BUILDING DESIGN CRITERIA

GOVERNING CODE: 2017 OHIO BUILDING CODE IN CONJUNCTION WITH ASCE 7-10

RISK CATEGORY: II

FLOOR LIVE LOADS:

CLASSROOMS (INCLUDES PARTITION LOAD)	55 PSF
CORRIDORS ABOVE FIRST FLOOR	80 PSF
FIRST FLOOR CORRIDORS	100 PSF
STAIRWAYS	100 PSF
MECHANICAL ROOM	150 PSF

ROOF LIVE LOAD 20 PSF

SNOW LOAD:

GROUND SNOW LOAD, Pg:	20 PSF
FLAT ROOF SNOW LOAD, Pf:	22 PSF
SNOW EXPOSURE FACTOR, Ce:	1.2
SNOW IMPORTANCE FACTOR:	1.1
THERMAL FACTOR, Ct:	1.0
SNOW DRIFT:	PER ASCE-7

WIND LOAD:

ULTIMATE DESIGN WIND SPEED (Vult):	115 MPH
NOMINAL DESIGN WIND SPEED (Vasd):	90 MPH
WIND EXPOSURE:	B
INTERNAL PRESSURE COEFFICIENT:	±0.18
COMPONENTS AND CLADDING:	SEE TABLE S-002

SEISMIC LOAD:

SEISMIC IMPORTANCE FACTOR	1.25
SITE SPECTRAL RESPONSE ACCELERATION (Ss):	0.127
SITE SPECTRAL RESPONSE ACCELERATION (S1):	0.055
SEISMIC SITE CLASS:	C
DESIGN SPECTRAL RESPONSE ACCELERATION (Sds):	0.102
DESIGN SPECTRAL RESPONSE ACCELERATION (Sd1):	0.62
SEISMIC DESIGN CATEGORY:	A
SEISMIC FORCE RESISTING SYSTEM:	INTERMEDIATE REINFORCED MASONRY WALLS
RESPONSE MODIFICATION FACTOR R:	3.5
SEISMIC BASE SHEAR (V):	0.036W KIPS
SEISMIC RESPONSE COEFFICIENT (Cs):	0.036
ANALYSIS METHOD:	EQUIVALENT LATERAL FORCE

GENERAL CONDITIONS:

1. SEE SPECIFICATIONS FOR QUALITY OF CONSTRUCTION REQUIRED, QUALITY OF WORK, MANUFACTURING AND INDUSTRY STANDARDS, PHYSICAL PROPERTIES OF MATERIALS, CONFORMANCE TO CODES AND REGULATIONS GUARANTEE AND WARRANTY REQUIREMENTS.
2. SEE ARCHITECTURAL, HVAC, PLUMBING, ELEVATOR, FIRE PROTECTION & ELECTRICAL DRAWINGS FOR OTHER PERTINENT INFORMATION RELATED TO STRUCTURAL WORK AND COORDINATE AS REQUIRED. CONTRACTOR SHALL COORDINATE STRUCTURAL DRAWINGS WITH ALL OTHER DRAWINGS WITHIN THE CONTRACT DOCUMENTS.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND CONDITIONS RELATED TO EXISTING CONSTRUCTION, EXISTING SERVICES, AND THE SITE BEFORE BEGINNING WORK.
4. CONSTRUCTION LOADS SHALL NOT EXCEED DESIGN LIVE LOADS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DESIGN REQUIRED TO SUPPORT CONSTRUCTION EQUIPMENT USED IN CONSTRUCTING THIS PROJECT. ALL EQUIPMENT SUPPORT DESIGN SHALL BE PERFORMED BY AN ENGINEER LICENSED IN THE STATE OF THE PROJECT. SHORING AND RESHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. IF MATERIALS, QUANTITIES, STRENGTHS OR SIZES INDICATED BY THE DRAWINGS OR SPECIFICATIONS ARE NOT IN AGREEMENT WITH THESE NOTES, THE BETTER QUALITY AND/OR QUANTITY, STRENGTH OR SIZE INDICATED, SPECIFIED OR NOTED SHALL BE PROVIDED.
6. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE FOLLOWING ITEMS THAT WILL NOT BE REVIEWED BY THE OWNER, ARCHITECT OR ENGINEER:
   - A. DEVIATIONS FROM CONTRACT DOCUMENTS.
   - B. DIMENSIONS, ELEVATIONS AND CONDITIONS TO BE CONFIRMED AND CORRELATED AT THE SITE.
   - C. FABRICATION PROCESS INFORMATION.
   - D. MEANS, METHODS, TECHNIQUES, PROCEDURES OF CONSTRUCTION AND CONSTRUCTION SAFETY.
   - E. COORDINATION OF THE WORK OF ALL TRADES.
7. ANY CHANGES TO THE STRUCTURAL SYSTEMS SHALL BE REDESIGNED BY A PROFESSIONAL ENGINEER AT NO COST TO THE OWNER OR THE A/E AND SUBMITTED TO THE A/E FOR REVIEW. SUBMITTAL SHALL BE ACKNOWLEDGED IN WRITING BEFORE BEGINNING CONSTRUCTION. IF CHANGES ARE MADE WITHOUT WRITTEN APPROVAL SUCH CHANGES SHALL BE THE LEGAL AND FINANCIAL RESPONSIBILITY OF THE PARTY MAKING THE CHANGE TO REPLACE OR REPAIR THE CONDITION AS DIRECTED BY THE A/E.
8. DO NOT SCALE DRAWINGS

GEOTECHNICAL REPORT:

1. REFERENCE THE GEOTECHNICAL REPORT COMPLETED FOR THIS SITE BY INTERTEK/PSI DATED JULY 29, 2022 FOR FURTHER INFORMATION RELATING TO THE EXISTING SUBSURFACE SOIL CONDITIONS.
2. DESIGN SOIL BEARING PRESSURE = 2500 PSF.
3. ENGINEERED FILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8". FILL FOR SLAB ON GRADE CONSTRUCTION SHALL BE COMPACTED TO A MINIMUM OF 98% MAXIMUM DENSITY BY ASTM D698. FILL FOR FOOTINGS BEARING ON ENGINEERED FILL SHALL BE COMPACTED TO A MINIMUM OF 98% MAXIMUM BY ASTM D698.

EXCAVATION:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDANCE AND CLEANUP OF STREET SPILLAGE OF EXCAVATED OR BACKFILL MATERIALS ENTERING OR LEAVING THE SITE. CLEANUP OF MAJOR SPILLS SHALL BE COMPLETED IMMEDIATELY. OTHER SPILLS SHALL BE CLEANED, AT A MINIMUM, DAILY. ALL CLEANUP SHALL BE COMPLETED TO THE FULL SATISFACTION OF THE OWNER AND CONSTRUCTION MANAGER.
2. THE CONTRACTOR SHALL PROPERLY MOISTEN SURFACES AS REQUIRED TO PREVENT SOILS FROM BECOMING AIRBORNE AND CREATING A NUISANCE TO NEIGHBORING FACILITIES, THE PUBLIC, AND ANY CONCURRENT WORK ACTIVITIES. THE FINAL DETERMINATION OF THE SUCCESS OF DUST CONTROL MEASURES SHALL BE THE OWNER AND CONSTRUCTION MANAGER.
3. ANY SITE DE-WATERING NECESSARY TO MAINTAIN A SAFE AND EFFICIENT EXCAVATION EFFORT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. ALL WORK SHALL BE EXECUTED AND INSPECTED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES, RULES, ORDINANCES AND REGULATIONS PERTAINING TO SITE EXCAVATION, FILL AND SHORING ACTIVITIES.
5. ALL SITE GRADING SHALL BE SLOPED AS NOTED ON THE DRAWINGS, AS NOTED IN THE GEOTECHNICAL REPORT, OR AT A SHALLOWER SLOPE IF REQUIRED TO PROTECT WORKERS AND WORK IN PROGRESS FROM SOIL SLIPPAGE. ALL EXCAVATION ACTIVITIES SHALL BE COMPLETED IN ACCORDANCE WITH OCCUPATIONAL SAFETY AND HEALTH (OSHA) REQUIREMENTS AND ALL OTHER APPLICABLE CODES AND ORDINANCES.
6. ANY SHARP OR LARGE OBJECTS PROTRUDING ABOVE THE FINAL ROUGH GRADE SHALL BE REMOVED. RESULTING HOLES SHALL BE FILLED WITH SELECT FILL MEETING THE REQUIREMENTS AS SET IN THE PROJECT SPECIFICATIONS.
7. ALL EXCESS EXCAVATED MATERIALS THAT ARE NOT REUSABLE SHALL BE REMOVED FROM THE SITE PROPERLY AND LEGALLY DISPOSED AT ON OFF SITE LOCATION. REFERENCE SPECIFICATIONS FOR REQUIREMENTS RELATED TO THE IDENTIFICATION OF HAZARDOUS MATERIAL IN EXCAVATIONS AND REUSE OF EXCAVATED MATERIAL FOR BACKFILL.
8. MUD-MATTING MAY BE REQUIRED TO PROVIDE STABLE SURFACE FOR FORMING AND PLACEMENT OF REINFORCING STEEL AND SUBSEQUENTLY PLACEMENT OF CONCRETE, SEE PROJECT SPECIFICATIONS.

FOUNDATIONS:

1. THE GENERAL CONTRACTOR AND THE FOUNDATION CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE SURVEY AND THE GEOTECHNICAL REPORT BEFORE STARTING CONSTRUCTION.
2. NOTIFY THE A/E AND OWNER'S REPRESENTATIVE OF ANY UNUSUAL SOIL CONDITION THAT ARE IN VARIANCE WITH TEST BORINGS, SUCH AS SPRING OR SEEPAGE WATER ENCOUNTERED, OR WHEN A DIFFERENT BEARING MATERIAL IS EVIDENT AND THERE IS A QUESTION OF THE BEARING CAPACITY.
3. SET FOUNDATION AT ELEVATION SHOWN, OR ON FIRM UNDISTURBED MATERIAL OF DESIGN BEARING CAPACITY, WHICHEVER IS LOWER. THE GEOTECHNICAL ENGINEER SHALL VERIFY THAT EACH FOOTING PLACED IS BEARING ON DESIGN MATERIAL.
   - A. ALL SOIL SURROUNDING AND UNDER ALL FOOTINGS, FLOOR SLABS, ETC. SHALL BE PROTECTED FROM FREEZING AND FROST ACTION DURING CONSTRUCTION.
   - B. WHERE FOOTINGS ARE IN CLOSE PROXIMITY OF SEWERS, DRAINS, CONDUITS UNDER FLOOR PIPES, ETC., BOTTOM OF ALL FOOTINGS SHALL BE AT OR BELOW INVERT ELEVATIONS OF ELEMENTS NOTED HEREIN.
4. STEP FOOTINGS AT A RATIO OF ONE (1) VERTICAL TO TWO (2) HORIZONTAL, WITH A MAXIMUM VERTICAL STEP OF 2'-0" UNLESS NOTED OTHERWISE.
5. SITE PREPARATION, STRIPPING, PROOF ROLLING, FILLING AND BACKFILLING SHALL BE DONE IN COMPLIANCE WITH PROJECT SPECIFICATIONS AND IN CONJUNCTION WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT. ALL FILL MATERIAL SHALL MEET THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
6. INUNDATION AND LONG TERM EXPOSURE OF BEARING SURFACES, WHICH WILL RESULT IN DETERIORATION OF BEARING FORMATIONS SHALL BE PREVENTED. EXCAVATION TO FINAL BEARING ELEVATION SHALL NOT BE MADE UNTIL JUST PRIOR TO PLACING FOUNDATIONS.
7. BACKFILLING AGAINST FOUNDATION SHALL NOT BE PERMITTED UNTIL THE SUPPORTING FLOORS ARE IN PLACE AND ARE ABLE TO RESIST THE IMPOSED LATERAL FORCES. EXCEPT FOR CANTILEVER RETAINING WALLS OR UNLESS NOTED OTHERWISE ON DRAWINGS, THE WALLS ARE SUPPORTED BY THE FLOOR ABOVE AND BELOW. PROPER TEMPORARY BRACING MAY BE USED IN LIEU OF THE FLOOR SUPPORT BASED UPON THE DESIGN BY A PROFESSIONAL ENGINEER. THE DESIGN OF TEMPORARY BRACING IS THE RESPONSIBILITY OF THE CONTRACTOR.
8. BACKFILL AND FILL MATERIALS SHALL BE FREE OF DEBRIS, WASTE, FROZEN MATERIAL, ORGANIC AND OTHER DELETERIOUS MATTER,
   - A. POROUS FILL (SUB-BASE FOR SLAB ON GRADE) SHALL BE CRUSHED LIMESTONE COMPACTED, (MINIMUM 6" THICK UNDER FLOOR SLABS). GRADATION SHALL CONFORM WITH ASTM C33 SIZE #57.
   - B. DRAINAGE FILL SHALL BE WASHED, UNIFORMLY GRADED MIXTURE OF CRUSHED STONE OR UNCRUSHED GRAVEL AT EXTERIOR WALLS AND RETAINING WALL HAVING THE FOLLOWING GRADATION:

SIEVE SIZE	TOTAL % PASSING
1"	100
3/4"	90-100
3/8"	20-55
NO. 4	0-10
NO. 8	0-5

   - C. WELL GRADED GRANULAR MATERIAL (#8) SHALL CONFORM WITH ASTM C33.
9. ALL EXCAVATIONS ARE SUBJECT TO THE APPROVAL OF THE OWNER AND TESTING AGENCY WHO SHALL BE CONSULTED WHEN POOR SOIL, WATER, OBSTRUCTIONS, PIPING, ADJACENT SEWERS, EXISTING FOOTINGS, EXCAVATIONS, ETC. ARE ENCOUNTERED.
10. EXCAVATION AND COMPACTION:
    - A. CARE SHALL BE TAKEN TO NOT TO DISTURB THE BOTTOM OF THE EXCAVATION. EXCAVATION TO FINAL GRADE SHALL NOT BE MADE UNTIL JUST PRIOR TO PLACING CONCRETE.
    - B. KEEP FOUNDATION EXCAVATIONS FREE OF WATER AT ALL TIMES. REPLACE WEAKENED SOIL WITH LEAN CONCRETE (1500 PSI).
    - C. BACKFILL AND FILL SHALL BE PLACED IN LIFTS OF 8" MAXIMUM LOOSE DEPTH. EACH LIFT SHALL BE COMPACTED WITH A POWER VIBRATING COMPACTOR OR SIMILAR EQUIPMENT TO ASSURE MAXIMUM COMPACTION OF THE MATERIAL.
11. DEWATERING OF THE SITE MAY BE REQUIRED. METHODS FOR DEWATERING ARE THE CONTRACTORS RESPONSIBILITY. KEEP THE AREA OF WORK DRAINED AND FREE FROM ACCUMULATION OF SURFACE WATER AT ALL TIMES. PROVIDE, OPERATE AND MAINTAIN PUMPS, PUMPING EQUIPMENT, ETC. AS REQUIRED.
12. A TESTING AGENCY, PROVIDED BY THE OWNER, SHALL INSPECT THE CONDITION AND ASSURE THE ADEQUACY OF ALL SUBGRADES, BEARING CAPACITY, FILL AND BACKFILLS BEFORE PLACEMENT OF FOUNDATIONS. TEST RESULTS SHALL BE SENT TO THE ENGINEER AND TO THE OWNER.
    - A. AT FOOTING SUBGRADES, AT LEAST ONE TEST OF EACH SOIL STRATUM WILL BE PERFORMED TO VERIFY DESIGN BEARING CAPACITIES.
    - B. TESTING AGENCY WILL TEST COMPACTION OF SOILS IN PLACE ACCORDING TO ASTM D1556, D2167, D2922, AND ASTM D2937, AS APPLICABLE. TEST PER FOLLOWING:
      1. PAVED AND BUILDING SLAB AREAS: AT SUBGRADE AND AT EACH COMPACTED FILL LAYER, AT LEAST ONE TEST FOR EVERY 2000 SQ. FT., BUT IN NO CASE LESS THAN 3 TESTS.
      2. FOOTINGS: AT EACH COMPACTED BACKFILL LAYER AT EACH FOOTING OR ONE TEST FOR EACH 100 FT OF WALL FOOTING.
    - C. CONTRACTOR SHALL RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.

CAST IN PLACE CONCRETE:

1. CAST-IN-PLACE CONCRETE WORK SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE CODES AND STANDARDS. ACI 301 "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE" IS HEREBY MADE A PART OF THESE DRAWINGS. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 301, EXCEPT AS EXPLICITLY MODIFIED HEREIN.
2. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 318, "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
3. ALL CONCRETE SHALL BE IN ACCORDANCE WITH ACI 350 "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES".
4. CONCRETE SHALL HAVE THE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: (SUBMIT CONCRETE MIXES IN ACCORDANCE WITH ACI 301 PRIOR TO PLACING ANY CONCRETE).
   - A. CLASS I: 4000 PSI FOR BUILDING FOOTINGS, PIERS AND ALL INTERIOR CONCRETE NOT OTHERWISE NOTED, MAX W/C RATIO=0.45.
   - B. CLASS II: 4000 PSI WITH AIR ENTRAINMENT (4%-7%) ALL EXTERIOR CONCRETE PERMANENTLY EXPOSED TO WEATHER, MAX W/C RATIO= 0.45.
   - C. CLASS III: 500 PSI FOR EARTH FILL (NO TESTING REQUIRED).
   - D. CLASS IV: 2500 PSI FOR MASONRY GROUT (3/8"Ø MAXIMUM AGGREGATE SIZE, 7" SLUMP).
   - E. CLASS V: 4000 PSI FOR INTERIOR SLAB ON GRADE, MAX W/C RATIO=0.4
5. REINFORCING BARS: ASTM 615, GRADE 60 (UNO) WELDING OR TACK WELDING A615 BARS SHALL NOT BE PERMITTED. PROVIDE #5 AT 12"OC, EACH WAY IN ALL CAST-IN-PLACE CONCRETE UNO
6. REINFORCING BARS FOR WELDED APPLICATIONS SHALL CONFORM WITH A706, 60KSI YIELD STRENGTH.
7. PROVIDE SYNTHETIC MACROFIBER IN ALL TOPPING SLABS UNO, AND PROVIDE WWF IN STAIR LANDINGS, EQUIPMENT PADS AND ALL SLABS ON GROUND UNO.
8. BEND ALL HORIZONTAL WALL AND BEAM BARS AROUND ALL CORNERS, UNLESS OTHERWISE NOTED. PROVIDE ACI LAP EACH SIDE.
9. REINFORCING BARS REQUIRED FOR PROPER SUPPORT OF PRINCIPAL REINFORCING SHALL BE DETAILED AND SUPPLIED BY THE CONTRACTOR WHETHER OR NOT THEY ARE INDICATED ON THE DRAWINGS. THE MINIMUM BAR SIZE SHALL BE #4 AND THE MAXIMUM SPACING SHALL BE 36" ON CENTER FOR ALL BARS THAT NEED SUPPORT.
10. PROVIDE CORROSION RESISTANT ACCESSORIES SUCH AS GRAY PLASTIC CHAIRS OR CHAIRS WITH COATED TIPS, IN ALL EXPOSED CONCRETE CONSTRUCTION. PRECAST CONCRETE CUBES OR SAND PLATE CHAIRS SHALL BE USED FOR THE SUPPORT OF REINFORCING ON GRADE. CONCRETE BLOCK OR CLAY MASONRY BRICK ARE NOT PERMITTED.
11. NO CONCRETE SHALL BE PLACED UNTIL THE PROPOSED CONCRETE MIX AND TEST HAVE BEEN SUBMITTED TO AND REVIEWED BY THE ARCHITECT AND AFTER THE CONTRACTOR HAS RECEIVED WRITTEN ACKNOWLEDGEMENT.
12. ALL CEMENT SHALL BE TYPE I OR TYPE III, BLENDED CEMENTS SHALL NOT BE USED.
13. CONCRETE SHALL BE DISCHARGED AT THE SITE WITHIN 1 1/2 HOURS AFTER WATER HAS BEEN ADDED TO THE CEMENT AND AGGREGATES, ADDITION OF WATER TO THE MIX AT THE PROJECT SITE WILL NOT BE PERMITTED. ALL WATER MUST BE ADDED AT THE BATCH PLANT. SLUMP MAY BE ADJUSTED ONLY THROUGH THE USE OF ADDITIONAL WATER REDUCING ADMIXTURE OR HIGH RANGE WATER REDUCING ADMIXTURE.
14. ALL CONCRETE SHALL CONTAIN A WATER REDUCING ADMIXTURE CONFORMING TO ASTM C494, TYPE A, F OR G.
15. CALCIUM CHLORIDE SHALL NOT BE PERMITTED NOR SHALL ANY ADMIXTURE CONTAINING CALCIUM CHLORIDE BE PERMITTED.
16. ALL CONCRETE EXPOSED TO THE WEATHER OR IN A LOCATION VULNERABLE TO DEICERS SHALL CONTAIN AN AIR-ENTRAINED ADMIXTURE CONFORMING TO ASTM C260. THE AMOUNT OF ENTRAINED AIR SHALL BE 6%±1%.
17. PROVIDE CONSTRUCTION JOINTS IN ACCORDANCE WITH ACI 318. SUBMIT DRAWINGS SHOWING SEQUENCE AND DIRECTION OF POUR TO PERMIT SLAB SHRINKAGE FOR ENGINEER'S REVIEW.

CAST IN PLACE CONCRETE (CON'T):

20. WHERE CONSTRUCTION JOINTS ARE REQUIRED BUT ARE NOT INDICATED ON THE DRAWINGS, THEY SHALL BE LOCATED AT MIDSPAN OF SLABS AND WALLS, AND SHALL BE SUBJECT TO REVIEW BY THE A/E OR OWNER. UNLESS OTHERWISE NOTED OR SHOWN ON THE DRAWINGS, PROVIDE A CONTINUOUS SHEAR KEY IN SLABS AND WALLS. THE MINIMUM KEY SIZE SHALL BE 1 1/2" DEEP BY 1/3 THE DEPTH OR WIDTH OF THE MEMBER. AT CONCRETE SLABS ON STEEL DECK, SUPPORTED BY STEEL BEAMS, CONSTRUCTION JOINTS SHALL BE PLACED AT MIDSPAN OF DECK AND MID-WAY BETWEEN BEAMS.
21. ALL CONSTRUCTION JOINTS BELOW GRADE SHALL HAVE WATERSTOPS, UNLESS NOTED OTHERWISE.
22. 3/4" CHAMFER FOR EXPOSED EDGES OF CONCRETE UNO
23. VERIFY WITH ARCHITECTURAL DRAWINGS FOR TOP OF STRUCTURAL SLAB, BONDED TOPPING, WEARING SLAB AND SLAB ON GRADE ELEVATIONS.
24. SEE ARCHITECTURAL DRAWINGS FOR LOCATION AND EXTENT OF SPECIAL FINISHES OR TREATMENTS TO CONCRETE.
25. COORDINATE ALL WORK RELATED TO OWNER-SUPPLIED EQUIPMENT OR EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR BY USING ONLY CERTIFIED EQUIPMENT DRAWINGS.
26. DETERMINE SIZE AND LOCATION OF MECHANICAL EQUIPMENT, AND MAKE PROVISIONS FOR BOLTS, SLEEVES, PADS, OPENINGS, DRAINS, ANCHOR RODS AND EMBEDDED ITEMS ETC. IN ACCORDANCE WITH THE MANUFACTURER'S CERTIFIED DRAWINGS. THIS WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED.
27. PROVIDE SAWCUT CONTROL JOINTS IN ALL SLABS ON GRADE. THE MAXIMUM SPACING OF JOINTS SHALL BE 36 TIMES THE SLAB THICKNESS IN BOTH DIRECTIONS, UNLESS OTHERWISE NOTED.
28. PROVIDE BOND BREAKER BETWEEN MASONRY BEARING WALLS AND ALL CAST-IN-PLACE CONCRETE SLABS AND BEAMS UNO
29. FOR BONDED TOPPING SLAB OVER PRECAST SEE PLANS. PROVIDE ULTIMATE COMPRESSIVE STRENGTH OF 4000 PSI IN 28 DAYS. PROVIDE SYNTHETIC MACROFIBER IN BONDED TOPPING. PRIOR TO PLACING CONCRETE TOPPING, THE PRECAST SURFACE MUST BE CLEAN AND DAMP WITH NO STANDING WATER.
30. OPENINGS:
    - A. OPENINGS SHOWN ARE FOR BIDDING PURPOSES ONLY. RECONCILE THEIR EXACT SIZES AND LOCATIONS WITH HVAC, PLUMBING, AND OTHER REQUIREMENTS BEFORE PROCEEDING WITH WORK.
    - B. OPENINGS SHALL NOT BE PROVIDED IN FRAMED SLABS, BEAMS, JOISTS, COLUMNS, AND WALLS UNLESS SHOWN ON STRUCTURAL DRAWINGS. IF ANY OPENING NOT SHOWN ON THE PLANS IS REQUIRED, SECURE APPROVAL OF THE A/E BEFORE PROCEEDING.
    - C. PROVIDE 1/2 NUMBER OF BARS INTERRUPTED PLUS ONE TYPICAL EACH FACE OF OPENING. PROVIDE TWO #5 BARS AROUND ALL SLAB AND WALL OPENINGS, EXTENDING 2'-0" BEYOND OPENING IN EVERY DIRECTION UNLESS NOTED. OPENINGS NOT EXCEEDING 16"x16" MAY BE SLEEVED AS REQUIRED BY WORKING THE REINFORCING STEEL AROUND THEM.
31. REINFORCING BAR LAP SPLICES AND ANCHORAGE LENGTH SHALL CONFORM WITH TABLE MINIMUM LAP SPLICE AND ANCHORAGE DIMENSION TABLE AS PROVIDED WITHIN THESE GENERAL NOTES.
32. MECHANICAL BAR SPLICE DEVICES THAT PROVIDE A FULL TENSION SPLICE WITH A CAPACITY IF 125 PERCENT OF THE BAR YIELD STRENGTH MAY BE USED. ALL SPLICES SHALL BE VISUALLY INSPECTED BY A QUALIFIED INSPECTOR TO VERIFY THAT THE SPLICE HAS BEEN MADE PROPERLY.
33. BONDBREAKER MATERIAL SHALL BE 30 POUND FELT PAPER.

REINFORCING BAR CLEARANCE TABLE

LOCATION	CLEARANCE
CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH OR MUD SLAB	3"
VERT REINF	2"
WALLS INTERIOR FACE	1"
WALLS EXTERIOR FACE #5 AND SMALLER	1 1/2"
WALLS EXTERIOR FACE #6 AND LARGER	2"
CURBS	1 1/2"

CONCRETE REBAR COVER CATEGORY DETERMINATION TABLE

CONCRETE COVER, C	CENTER TO CENTER BAR SPACING ≥ 3d	> 3d < 4d	≥ 4d < 6d	≥ 6d	Comments
C < d	1	3	5	6	LONGITUDINAL BARS IN BEAMS, COLUMNS, INNER LAYER OF WALLS AND SLABS
d< C < 2d	1	3	3	4	ALL OTHER REINFORCING BARS
C < 2d	1	3	5	6	ALL OTHER REINFORCING BARS
d = bar diameter					

CONCRETE REINFORCING LAP LENGTH TABLE F'c=4000 PSI

BAR SIZE	TOP BAR LENGTH (IN.) CATEGORY 1	2	3	4	5	6	OTHER BAR LENGTH (IN.) CATEGORY 1	2	3	4	5	6
3	18"	18"	18"	18"	18"	18"	16"	16"	16"	16"	16"	16"
4	26"	24"	24"	24"	24"	24"	20"	19"	19"	19"	19"	19"
5	40"	32"	30"	30"	30"	30"	31"	25"	23"	23"	23"	23"
6	57"	45"	40"	36"	36"	36"	44"	35"	31"	28"	28"	28"
7	77"	62"	54"	43"	42"	42"	59"	48"	42"	33"	33"	33"
8	102"	81"	71"	57"	51"	48"	78"	63"	55"	44"	39"	37"
9	129"	103"	90"	72"	64"	55"	99"	79"	69"	56"	50"	42"
10	163"	131"	114"	92"	82"	65"	126"	101"	88"	70"	63"	50"
11	200"	160"	140"	112"	100"	80"	154"	123"	108"	86"	77"	62"

PRECAST CONCRETE:

1. PRECAST CONCRETE SHALL CONFORM TO THE LATEST AMERICAN CONCRETE INSTITUTE AND THE PRESTRESSED CONCRETE INSTITUTE CODES AND STANDARDS. PCI-MNL 116 AND THE CONTRACT DOCUMENTS.
2. ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE IN 28 DAYS SHALL BE 5000 PSI.
3. PRECAST UNITS MAY BE EITHER NORMAL WEIGHT CONCRETE OR LIGHT WEIGHT CONCRETE.
4. ALL CONCRETE USED IN THE PRECAST UNITS SHALL CONTAIN AN AIR ENTRAINING ADMIXTURE CONFORMING TO ASTM C260. THE AMOUNT SHALL BE 6% ± 1%
5. ALL CEMENT SHALL BE TYPE I OR TYPE III. CONFORMING TO ASTM C150.
6. WATER REDUCING, RETARDING, ACCELERATING, AND HIGH RANGE WATER REDUCING ADMIXTURE SHALL CONFORM WITH ASTM C494.
7. AGGREGATES SHALL CONFORM WITH ASTM C33 OR C330. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 1".
8. WATER SHALL BE POTABLE AND FREE FROM FOREIGN MATERIALS HARMFUL TO CONCRETE AND EMBEDDED STEEL.
9. REINFORCING BARS: A615 GRADE 60 KSI YIELD STRENGTH, UNLESS NOTED OTHERWISE. WELDING OR TACK WELDING A615 REINFORCING STEEL SHALL NOT BE PERMITTED.
10. REINFORCING BARS FOR WELDED APPLICATIONS SHALL CONFORM WITH A706, 60 KSI YIELD STRENGTH.
11. PRESTRESSING STRAND: ASTM A416, GRADE 270, UNCOATED, 7 WIRE STRESS RELIEVED STRAND.
12. WELDED WIRE FABRIC: ASTM A185.
13. GROUT SHALL BE A MIXTURE OF PORTLAND CEMENT, SAND, AND WATER SUFFICIENT FOR PLACEMENT AND HYDRATION.
14. BEARING PADS: KOROLATH MULTIMONOMER PLASTIC BEARING STRIP FOR PRECAST PLANK BEARING (OR APPROVED EQUAL).
15. ALL STEEL FOR CONNECTIONS SHALL BE STAINLESS STEEL ASTM A666 TYPE 304. STAINLESS STEEL BOLTS SHALL BE EQUIVALENT TO A36 IN STRENGTH AND WELDS SHALL BE IN ACCORDANCE WITH AWS D1.1. CONTINUOUS OR SPOT STRUT TYPE INSERTS COMPLETE WITH SPRING, NUT AND BOLT SHALL BE ALL STAINLESS STEEL.
16. HEADED STUDS SHALL CONFORM TO ASTM A108 AND MUST BE IN END STUD WELDED TO STEEL MEMBERS USING A STUD GUN.
17. ALL CONNECTIONS SHALL BE DESIGNED SO AS NOT TO BE EXPOSED TO WEATHER NOR TO VIEW FROM THE EXTERIOR.
18. MINIMUM WALL REINFORCING SHALL BE IN ACCORDANCE WITH ACI-318.
19. TOLERANCES FOR THE PRECAST UNITS SHALL CONFORM WITH THE PRESTRESSED CONCRETE INSTITUTE SPECIFICATIONS.
20. OPENINGS FOR MECHANICAL AND ELECTRICAL ITEMS SHALL BE CORE DRILLED THROUGH HOLLOW CELLS ONLY, PROVIDE ADDITIONAL REINFORCEMENT AS REQUIRED. COORDINATE LOCATIONS OF OPENINGS WITH MECHANICAL AND ELECTRICAL CONTRACTORS.
21. PRECAST MANUFACTURER SHALL PROVIDE REQUIRED HEADERS FOR ALL FRAMED OPENINGS.
22. COMPLY WITH ARCHITECTURAL DRAWINGS FOR LOCATION EXTENT OF SPECIAL FINISHES AND TREATMENTS TO PRECAST CONCRETE.
23. SUBMIT SHOP DRAWINGS AND CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT FOR REVIEW. SHOP DRAWINGS FOR ALL MEMBERS AND CONNECTIONS MUST ACCOMPANY THE CALCULATIONS.
24. PRECAST UNITS SHORTER THAN TEN FEET SHALL BE REINFORCED WITH REBAR FOR LOAD CAPACITY. COORDINATE LOCATION AND SIZE OF ALL OPENINGS REQUIRED FOR MECHANICAL AND ELECTRICAL TRADES. PRECAST MANUFACTURER SHALL PROVIDE HEADERS REQUIRED FOR FRAMED OPENINGS AND BLOCKOUTS. PRECAST MANUFACTURER SHALL SUBMIT CALCULATIONS STAMPED BY AN ENGINEER REGISTERED IN THE STATE OF THE PROJECT ADDRESSING ALL OPENING CONDITIONS GREATER THAN 12" SQUARE. SEE MECHANICAL AND ARCHITECTURAL DRAWINGS FOR OPENING LOCATIONS AND SIZES.
25. THE PRECAST CONCRETE MANUFACTURING PLANT SHALL BE CERTIFIED BY THE PRESTRESSED CONCRETE INSTITUTE, PLANT CERTIFICATION PROGRAM, PRIOR TO THE START OF PRODUCTION.
26. REINFORCING PATTERNS FOR ALL PLANKS, TREADS AND RISERS MUST BE PROPERLY DESIGNED, SIZED, AND SPACED BY PRECAST CONTRACTOR. SEE SPECIFICATIONS FOR DESIGN SUBMITTAL REQUIREMENTS.
27. DESIGN CRITERIA: IN ADDITION TO THE OVERALL BUILDING DESIGN LIVE LOADS THE PRECAST UNITS MUST INCLUDE THE FOLLOWING SUPERIMPOSED LOADS:
    - A. TOPPING SLABS - 15 PSF
    - B. MASONRY WALLS - SEE PLAN AND COORD. WALL LOCATIONS WITH ARCHITECTURAL DRAWINGS
    - C. MECHANICAL/EQUIPMENT - SEE PLAN AND COORD. EQUIPMENT WEIGHTS WITH MECHANICAL DRAWINGS
28. SUPERIMPOSED DEAD AND LIVE LOADS ARE AS SHOWN ON PLANS. TOPPING THICKNESS HAS BEEN SET TO 2" PLANK END BEARING. TOPPING TAPERS (DUE TO PLANK CAMBER) TO A MINIMUM OF 1" AT MIDSPAN. PRECAST CONCRETE PLANK WITH CAMBER GREATER THAN 1" WILL BE REJECTED.
29. SEE ARCHITECTURAL, STRUCTURAL, HVAC, PLUMBING & FIRE PROTECTION DRAWINGS FOR THE VARIOUS LAYOUTS AND LOCATIONS OF SPECIFIC IMPOSED ITEMS.
30. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION AND EXTENT OF SPECIAL FINISHES OR TREATMENTS TO EXPOSED PRECAST CONCRETE.
31. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING, AS REQUIRED, DURING THE ERECTION OF PRECAST UNITS.
32. EMBEDDED PLATES SHALL BE GALVANIZED ASTM A123 (UNO)
33. THE TOP SURFACE OF PRECAST PLANKS SHALL BE INTENTIONALLY ROUGHENED TO RECEIVE BONDED TOPPING.
34. FOR BONDED TOPPING SLAB CAST IN PLACE SEE CONCRETE NOTES.

POST INSTALLED ANCHOR SYSTEMS:

1. USE ADHESIVE ANCHOR SYSTEMS WHEN INDICATED IN DRAWINGS.
2. ADHESIVE ANCHOR SYSTEMS MUST COMPLY WITH THE LATEST REVISION OF ICC-ES ACCEPTANCE CRITERIA AC308 AND HAVE A VALID ICC-ES REPORT IN ACCORDANCE WITH THE APPLICABLE CODE.
3. DRILLING SHALL BE PERFORMED WITH A ROTARY HAMMER DRILL AND CARBIDE TIPPED DRILL BIT IN ACCORDANCE WITH INSTRUCTIONS ACCOMPANYING ADHESIVE CARTRIDGES AND APPLICABLE ICC-ESR.
4. BORE HOLE CLEANING PROCEDURES MUST COMPLY WITH INSTRUCTIONS ACCOMPANYING THE ADHESIVE CARTRIDGE AND APPLICABLE ICC-ESR IN ORDER TO PRODUCE A DRY, DUST-FREE HOLE.
5. INJECTION OF ADHESIVE SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS ACCOMPANYING PRODUCT AND APPLICABLE ICC-ESR TO PRODUCE AN AIR-VOID FREE INJECTION.
6. ALTERNATE DRILLING METHODS, SUCH AS DIAMOND CORING, MUST BE APPROVED BY THE ENGINEER OF RECORD AND COMPLY WITH THE APPLICABLE ICC-ES REPORT.
7. SPECIAL CONDITIONS SUCH AS WATER SATURATED CONCRETE, WATER-FILLER HOLES, UNDERWATER AND OVERHEAD INSTALLATIONS MUST BE APPROVED BY THE ENGINEER OF RECORD AND COMPLY WITH THE APPLICABLE ICC-ES REPORT.
8. SPECIAL INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE ICC-ES REPORT AND AS PRESCRIBED BY THE APPLICABLE BUILDING CODE.
9. FASTENING ELEMENTS (THREADED RODS, REBAR AND INTERNALLY THREADED INSERTS) MUST BE CLEAN, DRY AND FREE OF ANY OIL OR CONTAMINANTS.

MASONRY:

1. MASONRY SHALL CONFORM TO LATEST EDITIONS OF THE REFERENCES AND STANDARDS LISTED BELOW, EXCEPT AS MODIFIED HEREIN, IN ADDITION TO ALL OTHER REQUIREMENTS OF THE CONTRACT DOCUMENTS AND STANDARD PRACTICES:
   - A. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402) AND SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602).
   - B. BRICK INSTITUTE OF AMERICA (BIA).
   - C. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA).
2. HOLLOW AND SOLID CONCRETE MASONRY UNITS SHALL CONFORM WITH ASTM C90, TYPE I WITH A MINIMUM COMPRESSIVE STRENGTH OF 2800 PSI, EACH MASONRY UNIT, NET CROSS SECTIONAL AREA. NET AREA COMPRESSIVE STRENGTH OF MASONRY f'm = 2000 PSI.
3. UNITS SHALL BE NORMAL WEIGHT UNITS WITH A DRY NET WEIGHT OF NOT MORE THAN 135 PCF.
4. UNITS SHALL BE MANUFACTURER'S STANDARD UNITS WITH NOMINAL FACE DIMENSION OF 16" LONG.
5. PROVIDE SPECIAL SHAPES WHERE SHOWN AND WHERE REQUIRED FOR LINTELS, CORNERS, JAMBS, SASH, JOINTS, HEADERS, BONDING AND OTHER SPECIAL CONDITIONS.
6. MORTAR FOR ALL LOAD BEARING WALLS AND SHEAR WALLS SHALL BE ASTM C270 TYPE S UNLESS OTHERWISE NOTED, WITH A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI IN 28 DAYS.
7. PREMIXED MASONRY CEMENT IS PROHIBITED.
8. GROUT SHALL CONFORM WITH ASTM C476 COARSE GROUT, 3/8" MAXIMUM SIZE COARSE AGGREGATE, WITH A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI IN 28 DAYS.
9. DO NOT USE CALCIUM CHLORIDE OR ANY ADMIXTURES THAT CONTAINS CALCIUM CHLORIDE IN THE MORTAR OR GROUT.
10. ALL VERTICALLY REINFORCED WALLS SHALL HAVE DOWELS THAT MATCH THE WALL BAR SIZE AND SPACING.
11. ALL MASONRY BELOW GRADE SHALL BE GROUTED SOLID.
12. THE FIRST COURSE OF ALL WALLS SHALL BE GROUTED SOLID.
13. PROVIDE THE FOLLOWING WALL CONSTRUCTION AT ALL MASONRY WALLS UNLESS NOTED OTHERWISE:
    - A. MASONRY GROUTED SOLID, 32" LONG AND 16" HIGH UNLESS NOTED OTHERWISE, CENTERED UNDER WALL BEARING STEEL BEAM, PRECAST BEAM, CAST IN PLACE CONCRETE BEAM, OR BOND BEAM AS DETAILED ON THE DRAWINGS.
    - B. CONTINUOUS MASONRY GROUTED SOLID 8" HIGH, UNDER WALL BEARING PRECAST SLABS OR CAST IN.
14. ALL CORES WHICH CONTAIN VERTICAL REINFORCING SHALL BE GROUTED SOLID FULL HEIGHT OF WALL. MAXIMUM GROUT POUR SHALL BE 4 FEET.
15. ALL MASONRY WALLS SHALL HAVE GALVANIZED HORIZONTAL JOINT REINFORCING OF ONE OF THE FOLLOWING:
    - A. TRUSS TYPE, #9 GAGE SIDE AND CROSS RODS, FOR INTERIOR NON-BEARING WALLS AND PARTITIONS, SPACED 16" ON CENTER VERTICALLY.
    - B. TRUSS TYPE, 3/16" SIDE RODS AND 3/16" CROSS RODS, FOR ALL EXTERIOR WALLS AND BEARING WALLS, SPACED 16" ON CENTER VERTICALLY.
    - C. LADDER TYPE, 3/16" SIDE RODS AND 3/16" CROSS RODS, FOR ALL PARAPETS, SHEAR WALLS, AND VERTICALLY REINFORCED OR GROUTED WALLS, SPACED 16" ON CENTER VERTICALLY.
16. JOINT REINFORCING SHALL BE BENT AROUND CORNERS, BUT SHALL NOT BE CONTINUOUS THROUGH EXPANSION OR CONTROL JOINTS.
17. JOINT REINFORCING, ANCHORS AND TIES SHALL BE HOT DIP GALVANIZED CONFORMING WITH ASTM.
18. CONVENTIONAL REINFORCING, HORIZONTAL AND VERTICAL, SHALL BE A615 GRADE 60 KSI YIELD STRENGTH.
19. ALL UNITS SHALL BE LAID WITH FULL MORTAR COVERAGE ON HEAD, BED (FACE SHELLS) WEBS, AND COLLAR JOINTS, UNLESS NOTED OTHERWISE.
20. COMPLY WITH THE RECOMMENDATIONS OF THE BRICK INSTITUTE OF AMERICA, NATIONAL CONCRETE, MASONRY ASSOCIATION AND THE PREVIOUSLY MENTIONED CODES AND SPECIFICATIONS FOR HOT WEATHER MASONRY CONSTRUCTION.
21. PROTECT ALL MASONRY FROM FREEZING WHEN TEMPERATURE IS 40 DEGREES FAHRENHEIT AND FALLING, COMPLY WITH THE RECOMMENDATIONS OF THE BRICK INSTITUTE OF AMERICA, NATIONAL CONCRETE MASONRY ASSOCIATION AND THE PREVIOUSLY MENTIONED CODES AND SPECIFICATIONS FOR COLD WEATHER MASONRY CONSTRUCTION.
22. DO NOT USE FROZEN MATERIALS OR MATERIALS MIXED OR COATED WITH ICE OR FROST.
23. DO NOT BUILD ON FROZEN WORK, REMOVE AND REPLACE MASONRY WORK DAMAGED BY FROST OR FREEZING.
24. TEMPORARILY BRACE ALL MASONRY WALLS TO PROVIDE STABILITY DURING CONSTRUCTION UNTIL THE DESIGNED STRUCTURE IS COMPLETED AND CAN STABILIZE THE WALLS.
25. PREMOLDED CONTROL JOINT STRIPS: SOLID RUBBER STRIPS WITH A SHORE "A" DUROMETER HARDNESS OF 80. DESIGNED TO FIT STANDARD SASH BLOCK AND MAINTAIN LATERAL STABILITY IN MASONRY WALL.
26. NO CHASES, RISERS, CONDUITS, OR TOOTHING OF MASONRY SHALL OCCUR WITHIN 17" ON CENTERLINE OF BEAM BEARING OR LOAD CONCENTRATION.
27. ALL INTERSECTING LOAD BEARING WALLS SHALL BE TIED TOGETHER IN MASONRY BOND UNLESS NOTED OTHERWISE.
28. ALL INTERIOR NON-BEARING MASONRY WALLS TO BE REINFORCED WITH #5 AT 96" OC THE MAX HEIGHT LIMITS ARE AS FOLLOWS:
    - A. 6" CMU MAX HEIGHT = 14'-0"
    - B. 8" CMU MAX HEIGHT = 18'-0"
    - C. 10" CMU MAX HEIGHT = 20'-0"
    - D. 12" CMU MAX HEIGHT = 24'-0"

MASONRY REBAR LAP AND SPLICE LENGTH TABLE

f'm = 2500 PSI , Fy=60 KSI REINF, NON-COATED REBAR

BAR SIZE	CENTERED IN CELL 8" CMU	CENTERED IN CELL 10" CMU	CENTERED IN CELL 12" CMU	EA. FACE OF CELL 8" CMU	EA. FACE OF CELL 10" CMU	EA. FACE OF CELL 12" CMU
#3	12"	12"	12"	16"	16"	16"
#4	12"	12"	12"	29"	29"	29"
#5	19"	15"	12"	-	45"	45"
#6	37"	29"	23"	-	-	54"

LOOSE LINTELS FOR VENEERS:

1. THE CONTRACTOR SHALL SUPPLY LOOSE LINTEL ANGLES OVER ALL MASONRY OPENINGS AND RECESSES UNLESS NOTED OTHERWISE. LINTELS NOT SCHEDULED ON DRAWINGS SHALL CONSIST OF A SINGLE ANGLE WITH 3 1/2" LEGS HORIZONTAL FOR EACH 4" OF WALL THICKNESS, ANGLES SHALL BE AS SHOWN IN THE SCHEDULE IN THE DETAIL SHEETS.
2. ALL LINTELS EXPOSED TO THE EXTERIOR OR IN EXTERIOR WALLS SHALL BE GALVANIZED.
3. ALL BEAM LINTELS SHALL HAVE 24"x 3 COURSES OF SOLID MASONRY BELOW BEARING END, UNLESS NOTED OTHERWISE.
4. ALL ANGLE LINTELS SHALL HAVE 16"x 3 COURSES OF SOLID MASONRY BELOW BEARING END, UNLESS NOTED OTHERWISE.
5. BOTTOM PLATES ON BEAMS SHALL BR 1/2" LESS IN WIDTH THAN THE WALL THICKNESS AND EXTEND FOR THE FULL LENGTH OF BEAM EXCLUDING THE BEARING ENDS UNLESS NOTED OTHERWISE.
6. BOTTOM PLATES SHALL BE WELDED TO BEAM WITH A 1/4" FILLET WELD 3" LONG ON BOTH SIDES @ 8" ON CENTER, STAGGER PLACEMENT OF WELDS FROM SIDE TO SIDE.

STEEL LINTEL SCHEDULE:

1. THE CONTRACTOR SHALL SUPPLY LOOSE LINTEL ANGLES OVER ALL MASONRY OPENINGS AND RECESSES UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL AND HVAC DRAWINGS FOR LOCATION, NUMBER AND SIZES OF OPENINGS. LINTELS NOT SCHEDULED ON DRAWINGS SHALL CONSIST OF A SINGLE ANGLE WITH 3 1/2" LEG HORIZONTAL FOR EACH 4" OF WALL THICKNESS, ANGLES SHALL BE AS FOLLOWS:

MASONRY OPENING	ANGLE SIZE	BEARING EACH END	
4'-0" OR LESS	3 1/2 x 3 1/2 x 5/16	6"	L1
4'-1" TO 6'-0"	4 x 3 1/2 x 5/16	6"	L2
6'-1" TO 7'-0"	5 x 3 1/2 x 3/8	8"	L3
7'-1" TO 8'-0"	6 x 3 1/2 x 5/16	8"	L4
8'-1" TO 10'-0"	W8x28 w/ 5/16" BOTT. PLATE	12"	L5
10'-1" TO 12'-0"	W16x26 w/ 5/16" BOTT. PLATE	12"	L6

2. ALL LINTELS IN EXTERIOR WALLS SHALL BE HOT DIP GALVANIZED.
3. ALL ANGLE LINTELS SHALL HAVE 16" x 3 COURSES OF SOLID MASONRY BELOW BEARING END, UNLESS NOTED OTHERWISE.
4. ALL BEAM LINTELS SHALL HAVE 24" x 3 COURSES OF SOLID MASONRY BELOW BEARING END, UNLESS NOTED OTHERWISE.
5. BOTTOM PLATES ON BEAMS SHALL BE 1" LESS IN WIDTH THAN THE WALL THICKNESS, AND EXTEND FOR THE FULL LENGTH OF BEAM INCLUDING THE BEARING ENDS, UNLESS NOTED OTHERWISE.
6. BOTTOM PLATE SHALL BE WELDED TO BEAM WITH A 1/4" FILLET WELD 3" LONG ON BOTH SIDES AT 8" ON CENTER. STAGGER PLACEMENT OF WELDS SIDE TO SIDE.

STEEL JOISTS:

1. DETAIL, FABRICATE, AND ERECT STEEL JOISTS IN ACCORDANCE WITH THE LATEST SJI, AISC, AWS, AND OTHER CODES AND STANDARDS AND CONTRACT DOCUMENTS.
2. PROVIDE BRIDGING IN ACCORDANCE WITH THE LATEST SJI SPECIFICATIONS. END OF BRIDGING LINES SHALL BE ANCHORED TO MASONRY WALLS, CONCRETE WALLS, OR STEEL BEAMS. ALL BRIDGING SHALL BE WELDED TO JOISTS IN SUCH A MANNER AS TO NOT IMPAIR THE STRUCTURAL INTEGRITY OF THE JOISTS.
3. WELD ALL STEEL JOISTS TO SUPPORTING STRUCTURAL STEEL MEMBERS AS SHOWN ON THE DRAWINGS, AND ACCORDING TO SJI AS MINIMUM.
4. ALL JOISTS SHALL HAVE STANDARD MINIMUM CAMBER IN ACCORDANCE WITH SJI STANDARD SPECIFICATIONS.
5. ALL "K" SERIES JOISTS SHALL HAVE A MINIMUM BEARING LENGTH ON STEEL BEAMS OF 3" AND A MINIMUM BEARING LENGTH ON MASONRY OR CONCRETE OF 4".
6. ALL "LH: SERIES JOISTS SHALL HAVE A MINIMUM BEARING LENGTH ON STEEL BEAMS OF 5" AND A CAPS BEARING LENGTH ON MASONRY OR CONCRETE OF 6".
7. WHEN THE MINIMUM BEARING LENGTH OF THE JOIST CANNOT BE ACHIEVED DUE TO BUTTING JOISTS, THE JOISTS SHALL BE STAGGERED.
8. EXTEND ALL JOISTS 2" MINIMUM PAST CENTERLINE OF THE SUPPORTING MEMBER. WHEN THERE ARE JOISTS ON ONLY ONE SIDE OF THE SUPPORTING MEMBER, UNO
9. THE JOIST PANEL POINTS FOR THE FULL WIDTH OF EACH BAY MUST LINE UP WITH EACH OTHER WITHIN A TOLERANCE OF 1"±.
10. JOISTS SHALL BE ERECTED STRAIGHT. SWEEPS SHALL BE A MAXIMUM OF 1" MEASURED AT THE CENTER.
11. NO LOADS SHALL BE HUNG FROM THE JOIST BRIDGING.
12. ANY LOADS SUPPORTED FROM THE JOIST BOTTOM CHORD MUST BE ATTACHED WITHIN 6" OF A PANEL POINT (SUCH AS SPRINKLER HANGERS).
13. STEEL JOISTS SHALL BE PRIME PAINTED WITH RUST INHIBITIVE PAINT MEETING FEDERAL SPECIFICATION TT-P-636. PAINT DRY FILM THICKNESS PER MANUFACTURER'S STANDARDS.
14. WHERE COLUMN ARE NOT FRAMED IN AT LEAST TWO DIRECTIONS WITH STRUCTURAL STEEL MEMBERS, A BAR JOIST WITH BOTTOM CHORD EXTENDED SHALL BE FIELD BOLTED TOP AND BOTTOM TO COLUMNS TO PROVIDE LATERAL STABILITY.
15. ALL STEEL JOISTS SHALL HAVE A CEILING EXTENSION PROVIDED IN THE AREAS WHERE CEILINGS ARE HUNG OR DIRECTLY ATTACHED TO THE JOIST.
16. NET UPLIFT = SEE COMPONENTS AND CLADDING TABLE OF THESE GENERAL NOTES. ADD BOTTOM CHORD BRIDGING AT FIRST PANEL POINT AT EACH END OF JOISTS.
17. PROVIDE FULL BEARING UNDER JOIST SEATS FOR SLOPPING SUPPORT MEMBERS. PROVIDE SHIMS OR BEARING SEAT UNDER JOIST, AS REQUIRED, TO ACHIEVE FULL JOIST BEARING.

STEEL DECK:

1. DETAIL, FABRICATE AND ERECT STEEL DECK IN ACCORDANCE WITH THE LATEST STEEL DECK INSTITUTE SPECIFICATIONS, AWS AND CONTRACT DOCUMENTS. DECK SHALL CONFORM TO "BASIC DESIGN SPECIFICATIONS" AS ADOPTED BY THE STEEL DECK INSTITUTE.
2. ROOF DECK PROFILE SHALL CONFORM TO FACTORY MUTUAL REQUIREMENTS.
3. ROOF DECK SHALL BE MANUFACTURED FROM STEEL CONFORMING TO ASTM A611 GRADE C, D OR E, GR 33 OR HIGHER.
4. COMPOSITE FLOOR DECK SHALL BE MANUFACTURED FROM STEEL CONFORMING TO ASTM A653-94, GR 33 OR HIGHER.
5. COMPOSITE FLOOR DECK SHALL GALVANIZED & CONFORM TO ASTM A924-94, CLASS G-90.
6. ROOF DECK SHALL BE GALVANIZED AND SHOP PRIMED.
7. ROOF DECK SHALL BE CONNECTED TO SUPPORTING STRUCTURAL STEEL MEMBERS WITH A 36/4 PATTERN WITH [HILTI X-HSN24 POWDER ACTUATED FASTENERS] WITH THE FIRST AND LAST RIBS OF EACH SHEET ATTACHED TO THE SUPPORTS. SIDELAPS SHALL BE SCREWED WITH (3) #10 SELF TAPPING SCREWS.
8. COMPOSITE FLOOR DECK SHALL BE CONNECTED TO SUPPORTING STRUCTURAL STEEL MEMBERS WITH 36/4 PATTERN WITH [HILTI X-HSN24 POWDER ACTUATED FASTENERS] WITH THE FIRST AND LAST RIBS OF EACH SHEET ATTACHED TO THE SUPPORTS. SIDELAPS SHALL BE SCREWED WITH (3) #10 SELF TAPPING SCREWS.
9. DECK SHALL INCLUDE ANY MISCELLANEOUS CLOSURE PIECES, POUR STOPS, DRAIN SUMP PANS, REINFORCING AROUND OPENINGS, ETC., REQUIRED TO MAKE A COMPLETE JOB. MISCELLANEOUS ITEMS SHALL BE GALVANIZED G90.
10. NO LOADS SHALL BE HUNG FROM THE ROOF DECK.
11. ALL DECK LIGHTER THAN 22 GA SHALL USE WELDING WASHERS FOR CONNECTION OF DECK TO STEEL SUPPORT.
12. PLACE DECK UNITS ON SUPPORTING STEEL FRAMEWORK IN LENGTHS TO SPAN 4 OR MORE SUPPORTS (3 SPANS). LAP ENDS OF DECK NOT LESS THAN 2". SIDE LAP INTERLOCKS SHALL NOT BE STRETCHED OR CONTRACTED. DECK SHALL BEAR A MINIMUM OF 3" ON SUPPORTS.
13. MAXIMUM SIZE OF OPENINGS IN DECK WITHOUT STRUCTURAL FRAMING SUPPORT SHALL NOT EXCEED 10". OPENINGS GREATER THAN 10" MUST HAVE STRUCTURAL SUPPORT ON ALL SIDES OF THE OPENING.
14. FOR SLOPING DECK PROVIDE CONTINUOUS SHIMS, AS REQUIRED TO ACHIEVE FULL DECK BEARING ON SUPPORTING MEMBERS.
15. DECK SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES.

    1-1/2" x 20GA (TYPE VLI) COMPOSITE FLOOR DECK
    S = 0.218 I = 0.182

    1-1/2" x 20GA (TYPE B,BA) ROOF DECK
    S = 0.234 I = 0.201

    3" x 20GA (TYPE NA)
    S = 0.501 I = 0.848

PROJECT NO
2203-1

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MARK	DATE	DESCRIPTION
	7.12.23	100% BID PERMIT SET

ISSUED AS:

PROJECT NO	2203-1
DRAWN BY	OEC
CHECKED BY	OEC
DATE	

GENERAL NOTES

SCALE: As indicated

SHEET NO
S-001