEPTED BY OR ACCEPTABLE TO THE ENGINEER AS EQUIVALENT TO THE ITEM OR MANUFACTURER SPECIFIED. THE TERM "APPROVED" SHALL MEAN LABELED, LISTED, OR BOTH BY A NATIONALLY RECOGNIZED TESTING LABORATORY (E.G. UL, ETL, OSA) AND ACCEPTABLE TO THE AHJ OVER THIS PROJECT.

MATERIAL AND WORKMANSHIP

THE DRAWINGS ARE DIAGRAMMATIC BUT ARE REQUIRED TO BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION AND WORK OF OTHER TRADES WILL PERMIT. DATA INDICATED ON THE DRAWINGS AND IN THESE SPECIFICATIONS ARE AS EXACT AS COULD BE SECURED, BUT THEIR ABSOLUTE ACCURACY IS NOT WARRANTED. BRANCH CIRCUITS, PIPING ARRANGEMENTS, AND MECHANICAL AND ELECTRICAL COMPONENT LOCATIONS AND THE LIKE HAVE BEEN DESIGNED FOR ECONOMY CONSISTENT WITH GOOD PRACTICE AND OTHER CONSIDERATIONS.

PROVIDE NEW MATERIAL, EQUIPMENT, AND APPARATUS UNDER THIS CONTRACT UNLESS OTHERWISE STATED HEREIN, OF BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE, AND FREE FROM DEFECTS. MODEL NUMBERS LISTED IN SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT NECESSARILY INTENDED TO DESIGNATE THE REQUIRED TRIM. WRITTEN DESCRIPTIONS OF THE TRIM GOVERN MODEL NUMBERS.

PIPE, PIPE FITTINGS, PIPE SPECIALTIES, AND VALVES SHALL BE MANUFACTURED IN PLANTS LOCATED IN THE UNITED STATES OR CERTIFIED TO MEET THE SPECIFIED ASTM AND ANSI STANDARDS.

WORK PERFORMED UNDER THIS CONTRACT SHALL PROVIDE A NEAT AND "WORKMANLIKE" APPEARANCE WHEN COMPLETED, TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER. WORKMANSHIP SHALL BE THE FINEST POSSIBLE BY EXPERIENCED MECHANICS. INSTALLATIONS SHALL COMPLY WITH APPLICABLE CODES AND LAWS.

A. DISABLED PERSONS AND ADA REQUIREMENTS

1. THE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED IN ACCORDANCE WITH THE ENGINEER'S INTERPRETATIONS OF THE APPLICABLE PROVISIONS OR REGULATIONS, CODES, AND ORDINANCES REGARDING DISABLED PERSONS. IT IS ASSUMED THAT THE CONTRACTOR IS ALSO KNOWLEDGEABLE OF THE SAME AND THEIR APPLICATION WITH REGARD TO HIS WORK.

2. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE TYPE OF EQUIPMENT BEING INSTALLED AND ITS LOCATION, MOUNTING HEIGHT, AND CLEARANCES AS PRESCRIBED BY ALL APPLICABLE DISABILITY REGULATIONS, CODES, AND ORDINANCES PRIOR TO PLACING EQUIPMENT ORDERS AND PRIOR TO INSTALLATION OF ALL WORK.

THE COMPLETE INSTALLATION SHALL FUNCTION AS DESIGNED AND INTENDED WITH RESPECT TO EFFICIENCY, CAPACITY, NOISE LEVEL, ETC. ABNORMAL NOISE CAUSED BY RATTLING EQUIPMENT, PIPING, DUCTS, AIR DEVICES, AND SQUEAKS IN ROTATING COMPONENTS WILL NOT ACCEPTABLE. IN GENERAL, MATERIALS AND EQUIPMENT SHALL BE OF COMMERCIAL SPECIFICATION GRADE IN QUALITY. LIGHT DUTY AND RESIDENTIAL TYPE EQUIPMENT WILL NOT BE ACCEPTED.

REMOVE FROM THE PREMISES WASTE MATERIAL PRESENT AS A RESULT OF WORK INCLUDING CARTONS, GRATING, PAPER, STICKERS, AND/OR EXCAVATION MATERIAL NOT USED IN BACKFILLING, ETC. CLEAN EQUIPMENT UNDER THIS CONTRACT TO PRESENT A NEAT AND CLEAN INSTALLATION AT THE TERMINATION OF WORK.

THE CONTRACTOR SHALL TAKE PROPER PRECAUTIONS TO PROTECT ANY EXISTING CONSTRUCTION AND ADJACENT PROPERTY, WITH WHICH WORK COMES IN CONTACT, AND OVER WHICH HE MAY TRANSPORT, HOIST OR MOVE MATERIALS, EQUIPMENT, DEBRIS, ETC., AND SHALL REPAIR OR REPLACE ALL DAMAGES AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT TO THE SATISFACTION OF AUTHORITIES AND REGULATIONS HAVING JURISDICTION.

COORDINATION

COORDINATE WORK WITH THAT OF OTHER TRADES SO THAT THE VARIOUS COMPONENTS OF THE SYSTEMS WILL BE INSTALLED AT THE PROPER TIME, WILL FIT THE AVAILABLE SPACE, AND WILL ALLOW PROPER SERVICE ACCESS TO THOSE ITEMS REQUIRING MAINTENANCE. COMPONENTS WHICH ARE INSTALLED WITHOUT REGARD TO THE ABOVE SHALL BE RELOCATED AT NO ADDITIONAL COST TO THE OWNER.

IN THE CASE WHERE TWO OR MORE TRADES OR CONTRACTORS ARE INVOLVED IN THE INSTALLATION OF ANY ITEM, ALL SUCH PERSONS SHALL BE RESPONSIBLE FOR COORDINATING THEIR WORK AMONG THEMSELVES TO PROVIDE A COMPLETE, FUNCTIONING INSTALLATION.

UNLESS OTHERWISE INDICATED, THE GENERAL CONTRACTOR WILL PROVIDE CHASES AND OPENINGS IN BUILDING CONSTRUCTION REQUIRED FOR INSTALLATION OF THE SYSTEMS SPECIFIED HEREIN. CONTRACTOR SHALL FURNISH THE GENERAL CONTRACTOR WITH INFORMATION WHERE CHASES AND OPENINGS ARE REQUIRED, KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE PROJECT, AND EXECUTE WORK IN A MANNER AS TO NOT INTERFERE WITH OR DELAY THE WORK OF OTHER TRADES.

FIGURED DIMENSIONS SHALL BE TAKEN IN REFERENCE TO SCALE DIMENSIONS. CONTRACTOR SHALL TAKE HIS OWN MEASUREMENTS AT THE BUILDING, AS VARIATIONS MAY OCCUR. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ERRORS THAT COULD HAVE BEEN AVOIDED BY PROPER CHECKING AND INSPECTION.

PROVIDE MATERIALS WITH TRIM THAT WILL PROPERLY FIT THE TYPES OF CEILING, WALL, OR FLOOR FINISHES ACTUALLY INSTALLED. MODEL NUMBERS LISTED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS ARE NOT INTENDED TO DESIGNATE THE REQUIRED TRIM.

UNLESS DETAILED OTHERWISE MAINTAIN A MINIMUM CLEARANCE FOR LIGHTS OF 7" ABOVE FINISHED CEILINGS AND 1" MINIMUM BELOW ALL DUCTS, PIPES, CONDUIT, OR ANY OTHER EQUIPMENT IN THE CEILING SPACE. PROVIDE MANUFACTURER'S RECOMMENDED SERVICE ACCESS CLEARANCE AT ALL EQUIPMENT.

ORDINANCES AND CODES

WORK PERFORMED UNDER THIS CONTRACT SHALL, AT A MINIMUM, BE IN CONFORMANCE WITH APPLICABLE NATIONAL, STATE, AND LOCAL CODES HAVING JURISDICTION. EQUIPMENT FURNISHED AND ASSOCIATED INSTALLATION WORK PERFORMED UNDER THIS CONTRACT SHALL BE IN STRICT COMPLIANCE WITH CURRENT APPLICABLE CODES AND STANDARDS ADOPTED BY THE LOCAL AHJ INCLUDING AND AMENDMENTS AND STANDARDS AS SET FORTH BY THE NATION FIRE PROTECTION ASSOCIATION (NFPA), UNDERWRITERS LABORATORIES (UL), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME), AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS (ASHRAE), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), AMERICAN SOCIETY OF TESTING MATERIALS (ASTM), AND OTHER NATIONAL STANDARDS AND CODES WHERE APPLICABLE. WHERE THE CONTRACT DOCUMENTS EXCEED THE REQUIREMENTS OF THE REFERENCED CODES, STANDARDS, ETC., THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE.

PROCURE AND PAY FOR PERMITS AND LICENSES REQUIRED FOR THE ACCOMPLISHMENT OF THE WORK HEREIN DESCRIBED. WHERE REQUIRED, OBTAIN, PAY FOR, AND FURNISH CERTIFICATES OF INSPECTION TO OWNER. CONTRACTOR WILL BE HELD RESPONSIBLE FOR VIOLATIONS OF THE LAW.

PROTECTION OF EQUIPMENT AND MATERIALS

STORE AND PROTECT FROM DAMAGE, EQUIPMENT AND MATERIALS DELIVERED TO JOB SITE. COVER WITH WATERPROOF, TEAR RESISTANT, HEAVY TARP OR POLYETHYLENE PLASTIC AS REQUIRED TO "PROTECT" FROM PLASTER, DIRT, PAINT, WATER OR PHYSICAL DAMAGE. EQUIPMENT AND MATERIAL THAT HAS BEEN DAMAGED BY CONSTRUCTION ACTIVITIES WILL BE REJECTED, AND CONTRACTOR IS OBLIGATED TO FURNISH NEW EQUIPMENT AND MATERIAL OF A LIKE KIND.

KEEP PREMISES BROOM CLEAN FROM FOREIGN MATERIAL CREATED DURING WORK PERFORMED UNDER THIS CONTRACT. PIPING, EQUIPMENT, ETC. SHALL HAVE A NEAT AND CLEAN APPEARANCE AT THE TERMINATION OF THE WORK.

PLUG OR CAP OPEN END OF DUCTWORK AND PIPING SYSTEMS WHILE STORED AND INSTALLED DURING CONSTRUCTION WHEN NOT IN USE TO PREVENT THE ENTRANCE OF DEBRIS INTO THE SYSTEMS.

SUBSTITUTIONS

THE BASE BID SHALL INCLUDE ONLY THE PRODUCTS FROM MANUFACTURERS SPECIFICALLY NAMED IN THE DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTION WILL BE CONSIDERED PRIOR TO RECEIPT OF BIDS UNLESS WRITTEN REQUEST FOR APPROVAL, TO BID HAS BEEN RECEIVED BY THE ENGINEER AT LEAST TEN CALENDAR DAYS PRIOR TO THE DATE FOR RECEIPT OF BIDS. EACH SUCH REQUEST SHALL INCLUDE THE NAME OF THE MATERIAL OR EQUIPMENT FOR WHICH IS TO BE SUBSTITUTED AND A COMPLETE DESCRIPTION OF THE PROPOSED SUBSTITUTE INCLUDING DRAWINGS, CUTS, PERFORMANCE, AND TEST DATA AND OTHER INFORMATION NECESSARY FOR AN EVALUATION. A STATEMENT SETTING FORTH CHANGES IN OTHER MATERIALS, EQUIPMENT, OR OTHER WORK THAT INCORPORATION OF THE MERIT OF THE PROPOSED SUBSTITUTE IS UPON THE PROPOSER. THE ENGINEER'S DECISION OF APPROVAL OR DISAPPROVAL TO BID OF A PROPOSED SUBSTITUTION SHALL BE FINAL.

THE TERMS "APPROVED," "APPROVED EQUALLY," AND "EQUAL" REFERS TO APPROVAL BY THE ENGINEER AS AN ACCEPTABLE ALTERNATE BID. NO SUBSTITUTIONS WILL BE CONSIDERED THAT ARE NOT AS AN ALTERNATE. NO MATERIAL SUBSTITUTIONS SHALL BE CONSIDERED FOR APPROVAL PRIOR TO AWARD OF CONTRACT.

COORDINATE AND VERIFY WITH OTHER TRADES WHETHER OR NOT THE SUBSTITUTED EQUIPMENT CAN BE INSTALLED AS SHOWN ON THE CONSTRUCTION DRAWINGS WITHOUT MODIFICATION TO ASSOCIATED SYSTEMS OR ARCHITECTURAL OR ENGINEERING DESIGN. INCLUDE ADDITIONAL COSTS FOR ARCHITECTURAL AND ENGINEERING DESIGN FEES IN BID IF DRAWING MODIFICATIONS ARE REQUIRED BECAUSE OF SUBSTITUTES EQUIPMENT.

COORDINATE EQUIPMENT SUBSTITUTIONS FOR THE SCHEDULED OR SPECIFIED ITEM WITH ALL OTHER TRADES. COMPENSATION TO OTHER TRADES DUE TO CHANGES IN RATED VOLTAGE, PHASE, PHYSICAL SIZE, ARRANGEMENTS, SHAPE, COLOR, AND ALL OTHER CHARACTERISTICS AND THEIR RELATED EFFECTS ARISING FROM EQUIPMENT SUBSTITUTIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR MAKING THE CHANGE.

CUTTING AND PATCHING

PERFORM CUTTING OF WALLS, FLOORS, CEILINGS, ETC. AS REQUIRED TO INSTALL WORK UNDER THIS SECTION. DO NOT CUT OR DISTURB STRUCTURAL MEMBERS WITHOUT PRIOR APPROVAL. CUT HOLES AS SMALL AS POSSIBLE. GENERAL CONTRACTOR SHALL PATCH WALLS, FLOORS, ETC. AS REQUIRED BY WORK UNDER THIS SECTION. PATCHING SHALL MATCH THE ORIGINAL MATERIAL AND CONSTRUCTION. REPAIR AND REFINISH AREAS DISTURBED BY WORK TO THE CONDITIONS OF ADJOINING SURFACES IN A MANNER SATISFACTORY TO THE ARCHITECT.

PENETRATIONS

SEAL ROOF PENETRATIONS WATERTIGHT AND WEATHERTIGHT WITH NON-SHRINK, NON-HARDENING COMMERCIAL SEALANT. PACK WITH MINERAL WOOL AND SEAL BOTH ENDS WITH MINIMUM OF 1/2" OF SEALANT.

SEAL AROUND PENETRATIONS OF FIRE RATED ASSEMBLIES. COORDINATE FIRE RATINGS AND LOCATIONS WITH THE ARCHITECTURAL DRAWINGS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR FIRE STOPPING. PROVIDE A PRODUCT SCHEDULE FOR UL LISTING, LOCATION, WALL, OR FLOOR RATINGS AND INSTALLATION DRAWING FOR EACH PENETRATION FIRE STOP SYSTEM.

EXTEND PIPE INSULATION FOR INSULATED PIPE THROUGH FLOOR, WALL, AND ROOF PENETRATIONS, INCLUDING FIRE RATED WALLS AND FLOORS. THE VAPOR BARRIER SHALL BE MAINTAINED. SIZE SLEEVE FOR MINIMUM OF 1" ANNUAL CLEAR SPACE BETWEEN INSIDE OF SLEEVE AND OUTSIDE OF INSULATION.

UPON COMPLETION OF WORK:

THOROUGHLY CLEAN ALL EXPOSED PORTIONS OF THE MECHANICAL AND ELECTRICAL EQUIPMENT, EQUIPMENT PROVIDED, AND THE GENERAL AREA WHERE WORK WAS PERFORMED. REMOVE ALL TRACES OF SOIL, LABELS, GREASE, OIL, AND OTHER FOREIGN MATERIALS USING ONLY THE TYPE CLEANER RECOMMENDED BY THE MANUFACTURER OF ANY ITEM BEING CLEANED.

PROVIDE MANUFACTURER'S OPERATING AND MAINTENANCE INSTRUCTIONS TO THE OWNER'S REPRESENTATIVE FOR ALL MAJOR MECHANICAL AND ELECTRICAL EQUIPMENT PROVIDED. PROVIDE 4 HOURS OF FORMAL TRAINING (2 HOURS ON TWO DIFFERENT DAYS) TO OWNER'S MAINTENANCE PERSONNEL IN ORDER TO FAMILIARIZE THEM WITH THE SYSTEM OPERATION AND REQUIRED PERIODIC MAINTENANCE.

DOCUMENTATION OF ANY TEST AND THE "AS-BUILT" RECORD DRAWINGS SHALL BE PROVIDED TO THE BUILDING OWNER AND TENANT UPON COMPLETION.

22 05 29 HANGERS AND SUPPORTS

SUPPORTS ON ROOF: SUPPORT PIPING ON ROOF WITH PRE-ENGINEERED ROOF PIPE SUPPORTS MANUFACTURED BY B-LINE, ERICO, MIRO, OR PORTABLE PIPE HANGERS.

4"x4"x1/2" LONG CLOSED CELL POLYETHYLENE CLOAKS WITH EMBEDDED PRE-ENGINEERED SUPPORT STRUT OR PRE-ENGINEERED SUPPORT STRUTS WITH FACTORY PLASTIC BASES. TWO PIECE STRAPS SHALL BE CAPTIVATED AT THE SHOULDER WHEN ATTACHMENT NUT IS TIGHTENED AND DESIGNED FOR USE WITH STRUT SYSTEM. ALL NUTS, BRACKETS, AND CLAMPS SHALL HAVE THE SAME FINISH AS THE CHANNELS. SUPPORT PIPE WITH SPACING AS DESCRIBED ABOVE AT A MINIMUM 7" ABOVE THE ROOF. SET SUPPORTS ON 18"x18"x3/16" THICK ROOF WALKWAY MATERIAL COMPATIBLE WITH ACTUAL ROOF MATERIAL.

WASTE AND VENT PIPE ABOVE SLAB INSIDE BUILDING SHALL BE HUBLESS CAST IRON SOIL PIPE AND FITTINGS MEETING ASTM A888 ANSI C831 301, MANUFACTURED BY AB & I FOUNDRY, CHARLOTTE PIPE, OR TYLER PIPE AND BEARING THE TRADEMARK OF THE CSPI AND NSF. PVC SCHEDULE 40 DWV ASTM D2665 SOCKET FITTINGS WITH SOLVENT WELD JOINTS IS ALSO PERMITTED WHERE APPROVED BY CODE. (NOTE: PVC PIPING IS NOT ALLOWED IN CEILING RETURN AIR PLenums.)

CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT: 1-1/4" AND LARGER WASTE CONNECTIONS FROM FIXTURE TRAPS TO CAST IRON PIPE SHALL BE DWV COPPER WITH WROUGHT COPPER DRAINAGE PATTERN FITTINGS WITH COPPER SWEAT OR COMPRESSION JOINTS AT FIXTURE TRAP CONNECTIONS AND THREADED JOINTS AT CONNECTION TO CAST IRON PIPE.

INDIRECT AND CONDENSATE DRAIN PIPE INSTALLED INSIDE OF BUILDING SHALL BE TYPE "M" HARD COPPER WITH WROUGHT COPPER FITTINGS FOR 1" AND SMALLER AND DWV COPPER WITH WROUGHT COPPER DRAINAGE PATTERN FITTINGS FOR 1-1/4" AND LARGER HARD TEMPER COPPER TUBE AND SOLDERED CONNECTIONS MADE WITH 95/5 SOLDER. INSTALL CLEANOUTS AT ELBOWS GREATER THAN 45 DEGREES.

INDIRECT AND CONDENSATE DRAIN PIPE INSTALLED OUTSIDE THE BUILDING ABOVE GROUND SHALL BE SCHEDULE 40 PVC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS WHERE ALLOWED BY CODE. TERMINATE AT NEAREST ROOF DRAIN, GUTTER, OR OTHER LOCATION AS SHOWN ON DRAWINGS. INSTALL CLEANOUTS AT ELBOWS GREATER THAN 45 DEGREES.

JOINTS IN BELL AND SPIGOT CAST IRON WASTE AND VENT PIPE SHALL BE NEOPRENE COMPRESSION GASKETS, TYSEAL OR EQUAL.

CLEAN PVC JOINTS FREE FROM DEBRIS AND MOISTURE. APPLY PVC PRIMER MEETING ASTM F686 TO EACH JOINT. APPLY SOLVENT CEMENT MEETING ASTM D2554 AND MAKE JOINT WHILE WET AND IN ACCORDANCE WITH ASTM D2555.

PIPE HANGERS SHALL BE AS DESCRIBED IN THE SPECIFICATIONS BY B-LINE OR EQUAL BY ANVIL, MICHIGAN, TRSCON, OR UNISTRUT. CONNECT HANGERS TO THE STRUCTURE WITH SIDE BEAM CONNECTORS AND ALL THREAD HANGER RODS. PROVIDE ENGINEERED SUPPORT STRUTS BETWEEN JOISTS AND OTHER STRUCTURAL MEMBERS AS REQUIRED TO PROVIDE A RIGID HANGING INSTALLATION. DO NOT HANG PIPES FROM OTHER PIPES, CONDUIT, OR DUCTWORK. PROVIDE HANGER RODS AND SPACE HANGERS AT INTERVALS AS SPECIFIED IN "HANGER SPACING". PROVIDE SUPPORT WITHIN 1 FOOT OF EACH ELBOW AND TEE. PROVIDE SUPPORTS WITHIN 1 FOOT OF EACH EQUIPMENT CONNECTION. PROVIDE TWO NUTS ON THREADED SUPPORTS TO SECURELY FASTEN THE SUPPORT. INSTALL HANGER TYPES OR SUPPORTS FOR VARIOUS PIPE AS FOLLOWS:

CAST IRON PIPE: ADJUSTABLE BAND HANGERS FOR 2" AND SMALLER. CLEVIS HANGERS FOR 3" AND LARGER SHALL BE B-LINE #B3100 GALVANIZED STEEL CLEVIS TYPE. RISER CLAMPS TO SUPPORT VERTICAL PIPE SHALL BE B-LINE #B3373 GALVANIZED STEEL.

PVC PIPE: ADJUSTABLE BAND HANGERS FOR 3" SMALLER. CLEVIS HANGERS FOR 4" AND LARGER SHALL BE B-LINE #B3100 GALVANIZED STEEL CLEVIS TYPE. RISER CLAMPS TO SUPPORT VERTICAL PIPE SHALL BE B-LINE #B3373 GALVANIZED STEEL.

HANGER SPACING, ROD SIZES, AND CONNECTORS: CONNECT RODS TO STEEL BEAMS OR JOISTS WITH B-LINE #B3031 OR #B3033 BEAM CLAMPS AS REQUIRED. CONNECT RODS TO CONCRETE WITH B-LINE #B3014 MALLEABLE IRON SINGLE TYPE INSERTS WITH MALLEABLE IRON NUT. CONNECT RODS IN WOOD CONSTRUCTION WITH B-LINE #B3058 SIDE BEAM CONNECTORS. HANG AND SUPPORT PIPING WITH SPACING AND ROD SIZES AS FOLLOWS:

CAST IRON PIPE: EVERY 10 FEET AND WITHIN 1 FOOT OF EACH JOINT, 2" AND SMALLER WITH 3/8" HANGER RODS, 3" WITH 1/2" HANGER RODS, 4" WITH 5/8" HANGER RODS, 6" WITH 3/4" HANGER RODS, 8" AND LARGER WITH 7/8" HANGER RODS. SUPPORT VERTICAL CAST IRON PIPE EVERY 15 FEET.

PVC PIPE: SUPPORT ALL SIZES EVERY 4 FEET, 1-1/2" AND SMALLER WITH 3/8" HANGER RODS, 3" WITH 1/2" HANGER RODS, 2-1/2" AND 3" WITH 1/2" HANGER RODS, 4" AND LARGER WITH 5/8" HANGER RODS. SUPPORT VERTICAL PVC PIPE EVERY 4 FEET.

22 13 19 SANITARY WASTE SPECIALTIES

ROOF DRAINS

ROOF DRAINS SHALL BE ONE MANUFACTURER IF POSSIBLE. ACCEPTABLE MANUFACTURERS ARE JOSAM, MIFAB, J.R. SMITH, SIOUX CHIEF, TYLER PIPEWADE, WATTS, AND ZURN.

23 23 00 REFRIGERANT PIPING AND INSULATION

COPPER TUBING: ASTM B 280, ALL OF C12200, TYPE ACR, HARD-DRAWN STRAIGHT LENGTHS, AND SOFT-ANNEALED COILS, SEAMLESS COPPER TUBING. TUBING SHALL BE FACTORY CLEANED, READY FOR INSTALLATION, AND HAVE ENDS CAPPED TO PROTECT CLEANLINESS OF PIPE INTERIORS PRIOR TO SHIPPING.

FITTINGS: WROUGHT-COPPER, ANSI B16.22, STREAMLINED PATTERN.

BRAZING FILLER METALS: AWS AS 8, COPPER (CU), PHOSPHOROUS (P) 4.8-5.2%, AND SILVER (AG) 14.5-15.5 FOR JOINING WROUGHT COPPER FITTINGS AND COPPER TUBING. BRAZE JOINTS WITH A SLOW STREAM OF DRY NITROGEN PASSING THROUGH THE PIPING.

INSULATE SUCTION SECTIONS WITH 1" AND LIQUID LINES WITH 1/2" FOAMED PLASTIC INSULATION, ARMAFLEX OR EQUAL. PIPING INSULATION SHALL HAVE A FLAME SPREAD OF 75 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM E84. ASTM C534, TYPE 1, FLEXIBLE UNICELLULAR INSULATION, 3/4" THICK, MAY BE USED IN EXTERIOR LOCATIONS ONLY. PROVIDE A UV-RESISTANT COATING OR JACKET ON ALL EXTERIOR INSULATION. INSTALL AND SUPPORT PIPING TO KEEP NOISE AND VIBRATION TO A MINIMUM. SUPPORT AND SECURE PIPING TO UNISTRUT TYPE SUPPORTS SO THAT NO VIBRATION PASSES TO THE BUILDING STRUCTURE. PIPE ATTACHMENTS SHALL BE COPPER-PLATED OR HAVE NONMETALLIC COATING FOR ELECTROLYTIC PROTECTION WHERE ATTACHMENTS ARE IN DIRECT CONTACT WITH COPPER TUBING. INSTALL A SUPPORT WITHIN ONE FOOT OF EACH CHANGE OF DIRECTION. MOUNT PIPE HANGERS AROUND THE OUTSIDE OF THE INSULATION WITH SADDLES TO PREVENT HANGERS FROM RUPTURING THE INSULATION. REPLACE INSULATION THAT IS CUT OR BROKEN BY THE HANGERS.

RUN REFRIGERANT LINES PARALLEL AND PERPENDICULAR TO WALL AND FLOOR LINES AND TO APPEAR STRAIGHT AND IN GOOD ORDER. PITCH SUCTION LINES DOWN SLIGHTLY (1" IN 20') TOWARDS THE COMPRESSOR. PROVIDE OIL TRAPS AT THE BASE OF VERTICAL SUCTION RISERS OVER 6 FEET HIGH.

INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH ASHRAE STANDARD 15, ARRANGE PIPING TO ALLOW NORMAL INSPECTION AND SERVICING OF COMPRESSOR AND OTHER EQUIPMENT. INSTALL VALVES AND SPECIALTIES IN ACCESSIBLE LOCATIONS.

INSTALL LIQUID LINE SIGHT GLASSES IN LIQUID LINES NEAREST THE EXPANSION VALVE. FACTORY MOUNT EXPANSION VALVES WITH THE SENSING BULBS SHIPPED LOOSE. FIELD MOUNT EXPANSION VALVE BULBS AFTER REFRIGERANT PIPING IS COMPLETE (DAMAGE MAY OCCUR IF BULBS COME IN CONTACT WITH HEAT).

THE CONTRACTOR SHALL HAVE THE OPTION TO PROVIDE COPPER REFRIGERANT TUBING LINE SET SIZED AS RECOMMENDED BY EQUIPMENT MANUFACTURER AND OF LENGTH AS REQUIRED FOR THE INSTALLATION. PROVIDE 1" THICK FORMED PLASTIC INSULATION, ARMAFLEX OR EQUAL, ON THE SUCTION LINE. PROVIDE QUICK-CONNECT FLEX TUBING COMPRESSION FITTINGS OR SOLDER CONNECTIONS AS REQUIRED TO MATCH THE CONNECTIONS OF THE CONDENSING UNIT AND EVAPORATOR COIL.

SYSTEM EVACUATION AND CHARGING

BLOW OUT REFRIGERATION LINES WITH DRY NITROGEN AT A SUITABLE PRESSURE BEFORE MAKING FINAL CONNECTION AT THE CONDENSING UNIT OR COIL TO ENSURE AGAINST DIRT, SCALE, OR OTHER FOREIGN MATERIAL BEING IN THE LINES. DRAW A VACUUM OF 29" OF MERCURY. BREAK THIS VACUUM BY CHARGING DRY REFRIGERANT GAS INTO THE SYSTEM RAISING THE PRESSURE TO 0 PSIG. REPEAT THE LATTER TWO STEPS FOR A TRIPLE EVACUATION BEFORE THE FINAL EVACUATION IS STARTED. MAKE FINAL EVACUATION BY REDUCING THE SYSTEM ABSOLUTE PRESSURE TO A MAXIMUM OF 0.5 MILLIMETERS (500 MICRONS) AND ALLOWING THE PUMP TO RUN AT THIS PRESSURE FOR A MINIMUM OF TWO HOURS.

REPEAT THE PROPER AMOUNT OF REFRIGERATION CHARGE PER THE MANUFACTURER'S RECOMMENDATIONS. RECORD THE AMOUNT OF REFRIGERANT BY WEIGHT CHARGED IN THE SYSTEM OR EACH CIRCUIT RECORDED TO THE NEAREST 14 POUND ON TAGS AND ATTACH TAGS TO THE LIQUID LINE NEAR THE CONDENSING UNIT. REFRIGERANT SHALL BE SUPPLIED BY THE HVAC CONTRACTOR.

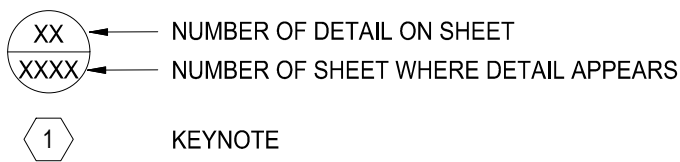
23 31 13 METAL DUCTS

PROVIDE GALVANIZED STEEL DUCTWORK AND HOUSINGS AS SHOWN ON THE DRAWINGS. CONSTRUCT DUCTWORK INCLUDING FITTINGS AND TRANSITIONS IN CONFORMANCE WITH CURRENT SMACNA STANDARDS RELATIVE TO GAUGE, BRACING, JOINTS, ETC. MINIMUM THICKNESS OF DUCT SHALL BE 26-GAUGE SHEET METAL. REINFORCE HOUSINGS AND DUCTWORK OVER 30" WITH 1-1/4" ANGLES, NOT LESS THAN 5-8" ON CENTERS, AND CLOSER IF REQUIRED FOR SUFFICIENT RIGIDITY TO PREVENT VIBRATION.

GENERAL NOTES

- ALL HVAC AND PLUMBING SYSTEMS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODE REQUIREMENTS, STATE MECHANICAL CODE, STATE PLUMBING CODE, NATIONAL ELECTRICAL CODE AND STATE BUILDING CODE.
- PROVIDE OFFSETS IN NEW DUCT AND PIPING SYSTEMS AS REQUIRED TO FACILITATE INSTALLATION OF NEW WORK AT NO ADDITIONAL COST TO THE CONTRACT.
- VERIFY ALL EQUIPMENT WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DIMENSIONS BEFORE FABRICATION.
- ALL EQUIPMENT, PIPING, DUCTWORK, ETC., MUST BE SUPPORTED AS DETAILED AND SPECIFIED. ADDITIONAL SUPPORTS MUST BE PROVIDED AS REQUIRED TO PROPERLY SUPPORT ALL HVAC SYSTEM COMPONENTS.
- THIS PROJECT REQUIRES COORDINATION DRAWINGS. REFER TO SPECIFICATION SECTIONS 01040, 13000 AND 230050 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- DISCREPANCIES AND CONFLICTS BETWEEN MECHANICAL SYSTEMS AND OTHER DISCIPLINE (ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION) DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE A/E PRIOR TO CONSTRUCTION OF SUBJECT SYSTEMS. FAILURE TO NOTIFY A/E OF THE SUBJECT PROBLEMS MUST CONSTITUTE ACCEPTANCE OF ALL CONDITIONS AND ANY CORRECTIVE WORK REQUIRED, AS DIRECTED BY A/E. THE SUBJECT CORRECTIVE WORK MUST BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- ALL FURNISHED EQUIPMENT MUST FIT THE ALLOCATED SPACE. PROVIDE ALL MODIFICATIONS TO THE OPENINGS, IN ROOF OR SLAB, STEEL SUPPORTS, ELECTRICAL REQUIREMENTS AND ANY OTHER BUILDING COMPONENTS REQUIRED TO FACILITATE THE DEMOLITION AND INSTALLATION OF SUBJECT EQUIPMENT.
- PRIOR TO FINAL INSPECTION OF EQUIPMENT BY A/E, EACH PIECE OF MECHANICAL EQUIPMENT MUST BE CLEANED AND ALL FOREIGN MATERIALS REMOVED. ALL PENETRATIONS THRU UNIT CASINGS MUST BE PROPERLY SEALED AND ALL CONTROL DEVICES MUST BE OPERATIONAL AND CALIBRATED.
- ALL FINISHES DAMAGED DURING THE INSTALLATION AND REINSTALLATION OF NEW HVAC AND PLUMBING SYSTEM SMUST BE REPAIRED TO MATCH EXISTING ADJACENT FINISHES.
- THE CONTRACTOR MUST FIELD VERIFY ALL EXISTING AND PROPOSED CONDITIONS AND UTILITIES, PIPE SIZES, LOCATIONS, MATERIALS, ETC., BEFORE BID, STARTING WORK OR ORDERING MATERIALS AND INCLUDE MINOR ADJUSTMENTS TO ADAPT DESIGN TO ACTUAL FIELD CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR MUST COORDINATE THE PLUMBING SYSTEMS INSTALLATION WITH WORK OF STRUCTURE, HVAC, ELECTRICAL, CASEWORK, FOOD SERVICE EQUIPMENT AND RELATED TRIM, ETC., TO PRECLUDE INTERFERENCE.
- RECONSTRUCT OR PATCH EXISTING CONSTRUCTION, WALLS, CEILINGS, FLOORS, ROOFS, ETC., AND SURFACES DISTURBED TO MATCH EXISTING SURROUNDING CONSTRUCTION AND FINISHES, UNLESS OTHERWISE NOTED.
- EQUIPMENT AND MATERIALS, ETC., SPECIFIED OR SCHEDULED OR NOTED ON THE DRAWINGS, METHODS DETAILED AND PIPING MATERIALS INDICATED ON THE DRAWINGS SUPERCEDE ONLY ANY CONFLICTING SPECIFICATION ARTICLES AND/OR REQUIREMENTS OF DIVISION 22 REGARDING PLUMBING MATERIALS, METHODS, ETC. THIS INCLUDES MATERIALS SPECIFIED, LEGEND ITEMS REPRESENTED SYMBOLICALLY ON THE DRAWINGS AND IDENTIFIED IN THE LEGEND DESCRIPTIONS OR ABBREVIATIONS DESCRIPTIONS.
- INSTALL ALL PLUMBING MATERIALS, TRIM ACCESSORIES AND RELATED ITEMS IN ACCORDANCE WITH THE MANUFACTURERS WRITTEN INSTRUCTIONS AND RECOMMENDATIONS AND AS SHOWN ON THE PLUMBING DRAWINGS.

GENERAL MECHANICAL SYMBOLS



ABBREVIATIONS

| | | | |
|--------|----------------------------------|-------|--------------------------------|
| AC | AIR CONDITIONING UNIT | HT | HEAT TRACE |
| ACCU | AIR CONDITIONING CONDENSING UNIT | IRH | INFRA RED HEATER |
| AFF | ABOVE FINISHED FLOOR | IN | INCHES |
| AHU | AIR HANDLING UNIT | KW | KILOWATT |
| BAS | BUILDING AUTOMATION SYSTEM | LBS | POUNDS |
| BDD | BACK DRAFT DAMPER | LAT | LEAVING AIR TEMPERATURE |
| BHP | BRAKE HORSE POWER | MBH | 1000 BTU PER HOUR |
| BLDG | BUILDING | NTS | NOT TO SCALE |
| BOD | BOTTOM OF DUCT | O/A | OUTSIDE AIR |
| BOT | BOTTOM | OD | OUTSIDE DIAMETER |
| BTU(H) | BRITISH THERMAL UNIT (PER HOUR) | R/A | RETURN AIR |
| CFM | CUBIC FEET PER MINUTE | RD | ROOF DRAIN |
| CU | CONDENSER UNIT | REQ'D | REQUIRED |
| DB | DRY-BULB | RH | RELATIVE HUMIDITY |
| DG | DOOR GRILLE | RPM | REVOLUTIONS PER MINUTE |
| DN | DOWN | RTU | ROOF TOP UNIT |
| DX | DIRECT EXPANSION | S/A | SUPPLY AIR |
| (E) | EXISTING | SF | SUPPLY FAN |
| EAT | ENTERING AIR TEMPERATURE | SP | STATIC PRESSURE |
| EER | ENERGY EFFICIENCY RATIO | TAB | TESTING, ADJUSTING & BALANCING |
| E/A | EXHAUST AIR | TEMP | TEMPERATURE |
| EF | EXHAUST FAN | TYP | TYPICAL |
| ELV | ELEVATION | UH | UNIT HEATER |
| ERD | EMERGENCY ROOF DRAIN | V/P/H | VOLT/PHASE/HERTZ |
| EX | EXHAUST | WB | WET-BULB |
| FPM | FEET PER MINUTE | VD | VOLUME DAMPER |
| GAL | GALLONS | WG | WATER GAUGE |
| GPM | GALLONS PER MINUTE | WMS | WIRE MESH SCREEN |
| HP | HORSEPOWER | °F | DEGREE FAHRENHEIT |

* NOTE *
ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.



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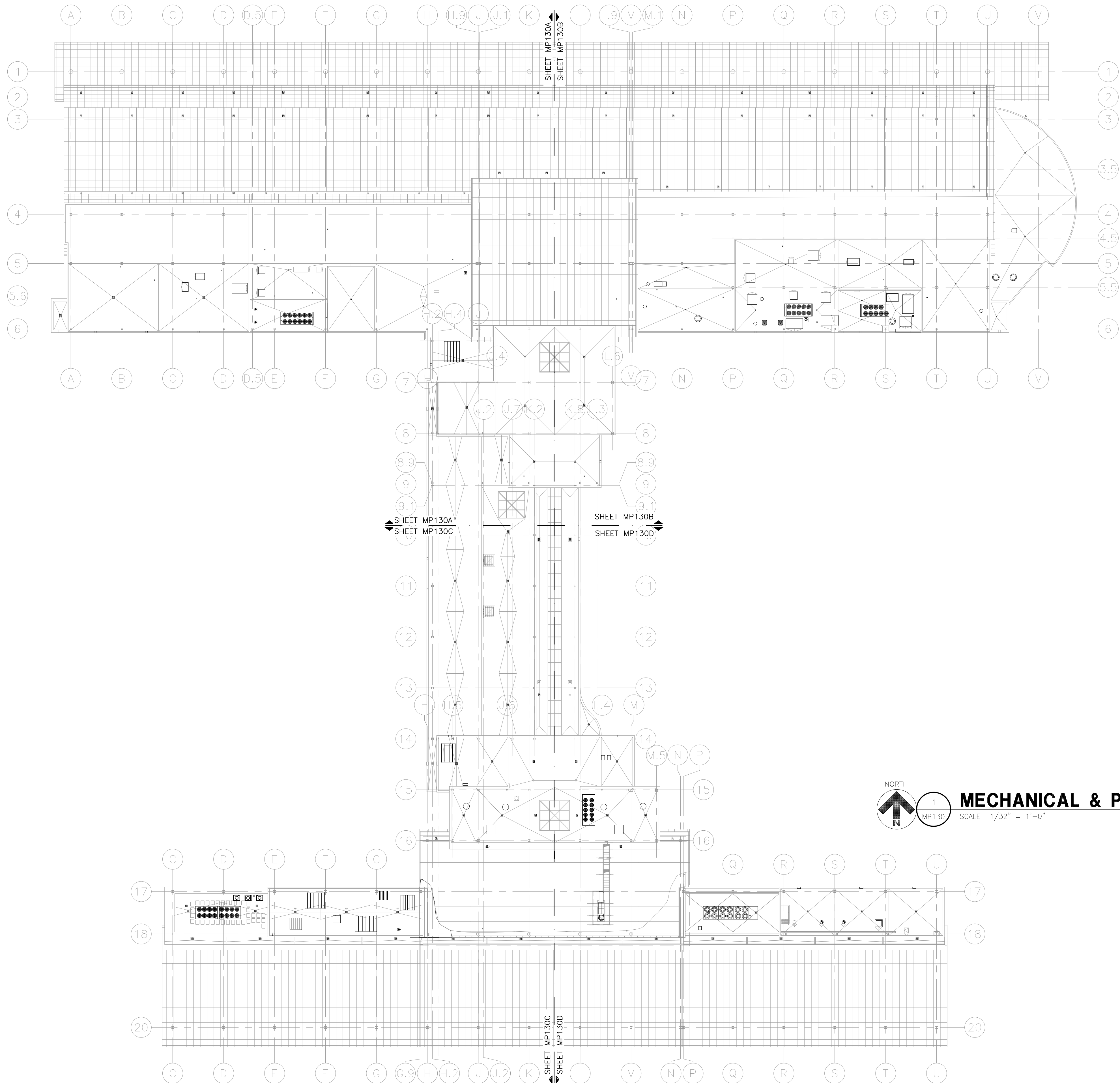
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SHEET TITLE
**MECHANICAL
AND PLUMBING
ABBREVIATIONS,
GENERAL NOTES
AND SYMBOLS**
SHEET NUMBER
MP001
BID
DOCUMENTS



ROOF GENERAL NOTES

1. ALL ROOF PENETRATIONS REQUIRED FOR INSTALLATION OF MECHANICAL UNITS, FANS, EQUIPMENT CURBS, VENTS, ETC. MUST BE MADE PER MANUFACTURER'S RECOMMENDATIONS TO ENSURE ALL WARRANTIES ARE MAINTAINED. PROVIDE FLASHING, COUNTERFLASHING, SEALANT, ETC. AS REQUIRED TO PROVIDE WATERPROOF CONDITION.
2. CONTRACTOR SHALL VERIFY AND DOCUMENT THE OPERATING CONDITION OF ALL EXISTING ROOF MOUNTED HVAC AND PLUMBING EQUIPMENT AND PROVIDE DOCUMENTATION TO THE OWNER AND A/E PRIOR TO REMOVAL AND REINSTALLATION.
3. COORDINATE THE ELECTRICAL DISCONNECT/RECONNECT OF ALL POWER, COMMUNICATIONS AND LIGHTNING PROTECTION SYSTEMS WITH ELECTRICAL CONTRACTOR TO ACCOMMODATE THE TEMPORARY REMOVAL AND REINSTALLATION OF ALL HVAC AND PLUMBING EQUIPMENT.

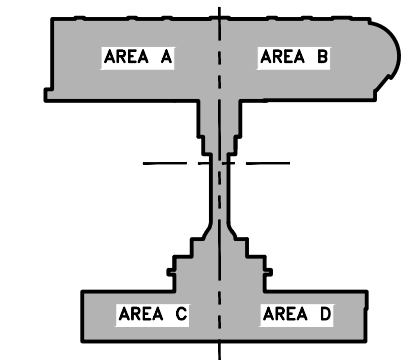


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SHEET TITLE
**MECHANICAL
AND PLUMBING
OVERALL ROOF
PLAN**

SHEET NUMBER
MP130
**BID
DOCUMENTS**

KEYED NOTES

1. EXISTING ROOF DRAIN OR EMERGENCY ROOF DRAIN (JR SMITH 1015) ON FLAT ROOF. IF APPLICABLE, COORDINATE WITH ELECTRICAL CONTRACTOR TO DISCONNECT EXISTING HEAT TRACE. REMOVE ALL EXISTING PVC ROOF DRAIN DOMES AND ALL EXISTING ALUMINUM ROOF DRAIN DOMES. ROOFING CONTRACTOR TO REMOVE FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED. INSTALL NEW ROOFING. INSTALL NEW VANDAL PROOF ALUMINUM ROOF DRAIN DOMES (USE JR SMITH 1015 AS BASIS OF DESIGN) AND PROVIDE FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED. IF APPLICABLE, REINSTALL EXISTING HEAT TRACE AND ENSURE PREVIOUS WORKING CONDITION IS MET. SEE ARCHITECTURAL DETAIL 5/A504.
2. ROOFING CONTRACTOR TO REMOVE FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED, AROUND STEEL PEDESTAL CHILLER SUPPORTS AND ASSOCIATED CHILLED WATER LINE SUPPORTS. INSTALL NEW ROOFING. PROVIDE NEW FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED, AROUND STEEL PEDESTAL CHILLER SUPPORTS AND ASSOCIATED CHILLED WATER LINE SUPPORTS. SEE ARCHITECTURAL DETAILS 2/A504 AND 4/A504.
3. ROOFING CONTRACTOR TO REMOVE FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED, AROUND CONDENSING SUPPORT. INSTALL NEW ROOFING. PROVIDE NEW FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED, AROUND CONDENSING SUPPORT. SEE ARCHITECTURAL DETAIL 2/A504.
4. IF APPLICABLE, COORDINATE WITH ELECTRICAL CONTRACTOR TO DISCONNECT MOTORIZED DAMPER POWER CONNECTION. TEMPORARILY REMOVE EXISTING GRAVITY VENTILATOR. ROOFING CONTRACTOR TO REMOVE FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED AND DEMOLISH EXISTING GRAVITY VENTILATOR CURB. INSTALL NEW ROOFING AND NEW GRAVITY VENTILATOR CURB WITH A MINIMUM 18" CLEAR CURB. REINSTALL EXISTING GRAVITY VENTILATOR ON NEW CURB. PROVIDE NEW FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED, AROUND NEW GRAVITY VENTILATOR CURB. IF APPLICABLE, COORDINATE WITH ELECTRICAL CONTRACTOR TO RECONNECT MOTORIZED DAMPER POWER CONNECTION. SEE ARCHITECTURAL DETAIL 4/A504.
5. TEMPORARILY REMOVE EXISTING SUPPLY OR EXHAUST FAN. ROOFING CONTRACTOR TO REMOVE FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED AND DEMOLISH EXISTING SUPPLY OR EXHAUST FAN CURB. INSTALL NEW ROOFING AND NEW SUPPLY OR EXHAUST FAN CURB. REINSTALL EXISTING SUPPLY OR EXHAUST FAN. PROVIDE NEW FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED, AROUND NEW SUPPLY OR EXHAUST FAN CURB. SEE ARCHITECTURAL DETAIL 4/A504.
6. ROOFING CONTRACTOR TO REMOVE FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED, AROUND OVERFLOW ROOF SCUPPERS. INSTALL NEW ROOFING. PROVIDE FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED. SEE ARCHITECTURAL DETAIL 2/A503.
7. ROOFING CONTRACTOR TO REMOVE FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED, AROUND VENT STACK CURB. INSTALL NEW ROOFING. PROVIDE FLASHING AND COUNTER FLASHING, ETC. AS REQUIRED. SEE ARCHITECTURAL DETAIL 4/A504.
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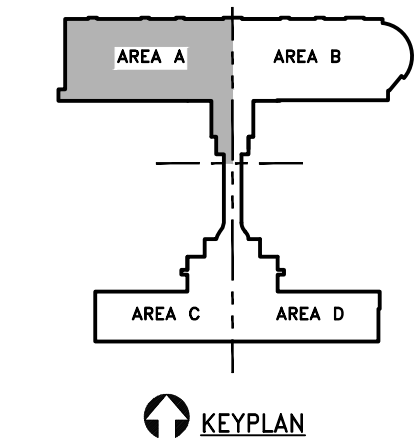


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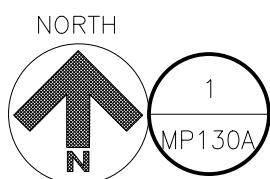
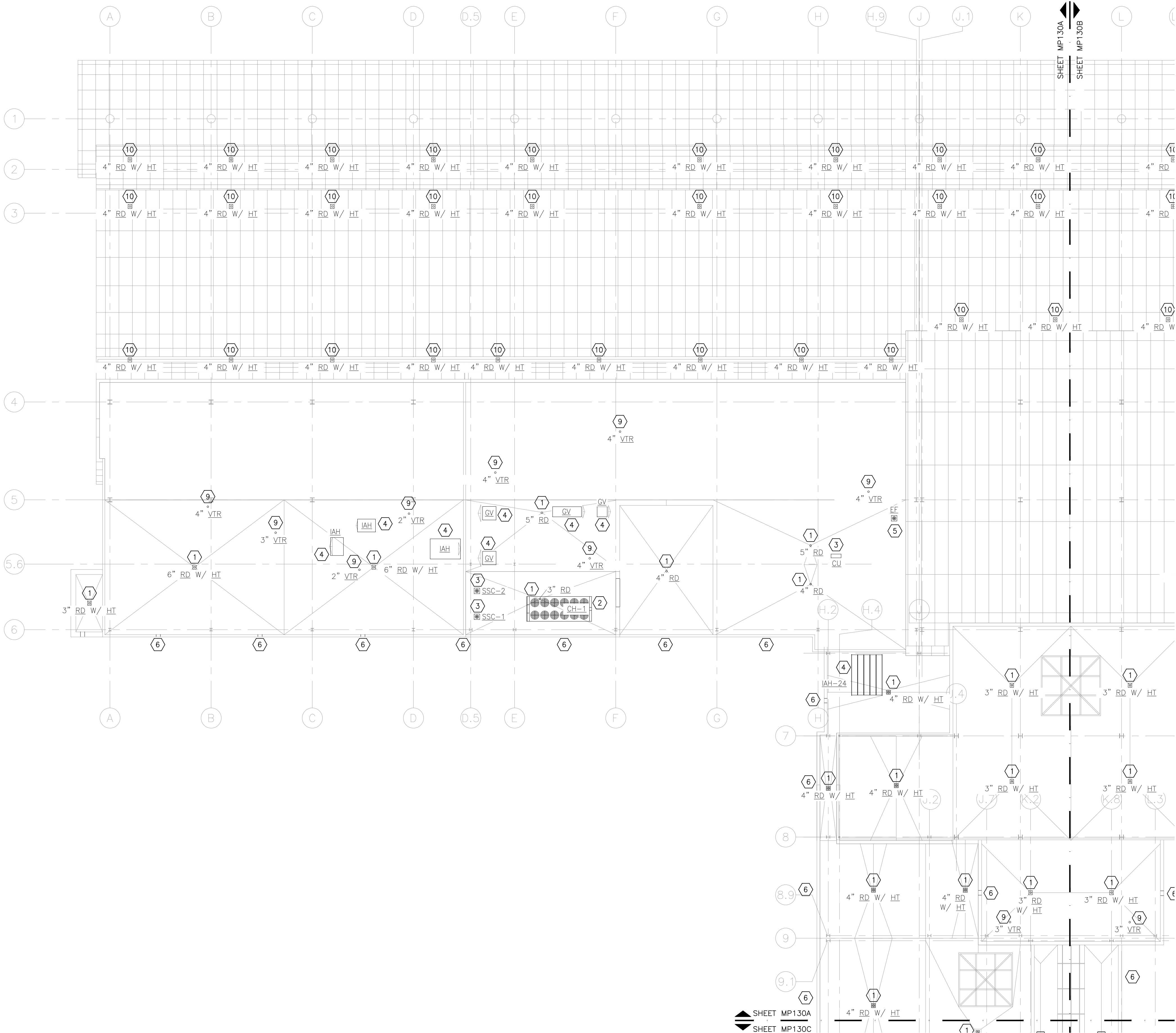
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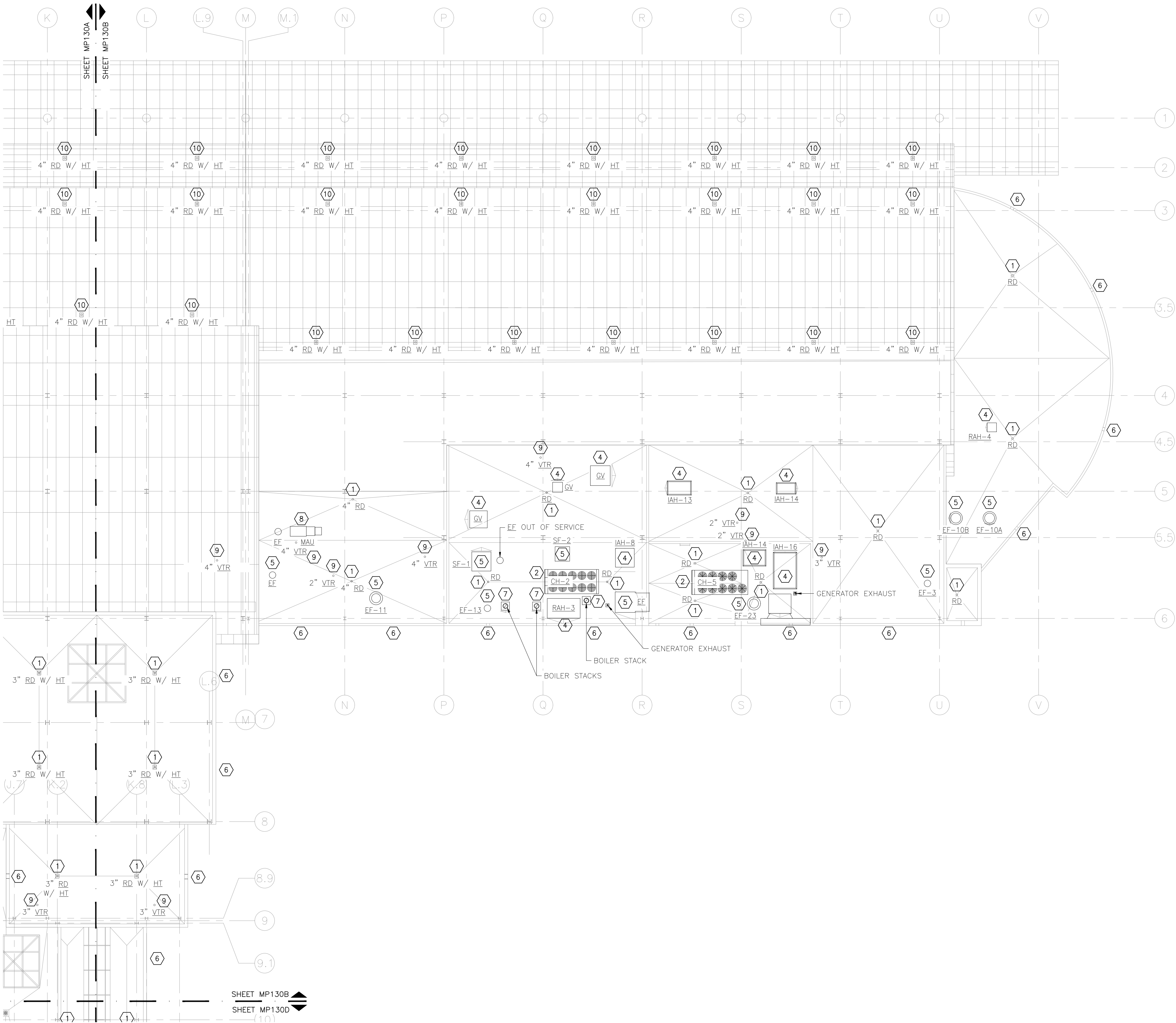
SHEET TITLE
MECHANICAL
AND PLUMBING
PARTIAL ROOF
PLAN - AREA A

SHEET NUMBER
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BID
DOCUMENTS



MECHANICAL & PLUMBING PARTIAL ROOF PLAN - AREA A

SCALE 1/16" = 1'-0"



KEYED NOTES

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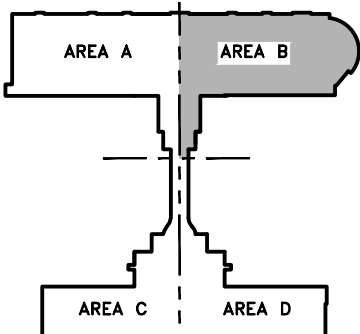
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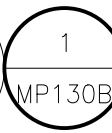
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SHEET TITLE
**MECHANICAL
AND PLUMBING
PARTIAL ROOF
PLAN - AREA B**

SHEET NUMBER

MP130B

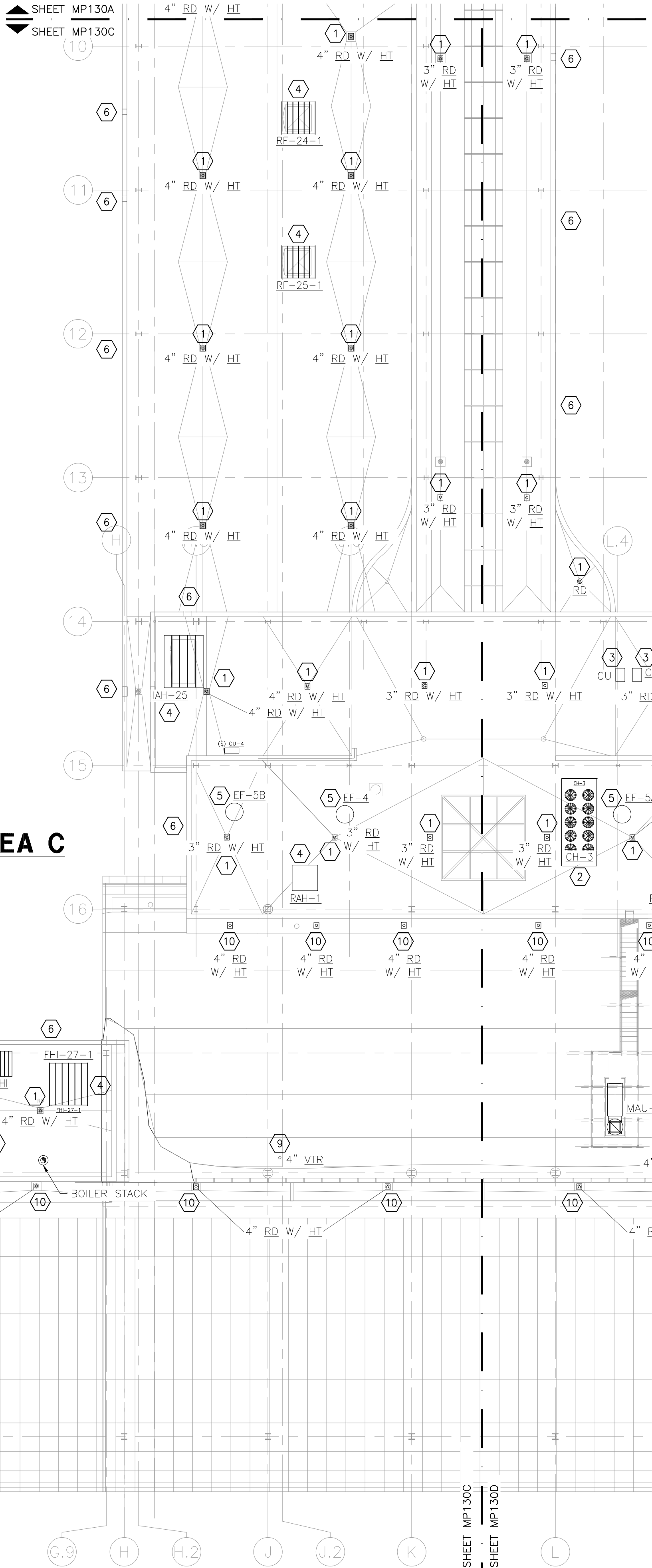
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MECHANICAL & PLUMBING PARTIAL ROOF PLAN - AREA B

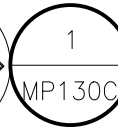
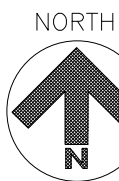
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SHEET MP130A
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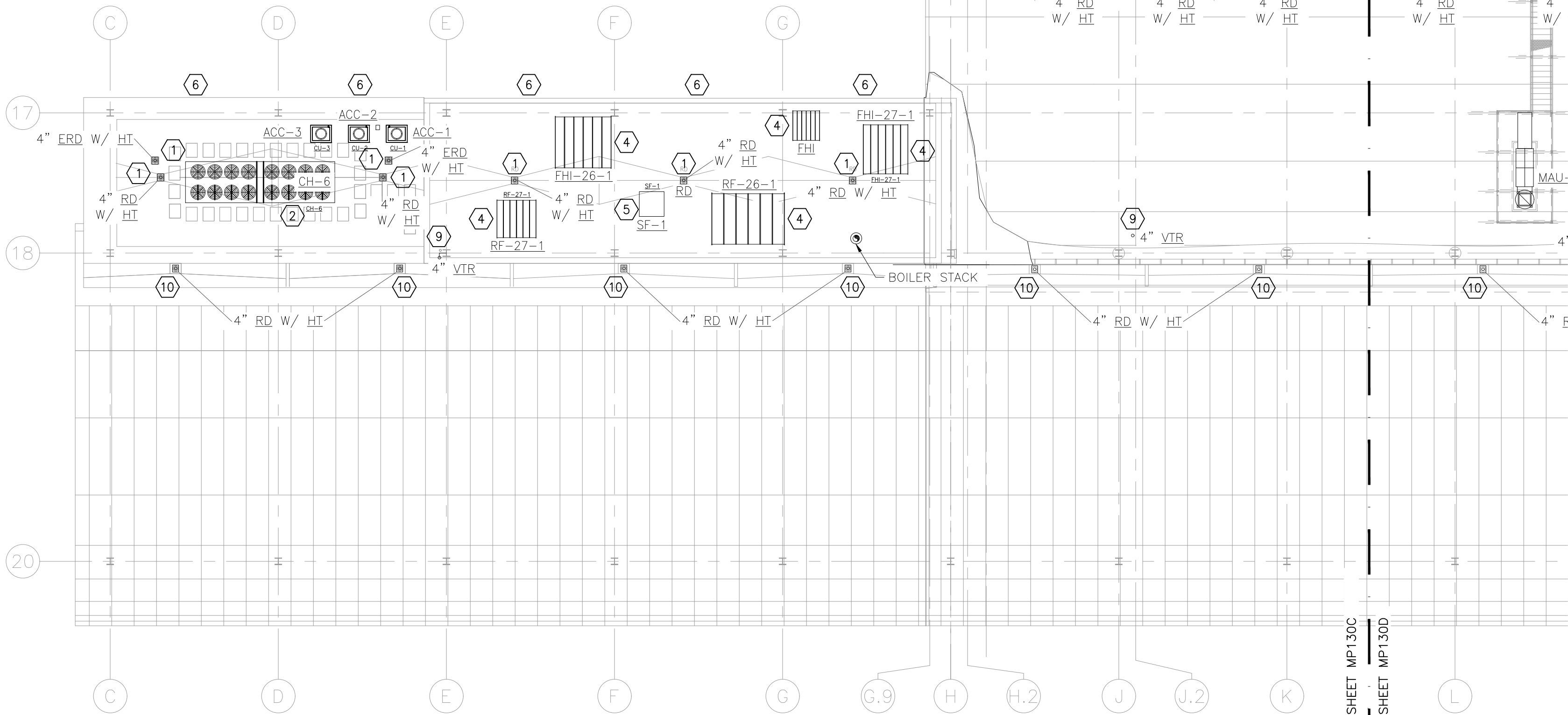
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MECHANICAL & PLUMBING PARTIAL ROOF PLAN - AREA C

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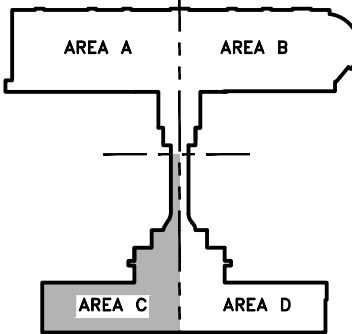
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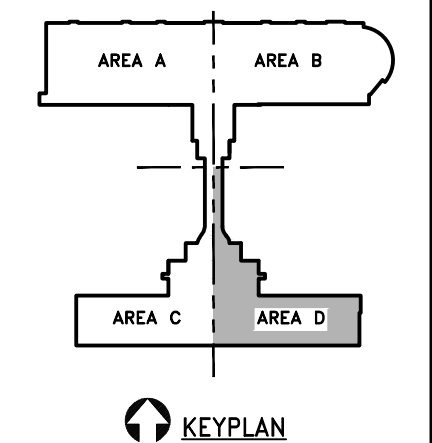
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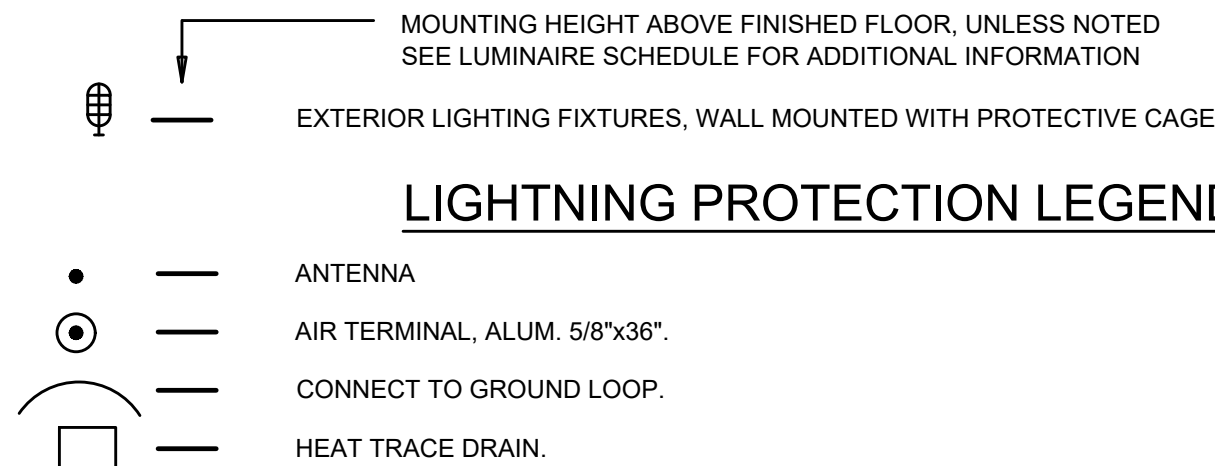
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ELECTRICAL LEGEND

LIGHTING LEGEND

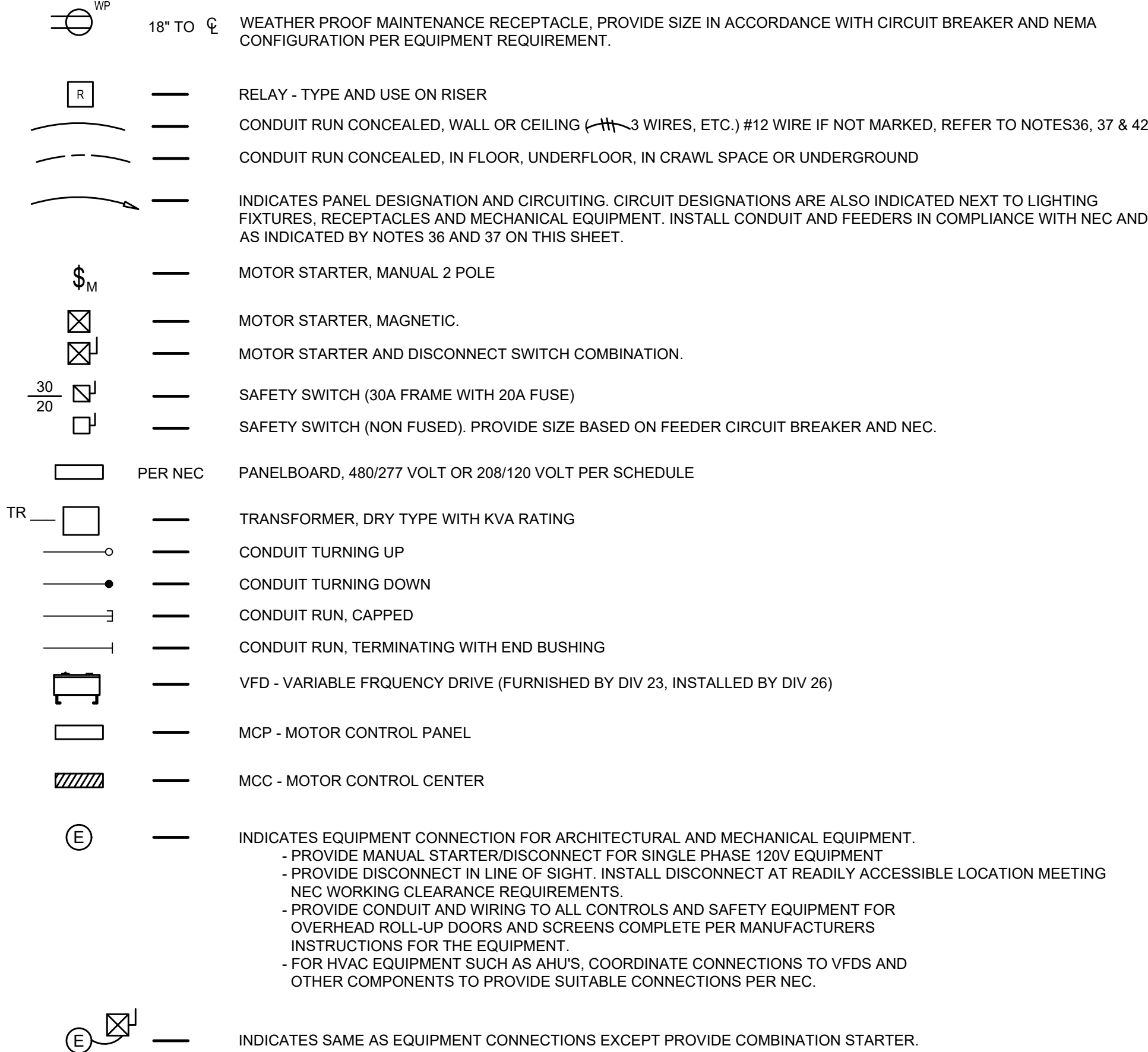


LIGHTNING PROTECTION LEGEND:

ELECTRICAL DEMOLITION NOTES:

- D1. REFER TO ARCHITECTURAL DEMOLITION PLANS FOR SCOPE OF DEMOLITION WORK.
- D2. CONDUITS OR SLEEVES, THAT ARE NO LONGER REQUIRED, WHICH ARE PROTRUDING THROUGH THE GROUND FLOOR SLAB, SHALL BE CUT BACK AND CAPPED.
- D3. WHEN DEMOLISHING COMMUNICATIONS OUTLETS, REMOVE TELEPHONE AND DATA CABLES BACK TO CLOSET OF ORIGINATION. THE CONTRACTOR SHALL COORDINATE WITH THE AIRPORT AND AIRLINE TELECOMMUNICATION DEPARTMENTS FOR THE DISCONNECTION AND REMOVAL OF LOW VOLTAGE DEVICES.
- D4. CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF EXISTING SYSTEM CIRCUITS FOR FIRE ALARM, POWER AND TELE COMMUNICATIONS, ETC. DURING DEMOLITION.
- D5. REFER TO E130A THRU E130D FOR DEVICES THAT ARE CALLED OUT FOR RELOCATION, TO BE TAKEN DOWN AND REINSTALLED, ETC.
- D6. THE ELECTRICAL PLANS INDICATE GENERAL INTENT AND ARE NOT INTENDED TO SHOW ALL COMPONENTS AND ITEMS TO BE REMOVED OR RETAINED. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES PRIOR TO SUBMISSION OF THEIR PROPOSAL TO BECOME FAMILIAR WITH THE ACTUAL WORKING CONDITIONS AND EXTENT OF WORK. DEVICES AND EQUIPMENT LOCATED ON THE ROOF LEVEL DESIGNATED TO BE REMOVED SHALL BE DISCONNECTED AND MADE SAFE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATION AND ARCHITECT OF ANY UNANTICIPATED OR HIDDEN CONDITIONS ENCOUNTERED DURING DEMOLITION.
- D7. REMOVE ANY EXISTING ABANDONED CABLING FOUND DURING CONSTRUCTION. PROVIDE NEW COVERS TO ANY JUNCTION BOXES FOUND WITH THE MISSING COVERS. DO NOT RE-USE CONDUIT OR ANY OTHER INFRASTRUCTURE WHERE THE EXISTING INSTALLATION (INCLUDING SUPPORTING METHODS) DOES NOT MEET THE REQUIREMENTS OF THE NEC OR LOCAL AHJ. LABEL ABANDONED CONDUIT AND BOXES AS SPARE.
- D8. REMOVED ELECTRICAL DEVICES SHALL BE TURNED OVER TO BIAA.
- D9. COORDINATE POWER OUTAGES WITH A SCHEDULE APPROVED BY BIAA AND ARCHITECT. ALL OUTAGES SHALL OCCUR DURING OFF HOURS.

POWER DEVICE LEGEND



FOLLOWING ARE USED IN CONJUNCTION WITH DEVICES

- EX — EXISTING SHALL REMAIN
- ER — EXISTING SHALL BE REMOVED
- EN — EXISTING SHALL BE REPLACED WITH NEW DEVICE
- EXR — EXISTING SHALL BE RELOCATED TO NEW LOCATION
- ERP — EXISTING IN RELOCATED POSITION

EXISTING ITEMS NOT SHOWN LOCATED IN AREAS OUTSIDE OF THE SCOPE OF WORK SHALL REMAIN AS IS.

ABBREVIATIONS

| | | | | |
|---|---|--|--------------------------------|--|
| AC — ABOVE COUNTER | CP — COMMUNICATIONS PANEL | EWC — ELECTRIC WATER COOLER | LED — LIGHT EMITTING DIODE | SIDA — SECURITY IDENTIFICATION DISPLAY AREA |
| ACS — ACCESS CONTROL SYSTEM | CPB — COMMUNICATIONS PULL BOX | EWX — ELECTRIC WATER HEATER | MDF — MAIN DISTRIBUTION FRAME | SSTC — SOUND SYSTEM TERMINAL CABINET |
| AFF — ABOVE FINISHED FLOOR | CR — CARD READER | EX — EXISTING TO REMAIN | MH — MOUNTING HEIGHT | STC — SECURITY TERMINAL CABINET |
| AFG — ABOVE FINISHED GRADE | CTR — CONTACTOR | EXP — EXPLOSION PROOF | MIN — MINIMUM | STR — STARTER |
| ATM — AUTOMATED TELLER MACHINE | CTS — CLOSED CIRCUIT TV SWITCHING EQUIPMENT | EXR — EXISTING TO BE RELOCATED | MP — MEGAPIXEL | T — TOP |
| ATS — AUTOMATIC TRANSFER SWITCH | D — DURESS | FACP — FIRE ALARM CONTROL PANEL | NEC — NATIONAL ELECTRICAL CODE | TBB — TELEPHONE BACKBOARD |
| B — BOTTOM | D/S — DISCONNECT SWITCH | FATC — FIRE ALARM TERMINAL CABINET | NIC — NOT IN CONTRACT | TGB — TELECOMMUNICATIONS GROUNDING BUS BAR |
| BC — BELOW COUNTER | DTC — DATA TERMINAL CABINET | FAAP — FIRE ALARM ANNUNCIATOR PANEL | NL — NIGHT LIGHT (UNSWITCHED) | TMGB — TELECOMMUNICATIONS MAIN GROUNDING BUS BAR |
| BHS — BAGGAGE HANDLING SYSTEM | E — EMERGENCY | FIDS — FLIGHT INFORMATION DISPLAY SYSTEM | OHE — OVERHEAD ELECTRIC | TVSS — TRANSIENT VOLTAGE SURGE SUPPRESSION |
| BIAA — BISHOP INTERNATIONAL AIRPORT AUTHORITY | ECB — ENCLOSED CIRCUIT BREAKER | GFI — GROUND FAULT INTERRUPTER | P — PUBLIC | UGE — UNDERGROUND ELECTRIC |
| BKR — BREAKER | EIB — ELECTRICAL INTERFACE BOX | GND — GROUND | PA — PUBLIC ADDRESS | UNO — UNLESS NOTED OTHERWISE |
| C — CONDUIT | EN — EXISTING TO BE REPLACED | HD — HIGH DEFINITION | PL — PILOT LIGHT | UPS — UNINTERRUPTIBLE POWER SUPPLY |
| CCTV — CLOSED CIRCUIT TELEVISION | EPB — ELECTRICAL PULL BOX | HID — HIGH INTENSITY DISCHARGE | POE — POWER OVER ETHERNET | VDB — VOICE/DATA BACKBOARD |
| CH — COUNTER HEIGHT | ER — EXISTING TO BE REMOVED | IDF — INTERMEDIATE DISTRIBUTION FRAME | PTZ — PAN/TILT/ZOOM | W — WALL |
| CKT — CIRCUIT | ERP — EXISTING IN RELOCATED POSITION | IP — INTERNET PROTOCOL | RCM — READER CONTROL MODULE | WP — WEATHERPROOF |
| CLG — CEILING HEIGHT | | LCD — LIQUID CRYSTAL DISPLAY | RDP — REMOTE DATA PANEL | |

GENERAL ELECTRICAL NOTES

- ALL ELECTRICAL WORK SHALL COMPLY WITH NATIONAL ELECTRICAL CODE, THE NATIONAL FIRE CODES, THE AMERICANS WITH DISABILITIES ACT, AND LOCAL CODES.
- THE CONTRACTOR SHALL THOROUGHLY REVIEW THE PROJECT TO ENSURE THAT ALL WORK SHALL MEET OR EXCEED THE ABOVE REQUIREMENTS. ANY ALLEGED DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION.
- THE CONTRACTOR SHALL OBTAIN COPIES OF ALL RELATED PLANS, SPECIFICATIONS, SHOP DRAWINGS AND ADDENDA TO COORDINATE THE RELATED WORK AND SCHEDULING.
- THE CONTRACTOR IS REMINDED THAT ELECTRICAL SERVICE TO AND FOR MECHANICAL, AND OTHER EQUIPMENT IS BASED ON EQUIPMENT DESIGN DATA. THE ACTUAL VALUES MAY DIFFER DEPENDING UPON THE EQUIPMENT TO BE FURNISHED. ANY MODIFICATION TO THE ELECTRICAL INSTALLATION, BASED UPON ACTUAL EQUIPMENT SELECTION, SHALL RESULT IN NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL THOROUGHLY REVIEW THE ARCHITECTURAL AND MECHANICAL PLANS TO ASSURE THAT ELECTRICAL SERVICE FOR ALL ITEMS AND/OR EQUIPMENT REQUIRING ELECTRICAL SERVICE IS INCLUDED. ANY ITEM AND/OR EQUIPMENT NOT PROVIDED WITH ELECTRICAL SERVICE, REQUIRING ELECTRICAL SERVICE, SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION.
- MECHANICAL, FIRE PROTECTION AND ELECTRICAL EQUIPMENT HAVE BEEN LOCATED AND ARRANGED TO MINIMIZE THE INTERFERENCES OF EQUIPMENT AND STRUCTURE. THE CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF/HERSELF WITH THE WORK TO BE PERFORMED BY OTHER TRADES AND THE PHYSICAL CHARACTERISTICS OF THE STRUCTURE IN ORDER TO SCHEDULE AND INSTALL EQUIPMENT AND TO MINIMIZE POSSIBLE INTERFERENCE. FAILURE TO PROPERLY COMMUNICATE AND SCHEDULE WORK WITH OTHER TRADES THAT RESULTS IN ADDITIONAL WORK AND MATERIAL, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE MODIFICATIONS REQUIRED TO RESOLVE THE CONFLICT SHALL BE DECIDED BY THE ENGINEER.
- ALL PANELBOARDS SHALL BE PROVIDED WITH A TYPEWRITTEN SCHEDULE SHOWING CIRCUIT NUMBERS AND A COMPLETE DESCRIPTION OF EACH CIRCUIT, INCLUDING OFFICIAL ROOM NUMBER.
- MINIMUM TRADE SIZE FOR HOME RUN CONDUIT PERMITTED SHALL BE 3/4 INCH UNLESS NOTED OTHERWISE. FITTINGS SHALL BE COMPRESSION TYPE.
- ALL CONDUCTOR SHALL BE COPPER WITH 600 VOLT INSULATION TYPE THHN (MINIMUM SIZE SHALL BE #12AWG). CONTRACTOR SHALL ADJUST WIRE AND CONDUIT SIZES IF OTHER INSULATION TYPES ARE USED.
- ALL ELECTRICAL WIRING DEVICES INDICATED TO BE INSTALLED IN MASONRY WALLS OR FLOORS SHALL BE FLUSH MOUNTED, INCLUDING BRANCH CIRCUIT PANELBOARDS, UNLESS OTHERWISE NOTED. THE CONDUITS TO ASSOCIATED ELECTRICAL EQUIPMENT SHALL BE CONCEALED IN WALLS OR FLOOR.
- ALL CONDUIT RUNS SHALL BE CONCEALED UNLESS SPECIFICALLY NOTED OTHERWISE.
- THE FIXTURE SCHEDULE IS FOR REFERENCE ONLY. MODEL NUMBERS LISTED MAY NOT INCLUDE ALL REQUIRED OPTIONS TO PROVIDE FUNCTIONAL SYSTEM. HOWEVER, THESE OPTIONS SHALL BE PROVIDED WITH FIXTURES. ALL SUBSTITUTIONS ARE SUBJECT TO PRIOR APPROVAL AS EQUAL BY THE ENGINEER.
- ALL EXIT LIGHTS SHALL BE PROVIDED WITH UNIVERSAL MOUNTING BRACKETS. THE CONTRACTOR SHALL VERIFY ALL DIRECTIONAL ARROWS PRIOR TO ORDERING FIXTURES.
- THE CONTRACTOR SHALL FURNISH THE AIR CONDITIONING SUBCONTRACTOR COPIES OF APPROVED LIGHT FIXTURE SHOP DRAWINGS.
- ALL COMMUNICATIONS OUTLET BOXES SHALL BE MIN. 4" WIDE BY 4" HIGH BY 2 1/2" DEEP WITH SINGLE GANG MUD RING.
- ALL SPECIAL PURPOSE OUTLETS SHALL BE PROVIDED TO MATCH EQUIPMENT TO BE SUPPLIED.
- ALL CONDUITS SHALL INCLUDE A SEPARATE GREEN EQUIPMENT GROUND CONDUCTOR.
- ANY EXISTING UTILITIES LOCATED IN THE AREA OF CONSTRUCTION THAT REQUIRE RELOCATION BY THE OWNER SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE A MINIMUM OF TEN DAYS IN ADVANCE.
- ALL DISCONNECT SWITCHES SHALL BE THE HEAVY DUTY TYPE, FUSED DISCONNECTS SHALL HAVE LITTLEFUSE TIME DELAY, TYPE RK5 AND INDICATING TYPE RK5.
- THE CONTRACTOR SHALL CHECK THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND/OR DIMENSIONS FOR INSTALLATION OF ALL ELECTRICAL ITEMS. ALL QUESTIONABLE LOCATIONS SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- ALL EMPTY CONDUITS SHALL CONTAIN JET LINE #232 POLYOLEFIN 200 LB. TEST.
- ALL WORK SHOWN ON THE ELECTRICAL PLANS SHALL BE PERFORMED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
- SPARE CONDUITS, WIREWAYS AND CABLE TRAYS SHALL BE SUPPORTED FROM BUILDING STRUCTURE AND NOT FROM OTHER PIPES, DUCTS OR EXISTING RACKS UNLESS SHOWN ON DRAWINGS.
- ALL CONDUIT BENDS FOR COMMUNICATIONS WIRING SHALL BE SMOOTH LONG RADIUS TYPE. "LB" TYPE FITTINGS SHALL NOT BE USED.
- DO NOT LOCATE ELECTRICAL OUTLETS AND DEVICES ON WALL PANEL JOINTS. REFER TO ARCHITECTURAL BUILDING ELEVATIONS FOR WALL PANEL LAYOUT AND PANEL JOINT LOCATIONS.
- GALVANIZED CONDUIT, FITTINGS, BOXES, STEEL AND FASTENERS TO BE USED FOR ALL WORK EXPOSED TO THE WEATHER.
- POWER CHANGE EXPENSES RESULTING FROM EQUIPMENT SUBSTITUTIONS THAT DIFFER FROM ITEMS CALLED FOR IN DRAWINGS OR SPECIFICATIONS SHALL BE BORNE BY THE CONTRACTOR OR THEIR SUB. THESE SHALL INCLUDE CHANGES IN VOLTAGE OR FULL LOAD AMPS RESULTING IN LARGER FEEDERS AND OR CIRCUIT BREAKERS.
- WATERPROOF RECEPTACLE COVER TO BE WP WITH OR WITHOUT CORD PLUGGED IN.
- ALL EXISTING ELECTRICAL DEVICES THAT ARE NOT SHOWN ARE EXISTING TO REMAIN, UNO.

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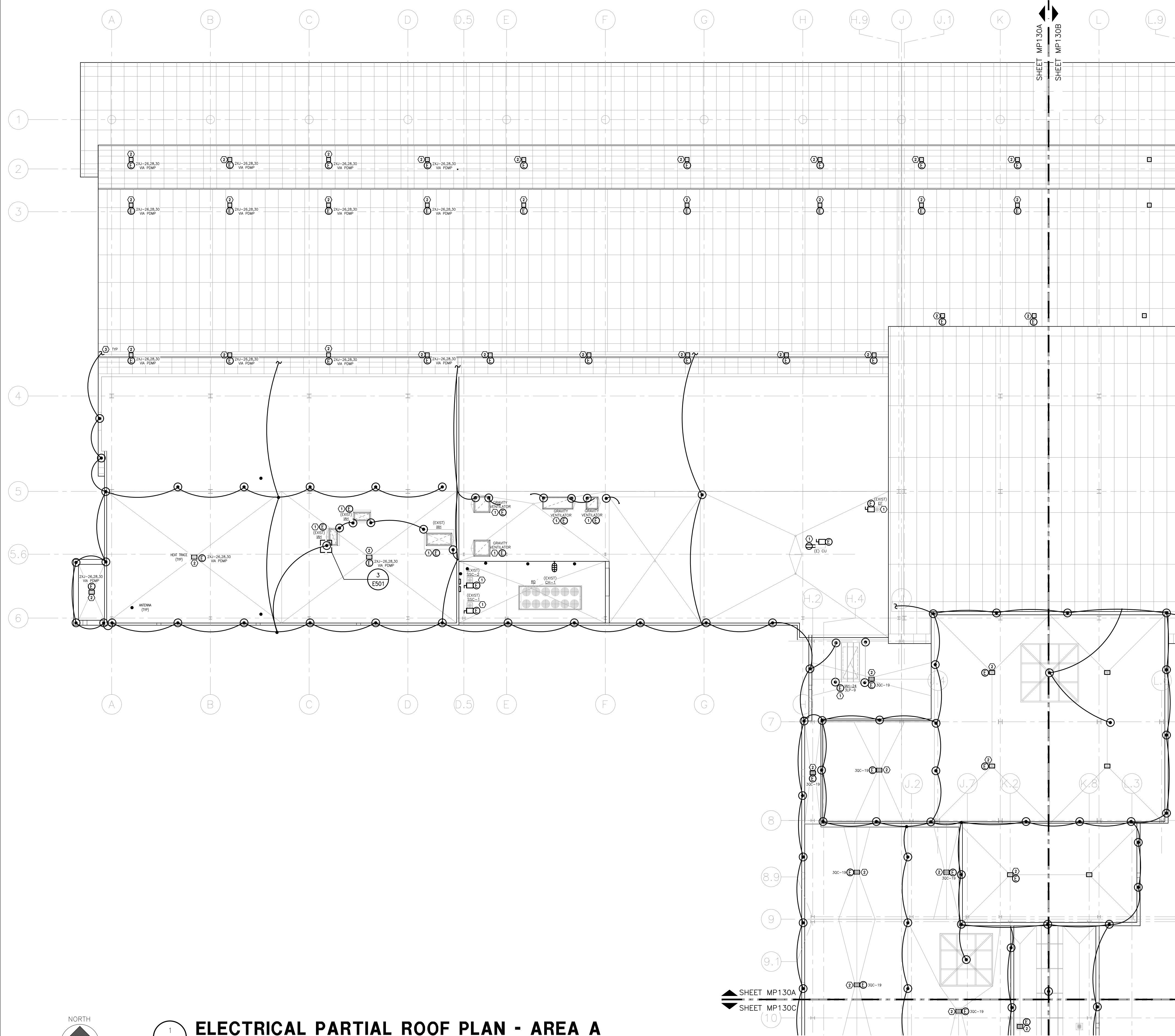
SHEET TITLE

**ELECTRICAL
LEGEND AND
GENERAL NOTES**

SHEET NUMBER

E001

**100%
CONSTRUCTION
DOCUMENTS**



GENERAL NOTES

- CONTRACTOR SHALL SYSTEMATICALLY DEMOLISH LIGHTNING PROTECTION SYSTEM AS CONSTRUCTION OF THE ROOF PROGRESSES. REMOVE ALL EXISTING LIGHTNING AIR TERMINALS AND CABLES FROM THE FOLLOWING:
 - SIDE SURFACES OF THE EXISTING METAL COPINGS
 - CONCRETE COLUMNS
 - ROOF SURFACE WHICH ARE ATTACHED TO COMPONENTS DESCRIBED IN THIS SCOPE OF WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE EXISTING LIGHTNING PROTECTION SYSTEM AND INTEGRATING THE NEW SYSTEM. NEW LIGHTNING PROTECTION SYSTEM SHALL BE INSTALLED BY A LICENSED CONTRACTOR WITH A MINIMUM 5 YEARS OF EXPERIENCE IN THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS. CONTRACTOR SHALL MAINTAIN OPERATION OF LIGHTNING PROTECTION SYSTEM DURING CONSTRUCTION. ANY SHOP DRAWINGS SUBMITTED FOR THE LIGHTNING PROTECTION SYSTEM MUST FOLLOW CONSTRUCTION PHASING PLANS FOR THE ROOF. SEE 0003. CONTRACTOR SHALL COMPLY WITH THE FOLLOWING:
 - UL96A
 - LPI OF STANDARDS 175
 - NFPA 780 CURRENT EDITION
- ALL ELECTRICAL SOURCES AND SHUTDOWNS TO BE COORDINATED WITH BUILDING MANAGEMENT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ELECTRICAL CONNECTIONS FOR HVAC EQUIPMENT AS INDICATED ON THE MECHANICAL PLANS AND SCHEDULES. COORDINATE WITH THESE PLANS AND EQUIPMENT SUPPLIER REQUIREMENTS.
- METALLIC BODIES OF INDUCTANCE AND CONDUCTANCE LOCATED ABOUT THE ROOF SUCH AS: METAL FLASHING, GRAVEL STOPS, SOIL PIPES VENTS, ROOF HATCHES, INSULATION VENTS, LOUVERS AND DOOR FRAMES SITUATED 6'-0" FROM A LIGHTNING CONDUCTOR OR BONDED METAL BODY SHALL BE INTERCONNECTED TO THE LIGHTNING CONDUCTOR SYSTEM. BOND ALL METALLIC ROOF DRAINS TO THE NEW LIGHTNING PROTECTIONS SYSTEM.
- AIR TERMINALS SHALL BE PLACED AT ALL OUTSIDE CORNERS AND SPACED AT 20'-0" MAXIMUM AND WITHIN 2'-0" OF THE OUTSIDE EDGE. BOND ALL METALLIC PIPES INCLUDING WATER, FIRE, GAS, SEWER, STORM, ETC. WHICH ENTER THE STRUCTURE TO THE NEAREST DOWNLEAD. GROUND ROD OR GROUND LOOP.
- EXISTING CONDUIT LINE SUPPORTS TO BE TEMPORARILY REMOVED AND REINSTALLED ON NEW SUPPORTS WHEN ROOF SURFACE IS FINISHED. COORDINATE WITH BIAA PRIOR TO CONSTRUCTION. SEE MECHANICAL AND ARCHITECTURAL PLANS FOR FURTHER INFORMATION.
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KEYED NOTES

- DISCONNECT BRANCH CIRCUIT FROM ROOFTOP EQUIPMENT DESIGNATED TO BE REMOVED. SEE MECHANICAL PLANS FOR EXACT EQUIPMENT BEING DISCONNECTED. FURNISH AND INSTALL NEW ELECTRICAL DISCONNECTS WHEN INDICATED ON PLANS. MATCH IN-KIND THE EXISTING DISCONNECTS. EXTEND CONDUIT AND CONDUCTORS AS NECESSARY. ONCE THE ROOF SURFACE IS FINISHED AND EQUIPMENT IS REINSTALLED, RECONNECT THE CIRCUIT. COORDINATE WITH BIAA PRIOR TO CONSTRUCTION. SEE ARCHITECTURAL PLANS FOR FURTHER INFORMATION.
- DISCONNECT BRANCH CIRCUIT FROM HEAT TRACE NEAR ROOF DRAINS. REMOVE CONDUIT BOOT, EXTEND CONDUIT AND CONDUCTORS AS NECESSARY. ONCE THE NEW ROOF SURFACE IS FINISHED AND ROOF DRAINS INSTALLED, INSTALL NEW CONDUIT BOOT (MATCH EXISTING) AND WATERPROOF ELECTRICAL JUNCTION BOX FOR CONNECTION. CONTRACTOR SHALL INSTALL NEW 30mA GROUND FAULT PROTECTED CIRCUIT BREAKERS FOR THE HEAT TRACE CIRCUITS PRIOR TO RECONNECTING THE CIRCUIT. COORDINATE ANY HEAT TRACE REPLACEMENT WITH MECHANICAL PLANS, ANY REPLACEMENTS SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM.
- CONTINUE TO EXISTING LIGHTNING PROTECTION, CONFIRM EXISTING CONNECTION POINTS IN FIELD. DISCONNECT CONDUCTOR TO ACCOMMODATE ROOF REPLACEMENT, EXOTHERMICALLY WELD NEW CONNECTION

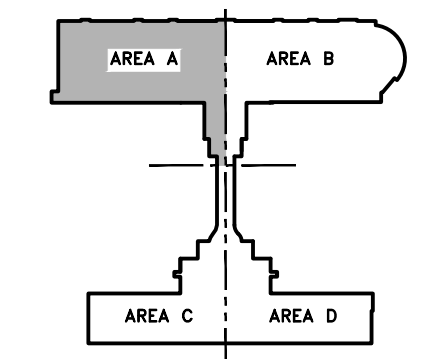
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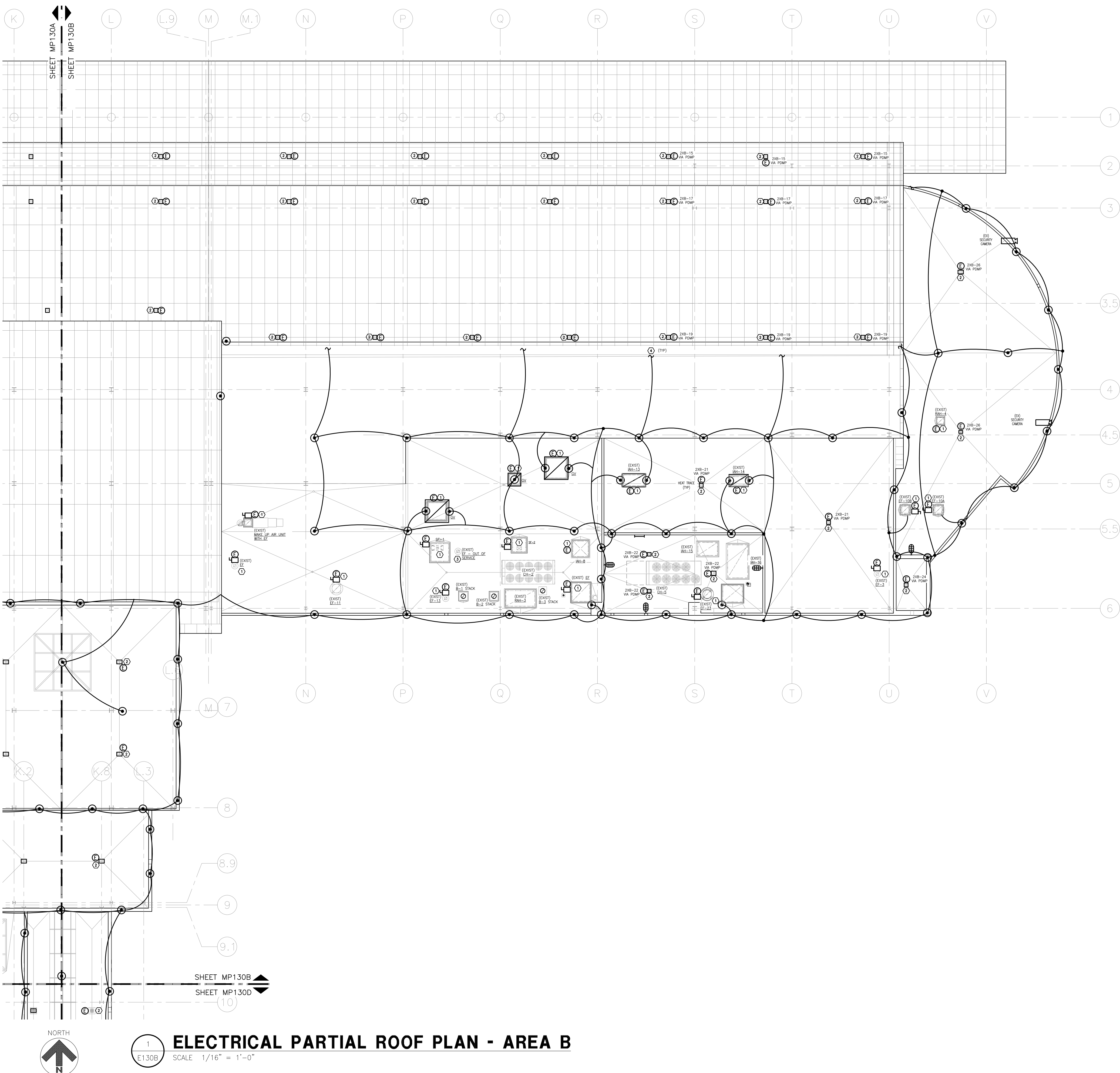
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SHEET TITLE

**ELECTRICAL
PARTIAL ROOF
PLAN - AREA A**

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E130A
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CONSTRUCTION
DOCUMENTS**



GENERAL NOTES

- CONTRACTOR SHALL SYSTEMATICALLY DEMOLISH LIGHTNING PROTECTION SYSTEM AS CONSTRUCTION OF THE ROOF PROGRESSES. REMOVE ALL EXISTING LIGHTNING AIR TERMINALS AND CABLES FROM THE FOLLOWING:
 - SIDE SURFACES OF THE EXISTING METAL COPINGS
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- EXISTING CONDUIT LINE SUPPORTS TO BE TEMPORARILY REMOVED AND REINSTALLED ON NEW SUPPORTS WHEN ROOF SURFACE IS FINISHED. COORDINATE WITH BIAA PRIOR TO CONSTRUCTION. SEE MECHANICAL AND ARCHITECTURAL PLANS FOR FURTHER INFORMATION.
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- EQUIPMENT TO BE DEMOLISHED. REMOVE CIRCUIT BACK TO SOURCE.
- CONTINUE TO EXISTING LIGHTNING PROTECTION, CONFIRM EXISTING CONNECTION POINTS IN FIELD. DISCONNECT CONDUCTOR TO ACCOMMODATE ROOF REPLACEMENT, EXOTHERMICALLY WELD NEW CONNECTION

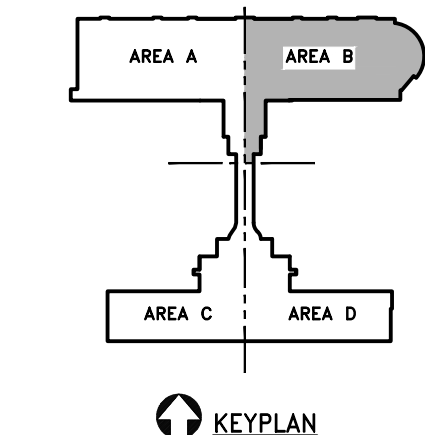
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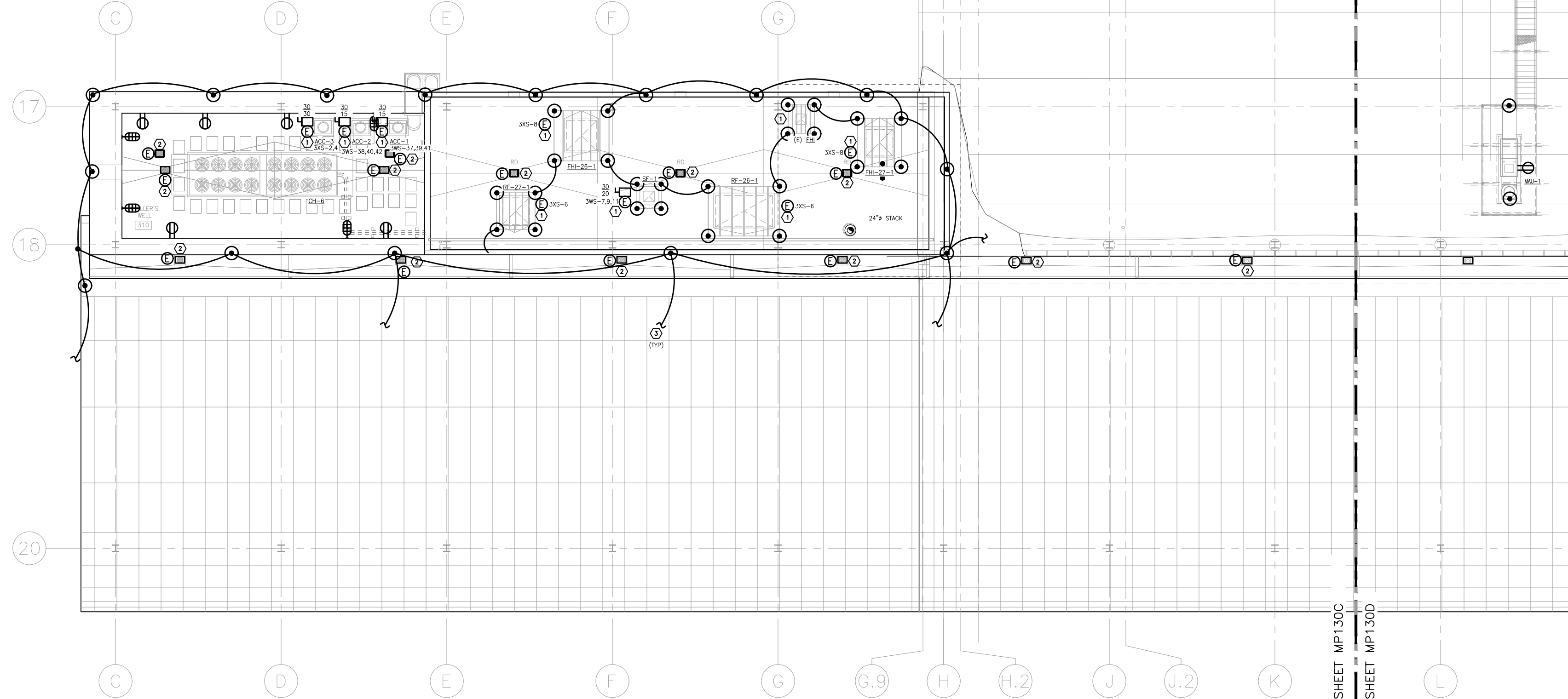
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3. ALL ELECTRICAL SOURCES AND SHUTDOWNS TO BE COORDINATED WITH BUILDING MANAGEMENT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ELECTRICAL CONNECTIONS FOR HVAC EQUIPMENT AS INDICATED ON THE MECHANICAL PLANS AND SCHEDULES. COORDINATE WITH THESE PLANS AND EQUIPMENT SUPPLIER REQUIREMENTS.
4. METALLIC BODIES OF INDUCTANCE AND CONDUCTANCE LOCATED ABOUT THE ROOF, SUCH AS: INSTANT FISHING GRAVEL STOPS, SOIL PIPES, VENTS, ROOF HATCHES, INSULATION VENTS, LOUVERS AND DOOR FRAMES SITUATED 6'-0" FROM A LIGHTNING CONDUCTOR OR BONDED METAL BODY SHALL BE INTERCONNECTED TO THE LIGHTNING CONDUCTOR SYSTEM. BOND ALL METALLIC ROOF DRAINS TO THE NEW LIGHTNING PROTECTIONS SYSTEM.
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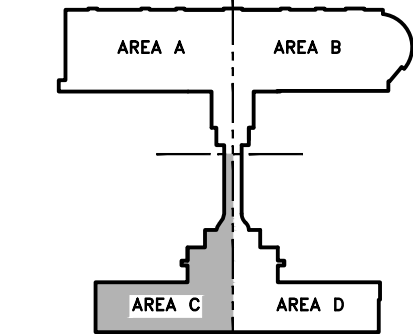
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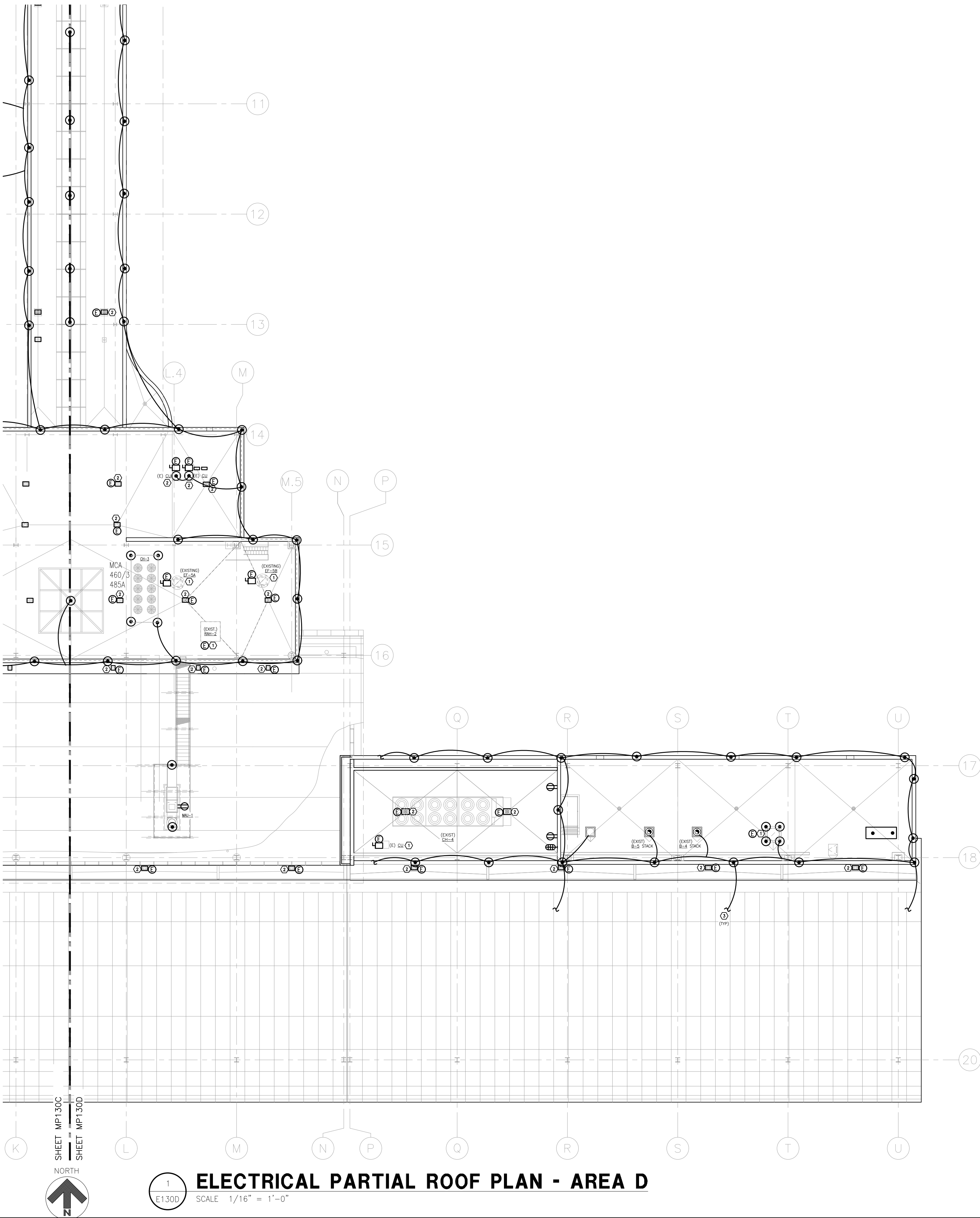
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ELECTRICAL
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- CONTRACTOR SHALL FIELD VERIFY CIRCUIT CALL OUTS BEFORE DISCONNECTING BRANCH CIRCUITS. FOR THOSE CIRCUITS UNKNOWN THE CONTRACTOR SHALL FIELD EXAMINE AND TEST TO DETERMINE BRANCH CIRCUIT SOURCE PANELS.

KEYED NOTES

- DISCONNECT BRANCH CIRCUIT FROM ROOFTOP EQUIPMENT DESIGNATED TO BE REMOVED, SEE MECHANICAL PLANS FOR EXACT EQUIPMENT BEING DISCONNECTED. FURNISH AND INSTALL NEW ELECTRICAL DISCONNECTS WHEN INDICATED ON PLANS. MATCH IN-KIND THE EXISTING DISCONNECTS. EXTEND CONDUIT AND CONDUCTORS AS NECESSARY. ONCE THE ROOF SURFACE IS FINISHED AND EQUIPMENT IS REINSTALLED, RECONNECT THE CIRCUIT. COORDINATE WITH BIAA PRIOR TO CONSTRUCTION. SEE ARCHITECTURAL PLANS FOR FURTHER INFORMATION.
- DISCONNECT BRANCH CIRCUIT FROM HEAT TRACE NEAR ROOF DRAINS. REMOVE CONDUIT BOOT, EXTEND CONDUIT AND CONDUCTORS AS NECESSARY. ONCE THE NEW ROOF SURFACE IS FINISHED AND ROOF DRAINS INSTALLED, INSTALL NEW CONDUIT BOOT (MATCH EXISTING) AND WATERPROOF ELECTRICAL JUNCTION BOX FOR CONNECTION. CONTRACTOR SHALL INSTALL NEW 30mA GROUND FAULT PROTECTED CIRCUIT BREAKERS FOR THE HEAT TRACE CIRCUITS PRIOR TO RECONNECTING THE CIRCUIT. COORDINATE ANY HEAT TRACE REPLACEMENT WITH MECHANICAL PLANS, ANY REPLACEMENTS SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM.
- CONTINUE TO EXISTING LIGHTNING PROTECTION, CONFIRM EXISTING CONNECTION POINTS IN FIELD. DISCONNECT CONDUCTOR TO ACCOMMODATE ROOF REPLACEMENT, EXOTHERMICALLY WELD NEW CONNECTION

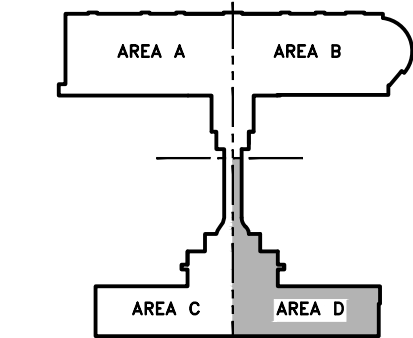


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DATE ISSUED: MARCH 14, 2022

REVIEWED BY:

DRAWN BY:

DESIGNED BY:

FAA PROJECT NUMBER
N/A
MDOT PROJECT NUMBER
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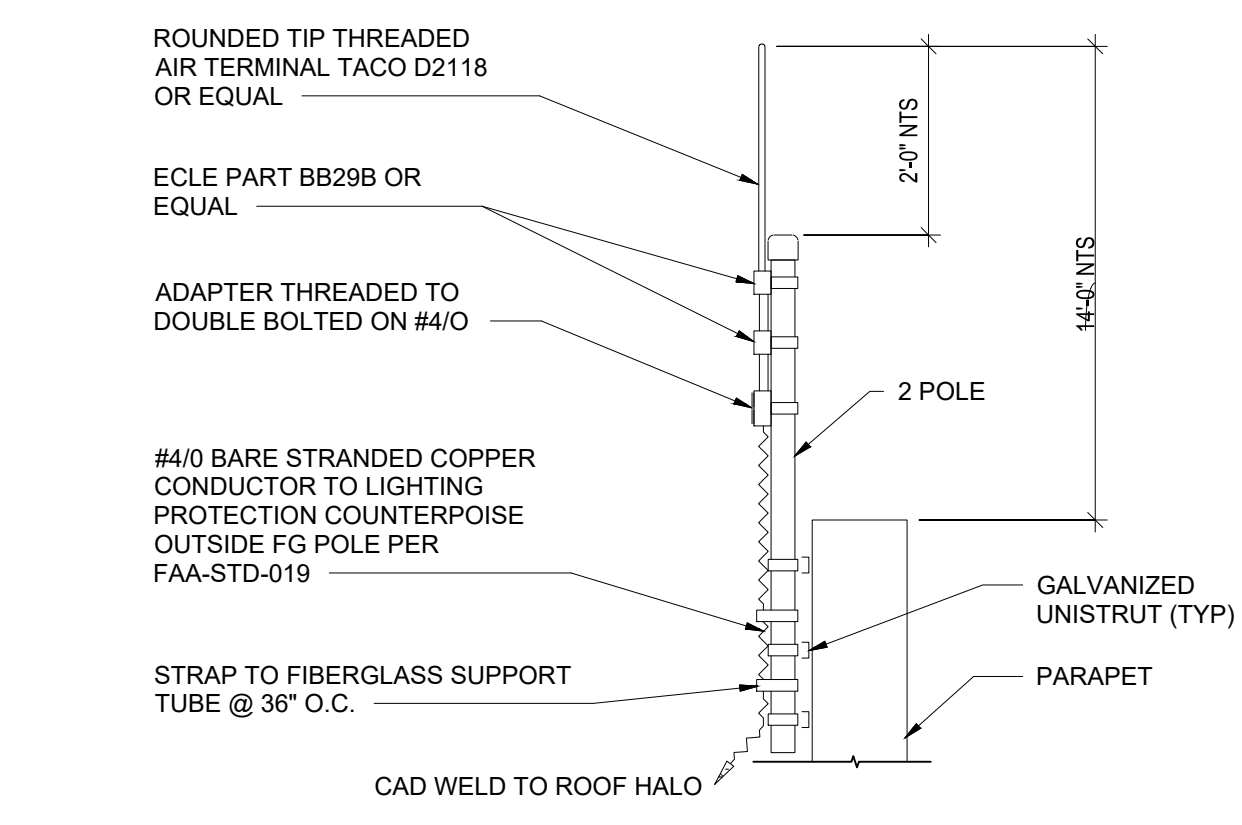
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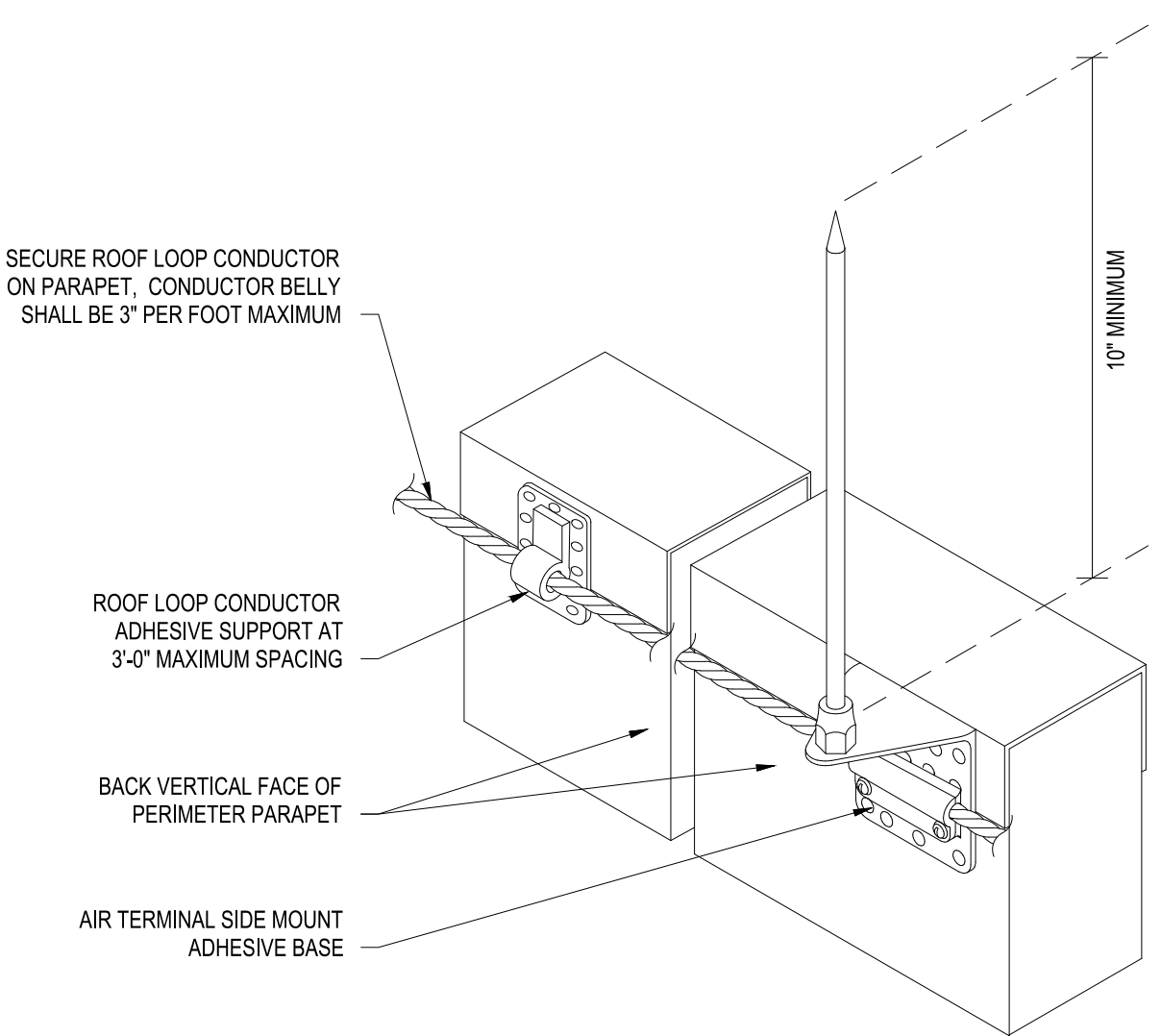
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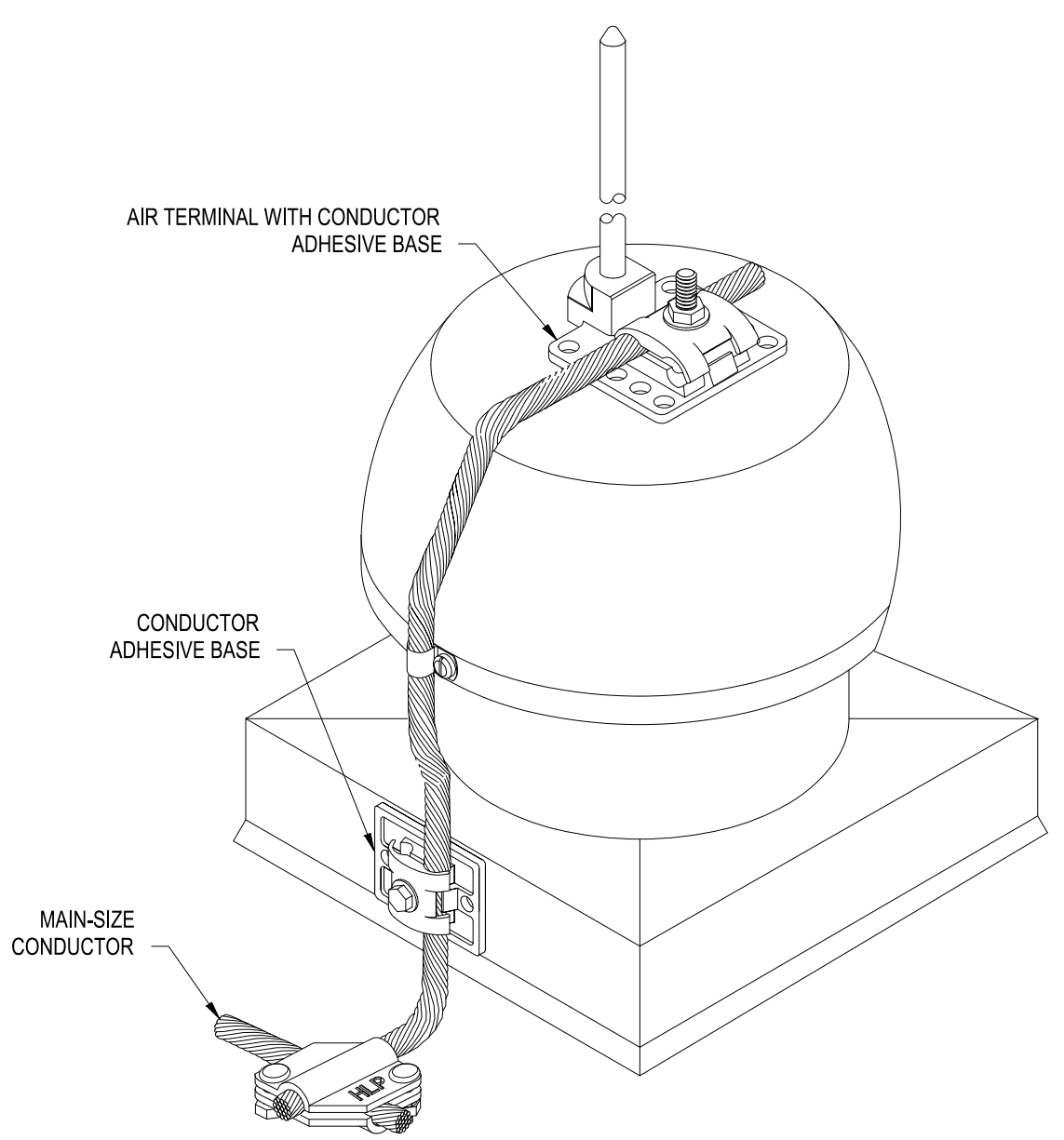
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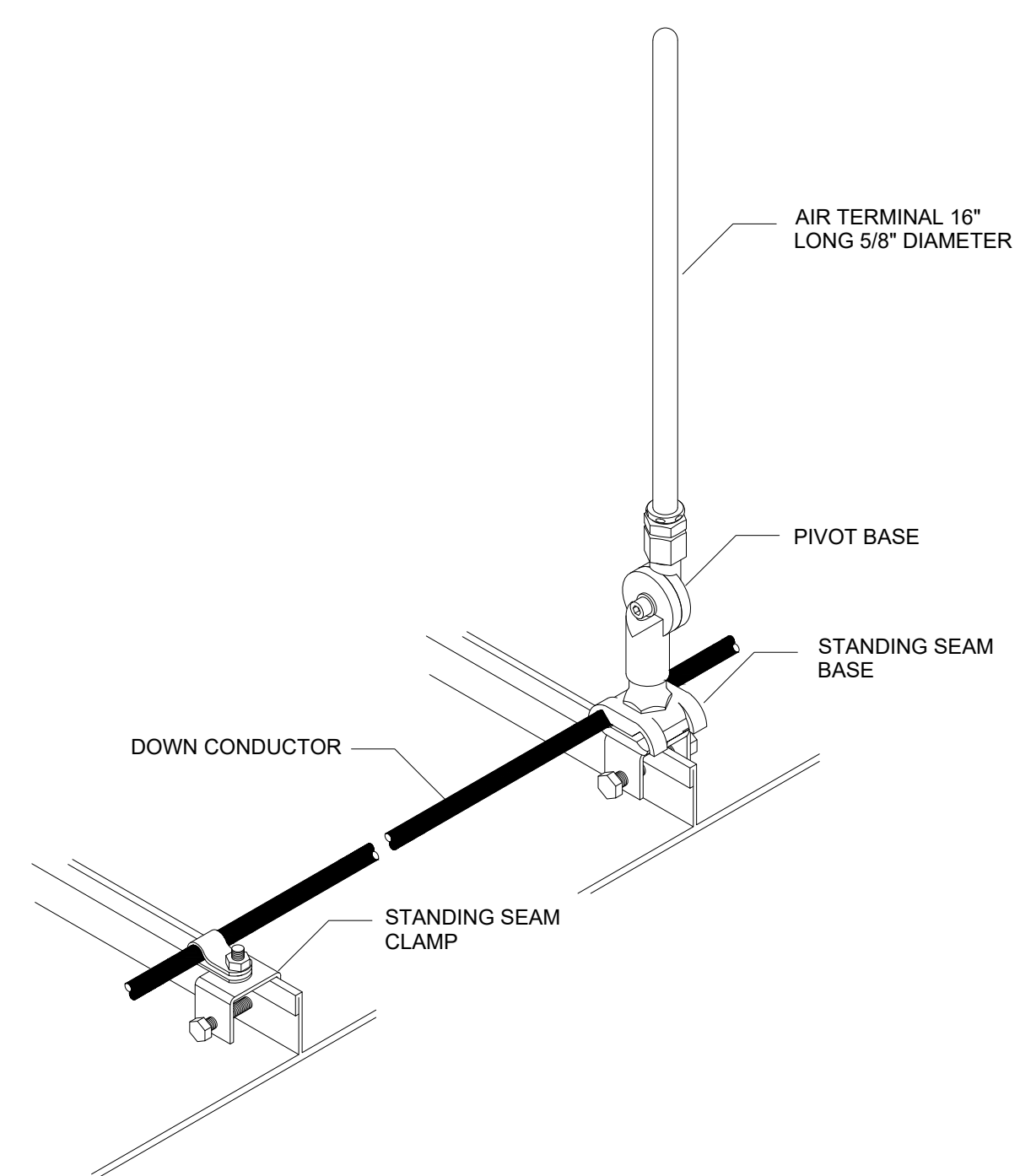
1
E501 NTS
ADHESIVE BASE MOUNT TERMINAL



2
E501 NTS
AIR TERMINAL WITH PARAPET MOUNTING BASE



3
E501 NTS
METAL ROOF TOP UNITS



4
E501 NTS
STANDING SEAM ROOF AIR TERMINAL DETAIL

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SHEET TITLE
**ELECTRICAL
GROUNDING
DETAILS**