STRUCTURAL STEEL

A. ALL STRUCTURAL STEEL WORK SHALL BE IN ACCORDANCE WITH DIVISION 05 SPECIFICATIONS.
B. SLOTTED HOLES FOR BEAM END CONNECTIONS ARE NOT ALLOWED FOR BEAMS ASSOCIATED WITH A BRACED FRAME OR MOMENT FRAME, OR NOTED WITH A REQUIRED AXIAL CONNECTION FORCE, UNLESS CONNECTIONS ARE DESIGNED AND CONSTRUCTED AS SLIP CRITICAL, USING CLASS A SURFACE PREPARATION AND PRE-TENSIONED BOLTS.
C. GUSSET PLATES AND STIFFENER PLATES SHALL BE 3/8" MINIMUM, WELDED BOTH SIDES CONTINUOUSLY, UNLESS NOTED OTHERWISE.
D. MEMBERS SUPPORTING DECK AT THE PERIMETER OF THE BUILDING SHALL BE CONTINUOUS EXCEPT AT EXPANSION JOINTS. SQUARE GROOVE WELD (BUTT JOINT) CONTINUOUS MEMBERS PLACED END TO END UNLESS NOTED OTHERWISE.
E. STEEL COLUMN BASE PLATES AND ANCHOR RODS SHALL HAVE MINIMUM 3" CONCRETE COVER PROTECTION.
F. POWDER ACTUATED FASTENERS (OR POWDER DRIVEN FASTENERS) SHALL BE ANCHORED IN STEEL WITH MINIMUM FASTENER SPACING OF 1 1/2" AND MINIMUM EDGE DISTANCE OF 1/2".
G. GROUT UNDER BEARING PLATES SHALL BE MIN. 6,000 PSI COMPRESSIVE STRENGTH. LOADING OF STRUCTURE SHALL NOT OCCUR UNTIL GROUT IS INSTALLED UNDER BASE PLATES AND PROPERLY CURED.
H. MATERIALS:
1. W-SHAPES: ASTM A 992.
2. CHANNELS, ANGLES, M-SHAPES, S-SHAPES: ASTM A 572, GRADE 50.
3. PLATE AND BAR: ASTM A 36. FOR PLATES CONNECTING ELEMENTS LESS THAN OR EQUAL TO 4" THICK: ASTM A572.
4. COLD-FORMED HOLLOW STRUCTURAL SECTIONS: ASTM A 500, GRADE C, STRUCTURAL TUBING.
5. STEEL PIPE: ASTM A 53, TYPE E OR S, GRADE B.
6. HIGH-STRENGTH A325 BOLTS, NUTS, AND WASHERS: ASTM F3125, GRADE A325, TYPE 1, HEAVY-HEX STEEL STRUCTURAL BOLTS; ASTM A563, GRADE DH, HEAVY-HEX CARBON-STEEL NUTS; AND ASTM F436, TYPE 1, HARDENED CARBON-STEEL WASHERS.
a. DIRECT-TENSION INDICATORS: ASTM F959, TYPE 325-1, COMPRESSIBLE-WASHER TYPE.
b. FINISH: PLAIN FINISH, AT EXTERIOR CONDITIONS AND GALVANIZED STEEL, HOT-DIP OR MECHANICALLY DEPOSITED ZINC COATING.
7. HIGH-STRENGTH A490 BOLTS, NUTS, AND WASHERS: ASTM F3125, GRADE A490, TYPE 1, HEAVY-HEX STEEL STRUCTURAL BOLTS; ASTM A563, GRADE DH, HEAVY-HEX CARBON-STEEL NUTS; AND ASTM F436, TYPE 1, HARDENED CARBON-STEEL WASHERS.
a. DIRECT-TENSION INDICATORS: ASTM F959, TYPE 490-1, COMPRESSIBLE-WASHER TYPE.
b. FINISH: PLAIN FINISH, AT EXTERIOR CONDITIONS AND GALVANIZED STEEL, HOT-DIP OR MECHANICALLY DEPOSITED ZINC COATING.
8. TENSION-CONTROL, HIGH-STRENGTH BOLT-NUT-WASHER ASSEMBLIES: ASTM F3125, GRADE F1852, TYPE 1, HEAVY-HEX OR ROUND HEAD ASSEMBLIES, CONSISTING OF STEEL STRUCTURAL BOLTS WITH SPLINED ENDS; ASTM A563, GRADE DH, HEAVY-HEX CARBON-STEEL NUTS; AND ASTM F436, TYPE 1, HARDENED CARBON-STEEL WASHERS.
a. FINISH: PLAIN FINISH, AT EXTERIOR CONDITIONS AND GALVANIZED STEEL, HOT-DIP OR MECHANICALLY DEPOSITED ZINC COATING.
9. SHEAR CONNECTORS: ASTM A 108, AISI C-1015 THROUGH C-1020 HEADED-STUD TYPE, COLD FINISHED CARBON STEEL; AWS D1.1, TYPE B.
10. UNHEADED ANCHOR RODS: ASTM F1554, GRADE 36.
a. CONFIGURATION: STRAIGHT.
b. NUTS: ASTM A563 HEAVY-HEX CARBON STEEL.
c. PLATE WASHERS: ASTM A36 CARBON STEEL.
d. WASHERS: ASTM F436, TYPE 1, HARDENED CARBON STEEL.
e. FINISH: PLAIN FINISH, AT EXTERIOR CONDITIONS AND GALVANIZED STEEL, HOT-DIP ZINC COATING, ASTM A153, OR MECHANICALLY DEPOSITED ZINC COATING, ASTM B695.
11. THREADED RODS: ASTM A 36.
12. NONMETALLIC, SHRINKAGE-RESISTANT GROUT: ASTM C 1107, FACTORY-PACKAGED, NONMETALLIC AGGREGATE GROUT, NONCORROSIVE AND NONSTAINING, MIXED WITH WATER TO CONSISTENCY SUITABLE FOR APPLICATION AND A 30-MINUTE WORKING TIME.
I. CONNECTIONS:
1. WHERE COMPLETE CONNECTION DESIGN IS NOT INDICATED IN THE STRUCTURAL DRAWINGS, CONNECTIONS SHALL BE COMPLETED BY THE STRUCTURAL STEEL FABRICATOR IN ACCORDANCE WITH DIVISION 05 PERFORMANCE SPECIFICATION REQUIREMENTS.
2. CONNECTIONS SHALL BE DESIGNED AS SNUG-TIGHT CONNECTIONS WITH THREADS IN THE SHEAR PLANE, UNLESS NOTED OTHERWISE. ALL BOLTS NOTED AS PRE-TENSIONED OR SLIP CRITICAL IN THE DRAWINGS SHALL BE TIGHTENED TO THE MINIMUM PRETENSION VALUE SHOWN IN TABLE J3.1 OF THE AISC STEEL MANUAL, USING COMPRESSIBLE-WASHER-TYPE DIRECT TENSION INDICATOR DEVICES OR TENSION-CONTROL, HIGH STRENGTH BOLT-NUT-WASHER ASSEMBLIES.
3. BOLTED CONNECTIONS SHALL CONSIST OF A MINIMUM OF (2) BOLTS. THE MINIMUM CONNECTION LENGTH SHALL NOT BE LESS THAN 0.5x"T", WHERE "T" IS THE DISTANCE BETWEEN WEB TOES OF FILLETS AT THE TOP AND BOTTOM OF THE WEB OF A ROLLED SECTION.

WELDING

A. MINIMUM WELD SIZE SHALL BE 3/16" FILLET WELD UNLESS NOTED OTHERWISE.
B. WELD FILLER METALS SHALL COMPLY WITH AWS REQUIREMENTS FOR THE APPLICABLE WELD PROCESS AND BASE MATERIAL, AND AS FOLLOWS:
1. USE 70 KSI (E70XX) MINIMUM ELECTRODES UNLESS NOTED OTHERWISE.
2. USE 60 KSI (E60XX) ELECTRODES FOR WELDING AT COLD FORMED STEEL FRAMING, AND FOR PUDDLE WELDS OF COMPOSITE DECK, ROOF DECK AND NON-COMPOSITE DECK TO SUPPORTS WHEN DECK THICKNESS IS 22 GAGE OR GREATER.
3. USE 70 KSI (E70XX) ELECTRODES FOR PUDDLE WELDS OF COMPOSITE DECK, ROOF DECK AND NON-COMPOSITE DECK TO SUPPORTS WHEN DECK THICKNESS IS LESS THAN 22 GAGE AND WELDS ARE MADE THROUGH WELD WASHERS.
4. USE 80 KSI (E80XX) ELECTRODES FOR WELDING A706 REINFORCING STEEL.
C. FIELD WELDING SHALL BE SHOWN ON SHOP DRAWINGS AND ERECTION DRAWINGS.
D. REFER TO ARCHITECTURAL DOCUMENTS FOR EXPOSED STEEL AND JOINT LOCATIONS AND REQUIREMENTS. ALL EXPOSED WELDED CONNECTIONS SHALL BE GROUND SMOOTH AND SUBJECT TO ARCHITECT APPROVAL. FABRICATOR SHALL ALTER JOINT DETAILING AS REQUIRED TO ENSURE THAT EFFECTIVE THROAT SPECIFIED IN WELD DETAIL IS MAINTAINED AFTER GRINDING OF WELD SURFACE.
E. WELDS INDICATED IN STRUCTURAL DETAILS ARE INTENDED AS THE BASIS OF DESIGN. FABRICATOR AND ERECTOR HAVE THE OPTION TO PROPOSE THE USE OF ALTERNATIVE WELDING PROCEDURES. ALTERNATIVE WELDS SHALL BE INDICATED ON SHOP DRAWINGS FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD.
F. REINFORCING STEEL WELDING SHALL CONFORM TO AWS D1.4, STRUCTURAL WELDING CODE - REINFORCING STEEL BY AMERICAN WELDING SOCIETY FOR COMPLIANCE WITH ACI 318-25, SECTION 26.6.4.2 (A)

COLD-FORMED STEEL FRAMING (STUDS AND JOISTS)

A. ALL COLD-FORMED STEEL FRAMING WORK SHALL BE IN ACCORDANCE WITH DIVISION 05 SPECIFICATIONS.
B. ISOLATION OF NON-LOAD-BEARING FRAMING FROM BUILDING STRUCTURE TO PREVENT TRANSFER OF VERTICAL LOADS SHALL ALLOW FOR A MINIMUM OF 1" MOVEMENT FROM LIVE LOAD.
C. SEE ARCHITECTURAL DRAWINGS FOR NON-LOAD BEARING WALLS AND TO VERIFY ALL DIMENSIONS SHOWN FOR LOAD BEARING WALLS.

METAL FABRICATION

A. ALL METAL FABRICATION WORK SHALL BE IN ACCORDANCE WITH DIVISION 05 SPECIFICATIONS.

HOT-DIP GALVANIZED STRUCTURAL STEEL

A. ALL HOT-DIP GALVANIZATION WORK SHALL BE IN ACCORDANCE WITH DIVISION 05 SPECIFICATIONS.
B. ALL BOLTS USED FOR CONNECTIONS AT GALVANIZED STEEL MEMBERS SHALL BE GALVANIZED PER STANDARDS NOTED.
C. REFER TO ASTM A-143, A-384 AND D-6386 FOR ADDITIONAL STANDARD PRACTICES RELATED TO SPECIAL CONDITIONS FOR HOT-DIP GALVANIZING.
D. GALVANIZED FAYING SURFACES AT SLIP CRITICAL CONNECTIONS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A-123 AND SHALL BE ROUGHENED BY MEANS OF HAND WIRE BRUSHING. POWER WIRE BRUSHING IS NOT PERMITTED.

STEEL JOIST FRAMING

A. ALL STRUCTURAL STEEL JOIST AND JOIST GIRDER WORK SHALL BE IN ACCORDANCE WITH DIVISION 05 SPECIFICATIONS.
B. JOISTS SHALL BE EQUALLY SPACED BETWEEN COLUMN LINES OR OTHER SPECIFICALLY LOCATED FRAMING MEMBERS UNLESS NOTED OTHERWISE.
C. HORIZONTAL AND DIAGONAL BRIDGING IS REQUIRED AND SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH SJI STANDARD SPECIFICATIONS.
D. STEEL JOIST FRAMING SHALL BE DESIGNED FOR WIND NET UPLIFT:
1. ROOF JOISTS: C&C NET UPLIFT = 15 PSF (ASD); MWFRS NET UPLIFT = 6 PSF (ASD).
E. JOIST DESIGN SHALL ACCOUNT FOR LATERAL STABILITY OF THE JOIST TOP CHORD UNDER FULL DESIGN LOADS AT CONDITIONS WHERE A STRUCTURAL STEEL ROOF DECK IS NOT DIRECTLY ATTACHED TO THE TOP CHORD, INCLUDING BUT NOT LIMITED TO AREAS WHERE JOISTS PASS THROUGH OPENINGS AND JOISTS SUPPORTING STANDING SEAM ROOFING.

COMPOSITE STEEL FLOOR DECK

A. ALL COMPOSITE STEEL FLOOR DECK WORK SHALL BE IN ACCORDANCE WITH DIVISION 05 SPECIFICATIONS.
B. STEEL COMPOSITE DECK SHALL BE ASTM A653 GALVANIZED G60, WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI, UNLESS NOTED OTHERWISE.
C. DECK SHALL BE SUPPORTED BY A MINIMUM OF FOUR SUPPORT LOCATIONS (THREE SPAN CONDITION).
D. COMPOSITE STEEL FLOOR DECK SHALL BE ATTACHED TO THE SUPPORTS WITH 5/8" DIAMETER PUDDLE WELDS. WHEN DECK THICKNESS IS LESS THAN 0.028 INCHES, WELDS SHALL BE MADE THROUGH MIN. 16 GAUGE WELDING WASHERS. SPACING OF WELDS SHALL BE AS FOLLOWS:
1. AT BUTTED ENDS: AT 12" OC
2. AT PERIMETER/EDGES OF BUILDING: AT 12" OC
3. INTERMEDIATE SUPPORTS: AT 12" OC
4. SIDE LAPS: AT MID-SPAN OR AT 3'-0" OC, WHICHEVER IS SMALLER. HEX HEAD SCREWS SIZE #10 OR CRIMPING (BUTTON PUNCHING) MAY BE USED AT SIDE LAP CONNECTIONS.

STEEL ROOF DECK

A. ALL STEEL ROOF DECK WORK SHALL BE IN ACCORDANCE WITH DIVISION 05 SPECIFICATIONS
B. ROOF DECK FINISHES SHALL BE AS FOLLOWS:
1. INTERIOR, NOT EXPOSED TO VIEW: ASTM A1008 FACTORY PRIME PAINTED.
2. INTERIOR, EXPOSED TO VIEW: ASTM A1008 FACTORY PRIME PAINTED TO RECEIVE FINISH PAINT. SEE ARCHITECTURAL DRAWINGS FOR EXTENTS.
3. DECK RECEIVING SPRAY APPLIED FIREPROOFING AND/OR CONCRETE TOPPING: ASTM 653 GALVANIZED G60.
4. EXTERIOR EXPOSURE (TOP OR BOTTOM OF DECK EXPOSED TO ELEMENTS): ASTM A653 GALVANIZED G90.
C. MINIMUM YIELD STRENGTH SHALL BE 50,000 PSI, UNLESS NOTED OTHERWISE.
D. DECK SHALL BE SUPPORTED BY A MINIMUM OF FOUR SUPPORT LOCATIONS (THREE SPAN CONDITION).
E. MINIMUM FINAL ROOF SLOPE SHALL BE 1/4" PER 1 FT. WHERE SLOPE IS NOT ACHIEVED BY STEEL STRUCTURE, CREATE IT WITH INSULATION ABOVE THE DECK (SEE ARCHITECTURAL DRAWINGS).
F. STEEL ROOF DECK SHALL BE ATTACHED TO STEEL SUPPORTS WITH 5/8" DIAMETER PUDDLE WELDS AND TO COLD FORMED STEEL FRAMING WITH #12 HEX HEAD SCREWS. WHEN DECK THICKNESS IS LESS THAN 0.028 INCHES, WELDS MUST BE MADE THROUGH MIN. 16 GAUGE WELDING WASHERS. SPACING OF WELDS SHALL BE AS FOLLOWS
1. AT PERIMETER/EDGES OF BUILDING: AT 36/4 PATTERN
2. INTERMEDIATE SUPPORTS: AT 36/4 PATTERN
3. SIDE LAPS: PROVIDE 3 CONNECTIONS PER SPAN. HEX HEAD SCREWS SIZE #10 SHALL BE USED AT SIDE LAP CONNECTIONS.

COMPOSITE STEEL FLOOR SYSTEM

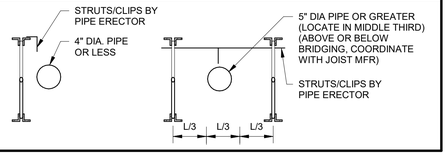
A. STEEL HEADED STUD ANCHORS (SHEAR CONNECTORS / SHEAR STUDS) SHALL BE TYPE B AND CONFORM TO AWS D1.1 AND ASTM A108 SPECIFICATIONS FOR 1010 THROUGH 1020 MILD STEELS. MINIMUM TENSILE STRENGTH= 65,000 PSI.
B. WHERE COMPOSITE BEAM DESIGNATION OCCURS ON FRAMING PLAN THROUGH THE CALLING OUT OF A NUMBER OF REQUIRED STEEL HEADED STUD ANCHORS, FLOOR AND BEAM ARE DESIGNED TO ACT COMPOSITE BY USE OF SHEAR STUDS ON TOP BEAM FLANGE.
1. SEE DISTRIBUTED STEEL HEADED STUD ANCHOR PLACEMENT DETAIL FOR PLACEMENT REQUIREMENTS.
2. IF LONGITUDINAL HEADED STUD ANCHOR SPACING EXCEEDS 12", ATTACH DECK TO SUPPORT WITH PUDDLE WELDS BETWEEN STUDS.
C. ALL STEEL HEADED STUD ANCHORS SHALL BE 3/4" DIAMETER x (FLUTE HT. + 1 1/2") AFTER WELDING, UNLESS OTHERWISE NOTED.
1. MINIMUM CLEARANCE FROM TOP OF STUD TO TOP OF SLAB IS 1".
D. MAINTAIN INDICATED MINIMUM SLAB THICKNESS OVER BEAMS THROUGHOUT SPAN. ELEVATED SLAB SHALL BE PLACED WITH MINIMUM THICKNESS THROUGHOUT WITH NO MORE THAN 1/2" OF ADDITIONAL THICKNESS IN ANY LOCATION TO HELP WITH THE LEVELING OF THE SLAB.

WATER PIPING SUPPORT SCHEDULE

PIPE DIA (IN)	PIPE WEIGHT (LB/FT)	PIPE SUPPORT SPACING (MAX) (FT)
2 1/2	6.0	12
3	8.5	12
4	12.0	12
5	17.5	12
6	23.5	6
8	37.5	6

NOTES:

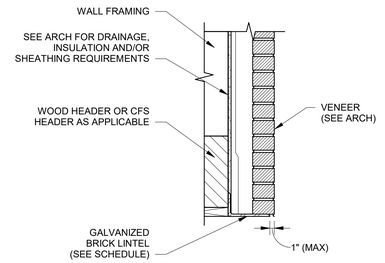
1. PIPES IN TABLE ARE SCHEDULE 10 TYPE. ESFR MANUFACTURER TO SUBMIT DOCUMENTATION FOR ALTERNATIVE PIPING NOT NOTED.
2. PIPE WEIGHT INCLUDES: PIPE + INSULATION + WATER
3. EXACT PIPE LOCATIONS TO BE COORDINATED WITH MECHANICAL DRAWINGS.
4. PIPES RUNNING PARALLEL TO JOISTS WITH DIAMETER GREATER THAN 4" SHALL BE TRAPEZZED BETWEEN (2)-JOISTS AND SUPPORTED IN THE MIDDLE THIRD OF THE JOIST SPACING. PIPES RUNNING PERPENDICULAR GREATER THAN 4" IN DIAMETER SHALL BE SUPPORTED FROM EACH JOIST.
5. MEMBER SIZES ON PLANS HAVE BEEN ADJUSTED TO SUPPORT WATER PIPING LOADS IN THIS TABLE.
6. ANY PIPE OR COMBINATION OF PIPES WITH TOTAL DIAMETERS GREATER THAN 8" SHALL BE HUNG PER THE DIRECTION OF THE ARCHITECT - NOTIFY ARCHITECT PRIOR TO PROCEEDING WITH WORK.
7. NO PIPING SHALL RUN BELOW THE BOTTOM CHORD OF THE BAR JOIST.



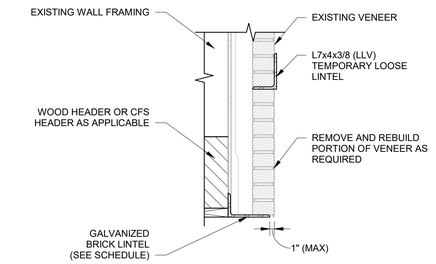
BRICK/4" CMU VENEER LINTEL SCHEDULE (FLUSH TO STUD)

SPAN (OPENING)	LINTEL SIZE
≤ 3'-8"	L7 x 4 x 3/8 (LLH)
> 3'-8", ≤ 6'-4"	L7 x 4 x 3/8 (LLH)
> 6'-4", ≤ 11'-4"	BENT PLATE 7" x 7" x 3/8"

DETAILS:



NEW BRICK VENEER



NEW OPENING IN EXISTING BRICK VENEER

NOTES:

1. PROVIDE 4" BEARING MINIMUM AT EACH END OF LINTEL ANGLES.

BROWN AND CALDWELL
900 HAMMOND DRIVE, SUITE 500
ATLANTA, GA 30328

wendel

THIS DRAWING IS NOT VALID FOR CONSTRUCTION PURPOSES UNLESS IT BEARS THE SEAL AND SIGNATURE OF A DULY REGISTERED PROFESSIONAL

CONSTRUCTION DOCUMENTS

NCWSA NEWTON COUNTY WATER & SEWERAGE AUTHORITY

NCWSA OFFICE ADDITION

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: ARB
DRAWN: ALK
CHECKED: CAF
CHECKED:
APPROVED:

FILENAME

BC PROJECT NUMBER 616202
CLIENT PROJECT NUMBER

STEEL GENERAL NOTES & SCHEDULES

DRAWING NUMBER
S005

Plot Date: 4/27/2026 6:47:31 PM Path: Autodesk Docs://NCWSA Admin Bldg_V25/0250683-NCWSA Office Addition-R25-STRUCT.rvt