

FIRE PROTECTION LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FIRE SUPPLY PIPING		FLOOR CONTROL VALVE ASSEMBLY
	SPRINKLER SUPPLY PIPING		SUPERVISED SHUTOFF VALVE
	CONCEALED SPRINKLER HEAD		VALVE IN VERTICAL
	UPRIGHT SPRINKLER HEAD		ELECTRIC ALARM BELL
	SEMI-RECESSED SPRINKLER HEAD		
	SEMI-RECESSED SIDEWALL SP HD		
	PIPE TURNED UP		
	PIPE TURNED DOWN		
	CAP ON LINE		
	HYDRAULIC CALCULATION NODE		

SPRINKLER DESIGN CRITERIA	
TYPE OF SYSTEM:	AUTOMATIC WET
HAZARD CLASSIFICATION:	LIGHT ORDINARY GROUP 1 IN MECHANICAL, ELECTRIC, STORAGE & SHOWROOMS
CONSTRUCTION STANDARDS:	FLORIDA BUILDING CODE, 2014 EDITION INCLUDING ALL SUPPLEMENTS FLORIDA FIRE PREVENTION CODE, 2014 EDITION NFPA 13, 2010 EDITION NFPA 20, 2010 EDITION
DESIGN DENSITY:	LIGHT HAZARD- 0.10 GPM/SQ. FT OVER 1500 SQ. FT ORDINARY GROUP 1- 0.15 GPM/SQ. FT OVER 1500 SQ. FT
HYDRANT FLOW DATA:	TEST DATE- 8/19/15 LOCATION- EASTSIDE OF PROPERTY STATIC- 57 PSI RESIDUAL- 54 PSI FLOW- 1,130 GPM

HYDRAULIC CALCULATION SUMMARY	
SYSTEM DEMAND FLOW RATE:	SPRINKLER SYSTEM= 333.92 GPM EXTERIOR HOSE= 100 GPM TOTAL AT INFLOW NODE= 433.92 GPM
MINIMUM SYSTEM PRESSURE REQUIRED:	STATIC HEAD LOSS= 10.42 PSI FRICTION LOSS= 22.14 PSI HMD SPRINKLER HEAD= 8.87 PSI FIXED DEVICE LOSS= 10.0 PSI TOTAL AT INFLOW NODE= 51.43 PSI
AVAILABLE WATER PRESSURE AT SYSTEM DEMAND FLOW RATE:	56.68 PSI
MINIMUM SYSTEM PRESSURE REQUIRED AT SYSTEM DEMAND FLOW RATE:	51.43 PSI
EXCESS PRESSURE AVAILABLE AT CALCULATED FLOW:	5.25 PSI

- ### FIRE PROTECTION MATERIAL SPECIFICATION
- PIPING 2" AND SMALLER: STANDARD WEIGHT THREADED SCHEDULE 40 STEEL PIPE COMPLIANT WITH ASTM A-135. FITTINGS SHALL BE STANDARD WEIGHT THREADED CAST/MALLEABLE IRON COMPLIANT ANSI B-16.4 OR B-16.3.
 - PIPING 2-1/2" AND LARGER: FACTORY FORMED GROOVED-END SCHEDULE 10 STEEL PIPE FOR SIZES 5" AND SPRINKLER SIZES 5" AND LARGER. PIPE THICKNESS SHALL BE AS SPECIFIED IN NFPA 13, EDITION 2010. ALL PIPING SHALL BE COMPLIANT WITH ASTM A-135. FITTINGS SHALL BE FACTORY FORMED GROOVED-END DUCTILE-IRON, UL-LISTED, AND COMPLIANT ASTM A-536.
 - ALARM DEVICES:
 - WATER FLOW SWITCH- ELECTRICALLY SUPERVISED, PADDLE OPERATED, MINIMUM 250 PSI PRESSURE RATING, CAN BE INSTALLED HORIZONTALLY OR VERTICALLY, FIELD ADJUSTABLE, WITH TAMPER PROOF COVER.
 - ALARM BELL- 8" DIAMETER, METAL WITH RED ENAMEL FINISH, RATED FOR OUTDOOR USE.
 - SUPERVISORY TAMPER SWITCH- ELECTRICAL, SINGLE-POLE, NORMALLY CLOSED CONTACTS.
 - SPRINKLER HEADS:
 - ALL WET TYPE SPRINKLER HEADS SHALL BE UL LISTED WITH A 175 PSI MINIMUM PRESSURE RATING, BE CONSTRUCTED OF CAST BRASS WITH A GLASS BULB ELEMENT AND BE OF SPRAY TYPE WITH A 1/2" ORIFICE OPENING.
 - UNLESS OTHERWISE NOTED, ALL SPRINKLER HEADS SHALL BE ORDINARY TEMPERATURE.
 - ALL SPRINKLER HEADS SHALL BE PROVIDED WITH A 5:6 K-FACTOR.
 - SPRINKLER HEADS SUBJECT TO MECHANICAL DAMAGE AND/OR INSTALLED BELOW 7'-6" ABOVE FINISH FLOOR SHALL BE PROVIDED WITH WIRE CAGE PROTECTION.
 - QUICK RESPONSE SPRINKLER HEAD BASIS OF DESIGN:

SEMI-RECESSED-	VIKING MODEL #VK302, WHITE FINISH
CONCEALED-	VIKING MODEL #VK462, UNLESS NOTED OTHERWISE, BRUSHED CHROME FINISH
UPRIGHT-	VIKING MODEL #VK300, ROUGH BRASS FINISH
STANDARD RESPONSE SPRINKLER HEAD BASIS OF DESIGN:	
SEMI-RECESSED-	VIKING MODEL #VK102, WHITE FINISH
CONCEALED-	VIKING MODEL #VK462, UNLESS NOTED OTHERWISE, BRUSHED CHROME FINISH
UPRIGHT-	VIKING MODEL #VK100, ROUGH BRASS FINISH
 - SPRINKLER HEAD CABINET- WALL MOUNTED ENAMELED STEEL CABINET WITH HINGED COVER. INCLUDE NUMBER OF SPRINKLERS REQUIRED BY NFPA 13, EDITION 2010 FOR EACH SPRINKLER HEAD TYPE USED. PROVIDE WRENCH FOR EACH TYPE OF SPRINKLER HEAD.
 - SHUTOFF, CHECK, & GENERAL DUTY VALVES:
 - SHUTOFF VALVES CONTROLLING WATER FLOW SHALL BE UL LISTED AND OF OS&Y TYPE, MINIMUM WORKING PRESSURE OF 175 PSI, CAST-IRON BODY, FLANGED ENDS, AND PROVIDED WITH A SUPERVISORY TAMPER SWITCH.
 - SUBMITTAL REQUIREMENTS: SUBMIT SIX COPIES OF SHOP DRAWINGS OR LITERATURE ON THE FOLLOWING ITEMS: ALARM DEVICES, SPRINKLER HEADS, SPRINKLER HEAD CABINET, VALVES, PIPING, AND FITTINGS.

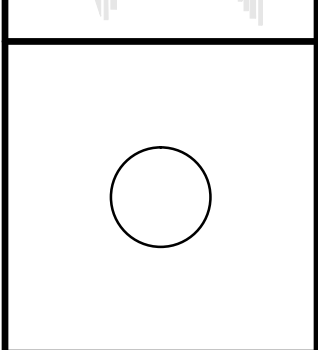
- ### FIRE PROTECTION GENERAL NOTES
- CONTRACTOR SHALL PROVIDE AN APPROVED AUTOMATIC FIRE PROTECTION SYSTEM AS PER NFPA 13 (EDITION 2010), FLORIDA BUILDING CODE (EDITION 2014), FLORIDA FIRE PREVENTION CODE (EDITION 2014), AND ALL STATE & LOCAL REQUIREMENTS. SUBMIT DETAILED DRAWINGS AND CALCULATIONS TO FIRE MARSHAL FOR APPROVAL AND FIRE MARSHAL APPROVED DRAWINGS TO ENGINEER. PRIOR TO START OF ANY WORK, SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT AND MATERIAL TO THE ENGINEERS FOR APPROVAL. COORDINATE SPRINKLER HEAD LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN AND SUBMIT FOR APPROVAL BY ARCHITECT AND ENGINEER.
 - PROVIDE A COMPLETE AUTOMATIC SPRINKLER SYSTEMS INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING AS REQUIRED:
 - INTERIOR SYSTEMS INCLUDING PIPING, PIPING ACCESSORIES, FITTINGS, SPRINKLERS, HANGERS, SUPPORTS, SLEEVES, VALVES, ALARM BELL, INSPECTOR'S TEST CONNECTION, AND SPARE SPRINKLER AND TOOL CABINET.
 - TRENCHING, EXCAVATION AND BACKFILLING IN CONNECTION WITH THE WORK.
 - CUTTING AND PATCHING IN CONNECTION WITH THE WORK.
 - TESTING, CLEANING, ADJUSTING AND PLACING IN OPERATION ALL SYSTEMS AND EQUIPMENT SPECIFIED.
 - THESE DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO DEPICT THE GENERAL LOCATION OF FIRE PROTECTION SYSTEM COMPONENTS. DO NOT SCALE THESE DRAWINGS. CONSULT ARCHITECTURAL PLANS FOR PROPER DIMENSIONS AND EXACT LOCATION OF FIRE PROTECTION EQUIPMENT.
 - PRODUCT INSTALLATION SHALL ADHERE TO MANUFACTURER'S RECOMMENDATIONS.
 - REVIEW ALL APPLICABLE MANUFACTURERS' INSTALLATION AND MAINTENANCE DOCUMENTS/REQUIREMENTS PRIOR TO STARTING WORK. ALL WORK SHALL ADHERE TO THE MANUFACTURERS' REQUIREMENTS. IF A CONFLICT EXISTS BETWEEN THE DESIGN DOCUMENTS AND MANUFACTURER'S REQUIREMENTS, THIS CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO STARTING WORK.
 - ALL SYSTEM PIPING SHALL BE CONCEALED UNLESS OTHERWISE NOTED. NOTIFY THE ARCHITECT IF PIPING CANNOT BE CONCEALED.
 - CONTRACTOR SHALL PROVIDE ACCESS PANELS WHERE REQUIRED FOR ACCESS TO VALVES IN CEILINGS AND WALLS. ACCESS PANELS IN RATED ASSEMBLIES SHALL BE LISTED AND SELF-CLOSING TYPE.
 - PROVISIONS SHALL BE MADE TO DRAIN ALL PARTS OF THE FIRE AND SPRINKLER SYSTEMS.
 - WHEN MORE THAN ONE FLOOR CONTROL VALVE ASSEMBLY DRAINS INTO A COMMON DRAIN RISER, THE RISER SHALL BE ONE PIPE SIZE LARGER THAN THE LARGEST DRAIN CONNECTED TO IT.
 - A 1" AUXILIARY DRAIN PIPED TO AN ACCESSIBLE LOCATION SHALL BE PROVIDED AT ALL TRAPPED SECTIONS OF PIPE IN WET PIPE AND NON-FREEZE PREACTION SYSTEMS, WHERE THE TRAPPED FIRE SECTION CAPACITY IS 5 GALLONS OR LESS AND CAN BE DRAINED BY REMOVING A SINGLE SPRINKLER HEAD AN AUXILIARY DRAIN SHALL NOT BE REQUIRED.
 - IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO COORDINATE THEIR WORK WITH THAT OF ALL OTHER TRADES INCLUDING, BUT NOT LIMITED TO, ELECTRICAL, HVAC, PLUMBING, FIRE ALARM, TELCOM, STRUCTURAL, CIVIL, AND GENERAL ARCHITECTURE. THIS SHALL INCLUDE PROVIDING SUFFICIENT SPACE TO MEET ALL OTHER TRADE CLEARANCE REQUIREMENTS.
 - CENTER ALL SPRINKLER HEADS IN CEILING TILES.
 - PIPING IN AREAS WITH EXPOSED STRUCTURE SHALL BE INSTALLED AS HIGH AS POSSIBLE TO ALLOW MAXIMUM USE OF SPACE.
 - PROVIDE AND MAINTAIN A MINIMUM CLEARANCE OF 18" BETWEEN THE BOTTOM OF THE SPRINKLER DEFLECTOR AND THE TOP OF STORAGE, FILE, SHELVING, ETC.
 - SPRINKLER PROTECTION SHALL BE PROVIDED UNDER ALL FIXED OBSTRUCTIONS OVER 48" WIDE. ALL SPRINKLER HEADS USED IN THIS APPLICATION SHALL BE PROTECTED THROUGH THE USE OF A LISTED GUARD.
 - HANGERS SHALL BE INSTALLED SO THAT THE WEIGHT OF THE RUN IS NOT ON A FITTING OR JOINT.
 - SEAL ALL FLOOR/ROOF/WALL PENETRATIONS AS REQUIRED TO MAINTAIN INTEGRITY OF LISTED ASSEMBLY AND PROVIDE SCREWS WHERE REQUIRED.
 - SPRINKLERS SHALL BE INSTALLED NO FURTHER THAN 24" IN DISTANCE FROM THE BASE OF AN OPEN TRUSS AND NO CLOSER THEN THREE TIMES THE LENGTH/WIDTH OF THE TRUSS' BASE FROM THE BASE OF THE TRUSS.

FIRE PROTECTION INDEX	
SHEET #	SHEET TITLE
FP0.0	FIRE PROTECTION COVERSHEET
FP1.0	SITE PLAN - FIRE PROTECTION
FP1.1	FIRE PROTECTION FIRST FLOOR PLAN - NEW CONSTRUCTION
FP1.2	FIRE PROTECTION SECOND FLOOR PLAN - NEW CONSTRUCTION

REVISIONS	BY
07.31.15 PERMIT COMMENTS	AK
08.08.16 NREDI 2.0	GF

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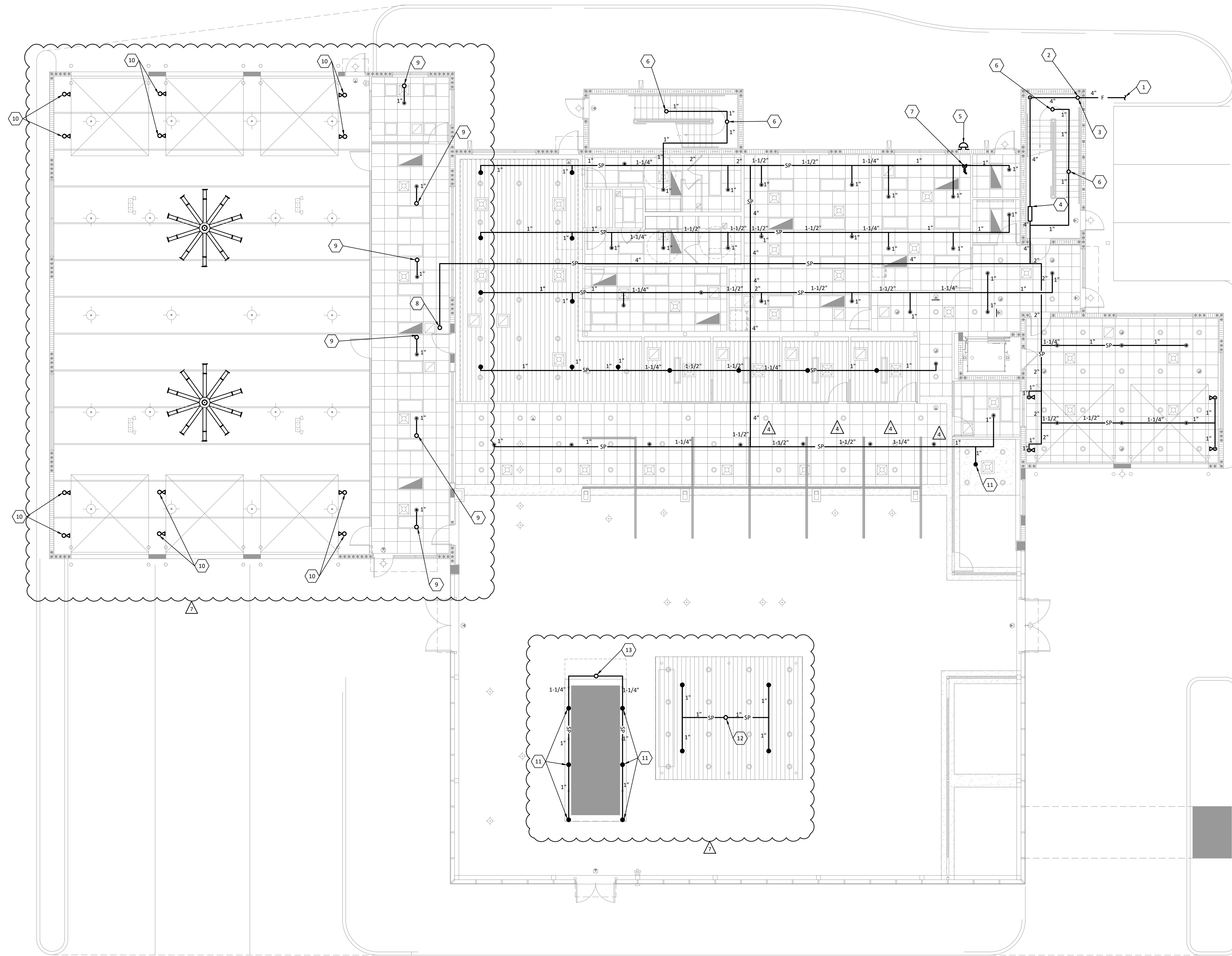


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New Facility for
LOKEY NISSAN
 U.S. Highway 19 N.
 Clearwater, FL
 Pinellas County, Florida

Date: 06. 19. 15
 Scale: AS NOTED
 Project Mgr: ARK
 Drawn: JLS
 Job: 14-116a

Sheet
FP0.0



SHEET NOTE

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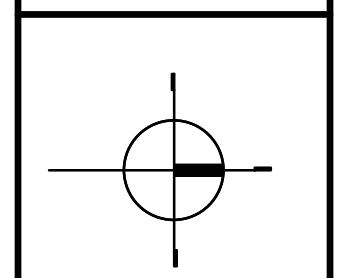
KEYED NOTES

- 1 CONTRACTOR SHALL DISASSEMBLE FEATURE VEHICLE DISPLAY, INSTALL SPRINKLER BRANCH PIPING IN DISPLAY'S CEILING CAVITY, MODIFY STEEL PANELS FOR SPRINKLER HEAD INSTALLATION, AND REASSEMBLE DISPLAY. SPRINKLER PIPING SHALL NOT BE SUPPORTED BY DISPLAY, HANGERS SHALL EXTEND UP TO ROOF STRUCTURE ABOVE.
- 2 PROVIDE SUPERVISED MAIN SHUTOFF VALVE IN VERTICAL.
- 3 4" FIRE SUPPLY UP TO FLOOR ABOVE.
- 4 FLOOR CONTROL VALVE ASSEMBLY. EXTEND DRAIN TO BUILDING EXTERIOR.
- 5 ELECTRIC FIRE ALARM BELL.
- 6 SPRINKLER HEADS LOCATED BELOW STAIRS. PROVIDE SPRINKLER HEADS WITH PROTECTIVE COVER.
- 7 SUPERVISED SHUTOFF VALVE.
- 8 4" RISE TO CEILING SPACE ABOVE.
- 9 1" DROP FROM SPRINKLER PIPE ABOVE.
- 10 1" DROP FROM SPRINKLER PIPE ABOVE TO SIDEWALL SPRINKLER HEAD.
- 11 CONCEALED SPRINKLER HEAD IN FEATURE VEHICLE DISPLAY. PAINT COVER PLATE TO MATCH FEATURE VEHICLE DISPLAY CEILING.
- 12 1-1/2" SPRINKLER SUPPLY DROP FROM ABOVE.
- 13 2" DROP FROM SPRINKLER PIPE ABOVE.

REVISIONS	BY
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08.08.16	GF

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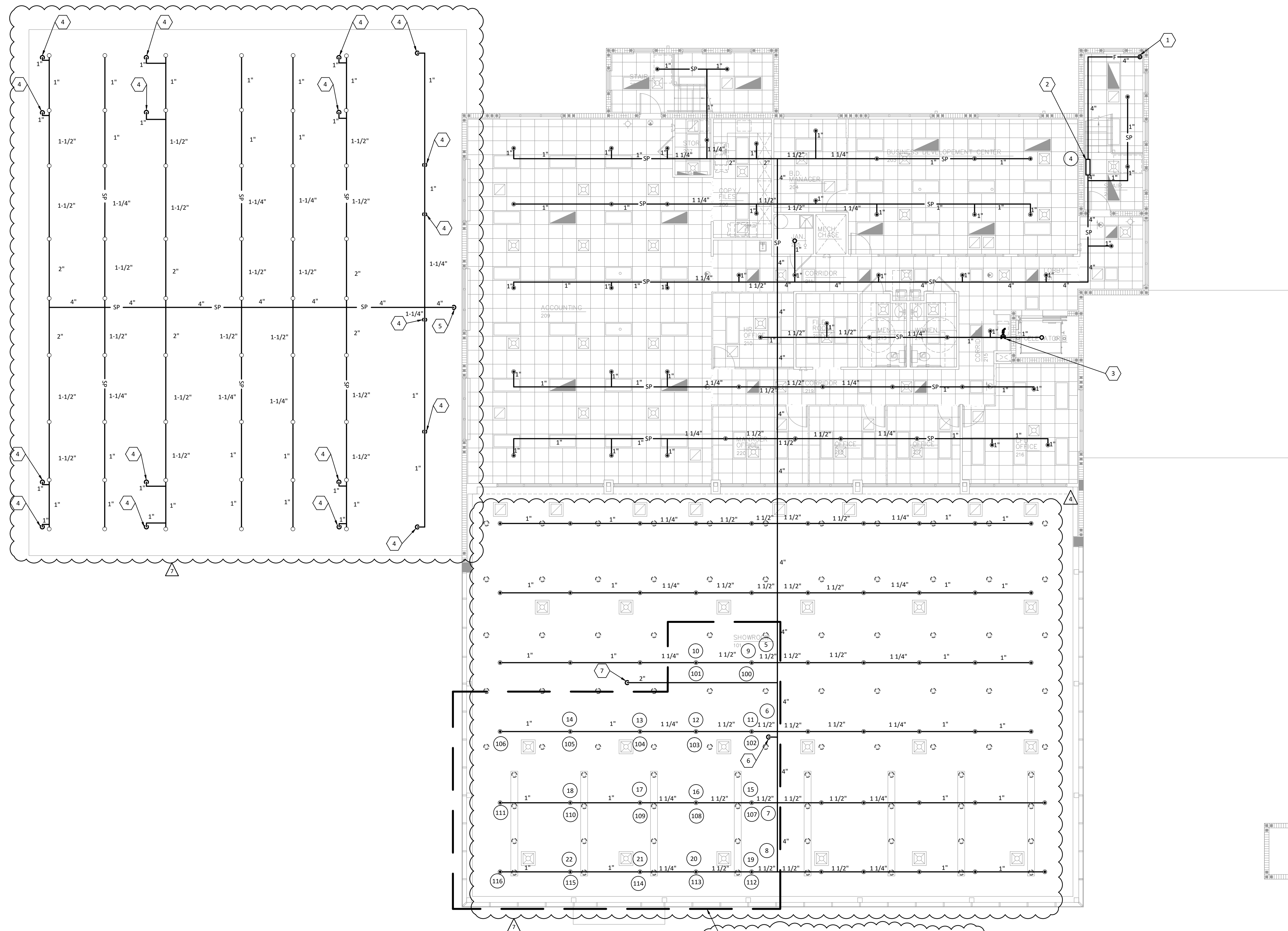
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Sheet
FP1.1

1 FIRE PROTECTION FIRST FLOOR PLAN - NEW CONSTRUCTION
 SCALE: 1/8" = 1'-0"

TO THE BEST OF THE ENGINEERS KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH CHAPTER 553.79 AND CHAPTER 633, FLORIDA STATUTES.



REMOTE AREA # 1
 OCCUPANCY: ORDINARY HAZARD- GROUP 1
 DENSITY: 0.15 GPM/SQ. FT.
 AREA OF OPERATION: 1,500 SQ. FT.
 CALCULATED AREA/# SP HDS: 1,565 SQ. FT./17 SPRINKLERS
 PRESSURE/FLOW REQUIRED: 51.43 PSI @ 333.92 GPM
 PRESSURE/FLOW AVAILABLE: 56.68 PSI @ 333.92 GPM

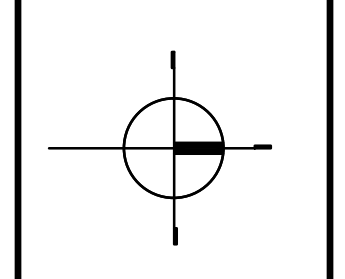
KEYED NOTES

- 1 4" FIRE SUPPLY RISE FROM FLOOR BELOW.
- 2 4" FLOOR CONTROL VALVE ASSEMBLY. EXTEND DRAIN TO BUILDING EXTERIOR.
- 3 SUPERVISED SHUTOFF VALVE.
- 4 1" DROP TO SPRINKLER HEAD BELOW
- 5 4" SPRINKLER SUPPLY RISE FROM FLOOR BELOW
- 6 1-1/2" SPRINKLER SUPPLY DOWN TO SHARED LOUNGE.
- 7 2" SPRINKLER SUPPLY DOWN TO FEATURE VEHICLE DISPLAY

REVISIONS	BY
07.31.15 PERMIT COMMENTS	AK
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FP1.2

1 FIRE PROTECTION SECOND FLOOR PLAN - NEW CONSTRUCTION
 SCALE: 1/8" = 1'-0"

TO THE BEST OF THE ENGINEERS KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE-SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH CHAPTER 553.79 AND CHAPTER 633, FLORIDA STATUTES.