

GENERAL STRUCTURAL NOTES

- DESIGN LOADS - 2006 INTERNATIONAL BUILDING CODE (IBC)

ROOFS	LIVE LOAD - SNOW INCREASE FOR DRIFT PER 2006 IBC / ASCE 7 BASIC GROUND SNOW LOAD 30 P.S.F.	
ROOFS	DEAD LOAD	20 P.S.F.
WALKWAYS	LIVE LOAD	100 PSF
LATERAL LOAD	WIND	
	BASIC WIND SPEED	90 M.P.H.
	EXPOSURE C	
	IMPORTANCE FACTOR	1.00
SEISMIC	S _s	20%
	S ₁	8%
	OCCUPANCY CATEGORY	II
	SEISMIC DESIGN CATEGORY	B
	IMPORTANCE FACTOR	1.00
MASONRY WALL DEAD LOADS	8" C.M.U.	60 P.S.F.
	4" C.M.U.	35 P.S.F.
ALLOWABLE SOIL BEARING PRESSURE		1000 P.S.F. (NET)
- VERIFY DRAWINGS FOR LOCATION OF ALL OPENINGS IN WALLS AND SLABS.
- ALL ANCHOR BOLTS, NUTS, WASHERS, ETC. SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A-153 UNLESS OTHERWISE NOTED.
- ALL FILL OR BACKFILL WITHIN THE LIMITS OF A BUILDING OR A STRUCTURE SHALL BE COMPACTED ACCORDING TO THE SPECIFICATIONS.
- ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE SHALL BE COATED WITH UNTHINNED BITUMASTIC PAINT. ALL ALUMINUM SURFACES IN CONTACT WITH STEEL OR DISSIMILAR METAL SHALL BE ISOLATED BY 1/4" MIN. THICKNESS 60 DUROMETER NEOPRENE PADS.
- CONTRACTOR SHALL COORDINATE STRUCTURAL SHEETS WITH ALL OTHER SHEETS FOR PIPE SIZES AND LOCATIONS, BLOCK OUTS, ELECTRICAL REQUIREMENTS AND ANCHOR BOLTED ATTACHMENTS, AND SHALL COORDINATE THE INSTALLATION OF ELECTRICAL AND MECHANICAL EQUIPMENT WITH THE RESPECTIVE SUB-CONTRACTORS PRIOR TO THE REPLACEMENT OF THE CONCRETE. SEE HVAC, MECHANICAL, AND ELECTRICAL PLANS FOR SLEEVES, INSERTS, ETC.
- CONTRACTOR IS RESPONSIBLE FOR ADEQUACY OF TEMPORARY SHORING, TO RESIST ALL LOADING CONDITIONS DURING CONSTRUCTION.
- SHORING FOR ROOF AND FLOOR SLABS SHALL BE REMOVED IN SUCH A MANNER AS TO MAINTAIN A UNIFORM LOADING ON THE SLAB AT ALL TIMES. REMOVAL OF SHORING SHALL NOT BEGIN UNTIL THE CONCRETE HAS ATTAINED ITS SPECIFIED STRENGTH.
- UNLESS SPECIFICALLY DETAILED HEREIN, NO PIPES OR SLEEVES SHALL PASS THROUGH STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE ENGINEER.
- ALL FOOTING EXCAVATIONS SHALL BE CLEAN AND FREE OF DEBRIS, STANDING WATER AND LOOSE SOIL AND SHALL BE INSPECTED BY THE ENGINEER PRIOR TO PLACEMENT OF CONCRETE.
- IN STRUCTURAL AREAS (WHERE STRUCTURES DERIVE SOME OR ALL SUPPORT FROM FILL-SUPPORTED FOUNDATIONS) AND SLABS-ON-GRADE, FILL SHALL BE COMPACTED TO 98 PERCENT OF STD. PROCTOR MAXIMUM DRY DENSITY (ASTM D-698), UNLESS OTHERWISE SPECIFIED.
- PROTECT SUBGRADE AT ALL TIMES INCLUDING PROPER DRAINAGE OF CONSTRUCTION AREAS, PREVENTION OF STANDING WATER, MINIMIZING CONSTRUCTION TRAFFIC AND PLACING FOUNDATION CONCRETE AS SOON AS POSSIBLE AFTER EXCAVATING (PREFERABLY THE SAME DAY). SUBGRADE PROTECTION IS IMPORTANT CONSIDERING THE NATURE OF THE ON-SITE SOILS.
- ALL FILL MATERIAL SHALL BE ACCEPTABLE TO USE BY THE ENGINEER IN ADVANCE OF PLACEMENT. NO FILL SHALL BE PLACED OVER FROZEN, MUDDY OR OTHER DELETERIOUS MATERIAL. LIFT THICKNESS SHALL BE MINIMIZED TO ALLOW EFFICIENT COMPACTION. NO FILL MAY BE PLACED OVER A PREVIOUS LIFT THAT HAS NOT BEEN ADEQUATELY COMPACTIONED AND HAS NOT BEEN ACCEPTED BY THE ENGINEER. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- BACKFILL AGAINST GRADE WALLS SHALL BE PLACED EVENLY ON ALL SIDES, UNLESS OTHERWISE NOTED.
- DO NOT SCALE DIMENSIONS FOR CONSTRUCTION.

CONCRETE NOTES

- ALL CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I.
- ALL REINFORCEMENT BARS SHALL CONFORM TO ASTM-A615, GRADE 60.
- ALL WELDED WIRE REINFORCEMENT SHALL CONFORM TO ASTM-A185. (FLAT STOCK ONLY)
- ALL CONCRETE WORK SHALL CONFORM TO ACI 318-05 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE." ALL REINFORCING DETAILS NOT SHOWN SHALL CONFORM TO ACI 315 "DETAILING MANUAL," LATEST EDITION.
- REINFORCING BAR LAP SPLICES SHALL BE CLASS "B" SPLICES UNLESS SHOWN OTHERWISE ON THE DRAWINGS. MECHANICAL SPLICES MAY BE USED IN LIEU OF LAP SPLICES. MECHANICAL SPLICES SHALL DEVELOP IN TENSION OR COMPRESSION, AT LEAST 125 PERCENT OF THE SPECIFIED YIELD STRENGTH, F_y OF THE BAR. THE CONTRACTOR SHALL SUBMIT, TO THE ENGINEER, MANUFACTURER'S LITERATURE, PRODUCT SAMPLES AND CERTIFIED TEST REPORTS PRIOR TO RECEIVING APPROVAL OF THE MECHANICAL SPLICES. LOCATIONS OF THE MECHANICAL BAR SPLICES SHALL BE SHOWN ON THE REINFORCING STEEL SHOP DRAWINGS.
- AT CONSTRUCTION JOINTS SHOWN ON THE PLANS, WHERE DOWELS WILL PENETRATE CONSTRUCTION FORMWORK, THE CONTRACTOR MAY USE A MANUFACTURED DOWEL BAR SUBSTITUTION SYSTEM WHEN APPROVED IN WRITING BY THE ENGINEER. THE CONTRACTOR SHALL SUBMIT MANUFACTURER'S LITERATURE, PRODUCT SAMPLES AND CERTIFIED TEST REPORTS TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL ALSO INCLUDE INFORMATION ON WHERE HE PROPOSES TO USE THEM. TEST REPORTS SHALL SHOW YIELD AND ULTIMATE TENSILE LOAD CAPACITIES.
- CONCRETE PROTECTION (MINIMUM CONCRETE COVER) FOR REINFORCEMENT SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED: A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3" B. CONCRETE EXPOSED TO EARTH OR WEATHER 2" C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND 3/4" 1. WALLS, BEAMS, COLUMNS, PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS 1-1/2"
- ALL REINFORCEMENT BARS SHALL BE CLEAN AND FREE OF GREASE, SCALING RUST, AND OTHER FOREIGN MATERIALS.
- UNLESS OTHERWISE INDICATED, FOR SLABS ON GRADE, USE 1/2" THICK PREMOLDED JOINT FILLER TO ISLOATE THE SLAB FROM CONTACT WITH THE STRUCTURES ALONG ITS PERIMETER AND APPLY TWO-COMPONENT POLYURETHANE SEALANT, 3/4" MINIMUM DEPTH.
- A LEAN CONCRETE MUD SLAB 3 TO 4 INCHES THICK SHALL BE USED IN THE FOOTING EXCAVATION IF THE BOTTOM OF THE EXCAVATION TENDS TO BECOME MUDDY AND SOFT. LEAN CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,000 P.S.I.
- ALL EXPOSED EDGES AND EQUIPMENT PADS SHALL BE CHAMFERED 3/4".
- TWO #5 BARS EACH FACE SHALL BE PROVIDED DIAGONALLY AT ALL CORNERS OF SLAB OR WALL OPENING. BARS SHALL BE EXTENDED 24 IN. MINIMUM BEYOND CORNERS OF THE OPENINGS.
- REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
- UNLESS NOTED OTHERWISE, PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLABS-ON-GRADE AT 15'-0" MAXIMUM SPACES EACH DIRECTION OR AS SHOWN ON DRAWINGS. CONTROL JOINTS TO BE SAW CUT 1 1/2" DEEP IN SLAB OR USE A PREFORMED CONTROL JOINT FORMER APPROVED BY THE ENGINEER.
- NO CONSTRUCTION JOINTS EXCEPT THOSE SHOWN ON THE PLANS WILL BE ALLOWED EXCEPT THOSE SUBMITTED BY THE CONTRACTOR IN WRITING AND APPROVED BY THE ENGINEER.
- EXPOSED CONCRETE SHALL RECEIVE A SCRUBBED FINISH TO 1'-0" MINIMUM BELOW FINISH GRADE. SEE SECTION 03300 OF SPECIFICATIONS FOR FINISHING REQUIREMENTS.

*CLASS "B" SPLICE				
f'c = 4,000 PSI fy = 60,000 PSI				
UNCOATED BARS		EPOXY COATED BARS		
SIZE	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS
#3	1'-7"	2'-1"	1'-11"	2'-5"
#4	2'-1"	2'-9"	2'-6"	3'-3"
#5	2'-7"	3'-5"	3'-1"	4'-1"
#6	3'-1"	4'-1"	3'-9"	4'-10"
#7	4'-6"	5'-11"	5'-5"	7'-1"
#8	5'-2"	6'-9"	6'-2"	8'-1"
#9	5'-10"	7'-7"	7'-0"	9'-1"
#10	6'-6"	8'-5"	7'-9"	10'-1"
#11	7'-1"	9'-3"	8'-6"	11'-1"
#14	9'-0"	11'-9"	10'-10"	14'-1"

NOTE: TOP BARS CONSIST OF HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE SPLICE.

PER ACI 318-05 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE. *

MASONRY NOTES

- ALL CONCRETE MASONRY UNITS SHALL BE GRADE N-1.
- ALL GROUT FOR MASONRY SHALL BE NON-SHRINK AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 P.S.I.
- ALL MASONRY CELLS WITH VERTICAL REINFORCEMENT SHALL BE GROUTED SOLID.
- ALL LINTEL BEARINGS SHALL BE GROUTED SOLID TO FOUNDATION AND SHALL CONTAIN 1 - #5 BAR FULL HEIGHT. LINTEL BEARING PLATES SHALL BE FULLY GROUTED WITH 1/2" MIN. THICKNESS NON-SHRINK GROUT.
- ANCHOR BOLTS SHALL BE PROVIDED AT ALL LINTEL MASONRY BEARINGS.
- CONCRETE MASONRY UNITS SHALL HAVE TWO CELLS AS SPECIFIED IN DIVISION (4) OF THE SPECIFICATIONS.
- MORTAR SHALL BE TYPE "S" WITH A MINIMUM COMPRESSIVE STRENGTH OF 1800 P.S.I. AT 28 DAYS.
- UNITS SHALL BE PLACED IN RUNNING BOND, UNLESS OTHERWISE NOTED.
- MASONRY CONSTRUCTION TO CONFORM TO THE REQUIREMENTS OF THE 2006 INTERNATIONAL BUILDING CODE AND ACI 530 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
- HORIZONTAL JOINT REINFORCEMENT IN MASONRY SHALL BE PLACED IN THE FIRST THREE MORTAR JOINTS ABOVE LINTELS AND BELOW OPENINGS. EXTEND THE REINFORCEMENT AT LEAST 24" PAST JAMBS. IN ADDITION, PROVIDE WIRE TIES ALTERNATING WITH REINFORCEMENT @ 16" CENTERS VERTICALLY AND WITHIN 12" OF OPENING JAMBS.
- REINFORCEMENT SHALL BE AS CALLED FOR ON THE DRAWINGS. ALL REINFORCEMENT BARS SHALL CONFORM TO ASTM - A615 GRADE 60.
- MASONRY DESIGN BASED ON INSPECTED WORKMANSHIP F'm = 1500 PSI.

STEEL JOIST NOTES

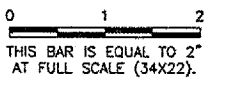
- THE MANUFACTURING, DETAILING AND ERECTING OF STEEL JOISTS SHALL BE ACCORDANCE WITH THE STEEL JOIST INSTITUTE (SJI). JOISTS SHALL BE IN ACCORDANCE WITH SJI K SERIES SPECIFICATIONS.
- JOIST BEARING SHALL BE STANDARD SJI BEARINGS UNLESS SHOWN OTHERWISE ON DRAWINGS.
- JOIST BRIDGING SHALL BE STANDARD SJI BRIDGING UNLESS SHOWN OTHERWISE ON DRAWINGS.
- BEARING CONNECTIONS SHALL BE DESIGNED TO RESIST A MINIMUM OF 1.0 KIPS LATERAL LOADS AND 2.0 KIPS VERTICAL UPLIFT LOADS FOR EACH BEARING.
- JOIST SPACING AND LAYOUT SHALL BE AS INDICTED ON THE DRAWINGS.

METAL DECK NOTES

- THE MANUFACTURING, DETAILING AND ERECTING OF METAL DECK SHALL BE ACCORDANCE WITH THE STEEL DECK INSTITUTE SPECIFICATION. STRUCTURAL DIAPHRAGM ACTION SHALL BE PROVIDED BY THE METAL DECK AND ITS WELDED ATTACHMENT.
- METAL DECK SHALL BE CONTINUOUS OVER AT LEAST 2 SPANS WITH JOINTS OVER SUPPORTING MEMBERS.

REVISIONS

NUMBER	BY	DATE



VERMILION COUNTY AIRPORT
DANVILLE, ILLINOIS

RELOCATE AIRFIELD ELECTRICAL VAULT
GENERAL STRUCTURAL NOTES

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