DESIGN CODE REFERENCES

1. THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE FOLLOWING BUILDING AND DESIGN CODES
   - 2020 NEW YORK STATE BUILDING CODE
   - FLOOD RESISTANT DESIGN AND CONSTRUCTION (ASCE 24-14)
   - COASTAL CONSTRUCTION MANUAL (FEMA P-55)
   - MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDING AND OTHER STRUCTURES (ASCE7-16)
   - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14)
   - SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301-16)
   - BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-13)
   - SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS (AISC 360-16,15TH EDITION STRUCTURAL STEEL MANUAL)
   - NORTH AMERICAN SPECIFICATIONS AND THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS (AISI S100-16)
   - NORTH AMERICAN SPECIFICATIONS AND THE DESIGN OF COLD-FORMED STEEL NONSTRUCTURAL MEMBERS (AISI S220-15)
   - STANDARD SPECIFICATION LOAD TABLES AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS (SJI100-15)
   - DESIGN MANUAL FOR FLOOR DECK AND ROOF DECKS (SDI)
   - NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION (NDS 2018)
   - GUIDE SPECIFICATIONS FOR STRUCTURAL TIMBER FRAMING (TFEC 2018)
   - WOOD FRAME CONSTRUCTION MANUAL FOR ONE- AND TWO - FAMILY DWELLINGS (WFCM 2018)

GENERAL CONSTRUCTION NOTES

1. THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE 2020 NEW YORK STATE BUILDING CODE.
2. THE STRUCTURE HAS BEEN ANALYZED AND DESIGNED TO WITHSTAND GRAVITY LOADS IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN SECTION 1606.0 & 1607.0 OF THE INTERNATIONAL BUILDING CODE. REFER TO THE "DESIGN LOAD SCHEDULE" FOR ALL DESIGN CRITERIA.
3. THE STRUCTURE HAS BEEN ANALYZED AND DESIGNED TO WITHSTAND WIND PRESSURES IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN SECTION 1609.0 OF THE INTERNATIONAL BUILDING CODE. REFER TO THE "LATERAL LOAD DESIGN SCHEDULE" FOR ALL DESIGN CRITERIA.
4. THE STRUCTURE HAS BEEN ANALYZED FOR SEISMIC LOADS AND RESISTANCE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN SECTION 1613.0 OF THE INTERNATIONAL BUILDING CODE. REFER TO THE "LATERAL LOAD DESIGN SCHEDULE" FOR ALL DESIGN CRITERIA.
5. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE "2020 NEW YORK STATE BUILDING CODE" AND ALL FEDERAL, STATE AND CITY LAWS, BYLAWS, ORDINANCES AND REGULATIONS IN ANY MANNER AFFECTING THE CONDUCT OF THIS WORK AS WELL AS ALL ORDERS OR DECREES WHICH HAVE BEEN PROMULGATED OR ENACTED BY ANY LEGAL BODIES OR TRIBUNALS HAVING AUTHORITY OR JURISDICTION OVER THE WORK, MATERIALS, EMPLOYEES OR CONTRACT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SAFETY OF ALL PERSONNEL ON THE JOBSITE. GUIDELINES FOR CONSTRUCTION SAFETY SHALL BE IN ACCORDANCE WITH, BUT NOT LIMITED TO, THE CONSTRUCTION INDUSTRY OSHA SAFETY AND HEALTH STANDARDS (1926 STANDARDS), AND ANY LOCAL ORDINANCES OR CODES WHICH MAY BE APPLICABLE.
7. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS, AS WELL AS ALL SPECIFICATIONS. IF THERE IS A DISCREPANCY BETWEEN DRAWINGS, IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ARCHITECT PRIOR TO PERFORMING WORK.
8. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, SPECIFICATIONS AND DETAILS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
9. DO NOT SCALE DRAWINGS TO OBTAIN DIMENSIONAL INFORMATION.
10. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR WATER/DAMPPROOFING AND FIREPROOFING ASSEMBLIES.
11. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF MASONRY AND DRYWALL NON-LOAD BEARING PARTITIONS. PROVIDE SLIP CONNECTIONS THAT ALLOW VERTICAL MOVEMENT AT THE TOP OF ALL SUCH PARTITIONS. CONNECTIONS SHALL BE DESIGNED TO LATERALLY SUPPORT THE TOP OF THE WALLS FOR THE CODE-REQUIRED LOAD.
12. ALL COSTS OF INVESTIGATION AND/OR REDESIGN DUE TO IMPROPER INSTALLATION OF STRUCTURAL ELEMENTS BY THE CONTRACTOR OR OTHER ITEMS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS SHALL BE AT THE CONTRACTORS EXPENSE.
13. THE CONTRACTOR SHALL COORDINATE PRINCIPAL OPENINGS (SLEEVES, CURBS, INSERTS,SHAFTS, ETC.) IN THE STRUCTURE AS INDICATED ON THE CONTRACT DOCUMENTS, WHICH INCLUDE BUT ARE NOT LIMITED TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. THE LOCATION OF SLEEVES OR OPENINGS IN STRUCTURAL MEMBERS NOT INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER BEFORE INSTALLATION.
14. THE CONTRACTOR SHALL PROVIDE BRACING AS REQUIRED TO MAINTAIN PLUMBNESS AND STABILITY DURING CONSTRUCTION OF BOTH NEW AND EXISTING STRUCTURE.
15. METHODS, PROCEDURES AND THE SEQUENCES (OTHER THAN THAT NOTED ON THE DRAWINGS) OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION AND COORDINATION OF WORK WITH MECHANICAL AND ELECTRICAL WORK.
16. AT ALL TIMES THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONDITIONS OF THE JOBSITE INCLUDING SAFETY OF PERSONS AND PROPERTY. THE ARCHITECT'S OR ENGINEER'S PRESENCE OR REVIEW OF WORK DOES NOT INCLUDE THE ADEQUACY OF THE CONTRACTOR'S MEANS OR METHODS OF CONSTRUCTION.
17. SHORING, BRACING AND PROTECTION OF EXISTING ADJACENT STRUCTURES (INCLUDING STREETS, BUILDINGS, AND STRUCTURES) DURING CONSTRUCTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
18. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.
19. MINOR DETAILS OR INCIDENTAL ITEMS NOT SHOWN OR SPECIFICALLY INDICATED ON DRAWINGS, BUT NECESSARY FOR A PROPER AND COMPLETE INSTALLATION SHALL BE PROVIDED AS REQUIRED SUCH AS MISCELLANEOUS WOOD OR COLD FORMED STEEL BLOCKING, FRAMING MEMBERS, ANCHORS, FASTENERS, ETC.

EXISTING CONDITIONS

1. DRAWINGS HAVE BEEN PREPARED BASED ON AVAILABLE KNOWLEDGE OF EXISTING CONDITIONS. IF, DURING DEMOLITION, EXCAVATION OR CONSTRUCTION, ACTUAL CONDITIONS ARE DISCOVERED TO DIFFER FROM THOSE INDICATED ON DRAWINGS, ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH CONSTRUCTION. FAILURE TO NOTIFY ARCHITECT/ENGINEER OF UNSATISFACTORY CONDITIONS CONSTITUTES ACCEPTANCE OF FIELD CONDITIONS BY GENERAL CONTRACTOR.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING BUILDING INFORMATION SHOWN (DIMENSIONS, ELEVATIONS, ETC.) AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION OF ANY STRUCTURAL COMPONENT. FAILURE TO NOTIFY ARCHITECT/ENGINEER OF DISCREPANCY CONSTITUTES ACCEPTANCE OF FIELD CONDITIONS.
3. IF THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE DETAILS SHOWN, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH HIS PROPOSED MODIFICATION OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENTS. DO NOT COMMENCE WORK UNTIL CONDITION IS RESOLVED AND MODIFICATION IS APPROVED BY THE AOR/EOR.
4. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING ELEVATIONS WHEN EXCAVATING WITHIN 10FT OF EXISTING STRUCTURE, E.O.R. SHALL BE NOTIFIED OF FOOTING ELEVATION AND CONTRACTOR SHALL SUBMIT PROPOSED WORK PLAN FOR EXCAVATION, SHORING, AND FOR THE EVALUATION AND PROTECTION OF EXISTING ADJACENT STRUCTURES.
5. THE DRAWING MAY REFLECT INFORMATION PROVIDED BY OTHERS AND/OR EXISTING CONDITIONS THAT HAVE BEEN SURVEYED AND/OR DOCUMENTED TO THE GREATEST POSSIBLE EXTENT BUT NOT FIELD VERIFIED BY JT ENGINEERING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FULLY COORDINATE THE WORK, INCLUDING BUT NOT NECESSARILY LIMITED TO, THE VERIFICATION OF ALL CONDITIONS THAT ARE SHOWN IN THE DRAWINGS, COORDINATION OF ALL NECESSARY BUILDING TRADES, ETC. ANY AND ALL CONDITIONS THAT ARE NOT SHOWN BUT WARRANT THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR ENGINEER.
6. MEANS AND METHODS OF CONSTRUCTION AND TEMPORARY SHORING AND BRACING OF THE EXISTING STRUCTURE(S) ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER MAY INCLUDE PHASING, SEQUENCING SHORING REQUIREMENTS, ETC. IN THE CONSTRUCTION DOCUMENTS TO ALERT, ASSIST, OR OTHERWISE DICTATE PROCEDURAL REQUIREMENTS THAT MAY BE NECESSARY TO PROPERLY IMPLEMENT THE STRUCTURAL PORTION OF THE WORK OR THAT MAY BE REQUIRED TO ENSURE BUILDING STABILITY; HOWEVER, THE CONTRACTOR SHALL PROPERLY COORDINATE THESE REQUIREMENTS AND SHALL REMAIN COMPLETELY AND SOLELY RESPONSIBLE FOR ERECTING THE BUILDING STRUCTURE IN A SAFE AND TIMELY MANNER.
7. UNLESS OTHERWISE NOTED, IT HAS BEEN ASSUMED THAT THE EXISTING STRUCTURE(S) ARE IN SERVICEABLE CONDITION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY AND ALL AREAS OF STRUCTURAL DISTRESS (INCLUDING, BUT NOT LIMITED TO, CRACKS, SPALLING, ETC.) NOT INDICATED IN THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL NOT PROCEED WITH WORK IN SUCH AREAS WITHOUT DIRECTION FROM THE ENGINEER.

STRUCTURAL DRAWING LIST

ISSUED FOR: BIDDING — DATE: 09/09/22

● ISSUED - NEW SHEET
◒ ISSUED - REVISION MADE
○ ISSUED - NO REVISION MADE
⊗ SHEET REMOVED

BIDDING 09/09/22	DRAWING TITLE	SHEET NO.	
●	GENERAL NOTES & DESIGN CRITERIA	S001	1
●	GENERAL NOTES & DESIGN CRITERIA	S002	2
●	GENERAL NOTES & DESIGN CRITERIA	S003	3
●	FOUNDATION PLAN	S101	4
●	ROOF FRAMING PLAN	S102	5
●	FOUNDATION DETAILS	S201	6
●	ROOF FRAMING DETAILS	S301	7
●	ROOF FRAMING DETAILS	S302	8
●	ROOF FRAMING DETAILS	S303	9
●	TYPICAL FOUNDATION DETAILS	S501	10
●	TYPICAL MASONRY WALL DETAILS	S511	11
●	TYPICAL FRAMING DETAILS	S521	12

SURVEY AND MONITORING

1. A PRE-CONSTRUCTION (PRE-CONDITION) SURVEY OF THE ADJACENT STRUCTURES SHALL BE DONE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL REVIEW AND FAMILIARIZE HIMSELF WITH THE RESULTS OF THE PRE-CONDITION SURVEY. CONTRACTOR SHALL ALSO MAKE VISUAL INSPECTION OF THE ADJACENT STRUCTURES (INSIDE AND OUT) PRIOR TO STARTING THE WORK. SUMMARY REPORT OF PRE-CONSTRUCTION SURVEY SHALL BE SUBMITTED TO ARCHITECT/SOE ENGINEER FOR REVIEW.
2. MONITORING LOCATIONS FOR ADJACENT BUILDINGS SHALL BE DEVELOPED BY MONITORING AGENCY AND PRESENT TO E.O.R FOR FINAL APPROVED. THE FOLLOWING ARE MINIMUM REQUIREMENTS FOR BUILDING MONITORING:
   A. MONITOR THE ADJACENT BUILDINGS AT ABOUT 25-FT INTERVALS FOR VERTICAL AND LATERAL MOVEMENT.
   B. MONITORING PLAN SHALL BE PREPARED BY ENGINEER LICENSED IN THE STATE OF THE PROJECT'S JURISDICTION
3. BASELINE READINGS OF THE MONITORING POINTS SHALL BE OBTAINED PRIOR TO THE START OF EXCAVATION. ON GOING MEASUREMENTS OF MONITOR POINTS SHALL BE SUBMITTED TO THE CONTRACTOR/ENGINEER/OWNER DURING EXCAVATION AND BUILDING CONSTRUCTION.
4. PERFORM OPTICAL SURVEYS AT LEAST TWICE PER WEEK. IF EXISTING BUILDING MOVEMENT OCCURS, INCREASE THE FREQUENCY OF THE READINGS AS DIRECTED BY THE SUPPORT OF EXCAVATION ENGINEER.
5. NON-LANDMARK BUILDING MOVEMENT AND VIBRATION CRITERIA:
   A. IF THE VERTICAL OR LATERAL BUILDING MOVEMENT REACHES 1/4-INCH IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER AND SUPPORT OF EXCAVATION ENGINEER.
   B. IF THE BUILDING MOVEMENT REACHES 1/2-INCH, IMMEDIATELY INFORM THE CONSTRUCTION MANAGER, AND SUPPORT OF EXCAVATION ENGINEER AND STOP WORK. WORK MAY NOT RESUME UNTIL APPROVAL BY THE CONSTRUCTION MANAGER AND APPROVED REMEDIAL MEASURES AND/OR MODIFIED CONSTRUCTION PROCEDURES BY THE SUPPORT OF EXCAVATION ENGINEER.
   C. IF THE VIBRATIONS REACH 1-INCHES PER SECOND (IPS) THE CONSTRUCTION MANAGER AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
   D. IF THE VIBRATIONS EXCEED 2-INCHES PER SECOND (IPS), IMMEDIATELY INFORM THE CONSTRUCTION MANAGER AND ENGINEER AND STOP WORK. THE WORK SHALL NOT RESUME UNTIL APPROVAL BY THE CONSTRUCTION MANAGER AND APPROVED REMEDIAL MEASURES AND/OR MODIFIED CONSTRUCTION PROCEDURES BY THE ENGINEER.
6. VIBRATION MONITORS SHALL TAKE REAL TIME READINGS.
7. ALL MONITORING DATA SHALL BE PRESENTED TO THE CONSTRUCTION MANAGER AND SUPPORT OF EXCAVATION ENGINEER AT THE END OF EACH DAY.

EXCAVATION

1. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING ELEVATIONS WHEN EXCAVATING WITHIN 10FT OF EXISTING STRUCTURE, E.O.R. SHALL BE NOTIFIED OF FOOTING ELEVATION AND CONTRACTOR SHALL SUBMIT PROPOSED WORK PLAN FOR EXCAVATION, SHORING, AND FOR THE EVALUATION AND PROTECTION OF EXISTING ADJACENT STRUCTURES.
2. BARRIERS AND FENCING AROUND SITE MUST BE PROVIDED BY CONTRACTOR IN ACCORDANCE WITH NEW YORK CITY DEPARTMENT OF BUILDINGS AND ALL APPLICABLE LAWS.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE UTILITIES AND BELOW GROUND STRUCTURES IN THE AREA OF PRIOR TO COMMENCEMENT OF WORK.
4. IF THE CONDITIONS OBSERVED AS THE EXCAVATION ADVANCES ARE DIFFERENT THAN THE CONDITIONS SHOWN ON THE DESIGN DRAWINGS, THE CONTRACTOR SHALL STOP WORK AND NOTIFY THE CONSTRUCTION MANAGER AND ENGINEER.
5. BENCH EXCAVATIONS OF NOT GREATER THEN 12FTIN, SHALL BE ACCORDANCE WITH OSHA 1926 SUBPART P, WITH A MAXIMUM ALLOWABLE SLOPE NOT TO EXCEED (H:V) OF 1.5:1. CONTRACTOR SHALL CONTACT GEOTECHNICAL ENGINEER TO REVIEW ON SITE SOIL CONDITIONS FOR APPROVAL OF GREATER (H:V) SLOPES.
6. CONTRACTOR SHALL CONTACT LOCAL BUILDING DEPARTMENT FOR APPROVAL OF SIDEWALK CLOSURE.
7. EXCAVATIONS BEYOND THE PROPERTY LINE SHALL ONLY BE PERFORMED WITH APPROVED "ACCESS AGREEMENT" FROM ADJACENT PROPERTY OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO ADJACENT PROPERTIES AS A RESULT OF IMPROPER EXCAVATION WITHIN CONSTRUCTION SITE.

SPREAD FOOTING FOUNDATIONS & SUB-GRADE

1. FOUNDATIONS HAVE BEEN DESIGNED AND FOOTING ELEVATIONS ESTABLISHED ON THE BASIS OF A SUBSURFACE INVESTIGATION REPORT AND RECOMMENDATIONS PREPARED BY WHITESTONE ASSOCIATES ENGINEERING & GEOLOGY NY, PLLC DATED AUGUST 15, 2022. SEE THE REPORT FOR ADDITIONAL REQUIREMENTS. THE REQUIREMENTS CONTAINED IN THE GEOTECHNICAL REPORT ARE PART OF THE CONSTRUCTION DOCUMENTS.
2. THE FOUNDATION FOR THE STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING ALLOWABLE SOIL BEARING PRESSURES AT A BEARING DEPTH OF APPROXIMATELY 36" BELOW FINISHED FLOOR.

   TOTAL LOAD..........................4,000 PSF (NET)
3. THE FOOTING LEVEL SHALL BE TESTED USING DROP-BAR PERCUSSION TEST OR PENETROMETER TO A DEPTH OF 3 OR 4 FEET BELOW BEARING LEVELS TO INSURE ADEQUATE BEARING MATERIALS COMPLY WITH BORING LOGS AND DESIGN CRITERIA.
4. THE BOTTOM OF EXTERIOR FOOTINGS SHALL BE A MINIMUM OF THREE (3) FEET BELOW FINISHED GRADE, OR AS REQUIRED BY LOCAL BUILDING CODES.
5. EXCAVATION SHALL BE PERFORMED SO AS NOT TO DISTURB EXISTING ADJACENT BUILDINGS, STREETS, AND UTILITY LINES. VERIFY LOCATION OF ALL UTILITIES PRIOR TO COMMENCEMENT OF WORK. HAND EXCAVATE AROUND UTILITIES AS REQUIRED.
6. REMOVE EXISTING VEGETATION, TOPSOIL, AND UNSATISFACTORY SOILS MATERIALS. PROOF ROLL SUBGRADE TO OBTAIN UNIFORMLY DENSIFIED SUBSTRATA PRIOR TO PLACING FILL MATERIAL EVENLY IN 8" THICK (MAXIMUM) LAYERS AND COMPACTING TO REQUIRED DENSITY.
7. SEE THE GEOTECHNICAL REPORT FOR EXCAVATION, BACKFILL AND PREPARATION OF THE FOUNDATION AND SLAB-ON-GRADE SUBGRADE INCLUDING COMPACTION REQUIREMENTS. IF GEOTECHNICAL REPORT IS NOT AVAILABLE, GEOTECHNICAL ENGINEER SHALL BE CONTRACTED WITH TO PROVIDE SPECIFICATIONS.
8. THE OWNER SHALL RETAIN THE SERVICES OF A PROFESSIONAL GEOTECHNICAL ENGINEER, SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER, TO PERFORM SOIL TESTING AND INSPECTION. THE GEOTECHNICAL ENGINEER SHALL INSPECT THE SUBGRADE TO VERIFY BEARING LEVELS AND ENSURE THAT THE SAFE BEARING CAPACITY MEETS OR EXCEEDS THE DESIGN VALUE INDICATED ON CONTRACT DOCUMENTS. FIELD REPORTS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER OUTLINING THE WORK PERFORMED AND TEST RESULTS.
9. THE INSPECTION AND TESTING OF ALL SUBGRADE AND COMPACTED EARTHWORK SHALL BE CONDUCTED UNDER THE SUPERVISION OF A QUALIFIED GEOTECHNICAL CONSULTANT. THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER 24 HOURS PRIOR TO PLACEMENT OF CONCRETE IN THE FOOTINGS. IF UNSUITABLE SUBGRADE SOILS ARE ENCOUNTERED, THE CONTRACTOR SHALL SUBMIT RECOMMENDATIONS PREPARED BY A GEOTECHNICAL CONSULTANT TO THE STRUCTURAL ENGINEER FOR APPROVAL.
10. THE SUBGRADE AND EACH LAYER OF FILL OR BACKFILL SHALL BE COMPACTED TO A DRY DENSITY AT LEAST EQUAL TO 95% OF THE MAXIMUM DRY DENSITY ATTAINED BY THE MODIFIED PROCTOR TEST ASTM D1557.
11. IF CONDITIONS PROVE TO BE UNACCEPTABLE AT THE BEARING ELEVATIONS SHOWN, THE FOOTING BEARING ELEVATIONS MAY NEED TO BE LOWERED BASED ON THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER. FINAL BEARING ELEVATIONS AND BACKFILL RECOMMENDATIONS MUST BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO FIELD MODIFICATION. CONCRETE FOR FOUNDATIONS SHALL BE POURED ON THE SAME DAY THE SUBGRADE IS APPROVED BY THE GEOTECHNICAL ENGINEER.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF GROUND WATER ELEVATION PRIOR TO THE START OF CONSTRUCTION. LICENSED ENGINEER SHALL BE CONTRACTED TO CONFIRM CURRENT WATER TABLE ELEVATION, LOCATION OF MODELING WITHIN SOIL PROFILE, IDENTIFICATION OF PERCHED WATER TABLE AND OTHER FACTORS CONSIDERED IMPORTANT TO IDENTIFYING THE ANTICIPATED MEAN HIGH WATER TABLE ELEVATION. GROUNDWATER ELEVATION MAY FLUCTUATE IN LEVEL DUE TO VARIATIONS IN THE SEASON, RAINFALL, SNOW MELT, SURFACE INFILTRATION, TEMPERATURE, CONSTRUCTION ACTIVITIES, PUMPING OF DEWATERING SYSTEMS, LEAKAGE OF UTILITIES AND OTHER FACTORS. EOR/ AOR SHALL BE NOTIFIED IN WRITING OF CURRENT WATER TABLE ELEVATION PRIOR TO START OF FOUNDATION CONSTRUCTION AND WE RESERVE THE RIGHT TO RECOMMEND MODIFICATION TO CONCRETE SLABS, FOUNDATION WALLS, WATERPROOFING AND SUMP PUMP SYSTEMS AS REQUIRED TO PERMIT CONSTRUCTION WHERE HIGH WATER TABLE ELEVATIONS ARE PRESENT.
13. CONCRETE FOUNDATIONS SHALL NOT BE PLACED IN WATER OR ON FROZEN EARTH.
14. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT THE STRUCTURAL ENGINEER'S APPROVAL.
15. SLAB-ON-GRADE HAS BEEN DESIGNED USING A SUBGRADE MODULUS OF K=100 PCI AND DESIGN LOADING OF 100 PSF. THE GEOTECHNICAL ENGINEER SHALL ENSURE SUB-GRADE IS PREPARED TO MINIMUM SPECIFICATION, OTHERWISE THE DESIGNER IS NOT RESPONSIBLE FOR DIFFERENTIAL SETTLEMENT, SLAB CRACKING OR OTHER FUTURE DEFECTS RESULTING FROM UNREPORTEDCONDITIONS MITIGATING THE ABOVE ASSUMPTIONS.
16. SLAB-ON-GRADE SHALL BE UNDERLAIN BY A MINIMUM OF SIX INCHES OF STABLE GRANULAR MATERIAL AND 10 MIL VAPOR BARRIER.
17. THE CONTRACTOR SHALL OBSERVE WATER CONDITIONS AT THE SITE AND TAKE THE NECESSARY PRECAUTIONS TO ENSURE THAT THE FOUNDATION EXCAVATIONS REMAIN DRY DURING CONSTRUCTION.
18. DEWATERING OF THE SITE DURING CONSTRUCTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY SHEETING OR SHORING REQUIRED FOR DEWATERING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR NOT TO UNDERMINE EXISTING FOUNDATIONS. METHOD OF DEWATERING AND CALCULATIONS FOR THE APPROPRIATE SYSTEM ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
19. PROVIDE A CONTINUOUS WATERSTOP AT ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS IN THE ELEVATOR PIT AND ALL OTHER PIT WALLS. REFERENCE CONCRETE NOTES FOR WATERSTOP SPECIFICATIONS.
20. BACKFILL SHALL BE BROUGHT UP SIMULTANEOUSLY ON EACH SIDE OF WALLS AND GRADE BEAMS WITH A GRADE DIFFERENCE NOT TO EXCEED 2'-0" AT ANY TIME.
21. BACK-FILLING AGAINST FOUNDATION WALLS WHICH RETAIN EARTH SHALL BE DONE CAREFULLY WITH SMALL COMPACTION EQUIPMENT, AFTER CONCRETE SLAB AND ELEVATED FLOOR SLAB ARE IN PLACE AND CONCRETE HAS OBTAINED THE SPECIFIED 28-DAY COMPRESSIVE STRENGTH. TRUCKS BULLDOZERS, ETC., SHALL NOT BE ALLOWED CLOSER THAN 6'-0" TO ANY FOUNDATION WALL. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SHORING WHERE REQUIRED.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE NEED TO USE FOUNDATION REBAR AS A GROUNDING ELECTRODE SYSTEM AND SHALL BE RESPONSIBLE FOR INSTALLING THE BONDING CLAMP PRIOR TO PLACEMENT OF THE CONCRETE AS PER NJUCC BULLETIN NO. 02-2.

PROTECTION OF ADJACENT BUILDING FOUNDATIONS

1. PRIOR TO MASS EXCAVATION CONTRACTOR SHALL DIG TEST PIT TO CONFIRM BOTTOM OF FOOTING ELEVATION. NOTIFY ENGINEER OF RECORD WITH EXISTING FOOTING ELEVATION.
2. ALL EXCAVATION WITHIN 2 FEET OF EXISTING BUILDING SHALL BE DONE VIA MEANS OF HAND EXCAVATION.
3. CONTRACTOR SHALL PROTECT EXISTING FOUNDATION WALL AND FOOTINGS AGAINST WATER INFILTRATION AND UNDERMINING DUE TO SUB-GRADE WASHOUT.
4. CONTRACTOR SHALL COORDINATE WATERPROOFING OF ALL ADJACENT BUILDING'S EXTERIOR WALL AND FOUNDATIONS WITH ARCHITECTURAL DRAWINGS AND ADJACENT BUILDING OWNER.
5. PROPOSED BUILDING FOUNDATIONS DIRECTLY ADJACENT TO PROPERTY LINE SHALL MATCH BOTTOM OF EXISTING FOOTING ELEVATION. NOTIFY ENGINEER OF RECORD WITH EXISTING CONDITIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.

SYMBOLS KEY

Symbol	Description	Symbol	Description
	CONCRETE WALL - LOAD BEARING (UP/DOWN)		INDICATES TIMBER PILE OR STEEL PIPE PILE
	CONCRETE WALL - LOAD BEARING (TERMINATES AT UNDERSIDE OF SLAB)		INDICATES STEEL H-PILE
	CMU WALL - LOAD BEARING (UP/DOWN)		INDICATES BEAM TO COLUMN MOMENT CONNECTION
	CONCRETE WALL - LOAD BEARING (CHANGE IN WIDTH)		INDICATES BEAM TO BEAM MOMENT CONNECTION
	CONCRETE WALL - LOAD BEARING (UP FROM FLOOR LEVEL)		INDICATES TORSIONAL MOMENT CONNECTION
	LOAD BEARING STUD WALL (BELOW)		INDICATES DIRECTION OF METAL DECK
SW-#	LOAD BEARING & SHEAR WALL (BELOW)		INDICATES STEP IN SLAB/FLOOR
SW-#	NON-LOAD BEARING SHEAR WALL (BELOW)		INDICATES SLOPE IN SLAB/FLOOR
	CMU WALL - ABOVE (FOR REFERNCE)	#	INDICATES TWO-WAY CONCRETE SLAB
	LOAD BEARING STUD WALL - ABOVE (FOR REFERNCE)	#	INDICATES ONE-WAY CONCRETE SLAB
#	INDICATES CONCRETE COLUMN DOWN	#	INDICATES CONCRETE COLUMN UP
	INDICATES STEEL COLUMN DOWN		INDICATES STEEL COLUMN UP
C# BP#	INDICATES STEEL COLUMN		INDICATES WOOD POST DOWN DOUBLE 2x JACK STUD U.N.O. (SEE NOTE 4)
			INDICATES POST ABOVE

NOTES:
1. REFERENCE TYPICAL CONCRETE WALL CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION
2. REFERENCE TYPICAL CMU WALL CONSTRUCTION DETAIL ON FOR ADDITIONAL INFORMATION
3. REFERENCE TYPICAL INTERIOR NON-LOAD BEARING CMU CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.
4. DOUBLE 2x POST SIZE SHALL MATCH ADJACENT WALL SIZE (U.N.O).

ABBREVIATION KEY

ADD'L	ADDITIONAL	BS.	BOTTOM OF SLAB
CL	CENTERLINE	COL.	COLUMN
CLR.	CLEARANCE	CONST.	CONSTRUCTION
CONT.	CONTINUOUS	DWL(S)	DOWEL(S)
C.J.	CONTRACTION JOINT	EE.	EACH END
CVR.	COVER	ELEV.	ELEVATION
DBL	DOUBLE	EXP. JT.	EXPANSION JOINT
DIA.	DIAMETER	F.L.	FACADE LINE
EW	EACH WAY	FLG.	FLANGE FT FEET OR FOOT
E.O.D.	EDGE OF DECK	Fy.	YIELD STRESS
E.O.S.	EDGE OF SLAB	GR.	GRADE
EQ.	EQUAL SPACING	H.P.	HIGH POINT
MAX	MAXIMUM	H.S.B.	HIGH STRENGTH BOLT
MIN	MINIMUM	IN.	OR" INCHES
AESS.	ARCHITECTURALLY EXPOSED	KSI.	KIPS PER SQUARE INCHES
ARCH.	ARCHITECTURAL	LLH.	LONG LEG HORIZONTAL
BM.	BEAM	L.W.	LONG WAY
BP.	BEARING PLATE	M.C.	MOMENT CONNECTION
C	CAMBER	M.D.	METAL DECK
CONC.	CONCRETE	MISC.	MISCELLANEOUS
DWG.	DRAWING	MOM.	MOMENT
EA.	EACH	N.T.S.	NOT TO SCALE
EF.	EACH FACE	OPNG.	OPENING
EXIST.	EXISTING	PSI.	POUNDS PER SQUARE INCH
FIN.	FINISH	R	RADIUS
FLR.	FLOOR	REINF.	REINFORCING
FP.	FIREPROOFING (FIREPROOF)	SECT.	SECTION
FTG.	FOOTING	S.O.G.	SLAB ON GRADE
GALV.	GALVANIZED	STIFF.	STIFFENER
HOR.	HORIZONTAL	SYMM.	SYMMETRICAL T TOP
H.S.	HIGH STRENGTH	THK	THICK
HT.	HEIGHT	VA.	VARIES
J.	JOIST	V.I.F.	VERIFY IN FIELD
LONG.	LONGITUDINAL	W.C.	WALL COLUMN
LLV.	LONG LEG VERTICAL	MECH.	MECHANICAL
L.P.	LOW POINT	M.O.	MASONRY OPENING
O.C.	ON CENTER (SPACING)	NFP.	NO FIREPROOFING
PLT.	PLATE	O.D.	OUTSIDE DIAMETER
P.A.F.	POWDER ACTUATED FASTENER	OPP.	OPPOSITE
REF	REFERENCE	PSF.	POUNDS PER SQUARE FEET
REQ'D	REQUIRED	R.A.	RIGHT END
SCHD.	SCHEDULE	S.C.	SHEAR CONNECTION
T.O.B.	TOP OF BUTTRESS	SIM.	SIMILAR
T.O.P.	TOP OF PIER	SST.	STAINLESS STEEL
T.O.S.	TOP OF STEEL	STRUCT.	STRUCTURE
T.O.W.	TOP OF WALL	S.W.	SHORT WAY
TYP	TYPICAL	T.G.	TRANSFER GIRDER
U.N.O.	UNLESS NOTED OTHERWISE	T.O.	THROUGH OUT
W.W.F.	WIRE WELDED FABRIC	VERT.	VERTICAL
W.P.	WORK POINT	W/	WITH
ALT.	ALTERNATE	W.P.	WALL POINT
BAL.	BALANCE	N.L.B.	NON-LOAD BEARING WALL
BOT.	BOTTOM		

JT ENGINEERING
Building Solutions
1321 Brunswick Ave,
Lawrence, NJ 08648
P: 609.303.0236
F: 609.303.0237
www.jt-pe.com

JASON C. TARANTINO

NOT FOR CONSTRUCTION

NEW JERSEY LICENSE: GE 46166
NEW YORK LICENSE: PE 85737
PENNSYLVANIA LICENSE: PE 75508
CONNECTICUT LICENSE: PE 27045

ISSUED FOR BIDDING

REVISIONS: Mk	DATE:	REMARKS:
	09/*09/22	ISSURD FOR BIDDING

PROJECT:
Proposed Building Renovation
Pearl River Shopping Center
100 North Middletown Road
Pearl River, New York

DRAWING TITLE:
GENERAL NOTES & DESIGN CRITERIA

DRAFTED BY: NAR
REVIEWED BY: JCT
PROJECT NUMBER: 2200_17
DRAWING SCALE: AS NOTED
DRAWING NUMBER: S001

SUPERIMPOSED DESIGN LOAD SCHEDULE
(ALL LOADS SHOWN ARE IN POUNDS PER SQ. FT.)

COMPONENT \ AREA	ROOF
FLOOR/ROOF FINISHES	11
M/E/P	8
CEILING	3
PONDING/FIREPROOF	2
MISCELLANEOUS	-
TOTAL DEAD LOAD	24
TOTAL LIVE LOAD	30

NOTES:
1. LOADS INDICATED WITHIN SCHEDULE INCLUDE SUPERIMPOSED DEAD & LIVE LOADS. (DOES NOT INCLUDE SELF-WEIGHT OF FLOOR STRUCTURE)
2. SELF-WEIGHT OF STRUCTURE ACCOUNTS FOR ALL COMPONENTS ASSOCIATED WITH FLOOR STRUCTURE INCLUDING BUT NOT LIMITED TO SLABS, SUB-FLOOR, METAL DECK, JOISTS, & BEAMS.
3. ALL LIVE LOADS LESS THAN 80psf INCLUDE 15psf FOR PARTITIONS
4. STAIRS AND CORRIDORS HAVE BEEN DESIGNED FOR 100PSF LIVE LOADING.
5. DESIGN SNOW LOADING AND DRIFTS WERE DESIGNED IN ACCORDANCE WITH ASCE 7-16.

SNOW LOAD CRITERIA:
IS: IMPORTANCE FACTOR..................1.0
CE: EXPOSURE FACTOR.......................1.0
CT: THERMAL FACTOR.........................1.0
PG: GROUND SNOW LOAD..................25 PSF
Pf: FLAT ROOF SNOW LOAD............17.5 PSF
Cs: ROOF SLOPE FACTOR..................1.0
Ps: SLOPED ROOF SNOW LOAD.......17.5 PSF

ROOF STRUCTURE DESIGNED FOR THE GREATER OF SNOW LOAD OR LIVE LOAD INDICATED ON DESIGN LOAD SCHEDULE.

LATERAL LOAD DESIGN SCHEDULE
ASCE 7-16

WIND LOAD			
ITEM	SYMBOL	VALUE	REFERENCE
BASIC WIND SPEED	V	113 MPH	SECTION 26.5.1
WIND EXPOSURE	-	B	SECTION 26.7.3

SEISMIC LOAD			
ITEM	SYMBOL	VALUE	REFERENCE
SEISMIC RISK CATEGORY	-	II	TABLE 1.5-1
SEISMIC IMPORTANCE FACTOR	I	1.0	TABLE 1.5-2
SEISMIC SITE CLASS	-	C	SECTION 11.4.2
SPECTRAL RESPONSE ACCELERATION	S_1	0.062	SECTION 11.4.3
MAPPED SPECTRAL ACCELERATION	S_S	0.298	SECTION 11.4.3
SEISMIC DESIGN CATEGORY	-	B	SECTION 11.6
BASIC SEISMIC-FORCE RESISTANCE SYSTEM	-	STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE	TABLE 12.2-1
RESPONSE MODIFICATION COEFFICIENT	R	3	TABLE 12.2-1
DEFLECTION AMPLIFICATION FACTOR	C_d	3	TABLE 12.2-1
SEISMIC BASE SHEAR ANAYL. PROC.	$V=C_sW$	EQUIVALENT LATERAL FORCE METHOD	SECTION 12.8

CAST-IN-PLACE CONCRETE SPECIFICATIONS

1. CONCRETE SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14), AND CONSTRUCTED IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE.
2. CONCRETE SHALL HAVE NATURAL SAND FINE AGGREGATE AND NORMAL WEIGHT COARSE AGGREGATES CONFORMING TO ASTM C33, TYPE 1 PORTLAND CEMENT CONFORMING TO ASTM C150.
3. CONCRETE IN THE FOLLOWING AREAS SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS (F'c) AND MAXIMUM WATER/CEMENT RATIO (W/CM) (REFERENCE PLANS AND SCHEDULES FOR PROJECT SPECIFIC REQUIREMENTS):

	F'c	W/CM
FTG/GBS (F1 EXPOSURE)	4000PSI	0.55
FNDN WALLS/PIERS (F1 EXPOSURE)	4000PSI	0.55
INTERIOR SOG (F1 EXPOSURE)	4000PSI	0.55
EXTERIOR SOG (F3 EXPOSURE)	5000PSI	0.4
COLUMNS (F1 EXPOSURE)	5000PSI	0.55
STRUCTURAL SLAB (INT) (F0 EXPOSURE)	5000PSI	0.5
STRUCT SLAB (EXT) (F2 EXPOSURE)	5000PSI	0.4
SLAB ON METAL DECK (F0 EXPOSURE)	3500PSI	0.5

4. AIR ENTRAINMENT SHALL BE A MINIMUM OF 6% IN ALL EXPOSED CONCRETE.
5. MAXIMUM AGGREGATE SIZE SHALL BE:
   FOOTINGS..1-1/2"
   WALLS / GRADE BEAMS / SLAB.............3/4"
6. NORMAL WEIGHT CONCRETE (145 PCF ± 5) SHALL BE PROVIDED WITH ALL CEMENT CONFORMING TO ASTM C150, TYPE I. WHERE NOTED, LIGHTWEIGHT SLAB CONCRETE (110 PCF ± 5) SHALL BE PROVIDED WITH ALL CEMENT CONFORMING TO ASTM C330, TYPE I.
7. CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60.
8. WHERE NOTED ON PLAN, EPOXY COATED REINFORCING STEEL SHALL CONFORM TO ASTM A775.
9. REINFORCEMENT BARS SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT UNLESS INDICATED ON THE CONTRACT DOCUMENTS OR APPROVED BY THE STRUCTURAL ENGINEER. WELDING OF REINFORCEMENT BARS, WHEN APPROVED BY THE STRUCTURAL ENGINEER, SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STANDARD D1.4. ELECTRODES FOR SHOP AND FIELD WELDING OF REINFORCEMENT BARS SHALL BE CLASS E90XX.
10. WELDED WIRE FABRIC WHEN USED SHALL CONFORM TO ASTM A185. FABRIC SHALL BE SUPPLIED IN FLAT SHEETS. FABRIC SHALL BE LAPPED WITH MINIMUM TWO MESHES AT SPLICES. WELDED WIRE FABRIC SHALL BE LOCATED NO MORE THEN 1" FROM TOP OF SLAB.
11. FIBROUS REINFORCEMENT FOR SLABS SHALL BE FIBRILLATED POLYPROPYLENE FIBERS ENGINEERED AND DESIGNED FOR USE IN CONCRETE COMPLYING WITH ASTM C 1116 TYPE III, 1/2" TO I 1/2". UNIFORMLY DISPERSE FIBERS IN THE CONCRETE MIX AT THE MANUFACTURER'S RECOMMENDED RATE BUT NOT LESS THAN 1.5 POUNDS PER CUBIC YARD.
12. GROUT SHALL BE NON-SHRINK GROUT CONFORMING TO ASTM C827, AND SHALL HAVE SPECIFIED COMPRESSIVE STRENGTH AT 28 DAYS OF 5,000 PSI. PRE-GROUTING OF BASE PLATES IS NOT BE PERMITTED.
13. RIGID INSULATION USED AS FLOOR FILL SHALL BE STYROFOAM HIGHLOAD 40 EXTRUDED POLYSTYRENE INSULATION (40 PSI COMPRESSIVE STRENGTH) ASTM C578, TYPE VI MANUFACTURED BY DOW CHEMICAL COMPANY, OR APPROVED EQUAL.
14. ALL EMBEDDED STEEL SHALL BE ASTM A36. ALUMINUM INSERTS ARE NOT PERMITTED.
15. CONSTRUCT EXPANSION JOINTS WHERE INDICATED. EXPANSION JOINT FILLER SHALL BE NONEXTRUDING BITUMINOUS TYPE PER ASTM D1751 INSTALL TO FULL DEPTH OF CONCRETE RECESSED TO ACCOMMODATE JOINT SEALANT AND BACKER ROD WHERE NECESSARY.
16. CONCRETE COVERING OF REINFORCING STEEL (INCLUDING TIES AND STIRRUPS) SHALL CONFORM TO THE FOLLOWING MINIMUM REQUIREMENTS (SEE ACI 318 FOR CONDITIONS NOT NOTED):
   CONCRETE POURED AGAINST EARTH.................................. 3"
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #5 OR SMALLER.. 1 1/2"
   #6 OR LARGER.. 2"
   CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
   COLUMNS (TIES AND MAIN REINFORCING)......................... 1 1/2"
   SLABS, WALLS, JOISTS:
   #14 OR #18 BARS.. 1 1/2"
   #11 OR SMALLER... 1"
   BEAMS (STIRRUPS AND MAIN REINFORCING).................. 1 1/2"
   ALL OTHER SURFACES NOT EXPOSED TO EARTH OR WEATHER.. 3/4"

CAST-IN-PLACE CONCRETE TESTING/INSPECTIONS

1. EVALUATION AND ACCEPTANCE OF CONCRETE STRUCTURES SHALL BE IN ACCORDANCE WITH ACI 301.
2. CONCRETE SHALL NOT BE POURED UNTIL THE PLACEMENT OF REINFORCING HAS BEEN APPROVED BY THE INSPECTION AGENCY.
3. INSPECTIONS SHALL BE PERFORMED BY A SPECIAL INSPECTOR WHO HAS BEEN APPROVED BY THE ENGINEER OF RECORD & BUILDING OFFICIAL. THE SPECIAL INSPECTOR SHALL VERIFY THAT ALL REINFORCEMENT, TIES, ANCHORS, & SLEEVES WERE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, THE APPLICABLE ICC ESR REPORTS AND THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. THE INSPECTION SHALL INCLUDE VERIFICATION OF ANCHOR SPACING, EMBEDMENT AND EDGE DISTANCE REQUIREMENTS.
4. REINFORCING STEEL SHALL BE INSTALLED TO WITHIN THE FOLLOWING TOLERANCES PER ACI 117, "STANDARD SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS":
   CONCRETE COVER FOR SLAB TOP AND BOTTOM BARS.......................... ±1/4"
   COVER FOR OTHER REINFORCING STEEL... ±3/8"
   SPECIFIED SPACING BETWEEN PARALLEL BARS IN SLABS........................ (SPECIFICED SPACING/4") BUT NOT TO EXCEED 1"
   HORIZONTAL DEVIATION FROM SPECIFIED LOCATION, U.N.O.................... ±3"
   SPACING AND LOCATION OF BEAM STIRRUPS.. (BEAM DEPTH IN INCHES/12) x 1"
   SPACING AND LOCATION OF COLUMN TIES... (MIN. COL. DIM. IN INCHES/12) x 1"
   LOCATION OF ENDS OF BARS PERPENDICULAR TO SLAB EDGES........... ±1"

   THE ABOVE LIST OF PERMITTED TOLERANCES MUST BE PROVIDED ON ALL REINFORCING STEEL PLACING DRAWINGS. PLACING DRAWINGS THAT DO NOT PROVIDE THIS LIST OF TOLERANCES WILL BE REJECTED.
5. THE CONCRETE SUPPLIER SHALL SUBMIT MIX DESIGNS FOR REVIEW. COMPRESSIVE STRENGTH MUST BE SUBSTANTIATED BY A SUITABLE EXPERIENCE RECORD OR BY THE METHOD OF LABORATORY TRIAL BATCHES. THE PERTINENT CRITERIA OF ACI 318 SHALL APPLY TO THE PROPORTIONING OF MIX DESIGNS AND TO THE ACCEPTANCE OF CONCRETE PRODUCED FOR THE JOB. IF DURING CONSTRUCTION ANY CLASS CONCRETE FAILS TO MEET THE ACCEPTANCE CRITERIA, THE CONTRACTOR SHALL TAKE SUCH STEPS AS ARE DEEMED NECESSARY BY THE STRUCTURAL ENGINEER TO IMPROVE SUBSEQUENT TEST RESULTS AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL ALSO BEAR THE COST OF SPECIAL INVESTIGATION, TESTING, OR REMEDIAL WORK NECESSARY BECAUSE OF EVIDENCE OF LOW STRENGTH OR NON-CONFORMING CONCRETE OR WORKMANSHIP.
6. PREPARE A MINIMUM OF (1) CONCRETE TEST CYLINDERS AT 7 DAYS / (3) CONCRETE TEST CYLINDERS AT 28 DAYS / (1) CONCRETE TEST CYLINDER AT 56 DAYS PER BATCH OF CONCRETE. CYLINDERS SHALL BE PROPERLY CURED AND STORED. SAMPLE FRESH CONCRETE IN ACCORDANCE WITH ASTM C172.
7. RETAIN LABORATORY TO PROVIDE TESTING SERVICE. SLUMP PER ASTM C143L AIR CONTENT PER ASTM C231 OR C173, CYLINDER TESTS PER ASTM C31 AND C39. A MINIMUM OF ONE SET OF FIVE CYLINDERS SHALL BE TESTED PER: DAY, 150 CUBIC YARDS OF CONCRETE, AND 5000 SQUARE FEET OF SURFACE AREA OF SLABS AND WALLS. A MINIMUM OF (5) STRENGTH TESTS AT 28 DAYS PER CONCRETE MIXTURE MUST BE PERFORMED. SAMPLES FOR TESTS ARE TO BE TAKEN RANDOMLY. REPORTS OF ALL TESTS TO BE SUBMITTED TO THE ENGINEER OF RECORD.
8. SLUMP TESTS SHALL BE MADE PRIOR TO THE ADDITION OF PLASTICIZERS. CONCRETE FOR THE PREPARATION OF TEST CYLINDERS SHALL BE TAKEN FROM THE HOSE END FOR CONCRETE PLACED BY PUMP. PROPORTION AND DESIGN MIXES TO RESULT IN CONCRETE SLUMP OF 3-1/2IN. ± 1 IN. AT THE POINT OF PLACEMENT. CONCRETE CONTAINING HIGH-RANGE WATER REDUCERS (HRWR) SHALL HAVE A SLUMP OF 4 IN. TO 8 IN.
9. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 117-90 "STANDARD SPECIFICATIONS FOR TOLERANCE FOR CONCRETE CONSTRUCTION AND MATERIALS" AND SHALL MEET THE FOLLOWING REQUIREMENTS:

   MINIMUM SLAB CONSTRUCTION TOLERANCE SPECIFICATIONS:

   - FLOOR FLATNESS (FF) = 32 OR GRATER +0" / -3/16 FOR EVERY 24"
   - FLOOR LEVELNESS (FL) = 30 OR GREATER (PRIOR TO REMOVAL OF FORMWORK)
   - ELEVATION ENVELOPE = +/-3/4" (FROM AVERAGE SLAB ELEVATION)
   - SLAB THICKNESS TOLERANCE = +/-3/8 IN. AND -1/4 IN. (FOR SLABS 12" THICK OR LESS)
   - FORMED SURFACE TOLERANCE = +/- 1/4"

   THE CONTRACTOR SHALL ALSO COORDINATE CONCRETE CLASS OF SURFACE WITH THE PROPOSED ARCHITECTURAL FINISHES.

   - CLASS A - SURFACE PROMINENTLY EXPOSED TO PUBLIC VIEW WHERE APPEARANCE IS OF SPECIAL IMPORTANCE.
   - CLASS B - COARSE-TEXTURED CONCRETE-FORMED SURFACE INTENDED TO RECEIVE PASTER, STUCCO OR WAINSCOTING.
   - CLASS C - STANDARD FOR EXPOSED SURFACE WHERE FINISHES ARE NOT SPECIFIED.
   - CLASS D - MINIMUM QUALITY OF SURFACE WHERE ROUGHNESS IS NOT OBJECTIONABLE.

CONSTRUCTION JOINTS

1. CONSTRUCTION JOINTS FOR SLABS ON METAL DECK SHALL BE LOCATED MIDWAY BETWEEN BEAMS WHERE THE JOINT IS PARALLEL TO THE BEAM SPAN. JOINTS SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF SPAN WHERE THE JOINT IS PERPENDICULAR TO THE BEAM SPAN. ANY STOP IN CONCRETE WORK MUST BE MADE WITH VERTICAL BULKHEADS, UNLESS OTHERWISE SHOWN. ALL REINFORCING IS TO BE CONTINUOUS THROUGH JOINTS.
2. HORIZONTAL JOINTING WILL NOT BE PERMITTED IN CONCRETE CONSTRUCTION EXCEPT AS SHOWN ON THE CONTRACT DOCUMENT. VERTICAL JOINTS SHALL OCCUR AT CENTER OF SPANS AT LOCATIONS APPROVED BY THE STRUCTURAL ENGINEER.
3. CONSTRUCTION JOINTS BETWEEN FOOTINGS AND PILASTERS AND SIMILAR JOINTS SHALL BE PREPARED BY ROUGHENING THE CONTACT SURFACE IN AN APPROVED MANNER TO A FULL AMPLITUDE OF APPROXIMATELY 14 INCHES, LEAVING THE CONTACT SURFACE FREE AND CLEAR OF LAITANCE. REINFORCED (DOWELLED) JOINTS SHALL HAVE BINDER ADDITIVE APPLIED PRIOR TO POUR.
4. PROVIDE CONTINUOUS WATERSTOPS AT ALL HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS AND/OR AS NOTED ON PLAN, SIZED AND CONFIGURED TO SUIT JOINTS. MINIMUM PROVIDED WATERSTOP SHALL BE 6" PVC RIBBED WITH CENTER BULB WATERSTOP BY "GREENSTREAK" OR APPROVED EQUAL. INSTALL TO FORM CONTINUOUS, WATERTIGHT DAM, WITH FIELD JOINTS FABRICATED IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
5. CONSTRUCTION JOINTS FOR MILD-REINFORCED CONCRETE SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF SPAN. PROPOSED CONSTRUCTION JOINT LOCATIONS SHALL BE SHOWN ON REINFORCING STEEL SHOP DRAWINGS. ANY STOP IN CONCRETE WORK MUST BE MADE WITH VERTICAL BULKHEADS AND HORIZONTAL KEYS, UNLESS OTHERWISE SHOWN. ALL REINFORCING IS TO BE CONTINUOUS THROUGH JOINTS.

REBAR/SPLICING

1. PROVIDE TWO (2) #3 X 4'0" AT ALL RE-ENTRANT CORNERS, PLACED ON THE DIAGONAL WITH 1 1/2" CLEARANCE FROM THE CORNER AND TOP OF SLAB. REFER TO DETAIL.
2. SPLICES IN REINFORCING STEEL SHALL BE MADE ONLY AT THOSE LOCATIONS WHERE SPLICES ARE SHOWN ON THE STRUCTURAL DRAWINGS AND AT THOSE LOCATIONS WHERE SPLICES HAVE BEEN DETAILED ON THE REINFORCING STEEL PLACEMENT DRAWINGS THAT HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER OF RECORD. ALL SPLICES SHALL BE CLASS "B" TENSION LAP SPLICES (SEE TENSION DEVELOPMENT LENGTH TABLE IN TYPICAL CONCRETE DETAILS), EXCEPT WHERE INDICATED OTHERWISE ON THE STRUCTURAL DRAWINGS. MECHANICAL SPLICE COUPLERS CAPABLE OF DEVELOPING 125% OF THE YIELD STRENGTH OF THE REINFORCING STEEL MAY BE USED INSTEAD OF TENSION LAP SPLICES AT THE CONTRACTOR'S OPTION AT ANY LOCATION. COMPRESSION LAP SPLICES (SEE COMPRESSION DEVELOPMENT AND LAP SPLICE LENGTHS TABLE IN TYPICAL CONCRETE DETAILS) MAY BE USED ONLY AT THOSE LOCATIONS WHERE SUCH SPLICES ARE SPECIFICALLY INDICATED. STAGGER SPLICES WHERE REQUIRED TO PROVIDE 1 1/2" CLEAR SPACING BETWEEN REINFORCING STEEL AT SPLICE LOCATIONS.
3. WHEREVER POSSIBLE, SPLICES OF MILD STEEL SHALL BE MADE IN A COMPRESSION AREA. NO MORE THAN 50% OF BARS (ALTERNATED) SHALL BE SPLICED IN A TENSION AREA.
4. VERTICAL DOWELS PROJECTING OUT OF FOUNDATIONS INTO WALLS SHALL BE THE SAME SIZE AND SPACING AS THE VERTICAL REINFORCING STEEL IN THE WALL, U.N.O. AND SHALL BE INSTALLED FOR THE FULL DEPTH OF THE FOUNDATION AND TERMINATE WITH STANDARD 90 DEGREE HOOKS, U.N.O.; VERTICAL DOWELS PROJECTING OUT OF THE TOPS OF WALLS INTO SLABS SHALL BE THE SAME SIZE AND SPACING AS THE VERTICAL STEEL IN THE WALLS, U.N.O. AND SHALL EXTEND TO THE TOP OF THE SLAB AND TERMINATE WITH STANDARD 90 DEGREE HOOKS, U.N.O.; ALL DOWELS SHALL BE SPLICED WITH CLASS "B" TENSION LAP SPLICES TO THE VERTICAL REINFORCING STEEL IN THE WALLS.
5. ALL HOOKS IN REINFORCING STEEL SHALL BE STANDARD 90 DEGREE HOOKS, U.N.O.
6. ALL HOOKS ON #5 AND SMALLER TOP REINFORCING STEEL IN SLABS SHALL BE STANDARD 90 DEGREE STIRRUP HOOKS; A CONTINUOUS PERPENDICULAR TOP BAR (#4 MINIMUM) SHALL BE INSTALLED INSIDE THE CORNERS OF ALL HOOKED BARS.
7. VERTICAL REINFORCING STEEL IN CONCRETE AND MASONRY WALLS WITH ONE LAYER OF REINFORCING BARS SHALL BE INSTALLED IN THE CENTER OF THE WALL, U.N.O.

CAST-IN-PLACE ANCHORS

1. ALL ANCHORS SHALL ASSUME THE CRACKED CONCRETE DESIGN CONDITION, U.N.O.
2. THE CONTRACTOR SHALL ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ON SITE INSTALLATION TRAINING FOR EACH SPECIFIED ANCHOR TYPE. THE STRUCTURAL ENGINEER OF RECORD SHALL RECEIVE DOCUMENTATION VERIFYING THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS HAVE BEEN TRAINED PRIOR TO COMMENCEMENT OF INSTALLING ANCHORS.
3. SURVEY ANCHOR BOLTS FOR PLACEMENT AND ALIGNMENT PRIOR TO CASTING CONCRETE.
4. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ANCHORS AND PROXIMITY OF ANCHORS TO EDGES OF CONCRETE OR MASONRY. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
5. ALL INSERTS AND SLEEVES SHALL BE CAST-IN-PLACE WHENEVER FEASIBLE. DRILLED OR POWDER DRIVEN FASTENERS WILL BE PERMITTED WHEN PROVEN TO THE SATISFACTION OF THE ENGINEER OF RECORD THAT THE FASTENERS WILL NOT SPALL THE CONCRETE AND HAVE THE SAME CAPACITY AS CAST-IN-PLACE INSERTS. WHEN INSTALLING EXPANSION BOLTS OR ADHESIVE ANCHORS, THE CONTRACTOR SHALL TAKE MEASURES TO AVOID DRILLING OR CUTTING OF ANY EXISTING REINFORCING AND DESTRUCTION OF CONCRETE. HOLES SHALL BE BLOWN CLEAN PRIOR TO PLACING BOLTS OR ADHESIVE ANCHORS.

CAST-IN-PLACE CONCRETE MISC. DIRECTIONS

1. MIXING, TRANSPORTING AND PLACING OF CONCRETE SHALL CONFORM TO ACI 301.
2. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, LOCATIONS AND DETAILS OF ALL ARCHITECTURAL FEATURES IN THE CONCRETE; REFER TO THE ARCHITECTURAL DRAWINGS AND PROJECT SPECIFICATIONS FOR REQUIREMENTS FOR ALL CONCRETE FINISHES; REFER TO THE ARCHITECTURAL DRAWINGS FOR TOP OF WALL ELEVATIONS FOR ALL WALLS WHERE TOP OF WALL ELEVATIONS ARE NOT INDICATED ON THE STRUCTURAL DRAWINGS.
3. THE CONTRACTOR IS RESPONSIBLE FOR DESIGN, ENGINEERING, AND CONSTRUCTION OF FORMWORK, CAPABLE OF SUPPORTING ALL APPLIED LOADS UNTIL THE CONCRETE IS ADEQUATELY CURED, WITHIN ALLOWABLE TOLERANCES AND DEFLECTION LIMITS.
4. ALL REINFORCEMENT SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. ADDITIONAL BARS, STIRRUPS OR CHAIRS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT AND PROVIDE MINIMUM REINFORCEMENT COVER FOR ALL BARS.
5. BONDING AGENT SHALL BE USED WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE.
6. ALL BEAMS, SPANDRELS AND SLABS ARE TO BE PLACED MONOLITHICALLY UNLESS OTHERWISE SHOWN.
7. WHERE MASONRY ABUTS CONCRETE WALLS, PROVIDE DOVETAIL SLOTS AND MASONRY ANCHORS.
8. THE CONCRETE SLABS SHALL BE FINISHED FLAT AND LEVEL WITHIN TOLERANCE, TO THE ELEVATION INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL PROVIDE ADDITIONAL CONCRETE REQUIRED DUE TO FORMWORK, METAL DECK, AND FRAMING DEFLECTION TO ACHIEVE THIS FINISHED TOP OF SLAB ELEVATION. THE CONTRACTOR SHALL PROVIDE FOR A MINIMUM OF 5/8" AVERAGE THICKNESS FOR ADDITIONAL CONCRETE DURING PLACEMENT FOR ALL SLABS SUPPORTED AND FORMED ON STEEL DECK OVER THE ENTIRE FLOOR AREA. THE CONTRACTOR SHALL PROVIDE THE MEANS BY WHICH THE MAXIMUM AND MINIMUM CONCRETE SLAB THICKNESS CAN BE MONITORED AND VERIFIED DURING AND AFTER THE PLACING AND FINISHING OPERATIONS.
9. REPAIR CONCRETE EXHIBITING VOIDS DUE TO SNAP TIES, "HONEYCOMBS," ROCK POCKETS, AND RUNS, SPALLS OR OTHERWISE DAMAGED SURFACES WITH DRY PACK OR CEMENT GROUT, AND FINISH FLUSH WITH ADJOINING SURFACES. AT THE DISCRETION OF THE STRUCTURAL ENGINEER OR AS QUALIFIED BY LAB TESTING, EXCESSIVE HONEYCOMBS OR EXPOSED REINFORCEMENT THAT JEOPARDIZE THE DESIGN, SHALL BE REMOVED AND REPLACED AT THE EXPENSE OF THE CONTRACTOR.
10. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE INDICATED.
11. CONTRACTOR SHALL TAKE EVERY PRECAUTION TO PROTECT FINISHED SURFACES FROM STAINS OR ABRASIONS. NO FIRE SHALL BE ALLOWED IN DIRECT CONTACT WITH CONCRETE. PROVIDE ADEQUATE PROTECTION AGAINST INJURIOUS ACTION BY SUN OR WIND. FRESH CONCRETE SHALL BE THOROUGHLY PROTECTED FROM HEAVY RAIN, FLOWING WATER, AND MECHANICAL INJURY.
12. TOPS OF FOUNDATIONS SHALL BE TROWEL FINISHED AND SMOOTH.
13. PROVIDE 10 MIL. VAPOR BARRIER (SLAB) & WATERPROOFING MEMBRANE (ELEVATOR PIT) IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. REFERENCE ARCHITECTURAL DRAWINGS FOR SPECIFICATIONS FOR WATERPROOFING MEMBRANE.
14. WATER SHALL NOT BE ADDED TO THE CONCRETE AT THE JOBSITE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE REQUIREMENTS OF THE CONCRETE SUPPLIER AND PUMPER TO ENSURE PUMPABLE AND WORKABLE MIX WITHOUT THE ADDITION OF WATER AT THE JOBSITE. THE USE OF PLASTICIZERS, RETARDANTS AND OTHER ADDITIVES SHALL BE AT THE OPTION OF THE CONTRACTOR SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER. FOLLOW THE RECOMMENDATIONS OF THE MANUFACTURER FOR PROPER USE OF RETARDANTS AND OTHER ADDITIVES. USE OF CALCIUM E CHLORIDE OR OTHER CHLORIDE BEARING SALTS SHALL NOT BE PERMITTED.
15. PLACE CONCRETE IN A MANNER SO AS TO PREVENT SEGREGATION OF THE MIX. DELAY FLOATING AND TROWELING OPERATIONS UNTIL THE CONCRETE HAS LOST SURFACE WATER SHEEN OR ALL FREE SLAB SURFACE. FINISHING OF SLAB SURFACES SHALL COMPLY WITH ACI RECOMMENDATIONS 302-89 AND 304-89 FOR GARAGES.
16. CONTRACTOR SHALL PROTECT CONCRETE THAT IS NOT AIR ENTRAINED BUT WHICH IS EXPOSED TO WEATHER DURING CONSTRUCTION FROM FREEZE THAW DAMAGE UNTIL SUCH TIME AS THE CONDITIONS IS NO LONGER EXPOSED TO FREEZE/THAW CONDITIONS.
17. FOUNDATION SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED MUST BE FREE FROM STANDING WATER, MUD AND DEBRIS. SURFACES SHALL BE CLEAN AND FREE FROM OIL, OBJECTIONABLE COATINGS, AND LOOSE OR UNSOUND MATERIAL.
18. PROTECT CONCRETE FROM SUN AND RAIN. DO NOT PERMIT CONCRETE TO BECOME DRY DURING CURING PERIOD. CONCRETE SHALL NOT BE SUBJECTED TO ANY LOADS UNTIL CONCRETE IS COMPLETELY CURED, AND UNTIL CONCRETE HAS ATTAINED ITS 28 DAY STRENGTH AND 14 DAYS MINIMUM.
19. UPON COMPLETION OF FINISHING OPERATION, THE SURFACE OF SLABS SHALL BE SEALED AGAINST MOISTURE LOSS FOR 7 DAYS BY THE APPLICATION OF A CURING MEMBRANE OR BLANKET.
20. CONCRETE IN FORMS SHALL BE KEPT MOIST UNTIL REMOVAL. IMMEDIATELY UPON REMOVAL OF FORMS, AN APPROVED SPRAYED-ON CURING COMPOUND SHALL BE APPLIED TO THE CONCRETE SURFACES IN STRICT COMPLIANCE WITH THE MANUFACTURERS RECOMMENDATIONS. CURING SHALL BE MAINTAINED FOR 7 DAYS.
21. PROVIDE 7 DAY CURING IMMEDIATELY AFTER FINISHING USING ONE OF THE FOLLOWING METHODS:
    A. CONTINUOUSLY WATERED BURLAP
    B. WATERPROOF MEMBRANES
    C. SPRAYED-ON LIQUID MEMBRANE

    REFER TO THE MANUFACTURER'S SPECIFICATIONS FOR REQUIREMENTS. PROTECT THE CONCRETE SURFACE BETWEEN FINISHING OPERATIONS ON HOT, DRY DAYS OR ANY TIME PLASTIC SHRINKAGE CRACKS DEVELOP USING WET BURLAP, PLASTIC MEMBRANES OR FOGGING. PROTECT CONCRETE DECK AT ALL TIMES FROM RAIN, HAIL OR OTHER INJURIOUS EFFECTS.
22. PROVIDE POUR STOP MATERIAL WHERE NOT INDICATED ON PLAN AS REQUIRED TO COMPLETE JOB.
23. HOT WEATHER CONCRETING (ABOVE 90°F):
    WHEN PLACING CONCRETE IN HOT WEATHER CONDITIONS THAT COULD ADVERSELY AFFECT THE PROPERTIES AND SERVICEABILITY OF CONCRETE, PREPARATIONS AND PROCEDURES OUTLINED IN ACI 305R-91 SHOULD BE FOLLOWED UNLESS OTHERWISE NOTED IN CONSTRUCTION SPECIFICATIONS.
24. COLD WEATHER CONCRETING (BELOW 40°F):
    WHEN PLACING CONCRETE IN COLD WEATHER CONDITIONS THAT COULD ADVERSELY AFFECT THE PROPERTIES AND SERVICEABILITY OF CONCRETE, PREPARATIONS AND PROCEDURES OUTLINED IN ACI 306R-88 SHOULD BE FOLLOWED UNLESS OTHERWISE NOTED IN CONSTRUCTION SPECIFICATIONS.

PIPES/CONDUITS/SHOP DWGS

1. SLEEVES AND OPENINGS THROUGH CAST-IN-PLACE CONCRETE FRAMING ARE PROHIBITED EXCEPT WHERE THOSE SLEEVES AND OPENINGS ARE SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED REBAR PLACEMENT DRAWINGS. ALL SLEEVES AND OPENINGS SHALL BE INCLUDED WITHIN REBAR PLACEMENT (SHOP DRAWINGS) AND SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL.
2. CONTRACTOR SHALL SUBMIT A SINGLE DIMENSIONED AND COORDINATED DRAWING FOR EACH LEVEL SHOWING THE LOCATIONS OF THE FOLLOWING:
   - SLAB OPENINGS
   - SLEEVES (CAST IN PLACE & POST-INSTALLED FIELD CORED SLEEVES)
   - EMBEDDED PLATES AND ALL OTHER EMBEDS
   - SLAB EMBEDDED ELECTRICAL CABLE AND CONDUIT
3. SLEEVES, OPENINGS AND OTHER PENETRATIONS THROUGH CAST-IN-PLACE CONCRETE FRAMING SHALL BE CAST INTO THE CONCRETE; SAW CUTTING, CORING OR DRILLING OF SLEEVES OR OPENINGS THROUGH PREVIOUSLY CAST CONCRETE IS NOT PERMITTED EXCEPT WHERE SPECIFICALLY REVIEWED AND APPROVED BY THE ENGINEER OF RECORD.
4. REINFORCING STEEL IN EXISTING CONCRETE SHALL BE LOCATED PRIOR TO INSTALLATION OF NEW OPENINGS OR CORING OF HOLES IN THE CONCRETE. REINFORCING STEEL MAY NOT BE CUT WITHOUT APPROVAL FROM THE ENGINEER.
5. THE CONTRACTOR SHALL DELIVER TO THE ENGINEER, AT THE END OF THE JOB, ONE (1) ELECTRONIC VERSION OF THE FINAL FIELD COPIES OF ALL STEEL REINFORCING SHOP DRAWINGS
6. PIPES OR CONDUITS PLACED IN SLABS SHALL NOT HAVE AN OUTSIDE DIAMETER LARGER THAN 1/3 THE SLAB THICKNESS AND SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTER. ALUMINUM CONDUITS SHALL NOT BE PLACED IN CONCRETE. NO CONDUITS SHALL BE PLACED IN SLABS WITHIN 12 INCHES OF COLUMN FACE OR FACE OF BEARING WALL. NO CONDUITS MAY BE PLACED IN EXTERIOR SLABS OR SLABS SUBJECTED TO FLUIDS.
7. CONDUIT PLACED IN CONCRETE SLABS MUST BE PLACED IN ACCORDANCE WITH FOLLOWING GUIDELINES:
   - CONTRACTOR SHALL NOT INSTALL CONDUIT THAT IS NOT SHOWN ON MECHANICAL DRAWINGS.
   - DO NOT CROSS MORE THAN ONE LAYER OF CONDUIT OVER ANOTHER IN ANY GIVEN AREA.
   - PLACE CENTER OF CONDUIT OR CONDUIT GROUP AT THE MID-HEIGHT OF SLAB.
   - CONDUIT OR CONDUIT GROUP SHALL NOT EXTEND OUTSIDE THE MIDDLE 1/3" OF SLAB.
   - MAINTAIN A MINIMUM CLEAR SPACING BETWEEN THE CONDUIT OF 3" DIAMETER. THIS REQUIREMENT APPLIES EXCEPT WHERE CONDUITS ACCUMULATE AT "TURN DOWNS". THE CONDITIONS AT "TURN DOWN" LOCATIONS MUST BE EVALUATED AT EACH LOCATION BY THE ENGINEER OF RECORD. "TURN DOWNS" CANNOT OCCUR AT COLUMN LOCATIONS.
   - DO NOT PLACE ANY CONDUIT IN THE SLAB WITHIN 36" FROM THE EDGE OF ANY COLUMN OR WALL ABOVE OR BELOW THE SLAB.
   - SLAB REINFORCEMENT MUST NOT BE MOVED, CUT OR BENT TO ACCOMMODATE CONDUIT PLACEMENT.
   - CONDUIT SHALL NOT TO RUN THROUGH OR WITHIN COLUMN OR WALL.
   - ALUMINUM CONDUIT SHALL NOT BE EMBEDDED IN SLAB.

   ANY DEVIATIONS MUST BE SUBMITTED ON A SHOP DRAWING FOR APPROVAL BY THE ENGINEER OF RECORD PRIOR TO CONDUIT PLACEMENT.
8. ALL CONDUITS RUN HORIZONTALLY WITHIN STRUCTURAL CONCRETE SLAB CONSTRUCTION SHALL BE PLACED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:
   - CONDUIT MUST BE LOCATED AT CENTERLINE OF SLAB AND SUPPORTED WITH CHAIRS TO KEEP CONDUIT AT MID-HEIGHT OF SLAB
   - NO CONDUIT WITHIN THE SHEAR CONE (36" AROUND COLUMNS)
   - NO CONDUITS LARGER THAN 2" OR ¼" THE SLAB THICKNESS, WHICHEVER IS LESS.
   - NO CROSSING OF CONDUIT
   - NO DISPLACEMENT OF TENDONS OR REBAR
   - NO METAL CONDUITS IN EXTERIOR SLABS
   - NO ALUMINUM CONDUITS
   - MINIMUM CENTER TO CENTER SPACING, IE 3 X DIA. OF CONDUIT
   - STACKING OF CONDUIT SHALL NOT BE PERMITTED
   - MAXIMUM OF (3) CONDUITS WITHIN A 6FT WIDTH OF SLAB

   SUBCONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO E.O.R. FOR FINAL APPROVAL PRIOR TO INSTALLATION OF CONDUITS WITHIN SLAB.

JT ENGINEERING
Building Solutions
1321 Brunswick Ave,
Lawrence, NJ 08648
P: 609.303.0236
F: 609.303.0237
www.jt-pe.com

JASON C. TARANTINO

NOT FOR CONSTRUCTION

NEW JERSEY LICENSE: GE 46166
NEW YORK LICENSE: PE 85737
PENNSYLVANIA LICENSE: PE 75508
CONNECTICUT LICENSE: PE 27045

ISSUED FOR BIDDING

REVISIONS:

Mk	DATE:	REMARKS:
	09*09/22	ISSURD FOR BIDDING

PROJECT:
Proposed Building Renovation
Pearl River Shopping Center
100 North Middletown Road
Pearl River, New York

DRAWING TITLE:
GENERAL NOTES & DESIGN CRITERIA

DRAFTED BY: NAR
REVIEWED BY: JCT
PROJECT NUMBER: 2200_17
DRAWING SCALE: AS NOTED
DRAWING NUMBER:
S002

POST-INSTALLED ANCHORS

1. ALL POST INSTALLED ANCHORS SHALL BE HILTI UNLESS NOTED OTHERWISE ON PLAN.
2. ALL ALTERNATE FASTENER TYPE / MANUFACTURER SHALL BE SUBMIMTTED TO EOR FOR REVIEW / APPROVAL. SUBMITTALL SHALL INCLUDE DESIGN CALCULATIONS SIGNED & SEALED BY LICENSED PROFESSIONAL WITHIN PROJECT JURISDICTION.
3. POST-INSTALLED CONCRETE ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
4. POST INSTALLED ANCHORS SHALL BE INSTALLED IN MANNER THAT DOE SNOT DAMAGE REINFORCING STEEL WITH CAST-IN-PLACE CONCRETE. CONTRACTOR SHALL SCAN ALL AREAS WITH REINFORCEMENT PRIOR TO INSTALLATION TO MITIGATE DAMAGE OF REINFORCEMENT.
5. NOTIFY EOR IF AS-BUILT LOCATION OF ANCHORAGE IS LARGER THEN 1/2" FROM LOCATION AS DESIGNATED WITHIN CONTRACT DOCUMENTS.
6. MECHANICAL ANCHORS (WEDGE / UNDERCUT) SHALL BE ANY OF THE FOLLOWING:
7. CHEMICAL ANCHORS (EPOXY SET) SHALL BE ANY OF THE FOLLOWING:
8. UNLESS NOTED OTHER, ALL DRILL & EPOXY SHALL REBAR SHALL USE HILTI HIT-HY-200 ADHESIVE, AND INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS. MINIMUM EMBEDMENT LENGTHS SHALL BE AS FOLLOWS:
9. ALL ANCHORS SHALL ASSUME CRACKED CONCRETE DESIGN CONDITION.
10. CONTRACTOR SHALL ARRANGE FOR HILTI REPRESENTATIVE TO PROVIDE ON SITE INSTALLATION TRAINING FOR EACH SPECIFIED ANCHOR TYPE, THE STRUCTURAL ENGINEERING OF RECORD SHALL RECEIVE DOCUMENATION VERIFY THAT ALL OF CONTRACTOR'S PERSONNEL INSTALLING ANCHORS HAVE BEEN TRAINED PRIOR TO COMMENCEMENT OF ANCHOR INSTALLATION.
11. CONCRETE SHALL HAVE ACHIEVED DESIGN STRENTH PRIOR TO INSTALLING POST-INSTALLED ANCHORS. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE THAT HAS CURED A MINIMUM OF 21 DAYS.
12. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ANCHORS AND PROXIMITY OF ANCHORS TO EDGES OF CONCRETE / MASONRY. INSTALL ANCHOR IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON DRAWINGS.
13. POST-INSTALLED ANCHORS SHALL BE INSTALLED IN MANNER THAT DOES NOT DAMAGE REINFORCING STEEL, REINFORCING STEEL SHALL BE LOCATED BY NON-DESTRUCTIVE MEANS PRIOR TO DRILLING HOLES. WHERE THE ANCHOR LAYOUT CANNOT AVOID INTERFERENCE WITH REINFORCEMENT STEEL, THE CONTRACTOR SHALL NOTIFY STRUCTURAL ENGINEER TO OBTAIN AN ALTERNATIVE ANCHOR LAYOUT.
14. ADHESIVE ANCHOR SHALL BE INSTALLED WITH A 6" EMBEDMENT DEPTH UNLESS NOTED OTHERWISE. ANCHORS OTHER THEN ADHESIVE ANCHORS SHALL BE INSTALLED WITH EMBEDMENT DEPTH EQUAL TO MAXIMUM EMBEDMENT DEPTH NOTED IN THE MANUFACTURER'S PRODUCT TECHNICAL GUIDE UNLESS NOTED OTHERWISE ON PLAN. WHERE EMBEDMENT DEPTH IS SPECIFIED, THAT DEPTH IS REQUIRED FINAL EFECTIVE MINIMUM EMBEDMENT DEPTH.
15. POST INSTALLED ANCHORS SHALL BE INSPECTED PERIODICALLY DURING INSTALLATION.
16. POST INSTALLED ANCHORS IN VERTICAL AND OVERHEAD INSTALLATION ORIENTATIONS SHALL BE CONTINUOUSLY INSPECTED DURING INSTALLATION.
17. INSPECTIONS SHALL BE PERFORMED BY SPECIAL INSPECTOR WHO HAS BEEN APPROVED BY LOCAL BUILDING OFFICIAL. THE INSPECTOR SHALL VERIFY THAT ALL ANCHORS WERE INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS, THE APPLICABLE ICC ESR REPORTS AND THE MANUFACTURER'S INSTALLATION MANUAL. INSPECTIONS SHALL INCLUDE VERIFICATION OF ANCHOR SPACING, EMBEDMENT AND EDGE DISTANCE REQUIREMENTS.

POST INSTALLED ANCHORS SCHEDULE

INSTALLATION TYPE	HILTI ANCHOR SELECTION
CONCRETE EXPANSION ANCHOR	KWIK BOLT TZ
CONCRETE ADHESIVE ANCHOR	HIT-HY 200 SAFE SET W/ HIT-Z ROD HIT-HY 200 W/ HOLLOW DRILL BIT W/ HAS-E ROD HIT-RE 500 SD W/ HAS-E ROD
CONCRETE SCREW ANCHOR	KWICK HUS EZ
CONCRETE DOWEL REINFORCEMENT	HIT-HY 200 SAFE SET W/ HOLLOW DRILL BIT HIT-RE 500 SD
CMU - GROUT FILLED EXPANSION ANCHOR	KWIK BOLT 3
CMU - GROUT FILLED SCREW ANCHOR	KWIK HUS EZ
CMU - GROUT FILLED ADHESIVE ANCHOR	HIT-HY 70 W/ HAS-E ROD
CMU - HOLLOW BLOCK ADHESIVE ANCHOR	HIT-HY 270 W/ HAS-E ROD & SCREEN TUBE

STRUCTURAL STEEL

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AISC 360 "STEEL CONSTRUCTION MANUAL" (LRFD), FIFTEENTH EDITION, 2016, INCLUDING SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS, AND AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS.
2. STRUCTURAL STEEL SHAPES SHALL MEET THE FOLLOWING MINIMUM SPECIFICATIONS:
   A. FLANGE SHAPES............ASTM A992 OR A572, GRADE 50
   B. STRUCTURAL SHAPES & PLATES............ASTM A36, A572 OR A992
   C. STEEL PIPE............ASTM A53, GRADE B
   D. STEEL TUBING (SQUARE OR RECT.)............ASTM A500, GRADE C
   (ROUND)............ASTM A501, GRADE B
3. GALVANIZED STRUCTURAL STEEL:
   A. STRUCTURAL SHAPES AND RODS............ASTM A123.
   B. BOLTS, FASTENERS AND HARDWARE......ASTM A153.
4. RAISED PATTERN FLOOR PLATE: ASTM A786.
5. ANCHOR RODS SHALL CONFORM TO ASTM F1554, GRADE 36 UNLESS NOTED OTHERWISE.
6. STEEL MEMBERS SHOWN ON PLAN SHALL BE EQUALLY SPACED UNLESS NOTED OTHERWISE.
7. THE STEEL STRUCTURE IS A NON-SELF-SUPPORTING STEEL FRAME AND IS DEPENDENT UPON DIAPHRAGM ACTION OF THE METAL (ROOF/FLOOR) DECK AND ATTACHMENT TO THE MASONRY WALLS FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES. PROVIDE ALL TEMPORARY SUPPORTS REQUIRED FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES UNTIL THESE ELEMENTS ARE COMPLETE AND ARE CAPABLE OF PROVIDING THIS SUPPORT.
8. CUTS, HOLES, COPING, ETC. REQUIRED FOR OTHER TRADES OR FIELD CONDITIONS SHALL BE SHOWN ON THE SHOP DRAWINGS AND MADE IN THE SHOP. CUTTING OR BURNING OF MAIN STRUCTURAL MEMBERS IN THE FIELD WILL NOT BE PERMITTED.
9. THE GENERAL CONTRACTOR AND STEEL ERECTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY FABRICATION OR ERECTION ERRORS OR DEVIATIONS AND RECEIVE WRITTEN APPROVAL BEFORE ANY FIELD CORRECTIONS ARE MADE.
10. BEAMS AND GIRDERS SHALL HAVE BEAM WEB HOLES AS INDICATED ON THE STRUCTURAL DRAWINGS. ALL HOLES SHALL BE CENTERED AT MID-DEPTH OF THE BEAM UNLESS OTHERWISE NOTED. ALL RECTANGULAR WEB HOLES SHALL HAVE A MINIMUM CORNER RADIUS OF 5/8" OR TWICE THE THICKNESS OF THE BEAM WEB, WHICHEVER IS GREATER. ALL WEB OPENINGS SHALL BE MACHINE OXYGEN CUT. MANUAL CUTTING OR BURNING IS NOT PERMITTED. COORDINATE LOCATION AND SIZE OF HOLE WITH MECHANICAL CONTRACTOR PRIOR TO REVIEW BY THE STRUCTURAL ENGINEER.
11. STEEL SHOP DRAWINGS SHALL BE COORDINATED WITH STAIR DETAILS. IF HANGER RODS ARE USED, PROVIDE FITTED WELDED STIFFENER PLATE 1/4" THICK MIN. ALONGSIDE HANGER LOCATION.
12. SPANDRELS AND COLUMNS ADJACENT TO MASONRY SHALL HAVE ADJUSTABLE MASONRY TIES.
13. SPLICING OF STRUCTURAL STEEL MEMBERS WHERE NOT DETAILED ON THE CONTRACT DOCUMENTS IS PROHIBITED WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER AS TO LOCATION, TYPE OF SPLICE AND CONNECTION TO BE MADE.
14. BEAMS SHALL BE CAMBERED UPWARD WHERE SHOWN ON THE CONTRACT DOCUMENTS. WHERE NO UPWARD CAMBER IS INDICATED, ANY MILL CAMBER SHALL BE DETAILED UPWARD IN THE BEAMS. CAMBER INDICATED ON PLAN IS AFTER FINAL ERECTION INCLUDING MILL TOLERANCES.
15. HEADED CONCRETE ANCHORS SHALL BE NELSON HEADED CONCRETE ANCHORS (OR APPROVED EQUAL), AND SHALL CONFORM TO ASTM A108. ANCHORS SHALL BE AUTOMATICALLY END WELDED WITH SUITABLE STUD WELDING EQUIPMENT IN THE SHOP OR IN THE FIELD. WELDING SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE NELSON STUD WELDING COMPANY OR THE KSM WELDING SYSTEMS COMPANY. LENGTH OF STUDS SHALL BE HEIGHT OF METAL DECK + 1-1/2". STUD HEIGHT SHALL BE FINAL STUD HEIGHT AFTER MELT OFF.
16. DEFORMED BAR ANCHORS (D.B.A.) SHALL BE NELSON DEFORMED BAR ANCHORS (OR APPROVED EQUAL), AND SHALL BE MADE FROM COLD-DRAWN WIRE CONFORMING TO ASTM A1064. ANCHORS SHALL BE AUTOMATICALLY END WELDED WITH SUITABLE WELDING EQUIPMENT IN THE SHOP OR IN THE FIELD. WELDING SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE NELSON STUD WELDING COMPANY OR THE KSM WELDING SYSTEMS COMPANY.
17. PROVIDE WELDED STIFFENER PLATES ON BOTH SIDES OF THE WEB OF BEAMS AT POINTS OF CONCENTRATED LOADS INCLUDING BEAMS SUPPORTING COLUMNS OR RUNNING OVER THE TOPS OF COLUMNS, OR OTHER BEAMS. MINIMUM STIFFENER PLATE THICKNESS SHALL BE 3/8" OR FLANGE THICKNESS OF COLUMN ABOVE OR BELOW OR BEAM WEB THICKNESS ABOVE OR BELOW, WHICHEVER IS GREATER.
18. FIELD WELDED SURFACES WITHIN FOUR (4) INCHES OF WELD SHALL BE CLEANED AND GROUND SMOOTH. AFTER WELDING COAT THE EXPOSED AREA WITH APPROPRIATE PRIMER/PAINTS AS SPECIFIED.
   A. IF STEEL IS GALVANIZED, COAT THE EXPOSED AREA WITH GALVANIZING REPAIR PAINT. GALVANIZING REPAIR PAINT SHALL BE A HIGH ZINC DUST CONTENT PAINT COMPLYING WITH FEDERAL SPECIFICATIONS DOD-P-21035A OR SSPC-PAINT-20, COLD GALVANIZING COMPOUND BY ZRC PRODUCTS CO. OR EQUAL.
19. REFER TO ARCHITECTURAL DRAWINGS FOR FIREPROOFING REQUIREMENTS. DELETE PAINT ON ALL STEEL TO RECEIVE SPRAYED-ON FIREPROOFING OR CONCRETE ENCASEMENT.
20. ALL DISSIMILAR METALS SHALL BE TREATED OR PROPERLY SEPARATED TO PREVENT GALVANIC AND/OR CORROSIVE EFFECTS.
21. ALL STEEL SHALL BE PAINTED WITH SHOP STANDARD PRIMER UNLESS NOTED OTHERWISE.
22. STEEL ANGLES AND PLATES ALONG WITH BOLTS AND WASHERS, IN DIRECT CONTACT WITH EXTERIOR FINISH MASONRY, AND ALL EXTERIOR EXPOSED STRUCTURAL STEEL SHALL BE PAINTED WITH INORGANIC ZINC PRIMER
23. ALL EXPOSED STEEL (INCLUDING BUT NOT LIMITED TO DUNNAGE FRAMING, SCREEN WALL FRAMING, CANOPY FRAMING, ETC.) SHALL BE HOT DIP GALVANIZED. ANY POINTS OF WELDING SHALL BE TOUCHED UP IN THE FIELD WITH A ZINC-RICH PAINT BY THE STEEL ERECTOR.
24. ALL STEEL BELOW SLABS ON GRADE SHALL RECEIVE TWO (2) COATS OF BITUMINOUS PAINT - OR 3" MINIMUM CONCRETE COVER.
25. ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY APPLYING AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH THE REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL CONTAIN 95% ZINC BY WEIGHT. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NO LESS THAN THE COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
26. ALL STRUCTURAL STEEL INCLUDING BOLTS AND OTHER HARDWARE THAT IS SUBJECT TO WETTING WITH SALT-LADEN WATER OR OTHER MILD CHEMICAL ATTACK (SUCH AS INDOOR SWIMMING POOL AREAS) SHALL BE COMMERCIAL BLAST CLEANED AND PAINTED WITH THREE COATS OF EPOXY PAINT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL PAINTING SYSTEM SPECIFICATION NO. 13.01. A URETHANE TOPCOAT SHALL BE PROVIDED FOR ALL STEEL EXPOSED TO VIEW.

STEEL CONNECTIONS (BOLTING / WELDING)

1. CONNECTION BOLTS FOR STRUCTURAL STEEL MEMBERS SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM A325. BOLTS SHALL BE DESIGNED AS BEARING TYPE BOLTS, EXCEPT AS NOTED HEREIN OR ON PLAN. BEARING BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH THE "SNUG TIGHT" CONDITION AS OUTLINED IN THE AISC SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, AS COVERED IN ASTM F3125. BOLTS IN BRACING CONNECTIONS, MOMENT CONNECTIONS OR OTHER CONNECTIONS NOTED ON THE DRAWINGS ARE CONSIDERED TO BE SLIP-CRITICAL BOLTS AND SHALL BE TIGHTENED BY THE TURN-OF-NUT METHOD OR SHALL UTILIZE LOAD INDICATOR TYPE BOLTS, INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. CONNECTION BOLTS SHALL HAVE HARDENED WASHER PLACED UNDER THE ELEMENT TO BE TIGHTENED.
2. THE FABRICATOR IS RESPONSIBLE FOR THE SELECTION, DESIGN AND DETAILING OF ALL CONNECTIONS NOT FULLY DETAILED IN THE CONTRACT DOCUMENTS. TYPICAL CONNECTION DETAILS ARE INDICATED ON THE DRAWINGS FOR DESIGN INTENT ONLY. THE FABRICATOR SHALL HAVE A REGISTERED PROFESSIONAL ENGINEER PREPARE THE CONNECTION DESIGNS, AND SUCH DESIGNS SHALL BE SUBMITTED FOR REVIEW WITH THE SHOP DRAWINGS. CONNECTIONS SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH THE AISC "MANUAL OF STEEL CONSTRUCTION". THE END REACTION OF THE CONNECTIONED BEAM SHALL BE DETERMINED AS SPECIFIED IN NOTE 4. ALL BEAM TO COLUMN CONNECTIONS SHALL BE DESIGNED FOR THE MINIMUM SHEAR REACTION INDICATED ABOVE, IN ADDITION TO A NON-CONCURRENT AXIAL FORCE OF 10 KIPS.
3. STEEL CONNECTIONS IN HIGH-RISE CONSTRUCTION AS DEFINED BY THE INTERNATIONAL BUILDING CODE SHALL BE DESIGNED FOR THE MINIMUM SHEAR REACTIONS INDICATED IN NOTE 2, IN ADDITION TO A NON-CONCURRENT AXIAL FORCE THAT IS THE GREATER OF:
   - 10 KIPS
   - 2% OF COLUMN LOAD (ACTING IN BOTH TENSION AND COMPRESSION)
   - 2/3 SHEAR REACTION
4. BEAM SHEAR CONNECTIONS SHALL BE DESIGNED TO SUPPORT THE LRFD (FACTORED) LOAD LEVEL SHEAR REACTIONS INDICATED ON DRAWINGS. DETAILER / FABRICATOR SHALL CONTACT E.O.R. FOR ANY BEAM REACTIONS NOT SPECIFICALLY DESIGNATED ON PLAN. BEAM WEB SHEAR CONNECTIONS SHALL BE DETAILED SO THAT THE LENGTHS OF THE CONNECTION PLATES OR ANGLES ARE NO LESS THAN ONE-HALF OF THE "T" DIMENSION OF THE SUPPORTED BEAMS. WHERE REACTIONS ARE NOT SHOWN, CONNECTIONS SHALL BE DETAILED TO SUPPORT THE FACTORED-LOAD LEVEL REACTIONS INDICATED IN THE TABLE BELOW:

BEAM SIZE	R_u
W8, W10, W12	30K
W14	35K
W16	45K
W18	65K
W21	85K
W24	95K

BEAM SIZE	R_u
W27	105K
W30	115K
W33	125K
W36	150K
W40	165K

5. CONNECTION DESIGN RESPONSIBILITY SHALL INCLUDE CALCULATION OF MEMBER STRENGTH AT CONNECTIONS CONSIDERING THE EFFECTS OF COPES, BOLT HOLES CONNECTION ECCENTRICITY AND CONNECTION GEOMETRY AND SHALL CONSIDER ALL LIMIT STATES INCLUDING BUT NOT LIMITED TO REVIEW OF GROSS SHEAR,NET SHEAR, BLOCK SHEAR, WEB TEAR-OUT, BEARING, FLEXURAL STRENGTH, LOCAL BUCKLING,TENSILE STRENGTH THROUGH BOTH THE NET AND GROSS SECTIONS, COMPRESSIVE STRENGTH AND DUCTILITY. DESIGN OF CONNECTIONS SHALL BE IN ACCORDANCE WITH RECOGNIZED PUBLISHED METHODS SUCH AS THOSE PUBLISHED IN THE AISC "ENGINEERING JOURNAL", THE AISC STEEL CONSTRUCTION MANUAL AND THE AISC STEEL CONSTRUCTION MANUAL DESIGN EXAMPLES. CONNECTION DESIGN SHALL CONSIDER TRANSFER FORCES THROUGH CONNECTED AND CONNECTING MEMBERS. CONNECTION DESIGN RESPONSIBILITY SHALL INCLUDE ANALYSIS AND DESIGN OF PLATES, BRACKETS, STRUTS, STIFFENER PLATES, GUSSET PLATES AND OTHER ELEMENTS TO TRANSFER FORCES INTO AND BETWEEN MEMBERS. MANUAL CALCULATIONS SHALL BE SUBMITTED FOR EACH CONNECTION TYPE TO VERIFY THAT CONNECTIONS DESIGNED USING COMPUTER SOFTWARE CONSIDER ALL LIMIT STATES AND PRODUCE RESULTS IDENTICAL TO THE MANUAL CALCULATIONS.
6. WELDERS SHALL HAVE CURRENT EVIDENCE OF PASSING THE APPROPRIATE AWS QUALIFICATION TESTS. THE ENGINEER MAY REQUEST SUCH EVIDENCE AT ANY TIME DURING THE PROJECT.
7. WELDING SHALL CONFORM TO THE LATEST AMERICAN WELDING SOCIETY STANDARD D1.1. I-80 ELECTRODES FOR SHOP AND FIELD WELDS SHALL CONFORM TO AWS A5.1 OR AWS A5.5 CLASS E70XX, LOW HYDROGEN. MINIMUM WELD SIZE SHALL BE 3/16" UNLESS NOTED OTHERWISE.
8. WELDING TO THE EXISTING STEEL WILL NOT BE ALLOWED AND THE CONTRACTOR SHALL ANTICIPATE USING FIELD BOLTED CONNECTIONS TO THE EXISTING STEEL.
9. ALL BRACING OR TRUSS CONNECTIONS, WHICH HAVE NOT BEEN SPECIFICALLY DETAILED, SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT'S JURISDICTION FOR THE FORCES NOTED ON THE ELEVATIONS AND DETAILS. THIS SHALL INCLUDE ALL GUSSET PLATES, FILLER PLATES, ANGLES, STIFFENERS, BOLTS OR WELDS, OR OTHER MATERIAL REQUIRED FOR THE CONNECTION. STAMPED CALCULATIONS FOR THE CONNECTION DESIGN SHALL BE SUBMITTED ALONG WITH THE SHOP DRAWINGS FOR REVIEW BY THE ENGINEER.
10. GUSSET PLATE CONNECTIONS SHALL BE SIZED FOR 100% OF THE AXIAL FORCES INDICATED ON THE ELEVATIONS. DESIGN ALL GUSSET PLATES AND CONNECTORS AS REQUIRED FOR COMPLIANCE WITH AISC. PROVIDE STIFFENER PLATES AS REQUIRED AT THE GUSSET PLATE CONNECTIONS.
11. THE NET AREA (REFER TO AISC SECTION B2 AND B3) AT THE CONNECTION OF ANY BRACING MEMBER SHALL NOT BE LESS THAN 85 PERCENT OF THE GROSS CROSS SECTIONAL AREA OF THE MEMBER. ADDITIONAL PLATES SHALL BE ADDED AS NECESSARY TO MAINTAIN THE MINIMUM NET CROSS SECTIONAL AREA. SUCH PLATES SHALL EXTEND A MINIMUM DISTANCE EQUAL TO THE DEPTH OF THE MEMBER PAST THE LAST ROW OF BOLTS.
12. ALL CONNECTIONS SHALL BE SYMMETRICAL ABOUT THE AXIS OF THE MEMBER CONNECTED. PROVIDE ONLY ONE GRADE OF BOLT FOR EACH BOLT DIAMETER TO BE USED IN THE CONNECTIONS. DO NOT MIX GRADE OF BOLTS.
13. PRIOR TO DETAILING CONNECTIONS FOR STRUCTURAL STEEL, THE STEEL FABRICATOR SHALL SUBMIT FOR REVIEW REPRESENTATIVE DETAILS AND CALCULATIONS FOR EACH TYPE OF STRUCTURAL STEEL CONNECTION TO BE UTILIZED. AFTER REVIEW, THE CONNECTIONS MAY BE INCORPORATED INTO SHOP DRAWINGS, ALONG WITH A TABLE OF DESIGN CAPACITIES FOR THE RANGE OF CONNECTIONS TO BE USED.
14. VISUALLY INSPECT ALL FILLET WELDS. 10% OF ALL FIELD FILLET WELDS IN PRIMARY CONNECTIONS AND MULTI-PASS WELDS SHALL BE TESTED BY THE MAGNETIC PARTICLE METHOD, COMPLYING WITH ASTM E709, PERFORMED ON THE ROOT PASS AND ON THE FINISHED WELD.
15. 100% OF FULL PENETRATION WELDS SHALL HAVE ULTRASONIC INSPECTION, COMPLYING WITH ASTM E164.
16. 100% OF WELDS IN BEAM AND COLUMN MOMENT CONNECTIONS SHALL HAVE ULTRASONIC INSPECTION, COMPLYING WITH ASTM E164.
17. REPORTS OF EACH TEST SHALL BE GIVEN TO THE STRUCTURAL ENGINEER. NO FAILED WELD SHALL BE PERMITTED TO REMAIN IN SERVICE. IT IS THE RESPONSIBILITY OF THE TESTING LABORATORY TO PROVIDE TIMELY NOTICE OF FAILED TESTS TO THE CONTRACTOR.

METAL DECK

1. GAUGE METAL DECKING SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH "DESIGN MANUAL FOR FLOOR DECKS AND ROOF DECKS", STEEL DECK INSTITUTE (SDI). ALL COMPOSITE STEEL FLOOR DECK SHALL BE IN CONFORMANCE WITH THE "SPECIFICATIONS FOR COMPOSITE STEEL FLOOR DECK" OF THE STEEL DECK INSTITUTE, LATEST EDITION.
2. DECK PROPERTIES ARE BASED ON PRODUCTS MANUFACTURED BY VULCRAFT STEEL ROOF & FLOOR DECK, ISSUED 2008. DECKS BY OTHER MANUFACTURER'S MAY BE SUPPLIED PROVIDED LOAD CARRYING CAPACITY BASED ON MANUFACTURER'S STANDARD LOAD TABLES, DEFLECTION CHARACTERISTICS, AND UL FIRE RATINGS EQUAL OR EXCEED THOSE OF MATERIALS SPECIFIED AND IF APPROVED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
3. COMPOSITE, NON-COMPOSITE AND ROOF DECKING SHALL CONFORMING TO ASTM A 611 GRADE C AND D OR A 653 OR HIGHER SPECIFICATIONS WITH A MINIMUM YIELD STRENGTH OF 33 KSI.
4. INSTALL METAL DECK IN ACCORDANCE WITH SDI SUGGESTED SPECIFICATIONS UNLESS NOTED OTHERWISE ON THE DRAWINGS. INDIVIDUAL DECK SHEETS SHALL EXTEND OVER AT LEAST (3) SPANS, WITH STANDARD DECKS LAPS TO BE PLACED OVER SUPPORTS.
5. WHERE PARTIAL PANELS MAY BE REQUIRED TO COMPLETE DECK INSTALLATION AT PERIMETER OF STRUCTURE, PROVIDE WELDS IN EACH FLUTE TO STRUCTURAL MEMBERS. INSTALL DECK IN THREE CONTINUOUS SPAN LENGTHS.
6. NON-COMPOSITE AND ROOF DECKING SHALL BE WELDED TO STEEL SUPPORTS, INCLUDING THE EDGE SUPPORT PARALLEL TO THE DECK SPAN WITH 5/8" DIAMETER (EFFECTIVE FUSION DIAMETER) PLUG WELDS. FASTEN SIDE LAPS WITH #10 SELF-TAPPING SCREWS.
7. DECK SUPPLIER SHALL PROVIDE ALL ADDITIONAL FRAMING, CLOSURE ANGLES AND PLATES, POUR STOPS, SCREED ANGLES, AND ROOF SUMP PANS AS REQUIRED AT THE EDGES OF ALL OPENINGS AND AT ALL SLAB DEPRESSIONS, OR CHANGES OF DECK DIRECTION, INCLUDING THOSE WHICH HAVE NOT BEEN DETAILED.
8. ATTACH SHEETS TO STEEL SUPPORT MEMBERS AS INDICATED AND IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION. WHEN DECK IS SCHEDULED TO BE EXPOSED, DE-SLAG, CLEAN AND TOUCH UP WELDS WITH A ZINC-RICH PRIMER.
9. LAP ROOF AND FLOOR DECK ENDS MINIMUM OF 2 INCHES. WHEN FASTENING DECK TO SUPPORT MEMBERS PROVIDE WELDING MATERIALS INSTALLATION PROCEDURES TO PREVENT BURNING OF HOLES IN DECK.
10. PROVIDE SIX INCH CLOSURE STRIP WHERE CHANGES IN DECK DIRECTION OCCUR. CLOSURE TO BE SAME GAGE AS DECK.
11. AT PERIMETER OF DECK, SECURE DECK TO STRUCTURAL MEMBERS WITH SAME ATTACHMENT AND SPACING SUPPORT ATTACHMENT AS INDICATED ON PLANS.
12. ALL STEEL FLOOR DECK SHALL BE WELDED TO ALL SUPPORTING STEEL ELEMENTS. WELDING WASHERS SHALL BE USED AS REQUIRED BY THE DECK MANUFACTURER.
13. STEEL DECK SUPPLIER SHALL SUBMIT SHOP DRAWINGS INDICATING THE SHEAR STUD PLACEMENT.
14. PRIOR TO AND DURING CONCRETE PLACEMENT, THE FLOOR DECK SHALL BE PLANKED TO PREVENT DAMAGE TO THE DECK. CONCENTRATED AND IMPACT LOADS SHALL BE AVOIDED.
15. SHEAR CONNECTORS SHALL BE HEADED STUDS CONFORMING TO ASTM A108, GRADES 1010, 1015, 1017, OR 1020. SHEAR CONNECTORS SHALL BE MACHINE WELDED TO STEEL.
16. SHEAR CONNECTORS SHALL BE EQUALLY SPACED OVER THE LENGTH OF THE BEAM UNLESS NOTED OTHERWISE. WHERE THE NUMBER OF STEEL DECK CORRUGATIONS AVAILABLE IS LESS THAN THE NUMBER OF SHEAR CONNECTORS REQUIRED, USE PAIRS OF SHEAR CONNECTORS STARTING FROM EACH END OF THE BEAM AND CONTINUING TOWARD THE CENTER UNTIL IT IS POSSIBLE TO RETURN TO A SINGLE SHEAR CONNECTOR IN EACH CORRUGATION.
17. NO MECHANICAL OR ELECTRICAL PIPING, FIXTURES, UNITS OR SYSTEMS MAY BE HUNG DIRECTLY FROM THE ROOF DECK.

MASONRY NOTES

1. ALL MASONRY DESIGN & CONSTRUCTION, REINFORCED AND UNREINFORCED, SHALL COMPLY WITH THE REQUIREMENTS OF THE "BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES", (ACI 530/530.1-13), AND THE "SPECIFICATION FOR MASONRY STRUCTURES," (ACI 530.1).
2. MASONRY UNITS SHALL BE MEDIUM WEIGHT HOLLOW CONCRETE UNITS CONFORMING TO THE REQUIREMENTS OF ASTM C90. CONCRETE MASONRY UNITS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2800PSI TO OBTAIN A MASONRY NET AREA COMPRESSIVE STRENGTH (F'm) OF 2000PSI AT 28 DAYS. UNITS SHALL NOT BE INSTALLED PRIOR TO ATTAINING THE REQUIRED 28 DAY STRENGTH.
3. MORTAR SHALL CONFORM TO ASTM C270, TYPE M OR S. ALL PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE I. LIME SHALL CONFORM TO ASTM C207 AND MASONRY CEMENT SHALL CONFORM TO ASTM C91.
4. GROUT SHALL CONFORM TO ASTM C476 AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI. SLUMP OF GROUT SHALL BE 8 TO 10 INCHES AND THE MAXIMUM AGGREGATE SIZE SHALL BE 3/8" (AGGREGATE GRADED TO PRODUCE FINE GROUT IN CONFORMANCE WITH ASTM C476 AND C404).
5. HORIZONTAL JOINT REINFORCING: ASTM A82; 9-GAGE TRUSS-TYPE, GALVANIZED.
6. DEFORMED BAR REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60 AND SHALL BE FULL HEIGHT OF WALLS UNLESS OTHERWISE NOTED. PROVIDE BAR SPACERS AND POSITIONERS AS REQUIRED TO PROPERLY LOCATE AND STABILIZE REINFORCING DURING GROUTING OPERATIONS. GROUT ALL REINFORCED CELLS SOLID WITH GROUT.
7. SPLICES OF REINFORCING STEEL SHALL BE MADE ONLY AT THOSE LOCATIONS WHERE SPLICES ARE SHOWN ON THE STRUCTURAL DRAWINGS AND AT THOSE LOCATIONS WHERE SPLICES HAVE BEEN DETAILED ON THE REINFORCING STEEL PLACEMENT DRAWINGS THAT HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER OF RECORD.
8. PROVIDE VERTICAL MASONRY CONTROL JOINTS AT MAXIMUM 25'-0" ON CENTER UNLESS DETAILED ON ARCHITECTURAL DRAWINGS, COORDINATE LOCATIONS WITH ARCHITECT.
9. BOND BEAMS SHALL BE PROVIDED AT THE TOPS OF ALL CMU WALLS AND AT HORIZONTAL INTERVALS NOT TO EXCEED 10FT O.C. VERTICALLY. UNLESS INDICATED ON DRAWINGS,
10. VERTICAL CONTROL JOINTS SHALL BE PLACED SUCH THAT THE RATIO OF JOINT SPACING (L) DIVIDED BY WALL HEIGHT (H) DOES NOT EXCEED 3.0. IN NO CASE SHALL SPACING EXCEED 50 FT. CONTROL JOINTS SHALL BE CONSTRUCTED USING SASH BLOCKS AND DUR-O-WAL PREFORMED REGUUR RAPID CONTROL JOINT (OR EQUAL OF EXTRUDED RUBBER.) WALL REINFORCING SHALL BE DISCONTINUOUS AT JOINTS. VERTICAL JOINTS SHALL BE LOCATED AS FOLLOWS:
    A. CHANGES IN WALL HEIGHT OR THICKNESS.
    B. AT CONSTRUCTION/BUILDING EXPANSION JOINTS IN FOUNDATION, IN ROOF, AND IN FLOORS.
11. CONCRETE MASONRY UNITS SHALL BE LAID IN RUNNING BOND UNLESS INDICATED BY THE ARCHITECTURAL DRAWINGS. PROVIDE FULL BED AND HEAD JOINTS.
12. INSTALL FLASHING AT ALL CONDITIONS SUCH AS LINTELS AND SHELF ANGLES, WHERE THE DOWNWARD FLOW OF WATER WITHIN THE MASONRY WILL BE INTERRUPTED.
13. HOLLOW CONCRETE UNITS BELOW GRADE SHALL BE HAVE ALL CELLS GROUTED SOLID.
14. REINFORCE ALL BOND BEAMS WITH A MINIMUM 2 CONTINUOUS #5 BARS WITH MINIMUM 3000 PSI SMALL AGGREGATE CONCRETE (NOTE: MORTAR MIX DOES NOT CONSTITUTE GROUT). PROVIDE WALL ANCHORS TO ALL BUILDING COLUMNS AT MAXIMUM 48" VERTICAL AND AT ALL BOND BEAMS.
15. BOND BEAM UNITS SHALL BE OPEN CELL UNITS THAT PERMIT VERTICAL REINFORCING TO PASS THROUGH. WHERE BOND BEAMS COURSES STEP DUE TO SLOPING CONDITIONS, LAP REINFORCING A MINIMUM OF 4 FEET. PROVIDE MINIMUM BOND BEAM REINFORCING AS FOLLOWS, UNLESS NOTED OTHERWISE:
    A. EXTERIOR WALLS: (2) #4 x CONT. BELOW EACH FRAMING LEVEL.
    B. PARAPETS: (2) #4 x CONT. BELOW EACH FRAMING LEVEL.
    C. INTERIOR BEARING WALLS: (1) #5 x CONT. BELOW EACH FRAMING LEVEL.
    D. INTERIOR NON-LOAD BEARING WALLS: (2) #4 x CONT. BELOW EACH FRAMING LEVEL.
17. PROVIDE AND INSTALL TEMPORARY BRACING REQUIRED INSURING STABILITY OF ALL WALLS DURING CONSTRUCTION AND UNTIL ERECTION OF ATTACHED STRUCTURAL FRAMING IS COMPLETED.
18. PROVIDE GALVANIZED HORIZONTAL JOINT REINFORCEMENT IN ALL WALLS AND PARTITIONS AT 16" O.C. UNLESS OTHERWISE SHOWN OR NOTED. PROVIDE ONE (1) PIECE PREFABRICATED UNITS AT 8" O.C. AT ALL WALL CORNERS AND INTERSECTIONS.
19. ALL MORTAR JOINTS ON EXPOSED WALLS SHALL BE STRUCK TO PRODUCE A DENSE, SLIGHTLY CONCAVE SURFACE WELL BONDED TO THE SURFACE OF THE MASONRY UNIT.
20. REINFORCEMENT SHALL BE PLACED ACCURATELY AND SECURED AT INTERVALS NOT TO EXCEED 72 INCHES. MINIMUM SPACING BETWEEN BARS OR MASONRY SURFACES SHALL BE ONE BAR DIAMETER. LAPPED SPLICES SHALL BE A MINIMUM OF 48 BAR DIAMETERS. PROVIDE LAP-JOINT TIE FOR EACH SPLICE.
21. ALLOW GROUT IN REINFORCED CMU WALLS TO CURE A MINIMUM OF 48 HOURS BEFORE IMPOSING CONCENTRATED OR OTHER LOADS FROM ABOVE.
22. PROVIDE MASONRY ANCHORS AT 16" O.C. SET ON COURSING AND ATTACHED TO ALL BEAMS, COLUMNS, PARTITIONS, AND WALLS ABUTTING OR EMBEDDED IN MASONRY UNLESS NOTED OTHERWISE ON ARCHITECTURAL AND STRUCTURAL DRAWINGS.
23. NO AIR-ENTRAINING ADMIXTURES OR ANTIFREEZE COMPOUNDS, SUCH AS CALCIUM CHLORIDE SHALL BE ADDED TO MORTAR.
24. ALL WALLS OR PILASTERS SUPPORTING STEEL AT BEARING PUTES SHALL BE GROUTED SOLID FOR FOUR COURSES IN DEPTH FOR A WIDTH OF 32".
25. DO NOT BACKFILL AGAINST FOUNDATION WALLS UNTIL MORTAR HAS ATTAINED MAXIMUM STRENGTH. WHERE BACKFILL IS PLACED AGAINST FOUNDATION WALLS BEFORE FLOOR CONSTRUCTION IS IN PLACE, PROVIDE TEMPORARY BRACING.
26. ALL MASONRY PIERS AND PARTITIONS SHALL BE TOOTHED TO ADJACENT MASONRY WALLS. PROVIDE TIES TO ADJACENT FLOOR AND ROOF CONSTRUCTION IN ACCORDANCE WITH DETAILS ON DRAWINGS.
27. THE CONTRACTOR SHALL VERIFY ALL OPENINGS BELOW LINTELS INDICATED ARE ADEQUATE TO ACCEPT DOORFRAMES, LOUVERS, ETC. AS SHOWN ON THE ARCHITECTURAL AND MECHANICAL DRAWINGS. NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF ANY DISCREPANCIES PRIOR TO LINTEL INSTALLATION.
28. PROVIDE ANCHORAGE TO ADJACENT STRUCTURAL STEEL FRAMING AT EACH FLOOR LEVEL AND ALONG EACH COLUMN. PROVIDE HOHMANN 4 BARNARD #359 AND VBT WALL TIES AT A MAXIMUM OF 24 INCHES ON CENTER HORIZONTALLY AND VERTICALLY.
29. CAVITIES CONTAINING REINFORCING OR BELOW BEARING PLATES SHALL BE GROUTED BY MEANS OF LOW-LIFT TECHNIQUES. HIGH-LIFT GROUTING MAY BE USED ONLY WITH PRIOR APPROVAL. FOLLOW ACI SPECIFICATIONS FOR MASONRY GROUTING.
30. ALL MASONRY WALLS SHALL BE ADEQUATELY BRACED DURING CONSTRUCTION TO RESIST WIND LOADS OF 25 PSF. NOTE THAT FLOOR AND ROOF DIAPHRAGMS WILL PROVIDE ULTIMATE STABILITY FOR WALLS. MASONRY WALLS SHALL NOT BE BUILT HIGHER THAN 10 TIMES THEIR THICKNESS WITHOUT BRACING.
31. ALL WALL SECTIONS AND PIERS LESS THAN TWO SQUARE FEET IN CROSS-SECTIONAL AREA SHALL BE FULLY GROUTED.
32. IMPLEMENT COLD WEATHER CONSTRUCTION PROCEDURES IN ACCORDANCE WITH ACI 530.1 WHEN AMBIENT TEMPERATURE FALLS BELOW 40 DEGREES F OR THE TEMPERATURE OF MASONRY UNITS IS BELOW 40 DEGREES F. WET OR FROZEN UNITS SHALL NOT BE LAID. THE TEMPERATURE OF THE NEWLY LAID MASONRY OR NEWLY GROUTED MASONRY SHALL BE MAINTAINED ABOVE 32 DEGREES F FOR A MINIMUM OF 24 HOURS USING THE METHODS DESCRIBED IN ACI 530.1.
33. IMPLEMENT HOT WEATHER CONSTRUCTION PROCEDURES IN ACCORDANCE WITH ACI 530.1 WHEN AMBIENT TEMPERATURE EXCEEDS 100°F, OR EXCEEDS 90°F WITH A WIND VELOCITY GREATER THAN 8 MPH.
34. GROUT PLACEMENT SHALL NOT START UNTIL THE PLACEMENT OF REINFORCING HAS BEEN APPROVED BY THE INSPECTION AGENCY.
35. SUBMIT PUBLISHED DATA FROM MANUFACTURERS OF PRODUCTS AND ACCESSORIES SPECIFIED, INDICATING COMPLIANCE WITH REQUIREMENTS.
36. PROVIDE MIX DESIGN AND TEST REPORTS FOR PRE-BLENDED MORTAR AND CONVENTIONAL GROUT INDICATING TYPES AND PROPORTIONS OF MATERIALS.
37. THE OWNER WILL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS AND PREPARE TEST REPORTS.
38. THE TESTING AND INSPECTION AGENCY SHALL MONITOR THE PROPORTIONING, MIXING, AND CONSISTENCY OF MORTAR AND GROUT; THE PLACEMENT OF MORTAR, GROUT, AND MASONRY UNITS; AND THE PLACEMENT OF REINFORCING STEEL FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS.
39. CONFORM TO EARTHQUAKE REQUIREMENTS OF ACI 530.1, SPECIFICALLY APPENDIX A - SPECIAL PROVISIONS FOR SEISMIC DESIGN AS FOLLOWS: A.3 - SPECIAL PROVISIONS FOR SEISMIC PERFORMANCE CATEGORY C AS FOLLOWS:
    A. MASONRY WALLS SHALL BE ANCHORED TO ALL FLOORS AND ROOFS WHICH PROVIDE LATERAL SUPPORT FOR THE WALLS. SUCH AN ANCHORAGE SHALL PROVIDE DIRECT CONNECTION CAPABLE OF RESISTING HORIZONTAL FORCES REQUIRED OR A MINIMUM OF 200 LB PER LINEAL FOOT OF WALL, WHICHEVER IS GREATER. WALLS SHALL RESIST BENDING BETWEEN ANCHORS WHERE ANCHOR SPACING EXCEEDS 4 FT. ANCHORS IN MASONRY WALLS SHALL BE EMBEDDED IN REINFORCED BOND BEAMS OR REINFORCED VERTICAL CELLS.
    B. VERTICAL REINFORCEMENT OF AT LEAST 0.20 SQUARE INCHES ((1) #4 REBAR) IN CROSS-SECTIONAL AREA SHALL BE PROVIDED CONTINUOUSLY FROM SUPPORT TO SUPPORT AT EACH CORNER, AT EACH SIDE OF EACH OPENING AND AT THE END OF WALLS. HORIZONTAL REINFORCEMENT NOT LESS THAN 0.2 SQUARE INCHES ((1) #4 REBAR) IN CROSS SECTION AREA SHALL BE PROVIDED: (1) AT THE BOTTOM AND TOP OF WALL OPENINGS AND SHALL EXTEND NOT LESS THAN 24 IN. NOR LESS THAN 40 BAR DIAMETERS PAST THE OPENING, (2) CONTINUOUSLY AT STRUCTURALLY CONNECTED ROOF AND FLOOR LEVELS AND AT THE TOP OF WALLS, (3) AT THE BOTTOM OF THE WALL OR IN THE TOP OF THE FOUNDATIONS WHEN DOWELED TO THE WALL, (4) AT MAXIMUM SPACING OF 10 FT UNLESS UNIFORMLY DISTRIBUTED JOINT REINFORCEMENT IS PROVIDED.

JT ENGINEERING
Building Solutions
1321 Brunswick Ave,
Lawrence, NJ 08648
P: 609.303.0236
F: 609.303.0237
www.jt-pe.com

JASON C. TARANTINO

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NEW JERSEY LICENSE: GE 46166
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CONNECTICUT LICENSE: PE 27045

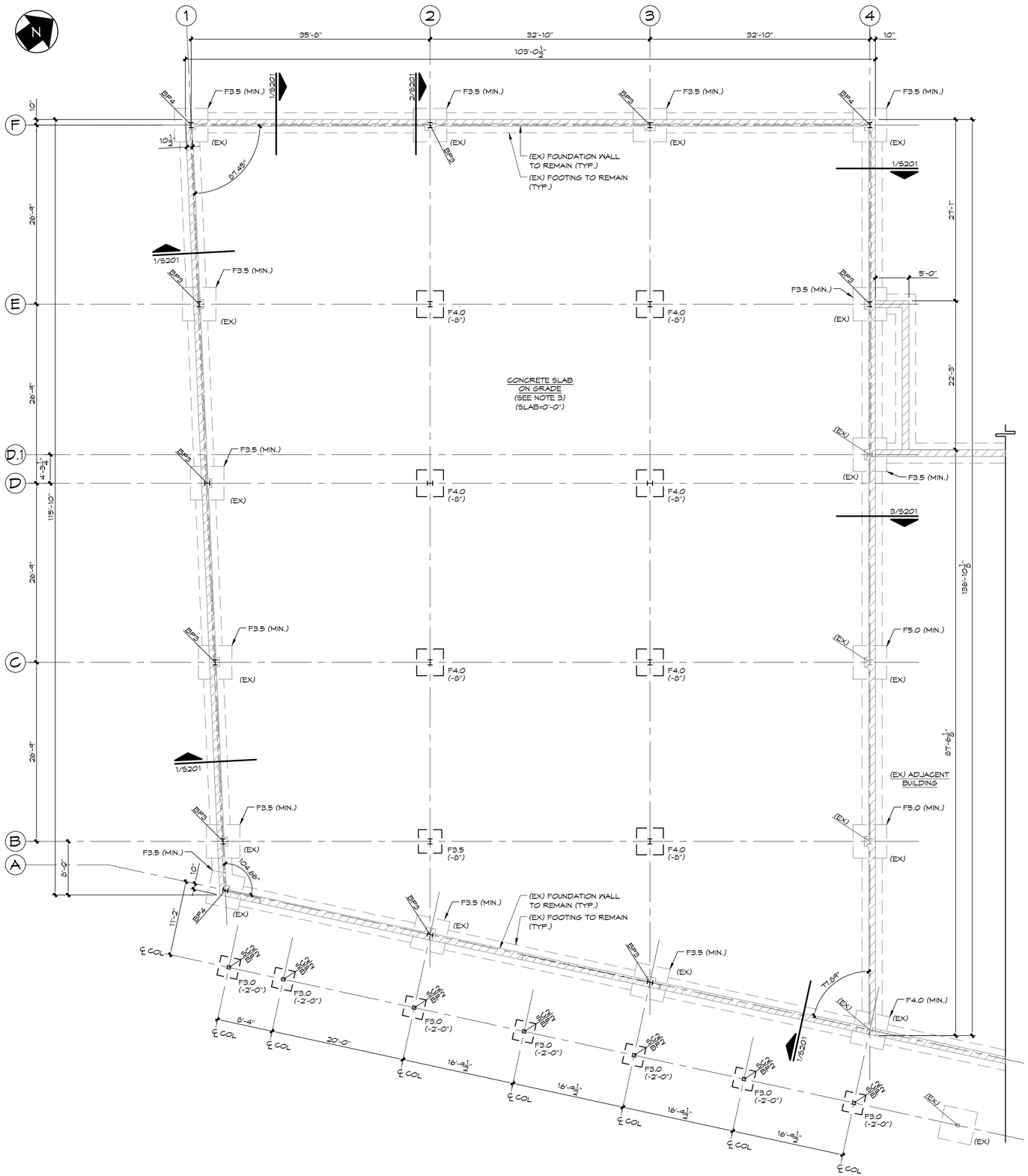
ISSUED FOR BIDDING

REVISIONS: Mk	DATE:	REMARKS:
	09/*09/22	ISSURD FOR BIDDING

PROJECT:
Proposed Building Renovation
Pearl River Shopping Center
100 North Middletown Road
Pearl River, New York

DRAWING TITLE:
GENERAL NOTES & DESIGN CRITERIA

DRAFTED BY: NAR
REVIEWED BY: JCT
PROJECT NUMBER: 2200_17
DRAWING SCALE: AS NOTED
DRAWING NUMBER: S003

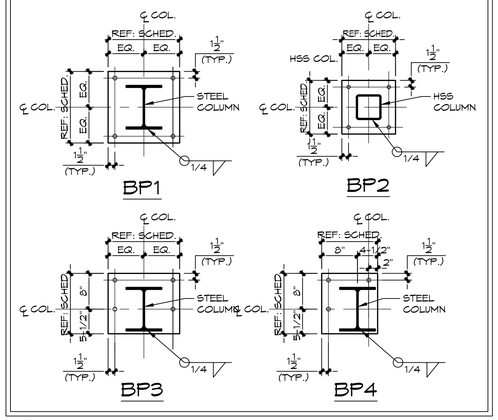


STEEL COLUMN SCHEDULE

MK	COLUMN SIZE
SC1	W10x33
SC2	HSS6x6x1/4

BASE PLATE SCHEDULE

MK	LENGTH	WIDTH	THICKNESS	ANCHOR BOLTS	EMBEDMENT (FOOTING / PIER)
BP1	16"	16"	1/2"	(4) 3/4" DIA. F1554	9"
BP2	12"	12"	1/2"	(4) 3/4" DIA. F1554	9"
BP3	13-1/2"	12"	1/2"	(4) 3/4" DIA. HAS BOLTS	9"
BP4	13-1/2"	12-1/2"	1/2"	(3) 3/4" DIA. HAS BOLTS	9"



NOTES:
EPOXY SET BOLTS WITH HILTI-HY 200 ADHESIVE.

FOOTING SCHEDULE
4,000 P.S.F. BEARING CAPACITY

MK	SIZE			BOTT. REINF.	REMARKS
	LENGTH	WIDTH	DEPTH (INCHES)	EA-EACH WAY (U.N.O.) L-LONG S-SHORT	
F3.0	3'-0"	3'-0"	12"	3 - #5	
F3.5	3'-6"	3'-6"	12"	4 - #5	
F4.0	4'-0"	4'-0"	12"	4 - #5	

NOTES:
1. STRIP FOOTING SHALL BE NORMAL WEIGHT CONCRETE (f'c = 4,000 psi AT 28 DAYS).
2. MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL CONFORM WITH THE "MINIMUM CONCRETE COVER FOR REINFORCING BAR" TABLE PROVIDED. (SEE ACI 318-14 SECTION 7.7 FOR CONDITIONS NOT NOTED)

ALL STEEL COLUMNS SHALL BE "SC1" UNLESS OTHERWISE NOTED.

ALL STEEL BASE PLATES SHALL BE "BP1" UNLESS OTHERWISE NOTED.

FOUNDATION PLAN

SCALE: 1/8"=1'-0"

NOTES:
1. TOP OF GROUND FLOOR CONCRETE SLAB ELEVATION IS SET AS DATUM 0'-0".
2. TOP OF SLAB IS AT (0'-0") UNLESS NOTED THUS (SLAB=x'-x") ON PLAN REFERENCED FROM THE BUILDING'S DATUM.
3. SLAB ON GRADE SHALL BE 5" NORMAL WEIGHT CONCRETE (f'c = 4,000 psi AT 28 DAYS) PLACED OVER A VAPOR BARRIER ON 6" OF CRUSHED STONE. REINFORCE WITH WWF 6x6-W1.4xW1.4. CONTRACTOR MAY SUBSTITUTE 1.5 POUNDS OF FIBROUS REINFORCEMENT PER CUBIC YARD OF CONCRETE IN LIEU OF WWF.
4. FOOTINGS SHALL BEAR ON VIRGIN SOIL OR CONTROLLED COMPACTED FILL HAVING A MINIMUM BEARING CAPACITY OF 2 TONS PER SQUARE FOOT.
5. FX.X INDICATES FOOTING TYPE, SEE FOOTING SCHEDULE FOR SIZE AND REINFORCING.
6. TOP OF FOOTING ELEVATIONS ARE SHOWN THUS (x'-x") ON PLAN AND ARE REFERENCED FROM THE BUILDING'S DATUM.
7. ALL COLUMN FOOTINGS SHALL BE CENTERED UNDER COLUMN CENTERLINES UNLESS NOTED OTHERWISE ON PLAN.
8. PROVIDE THICKENED SLAB DETAIL AT INTERIOR MASONRY PARTITIONS WHERE FOOTINGS ARE NOT SHOWN ON PLAN. SEE DETAIL ON TYPICAL DETAIL SHEETS.
9. AT ALL LOCATIONS WHERE PLUMBING LINES EXIT THE BUILDING, DEEPEN FOOTINGS AS REQUIRED TO ALLOW 6" (MIN) CLEARANCE BETWEEN PIPE AND FOOTING.
10. CONTROL JOINTS IN SLAB ON GRADE SHALL BE LOCATED AND SPACED IN ACCORDANCE WITH TYPICAL CONTROL JOINT DETAIL.
11. (EX) DESIGNATES EXISTING STRUCTURE TO REMAIN. GENERAL CONTRACTOR SHALL FIELD VERIFY EXISTING INFORMATION AS REQUIRED AND NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

JT ENGINEERING
Building Solutions
1321 Brunswick Ave,
Lawrence, NJ 08648
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F: 609.303.0237
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ISSUED FOR BIDDING

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Mk.	DATE:	REMARKS:
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DRAWING TITLE:

FOUNDATION PLAN

DRAFTED BY: NAR
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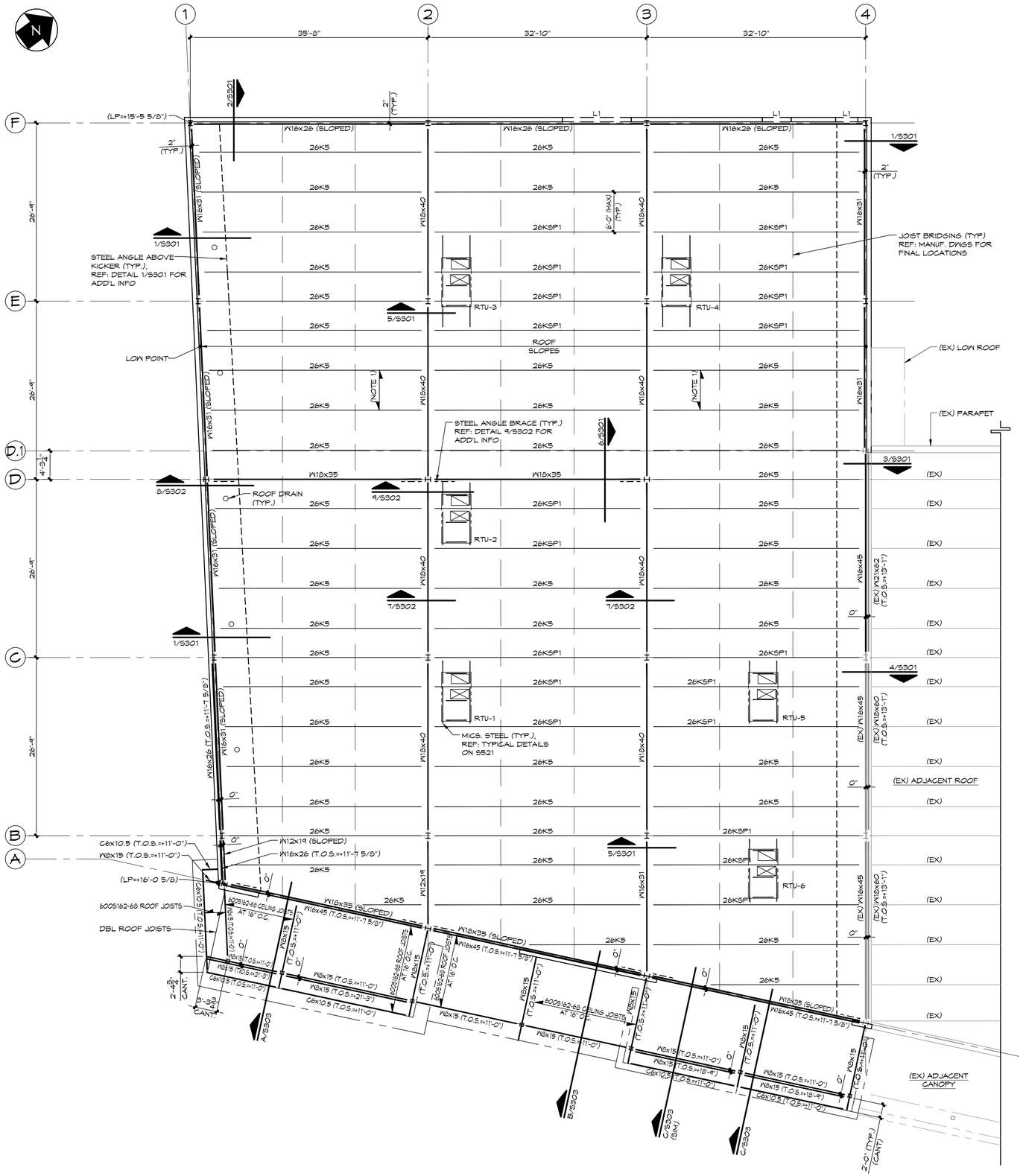
DRAWING SCALE: AS NOTED

DRAWING NUMBER:

S101



MASONRY SHEAR WALL SCHEDULE

Mk	LEVEL	MASONRY SIZE	VERTICAL REINF.	HORIZ. REINF.	BOUNDARY REINF.	BOND BEAM SPACING (SEE NOTE 3)
CMSW 1	1ST FLR TO ROOF	8"	#5 BARS AT 32" O.C.	(SEE NOTE 2)	(1) #5 BARS	10'-0" O.C. (MAX.)

NOTES:
1. MASONRY SHEAR WALLS SHALL BE 8" CMU WITH MINIMUM COMPRESSIVE STRENGTH OF f'm = 2000psi. FILL ALL CELLS SOLID WITH 3000psi GROUT.
2. PROVIDE HORIZ. REINFORCEMENT (9 ga. GALVANIZED TRUSS TYPE) AT 16" O.C.
3. PROVIDE 16" DEEP BOND BEAMS AT EACH FLOOR LEVEL w/ (2) #5 BARS CONTINUOUS. PROVIDE 8" DEEP BOND BEAMS BETWEEN FLOORS WHERE WALL IS GREATER THAN 10ft w/ (1) # 5 BAR CONTINUOUS. ALL BOND BEAMS SHALL HAVE KNOCK OUT BLOCKS AND SHALL BE FILLED SOLID WITH 3000PSI GROUT, REFERENCE TYPICAL DETAIL FOR ADDITIONAL INFORMATION.
4. CONTRACTOR SHALL MAINTAIN RUNNING BOND THROUGHOUT WALLS AND CORNERS.
5. TYPICAL BAR LAP SPLICES IN CENTER OF WALL: #5 = 24"

TOP OF STEEL ELEVATION TABLE

COLUMN LINE	TOP OF STEEL ELEVATION
1	(SEE PLAN)
2	+16'-2 5/8"
3	+16'-8 1/4"
4	+17'-1" (NOTE 2)

NOTES:
1. TOP OF STEEL ELEVATION SHOWN INDICATES THE TOP OF STEEL BEAM ELEVATION AND IS REFERENCED FROM THE BUILDING'S DATUM.
2. G.C. TO COORDINATE EXISTING TOP OF STEEL AT COLUMN LINE 4. NOTIFY E.O.R. IF ELEVATIONS DO NOT MATCH PLANS

NOTE TO G.C.:
G.C. TO INVESTIGATE AND COORDINATE EXISTING TOP OF PIER HEIGHTS. PIERS TO BE CUT DOWN PAST DEFICIENCIES FOR COLUMN BASE PLATES. E.O.R. TO BE NOTIFIED OF ANY SEVERE DEFICIENCIES IN THE CONCRETE PIERS.

NOTE:
CONTRACTOR TO PERFORM FURTHER INVESTIGATION FOR THE EXISTING STRUCTURAL ELEMENTS (BEAM AT LOWER ROOF AND COLUMN), THIS INVESTIGATION SHALL INCLUDE MECHANICAL AND CHEMICAL PROPERTIES TO TEST THE INTEGRITY OF THE EXISTING STEEL. RESULTS SHALL BE PRESENTED TO THE EOR FOR REVIEW AND APPROVAL. ALL THESE INVESTIGATION AND ITS APPROVAL TO BE DONE PRIOR SHOP DRAWING AND FABRICATION.

ALL MASONRY WALLS SHALL BE "CMSW1" UNLESS OTHERWISE NOTED.

ROOF FRAMING PLAN

SCALE: 1/8"=1'-0"

NOTES:
1. ROOF FRAMING SHALL BE 1 1/2"-20 GAGE GALVANIZED TYPE "B" WIDE RIB METAL ROOF DECK, SPANNING OVER STRUCTURAL STEEL BEAMS AND JOISTS.
3. DIRECTION OF METAL DECK SHALL BE PLACED PERPENDICULAR TO JOISTS.
4. TOP OF STEEL ELEVATION SHOWN THUS (T.O.S.=+X'-X") ON PLAN AND IS REFERENCED FROM THE BUILDING'S DATUM.
5. STRUCTURAL STEEL SHALL BE ASTM A992 GRADE 50 (UNO).
6. BEAMS AND JOISTS SHOWN ON PLAN ARE SPACED EQUALLY BETWEEN COLUMN CENTERLINES UNLESS OTHERWISE NOTED ON PLAN.
7. "L1" INDICATES 8"xD" PRECAST CONCRETE LINTEL WITH (2) #5 BARS (TOP & BOTTOM). REFERENCE TYPICAL PRECAST CONCRETE LINTEL DETAIL.
8. (EX) DESIGNATES EXISTING STRUCTURE TO REMAIN. GENERAL CONTRACTOR SHALL FIELD VERIFY EXISTING INFORMATION AS REQUIRED AND NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

JT ENGINEERING
Building Solutions
1321 Brunswick Ave,
Lawrence, NJ 08648
P: 609.303.0236
F: 609.303.0237
www.jt-pe.com

JASON C. TARANTINO

NOT FOR CONSTRUCTION

NEW JERSEY LICENSE: GE 46166
NEW YORK LICENSE: PE 85737
PENNSYLVANIA LICENSE: PE 75508
CONNECTICUT LICENSE: PE 27045

ISSUED FOR BIDDING

REVISIONS:

Mk.	DATE:	REMARKS:
	09/09/22	ISSUED FOR BIDDING

PROJECT:

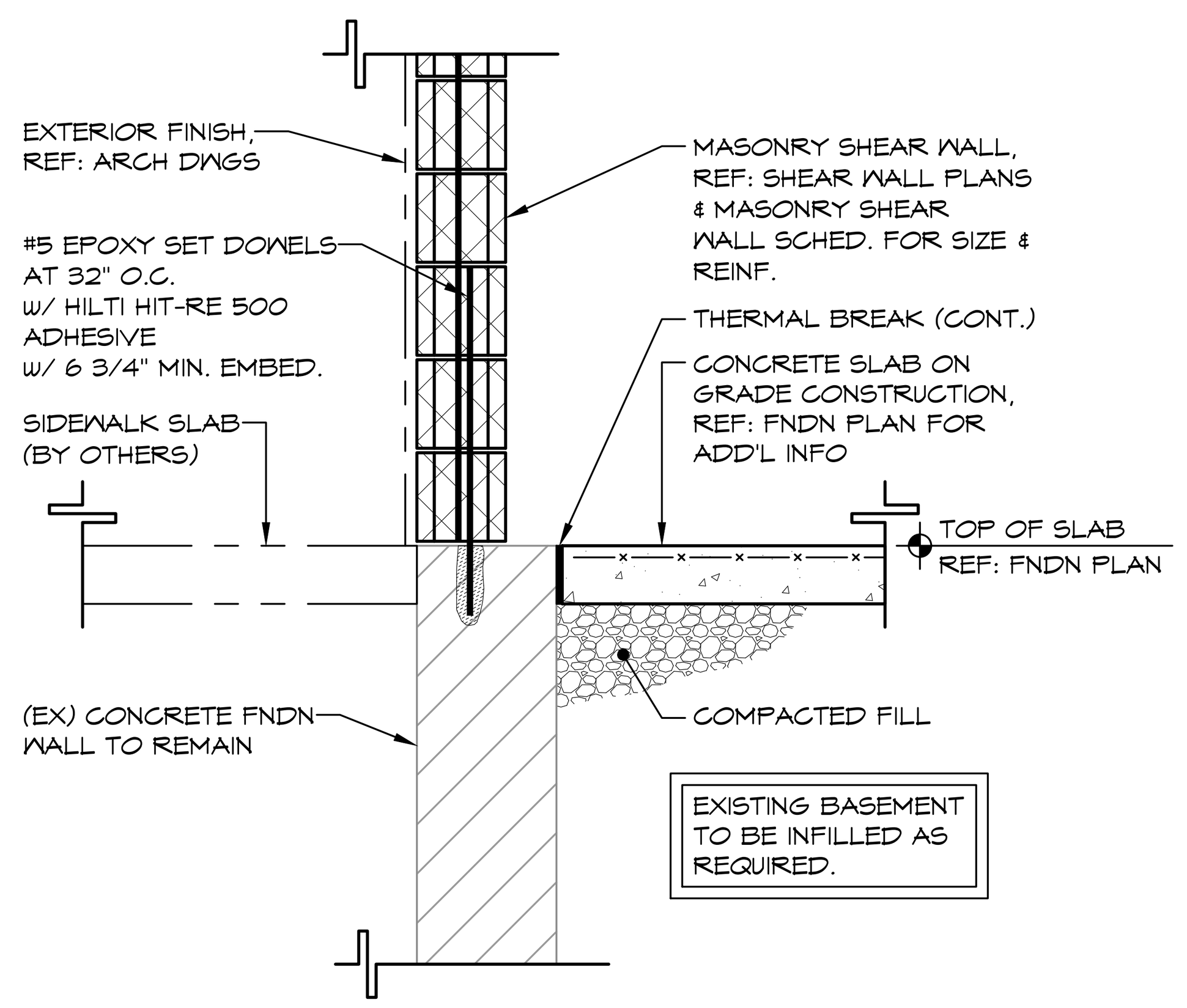
Proposed Building Renovation
Pearl River Shopping Center
100 North Middletown Road
Pearl River, New York

DRAWING TITLE:

ROOF FRAMING PLAN

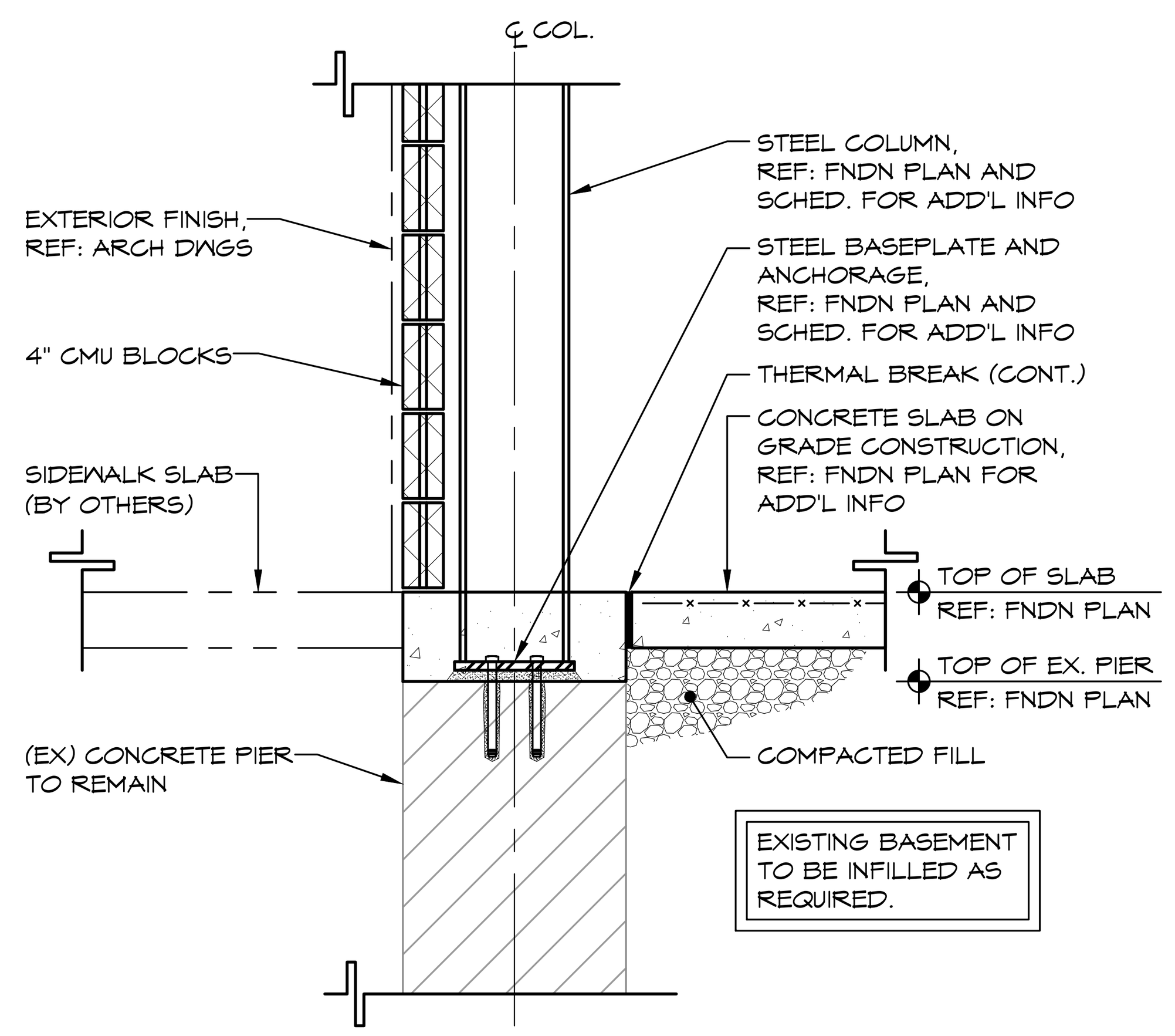
DRAFTED BY: NAR
REVIEWED BY: JCT
PROJECT NUMBER: 2200_17
DRAWING SCALE: AS NOTED
DRAWING NUMBER:

S102



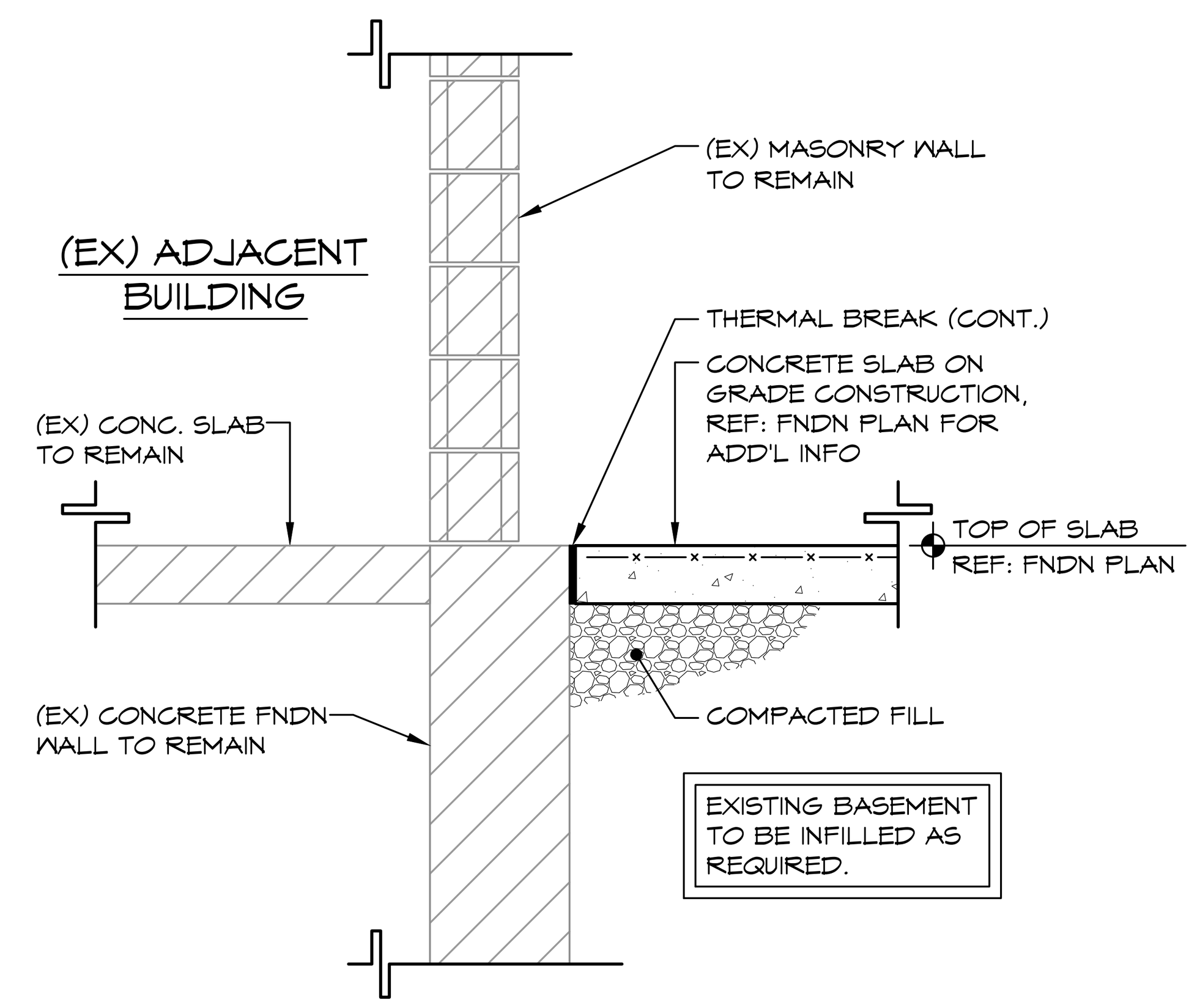
1 EXTERIOR FOUNDATION WALL DETAIL

SCALE: 3/4"=1'-0"



2 EXTERIOR FOUNDATION WALL DETAIL

SCALE: 3/4"=1'-0"



3 EXTERIOR FOUNDATION WALL DETAIL

SCALE: 3/4"=1'-0"

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Pearl River Shopping Center
100 North Middletown Road
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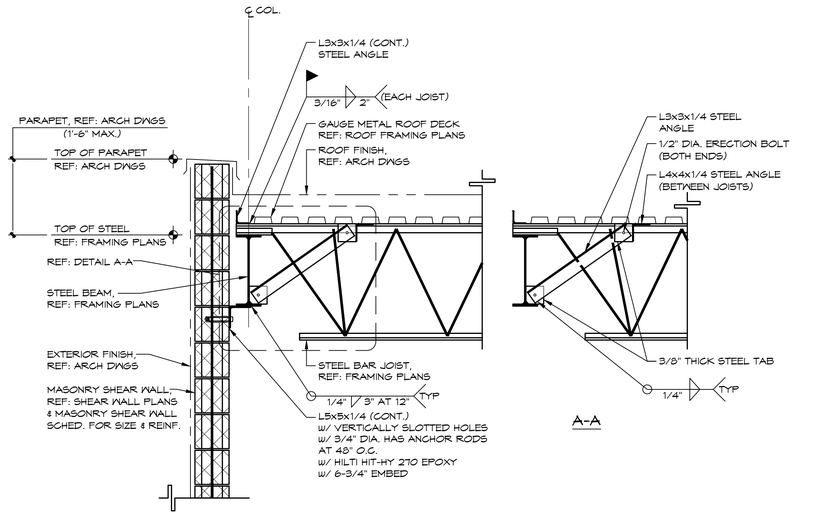
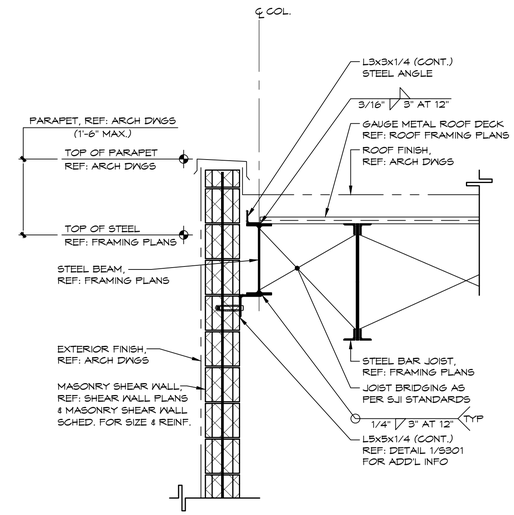
DRAWING TITLE:
FOUNDATION DETAILS

DRAFTED BY: NAR
REVIEWED BY: JCT
PROJECT NUMBER: 2200_17
DRAWING SCALE: AS NOTED
DRAWING NUMBER:
S201



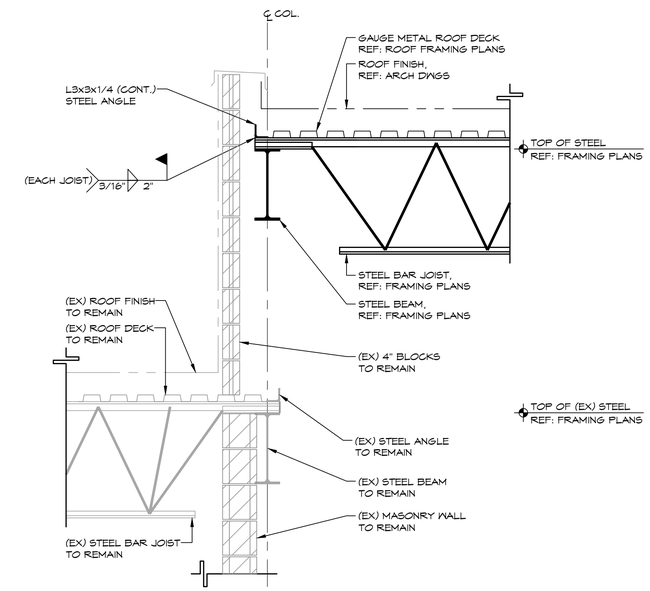
1 ROOF FRAMING DETAIL

SCALE: 3/4"=1'-0"



2 ROOF FRAMING DETAIL

SCALE: 3/4"=1'-0"



3 ROOF FRAMING DETAIL

SCALE: 3/4"=1'-0"

4 ROOF FRAMING DETAIL

SCALE: 3/4"=1'-0"

5 ROOF FRAMING AT INTERIOR

SCALE: 3/4"=1'-0"

6 ROOF FRAMING AT INTERIOR

SCALE: 3/4"=1'-0"

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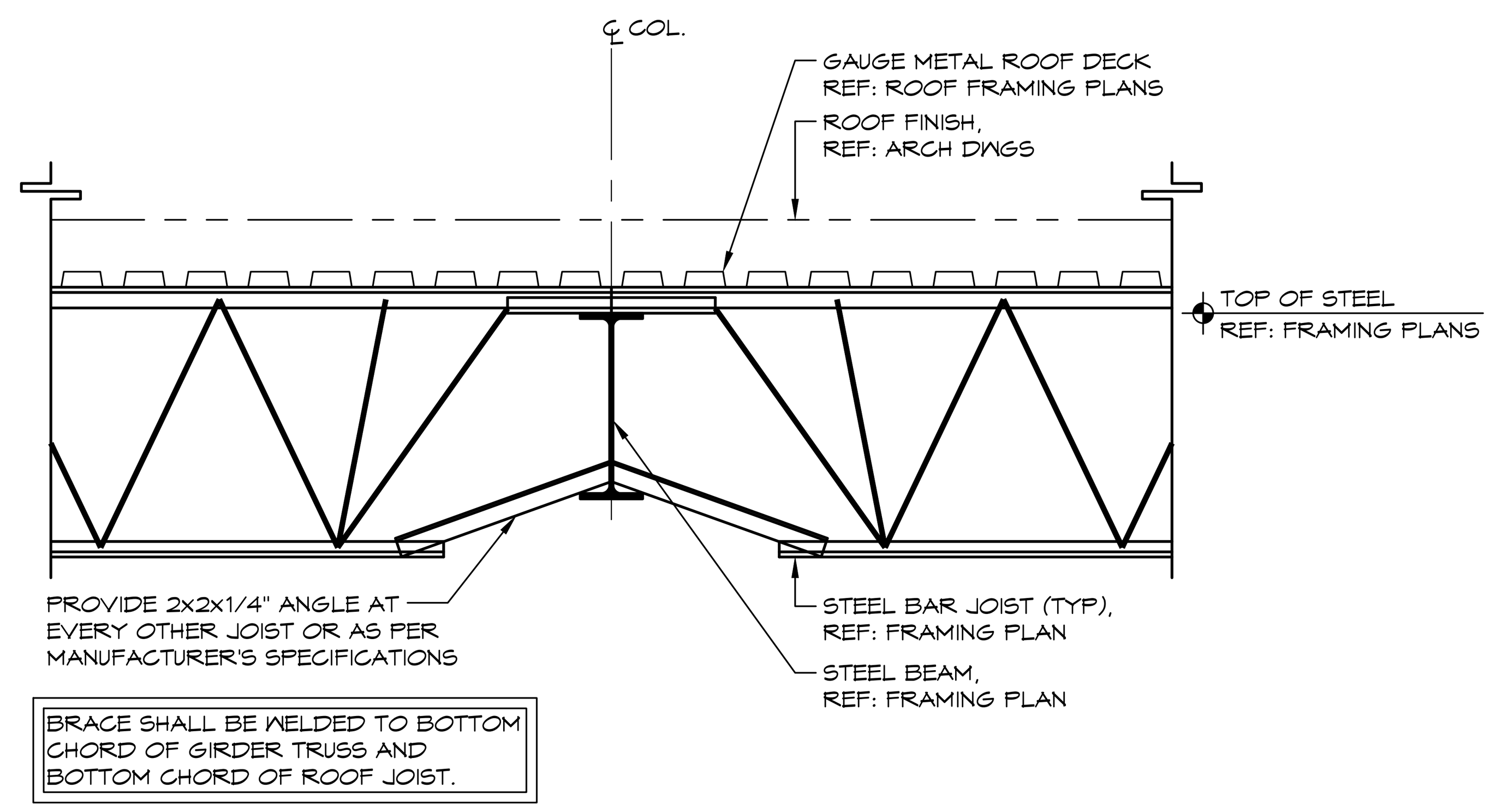
DRAWING SCALE: AS NOTED

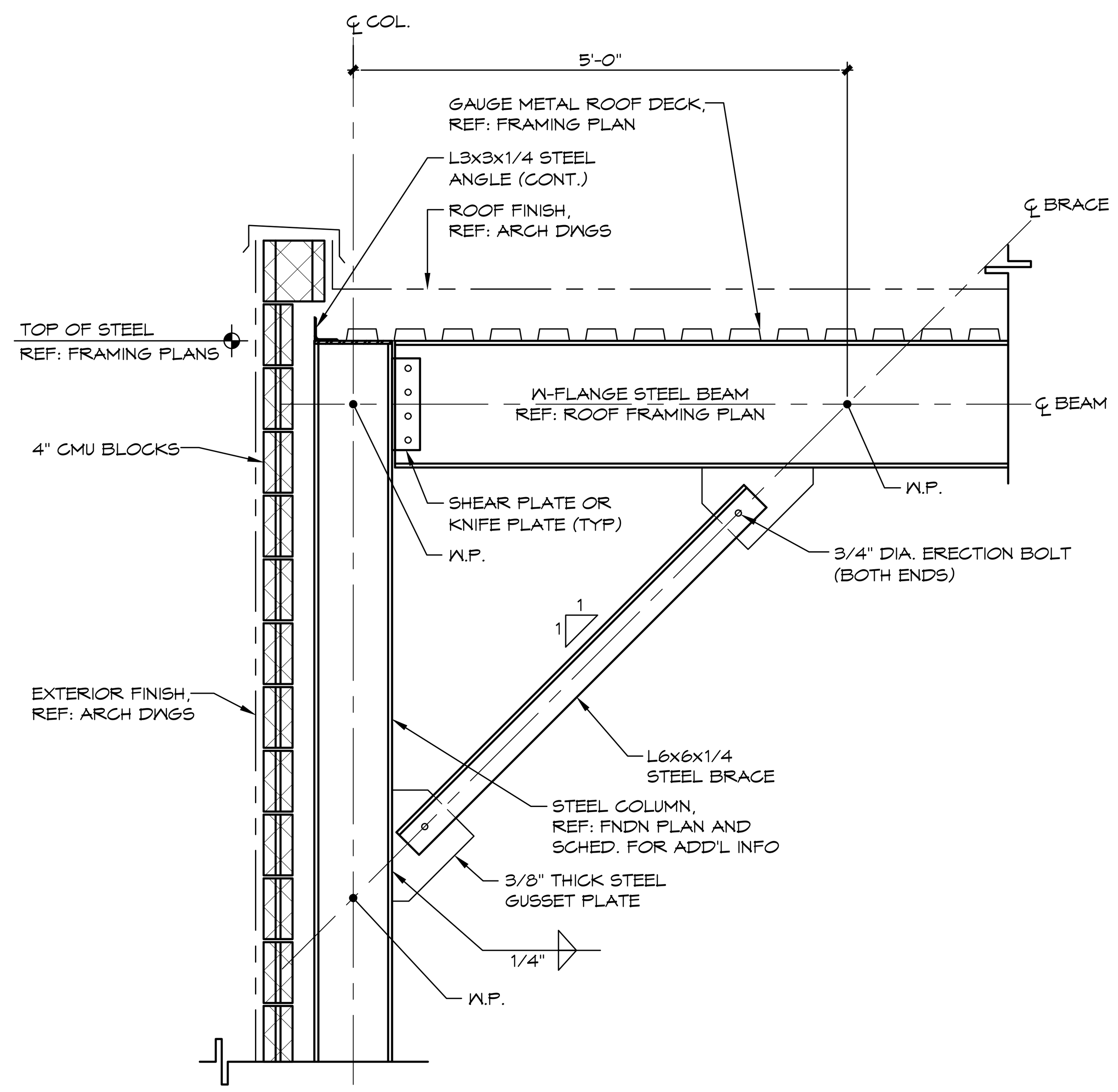
DRAWING NUMBER:

S301



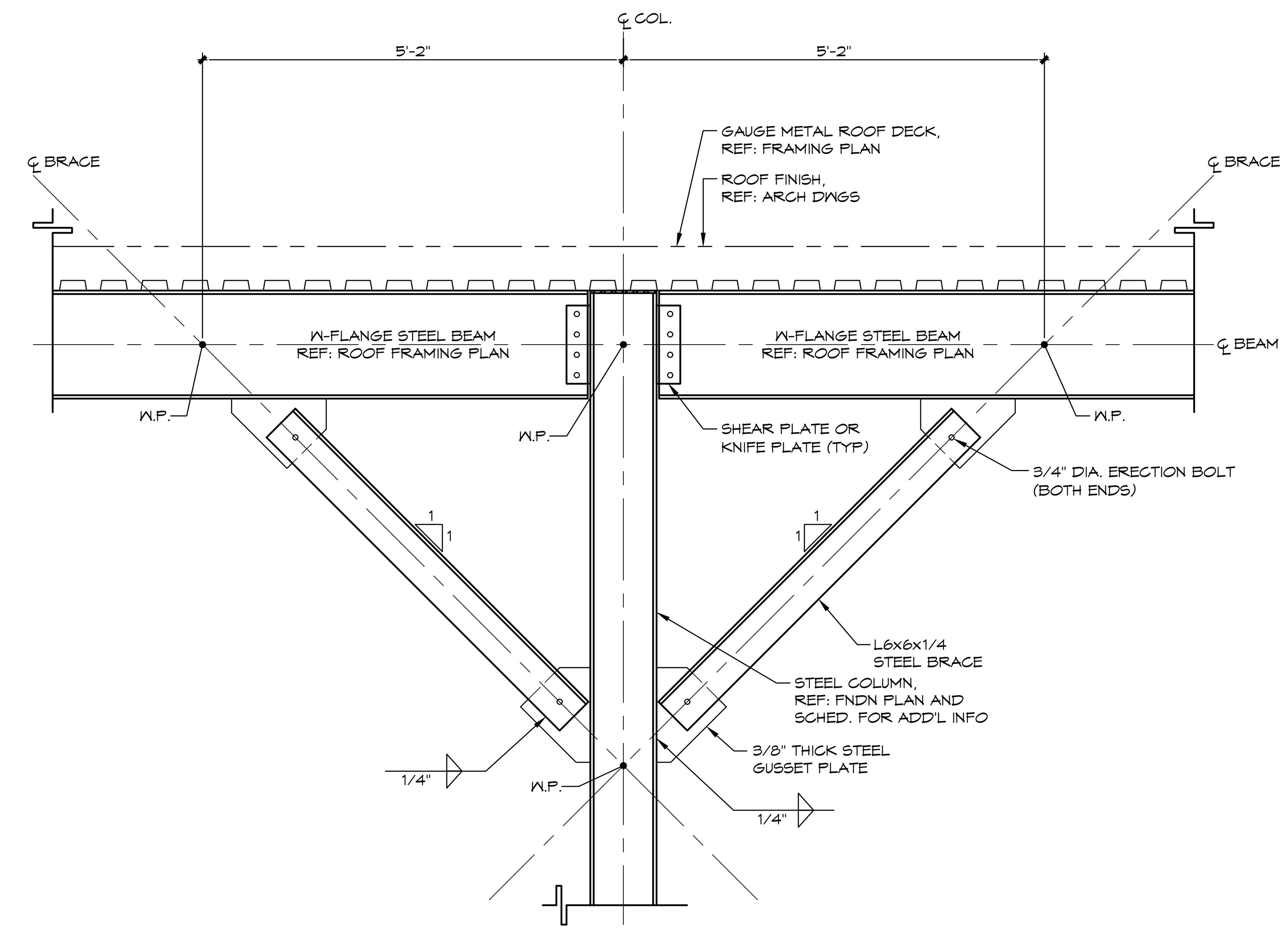
7 ROOF FRAMING AT INTERIOR

SCALE: 3/4"=1'-0"



8 KNEE BRACE DETAIL

SCALE: 3/4"=1'-0"



9 KNEE BRACE DETAIL

SCALE: 3/4"=1'-0"

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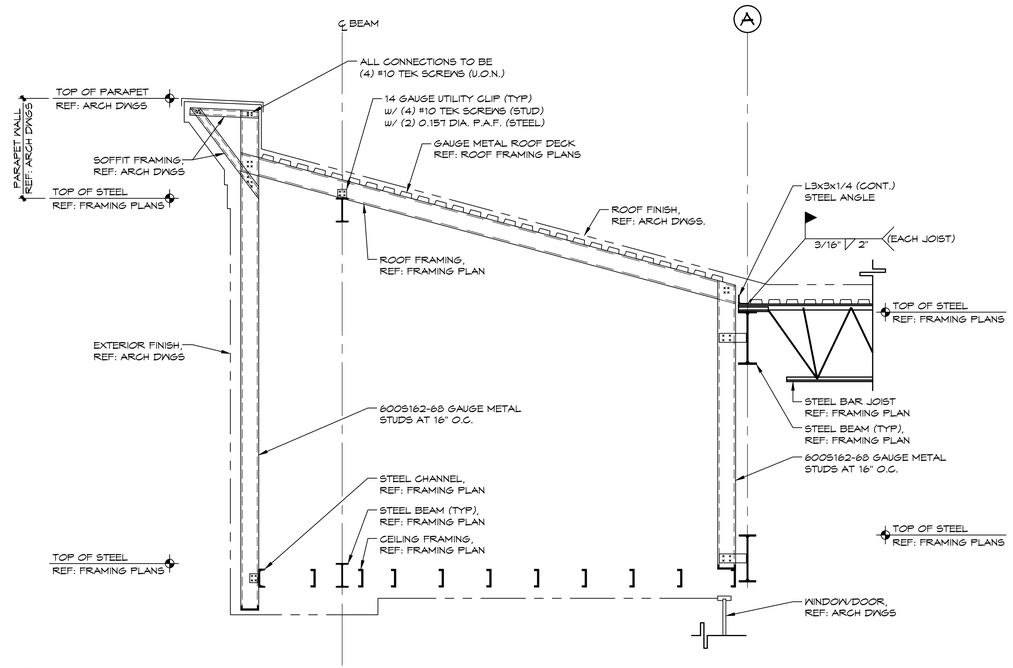
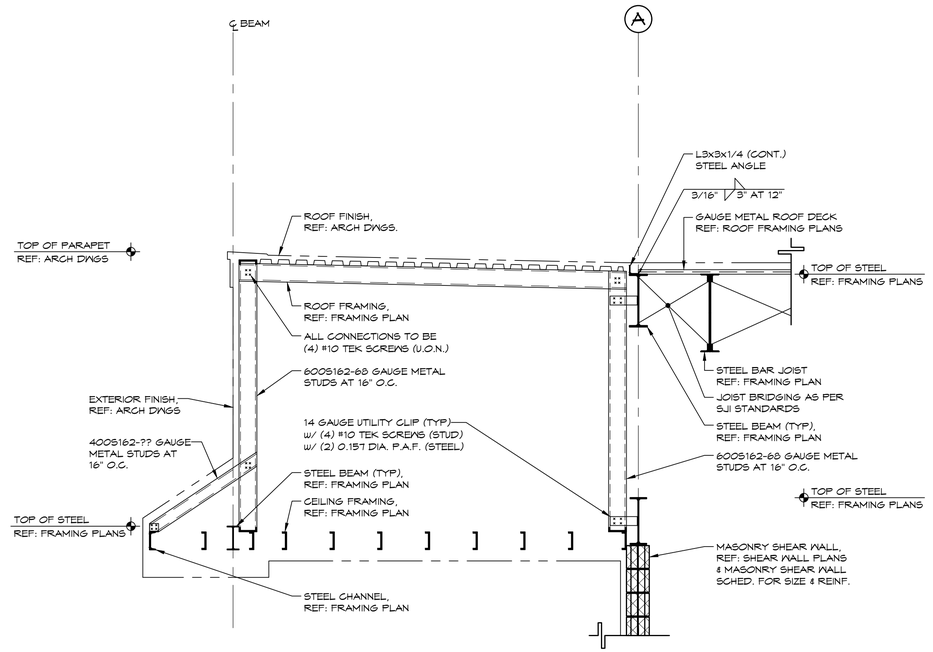
PROJECT NUMBER: 2200_17
DRAWING SCALE: AS NOTED
DRAWING NUMBER:

S302



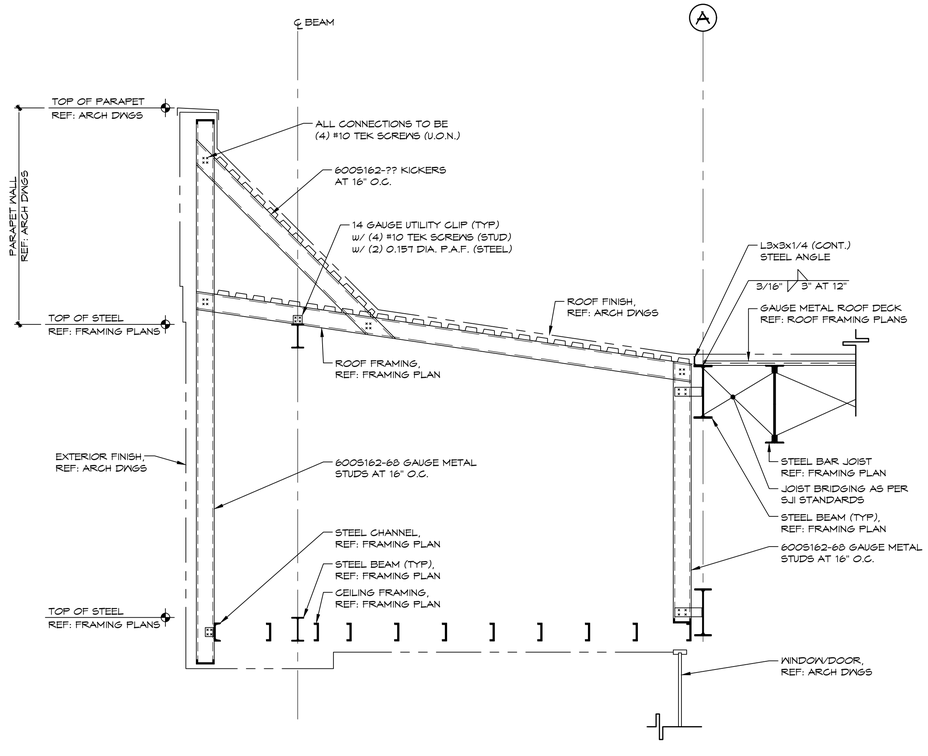
A CANOPY & EXTERIOR WALL CONSTRUCTION DETAIL

SCALE: 1/2"=1'-0"



B CANOPY & EXTERIOR WALL CONSTRUCTION DETAIL

SCALE: 1/2"=1'-0"



C CANOPY & EXTERIOR WALL CONSTRUCTION DETAIL

SCALE: 1/2"=1'-0"

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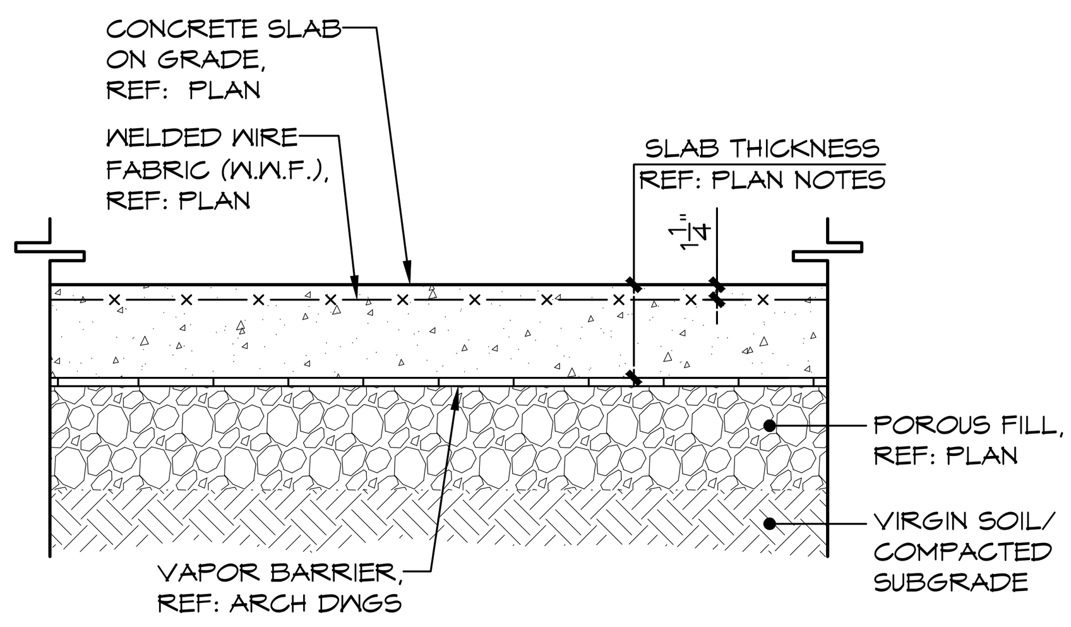
DRAFTED BY: NAR
REVIEWED BY: JCT
PROJECT NUMBER: 2200_17
DRAWING SCALE: AS NOTED

DRAWING NUMBER:

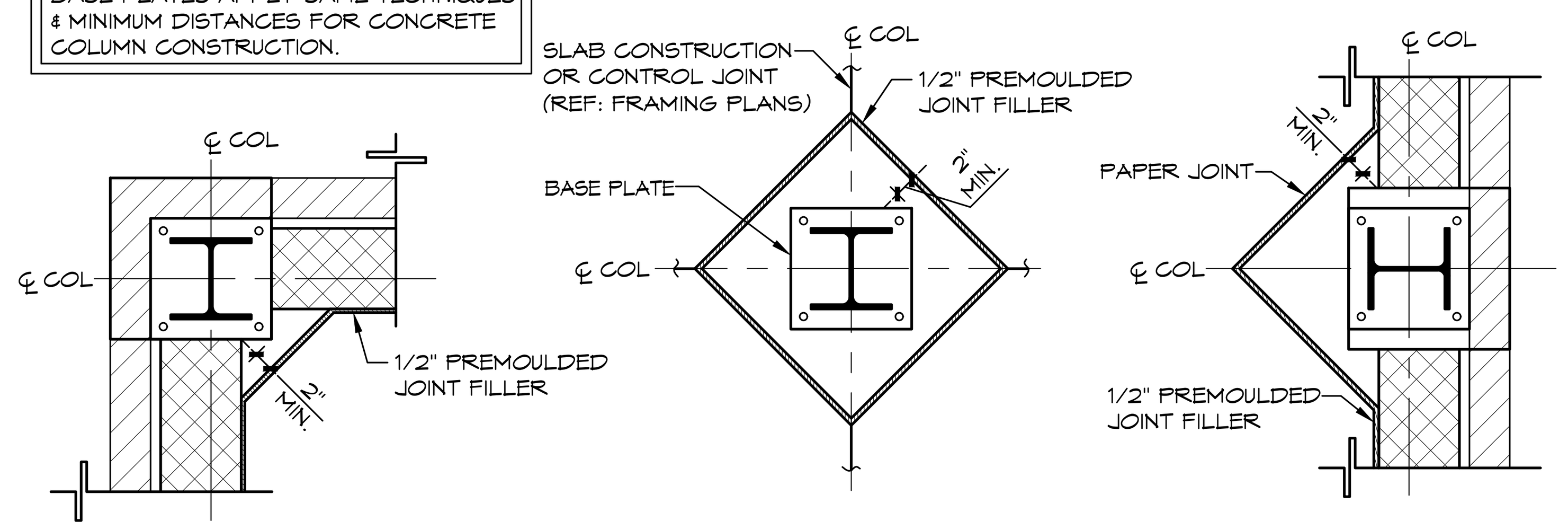
S303



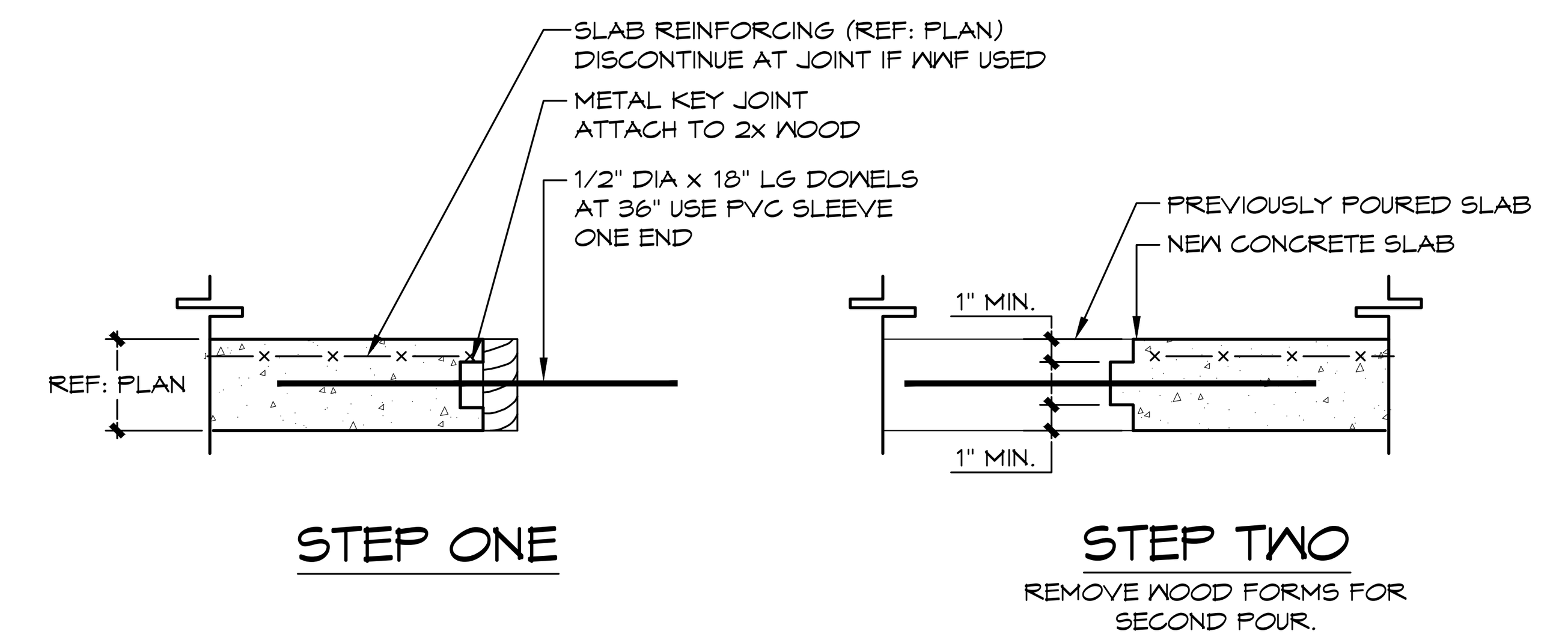
FIBROUS REINFORCEMENT ALTERNATE:
CONTRACTOR MAY SUBSTITUTE SIKA FIBERSMESH 300 REINFORCEMENT OR APPROVED EQUAL TO CONCRETE MIX IN LIEU OF REINFORCEMENT. (NOT RECOMMENDED FOR POLISH CONCRETE).

TYPICAL CONCRETE SLAB ON GRADE

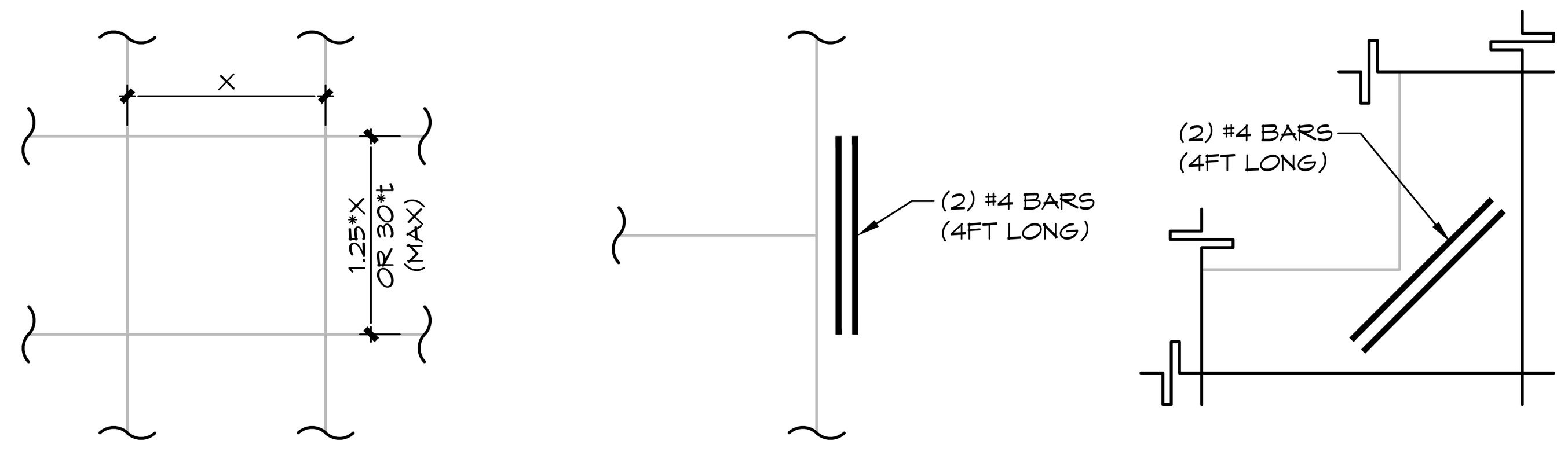
CONCRETE COLUMN NOTE:
DETAIL REPRESENT STEEL COLUMNS & BASE PLATES APPLY SAME TECHNIQUES & MINIMUM DISTANCES FOR CONCRETE COLUMN CONSTRUCTION.

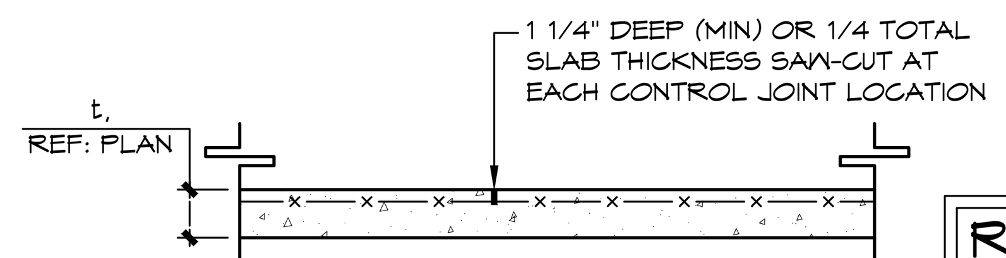


TYPICAL SLAB ISOLATION JOINT



TYPICAL SLAB ON GRADE CONSTRUCTION JOINT



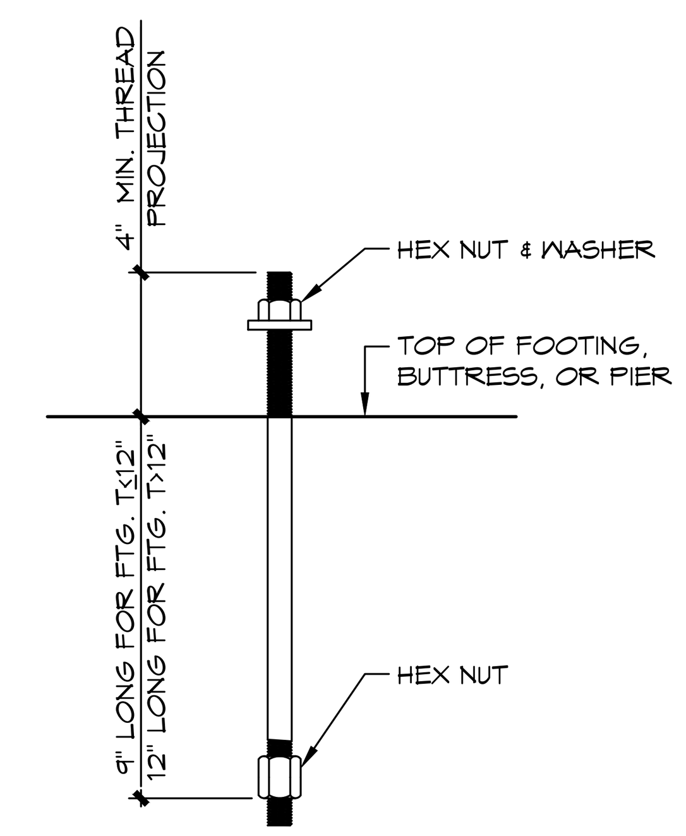


NOTES:
1. MAXIMUM JOINT SPACING SHALL BE 30x SLAB THICKNESS (t) U.N.O.
2. PANELS SHALL BE SQUARE SHAPED. IF PANELS ARE UNABLE TO BE SQUARE, LENGTH OF LONG EDGE OF PANEL SHALL NOT EXCEED 1.25x LENGTH OF SHORT EDGE
3. CONTRACTOR MAY PROVIDE PREFORMED CONTROL JOINT SUCH AS "STRESSLOCK" OR APPROVED EQUAL.
4. UPON CONTRACTORS REQUEST, FORMAL CONTROL JOINT LAYOUT CAN BE PROVIDED.

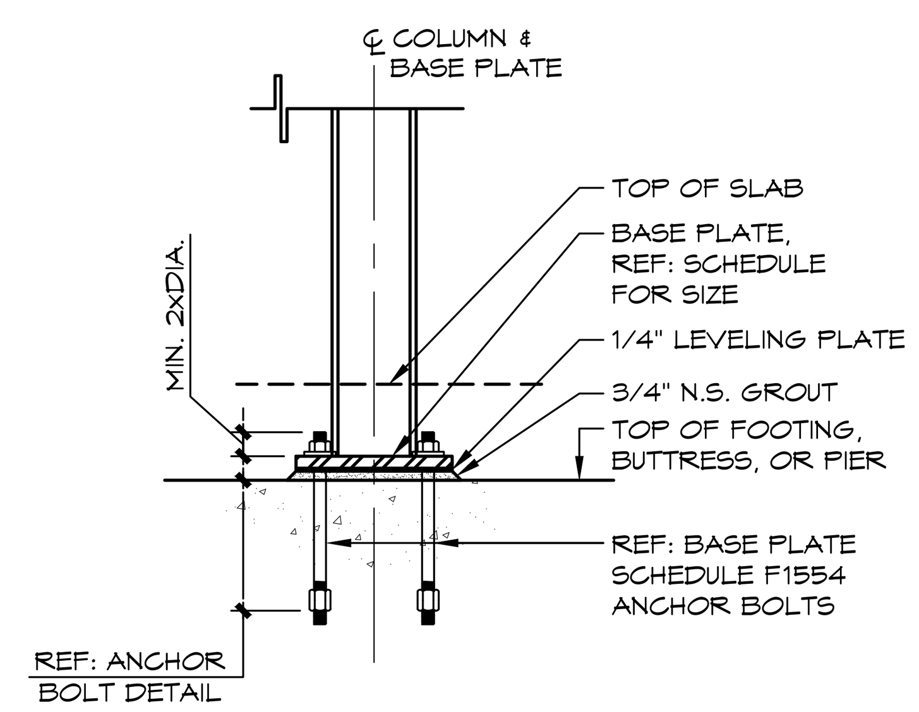
RECOMMENDED CONTROL JOINT SPACING

SLAB THICKNESS (t) (IN)	MAX SPACING (FT)
4	10
5	12
6	15
7	17
8	20

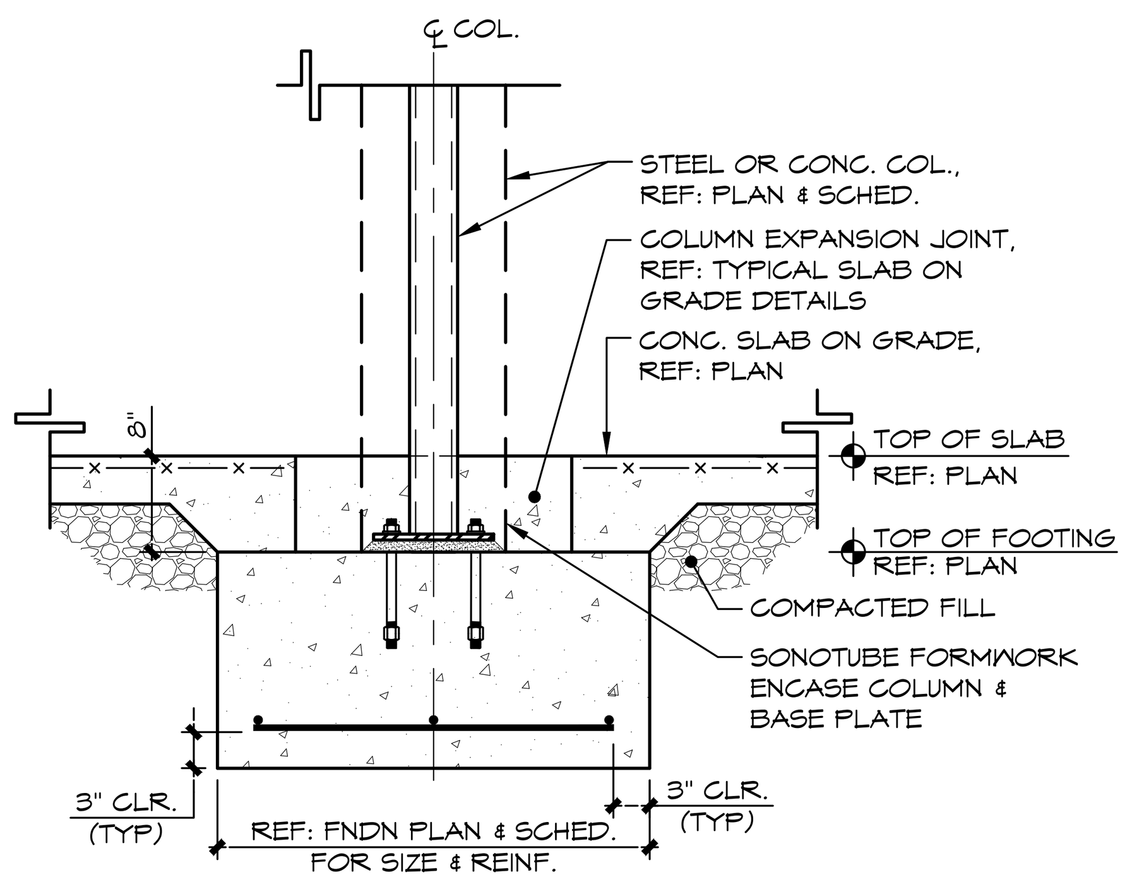
TYPICAL CONTROL JOINT DETAIL



ANCHOR BOLT DETAIL



TYPICAL W-FLANGE COLUMN BASE PLATE



INTERIOR COLUMN TYPICAL FOOTING DETAIL

3,000 PSI NORMAL WEIGHT						
			TOP BARS		OTHER BARS	
BAR SIZE	db	LAP CLASS	CASE 1	CASE 2	CASE 1	CASE 2
#3	.375	EMBEDMENT (A)	22	32	17	25
		SPLICE (B)	28	42	22	32
#4	.50	EMBEDMENT (A)	29	43	22	33
		SPLICE (B)	37	56	29	43
#5	.625	EMBEDMENT (A)	36	54	28	41
		SPLICE (B)	47	70	36	54
#6	.75	EMBEDMENT (A)	43	64	33	50
		SPLICE (B)	56	84	43	64
#7	.875	EMBEDMENT (A)	63	94	48	72
		SPLICE (B)	81	122	63	94
#8	1.0	EMBEDMENT (A)	72	107	55	82
		SPLICE (B)	93	139	72	107

STRUCTURAL ELEMENT	CONCRETE COVER	CASE ACCORDING TO CENTER-TO-CENTER BAR SPACING ≤ 2db	> 2db < 3db	> 3db
BEAMS, COLUMNS, AND LAYER OF WALLS OR SLABS.	≤ db > db	2 2	2 1	2 1
ALL OTHERS	≤ db > db	2 2	2 2	2 1

NOTES:
1. TENSION DEVELOPMENT LENGTHS AND LAP SPLICE LENGTHS ARE CALCULATED PER ACI 318-14, SECTIONS 25.4.2.2 AND 25.5.2, RESPECTIVELY.
2. CASES 1 & 2 WHICH DEPEND ON THE TYPE OF STRUCTURAL ELEMENT, CONCRETE COVER AND THE CENTER-TO-CENTER SPACING OF BARS ARE DEFINED IN THE TABLE AT RIGHT.
3. LAP SPLICE LENGTHS ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS: CLASS A - 1.0 AND CLASS B - 1.3 (ACI 25.5.2.1). VALUES FOR BARS IN BEAMS OR COLUMNS ARE BASED ON TRANSVERSE REINFORCEMENT MEETING MINIMUM REQUIREMENTS FOR STIRRUPS IN ACI 9.6.3 AND 9.6.4 OR MEETING THE REQUIREMENTS OF ACI 10.6.2 AND ARE BASED ON MINIMUM COVER SPECIFIED IN ACI 20.6.1.
4. CONDITIONS WHICH REQUIRE CASE 1 SPLICE LENGTHS SHOULD BE AVOIDED IF AT ALL POSSIBLE FOR THE LARGER BAR SIZES. THESE ORDINARILY LONG LENGTHS PRESENT POSSIBLE CONSTRUCTABILITY PROBLEMS DUE TO PLACING CONGESTION ETC.
5. TOP BARS ARE HORIZONTAL WITH MORE THAN 12 IN. OF FRESH CONCRETE CAST BELOW THE BARS.

TYPICAL CONCRETE COVER FOR REINFORCING BARS

SLABS	1"
TIED PIERS (CLEAR DIMENSION TO TIES)	
SURFACE EXPOSED TO EARTH AND WEATHER	2"
OTHER SURFACES	1-1/2"
FOUNDATION ELEMENTS	
SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
SURFACES EXPOSED TO EARTH OR WEATHER (#5 OR SMALLER)	1-1/2"
SURFACES EXPOSED TO EARTH OR WEATHER (#6 OR LARGER)	2"
OTHER SURFACES	1"
BEAMS & COLUMNS	
PRIMARY REINFORCEMENT, TIES, STIRRUPS, OR SPIRALS	1-1/2"
OTHER	
SURFACES NOT EXPOSED TO EARTH OR WEATHER	3/4"

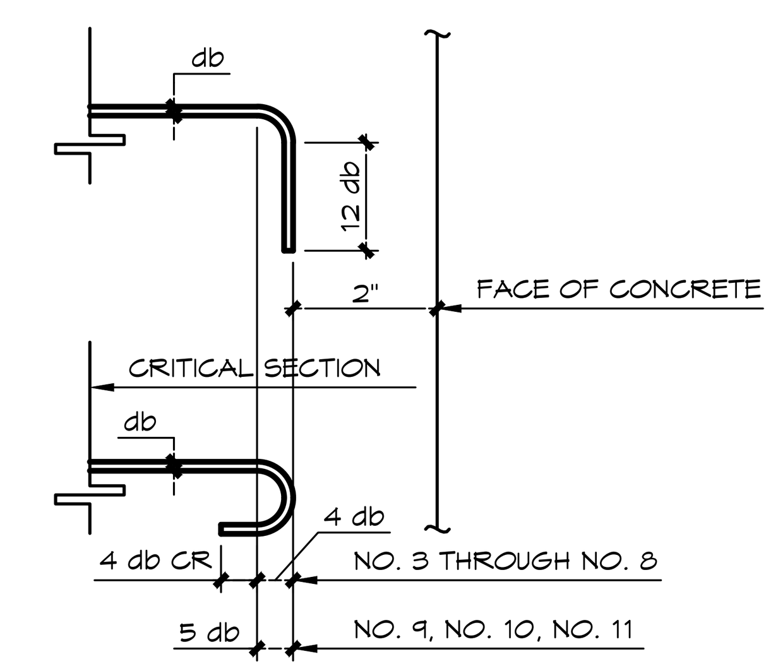
NORMAL WEIGHT CONCRETE STRENGTH	DEVELOPMENT LENGTH	LAP SPLICE LENGTH
3,000 PSI	22 db	30 db ≥ 12"
4,000 PSI	19 db	30 db ≥ 12"
5,000 PSI	18 db	30 db ≥ 12"
6,000 PSI	17 db	30 db > 12"

COMPRESSION DEVELOPMENT AND LAP SPLICE LENGTHS

NORMAL WEIGHT CONCRETE STRENGTH	BASIC HOOK DEVELOPMENT LENGTH
3,000 PSI	22 db
4,000 PSI	19 db
5,000 PSI	17 db

STANDARD HOOKED BAR TENSION DEVELOPMENT LENGTHS

1. WHEN COVERAGE REQUIREMENTS SHOWN IN DETAILS ARE MET, BASIC HOOK DEVELOPMENT LENGTH MAY BE MULTIPLIED BY 0.7.



REINFORCING DEVELOPMENT LENGTH AND LAP SPLICE SCHEDULE

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Building Solutions
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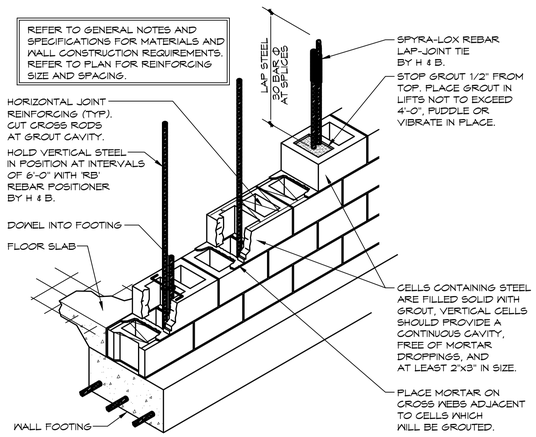
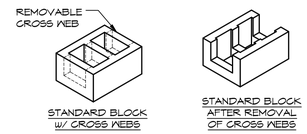
Pearl River, New York

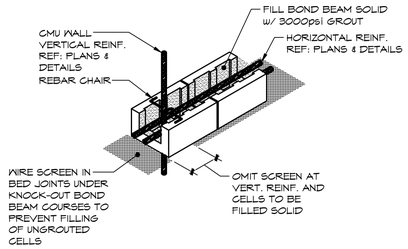
DRAWING TITLE:
TYPICAL FOUNDATION DETAILS

DRAFTED BY: NAR
REVIEWED BY: JCT
PROJECT NUMBER: 2200_17
DRAWING SCALE: AS NOTED
DRAWING NUMBER:
S501

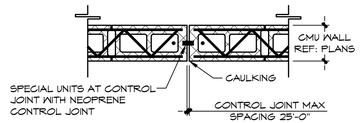


TYPICAL CONCRETE MASONRY WALL CONSTRUCTION



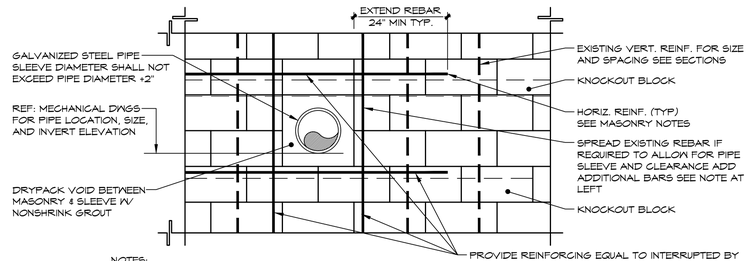


TYPICAL BOND BEAM CONSTRUCTION



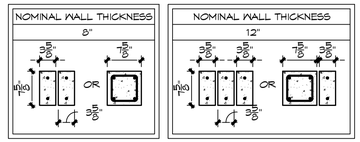
NOTES:
1. CONTROL JOINTS TO OCCUR FULL HEIGHT OF WALL.
2. HORIZONTAL JOINT REINFORCING TO BE DISCONTINUOUS.
3. BOND BEAM REINFORCING TO BE CONTINUOUS. WRAP BARS IN GREASE COATED WRAP OR PROVIDE JOINT STABILIZER ANCHORS.

TYPICAL MASONRY EXPANSION CONTROL JOINT DETAIL



NOTES:
1. ALL PENETRATIONS THROUGH WALLS ARE SUBJECT TO APPROVAL BY STRUCTURAL ENGINEER MINIMUM.
2. CLEAR DISTANCE BETWEEN ADJACENT SLEEVES SHALL NOT BE LESS THAN 2'-0" HOOK ALL.
3. INTERRUPTED CONTINUOUS BARS.

TYPICAL PIPE PENETRATION THROUGH MASONRY FOUNDATION WALL

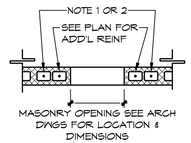


REINFORCEMENT SCHEDULE			
LINTEL SIZE	LINTEL SIZE		
	4'-0"	6'-0"	8'-0"
3-5/8"X7-5/8"	1-#3 TOP & BOTT.	1-#4 TOP & BOTT.	1-#5 TOP & BOTT.
7-5/8"X7-5/8"	2-#3 TOP & BOTT.	2-#4 TOP & BOTT.	

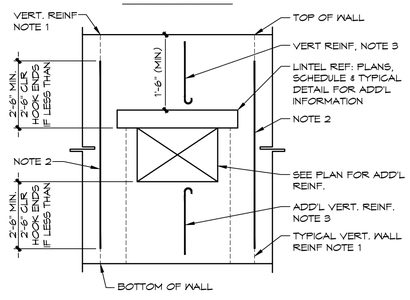
ELEVATION

NOTES:
1. PRECAST CONCRETE LINTELS MAY BE USED IN LIEU OF REINFORCED CONCRETE MASONRY LINTELS.
2. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE f'c=3000psi.
3. IF MASONRY OPENING IS NEXT TO A COLUMN, DO NOT USE PRECAST CONCRETE LINTEL. USE STRUCTURAL STEEL LINTEL AND CONNECT TO COLUMN.
4. FOR MASONRY OPENING SIZE AND LOCATION, SEE ARCHITECTURAL & STRUCTURAL DRAWINGS.
5. IF ANY UNUSUAL OPENING CONDITIONS EXISTS, CONSULT THE ENGINEER OF RECORD PRIOR TO FABRICATING LINTEL. THE ENGINEER OF RECORD RESERVES THE RIGHT TO MODIFY THIS DETAIL, IF WARRANTED BY SUCH A SITUATION.

TYPICAL PRECAST CONCRETE LINTEL SCHEDULE AND DETAIL



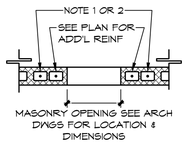
PLAN VIEW



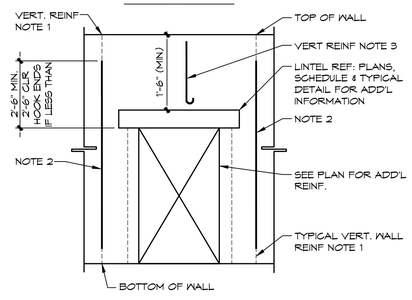
ELEVATION VIEW

NOTES:
1. REINFORCED WALL: ALL INTERRUPTED VERT. BARS SHALL BE COMPENSATED FOR BY ADDITIONAL BARS ON EACH SIDE OF OPENING FULL HEIGHT OF WALL TOTAL AREA OF ADD'L BARS SHALL EQUAL AREA OF INTERRUPTED BARS. PROVIDE MIN (2) #5 EACH SIDE OF OPENING.
2. UNREINFORCED WALL: PROVIDE MIN (2) #5 EACH SIDE OF OPENING.
3. REINFORCED WALL: SIZE & SPACING OF REINF INDICATED ON PLAN. PROVIDE HOODED ENDS ON ALL DISCONTINUOUS BARS.

MASONRY WALL OPENING REINFORCING DETAIL



PLAN VIEW



ELEVATION VIEW

NOTES:
1. REINFORCED WALL: ALL INTERRUPTED VERT. BARS SHALL BE COMPENSATED FOR BY ADDITIONAL BARS ON EACH SIDE OF OPENING FULL HEIGHT OF WALL TOTAL AREA OF ADD'L BARS SHALL EQUAL AREA OF INTERRUPTED BARS. PROVIDE MIN (2) #5 EACH SIDE OF OPENING.
2. UNREINFORCED WALL: PROVIDE MIN (2) #5 EACH SIDE OF OPENING.
3. REINFORCED WALL: SIZE & SPACING OF REINF INDICATED ON PLAN. PROVIDE HOODED ENDS ON ALL DISCONTINUOUS BARS.

MASONRY DOOR OPENING REINFORCING DETAIL

JT ENGINEERING
Building Solutions
1321 Brunswick Ave,
Lawrence, NJ 08648
P: 609.303.0236
F: 609.303.0237
www.jt-pe.com

JASON C. TARANTINO

NOT FOR CONSTRUCTION

NEW JERSEY LICENSE: GE 46166
NEW YORK LICENSE: PE 85737
PENNSYLVANIA LICENSE: PE 75508
CONNECTICUT LICENSE: PE 27045

ISSUED FOR BIDDING

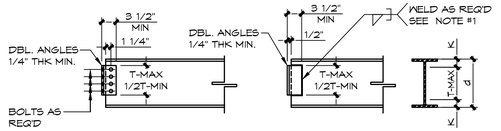
REVISIONS:

Mk.	DATE:	REMARKS:
	09/09/22	ISSUED FOR BIDDING

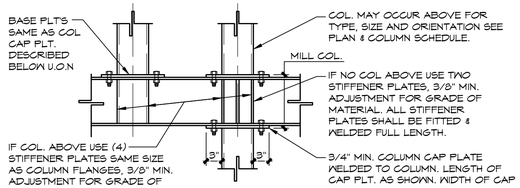
PROJECT:
Proposed Building Renovation
Pearl River Shopping Center
100 North Middletown Road
Pearl River, New York

DRAWING TITLE:
TYPICAL MASONRY WALL DETAILS

DRAFTED BY: NAR
REVIEWED BY: JCT
PROJECT NUMBER: 2200_17
DRAWING SCALE: AS NOTED
DRAWING NUMBER: S511



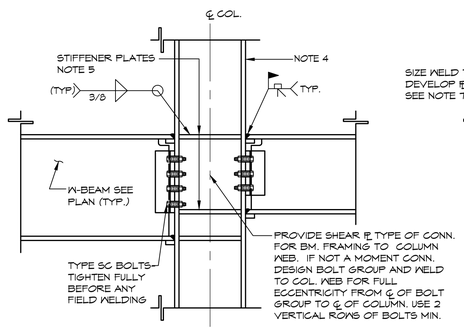
DOUBLE ANGLE SHOP BOLTED CONN. | DOUBLE ANGLE SHOP WELDED CONN.



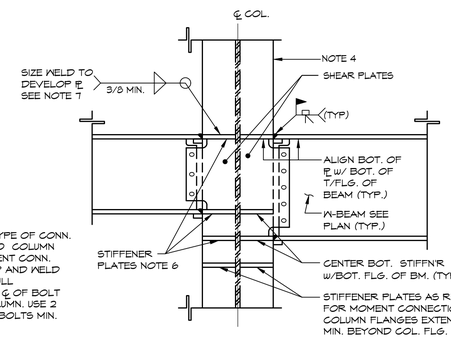
BEAM OVER COLUMN & COLUMN OVER BEAM

NOTES:
1. ALL CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST AISC LRFD SPECIFICATION
2. REACTIONS SHOWN ON PLAN ARE DUE TO FACTORED SERVICE LOADS.
3. DETAIL SHALL SUBMIT FOR APPROVAL, STANDARD CONNECTION DETAILS CONFORMING TO THESE DETAILS WITH THE ERECTION DRAWING SUBMISSION.
4. USE DOUBLE BENT PLATE CONNECTIONS AT SKEWED FRAMING CONDITIONS.

TYPICAL STEEL CONNECTION DETAILS



COLUMN FLANGE CONNECTION

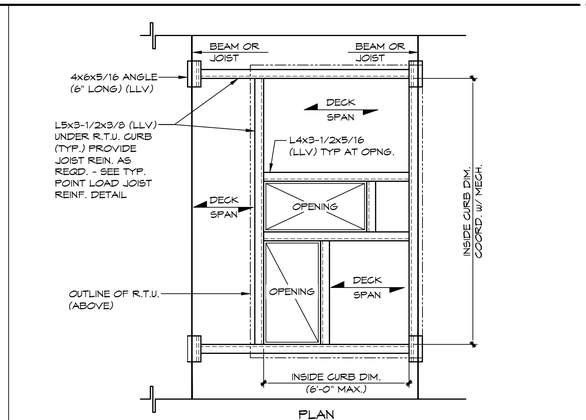


COLUMN WEB CONNECTION

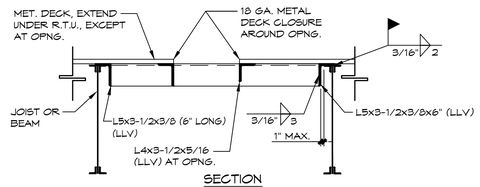
NOTES:
1. FOR BEAMS CONNECTING TO COLUMN WEB, USE SHEAR PLATE CONNECTION DESIGNED AS SPECIFIED IN NOTE 3 OF "TYPICAL STEEL CONNECTION DETAILS."
2. DETAILER SHALL SUBMIT FOR APPROVAL STD. CONN. DETS CONFORMING TO DETAILS SHOWN WITH ERECTION DRAWINGS. ALL BOLTS TO BE 3/4" DIA. A325-SC HIGH STRENGTH BOLTS
3. UNLESS NOTED OTHERWISE, ALL WELDING ELECTRODES TO BE E70XX.
4. FOR EXTENT OF COLUMN SEE FRAMING PLANS, SECTIONS & COLUMN SCHEDULE.
5. PROVIDE 5/8" THICK STIFFENERS ON BOTH SIDES OF COLUMN WEB WHERE INDICATED ↘ ON PLAN OR ON COLUMN SCHEDULE. WIDTH OF STIFFENERS = (COLUMN FLANGE - COLUMN WEB) /2 -1/8".
6. PROVIDE STIFFENER PLATES ON BOTH SIDES OF COLUMN WEB EVEN WHEN MOMENT CONNECTION IS ONLY REQ'D. ON ONE SIDE. THICKNESS OF STIFFENER TO EQUAL THICKNESS OF BEAM FLANGE + 3/8" (Fy = 50 ksi).
7. TERMINATE WELD A DIST. EQUAL TO THE WELD SIZE AT EDGE OF STIFFENER PLATE AND COLUMN FLANGE (TYP.)

TYPICAL FIELD-WELDED BEAM-TO-COLUMN MOMENT CONNECTION

NOTE: FOR LOCATION OF MOMENT CONNECTIONS, SEE BEAM ENDS INDICATED THUS ▶ ON PLANS. ALL OTHER CONNECTIONS RECEIVE STANDARD SHEAR CONNECTIONS.



PLAN

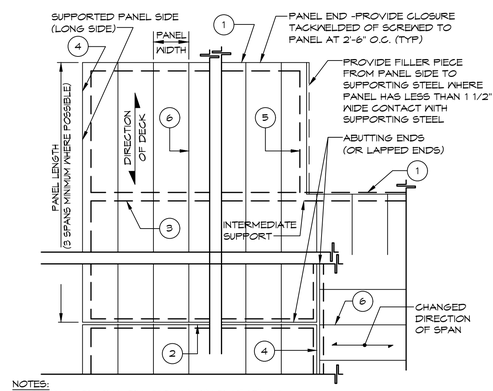


SECTION

ROOF TOP UNIT / LARGE EQUIPMENT SUPPORT

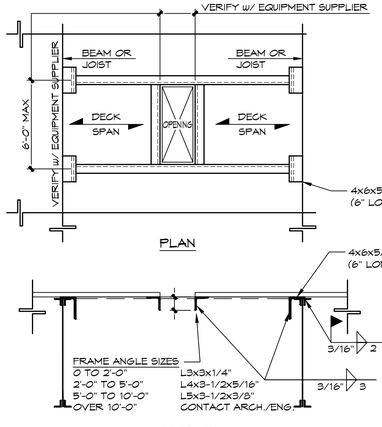
NOTES:
1. COORDINATE SIZE & LOCATION OF CURBS & OPENINGS w/ MECH. CONTRACTOR.
2. ALIGN HEADER w/ TOP CHORD PANEL POINTS, OR PROVIDE JOIST REINF. - SEE TYP. POINT LOAD JOIST REINF. DETAIL

ROOF EQUIPMENT SUPPORT DETAIL

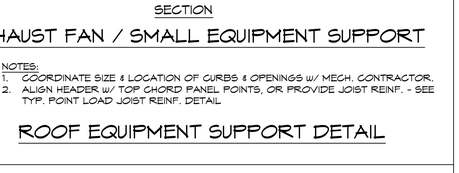


NOTES:
1. PANEL END - 3/4" DIA. PUDDLE WELD AT 12" O.C. BUTTING ENDS - 3/4" DIA. PUDDLE WELDS AT 12" O.C EACH PANEL.
2. LAPPED ENDS - 3/4" DIA. PUDDLE WELDS AT 12" O.C. AT CENTER OF LAPPED ENDS.
3. PANEL INTERMEDIATE SUPPORT - REFERENCE TYPICAL GAUGE METAL FLOOR DECK ATTACHMENT SCHEDULE
4. PANEL SIDE - REFERENCE TYPICAL GAUGE METAL FLOOR DECK ATTACHMENT SCHEDULE
5. PANEL SIDE WITH FILLER PIECE - REFERENCE TYPICAL GAUGE METAL FLOOR DECK ATTACHMENT SCHEDULE
6. PANEL SIDE LAP - REFERENCE TYPICAL GAUGE METAL FLOOR DECK ATTACHMENT SCHEDULE
7. DASHED LINES INDICATE PERMANENT STEEL SUPPORTING MEMBERS

TYPICAL METAL FLOOR DECK ERECTION DETAIL



PLAN

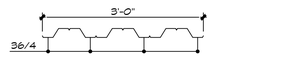


SECTION

EXHAUST FAN / SMALL EQUIPMENT SUPPORT

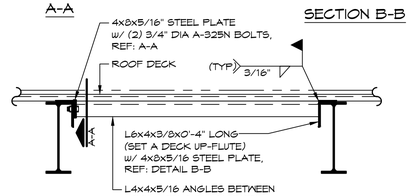
NOTES:
1. COORDINATE SIZE & LOCATION OF CURBS & OPENINGS w/ MECH. CONTRACTOR.
2. ALIGN HEADER w/ TOP CHORD PANEL POINTS, OR PROVIDE JOIST REINF. - SEE TYP. POINT LOAD JOIST REINF. DETAIL

ROOF EQUIPMENT SUPPORT DETAIL

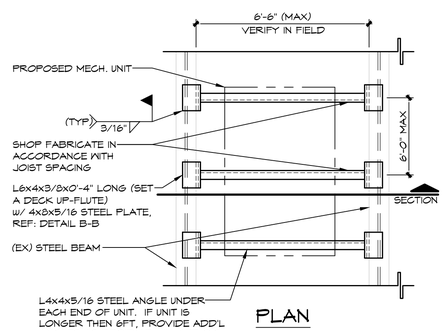


NOTES:
1. DECK SHEETS ARE TO BE FASTENED TO ALL SUPPORTS WITH NOT LESS THAN 3/4" DIA. PUDDLE WELDS.
2. PERIMETER ENDS FASTEN WITH WELDS AT 12" O.C..
3. PERIMETER SIDES FASTEN WITH WELDS AT 12" O.C..
4. INTERIOR SUPPORTS FAST WITH WELDS, SEE DIAGRAM FOR SPACING.
5. ENDLAPS FASTEN WITH WELDS AT 12" O.C..
6. SIDELAPS ARE TO BE FASTENED USING BUTTON PUNCHES OR WELDS AT MIDSPAN OR 3'-0" O.C. MAXIMUM WHEN SPANS EXCEEDS 5'-0".
7. AT DECK BUTT JOINTS, BOTH SHEETS ARE TO BE WELDED TO SUPPORTS.
8. POUR STOP SHALL BE WELDED WITH 1" FILLET WELDS AT 12" O.C. MAX. ACCORDING TO SDI WITH 2" MIN. BEARING.
9. ALL DECK ACCESSORIES OTHER THAN POUR STOPS AND FINISH STRIPS SHALL BE ATTACHED BY EITHER TACK WELDING OR #10 TEK SCREWS (BY OTHERS) AT 24" O.C. MAX ACCORDING TO SDI.

TYPICAL GAUGE METAL FLOOR DECK ATTACHMENT SCHEDULE

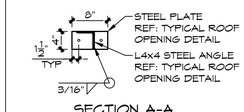


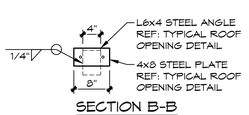
SECTION

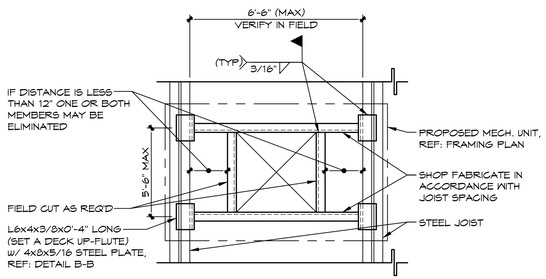


PLAN

TYPICAL ROOF REINF. DETAIL AT MECH. UNIT (WITHOUT DUCT PENETRATION)

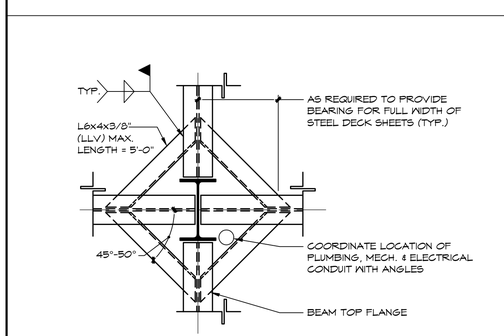






NOTE:
CONTRACTOR SHALL VERIFY OPENING SIZES AND PROVIDE FRAMES FOR OPENINGS LARGER THAN 12" BOTH WAYS.

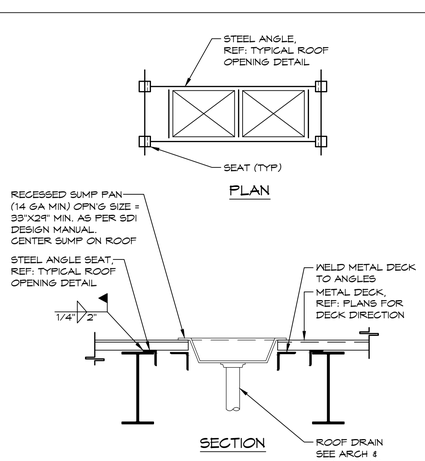
TYPICAL ROOF PENETRATION DETAIL



TYPICAL DECK SUPPORT LOCATIONS

NOTES:
1. PROVIDE METAL DECK SUPPORT:
   - AT BEAM TO BEAM CONNECTION.
   - WHERE PIPE SLEEVE OCCURS NEXT TO COLUMN.
   - WHERE COLUMN BASE OCCURS ON TOP OF STEEL BEAM.
   - AT ALL OTHER CONDITIONS WHERE DECK SUPPORT IS INTERRUPTED FOR A DISTANCE GREATER THAN 6".

TYPICAL METAL DECK SUPPORT AT COLUMN



PLAN

SECTION

TYPICAL SUMP PAN DETAIL

JT ENGINEERING
Building Solutions
1321 Brunswick Ave,
Lawrence, NJ 08648
P: 609.303.0236
F: 609.303.0237
www.jt-pe.com

JASON C. TARANTINO

NOT FOR CONSTRUCTION

NEW JERSEY LICENSE: GE 46156
NEW YORK LICENSE: PE 85737
PENNSYLVANIA LICENSE: PE 75608
CONNECTICUT LICENSE: PE 27045

ISSUED FOR BIDDING

REVISIONS:

Mk.	DATE:	REMARKS:
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Pearl River, New York

DRAWING TITLE:

TYPICAL FRAMING DETAILS

DRAFTED BY: NAR
REVIEWED BY: JCT
PROJECT NUMBER: 2200_17
DRAWING SCALE: AS NOTED

DRAWING NUMBER:

S521