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S1- GENERAL STRUCTURAL NOTES

ABBREVIATIONS	ABBREVIATIONS
NOTE: ABBREVIATIONS MAY OR MAY NOT HAVE PERIODS, BUT SHALL BE READ AS SAME.	
A.B.-----ANCHOR BOLT	
A.B.C.-----AGGREGATE BASE COURSE	
ACI-----AMERICAN CONCRETE INSTITUTE	
A/C-----AIR CONDITIONER	
A.F.F.-----ABOVE FINISHED FLOOR	
AISC-----AMERICAN INSTITUTE OF STEEL CONSTRUCTION	
ACI-----AMERICAN INSTITUTE OF STEEL CONSTRUCTION	
AISI-----AMERICAN IRON AND STEEL INSTITUTE	
AITC-----AMERICAN INSTITUTE OF TIMBER CONSTRUCTION	
ALT.-----ALTERNATE	
ANSI-----AMERICAN NATIONAL STANDARDS INSTITUTE	
APA-----AMERICAN PLYWOOD ASSOCIATION	
ARCH'L-----ARCHITECTURAL	
ASTM-----AMERICAN SOCIETY FOR TESTING AND MATERIALS	
AWS-----AMERICAN WELDING SOCIETY	
A.W.T.S.-----AUTOMATIC WELDED THREADED STUDS	
BM-----BELOW FINISHED FLOOR	
B.F.F.-----BELOW FINISHED FLOOR	
BLK-----BLOCK	
B.O.B.-----BOTTOM OF BEAM	
B.O.D.-----BOTTOM OF DECK	
B.O.F.-----BOTTOM OF FOOTING	
BRG-----BEARING	
C-----CAMBER	
C.C.-----CENTERLINE TO CENTERLINE	
CONC-----CONCRETE	
C.C.-----COLD FORMED STEEL	
C.G.-----CENTER OF GRAVITY	
C.I.P.-----CAST IN PLACE	
C.L.-----CENTERLINE	
C.L.B.-----CENTERLINE OF BEAM	
C.L.C.-----CENTERLINE OF COLUMN	
C.L.F.-----CENTERLINE OF FOOTING	
C.L.W.-----CENTERLINE OF WALL	
CL-----CLEAR	
CONC-----CONCRETE	
CONC C.J.-----CONCRETE CONTROL JOINT	
CONC S.J.-----CONCRETE SAWCUT JOINT	
C.M.U.-----CONCRETE MASONRY UNIT	
CONN-----CONNECTION	
CONT-----CONTINUOUS	
C.R.-----CONCRETE REINFORCING STEEL	
C.R.F.-----REINFORCING STEEL	
D.F. (D.F.L.)-----DOUGLAS FIR LARCH	
DL-----DEAD LOAD	
DIA-----DIAMETER	
DN-----DOWN	
DWG(S)-----DRAWING(S)	
E.C.-----END TO CENTERLINE	
E.E.-----END TO END	
E.O.S.-----EDGE OF SLAB	
EQ-----EQUAL	
E.Q.P.-----EQUIPMENT	
EXP. BOLT (E.B.)-----EXPANSION BOLT	
EXP. JT (E.J.)-----EXPANSION JOINT	
E.W.-----EACH WAY	
(E)-----EXISTING	
F.F.-----FINISHED FLOOR	
F.O.M.-----FACE OF MEMBER	
F.O.S.-----FACE OF STEEL	
F.O.W.-----FACE OF WALL	
GA-----GAGE (UNIT OF MEASUREMENT)	
GALV-----GALVANIZED	
G.S.N.-----GENERAL STRUCTURAL NOTES	
GLB (GLULAM)-----GLUED-LAMINATED BEAM	
H.F.-----HEAVY FIBER	
HORIZ-----HORIZONTAL REINFORCING	
H.S.-----HEADED STUDS	
IBC-----INTERNATIONAL BUILDING CODE	
ICC-----INTERNATIONAL CODE COUNCIL	
ICF-----INSULATED CONCRETE FORMS	
I.F.W.-----INSIDE FACE OF WALL	
I.O.D.-----INTERPRETATION OF DRAWINGS	
JST-----JOIST	
K(KIP)-----1000 POUNDS	
KLF-----KIIPS PER LINEAR FOOT	
LBS (#)-----POUNDS	
LGR-----LEDGER	
LGS-----LIGHT GAGE STEEL	
LGS&A-----LIGHT GAGE STEEL ENGINEERS ASSOCIATION	
L.O.D.-----LOCATION OF DETAILS	
LL-----LIVE LOAD	
LLH-----LONG LEG HORIZONTAL	
LLV-----LONG LEG VERTICAL	
MAS-----MASONRY	
MAS C.J.-----MASONRY CONTROL JOINT	
MAX-----MAXIMUM	
MBMA-----METAL BUILDING MANUFACTURERS ASSOCIATION	
MECH'L-----MECHANICAL	
MFR'D-----MANUFACTURED	
MFR(S)-----MANUFACTURER(S)	
MIN-----MINIMUM	
N/A-----NOT APPLICABLE	
N.T.S.-----NOT TO SCALE	
O.C.-----ON CENTER	
O.F.W.-----OUTSIDE FACE OF WALL	
OPP-----OPPOSITE	
OSHA-----OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION	
PCI-----PRECAST/PRESTRESSED CONCRETE INSTITUTE	
P.C.-----PRECAST CONCRETE	
PCF-----POUNDS PER CUBIC FOOT	
PLF-----POUNDS PER LINEAR FOOT	
±-----PLUS OR MINUS	
PREFAB-----PREFABRICATED	
P-----POUNDS PER SQUARE FOOT	
PSI-----POUNDS PER SQUARE INCH	
PT-----POST-TENSIONED	
PTI-----POST-TENSIONING INSTITUTE	
REINF-----REINFORCING	
SDI-----STEEL DECK INSTITUTE	
SLH-----SHORT LEG HORIZONTAL	
SLV-----SHORT LEG VERTICAL	
SJI-----STEEL JOIST INSTITUTE	
SJ-----SIMILAR	
SQ-----SQUARE	
SSMA-----STEEL STUD MANUFACTURERS ASSOCIATION	
STD-----STANDARD	
STL-----STEEL	
TL-----TOTAL LOAD	
T.O.B.-----TOP OF BEAM	
T.O.C.T.-----TOP OF CONCRETE TOPPING	
T.O.D.-----TOP OF DECK	
T.O.F.-----TOP OF FOOTING	
T.O.L.-----TOP OF LEDGER	
T.O.M.-----TOP OF MASONRY	
T.O.P.-----TOP OF PLATE	
T.O.P.C.-----TOP OF PRECAST CONCRETE	
T.O.S.-----TOP OF STEEL	
T.O.W.-----TOP OF WALL	
TRI-----TRIASS PLATE INSTITUTE	
TYP-----TYPICAL	
T&G-----TONGUE AND GROOVE	
U.N.O.-----UNLESS NOTED OTHERWISE	
VERT-----VERTICAL REINFORCING	
WCLA-----WEST COAST LUMBER ASSOCIATION	
WCLB-----WEST COAST LUMBER INSPECTION BUREAU	
W.W.F.-----WELDED WIRE FABRIC	
WWPA-----WESTERN WOOD PRODUCTS ASSOCIATION	
W/C-----WATER TO CEMENT RATIO	
W/O-----WITHOUT	

GENERAL STRUCTURAL NOTES

BUILDING CODE:

2021 NEW MEXICO BUILDING CODE

LOADS:

GRAVITY:

ROOF LIVE LOAD = 12 PSF (NON-REDUCIBLE).
CONST. SNOW LOAD, P1 = 20 PSF (NON-REDUCIBLE)
CONCRETE DEAD LOAD = ACTUAL WEIGHT OF MEMBER:
SOLAR PANEL, RAILS, ETC. = 3.0 PSF (MAX)
PURLIN = 4.0 PLF
BEAM = SELF-WEIGHT.
COLUMN = SELF-WEIGHT.

LATERAL:

WIND:

BASIC DESIGN WIND SPEED (3-SECOND GUST), V = 115 MPH.
RISK CATEGORY, I
EXPOSURE C.

WIND LOAD FOR 10 DEGREE MAX SLOPE TEE CANOPY: (THESE VALUES ARE BEFORE MULTIPLYING BY 0.6 FACTOR IN LOAD COMBINATIONS)
C&C WIND LOAD = 29.5 PSF (TOWARD THE SURFACE).
C&C WIND LOAD = -32.4 PSF (AWAY FROM THE SURFACE).
MWFRS WIND LOAD = 18.3 PSF / 27.1 PSF (TOWARD THE SURFACE).
MWFRS WIND LOAD = -32.4 PSF / -13.0 PSF (AWAY FROM THE SURFACE).

WIND LOAD FOR 10 DEGREE MAX SLOPE SEMI CANTILEVER TILT DOWN CANOPY: (THESE VALUES ARE BEFORE MULTIPLYING BY 0.6 FACTOR IN LOAD COMBINATIONS)
C&C WIND LOAD = 29.1 PSF (TOWARD THE SURFACE).
C&C WIND LOAD = -32.0 PSF (AWAY FROM THE SURFACE).
MWFRS WIND LOAD = 18.0 PSF / 26.7 PSF (TOWARD THE SURFACE).
MWFRS WIND LOAD = -32.0 PSF / -12.8 PSF (AWAY FROM THE SURFACE).

SEISMIC:

SEISMIC IMPORTANCE FACTOR, I = 1.0.
RISK CATEGORY, I
MAPPED SHORT PERIOD SPECTRAL ACCELERATION, Ss = 0.413g.
MAPPED ONE SECOND SPECTRAL ACCELERATION, S1 = 0.133g.
SOIL SITE CLASS, D
DESIGN SHORT PERIOD SPECTRAL ACCELERATION, Sds = 0.404g.
DESIGN ONE SECOND SPECTRAL ACCELERATION, Sd1 = 0.207g.
SEISMIC DESIGN CATEGORY, D
BASIC SEISMIC-FORCE-RESISTING SYSTEM = CANTILEVERED COLUMN SYSTEMS DETAILED TO CONFORM TO THE REQUIREMENTS FOR ORDINARY STEEL MOMENT FRAMES.
SEISMIC RESPONSE COEFFICIENT, Cs = 0.323
REDUNDANCY FACTOR, R = 1.25
RESPONSE MODIFICATION FACTOR (R) = 1.25.
ANALYSIS PROCEDURE USED = EQUIVALENT LATERAL FORCE PROCEDURE

FOUNDATIONS:

DRILLED PIER FOOTING DESIGNS ARE BASED ON NMBC SECTION 1806 CLASS 4 SOILS. THE ALLOWABLE LATERAL BEARING PRESSURE MAY BE MULTIPLIED BY 2.0 PER NMBC SECTION 1806.3.4. ALLOWABLE LATERAL BEARING PRESSURE = 150 PSF/FT FOR DRILLED PIER FOOTINGS. THE DRILLED PIER FOOTINGS ARE DESIGNED AS CONSTRAINED (SECTION 1807.3.2.2). EQUATION (18-3) WHERE PLACED IN CONCRETE AREAS, AS PARTIALLY CONSTRAINED (AVERAGE OF CONSTRAINED AND UNCONSTRAINED) WHERE PLACED IN ASPHALT AREAS AND AS UNCONSTRAINED (CZERNIAK) WHEN NOT PLACED IN CONCRETE OR ASPHALT AREAS.

SPREAD FOOTING DESIGNS ARE BASED ON NMBC SECTION 1806, CLASS 5 SOILS. SPREAD FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED SOIL 2'-0" FEET MINIMUM BELOW ADJACENT EXISTING GRADE. DESIGN SOIL BEARING VALUE = 1,500 PSF. GEOTECHNICAL ENGINEER SHALL INSPECT FOUNDATION EXCAVATIONS PRIOR TO PLACEMENT OF CONCRETE.

FOR USE OF CODE MINIMUM SECTION 1806 PRESUMPTIVE SOIL LOAD-BEARING VALUES, THE CONTRACTOR AND/OR GEOTECHNICAL ENGINEER ARE TO VERIFY THAT THE ONSITE, SITE SOILS MEET CLASS 5 SOILS AS FOLLOWS: CLAY, SANDY CLAY, SILTY CLAY, CLAYEY SILT, SILT AND SANDY SILT (CL, ML, MH AND CH). CONTRACTOR AND GEOTECHNICAL ENGINEER SHALL VERIFY THAT SITE SOILS ARE HOMOGENEOUS AND FREE OF MUD, ORGANIC SILT, ORGANIC CLAYS, PEAT AND/OR UNPREPARED OR UNDOCUMENTED FILLS. IF THESE MATERIALS ARE ENCOUNTERED OR IF THERE IS REASON TO DOUBT THE STRENGTH OR COMPRESSIBILITY OF THE ONSITE SOILS, A GEOTECHNICAL ENGINEER SHALL PROVIDE A GEOTECHNICAL REPORT WITH THE SOIL CLASSIFICATION AND RE-DESIGN OF THE FOUNDATIONS MAY BE REQUIRED.

CONCRETE:

SPECIFIED 28 DAY COMPRESSIVE STRENGTH F'c:

FOUNDATIONS (EXPOSED TO FREEZE/THAW) (AIR 6% +/- 1.5%, W/C=0.45 MAX) --- 4,500 PSI
EXPOSURE CLASSES: F2

GENERAL:

ALL CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO THE REFERENCED EDITION OF THE ACI. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED UNLESS NOTED OTHERWISE. ADMIXTURES CONTAINING CHLORIDES SHALL NOT BE USED. NO OTHER ADMIXTURES PERMITTED WITHOUT APPROVAL FOR CONCRETE WITHOUT PLASTICIZER. MAXIMUM SLUMP 4 1/2" AT POINT OF PLACEMENT U.N.O. IF PLASTICIZER IS USED, A HIGHER FINAL SLUMP MAY BE ALLOWED UPON STRUCTURAL ENGINEER'S APPROVAL.

FOR REINFORCING INFORMATION, SEE REINFORCING SECTION OF G.S.N., PLANS, SCHEDULES AND DETAILS.

FLY ASH - SHALL BE LIMITED TO 50% OF TOTAL CEMENTITIOUS MATERIALS BY WEIGHT.

TEST DATA FOR EACH CONCRETE MIX SHALL BE SUBMITTED FOR REVIEW PER CHAPTER 5 OF ACI 318. REFERENCE FIGURE R5.3 FOR SUBMITTAL REQUIREMENTS AND OPTIONS. CONCRETE MIX DESIGNS THAT ARE SUBMITTED WITHOUT THE APPROPRIATE TEST DATA CANNOT BE REVIEWED.

IT IS ACCEPTABLE AND INTENDED TO USE EARTH CUTS FOR THE DRILLED PIER FOOTING AND SPREAD FOOTING. THE FOOTING DESIGNS INDICATED IN THESE DRAWINGS DO NOT APPLY IF THE EARTH CUTS ARE UNSTABLE AND/OR DO NOT STAND ON THEIR OWN.

THE FOOTINGS INDICATED IN THESE DRAWINGS DO NOT APPLY WHERE ORGANIC FILL MATERIALS EXIST.

CONCRETE SHALL BE ADEQUATELY VIBRATED AROUND THE EMBEDDED STEEL COLUMNS TO ENSURE THE CONCRETE HAS COMPLETELY SURROUNDED THE STEEL COLUMN. CONCRETE SHALL SLOPE UP SLIGHTLY TOWARDS COLUMNS TO PREVENT WATER FROM PONDING AROUND COLUMNS.

SLABS ON GRADE AND SLAB/FOOTINGS AT GRADE (E.G. INVERTER SLAB/FOUNDATION) SHALL BE VIBRATED ONLY AT TRENCHES, FLOOR DUCTS, TURNDOWS, ETC. MIX DESIGNS SHALL TAKE CARE TO PROVIDE THE LARGEST POSSIBLE SIZE OF COARSE AGGREGATE WHILE MAINTAINING CONCRETE WORKABILITY. NOMINAL MAXIMUM AGGREGATE SIZE SHALL NOT BE LESS THAN 3/4 INCH NOR MORE THAN 1/3 THE DEPTH OF THE SLAB. MIX DESIGNERS SHALL SUBMIT SLAB ON GRADE DESIGNS WITH SHRINKAGE CHARACTERISTICS NOT EXCEEDING 0.00078 IN/IN TO MEET THE REQUIREMENTS OF ACI 360R-06, FIGS.6 FOR TYPICAL CONCRETE. SLABS SHALL BE PLACED ON A FLAT, SMOOTH, FIRM, COMPACTED SUBGRADE.

IT IS ACCEPTABLE FOR CONCRETE TO FREE FALL INTO THE DRILLED PIER OR SPREAD FOOTINGS. THE GOAL OF THE CONSTRUCTION WITH THE DRILLED PIER AND SPREAD FOOTING IS TO HAVE CONCRETE WELL PLACED WITH MINIMAL VOIDS AND GOOD CONSOLIDATION (i.e. MINIMAL SEGREGATION OF THE AGGREGATE).

NON-STRUCTURAL PEDESTALS AT BASE OF STEEL COLUMNS:

IF A CONCRETE PEDESTAL IS CONSTRUCTED PER THE DETAIL(S) IN THIS SET THE PEDESTAL IS CONSIDERED NON-STRUCTURAL. THE PEDESTAL MAY BE CONSTRUCTED AFTER THE DRILLED PIER AND STEEL COLUMN ARE IN PLACE. THE TOP OF THE DRILLED PIER SHALL BE CLEANED BY EITHER BRUSHING OR USING WATER SPRAY PRIOR TO CONSTRUCTING THE PEDESTAL. MINIMUM PEDESTAL REINFORCING SHALL BE 4 #5 VERTICALS AND #4 TIES AT 12" O.C.

REINFORCING:

ALL REINFORCING PER CRSI SPECIFICATIONS AND HANDBOOK. ASTM A615 (Fy = 60 KSI / GRADE 60) DEFORMED BARS FOR ALL BARS. WHERE SHOWN ON DRAWINGS ALL GRADE 60 REINFORCING TO BE WELDED SHALL BE ASTM A706. NO TACK WELDING OF REINFORCING BARS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE WITH THE STRUCTURAL ENGINEER. REFERENCED EDITION OF THE ACI CODE AND DETAILING MANUAL APPLY. CLEAR CONCRETE COVERAGES AS FOLLOWS:

CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ----- 3"
EXPOSED TO EARTH OR WEATHER
#6 OR LARGER ----- 2"
#5 AND SMALLER ----- 1 1/2"
ALL OTHER PER REFERENCED EDITION OF ACI 318

ALL REINFORCING SHALL BE CHAIRC TO ENSURE PROPER CLEARANCES. SUPPORT OF FOUNDATION REINFORCING MUST PROVIDE ISOLATION FROM MOISTURE/CORROSION BY USE OF A PLASTIC OR CONCRETE CHAIR. DUCT-TAPE COVERED REINFORCING IS NOT AN ACCEPTABLE CHAIR.

ALL DIMENSIONS REFERENCED IN DRAWINGS AS "CLEAR" SHALL BE FROM FACE OF STRUCTURE TO EDGE OF REINFORCING, AND SHALL NOT BE LESS THAN STATED, NOR GREATER THAN "CLEAR" DIMENSION PLUS 3/8". ALL OTHERS SHALL BE PLUS OR MINUS 1/4" TYPICAL UNLESS NOTED OTHERWISE.

FIELD BENDING OR STRAIGHTENING OF DEFORMED BARS SHALL BE LIMITED TO #5 BARS AND SMALLER AND SHALL BE FIELD BENT OR STRAIGHTENED ONLY ONCE. ANY BEND SHALL BE LIMITED TO 90 DEGREES. IF FIELD BENDING OR STRAIGHTENING OF #6 BARS OR LARGER IS REQUIRED, OR IF A SECOND BEND IS REQUIRED FOR #5 BARS AND SMALLER, HEAT SHALL BE APPLIED FOR BENDING OR STRAIGHTENING. CONTRACTOR SHALL SUBMIT PROCEDURE FOR

STRUCTURAL STEEL:

GENERAL:

ALL STEEL CONSTRUCTION SHALL BE PER THE REFERENCED EDITION OF THE AISC STEEL CONSTRUCTION MANUAL. ALL WIDE FLANGE STEEL SHALL BE ASTM A992 (Fy = 50 KSI). ALL PIPE STEEL SHALL BE ASTM A500 (Fy = 42 KSI) OR ASTM A53, TYPE E OR S, GRADE B (Fy = 35 KSI). ALL TUBE STEEL SHALL BE ASTM A500 (Fy = 46 KSI). ALL MISCELLANEOUS STEEL UNLESS NOTED OTHERWISE SHALL BE ASTM A36 (Fy = 36 KSI). IF CALLED OUT ON PLANS, Fy = 50 KSI PLATE STEEL SHALL BE ASTM A572 OR A572. THE TERMS PIPE AND ROUND HOLLOW STRUCTURAL SHAPE (HSS) ARE USED SYNONYMOUSLY THROUGHOUT THESE DOCUMENTS ALONG WITH THE TERMS TUBE STEEL AND RECTANGULAR OR SQUARE HSS.

ALL STRUCTURAL ROLLED STEEL MEMBERS WITH Fy GREATER THAN 36 KSI ARE TO BE IDENTIFIED WITH AN ASTM SPECIFICATION MARK OR TAG PER CBC SEC. 2203.1.

PROTECT ALL EXPOSED STEEL BELOW GRADE WITH H107 ASPHALT EMULSION PRODUCT. EXTEND A MINIMUM OF 2 INCHES ABOVE FINISHED GRADE.

BOLTS:

ALL BOLTS SHALL BE ASTM A490 (TYPE 1) AND SHALL BE TESTED AND INSTALLED AS SLIP CRITICAL CONNECTIONS WITH THREADS INCLUDED IN SHEAR PLANE. BOLT INSTALLATION SHALL BE PER THE REFERENCED EDITION OF THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS. HIGH STRENGTH WASHERS WHERE NOTED SHALL BE PER ASTM F436 (TYPE 1). D11 WASHERS SHALL BE PER ASTM F959. NUTS SHALL BE PER ASTM A563 GRADE DH OR ASTM A194 GRADE 2H. IT IS ACCEPTABLE TO USE OVERSIZE HOLES OR SLOTTED HOLES PER AISC SPECIFICATIONS.

WELDING:

UNLESS NOTED OTHERWISE, ALL WELDS PER THE REFERENCED EDITION OF THE AWS STANDARD FOR QUALIFIED BOLT BE FABRICATED AND ERRECTED IN ACCORDANCE WITH CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES. CERTIFICATES SHALL BE THOSE ISSUED BY AN ACCEPTED TESTING AGENCY. ALL WELDING DONE BY E70 SERIES UNLESS NOTED OTHERWISE. FOR GRADE 60 REINFORCING BARS USE E90 SERIES. THESE DRAWINGS DO NOT DISTINGUISH BETWEEN SHOP AND FIELD WELDS; THE CONTRACTOR MAY SHOP WELD OR FIELD WELD AT THEIR DISCRETION. SHOP WELDS AND FIELD WELDS SHALL BE SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR REVIEW.

SCREW FASTENERS:

ALL SCREWS 3/4" MIN. LENGTH U.N.O.

ALL STEEL SCREWS SHALL BE IN ACCORDANCE WITH AISI-GENERAL AND AISI-NAS. Fy = 50 ksi and Ft = 70 ksi FOR ALL SCREWS.

1. MINIMUM SPACING OF SCREWS SHALL NOT BE LESS THAN 3 TIMES THE NOMINAL DIAMETER. MINIMUM EDGE DISTANCE FOR SCREWS SHALL NOT BE LESS THAN 1.5 TIMES THE NOMINAL SCREW DIAMETER.
2. THE HEAD OF THE SCREW OR WASHER SHALL HAVE A DIAMETER, DW, OF NOT LESS THAN 5/16". WASHERS SHALL BE AT LEAST 0.05" THICK.

SCREW NUMBER DESIGNATION	8	10	12 (12-14)	14
NOMINAL DIAMETER	0.164"	0.190"	0.216"	0.250"

COLD FORMED STRUCTURAL STEEL FRAMING:

GENERAL:

ALL COLD FORMED STRUCTURAL STEEL FRAMING AND COMPONENTS INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE FABRICATED AND ERRECTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE REFERENCED EDITION OF AISI'S "SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS".

FRAMING:

ALL WELDING TO BE PERFORMED BY WELDERS HOLDING A VALID CERTIFICATE AND HAVING CURRENT EXPERIENCE IN LIGHT GAUGE STEEL. CERTIFICATES SHALL BE ISSUED BY AN ACCEPTED TESTING AGENCY. DO NOT NOTCH FLANGES OF MEMBERS WITHOUT EXPRESSED APPROVAL OF THE ENGINEER OF RECORD. ALL WELDING TO BE PERFORMED IN AN APPROVED FABRICATORS SHOP.

COLD FORMED STRUCTURAL STEEL MEMBERS SHALL HAVE A MINIMUM YIELD STRENGTH OF Fy = 55,000 PSI U.N.O. COLD FORM STRUCTURAL STEEL SHALL BE IDENTIFIED WITH A MINIMUM COATING DESIGNATION OF G90. THE GRADE AND THE ASTM SPECIFICATION NUMBER OR OTHER SPECIFICATION DESIGNATION SHALL BE INDICATED BY PAINTING, DECAL, TAGGING OR OTHER SUITABLE MEANS ON EACH BUNDLE OF FABRICATED ELEMENTS. IT IS ACCEPTABLE TO USE THE Fy SHOWN ON THE MILL CERTIFICATION IN LIEU OF THE "ORDERED" Fy, PROVIDED THAT THE MILL CERTIFICATION FOR Fy MEETS OR EXCEEDS THE SPECIFIED Fy.

THE STEEL PURLINS DO NOT HAVE TO BEAR DIRECTLY ON THE STEEL BEAMS. IT IS ACCEPTABLE AND COMMON FOR THE PURLINS TO NEED TO BE RAISED A LITTLE (1/2" MAXIMUM) TO ASSIST IN LEVELING AND "TUNING" THE STRUCTURE. THE LOAD BETWEEN THE PURLIN AND THE BEAM IS TRANSFERRED ENTIRELY THROUGH THE SCREWS CONNECTING THE PURLIN TO THE PURLIN CL. THE PURLIN DOES NOT NEED TO BEAR ON THE BEAM.

MILS	GAGE NO.	MIN DELIVERED THICKNESS	DESIGN THICKNESS
12	30	0.0120"	0.0126"
14	29	0.0132"	0.0139"
16	26	0.0174"	0.0183"
33	20	0.0336"	0.0354"
43	18	0.0447"	0.0470"
54	16	0.0561"	0.0590"
68	14	0.0713"	0.0750"
97	12	0.0998"	0.1050"
118	10	0.1283"	0.1350"
150	9	0.1430"	0.1500"

GENERAL NOTES:

THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. EXCEPT WHERE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHOR FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE STRUCTURAL ENGINEER OF RECOR SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERETO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS).

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE PER THE REFERENCED EDITION AND/OR ADDENDA. ANY ENGINEERING DESIGN, PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF A REGISTERED ENGINEER RECOGNIZED BY THE BUILDING CODE JURISDICTION OF THIS PROJECT.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND SHALL RESOLVE ANY DISCREPANCY PRIOR TO START OF CONSTRUCTION WITH THE ARCHITECT. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR CIVIL, PLUMBING AND ELECTRICAL ITEMS WITH THE APPROPRIATE TRADE DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON PLANS, BUT APPLY UNLESS NOTED OTHERWISE.

CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED CONSTRUCTION. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.

OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF AN OPTION IS CHOSEN, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES, APPROVALS AND THE COORDINATION THE WORK WITH ALL RELATED TRADES AND SUPPLIERS.

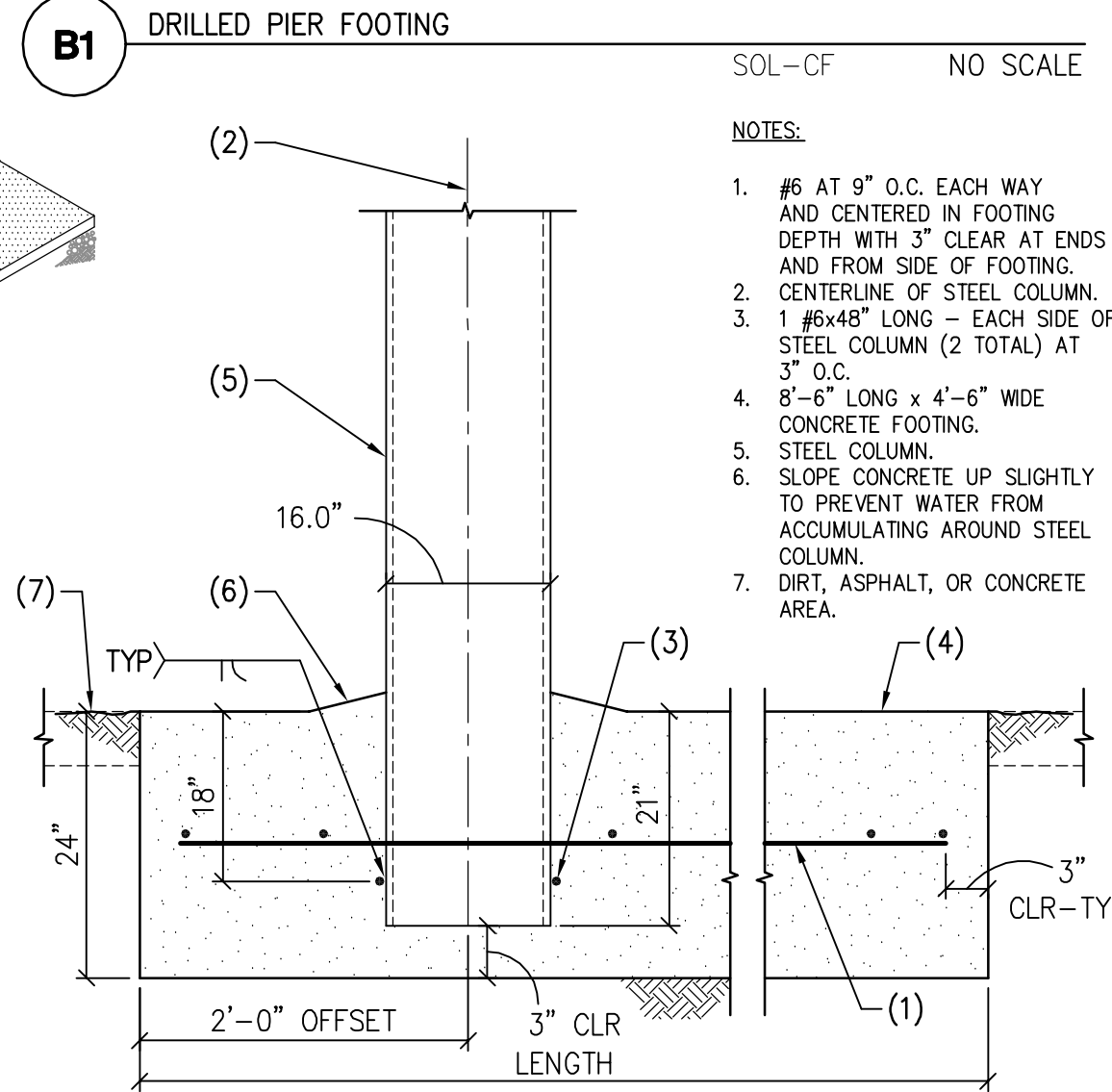
SPECIAL INSPECTION – STRUCTURAL ONLY:

SPECIAL INSPECTIONS SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A STATE REGISTERED STRUCTURAL ENGINEER WHO IS FAMILIAR WITH THE STRUCTURAL DESIGN OF THIS PROJECT. THE SUPERVISING STRUCTURAL ENGINEER SHALL SEAL THE SPECIAL INSPECTION CERTIFICATE.

SPECIAL INSPECTION IS TO BE PROVIDED FOR THE ITEMS LISTED BELOW IN ADDITION TO THE INSPECTIONS CONDUCTED BY THE BUILDING JURISDICTION. "SPECIAL STRUCTURAL INSPECTION" SHALL NOT RELIEVE THE OWNER OR THEIR AGENT FROM REQUESTING THE BUILDING JURISDICTION INSPECTIONS REQUIRED BY SECTION 109 OF THE NEW MEXICO BUILDING CODE. SPECIAL INSPECTION IS REQUIRED PER CHAPTER 17 FOR THE FOLLOWING:

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION			
SPECIAL INSPECTION REQUIRED (YES/NO)	VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION	
		CONTINUOUS	PERIODIC
Y	1. INSPECTION OF REINFORCING STEEL AND PLACEMENT		X
Y	2. VERIFYING USE OF REQUIRED DESIGN MIX		X
Y	3. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 2B	X	
NO INSPECTION IS REQUIRED FOR THE PLACEMENT OF FOUNDATION CONCRETE (FOR BUILDINGS THREE STORIES OR LESS WHEN DESIGNED WITH 2,500 PSI). INSPECTION OF FOUNDATION REINFORCING IS REQUIRED PER "REINFORCING STEEL" NOTED IN THE TABLE ABOVE.			

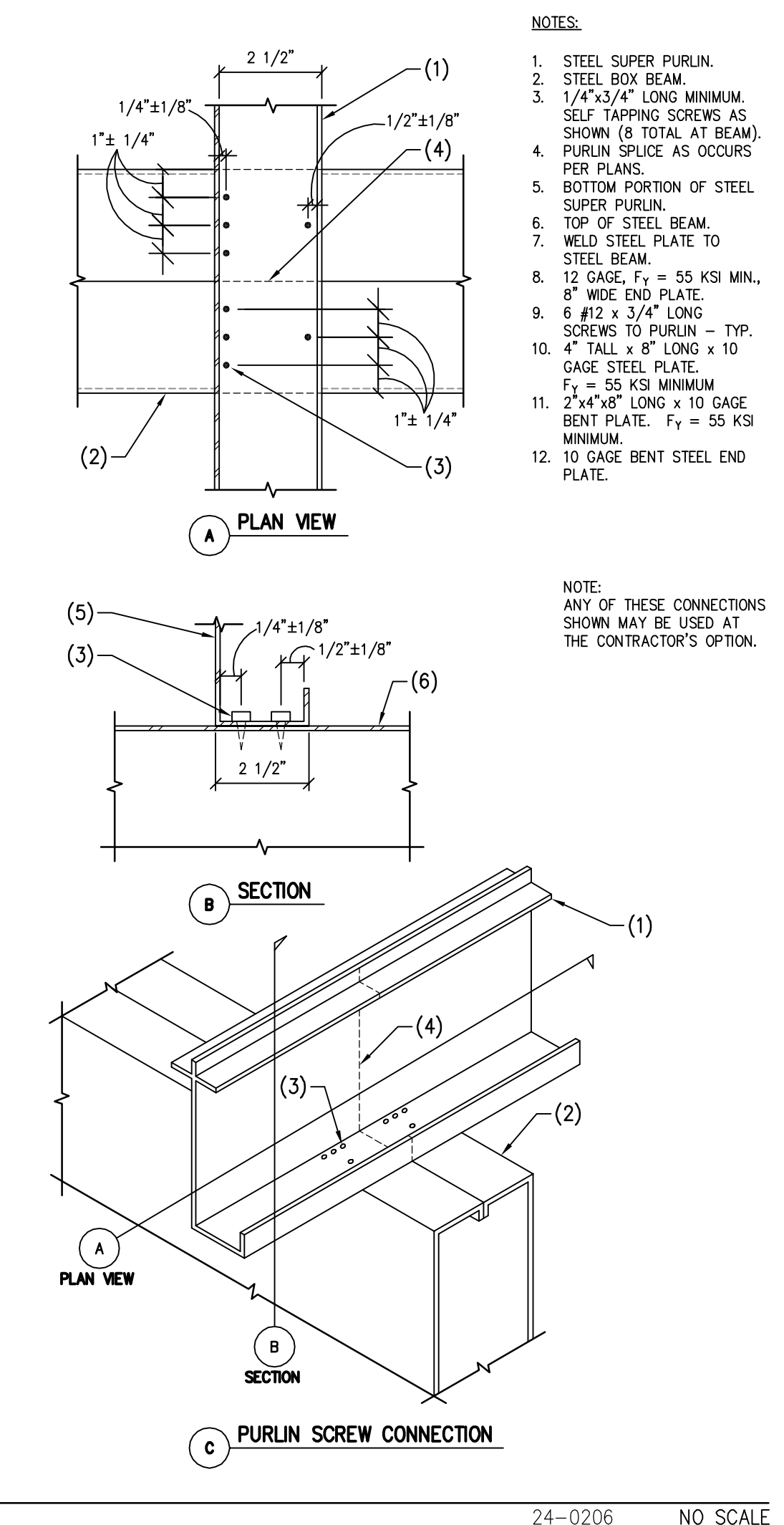
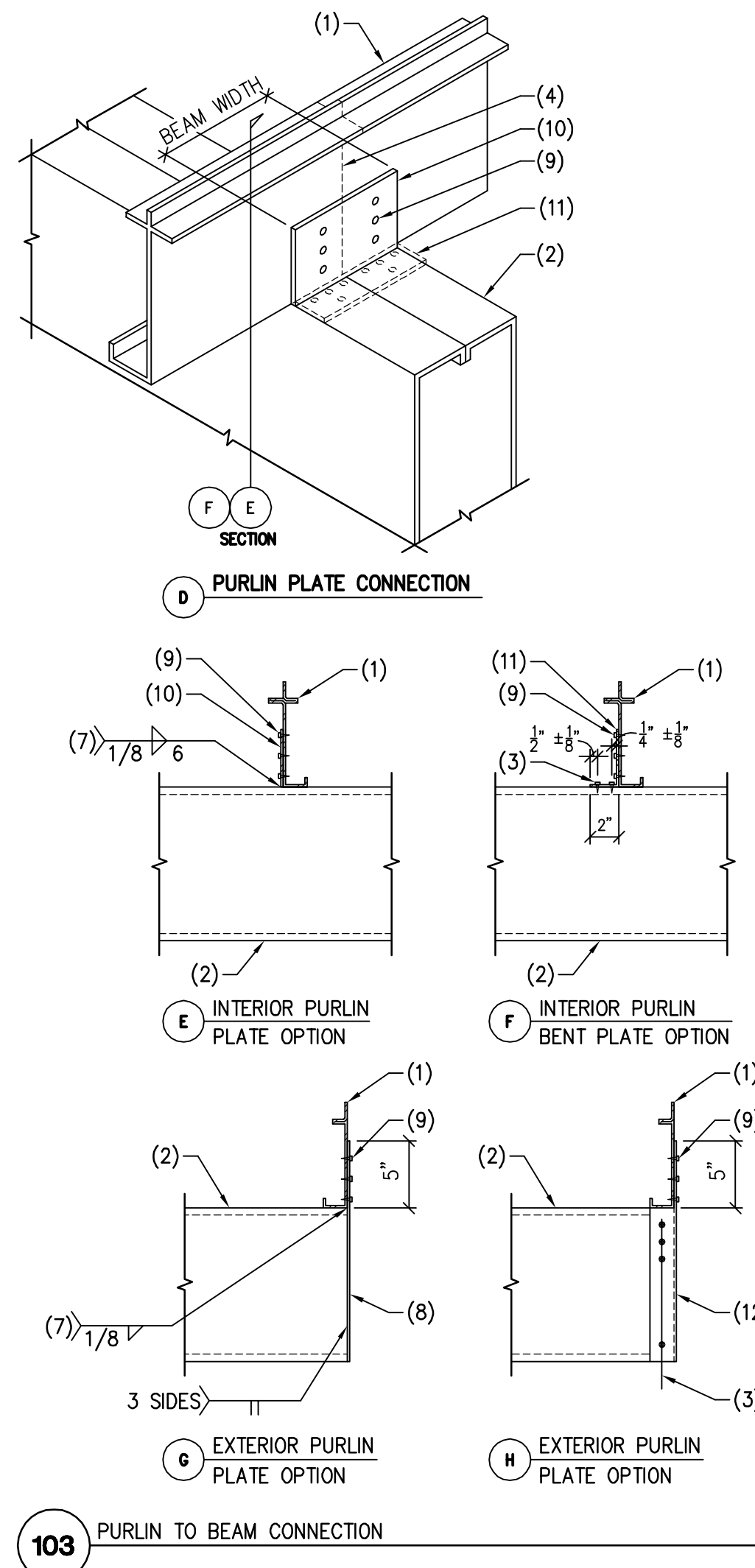
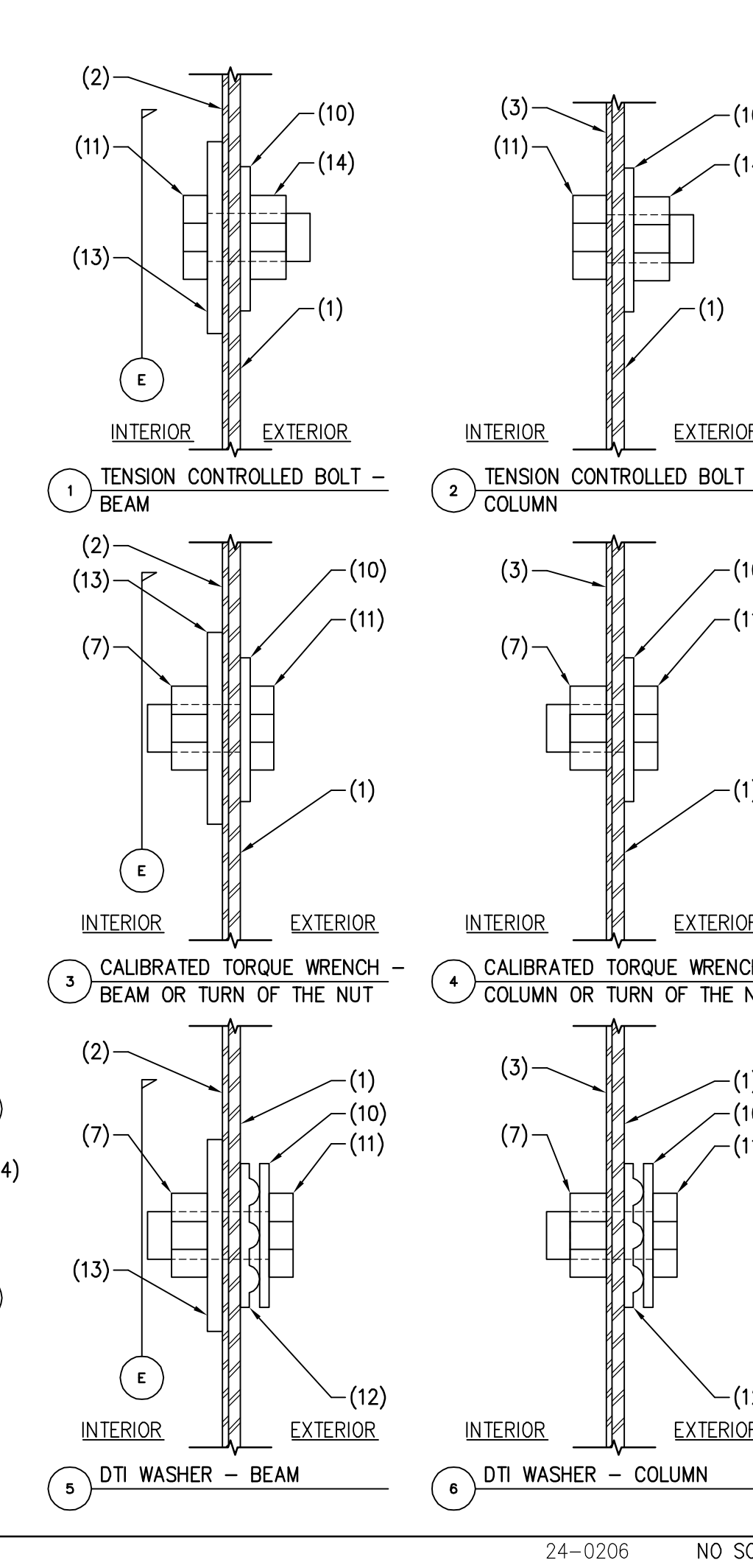
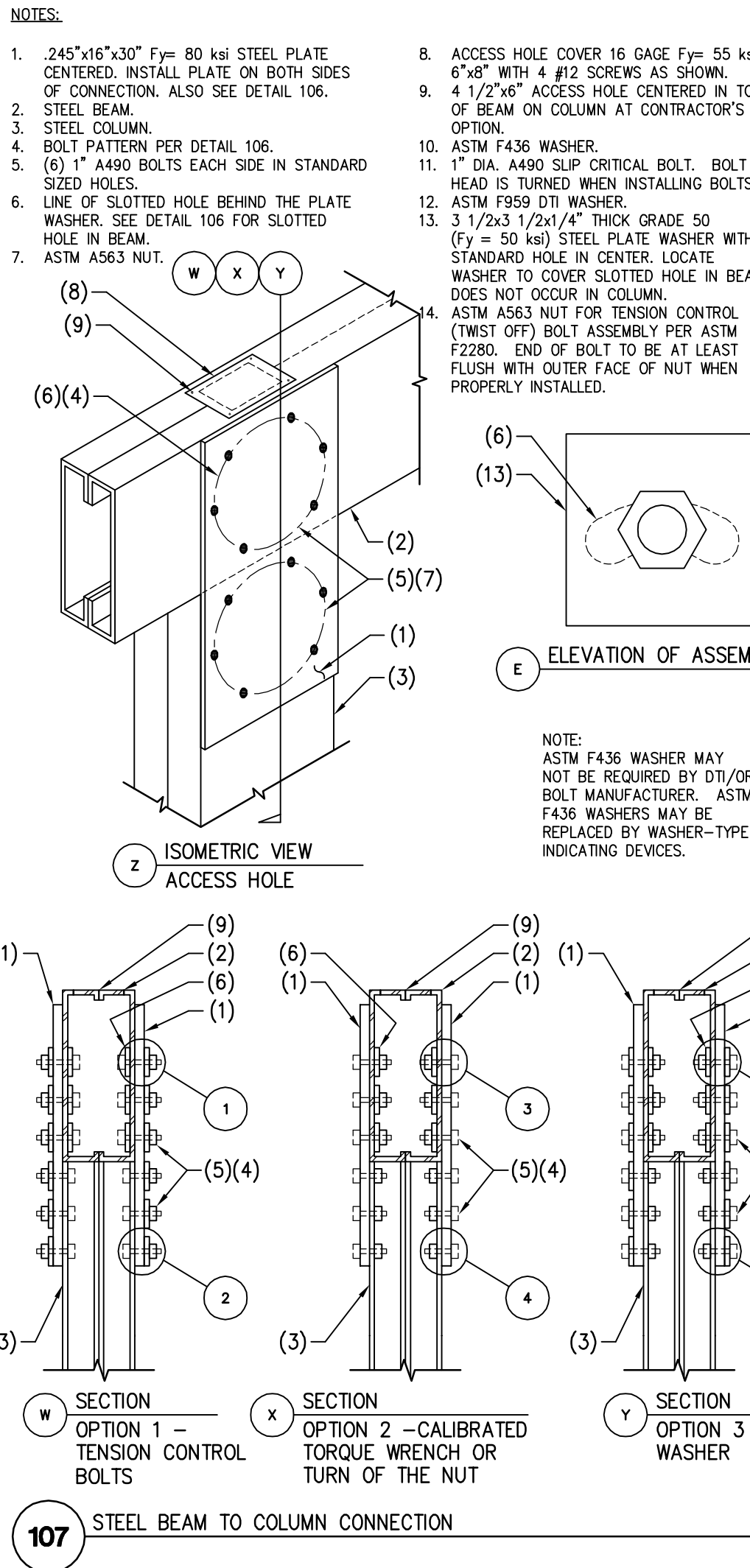
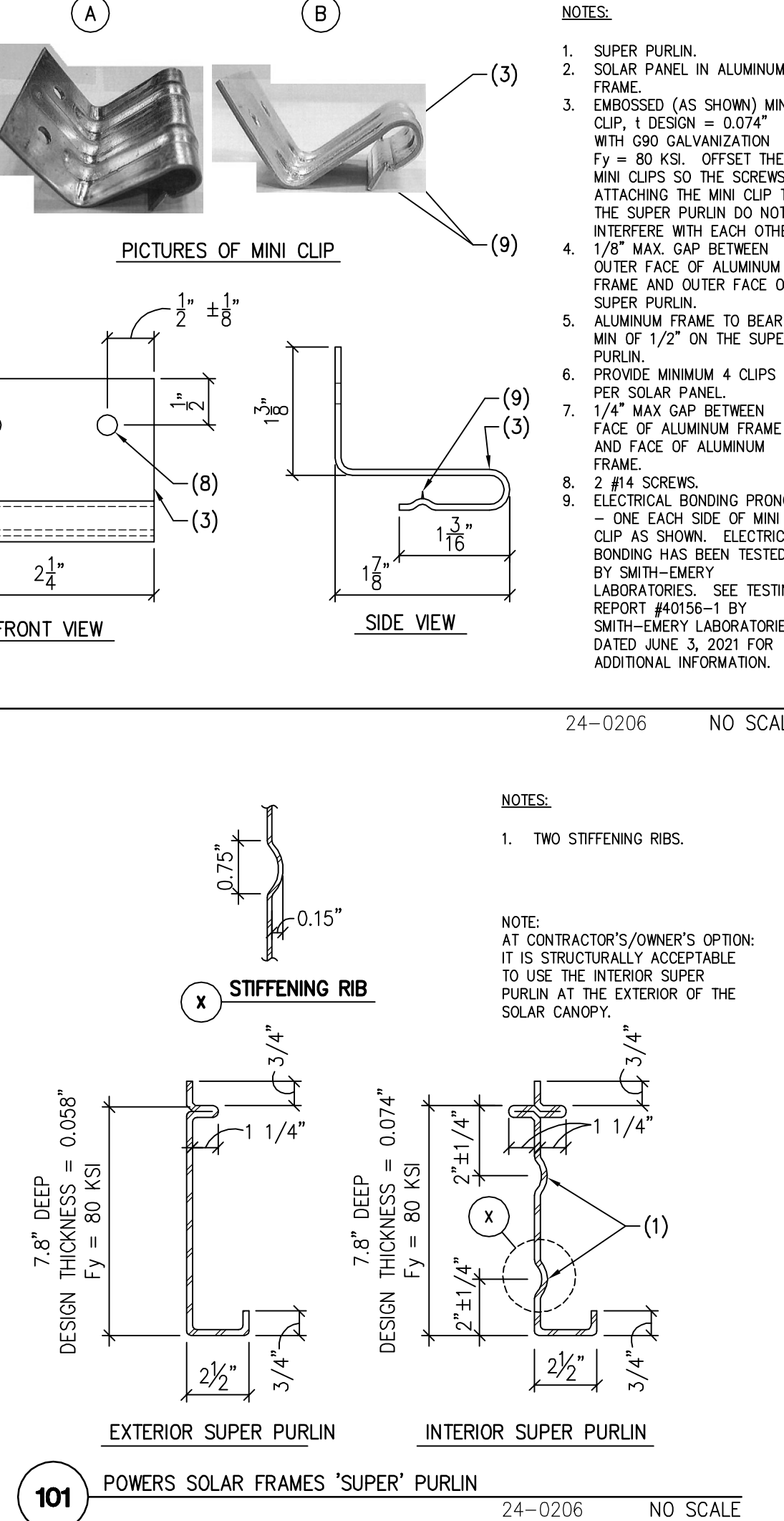
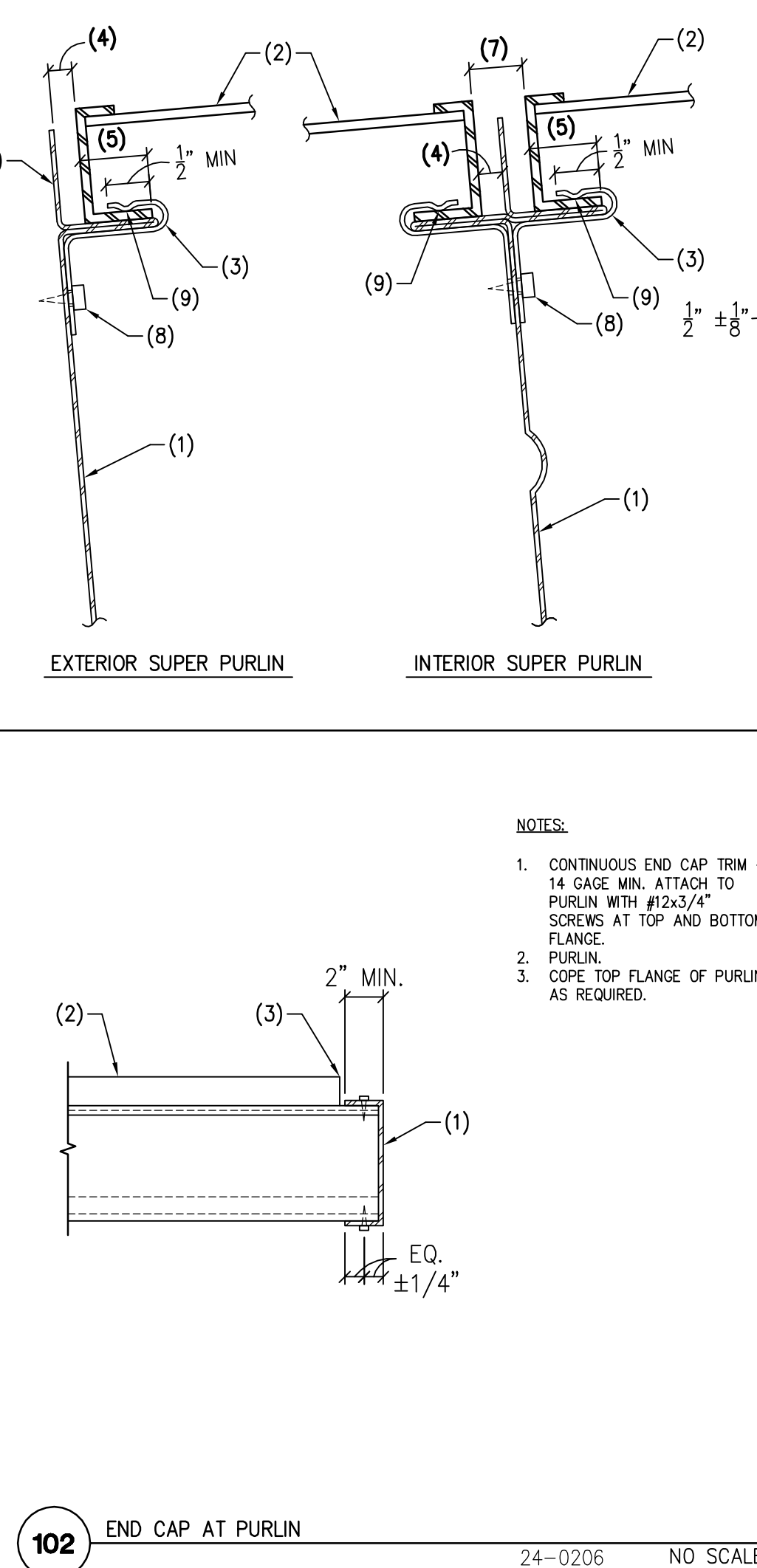
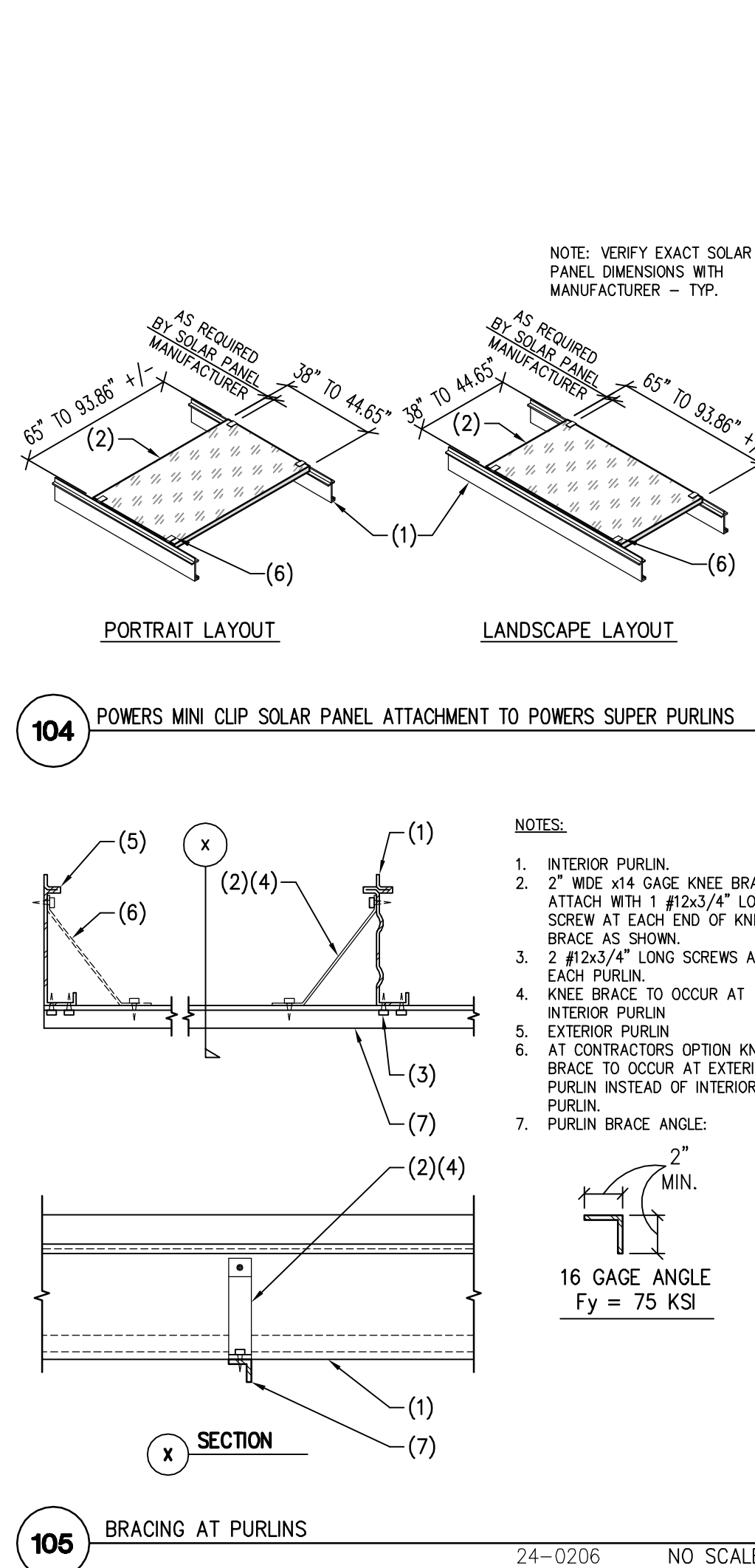
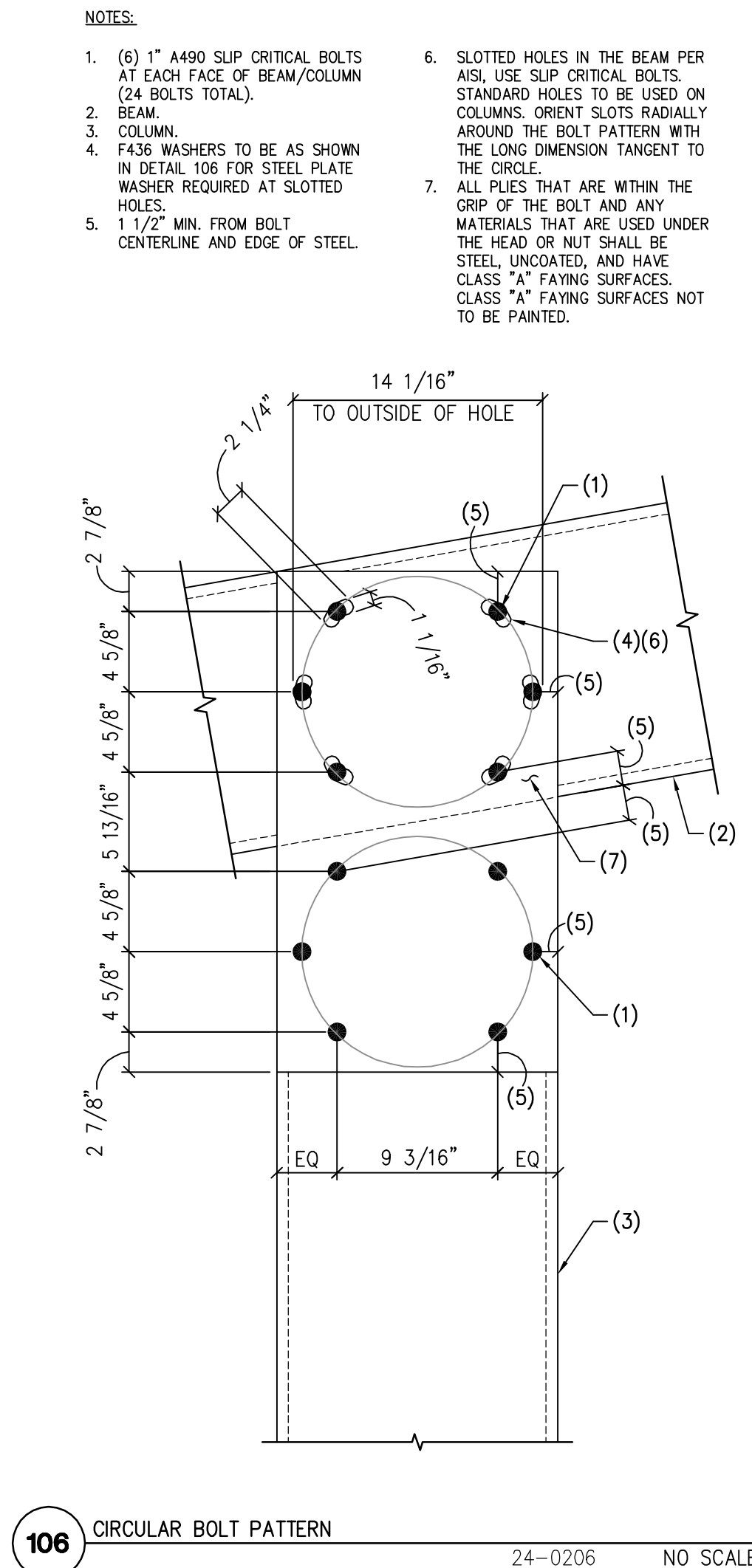
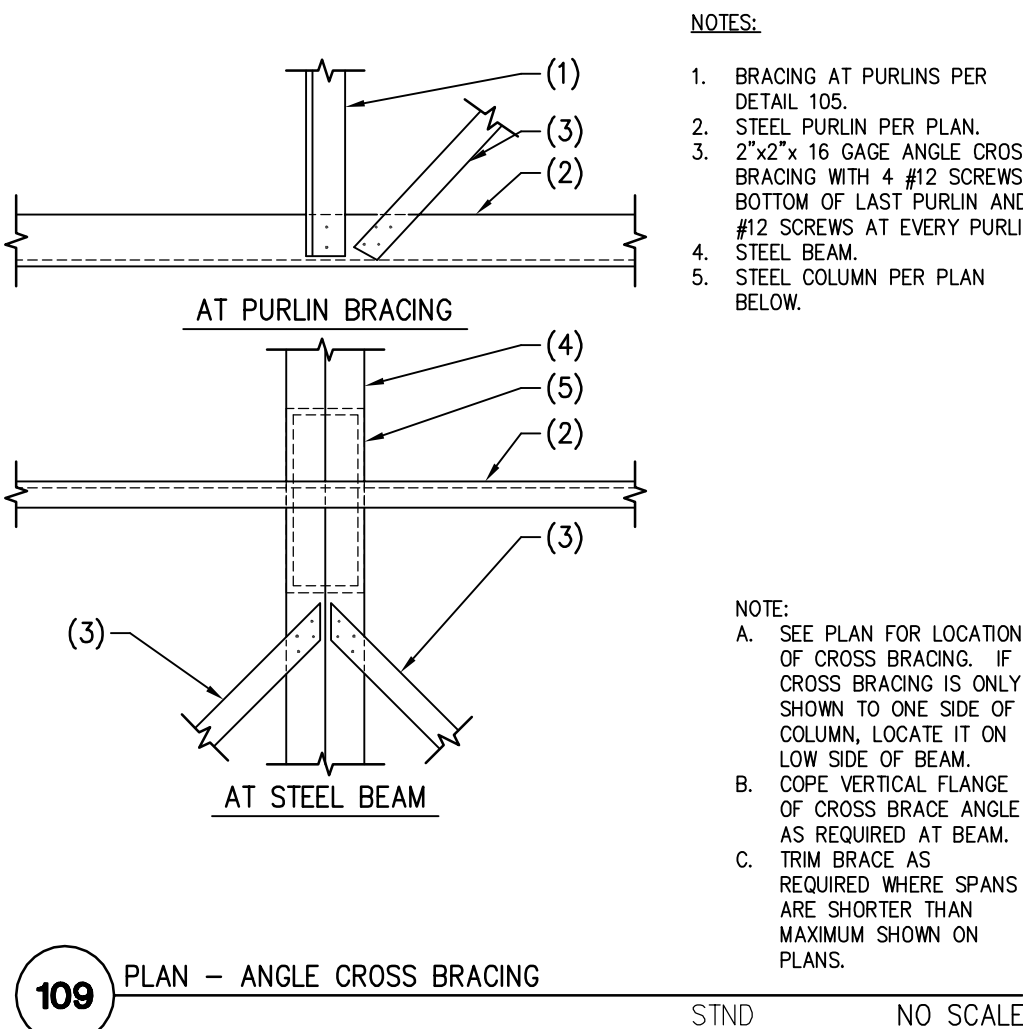
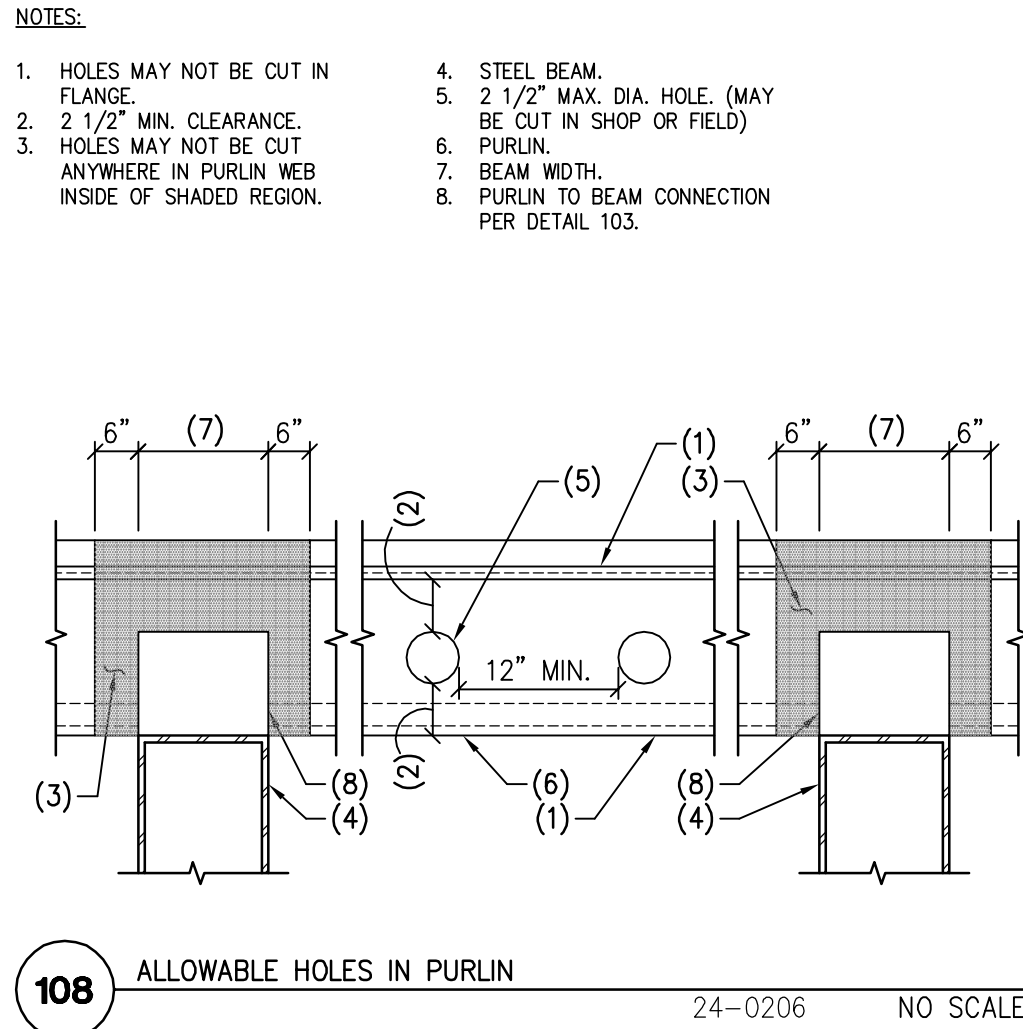
REQUIRED VERIFICATION AND INSPECTION OF STRUCTURAL STEEL CONSTRUCTION			
SPECIAL INSPECTION REQUIRED (YES/NO)	VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION	
		CONTINUOUS	PERIODIC
1. INSPECTION OF WELDING			
A) PRIOR TO WELDING AND DURING WELDING:			
Y	1. VERIFY WELDING PROCEDURES (WPS) AND CONSUMABLE CERTIFICATES	X	
Y	2. MATERIAL IDENTIFICATION (TYPE / GRADE)		X
Y	3. WELDER IDENTIFICATION - G.C. SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED		X
Y	4. FIT-UP GROOVE WELDS (INCLUDING JOINT GEOMETRY)-JOINT PREPARATIONS, DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL), CLEANLINESS (CONDITION OF STEEL SURFACES)		X
Y	5. FIT-UP OF FILLET WELDS - DIMENSIONS (ALIGNMENT, GAPS AT ROOT), CLEANLINESS (CONDITION OF STEEL SURFACES)		X
Y	6. USE OF QUALIFIED WELDERS		X
Y	7. CONTROL AND HANDLING OF WELDING CONSUMABLES - PACKAGING AND EXPOSURE CONTROL		X
Y	8. NO WELDING OVER CRACKED TACK WELDS		X
Y	9. ENVIRONMENTAL CONDITIONS - WIND SPEED WITHIN LIMITS, PRECIPITATION AND TEMPERATURE		X
Y	10. WPS FOLLOWED - SETTINGS ON WELDING EQUIPMENT, TRAVEL SPEED, SELECTED WELDING MATERIALS, WELDING GAS TYPE, WELD RATE, PREHEAT APPLIED, INTERPASS TEMPERATURE MAINTAINED (MIN/MAX), PROPER POSITIONS (F, V, H, OH)		X
Y	11. WELDING TECHNIQUES - INTERPASS AND FINAL CLEANING, EACH PASS WITHIN PROFILE LIMITATIONS, EACH PASS MEETS QUALITY REQUIREMENTS		X
B) AFTER WELDING:			
Y	1. WELDS CLEANED		X
Y	2. SIZE, LENGTH, AND LOCATION OF WELDS	X	
Y	3. WELDS MEET VISUAL ACCEPTANCE CRITERIA - CRACK PROHIBITION, WELDING METAL FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT, POROSITY	X	
Y	4. ARC STRIKES	X	
Y	5. K AREA	X	
Y	6. REPAIR ACTIVITIES	X	
Y	7. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT / MEMBER	X	
TABLE CONTINUED IN NEXT COLUMN			



NOTE:

- A. CONTRACTOR TO VERIFY ALL STEEL AND SOLAR PANEL DIMENSIONS, SPACING, ETC. PRIOR TO FABRICATION.
- B. CONTRACTOR TO ADJUST AND VERIFY COLUMN HEIGHT AS REQUIRED FOR SITE ELEVATION CHANGES TO MAINTAIN MINIMUM CLEAR HEIGHT AT ALL LOCATIONS PRIOR TO FABRICATION.
- C. PURLIN ORIENTATION TO BE INSTALLED AS SHOWN.
- D. CONTRACTOR AND/OR OWNER TO VERIFY SLOPE DIRECTION IS PER PROJECT'S REQUIREMENTS. SLOPE DIRECTION IS THE DIRECTION THE PANELS ARE SLOPED TOWARDS ON THE SITE. THESE DRAWINGS ARE NOT INTENDED TO SPECIFY THE SLOPE DIRECTION OF THE STRUCTURE(S).

NOTE:
THE SOLAR PANEL SIZE USED TO DETERMINE THE DIMENSIONS SHOWN ON THIS DRAWING IS 7'-9 7/8" (93.86") x 3'-8 11/16" (44.65").
THE BEAM LENGTHS NEED TO BE REVISED IF SOLAR PANELS OF DIFFERENT SIZES ARE USED, IF THE BEAMS GET LONGER, THE STRUCTURAL ENGINEER MUST CHECK THE BEAM, COLUMN AND FOOTING SIZES. IF THE BEAMS GET SHORTER, NO RECALCULATION IS REQUIRED.



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SEAL:

STEEL CANOPY STRUCTURE
GIBSON HEALTH HUB SOLAR CARPORTS
5400 GIBSON BLVD SE
ALBUQUERQUE, NEW MEXICO 87108

STRUCTURAL DETAILS

REVISIONS:

JOB NUMBER:	24-0206
DRAWN:	NCR
ENGINEER:	SPT
CHECKED:	DEE
SCALE:	AS NOTED
DATE:	04.18.2024
SHEET:	S4

THESE DRAWINGS/CALCULATIONS ARE CONSIDERED PRELIMINARY - NOT FOR CONSTRUCTION OR RECORDING UNLESS THE STRUCTURAL ENGINEER OF RECORD'S SEAL IS AFFIXED WITH WRITTEN SIGNATURE.