GENERAL NOTES

- GN-1 The governing Code for this Project is the Florida Building Code, 8th Edition (2023). This Code prescribes which edition of each referenced standard applies to this Project.
- GN-2 To the best of our knowledge, the Structural Drawings and Specifications comply with the applicable requirements of the governing Building Code.
- GN-3 Construction is to comply with the requirements of the governing Building Code and all other applicable Federal, State, and Local Codes, Standards, Regulations and Laws.
- GN-4 Use these Notes in conjunction with the Plan Specifications or Project Specifications. If a conflict
- GN-5 See Plan Specifications or Project Specifications for testing.

GENERAL NOTES - CONTRACTOR REQUIREMENTS

exists, the more stringent governs.

- GN-6 Contractor refers to the General Contractor, Construction Manager, or the organization that is assigned to have overall responsibility and supervision of the Project.
- GN-7 The Contractor shall be solely responsible for, and have control over, the means, methods, supervision, techniques, sequences, procedures of construction, quality, and correctness of the work. The Contractor is solely responsible for jobsite safety including all OSHA requirements.
- GN-8 The Contractor shall coordinate all Contract Documents with field conditions and dimensions and Project Shop Drawings prior to construction. Do not scale drawings; use only printed dimensions. Report any discrepancies in writing to the Architect prior to proceeding with work. Do not change size or location of structural members without written instructions from the Structural Engineer of Record.
- GN-9 Contractors who discover discrepancies, omissions or variations in the Contract Documents during bidding shall immediately notify the Architect. The Architect will resolve the condition and issue a written clarification.
- GN-10 The Contractor shall protect adjacent property, his own work and the public from harm. The Contractor is advised to document the condition of adjacent property with a photographic survey and other documentation, including crack monitoring, prior to and during construction.
- GN-11 The Structure is designed to be structurally sound when completed. The Contractor shall not overload the structure during construction. Prior to completion, the Contractor is responsible for stability and temporary bracing, including, but not limited to, masonry walls. Wherever the Contractor is unsure of these requirements, the Contractor shall retain a Florida Licensed Engineer to design and inspect the temporary bracing and stability of the structure.

GENERAL NOTES - DRAWINGS

- GN-12 The Structural drawings shall be used in conjunction with the architectural drawings and all other drawings and documents, including shop drawings prepared by equipment suppliers and delegated engineers.
- GN-13 Openings shown on Structural Drawings are only pictorial. See the Architectural for complete information such as slab depressions, slopes, curbs, finishes, and opening locations in structural members as required by MEP systems and architectural elements.
- GN-14 Details labeled "typical" apply to all situations that are the same or similar to those specifically referenced, whether or not they are keyed in at each location. Questions regard-ing the applicability of typical details shall be resolved by the Architect.
- GN-15 When joists or beams are not specifically dimensioned, they are located equally between gridlines or equally between dimensioned members.

GN-16 See Architectural drawings for fireproofing and waterproofing details and requirements.

GENERAL NOTES - DESIGN LOADS

GN-17 Design Loads:

DEAD LOAD CONCENTRATED LOAD **OCCUPANCY** LIVE LOAD

Roof Flat 20 psf 25 psf 300# Roof Sloped See Truss Notes

Restrooms 100 psf 10 psf

Design superimposed dead loads listed above do not include masonry walls or other concentrated loads. See architectural drawings for these loads. Concentrated live loads do not act concurrently with area live loads.

GN-18 Design Wind Loads:

be reviewed.

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FBC 8th Edition (2023) / ASCE 7-22 Governing Code **Building Risk Category** Ultimate Wind Speed Vult = 130 mphAllowable Stress Design Wind Speed Vasd = 101 mphMean Roof Height Kd = 0.85**Directionality Factor** Gust-Effect Factor G = 0.85Exposure **Internal Pressure Coefficient** GCpi = +/- 0.18

SHOP DRAWINGS AND OTHER SUBMITTALS

- SD-1 Refer to the applicable Plan Specifications or Project Specifications for technical content requirements. Incomplete submittals will be returned without review.
- SD-2 Submit specific components, such as columns, footings, etc., in a single package. Submit similar floors together.
- SD-3 On first submittal, clearly flag and cloud all differences from the Contract Documents. On resubmittals, flag and cloud all changes and additions to previous submittal; only clouded items will
- SD-4 Submittals for special structural, load-bearing items that are required by Codes or Standards to resist forces must be prepared by, or under the direct supervision of, a Delegated Engineer. Examples include Prefabricated Wood Components, Structural Cold-Formed Steel Framing, and Exterior Enclosure Systems.
- SD-5 A Delegated Engineer is defined as a Florida Licensed Engineer who specializes in and undertakes the design of Structural Components or Structural Systems included in a specific submittal prepared for this Project and is an employee or officer of, or consultant to, the Contractor, Subcontractor, Fabricator, or Erector responsible for the submittal. The Delegated Engineer shall sign, seal and date the submittal, including calculations and drawings. See Plan Specifications or Project Specifications for more specific criteria.
- SD-6 The Trade Contractor is responsible for confirming and correlating dimensions at the job sites, for tolerances, clearances, quantities, fabrication processes and techniques of construction, coordination of the work with other trades and full compliance with the Contract Documents.

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- SD-7 The Contractor shall review and approve submittals, including substitution requests and shop drawings, and shall sign and date each drawing prior to submitting to the Architect. This approval is to confirm that the submittal is complete, complies with the submittal requirements and is coordinated with field dimensions, other trades, erection sequencing and constructability. Submittals not reviewed by the Contractor will be returned without review.
- SD-8 Bliss & Nyitray (BNI) reviews submittals to confirm that the submittal is in general conformance with the design concept presented in the Contract Documents. Quantities and dimensions are not checked. Notations on submittals do not authorize changes to the contract sum. Checking of the submittal by BNI shall not relieve the Contractor of responsibility for deviations from the Contract Documents and from errors or omissions in the submittal.
- SD-9 BNI's review of Delegated Engineer submittals is limited to verifying that the specified structural submittal has been furnished, signed and sealed by the Delegated Engineer and that the Delegated Engineer has understood the design intent and used the specified structural criteria. No detailed check of calculations is made. The Delegated Engineer is solely responsible for his/her design, including but not limited to the accuracy of his/her calculations and compliance with the applicable codes and standards.
- SD-10 BNI may transfer to the Contractor BIM files, CAD files or other electronic data for use in preparing Shop Drawings. The contractor shall email a request for BIM or CAD files along with an acknowledgement that he/she has read and agreed to the following terms and conditions:
 - A. This electronic data remains the property of BNI, and in no case shall the transfer of these files be considered a sale. The files shall not be used for other projects, additions to this project, or for completion of this project by others.
- B. The Contractor is responsible for assuring that the electronic data accurately represents the Contract Documents. In the event of a conflict, the Contract Documents shall govern.
- C. The electronic data is current as of the date of transfer but may subsequently be revised or supplemented. If so, then the Contractor may request updated electronic data.
- D. The use of these electronic data shall not modify Contractor's responsibility for coordination with other trades, or for the proper checking and coordination of dimensions, details, member sizes and gage, and quantities of materials to facilitate complete and accurate fabrication and erection.
- E. Do not scale dimensions since the electronic data may not be precise and, in some cases, have been intentionally altered for presentation purposes.
- F. Contractor shall indemnify, defend and hold harmless BNI from all claims, damages, losses, expenses, penalties, and liabilities, including attorneys' fees, arising out of or resulting from the use of the electronic data by Contractor or others.

SHALLOW FOUNDATIONS

- SF-1 The Geotechnical Report is not available at this time.
- SF-2 Footing sizes and reinforcing are based on an assumed allowable soil bearing capacity of 2500 psf. All footings shall bear on compacted fill, natural soil or rock prepared per the Geotechnical Report.
- SF-3 Subgrade preparation shall be field controlled and tested by a Licensed Soils Engineer in accordance with the Geotechnical Report. At completion, that Engineer shall prepare and submit to the Owner, Architect, Contractor and Structural En-gineer a signed and sealed letter indicating that the recommendations of the Geotechni-cal Report have been followed.
- SF-4 Foundation excavations shall be dry prior to placing concrete. Contact Geotechnical Engineer if a dry condition cannot be achieved. Reinforcing in salt-water environment shall be sprayed with fresh water no more than 1 hour prior to concrete placement.
- SF-5 Provide waterproofing of underground structural members as indicated on the Architectural
- SF-6 Center all footings under their respective columns or walls, u.o.n.

EXCAVATION, BACKFILL AND DEWATERING

- EB-1 The Contractor is solely responsible for all excavation procedures including lagging, shoring, and protection of adjacent property, structures, streets and utilities in accordance with the requirements of the local building department and OSHA regulations. Do not excavate within one foot of the angle of repose of any soil bearing foundation unless the foundation is properly protected against settlement.
- EB-2 For basement walls, do not backfill against walls until 7 days after the walls are braced by the structure or are temporarily braced.
- EB-3 Do not backfill cantilevered retaining walls until concrete has attained 100% of its design strength and is 7 days old. Do not backfill until after completion and inspec-tion of any waterproofing.
- EB-4 In no case shall bulldozers or other heavy equipment be permitted closer than 5 feet from any retaining wall. If it is necessary to operate such equipment closer than 8 feet to the wall, the Contractor shall be the sole responsible party and at their own expense shall provide adequate support or bracing of the wall to withstand the additional superimposed loads from such equipment.
- EB-5 The Contractor is responsible for the disposal of all accumulated water in a manner that does not in-convenience or damage the work.

SLABS ON GRADE

- SG-1 Refer to Geotechnical Report for subgrade preparation more than 12" below bottom of slab.
- SG-2 Above subgrade, use fill containing not more than 10% passing #200 sieve and maximum 1 inch diameter. Compact to 95% of maximum dry density as determined by modified proctor ASTM D-1557. Each layer of fill shall not exceed 6" loose thickness. Compact prior to placement of the next layer.
- SG-3 Fill placement and compaction shall be monitored and accepted by the testing agency. Take a min. of one field density test (ASTM D-1556 or D-2922) for each 2,500 square feet of each layer. The testing agency shall randomly select test locations.
- SG-4 For interior slabs use 10 mil vapor retarder complying with ASTM E1745 between soil and bottom of slab and install in conformance with ASTM E1643. Lap joints 6" and seal with manufacturer approved tape. Repair all punctures and tears, and seal around all penetrations. Do not use any sheeting below exterior concrete slabs.
- SG-5 Use 4" thick slabs on grade reinforced with 6 x 6 W2.9 x W2.9 welded wire reinforcement supplied in flat sheets only. Use chairs to support wire reinforcement in the center of slab. Fiber reinforced concrete shall not be used at slabs to receive a broom finish.
- SG-6 Provide crack control joints at 12 feet maximum to limit areas between joints to 144 sq. ft. in all floating slabs on grade 2 hours after final finish but not more than 8 hours after completion of the pour. Aspect ratio shall not exceed 1.25. Avoid L-shaped panels. Locate to conform to bay spacing whenever possible, add crack control joints at re-entrant corners which tend to invite cracks.
- SG-7 In sidewalks and walkways, locate isolation joints at 20 ft. o.c. maximum score and tool between isolation joints in equal bays of 5 ft. or less.
- SG-8 See the Architectural Drawings for slab on grade depressions and other requirements.
- SG-9 Termite protection shall be provided by a Registered Termiticides, and a certificate of compliance shall be issued to the building department per the Florida Building Code, section 1816. Refer to the Architectural Drawings for additional information.

REINFORCED CONCRETE

- RC-1 Comply with ACI 301 and 318 and Plan Specifications or Specification Sections 031000, 032000 and
- RC-2 Provide structural concrete with a minimum ultimate compressive design strength in 28 days as

<u>Element</u>	Strength	
Columns	4000 ps	
Elevated Beams & Slabs	4000 ps	
Slabs on Grade	3000 ps	

- RC-3 Use normal weight concrete for all structural members. u.o.n.
- RC-4 Provide ASTM A615 Grade 60 reinforcing steel. Reinforcing shall be accurately placed, rigidly supported and firmly tied in place, with appropriate bar supports and spacers. Lap continuous reinforc-ing 48 bar dia. Provide cover over reinforcing as follows:

<u>Element</u>	Bottom	<u>Top</u>	<u>Sides</u>
Thickened Edge	3"	2"	3"
Beams Above Grade	1 1/2"	1 1/2"	1 1/2"
Columns	-	-	1 5/8"
Slabs on Grade	2"	1"	2"
Slabs Exposed to Weather	1 1/2"	1 1/2"	1 1/2"
Walls Exposed to Weather	-	-	1 1/2"

- RC-5 Provide A706 reinforcing steel when the rebar is to be welded. Do not weld A615 bars.
- RC-6 Deformed Bar Anchor (DBA) shall conform to ASTM A496 with a minimum yield strength of 70,000 PSI. Reinforcing bars, A615 or A706, is not an acceptable substitution for DBA's.
- RC-7 Provide galvanized reinforcement in areas exposed to the environment, such as balconies, or as indicated on the drawings.
- RC-8 Where specified, provide plain, cold-drawn electrically-welded wire reinforcement conforming to ASTM A185. Supply in flat sheets only. Lap splice two cross wire spacings.
- RC-9 Utilities shall not penetrate beams or columns but may pass through slabs and walls individually, uon. For openings 24" long or less, cut reinforcing and replace alongside opening with splice bars of equivalent area with 48 bar dia. lap. Prepare and submit shop drawings for openings longer than 24". For rectangular openings 12" long or longer, add 1#5 x 6' mid depth diagonal at all 4 corners.
- RC-10 Where reinforcing steel congestion permits, conduit and pipes up to 1" diameter may be embedded in concrete per ACI 318, Section 20.7. Space at 3 diameters o.c. Place in the middle third of the slab depth. If conduits are significantly congested, additional reinforcing perpendicular to piping may be required. Requests to embed larger pipes should be accompanied by a detailed description and be submitted to the architect for evaluation. Aluminum conduits shall not be placed in concrete.
- RC-11 Provide construction joints in accordance with ACI 318, Section 26.5.6. Provide keyways and adequate dowels. Submit drawings showing location of construction joints and direction of pour for
- RC-12 Provide 3/4" chamfer for all exposed corners.
- RC-13 Provide reinforcing steel installer with a set of Structural Drawings for field reference. Inspect reinforcing steel placing from structural drawings.

CONCRETE MASONRY

- CM-1 Construct masonry in accordance with Plan Specifications, Specification Sections 042000 and 042900; TMS 402/602 "Building Code Requirements and Specifications for Masonry Structures."
- CM-2 Use nominal 8x8x16, concrete masonry units conforming to ASTM C90. Block net area compressive strength shall be 2,000 psi. Lay masonry in running bond. Sawcut units which are not in multiples of 8". Units shall be at least 8" long. Bond corners by lapping ends 8" in successive courses. Design of walls is based on a f'm of 2,000 psi.
- CM-3 Use Type S mortar in accordance with ASTM C270 except use Type M mortar for retaining walls. Head and bed joints shall be 3/8" for the thickness of the face shell. Webs are to be fully mortared in all courses of piers, columns, and pilasters; in the starting course; and where an adjacent cell is to be grouted. Remove mortar protrusions extending 1/2" or more into cells to be grouted.
- CM-4 Use standard (9 gauge 0.148 inch) horizontal joint reinforcing in every other course. Joint reinforcing and anchors in exterior walls shall conform to ASTM A 153 Class B2, with a coating thickness of 1.50 oz/sf; conform to ASTM A 641 in interior walls. Overlap discontinuous ends 6". Use prefabricated corners and tees. Use ladder type in walls with vertical reinforcing, otherwise use truss type. Extend joint reinforcing a minimum of 4" into tie columns.
- CM-5 Use fine grout conforming to ASTM C476, with a minimum compressive strength of 2500 psi in 28 days. Aggregate to conform to ASTM C404 for fine grout, with slump of 8" to 10". Grout all masonry containing reinforcing, all cells of 4 hour rated walls, bond beams, cells with expansion anchors, and where indicated on the drawings. Allow mortar to cure 24 hours prior to grouting. Provide cleanout openings at the base of cells containing reinforcing steel to clean the cell and to tie the vertical bar to the dowel. In high-lift grouting, use 5'-0" (max.) lifts, with 1/2 hour to 1 hour between lifts. Vibrate each lift and reconsolidate the previous lift.
- CM-6 Use ASTM A-615 Grade 60 reinforcing steel. Reinforce walls where indicated on the drawings and at all intersections, each side of openings and at the ends of walls. Use bar spacers at 10 ft. o.c. where grout pour height exceeds 10 ft. Provide reinforcing dowels of the same size and spacing as vertical reinforcing.
- CM-7 Beams not scheduled are min. 8" x 12" tie beams with 2 #5 bars top and bottom and #3 ties spaced at 24" o.c. typical and 4 ties at 12" o.c. at ends and intersections, u.o.n. Columns not scheduled are min. 8" x 12" tie columns with 4 #5 vertical bars and #3 ties at 8" o.c. Use 30" lap splices. Hook all bars at discontinuous ends.
- CM-8 Reinforced masonry wall construction shall be inspected by an Engineer or Architect in accordance with TMS 402/602.
- CM-9 Where anchor bolts, wedge anchors or anchors set in epoxy are set in a masonry wall, fill cells with grout for bolted course, one course above and two courses below.
- CM-10 Provide lintels or headers with min. 8" bearing over all masonry openings.
- CM-11 Use pressure-treated wood for wood in contact with masonry.

POST-INSTALLED ANCHORS - GENERAL

- AN-1 Substitution requests will be considered for products having an ICC-ES report recognizing the product for the appropriate application. Substitute concrete anchors must be approved for use in cracked concrete. Substitution requests shall include signed and sealed calculations prepared by a Florida Licensed Engineer who demonstrates that substituted product is capable of achieving the equivalent performance values of the design basis product.
- AN-2 Confirm the absence of reinforcing steel by drilling a 1/4" diameter pilot hole for each anchor in non-post-tension applications. For post-tensioned slabs, confirm the absence of reinforcing steel by nondestructive testing prior to drilling holes. Do not cut reinforcing steel without approval of the Structural Engineer.

- AN-3 Install in accordance with manufacturer's printed installation instructions (MPII) (ACI 314-14, 17.8.1). Refer to MPII for appropriate drill size. Clean hole and remove dust.
- AN-4 Anchors listed below may not be used to substitute the specified anchors in a product's Notice of Acceptance (NOA) or Florida Product Approval.
- AN-5 Anchors shall be installed in concrete having a minimum age of 21-days at time of anchor installation{(ACI 318-19, 17.1.2) {
- POST-INSTALLED ANCHORS MECHANICAL ANCHORS
- AN-6 For anchoring into concrete: Wedge-Type Mechanical anchors shall have been tested and qualified for use in accordance with ACI 355.2 and ICC-ES AC193. Pre-approved anchors include Hilti Kwik Bolt TZ, DeWalt Power-Stud+SD1, and Simpson Strong-Bolt 2.
- AN-7 For anchoring into grouted masonry: Wedge-Type Mechanical anchors shall have been tested and qualified for use in accordance with ICC-ES AC01. Pre-approved anchors include the Hilti Kwik Bolt III, DeWalt Power-Stud+SD1, and Simpson Wedge-All.
- AN-8 For drop-in anchors for fastening to the underside of post-tensioned slabs and hollowcore with a maximum embedment of 34": Pre-approved anchor is the DeWalt Mini-Undercut +.

POST-INSTALLED ANCHORS - SCREW ANCHORS

- AN-9 For anchoring into concrete: Screw anchors shall have been tested and qualified for use in accordance with ACI 355.2 and ICC-ES AC193. Pre-approved anchors include the ¼"Ø Hilti KH-EZ and the 1/4"Ø DeWalt Screw Bolt +.
- AN-10 For anchoring into grouted or ungrouted masonry: Screw Anchors shall have been tested and qualified for use in accordance with ICC-ES AC106. Pre-approved anchor is the ITW Redhead Tapcon.

POST-INSTALLED ANCHORS - ADHESIVE ANCHORS

- AN-11 For upwardly inclined or horizontal anchors, installer shall be certified by the ACI/CRSI Adhesive Anchor Installation Certification Program.
- AN-12 Install adhesive anchors in accordance with manufacturer's requirements for concrete age, temperature, moisture condition, acceptable drilling methods, and hole preparation in conformance with (ACI 318-19), 17.8.2.1.
- AN-13 For anchoring into concrete: Adhesive anchors shall have been tested and qualified for use in accordance with ACI 355.4 and ICC-ES AC308. Pre-approved standard cure time adhesives include Hilti RE500v3, DeWalt Pure 110+, and Simpson Set-XP.
- AN-14 For anchoring into grouted masonry: Adhesive anchors shall have been tested and qualified for use in accordance with ICC-ES AC58. Pre-approved anchors include Hilti HIT-HY 200-R, DeWalt
- AN-15 Threaded rods for use with adhesive are galvanized ASTM F1554 Grade 36 U.O.N.

POST-INSTALLED ANCHORS - POWDER-ACTUATED FASTENERS

PURE110+, and Simpson Set-XP.

- AN-16 Powder-actuated fasteners shall not be used to fasten to concrete or masonry U.O.N.
- AN-17 Powder-actuated fasteners may be used to fasten cold-formed structural steel tracks and clips to walls but not to the underside of concrete or masonry elements where the fastener will be primarily loaded in tension.
- AN-18 Powder-actuated fasteners shall have been tested and qualified for use in accordance with ICC-ES
- AN-19 For anchoring into structural steel: Pre-approved anchors include the Hilti X-U, DeWalt CSI, and Simpson PDPA, with penetration of the entire tipped-portion of the fastener.
- AN-20 Provide a minimum of two fasteners per connection.
- AN-21 Refer to manufacturer's instructions for installation and appropriate cartridge load.
- AN-22 Provide fastener spacing and edge distance as shown on the Drawings. Minimum fastener spacing is 1 inch and edge distance of 1/2 inch.

STRUCTURAL STEEL

- SS-1 Fabricate and erect structural steel in conformance with Plan Specifications or Specification Section 051200, AISC "Specification for Structural Steel Buildings", with Commentary, and all OSHA requirements.
- SS-2 Structural steel shapes shall be fabricated from the following materials:
 - A. Rolled W and WT Shapes: ASTM A992, Grade 50. B. Rolled M, S, C and MC Shapes and Angles: ASTM A36, fy=36 ksi. C. Plates and Bars: ASTM A36, fy=36 ksi and ASTM A572, fy=50 ksi.
 - 1. Round Sections: ASTM A500, Grade C, fy=46 ksi.
 - E. Steel Pipe: ASTM A53, type E or S, Grade B, fy=35 ksi.

D. Cold-formed Hollow Structural Sections (HSS):

SS-3 All connections that are not fully detailed on the drawings or where factored forces are indicated shall be designed by the Fabricator's Florida licensed Delegated Engineer. Submit signed and sealed calculations for review and approval prior to fabrication. See Plan Specifications or Project Specifications Section 051200 for additional information.

2. Square and Rectangular Sections: ASTM A500, Grade C, fy=50 ksi.

SS-4 All shop and field welding shall conform to the AWS D1.1 Structural Welding Code by the American Welding Society. Use E70 series welding electrodes, u.o.n. where necessary, remove galvanizing or primer prior to welding.

STRUCTURAL NOTES CONTINUES ON S-102



STRUCTURAL ENGINEERS FL Certificate of Authorization No. 674 www.bniengineers.com BNI Proj. No.23w21 580 Village Blvd., Suite 310 West Palm Beach, Florida 33409 Tel. (561) 623-7081 Lazaro Alfonso, P.E. FL Reg. No. 69782 To the best of the Structural Engineer's knowledge, the Plans and Specifications comply with the applicable minimum building codes.

LORIDA LIC No: AR95989

CLIENT DATA

<u>Client:</u> CITY OF OCALA 501 NE 1st Ave. Ocala, FL 34470

PROJECT DATA

Project No: 24020 Project Na: OCALA SUNTRAN RESTROOMS & KIOSK

ARCHITECT DATA

Carbon design & architecture 263 13th Avenue South Suite 375 St. Petersburg, FL 33701 O:: 941.362.4312 W:: www.carbonAE.com

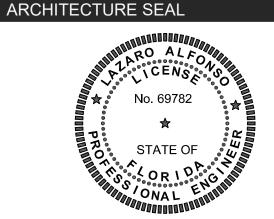
ENGINEER DATA

ISSUE + REVISION DATA

Date:

06/25/2024

No: Description: BLD24-1291 **Building Comments**



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