

STRUCTURAL GENERAL NOTES

GENERAL

- Design is in accordance with the 2006 International Building Code.

DESIGN LIVE LOADS

Basic Wind Speed: 90 MPH
 Snow Load: 25 PSF
 Hoist Capacity: 10 TON
 Floor Slabs (Other than Supported on Fill) 400 PSF
 Equivalent Fluid Pressure 110 PSF (Undrained)
 55 PSF (Drained)
 Allowable Soil Bearing Pressure 3,000 PSF

DESIGN STRESS

Concrete $f'c = 4,000$ psi
 Reinforcing $fy = 60,000$ psi
 Concrete Block $f'm = 1,350$ psi
 Masonry Mortar $Mo = 1,800$ psi
 Masonry Grout $f'c = 3,000$ psi
 Structural Steel $fy = 36,000$ psi
 Structural Tube $fy = 46,000$ psi

EXCAVATION AND BACKFILL

- For dewatering, excavation and backfill see Geotechnical Report and Specifications.
- All excavation for structures shall be kept dewatered until backfill is in place and the maximum weight of water displaced by the structure is less than 85 percent of the up-lift resisting capacity of dead weight of the structure and backfill. Contractor shall submit up-lift calculations to the Engineer for approval prior to stopping dewatering.
- Backfill simultaneously on opposite sides of each structure. Do not backfill before slabs and beams at floor levels are cured in accordance with the specifications and cantilever action of walls is eliminated.
- Where foundation is over excavated, remove all disturbed foundation soil and replace with lean concrete or well compacted granular fill.
- Over excavate unsuitable foundation soil where required by the Engineer and replace with compacted granular fill or lean concrete. See specifications.
- Special measures shall be taken when using heavy equipment to backfill and compact close to structures to avoid high lateral earth pressure on walls. Any damage shall be repaired at no additional cost to the owner.

SOIL BORINGS

- There is a Geotechnical engineering Report available from Geo Source, dated March 10, 2009. The Contractor shall read this report and follow it's instructions.

CAST IN PLACE CONCRETE

- Concrete construction shall conform to building code requirements for reinforced concrete (ACI 318), with the latest interim specifications.
- Provide Class "A" concrete ($f'c = 4000$ psi @ 28 days) for all cast in place concrete except where noted otherwise.
- Reinforcing Steel: ASTM A-615 Grade 60
 Welded Wire Fabric: ASTM A-185
- Provide bar supports and spacers in accordance with the ACI 315 detailing manual. Extend all slab and beam reinforcement into the support in accordance with ACI Code. If such extensions are not obtainable, the bar shall terminate with a standard hook.
- Unless otherwise shown on the drawings the cover provided for reinforcement shall be as follows:
 Cast against Earth3 inches
 All other locations, unless otherwise noted.....2 inches
- Tolerances on the placing of reinforcing steel shall be in accordance with the specifications.
- Dowels shall be placed before concrete is poured. They shall not be pushed into the concrete.
- Unless otherwise shown reinforcement bar splice laps shall be as follows:
 LAP LENGTHS - INCHES

BAR SIZE	#3	#4	#5	#6	#7	#8
	15	20	25	30	35	40
- Welding of reinforcing bars shall not be permitted unless noted on the plans.
- All exposed edges of concrete shall be chamfered $\frac{3}{4}$ " unless otherwise noted.
- Waterstop shall be provided in all construction joints in all exterior walls, sump pits, and drain pits.
- Unless otherwise shown on drawings water stops shall be 6" with hollow center bulb. PVC is required.
- All construction joints not shown on the drawings are subject to written approval by the Engineer.
- Beams and slabs shall be poured monolithically, so that no horizontal construction joints are provided.
- For Locations of holes, sleeves, openings, recesses, anchor bolts, etc., see architectural, mechanical, electrical, environmental and plumbing drawings and equipment manufacturer's approved shop drawings. See structural drawings for additional reinforcement at all wall openings.

WATERPROOFING

- Bituminous damp proofing shall be required on all exterior concrete walls below grade. See Specifications.

MASONRY

- See specifications for materials.
- See specifications for solid bearing requirements under points of bearing.
- All exterior walls shall meet the requirements for load bearing walls. See Specifications.
- The first two block cores immediately adjacent to each side of an opening shall be grouted full height and each core reinforced with a continuous #6 bar dowelled into the foundation. See architectural drawings for dimensions and location of openings and details of lintels not shown on structural drawings.
- Bond Beam lintels shall bear a minimum of lintel depth on masonry at each end of lintel and shall be reinforced with 2-#5 bars unless otherwise shown.
- All exterior masonry shall be dowelled with vertical bars to the foundation as shown on structural drawings.
- For interconnection of masonry to concrete wall, beams, and columns see specifications and architectural details.
- All concrete used in bond beams and concrete filled voids shall be class "A" Concrete.

GRATING

- See Specifications and typical details.

GUARDRAIL/FENCE

- See specifications and typical details.
- Unless otherwise shown, use $\frac{1}{2}$ " bearing plate with 2- $\frac{5}{8}$ " \emptyset stainless steel adhesive anchors at all post locations, typical.


ANCHOR BOLTS

- All anchor bolts shall be stainless steel or galvanized as shown on the plans.
- All anchor bolts not cast-in-place shall be adhesive anchors

PAINTING

- All structural steel/miscellaneous steel not aluminum, stainless steel or galvanized shall received one prime coat and two finish coats of paint. See Specifications.
- Any damage to finish surfaces in the field shall be touched up equivalent to the surface treatment provided in the shop.

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CITY OF WICHITA, KANSAS		
PUMP STATION NO. 11		
STRUCTURAL		Cook, Flatt & Strobel ENGINEERS, P. A.
STRUCTURAL GENERAL NOTES		
DESIGNED KMB	SCALE As Shown	
DETAILED HAP	DATE 10-30-09	
CHECKED	SHEET S1	OF S17