ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ARCH	ARCHITECT OR ARCHITECTURAL
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN STANDARDS FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BM	BEAM
B.O.	BOTTOM OF
BRG	BEARING
CL	CENTERLINE
DOWN	
DNR	DEPARTMENT OF NATURAL RESOURCES
DWGS	DRAWINGS
E.F., E/F	EACH FACE
ELECT	ELECTRICAL
ELEV	ELEVATION
E.W., E/W	EACH WAY
EX., EXIST.	EXISTING
EXP	EXPANSION
HI	HIGH
HORIZ	HORIZONTAL
IBC	INTERNATIONAL BUILDING CODE
I.F., I/F	INSIDE FACE
KIPS	KILOPOUNDS
LLV	LONG LEG VERTICAL
LLH	LONG LEG HORIZONTAL
LO	LOW
MAS	MASONRY
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MPH	MILES PER HOUR
NCMA	NATIONAL CONCRETE MASONRY ASSOCIATION
O.C.	ON CENTER
OSHA	OCCUPATION SAFETY AND HEALTH ADMINISTRATION
PL, PLS	PLATE(S)
PCI	PRESTRESSED CONCRETE INSTITUTE
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
P.E.M.B.	PRE-ENGINEERED METAL BUILDING
SDI	STEEL DECK INSTITUTE
SIM	SIMILAR
SJI	STEEL JOIST INSTITUTE
STRUCT	STRUCTURAL
T.O.	TOP OF
TPI	TRUSS PLATE INSTITUTE
TYP	TYPICAL (SITUATION OCCURS REPEATEDLY)
U.N.O.	UNLESS NOTED OTHERWISE
U.O.N.	UNLESS OTHERWISE NOTED
V., VERT.	VERTICAL
V.I.F.	VERIFY IN FIELD

GENERAL CONDITIONS:

1. IF ANY GENERAL NOTE CONFLICTS WITH ANY DETAIL OR NOTE ON THE PLANS OR IN THE SPECIFICATIONS, THE STRICTEST PROVISION SHALL GOVERN.
2. THE STRUCTURAL DRAWINGS ARE FOR THE PLACEMENT AND SIZE OF STRUCTURAL COMPONENTS ONLY. REQUIREMENTS MADE BY OSHA, DNR, AND ALL APPLICABLE SAFETY CODES ARE TO BE DETERMINED AND PROVIDED BY THE CONTRACTOR.
3. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER IT IS FULLY COMPLETED ACCORDING TO THE PLANS AND SPECIFICATIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE CONSTRUCTION/ERECTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES PROVIDING TEMPORARY BRACING, SHORING, GUYS OR TIE-DOWNS. THESE TEMPORARY SUPPORTS SHALL REMAIN IN PLACE UNTIL ALL STRUCTURAL COMPONENTS ARE IN PLACE AND COMPLETED AS THE STRUCTURAL MEMBERS OR SYSTEMS ARE NOT SELF-BRACING UNTIL PERMANENTLY CONNECTED TO THE STRUCTURE.
4. DEFERRED SUBMITTALS

   COMPONENTS OF THE PROJECT DESIGNED BY THE CONTRACTOR'S SPECIALTY ENGINEER WHICH REQUIRE PRODUCT OR SYSTEM ENGINEERING, SEALED SHOP DRAWINGS AND CALCULATIONS TO BE SUBMITTED FOR REVIEW BY THE DESIGN PROFESSIONAL OF RECORD AND TO THE BUILDING OFFICIAL ARE AS FOLLOWS:
   - COLD-FORMED METAL FRAMING
   - PRECAST CONCRETE FRAMING PRODUCTS
   - CURTAIN WALL SYSTEMS
   - PRE-ENGINEERED CANOPIES
5. THE ARCHITECT AND STRUCTURAL ENGINEER ASSUME NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION. AS SUCH, THE MEANS AND METHODS OF CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR(S).
6. USE OF ENGINEERING DRAWINGS AS ERECTION DRAWINGS BY THE CONTRACTOR IS EXPRESSLY PROHIBITED.
7. DIMENSIONS ON STRUCTURAL DRAWINGS ARE TO BE CHECKED AGAINST ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AS WELL AS AGAINST EXISTING FIELD CONDITIONS BY THE CONTRACTOR.
8. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION AND PLACEMENT OF INSERTS, HANGERS, SLEEVES, DUCTWORK, PADS AND ANCHOR RODS THAT ARE REQUIRED BY MECHANICAL EQUIPMENT.
9. SHOP DRAWING SUBMITTALS

   SHOP DRAWINGS, FABRICATION DETAILS, PRODUCT LITERATURE AND CERTIFICATES SHALL BE SUBMITTED BEARING THE CONTRACTOR'S REVIEW STAMP FOR THE FOLLOWING STRUCTURAL SYSTEMS. FAILURE OF THE CONTRACTOR TO REVIEW AND STAMP SUBMITTALS PRIOR TO FORWARDING THEM TO THE DESIGN PROFESSIONAL(S) FOR REVIEW SHALL CONSTITUTE GROUNDS FOR REJECTION. USE OF THESE ENGINEERING DRAWINGS, PLANS OR DETAILS USED AS ERECTION PLANS OR SHOP DRAWINGS BY THE CONTRACTOR IS EXPRESSLY PROHIBITED. SUBMITTALS BEARING IMAGES ELECTRONICALLY COPIED FROM THE ENGINEERING DRAWINGS WILL BE REJECTED.
   - CONCRETE COMPONENTS, MIX DESIGNS AND CONCRETE REINFORCEMENT
   - PRECAST CONCRETE FRAMING PRODUCTS
   - MASONRY COMPONENTS AND REINFORCEMENT
   - STRUCTURAL STEEL, METAL DECK AND METAL FABRICATIONS
   - OPEN WEB / LONG-SPAN JOISTS AND JOIST GIRDERS INCLUDING CHORD AND WEB MEMBER GEOMETRY
   - COLD-FORMED METAL FRAMING
   - CURTAIN WALL SYSTEMS
   - PRE-ENGINEERED CANOPIES
   - HANDRAILS AND GUARDRAILS

REQUIRED INSPECTIONS

COORDINATE CONSTRUCTION SCHEDULE WITH OWNER'S QUALITY INSPECTOR WITH ADEQUATE NOTICE PROVIDED IN ORDER TO ALLOW THE FOLLOWING INSPECTIONS. SEE PROJECT MANUAL AND REFERENCED CODES FOR SPECIFIC INSPECTION AND TESTING REQUIREMENTS.

- SOIL BEARING CAPACITY
- SUB-GRADE PREPARATION AND FILL COMPACTION
- CONCRETE
- PRECAST CONCRETE FRAMING PRODUCTS
- MASONRY
- WELDING AND HIGH STRENGTH BOLTING
- ROOF AND FLOOR DIAPHRAGM (METAL DECK) CONNECTIONS

DESIGN LOADS

DESIGN CRITERIA PER 2015 MICHIGAN BUILDING CODE AND ASCE 7-16 LOAD STANDARD

BUILDING OCCUPANCY CATEGORY (1604.5): CATEGORY II

ROOF LIVE LOAD (1603.1.1): MINIMUM 20 PSF

FLOOR LIVE LOAD (1603.1.1):
1. LIGHT STORAGE, Pg = 125 PSF
2. STAIRS, Pg = 100 PSF

ROOF SNOW LOAD (1603.1.3 & 1608):
1. GROUND SNOW LOAD, Pg = 30 PSF
2. EXPOSURE, C
3. FLAT ROOF SNOW LOAD, Pf = 21 PSF
4. SNOW EXPOSURE FACTOR, Ce = 1 . 0
5. SNOW LOAD IMPORTANCE FACTOR, Is = 1 . 0
6. THERMAL FACTOR, Ct = 1 . 0

WIND LOAD: BASED ON ACSE 7-16 (1603.1.4 & 1609):
1. BASIC WIND SPEED = 107 MPH
2. WIND EXPOSURE = C
3. INTERNAL PRESSURE COEFFICIENT = +/- 0 .55
4. MWFRS PEAK VELOCITY PRESSURE = 23.33 PSF
5. ULTIMATE COMPONENTS AND CLADDING PRESSURE:
   - 5.1. ROOF (100 S.F.) = -42.9 PSF (ZONE 1)
   - 5.2. ROOF (100 S.F.) = -54.1 PSF (ZONE 2)
   - 5.3. ROOF (100 S.F.) = -54.1 PSF (ZONE 3)
   - 5.4. WALLS (50 S.F.) = -31.2 PSF (ZONE 4)
   - 5.5. WALLS (50 S.F.) = -31.2 PSF (ZONE 5)

EARTHQUAKE DESIGN DATA (1603.3.1.5 & 1613):
1. SEISMIC IMPORTANCE FACTOR, Ie = 1. 00
2. MAPPED SPECTRAL RESPONSE ACCELERATIONS
   Ss = 0. 093 g
   S1 = 0. 046 g
3. SITE CLASS = D
4. SPECTRAL RESPONSE COEFFICIENTS
   SDs = 0. 099 g
   SD1 = 0. 074 g
5. SEISMIC DESIGN CATEGORY = B
6. BASIC SEISMIC-FORCE-RESISTING SYSTEMS:
   ORDINARY PRECAST CONCRETE SHEAR WALLS
7. SEISMIC RESPONSE COEFFICIENTS (Cs):
   PRECAST CONCRETE SHEAR WALL - 0. 0331
8. RESPONSE MODIFICATION FACTOR (R):
   PRECAST CONCRETE SHEAR WALL - 3
9. DESIGN BASE SHEAR
   BUILDING A.4: 109.9 KIPS
   BUILDING A.5, A.6: 62.4 KIPS
   BUILDING A.7, A.8 (BURLINGTON): 37.7 KIPS
   BUILDING A.9: 62.2 KIPS
10. ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PER ASCE 7, SECTION 12.8

FLOOD DESIGN DATA (1603.1.6):
1. THIS STRUCTURE IS NOT LOCATED IN A FLOOD HAZARD AREA.

SPECIAL LOADS (1603.1.7):
1. REFER TO ROOF FRAMING PLANS FOR MECHANICAL EQUIPMENT LOADS.

SYSTEM AND COMPONENTS FOR SEISMIC RESISTANCE (1603.1.8):
1. BY ITS SEISMIC DESIGN CATEGORY B, THIS STRUCTURE HAS NO REQUIREMENT FOR SYSTEMS AND COMPONENTS REQUIRING SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.

03 00 01 - FOUNDATIONS

1. FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED SOIL OR ENGINEERED FILL WITH AN ASSUMED SAFE ALLOWABLE NET SOIL PRESSURE OF 1,500 PSF IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY PEA, INC., PROJECT No. 2019-422 (DATED FEBRUARY 19, 2020). IF SOIL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATIONS INDICATED, FOOTINGS SHALL BE ENLARGED OR LOWERED AT THE DIRECTION OF THE ARCHITECT/ENGINEER.
2. UNLESS OTHERWISE NOTED OR DETAILED, ALL FOUNDATIONS SHALL BE LOCATED SUCH THAT THE CENTERLINE OF FOOTING IS ALSO THE CENTERLINE OF COLUMN.
3. PREPARATION OF THE SITE, BUILDING FOOTPRINT AND SLAB SUB-BASE SHALL PROCEED IN COMPLIANCE WITH LOCAL CODES AND THE PROJECT SOILS REPORT IDENTIFIED ABOVE. UNLESS OTHERWISE NOTED OR SPECIFIED, ALL FILL UNDER FLOOR SLABS AND BEHIND FOUNDATION WALLS SHALL BE COMPACTED WITH VIBRATORS, COMPACTORS, ETC. TO 95% MAXIMUM DENSITY (MODIFIED PROCTOR) AT OPTIMUM MOISTURE CONTENT.
4. PROVIDE NECESSARY SHEETING, SHORING, FORMING OR BRACING, ETC., DURING EXCAVATION AS REQUIRED TO PROTECT SIDES OF EXCAVATIONS OR AS REQUIRED TO COMPLY WITH SAFETY REGULATIONS. DO NOT BACKFILL BEHIND BASEMENT WALLS UNTIL FLOOR FRAMING OR TEMPORARY BRACING IS IN PLACE.
5. THIS TRADE SHALL PROVIDE PUMPS, WELL POINTS, OR OTHER SYSTEMS AS REQUIRED BY THE CONDITIONS IDENTIFIED IN THE PROJECT SOILS REPORT. PUMPS SHALL BE OPERATED AS REQUIRED TO ACCOMPLISH THE ABOVE, ON A 24-HOUR BASIS, IF NECESSARY. UNDER NO CONDITION SHALL WATER BE ALLOWED TO WASH OVER FRESHLY PLACED CONCRETE.
6. ALL BOTTOM OF FOOTING TRANSITIONS SHALL BE MADE USING STEPS AS SHOWN IN TYPICAL FOOTING STEP DETAIL. WHERE NEW FOOTINGS ABUT EXISTING FOUNDATIONS, CAREFULLY HAND EXCAVATE AND PLACE BOTTOM OF NEW FOOTING AT THE SAME ELEVATION AS THE EXISTING.

03 00 02 - CONCRETE

1. THE CONCRETE PORTIONS OF THIS STRUCTURE ARE DESIGNED ACCORDING TO THE LATEST ULTIMATE STRENGTH DESIGN PROVISIONS OF THE AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY (ACI 318) INCLUDING SECTIONS 1902 THRU 1908 OF CHAPTER 19 IN THE INTERNATIONAL BUILDING CODE. CONCRETE COMPONENTS HAVE BEEN DESIGNED ACCORDING TO THE PROVISIONS FOR SEISMIC DESIGN CATEGORY C.
2. ALL CONCRETE SHALL BE NORMAL WEIGHT (150 PCF). MINIMUM CONCRETE STRENGTH SHALL BE f'c = 3,000 PSI MIN. AT 28 DAYS, UNLESS NOTED OTHERWISE; SUPPORTED SLABS AND SLABS ON GRADE SHALL BE f'c=3500 PSI MIN. UNLESS NOTED OTHERWISE. PROVIDE f'c = 4,000 PSI WITH 6% +/- 1% ENTRAINED AIR WHERE CONCRETE IS EXPOSED TO EXTERIOR ATMOSPHERE OR WEATHER.
3. ALL CONCRETE SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150. AGGREGATE SHALL CONFORM TO ASTM C33.
4. ADMIXTURES SHALL BE USED TO FACILITATE CONCRETE PLACEMENT, AID DIFFICULT PLACING CONDITIONS OR ASSIST IN ATTAINING SPECIFIED CONCRETE QUALITIES. ADMIXTURES SHALL HAVE LESS THAN 0.05 PERCENT CHLORIDE IONS.

   AIR ENTRAINMENT PER ASTM C260
   WATER REDUCER PER ASTM C494, TYPE A
   WATER REDUCER/ACCELERATOR PER ASTM C494, TYPE C OR E
   WATER REDUCER/RETARDER PER ASTM C494, TYPE B OR TYPE D
   SUPER-PLASTICIZER PER ASTM C494, TYPE F OR G
5. CONCRETE MIXES SHALL BE PROPORTIONED PER SECTION 3.9 OF ACI-301. CERTIFIED HISTORICAL TEST DATA SHALL SERVE AS A BASIS FOR EACH MIX DESIGN. DEVIATIONS SHALL BE SUBSTANTIATED WITH ADDITIONAL CERTIFIED TRIAL MIX TESTING AND RESULTS. SUBMIT MIX DESIGN, HISTORICAL TEST DATA OR TRIAL MIX RESULTS FOR APPROVAL PRIOR TO PROCEEDING WITH THE WORK. WHERE HISTORICAL TEST DATA IS NON-EXISTENT THE FOLLOWING GUIDELINES SHALL APPLY:

TYPE	COMPRESSIVE STRENGTH, fc (28 DAY, PSI)	CEMENT CONTENT (LBS/C.Y.)	WATER / CEMENT RATIO (BY WEIGHT)	SLUMP
STANDARD, NORMAL WT.	3,000 MIN.	470 MIN.	0.52 MAX.	4" MAX
STANDARD, NORMAL WT.	3,500 MIN.	517 MIN.	0.50 MAX	4" MAX.
AIR ENTR., NORMAL WT.	4,000 MIN.	564 MIN.	0.40 MAX	4" MAX
STANDARD, LIGHT WT.	3,500 MIN.	564 MIN.	0.44 MAX.	SEE SPEC.

6. ALL CONCRETE WORK AND PLACEMENT SHALL CONFORM TO THE LATEST ACI STANDARDS AND RECOMMENDATIONS. FREE FALL SHALL NOT EXCEED 10 FEET FOR ALL CONCRETE CONTAINING HIGH-RANGE WATER REDUCER (SUPER-PLASTICIZER) AND 5 FEET FOR ALL OTHER CONCRETE. PROVIDE ELEPHANT TRUNK, TREMIES OR OTHER PLACING EQUIPMENT OR OPENINGS IN SIDES OF FORMS AS REQUIRED TO LIMIT FREE FALL.
7. ALL REINFORCING BARS, DOWELS AND TIES SHALL CONFORM TO ASTM A615, GRADE 60. ALL REINFORCING STEEL SHALL BE CONTINUOUS AND SHALL HAVE 36 BAR DIAMETER LAP (MIN.) AND SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315 AND ACI 318, LATEST EDITION. HOOK ALL BEAM BARS AT DISCONTINUOUS ENDS.
8. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 FURNISHED IN FLAT MATS OR SHEETS, NOT IN ROLLS. PROVIDE MINIMUM 8" LAP BETWEEN SHEETS. ALL SLAB REINFORCING SHALL BE SUPPORTED ON SAND CHAIRS.
9. ALL COLUMN REINFORCING SPLICES SHALL BE 24 BAR DIAMETERS. ALL COLUMN/PIER OR WALL DOWELS SHALL BE 48 DIAMETERS LONG USING THE SAME SIZE AND QUANTITY AS THE VERTICAL COLUMN/PIER OR WALL BARS. PROVIDE HOOKS AS REQUIRED FOR PLACEMENT.
10. REINFORCED CONCRETE WALLS AND WALL FOOTINGS SHALL HAVE CORNER BARS AT EACH INTERSECTION OF THE SAME SIZE AND SPACING AS THE MAIN HORIZONTAL REINFORCING. LAPS SHALL BE MINIMUM 30 BAR DIAMETERS. PROVIDE 2-#5 BARS TOP AND BOTTOM AND EACH SIDE OF ALL OPENINGS AND 2-#5 x 4'-0" DIAGONAL BARS AT CORNERS OF OPENINGS. PROVIDE 2-#5 BARS TOP AND BOTTOM IN SLABS AT ALL RE-ENTRANT (INSIDE) CORNERS.
11. ALL EXPOSED CONCRETE CORNERS AND EDGES SHALL BE CHAMFERED 3/4".

03 40 00 PRECAST CONCRETE FRAMING PRODUCTS:

1. PRECAST CONCRETE WALL PANELS SHALL BE DESIGNED BY THE PRECAST CONCRETE PRODUCT SUPPLIER. SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED BY AND SUBMITTED BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN. AS A MINIMUM, THE LOADING GIVEN BELOW SHALL BE USED. ADDITIONAL LOADING OR LOAD COMBINATIONS IF REQUIRED BY CODE SHALL BE DETERMINED AND IMPLEMENTED BY THE PRECAST CONCRETE DESIGNER.

2. THE PRECAST CONCRETE PRODUCT SUPPLIER SHALL BE A MEMBER OF THE PRESTRESSED CONCRETE INSTITUTE (PCI). THE DESIGN AND MANUFACTURE OF ALL PRECAST CONCRETE PRODUCTS SHALL CONFORM TO ALL PROVISIONS OF THE "PCI DESIGN HANDBOOK" AND TO THE LATEST ACI STANDARDS AND GUIDELINES.

3. THE PRECAST CONCRETE SUPPLIER SHALL COORDINATE THE SIZE, LOAD AND LOCATION OF ALL MECHANICAL UNITS WITH THE GENERAL AND MECHANICAL CONTRACTORS.

4. THE PRECAST CONCRETE SUPPLIER SHALL COORDINATE THE LOCATION OF ALL FRAMING MEMBERS TO BE CARRIED BY THE PRECAST CONCRETE UNITS, INCLUDING THE LOCATION OF EMBEDDED PLATES, ANCHORS, TEMPORARY BEAMS, COLUMNS, ETC.

5. ALL HOLES IN PRECAST CONCRETE WALL PANELS ARE TO BE CORE DRILLED. PROVIDE THE THE LOCATION OF ALL REQUIRED HOLES TO THE PRECAST CONCRETE SUPPLIER TO CONFIRM STRUCTURAL ADEQUACY.

6. DESIGN LOADS
   ROOF DEAD: 25 PSF
   ROOF LIVE: SEE ABOVE
   TOTAL: AS A MINIMUM REFER TO SCHEDULE ON SHEET S-104, S-105, AND S-106
   SEISMIC: SEE ABOVE
   MAIN WINDFORCE RESISTING SYSTEM WIND: SEE ABOVE
   (AS A MINIMUM, WIND PARALLEL TO THE WALL SHALL BE AS SCHEDULED ON SHEET S-104, S-105, AND S-106)
   COMPONENTS AND CLADDING WIND LOAD :
   PER CURRENT MICHIGAN BUILDING CODE WITH BASIC WIND SPEED = SEE ABOVE
   (AS A MINIMUM, WIND PERPENDICULAR TO THE WALL SHALL NOT BE LESS THAN = 29.5 PSF)
   PRECAST WALL PANEL SELF WEIGHT LIMIT = LESS THAN OR EQUAL TO 80 PSF
   DEFLECTION LIMITATIONS: SPAN/360

05 00 01 - STRUCTURAL STEEL

1. THE STRUCTURAL STEEL PORTIONS OF THIS STRUCTURE ARE DESIGNED ACCORDING TO THE ALLOWABLE STRESS DESIGN PROVISIONS OF THE 9TH EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION, THE LOAD AND RESISTANCE FACTOR DESIGN PROVISIONS OF THE 2ND EDITION AISC MANUAL OF STEEL CONSTRUCTION INCLUDING CHAPTER 22 IN THE CURRENT BUILDING CODE. STEEL COMPONENTS HAVE BEEN DESIGNED ACCORDING TO THE PROVISIONS FOR SEISMIC DESIGN CATEGORY B. COMPLECTION ALLOWANCE SHALL BE CREDITED TO THE OWNER.
2. STEEL DETAILING, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS FOR "STRUCTURAL STEEL BUILDINGS".
3. ALL STRUCTURAL STEEL SHALL CONFORM TO THE LATEST ASTM SPECIFICATIONS ACCORDING TO THE FOLLOWING SERIAL DESIGNATIONS BY SHAPE:
   - WIDE FLANGES: A992 OR ASTM A572, Fy=50 KSI
   - ANGLES, TEES, BARS AND PLATES: A36
   - SQUARE OR RECTANGULAR HOLLOW

     STRUCTURAL SHAPES OR TUBES: ASTM A500, GR. B, Fy=46 KSI
   - ROUND HOLLOW STRUCTURAL SHAPES OR PIPES: ASTM A53;
   - GRADE B, Fy=35 KSI
4. ALL WELDED CONNECTIONS SHALL CONFORM TO THE LATEST AWS CODE, USING E7OXX ELECTRODES, WITH WELDING PERFORMED BY QUALIFIED WELDERS.
5. BOLTED CONNECTIONS SHALL BE MADE WITH A325-N OR A490-N BOLTS. LOCATIONS OF SLIP CRITICAL CONNECTIONS SHALL BE AS NOTED ON THE DRAWINGS, IF REQUIRED. ALL BOLTS ARE TO BE INSTALLED IN ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS FOR "STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
6. THE DESIGN, CONFIGURATION, ERECTION SAFETY AND SEQUENCING OF ALL STRUCTURAL STEEL CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE STRUCTURAL STEEL FABRICATOR. REVIEW AND ACCEPTANCE OF THE SHOP DRAWINGS BY THE ENGINEER SHALL CONSTITUTE APPROVAL OF THE LOAD CARRYING ADEQUACY ONLY.
7. CONNECTIONS SHALL BE DESIGNED FOR ONE-HALF THE TOTAL ALLOWABLE UNIFORM LOAD (MIN.) PER AISC BEAM LOAD TABLES, UNLESS NOTED OTHERWISE.
8. TEMPORARY ERECTION SEATS SHALL BE PROVIDED AS RECOMMENDED ON PAGE 3-59 OF THE LATEST EDITION AISC PUBLICATION "ENGINEERING FOR STEEL CONSTRUCTION".
9. ALL STEEL LINTELS IN EXTERIOR MASONRY WALL CONSTRUCTION AND ALL OTHER EXPOSED STEEL SHALL BE GALVANIZED.
10. THE DESIGN OF STEEL FRAMED STAIRS SHALL BE THE RESPONSIBILITY OF THE STEEL FABRICATOR. PROVIDE COMPLETE ENGINEERED STAIR ASSEMBLIES, CONFORMING TO THE ARCHITECTURAL INTENT, UNDER THE SEAL OF AN ENGINEER REGISTERED IN THE STATE OF MICHIGAN, INCLUDING METAL FRAMING, HANGERS, MASONRY BEARING PLATES, COLUMNS, RAILING ASSEMBLIES, AND OTHER COMPONENTS NECESSARY TO SUPPORT THE STAIRS AND LANDINGS INCLUDING ANCHORAGE TO THE SUPPORTING STRUCTURE.
11. DRILLED-IN ANCHORS SHALL BE EITHER "EXPANSION" OR "ADHESIVE" AS INDICATED ON THE DRAWINGS. INSTALLATION OF DRILLED-IN ANCHORS SHALL BE IN COMPLIANCE WITH MANUFACTURER'S LITERATURE AND GUIDELINES. EXPANSION BOLTS SHALL BE "HILTI KWIK BOLT III" OR APPROVED EQUAL. ADHESIVE SHALL BE "HILTI HIT HY-200" OR APPROVED EQUAL.
12. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL ANGLES, PLATES, BARS, CLIPS, ETC., ATTACHED TO STRUCTURAL STEEL. VERIFY EXACT SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS WITH CONTRACTOR INVOLVED. IN ADDITION TO L5x3 1/2x5/16 (L.L.V.) PERIMETER CURB SUPPORT FRAMES, PROVIDE L3x3x1/4 FRAMES AT OPENINGS UNDER MECHANICAL UNITS TO SUPPORT METAL DECK. FAILURE TO CONSULT ALL DRAWINGS FOR REQUIRED STEEL SHALL NOT CONSTITUTE A BASIS FOR EXTRAS.
13. THIS STEEL FRAME IS NON SELF-SUPPORTING PER AISC "CODE OF STANDARD PRACTICE",SECTIONS 7.9.3. AND 7.9.5.; ERECTION, BRACING, SHORING, ETC. SHALL CONFORM TO THESE SECTIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION SEQUENCE AND PROCEDURE.
14. ALL STEEL EXPOSED TO THE WEATHER CONDITIONS SHALL HAVE ZINC RICH PRIMER TOUCH UP AFTER ALL CONNECTIONS HAVE BEEN COMPLETED AND INSPECTED.

05 00 02 - STEEL JOISTS/JOIST GIRDERS

1. STEEL JOISTS AND JOIST GIRDERS ARE TO BE FABRICATED BY A MEMBER OF THE STEEL JOIST INSTITUTE AND BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST SJI SPECIFICATIONS AND RECOMMENDATIONS. JOISTS SHALL BE DESIGNED FOR A MINIMUM NET UPLIFT OF 10 PSF. UPLIFT BRIDGING SHALL BE PROVIDED AS REQUIRED.
2. ALL PROVISIONS OF THE "RECOMMENDED CODE OF STANDARD PRACTICE FOR STEEL JOISTS AND JOIST GIRDERS" AS ADOPTED BY THE SJI SHALL BE ADHERED TO.
3. JOIST AND WEB GEOMETRY INCLUDING SIZES SHALL BE SUBMITTED TO THE ENGINEER FOR PROJECT RECORD.
4. STEEL JOISTS BEARING ON STEEL BEAMS OR PLATES, ARE TO BE CONNECTED WITH MINIMUM 2-INCH LONG, 1/8-INCH FILLET WELD EACH SIDE OF BEARING. EXTEND BOTTOM CHORDS OF JOISTS AT COLUMNS TO A STABILIZER PLATE. DO NOT CONNECT UNLESS NOTED OTHERWISE. IF NO JOIST OCCURS DIRECTLY AT A COLUMN, EXTEND BOTTOM CHORDS OF EACH ADJACENT JOIST TO A STABILIZER PLATE.
5. ALL STEEL JOISTS/JOIST GIRDERS EXPOSED TO THE WEATHER CONDITIONS SHALL HAVE ZINC RICH PRIMER TOUCH UP AFTER ALL CONNECTIONS HAVE BEEN COMPLETED AND INSPECTED.

05 00 03 - METAL DECK AND FORM

1. METAL DECK AND FORM SHALL CONFORM TO ALL PROVISIONS OF THE "CODE OF RECOMMENDED STANDARD PRACTICE FOR COMPOSITE DECK, FORM DECK, AND ROOF DECK CONSTRUCTION" AS ADOPTED BY THE STEEL DECK INSTITUTE.
2. METAL DECK AND FORM SHALL BE PROVIDED WITH NESTING SIDE SEAMS OF DEPTH AND GAGE AS INDICATED ON THE DRAWINGS. METAL ROOF DECK SHALL BE WIDE RIB TYPE "B". PROVIDE DECK MANUFACTURER'S STANDARD ROOF SUMP PANS FOR EACH ROOF SUMP LOCATION.
3. METAL DECK AND FORM IS DESIGNED TO ACT AS A DIAPHRAGM AND IS INTENDED TO BRACE THE BUILDING. EXTREME CARE SHALL BE UTILIZED TO INSTALL DECK AND FORM CONNECTIONS.
4. CONNECTIONS:

   1 1/2" METAL ROOF DECK: CONNECT TO ALL SUPPORTING STEEL AS REQUIRED TO DEVELOP 451 POUNDS PER LINEAR FOOT HORIZONTAL DECK SHEAR CAPACITY IN STRICT ACCORDANCE WITH THE METHODS PRESCRIBED BY THE STEEL DECK INSTITUTE (SDI). MECHANICAL CONNECTIONS SHALL BE MADE USING HILTI X-HSN 24 PINS WITH 36/7 PATTERN AT ALL SUPPORTS ACCORDING TO DECK CONNECTION KEY PLAN, 36/5 ELSEWHERE; PROVIDE 3 SIDELAP CONNECTORS PER DECK SPAN PLUS ONE AT EACH SUPPORT USING #10 HILTI DRILL SCREWS. WELDED CONNECTIONS SHALL BE MADE USING 5/8" DIAMETER PUDDLE WELDS WITH 36/7 PATTERN AT ALL SUPPORTS ACCORDING TO DECK CONNECTION KEY PLAN, 36/5 ELSEWHERE; PROVIDE 3 SIDELAP CONNECTORS PER DECK SPAN PLUS ONE AT EACH SUPPORT USING #10 SELF-DRILLING SCREWS. REFER TO SPECIFICATIONS FOR ADDITIONAL ERECTION PROCEDURES. SELECTED CONNECTION METHOD SHALL BE INDICATED ON DECK SHOP DRAWINGS INCLUDING MECHANICAL MANUFACTURER'S SUPPORTING PRODUCT LITERATURE.

   0.6" FORM DECK: CONNECT TO SUPPORTING 'CFMF' JOISTS WITH #12 SEFL-DRILLING SCREWS AT 6" O.C. AT SHEET ENDS AND 12" O.C. AT INTERMEDIATE SUPPORTS.

05 00 04 - COLD-FORMED METAL FRAMING - (CFMF) PRODUCTS

1. THE COLD-FORMED METAL FRAMING PORTIONS OF THIS STRUCTURE ARE DESIGNED ACCORDING TO THE ALLOWABLE STRESS DESIGN PROVISIONS OF THE LATEST EDITION OF THE AISI SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS INCLUDING SECTIONS 2205 AND 2211 OF CHAPTER 22 IN THE CURRENT BUILDING CODE. CFMF METAL COMPONENTS HAVE BEEN DESIGNED ACCORDING TO THE PROVISIONS FOR SEISMIC DESIGN CATEGORY 'B'.
2. COLD-FORMED METAL FRAMING AND CONNECTIONS SHALL BE DESIGNED BY THE METAL PRODUCT MANUFACTURER. SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED BY AND SUBMITTED BEARING THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN. AS A MINIMUM, THE LOADING GIVEN BELOW SHALL BE USED. ADDITIONAL LOADING OR LOAD COMBINATIONS IF REQUIRED BY CODE SHALL BE DETERMINED AND IMPLEMENTED BY THE COLD-FORMED METAL FRAMING DESIGNER.
3. MINIMUM STANDARD DESIGN THICKNESSES INDICATED ON THE DRAWINGS SHALL BE INTERPRETED AS THE FOLLOWING:

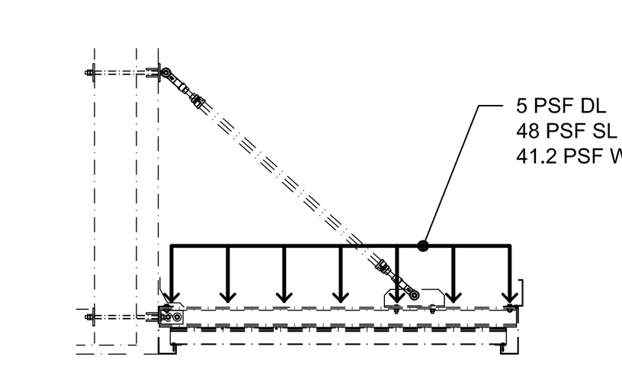
   33 = 0.0346 INCH
   43 = 0.0451 INCH
   54 = 0.0566 INCH
   68 = 0.0713 INCH
   97 = 0.1017 INCH
4. ALL COLD-FORMED METAL FRAMING SHALL CONFORM TO ASTM A446, GRADE D (MINIMUM Fy = 50 KSI) FOR 43 OR HEAVIER AND ASTM A446, GRADE A (MINIMUM Fy=33 KSI) FOR 33 OR LIGHTER. UNLESS NOTED OTHERWISE, ALL FRAMING TO BE GALVANIZED IN ACCORDANCE WITH ASTM A525 G60 COATING; STUDS SUPPORTING MASONRY SHALL BE GALVANIZED WITH ASTM A525 G90 COATING.
5. COLD-FORMED METAL FRAMING SIZES INDICATED ON THE DRAWINGS ARE MINIMUM AND SHALL BE USED FOR BIDDING PURPOSES ONLY. FINAL SIZES SHALL BE DETERMINED AND PROVIDED IN CONJUNCTION WITH THE METAL PRODUCT MANUFACTURER'S STANDARD SHAPES, SIZES AND DESIGN PROPERTIES. INCREASE SIZE, CFMF THICKNESS, OR DECREASE SPACING AS REQUIRED TO SUSTAIN THE DESIGN LOADS.
6. MINIMUM FLANGE WIDTH OF STUD SHAPES SHALL BE 162 = 1-5/8". PROVIDE DOUBLE STUDS AT EACH BEARING END OF COLD-FORMED METAL FRAMING HEADERS, TYPICAL UNLESS NOTED OTHERWISE. CFMF SHALL NOT TERMINATE NEAR FACTORY PUNCH-OUTS A MINIMUM DISTANCE OF 2 x DEPTH.
7. COLD-FORMED METAL TRUSS MANUFACTURER SHALL PROVIDE ALL METAL TRUSS HANGERS, WALL ANCHORS AND HURRICANE ANCHORS.
8. THE DESIGN OF PRE-ENGINEERED COLD-FORMED METAL TRUSSES SHALL BE PROVIDED BY THE COLD-FORMED METAL FRAMING PRODUCT MANUFACTURER. TRUSSES, TRUSS FRAMING, TRUSS-TO-TRUSS CONNECTIONS AND ANCHORAGE SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN. AS A MINIMUM, THE LOADING GIVEN BELOW SHALL BE USED. ADDITIONAL LOADING OR LOAD COMBINATIONS IF REQUIRED BY CODE SHALL BE DETERMINED AND IMPLEMENTED BY THE TRUSS DESIGNER.
9. TRUSS TOP CHORD MUST BE BRACED WITH ROOF SHEATHING AND CONTINUOUS LATERAL BRACING AT MINIMUM 4'-0" O.C. OR AS REQUIRED BY DESIGN. TRUSS BOTTOM CHORD MUST BE BRACED WITH CONTINUOUS LATERAL BRACING AT MINIMUM 4'-0" O.C. OR AS REQUIRED BY DESIGN. ALL ROOF SHEATHING PANELS SHALL BE ADHERED AND CONNECTED TO SUPPORTING TRUSSES WITH NO. 8 CORROSION RESISTANT, SELF-DRILLING SCREWS AT 6" O.C. ALONG SUPPORTED EDGES AND AT 12" O.C. AT FIELD.
10. DESIGN LOADS

    MEZZANINE
    DEAD: 15 PSF
    LIVE: 125 PSF

    SOFFIT LOAD
    DEAD: 15 PSF
    LIVE: 25 PSF
    WIND: SEE DESIGN CRITERIA ABOVE

    SOFFIT DEFLECTION LIMITATIONS:
    LIVE LOAD - SPAN / 360
    TOTAL LOAD - SPAN / 240

    PRE-ENGINEERED CANOPY



STUD WALL DEFLECTION LIMITATIONS
SUPPORTING METAL SIDING OR E.I.F.S. - SPAN/360
SUPPORTING MASONRY - SPAN/600

04 00 01 - MASONRY

1. THE MASONRY PORTIONS OF THIS STRUCTURE ARE DESIGNED ACCORDING TO THE LATEST WORKING STRESS DESIGN PROVISIONS OF THE MASONRY STANDARDS JOINT COMMITTEE (MSJC) BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402) AND SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602) INCLUDING SECTIONS 2106 AND 2107 OF CHAPTER 21 IN THE CURRENT BUILDING CODE. MASONRY COMPONENTS HAVE BEEN DESIGNED ACCORDING TO THE PROVISIONS FOR SEISMIC DESIGN CATEGORY B.
2. ALL STRUCTURAL MASONRY IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST MASONRY STANDARDS JOINT COMMITTEE (MSJC) BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402) AND SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602). MASONRY SUBMITTALS ARE REQUIRED BY ACI 530.1/ASCE 6/TMS 602 SECTION 1.5. MASONRY TESTING AND INSPECTIONS ARE REQUIRED BY ACI 530.1/ASCE 6/TMS 602 SECTION 1.6, TABLE 5, LEVEL 2 QUALITY ASSURANCE.
3. ALL STRUCTURAL MASONRY HAS BEEN ENGINEERED IN ACCORDANCE WITH CHAPTER 2, ALLOWABLE STRENGTH DESIGN. COMPRESSION STRENGTH SHALL BE DETERMINED ACCORDING TO THE UNIT STRENGTH METHOD FOR CONCRETE MASONRY MSJC SECTION 1.4.B.2.b.
4. ALL BLOCK SHALL CONFORM TO ASTM C 90 AND C 140, TYPE I, GRADE N.
5. MORTAR SHALL CONFORM TO ASTM C 270, AS FOLLOWS:

   IN CONTACT WITH EARTH TYPE M OR S
   REINFORCED TYPE S,
   NOT IN CONTACT WITH EARTH TYPE N, M OR S

   TYPE M OR S = 1900 PSI
   TYPE N = 2150 PSI
6. GROUT SHALL CONFORM TO ASTM C 476, WITH PEA GRAVEL AGGREGATE AND A MINIMUM STRENGTH OF 2,000 PSI.
7. BASED ON THE FOLLOWING MINIMUM STRENGTHS SPECIFIED ABOVE FOR BLOCK, MORTAR AND GROUT, THE MINIMUM COMPOSITE MASONRY COMPRESSIVE STRENGTH, f'm, SHALL BE AS FOLLOWS:

USE	COMPRESSIVE STRENGTH, f'm (PSI)	UNIT STRENGTH (PSI)	GROUT STRENGTH (PSI)	MORTAR TYPE
TYPICAL, U.N.O.	2,000 MIN.	2,800 MIN.	2,000 MIN.	M OR S

8. ALL STRUCTURAL MASONRY SHALL COURSE IN STANDARD RUNNING BOND. UNLESS NOTED OTHERWISE, ALL INTERSECTING BEARING WALLS, SHEAR WALLS OR OTHER STRUCTURAL WALLS SHALL BE LAID UP IN INTERLOCKED, BONDED COURSING. MECHANICAL ANCHORS OR WALL TIES MAY BE SUBSTITUTED WITH PRIOR APPROVAL BY THE ENGINEER.
9. THE FOLLOWING LAP SPLICE REQUIREMENTS SHALL SUPERCEDE THE CODE REQUIREMENTS. WALL HEIGHTS REFER TO THE DISTANCE FROM THE TOP OF FOUNDATION OR SLAB SUPPORT TO THE UPPER JOIST OR BEAM BEARING OR SLAB/DECK TIE-IN ELEVATION. FOR WALL HEIGHTS EQUALING THE SPECIFIED LIMIT, THE LESSER PROVISION MAY APPLY. AS A MINIMUM, REINFORCING BARS SHALL BE LAPPED ACCORDING TO THE FOLLOWING:

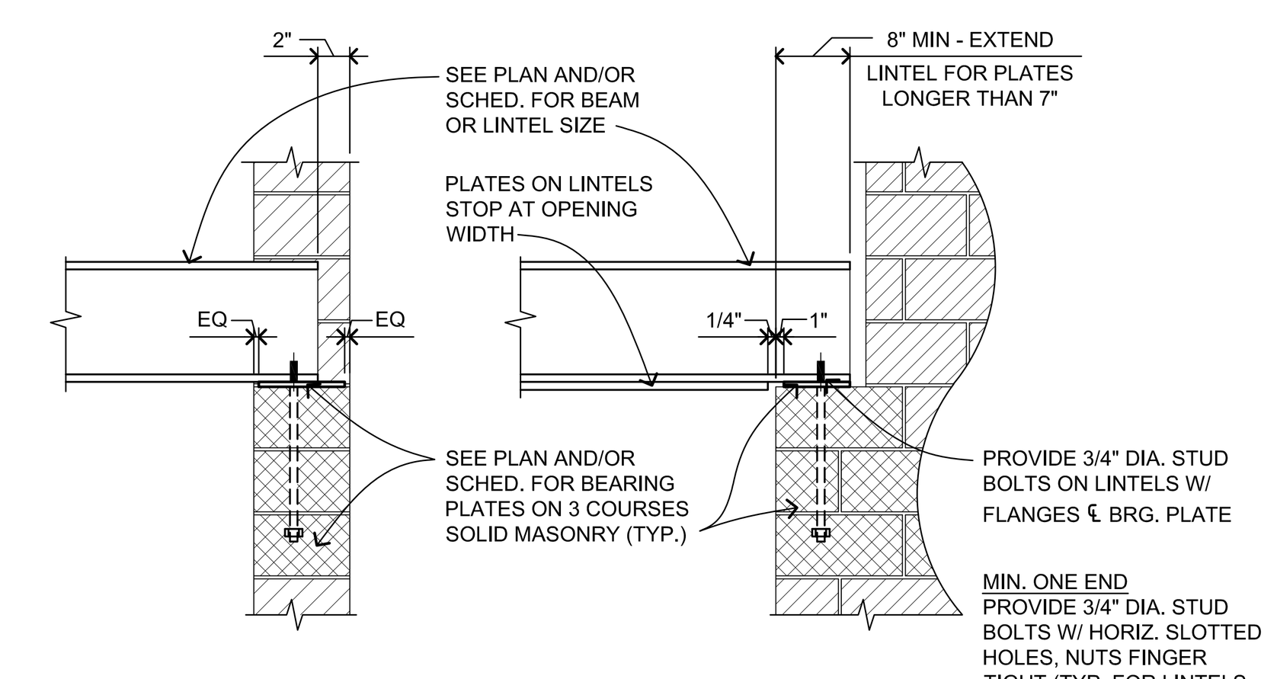
WALL CONFIGURATION	#4 BAR	#5 BAR	#6 BAR	#7 BAR	#8 BAR
8" WALLS (SINGLE REINFORCEMENT)	16"	20"	30"	-	-
8" WALLS (DOUBLE REINFORCEMENT)	16"	26"	38"	-	-
10" WALLS (SINGLE REINFORCEMENT)	16"	16"	24"	32"	42"
10" WALLS (DOUBLE REINFORCEMENT)	16"	26"	38"	54"	-
12" WALLS (SINGLE REINFORCEMENT)	16"	16"	20"	26"	34"
12" WALLS (DOUBLE REINFORCEMENT)	16"	26"	38"	54"	70"
14" WALLS (SINGLE REINFORCEMENT)	16"	16"	16"	22"	28"
14" WALLS (DOUBLE REINFORCEMENT)	16"	26"	38"	54"	70"
16" WALLS (SINGLE REINFORCEMENT)	16"	16"	16"	20"	24"
16" WALLS (DOUBLE REINFORCEMENT)	16"	26"	38"	54"	70"

10. PROVIDE HORIZONTAL WIRE TYPE REINFORCING WITH 9 GAUGE SIDE RODS AND 9 GAUGE CROSS RODS IN EVERY SECOND COURSE (16" O.C.), IN ALL MASONRY WALLS. SPACE AT 8" O.C. AT PARAPET WALLS. PROVIDE "LADDER" TYPE REINFORCING ONLY IN WALLS WITH VERTICAL REINFORCING. PROVIDE ADJUSTABLE TIES AT ALL LINTELS AND CAVITY WALLS AT 16" O.C. MAXIMUM SPACING.
    - 10.1. AT MOVEMENT CONTROL JOINTS, INTERRUPT HORIZONTAL JOINT REINFORCING EACH SIDE OF JOINT.
11. PROVIDE 1-#5 VERTICAL BAR EACH SIDE OF EACH CONTROL JOINT; SEE PLANS FOR ADDITIONAL REINFORCING AT CORNERS, OPENINGS, ETC.
12. ALL REINFORCING BARS, DOWELS AND TIES SHALL CONFORM TO ASTM A615, GRADE 60. VERTICAL REINFORCING BARS SHALL BE HELD IN PLACE BY POSITIONERS SPACED NOT FURTHER THAN RECOMMENDED BY CODE.
13. PROVIDE A CONTINUOUS BOND BEAM, WITH 2-#5'S, AT THE TOP OF WALLS PARALLEL WITH ROOF/FLOOR FRAMING. STEP BOND BEAMS ELEVATIONS AS REQUIRED, STEP IN 8" VERTICAL INCREMENTS AND LAP MINIMUM 32".
    - 13.1. CONTINUE BOND BEAM REINFORCING ACROSS CONTROL JOINTS BUT BREAK GROUT WITH A 3/8" SOFT JOINT. STOP ALL BOND BEAM REINFORCING AT BUILDING EXPANSION JOINTS.
14. PERFORM GROUTING ACCORDING TO THE FOLLOWING:
    - ALL MASONRY BELOW GRADE SHALL BE GROUTED SOLID.
    - ALL CORES WITH VERTICAL REINFORCING OR TO RECEIVE DRILLED-IN ANCHORS SHALL BE GROUTED SOLID.
    - ALL MASONRY PIERS AND PILASTERS SHALL BE GROUTED SOLID.
    - MAXIMUM 5'-4" (64-INCH) LOW LIFT GROUTING.
15. ALL BEAMS SUPPORTING MASONRY, INCLUDING STEEL, PRECAST AND MASONRY LINTELS ARE TO BEAR 8" (MIN.) ON 3 COURSES (24" DEEP) SOLID MASONRY.
16. STRUCTURAL STEEL BEAMS, WIDE FLANGE AND TUBE STEEL LINTELS SHALL BE PROVIDED WITH MIN. 7"x3/8"x0-7" BEARING PLATE, SET 1" AWAY FROM FACE OF WALL, WITH 2-3/4" DIAMETER ANCHOR BOLTS EACH END, TYPICAL UNLESS NOTED OTHERWISE.
17. UNLESS NOTED OTHERWISE, PROVIDE LOOSE LINTELS AT MISCELLANEOUS ARCHITECTURAL, MECHANICAL AND ELECTRICAL OPENINGS FOR EACH 4" OF MASONRY WALL THICKNESS IN ACCORDANCE WITH THE FOLLOWING:
    - L4x3-1/2x5/16 LLV FOR SPANS UP TO 3'-4"
    - L5x3-1/2x5/16 LLV FOR SPANS UP TO 5'-4"
    - L6x3-1/2x5/16 LLV FOR SPANS UP TO 6'-8" MAX.

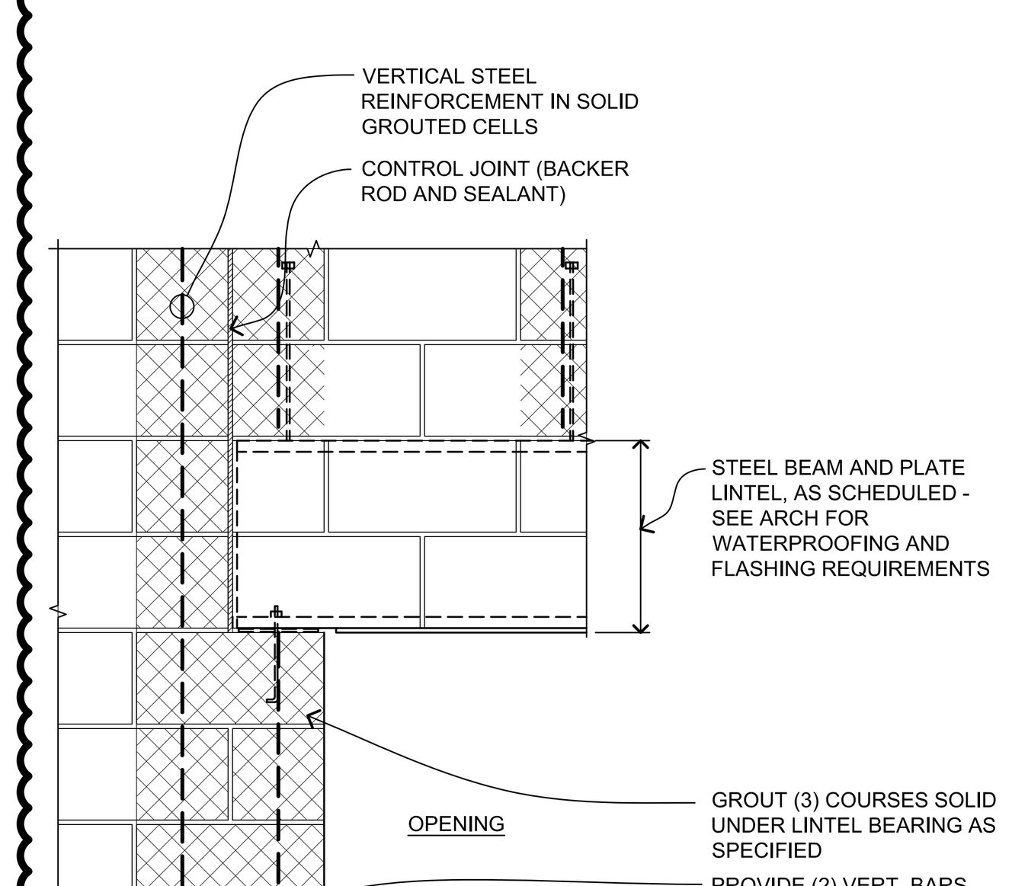
    AT CONTRACTOR'S OPTION, MASONRY LINTELS ARE ALSO ACCEPTABLE FOR MISCELLANEOUS OPENINGS:
    - 8"W (or 12"w) x 8"H REINF. W/ 2-#5 FOR SPANS UP TO 3'-4"
    - 8"W (or 12"w) x 8"H REINF. W/ 2-#6 FOR SPANS UP TO 5'-4"
    - 8"W (or 12"w) x 16"H REINF. W/ 2-#6 FOR SPANS UP TO 6'-8" MAX.

    COORDINATE REQUIREMENTS FOR LOOSE LINTELS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.

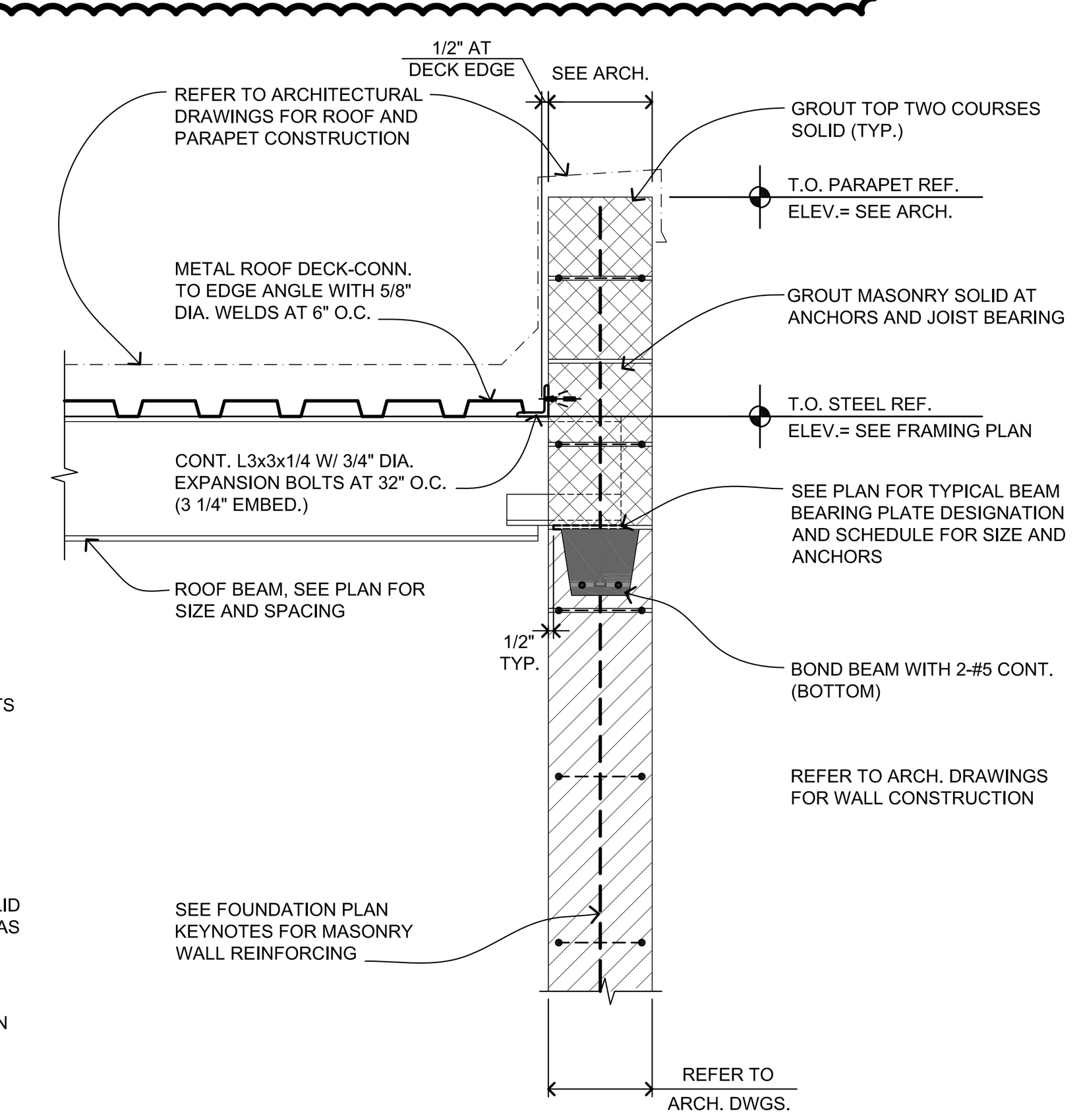
    ALL STEEL USED FOR LOOSE LINTELS SHALL BE GALVANIZED.
18. ALL DOUBLE ANGLE LINTELS SHALL BE WELDED BACK TO BACK WITH A MINIMUM 2-INCH STITCH WELD EVERY 8-INCHES.



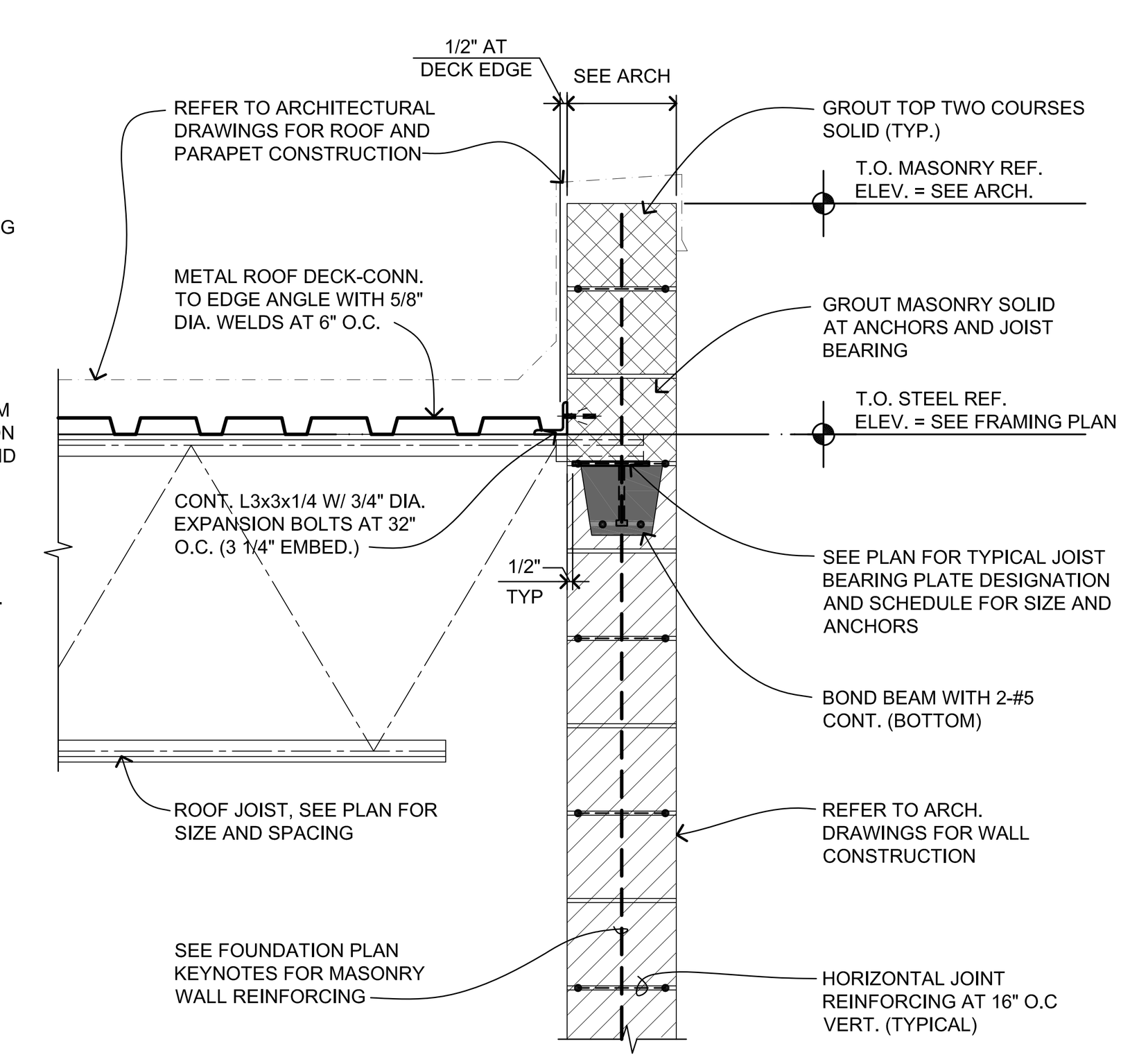
3 / S-020 **Typical Beam / Lintel Bearing**
NTS



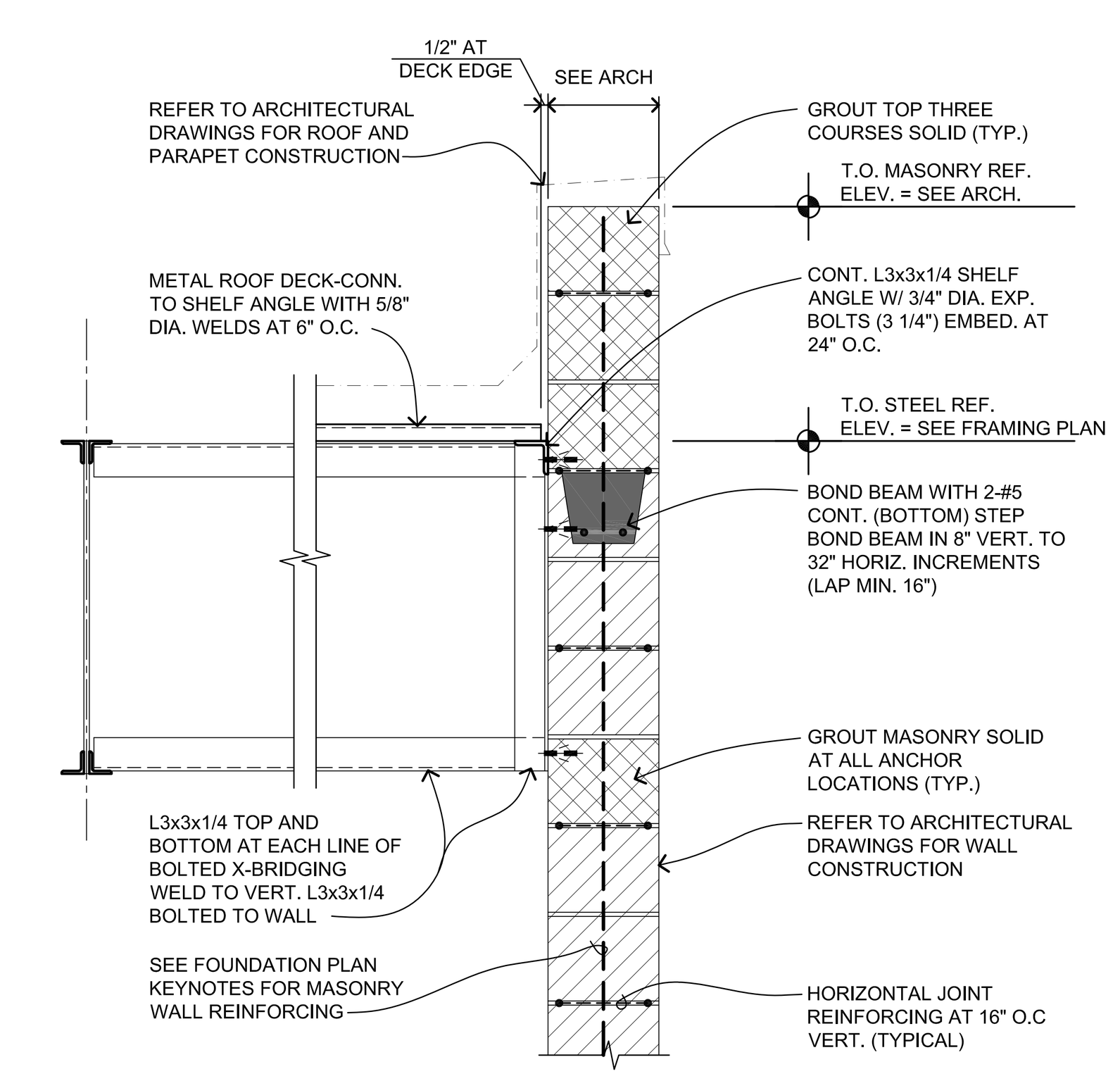
Control Joint at Steel Lintels
3/4" = 1'-0"



4 / S-020 **Typical Beam Bearing**
3/4" = 1'-0"



2 / S-020 **Typical Joist Bearing**
3/4" = 1'-0"



1 / S-020 **Typical Deck Angle Bearing**
3/4" = 1'-0"

Joist Description	Quantity
G01	2
G02	1
G03	2
G04	2
G05	2
G06	1
G07	1
G08	1
G09	1
G10	1
G11	1
G12	1
G14	1
G15	2
G16	1
G17	1
G18	2
G19	1
M01	5
M02	2
M03	14
M04	6
M05	2
M06	4
M07	12
M08	4
M09	26
M10	4
M11	2
M12	6
M14	5
M15	7
M16	4
M17	2
M18	2
M19	14
M20	6
M21	18
M22	6
M23	3
M24	4
M25	4
M26	29
M27	8
M28	8
M29	1
M30	27

Lintel Schedule - (L)

Mark	Description	Remarks
L-1	W 8 X 18 + 11 1/2" X 5/16" PLATE	BP-1 EA END, NOTES 1, 2, 3
L-1a	W 8 X 18 + 11 1/2" X 5/16" PLATE (GALV.)	BP-1 EA END, NOTES 1, 2, 3, 4
L-2	TS 16x12x1/2"	NOTES 1, 3, 6

LINTEL NOTES
1. ALL STEEL BEAM AND PLATE LINTELS SHALL BE GALVANIZED.
2. WRAP STEEL BEAM AND PLATE LINTEL IN ELASTIC MEMBRANE FLASHING WHERE ~~ENDASSED IN MASONRY - SEE ARCHITECTURAL WALL SECTIONS~~ - TYPICAL UNLESS NOTED OTHERWISE.
3. PROVIDE 3/4" DIA. x 14" LONG HEADED STUDS AT 24" O.C. - GROUT CORES SOLID.
4. PROVIDE GALVANIZED C12 x 20.7 CHANNEL FRAME
5. SEE SHEET S-020 FOR TYPICAL FRAMING DETAILS
6. CONNECT TO COLUMN EACH END; FIELD VERIFY WHERE COLUMN IS EXISTING

Bearing Plate Schedule - (BP)

Mark	Description	Remarks
BP-1	6" x 3/8" x 0'-10"	TYPICAL JOIST BEARING PLATE W/ (2) 3/4" DIA. x 6" HEADED STUDS
BP-2	7" x 3/8" x 0'-7"	W/ (2) 3/4" DIA. x 1'-2" HEADED ANCHORS
BP-3	11" x 3/8" x 1'-3"	W/ (2) 3/4" DIA. x 1'-2" HEADED ANCHORS SEE ROOF FRAMING PLAN FOR SLIDE CONNECTION BEARING PLATE LOCATIONS, NOTED 'S.B.' ON FRAMING PLAN. COORDINATE WITH SLIDE CONNECTION DETAIL ON SHEET S-020

GENERAL BEARING PLATE NOTES
1. ALL BEARING PLATES AND ANCHORS TO BE GALVANIZED.
2. SEE GENERAL STRUCTURAL NOTES (MASONRY) FOR ADDITIONAL MASONRY WALL GROUTING REQUIREMENTS.
3. SEE SHEETS S-010 AND S-020 FOR TYPICAL STRUCTURAL FRAMING DETAILS.

General Roof Framing Notes

1. SEE SHEET S-010 AND S-020 FOR GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. THE GENERAL STRUCTURAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. SEE THE PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.
2. SEE SHEET G-004 FOR SPECIAL INSPECTION REQUIREMENTS.
3. THE STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL, MEP AND CIVIL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
4. VERIFY ALL LOADS, LOCATIONS, CURB SIZES AND OPENING SIZES OF ALL NEW ROOF TOP MECHANICAL UNITS WITH THE MECHANICAL DRAWINGS, MECHANICAL CONTRACTOR AND TENANT INSERT DRAWINGS. SEE TYPICAL MECHANICAL UNIT ROOF CURB DETAIL ON SHEET S-020 FOR FRAMING. PRIOR TO FABRICATION, NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY WHERE FINAL CONFIGURED HVAC UNIT WEIGHTS EXCEED THE DESIGN WEIGHT INDICATED ON THE PLAN.
5. ALL ITEMS, INCLUDING BUT NOT LIMITED TO, MECHANICAL EQUIPMENT, DUCT WORK, PIPES, CEILINGS, FIXTURES, ETC, THAT ARE TO BE SUPPORTED OR HUNG FROM THE STEEL JOISTS SHALL BE FRAMED WITH AUXILIARY FRAMING TO THE PANEL POINTS OF THE JOIST - REFERENCE THE TYPICAL PANEL POINT FRAMING DETAIL ON SHEET S-020.
6. METHODS OF FRAMING THAT INDUCE BENDING TO THE JOIST CHORD OR WEB MEMBERS WILL NOT BE PERMITTED.
7. COORDINATE BRIDGING LOCATIONS SO AS NOT TO INTERFERE WITH ANY MECHANICAL EQUIPMENT.
8. CONNECTING TO OR HANGING LOADS FROM THE ROOF DECK IS STRICTLY PROHIBITED.
9. PRIOR TO WELDING NEW MATERIAL TO EXISTING SURFACES, THOROUGHLY CLEAN ALL SURFACES TO REMOVE RUST, PAINT, DIRT, MILL SCALE OR OTHER FOREIGN MATTER IN THE WELD AREA.
10. ALL FIELD WELDS SHALL BE CLEANED OF SLAG AND SCALE AND INSPECTED BY THE SITE QUALITY ASSURANCE INSPECTOR.
11. PRIME PAINT WELDS AFTER WELDING PASSES INSPECTION. PROVIDE ZINC PRIMER, NO EXCEPTIONS, MINIMUM TWO COATS OF ZINC-RICH PRIMER.

Framing Plan Keyed Notes

(#) KEY NOTE TAG

A. CONTINUOUS L3 X 3 X 1/4" OR 5/16" BENT STEEL PLATE WITH 3/4" DIA. EXPANSION ANCHORS IN 13/16" X 1 7/8" VERTICAL SLOTTED HOLES (3 1/4" EMBED.) AT 32" O.C. BUTTWELD ALL SPLICES. CONNECT ROOF DECK AT 6" O.C., INSTALL ANCHOR IN BOTTOM OF SLOT.

B. CONTINUOUS L4 X 4 X 5/16" (LLH) WELDED TO BEAM FLANGE FOR DECK SUPPORT. BUTT WELD ALL SPLICES. CONNECT TO ROOF DECK AT 6" O.C.

C. CONTINUOUS 7" X 3/8" BENT STEEL PLATE FOR DECK SUPPORT, WELD TO TOP FLANGE OF STEEL BEAM. BUTT WELD ALL SPLICES, CONNECT ROOF DECK AT 6" O.C.

D. L3" X 3" X 1/4" FRAME FOR ROOF SUMPS. SEE TYPICAL ROOF SUMP DETAIL ON SHEET A-110.

E. L5 X 3 1/2 X 5/16" (LLV TOED DOWN) FRAMING FOR ROOF SCUTTLE / HATCH. COORDINATE EXACT LOCATION WITH ARCHITECTURAL FLOOR PLAN. SEE DETAIL ON SHEET A-603 AND A-604 FOR FRAMING AND ADDITIONAL REQUIREMENTS.

F. L5 X 3 1/2 X 5/16 (LLV TOED DOWN) FRAMING FOR MECHANICAL UNIT & EXHAUST FAN SUPPORT PER TYPICAL DETAIL ON S-020. COORDINATE OPENING DIMENSION WITH MECHANICAL UNIT AND / OR EXHAUST FAN REQUIREMENTS. PROVIDE INTERMEDIATE SUPPORT ANGLE WHERE REQUIRED TO SUPPORT THE EQUIPMENT FRAME AND ALL EDGES OF THE ROOF DECK. PROVIDE JOIST PANEL POINT REINFORCING PER TYPICAL DETAIL S-020.

G. WATER HEATER PLATFORM FOR FUTURE 20 GALLON TANK (APPROX. 220 LBS). SUSPEND FROM UNISTRUT CHANNEL AT TOP CHORD OF JOISTS. PROVIDE JOIST PANEL POINT REINFORCING PER TYPICAL DETAIL S-020 AND WATER HEATER DETAIL ON S-020. VERIFY EXACT LOCATION WITH INTERIOR BUILD-OUT DOCUMENTS.

H. WT7 X 11 FRAMING BETWEEN WIDE FLANGE BEAM AND PRECAST CONCRETE WALL PANEL FOR CFMF PARAPET WALL BRACE CONNECTION. SEE WALL SECTIONS FOR ADDITIONAL INFORMATION.

J. L5 x 3 1/2 x 5/16 (LL V TOED DOWN) FRAMING AT 24" X 24" OPENING FOR VENTILATION AND ACCESS. SEE WALL SECTIONS FOR ADDITIONAL INFORMATION.

K. FUTURE STEP-DOWN TRANSFORMER ON PLATFORM ABOVE. SEE ELECTRICAL DRAWINGS. SEE TYPICAL TRANSFORMER PLATFORM HANGING DETAIL ON S-020. ELECTRICAL CONTRACTOR TO PROVIDE EXACT WEIGHT OF TRANSFORMER. COORDINATE WITH TRANSFORMER MFR FOR EXACT DIMENSIONS. PROVIDE JOIST PANEL POINT REINFORCING PER TYPICAL DETAIL ON S-020.

L. STRUCTURAL STEEL FABRICATOR TO COORDINATE WITH CONCRETE WALL PANEL FABRICATOR / SHOP DRAWINGS REGARDING JOIST GIRDER / WIDE FLANGE BEAM / HSS BEAM END BEARING CONNECTION DETAIL. SEE PLAN FOR LOAD.

M. L3 X 3 X 1/4 COLUMN BRACE AT UNDERSIDE OF ROOF DECK. CONNECT TO TOP CHORD OF JOISTS.

N. 5/16" BENT STEEL PLATES FOR CURB CONSTRUCTION AT BUILDING EXPANSION JOINT. WELD TO TOP FLANGE OF STEEL BEAM. CONNECT ROOF DECK AT 6" O.C. - SEE STRUCTURAL SECTION DETAILS FOR ADDITIONAL INFORMATION.

P. COPE WIDE GLANGE TO 5" OR 2.5" TO MATCH ADJACENT JOIST BEARING. ADD (2) L2 x 2 x 1/4" x 2'-0" SEAT IN BEAM WEB PER TYPICAL DETAIL 7/S-025.

Q. INDICATES WT 7 X 20 BRACKET WITH (2) 8" THICK SLIDE BEARING HEAD AT EXPANSION JOINT.

R. FABRICATE WIDE FLANGE BEAM TO MATCH ROOF SLOPE.

S. INDICATES 5 1/2" PRE-CAST CONCRETE SOFFIT PANEL LID AND 10" INSULATED PRE-CAST CONCRETE WALL PANEL ABOVE, SEE WALL SECTIONS.

T. INDICATES 600S162-54 ROOF FRAMING AT 16" O.C.

U. INDICATES 1/2" DIA. SAG RODS AT W16 QUARTER POINTS CONNECTED TO W24 ROOF BEAM ABOVE.

V. L3 x 3 x 1/4 BRACE WITH CONNECTION TO UNDERSIDE OF ROOF BEAM TOP FLANGE W/ MINIMUM (2) A325N BOLTS.

W. PROVIDE 5-INCH JOIST SEAT AT END OF K-SERIES JOIST AS INDICATED BY '●'. TYPICAL.

X. CONTINUOUS L3 x 3 x 1/4" SHELF ANGLE FOR DECK SUPPORT - CONNECT TO MASONRY OR PRECAST WITH 3/4" DIA. EXP., ANCHORS AT 32" O.C. (3 3/4" EMBED INTO SOLID MASONRY) BUTT WELD ALL SPLICES - CONNECT TO ROOF DECK AT 6" O.C.

Y. CONTINUOUS L3 x 3 x 1/4" SHELF ANGLE FOR DECK SUPPORT - CONNECT TO MASONRY OR PRECAST WITH 3/4" DIA. EXP., ANCHORS AT 24" O.C. (3 3/4" EMBED INTO SOLID MASONRY) BUTT WELD ALL SPLICES - CONNECT TO ROOF DECK AT 6" O.C.

Column Schedule - (C)

Mark	Size	Base Plate	Anchor Bolts	B.O. Base Plate Elev.	Notes
C-1	TS 8 X 8 X 3/16"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-7"	1, 4
C-1A	TS 8 X 8 X 3/16"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 2, 3, 4
C-1B	TS 8 X 8 X 3/16"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 4, 5
C-2	TS 8 X 8 X 1/4"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-7"	1, 4
C-2A	TS 8 X 8 X 1/4"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 4
C-2B	TS 8 X 8 X 1/4"	10" X 3/4" X 1'-6"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 4
C-3	TS 8 X 8 X 5/16"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-7"	1, 4
C-3A	TS 8 X 8 X 5/16"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 4
C-4	TS 12 X 6 X 1/4"	18" X 3/4" X 1'-0"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 2, 3, 4

COLUMN NOTES
1. BOTTOM OF BASE PLATE INDICATED AS DISTANCE BELOW FINISHED FLOOR. SEE "PLAN REFERENCE ELEVATIONS" FOR TOP OF FINISHED FLOOR ELEVATION FOR EACH AREA. SEE TYPICAL BASE PLATE DETAILS ON SHEET S-020.
2. PROVIDE 2-PIECE ADJUSTABLE MASONRY ANCHORS AT 16" O.C. VERTICAL AT EACH COLUMN FACE ADJACENT TO AND OR LOCATED WITHIN MASONRY.
3. PROVIDE BOXBOARD WRAP FOR ALL STEEL COLUMNS LOCATED WITHIN OR IN CONTACT MASONRY.
4. WATERPROOF COLUMN, BASE PLATE, AND ANCHOR BOLTS BELOW FINISHED FLOOR ELEVATION WITH BITUMINOUS WATERPROOFING MASTIC OR APPROVED EQUAL - TYPICAL AT ALL COLUMNS. PROVIDE WATERPROOF MASTIC TO MINIMUM 8-INCHES ABOVE FINISHED FLOOR AT COLUMNS AT THE STOREFRONT AND EXTERIOR CANOPY.
5. OFFSET BASE PLATE PER TYPICAL DETAIL ON S-020.

Precast Wall Panel Load Schedule - Area 'A.9' (PLF)

Mark	Vertical Dead Load	Vertical Snow Load	Horizontal Wind (W), Seismic (E) Load (Ultimate)
SW29	2235	597	505W, 206E
SW30	2367	1001	378W, 233E
SW31	2170	739	246W, 121E
SW32	2040	650	336W, 193E
SW33	2248	668	299W, 100E
SW34	2457	1175	344W, 3.9 KW (DRAG), 266E, 3.1KE (DRAG)
SW35	2989	2284	44W, 3.9KW (DRAG), 39E, 3.1KE (DRAG)
SW36	2983	2284	50W, 4.0KW (DRAG), 39E, 3.1KE (DRAG)
SW37	2461	1173	351W, 4.0KW (DRAG), 268E, 3.1KE (DRAG)

Reference Elevations

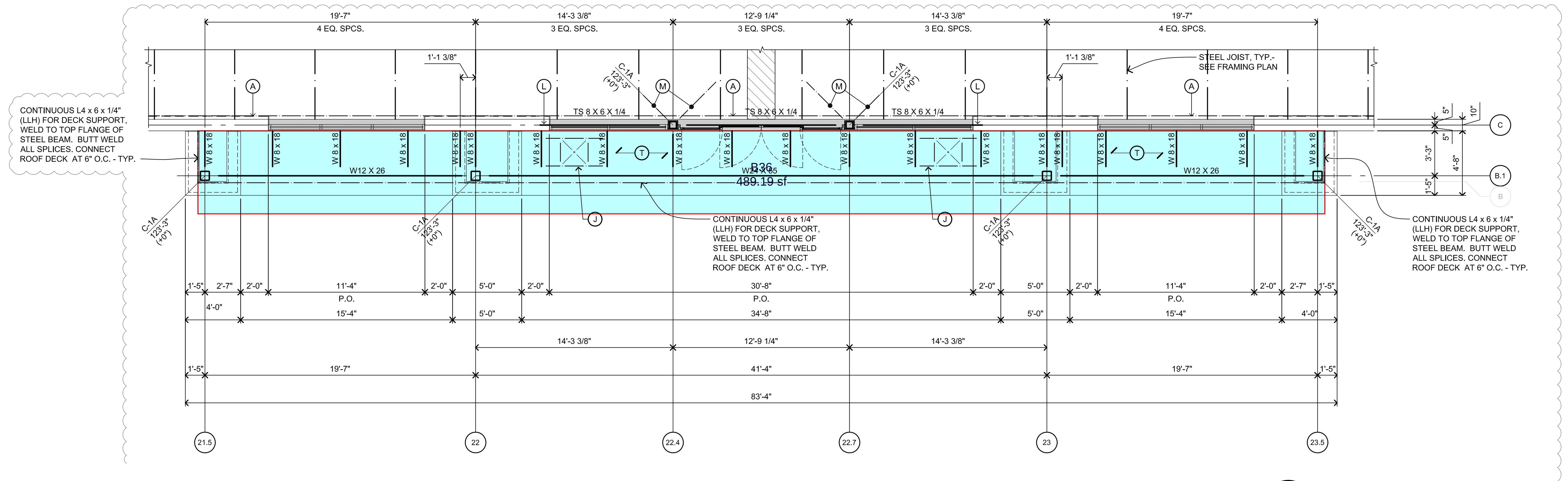
GROUND FLOOR
TOP OF CONCRETE SLAB (B1)
USGS ELEV. = SEE CIVIL
ARCH ELEV. = 100'-0" - AREA 'A.4-A.9' AND (LANDLORD UTILITY ROOM)

ROOF FRAMING TOP OF STEEL AT INSIDE FACE OF CONCRETE PANEL (UNDERSIDE OF METAL ROOF DECK)
ARCH. ELEV. = 124'-6 1/2" - AREA 'A.4'
ARCH. ELEV. = 122'-3" - AREA 'A.5-A.8' (B1)
(ARCH. ELEV. = 123'-3" - AREA 'A.9'...)
UNLESS NOTED OTHERWISE BY (+/- 0")

True North / Plan North

Roof Framing Plan
3/32" = 1'-0"

J=235/28
G=24/24



6 / S-106 **Enlarged Framing Plan**
3/16" = 1'-0"

Column Schedule - (C)

Mark	Size	Base Plate	Anchor Bolts	B.O. Base Plate Elev.	Notes
C-1	TS 8 X 8 X 3/16"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-7"	1, 4
C-1A	TS 8 X 8 X 3/16"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 2, 3, 4
C-1B	TS 8 X 8 X 3/16"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 4, 5
C-2	TS 8 X 8 X 1/4"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-7"	1, 4
C-2A	TS 8 X 8 X 1/4"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 4
C-2B	TS 8 X 8 X 1/4"	10" X 3/4" X 1'-6"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 4
C-3	TS 8 X 8 X 5/16"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-7"	1, 4
C-3A	TS 8 X 8 X 5/16"	14" X 3/4" X 1'-2"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 4
C-4	TS 12 X 6 X 1/4"	18" X 3/4" X 1'-0"	4 - 3/4" DIA. X 1'-9" + HK.	-15"	1, 2, 3, 4

COLUMN NOTES
1. BOTTOM OF BASE PLATE INDICATED AS DISTANCE BELOW FINISHED FLOOR. SEE "PLAN REFERENCE ELEVATIONS" FOR TOP OF FINISHED FLOOR ELEVATION FOR EACH AREA. SEE TYPICAL BASE PLATE DETAILS ON SHEET S-020.
2. PROVIDE 2-PIECE ADJUSTABLE MASONRY ANCHORS AT 16" O.C. VERTICAL AT EACH COLUMN FACE ADJACENT TO AND OR LOCATED WITHIN MASONRY.
3. PROVIDE BOXBOARD WRAP FOR ALL STEEL COLUMNS LOCATED WITHIN OR IN CONTACT MASONRY.
4. WATERPROOF COLUMN, BASE PLATE, AND ANCHOR BOLTS BELOW FINISHED FLOOR ELEVATION WITH BITUMINOUS WATERPROOFING MASTIC OR APPROVED EQUAL - TYPICAL AT ALL COLUMNS. PROVIDE WATERPROOF MASTIC TO MINIMUM 8-INCHES ABOVE FINISHED FLOOR AT COLUMNS AT THE STOREFRONT AND EXTERIOR CANOPY.
5. OFFSET BASE PLATE PER TYPICAL DETAIL ON S-020.

Bearing Plate Schedule - (BP)

Mark	Description	Notes
BP-1	7" X 3/8" X 0'-7"	WITH (2) 3/4" DIA. X 1'-2" HEADED STUDS

GENERAL BEARING PLATE NOTES
1. ALL BEARING PLATES AND ANCHORS TO BE GALVANIZED.
2. SEE GENERAL STRUCTURAL NOTES (MASONRY) FOR ADDITIONAL MASONRY WALL GROUTING REQUIREMENTS.
3. SEE SHEET S-020 FOR TYPICAL STRUCTURAL FRAMING DETAILS.
4. SEE ROOF FRAMING PLAN FOR SLIDE CONNECTION BEARING PLATE LOCATIONS. COORDINATE WITH SLIDE CONNECTION DETAIL ON SHEET S-020.

Framing Plan Keyed Notes

(#) KEY NOTE TAG

A. CONTINUOUS L3 X 3 X 1/4" OR 5/16" BENT STEEL PLATE WITH 3/4" DIA. EXPANSION ANCHORS IN 13/16" X 1 7/8" VERTICAL SLOTTED HOLES (3 1/4" EMBED.) AT 32" O.C. BUTTWELD ALL SPLICES. CONNECT ROOF DECK AT 6" O.C. INSTALL ANCHOR IN BOTTOM OF SLOT.

B. CONTINUOUS L4 X 4 X 5/16" (LLH) WELDED TO BEAM FLANGE FOR DECK SUPPORT. BUTT WELD ALL SPLICES. CONNECT TO ROOF DECK AT 6" O.C.

C. CONTINUOUS 3" 9" X 3/8" BENT STEEL PLATE FOR DECK SUPPORT, WELD TO TOP FLANGE OF STEEL BEAM. BUTT WELD ALL SPLICES. CONNECT ROOF DECK AT 6" O.C.

D. L3" X 3" X 1/4" FRAME FOR ROOF SUMPS. SEE TYPICAL ROOF SUMP DETAIL ON SHEET A-110.

E. L5 X 3 1/2 X 5/16" (LLV TOED DOWN) FRAMING FOR ROOF SCUTTLE / HATCH. COORDINATE EXACT LOCATION WITH ARCHITECTURAL FLOOR PLAN. SEE DETAIL ON SHEET A-603 AND A-604 FOR FRAMING AND ADDITIONAL REQUIREMENTS.

F. L5 X 3 1/2 X 5/16 (LLV TOED DOWN) FRAMING FOR MECHANICAL UNIT & EXHAUST FAN SUPPORT PER TYPICAL DETAIL ON S-020. COORDINATE OPENING DIMENSION WITH MECHANICAL UNIT AND / OR EXHAUST FAN REQUIREMENTS. PROVIDE INTERMEDIATE SUPPORT ANGLE WHERE REQUIRED TO SUPPORT THE EQUIPMENT FRAME AND ALL EDGES OF THE ROOF DECK. PROVIDE JOIST PANEL POINT REINFORCING PER TYPICAL DETAIL S-020.

G. WATER HEATER PLATFORM FOR FUTURE 20 GALLON TANK (APPROX. 220 LBS). SUSPEND FROM UNISTRUT CHANNEL AT TOP CHORD OF JOISTS. PROVIDE JOIST PANEL POINT REINFORCING PER TYPICAL DETAIL S-020 AND WATER HEATER DETAIL ON S-020. VERIFY EXACT LOCATION WITH INTERIOR BUILD-OUT DOCUMENTS.

H. WT7 X 11 FRAMING BETWEEN WIDE FLANGE BEAM AND PRECAST CONCRETE WALL PANEL FOR CFMF PARAPET WALL BRACE CONNECTION. SEE WALL SECTIONS FOR ADDITIONAL INFORMATION.

J. L5 x 3 1/2 x 5/16 (LL V TOED DOWN) FRAMING AT 24" X 24" OPENING FOR VENTILATION AND ACCESS. SEE WALL SECTIONS FOR ADDITIONAL INFORMATION.

K. FUTURE STEP-DOWN TRANSFORMER ON PLATFORM ABOVE. SEE ELECTRICAL DRAWINGS. SEE TYPICAL TRANSFORMER PLATFORM HANGING DETAIL ON S-020. ELECTRICAL CONTRACTOR TO PROVIDE EXACT WEIGHT OF TRANSFORMER. COORDINATE WITH TRANSFORMER MFR FOR EXACT DIMENSIONS. PROVIDE JOIST PANEL POINT REINFORCING PER TYPICAL DETAIL ON S-020.

L. STRUCTURAL STEEL FABRICATOR TO COORDINATE WITH CONCRETE WALL PANEL FABRICATOR / SHOP DRAWINGS REGARDING JOIST GIRDER / WIDE FLANGE BEAM / HSS BEAM END BEARING CONNECTION DETAIL. SEE PLAN FOR LOAD.

M. L3 X 3 X 1/4 COLUMN BRACE AT UNDERSIDE OF ROOF DECK. CONNECT TO TOP CHORD OF JOISTS.

N. 5/16" BENT STEEL PLATES FOR CURB CONSTRUCTION AT BUILDING EXPANSION JOINT. WELD TO TOP FLANGE OF STEEL BEAM. CONNECT ROOF DECK AT 6" O.C. - SEE STRUCTURAL SECTION DETAILS FOR ADDITIONAL INFORMATION.

P. COPE WIDE GLANGE TO 5" OR 2.5" TO MATCH ADJACENT JOIST BEARING. ADD (2) L2 x 2 x 1/4" x 2'-0" SEAT IN BEAM WEB PER TYPICAL DETAIL 7/S-020.

Q. INDICATES WT 7 X 20 BRACKET WITH (2) 8" THICK SLIDE BEARING HEAD AT EXPANSION JOINT.

R. FABRICATE WIDE FLANGE BEAM TO MATCH ROOF SLOPE.

S. INDICATES 5 1/2" PRE-CAST CONCRETE SOFFIT PANEL LID AND 10" INSULATED PRE-CAST CONCRETE WALL PANEL ABOVE. SEE WALL SECTIONS.

T. INDICATES 600S162-54 ROOF FRAMING AT 16" O.C.

U. INDICATES 1/2" DIA. SAG RODS AT W16 QUARTER POINTS CONNECTED TO W24 ROOF BEAM ABOVE.

V. L3 x 3 x 1/4 BRACE WITH CONNECTION TO UNDERSIDE OF ROOF BEAM TOP FLANGE W/ MINIMUM (2) A325N BOLTS.

W. PROVIDE 5-INCH JOIST SEAT AT END OF K-SERIES JOIST AS INDICATED BY '*', TYPICAL.

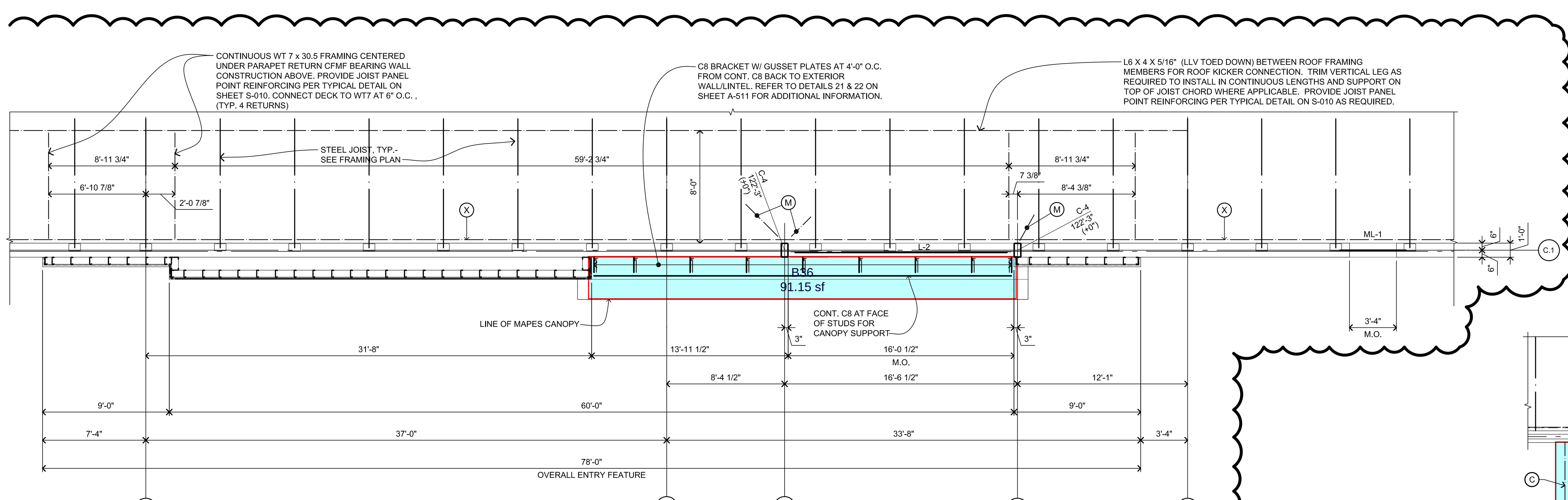
X. CONTINUOUS L3 x 3 x 1/4" SHELF ANGLE FOR DECK SUPPORT - CONNECT TO MASONRY OR PRECAST WITH 3/4" DIA. EXP. ANCHORS AT 32" O.C. (3 3/4" EMBED INTO SOLID MASONRY) BUTT WELD ALL SPLICES - CONNECT TO ROOF DECK AT 6" O.C.

Y. CONTINUOUS L3 x 3 x 1/4" SHELF ANGLE FOR DECK SUPPORT - CONNECT TO MASONRY OR PRECAST WITH 3/4" DIA. EXP. ANCHORS AT 24" O.C. (3 3/4" EMBED INTO SOLID MASONRY) BUTT WELD ALL SPLICES - CONNECT TO ROOF DECK AT 6" O.C.

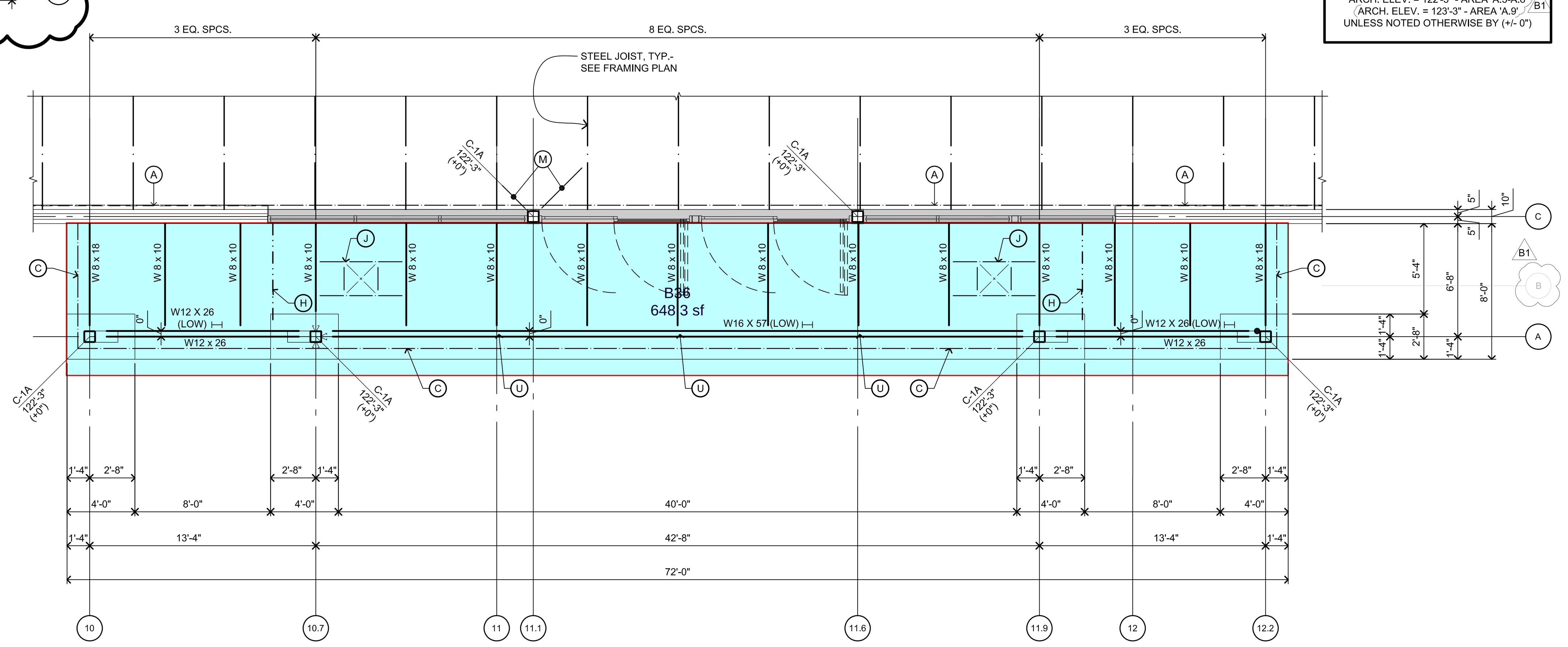
Reference Elevations

GROUND FLOOR
TOP OF CONCRETE SLAB
USGS ELEV. = SEE CIVIL
ARCH ELEV. = 100'-0" - AREA 'A.4-A.9' AND LANDLORD UTILITY ROOM

ROOF FRAMING TOP OF STEEL
AT INSIDE FACE OF CONCRETE PANEL
(UNDERSIDE OF METAL ROOF DECK)
ARCH. ELEV. = 124'-6 1/2" - AREA 'A.4'
ARCH. ELEV. = 122'-3" - AREA 'A.5-A.8'
ARCH. ELEV. = 123'-3" - AREA 'A.9'
UNLESS NOTED OTHERWISE BY (+/- 0")



4 / S-106 **Enlarged Framing Plan**
3/16" = 1'-0"



2 / S-105 **Enlarged Framing Plan**
3/16" = 1'-0"

TOTAL DECK:

1.5B, 20Ga, G60 = 249 SQ
1.5B, 22Ga, G60 = 304 SQ

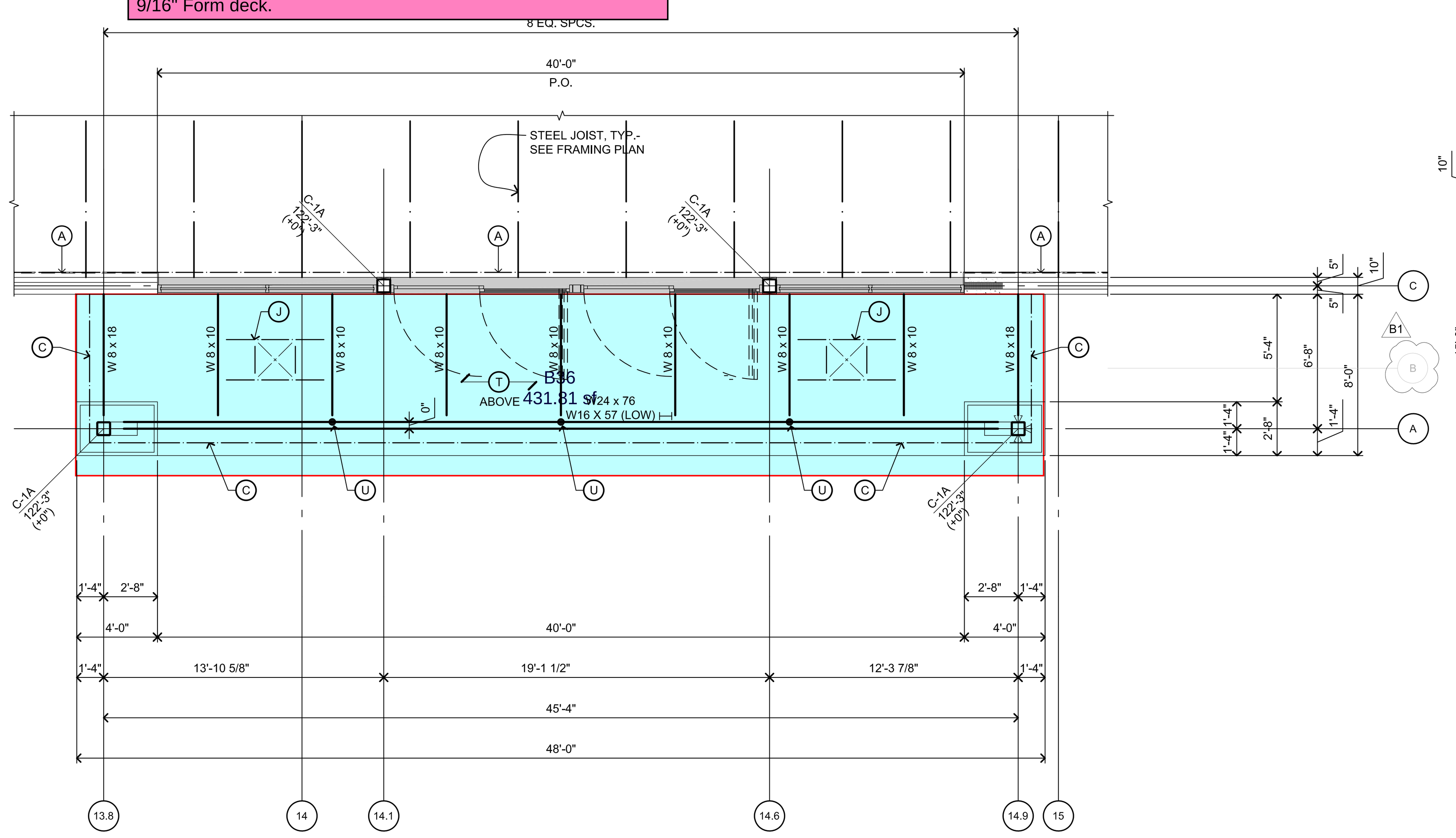
ACCESSORIES
#10TEK SCREW = 23 BOX
SUMP PANS = 10

Qualifications:

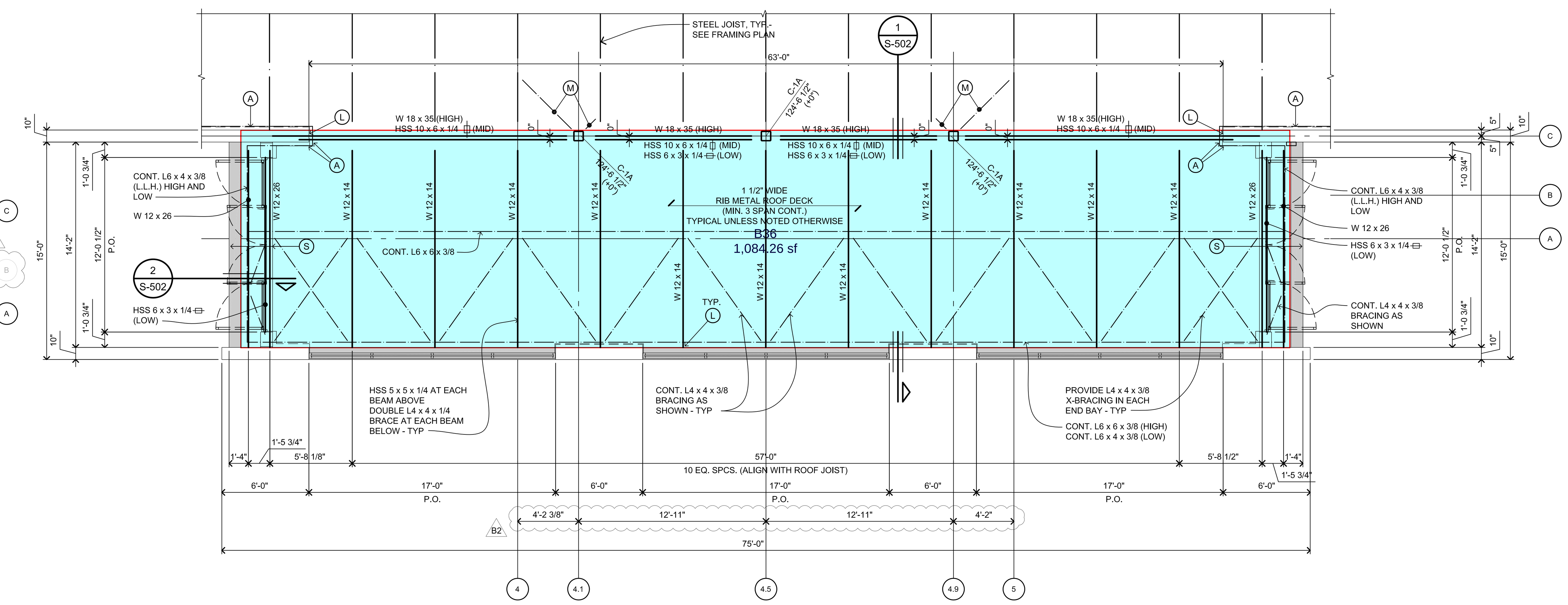
Roof deck quoted with galvanized G60.
Loading due to RTU assumed to be included in KCS Joist Designation).
Considered additional point load on Girder only where clearly indicated on plan.

Exclusions:

Flexible Rubber Closure
HILTI Power Actuated Fasteners
Page S-105, S-502.
Load from Transformer Platform per S-020
Loading & Special web geometry for Sprinkler line.
9/16" Form deck.



3 / S-105 **Enlarged Framing Plan**
3/16" = 1'-0"



1 / S-104 **Enlarged Framing Plan**
3/16" = 1'-0"

JOISTS

NOTES :

LL DEFL **L/240** TL DEFL JOIST SPACING

DWG	MARK	QTY	BCX	DESIGNATION	SPAN	SPACE	NU PSF	TCX L	TCX R	COMMENTS
	M01	5		20LH07	33'-5"	5.25	10			
	M02	2		28LH05	41'-2"	6'	10			
	M03	14	2	28LH07	41'-2"	6'	10			
	M04	6		28LH07	41'-2"	6'	10			1
	M05	2		18LH02	19'-5"	6'	10			
	M06	4		18LH06	19'-5"	6'	10			
	M07	12		28K7	42'-0"	6'	10			2
	M08	4		28K9	42'-0"	6'	10			2
	M09	26	4	28K8	42'-0"	6'	10			2
	M10	4		28KCS3	42'-0"	6'	10			2
	M11	2		28KCS4	42'-0"	6'	10			2
	M12	6		28K7	42'-0"	6'	10			
	M14	5	1	28K9	42'-0"	6'	10			
	M15	7	1	28K8	42'-0"	6'	10			
	M16	4		28KCS3	42'-0"	6'	10			
	M17	2		28KCS4	42'-0"	6'	10			
	M18	2		28LH05	42'-0"	6'	10			
	M19	14	2	28LH08	42'-0"	6'	10			
	M20	6		28LH08	42'-0"	6'	10			3
	M21	18		28LH06	40'-1"	5.5'	10			
	M22	6	2	28LH06	40'-1"	5.5'	10			4
	M23	3	1	28LH06	40'-1"	5.5'	10			5
	M24	4		28K10	40'-0"	5.5'	10			2
	M25	4		28K7	40'-0"	5.5'	10			2
	M26	29	2	28K6	40'-0"	5.5'	10			2
	M27	8	4	28KCS2	40'-0"	5.5'	10			2
	M28	8		28KCS3	40'-0"	5.5'	10			2
	M29	1		28K9	40'-0"	5.5'	10			2
	TOTAL	208	19							

JOISTS

NOTES : 0

LL DEFL **L/240** TL DEFL JOIST SPACING **0**

DWG	MARK	QTY	BCX	DESIGNATION	SPAN	SPACE	NU PSF	TCX L	TCX R	COMMENTS
	M30	27	3	28LH06	40'-6"	5.5'	10			
	TOTAL	27	3							

GIRDER

DWG	MARK	QTY	BCX	DESIGNATION	SPAN	NU	TCX L	TCX R	COMMENTS
	G01	2	2	40G7N12.6	41'-10"	2.12			6, 7, 8, 9
	G02	1	1	40G7N11.4	41'-4"	2.12			6, 10, 11
	G03	2	2	40G7N12.1	41'-10"	2.14			6, 7, 12, 13
	G04	2	2	40G7N11	41'-4"	2.14			6, 10, 14
	G05	2	2	40G7N12	41'-10"	2.14			6, 7, 21, 15
	G06	1	1	40G7N12.4	41'-10"	2.14			6, 7, 16, 17
	G07	1	1	40G7N11.3	41'-4"	2.14			6, 10, 18
	G08	1	1	40G7N12.2	41'-10"	2.14			6, 7, 19, 20
	G09	1	1	40G7N9.2	35'-4"	2.03			6, 10, 22, 23
	G10	1	1	40G7N9.7	37'-0"	2.13			6, 10, 24, 25
	G11	1	1	40G7N9.6	37'-0"	2.13			6, 10, 26, 27
	G12	1	1	40G7N9.5	36'-10"	2.13			6, 10, 28, 29
	G14	1	1	40G7N9.0	35'-4"	2.03			6, 10, 30, 31
	G15	2	2	40G7N9.4	37'-0"	2.13			6, 10, 32, 33
	G16	1	1	40G7N9.3	36'-10"	2.13			6, 10, 34, 35
	G17	1	1	40G7N9.6	36'-10"	2.03			6, 10, 36, 37
	G18	2	2	40G7N9.5	37'-0"	2.13			6, 10, 38, 39
	G19	1	1	40G7N9.3	35'-4"	2.13			6, 10, 40, 41
TOTAL		24	24						

NOTES

1	Add'l 0.6K load at 10'-4" & 13'-11" from TE (RTU)	34	Girder designation 40G7N9.3
2	5" deep seat @ TE.	35	ADD'L PL: 6K @ PP1, 1.5K @ PP2. FROM TE
3	Add'l 1.2K load at 3'-0" & 7'-8 1/4" from TE (RTU)	36	ADD'L PL: 5.9K @ PP1, 1.4K @ PP2. FROM TE
4	Add'l 0.6K load at 14'-8" & 19'-2" from TE (RTU)	37	Girder designation 40G7N9.6
5	Add'l 0.6K load at 15'-2" & 19'-8" from TE (RTU)	38	Girder designation 40G7N9.5
6	GIRDER DEFLCETION L/240	39	ADD'L PL: 1.6K @ PP1 & PP2, 0.6K @ PP3 FROM TE
7	JOIST SPACING (6) 5'-9 3/4" & (1) REST OF JOIST SPAN	40	Girder designation 40G7N9.3
8	ADD'L PL: 0.6K @ PP1, 4.7K @ PP6 FROM TE	41	ADD'L PL: 5K @ PP1, 1.1K @ PP2 FROM TE
9	Girder designation 40G7N12.6		
10	JOIST ARE IN EQUAL SPACING		
11	Girder designation 40G7N11.4		
12	ADD'L PL: 0.4K @ PP1, 5.4K @ PP6 FROM TE		
13	Girder designation 40G7N12.1		
14	Girder designation 40G7N11		
15	ADD'L PL: 0.4K @ PP1, 5.6K @ PP6 FROM TE		
16	Girder designation 40G7N12.4		
17	ADD'L PL: 0.9K @ PP2, 4.8K @ PP6 FROM TE		
18	Girder designation 40G7N11.3		
19	Girder designation 40G7N12.2		
20	ADD'L PL: 1.1K @ PP2, 4.8K @ PP6 FROM TE		
21	Girder designation 40G7N12		
22	Girder designation 40G7N9.2		
23	ADD'L PL: 0.4K @ PP1, 0.1K @ PP2, 1.1K @ PP5, 5K @ PP6 FROM TE		
24	Girder designation 40G7N9.7		
25	ADD'L PL: 1.5K @ PP1, 1.4K @ PP2, 0.3K @ PP6 FROM TE		
26	Girder designation 40G7N9.6		
27	ADD'L PL: 1.5K @ PP1 & PP2, 0.2K @ PP3 FROM TE		
28	Girder designation 40G7N9.5		
29	ADD'L PL: 0.2K @ PP1, 0.5K @ PP2 & 0.2K @ PP3 FROM TE		
30	Girder designation 40G7N9		
31	ADD'L PL: 5.2K @ PP1, 1.2K @ PP2. FROM TE		
32	Girder designation 40G7N9.4		
33	ADD'L PL: 0.5K @ PP1, 0.5K @ PP2. FROM TE		