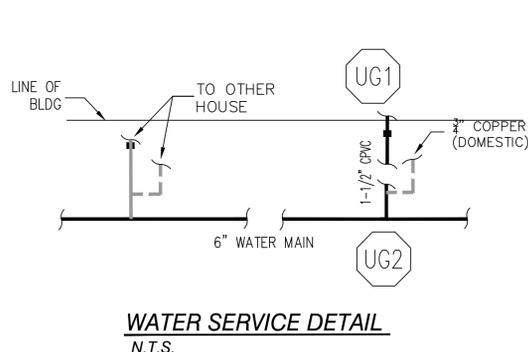
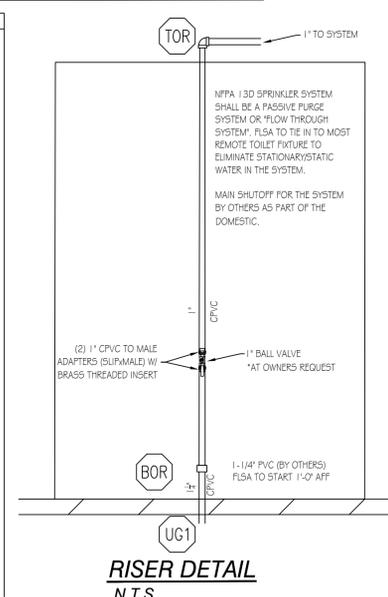
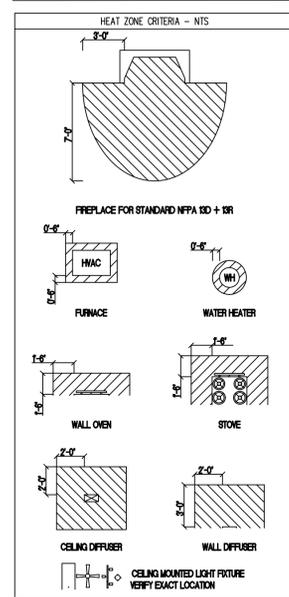
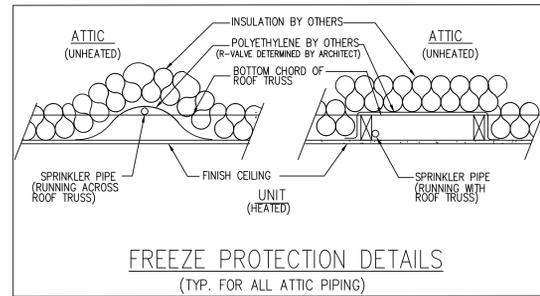
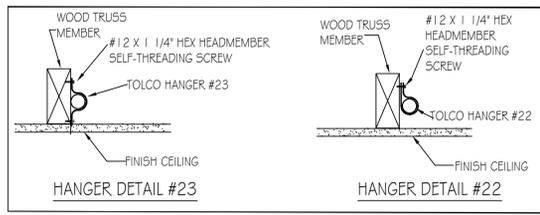


# GENERAL NOTES

- THIS WET PIPE FIRE SPRINKLER SYSTEM IS DESIGNED AS LIGHT HAZARD/RESIDENTIAL OCCUPANCY WITH A DESIGN DENSITY OF .05 GPM/2 SPRINKLERS MAX IN ACCORDANCE WITH 13D (2013 EDITION) AND NFPA 13-11.3.1.1.
- HYDRAULIC CALCULATIONS ARE BASED UPON FLOW DATA PERFORMED BY FLSA ON 04/21/2021 AT 4:00PM. HYDRAULIC CALCULATIONS TO BE BASED ON NFPA 13D (2013 EDITION).
- FIRE SPRINKLER OVERHEAD PIPE AND FITTINGS ARE TO BE CPVC PIPE LISTED FOR FIRE PROTECTION USED UNLESS NOTED OTHERWISE.
- ALL HANGERS TO BE U.L. LISTED FOR FIRE PROTECTION SERVICES. HANGERS SHALL BE INSTALLED IN ACCORDANCE WITH THEIR LISTING. SPACING AND LOCATION TO COMPLY WITH NFPA 13.
- ALL EQUIPMENT TO BE U.L. LISTED FOR FIRE PROTECTION SERVICES AND LISTED IN ACCORDANCE WITH ITS LISTING.
- PENDENT SPRINKLERS ARE TO BE SPACED A MAXIMUM OF 18 FT. X 18 FT. AND A MINIMUM OF 8 FT. APART. PENDANTS MAY BE A MAXIMUM OF 9'-0" OFF OF ANY WALL.
- IN AREAS WHERE WET-TYPE SPRINKLER SYSTEM PIPING HAS BEEN INSTALLED, IT IS THE OWNERS' RESPONSIBILITY TO PROVIDE ADEQUATE HEAT. (AMBIENT TEMPERATURE OF A MINIMUM 40°F)
- ALL DRAINAGE TO COMPLY WITH NFPA 13D AND CONTRACT DOCUMENTS.
- [X'-X'] DENOTES CENTERLINE OF PIPE AFF.
- ALL SPRINKLER HEADS SHALL BE LISTED RESIDENTIAL SPRINKLER HEADS IN ACCORDANCE WITH 7.5.1 OF NFPA 13D.
- FLSA POINT OF CONNECTION IS AT 1'-0" AFF.
- UNDERGROUND PIPING TO BE FLUSHED PRIOR TO SPRINKLER PIPE CONNECTION. FLUSHING IS TO BE COMPLETED BY OTHERS.
- PIPING TO SPRINKLER HEADS 1" CPVC UNLESS OTHERWISE NOTED.

**NOTE:**  
SITE HYDRAULIC REFERENCE PLAN HAS BEEN SHOWN FOR REFERENCE ONLY.  
ALL UNDERGROUND WORK SHALL BE INSTALLED BY UTILITY CONTRACTOR AND INSTALLED IN ACCORDANCE WITH THE CIVIL SITE UTILITY PLAN. FLSA SHALL BEGIN WORK AT 1'-0" ABOVE FINISHED FLOOR.



**Sprinkler Design Data**

Project Name: OAKHAVEN LOT 9	System: WET
Project Street Address: 312 OAKHAVEN DRIVE	Sys. Sq. Ft.: VARIES
Floor: 1	Ceiling Height: VARIES
Designed By: HALEY WEYANT	Phone: (919) 872-3250
Occupancy: RESIDENTIAL	Hazard: LIGHT/RESIDENTIAL

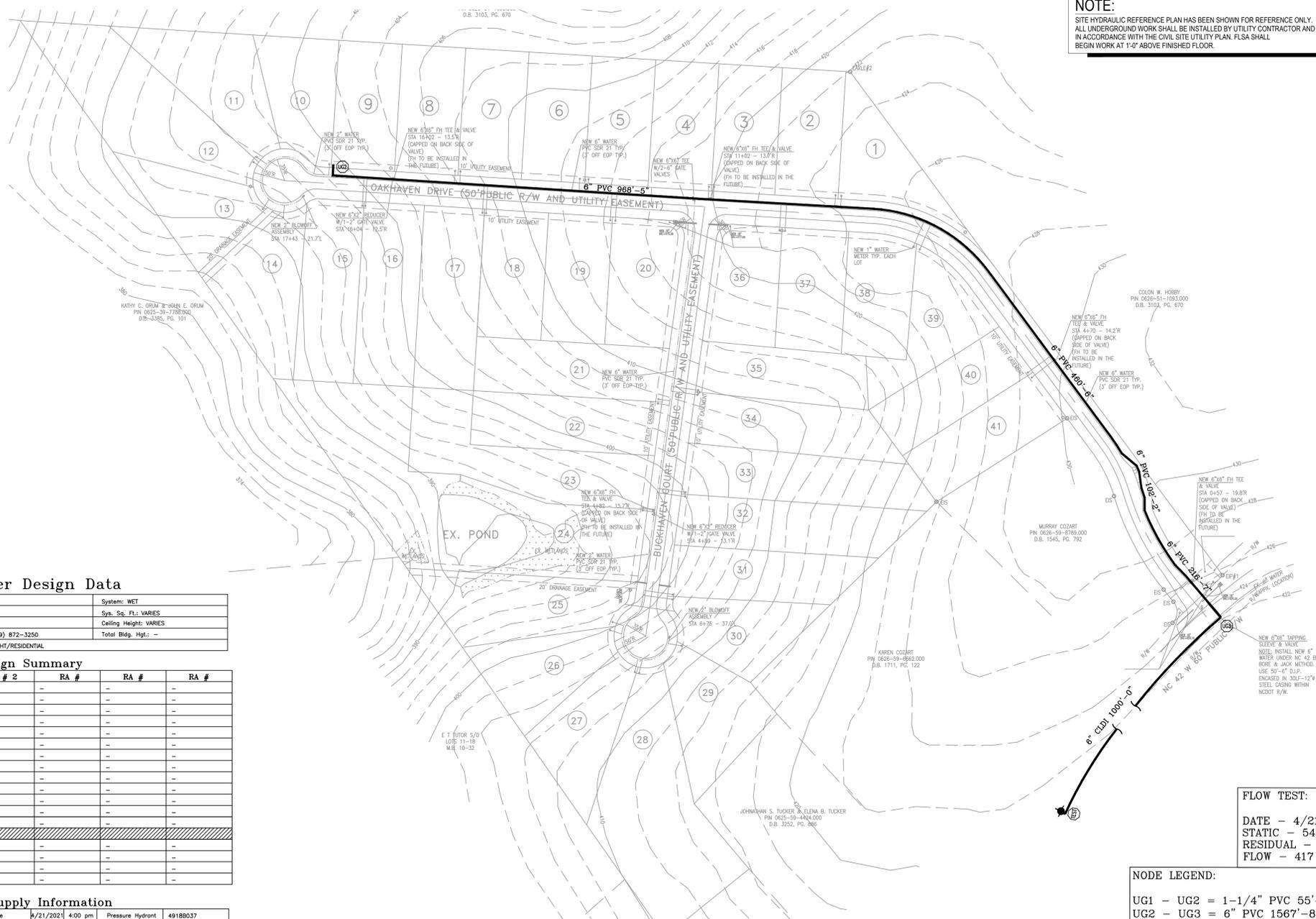
**Design Summary**

	RA # 1	RA # 2	RA #	RA #
Design Method	CALCULATED	-	-	-
Design Area #	REMOTE AREA #1	-	-	-
Location	MASTER BEDROOM	-	-	-
Type of System	WET	-	-	-
Hazard Class	RESIDENTIAL	-	-	-
Criteria Form	NFPA 13D (2013)	-	-	-
Design Area	2 HEAD	-	-	-
Sprinkler Spacing	20X20 (400 SF)	-	-	-
Density	.05	-	-	-
K-Factor	4.9	-	-	-
Domestic Flow	3 GPM	-	-	-
# Design Sprinklers	1	-	-	-
Special Application Spk.	-	-	-	-
Requirement @ TEST	-	-	-	-
G.P.M. Req'd	23.03 gpm	-	-	-
P.S.I. Req'd	29.72 psi	-	-	-
Safety Factor @ TEST	24.59	-	-	-
Volume of Dry System	-	-	-	-

**Water Supply Information**

Tested by	Date/Time	Hydrom. Elevation	Static (PSI)	Flow (GPM)	Pressure Hydrant
-	4/21/2021 4:00 pm	49188037	54.5	13.5	417

Copy of Water Test Data Included with Calculation is required



**FLOW TEST:**  
DATE - 4/21/2021  
STATIC - 54.5 psi  
RESIDUAL - 13.5psi  
FLOW - 417 gpm

**NODE LEGEND:**  
UG1 - UG2 = 1-1/4" PVC 55'-0"+/-  
UG2 - UG3 = 6" PVC 1567'-8"+/-  
UG3 - TEST = 6" PVC 1000'-0"+/-

## SITE PLAN - FOR HYDRAULIC REFERENCE ONLY

**TABLE A - CPVC STANDARD SUPPORT SPACING**

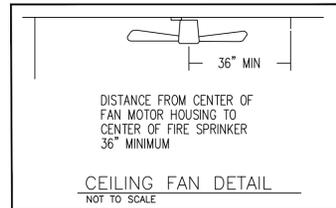
NOMINAL SIZE, INCHES	MAX SUPPORT SPACING, FEET
3/4"	5'-0"
1"	6'-0"
1 1/4"	6'-6"
1 1/2"	7'-0"
2"	8'-0"
2 1/2"	9'-0"
3"	10'-0"

**TABLE B - MAX SUPPORT SPACING DISTANCE IN LINE SPRINKLER HEAD DROP TEE**

NOMINAL PIPE SIZE	LESS THAN 100 PSI	MORE THAN 100 PSI
3/4"	4'-0"	3'-0"
1"	5'-0"	4'-0"
1 1/4"	6'-0"	5'-0"
1 1/2" - 3"	7'-0"	7'-0"

**TABLE C - MAX SUPPORT SPACING DISTANCE END SPRINKLER HEAD DROP ELBOW**

NOMINAL PIPE SIZE	LESS THAN 100 PSI	MORE THAN 100 PSI
3/4"	4'-0"	3'-0"
1"	5'-0"	4'-0"
1 1/4"	6'-0"	5'-0"
1 1/2" - 3"	7'-0"	7'-0"



## SCOPE OF WORK

- FLSA TO BEGIN WORK AT 1'-0" AFF
  - FLSA TO INSTALL AUTOMATIC SPRINKLER SYSTEM UNDER NFPA 13D (2013) TO PROTECT NEW RESIDENTIAL HOME
  - FLSA TO TIE THE NEW SPRINKLER SYSTEM INTO PLUMBING FOR A PASSIVE PURGE SYSTEM.
  - ALL PIPING TO BE CPVC.
  - ALL UNDERGROUND AND RUN-IN BY OTHERS
- THIS FIRE SPRINKLER PLANNING AND DESIGN DRAWING HAS BEEN PREPARED BY FIRE & LIFE SAFETY AMERICA, INC. AS A LICENSED FIRE SPRINKLER CONTRACTOR UNDER ARTICLE 2 OF CHAPTER 87 OR THE GENERAL STATUTES FOR THE STATE OF NORTH CAROLINA.
- EXCLUSIVE USE PURSUANT TO G.S. 89C-25(8) IS FOR FIRE & LIFE SAFETY AMERICA, INC. AND FIRE & LIFE SAFETY AMERICA, INC. SHALL PERFORM ANY AND ALL INSTALLATION WORK AND OTHER WORK PERFORMED IN RELIANCE ON THE DRAWING PURSUANT TO G.S. 55B-15(A)(2).
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- COPYRIGHT FIRE & LIFE SAFETY AMERICA, INC. ALL RIGHTS RESERVED. NORTH CAROLINA STATE LICENSE #29733

<p><b>SYSTEM DESIGN CRITERIA</b></p> <p>TYPE SYSTEM: <input checked="" type="checkbox"/> WET <input type="checkbox"/> DRY <input type="checkbox"/> DELUGE <input type="checkbox"/> PREACTION <input type="checkbox"/> ANTI-FREEZE</p> <p>OCCUPANCY: RESIDENTIAL</p> <p>HAZARD: LIGHT</p> <p>MAXIMUM SPACING: VARIES</p> <p>LOCAL HOSE THREADS: N.S.T.</p> <p>SPRINKLERS ARE REQUIRED TO BE LOCATED IN THE CENTER OF THE CEILING TILES.</p> <p>PIPE TYPES AND FITTING TYPES</p> <p>LINE PIPING: CPVC</p> <p>LINE FITTINGS: CPVC</p> <p>MAIN PIPING: CPVC</p> <p>MAIN FITTINGS: CPVC</p>	<p><b>APPROVING AGENCIES</b></p> <p>APPROVING AUTHORITY: HARNETT COUNTY</p> <p>UNDERWRITER: N/A</p> <p>GENERAL CONTRACTOR: WATERMARK HOMES</p> <p>ADDRESS: 1303 FT BRAGG ROAD SUITE 201</p> <p>CITY &amp; STATE: FAYETTEVILLE, NC 28305</p> <p>PHONE NO.: (910) 483-2229</p> <p>FAX NO.:</p>	<p><b>GENERAL NOTES</b></p> <p>1. Freeze Protection: The owner is responsible for maintaining a min. of 40°F temperature for all wet systems and portions of other systems containing water.</p> <p>2. M.I.C. Protection: The owner is responsible for all detection testing prevention.</p> <p>3. Design is subject to minor deviations arising from field conditions and/or trade coordination. Such deviations shall not affect code compliance or scope of work and shall not require resubmittal except in "as-built" if required by contract documents.</p> <p>4. Underground provider to ensure lead-in is plumbed, 2-holed, redded, flashed, thrust blocked and a fully executed underground test certificate required per NFPA to be provided to FLSA prior to connection. FLSA is not responsible for damage to its system or components due to debris entering the system from underground water lines provided "by others".</p> <p>5. This drawing is property of Fire and Life Safety America and is not to be duplicated and/or distributed without written authorization from FLSA.</p> <p>6. Hydrostatic testing will only be performed with water or air depending on adequate temperature. Any other form of testing is excluded.</p>	<p><b>LEGEND</b></p> <p>Hydraulic Reference Point</p> <p>18" BTS Elev. Below Top of Steel</p> <p>12'-0" AFF Elev. Above Finished Floor</p> <p>TOS 12'-0" Elev. of Top of Steel</p> <p>Calling Height</p> <p>Denotes Hanger Location</p> <p>Denotes Setback Support</p> <p>Room name or use</p> <p>Stave Location</p> <p>FLSA Start Point</p>	<p><b>SPRINKLER SUMMARY</b></p> <table border="1"> <thead> <tr> <th>SYMBOL</th> <th>TYPE</th> <th>FINISH</th> <th>TEMP</th> <th>ORIF</th> <th>"K"</th> <th>NPT</th> <th>MANUF</th> <th>SIN#</th> <th>ESCUTCHEON</th> <th>QTY.</th> </tr> </thead> <tbody> <tr> <td>●</td> <td>RES. 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**NOTES:**

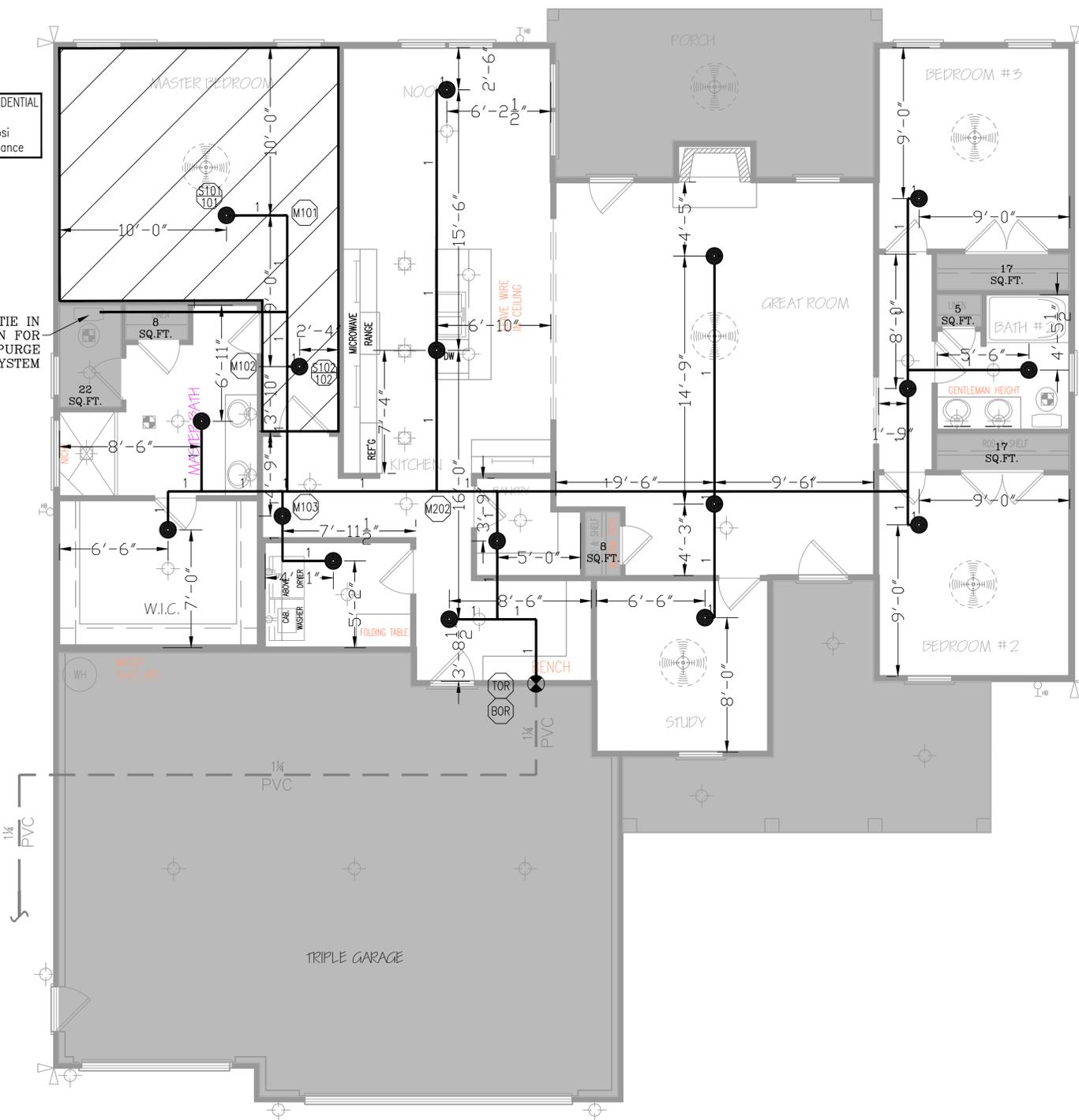
- PORCHES AND GARAGES ARE OMITTED PER NFPA 13D (2013) 8.3.4
- CLOSETS 24 SQ. FT. OR LESS IN AREA ARE UNSPRINKLERED PER NFPA 13D (2013) 8.3.3; WALLS AND CEILING TO BE SURFACED WITH NONCOMBUSTIBLE OR LIMITED COMBUSTIBLE MATERIAL AS DEFINED BY NFPA 220
- BATHROOMS 55 SQ. FT. OR LESS IN AREA ARE UNSPRINKLERED PER NFPA 13D (2013) 8.3.2

**SPRINKLER LEGEND**

- NO HEADS REQUIRED
- REMOTE AREA

RA1 - MASTER BEDROOM  
 Design Area No. 1 - RESIDENTIAL  
 Density .05 Area 2 HEADS  
 Flow 23.03 gpm @ 29.72 psi  
 Includes N/A gpm Hose allowance  
 SAFETY: 24.59

TIE IN  
 LOCATION FOR  
 PASSIVE PURGE  
 SYSTEM



**LEVEL 1 - SPRINKLER PLAN**

1/4" = 1' - 0"

THIS FIRE SPRINKLER PLANNING AND DESIGN DRAWING HAS BEEN PREPARED BY FIRE & LIFE SAFETY AMERICA, INC. AS A LICENSED FIRE SPRINKLER CONTRACTOR UNDER ARTICLE 2 OF CHAPTER 87 OR THE GENERAL STATUTES FOR THE STATE OF NORTH CAROLINA.

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JONATHAN STERBILA  
 LEVEL III AUTOMATIC SPRINKLER SYSTEMS  
 #111897  
 NORTH CAROLINA STATE LICENSE #29733

SYSTEM DESIGN CRITERIA	
TYPE SYSTEM: <input checked="" type="checkbox"/> WET <input type="checkbox"/> DRY <input type="checkbox"/> DELUGE	NFPA STANDARD: <input type="checkbox"/> #13 <input checked="" type="checkbox"/> #13D <input type="checkbox"/> #13R <input type="checkbox"/> #14 <input type="checkbox"/> #20 <input type="checkbox"/> #22
<input type="checkbox"/> PREACTION <input type="checkbox"/> ANTI-FREEZE	<input type="checkbox"/> #24 <input type="checkbox"/> #231 <input type="checkbox"/> #231C <input type="checkbox"/> #15 <input type="checkbox"/> #16 <input type="checkbox"/> #449
OCCUPANCY: RESIDENTIAL	HAZARD: LIGHT
MAXIMUM SPACING: VARIES	LOCAL HOSE THREADS: N.S.T.
PIPE TYPES AND FITTING TYPES	PIPE ID REQUIRED: NO
LINE PIPING: CPVC	LINE FITTINGS: CPVC
MAIN PIPING: CPVC	MAIN FITTINGS: CPVC

APPROVING AGENCIES	
APPROVING AUTHORITY: HARNETT COUNTY	UNDERWRITER: N/A
GENERAL CONTRACTOR: WATERMARK HOMES	ADDRESS: 1303 FT BRAGG ROAD SUITE 201
	CITY & STATE: FAYETTEVILLE, NC 28305
PHONE NO.: (910) 483-2229	FAX NO.:

**GENERAL NOTES**

- Freeze Protection: The owner is responsible for maintaining a min. of 40° F temperature for all wet systems and portions of other systems containing water.
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LEGEND	
	Hydraulic Reference Point

SPRINKLER SUMMARY										
SYMBOL	TYPE	FINISH	TEMP	ORIF	"K"	NPT	MANUF	SIN#	ESCT/CHEON	QTY.
●	RES. PENDENT	WHITE	200°	1/2"	4.9	1/2"	VIKING	VK494	CONCEALED	17
TOTAL SPRINKLERS THIS PROJECT										17
TOTAL SPRINKLERS THIS DRAWING										17

REVISIONS		
NO.	DATE	DESCRIPTION
1	8/26/2021	SUBMITTAL TO AHJ

RICHMOND, VA CHARLOTTE, NC	CHESAPEAKE, VA HOUSTON, TX RALEIGH, NC	ROANOKE, VA SAN ANTONIO, TX BALTIMORE, MD	SPRINGFIELD, VA DALLAS, TX ATLANTA, GA	ORLANDO, FL AUSTIN, FL
1731 Round Rock Drive Raleigh, NC 27615 PHONE (919) 872-3250 FAX (919) 877-5775				
JOB #: 21NC1533		DATE: 8/25/2021		DRAWN BY: H. WEYANT
SCALE: AS NOTED		LEVEL 1 - SPRINKLER PLAN		
OAKHAVEN LOT 9 312 OAKHAVEN DR. HOLLY SPRINGS, NC 27540				
				DRAWING #: 9FP2 OF 2