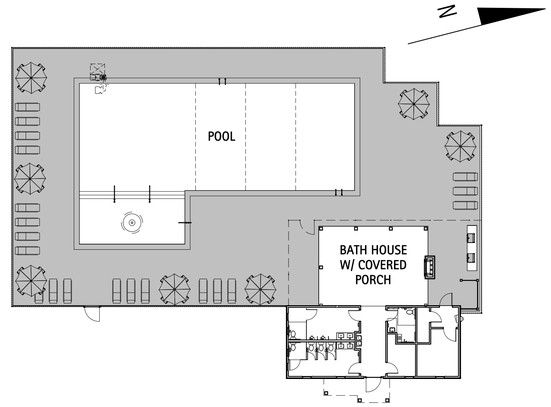
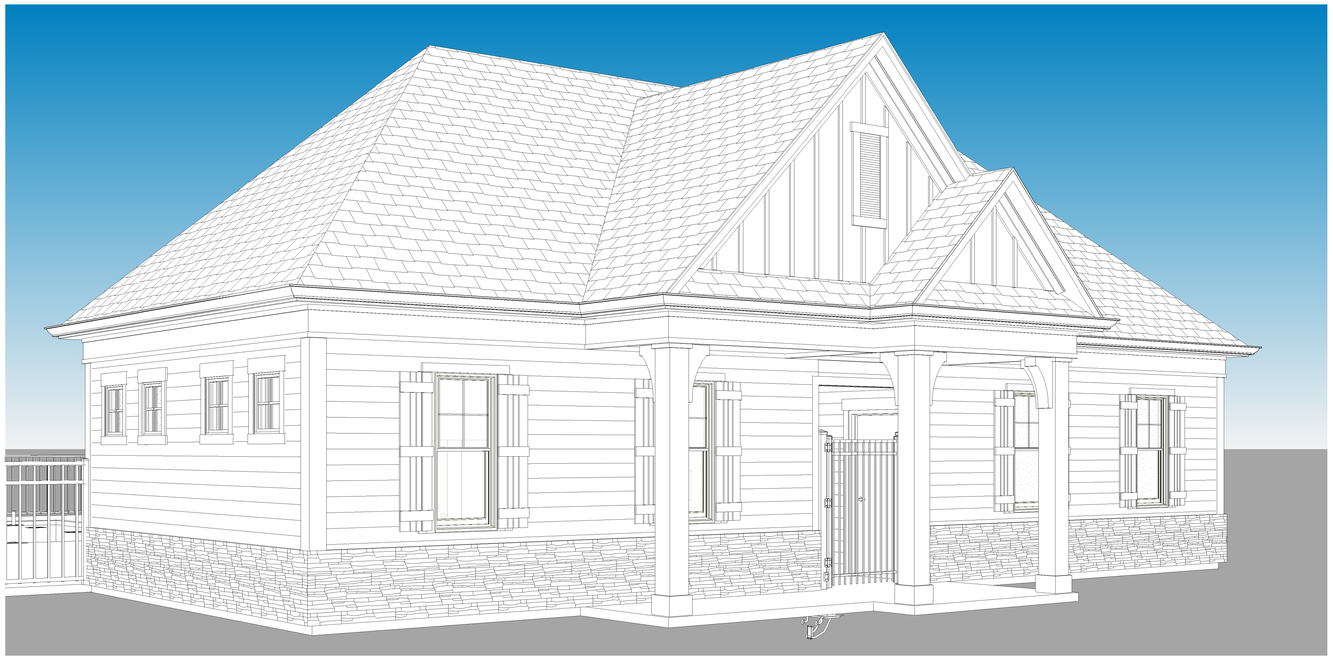
PARKER RIDGE AMENITY

BATHHOUSE & POOL
ROLESVILLE, NC

2 G0.1 **VICINITY MAP**
NOT TO SCALE



1 G0.1 **SITE PLAN**
1" = 20'-0"



M.E.P. ENGINEERING & POOL DESIGN BY:

Kilian Engineering, Inc.
115 YOUNG STREET SUITE C -
HENDERSON, NC 27520
TEL 252.438.8778

GENERAL CONTRACTOR:

D.CLUGSTON
2506 RELIANCE AVE. APEX, NC 27539
(P) 919.629.7290 WWW.DCLUGSTON.COM

STRUCTURAL ENGINEER:

ROSS LINDEN
ENGINEERS PC
709 W. JONES STREET - RALEIGH, NC 27603
TEL 919.832.5680 FAX 919.832.5675
INFO@ROSSLINDEN.COM

DRAWING INDEX

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G0.3	LIFE SAFETY PLAN					
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A3.1	ENLARGED PLANS & WALL SECTIONS					
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M1	MECHANICAL PLAN					
NG1	NATURAL GAS PLAN					
16 - ELECTRICAL PLANS						
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SP4.0	POOL SECTIONS & DETAILS					
SP4.1	SECTIONS & DETAILS					
SP5.0	SPECIFICATIONS					
SP5.1	SPECIFICATIONS					
SP5.2	SPECIFICATIONS					

D.CLUGSTON

PERRY GLENN COX
REGISTERED ARCHITECT
6838
NORTH CAROLINA
APEX, N.C.
9/25/24

Perry Cox
architect, p.a.
207 Hudson Ave., Apex, NC 27502
P: 919.363.5411
www.pcoxdesign.com

NO.	REVISION	DATE

SHEET DISCRIPTION
COVER SHEET

PROJECT #:	2024039
DATE ISSUED:	09/16/2024
DRAWING BY:	JVD
CHECKED BY:	PGC/DSC

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

G0.1

APPENDIX B BUILDING CODE SUMMARY

FOR ALL COMMERCIAL PROJECTS

Name of Project: Parker Ridge Amenity Center
Address: Rolesville, NC Zip Code: 27703
Owner or Authorized Agent: John Moxley Phone #: 919-691-1170
Email: john@dclugston.com Fax #:
Owned By: [x] Privately [ ] City/County [ ] State
Code Enforcement Jurisdiction: [ ] City [x] County [ ] City/County
Name of Jurisdiction: Durham County, North Carolina

PROJECT SUMMARY: 1,723 SF Bath house and 1,804 SF Pool

Building Description: A-3 UNHEATED - PRIVATE RECREATIONAL FACILITY FOR RESIDENCE ONLY, WITH A SEASONAL DRAIN DOWN BUILDING, DESIGNED FOR USE FROM DAWN TO DUSK

Scope of Work: New Building full scope of architectural, structural, plumbing, mechanical,electrical, and pool plans

Lead Design Professional/Project Coordinator: John Moxley 919-691-1170

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #
Architectural:	Perry Cox Architect, PA	Perry Cox, AIA	9630	919-393-5411
Civil:				
Electrical:	Killian Engineering	Jacob L. Hamilton	048012	252-438-8778
Fire Alarm:				
Plumbing:	Killian Engineering	Jacob L. Hamilton	048012	252-438-8778
Mechanical:	Killian Engineering	Jacob L. Hamilton	048012	252-438-8778
Sprinkler-Standpipe				
Structural:	Ross Linden Engineers	Brian Ross, PE	25539	919-832-5680
Precast:				
Trusses:	Truss Builders	Eric A Gilbert, PE	036322	919-467-9988
Retaining Walls >5' High				
Other:	Pool: Killian Engineering	Jacob L. Hamilton	048012	252-438-8778

Note: Special Inspections and Inspectors to be listed at end of Appendix B

Building Code: [x] 2018 North Carolina State Building Code (NCSBC) [ ] 2009 North Carolina State Building Code
[ ] 2009 NC Rehab [ ] 2006 NC Rehab [ ] 2006 North Carolina Building Code
[ ] 2009 Chapter 34 [ ] 2006 Chaper 34 [ ] 1995 Existing Building Code

New Building: [x] New Building [ ] Shell Building [ ] First Time Interior Completion
[ ] Addition [ ] Alteration to Shell

Existing Building: [ ] Renovation [ ] Interior Completion [ ] Tenant Alteration
[ ] Reconstruction [ ] Repair [ ] Alteration to Shell
[ ] Change of Use Tenant [ ] Change of Occupancy

Note: Zoning Review May Be Required for Change of Use or Occupancy
Original Occupancy:
Proposed Occupancy: A-3 Assembly

OCCUPANCY INFORMATION

Primary Occupancies:

Assembly: [ ] A-1 [ ] A-2 [x] A-3 [ ] A-4 [ ] A-5
Hazardous: [ ] H-1 [ ] H-2 [ ] H-3 [ ] H-4 [ ] H-5
Institutional: [ ] I-1 Condition [ ] 1 [ ] 2 Business: [ ]
[ ] I-2 Condition [ ] 1 [ ] 2 Educational: [ ]
[ ] I-3 Condition [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 Factory: [ ] F-1 [ ] F-2
[ ] 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 [ ]

Special Occupancies: [ ] 402 [ ] 403 [ ] 404 [ ] 405 [ ] 406 [ ] 407 [ ] 408 [ ] 409 [ ] 410 [ ] 411 [ ] 412 [ ] 413 [ ] 414 [ ] 415 [ ] 416 [ ] 417 [ ] 418 [ ] 419 [ ] 420 [ ] 421

Mixed Occupancy: [x] No [ ] Yes Separation: ____Hr. Exception:

[ ] Non-Separated Mixed Occupancy (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 Mixed Occupancy (508.3.3) -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.

Actual Area of Occupancy A / Allowable Area of Occupancy A + Actual Area of Occupancy B / Allowable Area of Occupancy B ≤ 1.

________ + ________ +... = ______ ≤ 1

ALLOWABLE AREA AND HEIGHT CALCULATIONS

THIS SECTION FOR NEW, ADDITION, CHANGE OF USE, AND INTERIOR COMPLETIONS

NO INCREASE REQUIRED

Exterior Wall	Actual Length		Open Length		Public Way or Open Space 30'	
North						
South						
East						
West						
Total		**P**		**F**		**W**

INCREASE FRONTAGE ________%
SPRINKLERS ________%
FRONTAGE INCREASE FORMULA ALLOWABLE AREA FORMULA

$I_F = 100(\frac{F}{P} - 0.25)\frac{W}{30}$

BOTH BUILDING AND TENANT MUST BE INDICATED ON CHART BELOW

Story No.	DISCRIP. & USE	BLDG AREA PER STORY (ACTUAL SF)	TABLE 506.2 ALLOWABLE AREA (SF)	AREA FOR INCREASE FRONTAGE	SPRINKLER INCREASE	ALLOWABLE FLOOR AREA	RATE OF ACTUAL/ ALLOWABLE	MAXIMUM BUILDING AREA	SEPARATION RATING REQUIRED
Main Level	A3	1,723	6000	N/A	N/A	N/A	0.267	6000 SF	N/A

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] x 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

MOST RESTRICTIVE (GROUP)	ALLOWABLE BUILDING HEIGHT (TABLE 504.3)	INCREASE FOR SPRINKLERS	ACTUAL BUILDING HEIGHT AS SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type VB	Type VB	Type VB	403.3.1
Building Height in Feet	H = 40'-0" FT	N/A	H= 21'-6"	403.3.1
Building Height in Stories	S= 1	N/A	S= 1	403.3.1

BUILDING DATA

THIS SECTION REQUIRED FOR ALL PROJECTS

Construction Type: [ ] I-A [ ] I-B [ ] II-A [ ] II-B [ ] III-A [ ] III-B [ ] IV-HT [ ] V-A [x] V-B

Mixed construction: [ ] Yes [x] No Types ________
Sprinklers: [ ] Yes [x] No [ ] NFPA 13 [ ] NFPA 13R [ ] Partially Sprinklered [ ] Special Suppression

Standpipes: [ ] Yes [x] No Class: [ ] I [ ] II [ ] III [ ] Wet [ ] Dry
Fire District: [ ] Yes [x] No (Appendix D) [ ] Floor Hazard
Building Height: 21'-6" 1 Story
Basement: [ ] Yes [x] No
Mezzanine: [ ] Yes [x] No
High Rise: [ ] Yes [x] No Life Safety Plan Sheet # (if provided): G0.3

Gross Building Area:

FLOOR	EXISTING (SQFT)	NEW (SQFT)	SUB-TOTAL
MAIN LEVEL	N/A	1,723	1,723

Area of Project Tenant/Alteration/Renovation:
Area of Construction:

FIRE PROTECTION REQUIREMENTS

THIS SECTION REQUIRED FOR ALL PROJECTS

Life Safety Plan Sheet #, if Provided G0.3

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D*	RATING PROVIDED (W/____* REDUCTION)	DETAIL # & SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Bearing Walls Exterior							
North	>30'	0					
East	>30'	0					
West	>30'	0					
South	>30'	0					
Interior Bering walls		0					
Nonbearing Walls Exterior							
North	>30'	0					
East	>30'	0					
West	>30'	0					
South	>30'	0					
Interior Bering walls		0					
Structural Frame, including columns, girders, trusses							
Floor construction, including supporting beams and joists. List construction type.		0					
Floor Ceiling Assembly		0					
Columns Supporting Floors		0					
Roof construction, including supporting beams and joists**		0					
Roof Ceiling Assembly		0					
Columns Supporting Roof		0					
Shafts- Exit Enclosures		N/A					
Shafts- Other (describe)		N/A					
Corridor Separation		N/A					
Occupancy Separation		N/A					
Party/ Fire Wall Separation		N/A					
Incidental Use Separation		N/A					
Dwelling/ sleeping unit Separation		N/A					
Smoke Barrier Separation Tenant Separation		N/A					

* Indicate section number permitting reduction
** Indicated if using Table 601 Note C exception

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
>30'	NS, UP	NO LIMIT	NO LIMIT

WALL LEGENDS

THIS SECTION REQUIRED FOR ALL PROJECTS

CHECK IF THE FOLLOWING ARE PRESENT AND INDICATE BY A **WALL LEGEND** ON ALL PLANS

[ ] Fire Partitions 708 [ ] Fire Walls 705 [ ] Fire Barriers 706 [ ] Smoke Partitions 710
[ ] Smoke Barriers 709 [ ] Shaft Enclosure 707

LIFE SAFETY SYSTEMS REQUIREMENTS

THIS SECTION IS REQUIRED FOR ALL PROJECTS

Emergency Lighting: [x] Yes [ ] No
Exit Signs: [x] Yes [ ] No
Fire Alarm: [ ] Yes [x] No
Smoke Detection Systems: [ ] Yes [x] No
Panic Hardware: [x] Yes [ ] No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet # G0.3

- [ ] 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)
- [x] Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- [x] Occupant loads for each area
- [x] Exit access travel distance (1017)
- [ ] Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- [ ] Dead end lenghts (1020.4)
- [x] Clear exit widths for each exit door
- [x] Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- [x] 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
- [x] Location of doors with panic hardware (1010.1.10)
- [ ] Location of doors with delayed ergess 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

EXIT REQUIREMENTS

NUMBER AND ARRANGEMENT OF EXITS

THIS SECTION IS REQUIRED FOR ALL PROJECTS

FLOOR, ROOM AND/OR SPACE DESIGNATION	MINIMUM NUMBER OF EXITS: REQUIRED	MINIMUM NUMBER OF EXITS: SHOWN ON PLANS	TRAVEL DISTANCE: ALLOWABLE TRAVEL DISTANCE (TABLE 1016.1)	TRAVEL DISTANCE: ACTUAL TRAVEL DISTANCE SHOWN ON PLANS	ARRANGEMENT MEANS OF EGRESS: REQUIRED DISTANCE BETWEEN EXIT DOORS	ARRANGEMENT MEANS OF EGRESS: ACTUAL DISTANCE SHOWN ON PLANS
AMENITY	2	2	200'	157'-11"	81'-4 1/2"	85'-11 1/2"

1. Corridor dead ends (Section 1017.3)
2. Single exits (Section 1015.1; Section 1019.2)
3. Common Path of Egress Travel (Section 1014.3)

OCCUPANT LOAD AND EXIT WIDTH CLUBHOUSE

Room Name	Area	Occupancy: Load Factor	Occupancy: Load Count	Egress Width per Occupant(1005.3): Level	Egress Width per Occupant(1005.3): Stair	Required Width: Level	Required Width: Stair	Actual Width Shown: Level	Actual Width Shown: Stair
MENS	180 SF	0 SF		0.2					
WOMENS	191 SF	0 SF		0.2					
FAMILY	72 SF	300 SF	1	0.2		0.2			
CHEM.	36 SF	300 SF	1	0.2		0.2			
PUMP ROOM	131 SF	300 SF	1	0.2		0.2			
STORAGE	80 SF	0 SF		0.2					
ELEC.	41 SF	300 SF	1	0.2		0.2			
COVERED PORCH	660 SF	15 SF	44	0.2		8.8			
HALL	137 SF	0 SF		0.2				48	
COVERED ENTRY	104 SF	0 SF		0.2					
TRASH CORRAL	36 SF	0 SF		0.2					
POOL	2753 SF	50 SF	56	0.2		11.2		48	
POOL DECK	3343 SF	15 SF	223	0.2		44.6			
8' CLEAR DECK	2139 SF	15 SF	143	0.2		28.6			
Grand total				2.8		94		96	0

1. See Table 1004.1.1 to determine whether net or gross area is applicable
2. Minimum stairway width (Section 1009.1); min. corridor width (Section 1017.2); min. door width (Section 1008.1.1)
3. Minimum width of exit passageway (Section 1021.2)
4. The loss of 1 means of egress shall not reduce the available capacity to less than 50% of the total required (Section 1005.1)
5. Assembly occupancies (Section 1025)

ASSEMBLY OCCUPANCY INFORMATION

Name	Type	Occupancy: Area	Occupancy: Load Factor	Occupancy: Load Count	Exit Width (inches)	Exit Quantity
COVERED PORCH	Assembly - Unconcentrated (tables and chairs)	660 SF	15 SF	44	8.8	1
POOL	Swimming Pool water surface	2753 SF	50 SF	56	11.2	
POOL DECK	Swiming Pool Deck	3343 SF	15 SF	223	44.6	
8' CLEAR DECK	Swiming Pool Deck	2139 SF	15 SF	143	28.6	
Grand total					93.2	

PLUMBING FIXTURE REQUIREMENTS

THIS SECTION IS REQUIRED FOR ALL PROJECTS

USE		WATERCLOSETS: Male	WATERCLOSETS: Female	WATERCLOSETS: Unisex	URINALS	LAVATORIES: Male	LAVATORIES: Female	RINSE SHOWERS	DRINKING FOUNTAINS: REGULAR	DRINKING FOUNTAINS: ACCESSIBLE
SPACE	EXIST'G									
	NEW	1	4	1	2	2	2	2	1	1
Total Required		1	4	1	1	2	2	1	1	1
Total Provided		1	4	1	2	2	3	2	1	1

470 PERSONS / 2 = 235 M / 235 F
WATERCLOSETS: 235 MALE / 125 = 2 WC = 1 WC & 2 URINAL
235 FEMALE /65 = 5 WC = 4 WC + 1 FAMILY WC
LAVATORY: 235 MALE / 200 = 2 LAV. = 2 LAV
235 FEMALE / 200 = 2 LAV. = 2 LAV + 1 FAMILY WC

STRUCTURAL DESIGN LOADS

THIS SECTION IS REQUIRED FOR ALL PROJECTS

SEE STRUCTURAL DWGS.

DESIGN LOADS:
Importance Factors: Snow (I_s) ________
Seismic (I_e) ________
Live Loads: Roof ________ psf
Mezzanine ________ psf
Floor ________ psf
Ground Snow Load: ________ psf
Wind Load: Ultimate Wind Speed ________ mph (ASCE-7)
Exposure Category ________

SEISMIC DESIGN CATEGORY: A B C D
Provide the following Seismic Design Parameters:
Risk Category (Table1604.5)
Spectral Response Acceleration ... S_1 ______%g
Site Classification (A... A B C D
Data Source: Field Test Presumptive Historical Data
Basic Structural System: Bearing Wall Dual w/ Special Moment Frame
Building Frame Dual w/ Intermidate 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 ________ psf
Pile size, type, and capacity ________

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

THIS SECTION FOR NEW, ADDITION, CHANGE OF USE, AND INTERIOR COMPLETION

SEE MECHANICAL DWGS.

Thermal Zone:
Winter Dry Bulb: ________
Summer Dry Bulb: ________

Interior Design Conditions:
Winter Dry Bulb: ________
Summer Dry Bulb: ________
Relative Humidity: ________

Building Heating Load:
Unitary
Description: ________
Heating Efficiency: ________
Cooling Efficiency: ________
Size Category of Unit: ________
Boiler
Size Category. If oversized, state reason: ________
Chiller
Size Category. If oversized, state reason: ________

List equipment efficiencies: ________

ACCESSIBLE PARKING

SEE CIVIL DWGS.

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	VAN SPACES WITH 8' ACCESS	TOTAL # ACCESSIBLE PROVIDED
TOTAL						

ELECTRICAL SUMMARY

THIS SECTION FOR NEW, ADDITION, CHANGE OF USE, AND INTERIOR COMPLETION

ELECTRICAL SYSTEM AND EQUIPMENT

SEE ELECTRICAL DWGS.

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

Lighting Schedule (each fixture type)
Lamp type required in fixture
Number of lamps in fixture
Ballast type used in the fixture
Number of ballasts in fixture
Total wattage per fixture
Total interior wattage specified vs. allowed (whole building or space by space)
Total exterior wattage specified vs. allowed

Additional Efficiency Package Options
(When using the 2018 NCECC; not required for ASHRAE 90.1)
C406.2 More Efficient HVAC Equipment Performance
C406.3 Reduced Lighting Power Density
C406.4 Enhanced Digital Lighting Controls
C406.5 On-site Renewable Energy
C406.6 Dedicated Outdoor Air System
C406.7 Reduced Energy Use in Service Water Heating

ENERGY SUMMARY

THIS SECTION FOR NEW, ADDITION, CHANGE OF USE, AND INTERIOR COMPLETION

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each designer shall furnish the required portions of the project information for the data sheet. If the 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)

UNHEATED DRAIN DOWN BUILDING

SPECIAL APPROVALS

(Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)
__WAKE COUNTY HEALTH DEPARTMENT________

D.CLUGSTON

Perry Cox architect, p.a.
207 Hudson Ave., Apex, NC 27502
P: 919.363.5411
www.pcoxdesign.com

DATE
REVISION
NO.

SHEET DISCRIPTION
BUILDING CODE SUMMARY

PROJECT #:	2024039
DATE ISSUED:	09/16/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/PGC

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

G0.2

BUILDING OCCUPANCY SCHEDULE

Room Number	Room Name	Area	Occupancy Type	Load Factor	Load Count
100	COVERED ENTRY	104 SF	N/A	0 SF	
101	HALL	137 SF	N/A	0 SF	
102	STORAGE	80 SF	N/A	0 SF	
103	WOMENS	191 SF	N/A	0 SF	
104	FAMILY	72 SF	Accessory Storage Areas, Mechanical Equipment Room	300 SF	1
105	MENS	180 SF	N/A	0 SF	
106	COVERED PORCH	660 SF	Assembly - Unconcentrated (tables and chairs)	15 SF	44
107	ELEC.	41 SF	Accessory Storage Areas, Mechanical Equipment Room	300 SF	1
108	PUMP ROOM	131 SF	Accessory Storage Areas, Mechanical Equipment Room	300 SF	1
109	CHEM.	36 SF	Accessory Storage Areas, Mechanical Equipment Room	300 SF	1
110	TRASH CORRAL	36 SF	N/A	0 SF	
					48

OCCUPANCY SCHEDULE POOL

Room Number	Room Name	Occupancy Area	Type	Occupancy Load Factor	Load Count
PL 100	POOL	2753 SF	Swimming Pool water surface	50 SF	56
PL 101	8' CLEAR DECK	2139 SF	Swiming Pool Deck	15 SF	143
PL 102	POOL DECK	3343 SF	Swiming Pool Deck	15 SF	223
Grand total		8234 SF			422

LIFE SAFETY SYMBOL LEGEND

Symbol	Description
	EMERGENCY EXIT
FEX	SEMI-RECESSED 'ABC' TYPE FIRE EXTINGUISHER TO MEET NFPA-10 STANDARDS. MOUNT @ 15" MIN. - 48" MAX A.F.F.
FEX-C	BRACKET MOUNTED WATER TYPE FIRE EXTINGUISHER TO MEET NFPA-10 STANDARDS. MOUNT @ 15" MIN. - 48" MAX A.F.F.
- ->	INDICATES TRAVEL DIRECTION

GENERAL LIFE SAFETY NOTES:

USE:	A-3 (ASSEMBLY)
PRIMARY LOAD FACTOR:	UNCONCENTRATED TABLES & CHAIRS (15 SF)
OCCUPANT LOAD:	470 PPL
CONSTRUCTION TYPE:	V-B
SPRINKLERS:	NO
REQUIRED EXITS:	2
PROVIDED EXITS:	2
DIAGONAL DISTANCE:	155'-7 3/4"
REQUIRED EXIT SEPARATION:	155'-7 3/4" / 2 = 81'-4 1/2"
PROVIDED EXIT SEPARATION:	85'-11 1/2"
REQUIRED EGRESS WIDTH:	94"
PROVIDED EGRESS WIDTH:	96"
MAXIMUM COMMON PATH OF TRAVEL:	75'-0"
MAXIMUM ALLOWABLE TRAVEL DISTANCE:	200'-0"
ACTUAL MAX TRAVEL DISTANCE:	157'-11"

GENERAL PLUMBING NOTES:

USE:	A-3 (ASSEMBLY)
OCCUPANT LOAD:	470 PPL / 2 = 235 PPL
REQUIRED MALE WATER CLOSETS:	2 (1 PER 125 PPL)
REQUIRED FEMALE WATER CLOSETS:	4 (1 PER 65 PPL)
PROVIDED MALE WATER CLOSETS:	1 WC & 2 URINAL
PROVIDED FEMALE WATER CLOSETS:	4 WC + 1 FAMILY
REQUIRED MALE LAVATORIES:	2 (1 PER 200)
REQUIRED FEMALE LAVATORIES:	2 (1 PER 200)
PROVIDED MALE LAVATORIES:	2
PROVIDED FEMALE LAVATORIES:	2
REQUIRED WATERCOOLERS:	1 (1 PER 500)
PROVIDED WATERCOOLERS:	2
REQUIRED SERVICE SINKS:	1
PROVIDED SERVICE SINKS:	1 (HOSE BIB)

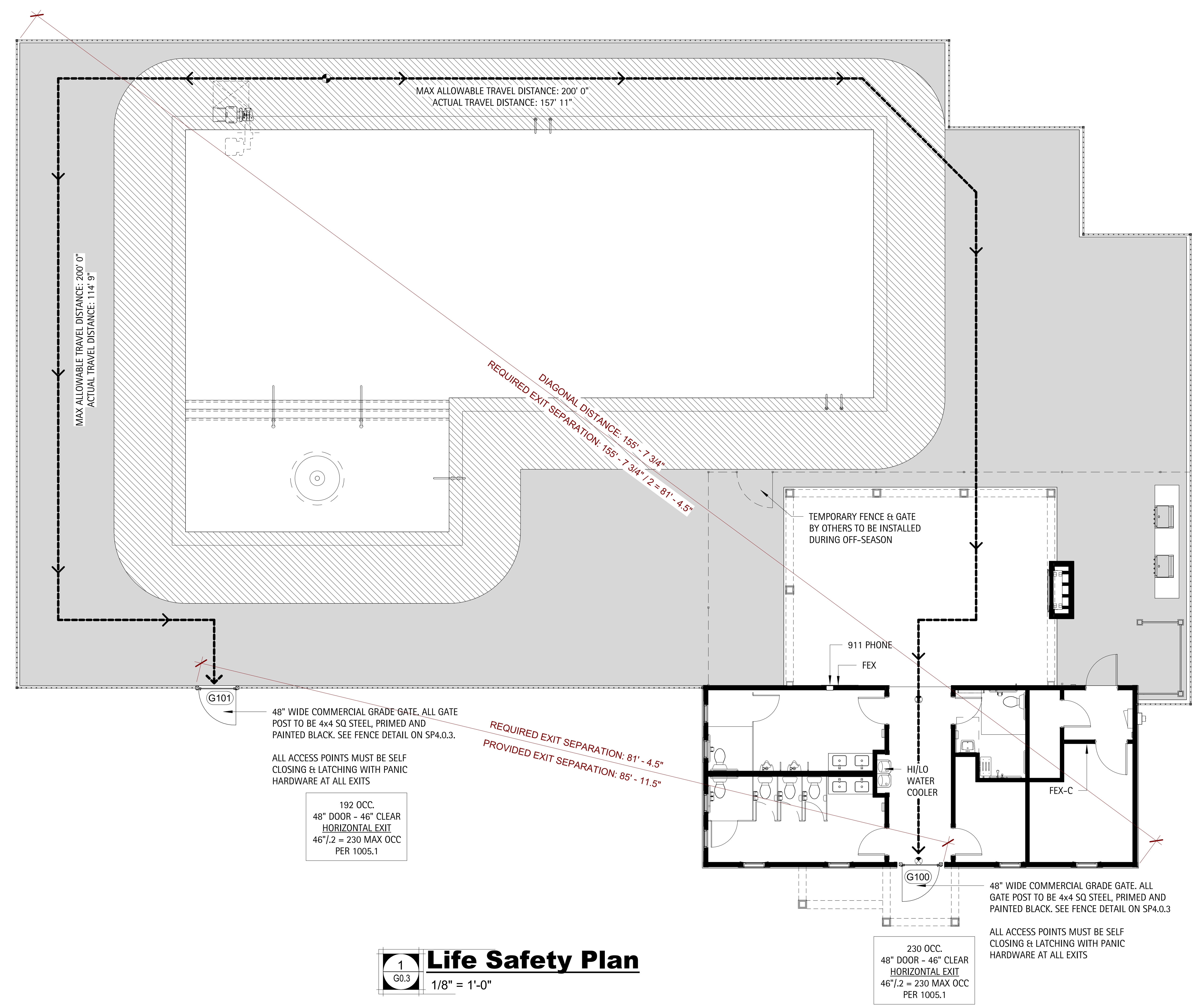
POOL DECK AREA
3,342 SQ FT / 15 SQ FT PER PERSON:
223 PEOPLE

8' CLEAR DECK AREA
2,139 SQ FT / 15 SQ FT PER PERSON:
143 PEOPLE

POOL AREA
2,753 SQ FT / 50 SQ FT PER PERSON:
56 PEOPLE

BATH HOUSE:
48 PEOPLE

TOTAL A-3 OCCUPANT (INSIDE FENCE) LOAD:
470 PEOPLE



1 G0.3 **Life Safety Plan**
1/8" = 1'-0"

D.CLUGSTON

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DATE
REVISION
NO.

SHEET DISCRIPTION
LIFE SAFETY PLAN

PROJECT #:	2024039
DATE ISSUED:	09/16/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/PGC

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

G0.3

GENERAL NOTES

1 The General Contractor shall be both licensed and bonded in North Carolina and shall provide documents upon the Architect's request.

2 The Work shall be done in accordance with all rules and regulations of the North Carolina State Building Code 2006 along with city, county, and state regulations. The General Contractor is responsible for securing and paying for all permits required for the Work and for the scheduling of all required inspections during the course of the Work.

3 General Contractor shall be responsible for the provisions for job safety. These drawoings do not contain provisions for job safety.

4 Dimensions are to to face of framing unless otherwise noted.

5 Do not scale drawings. Stated & written dimensions govern. The General Contractor shall verify all dimensions in the field and shall be responsible for their accuracy. No extra charge or compensation shall be allowed because of difference between actual dimensions and those indicated on the drawings, unless they contribute to a change in the scope of the Work. Any difference which may be found shall be submitted to the Architect for decision prior to ordering, manufacturing, or proceeding with the Work. Horizontal dimensions indicated are to/from face of finish, unless noted otherwise. Vertical dimensions are from top of floor slab except where noted to be above finished floor (AFF). Dimensions are not adjustable without approval of Architect unless noted +/-.

6 General Contractor shall be responsible for comparing all dimensions in the construction documents and existing conditions in the field.

7 Framing Subcontractor shall coordinated framing with locations of HVAC vents, plumbing and light fixtures so as to avoid conflict.

8 The General Contractor shall provide protection and be responsible for any existing finishes to remain and shall repair or replace any damaged areas as a result of the work. All existing finishes to remain shall be cleaned at the completion of construction.

9 All materials and systems shall be installed as per manufacturer's specifications and all construction shall be of industry standard or better. The Architect shall be ultimate judge of quality.

10 Only new items of recent manufacture, of standard quality, free from defects, will be permitted in the Work, unless otherwise noted. Rejected items shall be removed immediately form the Work and replaced with items of the quality specified. Failure to remove rejected materials and equipment shall not relieve the General Contractor from the responsibility for quality of items used nor from any other obligation imposed on him by the Contract.

11 General Contractor shall be responsible for notifying the Architect immeditely of construction deviating from depicted or implied information here-in. In the event of conflict between data shown on drawings and data shown in the specification, the specification shall govern. Detail drawings take precedent over drawings of larger scope. Should the General Contractor at any time discover an error in a drawing or specification, or any discrepancy, or variation between dimensions on the drawings and measurements at site, or lack of dimensions or other information, the Contractor shall not proceed with the work affected until clarification has been made by the Architect. In case of an inconsistency between Drawings and Specifications or within either Document, not clarified by addendum, the more specific provision will take precedence over less specific; more specific will take precedence over less stringent; more expensive item will take precedence over less expensive. Better quality or greater quantity of Work shall be provided in accordance with Architect's interpretation. On Drawings, figures take precedence over scaled dimensions. Scaling of dimensions, if done, is done at the Contractor's own risk.

12 General Contractor shall verify that no conflicts exist in locations of any and all mechanical, telephone, electrical, plumbing and sprinkler equipment (to include all piping, duct work, sprinklers structural members and conduit) and that clearances for installation and maintenance of above equipment is provided. Elements in conflict shall be determined and reviewed with the Architect prior to work proceeding. Contractor to coordinate new work with existing conditions.

13 The General Contractor shall provide shop drawings for the Architect's review and approval for the following: All shop fabricated millwork, carpet layout, flooring, light fixtures, doors, misc. steel, metal fabrication, glass/glazing, sprinkler layouts, hardware. Shop drawings shall be submitted in the form of 3 sets of prints. Shop drawings shall not be reproductions of Contract Documents. Material Submittals (3 samples) shall be provided for wood, fasteners, acrylic, carpet, tile, base, paint, laminate and any other materials indicated in the shop drawing.

14 The General Contractor shall provide the Architect with manufacturer's cut sheets and specifications for all equipment including but not limited to: light fixtures, plumbing equipment, electrical equipment, fans, supplementary heating and cooling elements, all hardware and security equipment. General contractor shall be responsible for verifying all field dimensions prior to ordering equipment and/or casework.

15 The General Contractor shall not proceed with work for which he expects additional compensation beyond the contract amount with out written authorization from the Architect and Owner. Failure to obtain such authorization shall invalidate a claim for extra compensation. The Contractor shall not proceed with work which, if completed in strict conformance with the Construction Documents, will result in additional work beyond the scope of the Contract without written authorization from the Architect and Owner. Any field conditions that significantly vary from the Contract Documents or will result in additional work, shall be brought to the attention of the Architect prior to proceeding with work.

16 Contractor shall include all x-ray and core drill costs. All core drilling of the slab shall be approved by the Landlord's Structural Engineer prior to proceeding with the Work. Contractor shall submit proposed locations to Architect and Structural Engineer for review prior to proceeding with the work.

17 Patch, repair and install all fireproofing as required by code. Fireproof any new penetrations required by the work.

18 General Contractor to coordinate and review size and location of all slab penetrations. All required penetrations shall be made in accordance with the Owner's standard approval procedures and methods. All penetrations shall be properly sealed according to the Architect and the Owner's requirements and applicable codes.

19 The General Contractor shall continuously check architectural and structural clearances for accessibility of equipment and mechanical and electrical systems. No allowances of any kind will be made for the General Contractor's negligence to foresee means of installing equipment into position.

21 The finished work shall be firm, well-anchored, in true alignment, plumb, level, with smooth, clean, uniform, appearance without waves, distortions, holes, marks cracks, stains, or discoloration. Jointing shall be close fitting, neat and well scribed. The finished work shall have no exposed unsightly anchors or fasteners and shall not present hazardous, unsafe corners. All work shall have the provision for expansion, contraction and shrinkage as necessary to prevent cracks, buckling, and warping due to temperature and humidity conditions.

22 Attachments, connections or fasteners of any nature are to properly and permanently be secured in conformance with best practice and the General Contractor is responsible for improving them accordingly. The drawings highlight special conditions only and by no means illustrate every connection. The Contractor is responsible for improving connection accordingly.

23 General Contractor shall waive "Common Practice" and "Common Usage" as construction criteria wherever details and Contract Documents of governing codes, ordinances, etc. require quantity or better quality than common practice or common usage would require.

GENERAL NOTES

24 The General Contractor shall submit shop drawings and submittals order and schedule delivery of materials in ample time to avoid delays in construction. If an item is found to be unavailable or to have a long lead time, the General Contractor shall notify Architect immediately with a proposed alternative.

25 The General Contractor shall notify the Owner, the Landlord, and the Architect in writing of any deficiencies, errors, conflicts or omissions found in the construction documents and/or specifications prior to the commencement of the work in this area. Any unreported deficiencies will become the responsibility of the General Contractor to correct.

26 The General Contractor shall exercise extreme care and precaution during the construction of the Work, and schedule work, to minimize disturbances to adjacent spaces and /or structures and their occupants, property, public thoroughfares, etc. The General Contractor shall take precautions and be responsible for the safety of all building occupants from construction procedures. The General Contractor shall be responsible for any overtime costs incurred thereby.

27 All debris shall be removed from the site on a daily basis when possible. Upon completion of the work, remove all debris from the building created by the work provided under this Contract and leave all areas clean. Trash is not permitted to be burned on site.

28 All abandoned miscellaneous nails, hangers, staples, wires, conduits and debris shall be removed from the walls and areas of exposed ceilings. Remove all abandoned pipe sleeves in floor slabs. Patch existing slab as req. to maintain UL fire rating of floor slab where pipes and conduits have been removed.

29 Slab penetrations less than 2" around new and existing piping, conduit, ductwork, etc. shall be filled with acoustic foam and/or sealant to ensure acoustical separation between floor slabs. Slab penetrations greater than 2" around new and exiting piping, conduit, ductwork, etc. shall be filled with concrete. All piping, conduit, ductwork, etc. shall be wrapped with expansion material prior to filling with concrete. Expansion material shall be approved by the MEP Engineer.

30 Contractor shall provide the Team with a construction schedule showing the proposed phasing. Any long lead items that will affect the Substantial Completion date shall be brought to the Architect's attention immediately.

31 Provide protection for existing finishes to remain, including restrooms, lobbies and corridors and repair damages as a result of construction. Document any existing conditions or damages prior to the start of construction

32 General Contractor shall be responsible for providing exhaust for dryers, bathrooms, and ranges to exterior with proper terminus (not to be located on street side elevation). Verify terminus type and laction with owner prior to installation.

33 The Architect shall not be responsible for constructed variations from the information contained here-in unless reviewed and approved by Architect.

34 Do not scale drawings, but rather inquire of Architect. Reproduction of these drawings is prohibited unless written permission is obtained from the Architect.

35 All Trades to caulk with Manicapality Approved "Fire Caulk" at all top plate penitrations.

FLOOR FINISH NOTES

1. Refer to Finish Plan & Schedule for extent and type of all floor finishes.
2. GC to flashpatch floor to provide a level surface that shall not exceed 1/4± over 10 feet cumulative. At floor finish transitions flash patch to smooth transition of finished material to maintain level finished floor surface.
3. All floors to slope to floor drains - 1/4" per 1'-0" U.N.O
4. All exterior floor slabs to recieve a light broom concrete finish. U.N.O.
5. SEE STRUCTURAL DRAWINGS FOR ALL FOUNDATION SPECIFICATIONS.

INTERIOR FINISH NOTES

1. Refer to Finish Schedule and Finish Plan for extent and type. All wall surfaces, metal frames, and trim shall be painted, UON. All surfaces to be painted shall be prepared for priming in accordance with the manufacturer's specifications.
2. All painted surfaces shall receive 1 prime and 2 finish coats as follows:
   GWB surfaces - Interior eggshell latex paint
   GWB ceiling surfaces - Interior flat latex paint
   Hollow Metal/Wood - Odorless interior semi-gloss alkyd latex
3. Paint is to be applied by a roller or brush on all surfaces. Only the prime coat may be spray applied. Provide a 12"x12" GWB sample for each color for Owner's approval prior to the start of the Work.
4. Toilet and bathing room floors shall have a smooth, hard, non-absorbant surface that extends upward onto the walls at least 6"
5. Walls within 2' of urinals and waterclosets shall have a smooth, hard, non-absorbant surface to the hieght of 4' above the finish floor. Verify material with room schedule and/or Architect

WALL SECTION NOTES

1 Bituminous Damp Proofing shall be applied to exterior foundations of all habitable spaces.

2 All treated lumber shall bear the designation AWPA C22. Pressure treated lumber shall be used in the following locations:
   a. Wood in contact with concrete or masonry;
   b.Siding within 6" of the ground;
   c. Wood exposed to weather.

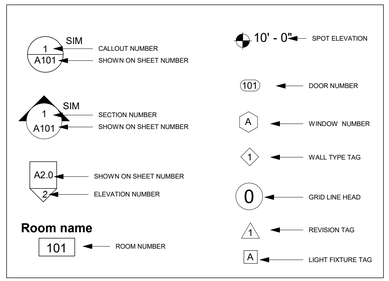
3 Provide the minimum insulation levels, required in all zone 7 areas as applicable: (All insulation to meet Chapter 26 requirements)
   a. Walls R-13 Minimum
   b. Ceilngs/ Roofs R-30 Minimum;

4 Install 5/8" Densglass sheathing behind all tub and shower walls, use water-resistant GWB for all bathroom ceilings UNO.

ABBREVIATIONS

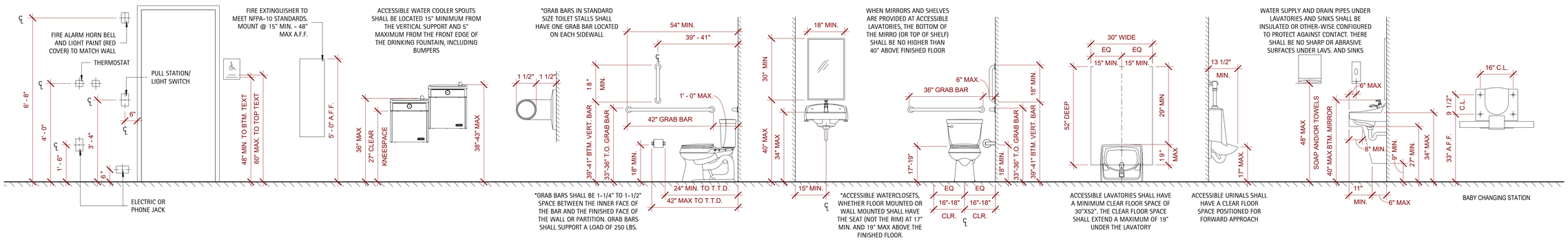
AC	ACOUSTIC
ACPL	ACOUSTICAL PLASTER
ACT	ACOUSTICAL CEILING TILE
ADH	ADHESIVE
ADJT	ADJUSTABLE
ALT	ALTERNATE
AL	ALUMINUM
AP	ACOUSTIC PANEL
APC	ACOUSTIC PANEL CEILING
ASPH	ASPHALT
AT	ASPHALT TILE
B	BASE
BD	BOARD
BIT	BITUMINOUS
BR	BRICK
BRZ	BRONZE
CAB	CABINET
CB	CERAMIC TILE BASE
CEM	CEMENT
CER	CERAMIC
CG	CORNER GAURD
CI	CAST IRON
CLG	CEILING
CLR	CLEAR
C-MAR	COMPOSITE MARBLE
CONC	CONCRETE
COR	CORRIDOR
CPT	CARPET
CR	CROWN
CS	CONCRETE SEALER
CT	CERAMIC TILE
DR	DOOR
DS	DOORSTOP/ DOWNSPOUT
EG	EGG SHELL
EXP	EXPOSED
EXPN	EXPANSION
EXT	EXTERIOR
F	FIXED
FIN	FINISH
FL	FRAMELESS
FLR	FLOOR
FR	FRAME
FRP	FIBRE REINFORCED PLASTIC
FRT	FIRE RESISTANT TREATMENT
FWP	FABRIC WALL PANEL/PAPER
FXD	FIXED (INOPERABLE)
GA	GAUGE, GAGE
GALV	GALVANIZED
GLS	GLASS (GLAZING)
GL-L	GLASS-LAMINATED
GL-PS	GLASS PANEL SYSTEM
GL-SS	GLASS STOREFRONT SYSTEM
GL-T	GLASS TEMPERED
GRG	GRANITE
GRT	GLASSFIBRE REINFORCED GYPSUM
GT	GLAZED TILE
GWB	GYPSUM WALLBOARD
GYP	GYPSUM CEILING PANEL
HD	HEAVY DUTY
HDW	HARDWARE (SET)
HM	HOLLOW METAL
IGU	INSULATED GLASS UNIT
INSUL	INSULATING/ INSULATION
INT	INTERIOR
KIT	KITCHEN
KPL	KICKPLATE
LAM	LAMINATE
LCQ	LACQUER
LT	LIGHT
LTG	LIGHTING
LVR	LOUVER
LT WT	LIGHT WEIGHT
M	MILLWORK (TYPE)
MAS	MASONRY
MAT	MATERIAL
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
ML	METAL LATH
MLDG	MOULDING
MP	MILLWORK-PLASTIC LAMINATE
MT	MARBLE TILE
MTL	METAL
MULL	MULLION
MV	MILLWORK-WOOD VENEER
MWK	MILLWORK
N/A	NOT APPLICABLE
NF	NO FINISH
NOM	NOMINAL
NR	NOT RATED
NTS	NOT TO SCALE
OPNG	OPENING
OPS	OFFICE PARTITION SYSTEM
PBD	PARTICLE BOARD
PC	PRECAST CONCRETE
PG	PLATE GLASS
PGL-L	PATTERNED GLASS - LAMINATED
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PNL	PANEL
PT	POINT/ PAINT
PTD	PAPER TOWL DISPENSER
PTN	PARTITION
PTR	PAPER TOWEL RECEPTOR
PVC	POLYVINYL CHLORIDE
PWD	PLYWOOD
PWT	PORCELIN WALL TILE
QT	QUARRY TILE
RB	RUBBER BASE
RC	RECESS-MOUNTED CABINET
RCP	REFLECTED CEILING PLAN
REFR	REFRIGERATOR
RES	RESILIENT
RFG	ROOFING
RM	ROOM
RVL	REVEAL
SC	SEALED CONCRETE
SF	SEAMLESS FLOORING / SPORT FLOORING
SMC	SURFACE-MOUNTED CABINET
SPEC	SPECIFICATION(S)
SS	STAINLESS STEEL
SSK	SERVICE SINK
SSM	SOLID SURFACE MATERIAL
STL	STEEL
STN	STONE
SUSP	SUSPENDED
TB	TACK BOARD
T&G	TONGUE AND GROOVE
THK	THICK(NEDD)
THR	THRESHOLD (SADDLE)
TM	TRAVERTINE MARBLE
TPO	THERMOPLASTIC POLYEFIN
TPTN	TOILET PARTITION
TYP	TYPICAL
TZ	TERRAZZO
TZB	TERRAZZO BASE
UNF	UNFINISHED
UON	UNLESS OTHERWISE NOTED
UNO	UNLESS NOTED OTHERWISE
V	VENEER
VAR	VARIES
VEST	VESTIBULE
VPLAS	VENEER PLASTER
WA	WALL ART
WB	WOOD BASE
WC	WALL COVERING
WD	WOOD
WD-PS	WOOD PANEL SYSTE,
WDV	WOOD VENEER
WDW	WINDOW
WG	WIRE GLASS
WH	WALL HUNG
WMB	WALL-MOUNTED BRACKET
WSCT	WAINSCOT
WT	WINDOW TREATMENT

SYMBOLS



REFERENCED BUILIDNG CODES

BUILDING:	2018 NORTH CAROLINA STATE BULDING CODE
ENERGY:	2018 NORTH CAROLINA ENERGY CONSERVATION CODE
FIRE:	2018 NORTH CAROLINA FIRE PREVENTION CODE
PLUMBING:	2018 NORTH CAROLINA STATE PLUMBING CODE
MECHANICAL:	2018 NORTH CAROLINA STATE MECHANICAL CODE
ELECTRICAL:	2020 NATIONAL ELECTRICAL CODE
ACCESSIBILITY:	2009 ANSI A117.1
POOL:	2015 INTERNATIONAL SWIMMING POOL AND SPA CODE NCDENR - 15A NCAC 18A.2500



TYPICAL MOUNTING HEIGHTS

*PROVIDE REQD' BLOCKING FOR GRAB BARS, WALL HUNG TOILETS, AND ACCESORIES DURING FRAMING

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NO.	REVISION	DATE

SHEET DISCRIPTION
GENERAL NOTES

PROJECT #:	2024039
DATE ISSUED:	09/16/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/PGC

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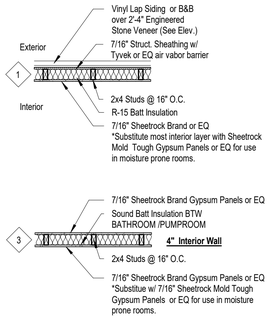
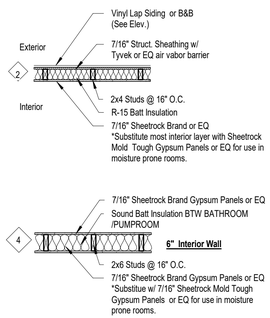
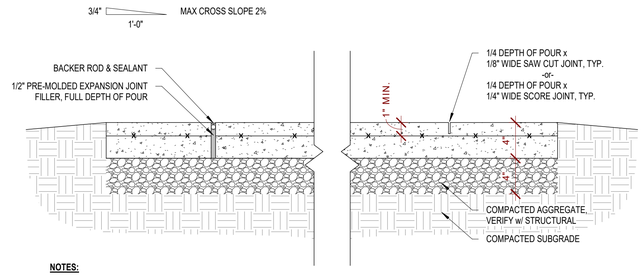
G0.4

Wall Type Details





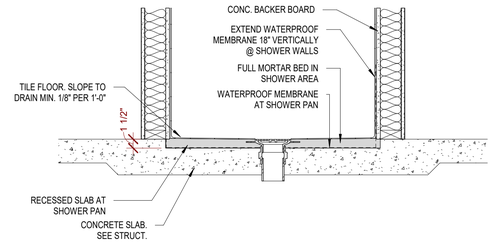


NOTES:

1. ALL JOINTS TO BE CUT w/ WET WALK BEHIND SAW TO ENSURE ALL CUTS ARE PERPENDICULAR W/ FACE OF CONCRETE
2. MAXIMUM CONTROL JOINT SPACING SHALL BE 10 FT. IN EACH DIRECTION UNLESS SHOWN OTHERWISE ON PLAN, SEE STRUCT.
3. PROVIDE EXPANSION JOINT WHERE SLABS ARE POURED AGAINST VERTICAL SURFACES AND/OR DIFFERENT PAVING MATERIALS AND AS SPECIFIED ON PLANS OR 25'-0" MAX O.C.

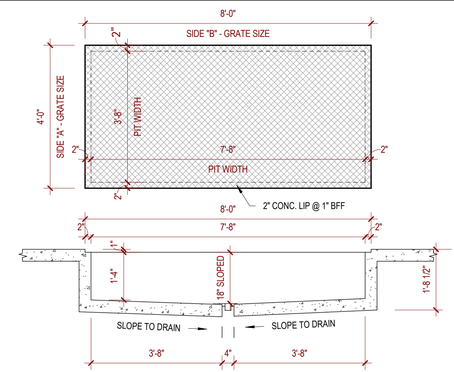
5 A1.0 Detail - Typ Concrete Joints

1 1/2" = 1'-0"



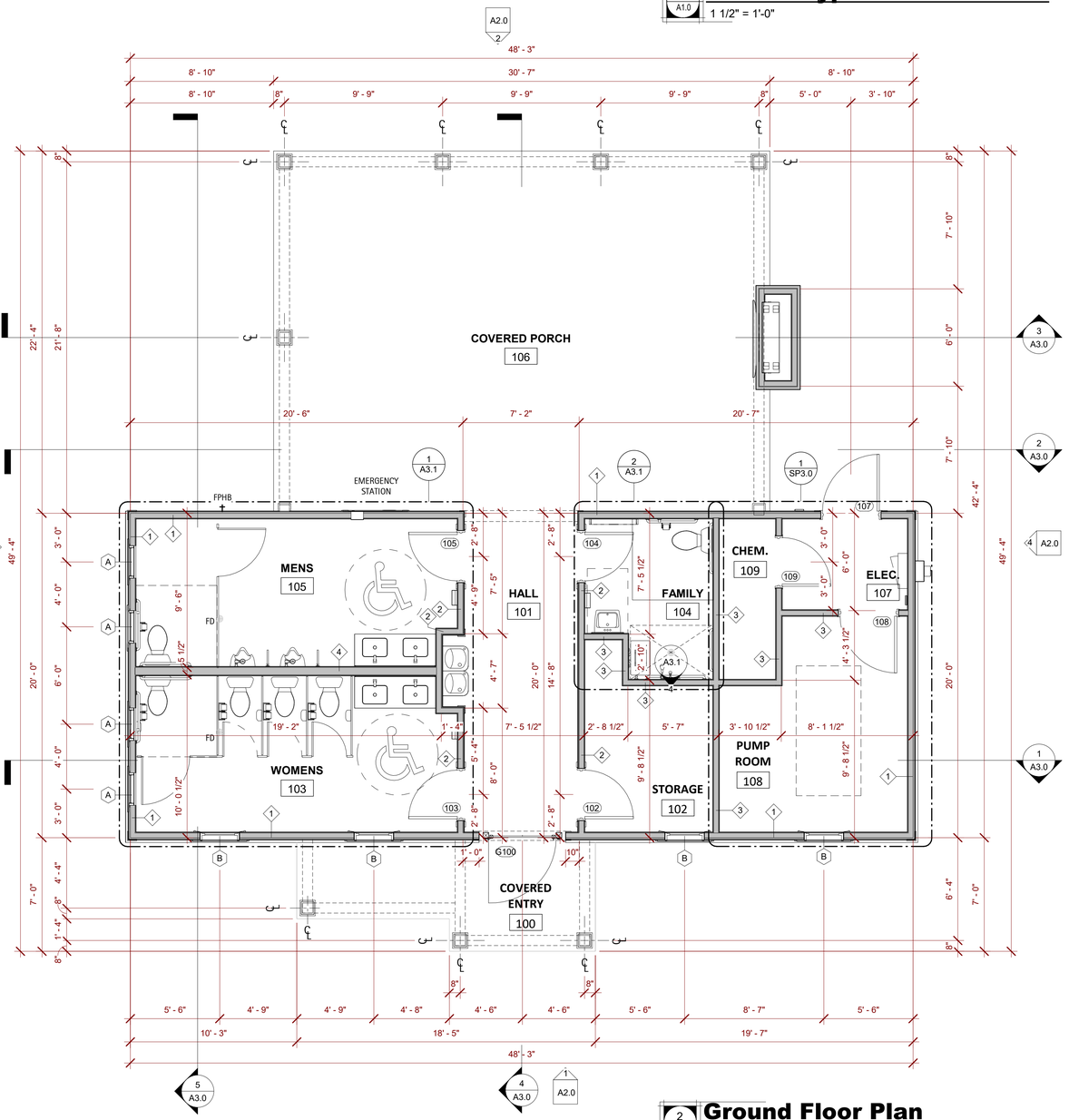
4 A1.0 Detail - Recessed Slab @ Shower

1" = 1'-0"



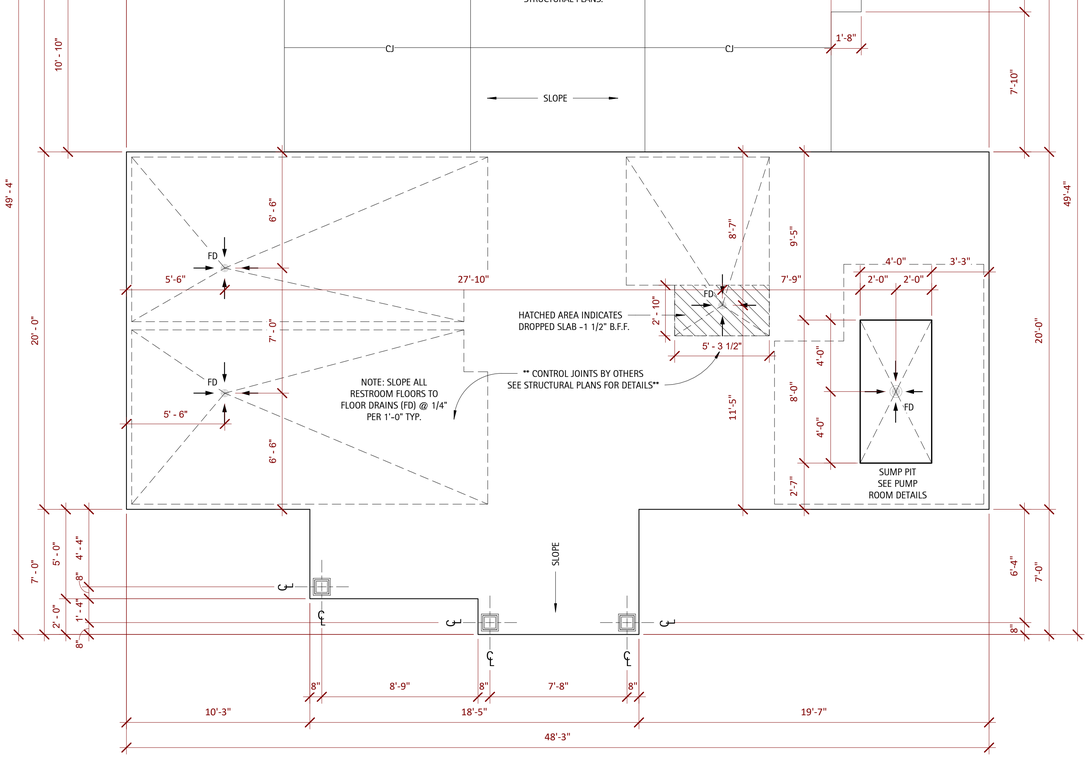
3 A1.0 Detail - Sump Pit

1/2" = 1'-0"



2 A1.0 Ground Floor Plan

1/4" = 1'-0"



1 A1.0 Foundation Plan

1/4" = 1'-0"

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NO.	REVISION	DATE

SHEET DISCRIPTION

FOUNDATION & FLOOR PLANS

PROJECT #:	2024039
DATE ISSUED:	09/16/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/PGC

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

A1.0

ROOF NOTES

1. Roof decks shall be covered with approved roof coverings secured to the building or structure in accordance with the NCSBC. Roof coverings shall be designed and installed in accordance with the building code and the approved manufacturer's instructions.

2. Crickets or saddles shall be installed on the ridge side of any chimney or penetration greater than 30 inches wide as measured perpendicular to the slope. Cricket or saddle coverings shall be sheet metal or of the same material as the roof covering.

3. Asphalt shingles shall only be used on roof slopes of 2:12 or greater.

4. Roof slopes from 2:12 to 4:12, underlayment shall be two layers applied in the following manner. Apply a minimum 19" wide strip of underlayment felt parallel with and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply 36-inch-wide sheets of underlayment overlapping successive sheets 19 inches minimum and fasten in place.

5. Roof slopes from 4:12 or greater, underlayment shall be a minimum of one layer.

6. Flashing shall be installed at the wall and roof intersections, at gutters, and wherever there is a change in roof slope or direction and around roof openings. Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than 0.019in (No. 26 galvanized sheet)

7. Areas prone to ice formation along eaves causing a backup of water shall have an ice barrier that consists of at least (2) two layers of underlayment cemented together or of a self-adhering polymer-modified bitumen sheet. Extend ice barrier min. 18" each side of valleys and other ice prone areas. .

8. Overhangs: Truss manufacturer to provide shorter gable end trusses where overhangs exceed 1'-0" to allow for outriggers to be framed over the top cord of the end truss and attached to the top cord of the secondary truss towards the interior of the gable. GC to verify prior to manufacturing of trusses.

9. Light Location: Truss manufacturere to cooridinate truss layout with reflected ceiling plans, electrical plans, and mechical plans to avoid conflicts

10. Mechanical, Electrical, and Plumbing or other trades shall ensure that all roof penetrations are to the rear of the structure.

11. Roof shall provide natural venting per NCSBC 1203.1 or be provided with mechanical venting per the International Mechanical Code.

REFLECTIVE CEILING NOTES

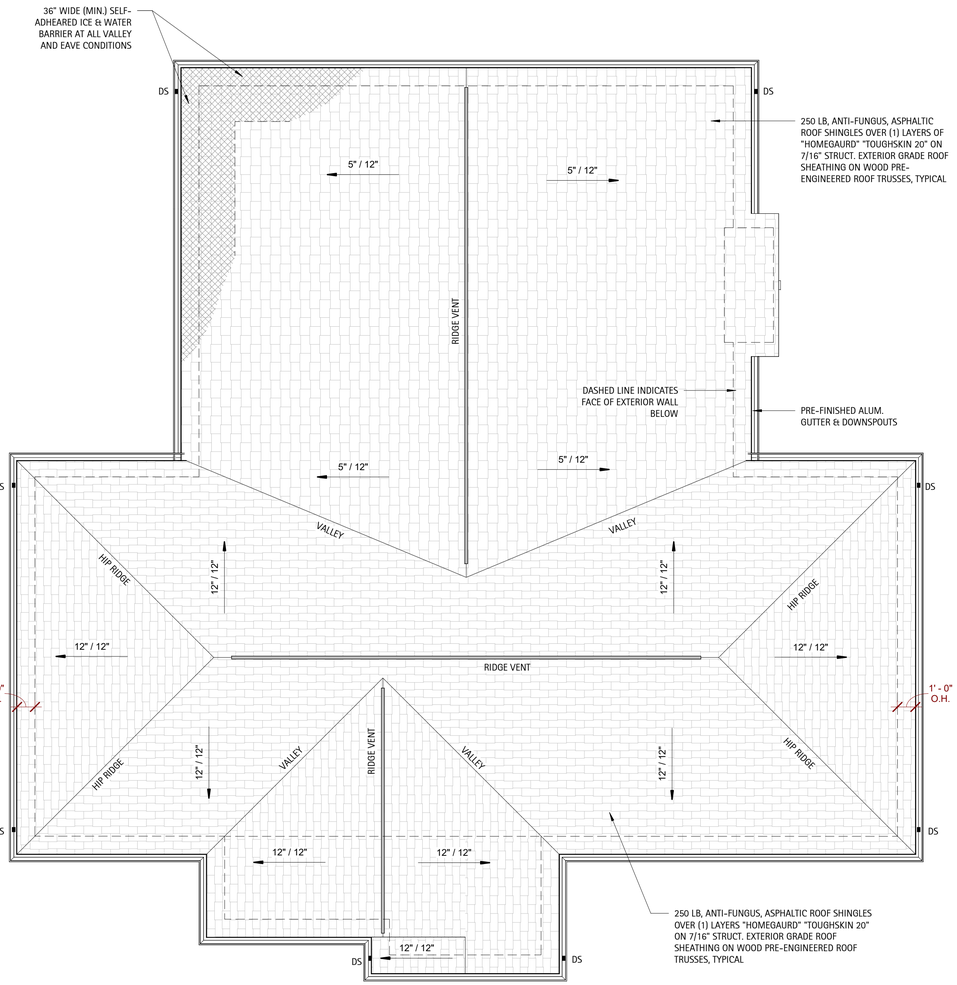
1. Borders at lay-in acoustical ceiling panels shall be cut to match factory edge profile. No exposed fasteners shall be permitted including pop rivets and tappets.

2. Height of ceilings shall be measured from top of slab to finish face of GWB or face of ceiling grid as indicated on the Reflected Ceiling Plan, UON.

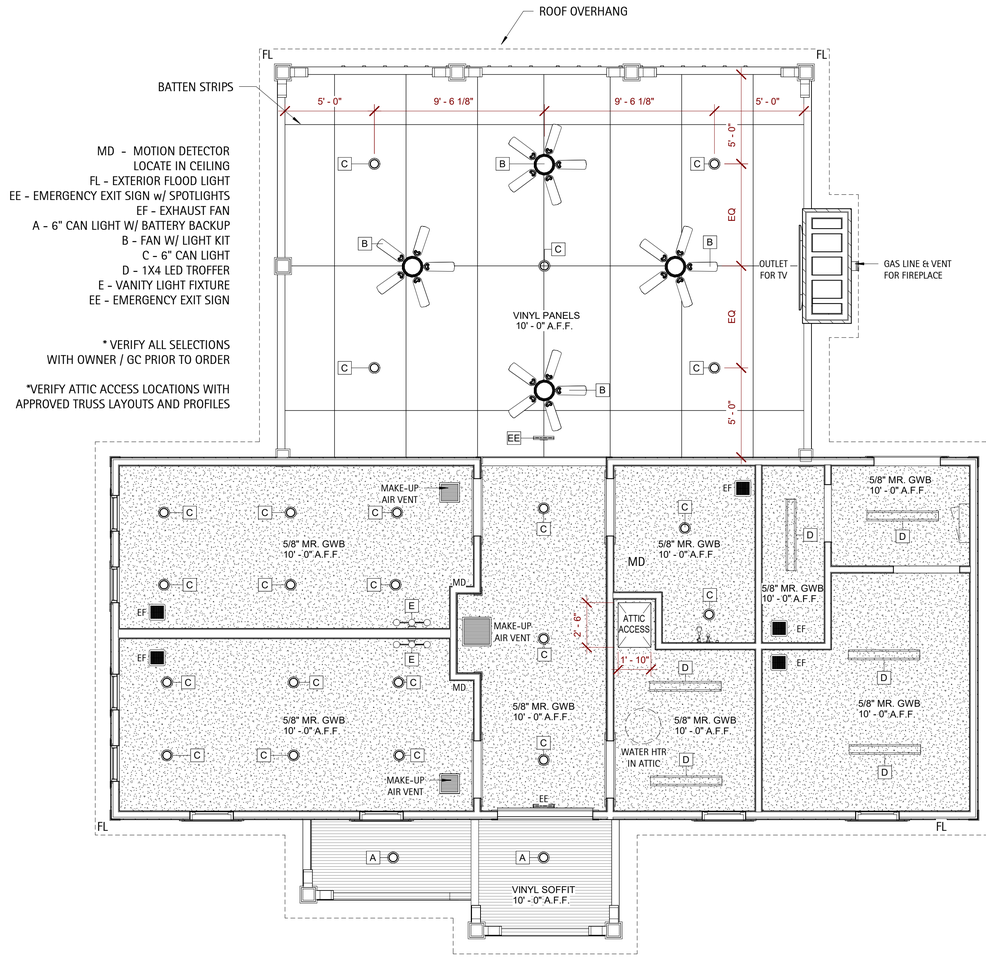
3. All light fixtures are to be installed according to the Architectural Reflected Ceiling Plan.

4. Light fixture types, quantities and locations only are noted on Architectural Reflected Ceiling Plans. Specifications, switching, exit lights, emergency lighting, life safety equipment, and circuiting are noted on Engineering documents.

5. Dimensioned light fixtures are from finished face of partitions to centerline of fixture and from centerline of fixture to centerline of fixture. All fixtures shall be installed in center of ceiling tile unless noted otherwise. Any discrepancies with light fixtures, switches, thermostats, or diffusers as to location between architectural and engineering drawings or between the drawings and existing field conditions shall be clarified with the Architect before proceeding with installation.



2 A1.1 **Roof Plan**
1/4" = 1'-0"



1 A1.1 **Reflected Ceiling Plan**
1/4" = 1'-0"

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SHEET DISCRIPTION
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AMENITY & POOL
ROLESVILLE, NC

A1.1

MATERIAL LEGEND

ASPHALT ROOF SHINGLES -
GAF/TIMBERLINE NATURAL
COLOR: CHARCOAL GRAY

PRE-ENGINEERED STONE VENEER -
STYLE: PROVIA
CUT: TERRA CUT
COLOR: FLINTRIDGE

PAINTED TRIM, COLUMN & DROP BEAM-
COLOR: PURE WHITE (SW 7005)
Pure White SW 7005

FIBER CEMENT LAP SIDING -
JAMES HARDIE COLOR PLUS
COLOR: ARTIC WHITE

FIBER CEMENT BOARD & BATTEN -
JAMES HARDIE COLOR PLUS
COLOR: ARTIC WHITE

SHUTTERS -
COLOR: MID-AMERICAN TUXEDO GRAY

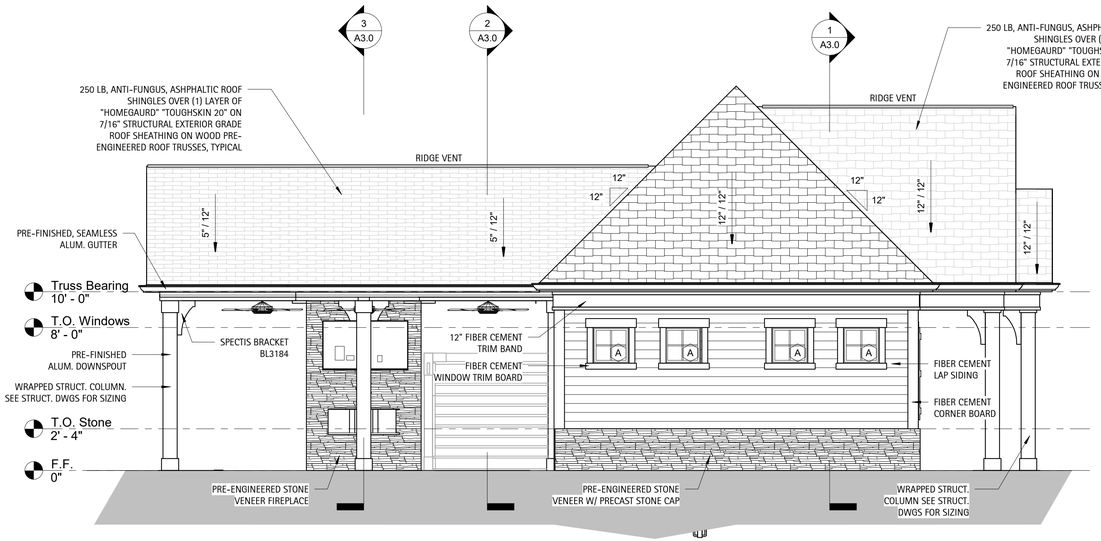
EXTERIOR DOORS
COLOR: AFRICAN GRAY (SW 9162)

METAL GATE & FENCE -
COLOR: TRICORN BLACK (SW 6258)

PRE-FINISHED SEAMLESS
ALUM GUTTER
COLOR: WHITE

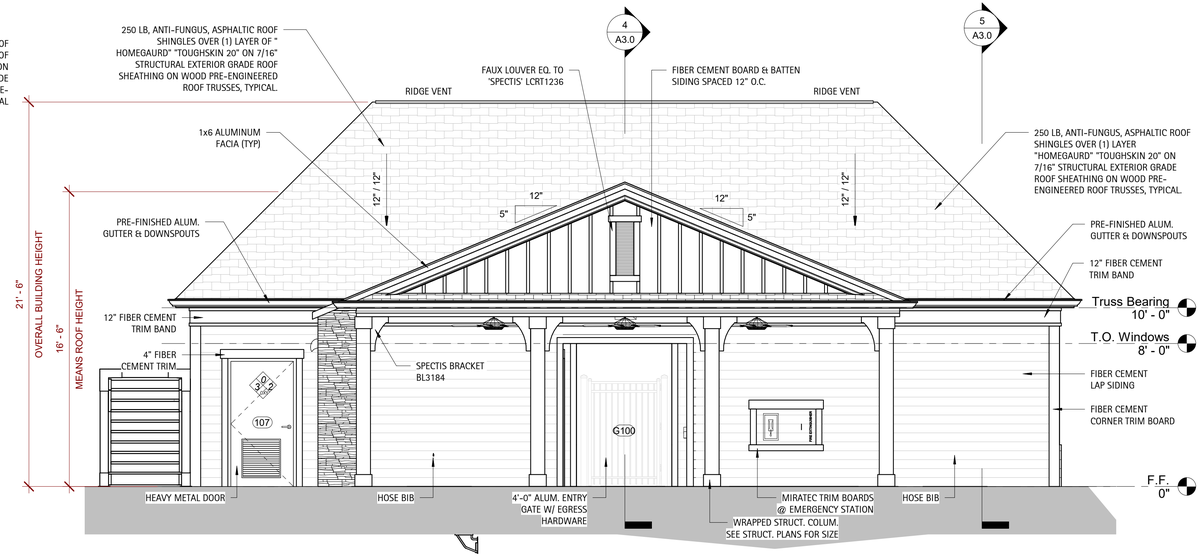
WINDOW STYLE & COLOR
STYLE: 4 OVER 1
COLOR: WHITE
MI 4300 SERIES OR SIMILAR

FIBER CEMENT TRIM BOARD
JAMIE HARDIE COLOR PLUS
COLOR: ARTIC WHITE



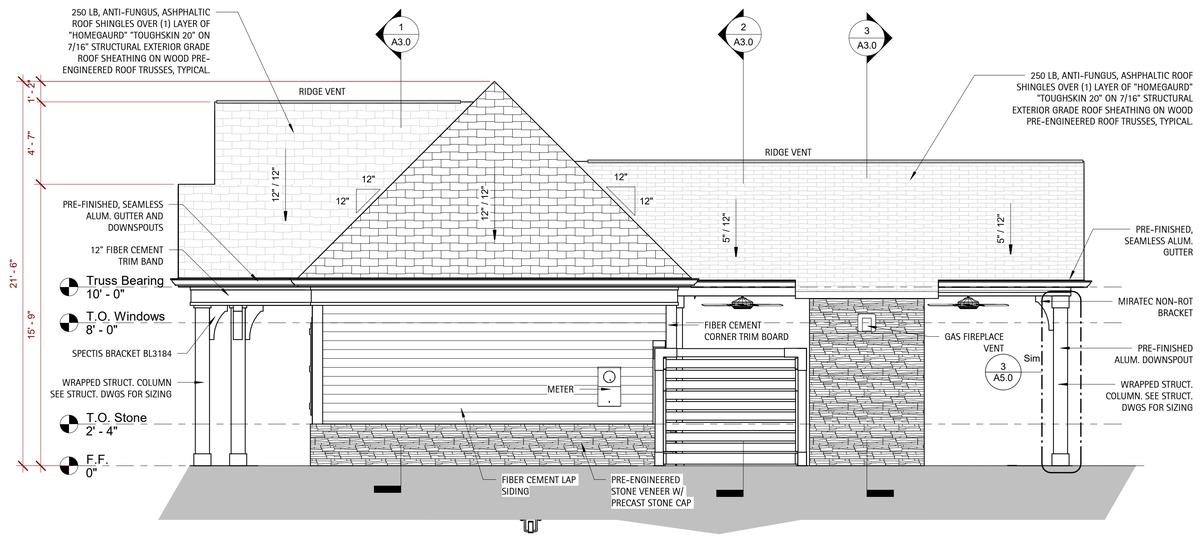
3 A2.0 Left Side Elevation

1/4" = 1'-0"



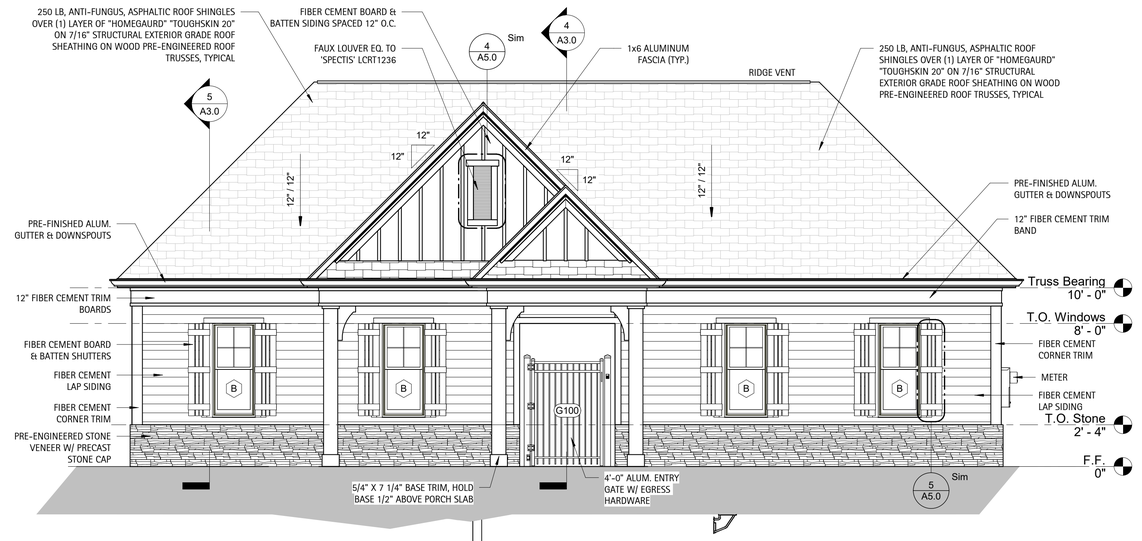
2 A2.0 Rear Elevation

1/4" = 1'-0"



4 A2.0 Right Side Elevation

1/4" = 1'-0"



1 A2.0 Front Elevation

1/4" = 1'-0"

D. CLUGSTON

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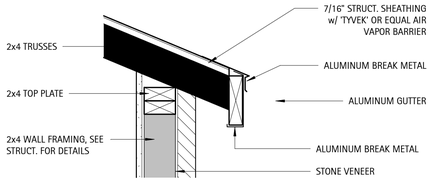
SHEET DISCRIPTION
EXTERIOR ELEVATIONS

PROJECT #:	2024039
DATE ISSUED:	09/16/2024
DRAWING BY:	JVD
CHECKED BY:	PGC/DSC

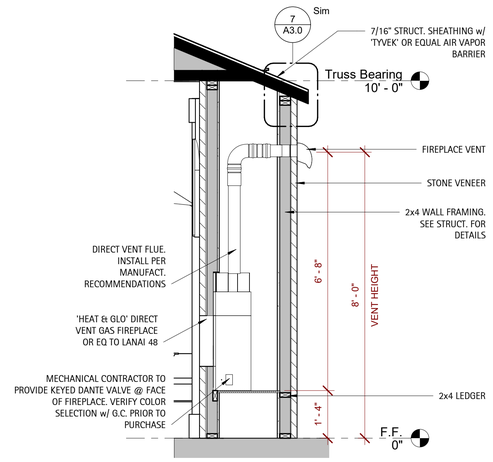
PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

A2.0



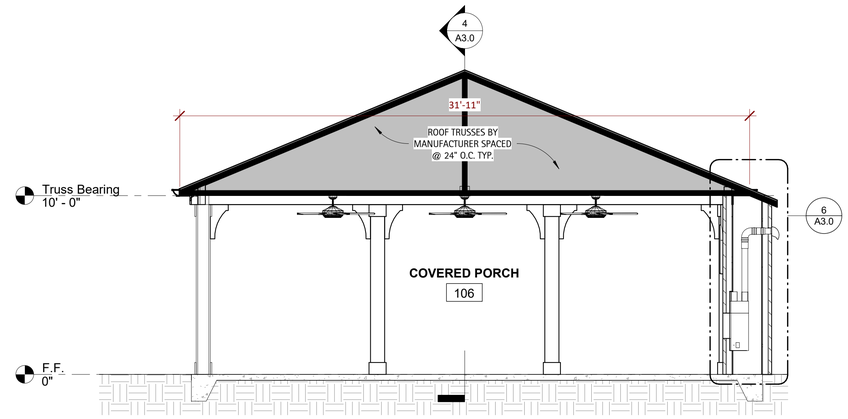
7 A3.0 Section - Typ. Enlarged Fireplace Truss

1 1/2" = 1'-0"



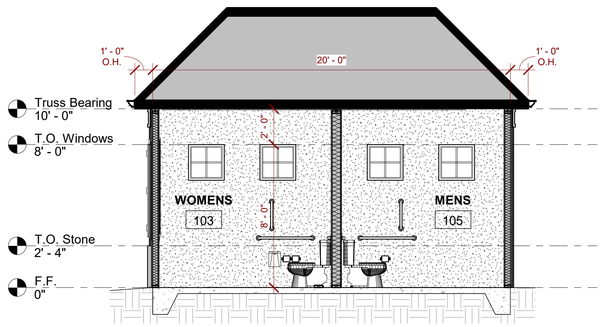
6 A3.0 Section - Enlarged Fireplace

1/2" = 1'-0"



3 A3.0 Section - Through Fireplace

1/4" = 1'-0"

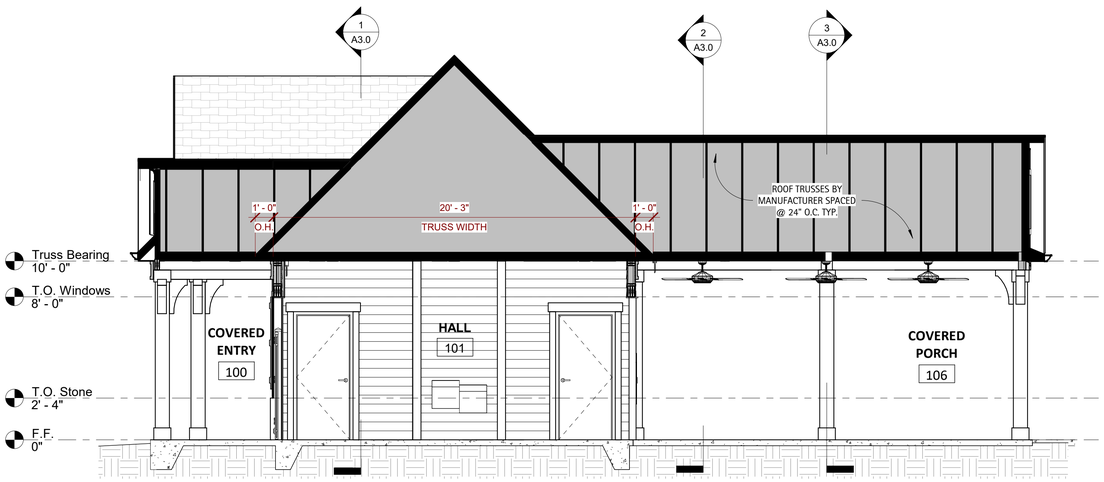


5 A3.0 Section - Through Restrooms

1/4" = 1'-0"

2 A3.0 Section - Through Rear Porch

1/4" = 1'-0"



4 A3.0 Section - Through Ridge

1/4" = 1'-0"

1 A3.0 Section - To Front

1/4" = 1'-0"

D. CLUGSTON

PERRY GLENN COX REGISTERED ARCHITECT 6636 NORTH CAROLINA APEX, N.C. 10.22.24

Perry Cox architect, p.a.
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NO.	REVISION	DATE

SHEET DISCRIPTION

BUILDING SECTIONS & DETAILS

PROJECT #:	2024039
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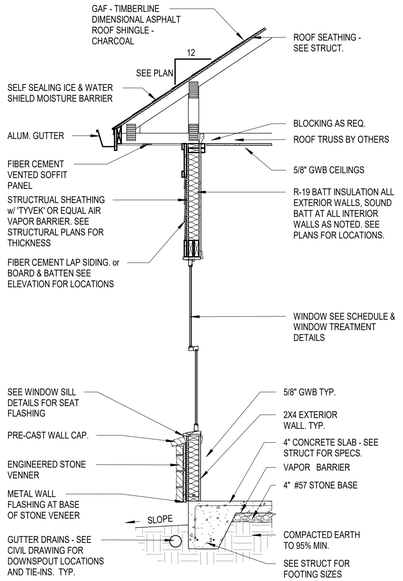
PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

A3.0



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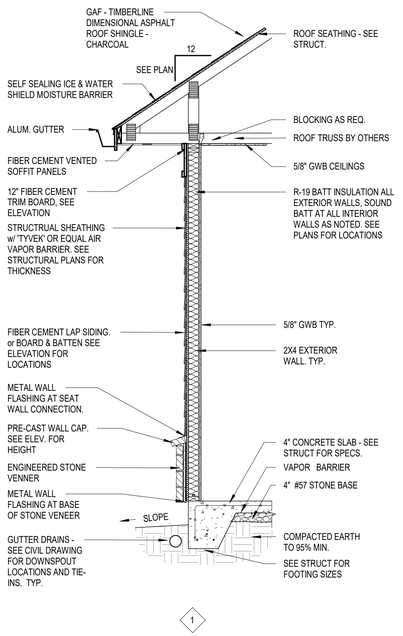

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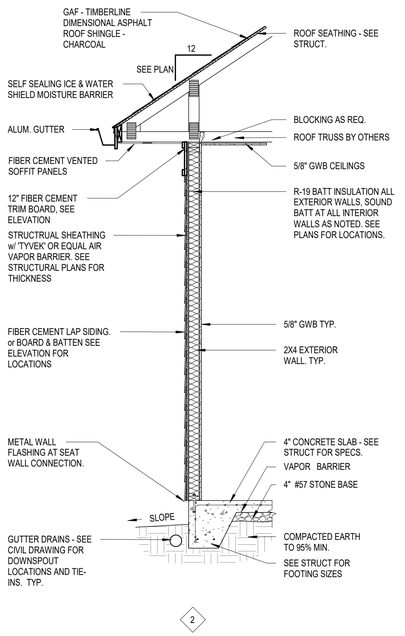
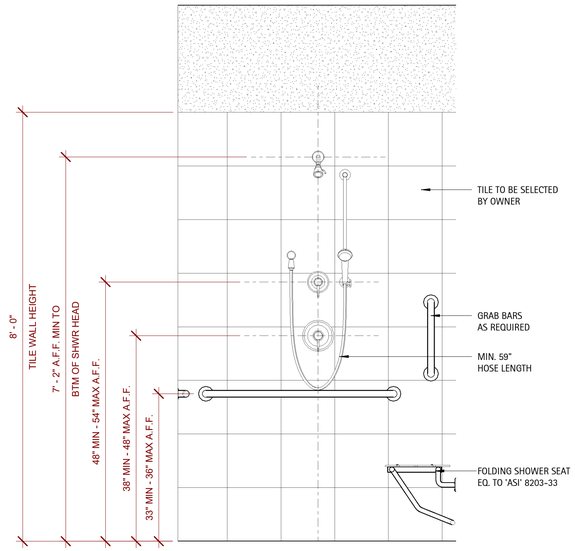


2

5 A3.1 Wall Section Detail - Slab/Truss

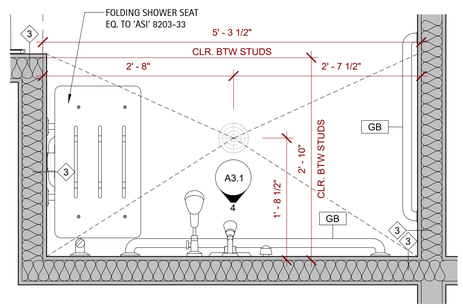
1/2" = 1'-0"



4 A3.1 Detail - Shower Control Wall

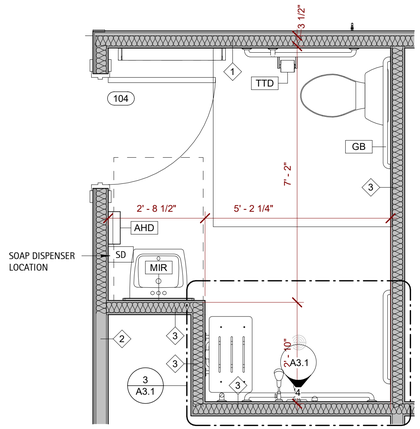
3/4" = 1'-0"

NOTES:
HORIZONTAL GRAB BARS SHALL BE PROVIDED ACROSS THE CONTROL WALL AND ON THE BACK WALL TO A POINT OF 18" FROM CONTROL WALL.
VERTICAL GRAB BAR OF 18" MIN. LENGTH SHALL BE PROVIDED ON THE CONTROL END WALL 3" MIN. & 6" MAX. ABOVE THE HORIZONTAL GRAB BAR, AND 4" MAX. INWARD FROM THE FRONT EDGE OF SHOWER.
ALL GRAB BARS SHALL COMPLY WITH SECTION 609 OF THE ICC 2009 ANSI A117.1



3 A3.1 Sanitary Rinse Shower

1" = 1'-0"



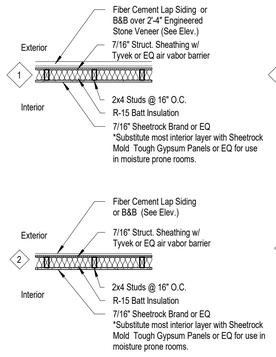
2 A3.1 Enlarged Family RR Plan

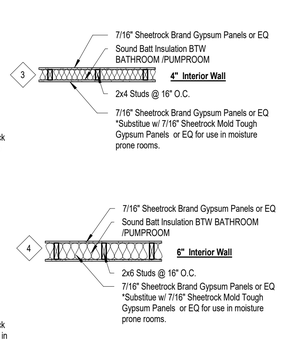
1/2" = 1'-0"

TOILET ACCESSORIES

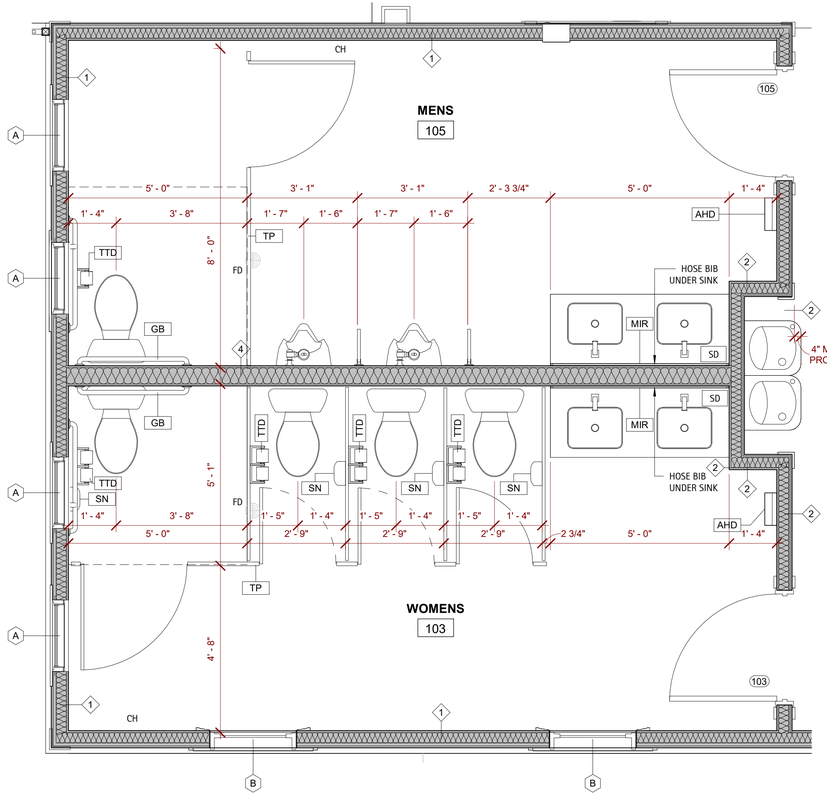
MARK	ITEM	MANUFACTURER	MODEL NUMBER
TTD	SURFACE MOUNTED DUAL ROLL TOILET TISSUE HOLDER	AMERICAN SPECIALTIES, INC	0715
GB	GRAB BAR - 1 1/2" DIA., S/S, PREENED GRIP, SNAP FLANGE 36", 42" & 18"	AMERICAN SPECIALTIES, INC	3800 TYPE-01
MIR	INTERLOK S.S. FRAMED MIRROR W/ SHATTER RESISTANT GLASS	AMERICAN SPECIALTIES, INC (FAMILY) AMERICAN SPECIALTIES, INC (M & W)	781-024360 (24x36) 780-054360 (54x36)
CH	SURFACE MOUNTED COAT HOOK	AMERICAN SPECIALTIES, INC	0714
AHD	SURFACE MOUNTED AUTOMATIC HAND DRYER	AMERICAN SPECIALTIES, INC	0199-1-93
SD	SURFACE MOUNTED S.S. AUTOMATIC LIQUID/GEL SOAP DESPENSER - BATTERY POWERED	AMERICAN SPECIALTIES, INC	0360
SN	SURFACE MOUNTED SAINITARY NAPKIN DISPOSAL (WOMEN'S TOILET ONLY)	AMERICAN SPECIALTIES, INC	0852
CS	SURFACE MOUNTED BABY CHANGING STATION	AMERICAN SPECIALTIES, INC	9012
TP	TOILET PARTITION - FLOOR SUPPORTED W/ HEADRAIL, SOLID PLASTIC (HDPE)	ASI GLOBAL PARTITIONS (HDPE)	SERIES 40-5

NOTE SEE SHEET G0.4 FOR TYPICAL MOUNTING HEIGHTS & CLEARANCES





Wall Type Details



1 A3.1 Enlarged Restroom Plan

1/2" = 1'-0"

DATE
REVISION
NO.

SHEET DISCRIPTION

ENLARGED PLANS & WALL SECTIONS

PROJECT #:	2024039
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PARKER RIDGE AMENITY
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A3.1

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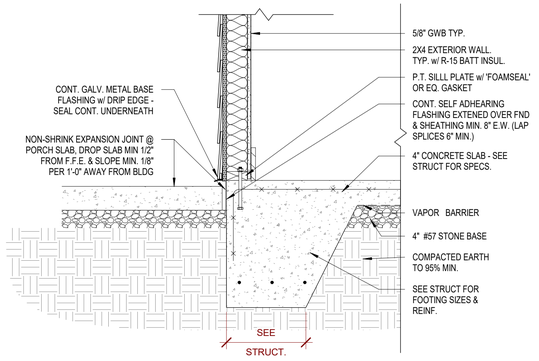
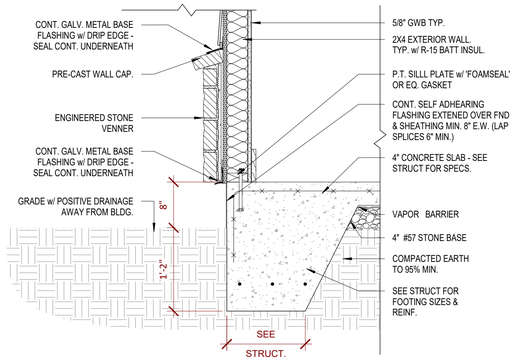


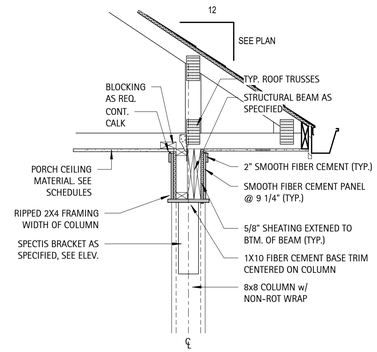
10 A4.0 Detail - Typ Turn Down @ Sidewalks

1" = 1'-0"



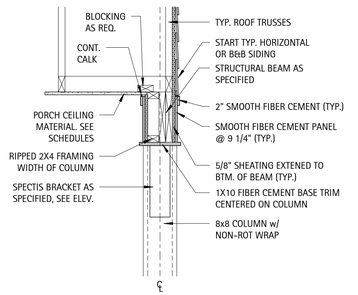
6 A4.0 Detail - Turn Down Slab @ Grade

1" = 1'-0"



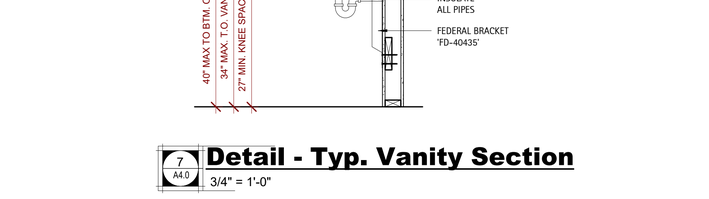
3 A4.0 Detail - Typ Trim Band @ Soffits

3/4" = 1'-0"



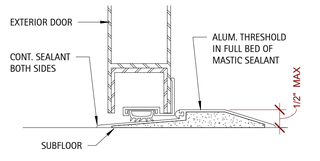
2 A4.0 Detail - Typ Trim Band @ Gable

3/4" = 1'-0"



9 A4.0 Detail - Typ. Door Jambs

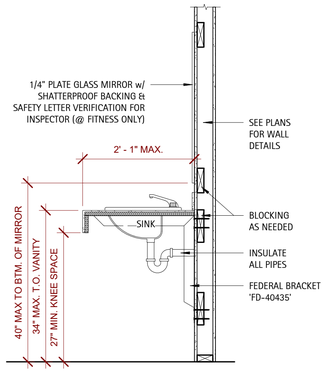
3" = 1'-0"



EXTERIOR DOORS THRESHOLD

8 A4.0 Detail - Typ. Threshold

6" = 1'-0"



7 A4.0 Detail - Typ. Vanity Section

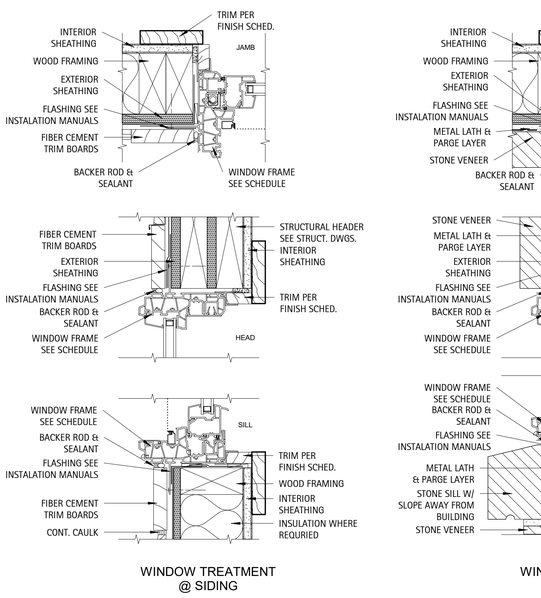
3/4" = 1'-0"

NOTES:

1. ALL JOINTS TO BE CUT w/ WET WALK BEHIND SAW TO ENSURE ALL CUTS ARE PERPENDICULAR W/ FACE OF CONCRETE
2. MAXIMUM CONTROL JOINT SPACING SHALL BE 10 FT. IN EACH DIRECTION UNLESS SHOWN OTHERWISE ON PLAN, SEE STRUCT.
3. PROVIDE EXPANSION JOINT WHERE SLABS ARE POURED AGAINST VERTICAL SURFACES AND/OR DIFFERENT PAVING MATERIALS AND AS SPECIFIED ON PLANS OR 25'-0" MAX O.C.

5 A4.0 Detail - Typ. Sawcut Control Joint

1 1/2" = 1'-0"



WINDOW TREATMENT @ SIDING

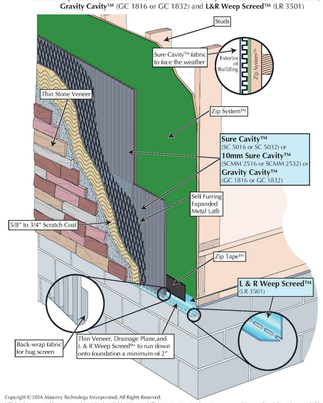
WINDOW TREATMENT @ STONE

4 A4.0 Detail - Window Treatments

3" = 1'-0"

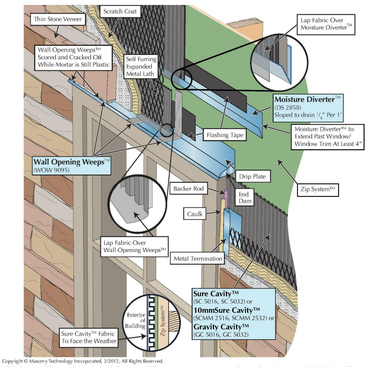
L&R Weep Screed at Bottom of Thin Stone Veneer Wall With Zip System™

Sure Cavity™ (SC 5016 or SC 5032) or **10mm Sure Cavity**™ (SCMM 2516 or SCMM 2532) or **Gravity Cavity**™ (GC 1816 or GC 1832) and **L&R Weep Screed**™ (LR 3501)



Thin Stone Veneer with Drainage Plane and Weeps on Zip System™ with Moisture Diverter™ at Top of Window

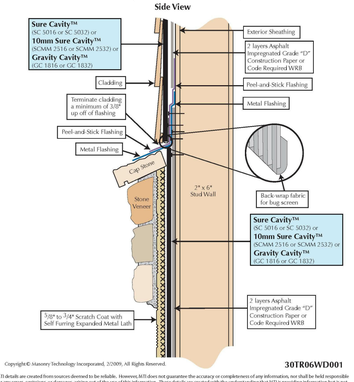
Sure Cavity™ (SC 5016 or SC 5032) or **10mm Sure Cavity**™ (SCMM 2516 or SCMM 2532) or **Gravity Cavity**™ (GC 1816 or GC 1832) and **Wall Opening Weeps**™ (WOW 9095) and **Moisture Diverter**™ (WSD 2858)



Cladding Systems to Thin Stone Veneer Installation

Sure Cavity™ (SC 5016 or SC 5032) or **10mm Sure Cavity**™ (SCMM 2532) or **Gravity Cavity**™ (GC 1816 or GC 1832)

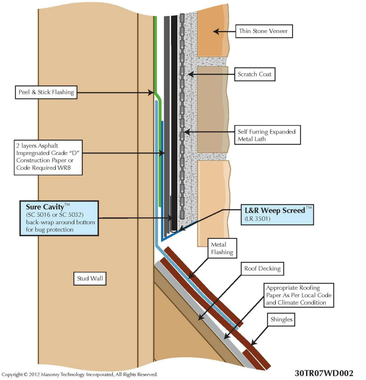
Side View



30TR06WD001

Thin Stone Veneer Side Wall to Roof Termination Detail

Sure Cavity™ (SC 5016 or SC 5032) and **L&R Weep Screed**™ (LR 3501)



30TR07WD002

1 A4.0 Detail - Stone Veneer on Sheathing

12" = 1'-0"

D. CLUGSTON

PERRY GLENN COX REGISTERED ARCHITECT 6030 NORTH CAROLINA APEX, N.C. 16 SEP 24

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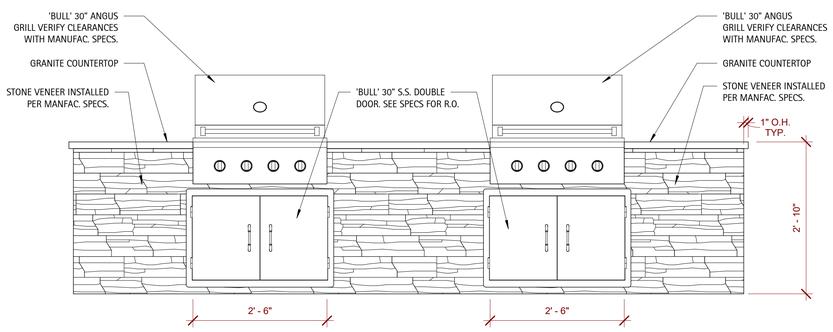
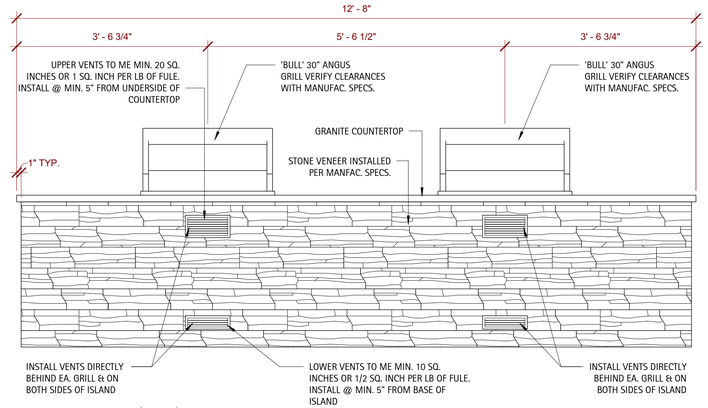
A4.0



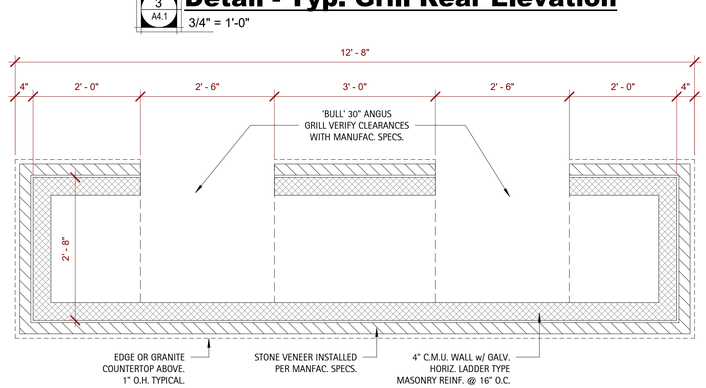
4 A4.1 Detail - Typ. Grill Front Elevation

3/4" = 1'-0"



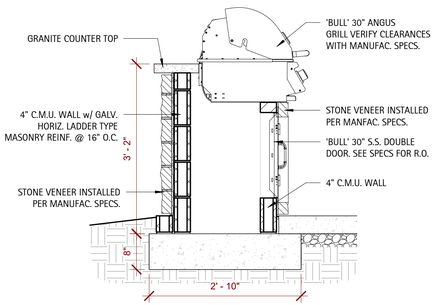
3 A4.1 Detail - Typ. Grill Rear Elevation

3/4" = 1'-0"



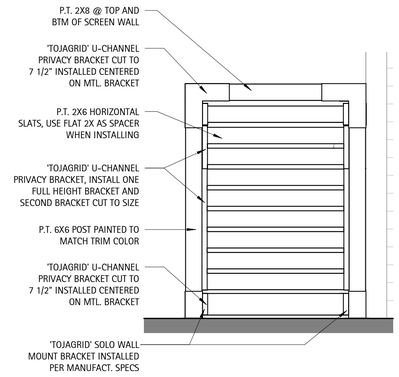
2 A4.1 Detail - Grill Island Plan View

3/4" = 1'-0"



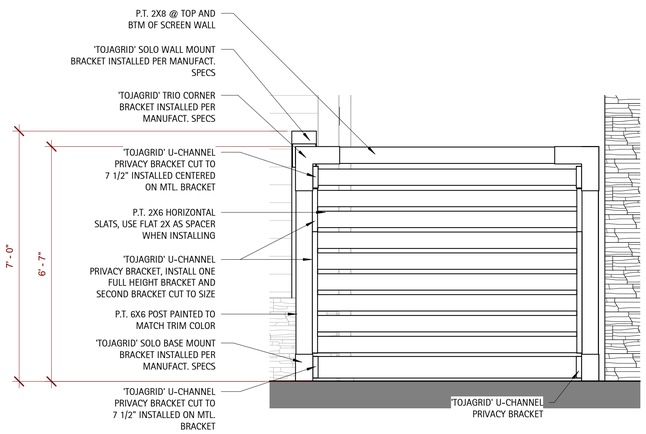
1 A4.1 Detail - Grill Section View

3/4" = 1'-0"



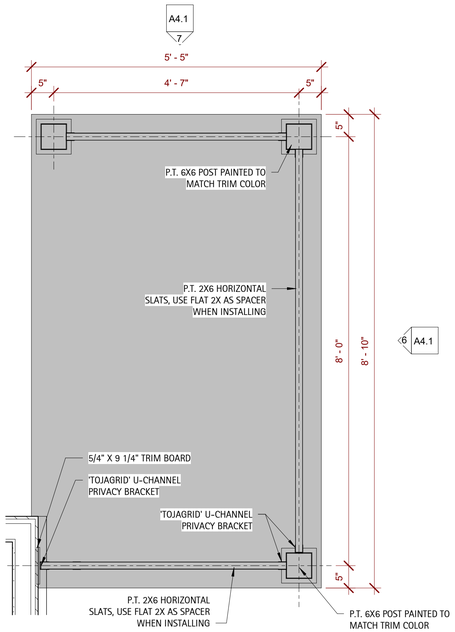
7 A4.1 Trash Corral Side Elevation

1/2" = 1'-0"



6 A4.1 Trash Corral Front Elevation

1/2" = 1'-0"



5 A4.1 Trash Corral Floor Plan

3/4" = 1'-0"

D. CLUGSTON

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PERRY GLENN COX REGISTERED ARCHITECT 6838 NORTH CAROLINA APEX, N.C. 09/25/24

NO.	REVISION	DATE

SHEET DISCRIPTION

GENERAL DETAILS

PROJECT #:	2024039
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CHECKED BY:	DSC/PGC

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

A4.1

DOORS, FRAMES, HARDWARE NOTES

1 Refer to Door and Hardware Schedule for extent, type and additional notes. Acceptable wood door manufacturers to be Weyerhaeuser, Eggers, Mohawk or Architect approved equal. General Contractor shall provide a hardware schedule and catalogue cuts for all finish hardware for approval by the Architect indicating location of hardware set, cross-referenced to indications on Drawings, manufacturer's name and product number, finish, and other similar information describing hardware to be provided. Items of hardware not definitely specified, but needed for satisfactory installation of hardware shall be provided. Such items shall be of type and quality suitable for service needed and comparable to adjacent hardware.

2 All doors shall be set 6" off adjacent perpendicular wall, UON. Doors shall not be undercut, UON. All levers, pulls, and locks are to be provided per the schedule. All hinges and other miscellaneous exposed hardware shall be in similar and compatible finishes as indicated on Hardware Schedule.

3 General Contractor shall coordinate keying system with Owner (Building Management), Landlord, and Architect. General Contractor shall coordinate security system with system vendor and scheduled hardware and the submittal of all security hardware specifications and cut sheets to the proper authorities for review and approval during building permit process

4 Provide hardware, door pulls, hinges, closers, electromagnetic devices, etc. needed to provide a full and complete installation. Provide silencers at metal frame doors. Provide floor mounted door stops unless existing conditions require wall mounted. Ensure adequate blocking for wall mounted stops. Submit to Architect for approval.

5 Provide 4 1/2 x 4 1/2, full mortise, template, 5-knuckle, heavy duty, button tip hinges with non-rising loose pins and anti-friction, ball type bearing. Doors with locksets shall be furnished with non-removable pins hinges. Provide 1-1/2" pair hinges for doors up to 90" in height. Add 1 hinge for every additional 30" in height.

6 Heavy duty cylindrical locksets and latchsets shall conform to ANSI A156.2, Series 4000, Grade 1. Functions as listed in schedule. Heavy duty mortise locksets and latchsets, levers shall conform to ANSI A156.13 Series, 1000, Grade 1. Overhead Closers shall be surface mounted or concealed overhead as noted in the hardware schedule and shall be heavy duty, fully hydraulic, rack and pinion action and sized to be in compliance with requirements for accessibility for handicapped and recommendations of manufacturer. Furnish complete with all necessary hardware. Furnish 2 keys per lock with a maximum of 8 keys per keyed alike set. Before final completion, adjust hardware so that doors operate in perfect order. Test and adjust hardware for quiet, smooth operation and adjust closers for proper operation. At final completion, properly tag and identify keys and deliver to Owner.

7 All Hardware shall be medium grade commercial if not otherwise noted or specified. See allowance per door.

8 All interior egress doors and a minimum of one exterior egress door shall be readible openalbe from the egress side without use of a key or special knowledge.

9 All Glazing within 24" of either side of a door in a closed position, and on the same wall plane shall be tempered. Tempered glass shall be installed by code in the following locations:
- a. Door Glazing;
- b. Glazingfor bathroom fixture enclosures(showers, etc)
- c. Glazing less than 60" above tub and shower drains;
- d. Glazing within24" of an adjacent door w/ sill less than 60 degrees;
- e. Individual panels of Glazing greater than 9 sqft and sill less than 18" above floor and top edge greater than 36".

10 Fire Extinusisher cabinets shall be similar to ULINE Outdoor Cabinet H-7269 with a clear bubble and A#10 S/S Finish. ADA approved and mounted. Place where shown on plans (FX)

11 Door closers shall be LCN series 4040 or equivalent

ROOM SCHEDULE

Room Number	Room Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Ceiling Height	Crown Finish	Crown	Comments
100	COVERED ENTRY	Concrete - Light Broom	N/A	N/A	Hardie Panels or EQ - Painted	10'-0"	N/A	No	Slope floor away from building min. 1/8" per 1'-0"
101	HALL	Concrete - Light Broom	N/A	N/A	MR GWB - Painted	10'-0"	N/A	No	Slope floor away from building min. 1/8" per 1'-0"
102	STORAGE	Acrylic Chip Flooring	1x6 Fiber Cement - Painted	MR GWB - Painted	MR GWB - Painted	10'-0"	1x6 Fiber Cement - Painted	Yes	Slope floor to drain
103	WOMENS	Acrylic Chip Flooring	1x6 Fiber Cement - Painted	MR GWB - Expoxy Painted at WC	MR GWB - Painted	10'-0"	1x6 Fiber Cement - Painted	Yes	Slope floor to drain
104	FAMILY	Concrete - Light Broom	1x6 Fiber Cement - Painted	MR GWB - Expoxy Painted at WC	MR GWB - Painted	10'-0"	1x6 Fiber Cement - Painted	Yes	Slope floor to drain
105	MENS	Acrylic Chip Flooring	1x6 Fiber Cement - Painted	MR GWB - Expoxy Painted at Urinal	MR GWB - Painted	10'-0"	1x6 Fiber Cement - Painted	Yes	Slope floor to drain
106	COVERED PORCH	Concrete - Light Broom	N/A	N/A	Hardie Panels or EQ - Painted	10'-0"	N/A	No	Slope floor away from building min. 1/8" per 1'-0"
107	ELEC.	Concrete - Light Broom	1x6 Fiber Cement - Painted	MR GWB - Painted	MR GWB - Painted	10'-0"	1x6 Fiber Cement - Painted	Yes	
108	PUMP ROOM	Concrete - Light Broom	1x6 Fiber Cement - Painted	MR GWB - Painted	MR GWB - Painted	10'-0"	1x6 Fiber Cement - Painted	Yes	See Plans for sump pump layout. Slope floors to drain.
109	CHEM.	Concrete - Light Broom	1x6 Fiber Cement - Painted	MR GWB - Painted	MR GWB - Painted	10'-0"	1x6 Fiber Cement - Painted	Yes	Provide non-rot chemical shelf at 16" A.F.F.
110	TRASH CORRAL	Concrete - Light Broom	N/A	N/A	N/A	N/A	N/A	No	Slope floor away from building min. 1/8" per 1'-0"

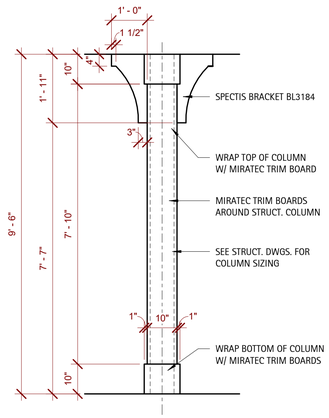
DOOR SCHEDULE

Door Number	Style	Door			Rough Width	Rough Height	Door		Frame	Fire Rating	Hardware									Comments
		Width	Height	Thickness			Material	Finish	Material		Passage Set	Privacy Set	Push Pull	Deadbolt	Panic Hardware	Closer	Kick Plate	Weatherstrip	Threshold	
102	TYPE A	3' - 0"	7' - 0"	1 3/4"	3' - 2 1/2"	7' - 1 1/4"	HM	PAINT	METAL	N/A	No	No	No	No	No	Yes	No	Yes	Yes	Storage Set
103	TYPE A	3' - 0"	7' - 0"	1 3/4"	3' - 2 1/2"	7' - 1 1/4"	HM	PAINT	METAL	N/A	Yes	No	No	Yes	No	Yes	No	Yes	Yes	
104	TYPE A	3' - 0"	7' - 0"	1 3/4"	3' - 2 1/2"	7' - 1 1/4"	HM	PAINT	METAL	N/A	No	Yes	No	Yes	No	Yes	No	Yes	Yes	
105	TYPE A	3' - 0"	7' - 0"	1 3/4"	3' - 2 1/2"	7' - 1 1/4"	HM	PAINT	METAL	N/A	Yes	No	No	Yes	No	Yes	No	Yes	Yes	
107	TYPE C	3' - 6"	7' - 0"	1 3/4"	3' - 8 1/2"	7' - 1 1/4"	HM	PAINT	METAL	N/A	No	No	No	No	No	Yes	No	Yes	Yes	Storage Set - Provide Electrical Room Placard
108	TYPE C	3' - 6"	7' - 0"	1 3/4"	3' - 8 1/2"	7' - 1 1/4"	HM	PAINT	METAL	N/A	Yes	No	No	No	No	Yes	No	No	No	Placards Per NFPA704
109	TYPE C	3' - 0"	7' - 0"	1 3/4"	3' - 2 1/2"	7' - 1 1/4"	HM	PAINT	METAL	N/A	Yes	No	No	No	No	No	No	No	No	Placards Per NFPA704
G100	TYPE B	5' - 0"	6' - 0"				ALUM	PAINT	METAL	N/A	No	No	No	No	Yes	Yes	No	No	No	Gate - See Pool Plans For Details (FOB)
G101	TYPE B	6' - 0"	6' - 0"				ALUM	PAINT	METAL	N/A	No	No	No	No	Yes	Yes	No	No	No	

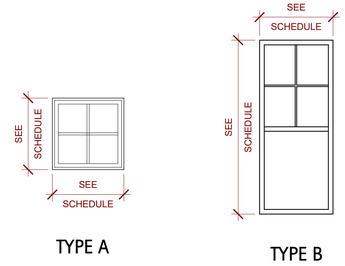
Grand total: 9

WINDOW SCHEDULE

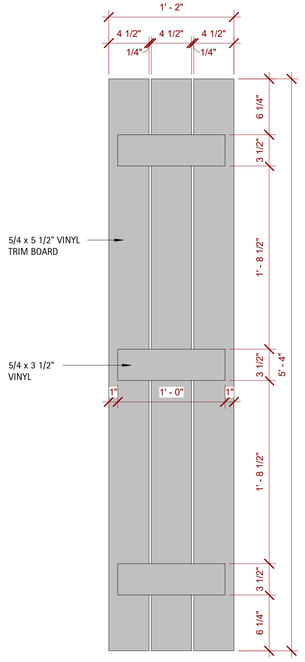
Mark	Size		Rough Width	Rough Height	Type	Finish	Head Height	Comments
	Width	Height						
A	2' - 0"	2' - 0"	2' - 0 1/2"	2' - 0 1/2"	FIXED		8' - 0"	OBSCURE/FROSTED GLASS
B	2' - 4"	5' - 2"	2' - 4 3/4"	5' - 2 3/4"	FIXED		8' - 0"	OBSCURE/FROSTED GLASS



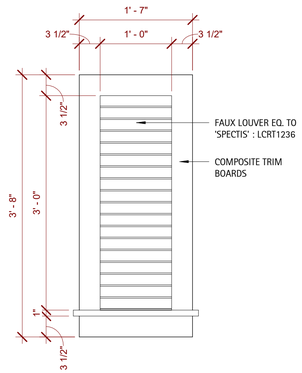
3 A5.0 **Detail - Typ. Column**
1/2" = 1'-0"



2 A5.0 **Detail - Window Types**
1/2" = 1'-0"



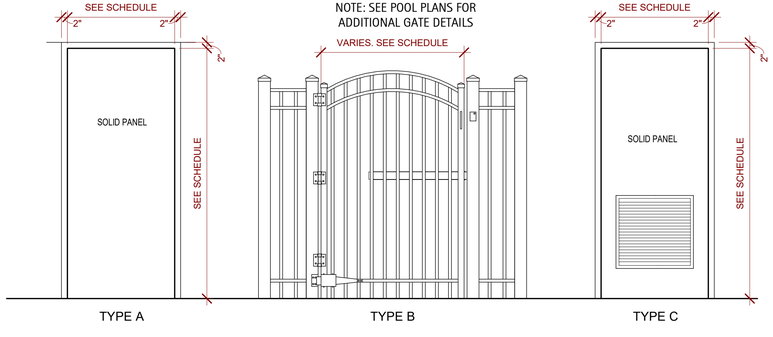
5 A5.0 **Detail - Typ Shutter**
1 1/2" = 1'-0"



4 A5.0 **Detail - Typ. Faux Louver**
1" = 1'-0"

NOTE: SEE BUILDING ELEVATIONS FOR EXTERIOR TRIM DETAILS

NOTE: SEE POOL PLANS FOR ADDITIONAL GATE DETAILS



1 A5.0 **Detail - Door Types**
1/2" = 1'-0"

D. CLUGSTON

PERRY GLENN COX
REGISTERED ARCHITECT
6638
NORTH CAROLINA
APEX, N.C.
16 SEP 24

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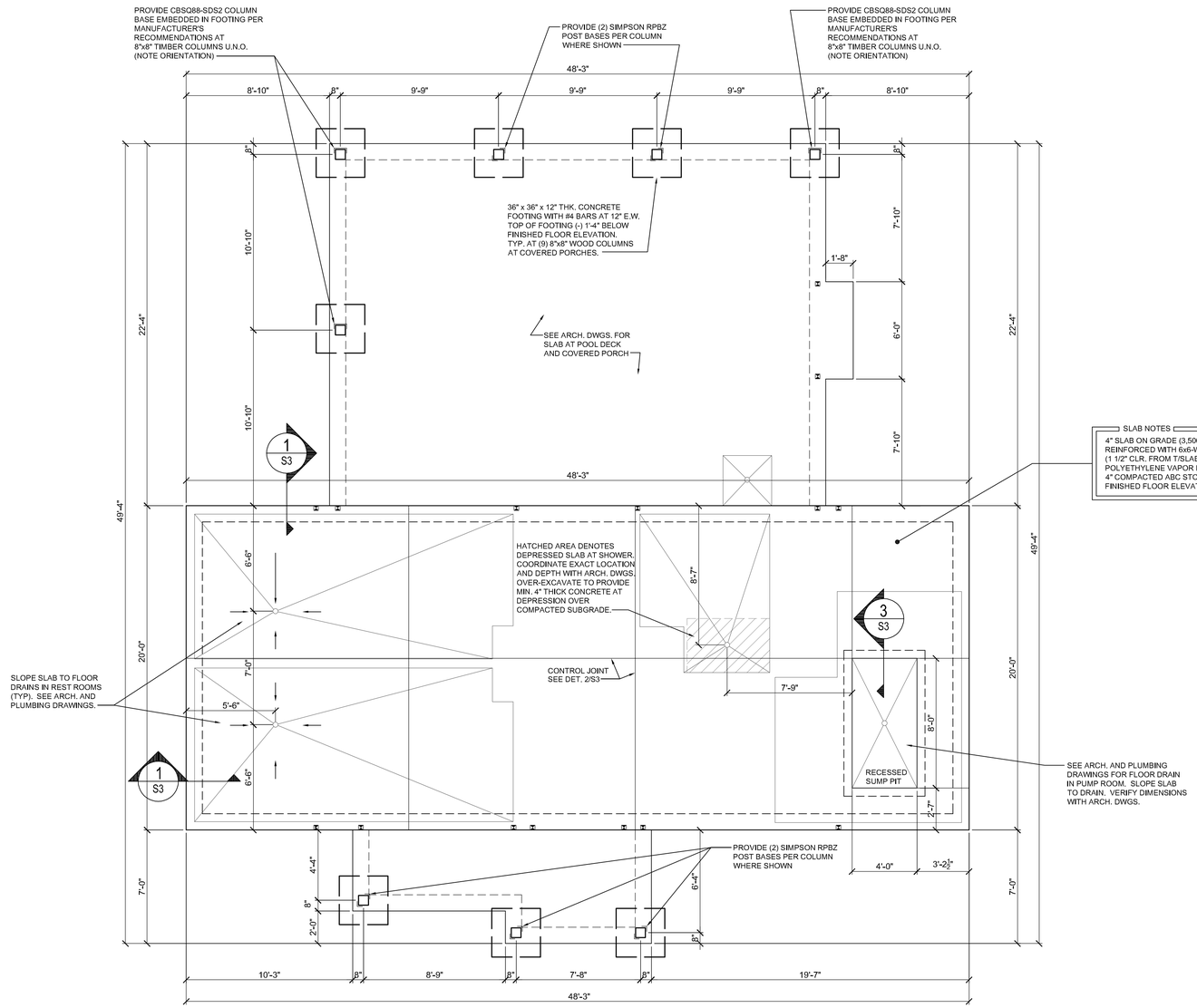
NO. | REVISION | DATE

SHEET DISCRIPTION
SCHEDULES & GENERAL DETAILS

PROJECT #:	2024039
DATE ISSUED:	09/16/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/PGC

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

A5.0



1 S1 SLAB AND FOUNDATION PLAN

1/4" = 1'-0"

D. CLUGSTON

ROSS LINDEN
ENGINEERS PC
709 W. JONES STREET RALEIGH, NC 27603
TEL 919.832.5680 FAX 919.832.3675
WWW.ROSSLINDEN.COM NC LICENSE NO: C-2364

NORTH CAROLINA PROFESSIONAL SEAL 25538 ENGINEER BRIAN M. ROSS
9.10.2024
SEAL NOT VALID UNLESS SIGNED AND DATED

NO.	REVISION	DATE

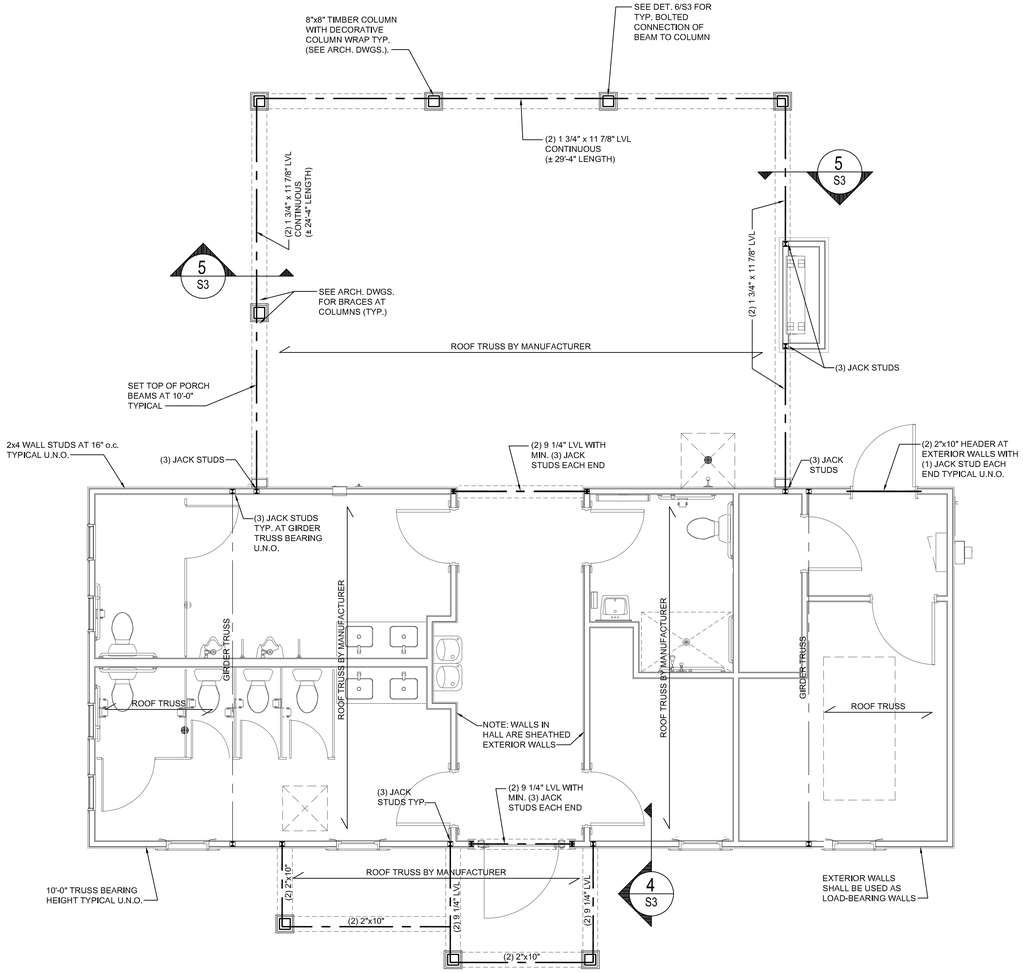
SHEET DISCRIPTION

SLAB AND FOUNDATION PLAN

PROJECT #:	C240807
DATE ISSUED:	9/10/2024
DRAWING BY:	BR
CHECKED BY:	BR/JD

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

S1

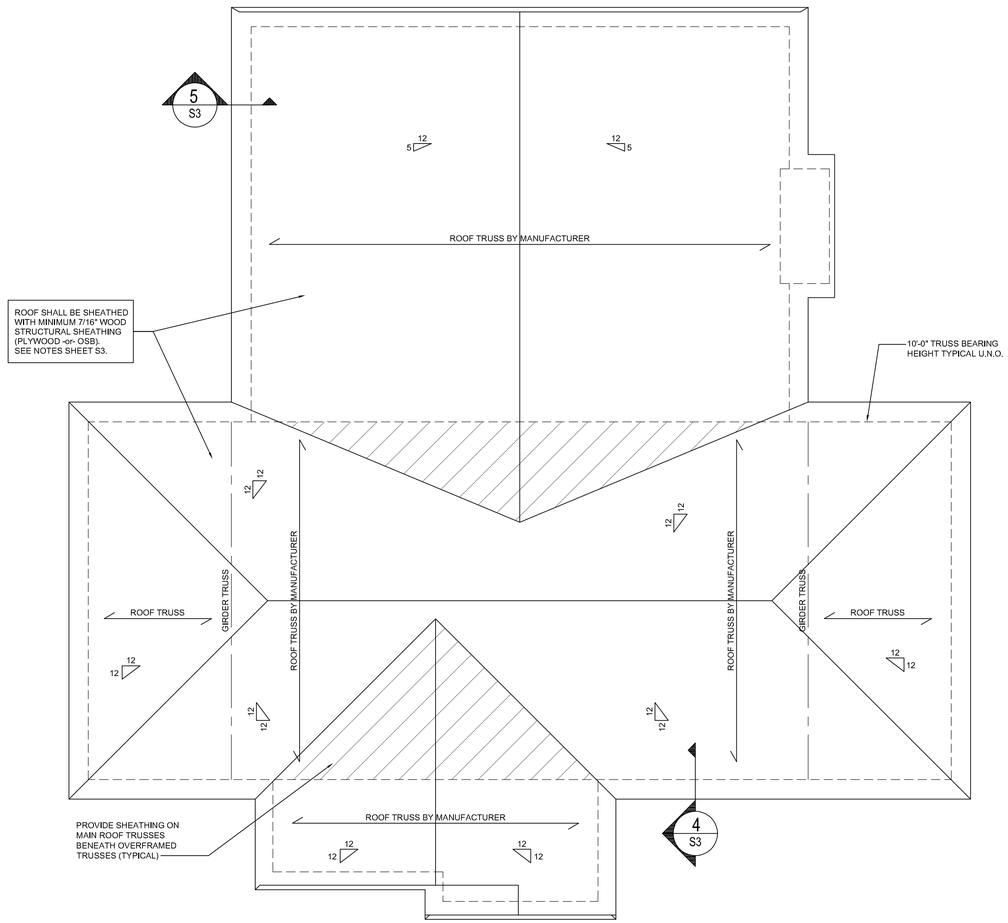


1 S2 WALL AND CEILING FRAMING PLAN

1/4" = 1'-0"

ROOF TRUSS SYSTEM
TRUSS LAYOUT AND PLACEMENT BY MANUFACTURER TO COINCIDE WITH THE SUPPORT LOCATIONS SHOWN. TRUSS PROFILES SHALL BE ENGINEERED AND SEALED BY THE TRUSS MANUFACTURER. TRUSS PLANS SHALL BE PROVIDED FOR REVIEW AND COORDINATED WITH THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

DENOTES ROOF TRUSS OVERFRAMED AREA



2 S2 ROOF FRAMING PLAN

1/4" = 1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 25538 ENGINEER BRIAN M. ROSS
9/10/2024
SEAL NOT VALID UNLESS SIGNED AND DATED

NO.	REVISION	DATE

SHEET DISCRIPTION
FRAMING PLANS

PROJECT #:	C240807
DATE ISSUED:	9/10/2024
DRAWING BY:	BR
CHECKED BY:	BR/JD

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

S2

STRUCTURAL NOTES

I. GENERAL

1. DESIGN CODES

NORTH CAROLINA BUILDING CODE, 2018 EDITION
(AMENDED 2015 INTERNATIONAL BUILDING CODE)

ACI BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
(ACI 318-14)

AISC MANUAL OF STEEL CONSTRUCTION - ALLOWABLE STRESS DESIGN
NINTH EDITION

ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER
STRUCTURES

2. DESIGN LOADS

LIVE LOADS: FLOOR: 100 PSF
ROOF: 20 PSF

ULTIMATE DESIGN WIND SPEED: 115 MPH

GROUND SNOW LOAD 15 PSF

SEISMIC DESIGN CATEGORY B
SITE CLASS D
Ss = 0.144
S1 = 0.073

3. ALL ELEVATIONS ARE REFERENCED FROM FINISHED FLOOR ELEVATION OF 0'-0". SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

4. DETAILED SHOP DRAWINGS SHALL BE PROVIDED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

5. ENGINEER'S SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY AND DOES NOT CERTIFY ARCHITECTURAL LAYOUT OR DIMENSIONAL ACCURACY.

6. ROSS LINDEN ENGINEERS PC ASSUMES NO LIABILITY FOR CHANGES OR MODIFICATIONS MADE TO THESE DRAWINGS BY OTHERS, OR FOR CONSTRUCTION METHODS, OR FOR ANY DEVIATION FROM THESE DRAWINGS.

II. CONCRETE

1. UNLESS OTHERWISE NOTED, ALL CONCRETE SHALL HAVE THE FOLLOWING STRENGTH AND SLUMP REQUIREMENTS:
3,500 PSI 28-DAY COMPRESSIVE STRENGTH, MAX. 5" SLUMP.

2. ALL CONCRETE SHALL BE MOIST CURED PER ACI 301 OR CURED WITH AN APPROVED CURING COMPOUND. CONTRACTOR SHALL VERIFY THAT THE CURING COMPOUND IS COMPATIBLE WITH FLOOR COVERING ADHESIVES, COATINGS, OR TOPPINGS TO BE USED. CONCRETE SHALL BE CURED FOR A MINIMUM OF 7 DAYS.

3. UNLESS OTHERWISE NOTED, ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL, CONFORMING TO ASTM A-615, GRADE 60, DEFORMED.

4. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION, AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES. (ACI 315)

5. ALL BAR SPLICES SHALL BE CLASS "B" TENSION SPLICES PER ACI 318-08, UNLESS OTHERWISE SHOWN.

6. ANCHOR BOLTS TO BE ASTM A36 OR A307.

7. CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON THE STRUCTURAL DRAWINGS.

8. ALL SPREAD FOOTINGS BEARING ON NATIVE SOIL OR STRUCTURAL FILL ARE DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 2,500 PSF. A GEOTECHNICAL REPRESENTATIVE SHALL INSPECT ALL FOOTING EXCAVATIONS TO CONFIRM ALLOWABLE BEARING PRESSURES.

9. PROVIDE TWO (2) #5 x 4'-0" LONG DIAGONAL BARS IN TOP FACE OF ALL SLABS (1" CLEAR) AT ALL RE-ENTRANT CORNERS. SEE PLAN FOR LOCATIONS.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, PROTECTING, AND RELOCATING AS REQUIRED ALL SERVICE AND UTILITY LINES IN VICINITY OF THE WORK SITE.

11. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS OF ALL MECHANICAL AND ELECTRICAL OPENINGS AND EQUIPMENT PADS WITH THE MECHANICAL AND ELECTRICAL DETAILS AND SHOP DRAWINGS BY OTHERS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITIES THROUGHOUT THE BUILDING.

12. ALL DOWELS WHICH ARE TO BE DRILLED AND GROUTED INTO EXISTING CONCRETE SHALL BE DONE WITH AN EPOXY GROUT. DRILL HOLE WITH DIAMETER 1/8" LARGER THAN DOWEL OR AS RECOMMENDED BY GROUT SUPPLIER. USE HIT-RE 500 V3 BY HILTI OR APPROVED EQUAL.

III. WOOD

1. FRAMING LUMBER SHALL BE #2 SPRUCE PINE FIR (SPF) WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:
Fb = 800 PSI Fv = 175 PSI E = 1.4E6 PSI

2. FRAMING LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, CONCRETE OR MASONRY SHALL BE #2 SOUTHERN YELLOW PINE (SYP) TREATED IN ACCORDANCE WITH AWPA C22 WITH THE FOLLOWING DESIGN PROPERTIES:
Fb = 800 PSI Fv = 175 PSI E = 1.4E6 PSI

3. ENGINEERED WOOD BEAMS SHALL BE LAMINATED VENEER LUMBER (LVL) OR PARALLEL STRAND LUMBER (PSL) WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:
Fb = 2600 PSI Fv = 285 PSI E = 1.9E6 PSI

4. ENGINEERED WOOD BEAMS SHALL BE INSTALLED WITH ALL CONNECTIONS PER MANUFACTURER'S INSTRUCTIONS.

5. SOLID BLOCKING SHALL BE PROVIDED AT ALL POINT LOADS TO TRANSFER LOADS THROUGH FLOOR LEVELS. COLUMNS SHALL BE CONTINUOUS TO THE FOUNDATION OR TO OTHER STRUCTURAL ELEMENTS.

6. WOOD SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WITH 1/2" DIAMETER ANCHOR BOLTS SPACED A MAXIMUM OF 2'-6" o.c. AND WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION. PROVIDE 1/2" DIAMETER HILTI HIT-RE 500 V3 INJECTION ADHESIVE ANCHORS WITH MINIMUM 4 1/2" EMBEDMENT INTO THE FOUNDATION AT ALL EXTERIOR, LOAD-BEARING, AND SHEAR WALLS AS SHOWN ON THE PLAN.

7. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH MINIMUM 7/16" WOOD STRUCTURAL SHEATHING (PLYWOOD -or- OSB) WITH BLOCKING AT ALL JOINTS. FASTEN ALL PANELS WITH 8d NAILS AT 3" o.c. AT ALL EDGES AND AT 6" o.c. AT INTERMEDIATE FRAMING. AT DOUBLE TOP PLATE, FASTEN PANELS WITH A DOUBLE ROW OF 8d NAILS STAGGERED AT 3" o.c. ALL FASTENERS SHALL HAVE 1 3/8" PENETRATION INTO THE FRAMING MEMBERS.

8. PROVIDE MINIMUM 1/2" GYPSUM BOARD ON BOTH SIDES OF FULL-HEIGHT INTERIOR WALLS WITH INTERMEDIATE SUPPORT AT ALL JOINTS. FASTEN ALL PANELS WITH 1 1/4" SCREWS AT 7" o.c. AT TOP AND BOTTOM PLATES AND ALL STUDS. GYPSUM SHALL BE APPLIED PERPENDICULAR TO FRAMING.

9. SEE TYPICAL WALL SECTION FOR ADDITIONAL INFORMATION.

IV. WOOD TRUSSES

1. ENGINEERED ROOF TRUSS SYSTEMS SHALL BE PROVIDED FOR REVIEW AND COORDINATED WITH THE ENGINEER OF RECORD. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ROOF TRUSS DRAWINGS SHALL BE SIGNED AND SEALED BY THE MANUFACTURER AND REVIEWED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.

2. ALL TRUSSES SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH BCSI 1-03 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."

3. THE TOP CHORD OF ALL ROOF TRUSSES SHALL BE SHEATHED WITH MINIMUM 7/16" WOOD STRUCTURAL SHEATHING (PLYWOOD -or- OSB). PROVIDE PLYWOOD EDGE CLIPS BETWEEN PANELS.

4. PROVIDE PERMANENT BOTTOM CHORD TRUSS BRACING AND WEB MEMBER PLANE BRACING IN ACCORDANCE WITH BCSI-B2 "TRUSS INSTALLATION AND TEMPORARY BRACING" AND BCSI-B3 "WEB MEMBER PERMANENT BRACING/WEB REINFORCEMENT."

ABBREVIATIONS

CONC	CONCRETE
CONT	CONTINUOUS
DBL	DOUBLE
DJ	DOUBLE JOIST
DSP	DOUBLE STUD POCKET
EA	EACH
FL PT	FLAT PLATE
FTG	FOOTING
HGR	HANGER
LVL	LAMINATED VENEER LUMBER
NTS	NOT TO SCALE
OC	ON CENTER
PT	PRESSURE TREATED
RS	RAFTER SUPPORT
SC	STUD COLUMN
SP	STUD POCKET
TJ	TRIPLE JOIST
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
XJ	EXTRA JOIST

STRUCTURAL DESIGN

DESIGN LOADS:

Occupancy Category: II

Importance Factors: Wind (IW) 1.0; Snow (IS) 1.0; Seismic (IE) 1.0

Live Loads: Roof 20 psf; Mezzanine N/A psf; Floor 100 psf

Ground Snow Load: 15 psf

Wind Load: Ultimate Wind Speed 115 mph (ASCE 7-10); Exposure Category B; Wind Base Shears (for MWFRS) Vx = 3.6K Vy = 6.5K

SEISMIC DESIGN CATEGORY ☐A ☒B ☐C ☐D

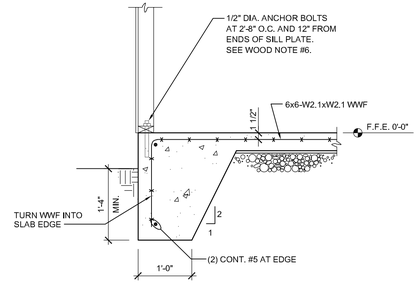
Provide the following Seismic Design Parameters:

Spectral Response Acceleration SS 0.144 %g S1 0.073 %g
Site Classification D ☐Field Test ☒Presumptive ☐Historical Data

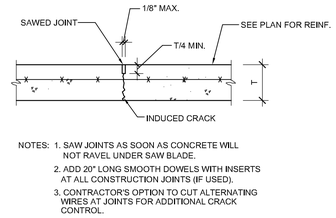
Basic structural system (check one)
X Bearing Wall ____ Dual w/Special Moment Frame
____ Building Frame ____ Dual w/Intermediate R/C or Special Steel
____ Moment Frame ____ Inverted Pendulum
Seismic base shear VX = 1.0K VY = 1.0K
Analysis Procedure ____ Simplified X Equivalent Lateral Force ____ Modal
Architectural, Mechanical, Components anchored? ____

Lateral design Control: Earthquake _____ Wind X

Soil Bearing Capacities:
Field Test (provide copy of test report) _____ psf
Presumptive Bearing capacity 2500 psf
Pile size, type, and capacity _____

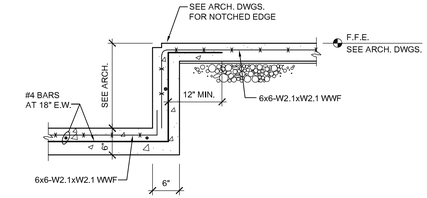


1 S3 DETAIL - TYP. SLAB EDGE
3/4" = 1'-0"

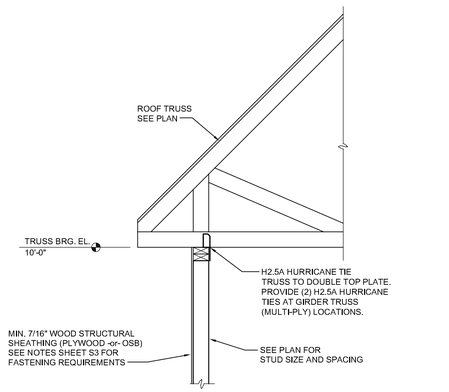


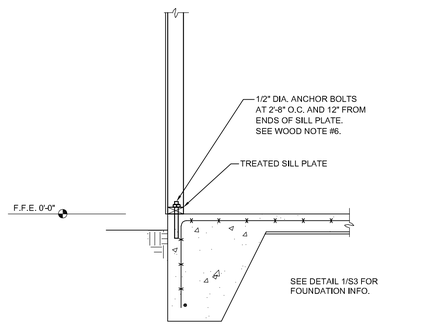
NOTES: 1. SAW JOINTS AS SOON AS CONCRETE WILL NOT RAVEL UNDER SAW BLADE.
2. ADD 20" LONG SMOOTH DOWELS WITH INSERTS AT ALL CONSTRUCTION JOINTS (IF USED).
3. CONTRACTOR'S OPTION TO CUT ALTERNATING WIRES AT JOINTS FOR ADDITIONAL CRACK CONTROL.

2 S3 DETAIL - TYP. SLAB CONTROL JOINT
1" = 1'-0"

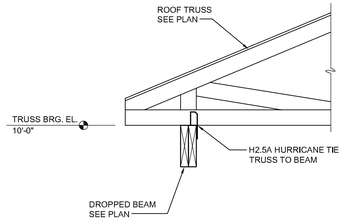


3 S3 SECTION AT SUMP
3/4" = 1'-0"

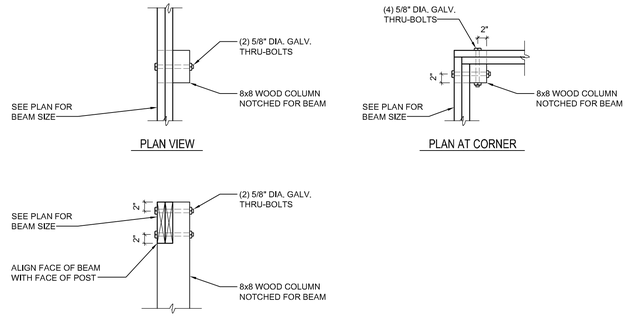




4 S3 TYPICAL WALL SECTION
3/4" = 1'-0"



5 S3 FRAMING SECTION
3/4" = 1'-0"



6 S3 CONNECTION DETAIL
3/4" = 1'-0" BEAM TO COLUMN

D. CLUGSTON

ROSS LINDEN
ENGINEERS PC
709 W. JONES STREET RALEIGH, NC 27603
TEL 919.832.5680 FAX 919.832.3675
WWW.ROSSLINDEN.COM NC LICENSE NO. C-2364

NORTH CAROLINA PROFESSIONAL SEAL 25538 ENGINEER BRIAN M. ROSS
9/10/2024
SEAL NOT VALID UNLESS SIGNED AND DATED

NO.	REVISION	DATE

SHEET DISCRIPTION
STRUCTURAL NOTES AND DETAILS

PROJECT #:	C240807
DATE ISSUED:	9/10/2024
DRAWING BY:	BR
CHECKED BY:	BR/JD

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

S3

GENERAL PLUMBING NOTES:

ADMINISTRATIVE:

1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS:
   PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR,
   MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR,
   FASC - FIRE ALARM SYSTEM CONTRACTOR.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE PLUMBING CONTRACTOR SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR.
3. THE PC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATIONAL SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED AT AN APPROVED LOCATION. PC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE PC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
5. ALL MATERIALS USED SHALL BE NEW AND FREE OF DEFECTS. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED AT NO EXPENSE TO THE OWNER. ALL MATERIALS AND EQUIPMENT SHALL BEAR APPROVAL FROM UL OR AN APPROVED THIRD PARTY AGENCY. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, IT IS TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. PRODUCTS DETERMINED TO BE EQUAL BY THE ENGINEER WILL BE ACCEPTED.
6. THE PLUMBING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE 2018 NORTH CAROLINA PLUMBING CODE AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE REQUIREMENTS.
7. THE PC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
8. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
9. THESE PLANS ARE DIAGRAMMATIC. THE PC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, FIXTURES, PIPING, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE PC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER. THE PC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. TO AVOID POTENTIAL CONFLICTS, COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION. ALL UNDERGROUND UTILITIES SHALL BE LOCATED PRIOR TO ANY DIGGING.
10. TRENCHING, COMPACTION, AND BACKFILL SHALL BE BY PC AND SHALL BE IN ACCORDANCE WITH SECTION 306 OF THE NC PLUMBING CODE. UNDERGROUND LINES SHALL BE LOCATED SUCH THAT THEY DO NOT ENDANGER FOOTINGS OR FOUNDATION WALLS.
11. THE PC SHALL PROVIDE FIRESTOPPING AT ALL PENETRATIONS OF RATED FLOOR/CEILING ASSEMBLIES AND RATED WALL ASSEMBLIES TO PRESERVE OR RESTORE THE FIRE RESISTANCE RATING. SEAL ALL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THE PROJECT.
12. SYSTEM TESTING SHALL BE PERFORMED BY PLUMBING CONTRACTOR IN ACCORDANCE WITH NORTH CAROLINA PLUMBING CODE, SECTIONS 312.2, 312.3, AND 312.5.
13. PC SHALL DISINFECT THE ENTIRE DOMESTIC WATER PIPING SYSTEM IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION'S SPECIFICATIONS AND LOCAL HEALTH DEPARTMENT REGULATIONS.
14. AT THE COMPLETION OF WORK AND PRIOR TO ACCEPTANCE BY OWNER, THE PC SHALL CLEAN ALL EXPOSED FIXTURES, MATERIALS, AND EQUIPMENT UNDER THIS CONTRACT.
15. PC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

MATERIALS:

1. ALL OVERHEAD DOMESTIC WATER PIPING SHALL HAVE 95/5 LEAD FREE SOLDER, AND ALL BELOW GRADE WATER PIPING SHALL BE TYPE K COPPER WITH NO JOINTS. ALL PIPING SHALL HAVE MANUFACTURER'S NAME AND THE APPLICABLE STANDARD TO WHICH IT WAS MANUFACTURED CLEARLY MARKED ON EACH LENGTH. PIPING SHALL COMPLY WITH ASTM B-88. USE BRAZED JOINTS ON ALL COPPER PIPING 1-1/2 INCH AND LARGER. *** PC MAY USE PEX (ASTM F 877) WITH APPROVED FITTINGS (ASTM F 1807) WITH OWNER'S APPROVAL. *** CPVC PIPING (ASTM D 2846 OR ASTM F 441) WITH APPROVED FITTINGS (ASTM D 2846, ASTM F 438, OR ASTM F 439) MAY ALSO BE USED WHERE NOT LOCATED IN PLENUMS. ALL PLASTIC PIPE, FITTINGS, AND COMPONENTS SHALL BE THIRD PARTY CERTIFIED AS CONFORMING TO NSF 14. ALL PIPE AND PIPE FITTINGS, INCLUDING VALVES AND FAUCETS, USED IN THE WATER DISTRIBUTION SYSTEM SHALL HAVE A MAXIMUM LEAD CONTENT OF .25-PERCENT AND SHALL CONFORM TO NSF 61. HOT WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 100 PSI AT 180°F. COLD WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 160 PSI AT 73.4°F. DO NOT INSTALL PEX OR CPVC PIPING IN RETURN AIR PLENUMS.
2. BALL VALVES SHALL HAVE BRASS BODY, FULL PORT, CHROME PLATED BALL, WITH TEFLON SEATS, 150 PSI WSP, AND COMPLY WITH MSS SP-110. GATE VALVES SHALL HAVE BRONZE BODY, CLASS 150, AND COMPLY WITH MSS SP-80, TYPE 2 STANDARD. VALVE BODY SHALL BE ASTM B 62, BRONZE WITH INTEGRAL SEAT AND UNION RING BONNET. ENDS SHALL BE THREADED OR SOLDER WITH COPPER-SILICON BRONZE STEM AND SOLID-WEDGE BRONZE DISC. INSTALL VALVES IN LOCATIONS THAT PERMIT EASY ACCESS WITHOUT DAMAGE TO BUILDING OR FINISHED MATERIALS; PROVIDE ACCESS DOORS IF REQUIRED. VALVES SHALL BE BY NIBCO, WATTS, OR STOCKHAM.
3. COLD WATER LINES SHALL BE INSULATED WITH 1/2 INCH THICK FIBROUS GLASS INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. HOT WATER LINES UP TO 2 INCHES DIAMETER SHALL HAVE 1 INCH THICK INSULATION CONFORMING TO THE SAME STANDARD. PIPING LARGER THAN 2 INCHES SHALL RECEIVE 1-1/2 INCH THICK INSULATION. CLOSED CELL RUBBER INSULATION MEETING THE SMOKE AND FLAME RATINGS ABOVE MAY BE SUBSTITUTED FOR FIBROUS GLASS TYPE IF SO DESIRED. INSULATION INSTALLED ON PIPING OPERATING BELOW AMBIENT TEMPERATURES MUST HAVE A CONTINUOUS VAPOR RETARDER. ALL JOINTS, SEAMS AND FITTINGS MUST BE SEALED. ON SYSTEMS OPERATING ABOVE AMBIENT, THE BUTT JOINTS SHOULD NOT BE SEALED. ON COLD SURFACES WHERE A VAPOR SEAL MUST BE MAINTAINED, INSULATION SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN MOISTURE AND VAPOR RETARDER. ALL HANGERS, SUPPORTS, ANCHORS, OR OTHER PROJECTIONS SECURED TO COLD SURFACES SHALL BE INSULATED AND VAPOR SEALED TO PREVENT CONDENSATION. ALL PIPE INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED. INSULATION SHALL HAVE A FACTORY APPLIED ALL-SERVICE JACKET WITH SELF-SEALING LAP. WHITE-KRAFT PAPER BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBERS; CONFORMING TO ASTM C 1136 TYPE 1; VAPOR RETARDER; WITH A SELF-SEALING ADHESIVE. VERIFY THAT PIPING HAS BEEN TESTED, SURFACES ARE CLEAN AND DRY, AND ALL FOREIGN MATERIALS ARE REMOVED BEFORE APPLYING INSULATION MATERIALS. INSULATION SHALL BE BY KNAUF, ARMACELL, JOHNS-MANVILLE, OR OWENS-CORNING.
4. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578 91. ALL INSULATION SHALL BE LOW-EMITTING WITH NOT GREATER THAN 0.05 PPM FORMALDEHYDE EMISSIONS. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.
5. FAUCETS AND FIXTURE FITTINGS SHALL CONFORM TO ASME A112.18.1. FAUCETS AND FIXTURE FITTINGS THAT SUPPLY DRINKING WATER FOR HUMAN CONSUMPTION SHALL CONFORM TO THE REQUIREMENTS OF NSF 61, SECTION 9. FIXTURE FITTINGS, FAUCETS, AND DIVERTERS SHALL BE INSTALLED AND ADJUSTED SO THAT THE FLOW OF HOT WATER FROM THE FITTINGS CORRESPONDS TO THE LEFT HAND SIDE OF THE FIXTURE FITTING.
6. BACKFLOW PREVENTION SHALL BE IN ACCORDANCE WITH SECTION 608.13 OF THE NC PLUMBING CODE AND THE LOCAL AUTHORITY HAVING JURISDICTION. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTERS SHALL CONFORM TO ASSE 1013 OR AWWA C511. THE RELIEF OPENING SHALL DISCHARGE BY AIR GAP. AIR GAPS SHALL COMPLY WITH ASME A112.1.1 AND AIR GAP FITTINGS WITH ASME A112.1.3. DOUBLE CHECK VALVE ASSEMBLIES SHALL CONFORM TO ASSE 1015 OR AWWA C510. ACCESS TO BACKFLOW PREVENTERS SHALL BE PROVIDED AS SPECIFIED BY THE INSTALLATION INSTRUCTIONS OF THE APPROVED MANUFACTURER.
7. FOR BELOW GRADE SANITARY WASTE PIPING, PC SHALL USE SERVICE WEIGHT CAST IRON PIPE WITH COMPRESSION JOINTS (ASTM A 74). USE MINIMUM 2 INCH SIZE UNDERGROUND. SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE PIPE FITTINGS (ASTM D 3311) MAY ALSO BE USED. DO NOT USE PVC PIPE FOR APPLICATIONS WHERE THE WASTE WATER TEMPERATURE EQUALS OR EXCEEDS 140°F OR IF THE BUILDING HEIGHT EXCEEDS 75 FEET.
8. FOR ABOVE GRADE SANITARY WASTE AND VENT PIPING, USE SERVICE WEIGHT CAST IRON NO-HUB TYPE WITH COUPLINGS (CISPI 301). SOLID WALL SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET TYPE FITTINGS (ASTM D 3311) MAY BE USED IF PERMITTED BY LOCAL CODE, EXCEPT IN BUILDINGS EXCEEDING 75 FEET IN HEIGHT. DO NOT INSTALL PVC IN RETURN AIR PLENUMS. ALL VENT AND BRANCH VENT PIPES SHALL BE SO GRADED AND CONNECTED AS TO DRAIN BACK TO THE DRAINAGE PIPE BY GRAVITY. BRANCH VENTS EXCEEDING 40 FEET IN DEVELOPED LENGTH SHALL BE INCREASED BY ONE NOMINAL SIZE FOR THE ENTIRE DEVELOPED LENGTH OF THE PIPE.
9. PC SHALL PROVIDE ALL WATER HEATERS (WATTAGE/INPUT AND CAPACITY AS NOTED IN SCHEDULE). ALL WATER HEATERS SHALL BE THIRD PARTY CERTIFIED; PROVIDE PANS FOR WATER HEATERS IN ACCORDANCE WITH 504.7 OF THE NC PLUMBING CODE. ELECTRICAL CONNECTIONS SHALL BE BY ELECTRICAL CONTRACTOR, PC SHALL COORDINATE WITH EC ON ELECTRICAL CHARACTERISTICS OF THE EQUIPMENT PROVIDED.
10. ALL PUMPS SHALL BE RATED FOR TRANSPORT OF POTABLE WATER. PUMPS IN AN INDIVIDUAL WATER SUPPLY SYSTEM SHALL BE CONSTRUCTED AND INSTALLED SO AS TO PREVENT CONTAMINATION FROM ENTERING THE WATER SUPPLY SYSTEM.

METHODS:

1. EXTEND DOMESTIC WATER PIPE FROM FIVE (5) FEET OUTSIDE THE BUILDING INTO THE BUILDING AS INDICATED ON THE PLANS AND INSTALL DOMESTIC WATER DISTRIBUTION PIPING TO ALL FIXTURES AND EQUIPMENT REQUIRING THE SAME. WATER SERVICE PIPE AND THE BUILDING SEWER SHALL BE SEPARATED BY 5 FEET OF UNDISTURBED OR COMPACTED EARTH IN ACCORDANCE WITH 603.2. PROVIDE ALL FITTINGS, VALVES, AND OTHER ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION. ALL DOMESTIC WATER PIPING SHALL BE CONCEALED IN FINISHED AREAS. ANY OPEN ENDS SHALL BE PROTECTED UNTIL FINAL CONNECTIONS ARE MADE.
2. ABOVE GRADE DOMESTIC WATER PIPING SHALL BE SLOPED AT A MINIMUM OF 1/32 INCH PER FOOT AND ARRANGED TO DRAIN AT LOW POINTS. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. ROUTE PIPING IN AN ORDERLY MANNER-PARALLEL OR PERPENDICULAR TO WALLS WHEN POSSIBLE-AND MAINTAIN GRADIENT. EACH SUPPLY BRANCH LINE SERVING MORE THAN ONE FIXTURE SHALL HAVE A SHUTOFF VALVE INSTALLED TO ISOLATE ALL FIXTURES AND PIECES OF EQUIPMENT SUPPLIED BY THE BRANCH LINE. THE SHUTOFF VALVE SHALL BE LABELED AND LOCATED AS CLOSE TO THE CONNECTION TO THE SUPPLY MAIN AND RISER AS POSSIBLE. PROVIDE A FULL-OPEN VALVE ON THE BASE OF EVERY WATER RISER PIPE AND ON THE TOP OF EVERY WATER DOWN-FEED PIPE. PROVIDE VALVE HANDLE EXTENSIONS AS NECESSARY FOR INSULATION.
3. IT SHALL BE THE RESPONSIBILITY OF THE PC TO SUSPEND AND SUPPORT ALL PIPING SYSTEMS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED PIPE HANGERS AND SUSPENSION EQUIPMENT. ALL FIXTURES, DEVICES, AND EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE FIXTURE OR EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS, GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT AND PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING. USE STEEL HANGERS FOR STEEL AND PLASTIC PIPE AND COPPER OR COPPER-PLATED HANGERS FOR COPPER PIPE. PROVIDE PROTECTION FOR COPPER PIPING IN CONTACT WITH DISSIMILAR METALS. WHERE COPPER PIPING IS SUPPORTED ON HANGERS WITH OTHER PIPING, PROVIDE A PERMANENT ELECTROLYTIC ISOLATION MATERIAL TO PREVENT CONTACT WITH OTHER METALS. IN GENERAL, HANGERS SHALL BE CLEVIS TYPE, STANDARD WEIGHT. FOR PIPING, HANGER SPACING SHALL BE IN ACCORDANCE WITH TABLE 308.5 OF THE NC PLUMBING CODE. HANGERS AND ACCESSORIES SHALL BE GRINNEL, MASON, OR B-LINE.
4. SLEEVE ALL PIPES PASSING THROUGH PARTITIONS, WALLS, AND FLOORS. SLEEVES IN FLOORS AND INTERIOR WALLS OF POURED IN PLACE CONCRETE, BRICK, TILE, OR MASONRY SHALL BE SCHEDULE 40 STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD WALLS SHALL BE 22 GAUGE, ROLLED GALVANIZED SHEET METAL. TACK WELD ON THE LONGITUDINAL SEAM. PROVIDE SLEEVES WHERE PIPES PASS THROUGH FLOORS AND WALLS ABOVE AND BELOW CEILINGS. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK WELD SPLIT SLEEVES TOGETHER. SLEEVES IN WALLS SHALL BE INSTALLED FLUSH WITH THE WALL. SLEEVES IN FLOORS SHALL EXTEND 3/4 INCH ABOVE THE FLOOR-EXCEPT THEY SHALL BE FLUSH FOR 2 HOUR RATED FLOORS-AND SHALL BE FLUSH WITH THE STRUCTURE BELOW. EACH SLEEVE SHALL HAVE AN INSIDE DIAMETER 1 INCH LARGER THAN THE OUTSIDE DIAMETER OF THE COVERING OF EACH COVERED PIPE TO ALLOW CONTINUOUS INSULATION-BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN EACH UNCOVERED. ANNULAR SPACES BETWEEN SLEEVES AND PIPES SHALL BE FILLED OR CAULKED IN AN APPROVED MANNER.
5. THE TOP OF WATER PIPES INSTALLED BELOW GRADE OUTSIDE THE BUILDING SHALL BE BELOW THE FROST LINE OR A MINIMUM OF 12 INCHES BELOW FINISHED GRADE WHICHEVER IS GREATER. WATER PIPING INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION. WATER PIPING INSTALLED IN AN UNCONDITIONED UTILITY ROOM OR UNCONDITIONED ATTIC SHALL BE INSULATED TO A MINIMUM OF R6.5 DETERMINED IN ACCORDANCE WITH ASTM C 177.
6. HOT WATER PROVIDED TO PUBLIC HAND-WASHING FACILITIES/LAVATORIES SHALL BE TEMPERED WATER DELIVERED THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3.
7. INSULATE ALL EXPOSED WASTE AND SUPPLY PIPING UNDER LAVATORIES, SINKS, AND ELECTRIC WATER COOLERS WITH THE HANDI-LAV GUARD INSULATION KIT BY TRUEBRO OR EQUAL.
8. POTABLE WATER OUTLETS SHALL BE PROTECTED FROM BACKFLOW IN ACCORDANCE WITH 608.15. PRESSURE TYPE VACUUM BREAKERS SHALL CONFORM TO ASSE 1020 AND SPILPROOF VACUUM BREAKERS SHALL COMPLY WITH ASSE 1056. HOSE-CONNECTION VACUUM BREAKERS SHALL CONFORM TO ASSE 1011, ASSE 1019, ASSE 1035, OR ASSE 1052. CONNECTIONS TO BEVERAGE DISPENSERS, COFFEE MACHINES, AND NON-CARBONATED BEVERAGE DISPENSERS SHALL BE PROTECTED BY A BACKFLOW PREVENTER IN ACCORDANCE WITH ASSE 1022.
9. THE PC SHALL INSTALL WATER HAMMER ARRESTORS ON BRANCH LINES WITH QUICK CLOSING VALVES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. WATER HAMMER ARRESTORS SHALL CONFORM TO ASSE 1010.
10. THE PC SHALL PROVIDE CHECK VALVES AT ALL FIXTURES WITH THREADED OUTLETS AS REQUIRED BY CODE. TRAP PRIMERS SHALL BE PROVIDED AS SHOWN ON THE PLANS OR AS REQUIRED.
11. ADJUST STOPS AND VALVES FOR INTENDED FLOW RATE TO FIXTURES WITHOUT SPLASHING, NOISE, OR OVERFLOW.
12. BEFORE COMMENCING WORK, CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS, CONFIRM INVERTS, AND VERIFY THESE CAN BE PROPERLY CONNECTED TO WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING. ONCE INVERTS AND FALL HAVE BEEN ESTABLISHED, EXTEND SANITARY SEWER PIPING TO 5 FEET OUTSIDE THE BUILDING AND INSTALL ALL DRAINS, STACKS, VENTS, FLOOR DRAINS, AND CLEANOUTS NECESSARY FOR A COMPLETE INSTALLATION.
13. ALL SANITARY SEWER PIPING IS BELOW GRADE OR WITHIN WALLS UNLESS OTHERWISE NOTED. ALL SANITARY VENT PIPING IS ABOVE THE CEILING OR WITHIN WALLS UNLESS OTHERWISE NOTED. SOIL AND WASTE PIPING SHALL BE INSTALLED TO PROVIDE PROTECTION AGAINST FREEZING PER 305.4.1. WASTE AND SOIL LINES LEAVING THE BUILDING MUST HAVE A MINIMUM COVER OF 3 INCHES.
14. SOIL AND WASTE LINES 2-1/2 INCHES AND SMALLER SHALL BE SLOPED AT 1/4 INCH PER FOOT MINIMUM. SOIL AND WASTE LINES 3 INCHES TO 6 INCHES IN DIAMETER SHALL BE SLOPED AT 1/8 INCH PER FOOT MINIMUM.
15. FOR WATER CLOSET WASTE CONNECTIONS, A 4 INCH BY 3 INCH CLOSET BEND SHALL BE ACCEPTABLE. WHERE A 3 INCH BEND IS UTILIZED ON WATER CLOSETS, A 4 INCH BY 3 INCH FLANGE SHALL BE INSTALLED TO RECEIVE THE FIXTURE HORN.
16. FOR PLASTIC PIPE SIZES GREATER THAN 6 INCHES, AND OTHER PIPE SIZES GREATER THAN 4 INCHES, RESTRAINTS SHALL BE PROVIDED FOR DRAIN PIPES AT ALL CHANGES IN DIRECTION AND AT ALL CHANGES IN DIAMETER GREATER THAN TWO PIPE SIZES. BRACES, BLOCKS, RODDING, BACKFILL AND OTHER SUITABLE METHODS AS SPECIFIED BY THE COUPLING MANUFACTURER SHALL BE UTILIZED.
17. BASES OF STACKS SHALL BE SUPPORTED BY THE BUILDING STRUCTURE, VIRGIN OR COMPACTED EARTH, OR OTHER SUITABLE MATERIAL TO SUPPORT THE WEIGHT OF THE PIPING.
18. HORIZONTAL DRAIN PIPES SHALL HAVE CLEANOUTS IN ACCORDANCE WITH 708.10. EXTEND CLEANOUTS TO FINISHED FLOOR OR WALL SURFACE. LUBRICATE THREADED CLEANOUT PLUGS WITH A MIXTURE OF GRAPHITE AND LINSEED OIL. ENSURE CLEARANCE AT ALL CLEANOUTS FOR RODDING OF DRAINAGE SYSTEM. INSTALL FLOOR CLEANOUTS AT AN ELEVATION TO ACCOMMODATE FINISHED FLOOR. EVERY CLEANOUT SHALL BE INSTALLED TO ALLOW CLEANING IN THE DIRECTION OF FLOW OF THE DRAINAGE PIPE OR AT RIGHT ANGLES THERETO. CLEANOUTS ON 6 INCH AND SMALLER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 18 INCHES FOR RODDING.
19. DRAINAGE PIPING FOR FUTURE FIXTURES SHALL TERMINATE WITH AN APPROVED CAP OR PLUG.
20. AIR ADMITTANCE VALVES SHALL BE INSTALLED AFTER THE DWV TESTING REQUIRED BY SECTIONS 312.2 AND 312.3. PROVIDE ACCESS TO ALL AIR ADMITTANCE VALVES PER CODE. INSTALLATION OF ALL AIR ADMITTANCE VALVES SHALL CONFORM TO SECTION 918 OF THE NC PLUMBING CODE. AIR ADMITTANCE VALVES SHALL CONFORM TO ASSE 1050 OR 1051.
21. INDIRECT WASTE PIPING THAT EXCEEDS 2 FEET IN DEVELOPED LENGTH MEASURED HORIZONTALLY, OR 4 FEET IN TOTAL DEVELOPED LENGTH, SHALL BE TRAPPED. THE AIR GAP BETWEEN THE INDIRECT WASTE PIPE AND THE FLOOD LEVEL RIM OF THE WASTE RECEPTOR SHALL BE A MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.
22. THE PC SHALL PROVIDE UNIONS FOR DISASSEMBLY AND SERVICE OF ALL FIXTURES AND OTHER RELEVANT PLUMBING EQUIPMENT. UNIONS SHALL BE GROUND-JOINT WITH BRASS SEAT. PROVIDE INSULATING UNIONS AT EACH JUNCTION OF DISSIMILAR MATERIALS.
23. THE PC SHALL ACCURATELY ROUGH-IN ALL FIXTURES ACCORDING TO MANUFACTURER'S INSTALLATION DIMENSIONS AND INSTRUCTIONS. OFFSET ADAPTERS AND FLEXIBLE CONNECTORS ARE NOT ACCEPTABLE. FLUSH HANDLES SHALL BE MOUNTED ON THE WIDE SIDE OF TOILET AREAS FOR ADA COMPLIANCE. INSTALL EACH FIXTURE WITH TRAP EASILY REMOVABLE FOR SERVICING AND CLEANING. SEAL FIXTURES TO WALL AND FLOOR SURFACES WITH SEALANT. SOLIDLY ATTACH WATER CLOSETS TO FLOOR WITH LAG SCREWS. SEAL ALL SELF-RIMMING LAVATORIES AND SINKS (VITREOUS CHINA AND STAINLESS STEEL) WITH A COMMERCIAL GRADE PLUMBER'S PUTTY OR ACRYLIC LATEX CAULK APPLIED TO THE UNDERSIDE OF THE FIXTURE RIM IN A GENEROUS AMOUNT SO THAT WHEN FIXTURE IS SET, SEALANT SHALL OOZE OUT.
24. ALL VENT THRU THE ROOF (VTR) PENETRATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. PC SHALL PROVIDE FLASHING MATERIAL REQUIRED FOR VTRS. JOINTS AT THE ROOF AND AROUND VENT PIPES SHALL BE MADE WATER TIGHT BY THE USE OF LEAD, COPPER, GALVANIZED STEEL, ALUMINUM, OR OTHER APPROVED FLASHINGS OR FLASHING MATERIAL. MAINTAIN MINIMUM 10 FEET FROM ALL OUTSIDE AIR INTAKES.
25. INSTALL FULL OPEN VALVES PER NC PLUMBING CODE 606.1 ON THE MAIN WATER LINE INTO THE BUILDING. INSTALL CUT OFF VALVES PER NC PC
26.

PLUMBING NOTES | 1

PLUMBING FIXTURE SCHEDULE						
SYMBOL	FIXTURE	MANUFACTURER	FITTING	HW	CW	WASTE
P1	TWO PIECE TANK TYPE WATER CLOSET	KOHLER 4369 OR EQUAL BY AMERICAN STANDARD OR TOTO	TWO-PIECE VITREOUS CHINA TOILET WITH HIGH-PROFILE TANK, KOHLER K-5309 ELONGATED FRONT BOWL AND CHROME TRIP LEVER. 1.28 GPF. PROVIDE SC534 OPEN FRONT SEAT LESS COVER. ASME 112.19.2 COMPLIANCE.	-	1/2"	3"
P1H	TWO PIECE TANK TYPE ADA WATER CLOSET	KOHLER 4369 OR EQUAL BY AMERICAN STANDARD OR TOTO	TWO-PIECE VITREOUS CHINA TOILET WITH HIGH-PROFILE TANK, KOHLER K-5309 ELONGATED FRONT BOWL AND CHROME TRIP LEVER. 1.28 GPF. PROVIDE SC534 OPEN FRONT SEAT LESS COVER. ASME 112.19.2 COMPLIANCE. TOP OF SEAT SHALL BE 17-19 INCHES AFF FOR ADA. LEVER MOUNTED ON WIDE SIDE FOR ADA	-	1/2"	3"
P2	WALL MOUNT LAVATORY	KOHLER K-2005 OR EQUAL BY AMERICAN STANDARD OR TOTO	VITREOUS CHINA LAVATORY WITH BACKSPLASH COMPLYING WITH ASME 112.19.2. TOP OF RIM SHALL BE 34 INCHES AFF FOR ADA. PROVIDE WITH LAV-GUARD PROTECTORS FOR SUPPLY AND DRAIN LINES. PROVIDE JR SMITH 0700 (CONCEALED ARMS) WITH 19" ARMS 0800 (WALL SUPPORT PLATE). USE A METERING TYPE FAUCET SIMILAR TO CHICAGO 3300-E280SAB (VERIFY EXACT FAUCET WITH OWNER).	1/2"	1/2"	2"
P2A	UNDER MOUNT LAVATORY	KOHLER K-20000 OR EQUAL BY AMERICAN STANDARD OR TOTO	VITREOUS CHINA SELF-RIMMING LAVATORY COMPLYING WITH ASME 112.19.2. MOUNT SO RIM IS 34 INCHES AFF AND 2 INCHES FROM FRONT EDGE FOR ADA. PROVIDE WITH LAV-GUARD PROTECTORS SUPPLY AND DRAIN LINES. USE A KOHLER K-103L77-SANL FAUCET (COORDINATE WITH EC FOR FAUCET POWER).	1/2"	1/2"	2"
P3	URINAL	KOHLER K-4991-ET OR EQUAL BY AMERICAN STANDARD OR TOTO	VITREOUS CHINA, WALL-MOUNTED, ADA COMPLIANT, LOW CONSUMPTION WASHOUT URINAL COMPLYING WITH ASME 112.19.2. 1 GPF. KOHLER K-76319 FLUSHOMETER VALVE OR EQUAL BY ZURN OR TOTO. TOP OF RIM SHALL BE 17 INCHES AFF FOR ADA.	-	3/4"	2"
P4	HAND SHOWER	AMERICAN STANDARD 1660.766 OR EQUAL	1.5 GPM 3-FUNCTION SHOWER W/ PAUSE FEATURE MEETING ADA AND ANSI 117.1, 90° WALL SUPPLY (AMERICAN STANDARD 8888.068), METERED SHOWER VALVE (SYMMONS 4-420), WALL SHOWER HEAD & DIVERTER (ZURN Z70000-12)(Z7000-DV-2P), AND ADJUSTABLE VERTICAL VALVE ROD. COORDINATE FINISH WITH OWNERS.	1/2"	1/2"	-
P5	DRINKING FOUNTAIN	ELKAY VRCTLFRDDSC	ADA COMPLIANT FOR ADULT AND CHILD. 8.0 GPH OF 50°F WATER AT 90°F AMBIENT. PROVIDE ACCESSORY APRON FOR ADA COMPLIANCE AS NECESSARY. VANDAL AND FROST RESISTANT.	-	⅜"	2"
P6	FLOOR DRAIN	WATTS FD-200-A OR EQUAL BY ZURN OR JR SMITH	ON GRADE EPOXY COATED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, WEEP HOLES, ADJUSTABLE ROUND NICKEL BRONZE STRAINER, AND NO HUB OUTLET. PROVIDE TRAP PRIMER CONNECTION OPTION IF NOTED.	-	-	3"
P7	SUMP PIT FLOOR DRAIN	ZURN FD1 OR EQUAL BY WATTS OR JR SMITH	ON GRADE ADJUSTABLE FLOOR DRAIN, ABS OR CAST IRON BODY, AND HUB OUTLET, PROVIDE TRAP PRIMER CONNECTION OPTION IF NOTED.	-	-	SEE PLAN
P8	AUTOMATIC TRAP PRIMER	ZURN 1022 OR EQUAL BY WATTS OR JR SMITH	COMPLIANT WITH ASSE 1018. INSTALL IN SUPPLY LINE TO LAVATORY 12 in OR MORE ABOVE FINISHED FLOOR. PROVIDE ACCESS PANEL FOR MAINTENANCE AND VISUAL INSPECTION.	-	1/2"	-
P9	FREEZEPROOF HOSE BIBB	ZURN Z1346 OR EQUAL BY WOODFORD OR MIFAB	EXPOSED NON-FREEZE ANTI-SIPHON AUTOMATIC DRAINING WALL FAUCET COMPLETE WITH EXTERIOR CHROME FINISH, BRASS CASING, ALL BRONZE INTERIOR PARTS, Z1399-VB ANTI-SIPHON INTEGRAL VACUUM BREAKER, OPERATING ROD WITH FREE FLOATING COMPRESSION CLOSURE VALVE, REPLACEABLE SEAT WASHER,COMBINATION 1/2 FEMALE SOLDER INLET AND 1/2 MALE IP INLET CONNECTION STANDARD, AND 3/4 MALE HOSE CONNECTION.	-	1/2	-
P10	INTERIOR HOSE BIBB	ZURN Z1341-BFP OR EQUAL BY MIFAB OR WOODFORD	PROVIDE CHECK VALVE AND ANTI-SIPHON PROTECTION IF NOT INTEGRAL TO UNIT		1/2"	
P11	EXPANSION TANK	AMTROL ST-5 OR EQUAL BY WATTS OR BELL & GOSSETT	INSTALL ON COLD WATER LINE BETWEEN WATER HEATER AND RPZ	-	3/4"	-
P12	3/4" RPZ BACKFLOW PREVENTER	WATTS LF909 QT OR EQUAL BY CONBRACO OR WILKINS	RPZ ASSEMBLY CONSISTING OF A PRESSURE DIFFERENTIAL RELIEF VALVE LOCATED IN A ZONE BETWEEN TWO POSITIVE SEATING CHECK VALVES. THE ASSEMBLY SHALL INCLUDE TWO TIGHTLY CLOSING SHUTOFF VALVES BEFORE AND AFTER THE ASSEMBLY, TEST COCKS AND A PROTECTIVE STRAINER UPSTREAM OF THE FIRST SHUTOFF VALVE. THE ASSEMBLY SHALL MEET THE REQUIREMENTS OF ASSE 1013 AND AWWA C511	-	3/4"	-
P13	1" RPZ BACKFLOW PREVENTER	WATTS LF909 QT OR EQUAL BY CONBRACO OR WILKINS	RPZ ASSEMBLY CONSISTING OF A PRESSURE DIFFERENTIAL RELIEF VALVE LOCATED IN A ZONE BETWEEN TWO POSITIVE SEATING CHECK VALVES. THE ASSEMBLY SHALL INCLUDE TWO TIGHTLY CLOSING SHUTOFF VALVES BEFORE AND AFTER THE ASSEMBLY, TEST COCKS AND A PROTECTIVE STRAINER UPSTREAM OF THE FIRST SHUTOFF VALVE. THE ASSEMBLY SHALL MEET THE REQUIREMENTS OF ASSE 1013 AND AWWA C511	-	1"	-
YHD	YARD HYDRANT	WOODFORD MODEL S4H OR APPROVED EQUAL	AUTO DRAIN W. BACKFLOW PREVENTION. BURY DEPTH TO BE BELOW FROST LINE. COORDINATE WITH SITE CONDITIONS.	-	-	-
FCO	FLOOR CLEANOUT	ZURN, WATTS, JR SMITH	EPOXY COATED CAST IRON FLOOR CLEANOUT WITH ROUND ADJUSTABLE GASKETED NICKEL BRONZE TOP, REMOVABLE GAS TIGHT GASKETED BRASS CLEANOUT PLUG, AND NO HUB INLET.	-	-	4"
WCO	WALL CLEANOUT	ZURN, WATTS, OR JR SMITH	CAST IRON CLEANOUT FERRULE WITH THREADED BRASS COUNTERSUNK CLEANOUT PLUG, STAINLESS STEEL ACCESS COVER, AND VANDAL PROOF STAINLESS STEEL SCREW	-	-	4"
AAV	AIR ADMITTANCE VALVE	STUDOR REDIVENT OR APPROVED EQUAL	ANSI/ASSE 1051 LISTED. NSF STANDARD 14. PROVIDE PVC OR ABS CONNECTOR AS NECESSARY.CONNECT VALVE TO PIPING PER MANUFACTURER. INSTALL IN THE VERTICAL, UPRIGHT POSITION AFTER ROUGH-IN AND PRESSURE TESTING OF THE SYSTEM.PROVIDE WALL BOX IF NOT ABOVE CEILING OR OTHERWISE CONCEALED.	-	-	2"

PLUMBING LINES SIZING TABLE									
FIXTURE TYPE	OCCUPANCY	QTY	DRAINAGE FIXTURE UNITS		WATER SUPPLY FIXTURE UNITS				
			EACH	TOTAL	CW	HW	CW & HW	HW TOTAL	TOTAL
WATER CLOSET (FLUSH TANK)	PUBLIC	6	4.00	24.00	5.00	0.00	5.00	0.00	30.00
SHOWER	PUBLIC	1	2.00	2.00	3.00	3.00	4.00	3.00	4.00
LAVATORY	PUBLIC	5	1.00	5.00	1.50	1.50	2.00	7.50	10.00
URINAL (¾" FLUSH VALVE)	PUBLIC	2	2.00	4.00	5.00	0.00	5.00	0.00	10.00
DRINKING FOUNTAIN	PUBLIC	1	0.50	0.50	0.25	0.00	0.25	0.00	0.25
DEMAND FIXTURE	GPM	QTY	TOTAL GPM				TOTAL DFU	35.5	
HOSE BIBBS	5	5	25.00				TOTAL WFSUs	10.5	54.3
							GPM	15.00	30.00
							OTHER FIXTURES' GPM	0.00	25.00
							TOTAL GPM	15.00	55.00
MINIMUM BUILDING DRAIN SIZE	4"	ONE HOSE BIB IN OPERATION AT A TIME							
MINIMUM WATER LINE SIZE	1"								

ELECTRIC WATER HEATER SCHEDULE											
MARK	MFG	MODEL	TANK VOL	INPUT	RECOVERY	SET POINT	POWER		CONNECTIONS		OPTIONS
			GALS	kW	GPH @ 60°ΔT	°F	VOLTAGE	PHASE	HOT	COLD	
WH-2	STATE	ES6-20-SOMS	20	4.5	30	110	240	1	3/4	3/4	1-5

1. PROVIDE GALVANIZED STEEL SAFETY PAN
2. UL 174 LISTED
3. PROVIDE ASME LISTED TEMPERATURE AND PRESSURE RELIEF VALVE
4. MEET OR EXCEED ENERGY FACTOR REQUIREMENTS OF ASHRAE 90.1-2007
5. OR EQUAL BY A.O. SMITH, BRADFORD WHITE, OR STATE

NOTE:

PC TO VERIFY ALL FIXTURES WITH ARCHITECT AND OWNER PRIOR TO PURCHASING

LINETYPE LEGEND	
COLD WATER SUPPLY	— - — - — - —
HOT WATER SUPPLY	—— · · —— · · ——
SANITARY SEWER LINE	—— - - —— - - ——
VENT LINE	- - - - - - - - - -

DO NOT TAP WATER LINE AHEAD OF RPZ.

SEAL
048012
JACOB L. HAMILTON
09.12.2024

SEAL

PLUMBING SCHEDULES | 2

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NO.	REVISION	DATE

SHEET DISCRIPTION
PLUMBING NOTES & SCHEDULES

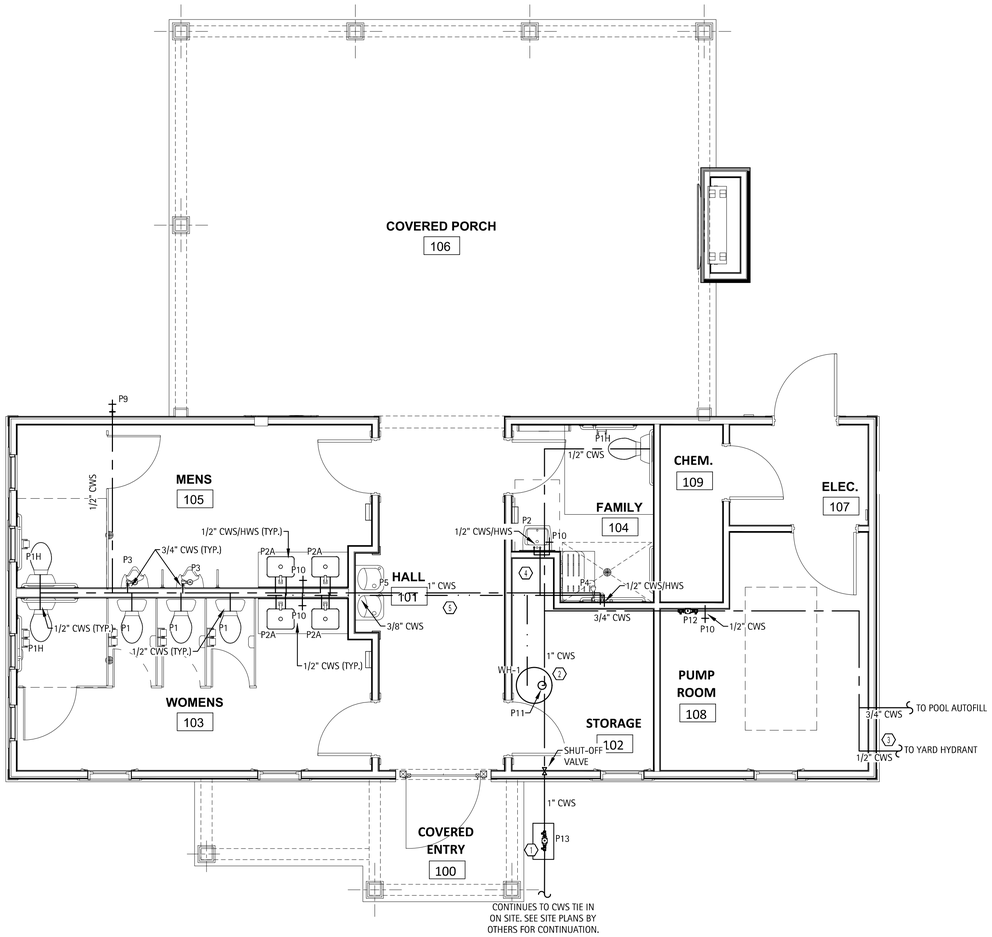
PROJECT #:	240612
DATE ISSUED:	2024 09 12
DRAWING BY:	SLT
CHECKED BY:	JLH

PROJECT STATUS

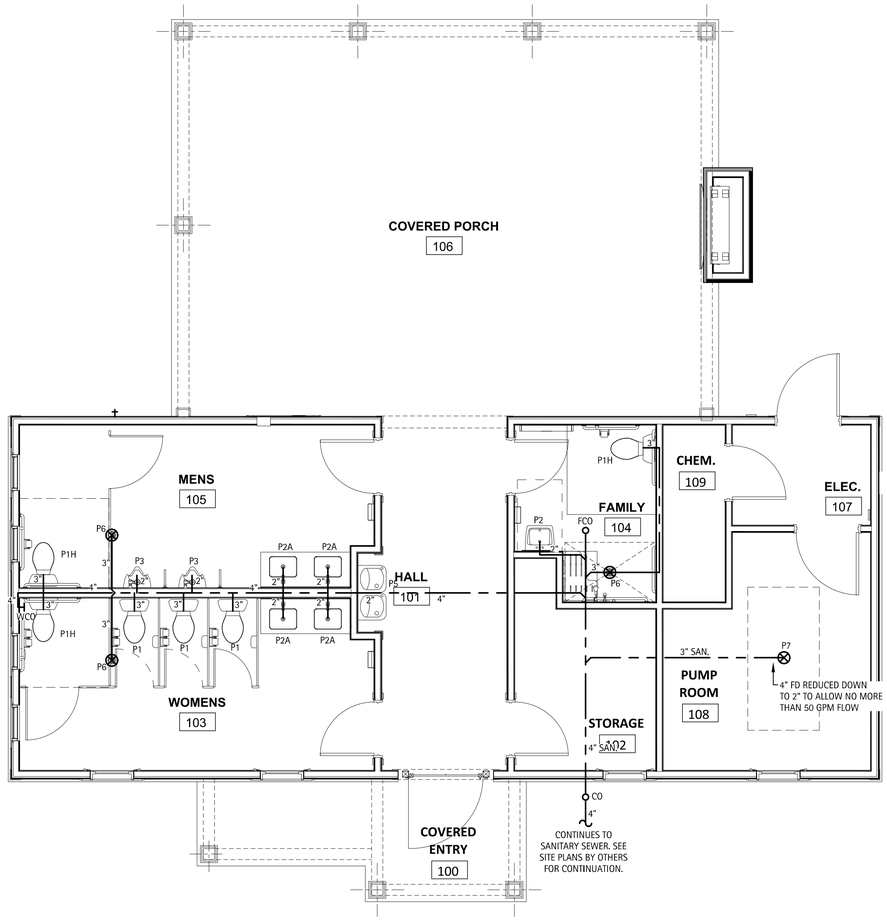
PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

SUPPLY PLAN HEX NOTES

1. CONTINUE 1" DOMESTIC WATER LINE TO BACKFLOW PREVENTION IN HOTBOX. PC TO PROVIDE 1" RPZ (P13) IN HOTBOX. SEE SITE PLAN BY OTHERS FOR HOTBOX AND METER LOCATIONS.
2. WATER HEATER MOUNTED ABOVE CEILING.
3. VERIFY EXACT LOCATION OF YARD HYDRANT WITH ARCHITECT/GC.
4. ATTIC ACCESS. SEE ARCHITECTURAL PLANS FOR MORE INFORMATION.
5. PC TO COORDINATE WITH EC TO PROVIDE HEAT TRACE FOR FIXTURES WITH THIS NOTE.



DOMESTIC WATER SUPPLY PLAN - SCALE: 1/4" = 1'-0" | 1



SANITARY PLAN - SCALE: 1/4" = 1'-0" | 1

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SHEET DISCRIPTION
SUPPLY & SANITARY PLAN

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CHECKED BY:	JLH

PROJECT STATUS

PARKER RIDGE AMENITY
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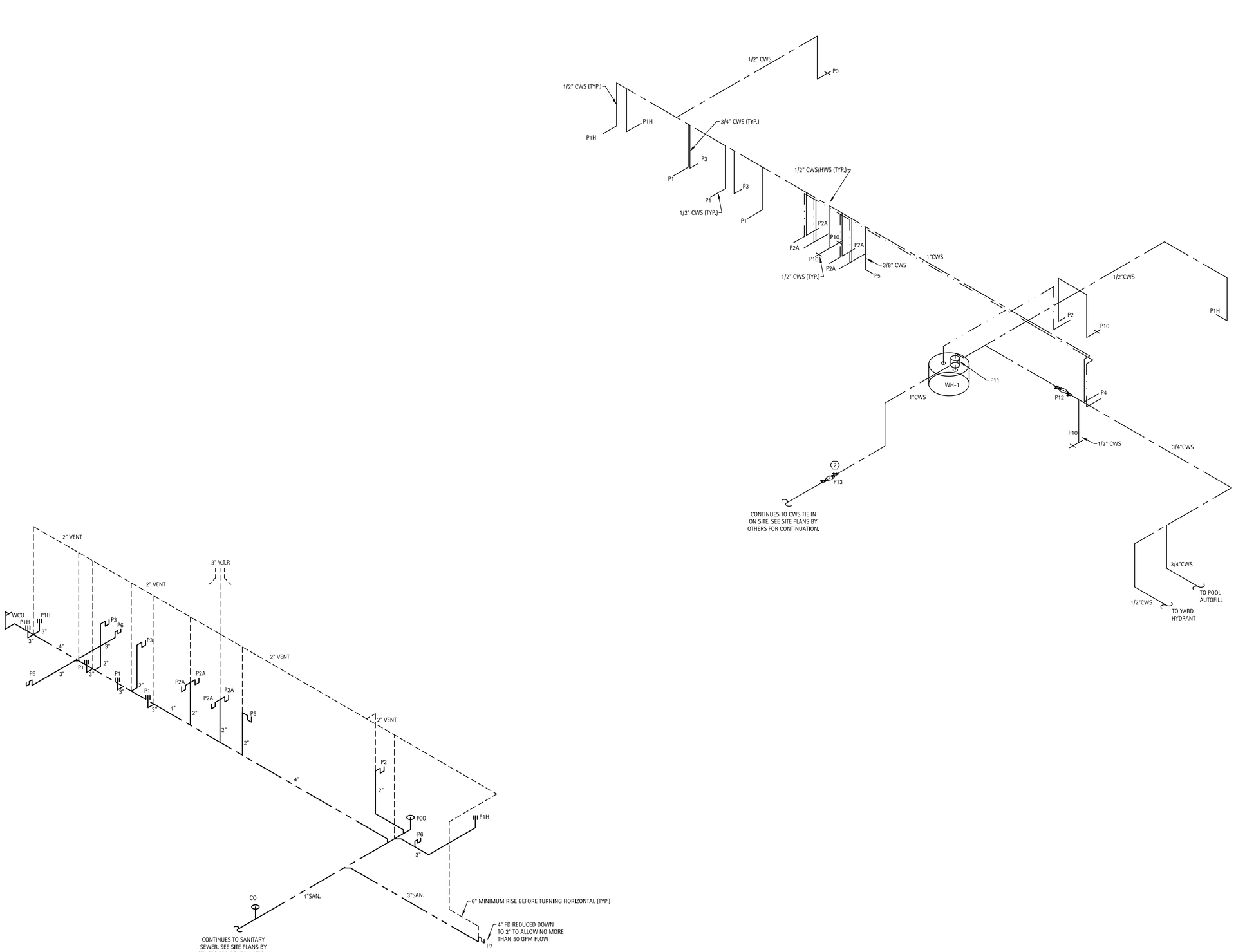
ROLESVILLE, NC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JACOB L. HAINES
09.12.2024

KILIAN ENGINEERING, INC. CORPORATE SEAL NORTH CAROLINA

P2



SUPPLY AND SANITARY RISER - NO SCALE | 1

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SHEET DISCRIPTION
PLUMBING RISER

PROJECT #:	240612
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PARKER RIDGE AMENITY
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AMENITY & POOL
ROLESVILLE, NC

NORTH CAROLINA PROFESSIONAL SEAL 048012 ENGINEER JOSEPH L. HAMILTON 09.12.2024

KILIAN ENGINEERING, INC CORPORATE SEAL NORTH CAROLINA

P3

GENERAL MECHANICAL NOTES:

ADMINISTRATIVE:

1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS:
   PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR,
   MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR,
   FASC - FIRE ALARM SYSTEM CONTRACTOR, AHJ - AUTHORITY HAVING JURISDICTION.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. MC SHALL ALSO INSTALL MATERIALS FURNISHED BY OTHERS AND GENERAL CONTRACTOR AS SHOWN ON THE PLANS OR NECESSARY FOR A COMPLETE INSTALLATION.
3. THE MC SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATING SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
4. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE CONTRACTOR AT AN APPROVED LOCATION. THE MC SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE MC UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
5. THE MC SHALL INSTALL ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL AND BUILDING CODES AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE MC SHALL OBTAIN CLARIFICATION FROM THE ENGINEER OR IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE REQUIREMENTS.
6. THE MC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
7. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
8. THE MC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE MC SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE MC SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.
9. ALL MECHANICAL MATERIALS SHALL BE NEW AND FREE OF DEFECT AND LISTED AND LABELED BY UL OR AN APPROVED THIRD PARTY AGENCY. ANY MATERIALS FOUND TO BE DEFECTIVE SHALL BE REPLACED BY THE MC WITHOUT ADDITIONAL COST TO THE OWNER. WHERE A MANUFACTURER AND MODEL NUMBER IS GIVEN, THE CITED EXAMPLE IS INTENDED TO ESTABLISH A STANDARD OF QUALITY AND NOT TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. SUCH EXAMPLES ARE USED TO CONVEY A GENERAL STYLE, TYPE, CHARACTER, AND QUALITY OF THE PRODUCT DESIRED; PRODUCTS DETERMINED TO BE EQUAL BY THE ENGINEER WILL BE ACCEPTED.
10. THESE PLANS ARE DIAGRAMMATIC. THE MC SHALL ADJUST THE LOCATIONS OF EQUIPMENT, DUCTS, REGISTERS, GRILLES, ETC, TO ACCOMMODATE PLANNED AND ENCOUNTERED INTERFERENCES. THE DRAWINGS DO NOT SHOW ALL BENDS, OFFSETS, AND FITTINGS THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. THE MC SHALL MAKE ALLOWANCES FOR SUCH DEVIATIONS AND CONTINGENCIES IN BID TO IMPLEMENT THEM WITHOUT ADDITIONAL COST TO THE OWNER.
11. THE MC SHALL VERIFY THE FUNCTIONALITY AND OPERATION OF ALL EXISTING MECHANICAL EQUIPMENT IN THE AREA OF WORK. REPLACE FILTERS, LEAK TEST AND RECHARGE REFRIGERANT LINES, REPLACE OR LUBRICATE BEARINGS, CHECK LINKAGES AND ACTUATORS, AND PERFORM OTHER MAINTENANCE SERVICE AS NECESSARY TO GET THE EQUIPMENT IN PROPER ORDER.
12. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS TO THE MECHANICAL EQUIPMENT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING.
13. IT IS THE MC'S RESPONSIBILITY TO VERIFY THAT ITEMS FURNISHED FOR THIS CONTRACT WILL FIT IN THE SPACE AVAILABLE. THE MC SHALL MAKE FIELD MEASUREMENTS AS NECESSARY TO DETERMINE SPACE REQUIREMENTS. IF THE MC MUST ALTER EQUIPMENT DUE TO SPACE CONSIDERATIONS, THE MC SHALL PROVIDE SIZES AND SHAPES THAT FIT THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS.
14. MC SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR REGARDING THE ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT BEING PROVIDED.
15. MAINTAIN CLEARANCES FOR ALL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS FOR SERVICEABILITY. ALL ROOFTOP EQUIPMENT MUST BE A MINIMUM OF 10 FEET FROM ROOF EDGE.
16. MC SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF THE PROJECT. MC SHALL PROVIDE ALL DOCUMENTATION TO THE OWNER AS NECESSARY TO SUBMIT FOR FACTORY WARRANTIES.
17. CONTRACTOR SHALL PROTECT ALL HVAC EQUIPMENT FROM CONSTRUCTION AND SHEET ROCK DUST DURING CONSTRUCTION. ALL FILTERS SHALL BE REPLACED WITH NEW AT THE COMPLETION OF THE PROJECT.
18. ALL EQUIPMENT INSTALLED ON ROOF MUST BE WITHIN THE ROOF SCREEN.
19. IF A ROOF PENETRATION IS REQUIRED AND THE ROOF IS UNDER WARRANTY, USE THE AUTHORIZED ROOFER. PROVIDE DOCUMENTATION.
20. ALL PIPING, WIRING, CONDUIT, INSULATION, EQUIPMENT, SUPPORTS, ETC. SHALL BE SUITABLE FOR INSTALLATION IN A RETURN PLENUM AS NECESSARY. COORDINATE WITH OTHER TRADES ON LOCATIONS OF ALL PLENUMS.
21. MC SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE ALL APPLICABLE CONSTRUCTION WASTE IS RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT.

MATERIALS:

1. THE MC SHALL PROVIDE ALL DX UNITARY HEATING AND COOLING EQUIPMENT AS SCHEDULED ON THE DRAWINGS. AIR-COOLED SPLIT SYSTEM HEAT PUMPS AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK. AIR-COOLED ROOFTOP PACKAGE HEAT PUMPS, GAS-ELECTRIC UNITS, AND AIR-CONDITIONERS SHALL BE BY TRANE, CARRIER, OR YORK. GAS FURNACES SHALL BE BY TRANE, CARRIER, OR YORK. THE MC SHALL PROVIDE FACTORY AND FIELD INSTALLED ACCESSORIES AS SCHEDULED OR AS NECESSARY FOR A COMPLETE AND OPERATIONAL HVAC SYSTEM.
2. THE MC SHALL PROVIDE ALL EXHAUST AND SUPPLY FANS AS SCHEDULED. FANS SHALL BE BY GREENHECK, LOREN COOK, TWIN CITY, OR PENNBARRY.
3. DUCTWORK IS SHOWN WITH FREE AREA DIMENSIONS. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT STANDARD, 2 INCH S.P.
4. EXTERNAL DUCT INSULATION AND FACTORY-INSULATED FLEXIBLE DUCT SHALL BE LEGIBLY PRINTED OR IDENTIFIED AT INTERVALS NOT GREATER THAN 36 INCHES WITH THE NAME OF THE MANUFACTURER, THE THERMAL RESISTANCE R-VALUE AT THE SPECIFIED INSTALLED THICKNESS AND THE FLAME SPREAD AND SMOKE-DEVELOPED INDEXES OF THE COMPOSITE MATERIALS. ALL DUCT INSULATION PRODUCT R-VALUES SHALL BE BASED ON INSULATION ONLY, EXCLUDING AIR FILMS, VAPOR RETARDERS OR OTHER DUCT COMPONENTS, AND SHALL BE BASED ON TESTED C-VALUES AT 75°F MEAN TEMPERATURE AT THE INSTALLED THICKNESS, IN ACCORDANCE WITH RECOGNIZED INDUSTRY PROCEDURES. THE INSTALLED THICKNESS OF DUCT INSULATION USED TO DETERMINE ITS R-VALUES SHALL BE DETERMINED AS FOLLOWS:
   - 4.1. FOR DUCT BOARD, DUCT LINER AND FACTORY-MADE RIGID DUCTS NOT NORMALLY SUBJECTED TO COMPRESSION, THE NOMINAL INSULATION THICKNESS SHALL BE USED.
   - 4.2. FOR DUCT WRAP, THE INSTALLED THICKNESS SHALL BE ASSUMED TO BE 75 PERCENT (25-PERCENT COMPRESSION) OF NOMINAL THICKNESS.
   - 4.3. FOR FACTORY-MADE FLEXIBLE AIR DUCTS, THE INSTALLED THICKNESS SHALL BE DETERMINED BY DIVIDING THE DIFFERENCE BETWEEN THE ACTUAL OUTSIDE DIAMETER AND NOMINAL INSIDE DIAMETER BY TWO.
5. DUCT LINER MAY BE SUBSTITUTED FOR EXTERIOR DUCT WRAP. DUCT LINER INSULATION MATERIALS SHALL MEET THE REQUIREMENTS OF ASTM C 1071, AND ASTM G 21. EXTERIOR DUCT R-VALUE SHALL BE R-8 AND INTERIOR R-VALUE SHALL BE R-6 IN ACCORDANCE WITH THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE. NOMINAL DUCT SIZES SHALL BE ADJUSTED AS NECESSARY SO THAT FREE AREA DIMENSIONS ARE PRESERVED AS SHOWN ON THE PLANS. FABRICATION AND INSTALLATION SHALL CONFORM TO THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND TO THE REQUIREMENTS OF THE LATEST EDITION OF THE NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION FIBROUS GLASS DUCT LINER STANDARDS AND/OR SMACNA HVAC DUCT CONSTRUCTION STANDARDS. DUCT LINER SHALL HAVE A BLACK PIGMENTED MAT ON THE AIRSTREAM SIDE TO RESIST DAMAGE DURING INSTALLATION AND SERVICE. EDGES SHALL BE FACTORY COATED WITH BLACK PIGMENTED COATING TO COMPLY WITH SMACNA DCS REQUIREMENTS. ALL PORTIONS OF DUCT DESIGNATED TO RECEIVE DUCT LINER SHALL BE COMPLETELY COVERED WITH DUCT LINER. TRANSVERSE JOINTS SHALL BE NEATLY BUTTED AND THERE SHALL BE NO INTERRUPTIONS OR GAPS. THE BLACK PIGMENTED OR MAT FACED SURFACES SHALL FACE THE AIRSTREAM. DUCT LINER SHALL BE ADHERED TO THE SHEET METAL WITH 90 PERCENT COVERAGE OF ADHESIVE COMPLYING WITH REQUIREMENTS OF ASTM C 916. ALL EXPOSED LEADING EDGES AND TRANSVERSE JOINTS SHALL BE FACTORY COATED OR COATED WITH ADHESIVE DURING FABRICATION. DUCT LINER SHALL BE ADDITIONALLY SECURED WITH MECHANICAL FASTENERS, EITHER WELD-SECURED OR IMPACT DRIVEN, WHICH SHALL COMPRESS THE DUCT LINER SUFFICIENTLY TO HOLD IT FIRMLY IN PLACE. ADHESIVE BONDED PINS ARE NOT PERMITTED DUE TO LONG-TERM ADHESIVE AGING CHARACTERISTICS. LININGS SHALL BE INTERRUPTED AT THE AREA OF OPERATION OF A FIRE DAMPER AND AT A MINIMUM OF 6 INCHES UPSTREAM AND 6 INCHES DOWNSTREAM OF ELECTRIC RESISTANCE AND FUEL-BURNING HEATERS IN A DUCT SYSTEM. METAL NOSINGS OR SLEEVES SHALL BE INSTALLED OVER EXPOSED DUCT LINER THAT FACE OPPOSITE THE DIRECTION OF AIRFLOW. UPON COMPLETION OF INSTALLATION OF DUCT LINER AND BEFORE OPERATION IS TO COMMENCE, VISUALLY INSPECT SYSTEM AND VERIFY THAT THE DUCT LINER IS PROPERLY INSTALLED. OPEN ALL SYSTEM DAMPERS AND TURN ON FANS TO BLOW ALL SCRAPS AND OTHER LOOSE PIECES OF MATERIAL OUT OF THE DUCT SYSTEM. ALLOW FOR A MEANS OF REMOVAL OF SUCH MATERIAL.
6. ALL INSULATION CONTAINING FIBROUS MATERIALS EXPOSED TO AIRFLOW SHALL BE RATED FOR THAT EXPOSURE OR SHALL BE ENCAPSULATED. INSULATING PROPERTIES FOR ALL MATERIALS SHALL MEET OR EXCEED INDUSTRY STANDARDS. POLYSTYRENE PRODUCTS SHALL MEET ASTM C578. ALL INSULATION SHALL HAVE FORMALDEHYDE EMISSIONS NOT GREATER THAN 0.05 PPM. THE MAXIMUM FLAME SPREAD AND SMOKE DEVELOPED INDEX FOR INSULATION SHALL MEET THE REQUIREMENTS OF THE LOCAL CODES AND ORDINANCES ADOPTED BY THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.
7. MASTIC USED TO SEAL DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A-95 OR UL 181B-98. MAINTAIN AMBIENT TEMPERATURES AND CONDITIONS REQUIRED BY MANUFACTURER OF ADHESIVES, MASTICS, AND INSULATION CEMENTS. DO NOT INSTALL DUCT SEALANT WHEN TEMPERATURES ARE LESS THAT THOSE RECOMMENDED BY THE SEALANT MANUFACTURER.
8. ALL ADHESIVES AND SEALANTS SHALL HAVE VOC CONTENT BELOW 20 GRAMS PER LITER AND WHICH MEET THE REQUIREMENTS OF THE MANUFACTURER OF THE PRODUCTS BEING ADHERED OR INVOLVED. ADHESIVES AND SEALANTS SHALL CONTAIN NO HEAVY METALS OR FORMALDEHYDE.
9. FACTORY-MADE AIR DUCTS AND CONNECTORS SHALL COMPLY WITH UL 181-96.
10. FLEXIBLE DUCT SHALL BE UL LISTED CLASS 0 OR CLASS 1, INSULATED, AND COMPLY WITH UL 181. FLEXIBLE DUCT SHALL BE FACTORY FORMED, COMPOSED OF SPIRAL WOUND CORROSION RESISTANT WIRE BONDED TO AN INNER FABRIC LINER. DUCT SHALL BE FACTORY INSULATED WITH A FOIL VAPOR BARRIER JACKET. CONNECT TO RIGID DUCT WITH SPIN-IN FITTING AND DAMPER. FLEXIBLE DUCTS AND AIR CONNECTORS SHALL NOT PASS THROUGH ANY FIRE RESISTANCE RATED ASSEMBLY.
11. THE MC SHALL PROVIDE ALL DIFFUSERS GRILLES, LOUVERS, AND OTHER AIR DISTRIBUTION OUTLETS AND INLETS. LOUVERS, GRILLES, AND DIFFUSERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. FOR LAY-IN CEILINGS, INSTALL SUPPORT FROM THE STRUCTURE FOR EACH DIFFUSER OR DAMPER. AIR DISTRIBUTION OUTLETS AND INLETS SHALL BE BY HART & COOLEY, PRICE, METAL-AIRE, NAILOR, OR CARNES.
12. AIR FILTERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 605 OF THE 2018 NC MECHANICAL CODE.
13. THE MC SHALL PROVIDE ALL REFRIGERATION PIPING. ALL PIPE AND FITTINGS SHALL BE TYPE ACR HARD COPPER TUBING WITH SWEAT FITTINGS. REFRIGERATION LINES SHALL BE RUN NEATLY. WHERE A GROUP OF LINES ARE RUN, TRAPEZE HANGERS MAY BE USED. DO NOT USE CHAIN OR WIRE HANGERS. WRAP TUBING WITH RUBBER TAPE AT EACH CLAMP OR HANGER. FOR COVERED PIPES, HANGERS SHALL FIT AROUND THE OUTSIDE OF THE COVERING WITH 12 GAUGE GALVANIZED STEEL SHIELDS OF A LENGTH EQUAL TO THE OUTSIDE DIAMETER OF THE INSULATION AND COVERING 3/4 OF THE CIRCUMFERENCE OF THE INSULATION. SAGS SHALL NOT BE PERMISSIBLE. HORIZONTAL LINES SHALL PITCH DOWN NOT LESS THAN 1 INCH IN 40 FEET. INSULATE WITH 1 INCH CLOSED CELL ARMAFLEX TYPE INSULATION WITH A FLAME DENSITY RATING LESS THAN 25 AND A SMOKE DENSITY RATING LESS THAN 50. ALL JOINTS AND SPLICES IN INSULATION SHALL BE TAPED AND AIR TIGHT. SOLDER REFRIGERATION LINES USING 15 PERCENT SILVER SOLDER AND EVACUATE LINES TO 300 MICRONS. PROVIDE MOISTURE INDICATING SIGHT GLASS AND FILTER DRYER IN LIQUID LINE. PROVIDE OIL TRAPS AND DOUBLE RISERS IN REFRIGERANT SUCTION AND HOT GAS LINES WHERE REQUIRED TO PREVENT OIL SLUGGING AT THE COMPRESSOR AND INSURE PROPER LUBRICATION. MC SHALL BE RESPONSIBLE FOR SEALING LINE SET PENETRATIONS OF ANY RATED ASSEMBLIES IN ACCORDANCE WITH A SYSTEM LISTED IN THE UL DIRECTORY FOR THE SPECIFIC ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR A LIST OF ALL UL FIRE RATED ASSEMBLIES.

METHODS:

1. INSULATE DUCTWORK WITH FIBERGLASS DUCT WRAP; INSTALLED R-VALUE SHALL BE A MINIMUM R-6. COVERINGS AND LININGS, INCLUDING ADHESIVES WHEN USED, SHALL HAVE A FLAME SPREAD INDEX NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84. ALL NEW DUCTWORK SHALL RECEIVE INSULATION ON THE OUTSIDE. INSTALL DUCT WRAP INSULATION WITH FACING OUTSIDE SO THAT TAPE FLAP OVERLAPS INSULATION AND FACING OF ADJACENT PIECE OF DUCT WRAP. INSULATION SHALL BE TIGHTLY BUTTED. FOR RECTANGULAR DUCTS, INSTALL SO INSULATION IS NOT EXCESSIVELY COMPRESSED AT DUCT CORNERS. STAPLE SEAMS APPROXIMATELY 6 INCHES ON CENTER WITH OUTWARD CLINCHING STAPLES. SEAL SEAMS WITH PRESSURE SENSITIVE TAPE MATCHING THE FACING. FOR RECTANGULAR DUCTS 24 INCHES IN WIDTH OR GREATER, SECURE DUCT WRAP TO THE BOTTOM OF THE DUCT WITH MECHANICAL FASTENERS SPACED 18 INCHES ON CENTER TO PREVENT SAGGING OF INSULATION. ADJACENT SECTIONS OF DUCT WRAP SHALL BE TIGHTLY BUTTED WITH THE 2 INCH TAPE FLAP OVERLAPPING. ALL TEARS, PUNCTURES, ETC. OF THE DUCT WRAP INSULATION SHALL BE SEALED WITH TAPE OR MASTIC TO PROVIDE A VAPOR TIGHT SYSTEM. INSULATION SHALL BE BY KNAUF INSULATION, OWENS CORNING CORP, OR CERTAINTEED CORPORATION.
2. VERIFY THAT DUCTS HAVE BEEN TESTED BEFORE APPLYING INSULATION MATERIALS. VERIFY THAT DUCT SURFACES ARE CLEAN, DRY AND FREE OF FOREIGN MATERIAL PRIOR TO INSULATING. DUCT COVERINGS SHALL NOT PENETRATE A WALL OR FLOOR REQUIRED TO HAVE A FIRE-RESISTANCE RATING OR REQUIRED TO BE FIRE BLOCKED.
3. WHERE DUCTS ARE CONNECTED TO EXTERIOR WALL LOUVERS AND DUCT OUTLET IS SMALLER THAN LOUVER FRAME, PROVIDE BLANK-OUT PANELS SEALING LOUVER AREA AROUND DUCT. USE SAME MATERIAL AS DUCT, PAINTED BLACK ON EXTERIOR SIDE; SEAL TO LOUVER FRAME AND DUCT.
4. DUCTS CONNECTING TO A FURNACE SHALL HAVE A CLEARANCE TO COMBUSTIBLES IN ACCORDANCE WITH THE FURNACE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. FOR STRUCTURES IN FLOOD HAZARD AREAS, DUCTS SHALL BE LOCATED ABOVE THE DESIGN FLOOD ELEVATION. DUCT SHALL NOT BE INSTALLED IN OR WITHIN 4 INCHES OF THE EARTH.
6. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS, AUTOMATIC DAMPERS, AT FIRE DAMPERS, COMBINATION FIRE AND SMOKE DAMPERS.
7. CONSTRUCT T's, BENDS, AND ELBOWS WITH RADII OF NOT LESS THAN 1-1/2 TIMES THE WIDTH OF THE DUCT ON CENTERLINE. WHERE NOT POSSIBLE AND WHERE RECTANGULAR ELBOWS MUST BE USED, PROVIDE TURNING VANES.
8. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE; MAXIMUM OF 30 DEGREES DIVERGENCE UPSTREAM OF EQUIPMENT AND 45 DEGREES CONVERGENCE DOWNSTREAM.
9. IT SHALL BE THE RESPONSIBILITY OF THE MC TO SUSPEND AND SUPPORT ALL EQUIPMENT, DUCTWORK, DIFFUSERS, AND OTHER MATERIALS FOLLOWING RECOGNIZED ENGINEERING PRACTICES AND USING STANDARD, COMMERCIALLY ACCEPTED HANGERS AND SUSPENSION EQUIPMENT. ALL HVAC EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT RELY ON CEILING OR WALL SURFACES FOR SUPPORT. THE SUPPORT ATTACHMENT SHALL SUPPORT THE WEIGHT OF THE EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT ITSELF. SUPPORT FROM THE TOP CHORD OF THE ROOF JOISTS, GIRDERS, AND BEAMS. THE BOTTOM CHORD IS NOT TO BE USED FOR EQUIPMENT OR PIPING SUPPORT. HANGERS SHALL NOT BE ATTACHED TO CORRUGATED STEEL DECKING.
10. DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH SMACNA AT INTERVALS NOT EXCEEDING 10 FEET. DUCTS 36 INCHES OR LARGER SHALL HAVE TRAPEZE TYPE HANGERS SUSPENDED WITH THREADED ROD. SUPPORT DUCTS FROM BAR JOISTS, GIRDERS, OR BEAMS.
11. CHECK LOCATIONS OF AIR OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY, AND LIGHTING ARRANGEMENT. COORDINATE WITH SPRINKLER CONTRACTOR IF APPLICABLE.
12. PROVIDE BALANCING DAMPERS AT POINTS ON SUPPLY WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. INSTALL MINIMUM 2 DUCT WIDTHS FROM DUCT TAKE-OFF. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFFS TO DIFFUSERS, AND REGISTERS, REGARDLESS OF WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER OR REGISTER ASSEMBLY. ADJUST AIR HANDLING AND DISTRIBUTION SYSTEMS TO PROVIDE DESIGN SUPPLY, RETURN, AND EXHAUST AIR QUANTITIES AT SITE ALTITUDE.
13. MC SHALL INSTALL FIRE DAMPERS AT EACH PENETRATION OF A RATED WALL AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION. FIRE DAMPERS SHALL BE UL LABELED (UL 555), CURTAIN TYPE, WITH INTEGRAL FACTORY SLEEVE AND BLADES LOCATED OUTSIDE THE AIR STREAM. INSTALLATION OF ALL FIRE DAMPERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SECTION 607 OF THE 2018 NC MECHANICAL CODE. PROVIDE ACCESS PANELS FOR TESTING AND SERVICE AS NECESSARY. MC SHALL PROVIDE RADIATION DAMPERS AND THERMAL BLANKETS FOR ALL PENETRATIONS OF RATED CEILING ASSEMBLIES. RADIATION DAMPERS SHALL BE UL LABELED (UL 555C) AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFIC INSTALLATION INSTRUCTIONS. FIRE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, AND CEILING RADIATION DAMPERS SHALL BE BY RUSKIN, NAILOR, OR LLOYD INDUSTRIES.
14. MC SHALL INSTALL A SMOKE DETECTOR-UL LISTED FOR DUCT INSTALLATION (UL 268A) IN EACH UNIT'S RETURN UPSTREAM OF ANY FILTERS, OUTSIDE AIR CONNECTIONS, OR DECONTAMINATION EQUIPMENT. DUCT SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72. DUCT SMOKE DETECTOR SUPERVISION SHALL COMPLY WITH 606.4.1 OF THE 2018 NC MECHANICAL CODE. IF THE BUILDING IS (TO BE) EQUIPPED WITH A FIRE ALARM SYSTEM, THE FIRE ALARM SYSTEM CONTRACTOR SHALL FURNISH AND WIRE ALL DUCT SMOKE DETECTORS. IF THE BUILDING IS NOT PROVIDED WITH A FIRE ALARM SYSTEM, THE MC SHALL FURNISH AND WIRE THE DUCT SMOKE DETECTORS AND A/V DEVICE. IT SHALL BE THE RESPONSIBILITY OF THE MC TO INSTALL ALL SMOKE DUCT DETECTORS PER NFPA AND MFG'S INSTALLATION INSTRUCTIONS REGARDLESS OF WHO FURNISHES THE DEVICES.
15. MC SHALL INSTALL PROGRAMMABLE THERMOSTATS AS SHOWN ON THE PLANS. THERMOSTAT SHALL BE MOUNTED AT 48 INCHES AFF. THERMOSTATS SHALL MEET THE REQUIREMENTS OF SECTION C403.2.4 OF THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.
16. FRESH AIR INTAKES SHALL BE INSTALLED ON ALL UNITS AS SHOWN ON DRAWINGS. MAINTAIN 10 FEET OF DISTANCE BETWEEN FRESH AIR INTAKES AND ALL EXHAUST TERMINATIONS AND PLUMBING VENT THRU ROOFS.
17. UNITS PROVIDED WITH ECONOMIZERS SHALL ALSO BE PROVIDED WITH POWERED EXHAUST AND COMPARATIVE ENTHALPY CONTROLS.
18. MC SHALL INSTALL ALL EXHAUST FANS AND VENT TO THE BUILDING'S EXTERIOR. EC SHALL SWITCH FANS WITH LIGHTS OR ON SEPARATE SWITCH AS SHOWN.
19. P-TRAPS MUST BE INSTALLED ON ALL UNITS. MC SHALL INSTALL AUXILIARY DRAIN PANS UNDER OVERHEAD AIR HANDLERS AND AN AUTOMATIC CUT-OFF FLOAT SWITCH FOR EACH. P-TRAPS AND CONDENSATE LINES SHALL BE 1 INCH. P-TRAPS AND CONDENSATE LINES MAY BE PVC WHERE NOT LOCATED IN PLENUMS; OTHERWISE, THEY SHALL BE TYPE M COPPER. CONDENSATE SHALL BE ROUTED TO DAYLIGHT OR STORM DRAIN.
20. INSTALL BACKDRAFT DAMPERS ON FRESH AIR AND EXHAUST DUCTS WHERE THEY PENETRATE THE THERMAL ENVELOPE PER NORTH CAROLINA ENERGY CONSERVATION CODE C402.5.5

MECHANICAL NOTES | 1

EXHAUST FAN SCHEDULE								
MARK	MFG / MODEL #	TYPE	ESP (in WG)	CFM	VOLT/PH	FLA	SONES	NOTES
EF-1	GREENHECK SP-B110	CEILING	0.40	96	120/1	1.14	2.0	1-3
EF-2	GREENHECK SP-A410	CEILING	0.40	265	120/1	1.75	3.5	1-3
EF-3	GREENHECK SP-A510	CEILING	0.40	364	120/1	3.30	4.0	1-3
EF-4	GREENHECK CSP-A710	INLINE	0.47	370	120/1	4.90	2.0	1-6

1. PROVIDE WITH PITCHED ROOF CURB & CAP FOR FLAT OR SLOPED ROOF,OR HOODED WALL WITH BACKDRAFT DAMPER CAP AS APPLICABLE.
2. PROVIDE WITH SQUARE TO ROUND DUCT ADAPTER AS NECESSARY
3. OR EQUAL BY LOREN COOK OR PENNBARRY OR TWIN CITY
4. INTEGRAL DISCONNECT SWITCH
5. CORROSION RESISTANT
6. CONTINUOUS OPERATION

ELECTRIC UNIT HEATER SCHEDULE						
MARK	MFG / MODEL #	HEATER	VOLT/PH	HEAT	MOCP	NOTES
		KW		KW	AMPS	
UH-1	MARKEL / E3313T2SRPW	1.5	120/1	1.5	20.0	1-4
UH-2,3	MARKEL / H3317T2RPW	4.8	240/1	4.8	30.0	1-4
UH-4	MARKEL / H1HUH05003	5.0	240/1	5.0	30.0	1,2,5

1. BUILT-IN THERMOSTAT.
2. BUILT-IN DISCONNECT SWITCH.
3. PROVIDE WITH SURFACE MOUNTING SLEEVE KIT (BATHROOMS ONLY)
4. BUILT IN SUMMER FAN SWITCH (BATHROOMS ONLY)
5. CORROSION RESISTANT

REGISTER & GRILLE SCHEDULE						
MARK	MFG	MODEL #	SIZE	MOUNTING	DESCRIPTION	NOTES
R	NAILOR	5145H	12X12	CEILING	ALUMINUM LOUVERED RETURN GRILLE	1
R2	HART & COOLEY	RH45	12X12	SURFACE	ALUMINUM SURFACE MOUNT RETURN GRILLE	1
R3	HART & COOLEY	RH45	18X18	SURFACE	ALUMINUM SURFACE MOUNT RETURN GRILLE	1

1. OR EQUAL BY PRICE, METAL-AIRE, CARNES, TITUS OR NAILOR.

VENTILATION CALCS

CHEMICAL STORAGE:

29 SQFT X 10' HIGH CEILING = 290 CU. FT @ 10 ACH = 49 CFM

*70 CFM PROVIDED

PUMP ROOM:

138 SQFT X 10' HIGH CEILING = 1380 CU. FT @ 10 ACH = 230 CFM

*300 CFM PROVIDED

MECHANICAL SYSTEM, SERVICE SYSTEMS, AND EQUIPMENT

METHOD OF COMPLIANCE	PRESCRIPTIVE
THERMAL ZONE	ZONE 4A
EXTERIOR DESIGN CONDITIONS	
HEATING DESIGN DRY BULB	23.1°F
COOLING DESIGN DRY BULB	91.7°F
COOLING DESIGN WET BULB	75.6°F
INTERIOR DESIGN CONDITIONS	
HEATING DESIGN DRY BULB	70°F
COOLING DESIGN DRY BULB	75°F
COOLING RELATIVE HUMIDITY	50%

MENS RESTROOM (DESIGNED AT 50°F HEATING DRY BULB)
HEATING LOAD: 10,364 BTU/H

WOMENS RESTROOM (DESIGNED AT 50°F HEATING DRY BULB)
HEATING LOAD: 11,237 BTU/H

PUMP ROOM (DESIGNED AT 50°F HEATING DRY BULB)
HEATING LOAD: 15,053 BTU/H

FAMILY REST
ROOM (DESIGNED AT 50°F HEATING DRY BULB)
HEATING LOAD: 3,557 BTU/H

MECHANICAL SPACING CONDITIONING SYSTEM:	
UNITARY	AIR COOLED DX
DESCRIPTION OF UNIT(S)	UNIT HEATERS
BOILER	N/A
TOTAL BOILER OUTPUT	N/A
CHILLER	N/A
TOTAL CHILLER CAPACITY	N/A
EQUIPMENT EFFICIENCIES:	SEE SCHEDULES
EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS):	SEE SCHEDULES

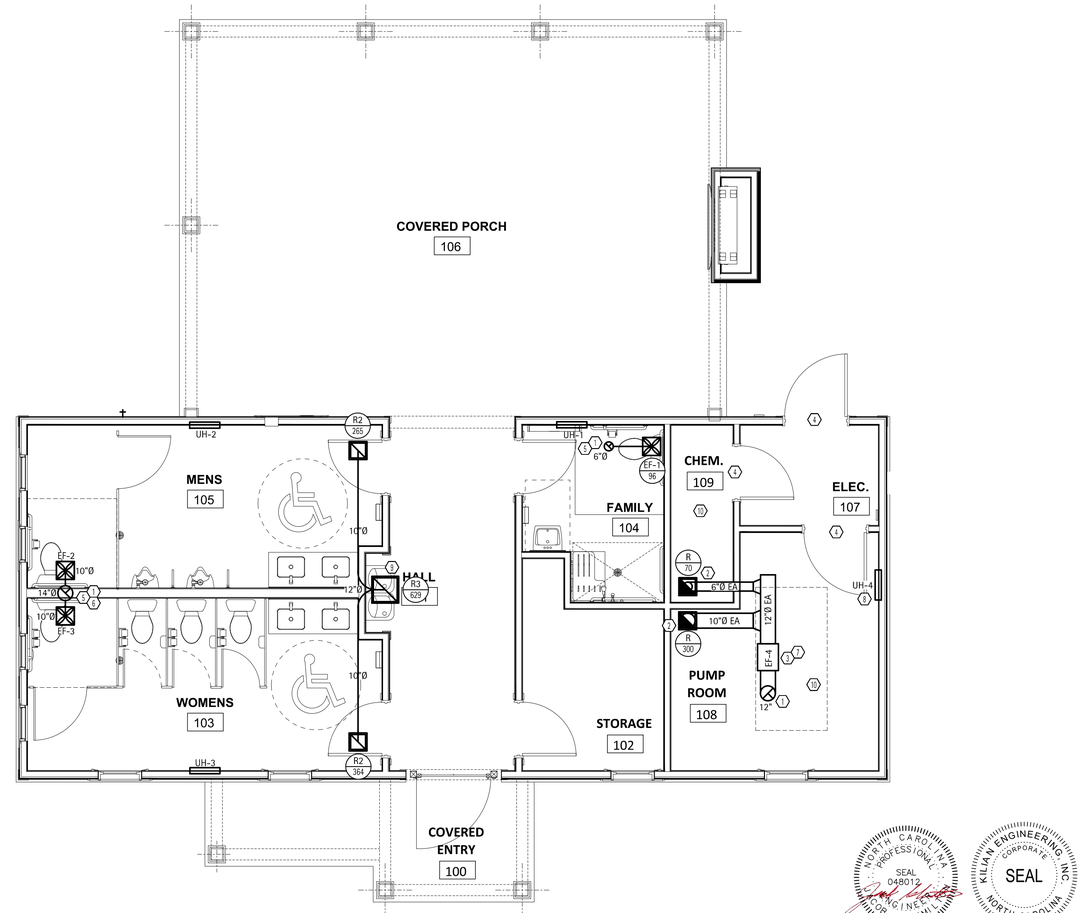
DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE, THE MECHANICAL DESIGN FOR THIS BUILDING COMPLIES WITH MECHANICAL AND EQUIPMENT REQUIREMENTS OF THE 2018 NORTH CAROLINA STATE BUILDING CODE AND 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.

MECHANICAL SCHEDULES & DESIGNER'S STATEMENT | 2

⬡ HEX PLAN NOTES

1. EXHAUST DUCT TO TURTLE BACK ROOF VENT ON BACK SIDE OF ROOF PITCH. PROVIDE WITH INSECT SCREEN. COORDINATE EXACT LOCATION WITH G.C. VENT AWAY FROM POOL/POOL DECK.
2. LOUVERED EXHAUST GRILLE INSTALLED IN GYPSUM CEILING. TURN LOUVERED BLADES TOWARDS WALL.
3. SUSPENDED INLINE EXHAUST FAN TO BE INSTALLED IN ATTIC. ENSURE ALL MANUFACTURER CLEARANCES ARE MAINTAINED. COORDINATE WITH G.C. TO PROVIDE ACCESS FOR MAINTENANCE.
4. DOOR WITH WEATHER PROOF LOUVER BY G.C. LOUVER TO BE 18"X18".
5. MC TO KEEP PUMP ROOM EXHAUST AND BATHROOM EXHAUST SEPARATE.
6. COMBINE BATHROOM EXHAUST TO ONE 14" EXHAUST DUCT.
7. EXHAUST FAN TO BE WIRED FOR CONTINUOUS OPERATION.
8. CORROSION RESISTANT UNIT HEATER.
9. GRILLES AND DUCTWORK TO ALLOW FOR OUTSIDE AIR TO REDUCE NEGATIVE PRESSURE WHEN BATHROOM EXHAUST FANS ARE IN OPERATION.
10. CORROSION ENVIRONMENT NOTATIONS FOR PUMP ROOM AND CHEMICAL ROOM.



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048012
09.12.2024

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MECHANICAL SCHEDULES & DESIGNER'S STATEMENT | 2

D.CLUGSTON

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DATE	REVISION	NO.

SHEET DISCRIPTION

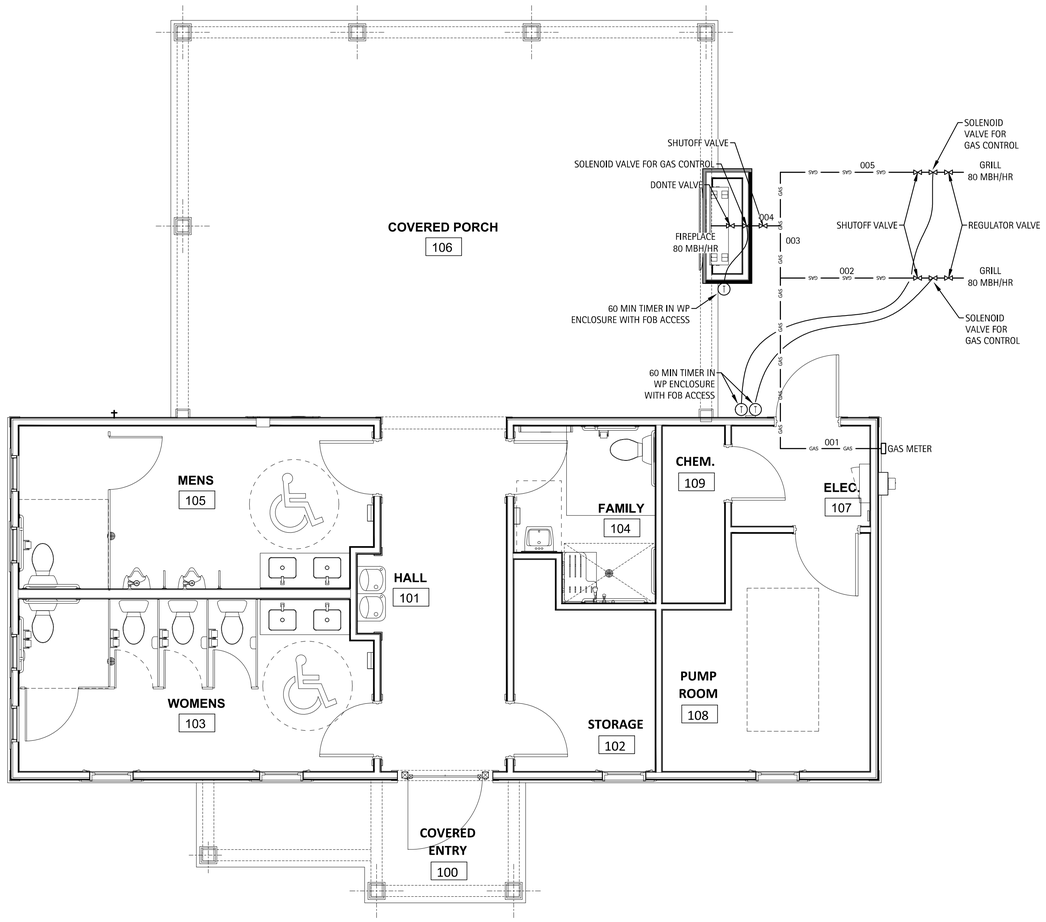
MECHANICAL
PLAN

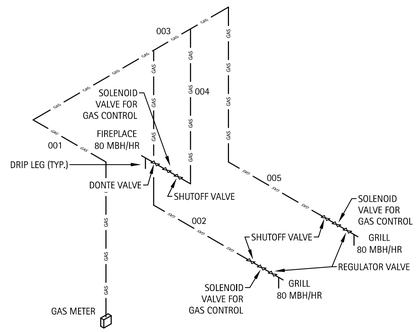
PROJECT #:	240612
DATE ISSUED:	2024 09 12
DRAWING BY:	SLT
CHECKED BY:	JLH

PROJECT STATUS

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

M1





GENERAL GAS LINE PIPING NOTES

1. THE GAS PIPING CONTRACTOR (GPC) SHALL PROVIDE ALL MATERIALS AND LABOR AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM AS DESCRIBED BY THESE PLANS AND SPECIFICATIONS.
2. THE GPC SHALL INSTALL ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE 2018 NORTH CAROLINA FUEL GAS CODE AND ANY APPLICABLE LOCAL CODES. WHERE A CONFLICT EXISTS BETWEEN THE ABOVE REQUIREMENTS, THE MORE STRINGENT SHALL BE USED. THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ENGINEER IN THE EVENT ANY PART OF THESE PLANS CONFLICTS WITH THE ABOVE REQUIREMENTS.
3. THE GPC SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
4. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
5. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS.
6. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.
7. INSTALL A DRIP LEG IN GAS LINE AT EACH POINT WHERE CONDENSATE COULD COLLECT. ALL DRIP LEGS SHALL BE READILY ACCESSIBLE FOR CLEANING OR EMPTYING.
8. PIPING SHALL BE SCHEDULE 40 STEEL OR WROUGHT IRON AND COMPLY WITH ANSI/ASME B36.10, ASTM A 53, OR ASTM A 106.
9. ALL PIPES AND FITTINGS SHALL BE NEW, FREE OF DEFECTS, AND RATED FOR THE APPLICATION.
10. ALL PIPING SHALL BE INSTALLED SO AS NOT TO BE SUBJECT TO PHYSICAL DAMAGE.
11. PVC VENT PIPING SHALL NOT BE INSTALLED INDOORS.
12. THE TYPE OF PIPING JOINT USED SHALL BE SUITABLE FOR THE PRESSURE-TEMPERATURE CONDITIONS AND SHALL BE SELECTED CONSIDERING JOINT TIGHTNESS AND MECHANICAL STRENGTH UNDER THE SERVICE CONDITIONS.
13. PIPE JOINTS SHALL BE THREADED, FLANGED, BRAZED, OR WELDED.
14. FLEXIBILITY SHALL BE PROVIDED BY THE USE OF BENDS, LOOPS, OFFSETS, OR COUPLINGS OF THE SLIP TYPE. PROVISIONS SHALL BE MADE TO ABSORB THERMAL CHANGES BY THE USE OF EXPANSION JOINTS OF THE BELLOWS TYPE OR BY THE USE OF 'BALL' OR 'SWIVEL' JOINTS. DO NOT USE EXPANSION JOINTS OF THE SLIP TYPE INSIDE THE BUILDING. PIPE ALIGNMENT GUIDES SHALL BE USED WITH EXPANSION JOINTS PER THE MFG.
15. ALL GAS PIPING SHALL BE LABELED TO INDICATE THE PRESSURE.
16. PIPE HANGERS AND SUPPORTS SHALL CONFORM TO ANSI/MSS SP-58.
17. BENDS SHALL BE MADE ONLY WITH BENDING TOOLS AND PROCEDURES INTENDED FOR THAT PURPOSE. DO NOT BEND PIPE THROUGH AN ARC OF MORE THAN 90°. ALL BENDS SHALL BE SMOOTH AND FREE OF CRACKS, BUCKLING, OR OTHER EVIDENCE OF DAMAGE.
18. INSTALL GAS SHUTOFF VALVES UPSTREAM OF EACH GAS REGULATOR. VALVES SHALL BE READILY ACCESSIBLE AND NOT SUBJECT TO PHYSICAL DAMAGE.
19. WHERE A SEDIMENT TRAP IS NOT INCORPORATED AS PART OF THE APPLIANCE, A SEDIMENT TRAP SHALL BE INSTALLED DOWNSTREAM OF THE APPLIANCE SHUTOFF VALVE AS CLOSE TO THE INLET OF THE APPLIANCE AS PRACTICAL.
20. PRIOR TO ACCEPTANCE BY THE OWNER, ALL GAS PIPING INSTALLATIONS SHALL BE INSPECTED AND PRESSURE TESTED IN ACCORDANCE WITH SECTION 406 OF THE NC FUEL GAS CODE.

GAS LINE SIZING VERIFICATION TABLE				
PER 2018 NC FUEL GAS CODE TABLE 402.4(2)				
SECTION	GAS LOAD	LINE SIZE	CAPACITY	PRESSURE
	MBTU/H	INCHES	CFH	IN WG
001	240.0	1-1/4"	400.0	7
002	80.0	3/4"	104.0	7
003	160.0	1"	195.0	7
004	80.0	3/4"	104.0	7
005	80.0	3/4"	104.0	7

BASED ON 100' OF DEVELOPED LENGTH

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NO. | REVISION | DATE

SHEET DISCRIPTION
NATURAL GAS PLAN

PROJECT #:	240612
DATE ISSUED:	2024 09 12
DRAWING BY:	SLT
CHECKED BY:	JLH

PROJECT STATUS

PARKER RIDGE AMENITY
LENNAR HOMES
CLUBHOUSE PLANS
ROLESVILLE, NC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JEREMY L. HAMILTON 09.12.2024

KILIAN ENGINEERING, INC. CORPORATE SEAL NORTH CAROLINA

GAS PLAN - SCALE: 1/4" = 1'-0" | 1

NG1

GENERAL ELECTRICAL NOTES:

ADMINISTRATIVE:

1. THE FOLLOWING ABBREVIATIONS SHALL APPLY TO NOTES AND PLANS:
   PC - PLUMBING CONTRACTOR, EC - ELECTRICAL CONTRACTOR,
   MC - MECHANICAL CONTRACTOR, GC - GENERAL CONTRACTOR,
   FASC - FIRE ALARM SYSTEM CONTRACTOR, AHJ - AUTHORITY HAVING JURISDICTION.
2. "PROVIDE" MEANS TO FURNISH AND INSTALL. THE ELECTRICAL CONTRACTOR SHALL ALSO INSTALL MATERIALS AND EQUIPMENT FURNISHED BY OTHERS AND THE GENERAL CONTRACTOR AS REQUIRED.
3. EC SHALL PROVIDE LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY AND REASONABLY INCIDENTAL TO INSURE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. MINOR ITEMS, ACCESSORIES, AND DEVICES REASONABLY INFERABLE AS NECESSARY FOR THE COMPLETION AND PROPER OPERATION OF ANY ELECTRICAL SYSTEM SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
4. WORKMANSHIP SHALL BE IN ACCORDANCE WITH NECA 1 "STANDARD PRACTICE FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING."
5. ALL MATERIALS AND EQUIPMENT SHALL BE DELIVERED TO THE SITE AND UNLOADED BY THE ELECTRICAL CONTRACTOR AT AN APPROVED LOCATION. THE ELECTRICAL CONTRACTOR SHALL PROTECT ALL MATERIALS AND EQUIPMENT FROM BREAKAGE, THEFT, AND THE ELEMENTS. ALL MATERIALS AND EQUIPMENT SHALL REMAIN THE PROPERTY OF THE ELECTRICAL CONTRACTOR UNTIL THE PROJECT HAS BEEN COMPLETED AND TURNED OVER TO THE OWNER.
6. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS NECESSARY FOR THE COMPLETION OF THE WORK UNDER THIS CONTRACT.
7. DO NOT SCALE THESE DRAWINGS-REFER TO ARCHITECTURAL SHEETS FOR DIMENSIONS.
8. TRADE NAMES AND MANUFACTURERS ARE SPECIFIED TO ESTABLISH A QUALITY STANDARD. SUBSTITUTIONS SHALL BE PERMITTED IF APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. ALL LISTED MODEL NUMBERS SHALL BE VERIFIED WITH THE MANUFACTURER FOR PROPER APPLICATION OF EQUIPMENT.
9. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.
10. GROUNDING AND BONDING SHALL BE PER NEC ARTICLE 250. THE RACEWAY SYSTEM SHALL NOT BE RELIED UPON FOR GROUNDING CONTINUITY. A GREEN EQUIPMENT GROUNDING CONDUCTOR, SIZED PER NEC TABLE 250-122, SHALL BE RUN IN ALL POWER RACEWAYS. FOR NON-ISOLATED GROUND CIRCUITS PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. FOR ISOLATED GROUND CIRCUITS, PROVIDE ONE NEUTRAL AND ONE ISOLATED GROUND WIRE FOR EACH CIRCUIT; IN ADDITION, PROVIDE ONE EQUIPMENT GROUNDING CONDUCTOR PER CONDUIT RUN. MAIN BONDING JUMPERS AND SYSTEM BONDING JUMPERS SHALL BE INSTALLED IN ACCORDANCE WITH 250.28 OF THE NEC. FOR BUILDINGS OR STRUCTURES SUPPLIED BY FEEDERS OR BRANCH CIRCUITS, GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH 250.32. SEPARATELY DERIVED AC SYSTEMS SHALL BE GROUNDED IN ACCORDANCE WITH 250.30. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS; ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED PER 250.54 AS NECESSARY.
11. THE ELECTRICAL CONTRACTOR SHALL ALSO COORDINATE WITH THE GENERAL CONTRACTOR REGARDING THE BONDING OF THE FOOTING REBAR, SO THAT IT WILL BE IN PLACE AND READY AT TIME OF FOOTING INSPECTION.
12. ALL MATERIALS AND EQUIPMENT SHALL COMPLY WITH THE UNDERWRITERS' LABORATORIES, INC. STANDARDS OR HAVE UL APPROVAL, OR BEAR UL RE-EXAMINATION LISTING WHERE SUCH APPROVAL HAS BEEN ESTABLISHED FOR THE TYPE OF DEVICE IN QUESTION.
13. CONDUCTORS, FUSES, CIRCUIT BREAKERS, AND DISCONNECT SWITCHES SHOWN ON THESE PLANS HAVE BEEN SIZED FOR THE SPECIFIED EQUIPMENT. BEFORE ORDERING ELECTRICAL EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS ON THE SITE AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES SHOULD CONDUCTOR, CIRCUIT BREAKER, OR FUSE SIZES REQUIRE CHANGE.
14. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR TO ENSURE THE FOLLOWING MATERIALS ARE RECYCLED DURING THE CONSTRUCTION PHASE OF THE PROJECT: LIGHT FIXTURES, INCLUDING PROPER DISPOSAL OF BALLASTS, FLUORESCENT LIGHT BULBS, AND TRANSFORMERS, WIRING AND ELECTRICAL EQUIPMENT, AND INSULATION. WASTE MATERIALS CONTAINING LEAD, ASBESTOS, PCBs (FLUORESCENT LAMP BALLASTS), OR OTHER HARMFUL SUBSTANCES SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL AND STATE LAWS AND REQUIREMENTS CONCERNING HAZARDOUS WASTE.
15. ALL WORK SHALL CONFORM TO 2020 NATIONAL ELECTRIC CODE, 2018 STATE BUILDING CODE, AND ALL APPLICABLE LOCAL CODES.

MATERIALS:

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS, SWITCHES, RECEPTACLES, TERMINALS, ETC, UNDER THE ELECTRICAL BID AND SHALL INCLUDE ALL NECESSARY CIRCUITS AND CONNECTIONS TO THE EQUIPMENT PROVIDED BY ALL SUPPLIERS, UNLESS NOTED OTHERWISE BY OTHER DISCIPLINES.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SERVICE ENTRANCE EQUIPMENT, SUB PANELS, AND OTHER ELECTRICAL DISTRIBUTION EQUIPMENT AS NECESSARY FOR A COMPLETE INSTALLATION. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH UTILITY REGARDING SERVICE AND METERING DETAILS. PRIOR TO ORDERING EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL OBTAIN THE AVAILABLE FAULT CURRENT OR TRANSFORMER SIZE AND IMPEDANCE FROM THE UTILITY AND CONTACT THE ENGINEER IF THE VALUE EXCEEDS THE EQUIPMENT SPECIFIED. PANEL BOARDS AND SWITCH BOARDS SHALL BE SQUARE D, CUTLER-HAMMER, SIEMENS, OR GE. BUSES SHALL BE COPPER UNLESS OTHERWISE APPROVED BY THE ENGINEER. RECESSED PANEL BOARDS SHALL BE INSTALLED FLUSH WITH THE WALL FINISH. METER BASES SHALL COMPLY WITH THE UTILITY'S SPECIFICATIONS AND SHALL BE MOUNTED AT A HEIGHT APPROVED BY THE UTILITY. ALL EQUIPMENT IDENTIFIED FOR SERVICE ENTRANCE USE SHALL BE SO LABELED AND UL LISTED FOR SUCH USE. ELECTRICAL CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT WITH CLEARANCES PER NEC 110.26. ELECTRICIAN SHALL PERMANENTLY LABEL EQUIPMENT PER NEC 110.24.
3. ENCLOSED SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE BY SQUARE D, EATON, OR GE. ENCLOSED SWITCHES SHALL HAVE A HANDLE LOCKABLE IN THE OFF POSITION AND SHALL HAVE A HANDLE INTERLOCKED TO PREVENT OPENING THE FRONT COVER WHILE IN THE ON POSITION. ENCLOSED SWITCHES OF THE FUSIBLE TYPE SHALL BE FUSED IN ACCORDANCE WITH NAMEPLATE DATA WITH DUAL ELEMENT TYPE FUSES BY BUSSMAN, LITTELFUSE, OR MERSEN.
4. OCCUPANCY SENSORS SHALL BE BY WATTSTOPPER, LUTRON, LEVITON, SENSOR SWITCH, HUBBELL, OR APPROVED EQUAL.
5. CIRCUIT BREAKERS SHALL BE MOLDED-CASE, THERMAL MAGNETIC TYPE WITH QUICK-MAKE, QUICK-BREAK MECHANISM, COMMON TRIP ON MULTI-POLE BREAKERS, AND UL LISTED FOR BOTH COPPER AND ALUMINUM CONDUCTORS. CIRCUIT BREAKERS IN PANELS SHALL BE SERIES RATED WITH THE MAIN BREAKER, FULLY RATED FOR THE SYSTEM, OR SERIES RATED WITH THE BREAKER FEEDING THE PANEL FROM THE FACTORY.
6. ALL WIRE, CONNECTORS, TERMINALS, AND LUGS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. WHERE CONDUCTORS ARE RUN IN PARALLEL, LUGS SHALL BE LISTED FOR PARALLEL CONDUCTORS. PUSH WIRE CONNECTORS ARE NOT ALLOWED FOR BUILDING WIRE. PUSH CONNECTORS ARE ONLY ALLOWED, WHEN APPROVED, AS PART OF MANUFACTURED LISTED PRODUCTS. ALL WIRE SHALL BE INSTALLED IN CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.
7. THE INSULATION TYPE FOR INTERIOR WIRING SHALL BE DUAL RATED THHN/THWN OR XHHW; ALL WIRING INSTALLED BELOW GRADE OR IN MOIST OR WET LOCATIONS SHALL HAVE TYPE THWN OR XHHW INSULATION. INSULATION VOLTAGE RATING SHALL BE 600 VOLTS AND A MINIMUM TEMPERATURE RATING OF 75°C. CONDUCTORS SHALL BE SOLID OR STRANDED COPPER FOR #10 AWG AND #12 AWG, AND STRANDED COPPER FOR #8 AWG AND LARGER SIZES. ALL WIRING AND CABLE SHALL BE UL LISTED. ALL TERMINATIONS AND DEVICES SHALL BE RATED FOR USE WITH 75°C CONDUCTORS. FINAL CONNECTIONS TO ALL MOTORS AND EQUIPMENT SUBJECT TO VIBRATION OR MOVEMENT SHALL BE MADE WITH STRANDED COPPER CONDUCTORS. CONDUCTORS SHALL BE BY CERRO WIRE, INC, INDUSTRIAL WIRE & CABLE, INC, ENCORE WIRE CORPORATION, OR SOUTHWIRE COMPANY.
8. JOINTS IN SOLID CONDUCTORS SHALL BE SPLICED USING IDEAL "WIRE NUTS", 3M "SCOTCH LOCK", OR T&B "PIGGY" CONNECTORS IN JUNCTION BOXES, OUTLET BOXES, AND LIGHTING FIXTURES. JOINTS IN STRANDED CONDUCTORS SHALL BE SPLICED BY APPROVED MECHANICAL CONNECTORS AND GUM RUBBER TAPE OR FRICTION TAPE. SOLDERLESS MECHANICAL CONNECTORS FOR SPLICES AND TAPS, PROVIDED WITH UL APPROVED INSULATING COVERS, MAY BE USED INSTEAD OF MECHANICAL CONNECTORS PLUS TAPE. IN ALL CASES, CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND NO SPLICING SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES, TROUGHS, OR GUTTERS. WHERE CONCENTRIC, ECCENTRIC, OR OVERSIZED KNOCKOUTS ARE ENCOUNTERED, A GROUNDING TYPE INSULATED BUSHING SHALL BE PROVIDED.
9. ALL LUMINAIRES SHALL BE LISTED. LUMINAIRES IN WET OR DAMP LOCATIONS SHALL BE MARKED AS SUITABLE FOR THE RESPECTIVE USE. EMERGENCY LIGHTING SHALL BE INSTALLED AS SHOWN. FINAL LOCATIONS OF ALL EXIT AND EMERGENCY LIGHTS SHALL BE VERIFIED WITH THE BUILDING INSPECTOR PRIOR TO INSTALLATION. ALL FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS MEETING ANSI C82.11 FOR ELECTRONIC BALLAST PERFORMANCE. ALL BALLASTS SHALL BE UL LISTED AND MEET FEDERAL AND STATE EFFICIENCY REQUIREMENTS.
10. ALL CONDUIT, FITTINGS, COUPLINGS, AND SUPPORTS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. CONDUIT FITTINGS AND COUPLINGS SHALL BE BY APPLETON, RACO, OR O-Z/GEDNEY. COUPLINGS SHALL BE THREADED, SET-SCREW, OR COMPRESSION TYPE. INDENTER OR CRIMP TYPE ARE NOT PERMITTED. CONDUIT FITTINGS AT ALL ELECTRICAL BOXES INCLUDING PULL, JUNCTION, AND OUTLET BOXES, SHALL HAVE INSULATED THROATS TO PREVENT INSULATION SCORING. DIE CAST FITTINGS ARE NOT PERMITTED
11. EMT SHALL BE MANUFACTURED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARDS INSTITUTE-AMERICAN NATIONAL STANDARD FOR STEEL ELECTRICAL METALLIC TUBING (EMT), ANSI C80.3 AND UL 797. RIGID METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI-AMERICAN NATIONAL STANDARD FOR ELECTRICAL RIGID STEEL CONDUIT (ERSC), ANSI C80.1 AND UL 6. INTERMEDIATE METAL CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI-AMERICAN NATIONAL STANDARD FOR INTERMEDIATE METAL CONDUIT ANSI C80.6 AND UL 1242.
12. METAL CONDUIT SHALL BE BY ALLIED TUBING & CONDUIT, BECK MANUFACTURING, INC, OR WHEATLAND TUBE COMPANY. FLEXIBLE METAL CONDUIT, LIQUID-TIGHT FLEXIBLE METAL CONDUIT, AND NONMETALLIC CONDUIT SHALL BE BY AFC CABLE SYSTEMS, INC, ELECTRI-FLEX COMPANY, OR INTERNATIONAL METAL HOSE.

METHODS:

1. EC SHALL REVIEW THE MECHANICAL PLANS TO ESTABLISH POINTS OF CONNECTION AND THE EXTENT OF THE ELECTRICAL WORK TO BE PROVIDED IN THE CONTRACT.
2. ALL CIRCUIT BREAKERS FEEDING HVAC EQUIPMENT SHALL BE HACR BREAKERS. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG IN 3/4 in CONDUIT. EACH MULTI-WIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE SOURCE PER NEC 210.4(B). GROUP ALL CONDUCTORS OF EACH MULTI-WIRE BRANCH CIRCUIT PER 210.4(D) WITH WIRE TIES OR SIMILAR MEANS. DO NOT EXCEED THREE HOMERUNS PER CONDUIT. DO NOT INSTALL ISOLATED GROUND AND NON-ISOLATED GROUND CIRCUITS IN THE SAME CONDUIT. INSTALL CONDUCTORS OF DIFFERENT VOLTAGES IN SEPARATE CONDUITS.
3. COLOR CODE CONDUCTORS PER NEC. FEEDERS SHALL BE IDENTIFIED IN ACCORDANCE WITH NEC 215.12. USE BLACK AND RED FOR PHASES A AND B RESPECTIVELY ON 120/240 VOLT SINGLE-PHASE SYSTEMS AND WHITE FOR THE NEUTRAL. COLORS SHALL BE FACTORY APPLIED FOR CONDUCTORS #6 AWG AND SMALLER. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE GREEN IN COLOR AND MINIMUM #12 AWG. THE EC SHALL PROVIDE PLENUM RATED CABLE FOR ANY ELECTRICAL, TELEPHONE, COMMUNICATION, OR OTHER CABLE THAT ENTERS CEILING RETURN PLENUMS.
4. ALL LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE SUSPENDED CEILING. COORDINATE LIGHTING LAYOUT WITH CEILING GRID, MECHANICAL EQUIPMENT, DUCTWORK AND SPRINKLER HEADS AS NECESSARY. SEE REFLECTED CEILING PLAN FOR DETAILS. FLUORESCENT FIXTURES UTILIZING DOUBLE-ENDED LAMPS MUST HAVE A DISCONNECTING MEANS COMPLYING WITH NEC 410.130(G).
5. MOUNT LIGHT SWITCHES AT 48 in AFF. MULTIPLE SWITCHES AT SAME LOCATION SHALL BE UNDER ONE WALL PLATE. VERIFY WALL PLATE COLOR AND MATERIAL WITH THE ARCHITECT/OWNER. INSTALL SWITCHES WITH off POSITION DOWN. ALL SWITCHES SHALL BE HEAVY DUTY, IVORY PLASTIC WITH TOGGLE HANDLE, RATED 120-277V AC, AND COMPLYING WITH NEMA WD 6 AND WD 1. SWITCHES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. PROVIDE BOX DEVICE PARTITION/DIVIDERS FOR MULTI-GANG BOXES FOR COMPLIANCE WITH NEC 404.8(B).
6. ELECTRICAL CONTRACTOR SHALL PROVIDE FIRE-STOPPING AT ALL ELECTRICAL PENETRATIONS OF RATED FLOORS AND WALLS TO PRESERVE OR RESTORE THE FIRE-RESISTANCE RATING. SEAL PENETRATIONS USING A UL LISTED SYSTEM FOUND IN THE UL DIRECTORY SPECIFIC TO THE UL LISTING OF THE ASSEMBLY BEING PENETRATED. SEE ARCHITECTURAL PLANS FOR UL RATED ASSEMBLIES SPECIFIC TO THIS PROJECT.
7. ELECTRICAL CONTRACTOR SHALL PROVIDE GFCI RECEPTACLES IN KITCHENS, RESTROOMS, OUTDOORS, AND IN SHOP AREAS AS REQUIRED BY NEC. REFRIGERATORS AND WATER COOLERS MUST HAVE A DEDICATED GFCI BREAKER. EACH OUTDOOR HVAC UNIT MUST HAVE A GFCI RECEPTACLE WITHIN 25 FEET FOR SERVICING. GFCI RECEPTACLES SHALL CONFORM TO UL 943 CLASS A AND UL 498 STANDARDS. RECEPTACLES SHALL BE BY COOPER WIRING DEVICES, LEVITON MANUFACTURING, PASS & SEYMOUR, OR HUBBELL. ALL RECEPTACLES SHALL BE 125V RATED, HEAVY DUTY, AND COMPLY WITH NEMA WD 6 AND WD 1.
8. LOCATIONS AND HEIGHTS OF ALL WALL-MOUNTED DEVICES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION.
9. CONCEAL ALL CONDUIT EXCEPT IN MECHANICAL ROOMS OR UNFINISHED AREAS AS NOTED. USE EMT CONDUIT FOR ALL BRANCH CIRCUITS AND FEEDERS INSIDE THE BUILDING. TYPE MC CABLE AND TYPE AC CABLE MAY BE INSTALLED WITHIN WALLS IF ALL NEUTRAL WIRES, ISOLATED GROUND WIRES, AND EQUIPMENT GROUND WIRES AS LISTED ABOVE ARE CONTAINED IN THE CABLE. *** TYPE NM CABLE MAY BE USED FOR INTERIOR BRANCH CIRCUITS IN NORMALLY DRY LOCATIONS SUBJECT TO THE RESTRICTIONS OF NEC 334.10 AND 334.12. TYPE NM CABLE CONDUCTORS SHALL BE DERATED PER NEC 334.80. *** FLEXIBLE CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SHALL BE MADE USING WEATHERPROOF FLEXIBLE CONDUIT. FOR LAY-IN LIGHT FIXTURES, USE MAXIMUM OF SIX (6) FEET OF FLEXIBLE MC CABLE (OR THE FLEXIBLE CONDUIT PROVIDED BY THE FIXTURE MANUFACTURER). SCHEDULE 40 PVC CONDUIT MAY BE USED FOR THE SECONDARY UNDERGROUND SERVICE, UNDERGROUND TELEPHONE SERVICE, AND BRANCH AND FEEDER CIRCUITS UNDER SLAB OR EXTERIOR TO THE BUILDING. EXPOSED EXTERIOR CONDUIT SHALL BE SCHEDULE 80 PVC. ALL UNDERGROUND RACEWAYS SHALL BE IDENTIFIED WITH UNDERGROUND LINE MARKING TAPE 6-8 in BELOW GRADE DIRECTLY ABOVE THE RACEWAY. PROVIDE PULL WIRE IN EMPTY CONDUITS. UPSIZE CONDUIT FROM MINIMUM SIZE AS NECESSARY FOR LONGER PULLS. UNDERGROUND RACEWAYS THAT STUB INTO THE BOTTOM OF SWITCHBOARDS, OUTDOOR TRANSFORMERS, GENERATORS, ETC., SHALL RISE AT LEAST 2 in ABOVE THE FINISHED SLAB TO PREVENT WATER FROM DRAINING INTO THE RACEWAYS. RACEWAYS THAT PENETRATE EXTERIOR WALLS OR INTERIOR PARTITIONS SEPARATING SPACES THAT WILL BE AT SIGNIFICANTLY DIFFERENT TEMPERATURES SHALL BE SEALED IN ACCORDANCE WITH 300.5(G), 300.7(A), AND 300.50(E) OF THE NEC. ROUTE CONDUIT IN AND UNDER SLAB FROM POINT-TO-POINT. ROUTE EXPOSED CONDUIT AND CONDUIT INSTALLED ABOVE ACCESSIBLE CEILINGS PARALLEL AND PERPENDICULAR TO WALLS. COMPLETELY AND THOROUGHLY SWAB ALL RACEWAYS BEFORE INSTALLING WIRE. PULL ALL CONDUCTORS INTO EACH RACEWAY AT ONE TIME. USE A SUITABLE WIRE PULLING LUBRICANT FOR BUILDING WIRE #4 AWG AND LARGER.
10. CABLES, RACEWAYS, OR BOXES, INSTALLED IN EXPOSED OR CONCEALED LOCATIONS UNDER METAL-CORRUGATED SHEET ROOF DECKING, SHALL BE INSTALLED AND SUPPORTED SO THERE IS NOT LESS THAN 1-1/2 in MEASURED FROM THE LOWEST SURFACE OF THE ROOF DECKING TO THE TOP OF THE CABLE, RACEWAY, OR BOX. A CABLE, RACEWAY, OR BOX SHALL NOT BE INSTALLED IN CONCEALED LOCATIONS IN METAL-CORRUGATED, SHEET DECKING-TYPE ROOF. SEE NEC 300.4(E).
11. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL OUTLET, JUNCTION, PULL BOXES, FITTINGS, AND SUPPORTS. ALL OUTLET AND JUNCTION BOXES SHALL BE GALVANIZED STEEL TYPE BY APPLETON, STEEL CITY, OR RACO. EXTERIOR BOXES SHALL BE TYPE FS. VAPORTITE BOXES SHALL BE TYPE GS. WHERE SURFACE MOUNTED BOXES ARE USED, THOSE BOXES AND THEIR FACEPLATES SHALL HAVE ROUNDED CORNERS. BOXES INSTALLED IN FLOORS SHALL BE RATED FOR THE APPLICATION. MOUNT JUNCTION AND OUTLET BOXES FLUSH WITH FINISH SURFACES UNLESS OTHERWISE NOTED. WHERE MOUNTING HEIGHTS ARE GIVEN, THEY SHALL BE MEASURED FROM THE FINISHED FLOOR TO THE CENTER OF THE BOX. ALL BOXES SHALL BE SIZED PER NEC ARTICLE 314. ALL OUTLET AND JUNCTION BOXES SHALL HAVE A COVER PLATE, PROVIDED BY THE ELECTRICAL CONTRACTOR. OUTLET BOXES IN RATED WALLS SHALL BE INSTALLED IN ACCORDANCE WITH NORTH CAROLINA BUILDING CODE 714.3.2 (MAXIMUM BOX SIZE IS 16 SQUARE in AND MAXIMUM OF SIX (6) BOXES PER 100 SQUARE FEET). INSTALL OUTLET BOXES IN RATED WALLS SUCH THAT OPENINGS OCCUR IN ONE SIDE ONLY WITHIN ANY GIVEN STUD SPACE. ALL CLEARANCES BETWEEN THE OUTLET BOX AND THE GYPSUM BOARD SHALL BE FILLED WITH JOINT COMPOUND OR OTHER APPROVED FIRE STOP MATERIAL. FLUSH MOUNTED JUNCTION BOXES IN ADJACENT ROOMS SHALL NOT BE MOUNTED BACK-TO-BACK. SURFACE MOUNTED FIXTURES SHALL BE FED THROUGH FLUSH MOUNTED 4X4 OCTAGONAL OR SQUARE BOXES.
12. ALL CONDUIT, BOXES, AND ELECTRICAL EQUIPMENT SHALL BE FIRMLY AND SECURELY FASTENED TO OR SUPPORTED FROM THE BUILDING STRUCTURAL MEMBERS OR EMBEDDED IN CONCRETE OR MASONRY. ELECTRICAL SUPPORTS SHALL NOT BE ATTACHED TO DUCTWORK, PIPING, OR THEIR SUPPORTS. HANGERS SHALL BE CATALOG ITEMS COMPATIBLE WITH AND SUITABLE FOR THE INTENDED USE. FOR METAL ROOF DECK INSTALLATIONS, 1 in EMT CONDUIT MAXIMUM AND 4 in JUNCTION BOXES MAXIMUM MAY BE SUPPORTED BY DECKING. THE SUSPENDED CEILING SYSTEM SHALL NOT BE USED FOR THE SUPPORT OF ELECTRICAL RACEWAY SYSTEMS OR SUPPORT OF COMMUNICATIONS OR DATA SYSTEMS WIRING. CONTRACTOR SHALL COMPLY WITH 1613 OF THE NORTH CAROLINA GENERAL CONSTRUCTION BUILDING CODE.
13. WHERE CONDUCTORS ARE RUN IN PARALLEL, THE EC SHALL COMPLY WITH NEC 310.10(G).
14. ISOLATED-GROUND TYPE RECEPTACLES SHALL BE INSTALLED IN ACCORDANCE WITH 250.146(D). ISOLATED GROUND RECEPTACLES SHALL BE ORANGE IN COLOR.
15. TRANSFER EQUIPMENT SHALL BE LISTED FOR THE PARTICULAR USE (I.E., "EMERGENCY" OR "STANDBY") AND SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.
16. PROVIDE AN UNDERGROUND PVC CONDUIT SYSTEM FOR TELEPHONE SERVICE WITH PULL WIRES. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH TELEPHONE UTILITY REGARDING ADDITIONAL FACILITIES REQUIRED FOR THE SERVICE INSTALLATION.
17. INSTALL ONE (1) 3/4 in FIRE RETARDANT TREATED PLYWOOD BACKBOARD WHERE INDICATED ON THE DRAWINGS FOR THE USE BY THE TELEPHONE SYSTEM. PROVIDE A 120 VOLT RECEPTACLE ADJACENT TO THE TELEPHONE BOARD. GROUND ALL TELEPHONE AND COMMUNICATIONS CIRCUITS PER NEC 800.
18. ALL TELEPHONE AND COMMUNICATIONS OUTLETS AND RACEWAYS ARE ROUGH-INS ONLY. EACH TELEPHONE AND COMMUNICATIONS OUTLET SHALL BE A 4 in SQUARE BY 2-1/8 in DEEP BOX WITH 3/4 in KNOCK-OUTS AND A 3/4 in CONDUIT STUBBED FROM THE OUTLET BOX TO ABOVE THE CEILING. PROVIDE A NON-METALLIC INSULATING BUSHING ON ALL CONDUITS STUBBED ABOVE THE CEILING. PROVIDE A BLANK COVER PLATE ON ALL OUTLET BOXES.
19. ELECTRICAL CONTRACTOR SHALL INSTALL DISCONNECT SWITCHES IN SIGHT OF ALL HARDWIRED EQUIPMENT AND APPLIANCES OR PROVIDE BREAKERS CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER NEC 422.31. FOR MOTOR DRIVEN APPLIANCES, PROVIDE A DISCONNECTING MEANS PER NEC 422.31 AND 430 PART IX. WHERE AN INDIVIDUAL DISCONNECT SWITCH, CIRCUIT BREAKER, STARTER, ETC, IS SHOWN ON THE PLANS ADJACENT TO ITS LOAD AND NOT LOCATED ON A WALL, PROVIDE NECESSARY MATERIALS AND LABOR TO SUPPORT THE DEVICE.
20. ELECTRICAL CONTRACTOR SHALL FIELD IDENTIFY ALL SWITCH BOARD, PANEL BOARDS, CONTROL PANELS, METER SOCKETS, ETC., TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS PER 110.16 OF NEC.
21. ELECTRICAL CONTRACTOR SHALL PROVIDE NAMEPLATES FOR IDENTIFICATION OF ALL EQUIPMENT, SWITCHES, PANELS, ETC. THE NAMEPLATES SHALL BE LAMINATED PHENOLIC PLASTIC, BLACK FRONT, AND BACK WITH WHITE CORE, WHITE ENGRAVED LETTERS (1/4 in MINIMUM) ETCHED INTO THE WHITE CORE. ELECTRICAL CONTRACTOR SHALL PROVIDE A TYPE WRITTEN DIRECTORY CARD THAT ACCURATELY IDENTIFIES CIRCUITS INSIDE EACH PANEL. HANDWRITTEN LABELS ARE NOT ACCEPTABLE.
22. IN ACCORDANCE WITH SECTION F510 OF THE NC FIRE PREVENTION CODE, TESTING WILL BE REQUIRED TO DETERMINE SATISFACTORY FIRST RESPONDER RADIO SIGNAL STRENGTH INSIDE EACH BUILDINGS ON SITE. TESTING WILL NEED TO EITHER BE COMPLETED BY A COUNTY FIRE INSPECTOR (OBTAIN BY REQUESTING A COURTESY INSPECTION) OR A CERTIFIED 3RD PARTY. TESTING SHALL TAKE PLACE AT BOTH 80% PROJECT COMPLETION AND AGAIN AT 100% COMPLETION. IF UNACCEPTABLE SIGNAL DEGRADATION IS PRESENT AT EITHER 80% OR 100% INSPECTION, THEN AN ACCEPTABLE BOOSTER SYSTEM SHALL BE ADDED TO THE BUILDING DESIGN AT THAT TIME.

ELECTRICAL NOTES | 1

LIGHT FIXTURE SCHEDULE

MARK	DESCRIPTION	LOUVER/LENS	LAMPS		VOLTAGE	MAX INPUT WATTAGE	MOUNTING	REMARKS	MFG	MODEL
			TYPE	CCT						
A	6" CAN LIGHT	-	LED	-	120	12	RECESSED	2	JUNO	IC22LED-G4-09LM-35K-90CRI-MVOLT
A2	6" CAN LIGHT W/ BATTERY BACKUP	-	LED	-	120	12	RECESSED	2	JUNO	IC22LED-G4-09LM-35K-90CRI-MVOLT
B	OUTDOOR FAN W/ LIGHT KIT	-	LED	-	120	67	SURFACE	2	KICHLER	310275SBK
C	1X4 STRIP LIGHT	-	LED	3500K	120	35	SURFACE	2	LITHONIA	CSS-L48-4000LM-MVOLT-35K-80CRI
C2	4' 2 LAMP VAPOR PROOF STRIP LIGHT	-	LED	-	120	64	SURFACE	2	EPCO	G-4-LED-FX-S-41-34
D	VANITY LIGHT	-	LED	-	120	32	WALL	2	LITHONIA	FMVSCL-48IN-40K-90CRI-BZ
FL	FLOOD LIGHT	-	LED	-	120	17	SURFACE	2	COOPER	MSS-15-3T-18
EM	DUAL HEAD EMERGENCY FIXTURE	ACRYLIC	LED	N/A	120	2	VARIES	1,2	LITHONIA	ELM2-LED-SD
EX	EXIT SIGN	ACRYLIC	LED	N/A	120	5	VARIES	1,2	EXIT LIGHT COMPANY	ELSM-RM-R-A-BB-ST-S
EXH	LED EXIT/COMBO W/ BATTERY BACKUP	ACRYLIC	LED	N/A	120	4	VARIES	1,2	EMERGI-LITE	LSNX42NGC
OE	EXTERIOR OVAL LED EMERGENCY LIGHT	POLYCARBONATE	LED	-	120	2	SURFACE	1,2	EELP	DEM-EM

1. FIXTURE SHALL HAVE BATTERY BACKUP FOR 90 MINUTE ILLUMINATION.
2. OR EQUAL BY COOPER, PHILIPS, DAY-BRITE LIGHTING, GE, LITHONIA, OR OWNER APPROVED SELECTION

LIGHTING DEVICE LEGEND

SYMBOL	DESCRIPTION	REMARKS
$	SINGLE POLE WALL SWITCH	HEAVY DUTY, AC ONLY, COMMERCIAL GRADE GENERAL USE SNAP SWITCH COMPLYING WITH NEMA WD 6 AND WD 1. IVORY PLASTIC BODY WITH TOGGLE HANDLE. 120-277V, 20A. MEET FEDERAL SPECIFICATION W-S-896.
$D	DIMMER SWITCH	COMMERCIAL GRADE, 120V, 1500W
$M	WALL MOUNTED OCCUPANCY SENSOR	WATTSTOPPER DW-100 LINE VOLTAGE OCCUPANCY SENSOR. ULTRA SONIC AND INFRARED.
$LV	LOW VOLTAGE SWITCH	WATTSOPPER LVS-1 LOW VOLTAGE MOMENTARY CONTROL SWITCH.
$3	3 WAY SWITCH	3-WAY TYPE SWITCH WITH SAME CHARACTERISTICS AS SINGLE POLE SWITCH ABOVE.
(DT)	CEILING OCCUPANCY SENSOR	WATTSTOPPER, DT-300 LOW VOLTAGE OCCUPANCY SENSOR. 360° ULTRA SONIC AND INFRARED.
(US)	CEILING OCCUPANCY SENSOR	WATTSTOPPER, WT-2255 LOW VOLTAGE OCCUPANCY SENSOR. ULTRA SONIC, 90 LINEAR FT COVERAGE.
(SP)	SWITCHING PHOTOSENSOR	WATTSTOPPER, LS-102, CONSULT OWNER FOR FOOT-CANDLE SET POINT.
Ⓟ	POWER PACK	WATTSTOPPER, BZ-150 LOW VOLTAGE POWER PACK FOR CEILING PACK SENSORS.
Ⓙ	JUNCTION BOX	GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314.40 OF THE NEC.
⊠	EXHAUST FAN	VENT FAN, 120V, CFM AS NOTED MC TO PROVIDE AND VENT, EC TO WIRE.

POWER DEVICE LEGEND

SYMBOL	DESCRIPTION	REMARKS
▶	DATA AND TELEPHONE JACK	PHONE/DATA OUTLET. EC TO INSTALL 3/4"C WITH PULL-STRING FROM OUTLET BOX TO ABOVE CEILING FOR FUTURE USE. JACKS AND COMMUNICATION CABLING BY OTHERS.
=⊖	DUPLEX RECEPTACLE	NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1. GFCI OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596.
=⊕	QUAD RECEPTACLE	QUAD RECEPTACLE OF SAME CHARACTERISTICS AS DUPLEX TYPE ABOVE.
=●	DEDICATED RECEPTACLE	NEMA 5-20R, HEAVY DUTY, COMMERCIAL GRADE, 125V, 20A COMPLYING WITH NEMA WD 6 AND WD 1 UNLESS OTHERWISE NOTED ON PLANS. VERIFY PLUG TYPE PRIOR TO PURCHASE & INSTALLATION. GFCI OR AFCI IF NOTED. 'WP' DENOTES WEATHERPROOF COVER. 'CH' DENOTES COUNTER HEIGHT. LISTED TAMPERPROOF IF NOTED. MEET FEDERAL SPECIFICATION W-C-596. MAY BE EITHER SIMPLEX, DUPLEX, OR QUAD.
⦶	DUPLEX FLOOR RECEPTACLE	DUPLEX RECEPTACLE OF SAME CHARACTERISTICS AS ABOVE WITH BRASS COVER. MOUNT IN FLOOR. ALL FLOOR BOXES MUST BE LISTED FOR FLOOR APPLICATION.
⊕	QUAD FLOOR RECEPTACLE	QUAD RECEPTACLE OF SAME CHARACTERISTICS AS ABOVE WITH BRASS COVER. MOUNT IN FLOOR. ALL FLOOR BOXES MUST BE LISTED FOR FLOOR APPLICATION.
⧄	FUSIBLE DISCONNECT SWITCH	HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR APPLICATIONS, FUSE ACCORDING TO NAMEPLATE DATA.
☐	DISCONNECT SWITCH	HEAVY DUTY TYPE. TYPE 1 ENCLOSURE IN INTERIOR APPLICATIONS, TYPE 3R ENCLOSURE IN EXTERIOR APPLICATIONS.
Ⓙ	JUNCTION BOX	GALVANIZED METAL BOX CONSTRUCTED IN ACCORDANCE WITH 314.40 OF THE NEC.

ANSI A117.1 FIG. 308.3.2. OBSTRUCTED HIGH REACH SIDE.
ALL SWITCHES AND CONTROLS MUST COMPLY FOR ALL COUNTERTOPS

ELECTRICAL DESIGNER'S STATEMENT

ELECTRICAL DESIGNER'S STATEMENT			
ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE PRESCRIPTIVE _X_ PERFORMANCE ___ ENERGY COST BUDGET ___			
LIGHTING SCHEDULE:			
LAMP TYPE REQUIRED IN FIXTURE:		SEE LIGHTING LEGEND	
NUMBER OF LAMPS PER FIXTURE:		SEE LIGHTING LEGEND	
BALLAST TYPE USED IN FIXTURE:		SEE LIGHTING LEGEND	
NUMBER OF BALLASTS IN FIXTURE:		SEE LIGHTING LEGEND	
TOTAL WATTAGE PER FIXTURE:		SEE LIGHTING LEGEND	
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED:		WATTS SPECIFIED	WATTS ALLOWED
		980.0	1658.42
OCCUPANCY	AREA (sf)	ALLOWANCE (W/sf)	WATTAGE ALLOWED
LEISURE	1642	1.01	1658.42
TOTAL	1642		1658.42

EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS)
MOTOR HORSEPOWER: N/A
NUMBER OF PHASES: N/A
MINIMUM EFFICIENCY: N/A
MOTOR TYPE: N/A
NUMBER OF POLES: N/A

DESIGNER STATEMENT: TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.

FOR THE ADDITIONAL PRESCRIPTIVE REQUIREMENT REQUIRED BY C406 OF 2018 NORTH CAROLINA ENERGY CONSERVATION CODE, WE ARE CHOOSING C406.3 - REDUCED LIGHTING POWER DENSITY.

980 W SPECIFIED <= 1492 W (1658 W ALLOWED X 90%)

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DATE	REVISION	NO.

SHEET DISCRIPTION

ELECTRICAL NOTES & SCHEDULES

PROJECT #: 240612
DATE ISSUED: 2024 09 12
DRAWING BY: SLT
CHECKED BY: JLH
PROJECT STATUS

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

SEAL 048012
09.12.2024

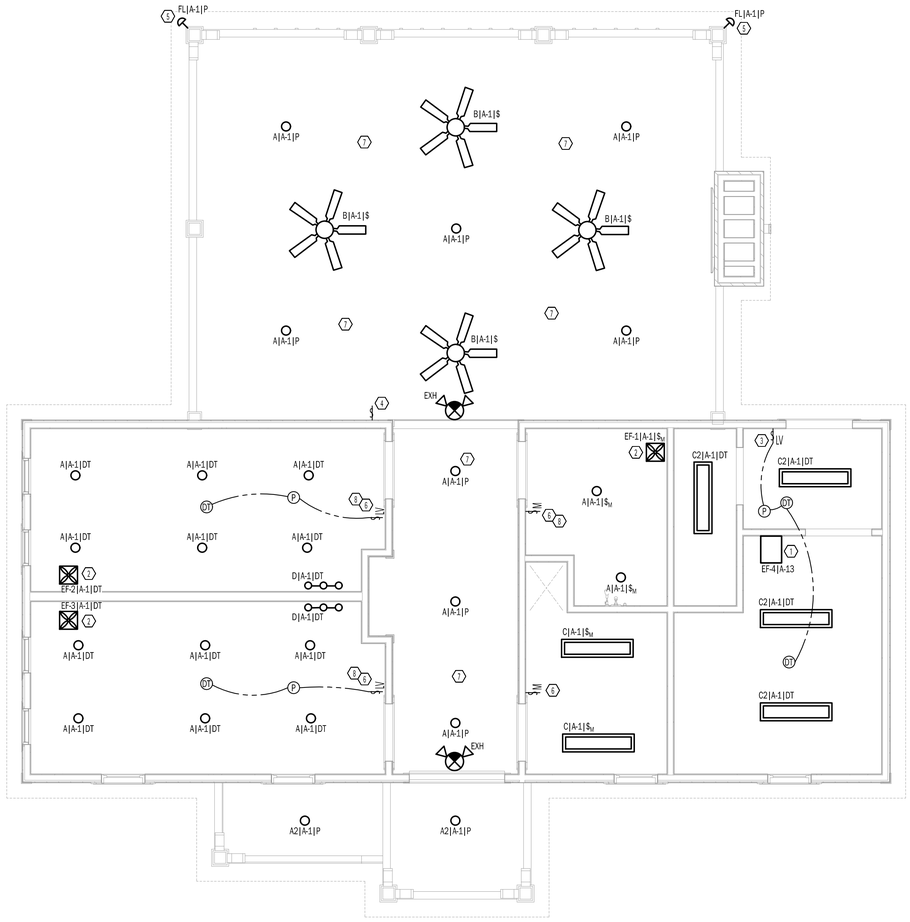
SEAL

ELECTRICAL SCHEDULES | 2

E1

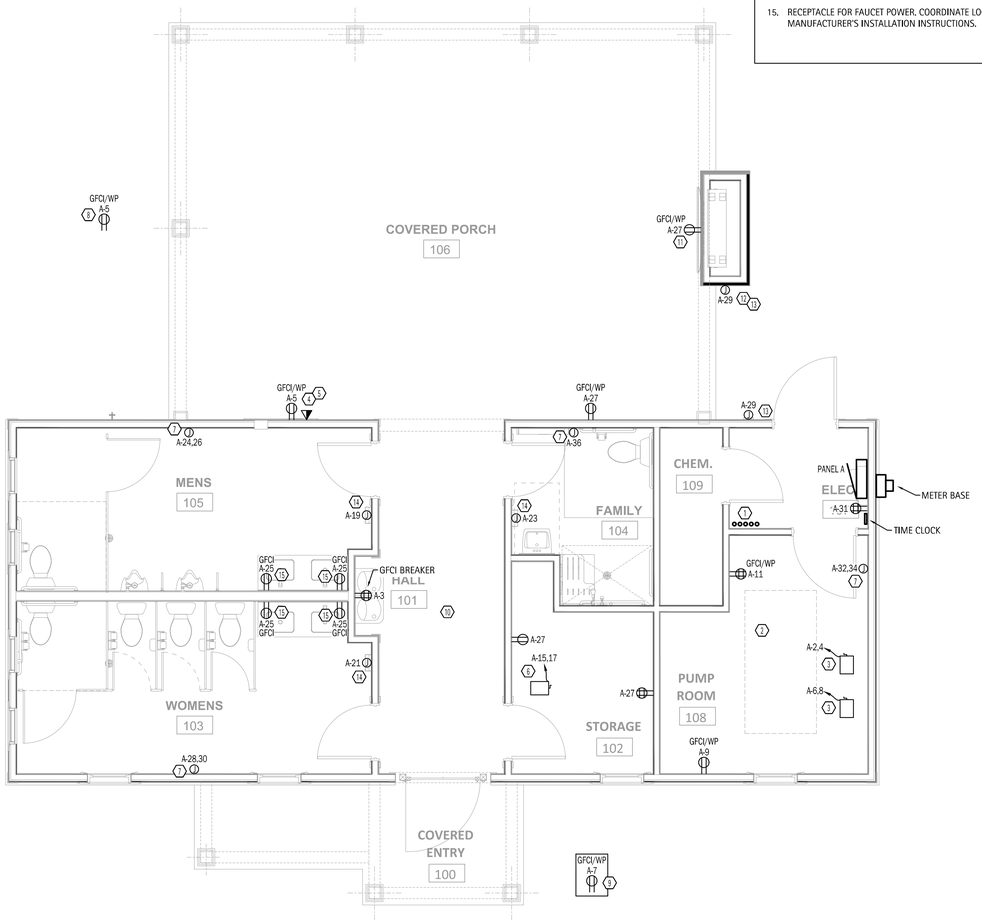
LIGHTING PLAN HEX NOTES

1. EXHAUST FAN SUSPENDED IN ATTIC TO BE WIRED FOR CONTINUOUS OPERATION. COORDINATE WITH M.C. PROVIDE LOCKABLE BREAKER AT PANEL.
2. EC TO TIE EXHAUST FAN AND LIGHTING FIXTURES TO SAME MOTION SENSOR.
3. PUMP ROOM AND CHEM. ROOM LIGHTS TO BE TIED TO SAME MOTION SENSOR.
4. PROVIDE 60 MINUTE SWITCH FOR FAN. PROVIDE IN WEATHERPROOF ENCLOSURE.
5. FLOOD LIGHT HAS BUILT IN MOTION DETECTION. AIM TOWARD POOL DECK.
6. MOTION SENSOR TO BE SET ON 20 MINUTE TIMER.
7. LIGHTING CIRCUIT CONTROLLED VIA PHOTOCELL LOCATED ON NORTH FACE OF BUILDING.
8. BATHROOM SWITCHES TO BE KEYED



POWER PLAN HEX NOTES

1. PROVIDE (2) 1" CONDUITS WITH CIRCUITS AS SHOWN TO POOL FOR POOL LIGHTS AND OTHER POOLSIDE EQUIPMENT. PROVIDE (3) 1" CONDUITS FROM SPARE POOL CIRCUITS AS SHOWN AND CAP RIGHT OUTSIDE ELECTRICAL ROOM. COORDINATE EXACT LOCATIONS WITH G.C. AND POOL CONTRACTOR. CIRCUIT TO BE CONTROLLED VIA TIME CLOCK AT PANEL. POOL LIGHTS TO BE WIRED VIA INTERMATIC JUNCTION BOX TRANSFORMER (MODEL PJBX52100). REFER TO PANEL SCHEDULE FOR CIRCUIT DESIGNATIONS.
2. AREA IS CORROSIVE ENVIRONMENT PER NEC 680.14.
3. PROVIDE POWER TO NON-FUSED DISCONNECT FOR POOL AND FEATURE PUMPS. PUMPS MUST HAVE GFCI PROTECTION. PROVIDE GFCI BREAKER IN PANEL. DISCONNECT MUST HAVE NEMA 4X RATED ENCLOSURE. COORDINATE EXACT LOCATION AND SPEC WITH G.C AND POOL CONTRACTOR BEFORE BEGINNING WORK. FINAL CONNECTIONS BY E.C.
4. PROVIDE POWER TO EMERGENCY PHONE RECEPTACLE. FIELD VERIFY LOCATION WITH LOCAL AHJ.
5. PROVIDE "PUSH IN" SWITCH FOR WATER FEATURE.
6. WATER HEATER DISCONNECT LOCATED ABOVE CEILING.
7. FLUSH MOUNT JUNCTION BOX FOR UNIT HEATER.
8. E.C TO COORDINATE WITH POOL CONTRACTOR TO ENSURE A GFCI/WEATHER PROOF RECEPTACLE IS WITHIN 20' OF EDGE OF POOL (BUT NO CLOSER THAN 6') AS REQUIRE BY NEC 680.22(A)(1). PROVIDE ON CIRCUIT 3 IN PANEL A.
9. RECEPTACLE IN HOTBOX FOR FREEZE PROTECTION. VERIFY EXACT LOCATION OF HOTBOX WITH UTILITY PLANS BY OTHERS.
10. EC TO COORDINATE WITH PC FOR HEAT TRACE ON COLD WATER SUPPLY LINES. USE FREE CIRCUITS IN PANEL A.
11. TV RECEPTACLE MOUNTED @ 72" A.F.F. VERIFY EXACT LOCATION/MOUNTING HEIGHT WITH OWNER/ARCHITECT.
12. EC TO VERIFY WITH GC IF FIREPLACE NEEDS POWER FOR IGNITION/LIGHTING.
13. PROVIDE POWER FOR GRILL AND FIREPLACE SOLENOID VALVE TIMERS.
14. PROVIDE POWER FOR HAND DRYER. COORDINATE LOCATION WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
15. RECEPTACLE FOR FAUCET POWER. COORDINATE LOCATION WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.



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DATE

REVISION

NO.

SHEET DISCRIPTION
LIGHTING & POWER PLAN

PROJECT #:	240612
DATE ISSUED:	2024 09 12
DRAWING BY:	SLT
CHECKED BY:	JLH
PROJECT STATUS	

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JOHN L. HAMILTON
09.12.2024

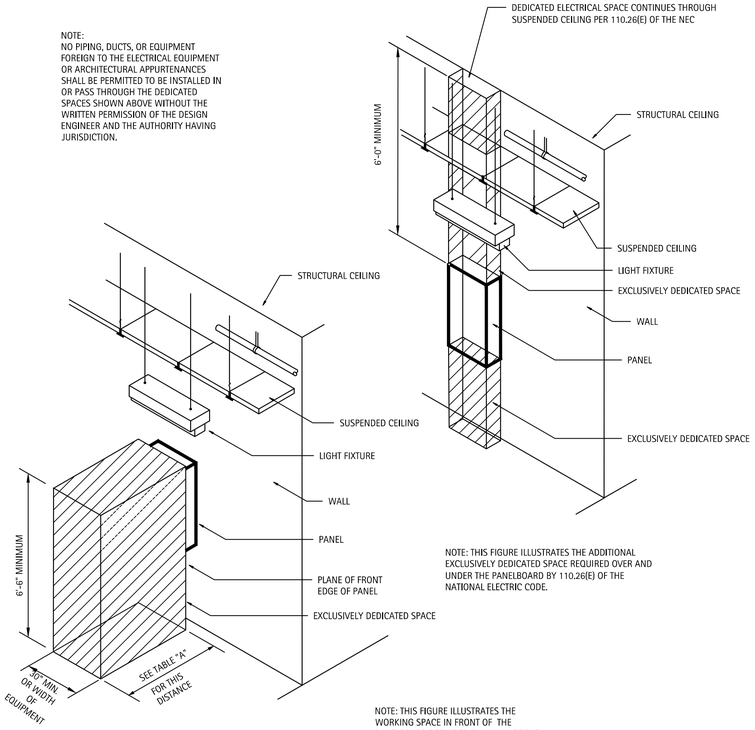
KILIAN ENGINEERING, INC. CORPORATE SEAL NORTH CAROLINA

LIGHTING PLANS - SCALE: 1/4" = 1'-0" | 1

POWER PLANS - SCALE: 1/4" = 1'-0" | 2

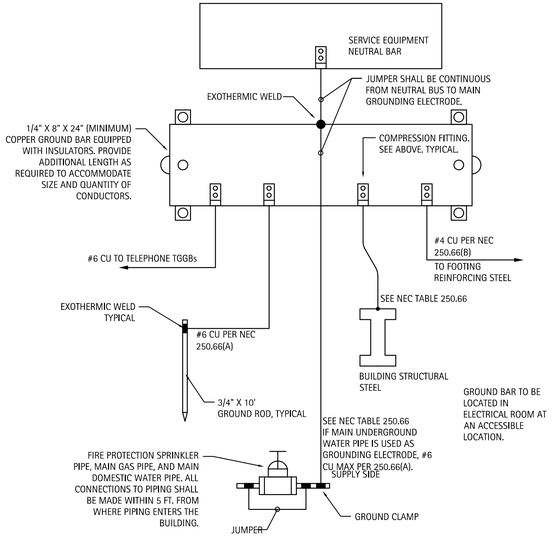
E2

NOTE:
NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES SHALL BE PERMITTED TO BE INSTALLED IN OR PASS THROUGH THE DEDICATED SPACES SHOWN ABOVE WITHOUT THE WRITTEN PERMISSION OF THE DESIGN ENGINEER AND THE AUTHORITY HAVING JURISDICTION.



NOTE: THIS FIGURE ILLUSTRATES THE ADDITIONAL EXCLUSIVELY DEDICATED SPACE REQUIRED OVER AND UNDER THE PANELBOARD BY 110.26(E) OF THE NATIONAL ELECTRIC CODE.

NOTE: THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE PANELBOARD REQUIRED BY 110.26 OF THE NATIONAL ELECTRIC CODE.



GROUNDING DETAIL - NO SCALE

PANEL A								
CKT	LOAD	BKR	LOAD kVA	PH	LOAD kVA	BKR	LOAD	CKT
1	LIGHTING	20/1	0.98	A	2.26	40/2	POOL PUMP	(2)
(3)	DRINKING FOUNTAIN	20/1	0.36	B	2.26			(4)
5	EM/PHONE/POOL DECK RECEPT.	20/1	0.36	A	2.26	40/2	POOL PUMP	(6)
7	HOTBOX RECEPT.	20/1	0.18	B	2.26			(8)
9	SALT CHLORINATOR	20/1	0.36	A	0.00	20/1	POOL SPARE	(10)
11	PUMP RM RECEPT.	20/1	0.36	B	0.00	20/1	POOL SPARE	(12)
13	PUMP EF-4	20/1	0.59	A	0.00	20/1	POOL SPARE	(14)
15	WH-1	30/2	2.25	B	1.20	20/1	POOL LIGHTS & ACCESSORIES	(16)
17			2.25	A	1.20	20/1	POOL LIGHTS & ACCESSORIES	(18)
(19)	MEN'S HAND DRYER	20/1	1.30	B	1.20	20/1	VERSACHLOR	20
(21)	WOMEN'S HAND DRYER	20/1	1.30	A	1.20	20/1	VERSACHLOR	22
(23)	HAND DRYER	20/1	1.30	B	2.40	30/2	UH-2	24
25	RESTROOM RECEPTS.	20/1	0.72	A	2.40			26
27	GENERAL RECEPTS.	20/1	0.90	B	2.40	30/2	UH-3	28
29	GRILL & FIREPLACE TIMERS	20/1	0.24	A	2.40			30
31	ELECTRICAL RECEPT.	20/1	0.36	B	2.50	30/2	UH-4	32
33	SPARE	20/1	0.00	A	2.50			34
35	SPARE	20/1	0.00	B	1.50	20/1	UH-1	36
37	SPACE	--	0.00	A	0.00	--	SPACE	38
39	SPACE	--	0.00	B	0.00	--	SPACE	40
41	SPACE	--	0.00	A	0.00	--	SPACE	42
			kVA	PH	AMPS			
			21.0	A	175			
			22.7	B	189			

VOLTAGE/PHASE	120/240,1P,3W
BUS RATING	200A
MAIN CIRCUIT BREAKER RATING	200A MAIN BREAKER
AIC RATING	22K
SERVICE ENTRANCE RATED	YES
ENCLOSURE	NEMA 1
MOUNTING	SURFACE

◯ DENOTES GFCI BREAKER

☐ DENOTES LOCKABLE BREAKER

NEC ELECTRIC DEMAND SUMMARY 120/240V,1P,3W						
EQUIPMENT	DEMAND FACTOR	kVA A	kVA B	LOAD kVA	NEC REFERENCE	NOTES/CALCULATIONS
LIGHTING	125%	1.33	1.33	2.66	220.12	1642 SF X 1.3 VA/SF X 1.25
RECEPTACLES < 10 kVA	100%	3.60	4.60	8.20	220.44	
HVAC	100%	7.30	8.80	16.10	--	BASED ON MCA
WATER HEATER	125%	2.25	2.25	4.50	422.13	STORAGE TANK <120 GAL @ 125%
POOL EQUIPMENT	100%	6.9	6.90	13.80	430.24	LARGEST MOTOR @ 125%
DEMAND kVA PER PHASE		21.38	23.88			
DEMAND AMPS PER PHASE		178	199			

THE CALCULATED LIGHTING LOAD EXCEEDS THE CONNECTED LIGHTING LOAD.

NOTE: WHERE THE CONDITIONS ARE AS FOLLOWS:

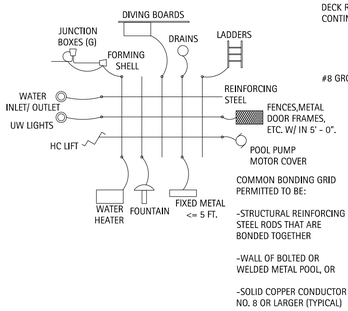
CONDITION 1 - EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE
AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE THAT ARE EFFECTIVELY GUARDED BY INSULATING MATERIALS.

CONDITION 2 - EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE. CONCRETE, BRICK, OR TILE WALLS SHALL BE CONSIDERED AS GROUNDED.

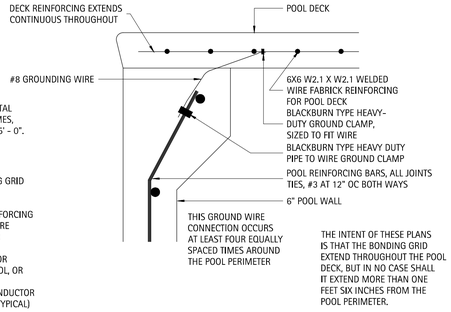
CONDITION 3 - EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE.

TABLE 110.26(A)(1) WORKING SPACE			
VOLTAGE TO GROUND, NOMINAL	MINIMUM CLEAR DISTANCE (FEET)		
	CONDITON 1	2	3
0-150	3	3	3
151-600	3	3-1/2	4

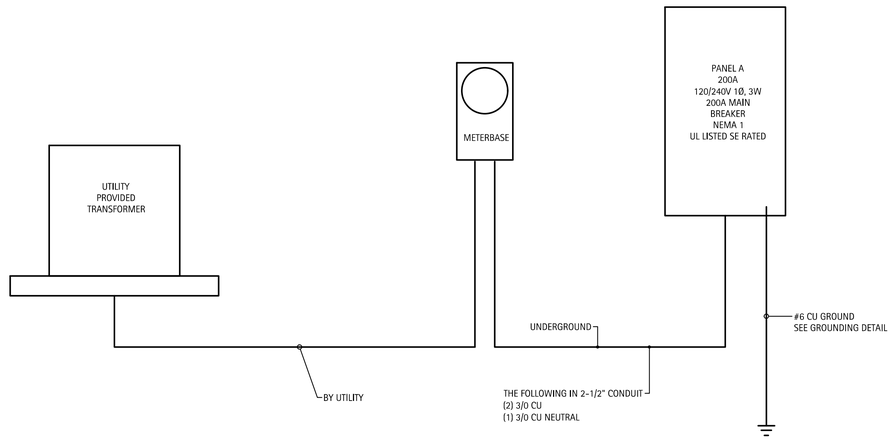
REQUIRED CLEARANCES - NO SCALE



SWIMMING POOL BONDING RISER - NO SCALE



EQUIPOTENTIAL BONDING GRID DETAIL - NO SCALE



POWER RISER - NO SCALE

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REVISION | DATE | NO.

SHEET DISCRIPTION
ELECTRICAL NOTES

PROJECT #:	240612
DATE ISSUED:	2024 09 12
DRAWING BY:	SLT
CHECKED BY:	JLH
PROJECT STATUS	

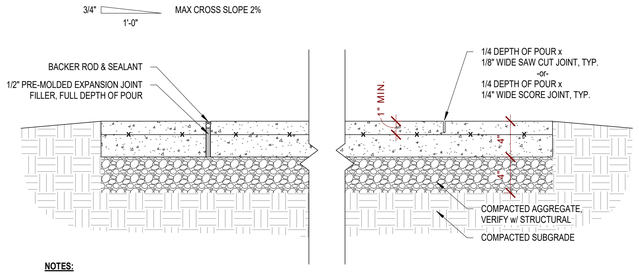
PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

NORTH CAROLINA PROFESSIONAL SEAL 048012 ENGINEER JACOB L. HAMLIN 09.12.2024

KILIAN ENGINEERING, INC. CORPORATE SEAL NORTH CAROLINA

PANEL SCHEDULE & ELECTRICAL DETAILS | 1

E3

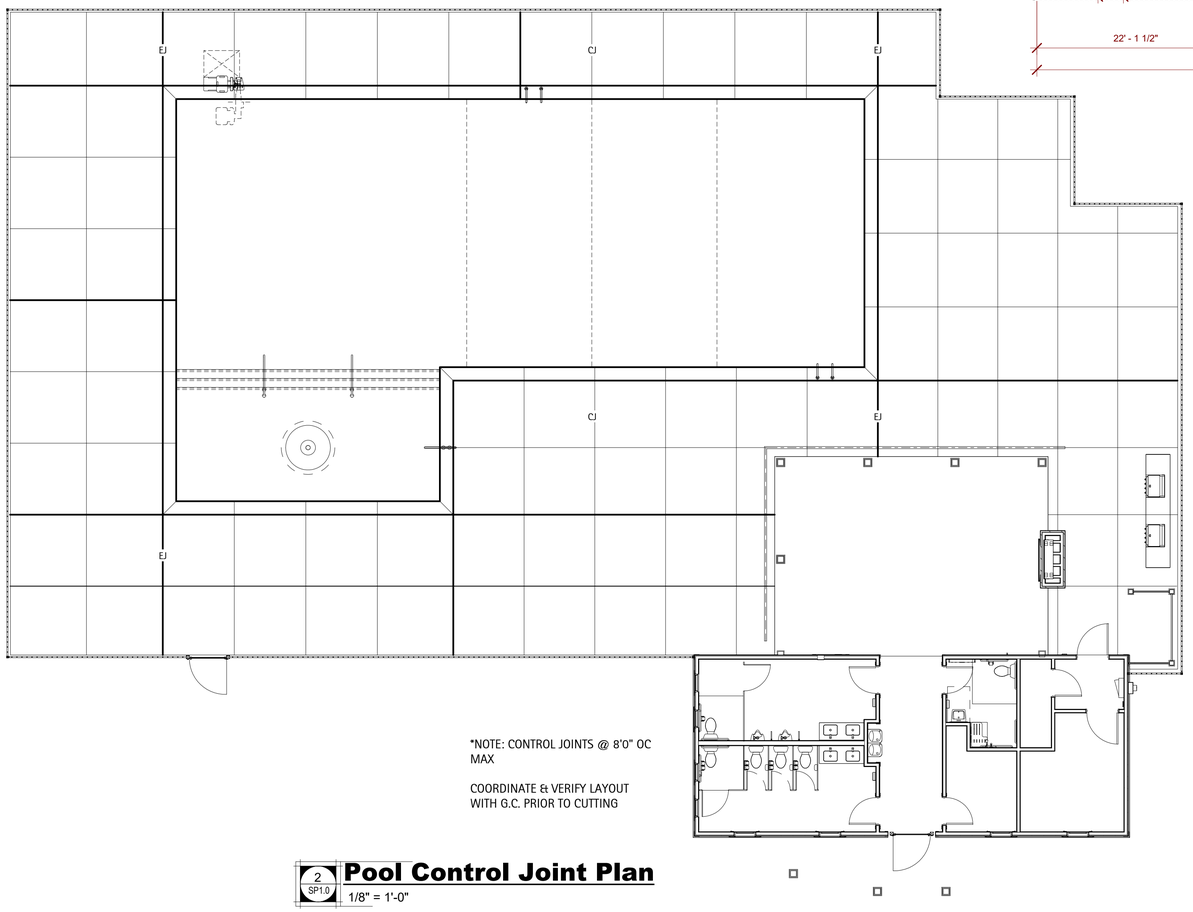


NOTES:

1. ALL JOINTS TO BE CUT w/ WET WALK BEHIND SAW TO ENSURE ALL CUTS ARE PERPENDICULAR W/ FACE OF CONCRETE
2. MAXIMUM CONTROL JOINT SPACING SHALL BE 10 FT. IN EACH DIRECTION UNLESS SHOWN OTHERWISE ON PLAN, SEE STRUCT.
3. PROVIDE EXPANSION JOINT WHERE SLABS ARE POURED AGAINST VERTICAL SURFACES AND/OR DIFFERENT PAVING MATERIALS AND AS SPECIFIED ON PLANS OR 25'-0" MAX O.C.

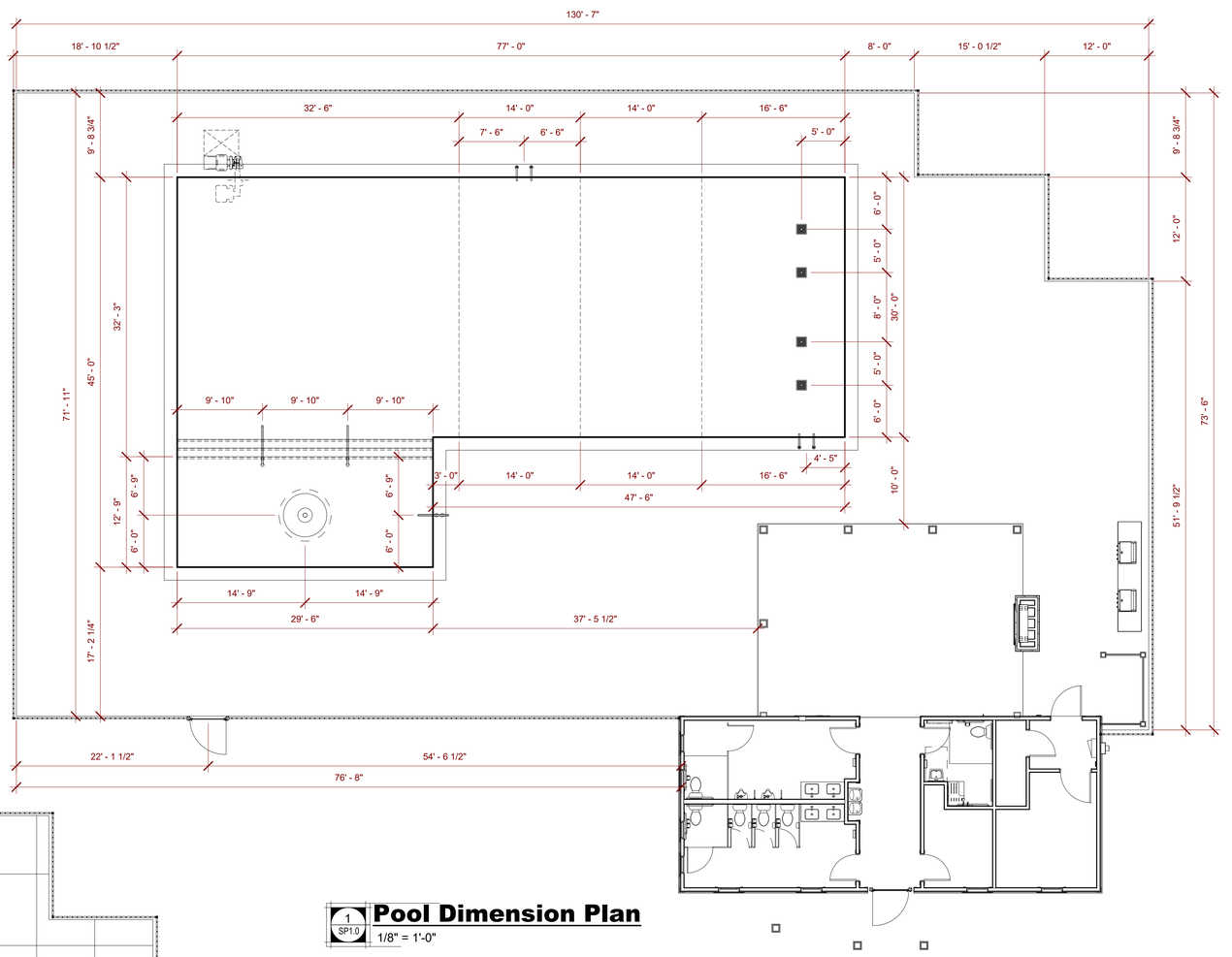
3 SP1.0 Detail - Typ. Pool Sawcut Control Joint

1 1/2" = 1'-0"



2 SP1.0 Pool Control Joint Plan

1/8" = 1'-0"



1 SP1.0 Pool Dimension Plan

1/8" = 1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 048012 ENGINEER JOSEPH L. HAMILTON 09.12.2024

NO.	REVISION	DATE

SHEET DISCRIPTION

POOL DIMENSION & CONTROL JOINT PLAN

PROJECT #:	2024039
DATE ISSUED:	09/10/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/JLH

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

SP1.0

POOL SAFETY REQUIREMENTS

PROVIDE SAFETY PROVISIONS PER SECTION .2530. THE MINIMUM BEING: MINIMUM BEING:

A. (2) 12' LONG, MIN., METAL POLES AND BODY HOOKS SECURELY ATTACHED. THE POLE SHALL BE NON-TELESCOPING, NON-ADJUSTABLE & NON-COLLAPSIBLE.
B. (2) U.S. COAST GUARD APPROVED RING BUOYS WITH 50'-0" OF 1/4" DIAMETER THROWING ROPE.

EMERGENCY TELEPHONE SERVICE:

A. TELEPHONE CAPABLE OF DIRECTLY DIALING 911 OR OTHER EMERGENCY NOTIFICATION SYSTEM SHALL BE PROVIDED.
B. THE TELEPHONE SHALL BE PERMANENTLY AFFIXED TO A LOCATION INSIDE THE POOL ENCLOSURE OR OUTSIDE THE ENCLOSURE WITHIN 75' OF THE BATHER ENTRANCE.
C. THE TELEPHONE SHALL BE VISIBLE FROM WITH THE POOL ENCLOSURE OR A VISIBLE SIGN SHALL BE POSTED INDICATING THE LOCATION OF THE EMERGENCY PHONE.
D. AT THE TELEPHONE - PROVIDE A SIGN WITH LEGIBLE LETTERS PROVIDING THE FOLLOWING INFORMATION.
   a. - DIALING INSTRUCTIONS
   b. - ADDRESS OF THE POOL LOCATION
   c. - TELEPHONE NUMBER OF THE POOL LOCATION.

SEE POOL HOUSE PLANS BY OTHERS FOR EXACT LOCATION OF THE TELEPHONE SERVICE.

POOL DECK MARKINGS

DEPTH MARKINGS: IN LOCATIONS AS SHOWN ON THE DRAWINGS AND ADHERING TO THE FOLLOWING:

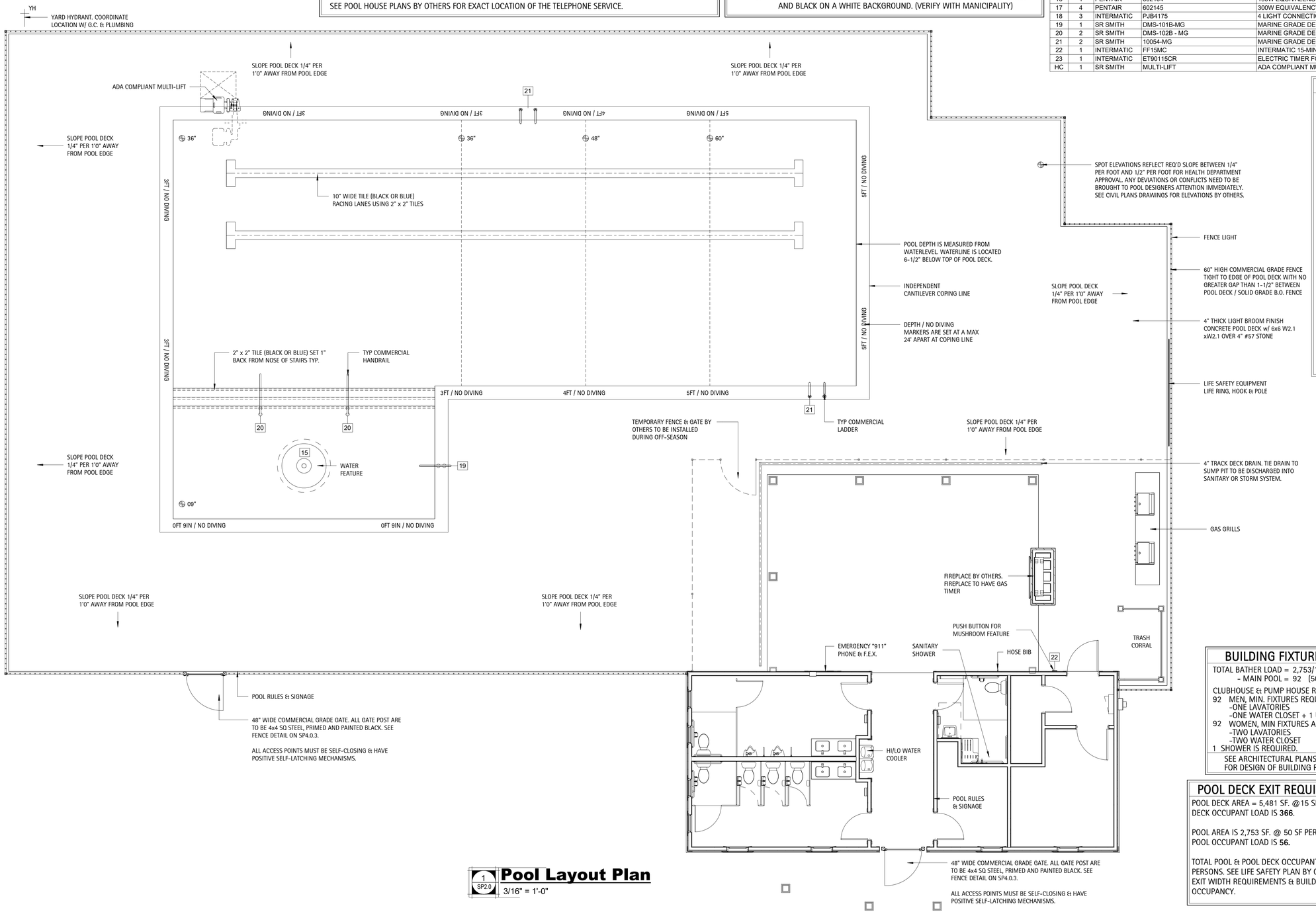
1. LOCATED ON TOP OF POOL DECK AND AT OR ABOVE THE WATER SURFACE ON THE VERTICAL WALL.
2. SHALL BE IN ARABIC NUMERALS AT LEAST 4" HIGH.
3. LETTER COLOR TO CONTRAST WITH BACKGROUND.
4. MARKINGS SHALL INDICATE THE DEPTH OF THE POOL IN FEET AND SHALL INCLUDE THE WORD "FEET" OR THE SYMBOL "FT".
5. MARKINGS IN POOL DECK SHALL PROVIDE A SLIP RESISTANT WALKING SURFACE.
6. NOT TO EXCEED 25'-0" IN SPACING ALONG THEPERIMETER OF THE POOL.

"ND" OR "NO DIVING" MARKINGS: IN LOCATIONS AS SHOWN ON THE DRAWINGS AND ADHERING TO THE FOLLOWING:

1. NOT TO EXCEED 25'-0" IN SPACING. ALONG COPING EDGE.
2. DENOTED IN ONE OF THE FOLLOWING MANNERS:
   A. CONSISTING OF THE WORDS "NO DIVING" IN LETTERS AT LEAST 4" HIGH AND OF A COLOR CONTRASTING WITH THE BACKGROUND.
   B. AT LEAST A 6"x6" IN SIZE INTERNATIONAL SYMBOL FOR NO DIVING IN RED AND BLACK ON A WHITE BACKGROUND. (VERIFY WITH MANICIPALITY)

POOL EQUIPMENT SCHEDULE

TAG	COUNT	MANUF.	MODEL	COMMENTS
1	1	PENTAIR	XFET-20 (022034)	5.1 HP SELF-PRIMING PUMP W/ STRAINER BASKET + EXTRA STRAINER BASKET (CIRCULATION)
2	1	PENTAIR	XFET-20 (022034)	5.1 HP SELF-PRIMING PUMP W/ STRAINER BASKET + EXTRA STRAINER BASKET (FEATURE)
3	1	PENTAIR	147400	TANDEM FILTER PIPING KITS FOR 2 & 3 IN FILTERS
4	2	PENTAIR	TR-100 C3	32" DIA HIGH RATE SAND FILTER W/ 4.91 SQ FT OF MEDIA
5A	1	PENTAIR	520974 (COMSYS-10)	COMMERCIAL INTELLICHLOR SALT CHLORINE GENERATOR
5B	1	PENTAIR	HC-3315	HIGH CAPACITY CHLORINE/BROMINE FEEDER (BACKUP CHLORINATOR)
6	2	FLOVIS	FV-4-40	4" INLINE COMMERCIAL FLOWMETER
7A	2	AQUASTAR	WAV12WR101 W/ FBS-50-812-4	12"x12" VGB SUCTION OUTLET COVER W/ A.S.A. MFG FIBERGLASS SUMP (CIRCULATION)
7B	2	AQUASTAR	WAV12WR101 W/ FBS-50-812-4	12"x12" VGB SUCTION OUTLET COVER W/ A.S.A. MFG FIBERGLASS SUMP (FEATURE)
8	1	AQUASTAR	HVC101	SELF-CONTAINED HYDROSTATIC RELIEF VALVE
9	7	PENTAIR	BERMUDA	WHITE COMMERCIAL GRADE SKIMMER
10	1	AQUASTAR	ES1022SI2001 W/ VLK15T01	VACUUM LINE FITTING W/ LOCK CAP
11	1	AQUASTAR	GDD101	COMMERCIAL OVERFLOW DRAIN
12	13	AQUASTAR	ES1022SI2001 W/ 8101	WALL RETURN INLET - DIRECTIONAL
13	2	AQUASTAR	ES1022SI2001 W/ BP101	FLOOR RETURN INLET - DIRECTIONAL
14	1	AQUASTAR	AFB101	FILLSTAR - AUTOFILL LINE - WHITE
15	1	NAT. STRUCT.	1800-18-96	5' 0" DIA MUSHROOM FEATURE - 190 GPM
16	1	PENTAIR	602104	190W EQUIVALENCY GLOBRITE WHITE LED LIGHT
17	4	PENTAIR	602145	300W EQUIVALENCY INTELLIBRITE WHITE LED LIGHT
18	3	INTERMATIC	PJB4175	4 LIGHT CONNECTION POOL & SPA JUNCTION BOX
19	1	SR SMITH	DMS-101B-MG	MARINE GRADE DECK MOUNTED HANDRAILS - SHORT
20	2	SR SMITH	DMS-102B - MG	MARINE GRADE DECK MOUNTED HANDRAILS - STANDARD
21	2	SR SMITH	10054-MG	MARINE GRADE DECK MOUNTED COMMERCIAL LADDER
22	1	INTERMATIC	FF15MC	INTERMATIC 15-MINUTE TIMER
23	1	INTERMATIC	ET90115CR	ELECTRIC TIMER FOR FEATURE PUMP
HC	1	SR SMITH	MULTI-LIFT	ADA COMPLIANT MULTI-LIFT



1 SP2.0 **Pool Layout Plan**
3/16" = 1'-0"

POOL CONSTRUCTION NOTES

1. SUBMISSION OF GROUNDING AND BONDING REPORT BY CONTRACTOR TO ENGINEER OF RECORD FOR REVIEW IS REQUIRED.
2. SUBSTITUTIONS MUST BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO INSTALLATION.
3. ANY COSTS INCURRED DUE TO DEVIATIONS FROM THE PLANS NECESSITATING DRAWING REVISIONS SHALL BE BORNE BY THE CONTRACTOR/OWNER.
4. THE CONTRACTOR IS REQUIRED TO COMPREHENSIVELY DOCUMENT THE POOL CNSTRUCTION PROCESS, ENSURING THAT PICTURES ACCURATELY DEPICT THE LOCATION ON THE SITE BY INCLUDING IDENTIFIABLE BACKGROUND FEATURES. THIS DOCUMENTATIONINCLUDES, BUT IS NOT LIMITED TO, PHOTOGRAPHING THE GROUNDING/BONDING OF ALL EQUIPMENT BEFORE THE SHOTCRETE IS POURED, RETAINING CUT SHEETS FOR ALL EQUIPMENT, AND COMPLETING ALL INSPECTION REPORTS, AMONG OTHER TASKS.
5. PRIOR TO THE CONSTRUCTION OF THE POOL, THE CONTRACTOR IS REQUIRED TO CONSULT WITH THE ENGINEER OF RECORD OR A DESIGNATED ENGINEER TO COORDINATE THE NECESSARY SITE INSPECTIONS IN COMPLIANCE WITH NC 15A NCAC 18A .2500.
6. SHOULD THE CONTRACTOR OR ANY SUBCONTRACTOR DEVIATE FROM THE APPROVED DESIGN PLANS, THEY SHALL INDEMNIFY AND HOLD HARMLESS THE ARCHITECT, ENGINEER OF RECORD AND DESIGNER TO THE FULLEST EXTENT PERMITTED BY LAW.

POOL DECK SIGNAGE REQUIREMENTS

POOL SIGNAGE TO BE POSTED IN THE MAIN POOL AREA:

SIGN "A" - 4" TALL LETTERS | WARNING - NO LIFEGUARD ON DUTY

SIGN "B" - 1" TALL LETTERS - A MIN. OF (2) THIS PROJECT

POOL SAFETY RULES

1. CHILDREN SHOULD NOT USE THE SWIMMING POOLWITHOUT ADULT SUPERVISION.
2. ADULTS SHOULD NOT SWIM ALONE.
3. PETS ARE PROHIBITED IN THE POOL AREA.
4. GLASS CONTAINERS ARE PROHIBITED IN THE POOL AREA.
5. NO DIVING IS ALLOWED IN POOL AREA

SIGN "C" - PROVIDE A SIGN VISIBLE UPON ENTERING THE POOL ENCLOSURE DIRECTING POOL USERS TO SHOWER BEFORE ENTERING THE POOL.

SIGN "D" - PROVIDE A SIGN STATING "POOL CLOSED" FOR EVERY POOL ENTRANCE. VERIFY WITH FINAL POOL ENCLOSURE DESIGN FOR FINAL NUMBER OF ENTRANCES.

BUILDING FIXTURE DATA

TOTAL BATHER LOAD = 2,753/15 = 184
- MAIN POOL = 92 (50%-50% SPLIT)

CLUBHOUSE & PUMP HOUSE REQUIREMENTS:
92 MEN, MIN. FIXTURES REQUIRED ARE:
-ONE LAVATORIES
-ONE WATER CLOSET + 1 URINAL
92 WOMEN, MIN FIXTURES ARE
-TWO LAVATORIES
-TWO WATER CLOSET
1 SHOWER IS REQUIRED.

SEE ARCHITECTURAL PLANS BY OTHERS FOR DESIGN OF BUILDING RESTROOMS

POOL DECK EXIT REQUIREMENTS

POOL DECK AREA = 5,481 SF. @15 SF PER PERSON DECK OCCUPANT LOAD IS **366**.

POOL AREA IS 2,753 SF. @ 50 SF PER PERSON, POOL OCCUPANT LOAD IS **56.**

TOTAL POOL & POOL DECK OCCUPANT LOAD IS 422 PERSONS. SEE LIFE SAFETY PLAN BY OTHERS FOR EXIT WIDTH REQUIREMENTS & BUILDING OCCUPANCY.

MAIN POOL DATA

POOL DIMENSIONS:	77'-0" X 45'-0" OVERALL IRREGULAR SHAPE.
POOL DEPTHS:	9" SHELF w/ 3'-5'
POOL VOLUME:	68,642 GALLONS
SURFACE AREA:	2,753 SQFT.
PERIMETER:	244 LF
COPING:	BULLNOSE INDEPENDENT
REQUIRED FLOW:	191 GPM @ 65 TDH
DESIGN FLOW:	210 GPM @ 65 TDH
FEATURE FLOW:	210 GPM @ 65 TDH
SHELL MATERIAL:	4000 PSI SHOTCRETE
INTERIOR FINISH:	KONA QUARTZ PLASTER
BATHER LOAD:	184 PERSONS
BACKWASH TO:	SANITARY SEWER
WATER SOURCE:	IN-LINE AUTOFILL
PIPE SIZING:	
CIRC MAIN DRAINS:	(2) 4" SCH 40 PVC
FEAT MAIN DRAINS:	(2) 4" SCH 40 PVC
CIRC SKIMMERS:	(7) 4" SCH 40 PVC
VACUUM LINE:	(2) 2" SCH 40 PVC
INLETS:	(15) 3" SCH 40 PVC
FILTER TYPE:	HIGH RATE SAND
SIZE PROVIDED:	2 @ 7.06 SF (EA) = 14.12
SIZE REQUIRED:	14.00 SF TOTAL
MEDIA CIRC. RATE:	15 GPM/SF
BACKWASH RATE:	15 GPM/SF
TURNOVER RATE:	6 HOURS

D. CLUGSTON

NORTH CAROLINA PROFESSIONAL SEAL 048012 ENGINEER JOSEPH L. HAMILTON 09.12.2024

Killian Engineering, Inc.
PO Box 3301, Henderson, NC 27536 | www.killianengineering.com
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NO. | REVISION | DATE

SHEET DISCRIPTION
POOL LAYOUT PLAN

PROJECT #:	2024039
DATE ISSUED:	09/10/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/JLH

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

SP2.0

CHEMICAL STORAGE DATA

CHEMICAL STORAGE REQUIREMENTS FOR A 68,642 GALLON POOL ARE:

5 SF FOR FIRST 10,000 GALLONS OF POOL PLUS
+1 SF FOR EACH ADDITIONAL 3,000 GALLONS OF POOL UP TO 100 SF OF STORAGE.

+ 20 SF (1 SF PER 58,642/3000)
= 25 SF REQUIRED. (36.00 SF PROVIDED)

BUILDING PROVIDES MIN. OF 25 SF FOR CHEMICAL STORAGE.
SEE BUILDING PLANS BY OTHERS FOR EXACT LAYOUT, 36.00 SF PROVIDED.

PUMP FLOW PIPE SIZING

CIRCULATION:
XFET-20 PUMP FLOW AT 65 FT OF WATER IS 210 GPM, WITH SPECIFIED:
4" MAIN DRAIN PIPING VELOCITY IS 5.29 FPS.
4" SKIMMER PIPING VELOCITY IS 5.29 FPS.
3" RETURN PIPING VELOCITY IS 9.12 FPS.

FEATURE:
XFET-20 PUMP FLOW AT 65 FT OF WATER IS 210 GPM, WITH SPECIFIED:
4" MAIN DRAIN PIPING VELOCITY IS 5.29 FPS.
3" RETURN PIPING VELOCITY IS 9.12 FPS.

UNDERWATER LIGHTING DATA

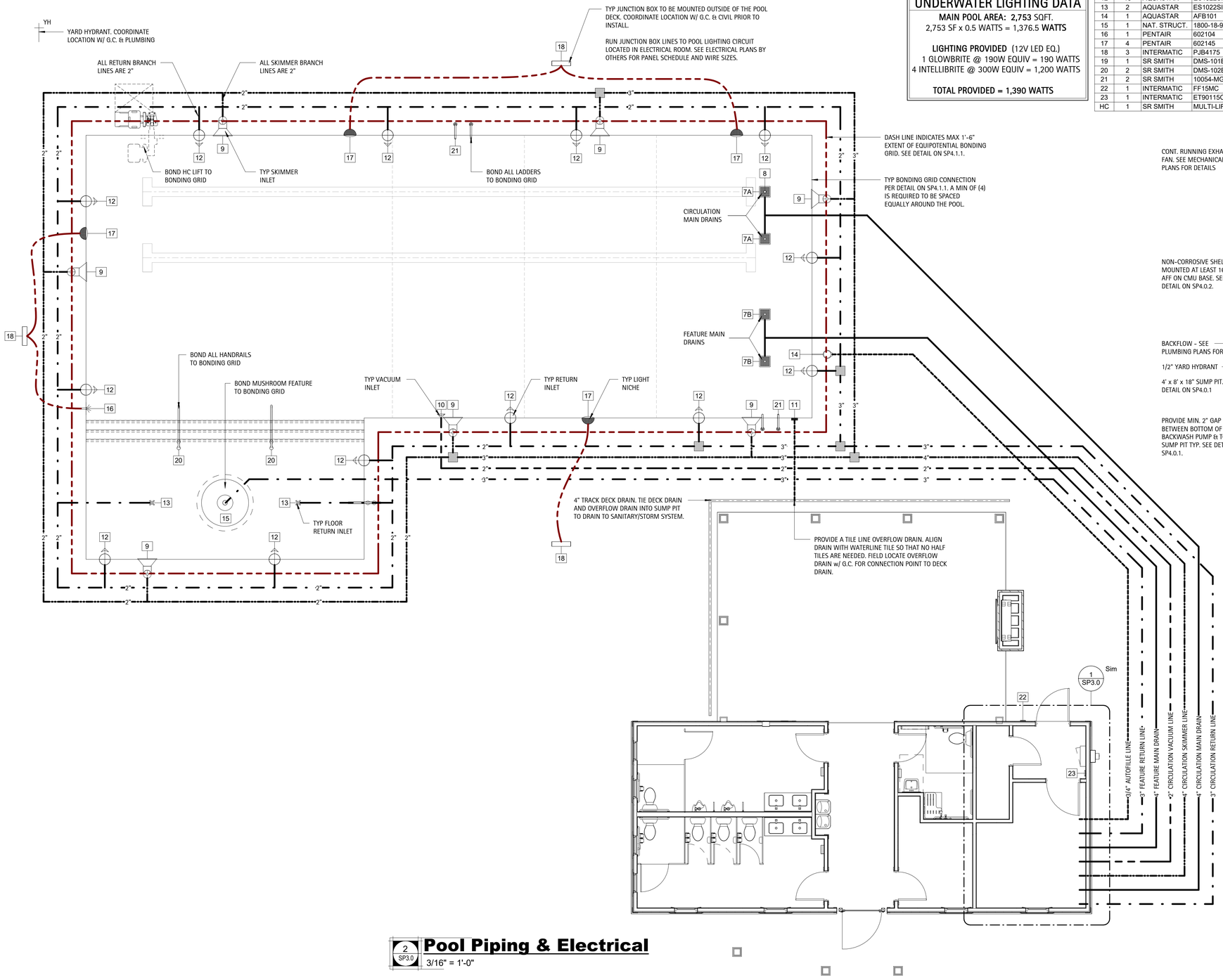
MAIN POOL AREA: 2,753 SQFT.
2,753 SF x 0.5 WATTS = 1,376.5 **WATTS**

LIGHTING PROVIDED (12V LED EQ.)
1 GLOWBRITE @ 190W EQUIV = 190 WATTS
4 INTELLIBRITE @ 300W EQUIV = 1,200 WATTS

TOTAL PROVIDED = 1,390 WATTS

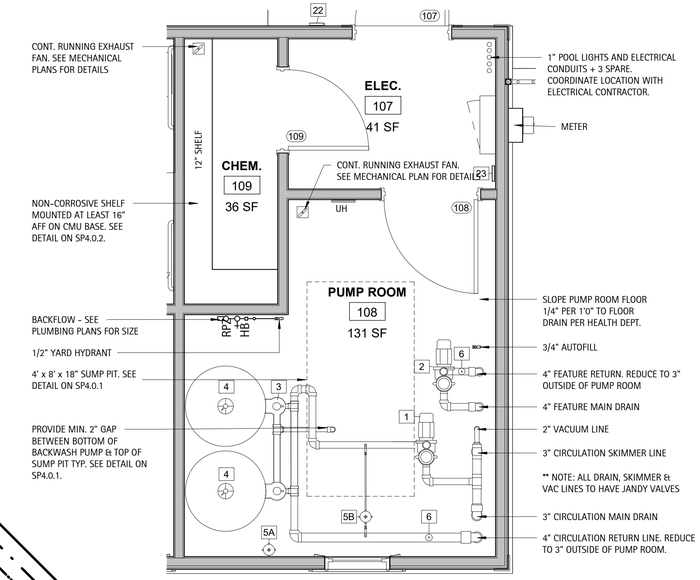
POOL EQUIPMENT SCHEDULE

TAG	COUNT	MANUF.	MODEL	COMMENTS
1	1	PENTAIR	XFET-20 (022034)	5.1 HP SELF-PRIMING PUMP W/ STRAINER BASKET + EXTRA STRAINER BASKET (CIRCULATION)
2	1	PENTAIR	XFET-20 (022034)	5.1 HP SELF-PRIMING PUMP W/ STRAINER BASKET + EXTRA STRAINER BASKET (FEATURE)
3	1	PENTAIR	147400	TANDEM FILTER PIPING KITS FOR 2 & 3 IN FILTERS
4	2	PENTAIR	TR-100 C3	32" DIA HIGH RATE SAND FILTER W/ 4.91 SQ FT OF MEDIA
5A	1	PENTAIR	520974 (COMSYS-10)	COMMERCIAL INTELLICHLOR SALT CHLORINE GENERATOR
5B	1	PENTAIR	HC-3315	HIGH CAPACITY CHLORINE/BROMINE FEEDER (BACKUP CHLORINATOR)
6	2	FLOVIS	FV-4-40	4" INLINE COMMERCIAL FLOWMETER
7A	2	AQUASTAR	WAV12WR101 W/ FBS-50-812-4	12"x12" VGB SUCTION OUTLET COVER W/ A.S.A. MFG FIBERGLASS SUMP (CIRCULATION)
7B	2	AQUASTAR	WAV12WR101 W/ FBS-50-812-4	12"x12" VGB SUCTION OUTLET COVER W/ A.S.A. MFG FIBERGLASS SUMP (FEATURE)
8	1	AQUASTAR	HVC101	SELF-CONTAINED HYDROSTATIC RELIEF VALVE
9	7	PENTAIR	BERMUDA	WHITE COMMERCIAL GRADE SKIMMER
10	1	AQUASTAR	ES1022SI2001 W/ VLK15T01	VACUUM LINE FITTING W/ LOCK CAP
11	1	AQUASTAR	GDD101	COMMERCIAL OVERFLOW DRAIN
12	13	AQUASTAR	ES1022SI2001 W/ 8101	WALL RETURN INLET - DIRECTIONAL
13	2	AQUASTAR	ES1022SI2001 W/ BP101	FLOOR RETURN INLET - DIRECTIONAL
14	1	AQUASTAR	AFB101	FILLSTAR - AUTOFILL LINE - WHITE
15	1	NAT. STRUCT.	1800-18-96	5' 0" DIA MUSHROOM FEATURE - 190 GPM
16	1	PENTAIR	602104	190W EQUIVALENCY GLOBRITE WHITE LED LIGHT
17	4	PENTAIR	602145	300W EQUIVALENCY INTELLIBRITE WHITE LED LIGHT
18	3	INTERMATIC	PJB4175	4 LIGHT CONNECTION POOL & SPA JUNCTION BOX
19	1	SR SMITH	DMS-101B-MG	MARINE GRADE DECK MOUNTED HANDRAILS - SHORT
20	2	SR SMITH	DMS-102B - MG	MARINE GRADE DECK MOUNTED HANDRAILS - STANDARD
21	2	SR SMITH	10054-MG	MARINE GRADE DECK MOUNTED COMMERCIAL LADDER
22	1	INTERMATIC	FF15MC	INTERMATIC 15-MINUTE TIMER
23	1	INTERMATIC	ET90115CR	ELECTRIC TIMER FOR FEATURE PUMP
HC	1	SR SMITH	MULTI-LIFT	ADA COMPLIANT MULTI-LIFT



Pool Piping & Electrical

2 SP3.0 — 3/16" = 1'-0"



Enlarged Pump Room Plan

1 SP3.0 — 3/8" = 1'-0"

POOL SYMBOLS LEGEND

- SAND FILTER
- PUSH/PULL VALVE
- FLOWMETER
- CHLORINATOR w/ FLOWMETER
- POOL PUMP
- POOL LADDER
- AUTOFILL
- MAIN DRAINS
- OVERFLOW
- VACUUM INLET
- FLOOR INLET
- DIRECTIONAL WALL INLET
- LIGHT NICHE
- SKIMMER

REFER TO POOL PLUMBING SCHEDULE FOR SPECS.

MAIN POOL DATA

POOL DIMENSIONS:	77'-0" X 45'-0" OVERALL IRREGULAR SHAPE.
POOL DEPTHS:	9" SHELF w/ 3'-5"
POOL VOLUME:	68,642 GALLONS
SURFACE AREA:	2,753 SQFT.
PERIMETER:	244 LF
COPING:	BULLNOSE INDEPENDENT
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DESIGN FLOW:	210 GPM @ 65 TDH
FEATURE FLOW:	210 GPM @ 65 TDH
SHELL MATERIAL:	4000 PSI SHOTCRETE
INTERIOR FINISH:	KONA QUARTZ PLASTER
BATHER LOAD:	184 PERSONS
BACKWASH TO:	SANITARY SEWER
WATER SOURCE:	IN-LINE AUTOFILL
PIPE SIZING:	
CIRC MAIN DRAINS:	(2) 4" SCH 40 PVC
FEAT MAIN DRAINS:	(2) 4" SCH 40 PVC
CIRC SKIMMERS:	(7) 4" SCH 40 PVC
VACUUM LINE:	(2) 2" SCH 40 PVC
INLETS:	(15) 3" SCH 40 PVC
FILTER TYPE:	HIGH RATE SAND
SIZE PROVIDED:	2 @ 7.06 SF (EA) = 14.12
SIZE REQUIRED:	14.00 SF TOTAL
MEDIA CIRC. RATE:	15 GPM/SF
BACKWASH RATE:	15 GPM/SF
TURNOVER RATE:	6 HOURS

D. CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JOB L. HAMM 09.12.2024

Killian Engineering, Inc.
PO Box 3301, Henderson, NC 27536 | www.killianengineering.com
(p)252.438.8778 | CORPORATE LICENSE C-2277

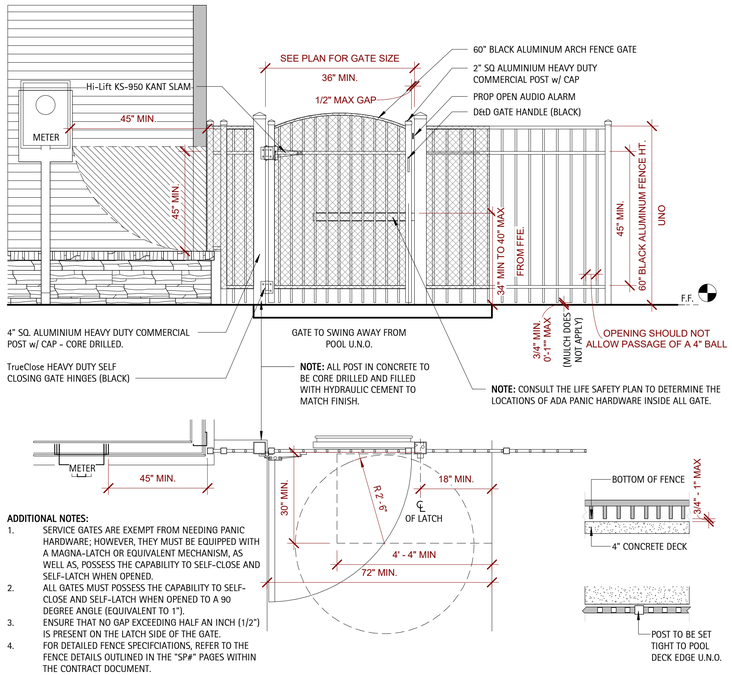
DATE
REVISION
NO.

SHEET DISCRIPTION
POOL PIPING AND ELECTRICAL PLAN

PROJECT #:	2024039
DATE ISSUED:	09/10/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/JLH

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

SP3.0

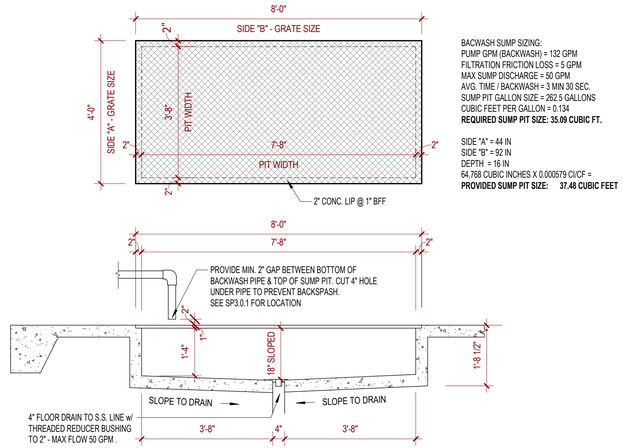


ADDITIONAL NOTES:

1. SERVICE GATES ARE EXEMPT FROM NEEDING PANIC HARDWARE; HOWEVER, THEY MUST BE EQUIPPED WITH A MAGNA-LATCH OR EQUIVALENT MECHANISM, AS WELL AS, POSSESS THE CAPABILITY TO SELF-CLOSE AND SELF-LATCH WHEN OPENED.
2. ALL GATES MUST POSSESS THE CAPABILITY TO SELF-CLOSE AND SELF-LATCH WHEN OPENED TO A 90 DEGREE ANGLE (EQUIVALENT TO 1").
3. ENSURE THAT NO GAP EXCEEDING HALF AN INCH (1/2") IS PRESENT ON THE LATCH SIDE OF THE GATE.
4. FOR DETAILED FENCE SPECIFCIATIONS, REFER TO THE FENCE DETAILS OUTLINED IN THE "SP#" PAGES WITHIN THE CONTRACT DOCUMENT.

3 SP4.0 Detail - Fence

1/2" = 1'-0"

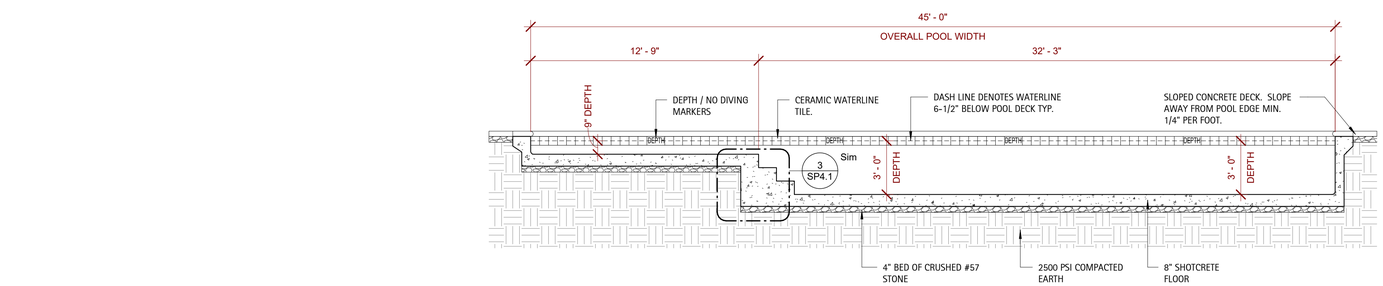


BACWASH SUMP SIZING:
PUMP GPM (BACKWASH) = 132 GPM
FILTRATION FRICTION LOSS = 5 GPM
MAX SUMP DISCHARGE = 50 GPM
AVG. TIME / BACKWASH = 3 MIN 30 SEC.
SUMP PIT GALLON SIZE = 262.5 GALLONS
CUBIC FEET PER GALLON = 0.134
REQUIRED SUMP PIT SIZE: 35.09 CUBIC FT.

SIDE "A" = 44 IN
SIDE "B" = 92 IN
DEPTH = 16 IN
64,768 CUBIC INCHES X 0.000579 CI/CF =
PROVIDED SUMP PIT SIZE: 37.48 CUBIC FEET

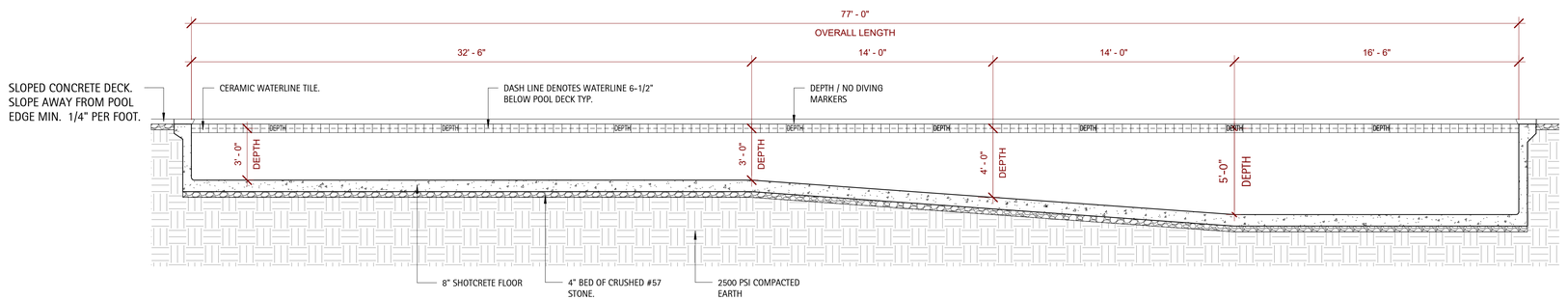
1 SP4.0 Detail - Sump Pit w/ 2" Air Gap

1/2" = 1'-0"



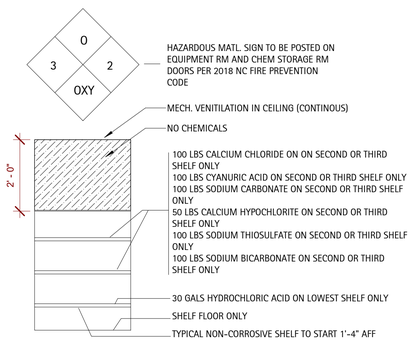
4 SP4.0 Detail - North/South Pool Section

1/4" = 1'-0"



5 SP4.0 Detail - Main Pool Section

1/4" = 1'-0"



TYPICAL CHEMICAL ROOM SHELVING w/ QUANITIES

A. Unless otherwise stated, all code references are to the 2018 North Carolina State Building Codes (NCSBC).
B. North Carolina Building Code (NCBC) applicable portions include but are not limited to:
1. Chapter 3, Section 307 and Tables 307.7(1), 307.1(2)
2. Chapter 4, Section 414, 415 and Tables 414.2.2, 414.2.5, 415.8.2.1.1
C. North Carolina Fire Code (NCFPC) applicable portions include but are not limited to:
1. NCFPC, Chapter 18, Tables 1804.2.2.1, 1805.2.2
2. NCFPC, Chapters 27 through 44.
3. Appendices E and F

2 SP4.0 Detail - Chemical Storage

1/2" = 1'-0"

D. CLUGSTON

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(p)252.438.8778 | CORPORATE LICENSE C-2277

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JOSEPH L. KILIAN
09.12.2024

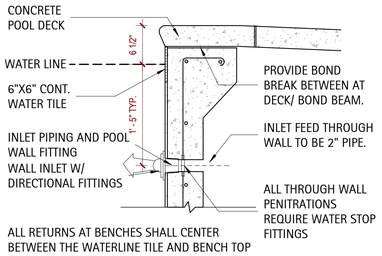
NO.	REVISION	DATE

SHEET DISCRIPTION
POOL SECTIONS & DETAILS

PROJECT #:	2024039
DATE ISSUED:	09/10/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/JLH

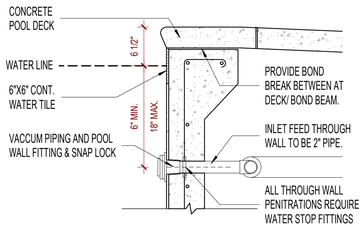
PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

SP4.0



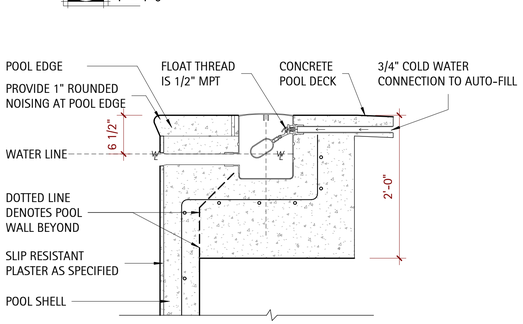
8 SP4.1 Detail -Inlet Pipe Detail

1" = 1'-0"



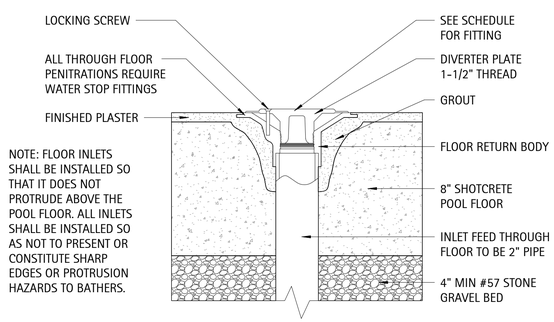
9 SP4.1 Detail - Vacuum Line

1" = 1'-0"



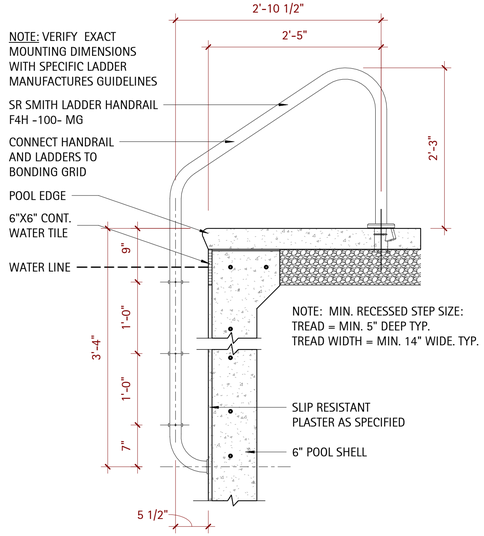
10 SP4.1 Detail - Pool Autofill

1" = 1'-0"



11 SP4.1 Detail - Floor Inlet

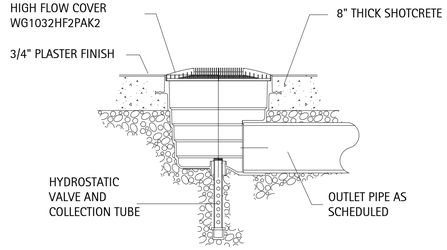
3" = 1'-0"



5 SP4.1 Detail - Commercial Ladder

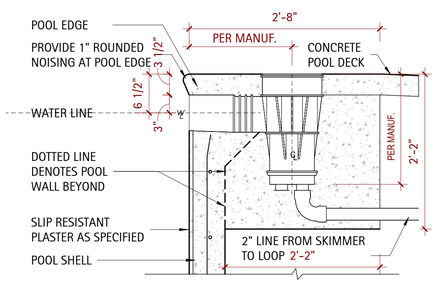
1" = 1'-0"

ASME A112.19.8 ET SEQ
APPROVED GRATE/COVER
AND MATCHING SUMP-
HAYWARD 12" SQUARE
HIGH FLOW COVER
WG1032HF2PAK2



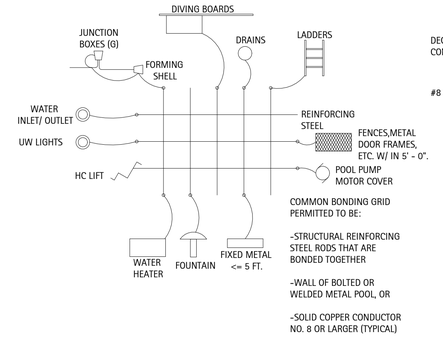
6 SP4.1 Detail - Main Drains

1" = 1'-0"

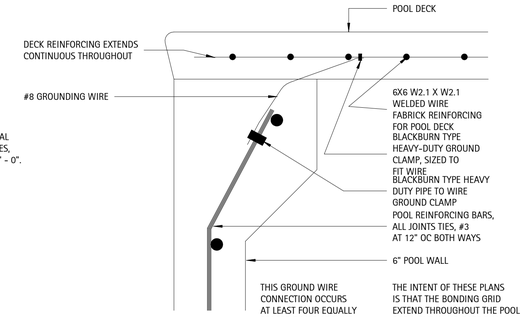


7 SP4.1 Detail - Pool Skimmer

1" = 1'-0"



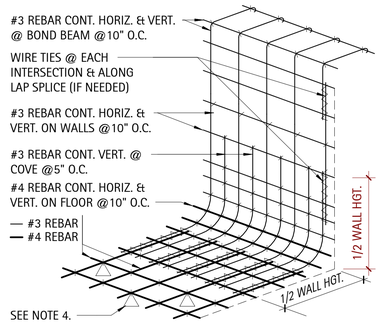
SWIMMING POOL BONDING RISER



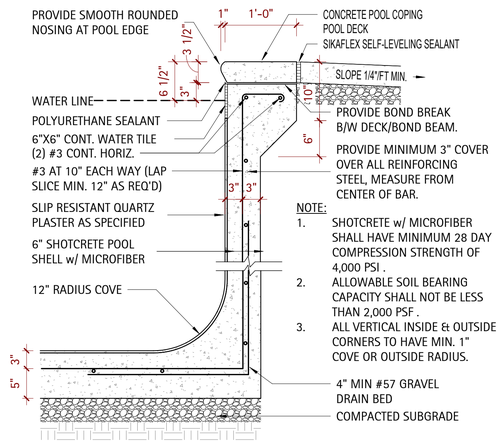
EQUIPOTENTIAL BONDING GRID DETAIL

1 SP4.1 Detail - Pool Bonding

1" = 1'-0"



REBAR NOTE:
1. ALL REBAR OVERLAP LENGTHS TO BE 20X DIA OF REBAR.
2. ALL BAR INTERSECTIONS SHALL HAVE WIRES TIES.
3. ALL REINFORCING STEEL SHALL BE GRADE 60.
4. ALL SLAB BOLSTERS - GRIP-RITE 5" X 5FT MANF# SBU5

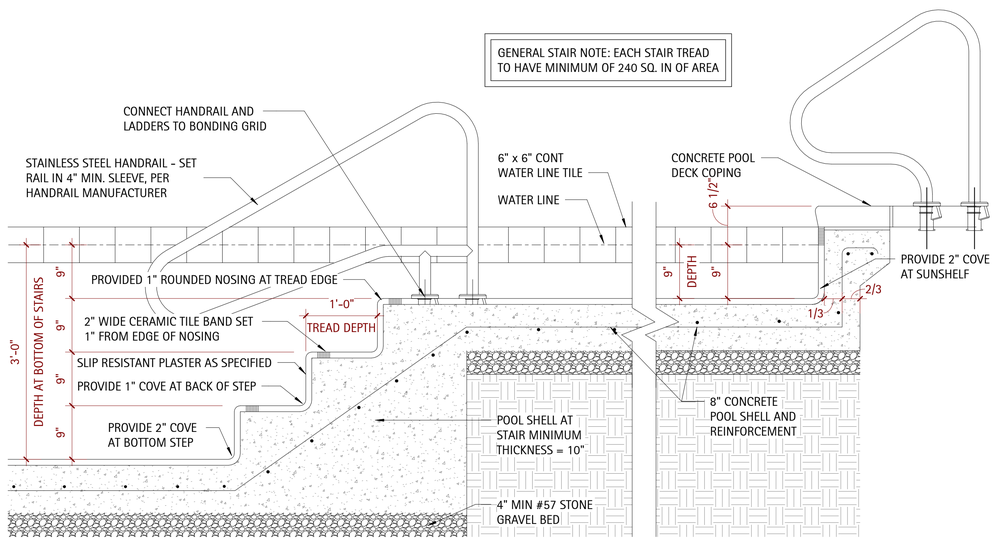


NOTE:
1. SHOTCRETE w/ MICROFIBER SHALL HAVE MINIMUM 28 DAY COMPRESSION STRENGTH OF 4,000 PSI .
2. ALLOWABLE SOIL BEARING CAPACITY SHALL NOT BE LESS THAN 2,000 PSF .
3. ALL VERTICAL INSIDE & OUTSIDE CORNERS TO HAVE MIN. 1" COVE OR OUTSIDE RADIUS.

2 SP4.1 Detail - Pool Wall

1" = 1'-0"

GENERAL STAIR NOTE: EACH STAIR TREAD
TO HAVE MINIMUM OF 240 SQ. IN OF AREA



3 SP4.1 Detail - Pool Shelf & Steps

1" = 1'-0"

D. CLUGSTON

NORTH CAROLINA PROFESSIONAL SEAL 048012 ENGINEER JOSEPH V. HAMILTON
09.12.2024

Kilian Engineering, Inc.
PO Box 3301, Henderson, NC 27536 | www.kilianengineering.com
(p)252.438.8778 | CORPORATE LICENSE C-2277

NO. | REVISION | DATE

SHEET DISCRIPTION
SECTIONS & DETAILS

PROJECT #:	2024039
DATE ISSUED:	09/10/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/JLH

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

SP4.1

WHISPERFLOXF™
HIGH PERFORMANCE PUMP

KEY FEATURES

Cam and Ramp™ Lid
Makes inspection and cleaning simple and quick

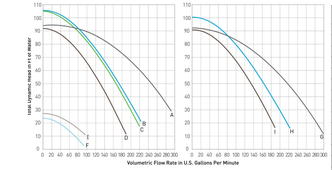
Built-in handle
For easy installation

Union connectors
2.5" or 3" union connectors included

Oversized strainer basket
Extends time between cleanings

TEFC/Super-Duty motor options
Provide superior performance and longevity

PERFORMANCE CURVES



Performance Curve	Model	Description
A	XFE-20	5 HP, Single Speed Full Rated
A	XFET-20	5 HP, TEFC Super-Duty Single Speed
G	XFK-20	5 HP, 3-Phase, Super-Duty Motor
B	XFE-12	3 HP, Single Speed Full Rated
B, E	XFDS-12	3 HP, 2-Speed Full Rated
B	XFET-12	3 HP, TEFC Super-Duty Single Speed
H	XFK-12	3 HP, 3-Phase, Super-Duty Motor
C	XF-12	3 HP, Single Speed Full Rated
D	XFE-8	2 HP, Single Speed Full Rated
D	XFET-8	2 HP, TEFC Super-Duty Single Speed
D	XF-8	2 HP, Single Speed Full Rated
D, F	XFDS-8	2 HP, 2-Speed Full Rated
D	XFE-30	2.5 HP, Single Speed Up Rated
D	XF-30	2.5 HP, Single Speed Up Rated
D, F	XFDS-30	2.5 HP, 2-Speed, Up Rated
I	XFK-8	2 HP, 3-Phase, Super-Duty Motor

Pumps and replacement motors that are single speed and one (1) Total HP or greater cannot be sold, offered for sale, or installed in a residential pool for filtration use in California, Title 20 CCR sections 1601-1609.

PENTAIR

1620 Hawkins Ave | Sanford, NC 27330 | United States | 800.831.7133 | pentair.com

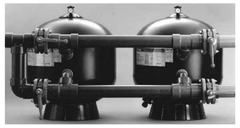
TAG 1 & 2 - FEATURE PUMP - XFET-20 - 5.1HP SELF-PRIMING PUMP W/ STRAINER BASKET

SCH 40 & 80 FOR TR100C, TR140C, TR100C-3 & TR140C-3
TANDEM FILTER PIPING KITS FOR 2 & 3 IN. FILTERS

These Tandem Filter Piping Kits are designed specifically for use with the Triton® TR100C, TR140C, Triton TR100C-3 and TR140C-3 Sand Filters to make the best even better.

We are providing this additional service for your convenient one-stop shopping. Pipe and filters are all you need.

Pipe is not included in kits.



Tandem Filter Piping Kits for Triton TR100C, TR140C, TR100C-3 and TR140C-3 Sand Filters

CALIFORNIA PROPOSITION 65 WARNING
⚠ **WARNING:** Cancer and Reproductive Harm.
⚠ **AVERTISSEMENT:** Peut Causer le Cancer et des Dommages au Systeme Reproducteur.
⚠ **ADVERTENCIA:** Cancer y Daño Reproductivo.
www.p65warnings.ca.gov

Ordering Information

Product	Model
For Plumbing Two TR100C or TR140C Filters	
146400	3 in. Two filter kit, SCH 40 (200 GPM)
146402	4 in. Two filter kit, SCH 40 (300 GPM)
146404	6 in. Two filter kit, SCH 40 (700 GPM)
146403	4 in. Two filter kit, SCH 80 (300 GPM)
146405	6 in. Two filter kit, SCH 80 (700 GPM)
For Plumbing Two TR100C-3 or TR140C-3 Filters	
147400	3 in. Two filter kit, SCH 40 (200 GPM)
147402	4 in. Two filter kit, SCH 40 (300 GPM)
147404	6 in. Two filter kit, SCH 40 (700 GPM)
147401	3 in. Two filter kit, SCH 80 (200 GPM)
147403	4 in. Two filter kit, SCH 80 (300 GPM)
147405	6 in. Two filter kit, SCH 80 (700 GPM)

Product	Model
Adder Kits for TR100C and TR140C Filters [1]	
146406	4 in. Single filter kit, SCH 40
146408	6 in. Single filter kit, SCH 40
146407	4 in. Single filter kit, SCH 80
146409	6 in. Single filter kit, SCH 80
Adder Kits for TR100C-3 and TR140C-3 Filters	
147406	4 in. Single filter kit, SCH 40
147408	6 in. Single filter kit, SCH 40
147407	4 in. Single filter kit, SCH 80
147409	6 in. Single filter kit, SCH 80

Note: All kits include hardware, fittings, gaskets.

Note: All kits include hardware, fittings, gaskets and butterfly valves.

Filters	Filter Area Sq. Ft.	Manifold Pipe Dia.	Filter Rate Sq. Ft. 15 GPM	Filter Rate Sq. Ft. 20 GPM	Turnover Capacity 6 Hours	Turnover Capacity 8 Hours	Turnover Capacity 10 Hours
TANDEM TRITON 140C FILTER INSTALLATION							
6 TR 140's	42.36	6 in.	635	—	228,600	304,800	381,000
		8 in.	—	847	304,920	406,560	508,200
7 TR 140's	49.42	6 in.	741	—	266,760	355,680	444,600
		8 in.	—	988	355,680	474,240	592,800
8 TR 140's	56.48	8 in.	847	—	304,920	406,560	508,200
		8 in.	—	1130	406,800	542,400	678,000

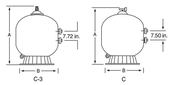
TAG 3 - FILTER KIT - 147400 - TANDEM FILTER PIPING KIT FOR 2 & 3 INCH FILTERS

TRITON® C SERIES
COMMERCIAL SAND FILTERS

TRITON HD FILTER

The Triton heavy duty (HD) filter is a thirty-inch fiberglass filter that offers a maximum operating pressure of 75 PSI. This filter is specifically designed for special high-pressure commercial applications that require up to 98 gpm, and is ideal for all heavy-duty commercial applications.

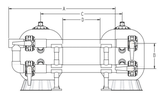
TR100 HD



Triton Commercial Series Sand Filter Specifications

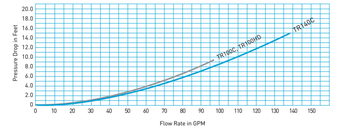
Model Number	Filter Area Sq. Ft.	Flow Rate 15 GPM/sq. ft.*	Turnover Capacity Gallons 6 Hours	Turnover Capacity Gallons 8 Hours	Dimension A	Dimension B	Media Required Sand	Media Required Sand/Gravel
TR100C	4.91	74	26,640	35,520	39 ½"	30 ½"	600 lbs.	450 lbs./150 lbs.
TR140C	7.06	106	38,160	50,880	45 ½"	36 ½"	925 lbs.	650 lbs./275 lbs.
TR100C-3	4.91	74	26,640	35,520	39 ½"	30 ½"	600 lbs.	450 lbs./150 lbs.
TR140C-3	7.06	106	38,160	50,880	45 ½"	36 ½"	925 lbs.	650 lbs./275 lbs.

*15 GPM/sq. ft. typical commercial flow rate.



Two Filter System	A	B	C	D	Total Wt.
3" —TR100C	82 ½"	17 ¾"	48" Min.	18" Min.	2,300 lbs.
3" —TR140C	88 ½"	17 ¾"	54" Min.	18" Min.	3,200 lbs.
4" —TR140C	95 ½"	19 ¾"	54" Min.	18" Min.	2,300 lbs.
6" —TR140C	111 ½"	24 ¾"	54" Min.	18" Min.	3,550 lbs.

Note: 6" piping needs to be rotated upward as shown at 25° so handle will clear the floor.



PENTAIR

1620 HAWKINS AVE, SANFORD, NC 27330 800.831.7133 WWW.PENTAIRCOMMERCIAL.COM

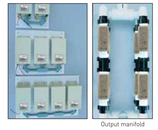
TAG 4 - FILTER - TR100 C3 - 32" DIA HIGH RATE SAND FILTER

COMMERCIAL INTELLICHLOR®
SALT CHLORINE GENERATOR

WHY CHOOSE THE COMMERCIAL INTELLICHLOR GENERATOR?

- Cell blades are rated for 10,000 hours of operation, under normal operating conditions.
- Built-in intelligence—primary cell reads salt levels and communicates to all secondary cells.
- Full diagnostic capabilities, including cell life tracking that communicates remaining hours of cell life in real-time. Captures all performance data daily: production settings, hours of operation, chlorine output, cell cleaning cycles, salt readings and water temperature averages.
- Easy-to-view display enables fast checking of salt levels, cell cleanliness, sanitizer output and water flow.
- Automatic shut-off feature helps protect the unit and prolong cell life under low water temperature conditions.
- On-time cycling helps prevent calcium and scale build-up to maximize cell life.
- Designed to produce up to 2 lbs of chlorine in a 24-hour period from a single cell.
- Cells have commercial coating for maximum performance.
- Works with ORP control system to generate chlorine on demand*.
- All power centers are pre-wired for 220 VAC and ORP and conveniently mounted on backboards.
- Manifold CIC 2 lb output cells in combinations that produce from 4 lbs to 16 lbs of chlorine per day.
- One-year limited warranty

Possible Power Center and Manifold Configurations



Output manifold

- 120 GPM minimum per manifold.
- Power Centers are mounted on PVC boards and pre-wired for 220 VAC and ORP.

Part Number	Description	Number of Primary (P) and Secondary (S) IC40 cells	Number of Primary Power Centers (520978)	Number of Secondary Power Centers (520556)	Chlorine per day (lbs)[1]
520970	COMSYS-2	1P	1	0	2
520971	COMSYS-4	1P, 1S	1	1	4
520972	COMSYS-6	1P, 2S	1	2	6
520973	COMSYS-8	1P, 3S	1	3	8
520974	COMSYS-10	1P, 4S	1	4	10
520975	COMSYS-12	1P, 5S	1	5	12
520976	COMSYS-14	1P, 6S	1	6	14
520977	COMSYS-16	1P, 7S	1	7	16

*Compatible with all pH/ORP chemical control systems from Pentair Commercial Aquatics™.

[1]Codes for commercial pools typically require 2 lbs of chlorine production per every 10,000 gallons. Please consult your local codes for chlorine production requirements.

PENTAIR

1620 HAWKINS AVE, SANFORD, NC 27330 800.831.7133 WWW.PENTAIRCOMMERCIAL.COM

TAG 5A - SALT SYSTEM - 520977 (COMSYS-10) - COMMERCIAL INTELLICHLOR SALT CHLORINE GENERATOR

RAINBOW™
HIGH CAPACITY CHLORINE/ BROMINE FEEDERS

- Designed for ease of use and simple maintenance
- Drain valve allows easier draining for safer recharging or winterizing
- Standard threaded inlet and outlet fittings included for easy installation

THE PERFORMANCE LEADER IN AUTOMATIC SANITIZATION FOR LARGE RESIDENTIAL AND COMMERCIAL POOLS

The INLET control valve side of the feeder connects to the plumbing on the discharge side of the pump, before the filter. The OUTLET side of the feeder connects to the pool return line after the filter and/or heater, pool cleaner, diverter valves, or any other installed equipment. Installation of a corrosion-resistant check valve such as #R172288 by Pentair between the feeder inlet and outlet and the equipment is strongly recommended to check backflow of chemicals. This helps ensure equipment longevity.

AVAILABLE FROM:

MODELS & SPECIFICATIONS

Model	HC-3315	HC-3330	HC-3340
Part Number	R177215	R177230	R177240
Height	21.5"	39.125"	49.75"
Width	8"	8"	8"
Depth	15"	15"	15"
Maintenance Clearance	22.75"	40.375"	51"
Capacity (lbs.)	15	30	40
@ 100% Setting — Flow rate (GPM)	34	34	11.5
@ 100% Setting — Maximum Output Rate, Chlorine* (lbs./hr.) 3-Pool at listed flowrate	2.8	4.6	3.0
@ 100% Setting — Maximum Output Rate, Chlorine* (lbs./hr.) 5-Spa at listed flowrate	4.8	7.9	5.7
@ 100% Setting — Maximum Output Rate, Bromine* (lbs./hr.) 7-Pool at listed flowrate	0.6	1.1	1.7
@ 50% Setting — Flow rate (GPM)	17.8	17.8	9.2
@ 50% Setting — Output Rate, Chlorine* (lbs./hr.) 3-Pool at listed flowrate	2.1	3.4	2.6
@ 50% Setting — Output Rate, Chlorine* (lbs./hr.) 5-Spa at listed flowrate	1.8	3.0	5.4
@ 50% Setting — Output Rate, Bromine (lbs./hr.) 7-at listed flowrate	0.3	0.6	0.9
Maximum Pool Size @ 3x GPM (Chlorine-Gals)	224,000	369,000	658,500
Maximum Pool Size @ 3x GPM (Bromine-Gals)	99,200	164,000	292,600

Maximum working pressure – 50 psi
* Results based on use of 1" Trichlor tablets

PENTAIR

1620 HAWKINS AVE, SANFORD, NC 27330 800.831.7133 WWW.PENTAIRPOOL.COM

TAG 5B - CHLORINATION SYSTEM - HC3315 - CALCIUM HYPOCHLORITE TABLET SYSTEM

WHEN ACCURACY IS CRITICAL, DON'T JUST TAKE OUR WORD FOR IT!

FlowVis® was the first - and is now the most - NSF 50 certified flow meter in the world! Because when accuracy matters, you should put your trust in the experts.

NSF - 50 CERTIFIED L1

FLOWVIS® MODELS

Feature	FV-15	FV-15-U	FV-2	FV-2-U	FV-25	FV-3	FV-3-40	FV-4	FV-6	FV-8
NSF 50 Certified	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
Pipe Size	1.5"	1.5"	2"	2"	2.5"	3"	3"	4"	6"	8"
Operating Range (GPM)	10-80	10-90	10-110	10-110	10-110	70-240	70-240	150-460	300-1000	600-1800
Average Accuracy	98.7%	98.7%	99.4%	99.0%	99.2%	98.9%	99.2%	99.6%	98.1%	N/A*
NSF 50 Level	L1	L1	L1	L1	L1	L1	L1	L1	L1	L1

*FlowVis® model FV-8 is available only with FlowVis® Digital upgrade included. For accuracy of this model, refer to the FV-8 information in the FlowVis Digital table below.

FLOWVIS® DIGITAL MODELS

Feature	FV-15	FV-15-U	FV-2	FV-2-U	FV-25	FV-3	FV-3-40	FV-4	FV-6	FV-8
NSF 50 Certified	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pipe Size	1.5"	1.5"	2"	2"	2.5"	3"	3"	4"	6"	8"
Operating Range (GPM)	10-80	10-90	10-110	10-110	10-110	70-240	70-240	150-460	300-1000	600-1800
Average Accuracy	98.6%	99.0%	98.8%	98.5%	98.3%	98.4%	98.0%	98.3%	98.9%	98.9%
NSF 50 Level	L1	L1	L1	L1	L1	L1	L1	L2	L1	L1

NOTE: FlowVis is the only NSF 50 certified Level 1 flow meter in the world today.

Guide for NSF 50 Accuracy Levels

Level 1 (L1): Average of absolute values of all single point deviations must be ≤2%. Single point deviations shall not exceed ±4%.
Level 2 (L2): Average of absolute values of all single point deviations must be ≤5%. Single point deviations shall not exceed ±7.5%.
Level 3 (L3): Average of absolute values of all single point deviations must be ≤10%. Single point deviations shall not exceed ±12.5%.
Level 4 (L4): Average of absolute values of all single point deviations must be ≤12.5%. Single point deviations shall not exceed ±15%.
Level 5 (L5): Average of absolute values of all single point deviations must be ≤15%. Single point deviations shall not exceed ±20%.

TAG 6 - FLOWMETER - FV-3-40 - 3 INCH DIGITAL FLOMETER

AQUASTAR pool products

VGBA-2017 PRODUCT SPECIFICATIONS
Suction Outlet Fitting Assembly (SOFA)
VGBA-2017 Flow Ratings, Sump Dimensions, Sump Flow Path Zone, and Head Loss Curves

Certified to NSF/ANSI/CAN 50 ANSI/APSP/ICC 16 - 2017

DIRECTIONS: Please follow the SOFA specific flow rates, sump specifications, and flow path zone information below. The installation must conform to these minimum/maximum requirements including the SOFA dimension defined in Figure 1. The flow path zone is defined by dimensions A through E. The installed sump may be manufactured or field-built and it may be larger/deeper than Figure 1. Please write the Cover Model Number, orientation, and SOFA Model Flow Rating on the *VGBA DRAIN COVER IDENTIFICATION INFORMATION* label that comes with each AquaStar Pool Products, Inc. drain cover.

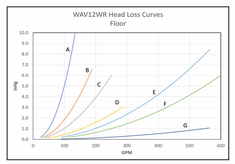
Cover Model Number:
WAV12WRxxx

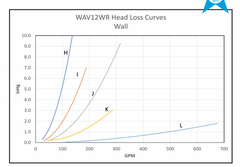
FIGURE 1 – SOFA MODEL & FLOW PATH

FOR MOST CURRENT INFORMATION SCAN THE QR CODE OR VISIT WWW.AQUASTARPOOL.PRODUCTS.COM/FLOWCODE
PRINTED DOCUMENTS MAY NOT HAVE THE MOST CURRENT FLOW RATINGS OR INSTALLATION OPTIONS.

SOFA Model No.		Pipe Size (Nominal)	Pipe Depth (Minimum)	Orientation (Wall / Floor)	Flow Rating (GPM)	Head Loss Curve
WAV12WR-12f_A-1.5b_B3_C0.3_D0.7_E3.5_F16		1.5" (b)	3"	Floor (f)	126	A
WAV12WR-12f_A-2b_B3_C0.3_D0.7_E4.9_F16		2" (b)	3"	Floor (f)	150	B
WAV12WR-12f_A-2.5b_B3_C0.3_D0.7_E4.7_F16		2.5" (b)	3"	Floor (f)	200	C
WAV12WR-12f_A-3b_B3_C0.3_D0.7_E4.5_F16		3" (b)	3"	Floor (f)	230	D
WAV12WR-12f_A-4s_B6_C0.3_D0.7_E3_F16	[Sump P/N 12-35B]	4" (s)	6"	Floor (f)	450	E
WAV12WR-12f_A-4s_2.5b_B6_C0.3_D0.7_E3_F16	[Sump P/N 12-35B]	4"(s), 2.5" (b)	6"	Floor (f)	450	F
WAV12WR-12f_A-6b_B10.5_C0.3_D0.7_E2.9_F16	[Sump P/N 12-65B]	6" (b)	10.5"	Floor (f)	450	G
WAV12WR-12w_A-1.5b_B3_C0.3_D0.7_E3.5_F16		1.5" (b)	3"	Wall (w)	126	H
WAV12WR-12w_A-2b_B3_C0.3_D0.7_E3.5_F16		2" (b)	3"	Wall (w)	150	I
WAV12WR-12w_A-2.5b_B3_C0.3_D0.7_E4.7_F16		2.5" (b)	3"	Wall (w)	200	J
WAV12WR-12w_A-3b_B3_C0.3_D0.7_E4_F16		3" (b)	3"	Wall (w)	230	K
WAV12WR-12w_A-6b_B10.5_C0.3_D0.7_E2.9_F16	[Sump P/N 12-65B]	6" (b)	10.5"	Wall (w)	450	L

Note 1: "SOFA Model No" nomenclature; bottom pipe = (b), side pipe = (s). See Fig 1 for capital letters A through E
Note 2: Head loss in Hfg is measured 16 to 24 inches from the finish surface of the pool. Reference Fig 1 dimension F.



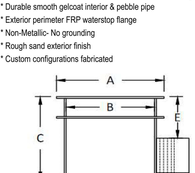


TAG 7A & 7B - CIRCULATION MAIN DRAIN - WAV12WR101 - 12" X 12" ANTI-ENTRAPMENT MAIN DRAIN

Fiberglass Field Built Sumps

A.S.A. MFG. INC. FIBERGLASS PRODUCTS

* Premium fiberglass & resin for maximum structural strength
* Durable smooth gelcoat interior & pebble pipe
* Exterior perimeter FRP waterstop flange
* Non-Metallic- No grounding
* Rough sand exterior finish
* Custom configurations fabricated
* 2" Bottom fpt.x fpt for hydro relief valve
* Threaded PVC SCH 40 pressure test plug for outlet (up to 8")
* All PVC connections are ASTM 2466 compliant
* Designed to ANSI/APSP/ICC-16 2017 for use only with noted SOFA (Suction Outlet Fitting Assembly) Covers



COMPONENT
USPC ®

Made in the USA

Field Built Sump Product Dimensions (Inches)							SCH40 Outlet fpt x soc	SOFA List
Size (inches)	ASA Part #	A	B	C	D	E		
9 x 9 x 12	FBS-50-809-3	11"	9"	12"	4.5"	6.5"	3"	A
12 x 12 x 12	FBS-50-812-4	14"	12"	12"	4.5"	6.5"	4"	B1
12 x 12 x 18	FBS-50-812-18-6	14"	12"	18"	4.5"	10"	6"	B2
18 x 18 x 20	FBS-50-818-6	20"	18"	20"	4.5"	10"	6"	C
18 x 18 x 24	FBS-50-818-24-8	20"	18"	24"	4.5"	13.5"	8"	D
24 x 24 x 30	FBS-50-824-30-10	26"	24"	30"	4.5"	17"	10" soc x soc	E

Compatible SOFA for A.S.A. MFG FBS Sumps					
List A	List B1	List B2	List C	List D	List E
9" x 9"	12" x 12" - 4"	12" x 12" - 6"	18"x18"x20"	18"x18"x24"	24" x 24"
Aquastar 9MFXXX WAV9WRXXX 914XXX	Aquastar 12MFXXX WAV12WRXXX 1216XXX	Aquastar 12MFXXX WAV12WRXXX 1216XXX	Aquastar 18MFXXX WAV18WRXXX P18XXX SUN18HPHXXX	Aquastar 18MFXXX WAV18WRXXX P18XXX SUN18HPHXXX	Aquastar 24XXX WAV24XXX
Waterway 640-478XV	Waterway 640-472XV	Waterway 640-472XV	Waterway 640-477XV	Waterway 640-477XV	Waterway 640-476XV
Hayward WG1031HF	Hayward WG1032HF		Hayward WG1033HF		

1) All Field Built Sumps shall be installed in accordance with the manufacturer's installation instructions.
2) All SOFA covers shall be installed in accordance with the manufacturer's installation instructions.
3) The A.S.A. MFG Inc. Fiberglass Field Built Sump Is intended only to be installed in a reinforced concrete pool structure.
4) Any field modifications made to the SOFA and not authorized by the manufacturer's installation instructions shall void the SOFA certification. No modification shall be made to the SOFA structure or flow path unless a new configuration has been certified as a new SOFA
5) Fiberglass Field Built Sump Life = Life of the Aquatic Center.

Notes: SOFA = Suction Outlet Fitting Assembly
Compatible based on manufacturer's specifications at the time of publication. Subject to change. See Manufacturer's website for updates.

v040622

A.S.A. MFG Inc. 14789 SW 111th St. Dunnellon, FL 34432 352-465-0236 Fax 352-465-0239 email: info@asamfg.com

TAG 7A & 7B - MAIN DRAIN SUMPS - FBS-50-809-3 & FBS-50-812-4 - A.S.A FIBERGLASS SUMPS

D. CLUGSTON

Kilian Engineering, Inc.
PO Box 3301, Henderson, NC 27536 | www.kilianengineering.com
(p)252.438.8778 | CORPORATE LICENSE C-2277

NO. REVISION DATE

SHEET DISCRIPTION
SPECIFICATIONS

PROJECT #:	2024039
DATE ISSUED:	09/10/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/JLH

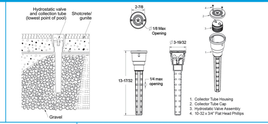
PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

SP5.0

AquaStar pool products — Hyrdostatic Relief Valves

Self-Contained Hydrostatic Valve Assembly

Part # HVCxxx



FEATURES

- Self-contained unit has a built-in collector tube
- Installs directly into the pool finish with no additional plumbing connection required
- Helps prevent swimming pool damage due to hydrostatic pressure beneath the pool shell when the pool is drained

12 per case

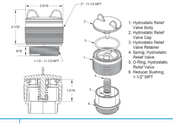
HVC05xxx – Cap and Screws

STANDARD COLORS

- HVC101
- HVC102
- HVC103
- HVC104
- HVC105
- HVC108

2" Hydrostatic Relief Valve

Part # HVxxx



FEATURES

- Equalizes pressure for high water tables
- Fins enable easy twist for installation and removal
- Fits any AquaStar and most other manufacturers' 2" threads
- Manufactured from superior UV-resistant engineered polymers
- Includes 2" x 1½" reducer bushing
- Must be glued into hydrostatic relief valve using ABS glue

25 per case

STANDARD COLORS

- HV101
- HV102
- HV103
- HV104
- HV105
- HV108

P 877-768-2717 **F** 877-276-POOL Outside the US: **P** +1-805-620-5060 **F** +1-949-336-1940
info@aquastarpoolproducts.com www.aquastarpoolproducts.com

★★ PROUDLY MADE ★★ IN THE USA

TAG 8 - HYDROSTATIC RELIEF - HVC101 - HYDROSTATIC RELIEF VALVE ASSEMBLY

FLOW STAR® SKIMMER WITH WATER STOP FACE, FLOAT ASSEMBLY, BASKET, LID AND ADJUSTABLE COLLAR

Built in conformance with NSF 50 and SPS 3 standards

FEATURES

- Adjustable collar
- New weir clip lock secures the clips in the weir door
- Self-contained gunite grip, water stop on the faceplate to prevent water leaks
- Large self-contained basket with lock-in feature (will not float)
- Underwater dampers on the faceplate for noise reduction on weir plate – especially on windy days
- Super strong engineered polymer upper housing
- Extra heavy duty PVC lower unit (no transitional glue required)
- 2½" outside slip and 2" inside slip (outside skimmer)
- 2" threads for pressure testing (inside skimmer)
- Built-in overflow or fill line knock out
- Upper housing has pre-cut rebar cutouts with pre-drilled holes for tie wire
- Skimmer Lid and Collar G154 UV tested
- NSF 50 approved for commercial use, 25 GPM min, 55 GPM max - approved for residential use up to 100 GPM
- See page 212 for code compliance and sizing
- Optional custom name/logo engraved on the lid (requires minimum 500 piece lid order)
- See page 157 for Skimmer with Ozone Port
- 1 per case

Three lid options available (sold separately): round, square or snap-in round/square

Part # SKR1xx

Optional vacuum plate with snap-in lug can be glued in under lid for easy storage p/n SKA3101

Optional BFB adapter converts skimmer fittings to 4" or 3" tee for improved hydraulics and code compliance p/n BFB101

For vinyl and fiberglass options, see pages 138-143

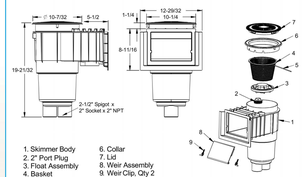
STANDARD COLORS

- SKR101 – White
- SKR102 – Black
- SKR103 – Light Gray
- SKR104 – Blue
- SKR105 – Dark Gray
- SKR108 – Tan

Snap-in Round/Square Lid and Collar (sold separately) p/n SK64xxx

Square Lid and Collar (sold separately) p/n SK64xxx

Available without lid and collar SKR1NL101 (white only)



TAG 9 - SKIMMER - SKR101 - COMMERCIAL GRADE SKIMMER

Large Wall Fitting (Fits Inside 2" Pipe)

FEATURES

- Fits inside 2" pipe, 1½" FPT in the front face
- Large flange camouflages pipe and surface construction variations
- See also decorative cover p/n DCxxx to make existing 1022s like new with different colors
- Manufactured from engineered polymer UV-resistant ABS material
- 250 per case

Also available in Clear (p/n ES1022SI2000)

NEW

Part # ES1022SI20xx

Three-Piece Directional Eyeball Fitting 1½" MPT

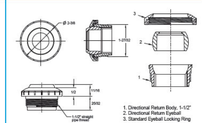
FEATURES

- Screws into 1½" FPT
- Manufactured from engineered polymer UV-resistant ABS material
- 250 per case

Eyeball orifice size part #s:
1" - 81xx, ¾" - 82xx,½" - 83xx, slotted - 84xx
(i.e. 8201 = white ¾" orifice)

Also available in clear
(p/n 8100, 8200, 8300, 8400)

Part # 81xx, 82xx, 83xx, 84xx



P 877-768-2717 **F** 877-276-POOL Outside the US: **P** +1-805-620-5060 **F** +1-949-336-1940
info@aquastarpoolproducts.com www.aquastarpoolproducts.com

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TAG 12 - RETURN INLET - ES1022SI2001 W/ 8101 - WALL RETURN INLET FITTING

AquaStar pool products — BUBBLER PLATE

A Safe Drain is No Accident™

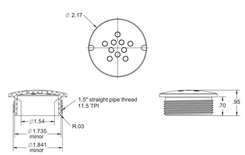
FEATURES

- Available in six standard colors
- No exposed components
- Installs flush with bottom of pool/spa

Part # BPxxx

STANDARD COLORS

- 101
- 102
- 103
- 104
- 105
- 108



P 877-768-2717 **F** 877-276-POOL Outside the US: **P** +1-805-620-5060 **F** +1-949-336-1940
info@aquastarpoolproducts.com www.aquastarpoolproducts.com

★★ PROUDLY MADE ★★ IN THE USA

TAG 13 - FLOOR RETURN - BP101 - RETURN INLET FITTING W/ BUBBLER PLATE

Large Wall Fitting (Fits Inside 2" Pipe)

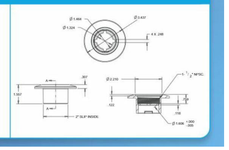
FEATURES

- Fits inside 2" pipe, 1½" FPT in the front face
- Large flange camouflages pipe and surface construction variations
- See also decorative cover p/n DCxxx to make existing 1022s like new with different colors
- Manufactured from engineered polymer UV-resistant ABS material
- 250 per case

Also available in Clear (p/n ES1022SI2000)

NEW

Part # ES1022SI20xx



STANDARD COLORS 01 02 03

39 ProStar # VLK15Txx

REPLACES # W4006WHP

Safety Vacuum Lock Wall Fitting (1½" NPT)
Part # VLK207xx (2" NPT)
Meets SPS-4-2009 Standard

40 ProStar # HWN153

REPLACES # AXV574P

Flow Gauge

41 ProStar # HWN158

REPLACES # AXV092

Hose Connector

42 ProStar # SZTHxx

REPLACES # V109

4-Foot Regular Hose

43 ProStar # SZTHLxx

REPLACES # V532

4-Foot Leader Hose

44 ProStar # HWN163xx

REPLACES # AXV414804

Wing Kit and Pod Shoes

TAG 14 - AUTOFILL - AFB101 - FILLSTAR AUTOFILL

AquaStar pool products — FillStar™ Water Level Control System for Pools and Spas

A Safe Drain is No Accident™

Durable and reliable

FEATURES

- Can be installed alone or with drain/ vacuum pool or spa at all times
- Easy to install
- Overflow protection and adjustable presets
- Uses the same size lid and collar as AquaStar skimmers
- Includes a 2" to 1½" adapter
- ¾" plug included if overflow is not needed
- ¾" water supply inlet
- Valve is made of high-strength engineered resin
- Float is injection-molded; thread is pre-molded
- All fittings are made of PVC
- No transition glue needed
- Float thread is ½" MPT
- 1 per case

NEW

Part # AFBxxx

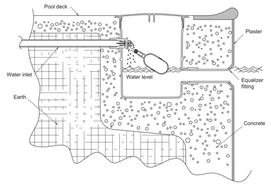
Also available float only part # AFBV

STANDARD COLORS

- AFB101 – White
- AFB102 – Black
- AFB103 – Light Gray
- AFB104 – Blue
- AFB105 – Dark Gray
- AFB108 – Tan

Also available without lid and collar p/n AFBNLxxx

Also available cover only p/n SKRTxxx



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info@aquastarpoolproducts.com www.aquastarpoolproducts.com

★★ PROUDLY MADE ★★ IN THE USA

TAG 15 - MUSHROOM FEATURE - 1800-18-96 - 5' 0" DIA MUSHROOM FEATURE (193GPM W/ 5.5' CURTAIN)

AquaStar pool products — 2" X 4" GUTTER DECK DRAIN (FITS 2" PIPE)

A Safe Drain is No Accident™

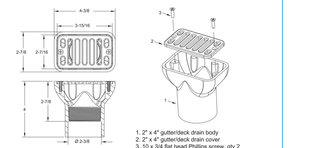
FEATURES

- Fits over 2" pipe
- 1½" threaded FPT inside for pressurizing/ winterizing
- Manufactured from engineered polymer UV-resistant PVC material (p/n GDD101 is manufactured from engineered polymer UV-resistant ABS material)
- 1½" reducer bushing available p/n BU101-2x1.5
- ½" stackable extender available p/n PE20101
- Stainless steel screws
- Also available as grate only with two screws
- CAUTION: Not to be used as a suction outlet under any circumstances
- 25 per case
- Grate only p/n GDDLxxx
- 25 per case

Part # GDDxxx

STANDARD COLORS

- 101
- 102
- 103
- 104
- 105
- 108



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★★ PROUDLY MADE ★★ IN THE USA

TAG 11 - OVERFLOW DRAIN - GDD101 - COMMERCIAL OVERFLOW DRAIN

Mushroom Spray Fountain Model 1800-18

Specifications

Model: 1800-18-96
Size: 5' 0" Diameter

Features

- Fiberglass dome
- 10" Diameter fiberglass stem
- Water flow: 60-267 gpm (spec)
- Variety of colors

Height Options

Model Number	Clearance
1800-18-84	7' 0"
1800-18-90	7' 6"
1800-18-96	8' 0"
1800-18-102	8' 6"
1800-18-120	10' 0"

GPM required for Curtain

Length of Curtain in Feet	GPM	Minimum Feed Pipe Size
8	267	4"
5.5	193	3"
3.5	133	2.5"
1.5	100	2"
Rain Sprinkle	60	1.5"

Natural Structures
PO Box 270, Baker City, OR 97814 (541) 523-0224 (800) 252-8475 www.naturalstructures.com - info@naturalstructures.com

May 2020

TAG 15 - MUSHROOM FEATURE - 1800-18-96 - 5' 0" DIA MUSHROOM FEATURE (193GPM W/ 5.5' CURTAIN)

D. CLUGSTON

Kilian Engineering, Inc.
PO Box 3301, Hendersonville, NC 28793 | www.kilianengineering.com
(p)252.438.8778 | CORPORATE LICENSE C-2277

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JAMES L. HAMILTON
09.12.2024

NO. REVISION DATE

SHEET DISCRIPTION
SPECIFICATIONS

PROJECT #:	2024039
DATE ISSUED:	09/10/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/JLH

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

SP5.1

Item #: 602103
Description: GloBrite White LED Light
Voltage: 12
Wattage: 15W
Cord Length (Ft.): 50
Carton Qty.: 1
Carton Wt. (Lbs.): 6

Item #: 602104
Description: GloBrite White LED Light
Voltage: 12
Wattage: 15W
Cord Length (Ft.): 100
Carton Qty.: 1
Carton Wt. (Lbs.): 9

Item #: 602105
Description: GloBrite White LED Light
Voltage: 12
Wattage: 15W
Cord Length (Ft.): 150
Carton Qty.: 1
Carton Wt. (Lbs.): 12

Item #: 620040
Description: Gunite Niche for GloBrite (includes white, blue, grey and tan rings
Voltage:
Wattage:
Cord Length (Ft.):
Carton Qty.: 1
Carton Wt. (Lbs.): 1.3

Item #: 620039
Description: Vinyl Niche for GloBrite (includes white, blue, and grey rings)
Voltage:
Wattage:
Cord Length (Ft.):
Carton Qty.: 1
Carton Wt. (Lbs.): 1.3

Feedback

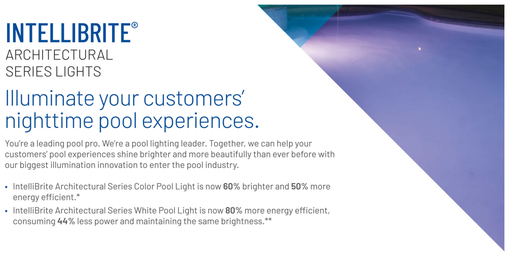
TAG 16 - LIGHT - 602104 - 190W EQUIVALENCY GLOBRITE WHITE LED LIGHTS

INTELLIBRITE®
ARCHITECTURAL
SERIES LIGHTS

Illuminate your customers' nighttime pool experiences.

You're a leading pool pro. We're a pool lighting leader. Together, we can help your customers' pool experiences shine brighter and more beautifully than ever before with our biggest illumination innovation to enter the pool industry.

- IntelliBrite Architectural Series Color Pool Light is now **60%** brighter and **50%** more energy efficient.*
- IntelliBrite Architectural Series White Pool Light is now **80%** more energy efficient, consuming **44%** less power and maintaining the same brightness.**



BEFORE
Unevenly lit pool with dark areas.

AFTER
Evenly lit pool for a more exhilarating nighttime pool experience.

PRODUCT SPECIFICATION

SIZE	MODEL	VOLTAGE	POWER	PART NUMBER BY CORD LENGTH (FEET)				
				30'	50'	100'	150'	250'
Pool	Color	120V	35W	602185	602186	602187	602188	602206
Pool	Color	12V	35W	602192	602762	602763	602784	-
Spa	Color	120V	18W	602200	602202	602203	602204	602205
Spa	Color	12V	18W	602197	602198	602199	602200	-
Pool	White – 300W Equivalent	120V	26W	602181	602182	602183	602184	602207
Pool	White – 300W Equivalent	12V	26W	602143	602144	602145	602146	-
Pool	White – 500W Equivalent	120V	51W	602177	602178	602179	602180	602208
Pool	White – 500W Equivalent	12V	51W	602139	602140	602141	602142	-
Spa	White – 100W Equivalent	120V	18W	602193	602194	602195	602196	602209
Spa	White – 100W Equivalent	12V	18W	618015	618016	618017	618018	-
Pool	Warm White	120V	51W	602189	602190	602191	602192	602221
Pool	Warm White	12V	51W	602147	602148	602149	602150	-
Spa	Warm White	120V	18W	602235	602236	602237	602238	602229
Spa	Warm White	12V	18W	602238	602239	602240	602241	-

Get total control from anywhere with the Pentair Home app to help you move, improve and enjoy all of your home's water.

Go to **pentair.com/home**

MORE OPTIONS AVAILABLE:
Scan the QR code to view the full list

*Compared to Pentair IntelliBrite 5G Color LED Pool Light in white color mode only. The IntelliBrite Architectural Series delivers higher lumen output depending on color mode, ranging from 28%–147% brighter, while energy efficiency improvements range from 37–68% based on color mode.
**Compared to Pentair IntelliBrite 5G White LED Pool Light. IntelliBrite Architectural Series White Light delivers 2.3% higher lumen output and consumes 44% less power.
Appearance of color and white LED light may vary between various models of lights. Appearance and perception of pool lighting may vary depending on a number of factors including, but not limited to, the particular model of light, the location/depth/angle of the light's installation, pool finish/material, pool depth/shape/geometry, ambient light sources, subjective factors and more. For best results when using multiple lights, use all the same model and do not mix multiple models of lights within a single installation.

PENTAIR

400 Regency Forest Dr | Cary, NC 27518 | United States | 800.831.7133 | pentair.com

PS-783 8/2023

TRADEGRADE

TAG 17 - LIGHT - 602145 - 300W EQUIVALENCY GLOBRITE WHITE LED LIGHTS

INTERMATIC

Junction Box - 4 Light Connection Pool & Spa Junction Box

Item PJB4175

PRODUCT DESCRIPTION

These polymeric junction boxes are code compliant and provide safe, reliable connections for low-voltage lights. Specially designed for pools, pool-spa combinations, and landscape applications. Junction boxes are for outdoor use only.

FEATURES

- Accommodates flexible cords and non-metallic conduits from ½" to 1"
- Watertight, multifixture enclosure
- Easy access ground bar
- PA114 Wall/Post Mounting Bracket (sold separately)
- Complies with NEC Code 680.24 requirements for junction boxes
- 1-year warranty

APPLICATIONS

- Landscape Lighting
- Underwater Lighting

TECHNICAL DATA

General	
Model Number	PJB4175
Description	4 Light Connection Pool & Spa Junction Box
UPC Code	078275094048
Brand	Intermatic
Country of Origin (Intermatic)	INDIA
Warranty Period	1-Year limited
Control Specifications	
Number of Light Connections	4
Mechanical Specifications	
Mounting Options	Bracket; Post; Rod; Wall
Dimensions	
Product Dimensions (H x W x D) in	8.75 x 5 x 4.625 in
Non Metallic Conduit Size	1/2"-1"
Material Specifications	
Body Material	Plastic
Electrical Specifications	
Number of Receptacle Knockouts	5
Packaging	
Unit Carton Dimensions (H x W x L) in	5.25 x 5 x 9 in
Standards and Certifications	

 1/3

TAG 18 - JUNCTION BOX - PJB4175 - 4 LIGHT CONNECTION POOL & SPA JUNCTION BOX

Hand & Stair Rails

DMS-102

- Tubing: 1.90" OD
- Wall Thickness*: .049" or .065"
- Stainless Steel: 304 or 316L Marine Grade** (add –MG to part number)
- Bends: 6" Radius
- Options: Powder-coating and SealedSteel Salt Friendly
- Recommended Anchors: AS-100P or AS-100B (order separately)
- Recommended Escutcheon: EP-100F (order separately)
- **Sold as a single rail**

* Minimum rail thickness is .065 for Commercial
** Minimum requirement for salt pools is 316L Marine Grade

DMS-102

Model No.	Description	Shipping			
		Weight	Length	Width	Height
DMS-102A	54" Center Grab Rail, .049"	15 lbs — 19 lbs 7 — 9kg	59" 150cm	39" 99cm	2" 5cm
DMS-102B	54" Center Grab Rail, .065"	15 lbs — 19 lbs 7 — 9kg	59" 150cm	39" 99cm	2" 5cm
DMS-102P	54" Center Grab Rail, .049" w/welded mounting plate	15 lbs — 19 lbs 7 — 9kg	59" 150cm	39" 99cm	2" 5cm

SRSmith

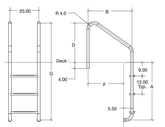
TAG 20 - HANDRAILS - DMS-102B-MG - MARINE GRADE DECK MOUNTED HANRAIL - STANDARD

Standard Plus Ladder

Stainless Steel Tread Ladder

- Tubing: 1.90" OD
- Wall Thickness: .065", .109" or .145"
- Stainless Steel: 304
- Treads: LTDF-103 (Stainless Steel)
- Bends: 4" Radius
- Options: Powder-coating and SealedSteel Salt Friendly (rails only)
- Recommended anchors: AS-200B for 1.50" and AS-100B for 1.90" (order separately)
- Recommended escutcheons: EP-150 for 1.50" and EP-100F for 1.90" (order separately)

* Call Customer Service at 800.824.4387 for availability of ladders of 1.50"OD tubing



stainless

MODEL NUMBER	B	D	A	F	C
10037 TO 10039*	26.00	23.00	26.00	17.00	54.00
10040 TO 10042	26.00	23.00	40.00	17.00	68.00
10043 TO 10045	26.00	23.00	52.00	17.00	78.00
10046 TO 10048	26.00	23.00	64.00	17.00	90.00
10049 TO 10051	26.00	29.00	26.00	23.50	54.00
10052 TO 10054	26.00	29.00	40.00	23.50	68.00
10055 TO 10057	26.00	29.00	52.00	23.50	78.00
10058 TO 10060	26.00	29.00	64.00	23.50	90.00
10061 TO 10063	31.00	35.00	26.00	29.50	59.00
10064 TO 10066	31.00	35.00	40.00	29.50	71.00
10067 TO 10069	31.00	35.00	52.00	29.50	80.00
10070 TO 10072	31.00	35.00	64.00	29.50	92.00

Model No.	Description	Shipping			
		Weight	Length	Width	Height
10037 to 10039*	23" 2-Step Ladder with .065", .109", .145" tubing	30, 42, 54 lbs 14, 20, 24kg	61" 155cm	29" 74cm	2" 5cm
10040 to 10042	23" 3-Step Ladder with .065", .109", .145" tubing	36, 52, 62 lbs 16, 23, 28kg	70" 177cm	28" 71cm	2" 5cm
10043 to 10045	23" 4-Step Ladder with .065", .109", .145" tubing	40, 58, 70 lbs 18, 26, 32kg	82" 208cm	28" 71cm	2" 5cm
10046 to 10048	23" 5-Step Ladder with .065", .109", .145" tubing	46, 64, 78 lbs 21, 29, 35kg	90" 229cm	28" 71cm	2" 5cm
10049 to 10051	29" 2-Step Ladder with .065", .109", .145" tubing	30, 44, 56 lbs 14, 20, 25kg	59" 150cm	39" 99cm	2" 5cm
10052 to 10054	29" 3-Step Ladder with .065", .109", .145" tubing	36, 52, 64 lbs 16, 24, 29kg	85" 216cm	39" 99cm	2" 5cm
10055 to 10057	29" 4-Step Ladder with .065", .109", .145" tubing	42, 58, 72 lbs 20, 26, 33kg	85" 216cm	39" 99cm	2" 5cm
10058 to 10060	29" 5-Step Ladder with .065", .109", .145" tubing	48, 66, 80 lbs 22, 30, 36kg	85" 216cm	39" 99cm	2" 5cm
10061 to 10063	35" 2-Step Ladder with .065", .109", .145" tubing	34, 48, 62 lbs 15, 22, 28kg	59" 150cm	39" 99cm	2" 5cm
10064 to 10066	35" 3-Step Ladder with .065", .109", .145" tubing	38, 56, 70 lbs 17, 25, 32kg	76" 193cm	40" 102cm	2" 5cm
10067 to 10069	35" 4-Step Ladder with .065", .109", .145" tubing	44, 64, 78 lbs 20, 29, 35kg	76" 193cm	40" 102cm	2" 5cm
10070 to 10072	35" 5-Step Ladder with .065", .109", .145" tubing	50, 70, 86 lbs 23, 32, 40kg	76" 193cm	40" 102cm	2" 5cm

Note:
- Frames extend 5½" from the pool wall. Frame is secured to the pool deck with two anchor sockets on 20" centers. The lower end of the frame is bent to meet the pool wall and fitted with two white rubber bumpers (WRB-100A for I.90" and WRB-102A for I.50").

* Example 10037=.065", 10038=.109", 10039=.145" tubing

SRSmith

TAG 21 - LADDER - 10054-MG - MARINE GRADE DECK MOUNTED COMMERCIAL LADDER

TECHNICAL DATA

General	
Model Number	FF15MC
Description	Spring Wound Countdown Timer, Commercial, 125-277 VAC, 50/60 Hz, SPST, 15 Minute Max, Without Hold, Silver
UPC Code	078275005297
Brand	Intermatic
Country of Origin (Intermatic)	TUNISIA
Warranty Period	1-Year limited
Application Compatibilities	Incandescent; Fluorescent; CFL; LED
Harmonized Code	9107.00.8000
Control Specifications	
Operation Mode	Countdown
Countdown Time	15 min
Hold Mode Included	No
Mechanism Type	Analog/Mechanical
Mechanical Specifications	
Wall Plate Configurations	Single-Gang; Multi-Gang
Dimensions	

TAG 22 - FEATURE PUSH BUTTON - FF15MC - INTERMATIC 15 MIN TIMER

INTERMATIC®

SPRING WOUND INTERVAL TIMER

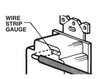
SWITCH RATING SPECIFICATIONS:
1 H.P. at 125 V.A.C. 50/60 HERTZ
20 Amps 125 V.A.C. 50/60 HERTZ
10 Amps 277 V.A.C. 50/60 HERTZ
2 H.P. at 250 V.A.C. 50/60 HERTZ
10 Amps 150 V.A.C. 50/60 HERTZ
7 Amps 125 V.A.C. Tungsten

INSTALLATION INSTRUCTIONS:
This spring wound timer is as easy to install as a light switch in a standard 2-1/2 inch deep vertically installed junction box in place of (or to replace) a standard single pole, 3-way or double pole single throw (depending on timer model) wall switch. This spring wound timer will automatically turn off lights, fans, air conditioners and other loads after a preset timing period.

CAUTION: This timer should not be used in precision timing applications where inaccurate timing could have dangerous consequences (i.e. sun lamps, sauna, etcetera).

INSTALLATION:
Depending on the type of spring wound timer you have, you may need to supply a standard single or multi-gang wall switch plate with either a toggle opening or a decorator type opening. If your timer is supplied with a metallic silver plastic time dial wall plate (models with FF prefix), see illustration "A". If your timer is supplied with a small ivory, white or other colored plastic time dial plate (models with FD prefix), you will need to supply a standard toggle or decorator design wall switch plate and see illustration "B1" or "B2".

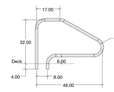
1. Be sure to turn off electrical power at breaker or fuse panel for safety during installation.
2. Remove wall plate and disconnect switch from vertically installed junction box.
3. Strip end of wires 1/2 inch long as per strip gauge on back of timer.



TAG 23 - FEATURE TIMER - ET90115CR - ELECTRIC TIMER FOR FEATURE PUMP

Hand & Stair Rails

DMS-101



- Tubing: 1.90" OD
- Wall Thickness*: .049" or .065"
- Stainless Steel: 304 or 316L Marine Grade** (add –MG to part number)
- Bends: 6" Radius
- Options: Powder-coating and SealedSteel Salt Friendly
- Recommended Anchors: AS-100P or AS-100B (order separately)
- Recommended Escutcheon: EP-100F (order separately)
- **Sold as a single rail**

* Minimum rail thickness is .065 for Commercial
** Minimum requirement for salt pools is 316L Marine Grade

DMS-101

Model No.	Description	Shipping			
		Weight	Length	Width	Height
DMS-101A	48" Center Grab Rail, .049	13 lbs — 16 lbs 6 — 7kg	59" 150cm	39" 99cm	2" 5cm
DMS-101B	48" Center Grab Rail, .065	13 lbs — 16 lbs 6 — 7kg	59" 150cm	39" 99cm	2" 5cm

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TAG 19 - JUNCTION BOX - PJB4175 - 4 LIGHT CONNECTION POOL & SPA JUNCTION BOX

pool access equipment

multiLift™

A flanged pool lift, with left or right side mounting, and optional folding seat version.
- Third-party tested & verified ADA compliant
- Integrated armrests
- State of California compliant
- 350 lb/159kg lifting capacity
- Retrofit anchor jig is standard
- Optional folding seat assembly
- LiftOperator® Intelligent Controller
- Powder-coated stainless steel and aluminum construction

Lift Color

GRAY MIST

Due to printing technology actual color may differ.

Description		Shipping – (Class 150)			
Model No.	Pool Lift with Armrests	Weight	Length	Width	Height
575-0000	multiLift	200 lbs/91kg	50" 127cm	28" 71cm	2" 69cm
575-0000N	multiLift, no anchor				

Note:
- Includes battery, charger, battery console cover, water-resistant hand control, footrest, seat belt assembly, armrests and retrofit anchor jig.

Parts & Accessories

New Construction Jig with Anchors 500-5000A

Wheel-A-Way mobility option provides flexibility to transport the lift if needed

Optional folding seat assembly

- 1001495 Battery
- 500-5200T Cover
- 500-5500 Wheel-A-Way
- 900-1000 Seat Belt
- 300-6700A Anchors, set of 4
- 300-6900 Retrofit Anchor Jig
- 300-6800A Anchor Bolts, set of 4
- 970-5000T Seat Saver Cover
- 900-6000 Stability Strap
- 170-3000A Armrest Replacement (pair)

multiLift with Folding Seat

Model No.	Description	Shipping – (Class 77.5)			
		Weight	Length	Width	Height
575-0100	multiLift with folding seat*	225 lbs/103kg	50" 127cm	24" 61cm	28" 71cm
575-0100N	multiLift with folding seat, no anchor*	225 lbs/103kg			
575-0105	multiLift with armrests and folding seat	230 lbs/104kg			
575-0105N	multiLift with armrests and folding seat, no anchor	230 lbs/104kg			

Note:
- Includes battery, charger, battery console cover, water-resistant hand control, footrest, seat belt assembly and retrofit anchor jig.
* Models without armrests are not compliant with State of California requirements.

Parts & Accessories

- 1001495 Battery
- 500-5100FCT Folding Seat Cover
- 160-6000T Folding Seat
- 900-2000 Stability Vest
- 900-4000 Seat Pad
- 970-0000T Seat Saver Cover
- 170-2320 Armrest Assembly, gray, left & right

New Construction Guidelines

Scenario	Pool Lift	Anchor Jig
Order pool lift and new construction jig at same time	575-3000	500-5000 (no anchors)
Order new construction jig ahead of pool lift	575-3000N	500-5000A (comes with anchors)

SRSmith

S.R.Smith, LLC P.O. Box 400, Canby, OR 97013
P 503.266.2231 **TF** 800.824.4387 **srsmith.com**

TAG HC - ADA LIFT - 575-0105 - MULTILIFT WITH FOLDING SEAT

D. CLUGSTON

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 048012 JOSEPH L. KILIAN
09.12.2024

Kilian Engineering, Inc.
PO Box 3301, Henderson, NC 27536 | www.kilianengineering.com
(p)252.438.8778 | CORPORATE LICENSE C-2277

DATE
REVISION
NO.

SHEET DISCRIPTION
SPECIFICATIONS

PROJECT #:	2024039
DATE ISSUED:	09/10/2024
DRAWING BY:	JVD
CHECKED BY:	DSC/JLH

PARKER RIDGE AMENITY
LENNAR HOMES
AMENITY & POOL
ROLESVILLE, NC

SP5.2