GENERAL PROVISIONS:

TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE WORK EXCEPT WHERE SPECIFICALLY DETAILED OR UNLESS OTHERWISE NOTED.

DRAWINGS ARE NOT TO BE SCALED.

FOR DIMENSIONS NOT SHOWN, COORDINATE WITH ARCHITECTURAL DRAWINGS.

THE CONTRACTOR SHALL CAREFULLY REVIEW THE DRAWINGS TO IDENTIFY THE SCOPE OF WORK REQUIRED, VISIT THE SITE TO RELATE THE SCOPE OF WORK TO EXISTING CONDITIONS, AND DETERMINE THE EXTENT OF WHICH THOSE CONDITIONS AND PHYSICAL SURROUNDINGS WILL IMPACT THE WORK.

EXISTING CONDITIONS AS SHOWN ON THESE PLANS ARE FOR REFERENCE ONLY. THE CONTRACTOR IS REQUIRED TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

THE CONTRACTOR SHALL ASSUME THE MOST STRINGENT REQUIREMENTS APPLY IN CASE OF CONFLICT AMONG SPECIFICATIONS, STANDARDS, CODES AND DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY TO RESOLVE THE CONFLICT.

ANY DEVIATION, MODIFICATION, OR SUBSTITUTION FROM THE BID SET OF STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER FOR REVIEW/APPROVAL PRIOR TO ITS USE OR INCLUSION ON THE SHOP DRAWINGS. WITHOUT SUCH PRIOR APPROVAL, DEVIATIONS, MODIFICATIONS, OR SUBSTITUTIONS WILL BE REJECTED. COSTS FOR DEMOLITION AND REWORK OF SUCH ITEMS WILL BE BORNE BY THE CONTRACTOR.

THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED FOR IN-SERVICE LOADS ONLY. THE MEANS, METHODS, PROCEDURES, AND SEQUENCES OF CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY TEMPORARY SYSTEMS (SHORING, BRACING, GUYS, FALSEWORK, FORMWORK, SHEETING ETC.) TO ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION. ALL WORK SHALL BE PERFORMED WITHOUT DAMAGE TO ADJACENT EXISTING WORK. SHORING SYSTEMS SHALL BE DESIGNED, SIGNED, AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE JURISDICTION WHERE THE PROJECT IS LOCATED.

THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL REVIEW THE STRUCTURAL CONTRACT DOCUMENTS AND SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY CONFLICTS BETWEEN THOSE DOCUMENTS AND ANY SAFETY REGULATIONS. SUCH REVIEW AND NOTIFICATION SHALL OCCUR PRIOR TO PRODUCTION OF SHOP DRAWINGS.

THE CONTRACTOR SHALL PROTECT ALL WORK, MATERIALS, AND EQUIPMENT FROM DAMAGE AND SHALL PROVIDE PROPER STORAGE FACILITIES FOR MATERIALS AND EQUIPMENT DURING CONSTRUCTION.

SITE VISITS PERFORMED BY THE ARCHITECT/ENGINEER DO NOT INCLUDE INSPECTIONS OF MEANS AND METHODS OF CONSTRUCTION PERFORMED BY THE CONTRACTOR.

STRUCTURAL OBSERVATIONS PERFORMED BY THE ARCHITECT/ENGINEER DURING CONSTRUCTION ARE NOT THE CONTINUOUS AND SPECIAL INSPECTION SERVICES AND DO NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING DEPARTMENT INSPECTOR OR THE TESTING AGENCY. ALSO, OBSERVATIONS DO NOT GUARANTEE THE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSIDERED AS SUPERVISION OF CONSTRUCTION.

ELEVATED CONCRETE SLABS AND ROOF DECK HAVE BEEN DESIGNED ONLY FOR THE DESIGN LOADING CRITERIA AS INDICATED IN THE CONSTRUCTION DOCUMENTS. THE WEIGHT OF CONSTRUCTION MATERIALS AND EQUIPMENT ON THE STRUCTURE SHALL BE LIMITED TO THE DESIGN LOADING CRITERIA UNLESS APPROVED BY THE ENGINEER OF RECORD. ANY EQUIPMENT OR MATERIALS THAT EXCEED THE DESIGN LOADING WILL NOT BE PERMITTED WITHOUT AN ANALYSIS OF THE STRUCTURE BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT STAMPED CALCULATIONS TO ENGINEER FOR REVIEW. THE RESPONSIBILITY FOR THE ANALYSIS OF ANY ELEVATED SLABS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

SHOP DRAWINGS:

REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

REPRODUCTION OF THE STRUCTURAL DRAWINGS FOR USE IN PREPARATION OF SHOP DRAWINGS IS STRICTLY PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD. SHOP DRAWINGS SUBMITTED WITH REPRODUCED STRUCTURAL DRAWINGS AND/OR DETAILS WITHOUT CONSENT WILL BE REJECTED.

SUBMIT SHOP DRAWINGS 15 BUSINESS DAYS (MINIMUM) PRIOR TO DATE THAT RETURNED SHOP DRAWINGS ARE REQUIRED.

SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL, WHICH SHALL CONSTITUTE CERTIFICATION THAT ALL FIELD MEASUREMENTS, CONSTRUCTION CRITERIA, AND MATERIALS SPECIFIED IN THE CONTRACT DOCUMENTS HAVE BEEN VERIFIED AND EACH DRAWING HAS BEEN CHECKED FOR COMPLETENESS, COORDINATION, AND COMPLIANCE WITH THE CONTRACT DOCUMENTS.

CONTRACTOR SHALL REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, LAUNDRY AND FOOD SERVICE DRAWINGS FOR SIZE AND LOCATIONS OF OPENINGS, SLEEVES, CONCRETE HOUSEKEEPING PADS, INSERTS, AND DEPRESSIONS DURING SHOP DRAWING PREPARATION.

WHERE A DELEGATED DESIGN IS INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR EACH ITEM, COMPONENT, AND CONNECTION NOT SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. SHOP DRAWINGS AND DESIGN CALCULATIONS SHALL BE SIGNED AND SEALED BY THE CONTRACTOR'S LICENSED ENGINEER (IN THE PROJECT'S JURISDICTION). DRAWINGS AND CALCULATIONS SHALL SHOW LOCATIONS AND MAGNITUDES OF LOADS IMPOSED ON THE STRUCTURE. THE ENGINEER OF RECORD RESERVES THE RIGHT TO MODIFY LOAD PATH SUGGESTED BY THE DELEGATED DESIGN ENGINEER.

DELEGATED DESIGN:

CONTRACTOR IS RESPONSIBLE FOR DESIGN OF THE FOLLOWING ITEMS INCLUDING DESIGN OF THE CONNECTIONS OF EACH ITEM TO THE SUPPORTING STRUCTURAL FRAMING:

- OPEN-WEBBED STEEL JOISTS
- STRUCTURAL STEEL CONNECTIONS
- FACADE PANELS AND FACADE COMPONENTS
- SHORING

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EACH ITEM LISTED ABOVE. REFER TO THE "SHOP DRAWING" SECTION UNDER THE GENERAL NOTES FOR ADDITIONAL INFORMATION.

INFORMATION SHOWN IN THE CONTRACT DOCUMENTS (E.G., DEPTHS, GAUGES, SPACING, PLYS, ETC.) ARE CONSIDERED MINIMUMS AND ARE SCHEMATIC IN NATURE. INCREASED GAUGE/PLYS AND/OR DECREASED SPACINGS MAY BE REQUIRED AND SHALL BE COMPLETED AT NO CHARGE TO THE OWNER.

DEMOLITION:

LOCATE ALL EXISTING UNDERGROUND UTILITIES IN AREA OF CONSTRUCTION. COORDINATE WITH LOCAL UTILITY COMPANIES FOR ANY SHUT-OFF REQUIREMENTS OF STILL ACTIVE LINES.

PRIOR TO START OF ANY WORK, THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE BUILDINGS/PROPERTIES EXISTING CONDITIONS AND THAT OF ADJOINING BUILDING/PROPERTIES.

DEMOLITION PROCEDURES, SHORING REQUIREMENTS, SEQUENCE TECHNIQUES, ETC., ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AS NOTED IN "GENERAL PROVISIONS". ANY TECHNIQUES AND/OR PROCEDURES IMPLIED BY THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE SUGGESTIONS ONLY. CONTRACTOR SHALL SUBMIT DRAWINGS, SIGNED AND SEALED BY THE CONTRACTOR'S LICENSED ENGINEER (IN PROJECT'S JURISDICTION), TO THE OWNER AND ENGINEER OF RECORD FOR CONCEPT REVIEW AND RECORD PURPOSES. THE CONTRACTOR'S ENGINEER IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION PHASING, LOADINGS, AND SEQUENCING REQUIREMENTS FOR THE JOB. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE PROTECTION, STABILITY, ETC., OF EXISTING AND NEW STRUCTURES DURING EXECUTION OF THE WORK.

CONTRACTOR SHALL PERFORM ALL WORK IN SUCH A MANNER AS TO PROTECT EXISTING AND ADJACENT STRUCTURES AND BE RESPONSIBLE TO PROPERLY REPAIR ANY DAMAGE THAT OCCURS AS A RESULT OF HIS WORK.

CONTRACTOR SHALL REPAIR ALL DAMAGE TO STREETS, SIDEWALKS, UTILITY LINES, OR ANY OTHER PUBLIC OR PRIVATE PROPERTIES RESULTING FROM THE EXECUTION OF THE WORK AT NO COST TO THE OWNER OR ENGINEER.

CEASE OPERATIONS AND NOTIFY OWNER AND ENGINEER IMMEDIATELY IF SAFETY OR INTEGRITY OF STRUCTURE APPEARS TO BE ENDANGERED. PROPERLY BRACE AND SUPPORT STRUCTURE BEFORE RESUMING OPERATIONS.

NOTIFY ARCHITECT AND ENGINEER IMMEDIATELY IF ANY PORTION OF EXISTING STRUCTURE, WHICH IS NOT TO BE DEMOLISHED, IS DAMAGED. CONTRACTOR SHALL PAY FOR ALL REPAIR COSTS, INCLUDING DESIGN AND INSPECTION EXPENSES.

DO NOT CUT OR ALTER ANY STRUCTURAL MEMBERS WITHOUT WRITTEN AUTHORIZATION OF THE ENGINEER OF RECORD UNLESS INDICATED ON THE STRUCTURAL DRAWINGS.

DO NOT ALLOW RESULTING DEBRIS TO ACCUMULATE. DISPOSE OF THIS MATERIAL IN A LEGAL MANNER.

DESIGN LOADINGS:

GOVERNING BUILDING CODE: 2020 BUILDING CODE OF NEW YORK STATE (2018 IBC)

GRAVITY LOADS:

FLOOR DEAD LOADS	20 PSF (SUPERIMPOSED + ACTUAL MAT'L WEIGHTS)
FLOOR LIVE LOADS	
DINING ROOMS	100 PSF
ROOF DEAD LOAD	20 PSF (SUPERIMPOSED + ACTUAL MAT'L WEIGHTS)
ROOF LIVE LOAD	20 PSF
ROOF SNOW LOADS:	
GROUND SNOW LOAD (Pg)	30 PSF
EXPOSURE FACTOR (Ce)	1.0
IMPORTANCE FACTOR (I)	1.0
THERMAL FACTOR (Ct)	1.0
FLAT-ROOF SNOW LOAD (Pf)	21 PSF + DRIFT/SLIDING SNOW***
MINIMUM ROOF SNOW LOAD (Pm)	20 PSF

LATERAL LOAD DESIGN DATA:

WIND DESIGN DATA (ASCE 7-16):

BASIC WIND SPEED	112 MPH
RISK CATEGORY	II
EXPOSURE CATEGORY	
NORTH/SOUTH	B
EAST/WEST	B
DESIGN PRESSURES	
COMPONENTS AND CLADDING (a = 3'-0")	
ROOF ZONE 1	
TRIB. AREA 10 SF	+16/-29 PSF
TRIB. AREA 50 SF	+16/-25 PSF
TRIB. AREA 100 SF	+16/-23 PSF
ROOF ZONE 2	
TRIB. AREA 10 SF	+16/-39 PSF
TRIB. AREA 50 SF	+16/-33 PSF
TRIB. AREA 100 SF	+16/-31 PSF
ROOF ZONE 3	
TRIB. AREA 10 SF	+16/-53 PSF
TRIB. AREA 50 SF	+16/-41 PSF
TRIB. AREA 100 SF	+16/-36 PSF
WALL ZONE 4	
TRIB. AREA 0-10 SF	+19/-20 PSF
TRIB. AREA >10-50 SF	+17/-18 PSF
TRIB. AREA 100 SF	+16/-17 PSF
WALL ZONE 5	
TRIB. AREA 10 SF	+19/-25 PSF
TRIB. AREA 50 SF	+17/-21 PSF
TRIB. AREA 100 SF	+16/-19 PSF

LATERAL LOAD DESIGN DATA (CONTINUED):

SEISMIC DESIGN DATA (ASCE 7-16):

SEISMIC IMPORTANCE FACTOR (I)	1.0
RISK CATEGORY	II
MAPPED SPECTRAL RESPONSE	
SHORT PERIODS (Ss)	0.225
1 SEC. PERIODS (S1)	0.056
SPECTRAL RESPONSE COEFF.	
SHORT PERIODS (SDS)	0.240
1 SEC. PERIODS (SD1)	0.090
SEISMIC DESIGN CATEGORY	B
SITE CLASS	D (ASSUMED)
BASIC SEISMIC-FORCE-RESISTING SYSTEMS	
BASIC FRAMING SYSTEM	LOAD BEARING WALLS
SEISMIC RESISTING SYSTEM	INTER. REINF. MASONRY SHEAR WALLS
DEFLECTION AMPLIFICATION FACTOR (Cd)	2.25
RESPONSE MOD. FACTOR (R)	3.5
OVERSTRENGTH FACTOR (Ω)	2.5
DESIGN BASE SHEAR	0.07w
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE

FOUNDATION SYSTEMS:

GENERAL:

THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO THE START OF ANY WORK. THE CONTRACTOR SHALL VERIFY ANY EXISTING FIELD CONDITION THAT MAY AFFECT THE INSTALLATION OF THE FOUNDATION SYSTEM.

THE CONTRACTOR SHALL EXERCISE GREAT CARE DURING EXCAVATION. UNDERGROUND UTILITY LOCATIONS, IF SHOWN, ARE APPROXIMATE. THE CONTRACTOR SHALL PREDETERMINE UTILITY LOCATIONS AND NOTIFY THE ENGINEER IMMEDIATELY IF DEVIATION FROM PLANS EXIST. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFE SUPPORT OF UTILITIES ACROSS EXCAVATIONS.

SHEETING, SHORING, AND DEWATERING IS THE RESPONSIBILITY OF THE CONTRACTOR.

A SOILS TESTING LABORATORY SHALL BE RETAINED BY THE OWNER TO PROVIDE CONSTRUCTION REVIEW TO ENSURE CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS DURING THE EXCAVATIONS, BACKFILL, AND FOUNDATION PHASES OF THE PROJECT.

SPREAD/TRENCH FOOTINGS:

ALL FOUNDATIONS ARE TO REST ON FIRM UNDISTURBED SOIL OR COMPACTED FILL FREE FROM ORGANIC MATTER. IF POOR SOIL CONDITIONS ARE ENCOUNTERED AT FOUNDATION DEPTHS SHOWN, NOTIFY OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH CONSTRUCTION.

FOUNDATIONS HAVE BEEN DESIGNED BASED ON AN ASSUMED ALLOWABLE SOIL BEARING CAPACITY OF 2000 PSF.

NEW FOOTINGS PLACED ADJACENT TO EXISTING FOOTINGS SHALL BEAR AT THE SAME ELEVATION, UNLESS NOTED OTHERWISE.

STEP FOOTINGS AT A RATIO OF ONE (1) VERTICAL TO TWO (2) HORIZONTAL WITH A MAXIMUM VERTICAL STEP OF 2'-0" UNLESS NOTED OTHERWISE.

INUNDATION AND LONG TERM EXPOSURE OF BEARING SURFACES, WHICH WILL RESULT IN DETERIORATION OF BEARING FORMATIONS, SHALL BE PREVENTED. FOOTINGS SHALL BE PLACED IMMEDIATELY FOLLOWING FOOTING EXCAVATIONS AND BEARING SURFACE INSPECTION.

UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.

CONCRETE:

GENERAL:

ALL CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 301-10, "STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE" AND ACI 302, 305 AND 306 UNLESS NOTED OTHERWISE.

ALL DETAILING, FABRICATION AND PLACING OF CONCRETE SHALL CONFORM TO ACI 318-14, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND ACI "MANUAL OF STANDARD PRACTICE FOR DETAIL REINFORCED CONCRETE STRUCTURES" UNLESS NOTED OTHERWISE.

SAFETY AND PERFORMANCE OF THE STRUCTURE ARE THE RESPONSIBILITY OF THE CONTRACTOR INSOFAR AS THEY ARE AFFECTED BY THE LOCATION AND DETAILS OF CONSTRUCTION JOINTS. SHOP DRAWINGS OF THE PROPOSED CONSTRUCTION JOINT LOCATIONS AND DETAILS ARE TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL.

ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS AS FOLLOWS:

ALL CONCRETE - 4000 PSI

ALL CONCRETE EXPOSED TO WEATHER SHALL CONTAIN 6% (± 1%) AIR ENTRAINMENT.

REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60.

WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A1064 AND BE FURNISHED IN FLAT SHEETS AND INSTALLED ON CHAIRS OR PRECAST CONCRETE BLOCKS.

NO TACK WELDING OF REINFORCING IN THE FIELD IS PERMITTED.

PROVIDE CORNER BARS AT ALL LOCATIONS WHERE REINFORCEMENT CHANGES DIRECTION.

PROVIDE STRAIGHT AND DIAGONAL BARS AT EDGES OF ALL OPENINGS.

REINFORCING EMBEDMENT AND LAP SPLICES (INCHES) FOR 4000 PSI CONCRETE

BAR SIZE	OTHER ANCHORAGE	SPLICE	TOP* ANCHORAGE	SPLICE
# 3	15	19	19	24
# 4	19	25	25	33
# 5	24	31	31	41
# 6	29	37	37	49

* HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE BELOW BAR

PROVIDE DOVETAIL ANCHORS AT 2'-0" ON CENTER FOR ALL MASONRY FACED CONCRETE WALLS.

CLEAR MINIMUM COVER OF CONCRETE OVER REINFORCING BARS SHALL BE AS FOLLOWS:

CONCRETE PLACED AGAINST EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER	
#6 TO #18 BARS	2"
#5 BAR OR SMALLER	1 1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER	
SLABS & WALLS #11 BAR AND SMALLER	3/4"
CONCRETE BEAMS, COLUMNS, & PIERS	1 1/2"

MASONRY:

ALL BRICK MASONRY SHALL COMPLY WITH THE RECOMMENDATIONS OF BRICK INSTITUTE OF AMERICA (BIA AND LOCAL BUILDING CODE REQUIREMENTS.)

ALL CONCRETE MASONRY SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (TMS 402-16) AND "SPECIFICATION FOR MASONRY STRUCTURES" (TMS 602-16) AND LOCAL BUILDING CODE REQUIREMENTS.

CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, TYPE I OR II.

THE MINIMUM PRISM COMPRESSIVE STRENGTH (f'm) SHALL BE 1500 PSI.

ASTM C270, TYPE "S" MORTAR WITH A MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI SHALL BE USED FOR ALL MASONRY WALLS.

GROUT TO FILL CORES SHALL BE ASTM C476, COARSE GROUT (3/8" MAXIMUM AGGREGATE) WITH A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI IN 28 DAYS.

REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60.

LAY MASONRY UNITS WITH FULL MORTAR COVERAGE ON HORIZONTAL AND VERTICAL FACE SHELLS. BED WEBS IN MORTAR IN STARTING COURSE OF FOOTINGS AND IN ALL COURSES OF COLUMNS AND PILASTERS, AND WHERE ADJACENT TO CELLS OR CAVITIES TO BE REINFORCED OR FILLED WITH CONCRETE OR GROUT.

MASONRY SHALL BE LAID IN RUNNING BOND, UNLESS NOTED OTHERWISE.

VERTICAL REINFORCING LAP SPLICES SHALL BE 48 BAR DIAMETERS.

PROVIDE HORIZONTAL LADDER STYLE JOINT REINFORCING WITH 9 GAUGE SIDE AND CROSS RODS (GALVANIZED) SPACED AT 16" ON CENTER VERTICALLY. HORIZONTAL JOINT REINFORCING SHALL BE LAPPED A MINIMUM OF (2) CROSS BARS OR 6", WHICHEVER IS GREATER.

MAXIMUM GROUT POUR SHALL BE 5 FEET. CONSOLIDATE BY MECHANICAL VIBRATION.

MORTAR PROTRUSIONS, EXTENDING INTO CELLS OR CAVITIES TO BE REINFORCED AND FILLED, SHALL BE REMOVED.

GROUT A MINIMUM OF 16 INCHES x 24 INCHES WIDE CENTERED UNDER ALL BEAM BEARINGS AND 8 INCHES x 16 INCHES WIDE CENTERED UNDER ALL LINTEL BEARINGS.

GROUT A MINIMUM OF 8 INCHES x 24 INCHES WIDE CENTERED UNDER ALL JOIST BEARINGS.

GROUT CORES SOLID A MINIMUM OF ONE COURSE BELOW ANY CHANGE IN WALL THICKNESS.

THE COLLAR-JOINT IN MULTI-WYTHE WALLS BELOW GRADE SHALL BE FULLY GROUTED AS THE WALL IS CONSTRUCTED.

FILL ALL BEARING POCKETS WITH SOLID MASONRY AFTER INSTALLING BEAMS.

WHERE THERE IS A CHANGE IN BOND BEAM ELEVATION, PROVIDE LAP BETWEEN BONDS BEAMS THROUGH 2 BARS OF VERTICAL REINFORCING OR 4 FEET, WHICHEVER IS GREATER.

ALL CORNERS ARE TO BE TIED BY MASONRY BOND.

CMU WALLS SHALL HAVE VERTICAL CONTROL JOINTS LOCATED APPROXIMATELY 20'-0" O.C. REFER TO TYPICAL CONTROL JOINT DETAILS ON STRUCTURAL DRAWINGS FOR CONTROL JOINT DETAILS AND RESTRICTIONS. LOCATIONS OF CMU CONTROL JOINTS DO NOT HAVE TO ALIGN WITH VENEER CONTROL JOINTS. REFER TO ARCHITECTURAL DRAWINGS FOR VENEER CONTROL JOINT LOCATIONS.

PROVIDE MATERIAL/MEANS TO DEBOND MORTAR FROM DISSIMILAR MATERIALS IN ALL VENEERS (I.E., CAST-STONE AND CLAY BRICK, CONCRETE BLOCK AND CLAY BRICK, ETC.)

EMBEDDED ELECTRICAL CONDUIT SHALL NOT BE LOCATED IN THE SAME CELL WHERE VERTICAL REINFORCEMENT IS LOCATED WITHOUT PERMISSION OF THE STRUCTURAL ENGINEER OF RECORD. SUBMIT CONFLICT AREAS TO ENGINEER FOR REVIEW PRIOR TO INSTALLING CONDUIT.

STRUCTURAL STEEL:

W SHAPES:	ASTM A992 (Fy = 50 KSI)
M,S,C SHAPES:	ASTM A36 UNO
PLATE, ANGLES:	ASTM A36 UNO
PIPE:	ASTM A53, TYPE E OR S, GRADE B
TUBE:	ASTM A500 GRADE B (Fy = 46 KSI)
ANCHOR RODS:	ASTM F1554 GRADE 36 (GALVANIZED)

DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO AISC 360-16 SPECIFICATIONS.

FIELD CONNECTIONS SHALL BE BOLTED, BEARING TYPE UNLESS NOTED OTHERWISE USING 3/4" HIGH STRENGTH BOLTS CONFORMING TO ASTM A325. ONE SIDED CONNECTIONS ARE NOT PERMITTED UNLESS DETAILED ON DRAWINGS

GENERAL CONTRACTOR SHALL VERIFY ALL MECHANICAL EQUIPMENT LOCATIONS, OPENING DIMENSIONS AND WEIGHTS PRIOR TO STRUCTURAL STEEL FABRICATION. NOTIFY ENGINEER IF DIFFERENT FROM THAT SHOWN ON DRAWINGS.

SLIP CRITICAL BOLTS (FRICTION BOLTS) SHALL BE USED AT THE FOLLOWING LOCATIONS:

1. MOMENT CONNECTIONS.
2. COLUMN SPLICES.
3. CROSS BRACING CONNECTIONS.

ALL CONNECTIONS TO TUBES AND PIPES SHALL USE THRU PLATES UNLESS NOTED OTHERWISE.

WHEN FORCES ARE NOT SHOWN, THE CONNECTION SHALL DEVELOP 1/2 OF THE ALLOWABLE UNIFORM LOAD AS SPECIFIED IN THE BEAM TABLES OF AISC (ASD). A MINIMUM OF 2 BOLTS SHALL BE USED.

ALL WELDING SHALL BE DONE USING E-70XX ELECTRODES IN ACCORDANCE WITH THE LATEST AWS SPECIFICATIONS.

PROVIDE ANGLE 4x4x5/16 FRAMING AT ALL ROOF SUMP PANS AND OTHER OPENINGS TO SUPPORT EDGE OF ROOF DECK.

FIELD VERIFY ALL CONDITIONS AT AND CONNECTIONS TO THE EXISTING CONSTRUCTION BEFORE FABRICATION.

PRIME ALL STEEL NOT IN CONTACT WITH CONCRETE. DO NOT PRIME STEEL IN AREAS TO RECEIVE SLIP CRITICAL BOLTS (FRICTION BOLTS).

ALL STRUCTURAL STEEL BEAMS AND COLUMNS ADJACENT TO MASONRY SHALL HAVE ADJUSTABLE MASONRY ANCHORS AT 2'-8" ON CENTER.

GALVANIZE ALL STEEL THAT IS EXPOSED TO WEATHER. GALVANIZED STEEL SHALL BE SHOP FABRICATED AND CUT TO LENGTH PRIOR TO GALVANIZING. DO NOT FIELD CUT. DAMAGED GALVANIZING IS TO BE REPAIRED WITH A HIGH ZINC CONTENT PAINT MEETING MILITARY SPECIFICATION MIL-P-21035. GALVANIZE STEEL PER ASTM A123.

THE DESIGN OF ALL STEEL CONNECTIONS, INCLUDING MOMENT CONNECTIONS, SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED, AND EMPLOYED BY THE STEEL FABRICATOR. THE REGISTERED PROFESSIONAL ENGINEER SHALL SUBMIT COMPLETE DESIGN CALCULATIONS FOR EACH CONNECTION. SUCH CALCULATIONS SHALL SHOW DETAILS OF THE ASSEMBLED JOINT WITH ALL BOLTS AND WELDS REQUIRED. WHERE PREDESIGNED CONNECTIONS ARE TAKEN DIRECTLY FROM TABLES IN THE AISC SPECIFICATION, CALCULATIONS NEED NOT BE SUBMITTED PROVIDED THE JOB DESIGN CONDITIONS PRECISELY MATCH THOSE ASSUMED IN THE AISC TABLES.

METAL ROOF DECK:

CONNECTIONS TO STRUCTURAL STEEL SUPPORTS SHALL BE FUSION TYPE WELDS PERFORMED BY COMPETENT WELDERS WHO HAVE QUALIFIED BY TESTS AS PRESCRIBED BY THE AMERICAN WELDING SOCIETY TO PERFORM THE TYPE OF WORK REQUIRED. THE FIRST AND LAST RIBS OF EACH SHEET MUST BE WELDED TO ALL SUPPORTS. END WELDS AND THOSE OCCURRING AT LAPS SHALL BE WELDED THROUGH ALL THICKNESSES. SIDE JOINTS SHALL BE MECHANICALLY FASTENED AT MID-SPAN (UNO)

NO LIGHT GAUGE FRAMING, MECHANICAL, ELECTRICAL OR OTHER EQUIPMENT SHALL BE SUSPENDED FROM OR ATTACHED TO ANY METAL ROOF DECK.

OPENINGS SMALLER THAN 12" SQUARE ARE TO BE CUT BY INDIVIDUAL TRADE AND FLASHED BY ROOFING/SIDING CONTRACTOR. ALL LARGER OPENINGS TO BE CUT AND FLASHED BY ROOFING/SIDING CONTRACTOR WITH OPEN EDGES SUPPORTED BY STRUCTURAL STEEL.

PLACE DECK UNITS ON SUPPORTING STEEL FRAMEWORK IN LENGTHS TO SPAN 4 OR MORE SUPPORTS (3 SPANS) UNO.

METAL ROOF DECK SHALL BE GALVANIZED HIGH STRENGTH STEEL. IF DECK IS TO BE FIELD PAINTED, PROVIDE SHOP PRIMED FINISH OVER TOP OF GALVANIZATION.

DECK SHALL BE FASTENED AT ALL STRUCTURAL STEEL SUPPORTS AS FOLLOWS:

1 1/2"x22 GAUGE ROOF DECK ATTACHMENT AT STRUCTURAL STEEL SHALL BE 5/8" DIA. PUDDLE WELDS AT 36/4 SUPPORT FASTENER LAYOUT. DECK PANELS SHALL BE FASTENED TOGETHER AT SIDE LAP JOINTS WITH A MINIMUM OF (3)-#10 SELF TAPPING SCREWS BETWEEN SUPPORTS.

STEEL JOISTS:

STEEL JOIST DESIGN, FABRICATION AND ERECTION SHALL CONFORM TO THE SPECIFICATIONS AND CODE OF STANDARD PRACTICE OF THE STEEL JOIST INSTITUTE OR AS SHOWN ON THE DRAWINGS ALL JOIST GIRDERS TO CONFORM TO SJI 100-15 EDITION OF AISC AND SJI SPECIFICATIONS.

PROVIDE HORIZONTAL AND/OR DIAGONAL BRIDGING PER SJI REQUIREMENTS.

ALL JOISTS SHALL BE DESIGNED TO RESIST DESIGN PRESSURES AS SHOWN UNDER "DESIGN LOADINGS".

ENDS OF EVERY JOIST WHICH RESTS ON STEEL SUPPORTS SHALL BE WELDED PER SJI REQUIREMENTS.

NO LIGHT GAUGE FRAMING, MECHANICAL, ELECTRICAL, OR OTHER EQUIPMENT SHALL BE SUSPENDED FROM OR ATTACHED TO ANY INTERIOR BRIDGING.

AT ALL CONCENTRATED LOADS NOT LOCATED AT JOIST PANEL POINTS, HANGING FROM TOP OR BOTTOM JOIST CHORDS, FIELD WELD ADDITIONAL WEB ANGLE 2x2x1/4 FROM LOAD LOCATION TO ADJACENT PANEL POINT.

PROVIDE TYPE R JOIST EXTENSIONS WHERE INDICATED.

PROVIDE SINGLE BOTTOM CHORD CEILING EXTENSIONS WHERE ACOUSTICAL CEILING IS INDICATED.

GENERAL CONTRACTOR SHALL VERIFY ALL STRUCTURAL STEEL JOIST LOCATIONS, MECHANICAL UNIT WEIGHTS AND OPENING SIZES AND LOCATIONS WITH MECHANICAL CONTRACTOR AND VENDOR'S DRAWINGS FOR ACTUAL MECHANICAL UNITS PURCHASED.

ADHESIVE DOWELLED ANCHORS:

REINFORCING, BAR DOWELS, REINFORCING BARS, THREADED RODS, BOLTS ETC. WHICH ARE INDICATED TO BE ADHESIVE DOWELLED INTO CONCRETE OR SOLID MASONRY SHALL BE ACCOMPLISHED USING HIT HY-200 SAFESET ADHESIVE BY HILTI FASTENING SYSTEMS OF TULSA, OK. (ICC REPORT NO. ESR 3013), OR EQUAL.

DRILL, BRUSH, AND CLEAN ALL HOLES, AND INSTALL ALL ANCHORS IN COMPLETE ACCORDANCE WITH MANUFACTURERS PUBLISHED RECOMMENDATIONS, AS WELL AS ALL APPLICABLE BUILDING CODES OR ENGINEERING REPORTS.

PROVIDE THE FOLLOWING MINIMUM ANCHOR EMBEDMENT DEPTHS UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DETAILS:

A. REINFORCING BARS

BAR SIZE	EMBEDMENT DEPTH
#3	4"
#4	6"
#5	7"
#6	9"

B. BOLTS OR THREADED RODS

DIAMETER	EMBEDMENT DEPTH
3/8"	5"
1/2"	7"
5/8"	8"
3/4"	10"
7/8"	12"
1"	13"

C. HILTI HIS INSERTS

DIAMETER	EMBEDMENT DEPTH
3/8"	4 1/4"
1/2"	5"
5/8"	6 5/8"
3/4"	8 1/4"

WHEN INSTALLING DRILLED-IN-ANCHORS, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS.

EXPANSION ANCHORS:

EXPANSION ANCHORS SHALL BE A SINGLE-END EXPANSION SHIELD ANCHOR WHICH COMPLIES WITH THE DESCRIPTIVE PART OF FEDERAL SPECIFICATION A-A 1923A, TYPE 4 FOR WEDGE ANCHORS. WEDGE ANCHORS SHALL BE HILTI KWIK BOLT TZ. DROP-IN ANCHORS SHALL BE HILTI HDI. ANCHORS SHALL BE BY HILTI FASTENING SYSTEMS OF TULSA, OK. (ICC ES REPORTS ESR-1917 FOR WEDGE ANCHORS AND ESR 2895 FOR DROP-IN ANCHORS) OR EQUAL.

ANCHORS SHALL BE ZINC PLATED UNLESS SPECIFICALLY NOTED AS STAINLESS STEEL ON THE PLAN DETAILS.

WHEN DETAILS OF SECTIONS INDICATE EXPANSION ANCHORS BUT NO SIZE, PROVIDE ANCHORS WITH 3/4" DIAMETER.

PROVIDE THE FOLLOWING MINIMUM EMBEDMENT DEPTHS UNLESS NOTED OTHERWISE:

ANCHOR DIAMETER	EMBEDMENT DEPTH
3/8"	2 1/2"
1/2"	3 1/2"
5/8"	4"
3/4"	4 3/4"

WHEN INSTALLING DRILLED-IN-ANCHORS, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING THEM INTO CONCRETE WITH STRESSING TENDONS (POST-TENSIONED OR PRE-TENSIONED), LOCATE THE TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION AND MAINTAIN AT LEAST 1" CLEAR BETWEEN THE TENDON AND THE ANCHOR. CUTTING A TENDON CAN CAUSE COLLAPSE.

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NOT FOR CONSTRUCTION

PROJECT MANAGER	DESIGNER	JOB NO.
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GENERAL STRUCTURAL NOTES

S-001.1

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