



M.E. RINKER, Sr. HALL

SCHOOL OF BUILDING CONSTRUCTION

UNIVERSITY OF FLORIDA-GAINESVILLE
PROJECT NO. BR-191

GENERAL NOTES

1. DESIGN CRITERIA

- A. GENERAL BUILDING CODE

The Contract Documents are based on the requirements of the:

 1. Standard Building Code, 1997 edition.
- B. DEAD LOADS
 1. Partitions. An allowance of 20 PSF has been made for partitions as a uniformly distributed dead load.
 2. Hanging Ceiling and Mechanical Loads. An allowance of 10 PSF has been made for hanging ceiling and mechanical equipment loads such as duct work and sprinkler pipes.

- C. LIVE LOADS
 1. Design live loads are based on the more restrictive of the uniform load listed below or the concentrated load listed acting over an area 2.5 feet square.

CATEGORY	UNIFORM LOAD (PSF)	CONCENTRATED LOAD (LB)
1. Roof	20	N/A
2. Elevated Floors	50	0
3. Terraces, Lobbies	100	0
4. Stairways, Exit Facilities	100	0
5. Elevator Machine Room	100	Assumed Ecp. Wt.
6. Mechanical Rooms, typical	150	Assumed Ecp. Wt.

- NOTES:
1. Live Load Reduction. Live loads have been reduced on any member supporting more than 150 square feet, including flat slabs, except for floors in places of public assembly and for live loads greater than 100 pounds per square foot in accordance with the following formula:

$$R = r(A-150)$$

The reduction, R , shall not exceed 40 percent for members supporting one level only, 60 percent for other members, or R as calculated in the following formula:

$$R = 23.1 (1 + \frac{D}{L})$$

R = Reduction in percent.
 r = Rate of reduction equal to .08 percent for floors.
 A = Area of floor supported by the member.
 D = Total dead load supported by the member.
 L = Total, unreduced, live load supported by the member.

2. For storage loads exceeding 100 pounds per square foot, no reduction has been made, except that design live loads on columns have been reduced 20 percent.

- D. ELEVATOR LOADS

Machine Beam, Car Buffer, Counterweight Buffer, and Guide Rail Loads. Assumed elevator loads to the supporting structure are shown on the drawings, including machine beam reactions, car buffer reactions, counterweight buffer reactions and horizontal and vertical guide rail loads. The General Contractor shall submit to the Structural Engineer final elevator shop drawings showing all loads to the structure prior to the installation of the elevators for verification of load carrying capacity.

- E. MECHANICAL EQUIPMENT LOADS

The General Contractor shall submit actual weights of equipment to be used in the project to the Structural Engineer for verification of loads used in the design at least three weeks prior to fabrication and construction of the supporting structure.

- F. WIND LOADS
 1. Wind pressures are based on the American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures, ASCE 7-98 with a Wind Speed = 110 MPH (3 sec. gust), Exposure C, Importance Factor 1.15.
 2. Wind pressures used in the design of the cladding are shown on these Drawings.

II. FOUNDATION

- A. GEOTECHNICAL REPORT

Foundation design is based on the geotechnical investigation results as follows:

 1. Reports of Geotechnical exploration, M.E. Rinker Sr. Hall (Revised Location) Near the southeast corner of Newell Drive and Inner Road, Gainesville, Alachua County, Florida. Low Engineering and Environmental Services, Inc. January 2, 2001.

The geotechnical report is available to the General Contractor upon request to the Owner. The information included therein may be used by the General Contractor for his general information only. The Architect and Engineer will not be responsible for the accuracy or applicability of such data therein.

B. FOUNDATION TYPE

1. Spread Footing.
 - a. Design Pressures:
 1. All footings have been designed assuming an allowable bearing pressure of 4000 PSF.
 - Allowable pressures are increased 33% for combined gravity and wind loads.

C. SLAB-ON-GRADE

Reinforced concrete guidelines are being followed on this project. The details and specifications for slab-on-grade construction must be adhered to without deviation. Slab-on-Grade shall be immediately underlain by a 6 mil. vapor barrier. Seams shall be lapped 12 inches and sealed with 2" wide pressure sensitive vinyl tape. All penetrations shall be sealed with tape.

- D. CONSTRUCTION Dewatering

The Contractor shall determine the extent of construction dewatering required for the excavation. The Contractor shall submit to the Geotechnical Engineer for review the proposed plan for construction dewatering, prior to beginning the excavation.

III. REINFORCED CONCRETE

- A. CLASSES OF CONCRETE

All concrete shall conform to the requirements as specified in the table below unless noted otherwise on the drawings:

	28 Day Comp.	Max Strength	Conc	Size	W/C
Usage	(PSI)	Type	Agg.	Ratio	
1. Elevated Floors	4000	NWT	3/4"	0.48	
2. Spread Footings	3000	NWT	1"	0.55	
3. Slab-On-Grade	4000	NWT	1"	0.48	
4. Fin Walls & Plinths	4000	NWT	1"	0.48	

All concrete shall be proportioned for a maximum allowable unit shrinkage of 0.03% measured at 28 days after curing in limewater as determined by ASTM C 157 (using air storage).

- B. HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS

There shall be no horizontal construction joints in any concrete pours unless shown on the drawings. The Architect/Engineer shall approve all deviations or additional joints in writing.

C. REINFORCING STEEL SPECIFICATION

1. All Reinforcing Steel shall be ASTM A615 Grade 60 unless noted otherwise on the drawings or in these notes.
2. Welded Reinforcing Steel. Provide reinforcing steel conforming to ASTM A706 for all reinforcing steel required to be welded and where noted on the drawings.
3. Galvanized Reinforcing Steel. Provide reinforcing steel galvanized according to ASTM A767 Class II (2.0 oz zinc PSF) where noted on the drawings.
4. Deformed Bar Anchors. ASTM A496 minimum yield strength 70,000 PSI as noted on the drawings. Reinforcing bars shall not be substituted for deformed bar anchors.
5. Welded Wire Fabric. Welded smooth wire fabric, ASTM A 183, yield strength 65,000 PSI where noted on the drawings. Welded deformed wire fabric for, ASTM A 497, yield strength 70,000 PSI where noted on the drawings.

- D. PLACEMENT OF WELDED WIRE FABRIC

Wherever welded wire fabric is specified as reinforcement it shall be continuous across the entire concrete surface and not interrupted by beams or girders and properly lapped one cross wire spacing plus 2".

- E. REINFORCEMENT IN TOPPING SLABS

Provide welded smooth wire fabric minimum 6 x 6 W.2.9 x W.2.9 in all topping slabs unless specified otherwise on the drawings.

- F. REINFORCEMENT IN HOUSEKEEPING PADS

Provide welded smooth wire fabric 6 x 6 W.2.9 x W.2.9 minimum in all housekeeping pads supporting mechanical equipment whether shown on the drawings or not, unless heavier reinforcement is called for on the drawings.

G. REINFORCING STEEL COVERAGE

Concrete Cover for reinforcement layer nearest to the surface unless specified otherwise on the drawings.

1. Concrete surfaces cast against and permanently exposed to earth. 3 inches
2. Concrete surfaces exposed to earth or weather or where noted on the drawings. 2 inches.
3. Concrete surfaces not exposed to weather or in contact with the ground. #3 to #11 bars 1 inch

H. SPLICES IN REINFORCING STEEL

1. All unscheduled splices shall be Class A tension splice.

IV. STRUCTURAL STEEL

A. MATERIAL

1. Hot Rolled Structural Members. All hot rolled steel plates, shapes, sheet piling, and bars shall be new steel conforming to ASTM Specification A6-98a.

2. ASTM Specification and Grade. Clearly mark the grade of steel on each piece, with a distinguishing mark visible from floor surfaces, for the purpose of field inspection of proper grade of steel. Unless noted otherwise on the drawings, structural steel shall be as follows:

3. Wide-Flange Beams. All wide-flange beams and wide shapes shall conform to ASTM A992. ASTM A572, Grade 50 is acceptable as a substitute for A992.

4. Channel Beams. All channels used as beams shall conform to ASTM A572, Grade 50.

5. Channel Girts. All channels used as wind girts shall conform to ASTM A36.

6. Edge Angles and Bent Plates. All edge angles and plates and bent plates and girts shall conform to ASTM A36.

7. Wide-Flange Columns. All wide-flange columns shall conform to ASTM A992. ASTM A572, Grade 50 is acceptable as a substitute for A992 unless noted otherwise on the drawings.

8. Pipes. All pipes shall conform to ASTM A500, Grade B (Fy=42 ksi).

9. Hollow Structural Shape. Square or rectangular HSS used shall conform to ASTM A36, Grade B (Fy=46 ksi).

10. Bolts. All bolts and nuts shall conform to ASTM A572 Grade 50.

11. Connection Material.

All connection materials, except as noted otherwise herein or on the drawings,

including bearing plates, gusset plates, stiffener plates, flange plates, angles, etc. shall conform to ASTM A36 unless a higher grade of steel is required by strength and provided the resulting sizes are compatible with the connected members.

Other Steel. Any other steel not indicated otherwise shall conform to ASTM A992 or ASTM A572-50 except plates and angles which shall be ASTM A36.

B. CONNECTIONS

1. Connection details not completely detailed on the drawings, including material and sizes, weld sizes, and number of bolts shall be designed by the Contractor per the specifications.

2. Refer to the specifications for additional requirements.

3. Reactions noted on the plans are based on factored loads and are intended for use with the Load and Resistance Factor design method.

C. STRUCTURAL BOLTS AND THREADED FASTENERS

1. A325 Bolts. All bolts in structural connections shall conform to ASTM A325 Type 1, unless indicated otherwise on the drawings.

2. A490 Bolts. See drawings for locations requiring A490 Type 1 bolts.

3. Threaded Round Stock. Threaded rods shall conform to:
 - a. ASTM A572 Grade 50 (to 2 inches in diameter).
 - b. ASTM A572 Grade 42 (greater than 2 inches and up to 6 inches in diameter).
 - c. See drawings for locations.

D. WELDING

1. Unless noted otherwise, electrodes for welding shall conform to E70XX (SMAW), F7XX-EXXX (SAW), ER70S-X (GMAW), or E7XT-X (FCAW).

E. ANCHOR RODS

- Unless indicated otherwise in the Column Schedule or on the drawings, anchor rods shall conform to ASTM F1554 Grade 55 with a heavy hex nut at the embedded end. Strike bolt threads at the embedded end at two places below the nut.

F. GROUT

Grout below structural steel base plates shall be non-metallic, non-shrink grout with a minimum strength of 6000 psi.

V. STEEL DECKS

STEEL ROOF DECK

- A. ROOF DECK SHALL BE AS FOLLOWS
 1. All metal roof deck except where shown on plan shall be 1 1/2" deep 20 gauge wide rib, galvanized G90.
- B. Roof deck shall be placed in at least two span segments. No single span conditions shall be used.
- C. Steel deck shall conform to ASTM A611 grades C, D, E for primer painted roof deck and ASTM A653-94 structural quality grade 33 or higher for galvanized roof deck, G90 coating designation. The minimum yield strength shall be 33,000 psi.
- D. Steel deck shall be galvanized with a protective zinc coating conforming to ASTM A924-96, unless noted otherwise.

E. ATTACHMENT

1. WELDING:

Roof deck units shall be welded to each structural support member using 5/8" diameter puddle welds at all ribs (36/7 fastener layout). Weld metal shall penetrate all layers of deck material at end laps and side joints and shall be completely fused to the supporting members.
2. Side laps of adjacent units shall be fastened by welding (1/8" wide or half width deck only) or sheet metal screws, so that spacing between fasteners and between the first fastener and support does not exceed 12" inches.
3. At all roof openings and perimeter roof edge conditions, roof deck units shall be welded to edge steel using 5/8" diameter puddle welds at o.c. 4".
 4. Provide a minimum bearing of 2" over supports.
 5. End laps of sheets shall be a minimum of two inches and shall occur over supports. Roofs shall be erected beginning at the low side to insure that end laps are shingle fashion.
 6. Acoustical deck shall not be lapped.

VI. CURTAIN WALL

- A. Refer to architect's drawings and specifications for all requirements of the curtain wall system.

B. STRUCTURAL DESIGN

1. The structural design of the window wall system and its connections to the structural frame shall be performed by or under the direct supervision of a professional engineer registered in the state of Florida, hired by the curtain wall manufacturer.
2. The design analysis shall account for wind, dead, and thermal loads in all members and their connections to the structural frame. In the design of the framing members, glass shall not be considered as a lateral brace for support. The calculations for all aluminum components shall comply with the Aluminum Design Manual, sixth edition as published by the Aluminum Association.

C. CONNECTIONS TO THE STRUCTURAL FRAME

1. All connection materials, including steel embedded in or bolted to the structural frame, shall be provided by the curtain wall manufacturer.

2. a. Steel plates: A36

3. b. Anchors: