2018 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: Lexington Plantation Pool House

Address: 400 Centennial Parkway Cameron, NC Zip Code 28326

Owner/Authorized Agent: Village at Lexington HOA Phone # (910) 484 - 5400 E-Mail jamie@littleandyoung.n

Owned By: ☐ City/County ☒ Private ☐ State

Code Enforcement Jurisdiction: ☐ City_____ ☒ County Harnett ☐ State

CONTACT: Christopher G. Herndon, PE CWI

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural				(____)_____	
Civil	Draper Aden Associates	Andrew P. Mericle, PE	041595	(919) 827-0864	americle@daa.com
Electrical				(____)_____	
Fire Alarm				(____)_____	
Plumbing	Coastal Plains Engineering, PA	Christopher S. Locklear, PE	020193	(910) 521-7213	coastalplainseng@gmail.com
Mechanical				(____)_____	
Sprinkler-Standpipe				(____)_____	
Structural	Draper Aden Associates	Christopher G. Herndon, PE CWI	043810	(919) 827-0864	cherndon@daa.com
Retaining Walls >5' High				(____)_____	
Other				(____)_____	

("Others" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC CODE FOR: ☒ New Construction ☐ Addition ☐ Renovation
☐ 1st Time Interior Completion
☐ Shell/Core
☐ Phased Construction – Shell/Core
☐ Renovation

2018 NC EXISTING BUILDING CODE: ☐ Prescriptive ☐ Repair ☐ Chapter 14

Alteration: ☐ Level I ☐ Level II ☐ Level III
☐ Historic Property ☐ Change of Use

CONSTRUCTED: (date) _____ **ORIGINAL OCCUPANCY(S)** (Ch. 3): _____

RENOVATED: (date) _____ **CURRENT OCCUPANCY(S)** (Ch. 3): _____

RISK CATEGORY (table 1604.5) **Current:** ☐ I ☒ II ☐ III ☐ IV
Proposed: ☐ I ☐ II ☐ III ☐ IV

BASIC BUILDING DATA

Construction Type: (check all that apply) ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ☒ V-B

Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry

Fire District: ☒ No ☐ Yes (Primary) **Flood Hazard Area:** ☒ No ☐ Yes

Special Inspections Required: ☐ No ☒ Yes

Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	RENO/ALTER (SQ FT)	SUB-TOTAL
6th Floor				
5th Floor				
4th Floor				
3rd Floor				
2nd Floor				
Mezzanine				
1st Floor		864		
Basement				
TOTAL				

ALLOWABLE AREA

Primary Occupancy Classification: SELECT ONE

Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 Condition ☐ 1 ☐ 2
☐ I-2 Condition ☐ 1 ☐ 2
☐ I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ I-4
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☒

Accessory Occupancy Classification(s): _____

Incidental Uses (Table 509): _____

Special Uses (Chapter 4 – List Code Sections) _____

Special Provisions: (Chapter 5 – List Code Sections): _____

Mixed Occupancy: ☒ No ☐ Yes Separation: ____ Hr. Exception: _____

☐ Non-Separated Use (508.3)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

☐ Separated Use (508.4) -
See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

_____ + _____ + ... = _____ ≤ 1.00

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2[4] AREA	(C) AREA FOR FRONTAGE INCREASE[1,2]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED[2,3]
1	UTILITY	864	5,500		5,500

[1] Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
b. Total Building Perimeter = _____ (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase $I_f = 100 [F/P - 0.25] \times W/30$ = _____ (%)

[2] Unlimited area applicable under conditions of Section 507.

[3] Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).

[4] The maximum area of open parking garages must comply with Table 406.5.4

[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE (TABLE 503)	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	40	18.5	
Building Height in Stories (Table 504.4)	1	1	

[1] Provide code reference if the "Show on Plans" quantity is not based on Table 504.3 or 504.4.
[2] The maximum height of air traffic control towers must comply with Table 412.3.1
[3] The maximum height of open parking garages must comply with Table 406.5.4

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED (W/_____* REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses							
Bearing Walls		0					
Exterior		0					
North	114'						
East	77'						
West	186'						
South	102'						
Interior		0					
Nonbearing Walls and Partitions		0					
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions		0					
Floor Construction Including supporting beams and joists							
Floor Ceiling Assembly							
Column Supporting Floors							
Roof Construction, including supporting beams and joists		0					
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/ Sleeping Unit Separation							
Incidental Use Separation							

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET FROM PERPERTY LINES	DEGREES OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: ☐ No ☐ Yes
Exit Signs: ☐ No ☐ Yes
Fire Alarm: ☐ No ☐ Yes
Smoke Detection Systems: ☐ No ☐ Yes ☐ Partial _____
Carbon Monoxide Detection: ☐ No ☐ Yes

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: LS1.0

☐ Fire and/or smoke rated wall locations (Chapter 7)
☐ Assumed and real property line locations (if not on the site plan)
☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
☒ Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.2)
☒ Occupant loads for each area
☒ Exit access travel distances (1017)
☒ Common path of travel distances (1006.2.1 & 2006.3.2(1))
☐ Dead end lengths (1020.4)
☒ Clear exit widths for each exit door
☒ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
☒ Actual occupant load for each exit door
☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation and supporting construction for a fire barrier/fire partition/smoke barrier.
☐ Location of doors with panic hardware (1010.1.10)
☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
☐ Location of doors equipped with hold-open devices
☐ Location of emergency escape windows (1030)
☐ The square footage of each fire area (202)
☐ The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
☐ Note any code exceptions or table notes that may have been utilized regarding the items above

Section/Table/Note	Title

ACCESSIBLE DWELLING UNITS
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE PARKING

(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
TOTAL						

PLUMBING FIXTURE REQUIREMENTS
(TABLE 2902.1)

USE		WATERCLOSETS MALE	WATERCLOSETS FEMALE	WATERCLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS / TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
SPACE	EXIST'G										
	NEW	1	2		1	2	2		1	1	1
	REQ'D										

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, SCO, DPI, DHHS, ICC, etc., describe below)

_____

_____

_____

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the **North Carolina Energy Conservation Code** shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: ☐ No ☐ Yes (The remainder of this section is not applicable)

Exempt Building: ☐ No ☒ Yes (Provide Code or Statutory reference): U/M OCCUPANCY CLASSIFICATION

Climate Zone: ☐ 3A ☒ 4A ☐ 5A

Method of Compliance: Energy Code ☐ Performance ☐ Prescriptive
ASHRAE 90.1 ☐ Performance ☐ Prescriptive
(If "Other" specify source here) _____

THERMAL ENVELOPE (Prescriptive method only)

Roof/ceiling Assembly (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Skylights in each assembly: _____
U-Value of skylight: _____
Total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Openings (windows or doors with glazing)
U-Value of assembly: _____
Solar heat gain coefficient: _____
Projection factor: _____
Door R-Values: _____

Walls below grade (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors over unconditioned space (each assembly)
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors slab on grade
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/Vertical requirement: _____
Slab Heated: _____

DRAWING LIST

SHEET NUMBER	SHEET NAME
A0.1	APPENDIX B
A1.0	ELEVATIONS & FLOOR PLAN
LS1.0	LIFE SAFETY PLAN
S0.1	GENERAL NOTES
S0.2	APPENDIX B
S1.0	FOUNDATION & FRAMING PLANS

Draper Aden Associates
Engineering • Surveying • Environmental Services
114 Edinburgh South Drive, Suite 200
Cary, NC 27511
919-827-0864 Fax: 919-839-8138
www.draperaden.com
• Hampton Roads, VA
• Fayetteville, NC
• Northern Virginia
• Richmond, VA
• Blacksburg, VA
• Charlottesville, VA
NC Firm License # F-1429

APPENDIX B
Lexington Plantation Pool House
400 Centennial Parkway Cameron, NC 28326

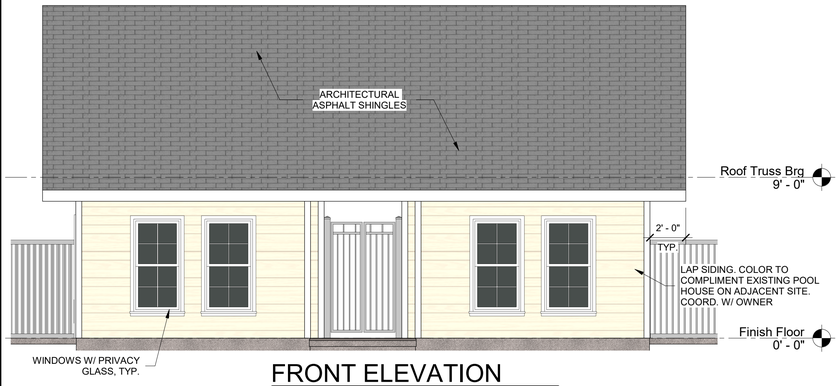
REVISIONS

NO.	DESCRIPTION	DATE

DESIGNED BY: CGH
DRAWN BY: CGH
CHECKED BY: AC
SCALE:
DATE: 12/21/21
PROJECT NUMBER: 2101033

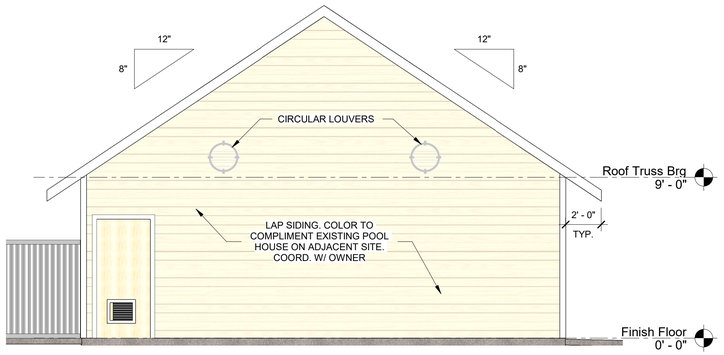
A0.1

P:\2021\01\00\2101033\04-STR\CAD\Lexington Plantation Pool House - STRUCT (2020).rvt



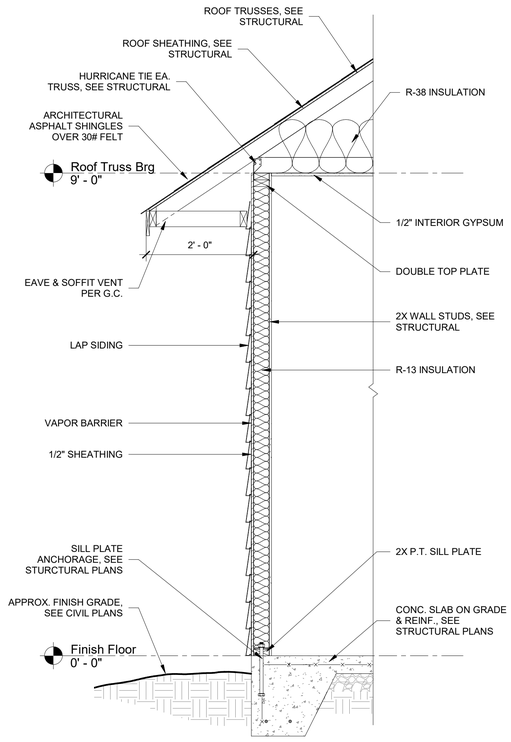
FRONT ELEVATION

SCALE: 1/4" = 1'-0"



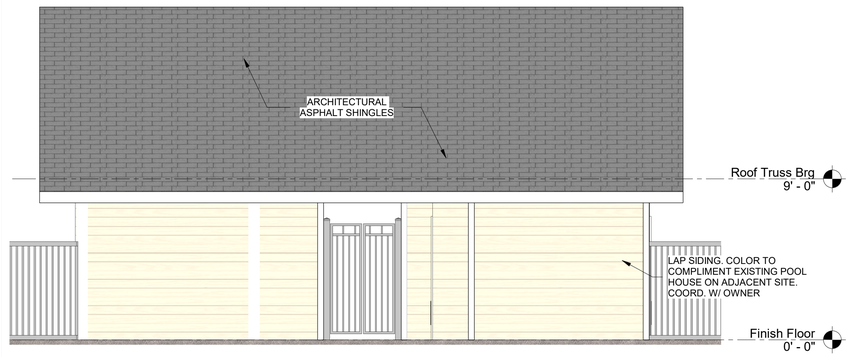
LEFT ELEVATION

SCALE: 1/4" = 1'-0"



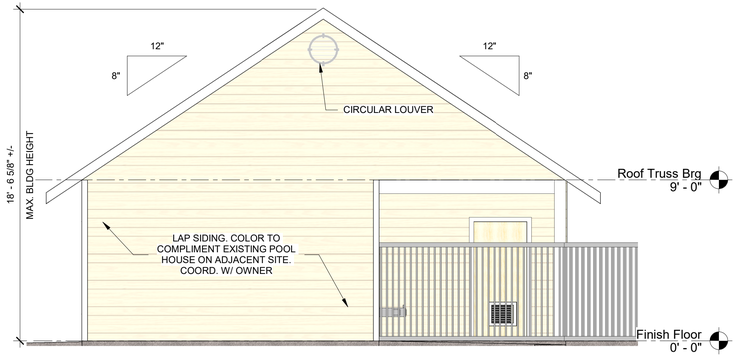
TYP. WALL SECTION

SCALE: 3/4" = 1'-0"



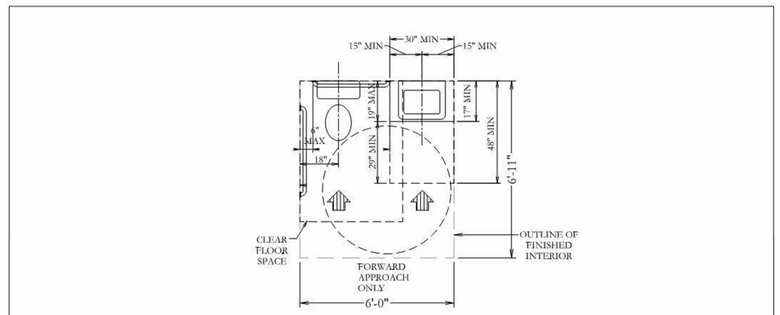
REAR ELEVATION

SCALE: 1/4" = 1'-0"

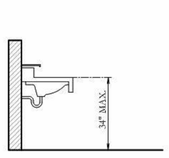


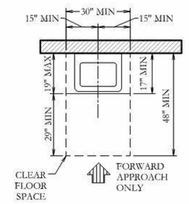
RIGHT ELEVATION

SCALE: 1/4" = 1'-0"

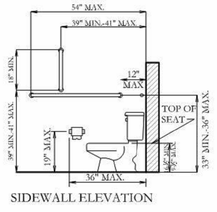


ACCESSIBLE BATHROOM LAYOUT

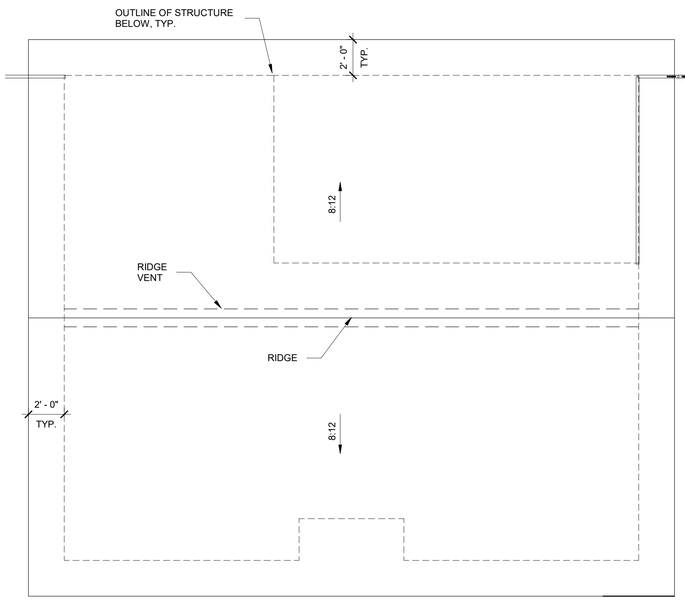




SINKS

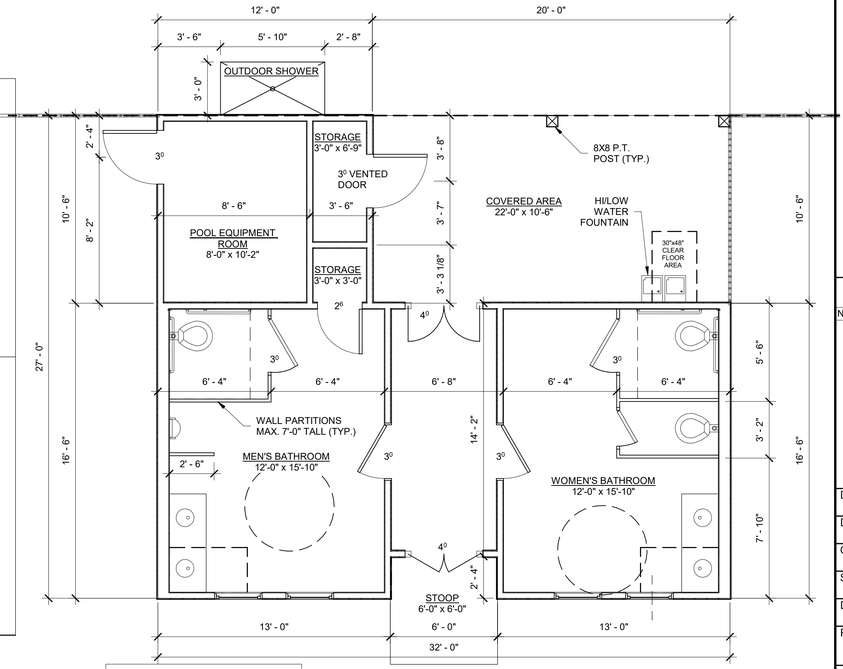


TOILET ACCESSORIES



ROOF PLAN

SCALE: 1/4" = 1'-0"



NOTE:
ALL DIMENSIONS TO EXTERIOR WALLS ARE TO OUTSIDE FACE OF STUD, TYP.

FLOOR PLAN

SCALE: 1/4" = 1'-0"

Draper Aden Associates
Engineering • Surveying • Environmental Services
114 Edinburgh South Drive, Suite 200
Cary, NC 27511
919-827-0864 Fax: 919-839-8138
www.draperaden.com
NC Firm License # F-1429
• Hampton Roads, VA
• Fayetteville, NC
• Northern Virginia
• Richmond, VA
• Blacksburg, VA
• Charlottesville, VA

ELEVATIONS & FLOOR PLAN

Lexington Plantation Pool House

400 Centennial Parkway Cameron, NC 28326

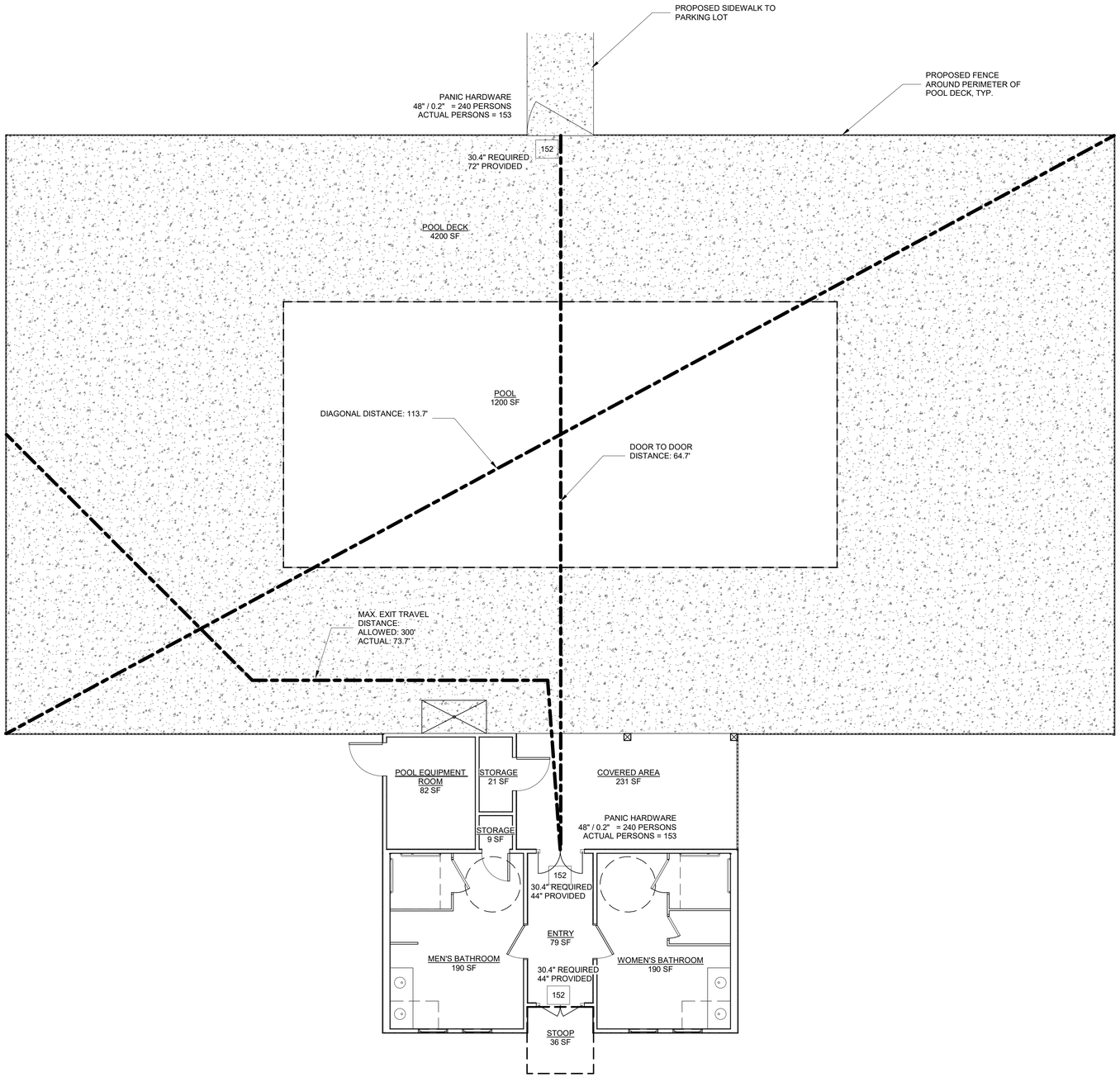
REVISIONS

NO.	DESCRIPTION	DATE

DESIGNED BY: CGH
DRAWN BY: CGH
CHECKED BY: AC
SCALE: As indicated
DATE: 12/21/21
PROJECT NUMBER: 2101033

A1.0

P:\2021\01\00\2101033\04-STR\CAD\Lexington Plantation Pool House - STRUCT (2020).rvt



LIFE SAFETY PLAN

SCALE: 3/16" = 1'-0"

BUILDING CODE NOTES:

1. APPLICABLE CODES: 2018 NORTH CAROLINA STATE BUILDING BUILDING CODE/ 2015 INTERNATIONAL BUILDING CODE

2. OCCUPANCY CLASSIFICATION:
   PROPOSED BUILDING USE: ANCILLARY STRUCTURE TO SERVICE COMMUNITY POOL
   PROPOSED CLASSIFICATION: U - UTILITY AND MISCELLANEOUS (POOL HOUSE)
   A - ASSEMBLY (POOL & POOL DECK)

3. CONSTRUCTION TYPE:
   PROPOSED: TYPE VB CONSTRUCTION, NON-SPRINKLERED

4. HEIGHT AND AREA LIMITATIONS:
   AREA:
   TABULAR AREA (TABLE 506.2): 5,500 SF
   ALLOWABLE AREA (100% OPEN PERIMETER): 5,500 SF

   ACTUAL AREA:

	GROSS SF	NET SF*
PROPOSED AREA:	864 GSF	471 NSF

   * NET SF = AREA INSIDE EXTERIOR WALLS

   HEIGHT:
   ALLOWABLE HEIGHT (TABLE 504.3): 40'-0" (1 STORY)
   PROPOSED HEIGHT: 18'-7" (1 STORY)

5. OCCUPANT LOAD:

USE	SIZE	OCC'S PER SF	OCCS.
POOL	1,200 SF	1 OCC PER 50 SF	24
POOL DECK	4,200 SF	1 OCC PER 15 SF	280
		TOTAL:	304

   NOTE: POOL HOUSE SQUARE FOOTAGE IS CONSIDERED NON-SIMULTANEOUS OCCUPANCY

6. MEANS OF EGRESS

SPACE	EXITS REQ'D	EXITS PROVIDED
POOL + POOL DECK	2	2

ELEMENT	WIDTH REQ'D	WIDTH PROVIDED
POOL GATE TO PARKING LOT	30.4	72"
POOL GATES AT FRONT OF BLDG	30.4	44"

Draper Aden Associates
Engineering • Surveying • Environmental Services
114 Edinburgh South Drive, Suite 200
Cary, NC 27511
919-827-0864 Fax: 919-839-8138
www.draperaden.com
NC Firm Licenses # F-1429
• Hampton Roads, VA
• Fayetteville, NC
• Richmond, VA
• Blacksburg, VA
• Northern Virginia
• Charlottesville, VA
• Virginia Beach, VA

LIFE SAFETY PLAN

Lexington Plantation Pool House

400 Centennial Parkway Cameron, NC 28326

REVISIONS

NO.	DESCRIPTION	DATE

DESIGNED BY: CGH
DRAWN BY: CGH
CHECKED BY:
SCALE: As indicated
DATE: 12/21/21
PROJECT NUMBER: 2101033

LS1.0

P:\2021\01000\2101033\04-SITR\CAD\Lexington Plantation Pool House - SITRUCT (2020).rvt

GENERAL STRUCTURAL NOTES AND SPECIFICATIONS

DESIGN CRITERIA:

1. DESIGNED UNDER THE PROVISIONS OF THE 2018 NORTH CAROLINA STATE BUILDING CODE/INTERNATIONAL BUILDING CODE(IBC) 2015/ASCE 7-10

2. DESIGN LOADS:

LIVE LOADS:

ROOF LIVE LOAD	= 20 PSF
FIRST FLOOR SLAB ON GRADE	= 100 PSF

SNOW LOADS:

DESIGN GROUND SNOW LOAD, Pg	= 10 PSF
SNOW EXPOSURE FACTOR, Ce	= 1.0
SNOW IMPORTANCE FACTOR, Is	= 1.0??
THERMAL FACTOR, Ct	= 1.2
FLAT ROOF SNOW LOAD, Pf	= 8.4 PSF

WIND LOAD (ULTIMATE):

DESIGN WIND VELOCITY:V3S	= 120 MPH
RISK CATEGORY:	= II
WIND IMPORTANCE FACTOR, Iw	= 1.0
EXPOSURE:	= C
INTERNAL PRESSURE COEF.	= ±0.18
EDGE STRIP, a	= 3 FT
END ZONE, 2a	= 6 FT

MAIN WINDFORCE RESISTING SYSTEM DESIGN PRESSURES:

INTERIOR ZONE:	WALL:	= 24.7 PSF
	ROOF:	= 17 PSF
END ZONE:	WALL:	= 31.1 PSF
	ROOF:	= 21.3 PSF

COMPONENT AND CLADDING WIND PRESSURES: (A= 100 SF)

NET ROOF UPLIFT AT CORNER	= -36.7 PSF
NET ROOF UPLIFT AT EDGE STRIP	= -36.7 PSF
NET ROOF UPLIFT AT INTERIOR	= -31.4 PSF
WALL PRESSURE AT CORNER	= -42 PSF
WALL PRESSURE AT INTERIOR	= -34 PSF

WIND BASE SHEAR = 10.6 KIPS ULTIMATE (PLAN N-S)
= 5.1 KIPS ULTIMATE (PLAN E-W)

SEISMIC LOAD (ULTIMATE):

SEISMIC SITE CLASSIFICATION:	= D
SEISMIC DESIGN CATEGORY:	= C
RISK CATEGORY:	= II
SEISMIC IMPORTANCE FACTOR, Ie	= 1.0

DESIGN EARTHQUAKE:

Ss	= 20.5 % g
S1	= 9.3 % g
Sds	= 0.219g
Sd1	= 0.149g

SEISMIC ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE PROCEDURE WITH DYNAMIC CHARACTERISTICS
LATERAL FORCE RESISTING SYSTEM: LIGHT FRAME WOOD WALLS WITH STRUCTURAL WOOD SHEAR PANELS
RESPONSE MODIFICATION COEFFICIENT, R = 6.5
DEFLECTION AMPLIFICATION FACTOR, Cd = 4

SEISMIC BASE SHEAR = 1 KIPS ULTIMATE

WIND FORCE GOVERNS LATERAL DESIGN

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER TRADES DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL COMPARE AND VERIFY STRUCTURAL DRAWINGS AND SPECIFICATIONS w/ ARCHITECTURAL AND ALL OTHER TRADES DWGS., SPECIFICATIONS, AND REQUIREMENTS AND REPORT ANY DISCREPANCY TO THE STRUCTURAL ENGINEER AND DESIGN TEAM PRIOR TO DEMOLITION, FABRICATION, AND / OR INSTALLATION OF ANY STRUCTURAL MEMBERS.

4. VERIFY NUMBER, SIZE, AND LOCATION OF ALL ROOF OPENINGS FROM APPROVED SHOP DRAWINGS.

5. NO LOADS IN EXCESS OF DESIGN LOADS LISTED SHALL BE PLACED ON ANY AREA DURING CONSTRUCTION UNLESS ADEQUATE SHORING OR OTHER METHOD IS APPROVED TO SUPPORT THE EXCESSIVE LOADS. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE UNTIL PERMANENT BRACING IS COMPLETED.

6. WHERE ALIGNMENT OF MATERIALS SUCH AS WALLS AND FACING MATERIALS WILL BE AFFECTED BY DEFLECTIONS AND ROTATIONS OF THE STRUCTURE DURING PLACEMENT OF THE MATERIALS, PROCEDURES SHALL BE USED WHICH WILL ASSURE THE CORRECT FINAL POSITIONS OF MATERIALS.

7. ALL NOTES ON STRUCTURAL DRAWINGS SHALL BE ASSUMED TYPICAL UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATIONS.

8. SECTIONS AND DETAILS ARE TO BE USED IN ALL SIMILAR LOCATIONS UNLESS OTHERWISE SHOWN BY OTHER DETAILS AND/OR SECTIONS.

9. SEE ARCHITECTURAL DRAWINGS FOR WEATHERPROOFING DETAILS.

10. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION OF CONSTRUCTION OF THE PROJECT AND THEN, ONLY TO SUPPORT THE DESIGN LOADS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, AND SEQUENCES OF CONSTRUCTION AND FOR THE ADEQUACY OF THE STRUCTURE TO SUPPORT LOADS OCCURRING DURING CONSTRUCTION. FURNISH ALL TEMPORARY BRACING, SHORING, AND/OR SUPPORT AS REQUIRED.

11. CHECK ALL DIMENSIONS AGAINST THE REQUIREMENTS OF OTHER CONTRACT DOCUMENTS. RESOLVE APPARENT INCONSISTENCIES IN THE CONTRACT DOCUMENTS WITH THE ARCHITECT/ ENGINEER BEFORE PROCEEDING WITH WORK.

12. PROMPTLY NOTIFY THE ENGINEER OF ANY STRUCTURAL MEMBER CALLED OUT ON THE ARCHITECTURAL, MECHANICAL, PLUMBING, OR ELECTRICAL DRAWINGS THAT IS NOT IDENTIFIED ON THE STRUCTURAL DRAWINGS.

13. WHERE CONFLICT EXISTS AMONG THE VARIOUS PARTS OF THE ENTIRITY OF THE STRUCTURAL SUBMITTAL (CONTRACT DOCUMENTS, STRUCTURAL DRAWINGS, GENERAL NOTES, SPECIFICATIONS, SECTIONS, ETC.) THE STRICTEST REQUIREMENTS, AS INDICATED BY THE STRUCTURAL ENGINEER, SHALL GOVERN, U.N.O.

SUBMITTALS FOR APPROVAL:

CONCRETE:

- **PRODUCT DATA:** FOR EACH TYPE OF PRODUCT.
- **DESIGN MIXTURES:** FOR EACH CONCRETE MIXTURE.
- **STEEL REINFORCEMENT SHOP DRAWINGS:** PLACING DRAWINGS THAT DETAIL FABRICATION, BENDING, AND PLACEMENT.

WOOD PRE-ENGINEERED TRUSSES:

- **PRODUCT DATA:** FOR METAL-PLATE CONNECTORS, METAL TRUSS ACCESSORIES, AND FASTENERS.
- **SHOP DRAWINGS:** SHOW FABRICATION AND INSTALLATION DETAILS FOR TRUSSES.

- SHOW LOCATION, PITCH, SPAN, CAMBER, CONFIGURATION, AND SPACING FOR EACH TYPE OF TRUSS REQUIRED.
- INDICATE SIZES, STRESS GRADES, AND SPECIES OF LUMBER.
- INDICATE LOCATIONS OF PERMANENT BRACING REQUIRED TO PREVENT BUCKLING OF INDIVIDUAL TRUSS MEMBERS DUE TO DESIGN LOADS.
- INDICATE LOCATIONS, SIZES, AND MATERIALS FOR PERMANENT BRACING REQUIRED TO PREVENT BUCKLING OF INDIVIDUAL TRUSS MEMBERS DUE TO DESIGN LOADS.
- INDICATE TYPE, SIZE, MATERIAL, FINISH, DESIGN VALUES, ORIENTATION, AND LOCATION OF METAL CONNECTOR PLATES.
- SHOW SPLICE DETAILS AND BEARING DETAILS.

- **DELEGATED-DESIGN SUBMITTAL:** FOR METAL-PLATE-CONNECTED WOOD TRUSSES INDICATED TO COMPLY WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

WOOD ENGINEERED CONSTRUCTION:

- **ENGINEERED WOOD PRODUCT DATA:** FOR EACH TYPE OF PRODUCT.

WOOD EXTERIOR CARPENTRY:

- **PRODUCT DATA:** FOR PRESERVATIVE-TREATED WOOD PRODUCTS.

SPECIAL INSPECTIONS:

1. SPECIAL INSPECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 17 OF THE 2018 NORTH CAROLINA STATE BUILDING CODE. AN APPROVED SPECIAL INSPECTION AGENCY SHALL BE PROVIDED BY THE OWNER PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL INSPECTION PROCEDURES WITH THE OWNER AND THE OWNER'S AGENT. A FINAL REPORT OF INSPECTIONS DOCUMENTING COMPLETION OF ALL WORK SHALL BE SUBMITTED TO THE CODE OFFICIAL.

2. SPECIAL INSPECTIONS FOR CONCRETE CONSTRUCTION SHALL MEET REQUIREMENTS OF SECTION 1705.3 AND TABLE 1705.3.

3. SPECIAL INSPECTIONS FOR WOOD CONSTRUCTION SHALL MEET REQUIREMENTS OF SECTION 1705.5.

DIVISION 3:

CONCRETE NOTES:

1. ALL DETAILING, FABRICATION, AND PLACEMENT OF REINFORCING STEEL, FORM WORK, MIXING, HANDLING, PLACING, FINISHING, AND CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH CURRENT EDITIONS OF ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI-315) AND ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI-318).

2. CONCRETE SHALL CONFORM TO ASTM C94. MINIMUM STRENGTH AT 28 DAYS SHALL BE 3000 PSI FOR FOOTING CONCRETE AND 4000 PSI FOR ALL OTHER CONCRETE. FOR CONCRETE OTHER THAN SLABS ON GRADE, MAXIMUM WATER-TO-CEMENT RATIO SHALL BE 0.60 WITH MAXIMUM SLUMP OF 4 INCHES. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4 INCH, AND ALL AGGREGATES SHALL CONFORM TO ASTM C33.

3. CONCRETE SLABS ON GRADE SHALL BE FINISHED TO THE FOLLOWING TOLERANCES:

	FF=25	FL=20
MINIMUM LOCALIZED:	FF=15	FL=10

4. EXTERIOR CONCRETE SHALL BE AIR ENTRAINED, AIR CONTENT TO BE BETWEEN 5 AND 7 PERCENT BY VOLUME.

5. ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 (S1), NEW BILLET STEEL DEFORMED BARS, GRADE 60. UNLESS NOTED OTHERWISE, ALL REINFORCING BAR SPLICES SHALL BE ACI CLASS B TENSION LAP SPLICES, U.N.O. WELDED WIRE FABRIC (W.W.F.) SHALL MEET ASTM A1064. MINIMUM W.W.F. LAP AT SPLICES SHALL BE 8 INCHES.

6. THE FOLLOWING CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT NEAREST THE DESCRIBED SURFACE, UNLESS NOTED OTHERWISE:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3 INCHES

7. COORDINATE LOCATIONS AND DEPTHS OF ALL FLOOR SLAB DEPRESSIONS WITH ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS.

8. UNLESS NOTED OTHERWISE, SLABS ON GRADE SHALL HAVE EITHER CONSTRUCTION JOINTS OR SAW CUT JOINTS SPACED SO THE JOINTS FORM PANELS IN THE SLAB WITH NO SLAB PANEL GREATER THAN 144 SQUARE FEET NOR MORE THAN 12 FEET IN ANY ONE DIRECTION. INSTALL SAW CUT CONSTRUCTION JOINTS AS SOON AS THE SLAB IS CAPABLE OF BEING SAWN WITHOUT RAVELING, BUT IN NO CASE LATER THAN 8 HOURS AFTER FINAL FINISHING BEGINS. CONTRACTOR TO SUBMIT ONE PLAN SHOWING CONSTRUCTION AND CONTROL JOINT LAYOUT FOR ALL SLABS ON GRADE.

9. INTERIOR SLAB CONCRETE SHALL RECEIVE A STEEL TROWEL FINISH. IMMEDIATELY FOLLOWING FINISHING, THE CONCRETE SHALL BE PROTECTED FROM PREMATURE OR EXCESSIVE DRYING, TEMPERATURE EXTREMES AND INJURY.

10. CAST SIX CYLINDERS OF EACH CONCRETE POUR. TEST TWO CYLINDERS SEVEN DAYS AFTER CASTING AND TWO 28 DAYS AFTER CASTING. HOLD TWO CYLINDERS FOR POSSIBLE TEST UNTIL 60 DAYS AFTER CASTING. DISPOSE OF CYLINDERS IF TEST IS NOT REQUESTED. SEND REPORTS TO ARCHITECT, CONTRACTOR AND STRUCTURAL ENGINEER.

DIVISION 5:

POST INSTALLED ANCHORS AND DOWELS NOTES:

1. ANCHOR OR DOWEL CAPACITY USED IN CONSTRUCTION SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY THE MANUFACTURER OR SUCH OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE, AND INSTALLATION TEMPERATURE.

2. INSTALL ANCHORS AND DOWELS STRICTLY IN ACCORDANCE WITH THE MANUFACTURER INSTRUCTIONS.

3. ANCHOR CAPACITY DEPENDS ON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE OR MASONRY. INSTALL ANCHORS IN ACCORDANCE WITH THE SPACING AND EDGE CLEARANCES INDICATED ON THE PROJECT DRAWINGS, AND MANUFACTURER REQUIREMENTS.

4. INSTALL ANCHORS AND DOWELS IN HOLES DRILLED PER MANUFACTURER REQUIREMENTS, TO DEPTH INDICATED, AND NOT LESS THAN MINIMUM EMBEDMENT DEPTH RECOMMENDED BY ADHESIVE MANUFACTURER. HOLES SHALL BE CLEANED AND BLOWN OUT PER MANUFACTURER REQUIREMENTS. HOLES SHALL BE KEPT FREE AND CLEAR OF DIRT, DEBRIS, AND MOISTURE UNTIL ADHESIVE AND DOWEL OR ANCHOR IS INSTALLED. ADHESIVE AND DOWELS OR ANCHORS SHALL BE INSTALLED DURING THE SAME WORK DAY THAT HOLES ARE CORED. CONTRACTOR SHALL PROVIDE CONTINUOUS INSPECTION DURING CORING AND INSTALLATION OF THE FIRST 10% OF ANCHORS INSTALLED, AFTER WHICH TIME PERIODIC INSPECTION SHALL BE PROVIDED.

5. ADHESIVE ANCHOR SHALL CONSIST OF THREADED ROD, NUT, WASHER, AND ADHESIVE.

THREADED ROD:	ASTM A36
NUTS:	ASTM A563
WASHERS:	ASTM F436
ADHESIVE:	SPECIFIED HILTI ADHESIVE, OR EQUAL.
CORROSION PROTECTION:	ROD, NUT, AND WASHER SHALL BE ZINC PLATED PER ASTM B633 FOR SERVICE CONDITION SC-1, OR ZINC COATED BY MECHANICAL PROCESS IN ACCORDANCE WITH ASTM B695.

6. ADHESIVE DOWEL SHALL CONSIST OF REINFORCING BAR AND ADHESIVE.

REINFORCING BAR:	ASTM A615 GRADE 60 DEFORMED BAR
ADHESIVE:	SPECIFIED HILTI ADHESIVE, OR EQUAL.

7. INSTALL SCREW ANCHORS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN PROCEDURES. SCREW ANCHORS SHALL BE EMBEDDED IN GROUTED MASONRY AND SHALL NOT BE INSTALLED IN MASONRY BED OR HEAD JOINTS. SCREW ANCHORS SHALL BE ZINC PLATED PER ASTM B633 FOR SERVICE CONDITION SC-1, OR ZINC COATED BY MECHANICAL PROCESS IN ACCORDANCE WITH ASTM B695.

DRAPER ADEN ASSOCIATES REVIEW

THESE PLANS HAVE BEEN SUBJECTED TO TECHNICAL AND QUALITY REVIEWS BY:

CHRISTOPHER G. HERNDON, PE — 7/9/21
NAME: PRINTED — SIGNATURE — DATE
PROJECT ENGINEER

CHRISTOPHER G. HERNDON, PE — 7/9/21
NAME: PRINTED — SIGNATURE — DATE
PROJECT MANAGER

DAVID W. SPRIGGS, PE — 7/9/21
NAME: PRINTED — SIGNATURE — DATE
QUALITY REVIEWER

DIVISION 6:

STRUCTURAL (ROUGH) CARPENTRY NOTES:

1. WOOD FOR STUDS, BEAMS, JOISTS, HEADERS, AND PLATES SHALL BE NO. 2 SOUTHERN YELLOW PINE, WITH MOISTURE CONTENT NOT TO EXCEED 15%. ALL WOOD LINTELS AND HEADERS SHALL HAVE NO SPLITS.

2. PLYWOOD SHALL BE APA RATED SHEATHING WITH EXTERIOR GLUE. WHERE ROOF SHEATHING PANEL EDGES ARE NOT BLOCKED, INSTALL (1) PLYWOOD SHEATHING CLIP AT EACH SPANNING PANEL EDGE.

3. ALL WOOD IN CONTACT WITH CONCRETE, MASONRY, GROUND, OR EXPOSED TO WEATHER / MOISTURE, SHALL BE TREATED IN ACCORDANCE WITH AWPA STANDARD U1.

4. WOOD ROOF TRUSSES SHALL BE DESIGNED AND FABRICATED BY A MEMBER FIRM OF THE TRUSS PLATE INSTITUTE TO CARRY THE FULL DEAD AND LIVE LOADS INDICATED AT THE INDICATED SPACINGS AND SPANS. TRUSSES SHALL BE SECURELY BRACED DURING ERECTION AS WELL AS WITH PERMANENT BRACING, SUCH THAT TRUSSES ARE PLUMB AND STRAIGHT UNDER ALL INDICATED DEAD, LIVE, AND LATERAL LOADS. ENGINEERING DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION. SEE FRAMING NOTES.

5. UNLESS NOTED OTHERWISE, ALL FASTENING TO STRUCTURAL WOOD SHALL BE IN ACCORDANCE WITH TABLE 2304.10.1 OF THE 2018 NORTH CAROLINA BUILDING CODE. CONNECTIONS OF TRUSSES TO WOOD PLATES OR NAILER BEARINGS SHALL BE WITH STANDARD SIMPSON "HURRICANE" ANCHORS OR EQUAL.

6. WHERE INDICATED "MICROLLAM"/LVL LUMBER SHALL BE EQUAL TO THAT AS MANUFACTURED BY THE TRUS JOIST CORPORATION, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S STANDARDS.

PRE-ENGINEERED WOOD TRUSS NOTES:

1. REFER TO DESIGN CRITERIA NOTES IN CONJUNCTION WITH THESE NOTES.

2. ALL ROOF MEMBERS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES, ETC. WOOD ROOF TRUSSES SHALL BE DESIGNED AND FABRICATED BY A MEMBER FIRM OF THE TRUSS PLATE INSTITUTE, TO CARRY THE FULL DEAD AND LIVE LOADS INDICATED AT THE INDICATED SPACINGS AND SPANS. TRUSSES SHALL BE SECURELY BRACED DURING ERECTION AS WELL AS WITH PERMANENT BRACING, SUCH THAT TRUSSES ARE PLUMB AND STRAIGHT UNDER ALL INDICATED DEAD, LIVE, AND LATERAL LOADS. ALL WOOD ROOF TRUSSES, METAL CONNECTORS, HANGERS, ETC., REQUIRED FOR THE COMPLETE ROOF FRAMING SYSTEM SHALL BE DESIGNED AND SPECIFIED BY TRUSS MANUFACTURER'S STRUCTURAL ENGINEER. TRUSS MANUFACTURER SHALL SUBMIT DETAILED SHOP DRAWINGS AND CALCULATIONS BEARING STRUCTURAL ENGINEER'S STAMP PRIOR TO FABRICATION.

3. WOOD ROOF TRUSS SYSTEM SHALL BE FABRICATED TO PROVIDE THE ROOF LINES INDICATED ON THE ARCHITECTURAL PLANS, SECTIONS, AND ELEVATIONS.

4. ROOF TRUSSES ARE NOT STABLE UNTIL PROPERLY BRACED AND SHEATHED. PROPER HANDLING, SAFETY PRECAUTIONS, AND TEMPORARY BRACING ARE THE RESPONSIBILITY OF THE CONTRACTOR. TEMPORARY BRACING DURING CONSTRUCTION IS REQUIRED, AND SHALL BE PROVIDED BY CONTRACTOR, IN ADDITION TO THE PERMANENT BRACING NEEDED TO REDUCE BUCKLING LENGTH OF INDIVIDUAL MEMBER. CONTRACTOR SHALL ENSURE THAT ALL TRUSSES ARE STABLE AND PLUMB DURING INSTALLATION OF PERMANENT BRACING.

5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROPERLY BRACE ROOF FRAMING INCLUDING BOTH TEMPORARY AND PERMANENT BRACING, EVEN THOUGH ALL BRACING MAY NOT NECESSARILY BE SHOWN ON THESE DRAWINGS. BRACING SHOWN ON ROOF FRAMING PLAN, BUILDING CROSS SECTIONS, ETC., AND ROOF TRUSS MANUFACTURER'S SHOP DRAWINGS IS SPECIAL BRACING REQUIRED IN ADDITION TO NORMAL BRACING RECOMMENDATIONS.

6. PERMANENT TRUSS TOP CHORD BRACING: PLYWOOD ROOF SHEATHING

7. PERMANENT TRUSS CHORD BOTTOM CHORD BRACING: GYPSUM BOARD CEILING OR RIGID SOFFIT. PROVIDE CONTINUOUS 2x4 BOTTOM CHORD BRIDGING AT 10 FT. MAX ON CENTER WHERE GYPSUM BOARD CEILING OR RIGID SOFFIT DOES NOT EXIST. ANCHOR EACH END OF EACH LINE OF CONTINUOUS BOTTOM CHORD BRIDGING WITH DIAGONAL BRACING TO FORM A "BRACED BAY" ACROSS STRUCTURE IN THE PLANE OF THE BOTTOM CHORD.

8. PERMANENT TRUSS VERTICAL WEB BRACING: 2x4 CROSS BRACING INSTALLED IN THE PLANE OF THE WEBS AS TRUSSES ARE ERECTED. AT EACH WEB REQUIRING BOTTOM CHORD BRIDGING, BUT NOT TO EXCEED 18 FOOT INTERVALS ALONG LENGTH OF TRUSS.

9. TYPICAL BRACING MEMBERS TO BE 2x4 (MINIMUM) CONNECTED TO TRUSS WITH MIN. (2) 16d NAILS AT EACH TRUSS. MIN. LENGTH OF EACH BRACING MEMBER TO BE 8 FT. CROSS AND DIAGONAL BRACES TO RUN AT APPROXIMATELY 45 DEGREE ANGLES.

10. ALL WOOD ROOF TRUSSES SHALL BE CONNECTED TO BEARING WALL TOP PLATES WITH "SIMPSON STRONG TIE" STANDARD METAL HURRICANE ANCHORS AT EACH END, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

11. PROVIDE AND INSTALL METAL H CLIPS AT ALL PLYWOOD BUTT JOINTS WHICH OCCUR BETWEEN ROOF TRUSSES OR RAFTERS WHICH ARE SPACED GREATER THAN 16"o.c.

12. IT SHALL BE THE ROOF TRUSS MANUFACTURER'S RESPONSIBILITY TO VERIFY WITH THE GENERAL CONTRACTOR THE SIZES, WEIGHTS, AND LOCATIONS, ETC., OF ALL THE EQUIPMENT AND MATERIALS, SUCH AS HVAC EQUIPMENT AND ETC., TO BE LOCATED OR SUSPENDED BELOW ROOF TRUSSES, ETC. AND DESIGN TRUSSES TO SUPPORT THESE ADDITIONAL LOADS.

13. COORDINATE WOOD TRUSS TAILS, CANTILEVERS, AND END DIMENSIONS WITH ARCHITECTURAL WALL SECTIONS AND EAVE DETAILS.

14. TRUSS DESIGN LOADS U.N.O. OR SCHEDULED SHALL BE AS FOLLOWS:

TOP CHORD LIVE LOAD	20 PSF
BOTTOM CHORD LIVE LOAD	10 PSF (NON-ATTIC AREAS) 20 PSF OR WEIGHT OF MECHANICAL UNITS AS REQUIRED (ATTIC AREAS)
WIND UPLIFT	15 PSF (** OR PER TRUSS MANUFACTURER)
TOP CHORD DEAD LOAD	10 PSF
BOTTOM CHORD DEAD LOAD	10 PSF

DIVISION 31:

FOUNDATION EARTHWORK NOTES:

1. FOUNDATION SIZES AND ELEVATIONS ARE BASED ON AN ASSUMED ALLOWABLE SAFE SOIL BEARING CAPACITY OF 2,000 PSF. FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR STRUCTURALLY COMPACTED FILL OF AT LEAST THIS WORKING SAFE CAPACITY. IF SOIL OF THIS QUALITY IS NOT FOUND AT THE ELEVATIONS INDICATED, FOOTINGS MAY NEED TO BE LOWERED OR ENLARGED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER.

2. FOUNDATION PREPARATION SHALL BE PERFORMED IN ACCORDANCE WITH RECOMMENDATIONS MADE BY PROJECT GEOTECHNICAL ENGINEER.

3. ALL STRUCTURALLY COMPACTED FILL SHALL BE OF MATERIAL CLASSIFIED CL, ML, SC, SM, SP, SW, GC, GM, OR GW ACCORDING TO ASTM D-2487, FREE FROM CLAY BALLS, TRASH, DEBRIS, OR OTHER DELETERIOUS MATTER.

4. AFTER STRIPPING MATERIAL FROM AREA TO BE GRADED, REMOVE ALL UNSUITABLE MATERIAL FROM EXPOSED SUB-GRADE, SUCH AS DEBRIS, TRASH, ORGANIC MATTER, OR SOFT SOIL. SOIL SURFACES RECEIVING COMPACTED STRUCTURAL FILL SHALL BE PROOF-ROLLED WITH A LOADED DUMP TRUCK UNDER THE OBSERVATION OF THE GEOTECHNICAL ENGINEER. AREAS EXHIBITING EXCESSIVE PUMPING, WEAVING, OR RUTTING SHALL BE EXCAVATED AND REPLACED WITH COMPACTED STRUCTURAL FILL OR SCARIFIED, DRIED, AND RECOMPACTED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING FILL.

5. ALL FILL SHALL BE PLACED IN 6"-8" UNCOMPACTED LIFTS (MAXIMUM) AND COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY DETERMINED IN ACCORDANCE WITH ASTM D-698 (STANDARD PROCTOR). THE MOISTURE CONTENT OF FILL AT TIME OF PLACEMENT SHALL BE WITHIN +/- 2% OF THE OPTIMUM MOISTURE CONTENT DETERMINED IN THE LABORATORY. COMPACTED FILL SUB-GRADES WITH A SLOPE GREATER THAN 4H:1V SHALL BE BENCHED TO ALLOW PLACEMENT OF HORIZONTAL LIFTS.

6. ALL FOUNDATION EXCAVATIONS SHALL BE OBSERVED BY THE PROJECT GEOTECHNICAL ENGINEER, AND APPROVED FOR FOOTINGS, PRIOR TO PLACING CONCRETE. ALL FOUNDATIONS SHALL BE CONCRETED PROMPTLY FOLLOWING INSPECTION.

7. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING CONSTRUCTION TO DIRECT WATER AWAY FROM FOUNDATION CONSTRUCTION AREAS. ANY SUB-GRADE SOILS WEAKENED BY THROUGH SATURATION OR DISTURBANCE SHALL BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL FILL.

8. CONTRACTOR SHALL COORDINATE EXTERIOR SITE WORK, INCLUDING STEPS, WALKS, WALLS, AND FINISHED GRADES, WITH FOUNDATION WORK.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043810 12-21-21 CHRISTOPHER G. HERNDON

Draper Aden Associates
Engineering • Surveying • Environmental Services
114 Edinburgh South Drive, Suite 200 Cary, NC 27511
919-927-0864 Fax: 919-339-8138 www.draperaden.com
• Hampton Roads, VA • Fayetteville, NC • Northern Virginia • Virginia Beach, VA
• Richmond, VA • Blacksburg, VA • Charlottesville, VA
NC Firm License # F-1429

GENERAL NOTES

Lexington Plantation Pool House

400 Centennial Parkway Cameron, NC 28326

REVISIONS

NO.	DESCRIPTION	DATE

DESIGNED BY: CGH
DRAWN BY: CGH
CHECKED BY: DWS
SCALE: 12" = 1'-0"
DATE: 12/21/21
PROJECT NUMBER: 2101033

S0.1

P:\2021\01\00\2101033\04-STR\CAD\Lexington Plantation Pool House - STRUCT (2020).rvt

2018 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: Lexington Plantation Pool House
Address: 400 Centennial Parkway Cameron, NC Zip Code 28326
Owner/Authorized Agent: Village at Lexington HOA Phone # (910) 484 - 5400 E-Mail jamie@littleandyoung.net
Owned By: ☐ City/County ☒ Private ☐ State
Code Enforcement Jurisdiction: ☐ City_____ ☒ County Harnett ☐ State

CONTACT: Christopher G. Herndon, PE CWI

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural				(___)_____	
Civil	Draper Aden Associates	Andrew P. Mericle, PE	041595	(919) 827-0864	americle@daa.com
Electrical				(___)_____	
Fire Alarm				(___)_____	
Plumbing	Coastal Plains Engineering, PA	Christopher S. Locklear, PE	020193	(910) 521-7213	coastalplainseng@gmail.com
Mechanical				(___)_____	
Sprinkler-Standpipe				(___)_____	
Structural	Draper Aden Associates	Christopher G. Herndon, PE CWI	043810	(919) 827-0864	cherndon@daa.com
Retaining Walls >5' High				(___)_____	
Other				(___)_____	

("Others" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC CODE FOR: ☒ New Construction ☐ Addition ☐ Renovation
☐ 1st Time Interior Completion
☐ Shell/Core
☐ Phased Construction – Shell/Core
☐ Renovation

2018 NC EXISTING BUILDING CODE: ☐ Prescriptive ☐ Repair ☐ Chapter 14
Alteration: ☐ Level I ☐ Level II ☐ Level III
☐ Historic Property ☐ Change of Use

CONSTRUCTED:(date) _____ **ORIGINAL OCCUPANCY(S)** (Ch. 3):_____
RENOVATED: (date) _____ **CURRENT OCCUPANCY(S)** (Ch. 3):_____

RISK CATEGORY (table 1604.5) **Current:** ☐ I ☒ II ☐ III ☐ IV
Proposed: ☐ I ☐ II ☐ III ☐ IV

BASIC BUILDING DATA
Construction Type: (check all that apply) ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ☒ V-B
Sprinklers: ☒ No ☐ Partial ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes (Primary) **Flood Hazard Area:** ☒ No ☐ Yes
Special Inspections Required: ☐ No ☒ Yes

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

DESIGN LOADS:

Importance Factors: Snow (I_S) 1.0
Seismic (I_E) 1.0

Live Loads: Roof 20 psf
Mezzanine _____ psf
Floor 100 psf

Ground Snow Load: 10 psf

Wind Load: Ultimate Wind Speed 120 mph (ASCE-7)
Exposure Category C

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☒ C ☐ D
Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) ☐ I ☒ II ☐ III ☐ IV
Spectral Response Acceleration S_S 20.5 %g S_1 9.3 %g
Site Classification (ASCE 7) ☐ A ☐ B ☒ C ☐ D ☐ E ☐ F
Data Source: ☐ Field Test ☒ Presumptive ☐ Historical Data
Basic structural system ☒ Bearing Wall ☐ Dual w/Special Moment Frame
☐ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum
Analysis Procedure: ☐ Simplified ☒ Equivalent Lateral Force ☐ Dynamic
Architectural, Mechanical, Components anchored? ☐ Yes ☒ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☒

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) _____ psf
Presumptive Bearing capacity 2,000 psf
Pile size, type, and capacity _____

Draper Aden Associates
Engineering • Surveying • Environmental Services
114 Edinburgh South Drive, Suite 200
Cary, NC 27511
919-827-0864 Fax: 919-839-8138
www.draperaden.com
• Hampton Roads, VA
• Fayetteville, NC
• Richmond, VA
• Blacksburg, VA
• Northern Virginia
• Charlottesville, VA
• Virginia Beach, VA
NC Firm License # F-1429

NORTH CAROLINA PROFESSIONAL SEAL 043810 12-21-21 ENGINEER CHRISTOPHER G. HERNDON

APPENDIX B
Lexington Plantation Pool House
400 Centennial Parkway Cameron, NC 28326

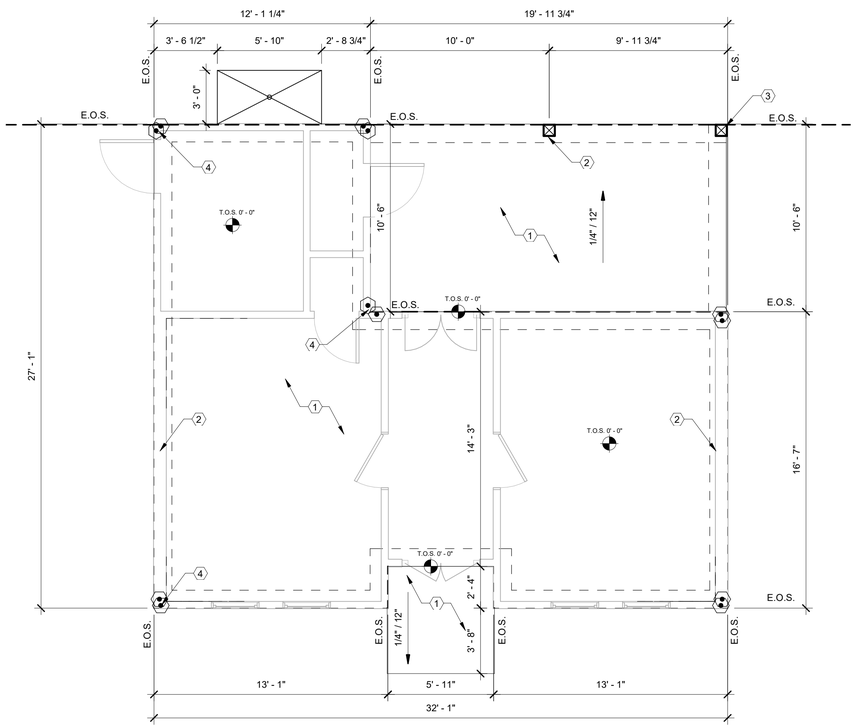
REVISIONS

NO.	DESCRIPTION	DATE

DESIGNED BY: CGH
DRAWN BY: CGH
CHECKED BY: DWS
SCALE:
DATE: 12/21/21
PROJECT NUMBER: 2101033

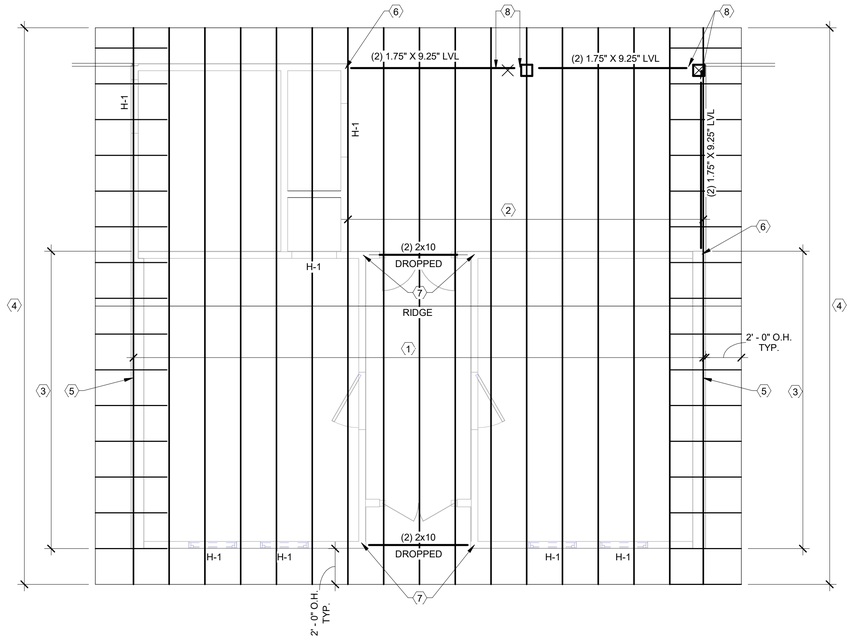
S0.2

P:\2021\01000\2101033\04-STR\CAD\Lexington Plantation Pool House - STRUCT (2020).rvt



FOUNDATION PLAN

SCALE: 1/4" = 1'-0"



FRAMING PLAN

SCALE: 1/4" = 1'-0"

FOUNDATION PLAN GENERAL NOTES:

1. SEE SHEET S0.1 FOR GENERAL STRUCTURAL NOTES.
2. SEE ARCH. PLAN FOR TYPICAL WALL SECTION
3. CONTRACTOR TO COORDINATE ALL DIMENSIONS, ELEVATIONS AND OPENINGS WITH ARCHITECTURAL DRAWINGS PRIOR TO EXECUTING WORK.
4. REFER TO GEOTECHNICAL REPORT FOR ALL SUBGRADE MATERIAL REQUIREMENTS.
5. TYPICAL PERIMETER FOUNDATION CONSTRUCTION IS 18" DEEP BY 12" WIDE TURNDOWN SLAB REINFORCED W/ (2) #5 CONT., BOT..
6. TYPICAL ANCHOR BOLT OF EXT. STUD WALL SILL PLATE: 5/8" DIA. ANCHOR BOLTS @ 6'-0"o.c. MAX. w/ MIN. 9" EMBEDMENT.
7. TYPICAL LAP SPLICE FOR REBAR: 48 BAR DIAMETERS.

FOUNDATION PLAN KEYNOTES:

⟨1⟩ - 4" CONC. SLAB ON GRADE REINFORCED W/ 6X6-W1.4XW1.4 MID-DEPTH OVER 10 MIL VAPOR BARRIER ON 4" COMPACTED POROUS FILL.

⟨2⟩ - TURNDOWN SLAB AT PERIMETER, TYP. SEE "FOUNDATION PLAN GENERAL NOTES"

⟨3⟩ - 8X8 PRESSURE TREATED POST, TYP. SECURE TO CONC. SLAB W/ SIMPSON CPT88Z CONCEALED POST TIE W/ (2) 1/2"ø HOT DIP GALVANIZED THREADED RODS W/ HILTI HIT-HY200 ADHESIVE, MIN. EMBED 6".

⟨4⟩ - SYMBOL DENOTES HOLD DOWN AT THIS LOCATION, TYP.. SEE "SHERWALL NOTE" THIS SHEET FOR MORE INFO

⟨5⟩ - OUTDOOR SHOWER, SLOPE TO DRAIN ALL SIDES, TYP.

NOTE:
LATERAL BRACING SYSTEM - LIGHT FRAME WOOD WALLS WITH WOOD SHEAR PANELS

SHEARWALL NOTE:
ALL EXTERIOR WALLS TO BE CONSTRUCTED THUS:
WALL STUDS & WALL SHEATHING PER "DESIGN ITEMS" THIS SHEET.
5/8" DIA. ANCHOR BOLTS W/ 1/4"x3"x3" PLATE WASHERS TO BE INSTALLED @ 6'-0"o.c. (MAX.) & WITHIN 1'-0" (MAX.) FROM CORNERS & SILL PLATE SPLICE LOCATIONS.

INSTALL (1) HDU2-SDS2.5 w/ DOUBLE STUD @ LOCATIONS INDICATED ON PLAN THUS: ⬢

AT HOLD DOWN LOCATIONS, SECURE W/ 5/8" DIA. THREADED RODS W/ HILTI HIT-HY200 ADHESIVE W/ 9" EMBEDMENT INTO TURNDOWN SLAB.

FRAMING PLAN GENERAL NOTES:

1. SEE SHEET S0.1 FOR GENERAL STRUCTURAL NOTES.
2. SEE ARCH. PLAN FOR TYPICAL WALL SECTION
3. PROVIDE SOLID BLOCKING BETWEEN TRUSSES AT BEARING LOCATIONS @ 4'-0" O.C. (MAX), TYP.
4. BRACE TOP OF ALL INTERIOR STUD WALLS TO STRUCTURE ABOVE.
5. ALL WOOD IN CONTACT w/ CONCRETE OR EXPOSED TO WEATHER TO BE TREATED.
6. COORDINATE BRIDGING REQUIREMENTS FOR PRE-ENGINEERED FRAMING w/ MANUFACTURER.

DESIGN ITEMS:

EXTERIOR WALLS:	2x4 STUDS @ 16"o.c. (MAX), U.N.O.
EXTERIOR WALL SHEATHING:	7/16" PLYWOOD SHEATHING (1-SIDED)
FASTENING:	8d NAILS @ 6"o.c. ALONG PANEL EDGES @ 12"o.c. AT INTERMEDIATE SUPPORTS
ROOF SHEATHING:	1/2" PLYWOOD
FASTENING:	8d NAILS @ 6"o.c. ALONG PANEL EDGES @ 12"o.c. AT INTERMEDIATE SUPPORTS

FRAMING PLAN KEYNOTES:

⟨1⟩ - PRE-ENGINEERED WOOD ROOF TRUSSES @ 2'-0" O.C. (MAX.), TYP., U.N.O.

⟨2⟩ - ROOF TRUSSES BEAR ON WALL/BEAM BELOW, TYP. @ THIS LOCATION ONLY. PROVIDE FULL HEIGHT TRUSS BLOCKS PER MANUF. @ 2'-0" O.C. BTWN. TRUSSES TO TRANSFER LOAD TO SHEARWALL BELOW, TYP.

⟨3⟩ - 2X8 STUDS @ 1'-4" O.C. (MAX.), TYP.

⟨4⟩ - 2X4 OUTRIGGERS @ 2'-0" O.C. (MAX.), TYP.

⟨5⟩ - STEP DOWN GABLE END TRUSS TO ALLOW FOR 2X4 OUTRIGGERS

⟨6⟩ - (3) 2X STUDS UNDER PORCH BAND BRG. STUD SIZE TO MATCH WALL STUDS AT BEARING LOCATIONS

⟨7⟩ - (2) 2X4 STUDS AT BEAM BEARING LOCATION

⟨8⟩ - SECURE BEAMS TO COL. W/ SIMPSON HUC410 HANGERS, TYP.

ROOF CONNECTION SCHEDULE

CONDITION	CONNECTION REQ'D
ROOF TRUSSES @ 2'-0" O.C.	H2.5A
2X4 OUTRIGGERS TO STEP DOWN GABLE END TRUSS	H2.5A
2X4 OUTRIGGERS TO ROOF TRUSS	A35 CLIP

NOTES:
- ALL HANGERS, STRAPS & TIES REFERENCED IN TABLE ABOVE ARE STANDARD CONNECTORS MANUFACTURED BY SIMPSON STRONG TIE. ALTERNATIVE HANGERS ARE TO BE SUBMITTED TO EOR FOR APPROVAL PRIOR TO INSTALLATION.
- ALL CONNECTORS & FASTENERS EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED OR STAINLESS STEEL, TYP.

WOOD HEADER SCHEDULE

HEADER MARK	HEADER DESCRIPTION	SUPPORT EA. END
H-1	(2) 2X6	(2) JACK STUDS

NOTES:
- ALL HEADERS TO BEAR ON A MIN. OF (2) JACK STUDS EA. END
- FOR OPENINGS IN EXTERIOR WALLS UNDER 4'-0" USE (2) FULL HEIGHT STUDS EA. END
- PROVIDE 2X4 PLATE TOP & BOT OF ALL HEADERS, TYP.
- INSTALL 1/2" SHEATHING SPACER BETWEEN HEADER PLIES AS REQ'D, TYP.

ROOF TRUSSES TO BE PRE-ENGINEERED WOOD TRUSSES SPACED @ 2'-0"o.c. (MAX.) UNLESS NOTED OTHERWISE.
SEE GENERAL STRUCTURAL NOTES FOR OTHER REQ. (TYP.)

NOTE:
FINAL SIGNED AND SEALED TRUSS CALCULATIONS TO BE REVIEWED BY S.E.R. PRIOR TO FABRICATION FOR COORDINATION w/ BUILDING STRUCTURAL REQUIREMENTS.

NOTE:
PROVIDE PERMANENT TRUSS BOTTOM CHORD BRACING:
GYPSUM BOARD SHEATHING

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043810 12-21-21 CHRISTOPHER G. HERMON

Draper Aden Associates
Engineering • Surveying • Environmental Services
114 Edinburgh South Drive, Suite 200
Cary, NC 27511
919-827-0864 Fax: 919-839-8138
www.draperaden.com
NC Firm Licnse # F-1429
• Hampton Roads, VA
• Fayetteville, NC
• Northern Virginia
• Richmond, VA
• Blacksburg, VA
• Charlottesville, VA

FOUNDATION & FRAMING PLANS

Lexington Plantation Pool House

400 Centennial Parkway Cameron, NC 28326

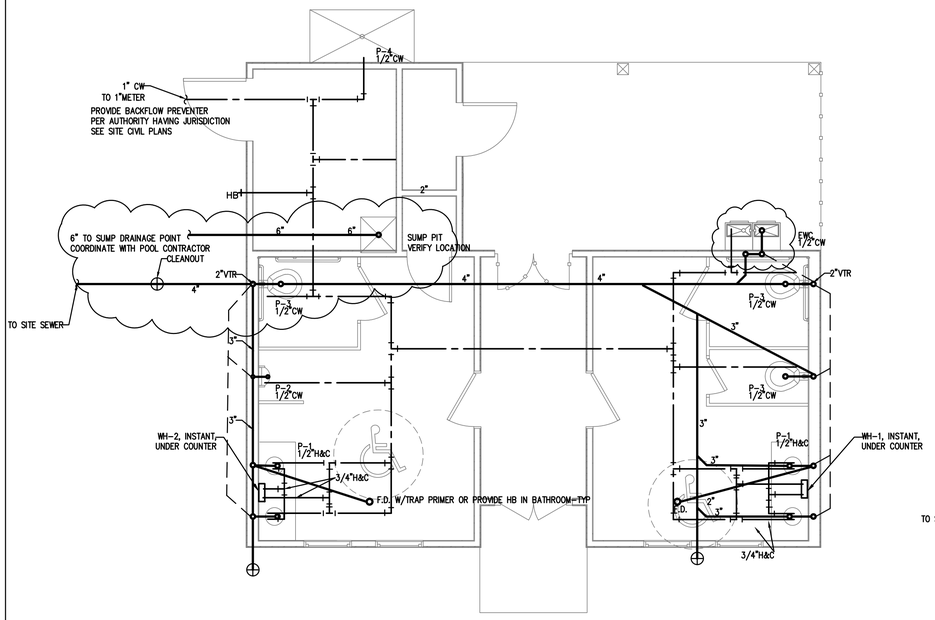
REVISIONS

NO.	DESCRIPTION	DATE

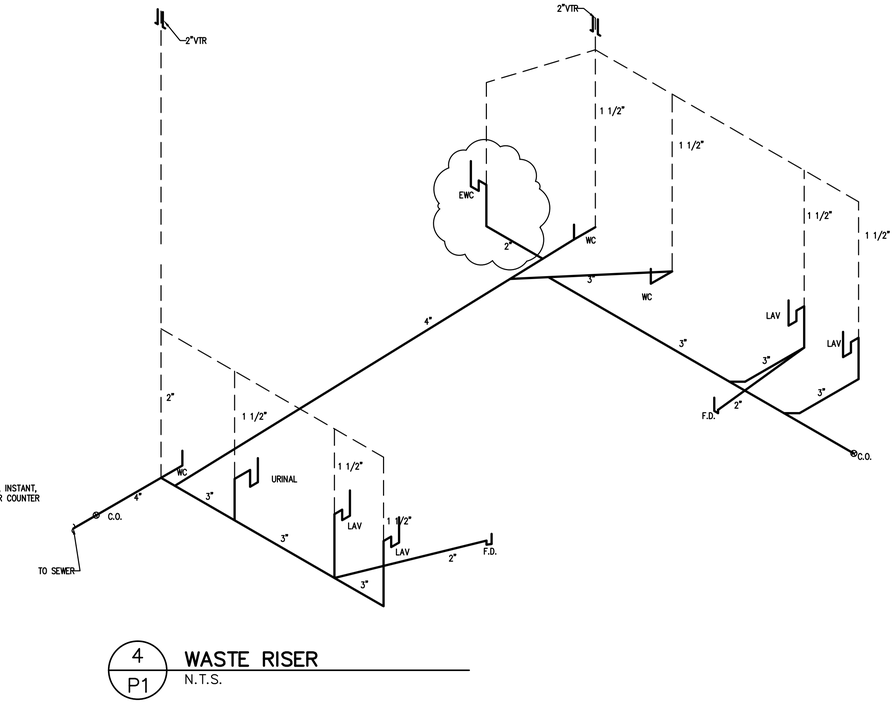
DESIGNED BY: CGH
DRAWN BY: CGH
CHECKED BY: DWS
SCALE: As indicated
DATE: 12/21/21
PROJECT NUMBER: 2101033

S1.0

P:\2021\01000\2101033\04-STR\CAD\Lexington Plantation Pool House - STRUCT (2020).rvt



1 P1 **PLUMBING PLAN**
1/4"=1'-0"



4 P1 **WASTE RISER**
N.T.S.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE AS WELL AS ALL LOCAL AND OTHER APPLICABLE CODES.

ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN.

WATER LINES BELOW GRADE SHALL BE TYPE "K" COPPER (NO JOINTS BELOW GRADE) AND ABOVE GRADE TYPE "L" COPPER SUPPORTED AS REQUIRED AND SHALL BE HYDROSTATICALLY TESTED FOR TWO HOURS AT 100 PSI. ALL WATER PIPING AT WATER FIXTURES SHALL BE PROVIDED WITH 18" AIR CHAMBERS OR SHOCK ABSORBERS. STOPS SHALL BE PROVIDED ON HOT AND COLD WATER LINES. HOT WATER PIPING SHALL BE INSULATED WITH 1" CLOSED CELL RUBBER. THE ENTIRE WATER SYSTEM SHALL BE DISINFECTED PRIOR TO PLACING IN SERVICE
PVC/PEX MAYBE SUBSTITUED FOR COPPER

SANITARY SEWER LINES SHALL BE PVC.

PROVIDE PRESSURE REDUCING VALVE IF STREET WATER EXCEEDS 80 PSI

GAS PIPING WILL BE SCHEDULE 40 BLACK STEEL WITH BLACK MALLEABLE IRON SCREW-TYPE FITTINGS.

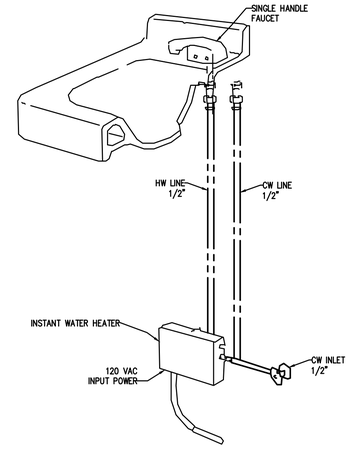
THE PLUMBING CONTRACTOR SHALL PROVIDE ALL OPENINGS REQUIRED FOR THE PLUMBING WORK AND SHALL INSTALL FIRE RATED SLEEVES WHEREVER PENETRATIONS OF RATED WALLS OR FLOORS ARE MADE. THE PATCHING SHALL BE BY THE PLUMBING CONTRACTOR. THE PLUMBING CONTRACTOR SHALL REVIEW ALL UTILITY SITE PLANS AND ARCHITECTURAL SITE PLANS FOR WORK BY OTHERS.

LOCATION OF UTILITIES (WASTE AND WATER LINES, MANHOLES ETC.) THAT ARE TO BE CONNECTED TO ARE ASSUMED. IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO VERIFY THESE LOCATIONS AND MAKE THE FINAL CONNECTION AS REQUIRED.

ALL FLOOR DRAINS SHALL BE PROVIDED WITH TRAP PRIMERS

2 P1 **PLUMBING NOTES**
N.T.S.

SYMBOL	MANUFACTURER	MODEL #	FIXTURE DESCRIPTION	ACCESSORIES	SUPPLY	WASTE	VENT	REMARKS
P-1	AMERICAN STD.	0490.011	OVAL LAVATORY, COUNTER TOP	DELTA 2507LF-HDF TWO HANDLE METERING FAUCET	1/2" H.W./C.W.	2"	1-1/2"	PROVIDE TRUEBRO LAV GUARD 2 UNDERSINK PIPING COVERS
P-2	AMERICAN STD.	6541.132	URINAL, WALL-TYPE	SLOAN ROYAL 186-1, FLUSH VALVE	1/2" C.W.	2"	1-1/2"	
P-3	AMERICAN STD.	270AB.001.020	WATER CLOSET (FLUSH TANK), FLOOR-TYPE ADA	PROVIDE COMPATIBLE TOILET SEAT	1/2" H.W./C.W.	3"	1-1/2"	
P-4	AQUAMASTER	PM-750 ADA	STAINLESS STEEL WALL MOUNTED POOL SHOWER W/ SLOW CLOSING PUSH BUTTON VALVE		1/2" C.W.	-	-	
WH-1,2	EEMAX OR EQ.	SP2412	TANKLESS WATER HEATER ELECTRIC, 120V, 1Φ,2400W	-	1/2" H.W./C.W.			
EWC	ELKAY	EZSTL8SC	WALL MOUNT BI-LEVEL ADA WATER COOLER	-	1/2" H.W./C.W.	2"	1-1/2"	



3 P1 **INSTANT WATER HEATER DETAIL**
N.T.S.

Dec 22, 2021

NORTH CAROLINA PROFESSIONAL SEAL 20193 ENGINEER CHRISTOPHER S. LOCKLEAR

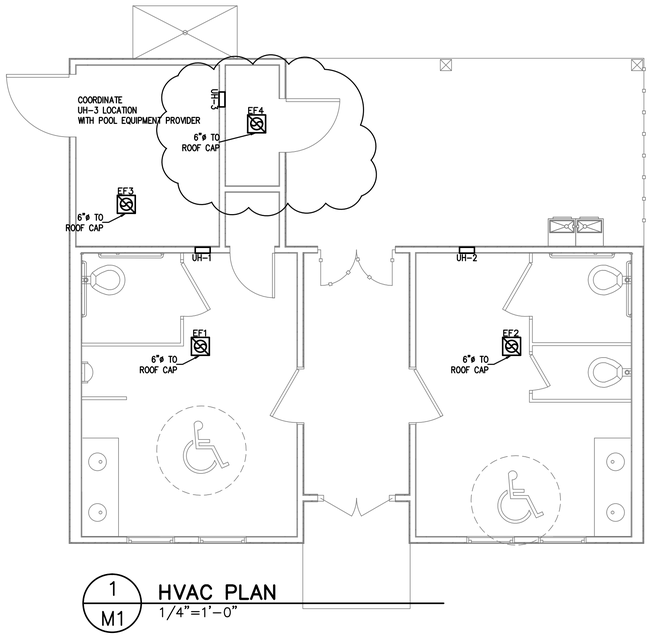
Coastal Plains Engineering, P.A.
License No: C-2059
295 LOCKLEAR RD
P.O. Box 1117
Pembroke, NC 28372
Voice: 910-521-7413
Fax: 910-521-7218
www.coastalplainseng.com

LEXINGTON PLANTATION POOL HOUSE

HARNETT COUNTY NC

PROJECT NO:2021-096
DRAWN BY: AJO
DATE:
REVISIONS:

SHEET NO:
P1



1 M1 **HVAC PLAN**
1/4"=1'-0"

MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone 4A

winter dry bulb: 18□F
summer dry bulb: 94□F

Interior design conditions

winter dry bulb: 75□F
summer dry bulb: 75□F
relative humidity: 50%

Building heating load: N/A

Building cooling load: N/A

Mechanical Spacing Conditioning System

Binary
Description of unit: N/A
heating efficiency: N/A
cooling efficiency: N/A
size category of units: N/A

Description of units: ELECTRIC UNIT HEATERS
heating efficiency: N/A
cooling efficiency: N/A
size category of units: N/A

Boiler
Size category. If oversized, state reason.:

Chiller
Size category. If oversized, state reason.:

List equipment efficiencies: 14.0 SEER

SIGNED:

NAME: Christopher Locklear

TITLE: Engineer

ALL WORK SHALL BE IN ACCORDANCE WITH THE 2018 NC MECHANICAL CODE.

ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL IN ACCORDANCE WITH ASHRAE & SMACNA. DUCT SIZES SHOWN ARE NET FREE AREA REQUIRED. ALL SUPPLY AND RETURN DUCTS AND FLEX SHALL BE INSULATED WITH MIN. R-6.0 INSULATION UNLESS OTHERWISE NOTED IN THE DRAWING.

ALL EXPOSED ROUND DUCT SHALL BE DOUBLE WALL INSULATED. EXPOSED RECTANGULAR DUCT SHALL BE INTERNALLY LINED WITH INSULATION

ALL DUCTS SHALL BE AIR TIGHT, RIGID AND FREE FROM VIBRATION AND NOISE. ALL LAP JOINTS SHALL BE IN THE DIRECTION OF FLOW. VOLUME OR SPLITTER DAMPERS SHALL BE INSTALLED WHERE NECESSARY TO GUIDE AND CONTROL THE AIR FLOW. PROVIDE SHEET METAL SLEEVES AND COLLARS WHERE DUCTS PASS THROUGH WALLS.

STRUCTURAL MEMBERS OF THE BUILDING SHALL NOT BE CUT IN ANY MANNER FOR THE INSTALLATION OF ANY EQUIPMENT UNLESS PRIOR APPROVAL IS OBTAINED FROM THE ARCHITECT.

MECHANICAL CONTRACTOR TO CONFIRM BREAKER/DISCONNECT SIZES OF HIS EQUIPMENT WITH THE ELECTRICAL CONTRACTOR.

FURNISH AND INSTALL A DUCT MOUNTED SMOKE DETECTOR IN THE RETURN DUCT OF THE A/C UNIT IN ACCORDANCE WITH 2018 NC MECHANICAL CODE. THE DETECTOR SHALL BE WIRED TO SHUT DOWN THE FAN IN THE EVENT THE DETECTOR IS ACTIVATED. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL THE DUCT DETECTOR AND RUN THE NECESSARY CONTROL WIRING FROM THE DETECTOR TO HIS EQUIPMENT. SMOKE DETECTORS ARE ONLY REQUIRED FOR UNITS SUPPLYING 2000 CFM OR MORE.

MECHANICAL CONTRACTOR SHALL PROVIDE A TEST AND BALANCE REPORT SYSTEM COMPLIANCE STATEMENT REQUIRES A WRITTEN T&B REPORT. FINAL PROJECT SIGNOFF WILL BE DENIED WITHOUT THIS REPORT

MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE LOCATIONS AND ROUTING OF ALL DUCTWORK WITH OTHER TRADES TO AVOID CONFLICTS.

ALL EQUIPMENT MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK OR IN ACCORDANCE WITH THE PARTICULAR MANUFACTURER'S STANDARD GUARANTEE IF LONGER. ANY FAULTY MATERIAL OR WORKMANSHIP OR FAILURE OF ANY PART OF THE SYSTEM DURING NORMAL OPERATIONS UNDER THIS GUARANTEE SHALL BE CORRECTED WITHOUT COST TO THE OWNER.

ALL THERMOSTATS SHALL BE OF A PROGRAMMABLE TYPE.

BUILDING CONTRACTOR SHALL PROVIDE PERMANENT ACCESS TO ROOF STRUCTURE FOR ACCESS TO MECHANICAL EQUIPMENT WHEN ROOF STRUCTURE IS GREATER THAN 16'-0" HIGH.

2 M1 **HVAC NOTES**
N.T.S.

Dec 22, 2021

NORTH CAROLINA PROFESSIONAL SEAL 20193 ENGINEER CHRISTOPHER S. LOCKLEAR

Coastal Plains Engineering, P.A.
License No: C-2059
295 LOCKLEAR RD
P.O. Box 1117
Pembroke, NC 28372
Voice: 910-521-7213
Fax: 910-521-7218
www.coastalplainseng.com

FAN SCHEDULE

MARK	LOCATION	SERVICE	CFM	S.P.	WATTS	RPM	VOLT	PHASE	DRIVE	REMARKS
EF1 thru EF2	CEILING	TOILETS	140	0.125"	185	980	120	1	DIRECT	CEILING MOUNTED FAN. PROVIDE W/B.D.D. AND ROOF CAP GREENHECK SPB-150 OR EQ. 6"ø TO ROOF/WALL CAP
EF3,4	CEILING	POOL EQUIP.	120	.125"	52.5	1100	120	1	DIRECT	CEILING MOUNTED FAN. PROVIDE W/B.D.D. AND ROOF CAP GREENHECK SPA-125 OR EQ. 6"ø TO ROOF/WALL CAP

UNIT HEATER SCHEDULE

	CAPACITIES							
UNIT NO.	FLA	UNIT VOLT	UNIT PHASE	MOCP	WIRE SIZE (DU. 75 C)	INPUT BTU	OUTPUT BTU	MFG & MODEL #
UH-1,2,3	12.5	120	1	20	#12	5,120	5,120	TPI CORP 305 SERIES WALL MTD. E3055T2DWB

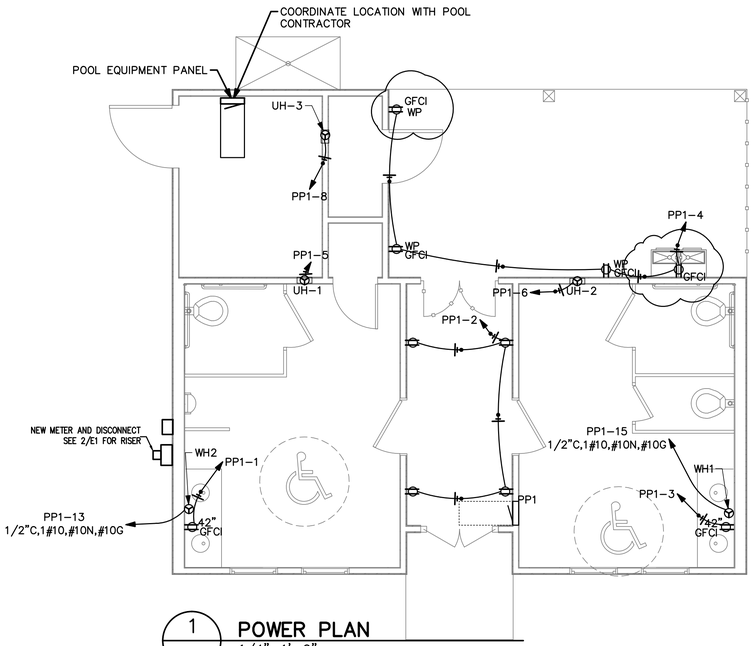
OUTSIDE AIR CALCULATION -2018 NC MECHANICAL CODE (TABLE 403.3.1.1) Vbz = RpPz + RaAz

	OCCUPANCY TYPE:	SF (Az)	# OF OCCUPANTS (Pz)	O.A. CFM PER PERSON (Rp)	O.A CFM PER SqFt (Ra)	O.A. CFM REQUIRED (Vbz)	EXAUST CFM REQUIRED
ELECTRIC UNIT HEATERS	POOL EQUIPMENT ROOM	61	0	0	0.12	**7.32**	**81**
	STORAGE/CHEMICALS	30	0	0	0.12	**3.6**	**40**
	MENS RESTROOM	190	0	0	0	**0**	**140**
	WOMEN RESTROOM	190	0	0	0	**0**	**140**
	TOTAL CFM REQUIRED					**10.92**	**401**
	TOTAL CFM FURNISHED					**10.92**	**401**

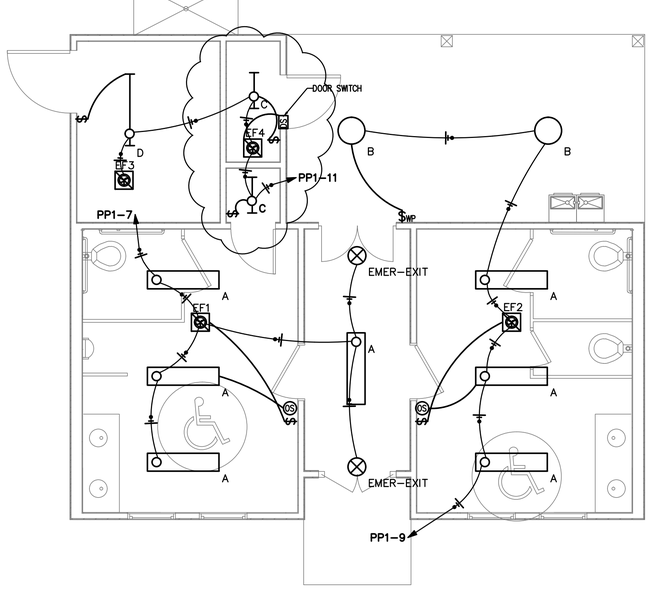
LEXINGTON PLANTATION POOL HOUSE
HARNETT COUNTY NC

PROJECT NO:2021-096
DRAWN BY: AJO
DATE:
REVISIONS:

SHEET NO:
M1



1 / E1 **POWER PLAN**
1/4"=1'-0"



2 / E1 **LIGHTING PLAN**
1/4"=1'-0"

(VS) BRYANT (HUBBELL) MSD1000WI OR EQUAL WALL SWITCH OCCUPANCY SENSOR DUAL (ULTRASONIC AND PASSIVE INFRARED) TECHNOLOGY
1,000 SQUARE FOOT COVERAGE
800W INCANDESCENT, 1000W FLUORESCENT AT 120V AC

PP1

ROOM
MOUNTING FLUSH
FED FROM UTILITY
NOTE

VOLTS 240/120V 2P 3W
BUS AMPS 200
NEUTRAL 100%

AIC 22,000
MAIN BKR MLO
LUGS STANDARD

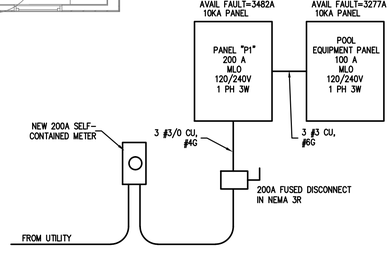
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B
1	20/1	RECEPTACLE	0.18		2	20/1	RECEPTACLE	0.72	
3	20/1	RECEPTACLE		0.18	4	20/1	RECEPTACLE		0.72
5	20/1	UH-1	1.5		6	20/1	UH-2	1.5	
7	20/1	EF1, LIGHTING		0.359	8	20/1	UH-3		1.5
9	20/1	EF2, LIGHTING	0.431		10	20/1	SPACE	0	
11	20/1	EF3, EF4, LIGHTING		0.13	12	20/1	SPACE		0
13	30/1	WH2	2.4		14	20/1	SPACE	0	
15	30/1	WH1		2.4	16	20/1	SPACE		0
17	100/2	PANEL POOL EQUIPMENT PANEL	0		18	20/1	SPACE	0	
19	|			0	20	20/1	SPACE		0
21	20/1	SPACE	0		22	20/1	SPACE	0	
23	20/1	SPACE		0	24	20/1	SPACE		0
25	20/1	SPACE	0		26	20/1	SPACE	0	
27	20/1	SPACE		0	28	20/1	SPACE		0
29	20/1	SPACE	0		30	20/1	SPACE	0	
31	20/1	SPACE		0	32	20/1	SPACE		0
33	20/1	SPACE	0		34	20/1	SPACE	0	
35	20/1	SPACE		0	36	20/1	SPACE		0
37	20/1	SPACE	0		38	20/1	SPACE	0	
39	20/1	SPACE		0	40	20/1	SPACE		0
41	20/1	SPACE	0		42	20/1	SPACE	0	
							TOTAL CONNECTED KVA BY PHASE	6.73	5.29

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	0.479	0.598	(125%)	RECEPTACLES	1.8	1.8	(50%>10)
LARGEST MOTOR	0.185	0.046	(25%)	CONTINUOUS	4.8	6	(125%)
MOTORS	0.44	0.44	(100%)	HEATING	4.5	4.5	(100%)
				TOTAL LOAD		13.4	
				BALANCED LOAD		55.8 A	

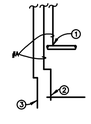
LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	INPUT WATTS	VOLTS	LUMENS / LAMP
A		(1) 42W LED	1 X 4 LED WRAPAROUND FIXTURE		CEILING	COOPER LIGHTING SOLUTIONS – METALUX (FORMERLY EATON), 4WPLD4040C OR EQ	42	120V 1P 2W	4557
B		(1) MAX 20@13W MED BASE LED BULBS	ROUND CLOSE TO CEILING FIXTURE		CEILING	PROGRESS P550042–129 OR EQ.	60	120V 1P 2W	0
C		(1) 19.68W LED	2' LED STRIP LIGHT		CEILING	COOPER LIGHTING SOLUTIONS – METALUX (FORMERLY EATON), 2ST2L2040R OR EQ.	19.68	120V 1P 2W	2298
D		(1) 39.09W LED	4' LED STRIP LIGHT		CEILING	COOPER LIGHTING SOLUTIONS – METALUX (FORMERLY EATON), 4ST2L4040R OR EQ.	39.09	120V 1P 2W	4433
EMER–EXIT		(1)	COMBINATION EXIT/EMERGENCY UNIT W/DUAL SEALED–BEAM REMOTE HEADS	ELECTRONIC	CEILING	LITHONIA LHQM S W 1 R 120/277 ELA NX HO606 OR EQ.	3	120V 1P 2W	0

AVAILABLE FAULT CALCULATIONS
1 150' RUN OF 3 #3/0 TO 25KVA TRANSFORMER 1.5%Z
3,556A AT METER



3 / E1 **ELECTRIC RISER**
N.T.S.



TYPICAL GROUNDING AT EACH DISCONNECT

GROUNDING ELECTRODE DETAILS

GROUNDING ELECTRODE CONDUCTORS SHALL BE #6 BARE COPPER. OTHER MATERIAL AND INSTALLATION PER NEC

1. CONNECT TO METALIC WATER PIPE AS REQ'D.
2. #A COPPER GROUND PLACED TO BLDG STEEL
3. 3/4"x10' LONG COPPER CLAD GROUNDING ROD W/ COPPER GROUND.

A=#4 CU P1
A=#6 CU P2

CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY FOR SERVICE. A COMPLETE AND WORKING SYSTEM IS REQUIRED FOR COMPLIANCE WITH THESE DOCUMENTS. DETERMINE THE POINT OF CONNECTION TO THE UTILITY WITH THE UTILITY REPRESENTATIVE AND PROVIDE ACCORDINGLY FOR A COMPLETE WORKING SYSTEM.

WIRE AND CABLE SHALL BE INSULATED, TYPE THWN OR THHN, 600 VOLTS, WITH COPPER CONDUCTORS. CONDUCTOR SIZES NO. 8 AWG AND LARGER MAY BE STRANDED. CONDUCTORS SIZES NO. 10 AWG AND SMALLER MAY BE SOLID OR STRANDED. NO ROMEX PERMITTED.

EMT SHALL BE GALVANIZED STEEL TUBING, 1/2–INCH MINIMUM SIZE, EQUAL TO ELECTRUNITE BRAND OR APPROVED AND USED ONLY WITH HEXAGONAL ALL STEEL COMPRESSION FITTINGS.

PLASTIC CONDUIT SHALL BE RIGID, 3/4–INCH MINIMUM NON–METALLIC, HEAVY DUTY, HIGH IMPACT, POLYVINYLCHLORIDE (PVC), TYPE I WILL BE USED FOR CONCRETE ENCASEMENT. FITTINGS SHALL BE THE SAME MATERIALS AND MANUFACTURER AS THE PLASTIC CONDUIT.

FLEXIBLE METAL CONDUIT SHALL BE 1/2– INCH MINIMUM SINGLE STRIP, STEEL, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE, MAXIMUM LENGTH 72 INCHES FOR LIGHTING AND 36" FOR MOTORS. FLEXIBLE METAL CONDUIT SHALL BE LIQUIDTIGHT OR WATERTIGHT WITH PVC JACKET WHERE USED IN DAMP, WET OR OUTSIDE AREAS, AND LIQUIDTIGHT OR WATERTIGHT CONNECTORS SHALL BE USED.

NO RECEPTACLES OR TEL. OUTLETS TO BE MOUNTED BACK TO BACK, KEEP AT LEAST 2 INCHES BETWEEN RECEPTACLES AND TEL. OUTLETS.

ALL CONDUCTOR SHALL BE COPPER WITH A MINIMUM SIZE OF #12 AWG EXCEPT FOR FIRE ALARM. THESE CONDUCTORS SHOULD COMPLY WITH NFPA.

CONTRACTOR SHALL ALIGN FIXTURES, SMOKE DETECTORS, CEILING DIFFUSERS ETC. AS REQUIRED TO PROVIDE A UNIFORM PRESENTATION. AT NO TIME WILL AN IONIZATION DETECTOR BE LOCATED WITHIN 3'–0" OF A SUPPLY OR RETURN AIR GRILLE.

CIRCUIT BREAKERS AND WIRE ARE SIZED FOR SPECIFIC EQUIPMENT. BEFORE ORDERING WIRE, BREAKERS AND CONDUIT FOR THIS PROJECT THE CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS ON THE JOB AND VERIFY THE ELECTRICAL DATA FOR THE EQUIPMENT WHICH WILL ACTUALLY BE INSTALLED, RECOMPUTING WIRE AND BREAKER SIZES IF REQUIRED BY THE NEC.

ALL CONDUIT TERMINATING IN THE CEILING CAVITIES IS TO BE LABELED.

ALL CONDUIT SHALL BE COLOR CODED WITH 1/2" WIDE TAPE, 10'–0" ON CENTER IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICE.

THE MOUNTING HEIGHTS AND LOCATIONS OF ALL WALL MOUNTED OUTLETS AND JUNCTION BOXES SHALL BE REVIEWED AND COORDINATED WITH THE ARCHITECT AND OWNER, PRIOR TO INSTALLATION, FOR USE WITH ACTUAL EQUIPMENT.

EACH CONTRACTOR WILL PROVIDE HIS OWN SUPPORT OF ALL DEVICES AND EQUIPMENT PROVIDED BY HIM AND SHALL SUPPORT SUCH EQUIPMENT PER APPROVED GOVERNING CODES OR PER APPROVAL OF THE ENGINEER/ARCHITECT. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL REPLACED AT THE REQUEST OF THE ENGINEER/ARCHITECT AT THE CONTRACTORS EXPENSE.

THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR FLOOR PLAN DIMENSIONS.

THE CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO THE INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE.

ALL FUSES DISCONNECT SWITCHES AND BREAKER SIZES SHOWN FOR MECHANICAL EQUIPMENT SHALL BE VERIFIED BEFORE PURCHASE AND INSTALLATION OF SAID EQUIPMENT WITH THE EQUIPMENT SUPPLIER AND MECHANICAL CONTRACTOR.

WHERE EQUIPMENT PENETRATES EXTERIOR WALL OR ROOF THEY SHALL BE PROPERLY SEALED WITH METHODS APPROVED BY THE ARCHITECT/ENGINEER.

ALL WORK IS TO BE DONE IN STRICT COMPLIANCE WITH THE LATEST VERSION OF THE NEC AND APPLICABLE STATE CODES

RECESSED FIXTURES INSTALLED IN RATED ASSEMBLIES SHALL BE INSTALLED WITH AN ENCLOSURE SO AS TO MAINTAIN THE RATING OF ASSEMBLY

2 / E1 **ELECTRICAL NOTES**
N.T.S.

APPENDIX B 2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

ELECTRICAL DESIGN

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:
Energy Code: ☒ Prescriptive ☐ Performance
ASHRAE 90.1: ☐ Prescriptive ☐ Performance

Lighting schedule (each fixture type)
lamp type required in fixture
number of lamps in fixture
ballast type used in the fixture — SEE FIXTURE SCHEDULE
number of ballasts in fixture
total wattage per fixture
546/1798 total interior wattage specified vs. allowed (whole building or space by space)
0/500 total exterior wattage specified vs. allowed

Additional Prescriptive Compliance
☐ 506.2.1 More Efficient HVAC Equipment
☒ 506.2.2 Reduced Lighting Power Density
☐ 506.2.3 Energy Recovery Ventilation Systems
☐ 506.2.4 Higher Efficiency Service Water Heating
☐ 506.2.5 On–Site Supply of Renewable Energy
☐ 506.2.6 Automatic Daylighting Control Systems

Dec 22, 2021

NORTH CAROLINA PROFESSIONAL SEAL 20193 ENGINEER CHRISTOPHER S. LOCKLEAR

Coastal Plains Engineering, P.A.
Licensure No: C–2059
295 LOCKLEAR RD
P.O. Box 1117
Pembroke, NC 28372
Voice: 910–521–2743
Fax: 910–521–7218
www.coastalplainseng.com

LEXINGTON PLANTATION POOL HOUSE

HARNETT COUNTY NC

PROJECT NO: 2021–096
DRAWN BY: AJO
DATE:
REVISIONS:

SHEET NO:
E1