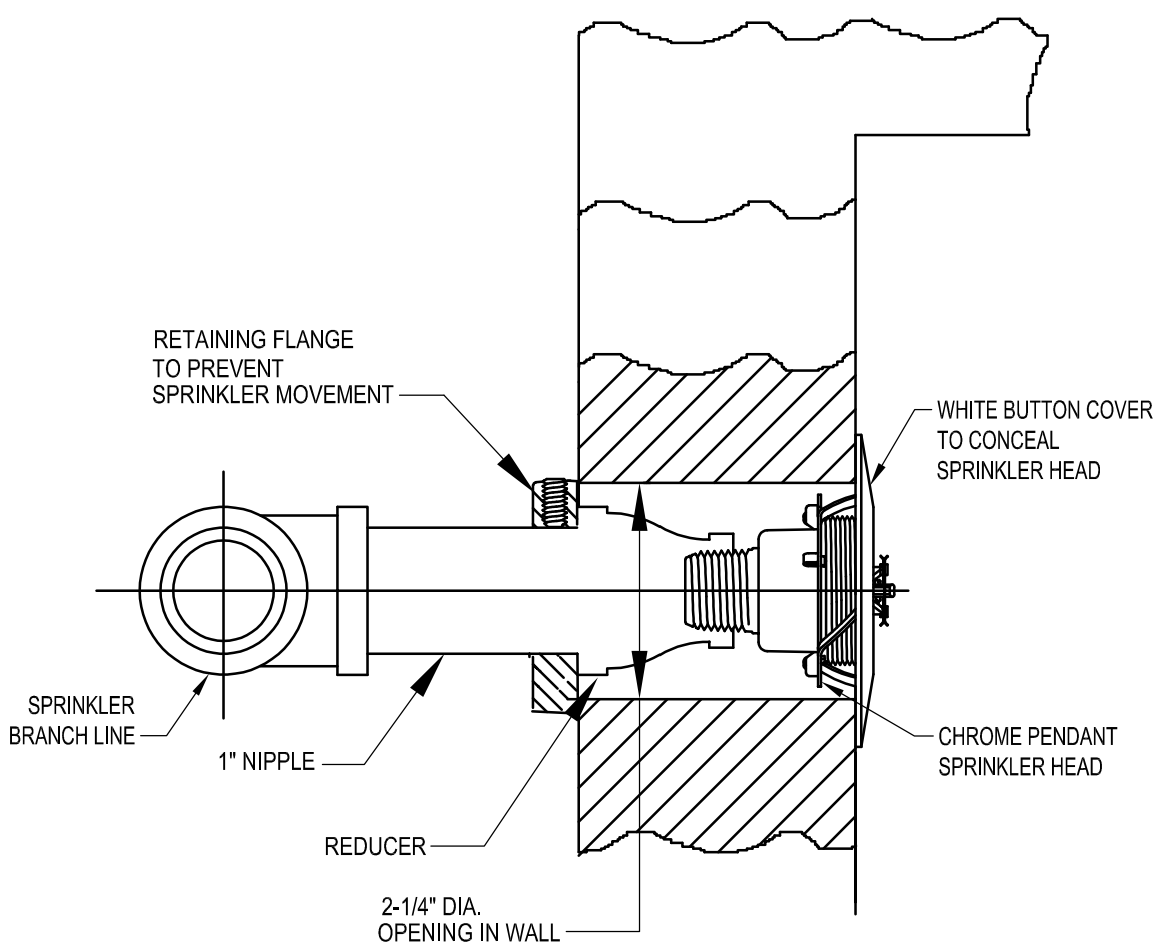
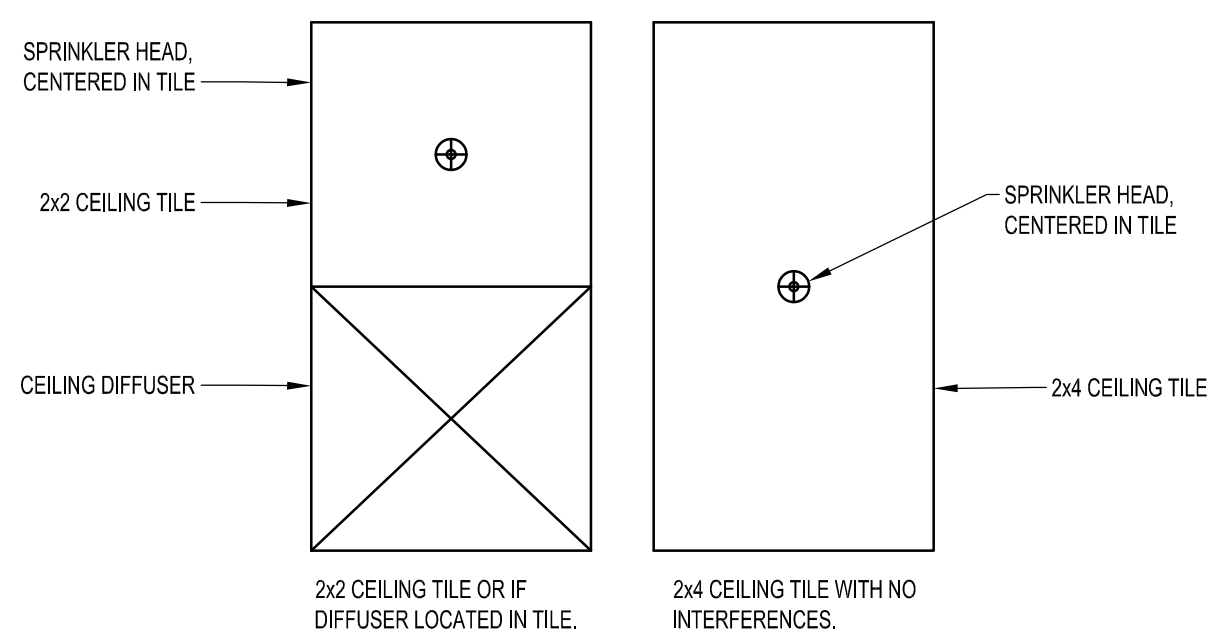


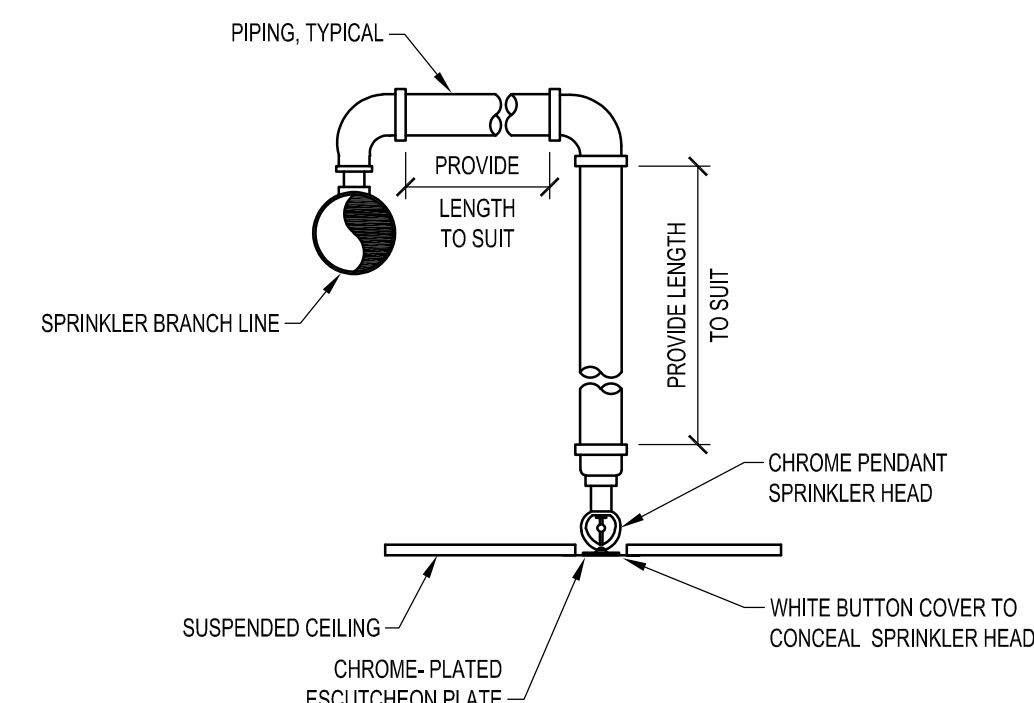
1 INSTITUTIONAL QUICK RESPONSE FLUSH PENDENT SPRINKLER - TYP
NOT TO SCALE



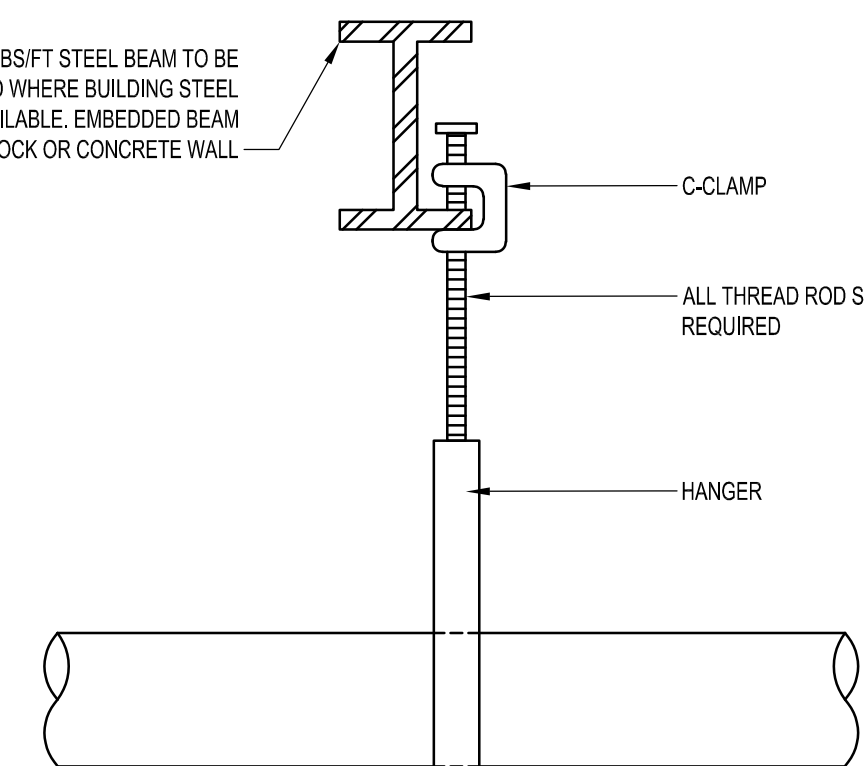
2 INSTITUTIONAL QUICK RESPONSE SIDEWALL SPRINKLER - TYP
NOT TO SCALE



3 SPRINKLER HEAD LOCATION DETAIL - TYP
NOT TO SCALE



4 CONCEALED SPRINKLER HEAD DROP - TYP
NOT TO SCALE

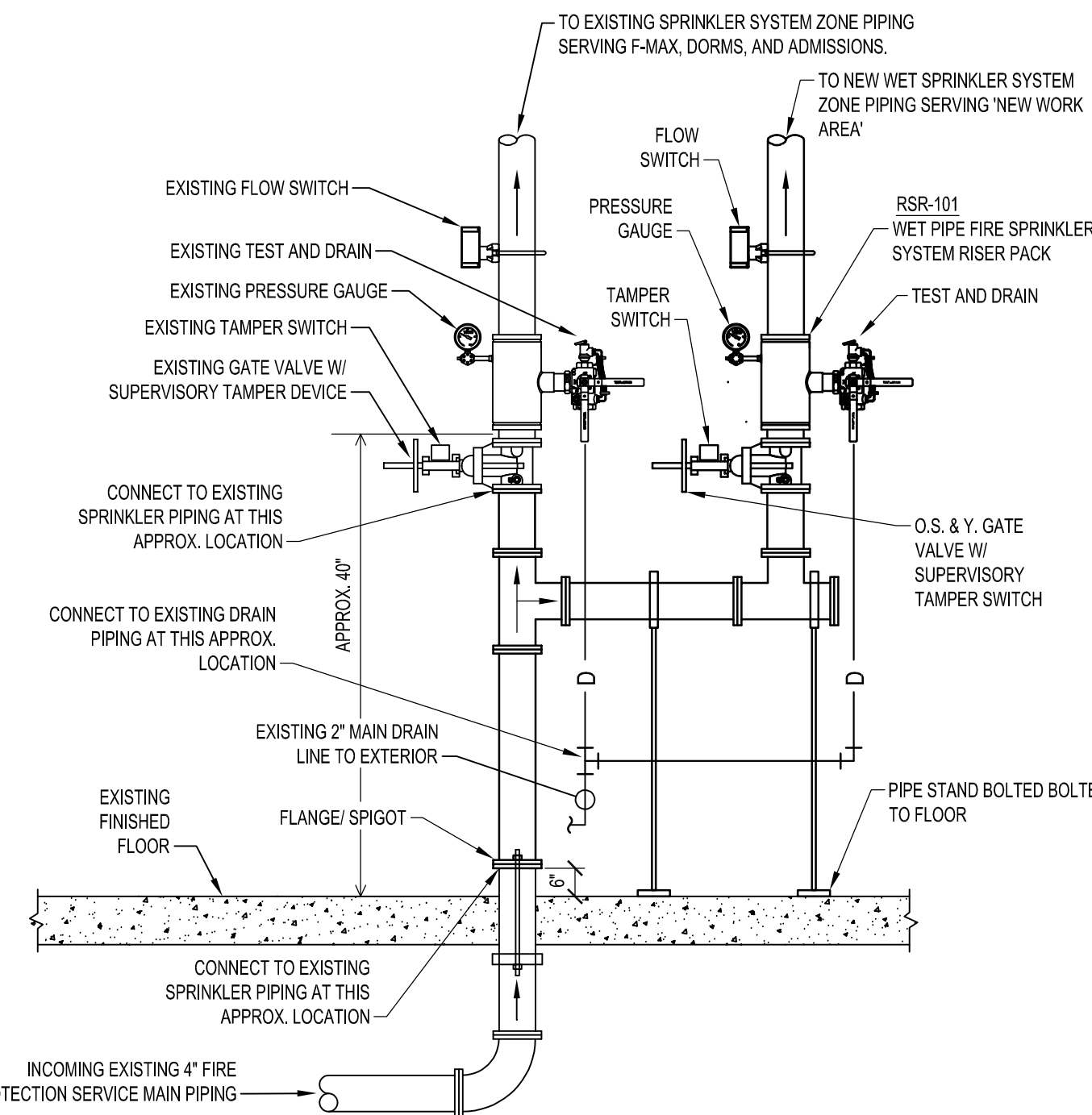


5 PIPE HANGER AND SUPPORT - TYP
NOT TO SCALE

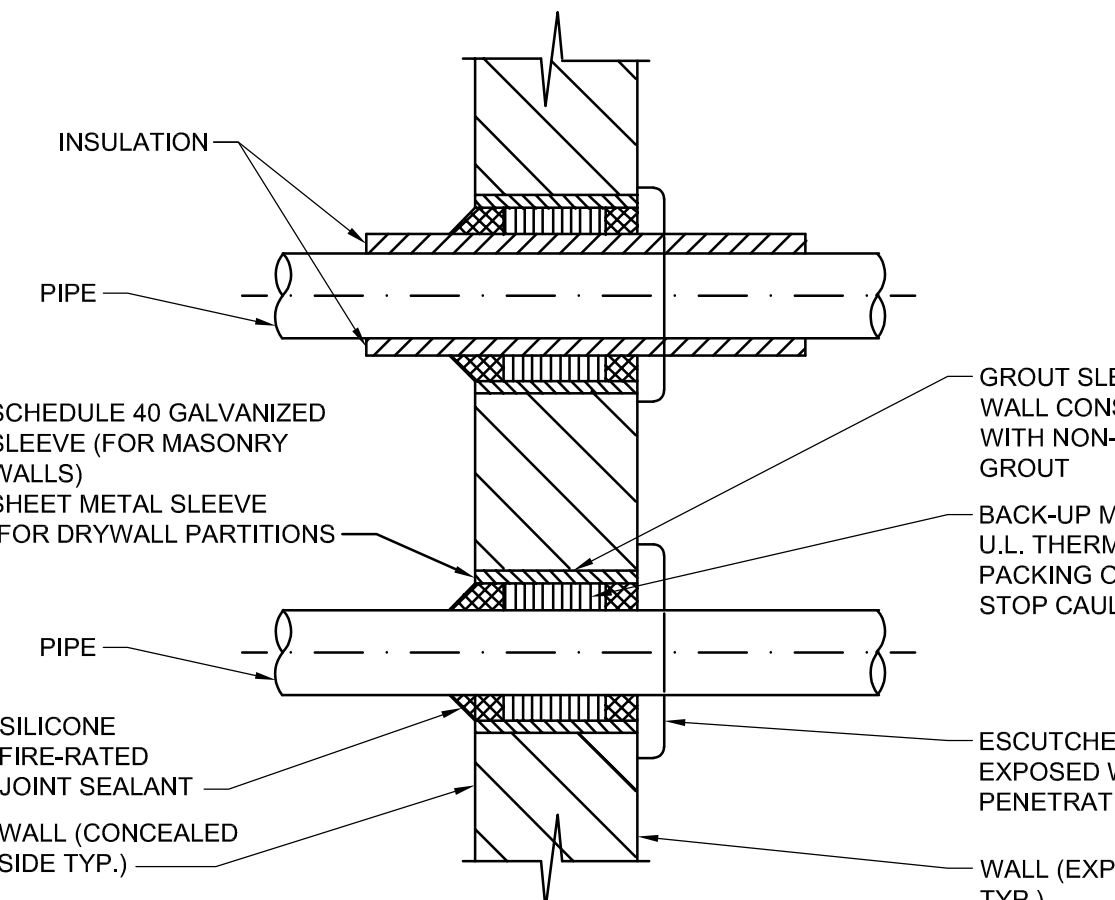
DESIGNATION	SYSTEM NAME	SYSTEM TEMP RANGE	PRESSURE RANGE	MATERIAL	CONNECTION TYPE	INSULATION MATERIAL	INSULATION THICKNESS	COVERING	COVERING COLOR	IDENTIFICATION PRIMARY COLOR	IDENTIFICATION SECONDARY COLOR	IDENTIFICATION TEXT
—D—	DRAIN	LESS THAN 99 DEGREES	0-20 PSI	CPL, GST	SLD, GLU, NPT	ELM, FBG	0-1" 1" 1" 1"	EXP: ALM, SST CCL: FSK	EXP: BLACK - NOTE 7	GREEN	WHITE	DRAIN
—FPM—	FIRE PROTECTION MAIN	GREATER THAN 100 DEGREES	0-20 PSI	CPL, GST	SLD, NPT	FBG	1" 1" 1" 1"	EXP: ALM, SST CCL: FSK	EXP: BLACK - NOTE 7	GREEN	WHITE	SPRINKLER MAIN
—FPW—	FIRE PROTECTION - WET PIPE SYSTEM	LESS THAN 100 DEGREES	0-150 PSI	PER NFPA 13, NO PLASTIC	PER NFPA 13	NONE	— — — —	NONE	EXP: BLACK - NOTE 7; APPLY TO PIPE	RED	WHITE	SPRINKLER - WET
— — —		LESS THAN 100 DEGREES	0-150 PSI	PER NFPA 13, NO PLASTIC	PER NFPA 13	NONE	— — — —	NONE	EXP: BLACK - NOTE 7; APPLY TO PIPE	RED	WHITE	SPRINKLER - WET

NOTES:

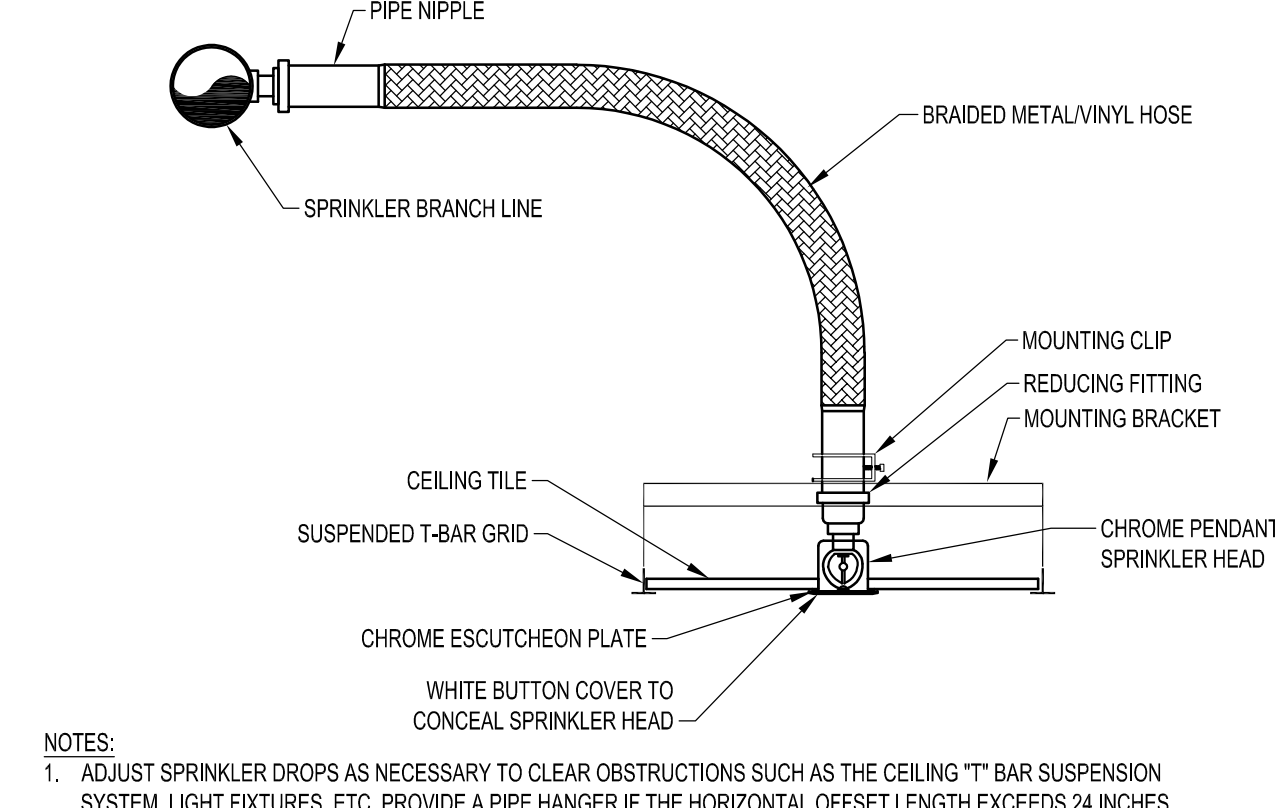
- ALL PIPING SYSTEM TYPES MAY NOT BE USED ON THESE CONTRACT DOCUMENTS.
- FOR HEAT TRACED SYSTEMS, INCLUDE IDENTIFICATIONS FOR BOTH HEAT TRACING AND SYSTEM DESIGNATION.
- WHERE PLASTIC PIPING IS USED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPATIBILITY OF THE INSTALLED PIPING SYSTEM WITH THE BUILDING'S HVAC SYSTEM, WHERE PLASTIC PIPING IS USED. PLASTIC PIPING SHALL BE COVERED IN ITS ENTIRETY BY AN APPROVED FIRE RETARDANT INSULATING MATERIAL. FIRE RETARDANT INSULATING SYSTEMS SHALL BE CERTIFIED TO MEET ASTM E-84 AND UL 723 STANDARDS FOR FLAME SPREAD AND SMOKE GENERATION. FIRE RETARDANT INSULATING SYSTEMS SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION.
- LABEL PIPING EVERY 25', AT EACH CONNECTION TO A TEE, AND AT FLOOR PENETRATIONS.
- COVERING COLOR APPLIES TO EXPOSED INTERIOR PIPING ONLY.
- ALL INSULATION SHALL HAVE A COVERING. DO NOT PAINT INSULATION DIRECTLY.
- VERIFY FINAL COVERING COLOR WITH OWNER ON A ROOM-BY-ROOM BASIS PRIOR TO ORDERING COVERINGS.


















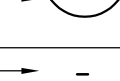
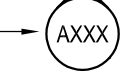
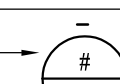
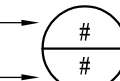

6 WATER SERVICE ENTRANCE AND RISER
NOT TO SCALE



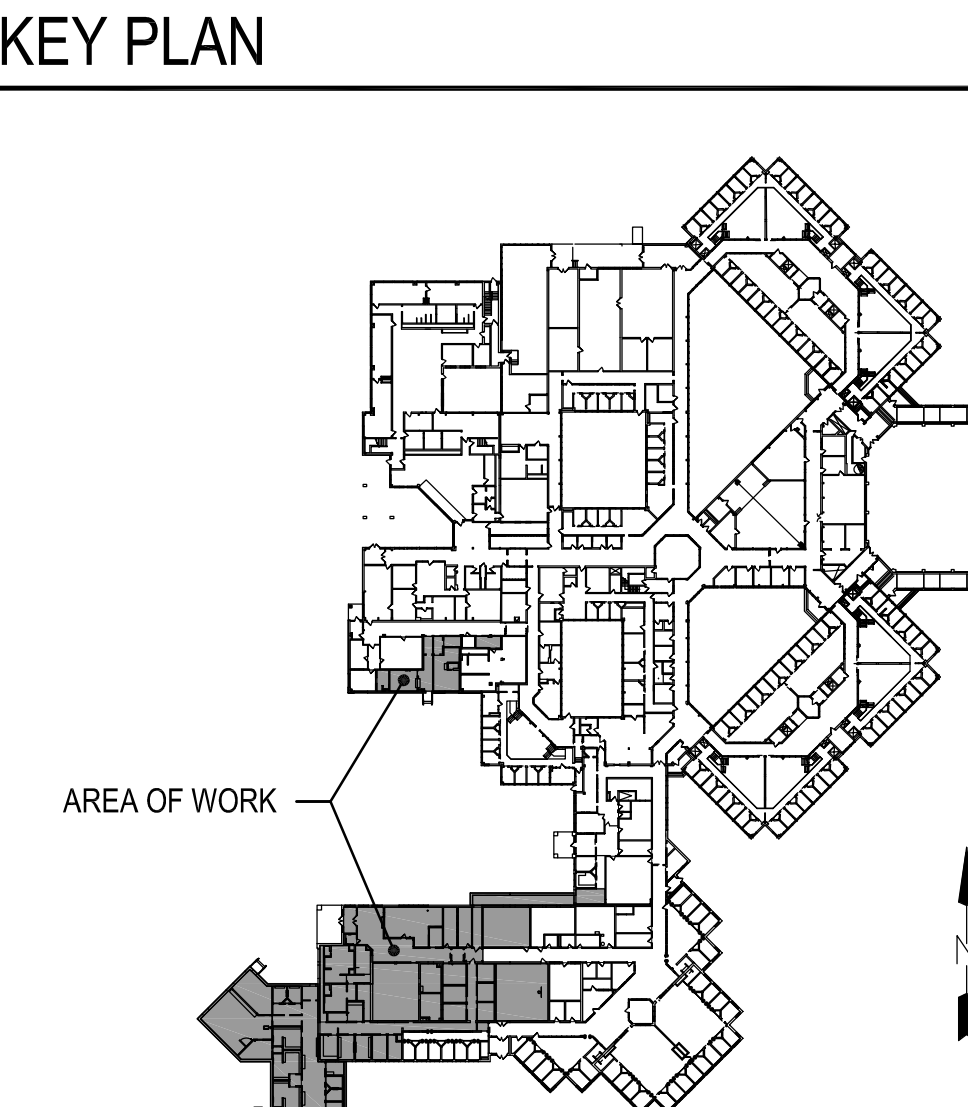
7 PIPE SLEEVE THRU FIRE-RATED WALL - TYP
NOT TO SCALE



8 CONCEALED FLEXIBLE SPRINKLER HEAD DROP - TYP
NOT TO SCALE

FIRE PROTECTION											
FLOW TEST DATA				FIRE PROTECTION GENERAL NOTES							
<div>STATIC PRESSURE: 64 PSI</div> <div>RESIDUAL PRESSURE: 47 PSI</div> <div>FLOWING: 1000 GALLONS</div> <div>LOCATION OF FLOW TEST: 12/1020 BY S.A. COMMUNALE ON THE EXISTING FIRE LOOP AROUND BUILDING AT FIRE HYDRANT.</div>				<div>A. ALL FIRE PROTECTION PIPING, EQUIPMENT, DEVICES, AND SPRINKLER HEADS SHOWN ON FIRE PROTECTION DRAWINGS ARE FOR ILLUSTRATIVE PURPOSES ONLY TO REPRESENT THE GENERAL SCOPE OF WORK. FINAL FIRE PROTECTION SYSTEM DESIGN AND LAYOUT IS THE SOLE RESPONSIBILITY OF THE FIRE PROTECTION CONTRACTOR. INSTALLATION DRAWINGS SHOWING THE ENTIRE FIRE PROTECTION SYSTEM(S) SHALL BE GENERATED BY THE FIRE PROTECTION CONTRACTOR. DRAWINGS SHALL BE SEALED BY A PENNSYLVANIA REGISTERED ENGINEER IN RESPONSIBLE CHARGE FOR PERMIT APPROVAL, TO BE AS ENGINEER OF RECORD, (EOR).</div> <div>B. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE TO PERFORM AND MEET ALL CODE REQUIRED TESTS, INCLUDING, BUT NOT LIMITED TO, FLOW TEST, DRAIN TEST, AIR SUPPLY TEST, INSPECTOR'S TEST, PRESSURE TEST AND VERIFICATION OF THE FIRE ALARM SYSTEM. SUBMIT ALL INSPECTION REPORTS AND TEST CERTIFICATES TO THE OWNER, O&M MANUAL, AND AS REQUESTED BY AUTHORITY HAVING JURISDICTION.</div> <div>C. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE TO COMPLETE AND SUBMIT COPIES OF CONTRACTORS MATERIAL AND TEST CERTIFICATES FOR ALL WORK PERFORMED, UPON COMPLETION OF THE WORK, TO THE APPROPRIATE AUTHORITIES, LOCAL FIRE MARSHAL, BUILDING INSPECTOR AND OWNER, PROVIDE A COPY IN THE O&M MANUAL.</div> <div>D. FIRE PROTECTION WORK PERFORMED ON THIS PROJECT SHALL BE SIZED PER HYDRAULIC CALCULATIONS.</div> <div>E. FIRE PROTECTION WORK SHALL BE DONE IN ACCORDANCE WITH NFPA 13, ALL APPLICABLE STATE AND LOCAL CODES AND THE AUTHORITY HAVING JURISDICTION TO DELIVER A PENALTY FREE SYSTEM.</div> <div>F. CONTRACTOR SHALL PROVIDE SPRINKLER COVERAGE IN ACCORDANCE WITH NFPA 13, ALL APPLICABLE STATE AND LOCAL CODES AND THE AUTHORITY HAVING JURISDICTION. THE COVERAGE SHALL ALSO INCLUDE SPRINKLER COVERAGE IN AREAS WHERE OBSTRUCTIONS WITH DUCTWORK REQUIRE ADDITIONAL SPRINKLER HEADS BENEATH THE OBSTRUCTION.</div> <div>G. PIPING AND SPRINKLER HEAD LOCATIONS SHALL BE COORDINATED TO ALLOW MAXIMUM HEAD CLEARANCES AND ACCESSIBILITY TO PIPING AND SURROUNDING EQUIPMENT.</div> <div>H. THE ENTIRE SPRINKLER SYSTEM SHALL BE DESIGNED, FURNISHED AND INSTALLED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, LOCAL CODES AND THE AUTHORITY HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO, INTERNATIONAL BUILDING CODE, NFPA 13,21,26, NATIONAL ELECTRIC CODE.</div> <div>I. THE ENTIRE SPRINKLER SYSTEM SHALL USE COMPONENTS THAT ARE UL LISTED, FACTOR MUTUAL TESTED, AND MEETING THE FIRE MARSHAL REQUIREMENTS.</div> <div>J. DESIGN AND OBTAIN APPROVAL FROM AUTHORITY HAVING JURISDICTION FOR THE FIRE PROTECTION SYSTEM SPECIFIED, PAY FOR ALL REVIEW FEE AND ASSOCIATED PERMITS, EXPENSES, ETC. PREPARE LICENSED ENGINEER(S,P,E.) SEALED AND SIGNED "WORKING PLANS" AND HYDRAULIC CALCULATION AND SUBMIT TO AUTHORITIES HAVING JURISDICTION FOR REVIEW, COMMENT AND APPROVAL.</div> <div>K. REFER TO EXISTING CONDITIONS, ARCHITECTURAL BUILDING SECTIONS, WALL SECTIONS AND STRUCTURAL DRAWINGS FOR STRUCTURAL, STEEL ELEVATIONS AND SPACE AVAILABLE ABOVE THE FINISHED CEILING. PROVIDE ALL APPROPRIATE SUPPORT AND BRACING TO THE BUILDING STRUCTURE AS REQUIRED FOR INSTALLATION OF PIPING WITHIN THE GIVEN CONDITIONS.</div> <div>L. CONCEAL PIPING, VALVES, AND FITTINGS ABOVE CEILINGS AND IN CHASES WHERE THEY OCCUR, UNLESS NOTED OTHERWISE. FURNISH AND INSTALL ACCESS PANELS FOR ALL VALVES, GAUGES AND SWITCHES CONCEALED WITHIN WALLS OR ABOVE CEILINGS.</div> <div>M. PROVIDE PIPE SLEEVES THROUGH ALL FIRE RATED WALLS (INCLUDING DRYWALL CONSTRUCTION) FOR INSTALLATION OF FOAM SEALANT. SLEEVES IN FLOORS AND MASONRY WALLS SHALL BE SCHEDULE 40 GALVANIZED STEEL. SLEEVES IN DRYWALL SHALL BE 16 GAGE GALVANIZED STEEL SHEET METAL TURN.</div> <div>N. ALL EQUIPMENT USED IN CONJUNCTION WITH THIS SYSTEM SHALL BE LISTED IN ACCORDANCE WITH UL AND FACTORY MUTUAL.</div> <div>O. FIRE PROTECTION CONTRACTOR SHALL NOT INSTALL SPRINKLER PIPING OR HEADS DIRECTLY BELOW EQUIPMENT WHICH REQUIRED SERVICE. ALL COORDINATION SHALL BE COMPLETED ON THE COORDINATION SHOP DRAWINGS FOR FINAL REVIEW BY ENGINEER.</div> <div>P. PLASTIC PIPING SHALL NOT BE PERMITTED.</div> <div>Q. SPRINKLER HEADS SHALL BE CENTERED IN CEILING TILES.</div> <div>R. FURNISH AND INSTALL REQUIRED QUANTITY OF RISERS, FLOW SWITCHES AND SUPERVISORY VALVES AS NEEDED. ALL SPRINKLER CONTROL VALVES EXCEPT DRAIN VALVES SHALL BE ELECTRONICALLY SUPERVISED AND EQUIPPED WITH SUPERVISORY SWITCHES.</div> <div>S. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND WIRING FROM ALL FLOW SWITCHES AND SUPERVISORY SWITCHES TO FIRE ALARM PANEL. ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTIONS AT THE SWITCHES AND AT THE PANELS.</div> <div>T. UNLESS NOTED OTHERWISE, SPRINKLER HEADS IN FINISHED CEILINGS SHALL BE ADJUSTABLE, FULLY CONCEALED WITH WHITE COVER PLATE. FOR OTHER AREAS WHERE CEILINGS ARE NOT INSTALLED, SPRINKLER HEADS SHALL BE CHROME-PLATED AND OF APPROPRIATE ORIENTATION (UPRIGHT, PENDENT, SIDEWALL).</div> <div>U. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL DUCTWORK, RACEWAYS, CABLE TRAYS CONDUITS, STRUCTURAL MEMBERS, PIPING AND ARCHITECTURAL CEILING HEIGHTS AND DESIGN INTENT.</div> <div>V. COORDINATE SPRINKLER PIPING, EQUIPMENT, HEADS, APPURTENANCES, ETC. WITH THAT OF OTHER TRADES SO THAT SPRINKLER WORK WILL BE INSTALLED IN THE MOST DESIRED MANNER AND SO THAT INTERFERENCE BETWEEN PIPING, DUCTS, EQUIPMENT, AND ARCHITECTURAL OR STRUCTURAL FEATURES WILL BE AVOIDED.</div> <div>W. SPRINKLER PIPING, EQUIPMENT, HEADS, APPURTENANCES, ETC. INSTALLED WITHOUT REGARD FOR WORK OF OTHER TRADES WILL BE REJECTED IN ANY SITUATION WHERE AN UNDESIRABLE CONDITION OR AN UNFAIR HARSHIP FOR OTHER TRADES, OR OWNER,</div> <div>X. SPRINKLER PIPING SYSTEMS INSTALLATION SHALL BE COORDINATED WITH OTHER TRADES AS IT RELATES TO ACCESS AND SERVICEABILITY OF THAT TRADES EQUIPMENT (I.E. MECHANICAL UNITS, LIGHTS,). ANY SPRINKLER SYSTEM PIPING DETERMINED BY THE ENGINEER TO BE IN CONFLICT WITH OTHER TRADES WILL BE RELOCATED WITH ALL COST TO BE BORNE BY THE FIRE PROTECTION CONTRACTOR.</div> <div>Y. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR PROPER OPERATION AND THE COORDINATION FOR SYSTEM INSTALLATION, INCLUDING THE AUTOMATIC SPRINKLER SYSTEM, DETECTION SYSTEM, SIGNALING SYSTEM AND INITIAL START-UPS.</div> <div>Z. PROVIDE OPERATION AND MAINTENANCE MANUALS CONTAINING ALL NECESSARY INSTRUCTIONS AND EMERGENCY PROCEDURES, AND TECHNICAL DATA OF EACH ESSENTIAL COMPONENT OF THE SYSTEM SUCH AS SPRINKLERS, ELECTRICAL DETECTORS, VALVES, CONTROL SYSTEM, WIRING DIAGRAMS, ETC. FURNISH OPERATIONAL, MAINTENANCE, AND EMERGENCY INSTRUCTIONS TO THE RESPONSIBLE DESIGNATED MAINTENANCE STAFF BEFORE ANY PART OF THE SYSTEM IS TURNED OVER TO THE OWNER, AND SUBMIT WRITTEN CONFIRMATION TO THE PROJECT ENGINEER AS TO WHAT INFORMATION WAS GIVEN TO WHOM AND WHEN.</div> <div>AA. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE TO VERIFY FIELD MEASUREMENTS, FIELD CONDITIONS AND MATERIAL SHOP DRAWINGS PRIOR TO ORDERING AND INSTALLING THESE SYSTEMS.</div> <div>AB. HEADS SHOWN ON DRAWINGS ARE FOR CONCEPT ONLY. PROVIDE QUANTITY AND SPACING AS REQUIRED.</div> <div>AC. SHOULD THE DRAWINGS DISAGREE WITH ONE ANOTHER, OR WITH THE SPECIFICATIONS, THE BETTER QUALITY OR GREATER QUANTITY OF WORK OR MATERIALS SHALL BE PERFORMED OR PROVIDED. THE CONTRACTOR SHALL PROVIDE FINAL CONNECTIONS TO EQUIPMENT CONNECTED TO THE INSTALLED SYSTEM INCLUDING COMPONENTS PROVIDED BY OTHERS.</div> <div>AD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL COMPLIANCE WITH THE PROJECT PHASING AND FOR PROVIDING A COMPLETELY OPERABLE SYSTEM AT THE COMPLETION OF EACH PHASE. IF REQUIRED SERVICES TO A SYSTEM ARE NOT AVAILABLE DURING A PHASE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY UTILITIES UNTIL PERMANENT SERVICES ARE AVAILABLE.</div> <div>AE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING ALL SYSTEM PERFORMANCE TESTING, START-UP, DEMONSTRATION AND TRAINING WITH THE OWNER. FINAL OFFICIAL COPIES OF TESTING CERTIFICATES COMPLETE WITH PROPER WITNESS VALIDATION SHALL BE RETURNED TO THE OWNER AS PART OF THE FINAL OPERATION AND MAINTENANCE MANUALS SUBMITTAL.</div> <div>AF. AT THE END OF EACH PHASE AND AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR A COMPLETELY OPERABLE SYSTEM, THE COMPLETED SYSTEM SHALL COMPLY WITH REQUIRED PERFORMANCE TESTING AND FULL FUNCTIONALITY AS INTENDED.</div> <div>AG. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULL COMPLIANCE WITH THE PROJECT PHASING AND FOR PROVIDING A COMPLETELY OPERABLE SYSTEM AT THE COMPLETION OF EACH PHASE. IF REQUIRED SERVICES TO A SYSTEM ARE NOT AVAILABLE DURING A PHASE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY UTILITIES UNTIL PERMANENT SERVICES ARE AVAILABLE.</div>							
SYMBOLS AND DESIGNATIONS											
<div> FLOW DETECTOR SWITCH</div> <div> INDICATOR VALVE</div> <div> OS & Y SUPERVISORY SWITCH</div> <div> OS & Y W/TAMPER SWITCH & FLOW INDICATOR</div> <div> DRAIN</div> <div> FIRE PROTECTION MAIN PIPING</div> <div> FIRE PROTECTION - WET PIPE SYSTEM</div>											
GRAPHIC SYMBOLS											
<div>POINT OF CONNECTION EXISTING SYSTEM</div> <div></div>											
<div>POINT OF DISCONNECTION FROM EXISTING SYSTEM</div> <div></div>											
<div>EQUIPMENT TAG</div> <div></div> <div><div>EQUIPMENT ABBREVIATION</div><div>EQUIPMENT NUMBER</div></div>											
<div>SHEET KEYNOTE (NEW CONSTRUCTION)</div> <div></div>											
<div>DEMOLITION KEYNOTE</div> <div></div>											
<div>REVISION SEQUENCE NUMBER</div> <div></div>											
<div>ROOM TAG (ROOM NO NOT ALWAYS SHOWN)</div> <div></div>				<div>ROOM NAME</div> <div>[RM.#]</div>							
<div>SECTION ELEVATION REFERENCE</div> <div><div>VIEW REF</div><div></div></div> <div><div>SHEET REF</div><div></div></div>											
<div>INTERIOR ELEVATION REFERENCE</div> <div><div>VIEW REF</div><div></div></div> <div><div>SHEET REF</div><div></div></div>											
<div>DETAIL / CALLOUT REFERENCE</div> <div><div>VIEW REF</div><div></div></div> <div><div>SHEET REF</div><div></div></div>											
<div>SYMBOL LEGEND GENERAL NOTES:</div> <div>A. LEGENDS ARE GENERAL, NOT ALL SYMBOLS AND/OR DESIGNATIONS MAY APPEAR ON THE DRAWINGS.</div>											

FIRE PROTECTION EQUIPMENT SCHEDULE							
TAG	DESCRIPTION	ELECTRICAL			BASIS OF DESIGN		NOTES
		POWER	VOLTAGE	PHASE	MFR	SERIES	
RSR-101	VALVE RISER PACK, TEST, DRAIN, PRESSURE GAUGE, AND FLOW SWITCHES	--	24 V	1	VIKING	EASYPAC	CONNECT TO EXISTING FIRE PROTECTION SERVICE ENTRANCE AS INDICATED IN DETAIL.
NOTES:							
1.	COORDINATE MOUNTING REQUIREMENTS WITH ARCHITECTURAL DRAWINGS.						



ISSUED FOR BID