14 GA. SHEET METAL SADDLE ENCLOSURE 6" LONG MIN. OR 3 PIPE DIAMETERS, WHICHEVER IS GREATER - PIPE INSULATION -RIGID INSULATING MATERIAL GLASS FIBER BLOCK, 9 PCF OR CALCIUM SILICATE -CLEVIS HANGER, GRINNEL No. 260 STEEL SADDLES FOR USE WITH COLD PIPING INSULATION

INSULATION SADDLE SCHEDULE GRINNEL PIPE SIZE FIG. No /2" TO 1-1/2" 160 2" TO 10" 161 ABOVE 10" 162 PIPE INSULATION INSULATION SADDLE SEE SCHEDULE CLEVIS HANGER, GRINNEL No. 260 PACK SADDLE WITH INSULATION

<u>STEEL SADDLES FOR USE WITH HOT PIPING INSULATION</u>

GENERAL PLUMBING WORK NOTES

- CONCRETE ABOVE

-1" WIDE X 16 GAK

-EXPANSION

STEEL HANGER

EXPANSION BOLT

1" WIDE X 16 GA

— STEEL HANGERS —

, PIPE HANGER SUPPORT ATTACHMENT TO CONCRETE SLAB

PARTIAL SECOND FLOOR - PROPOSED PLUMBING DEMOLITION PLAN

CONCRETE ANCHOR HILTI-KWICK

BOLT, SERIES HDI, OR APPROVED

ACCORDANCE WITH THE

EXISTING CONCRETE SLAB-

1/2" TREADED ROD-

EQUAL. INSTALLATION SHALL BE IN

MANUFACTURERS RECOMMENDATION.

BEAM —

CONCRETE-

INSERT

CONCRETE-

INSERT

- PIPING SHOWN ON THE DRAWINGS IS DIAGRAMMATIC. IT IS NOT INTENDED TO SHOW EVERY OFFSET, FITTING AND EVERY LENGTH OF PIPE. DO NOT SCALE THE DRAWINGS. INSTALLATION SHALL BE BASED UPON ACTUAL BUILDING CONDITIONS AND REQUIREMENTS OF THE NEW DESIGN. REVIEW ARCHITECTURAL NEW WORK DRAWINGS FOR SPACES AVAILABLE AND FOR BUILDING CONSTRUCTION DETAILS BEFORE INSTALLING PIPING AND EQUIPMENT. MAKE SUCH OFFSETS AND DEVIATIONS FROM WORK SHOWN ON THE DRAWINGS AS MAY BECOME NECESSARY TO FIT THE ACTUAL SPACE CONDITIONS AND TO ACCOMMODATE EQUIPMENT INSTALLED UNDER OTHER SECTIONS OF THE WORK.
- PRIOR TO INSTALLING ANY PIPE, FITTING, EQUIPMENT OR OTHER ITEM, ENSURE THAT WORK OF THIS CONTRACT DOES NOT INTERFERE WITH CLEARANCES REQUIRED FOR FINISHED WALLS, CEILINGS, FLOORS, COLUMNS OR OTHER DETAILS SHOWN ON THE ARCHITECTURAL DRAWINGS OR DRAWINGS OF OTHER TRADES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, OF ANY CONFLICTS AND NOT INSTALL THE CONFLICTING ITEMS UNTIL THE PROBLEM IS RESOLVED. IF ANY WORK IS SO INSTALLED AND IT LATER DEVELOPS THAT THE REQUIRED DESIGN DETAILS CANNOT BE FOLLOWED, THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL MAKE SUCH CHANGES IN WORK OF THIS CONTRACT AS DIRECTED BY THE ENGINEER SO THAT CONFLICTS WITH ARCHITECTURAL OR OTHER WORK ARE ELIMINATED.
- PIPING SYSTEMS SHALL INCLUDE ALL PIPING, FITTINGS, AND ACCESSORIES NECESSARY TO MAKE THE SYSTEMS COMPLETE. REMOVE BURRS FROM CUT ENDS OF PIPING BY REAMING.
- 4. ALL SOLDER USED SHALL BE LEAD FREE.
- PROVIDE SHUTOFF VALVES FOR EACH HOT AND COLD WATER SUPPLY LINE. PROVIDE ISOLATION VALVES AND UNIONS ON WATER SUPPLY PIPING AT EACH PIECE OF EQUIPMENT TO PERMIT REMOVAL FOR SERVICING OR REPLACEMENT. USE BALL VALVES UNLESS NOTED OTHERWISE.
- ALL PLUMBING WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE NEW YORK STATE BUILDING AND PLUMBING CODES AND APPLICABLE RULES AND REGULATIONS OF THE GOVERNING MUNICIPALITY OR OTHER AUTHORITIES HAVING JURISDICTION.
- DOMESTIC WATER PIPING SHALL BE TYPE "L" COPPER TUBING.
- REFER TO SPECIFICATIONS FOR DOMESTIC WATER PIPE INSULATION.
- ALL FIXTURES AND EQUIPMENT SHALL BE PROVIDED COMPLETE WITH ALL NECESSARY TRIM, RUNOUTS, TAILPIECES, PIPING, VALVES AND FITTINGS AS REQUIRED FOR A COMPLETE AND FUNCTIONAL INSTALLATION. ALL EXPOSED TRIM AND FITTINGS SHALL BE CHROME PLATED.
- 10. EACH FIXTURE SHALL BE PROVIDED WITH INDIVIDUAL STOP VALVE FOR DOMESTIC WATER CONNECTIONS.
- 11. THE SANITARY SEWER, VENT AND DRAINAGE SYSTEMS SHALL BE TESTED IN ACCORDANCE WITH THE N.Y.S. BUILDING CODE, ANY ADDITIONAL TESTING AND/OR PROCEDURES REQUIRED BY THE LOCAL AUTHORITIES SHALL ALSO BE INCLUDED. TESTING SHALL BE PERFORMED AFTER THE PIPING IS ROUGHED IN AND AGAIN WHEN THE SYSTEM IS COMPLETE. ALL TESTS SHALL BE WITNESSED BY THE OWNERS REPRESENTATIVE IF TESTS ARE NOT PROPERLY WITNESSED, THEY WILL NOT BE ACCEPTED.
- 12. WATER SUPPLY PIPING SHALL BE TESTED AND SHOWN TO BE WATERTIGHT. TESTING SHALL BE PERFORMED PRIOR TO APPLICATION OF INSULATION AND PRIOR TO BEING ENCLOSED WITHIN CONSTRUCTION.
- 13. PROVIDE ALL CORE DRILLING, SAW CUTTING AND PATCHING, AS REQUIRED TO INSTALL WORK SHOWN AND/OR DESCRIBED IN THESE DRAWINGS.
- 14. SUBMIT MANUFACTURER'S INFORMATION ON ALL EQUIPMENT FURNISHED, FOR ENGINEER'S REVIEW AND APPROVAL.
- 15. ALL WATER LINES CARRYING POTABLE WATER SHALL BE SANITIZED PRIOR TO USE IN ACCORDANCE WITH NYS PLUMBING CODE & NYSDOH REQUIREMENTS.
- 16. ALL PIPING TO BE CONCEALED IN PARTITIONS, ABOVE CEILING, OR UNDERSLAB.

SPRINKLER SYSTEM GENERAL NOTES

17. SEAL AND FIRESTOP ALL PENETRATIONS THROUGH FIRE RATED CONSTRUCTION. ALL FIRE STOPPING SYSTEMS AND PRODUCTS SHALL BE MANUFACTURED BY HILTI, OR APPROVED EQUAL.

PARTIAL SECOND FLOOR - PROPOSED NEW PLUMBING WORK PLAN



1. ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE SHOWN IN A SCHEMATIC, DIAGRAMMATIC, NATURE, THE DOCUMENTS DO NOT SHOW EVERY OFFSET, FITTING OR EVERY LENGTH OF PIPE OR CONDUIT. DO NOT SCALE THE DRAWINGS.

MEP GENERAL REMOVAL NOTES

ABOVE CEILING COORDINATION DRAWING

THE HVAC CONTRACTOR, PLUMBING CONTRACTOR, SPRINKLER SYSTEM

AND OTHER ITEMS THAT WILL BE INSTALLED ABOVE THE CEILING. IF

EQUIPMENT, ETC.) ARE IDENTIFIED, THEY SHALL BE BROUGHT TO THE

OWNER'S EQUIPMENT, BUILDING ELEMENTS, OR ANY OTHER ITEM, AND

ARCHITECT AND ENGINEER, SHALL BE PAID BY THE AFFECTED TRADES.

BUILDING ELEMENTS, ETC., AND THEY ARE READILY APPARENT BY CASUAL

INSTALLATION REQUIREMENTS AND RECOMMENDATIONS, ALL COSTS INVOLVED

ADDITIONALLY, IF THERE ARE CONFLICTS BETWEEN INSTALLED ITEMS,

OBSERVATION OF THE AREAS IN WHICH THE EQUIPMENT IS TO BE

INSTALLED, AND/OR BY REVIEWING EQUIPMENT MANUFACTURER'S

WITH CORRECTING THE CONFLICTS, TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER, SHALL BE PAID BY THE AFFECTED TRADES.

WITH CORRECTING THE CONFLICTS, TO THE SATISFACTION OF THE

THESE CONFLICTS ARE NOT NOTED, IDENTIFIED OR OTHERWISE BROUGHT

TO THE ATTENTION OF THE ARCHITECT AND ENGINEER, OR IF THEY ARE

IDENTIFIED AND INSTALLED BEFORE BEING RESOLVED, ALL COSTS INVOLVED

MAINTENANCE AND/OR REPAIR, CODE REQUIRED CLEARANCES FOR

CONTRACTOR, ELECTRICAL CONTRACTOR AND OTHER CONTRACTORS ARE

REQUIRED TO PREPARE A COORDINATION DRAWING SHOWING INSTALLATION

OF ALL EQUIPMENT, PIPING, DUCTWORK, CONDUIT, VALVES, ACCESSORIES

CONFLICTS (INCLUDING, BUT NOT LIMITED TO, LOCATION, CLEARANCES FOR

ATTENTION OF THE ARCHITECT AND ENGINEER, AND SHALL BE RESOLVED

BEFORE INSTALLATION OF THE CONFLICTING ITEMS. IF THE COORDINATION DRAWING INDICATES CONFLICTS BETWEEN EQUIPMENT OF DIFFERING TRADES

- 2. OTHER AREAS WITHIN BUILDING WILL BE OCCUPIED, AND IN OPERATION, DURING NEW CONSTRUCTION AND DEMOLITION WORK. SCHEDULE WORK TO MINIMIZE DISRUPTIONS TO BUILDING SERVICES. COOPERATE WITH OWNER TO MINIMIZE CONFLICTS, AND TO FACILITATE OWNER'S OPERATIONS. SCHEDULE THE WORK TO ACCOMMODATE THIS REQUIREMENT.
- 3. IT IS THE INTENT OF THESE DOCUMENTS THAT THE EXISTING UTILITIES (HVAC, PLUMBING, SPRINKLER AND ELECTRICAL EQUIPMENT, PIPING, SUPPORTS, ETC.), WITHIN THE DEMOLITION WORK AREA (EXCEPT AS NOTED OTHERWISE), ARE TO BE REMOVED AND PROPERLY DISPOSED. SEE ARCHITECTURAL DRAWINGS FOR EXTENT OF DEMOLITION WORK.
- 4. IF REMOVAL OF ANY EXISTING UTILITY WILL REQUIRE A SHUTDOWN, PROVIDE A MINIMUM OF 5 DAYS WRITTEN NOTICE TO THE OWNER AND EXISTING TENANTS PRIOR TO ANY DISRUPTIONS IN BUILDING SERVICES (PLUMBING / SPRINKLER SYSTEMS, HVAC SYSTEM, ELECTRICAL POWER, PHONE, DATA, SECURTIY AND OR FIRE ALARM SYSTEMS ETC.). DO NOT DISCONNECT OR INTERRUPT ANY BUILDING SERVICE WITHOUT EXPLICIT PERMISSION FROM THE OWNER.
- 5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE DEMOLITION PLANS, AND INCLUDE, AS WORK OF THEIR CONTRACT, ALL TEMPORARY CONNECTIONS AND CONSTRUCTION AS REQUIRED TO MAINTAIN THE INTEGRITY OF SERVICES TO THE OCCUPIED PORTIONS OF THE BUILDING.
- 6. THE PROJECT MAY REQUIRE MULTIPLE SHUT-DOWNS OF MEP SYSTEMS AS WELL AS MULTIPLE TEMPORARY CONNECTIONS DURING DIFFERENT TIMES/PHASES IN ORDER TO MAINTAIN OPERATION OF THE SYSTEMS TO ALL ADJACENT AND OCCUPIED AREAS AND TO PERMIT CONSTRUCTION OF THE PROPOSED WORK.

ALL EXISTING, AND NEW, PIPING SHOWN ON THE DRAWINGS ARE SHOWN IN A SCHEMATIC, DIAGRAMMATIC, NATURE. THE DOCUMENTS DO NOT SHOW EVERY OFFSET, FITTING OR EVERY LENGTH OF PIPE. THE ACTUAL LOCATIONS OF PIPING MAY DIFFER FROM THOSE SHOWN. THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING SANITARY, VENT AND DOMESTIC WATER PIPING AND MAKE ADJUSTMENTS IN THE LAYOUT OF NEW PIPING AS NECESSARY TO ACCOMODATE EXISTING CONDITIONS.

INSTALLATION OF NEW PIPING AND FIXTURES SHALL BE BASED UPON ACTUAL BUILDING CONDITIONS AND REQUIREMENTS OF THE NEW DESIGN REVIEW ARCHITECTURAL NEW WORK DRAWINGS FOR SPACES AVAILABLE AND FOR BUILDING CONSTRUCTION DETAILS BEFORE INSTALLING PIPING AND EQUIPMENT. MAKE SUCH OFFSETS AND DEVIATIONS FROM WORK SHOWN ON THE DRAWINGS AS MAY BECOME NECESSARY TO FIT EXISTING CONDITIONS.

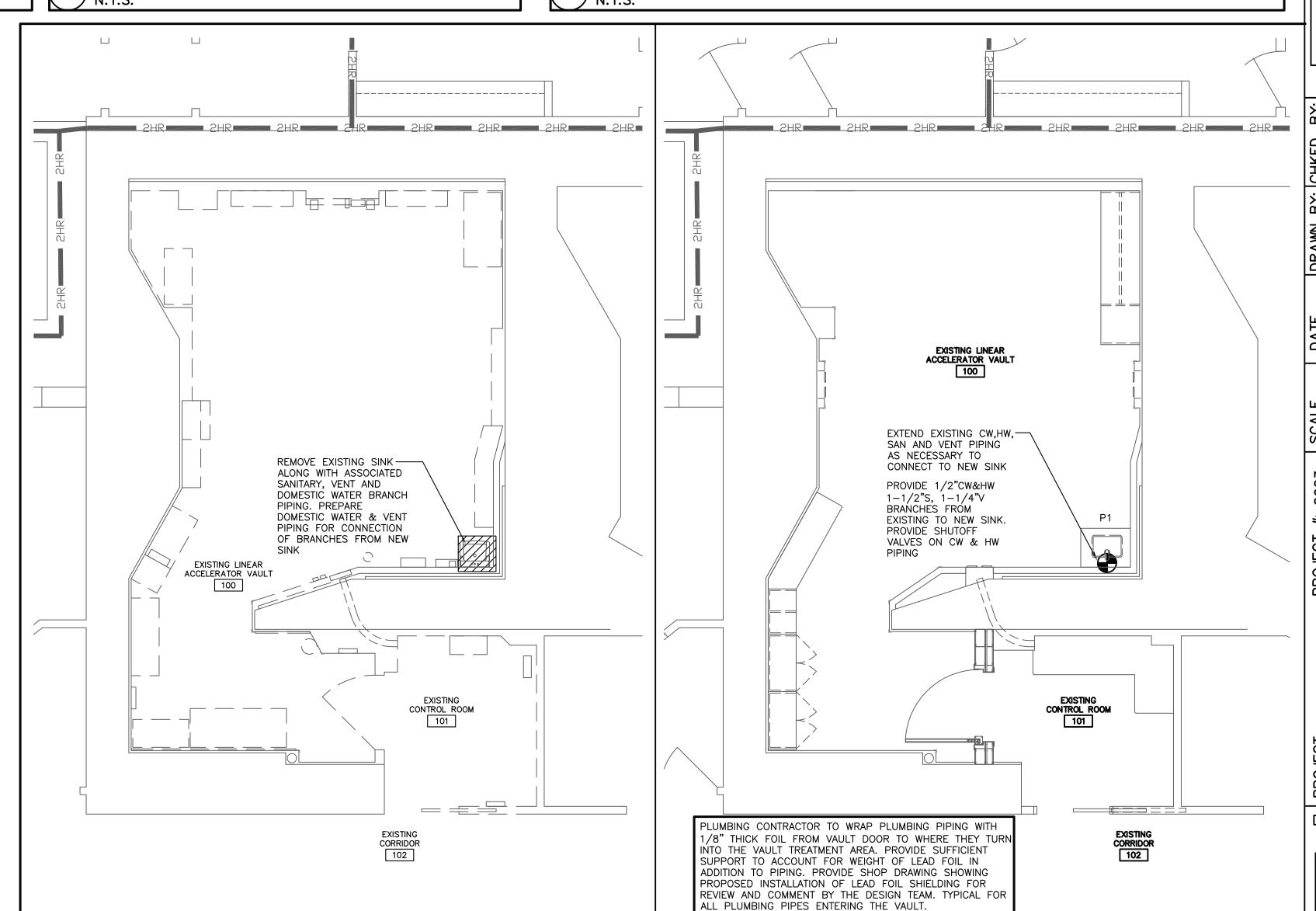
PUMBING REMOVAL NOTES

PLUMBING PIPING SUPPORT

NOT TO SCALE

- BEFORE SUBMITTING A BID THE PLUMBING CONTRACTOR SHALL VISIT THE PROJECT SITE AND SHALL BECOME THOROUGHLY FAMILIAR WITH THE OBSERVABLE EXISTING CONDITIONS WHICH AFFECT WORK OF THIS CONTRACT NO ADDITIONAL COMPENSATION WILL BE GRANTED DUE TO EXTRA WORK MADE NECESSARY BY THE CONTRACTOR'S FAILURE TO INVESTIGATE EXISTING CONDITIONS AND NOT BECOMING FAMILIAR WITH THE NATURE OF THE PROJECT.
- 2. PC SHALL REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION, SCOPE AND EXTENT OF DEMOLITION/REMOVALS.
- ALL ABANDONED BRANCH PIPING ALONG WITH THEIR ASSOCIATED ACCESSORIES SHALL BE REMOVED. ANY RESULTANT OPENING IN PIPING, OR CONSTRUCTION, SHALL BE PLUGGED/CAPPED OR OTHERWISE SEALED IN A MANNER ACCEPTABLE TO THE ENGINEER.
- 4. ALL OPENINGS CREATED IN THE EXISTING CONSTRUCTION SHALL BE CLOSED, PATCHED, SEALED AND FINISHED TO MATCH NEW BUILDING FINISHES.
- MAINTAIN PLUMBING SYSTEM SERVICE TO OCCUPIED AREAS OF THE BUILDING. THE PLUMBING CONTRACTOR IS TO NOTIFY THE OWNER OF ANY DISRUPTION OF PLUMBING SERVICE A MINIMUM OF 5 DAYS PRIOR TO THE DISRUPTION. DO NOT PROCEED WITH INTERRUPTION OF PLUMBING SERVICE UNTIL OWNER GIVES PERMISSION. ALL DISRUPTIONS SHALL BE AS SHORT AS POSSIBLE.
- 6. PLUMBING CONTRACTOR SHALL PROVIDE TEMPORARY AND PERMANENT PIPING, CAPS, PLUGS AND OTHER ITEMS AS REQUIRED TO MAINTAIN DOMESTIC WATER AND SANITARY PIPING SERVICE TO THE OCCUPIED AREAS OF THE BUILDING DURING CONSTRUCTION AND AFTER COMPLETION OF THE PROJECT. NOTE THAT THE PROJECT MAY REQUIRE MULTIPLE TEMPORARY PIPING CONNECTIONS/RECONNECTIONS DURING CONSTRUCTION TO MAINTAIN PLUMBING SERVICES.
- INCLUDE IN COST OF PLUMBING SYSTEM WORK, INSTALLATION OF ISOLATION VALVES IN EXISTING PIPING TO PERMIT CONNECTION OF NEW DOMESTIC WATER PIPING.
- 8. PLUG OR OTHERWISE SEAL, IN AN ACCEPTABLE MANNER, ALL UNUSED OPENINGS IN EXISTING PIPING. PREPARE EXISTING, REMAINING SANITARY PIPING AND OVERHEAD VENT PIPING TO

ACCEPT NEW PIPING AS SHOWN ON PLANS. PLUMBING LEGEND & SYMBOLS SYMBOL DESCRIPTION SANITARY DRAIN PIPING OVER HEAD VENT PIPING ____c<u>w</u> ____ DOMESTIC COLD WATER PIPE DOMESTIC HOT WATER PIPE PIPE TURNING DOWN PIPE TURNING UP NEW TO EXISTING CONNECTION BALL VALVE EXISTING ITEM TO BE REMOVED



1/4" = 1'-0'

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Replacem MEDICAL S

DRAWING NUMBER:

PLUMBING SCOPE OF WORK

- A. GENERAL: THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL MATERIALS, LABOR, AND EQUIPMENT REQUIRED TO PROVIDE THE COMPLETE DESIGN AND INSTALLATION OF THE PLUMBING SYSTEM FOR THIS PROJECT. ALL ITEMS FURNISHED AND INSTALLED, INCLUDING, BUT NOT LIMITED TO, PLUMBING FIXTURES, VALVES, BACKFLOW PREVENTION DEVICES, PIPING, FITTINGS, SUPPORTS, ACCESSORIES. CONCRETE WORK, ETC SHALL BE IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE NEW YORK STATE PLUMBING CODE AND LOCAL MUNICIPALITY.
- THE SPECIFICATIONS, TOGETHER WITH THE DRAWINGS DESCRIBED THE WORK TO BE DONE. MINOR DETAILS OR OTHER ITEMS NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO SECURE A FUNCTIONING SYSTEM, SHALL BE A PART OF THE WORK UNDER THE CONTRACT AND ALL COSTS IN CONNECTION THEREWITH SHALL BE INCLUDED IN THE LUMP SUM PRICE ESTABLISHED IN THE AGREEMENT.
- SEQUENCE OF WORK: THE CONTRACTOR WILL PREPARE AND SUBMIT FOR APPROVAL BY THE OWNER A PROJECT PROGRESS SCHEDULE PRIOR TO COMMENCING ANY WORK. THE CONTRACTOR SHALL PROVIDE THE NECESSARY EQUIPMENT, MATERIALS AND LABOR AT THE SITE TO MAINTAIN THE PROPOSED SCHEDULE DURING THE COMPLETION OF THE WORK.
- DESCRIPTION: WORK UNDER THIS CONTRACT SHALL CONSIST OF, IN GENERAL, FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO FURNISH AND INSTALL THE FOLLOWING:
- REMOVAL OF EXISTING PLUMBING PIPING, FIXTURES AND ASSOCIATED ACCESSORIES. ALL OPENINGS REMAINING IN EXISTING PIPING SYSTEMS SHALL BE PROPERLY CAPPED/PLUGGED. REFER TO PLUMBING REMOVAL AND NEW WORK PLANS, AS WELL AS ARCHITECTURAL DEMOLITION PLANS FOR REQUIRED PLUMBING REMOVALS. ALL SERVICES THAT REMAIN SHALL BE SAFELY TERMINATED AND MADE READY FOR CONNECTION OF NEW PIPING, ETC. AS REQUIRED BY THE RENOVATION PLANS AND PROGRAM.
- PROVIDE PERMANENT AND TEMPORARY PIPING (DOMESTIC WATER, SANITARY WASTE, VENT, ETC), PIPE INSULATION, VALVES, FITTINGS, LABOR, EQUIPMENT AND ALL OTHER ITEMS REQUIRED TO MAINTAIN FUNCTION OF EXISTING PLUMBING FIXTURES AND THE PLUMBING SYSTEM IN THROUGHOUT THE BUILDING. PROVIDE VALVED CONNECTIONS TO THE EXISTING DOMESTIC WATER SYSTEM AS NECESSARY TO PERMIT THE ORDERLY PROGRESSION OF WORK OF THE PROJECT IN ACCORDANCE WITH THE PLANS AND CONSTRUCTION
- PROVIDE ALL NECESSARY EQUIPMENT, PIPING, VALVES, FITTINGS, AND ACCESSORIES, REQUIRED FOR FURNISHING AND INSTALLATION OF TEMPORARY WATER SYSTEM FOR CONSTRUCTION ACTIVITIES. TAG AND IDENTIFY ALL ACTIVE. UTILITIES THAT ARE TO REMAIN IN SERVICE. MAINTAIN AND DISCONNECT TEMPORARY WATER SYSTEM AS REQUIRED FOR EXPEDITIOUS JOB OPERATIONS. REFER TO OTHER SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION.
- 4. OBTAIN, FILL OUT, AND FILE ALL APPLICATIONS REQUIRED FOR PERMITS FOR INSTALLATION OF WORK OF THIS TRADE. PAY ALL ASSOCIATED FEE.
- 5. FURNISHING AND INSTALLATION OF NEW EQUIPMENT, PLUMBING FIXTURES, PIPING (SANITARY, VENT AND DOMESTIC WATER), FITTINGS, DEVICES, INSULATION, SUPPORTS AND ACCESSORIES, INDICATED OR REQUIRED, FOR INSTALLATION OF NEW PLUMBING WORK. NEW WORK SHALL PROVIDE AN OPERATING PLUMBING SYSTEM, IN ACCORDANCE WITH THE NEW YORK STATE PLUMBING CODE, THE DRAWINGS AND SPECIFICATIONS.
- 6. FURNISHING, INSTALLATION, LOCATIONS, CONNECTIONS, ETC. OF ALL DEVICES AND EQUIPMENT SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE EQUIPMENT MANUFACTURER AND SHALL BE VERIFIED WITH THE EQUIPMENT MANUFACTURER PRIOR TO INSTALLING.
- 7. CUTTING, PATCHING, AND FIRESTOPPING AS REQUIRED FOR INSTALLATION OF WORK OF THIS CONTRACT.
- CONTRACTOR SHALL COORDINATE WITH THE OWNER, ARCHITECT AND OTHER TRADES, PRIOR TO START OF WORK OF THE PROJECT. ITEMS TO BE COORDINATED SHALL INCLUDE, BUT BE LIMITED TO, WORK SEQUENCE FOR DEMOLITION, ACCESS TO WORK AREAS, ACTIVE SERVICES THAT REMAIN, MATERIAL STORAGE AREAS, DEBRIS STORAGE AREAS, TEMPORARY BUILDING SERVICES, PROTECTION OF BUILDING/CONSTRUCTION AREAS FROM WEATHER, AND THE STRUCTURAL INTEGRITY OF THE BUILDING.
- THE PLUMBING CONTRACTOR, HVAC CONTRACTOR, SPRINKLER SYSTEM CONTRACTOR, ELECTRICAL CONTRACTOR AND OTHER CONTRACTORS ARE REQUIRED TO PREPARE A COORDINATION DRAWING SHOWING INSTALLATION OF ALL EQUIPMENT, PIPING, DUCTWORK, CONDUIT, VALVES, ACCESSORIES AND OTHER ITEMS THAT WILL BE INSTALLED ABOVE THE CEILING. IF CONFLICTS (INCLUDING, BUT NOT LIMITED TO, LOCATION, CLEARANCES FOR MAINTENANCE AND/OR REPAIR, CODE REQUIRED CLEARANCES FOR EQUIPMENT, ETC.) ARE IDENTIFIED, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER, AND SHALL BE RESOLVED BEFORE INSTALLATION OF THE CONFLICTING ITEMS. IF THE COORDINATION DRAWING INDICATES CONFLICTS BETWEEN EQUIPMENT OF DIFFERING TRADES, OWNER'S EQUIPMENT, BUILDING ELEMENTS, OR ANY OTHER ITEM, AND THESE CONFLICTS ARE NOT NOTED, IDENTIFIED OR OTHERWISE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER, OR IF THEY ARE IDENTIFIED AND INSTALLED BEFORE BEING RESOLVED, ALL COSTS INVOLVED WITH CORRECTING THE CONFLICTS, TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER, SHALL BE PAID BY THE AFFECTED TRADES. ADDITIONALLY, IF THERE ARE CONFLICTS BETWEEN INSTALLED ITEMS, BUILDING ELEMENTS, ETC., AND THEY ARE READILY APPARENT BY CASUAL OBSERVATION OF THE AREAS IN WHICH THE EQUIPMENT IS TO BE INSTALLED, AND/OR BY REVIEWING EQUIPMENT MANUFACTURER'S INSTALLATION REQUIREMENTS AND RECOMMENDATIONS, ALL COSTS INVOLVED WITH CORRECTING THE CONFLICTS, TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER, SHALL BE PAID BY THE AFFECTED TRADES THE CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS TO FULLY FAMILIARIZE THEMSELVES WITH ALL ASPECTS OF THE PROJECT, INCLUDING BUT NOT LIMITED TO, ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SPRINKLER WORK. FURTHER, ALL IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL RELATED SUB-CONTRACTORS ARE ALSO FAMILIAR WITH ALL ASPECTS OF THE PROJECT AS STATED ABOVE.

WARRANTY

- 1. THE CONTRACTOR REPRESENTS THAT ALL MATERIALS USED ON THE PROJECT SITE ARE WARRANTED BY THE MANUFACTURERS OF SUCH PRODUCTS. CONTRACTOR SHALL SUPPLY OWNER WITH FOUR (4) COPIES OF A COMPLETE WARRANTY MANUAL CONTAINING ALL MANUFACTURERS' WARRANTIES AND A WRITTEN STATEMENT OF CONTRACTOR'S WARRANTY SET FORTH BELOW.
- 2. IT IS EXPRESSLY UNDERSTOOD THAT, IN ADDITION TO ANY OTHER GUARANTIES AND/OR WARRANTIES IMPLIED OR EXPLICIT IN ANY SECTIONS OF THE SPECIFICATIONS, OR OTHER CONTRACT DOCUMENTS, ALL MATERIALS, LABOR, INSTALLATIONS AND ANY COMPONENT PART OF ALL SITE WORK AND BUILDING CONSTRUCTION, ACTIVATING INDIVIDUALLY OR IN TOTAL, ARE UNCONDITIONALLY GUARANTEED AND WARRANTED BY THE CONTRACTOR AGAINST ANY DEFECT FOR A MINIMUM PERIOD OF TWO (2) YEARS FROM THE DATE OF COMPLETION AND ACCEPTANCE BY THE OWNER. CONTRACTOR SHALL ASSIGN AND DELIVER TO OWNER (OR ITS ASSIGNEE) ALL RIGHTS, CLAIMS, CAUSES OF ACTIONS AND OTHER INTERESTS IN OR UNDER SUCH WARRANTIES AND GUARANTIES WHICH OWNER MAY ACQUIRE OR TO WHICH IT MAY BE ENTITLED (BY OPERATION OF LAW OR OTHERWISE) FROM CONTRACTOR AND/OR FROM ITS SUBCONTRACTORS, SUPPLIERS OR OTHERWISE. CONTRACTOR WARRANTS AND REPRESENTS THAT ALL OF SUCH WARRANTIES AND GUARANTIES ARE ASSIGNABLE AND THAT THEY MAY BE ENFORCED BY OWNER. THE CONTRACTOR SHALL ASSIST OWNER IN OBTAINING ANY PERFORMANCE UNDER ANY SUCH GUARANTEE AND/OR WARRANTY BUT THE EXISTENCE OF SUCH WARRANTIES, GUARANTIES AND MAINTENANCE MANUALS SHALL BE PROVIDED TO OWNER, ADDITIONALLY, ALL SUCH GUARANTIES OR WARRANTIES GIVEN BY CONTRACTOR HERE UNDER SHALL BE DEEMED TO RUN TO THE LENDERS AND/OR ANY TENANTS OF THE OWNER, AS APPLICABLE.
- CONTRACTOR SHALL OBTAIN WRITTEN WARRANTIES FROM THE MANUFACTURER AND INSTALLER AND DELIVER THEM TO THE ARCHITECT NO LATER THAN THE TIME AT WHICH THE WORK COVERED BY THE WARRANTY WAS DELIVERED AND INSTALLED.
- 4. UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR SHALL WARRANT (GUARANTY) ALL WORK AGAINST DEFECTS RESULTING FROM THE USE OF MATERIAL, WORKMANSHIP, OR EQUIPMENT WHICH IS INFERIOR. DEFECTIVE OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT. THIS WARRANTY SHALL BE IN EFFECT FOR TWO (2) YEARS FROM THE DATE OF ISSUANCE OF THE CERTIFICATE OF SUBSTANTIAL COMPLETION FOR THE PROJECT OR DESIGNATED PORTIONS THEREOF AND SHALL BE IN ADDITION TO, AND NOT A SUBSTITUTE FOR ANY OTHER RIGHTS OF OWNER UNDER THE CONTRACT DOCUMENTS OR EXISTING IN LAW. ALL OTHER OR ADDITIONAL MANUFACTURER'S AND INSTALLER'S WARRANTIES SHALL BE PASSED THROUGH TO THE OWNER.

CLEAN UP

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP THE DEBRIS, RUBBISH, ETC. GENERATED BY HIS OWN OPERATION. THE PROJECT SITE SHALL BE CLEANED UP PERIODICALLY AND AS DIRECTED BY THE OWNERS REPRESENTATIVE.

2. CODES & STANDARDS

ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF FEDERAL, STATE AND LOCAL AGENCIES; PUBLIC UTILITY COMPANIES AND UNDERWRITER'S LABORATORIES, AND SHALL COMPLY WITH LOCAL CODES. WHERE A CONFLICT IN CODE REQUIREMENTS IS ENCOUNTERED. THE MOST STRINGENT SHALL APPLY. A SAMPLE OF THE MORE EXPLICIT CODES FOLLOWS:

N.Y.S. ENERGY CONSERVATION CONSTRUCTION CODE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)

PERMITS

THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY LOCAL AUTHORITIES.

NEW YORK STATE BUILDING & PLUMBING CODES

THE CONTRACTOR SHALL PAY FOR ALL PERMITS AND ALL INSPECTION FEES RELATED TO WORK OF THIS CONTRACT. THE CONTRACTOR SHALL OBTAIN AND PAY FOR A CERTIFICATE OF COMPLETED WORK FROM THE FIREMANS UNDERWRITERS.

4. SHOP DRAWINGS

PROVIDE SHOP DRAWINGS OF ALL SYSTEMS AND EQUIPMENT, UNLESS OTHERWISE SPECIFIED. THE TERM "SHOP DRAWINGS," AS USED HEREIN, SHALL MEAN ALL MANUFACTURER'S BROCHURES, CATALOG CUTS, WIRING DIAGRAMS, INSTALLATION MANUALS, SHOP FABRICATION DRAWINGS, OR ANY SUCH MATERIALS USED TO DESCRIBE THE SYSTEM OR EQUIPMENT BEING SUBMITTED FOR APPROVAL.

ALL DRAWINGS SHALL BE SUBMITTED SUFFICIENTLY IN ADVANCE OF FIELD REQUIREMENTS TO ALLOW REASONABLE TIME FOR CHECKING; AND NO CLAIM FOR EXTENSION OF THE CONTRACT TIME WILL BE GRANTED BY REASON OF FAILURE IN THIS RESPECT. ALL SUBMITTALS SHALL BE COMPLETE; AND SHALL CONTAIN ALL REQUIRED AND DETAILED INFORMATION.

SHOP DRAWINGS SHALL BE SUBMITTED ELECTRONICALLY TO THE GREATEST EXTENT POSSIBLE. IF NOT, THEN SUBMIT FIVE COPIES OF SHOP DRAWINGS TO THE ARCHITECT. THE ARCHITECT. ENGINEER AND OWNER WILL KEEP ONE COPY EACH AND TWO COPIES WILL BE RETURNED TO THE

5. RECORD DRAWINGS

DURING THE PROGRESS OF WORK, A CAREFUL RECORD WILL BE KEPT OF ALL CHANGES WHERE THE ACTUAL INSTALLATION DIFFERS FROM THAT SHOWN ON THE DRAWINGS.

ON COMPLETION OF THE JOB, THE PLUMBING CONTRACTOR SHALL FURNISH TO THE OWNER HIS ORIGINAL TRACINGS OR REPRODUCIBLE TRANSPARENCIES OF ALL PIPING SHOP DRAWINGS. HE SHALL NOTE ON THE AS-BUILT DRAWINGS, FURNISHED BY HIM, THE CORRESPONDING NUMBERS OF APPLICABLE SHOP DRAWINGS. WHERE SHOP DRAWINGS ARE NOT AVAILABLE, HE SHALL NEATLY INDICATE THE CHANGE ON THE AS-BUILT DRAWINGS. DRAWINGS SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR APPROVAL. AFTER APPROVAL, THEY SHALL BECOME THE PROPERTY OF THE OWNER.

6. GUARANTEES

(1) WRITTEN GUARANTEE.

THE CONTRACTOR SHALL SUBMIT A WRITTEN GUARANTEE IN TRIPLICATE TO INCLUDE ALL SYSTEMS, MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. HE SHALL FURTHER PROVIDE AN ADDITIONAL FOUR YEAR MANUFACTURER'S WARRANTY, PARTS ONLY, FROM ALL HIS SUBCONTRACTORS AND EQUIPMENT SUPPLIERS. THIS WARRANTY SHALL APPLY TO ALL SYSTEMS AND EQUIPMENT FURNISHED AND INSTALLED UNDER THIS CONTRACT, UNLESS OTHERWISE SPECIFIED.

GUARANTEE PERIOD.

THE OPERATION OF THE EQUIPMENT BY THE OWNER DOES NOT CONSTITUTE AN ACCEPTANCE OF THE WORK. THE WORK WILL BE ACCEPTED ONLY AFTER THE CONTRACTOR HAS PROPERLY ADJUSTED HIS EQUIPMENT, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS, OPERATED IT SATISFACTORILY FOR A SUFFICIENT PERIOD OF TIME, AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES.

THE GUARANTEE PERIOD WILL BEGIN ON THE DATE THE CONTRACTOR RECEIVES WRITTEN NOTICE OF ACCEPTANCE BY THE OWNER AND/OR ENGINEER.

(3) GUARANTEE RESPONSIBILITY.

UPON NOTICE OF THE OWNER OF FAILURE OF ANY PART OF THE GUARANTEED EQUIPMENT OR SYSTEMS DURING THE GUARANTEE PERIOD. THE AFFECTED PART OR PARTS AND DAMAGES RESULTING THEREFROM SHALL BE REPLACED OR REPAIRED PROMPTLY BY AND AT THE EXPENSE OF THE CONTRACTOR AND AT THE CONVENIENCE OF THE OWNER.

7. WORK & MATERIALS

PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT AS HEREINAFTER SPECIFIED, AS SHOWN ON THE ACCOMPANYING DRAWINGS, AS REASONABLY IMPLIED AS USUALLY PROVIDED, AND AS REQUIRED FOR THE DELIVERY, THE ERECTION, THE PROPER WORKING, AND THE COMPLETE FINISH OF THE WORK OF THIS CONTRACT.

IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO PROVIDE ALTERATIONS AND NEW CONSTRUCTION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS TO PROVIDE COMPLETE SYSTEMS IN EVERY RESPECT, CAPABLE OF OPERATING AS DESIGNED. IT IS NOT INTENDED THAT EVERY FITTING, MINOR DETAIL OR FEATURE BE SHOWN ON THE DRAWINGS; AND THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DETAIL NECESSARY FORE COMPLETION OF THESE SYSTEMS IN ACCORDANCE WITH GOOD PRACTICE.

8. PRODUCT HANDLING

USE ALL MEANS NECESSARY TO PROTECT THE MATERIALS OF THIS SECTION BEFORE, DURING AND AFTER INSTALLATION AND TO PROTECT THE WORK AND MATERIALS OF ALL OTHER TRADES. IN THE EVENT OF DAMAGE, IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO THE APPROVAL OF THE ENGINEER AND AT NO ADDITIONAL COST TO THE OWNER.

9. SCHEDULING AND UTILITY SHUTDOWNS

THIS PROJECT IS BEING CONSTRUCTED WITHIN AN EXISTING, FUNCTIONING, BUILDING. UTILIZING EXISTING SERVICES AND UTILITIES. IT IS A REQUIREMENT OF THIS CONTRACT THAT ALL SERVICE AND UTILITY DISRUPTIONS MUST BE SCHEDULED TO MINIMIZE DISRUPTIONS TO BUILDING OCCUPANTS AND FUNCTIONS. COOPERATE WITH OWNER TO MINIMIZE CONFLICT, AND TO FACILITATE OWNER'S OPERATIONS. SCHEDULE THE WORK TO ACCOMMODATE THIS REQUIREMENT.

PROVIDE A MINIMUM OF FIVE (5) DAYS WRITTEN NOTICE PRIOR TO ANY DISRUPTIONS IN BUILDING SERVICES OR UTILITIES. DO NOT PROCEED WITH ANY SERVICE OR UTILITY SHUTDOWN WITHOUT WRITTEN PERMISSION FROM THE OWNER. ALL COSTS FOR UNOCCUPIED HOURS AND/OR WEEKEND WORK (IF ANY) SHALL BE A PART OF THE WORK UNDER THE CONTRACT AND ALL COSTS IN CONNECTION THEREWITH SHALL BE INCLUDED IN THE LUMP SUM PRICE ESTABLISHED IN THE AGREEMENT.

SCHEDULE WORK TO ENSURE EQUIPMENT IS INSTALLED AND SYSTEMS TESTED AND CERTIFIED PRIOR TO SUBSTANTIAL COMPLETION.

10. CUTTING, PATCHING & PAINTING

REVIEW THE GENERAL CONSTRUCTION PLANS. SPECIFICATIONS AND ROOM FINISH SCHEDULE FOR WORK THAT IS TO PERFORMED BY THE GENERAL CONTRACTOR.

ALL CUTTING AND PATCHING REQUIRED TO PERFORM WORK OF THIS CONTRACT (INCLUDING, BUT NOT LIMITED TO CORE DRILLING AND SAWCUTTING OF CONCRETE) SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. ALL SURFACES AND FINISHES IN AREAS DISTURBED BY WORK OF THIS CONTRACT, EITHER INTENTIONALLY OR ACCIDENTALLY, SHALL BE RESTORED TO A CONDITION EQUAL OR BETTER THAN FOUND. PREPARE SURFACE AND REMOVE SURFACE FINISHES TO PROVIDE FOR PROPER INSTALLATION OF FINISHES. ALL SAWCUTTING AND/OR CORE DRILLING OF CONCRETE MUST HAVE PRIOR APPROVAL FROM THE OWNER AND DESIGN TEAM. ALL CUTTING, COREDRILLING, SAW CUTTING. ETC MUST BE SCHEDULED WITH THE OWNER TO MINIMIZE DISTURBANCES TO OPERATION OF THE FACILITY AND ITS OCCUPANTS.

WHERE WORK IS BEING PERFORMED ON SURFACES THAT REQUIRE PAINTING BY THE GENERAL CONTRACTOR, THE GC WILL PROVIDE THE PAINTING, PROVIDING THE WORK IS INSTALLED IN

WHERE THE WORK IS BEING PERFORMED ON SURFACES THAT DO NOT REQUIRE PAINTING BY THE GC. THE ELECTRICAL CONTRACTOR SHALL PROVIDE SUFFICIENT PATCHING ONLY OF THOSE SURFACES IN SUCH A MANNER AS TO PRESENT A PROPER FINISH FOR THE OWNER TO PAINT AT A LATER DATE. THE ENGINEER WILL MAKE A DETERMINATION AS TO WHETHER PATCHING HAS BEEN EXECUTED

THE CONTRACTOR IS RESPONSIBLE FOR ANY EXTRA PAINTING COSTS INCURRED BECAUSE OF TARDINESS IN INSTALLING SURFACE-MOUNTED ITEMS IN FINISHED AREAS THAT ARE TO PAINTED BY THE GC.

THE CONTRACTOR SHALL CORE DRILL OR CUT EXISTING CONSTRUCTION IN AN APPROVED MANNER.

PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE FIRESTOPPED WITH A UL LISTED SYSTEM CONSISTING OF MINERAL WOOL AND LISTED MASTIC COMPOUND, AS MANUFACTURED BY HILTI. OR OTHER MANUFACTURER PROVIDING EQUIVALENT PRODUCTS.

11. INSERTS AND/OR SUPPORTS

IT SHALL BE THE RESPONSIBILITY OF THE INSTALLER OF A PARTICULAR PIECE OF EQUIPMENT TO PROVIDE THE PROPER MEANS OF ANCHORING.

STRUCTURAL ELEMENTS MUST NOT BE CUT WITH APPROVAL FROM THE ARCHITECT.

SUBMISSION OF THE PROPOSED LOADS TO BE IMPOSED ON THE STRUCTURE IS REQUIRED PRIOR

PIPE SLEEVES AND FIRESTOPPING

. PROVIDE FOR ALL PIPES, CONDUITS, AND OTHER ELEMENTS PASSING THROUGH FLOORS, WALLS, PARTITIONS AND STRUCTURAL ELEMENTS, SLEEVES, AS SPECIFIED, OF ADEQUATE DIAMETER TO ALLOW FOR A MINIMUM OF 3/4" INCHES CLEARANCE AROUND SLEEVE AND PIPE. 2. WHEN PIPE, CONDUIT, OR OTHER SUCH ELEMENT PENETRATES OTHER THAN FIRE RATED A FIRE RATED ASSEMBLY AND IS INSULATED, INSULATION SHALL PASS CONTINUOUSLY THROUGH SLEEVES WITH 1/2 INCH CLEARANCE BETWEEN INSULATION AND SLEEVE.

J. WHERE PIPES, CONDUITS, AND OTHER SUCH ELEMENTS PENETRATE FIRE RATED ASSEMBLIES (WALLS, FLOORS, CEILINGS, STRUCTURE, ETC.) SLEEVES AND FIRESTOPPING SYSTEMS SHALL BE AS SPECIFIED ELSEWHERE IN THESE SPECIFICATIONS.

PROJECT RECORD DOCUMENTS

A. AT PROJECT CLOSEOUT, SUBMIT RECORD DRAWINGS OF INSTALLED DOMESTIC WATER SYSTEMS PIPING, FITTINGS, VALVES, FIXTURES AND ALL OTHER ACCESSORIES. 3. SUBMIT MAINTENANCE DATA AND PARTS LIST FOR DOMESTIC WATER SYSTEMS MATERIALS AND PRODUCTS. PROVIDE PRODUCT DATA AND RECORD DRAWINGS IN MAINTENANCE MANUAL.

A. WELDING MATERIALS AND PROCEDURES: CONFORM TO ASME CODE AND APPLICABLE STATE LABOR REGULATIONS. B. WELDERS CERTIFICATION: IN ACCORDANCE WITH ASME SEC 9.

REGULATORY REQUIREMENTS

QUALITY ASSURANCE

A. PERFORM WORK IN ACCORDANCE WITH NEW YORK STATE PLUMBING CODE AND THE REQUIREMENTS OF THE COUNTY OF DUTCHUSS.

DELIVERY, STORAGE, AND HANDLING

A. ACCEPT VALVES ON SITE IN SHIPPING CONTAINERS WITH LABELING IN PLACE. INSPECT FOR DAMAGE. B. PROVIDE TEMPORARY PROTECTIVE COATING ON CAST IRON AND STEEL VALVES. C. PROVIDE TEMPORARY END CAPS AND CLOSURES ON PIPING AND FITTINGS. MAINTAIN IN PLACE UNTIL D. PROTECT PIPING SYSTEMS FROM ENTRY OF FOREIGN MATERIALS BY TEMPORARY COVERS, COMPLETING SECTIONS OF THE WORK, AND ISOLATING PARTS OF COMPLETED SYSTEM.

SANITARY SEWER PIPING (WITHIN BUILDING)

- A. CAST IRON PIPE: ASTM A74, SERVICE WEIGHT. FITTINGS: CAST IRON.
- 2. JOINTS: ASTM C564, NEOPRENE GASKET SYSTEM

JOINTS: ASTM B32, SOLDER, GRADE 50B.

- B. CAST IRON PIPE: CISPI 301, HUBLESS, SERVICE WEIGHT. NOT FOR USE UNDER SLAB. FITTINGS: CAST IRON. 2. JOINTS: NEOPRENE GASKETS AND STAINLESS STEEL CLAMP/AND/SHIELD ASSEMBLIES.
- COPPER TUBE: ASTM B306, TYPE DWV FITTINGS: ASME B16.23. CAST BRONZE, OR ASME B16.29, WROUGHT COPPER.

GENERAL: BASIC PIPING MATERIALS, ASSEMBLIES AND FACTORY FABRICATED PIPING PRODUCTS OF SIZES, TYPES, PRESSURE RATINGS, AND CAPACITIES AS INDICATED, WHERE NOT INDICATED, PROVIDE PROPER SELECTION AS DETERMINED BY INSTALLER TO COMPLY WITH INSTALLATION REQUIREMENTS. PROVIDE FITTINGS OF MATERIALS WHICH ARE COMPATIBLE WITH THEIR

- 1. ALL FITTINGS SHALL COMPLY WITH LATEST EDITION OF ANSI STANDARDS.
- 2. STEEL FLANGES/FITTINGS: ANSI B16.5 3. CAST IRON THREADED FITTINGS: ANSI B16.4

ASSOCIATED PIPING AND CONNECTIONS.

I. AMERICAN STANDARD TAPERED THREADS, FULL CUT. LUBRICANT FOR MALE THREADS OF SCREWED PIPE SHALL BE TEFLON TAPE OR NON-TOXIC THREAD SEALANT COMPOUND. THE USE OF COTTON WICKING OR CAULKING SHALL BE PROHIBITED. PIPE ENDS SHALL BE DEBURRED AND REAMED TO FULL SIZE. UNIONS AND FLANGES:

1. UNIONS ON STEEL PIPE: GALVANIZED, MALLEABLE, BRASS SEAT UNIONS FOR GALVANIZED PIPING AND BLACK, MALLEABLE, BRASS SEAT UNIONS FOR BLACK AND COPPER NICKEL ALLOY STEEL PIPING. RATED AT 150 PSIG OR GREATER AS REQUIRED BY PRESSURE RATING OF THE SYSTEM AND OTHER FITTINGS USED IN THE SYSTEM.

2. UNIONS FOR COPPER PIPE: BRONZE WITH SOLDERED JOINTS. 3. DIELECTRIC UNIONS: AT EACH JOINT BETWEEN STEEL OR GALVANIZED (ZINC) AND COPPER PIPING SYSTEMS. FOR FLANGE TYPE, PROVIDE INSULATING SPACERS AND WASHERS. 4. FLANGES FOR PIPE OVER 2 INCHES: FERROUS PIPING: 150 PSIG FORGED STEEL, SLIP-ON COPPER PIPING: BRONZE.

SOLDERING MATERIALS:

1. ALL SOLDERS SHALL MEET FEDERAL REQUIREMENTS FOR LEAD FREE SOLDERS AS PER THE FEDERAL SAFE DRINKING WATER ACT AMENDMENTS OF 1986 (PUBLIC LAW 99-339). 2. ALL SOLDERS SHALL COMPLY WITH SECTION 905.5 OF THE NEW YORK STATE EXECUTIVE VOLUME OF CODES, RULES AND REGULATIONS (NEW YORK STATE BUILDING CODE). 3. SOLDER SHALL BE TIN-ANTIMONY (ASTM B-32 GRADE 95 TA) OR OF OTHER LEAD FREE TYPE SUCH AS SILVABRITE 100 (AS MANUFACTURED BY ENGELHARD CORP.), STAY-SAFE 50 (AS MANUFACTURED BY J.W. HARRIS CO.) OR EQUAL.

2.3 WATER PIPING (WITHIN BUILDING, ABOVE GRADE)

A. COPPER TUBING: ASTM B88, TYPE L, HARD DRAWN.

1. FITTINGS: ASME B16.18, CAST BRONZE, OR ASME B16.22, WROUGHT COPPER AND BRONZE. 2. JOINTS: ASTM B32, SOLDER, GRADE 95TA.

A. VALVES AND VALVE CONSTRUCTION SHALL BE SUITABLE FOR THE PRESSURE, TEMPERATURE, AND WATER QUALITY OF THE SERVICE. ALL VALVES SHALL CONFORM TO ANSI STANDARDS. COMPLY WITH ASME B31.9 FOR BUILDING SERVICES PIPING AND ASME B31.1 FOR POWER

1. PIPE SIZE 2" AND UNDER: BRONZE BODY AND TRIM WITH SCREWED ENDS. 2. TUBE SIZE 2" AND UNDER: SOLDERED JOINT VALVES.

3. BALL VALVES (SHUT-OFF VALVE 2" AND SMALLER): - NIBCO #585-70-SU, OR APPROVED EQUAL FULL PORT BALL, TWO PIECE VALVE. 4. CHECK VALVES: SCREWED - NIBCO #T-413, OR APPROVED EQUAL. TWO INCH AND SMALLER WITH RENEWABLE TEFLON OR BRONZE DISC AND BRONZE ARM SWINGING ON A BRONZE HINGE

5. DRAIN VALVES: NIBCO 585-70-HC OR APPROVED EQUAL. 6. ACCEPTABLE MANUFACTURERS FOR ALL VALVES SPECIFIED ABOVE CONTINGENT UPON COMPLIANCE WITH SPECIFICATIONS: CRANE, DEZURIK, FAIRBANKS, GRINNEL, OR OTHER

PIPE INSULATION

APPROVED EQUAL.

A. ACCEPTABLE MANUFACTURERS: MANVILLE CORP., OWENS—CORNING, CERTAIN—TEED OR OTHER MANUFACTURER PROVIDING EQUIVALENT PRODUCTS.

R INSTITATION: 1" THICK RIGID FIRERCLASS ONE DIFCE DIDE INSTITATION, WITH A FACTORY NSTALLED ALL PURPOSE VAPOR BARRIER JACKET OF WHITE KRAFT BONDED TO ALUMINUM FOIL REINFORCED WITH FIBERGLASS YARN. JACKET SHALL BE FURNISHED WITH A PRESSURE SENSITIVE TAPE LAP SEALING SYSTEM, WITH MATCHING PRESSURE SENSITIVE TAPE BUTT STRIPS. "K" VALUE OF 0.24 AT 75 DEGREES F.OWENS-CORNING ASJ/SSL-II OR EQUAL.

- C. INSULATION JACKETS: ONE PIECE MOLDED PVC VALVE AND FITTING COVERS AND SHEET MATERIAL WHITE COLOR. MANVILLE ZESTON 2000, OR APPROVED EQUAL. A) MINIMUM SERVICE TEMPERATURE: O DEGREES F.
- B) MAXIMUM SERVICE TEMPERATURE: 150 DEGREES F
- C) MAXIMUM FLAME SPREAD: 25 OR LESS.
- D) MAXIMUM SMOKE DEVELOPED: 50 OR LESS. E) THICKNESS: 20 MIL.
-) CONNECTIONS: BRUSH ON WELDING ADHESIVE. G) WHERE COMBUSTIBLE PRODUCTS ARE LOCATED WITHIN THE ABOVE CEILING RETURN AIR PLENUM
- THEY MUST BE PROTECTED WITH A FIRE RESISTANT WRAP, SUCH AS 3M FIRE BARRIER PLENUM WRAP 5A, OR EQUIVALENT PRODUCT OF ANOTHER MANUFACTURER.

PIPE HANGERS AND SUPPORTS

MANUFACTURERS: 1. ITT GRINNELL, B-LINE SYSTEMS, FEE MASON OR OTHER MANUFACTURERS PROVIDING EQUIVALENT PRODUCTS.

- 1. CONFORM TO ASME B31.9. 2. HANGERS FOR PIPE SIZES TO 1-1/2 INCH: MALLEABLE IRON, ADJUSTABLE SWIVEL, SPLIT
- 3. HANGERS FOR PIPE SIZES 2 INCHES AND OVER: CARBON STEEL, ADJUSTABLE, CLEVIS. 4. MULTIPLE OR TRAPEZE HANGERS: STEEL CHANNELS WITH WELDED SPACERS AND HANGER
- 5. WALL SUPPORT FOR PIPE SIZES TO 3 INCHES: CAST IRON HOOK.
- 6. WALL SUPPORT FOR PIPE SIZES 4 INCHES AND OVER: WELDED STEEL BRACKET AND WROUGHT STEEL CLAMP. 7. VERTICAL SUPPORT: STEEL RISER CLAMP.
- 8. FLOOR SUPPORT: CAST IRON ADJUSTABLE PIPE SADDLE, LOCK NUT, NIPPLE, FLOOR FLANGE, AND CONCRETE PIER OR STEEL SUPPORT. 9. COPPER PIPE SUPPORT: CARBON STEEL RING, ADJUSTABLE, COPPER PLATED.
- C. PLUMBING PIPING WATER:
- 1. CONFORM TO ASME B31.9.
- 3. HANGERS FOR COLD PIPE SIZES 2 INCHES AND OVER: CARBON STEEL, ADJUSTABLE, CLEVIS. 4. HANGERS FOR HOT PIPE SIZES 2 TO 4 INCHES: CARBON STEEL, ADJUSTABLE, CLEVIS. 5. HANGERS FOR HOT PIPE SIZES 6 INCHES AND OVER: ADJUSTABLE STEEL YOKE, CAST IRON
- ROLL, DOUBLE HANGER. MULTIPLE OR TRAPEZE HANGERS: STEEL CHANNELS WITH WELDED SPACERS AND HANGER RODS 7. MULTIPLE OR TRAPEZE HANGERS FOR HOT PIPE SIZES 6 INCHES AND OVER: STEEL CHANNELS WITH WELDED SPACERS AND HANGER RODS, CAST IRON ROLL.

HANGERS FOR PIPE SIZES 1/2 TO 1-1/2 INCH: MALLEABLE IRON, ADJUSTABLE SWIVEL, SPLIT

- 8. WALL SUPPORT FOR PIPE SIZES TO 3 INCHES: CAST IRON HOOK. 9. WALL SUPPORT FOR PIPE SIZES 4 INCHES AND OVER: WELDED STEEL BRACKET AND WROUGHT
- 10. WALL SUPPORT FOR HOT PIPE SIZES 6 INCHES AND OVER: WELDED STEEL BRACKET AND WROUGHT STEEL CLAMP WITH ADJUSTABLE STEEL YOKE AND CAST IRON ROLL.
- 11. VERTICAL SUPPORT: STEEL RISER CLAMP.
- 12. FLOOR SUPPORT FOR COLD PIPE: CAST IRON ADJUSTABLE PIPE SADDLE, LOCK NUT, NIPPLE, FLOOR FLANGE. AND CONCRETE PIER OR STEEL SUPPORT.
- 13. FLOOR SUPPORT FOR HOT PIPE SIZES TO 4 INCHES: CAST IRON ADJUSTABLE PIPE SADDLE, LOCK NUT, NIPPLE, FLOOR FLANGE, AND CONCRETE PIER OR STEEL SUPPORT. 14. FLOOR SUPPORT FOR HOT PIPE SIZES 6 INCHES AND OVER: ADJUSTABLE CAST IRON ROLL
- AND STAND, STEEL SCREWS, AND CONCRETE PIER OR STEEL SUPPORT. 15. COPPER PIPE SUPPORT: CARBON STEEL RING, ADJUSTABLE, COPPER PLATED.

ACCESSORIES

A. HANGER RODS: MILD STEEL THREADED BOTH ENDS, THREADED ONE END, OR CONTINUOUS THREADED.

- SLEEVES FOR PIPES THROUGH NON-FIRE RATED FLOORS: 18 GAGE GALVANIZED STEEL SLEEVES FOR PIPES THROUGH NON-FIRE RATED BEAMS, WALLS, FOOTINGS, AND POTENTIALLY WET
- FLOORS: STEEL PIPE. REMOVE ALL BURRS. UTILIZE STEEL PIPE SLEEVES AT ALL FOUNDATION AND REINFORCED CONCRETE WALLS, AND PROVIDE WITH WELDED ANCHOR FLANGES ON BOTH SIDES. SLEEVES FOR PIPES THROUGH FIRE RATED AND FIRE RESISTIVE FLOORS AND WALLS, AND FIRE
- PROOFING: PREFABRICATED FIRE RATED SLEEVES INCLUDING SEALS, UL LISTED. D. FIRESTOPPING INSULATION: GLASS FIBER TYPE, NON-COMBUSTIBLE, OR AS OTHERWISE SPECIFIED OR APPROVED BY ENGINEER.

FIRE BARRIER PENETRATION SEALS

- A. PROVIDE SEALS FOR ANY OPENING THROUGH FIRE RATED WALLS, FLOORS OR CEILINGS USED AS PASSAGE FOR MECHANICAL COMPONENTS SUCH AS PIPING OR DUCTWORK.
 - 1. CRACKS, VOIDS, OR HOLES UP TO 4" DIAMETER: USE PUTTY OR CAULKING, ONE PIECE INTUMESCENT ELASTOMER, NON-CORROSIVE TO METAL, COMPATIBLE WITH SYNTHETIC CABLE JACKETS. INSTALL AS PER MANUFACTURERS INSTRUCTIONS, ALONG WITH RECOMMENDED BACKING MATERIAL. PRODUCTS HALL BE UL LISTED. ACCEPTABLE MANUFACTURERS: HILTI OR APPROVED EQUAL
- 2. OPENINGS 4" OR GREATER: USE SEALING SYSTEM CAPABLE OF PASSING 3 HOUR FIRE TEST IN ACCORDANCE WITH ASTM E-814, CONSISTING OF WALL WRAP OR LINER, PARTITIONS AND END CAPS CAPABLE OF EXPANDING WHEN EXPOSED TO TEMPERATURES OF 250 TO 350 DEGREES F. SEALING SYSTEM SHALL BE UL LISTED. ACCEPTABLE MANUFACTURERS: HILTI OR APPROVED EQUAL.

A. PIPE ESCUTCHEONS SHALL HAVE AN INSIDE DIAMETER CLOSELY FITTING PIPE OUTSIDE DIAMETER OR OUTSIDE INSULATION DIAMETER. ESCUTCHEONS SHALL BE SIZED TO COMPLETELY COVER PIPE PENETRATION HOLE (AND SLEEVE EXTENSIONS) IN FLOORS, WALLS OR CEILINGS. ESCUTCHEON PLATES IN EXPOSED OR DAMP AREAS SHALL BE CHROMIUM PLATED CAST BRASS OR STAINLESS STEEL, SPLIT HINGED OR SOLID TYPE WITH SET SCREWS. IN DRY UNEXPOSED AREAS PROVIDE SHEET STEEL ESCUTCHEON PLATES. ESCUTCHEON PLATES SHALL BE AS MANUFACTURED BY CHICAGO SPECIALTY, PRODUCT SPECIALTY, SANITARY-DASH, OR APPROVED EQUAL.

WATER HAMMER ARRESTERS

A. PRECHARGED SUITABLE FOR OPERATION IN TEMPERATURE RANGE TO 300 DEGREES AND MAXIMUM 250 PSIG WORKING PRESSURE, ZURN SHOKTROL, OR APPROVED EQUAL.

A. ALL CLEANOUT PLUGS SHALL BE CAST BRONZE.

PLUMBING FIXTURES

P-1: UNDERCOUNTER MOUNTED CORIAN LAVATORY "CAMEO WHITE", MODEL 8254 WITH INTEGRAL OVERFLOW. PROVIDE WITH SYMMONS "DIA" MODEL SLS-3510-1.5 SINGLE HANDLE, ONE HOLE LAVATORY FAUCET. PROVIDE WITH METAL GRID STRAINER, 17 GAUGE TAIL PIECE, 1-1/4"X1-1/2" SEMI-CAST P-TRAP WITH CLEANOUT PLUG. PROVIDE CHROME PLATED STOPS AND FLEXIBLE SUPPLY PIPES. MOUNT FIXTURE AT ADA REQUIRED "HANDICAPPED HEIGHT" (HC).

PLUMBING FIXTURE INSTALLATION

- A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- B. INSTALL EACH FIXTURE WITH TRAP, EASILY REMOVABLE FOR SERVICING AND CLEANING.
- C. PROVIDE CHROME PLATED RIGID OR FLEXIBLE SUPPLIES TO FIXTURES WITH SCREWDRIVER STOPS, REDUCERS, AND ESCUTCHEONS.
- D. INSTALL COMPONENTS LEVEL AND PLUMB.
- E. INSTALL AND SECURE FIXTURES IN PLACE WITH WALL CARRIERS AND BOLTS.
- F. PROVIDE ADA COMPLIANT PROTECTIVE COVERINGS FOR ALL EXPOSED COLD WATER SUPPLY PIPING AND STOP VALVES, HOT WATER SUPPLY PIPING AND STOP VALVE, AND DRAIN PIPE/TRAP UNDER LAVATORIES, SINKS AND OTHER PLUMBING FIXTURES, TRUBRO "LAVGUARD 2" OR EQUIVALENT.
- G. PROVIDE OFFSET TRAP ASSEMBLY FOR ALL WHEELCHAIR ACCESSIBLE LAVATORIES AND SINKS.

- INSTALLATION (BUILDING PIPING) PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER JOINTING DISSIMILAR METALS. B. ROUTE PIPING IN ORDERLY MANNER, PARALLEL TO BUILDING STRUCTURE, AND MAINTAIN GRADIENT. INSTALL PIPING SO THAT IT IS FREE FROM UNNECESSARY TRAPS AND BENDS. PIPING SHALL BE INSTALLED CONCEALED
- IN OCCUPIED SPACES. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS. D. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR
- CONNECTED EQUIPMENT.
- E. SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN AT LOW POINTS. USE ECCENTRIC REDUCERS TO MAINTAIN TOP OF PIPE LEVEL. DO NOT USE BUSHINGS FOR CHANGES IN PIPE SIZE.
- PROVIDE CLEARANCE FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS. PROVIDE ACCESS WHERE VALVES AND FITTINGS ARE NOT EXPOSED WHERE PIPE SUPPORT MEMBERS ARE WELDED TO STRUCTURAL BUILDING FRAMING, SCRAPE, BRUSH CLEAN,
- AND APPLY ONE COAT OF ZINC RICH PRIMER TO WELDING. PREPARE PIPE, FITTINGS, SUPPORTS, AND ACCESSORIES NOT PREFINISHED, READY FOR FINISH PAINTING. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED.

K. PLUMBING SYSTEM MATERIALS AND INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE

REQUIREMENTS OF THE NEW YORK STATE PLUMBING CODE.

A. INSTALL UNIONS DOWNSTREAM OF VALVES AND AT EQUIPMENT OR APPARATUS CONNECTIONS. B. SHUTOFF VALVES: INSTALL ON INLET OF EACH PLUMBING EQUIPMENT ITEM, AND ON INLET(S) OF EACH

PLUMBING FIXTURE, AND ELSEWHERE AS INDICATED. **EQUIPMENT CONNECTIONS**

A. PIPING RUNOUTS TO FIXTURES: PROVIDE HOT AND COLD WATER PIPING RUNOUTS TO FIXTURES OF SIZES

INDICATED, BUT IN NO CASE SMALLER THAN REQUIRED BY THE NEW YORK STATE PLUMBING CODE. DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

SODA ASH) OR ACID (HYDROCHLORIC), AS REQUIRED.

WATER ENTRY, AND ANALYZE IN ACCORDANCE WITH AWWA C651.

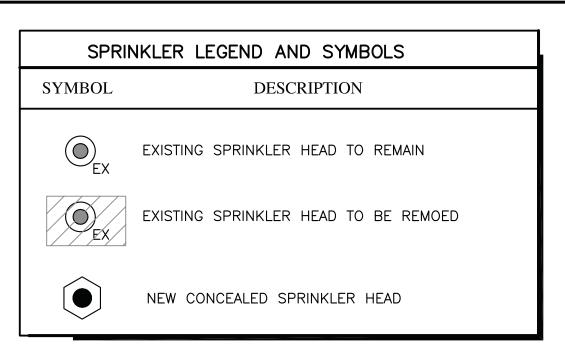
- A. DISINFECT WATER SERVICE PIPING IN ACCORDANCE WITH AWWA C601. DISINFECT DOMESTIC DISTRIBUTION
- SYSTEM AS DESCRIBED BELOW. PRIOR TO STARTING WORK, VERIFY SYSTEM IS COMPLETE, FLUSHED AND CLEAN. C. ENSURE PH OF WATER TO BE TREATED IS BETWEEN 7.4 AND 7.6 BY ADDING ALKALI (CAUSTIC SODA OR
- D. INJECT DISINFECTANT, FREE CHLORINE IN LIQUID, POWDER, TABLET OR GAS FORM, THROUGHOUT SYSTEM TO OBTAIN 50 TO 80 MG/L RESIDUAL. E. BLEED WATER FROM OUTLETS TO ENSURE DISTRIBUTION AND TEST FOR DISINFECTANT RESIDUAL AT MINIMUM
- 15 PERCENT OF OUTLETS. MAINTAIN DISINFECTANT IN SYSTEM FOR 24 HOURS.
- G. IF FINAL DISINFECTANT RESIDUAL TESTS LESS THAN 25 MG/L, REPEAT TREATMENT H. FLUSH DISINFECTANT FROM SYSTEM UNTIL RESIDUAL EQUAL TO THAT OF INCOMING WATER OR 1.0 MG/L.

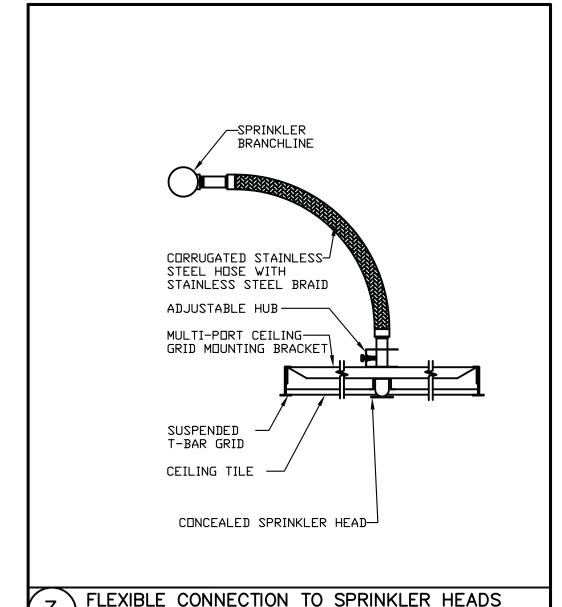
TAKE SAMPLES NO SOONER THAN 24 HOURS AFTER FLUSHING, FROM 10 PERCENT OF OUTLETS AND FROM

ENGIN

ROJECT ent for: CENTER

DRAWING NUMBER





ABOVE CEILING COORDINATION DRAWING

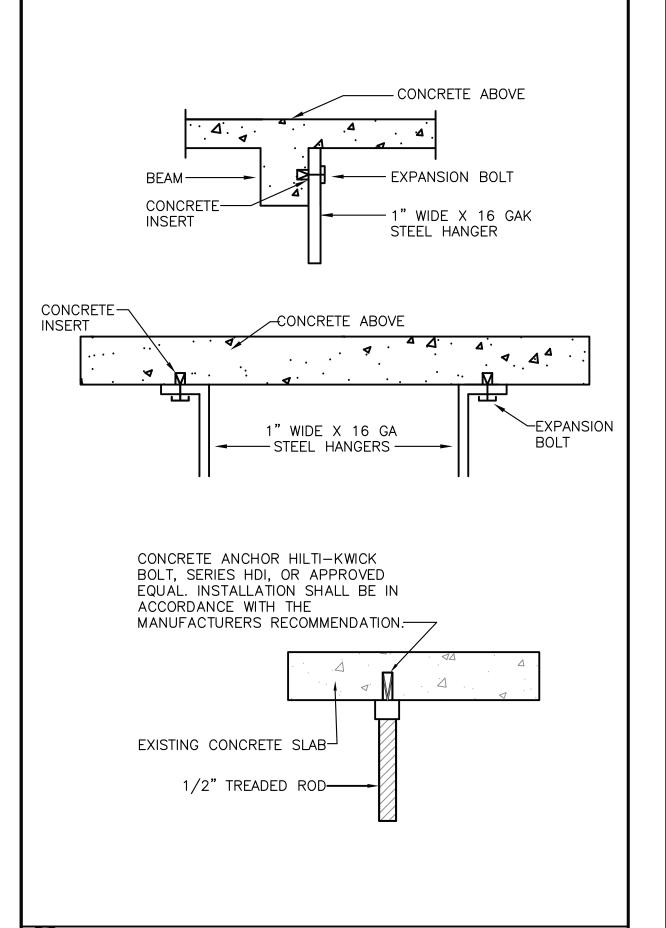
THE HVAC CONTRACTOR, PLUMBING CONTRACTOR, SPRINKLER SYSTEM CONTRACTOR, ELECTRICAL CONTRACTOR AND OTHER CONTRACTORS ARE REQUIRED TO PREPARE A COORDINATION DRAWING SHOWING INSTALLATION OF ALL EQUIPMENT, PIPING, DUCTWORK, CONDUIT, VALVES, ACCESSORIES AND OTHER ITEMS THAT WILL BE INSTALLED ABOVE THE CEILING. IF CONFLICTS (INCLUDING, BUT NOT LIMITED TO, LOCATION, CLEARANCES FOR MAINTENANCE AND/OR REPAIR, CODE REQUIRED CLEARANCES FOR EQUIPMENT, ETC.) ARE IDENTIFIED, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER, AND SHALL BE RESOLVED BEFORE INSTALLATION OF THE CONFLICTING ITEMS. IF THE COORDINATION DRAWING INDICATES CONFLICTS BETWEEN EQUIPMENT OF DIFFERING TRADES OWNER'S EQUIPMENT, BUILDING ELEMENTS, OR ANY OTHER ITEM, AND THESE CONFLICTS ARE NOT NOTED, IDENTIFIED OR OTHERWISE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER, OR IF THEY ARE IDENTIFIED AND INSTALLED BEFORE BEING RESOLVED, ALL COSTS INVOLVED WITH CORRECTING THE CONFLICTS, TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER, SHALL BE PAID BY THE AFFECTED TRADES. ADDITIONALLY, IF THERE ARE CONFLICTS BETWEEN INSTALLED ITEMS, BUILDING ELEMENTS, ETC., AND THEY ARE READILY APPARENT BY CASUAL OBSERVATION OF THE AREAS IN WHICH THE EQUIPMENT IS TO BE INSTALLED. AND/OR BY REVIEWING EQUIPMENT MANUFACTURER'S INSTALLATION REQUIREMENTS AND RECOMMENDATIONS, ALL COSTS INVOLVED WITH CORRECTING THE CONFLICTS, TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER, SHALL BE PAID BY THE AFFECTED TRADES.

MEP GENERAL REMOVAL NOTES

- 1. ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE SHOWN IN A SCHEMATIC, DIAGRAMMATIC, NATURE. THE DOCUMENTS DO NOT SHOW EVERY OFFSET, FITTING OR EVERY LENGTH OF PIPE OR CONDUIT. DO NOT SCALE THE DRAWINGS.
- 2. OTHER AREAS WITHIN BUILDING WILL BE OCCUPIED, AND IN OPERATION, DURING NEW CONSTRUCTION AND DEMOLITION WORK. SCHEDULE WORK TO MINIMIZE DISRUPTIONS TO BUILDING SERVICES. COOPERATE WITH OWNER TO MINIMIZE CONFLICTS, AND TO FACILITATE OWNER'S OPERATIONS. SCHEDULE THE WORK TO ACCOMMODATE THIS REQUIREMENT.
- 3. IT IS THE INTENT OF THESE DOCUMENTS THAT THE EXISTING UTILITIES (HVAC, PLUMBING, SPRINKLER AND ELECTRICAL EQUIPMENT, PIPING, SUPPORTS, ETC.), WITHIN THE DEMOLITION WORK AREA (EXCEPT AS NOTED OTHERWISE), ARE TO BE REMOVED AND PROPERLY DISPOSED. SEE ARCHITECTURAL DRAWINGS FOR EXTENT OF DEMOLITION WORK.
- 4. IF REMOVAL OF ANY EXISTING UTILITY WILL REQUIRE A SHUTDOWN, PROVIDE A MINIMUM OF 5 DAYS WRITTEN NOTICE TO THE OWNER AND EXISTING TENANTS PRIOR TO ANY DISRUPTIONS IN BUILDING SERVICES (PLUMBING SYSTEMS, SPRINKLER SYSTEMS, HVAC SYSTEM, ELECTRICAL POWER, ETC.). DO NOT DISCONNECT OR INTERRUPT ANY BUILDING SERVICE WITHOUT EXPLICIT PERMISSION FROM THE OWNER.
- 5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE DEMOLITION PLANS, AND INCLUDE, AS WORK OF THEIR CONTRACT, ALL TEMPORARY CONNECTIONS AND CONSTRUCTION AS REQUIRED TO MAINTAIN THE INTEGRITY OF SERVICES TO THE OCCUPIED PORTIONS OF THE BUILDING.
- 6. THE PROJECT WILL REQUIRE MULTIPLE SHUT-DOWNS OF MEP SYSTEMS AS WELL AS MULTIPLE TEMPORARY CONNECTIONS DURING DIFFERENT TIMES/PHASES IN ORDER TO MAINTAIN OPERATION OF THE SYSTEMS TO ALL ADJACENT AND OCCUPIED AREAS AND TO PERMIT CONSTRUCTION OF THE PROPOSED WORK.

SPRINKLER REMOVAL NOTES

- 1. BEFORE SUBMITTING A BID THE SPRINKLER CONTRACTOR SHALL VISIT THE PROJECT SITE AND SHALL BECOME THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS WHICH AFFECT WORK OF THIS CONTRACT. NO ADDITIONAL COMPENSATION WILL BE GRANTED DUE TO EXTRA WORK MADE NECESSARY BY THE CONTRACTOR'S FAILURE TO INVESTIGATE EXISTING CONDITIONS AND NOT BECOMING FAMILIAR WITH THE NATURE OF THE PROJECT. EXISTING CONDITIONS SHOWN ON THESE DRAWINGS MAY NOT REFLECT EXACT FIELD CONDITIONS IN TERMS OF SIZES, LOCATIONS AND QUANTITIES.
- 2. FIRE PROTECTION CONTRACTOR SHALL INSPECT THE PROJECT AREA AND ADJACENT AREAS TO IDENTIFY, AND RECORD, EXISTING SPRINKLER SYSTEM PIPING, VALVES, FLOW AND TAMPER SWITCHES, SPRINKLER HEADS, SUPPORTS, AND OTHER RELATED ITEMS THAT ARE AFFECTED BY WORK OF THIS PROJECT.
- 3. INDICATED SPRINKLER HEADS WITHIN PROJECT AREA ALONG WITH THEIR ASSOCIATED BRANCH PIPING ARE TO BE REMOVED AS NECESSARY TO ACCOMMODATE WORK OF THIS PROJECT. RESPONSIBILITIES INCLUDE DRAINING, AND REFILLING, OF SPRINKLER SYSTEM AS REQUIRED TO PERFORM WORK OF THIS PROJECT. OPENINGS IN EXISTING PIPING, THAT ARE TO BE REUSED, SHALL BE PREPARED FOR CONNECTION OF NEW SPRINKLER PIPING. OPENINGS IN EXISTING PIPING THAT ARE NOTE USED SHALL BE PLUGGED/CAPPED. REMOVAL OF EXISTING SPRINKLER HEADS AND PIPING SHALL BE COORDINATED WITH THE BUILDINGS FACILITIES DEPARTMENT, DEMOLITION AND CONSTRUCTION WORK TO MAINTAIN THE GREATEST DEGREE OF SPRINKLER PROTECTION DURING CONSTRUCTION ACTIVITIES.
- 4. ALL OPENINGS CREATED IN THE EXISTING CONSTRUCTION SHALL BE CLOSED, PATCHED, SEALED AND FINISHED TO MATCH NEW BUILDING FINISHES AND OR CONSTRUCTION RATINGS.
- THE SPRINKLER CONTRACTOR SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO MAINTAIN SPRINKLER SERVICE TO ADJACENT AREAS OF THE BUILDING. THE CONTRACTOR IS TO NOTIFY THE OWNER, IN WRITING, OF ANY DISRUPTION OF SPRINKLER SERVICE A MINIMUM OF 5 DAYS PRIOR TO THE DISRUPTION. DO NOT PROCEED WITH INTERRUPTION OF SPRINKLER SERVICE UNTIL OWNER GIVES PERMISSION. ALL DISRUPTIONS SHALL BE AS SHORT AS POSSIBLE.
- 6. COORDINATE WITH OWNER SHUT-DOWN, INCLUDING DRAINAGE OF SYSTEM AND ALL CONNECTIONS TO EXISTING SPRINKLER SYSTEM AS REQUIRED FOR INSTALLATION FOR WORK OF THIS PROJECT.
- 7. AFTER REMOVING INDICATED EXISTING SPRINKLER HEADS, ALONG WITH ASSOCIATED PIPING AND ACCESSORIES, THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE NEW PIPING, SPRINKLER HEADS AND ACCESSORIES AS NECESSARY TO MODIFY THE EXISTING SPRINKLER SYSTEM TO ACCOMODATE THE REVISED FLOOR PLAN. ALL WORK SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH NFPA 13 AS WELL AS APPLICABLE REQUIREMENTS OF THE NYS BUILDING, PLUMBING AND FIRE CODES. EXACT SIZE AND LOCATION SHALL BE DETERMINED IN FIELD BY SPRINKLER CONTRACTOR. PROVIDE CONNECTION OF NEW PIPING AND ACCESSORIES AS SHOWN, REQUIRED AND/OR SPECIFIED.



PIPE HANGER SUPPORT ATTACHMENT TO CONCRETE SLAB

SPRINKLER SYSTEM GENERAL NOTES

1. CONTRACTOR IS TO PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR DESIGN AND INSTALLATION OF A COMPLETE AND FUNCTIONING SPRINKLER SYSTEM. WORK INCLUDES, BUT IS NOT LIMITED TO, INSTALLATION OF SPRINKLERS, PIPING, FITTINGS, VALVES, HANGERS, REQUIRED ACCESSORIES AND CONNECTIONS TO ALL EQUIPMENT. THE INTENT OF THESE NOTES IS FOR THE CONTRACTOR TO PROVIDE A COMPLETE AND FUNCTIONING SPRINKLER SYSTEM.

2. SPRINKLER WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS NFPA 13, NEW YORK STATE BUILDING, FIRE AND PLUMBING CODES, NYS ELECTRICAL CODE AND REGULATIONS OF ALL OTHER AUTHORITIES HAVING JURISDICTION.

3. SUBMITTALS — PRIOR TO INSTALLATION OF WORK, THE CONTRACTOR SHALL SUBMIT THE FOLLOWING INFORMATION FOR THE ENGINEERS REVIEW AND COMMENT. WORK SHALL NOT BEGIN UNTIL THE SUBMITTALS ARE REVIEWED AND APPROVED BY THE ENGINEER. SHOP DRAWINGS SHALL INCLUDE, BUT NOT BE LIMITED TO, MANUFACTURERS DATA SHEETS FOR ALL EQUIPMENT TO BE PROVIDED AND/OR INSTALLED (FOR EXAMPLE, SPRINKLER HEADS, CHECK VALVES, ETC.). IN ADDITION, A DETAILED PIPING DIAGRAM OF THE SPRINKLER SYSTEM SHALL BE PROVIDED INDICATING LOCATION, TYPE AND NUMBER OF SPRINKLER HEADS, VALVES AND ALL ACCESSORIES, PIPE SIZES AND MATERIAL, LOCATION AND CONSTRUCTION OF PIPE HANGERS, SHOP DRAWINGS WILL BE OF SUFFICIENT DETAIL TO PERMIT THE ENGINEER TO FULLY EVALUATE THE PROPOSED SPRINKLER SYSTEM INSTALLATION. SHOP DRAWINGS SHALL CLEARLY INDICATE THE LOCATION, SIZE AND NUMBER OF DRAINS AND DRAIN POINTS. DRAINS SHALL BE LOCATED IN ACCESSIBLE AREAS, SUBJECT TO APPROVAL BY OWNER AND THE ENGINEER. SHOP DRAWINGS SHALL ALSO CLEARLY INDICATE PIPING BRACING AND RESTRAINTS.

4. COORDINATE ROUGH-IN OF EQUIPMENT WITH OTHER TRADES.

5. ALL OPENINGS THROUGH FIRE RATED CONSTRUCTION MADE AS WORK OF THIS CONTRACT, SHALL BE SEALED FIRE AND SMOKE TIGHT WITH AN APPROPRIATE, U.L. LISTED FIRESTOPPING MATERIAL AND/OR SYSTEM, AS MANUFACTURED BY HILTI. SUBMIT MANUFACTURERS' DATA TO ENGINEER FOR REVIEW AND APPROVAL.

6. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING ALL PERMIT APPLICATIONS, OBTAINING AND PAYING ALL FEES FOR ANY NECESSARY PERMITS AND APPROVALS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION, PRIOR TO BEGINNING WORK.

7. PROVIDE AUXILIARY DRAINS AS NECESSARY TO DRAIN LOW SPOTS IN PIPING OR OTHER AREAS WHICH CANNOT BE DRAINED TO THE MAIN DRAIN DUE TO. FOR EXAMPLE, CHANGES IN PIPE DIRECTION, AUXILIARY DRAIN VALVES SHALL BE PROVIDED WITH A

8. FIRE SPRINKLER WORK SHALL BE COORDINATED WITH MECHANICAL, ELECTRICAL, TELEPHONE, FIRE ALARM, SANITARY AND DOMESTIC WATER PLUMBING SERVICES.

9. PIPING AND/OR ANY OTHER EQUIPMENT OR MATERIALS SHALL BE ADEQUATELY SUPPORTED. DIRECT SUSPENSION OR SUPPORT TO PLASTER AND OR LAY-IN CEILING CONSTRUCTION IS NOT ACCEPTABLE. ALL OTHER MATERIALS AND EQUIPMENT SHALL BE DIRECTLY ATTACHED TO THE BUILDING STRUCTURAL SYSTEM. PROVIDE APPROVED FASTENERS AND OTHER MEMBERS AS REQUIRED TO SUPPORT MATERIALS AND EQUIPMENT WHICH MAY NOT BE DIRECTLY ATTACHABLE TO THE STRUCTURAL SYSTEM.

10. ROUGH ALL PIPING TO MAXIMUM EXTENT PERMISSIBLE AS HIGH AS POSSIBLE. MAINTAIN MAXIMUM CLEARANCE ON SIDES OF EQUIPMENT, ADJUST INSTALLATION OF PIPING ACCORDINGLY.

11. MAKE OFFSETS IN PIPING AS REQUIRED TO ACCOMMODATE EXISTING & NEW PIPING, EQUIPMENT, DUCTWORK, ETC.

12. MAINTAIN FIRE RATING AND INTEGRITY OF ALL FIRE RATED CONSTRUCTION THROUGH WHICH OPENINGS ARE MADE FOR WORK OF THIS CONTRACT. REVIEW ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED CONSTRUCTION.

13. TEST ALL PIPING AS REQUIRED PRIOR TO CONCEALMENT INTO GENERAL CONSTRUCTION.

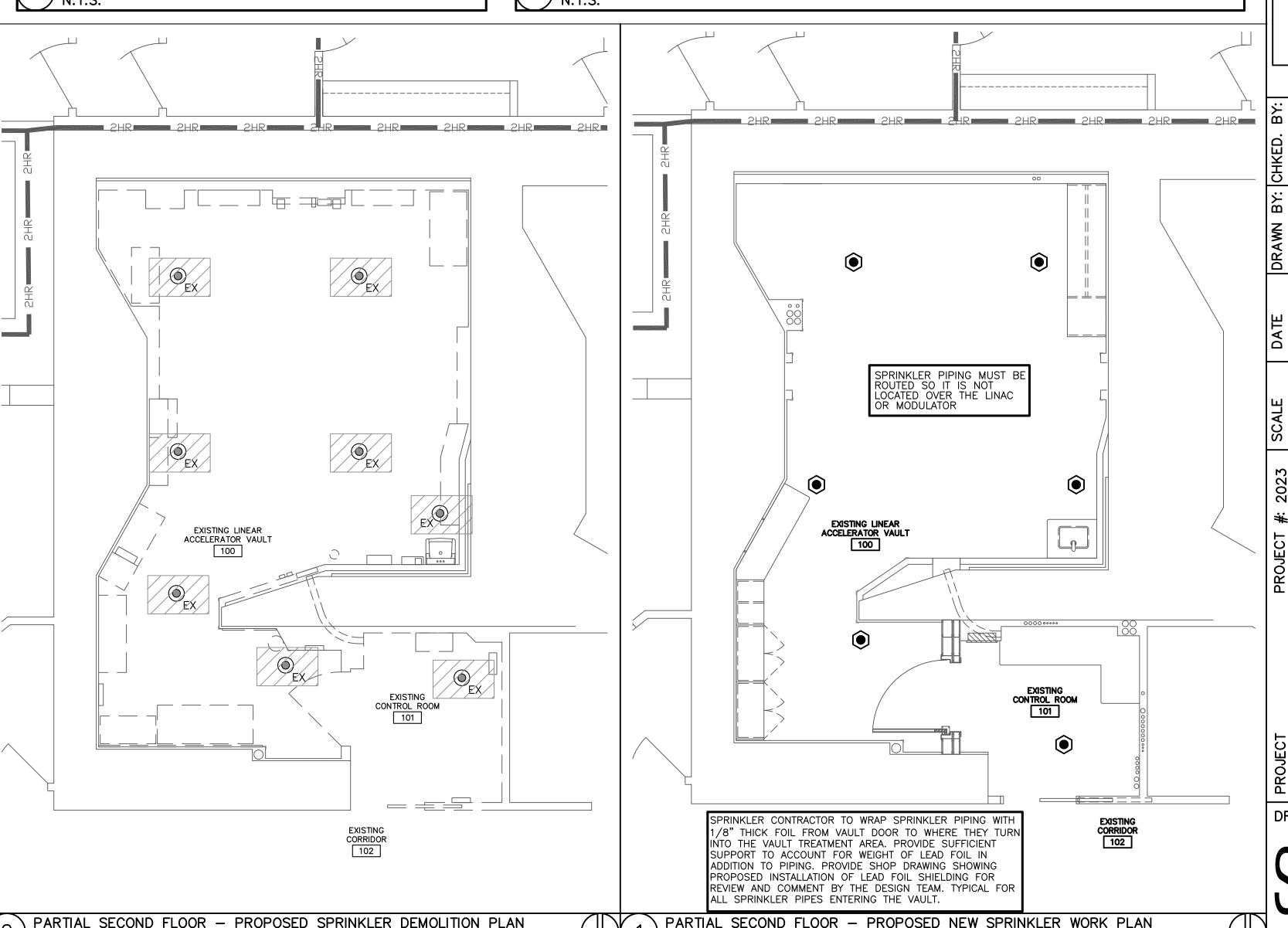
14. OFFSET ALL PIPING AS NECESSARY TO AVOID CONSTRUCTION WORK OF OTHER TRADES.

15. COORDINATE AND PERFORM ALL WORK OF THIS CONTRACT IN ACCORDANCE WITH, REGULATIONS OF LOCAL AUTHORITY AND OTHER AGENCIES HAVING JURISDICTION.

16. CONTRACTOR SHALL NOTIFY THE BUILDING OWNER A MINIMUM OF 5 DAYS PRIOR TO ANY REQUIRED SHUTDOWN OR DRAINING OF ANY PORTION OF THE EXISTING SPRINKLER SYSTEM. THE CONTRACTOR SHALL NOT BEGIN ANY SPRINKLER SYSTEM SHUTDOWN, OR DRAINING, WITHOUT EXPLICIT PERMISSION FROM THE BUILDING OWNER.

1 SPRINKLER SYSTEM GENERAL NOTES

CAPPED HOSE CONNECTION.



1/4" = 1'-0

IT IS A VOLATION OF THE LAW FOR ANY PERSON, UN ACTING UNDER THE DIRECTION OF A LICENSED ARCHIT TO ALTER THIS DOCUMENT IN ANY WIY. IF ALTERED, ALTERNIO ARCHITECT SHALL AFFIX HIS SEAL AND THE NOVATION "ALTERNED BY POLICIED BY HIS SIGNATURE AND THE DIRECT SHOP ALTERNITON, AND A SPECIFIC DESCRIPTION OF THE ALTERNITON.

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Accelerator Replacement for:
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SPRINKLER SYSTEM GENERAL NOTES:

1. FIRE PROTECTION CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SERVICE REQUIRED FOR THE COMPLETE DESIGN AND INSTALLATION OF THE NEW FIRE PROTECTION SYSTEM COMPONENTS AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THE WRITTEN SPECIFICATIONS. INSTALLATION SHALL INCLUDE, IN GENERAL, BUT NOT LIMITED TO, PIPING, FITTINGS, HANGERS, SUPPORTS SPRINKLER HEADS AND OTHER ITEMS REQUIRED FOR A COMPLETE CODE COMPLIANT, AND APPROVED SYSTEM. EQUIPMENT AND COMPONENTS SHALL HAVE FM LABEL OR MARKING. THE INTENT OF THESE NOTES IS FOR THE CONTRACTOR TO PROVIDE A COMPLETE AND FUNCTIONING SPRINKLER AND

2. SPRINKLER WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS NFPA 13, NEW YORK STATE BUILDING CODE, NATIONAL ELECTRICAL CODE AND REGULATIONS OF ALL OTHER AUTHORITIES HAVING JURISDICTION.

3. SUBMITTALS - PRIOR TO INSTALLATION OF WORK, THE CONTRACTOR SHALL SUBMIT THE FOLLOWING INFORMATION FOR THE ENGINEERS REVIEW AND COMMENT. WORK SHALL NOT BEGIN UNTIL THE SUBMITTALS ARE REVIEWED AND APPROVED BY THE ENGINEER. SHOP DRAWINGS SHALL INCLUDE, BUT NOT BE LIMITED TO, MANUFACTURERS DATA SHEETS FOR ALL EQUIPMENT TO BE PROVIDED AND/OR INSTALLED (FOR EXAMPLE, SPRINKLER HEADS, CONTROL VALVES, CHECK VALVES, ETC.). IN ADDITION, A DETAILED PIPING DIAGRAM OF THE SPRINKLER SYSTEM SHALL BE PROVIDED INDICATING LOCATION, TYPE AND NUMBER OF SPRINKLER HEADS, VALVES AND ALL ACCESSORIES, PIPE SIZES AND MATERIAL, LOCATION AND CONSTRUCTION OF PIPE HANGERS, SHOP DRAWINGS WILL BE OF SUFFICIENT DETAIL TO PERMIT THE ENGINEER TO FULLY EVALUATE THE PROPOSED SPRINKLER SYSTEM INSTALLATION. SHOP DRAWINGS SHALL CLEARLY INDICATE THE LOCATION, SIZE AND NUMBER OF DRAINS AND DRAIN POINTS. DRAINS SHALL BE LOCATED IN ACCESSIBLE AREAS, SUBJECT TO APPROVAL BY OWNER AND THE ENGINEER. SHOP DRAWINGS SHALL ALSO CLEARLY INDICATE PIPING BRACING AND RESTRAINTS.

4. THE SPRINKLER SYSTEM SHALL BE A HYDRAULICALLY DESIGNED SYSTEM. PREPARE AND SUBMIT HYDRAULIC CALCULATIONS, FOR THE PROJECT ENGINEERS REVIEW & APPROVAL, PRIOR TO BEGINNING INSTALLATION OF SPRINKLER SYSTEM.

5. DESIGN AND INSTALLATION OF THE FIRE PROTECTION SPRINKLER SYSTEM SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF N.F.P.A. #13, N.F.P.A. 99, THE LIFE SAFETY CODE (NFPA 101), THE NEW YORK STATE FIRE CODE, NEW YORK STATE BUILDING CODE, INSURANCE UNDERWRITER AND OTHER STATE AND LOCAL

6. COORDINATE ROUGH-IN OF EQUIPMENT WITH OTHER TRADES.

7. PROVIDE FOR ALL PIPES, CONDUITS, AND OTHER ELEMENTS PASSING THROUGH FLOORS, WALLS, PARTITIONS AND STRUCTURAL ELEMENTS, SLEEVES OF ADEQUATE DIAMETER TO ALLOW FOR A MINIMUM OF 3/4" INCHES CLEARANCE AROUND

8. ALL OPENINGS THROUGH FIRE RATED, OR SMOKE RATED, CONSTRUCTION MADE AS WORK OF THIS CONTRACT, SHALL BE SEALED FIRE AND SMOKE TIGHT WITH AN APPROPRIATE, U.L. LISTED FIRESTOPPING MATERIAL AND/OR SYSTEM, AS MANUFACTURED BY FIREMASTER, GENERAL ELECTRIC, NELSON, OR APPROVED EQUAL. SUBMIT MANUFACTURERS'DATA TO ENGINEER FOR REVIEW AND APPROVAL MAINTAIN FIRE OR SMOKE RATING AND INTEGRITY OF ALL FIRE OR SMOKE RATED CONSTRUCTION THROUGH WHICH OPENINGS ARE MADE FOR WORK OF THIS CONTRACT. REVIEW ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE AND SMOKE RATED CONSTRUCTION.

9. ALL OPENINGS THROUGH NON-FIRE OR SMOKE RATED CONSTRUCTION MADE AS WORK OF THIS CONTRACT, SHALL BE SEALED AIR AND SOUND TIGHT WITH AN APPROPRIATE, SEALANT, APPROVED BY THE ENGINEER. SUBMIT MANUFACTURERS' DATA TO ENGINEER FOR REVIEW AND APPROVAL.

10. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING ALL PERMIT APPLICATIONS, OBTAINING AND PAYING ALL FEES FOR ANY NECESSARY PERMITS AND APPROVALS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION, PRIOR TO

11. PROVIDE AUXILIARY DRAINS AS NECESSARY TO DRAIN LOW SPOTS IN PIPING OR OTHER AREAS WHICH CANNOT BE DRAINED TO THE MAIN DRAIN DUE TO, FOR EXAMPLE, CHANGES IN PIPE DIRECTION.

12. FIRE SPRINKLER WORK SHALL BE COORDINATED WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, TELEPHONE, FIRE ALARM, SANITARY AND DOMESTIC WATER SERVICES.

13. PIPING AND/OR ANY OTHER EQUIPMENT OR MATERIALS SHALL BE ADEQUATELY SUPPORTED, DIRECT SUSPENSION OR SUPPORT TO PLASTER AND OR LAY-IN CEILING CONSTRUCTION IS NOT ACCEPTABLE. ALL OTHER MATERIALS AND EQUIPMENT SHALL BE DIRECTLY ATTACHED TO THE BUILDING STRUCTURAL SYSTEM PROVIDE APPROVED FASTENERS AND OTHER MEMBERS AS REQUIRED TO SUPPORT MATERIALS AND EQUIPMENT WHICH MAY NOT BE DIRECTLY ATTACHABLE TO THE STRUCTURAL SYSTEM.

14. ROUGH ALL PIPING TO MAXIMUM EXTENT PERMISSIBLE AS HIGH AS POSSIBLE. MAINTAIN MAXIMUM CLEARANCE ON SIDES OF EQUIPMENT, ADJUST INSTALLATION OF PIPING ACCORDINGLY.

15. TEST ALL PIPING AS REQUIRED PRIOR TO CONCEALMENT INTO GENERAL CONSTRUCTION.

16. OFFSET SPRINKLER PIPING AS NECESSARY TO AVOID WORK OF OTHER TRADES AND AS REQUIRED TO ACCOMMODATE EXISTING & NEW PIPING, EQUIPMENT,

17. COORDINATE AND PERFORM ALL WORK OF THIS CONTRACT IN ACCORDANCE WITH, REGULATIONS OF LOCAL AUTHORITY AND OTHER AGENCIES HAVING JURISDICTION.

18. LOCATIONS OF SPRINKLER HEADS SHOWN ON THESE DRAWINGS ARE APPROXIMATE. REVIEW ARCHITECTURAL DRAWINGS FOR ACTUAL LOCATIONS OF SPRINKLER HEADS.

GENERAL REQUIREMNTS

THE CONTRACTOR SHALL BE PRESUMED TO HAVE FULLY APPRAISED HIMSELF OF ALL SITE CONDITIONS PERTAINING TO THE WORK: AND WILL BE RESPONSIBLE FOR THE COMPLETION OF THE PROJECT IN THE MANNER AND WITHIN THE TIME CONTEMPLATED IN THE CONTRACT DOCUMENTS.

THESE SPECIFICATIONS, TOGETHER WITH THE DRAWINGS AND CONTRACT DOCUMENTS, GENERALLY EXPLAIN THE WORK TO BE DONE. MINOR DETAILS NOT SPECIFICALLY MENTIONED IN THESE SPECIFICATIONS NOR SHOWN ON THE PLANS, BUT NECESSARY TO SECURE A WORKMANLIKE JOB AND PROPER OPERATION, SHALL BE PROVIDED BY THE CONTRACTOR.

THE WORK ALSO INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

1. CUTTING AND PATCHING, EXCEPT AS DESCRIBED ELSEWHERE IN THE SPECIFICATIONS OR DRAWINGS, AS REQUIRED FOR INSTALLATION OF WORK OF THIS CONTRACT.

2. CORE DRILLING OF CONCRETE, AND ALL OTHER ITEMS REQUIRED FOR WORK OF THIS CONTRACT, EXCEPT AS DESCRIBED ELSEWHERE IN THE SPECIFICATIONS OR DRAWINGS. ANY CORE DRILLING MUST BE APPROVED BY ARCHITECT, ENGINEER AND OWNER BEFORE BEGINNING.

3. CONTRACTOR SHALL COORDINATE WITH THE OWNER, ARCHITECT AND OTHER TRADES, PRIOR TO START OF WORK OF THE PROJECT. ITEMS TO BE COORDINATED SHALL INCLUDE, BUT NOT BE LIMITED TO, DRAINING AND REFILLING OF SPRINKLER SYSTEM. ACCESS TO WORK AREAS. ACTIVE SERVICES THAT REMAIN, MATERIAL STORAGE AREAS, DEBRIS STORAGE AREAS, TEMPORARY BUILDING SERVICES, PROTECTION OF BUILDING/CONSTRUCTION AREAS FROM WEATHER, AND THE STRUCTURAL INTEGRITY OF THE BUILDING.

4. THE SPECIFICATIONS, TOGETHER WITH THE DRAWINGS DESCRIBED THE WORK TO BE DONE IN GENERAL. MINOR DETAILS OR OTHER ITEMS NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO SECURE A FUNCTIONING SYSTEM, SHALL BE A PART OF THE WORK UNDER THE CONTRACT AND ALL COSTS IN CONNECTION THEREWITH SHALL BE INCLUDED IN THE LUMP SUM PRICE ESTABLISHED IN THE AGREEMENT. SCHEDULING AND UTILITY SHUTDOWNS

A. THIS PROJECT IS BEING CONSTRUCTED WITHIN AN EXISTING, FUNCTIONING, HOSPITAL UTILIZING EXISTING SERVICES AND UTILITIES. IT IS A REQUIREMENT OF THIS CONTRACT THAT ALL SERVICE AND UTILITY DISRUPTIONS MUST BE SCHEDULED TO MINIMIZE DISRUPTIONS TO BUILDING OCCUPANTS AND FUNCTIONS. COOPERATE WITH OWNER TO MINIMIZE CONFLICT, AND TO FACILITATE OWNER'S OPERATIONS. SCHEDULE THE WORK TO ACCOMMODATE THIS REQUIREMENT.

PROVIDE A MINIMUM OF FIVE (5) DAYS WRITTEN NOTICE PRIOR TO ANY DISRUPTIONS IN BUILDING SERVICES OR UTILITIES. DO NOT PROCEED WITH ANY SERVICE OR UTILITY SHUTDOWN WITHOUT WRITTEN PERMISSION FROM THE OWNER. ALL COSTS FOR UNOCCUPIED HOURS AND/OR WEEKEND WORK (IF ANY) SHALL BE A PART OF THE WORK UNDER THE CONTRACT AND ALL COSTS IN CONNECTION THEREWITH SHALL BE INCLUDED IN THE LUMP SUM PRICE ESTABLISHED IN THE AGREEMENT.

SCHEDULE WORK TO ENSURE EQUIPMENT IS INSTALLED AND SYSTEMS TESTED AND CERTIFIED PRIOR TO SUBSTANTIAL COMPLETION.

CODES & STANDARDS

ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF FEDERAL, STATE AND LOCAL AGENCIES: PUBLIC UTILITY COMPANIES AND UNDERWRITER'S LABORATORIES, AND SHALL COMPLY WITH LOCAL CODES. WHERE A CONFLICT IN CODE REQUIREMENTS IS ENCOUNTERED, THE MOST STRINGENT SHALL APPLY. A SAMPLE OF THE MORE EXPLICIT CODES FOLLOWS:

NFPA 13, NFPA 101, NFPA 99 OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) NEW YORK STATE BUILDING & FIRE CODES

PERMITS

THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY LOCAL AUTHORITIES. THE CONTRACTOR SHALL PAY FOR ALL PERMITS AND ALL INSPECTION FEES RELATED TO WORK OF THIS CONTRACT. THE CONTRACTOR SHALL OBTAIN AND PAY FOR A CERTIFICATE OF COMPLETED WORK FROM THE FIREMANS UNDERWRITERS.

PROVIDE SHOP DRAWINGS OF ALL SYSTEMS AND EQUIPMENT, UNLESS OTHERWISE SPECIFIED. THE TERM "SHOP DRAWINGS," AS USED HEREIN, SHALL MEAN ALL MANUFACTURER'S BROCHURES, CATALOG CUTS, WIRING DIAGRAMS, INSTALLATION MANUALS, SHOP FABRICATION DRAWINGS, OR ANY SUCH MATERIALS USED TO DESCRIBE THE SYSTEM OR EQUIPMENT BEING SUBMITTED FOR APPROVAL.

ALL DRAWINGS SHALL BE SUBMITTED SUFFICIENTLY IN ADVANCE OF FIELD REQUIREMENTS TO ALLOW REASONABLE TIME FOR CHECKING; AND NO CLAIM FOR EXTENSION OF THE CONTRACT TIME WILL BE GRANTED BY REASON OF FAILURE IN THIS RESPECT. ALL SUBMITTALS SHALL BE COMPLETE; AND SHALL CONTAIN ALL REQUIRED AND DETAILED INFORMATION.

ALL SUBMITTALS SHALL BE MADE IN ELECTRIONIC FORMAT IN PDF FILES, AUTOCAD DWG FILES OR OTHER FILE FORMAT ACCEPTABLE TO THE DESIGN TEAM.

RECORD DRAWINGS

DURING THE PROGRESS OF WORK. A CAREFUL RECORD WILL BE KEPT OF ALL CHANGES WHERE THE ACTUAL INSTALLATION DIFFERS FROM THAT SHOWN ON THE DRAWINGS.

ON COMPLETION OF THE JOB, THE FIRE PROTECTION SYSTEM CONTRACTOR SHALL FURNISH TO THE OWNER HIS ORIGINAL TRACINGS OR REPRODUCIBLE TRANSPARENCIES OF ALL PIPING SHOP DRAWINGS. HE SHALL NOTE ON THE AS-BUILT DRAWINGS, FURNISHED BY HIM, THE CORRESPONDING NUMBERS OF APPLICABLE SHOP DRAWINGS. WHERE SHOP DRAWINGS ARE NOT AVAILABLE, HE SHALL NEATLY INDICATE THE CHANGE ON THE AS-BUILT DRAWINGS. DRAWINGS SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR APPROVAL. AFTER APPROVAL, THEY SHALL BECOME THE PROPERTY OF THE OWNER.

GUARANTEES

(1) WRITTEN GUARANTEE.

THE CONTRACTOR SHALL SUBMIT A WRITTEN GUARANTEE IN TRIPLICATE TO INCLUDE ALL SYSTEMS, MATERIALS, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.

GUARANTEE PERIOD.

THE OPERATION OF THE EQUIPMENT BY THE OWNER DOES NOT CONSTITUTE AN ACCEPTANCE OF THE WORK. THE WORK WILL BE ACCEPTED ONLY AFTER THE CONTRACTOR HAS PROPERLY ADJUSTED HIS EQUIPMENT, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS, OPERATED IT SATISFACTORILY FOR A SUFFICIENT PERIOD

THE GUARANTEE PERIOD WILL BEGIN ON THE DATE THE CONTRACTOR RECEIVES WRITTEN NOTICE OF ACCEPTANCE BY THE OWNER AND/OR ENGINEER.

OF TIME, AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES.

(3) GUARANTEE RESPONSIBILITY.

UPON NOTICE OF THE OWNER OF FAILURE OF ANY PART OF THE GUARANTEED EQUIPMENT OR SYSTEMS DURING THE GUARANTEE PERIOD, THE AFFECTED PART OR PARTS AND DAMAGES RESULTING THEREFROM SHALL BE REPLACED OR REPAIRED PROMPTLY BY AND AT THE EXPENSE OF THE CONTRACTOR AND AT THE CONVENIENCE OF THE OWNER.

7. WORK & MATERIALS

PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT AS HEREINAFTER SPECIFIED, AS SHOWN ON THE ACCOMPANYING DRAWINGS, AS REASONABLY IMPLIED AS USUALLY PROVIDED, AND AS REQUIRED FOR THE DELIVERY, THE ERECTION, THE PROPER WORKING, AND THE COMPLETE FINISH OF THE WORK OF THIS CONTRACT.

IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO PROVIDE ALTERATIONS AND NEW CONSTRUCTION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATIONS TO PROVIDE COMPLETE SYSTEMS IN EVERY RESPECT. CAPABLE OF OPERATING AS DESIGNED. IT IS NOT INTENDED THAT EVERY FITTING, MINOR DETAIL OR FEATURE BE SHOWN ON THE DRAWINGS; AND THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DETAIL NECESSARY FORE COMPLETION OF THESE SYSTEMS IN ACCORDANCE WITH GOOD PRACTICE.

8. PRODUCT HANDLING

USE ALL MEANS NECESSARY TO PROTECT THE MATERIALS OF THIS SECTION BEFORE, DURING AND AFTER INSTALLATION AND TO PROTECT THE WORK AND MATERIALS OF ALL OTHER TRADES. IN THE EVENT OF DAMAGE, IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY

9. CUTTING, PATCHING & PAINTING

ALL CUTTING AND PATCHING REQUIRED TO PERFORM WORK SHALL BE PROVIDED BY THE SPRINKLER

THE CONTRACTOR SHALL CORE DRILL, SAWCUT OR CUT EXISTING CONSTRUCTION IN MANNER, APPROVED BY THE ARCHITECT, ENGINEER AND OWNER. STRUCTURAL ELEMENTS MUST NOT BE CUT WITHOUT APPROVAL FROM THE ARCHITECT.

TO THE APPROVAL OF THE ENGINEER AND AT NO ADDITIONAL COST TO THE OWNER.

REVIEW THE GENERAL CONSTRUCTION PLANS, SPECIFICATIONS AND ROOM FINISH SCHEDULE FOR WORK THAT IS TO PERFORMED BY THE GENERAL CONTRACTOR

PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE FIRESTOPPED WITH A UL LISTED SYSTEM CONSISTING OF MINERAL WOOL AND LISTED MASTIC COMPOUND, AS MANUFACTURED BY HILTI. OR OTHER MANUFACTURER PROVIDING EQUIVALENT PRODUCTS.

10. INSERTS AND/OR SUPPORTS

IT SHALL BE THE RESPONSIBILITY OF THE INSTALLER OF A PARTICULAR PIECE OF

PART 1 GENERAL - SPRINKLER SYSTEM INSTALLATION

- A. DESCRIPTION: WORK UNDER THIS CONTRACT SHALL CONSIST OF, IN GENERAL, FURNISHING ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR THE FOLLOWING:
- . REMOVAL OF EXISTING SPRINKLER HEADS, PIPING AND SUPPORTS ALONG WITH ASSOCIATED ACCESSORIES WITHIN PROJECT AREA (AND EXTENDING OUT OF PROJECT AREA AS NECESSARY TO ACCESS SUPPLY PIPE/CONNECTION TO SPRINKLER MAIN OR BRANCH PIPE), DRAINING AND REFILLING OF FIRE PROTECTION SYSTEM AS NECESSARY TO ACCOMPLISH WORK OF THIS PROJECT. ALL RESULTING OPENINGS IN PIPING. THAT WILL NOT BE REUSED SHALL BE PERMANENTLY PLUGGED OR CAPPED AS REQUIRED BY THE CONDITION. OPENINGS THAT WILL BE USED FOR NEW SPRINKLER SYSTEM SHALL BE MADE READY FOR CONNECTION OF NEW PIPING AS REQUIRED BY THE CONSTRUCTION PLANS. PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR ISOLATING FIRE SPRINKLER SYSTEM SUPPLY CONNECTION POINTS SO THAT THE FIRE PROTECTION SYSTEM REMAINS ACTIVE IN OTHER PORTIONS OF THE BUILDING.
- 2. FIRE PROTECTION CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SERVICE REQUIRED FOR THE COMPLETE DESIGN AND INSTALLATION OF THE NEW FIRE PROTECTION SYSTEMS AS DESCRIBED HEREIN, INCLUDING, IN GENERAL, BUT NOT LIMITED TO, PIPING, FITTINGS, VALVES, HANGERS, SUPPORTS, SPRINKLER HEADS, TAMPER SWITCHES, FLOW SWITCHES, PRESSURE GAUGES, AND OTHER ITEMS REQUIRED FOR A COMPLETE AND APPROVED SYSTEM. EQUIPMENT AND COMPONENTS SHALL HAVE FM LABEL OR
- 3. DESIGN AND INSTALLATION OF THE FIRE PROTECTION SPRINKLER SYSTEM SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF N.F.P.A. #13, N.F.P.A. 99, THE LIFE SAFETY CODE (NFPA 101), THE NEW YORK STATE FIRE CODE, NEW YORK STÄTE BUILDING CODE, INSURANCE UNDERWRITER AND OTHER STATE AND LOCAL AUTHORITIES HAVING JURISDICTION.
- 4. THE FIRE PROTECTION SPRINKLER SYSTEM SHALL BE A HYDRAULICALLY DESIGNED SYSTEM. PREPARE AND SUBMIT PIPING LAYOUT DRAWINGS ALONG WITH HYDRAULIC CALCULATIONS FOR THE ENGINEERS REVIEW & APPROVAL, PRIOR TO BEGINNING INSTALLATION OF SPRINKLER SYSTEM. PIPING SHALL BE RUN CONCEALED TO THE GREATEST EXTENT POSSIBLE. THE HYDRAULIC CALCULATIONS SHALL INCLUDE INSIDE AND OUTSIDE HOSE STREAM ALLOWANCES AS WELL AS THE REQUIRED SPRINKLER FLOW.
- 5. THE FIRE PROTECTION CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS TO FULLY FAMILIARIZE THEMSELVES WITH ALL ASPECTS OF THE PROJECT, INCLUDING BUT NOT LIMITED TO, ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING. FIRE PROTECTION SYSTEMS SHALL BE DESIGNED, AND INSTALLED, AS REQUIRED BY THE SPECIFIC USAGE, HAZARD CLASSIFICATION AND CONFIGURATION OF BUILDING,
- SPACES AND ROOMS. 6. THE FIRE PROTECTION CONTRACTOR SHALL COORDINATE WITH THE OWNER, ARCHITECT AND OTHER TRADES, PRIOR TO START OF WORK OF THE PROJECT. ITEMS TO BE COORDINATED SHALL INCLUDE, BUT BE LIMITED TO. WORK SEQUENCE FOR DEMOLITION, ACCESS TO WORK AREAS, ACTIVE SERVICES THAT REMAIN, MATERIAL STORAGE AREAS, DEBRIS STORAGE AREAS, TEMPORARY BUILDING SERVICES, PROTECTION OF
- 7. FURTHER, IT IS THE FIRE PROTECTION CONTRACTORS RESPONSIBILITY TO ENSURE THAT ALL RELATED SUB-CONTRACTORS ARE ALSO FAMILIAR WITH ALL ASPECTS OF THE PROJECT AS STATED ABOVE.

BUILDING/CONSTRUCTION AREAS FROM WEATHER, AND THE STRUCTURAL INTEGRITY OF THE BUILDING.

- 8. PIPING SHALL BE RUN CONCEALED TO THE GREATEST EXTENT POSSIBLE.
- 9. COORDINATE ROUGH-IN AND INSTALLATION OF EQUIPMENT, PIPING AND SPRINKLER HEADS WITH OTHER
- 10. ALL OPENINGS THROUGH FIRE RATED CONSTRUCTION MADE AS WORK OF THIS CONTRACT, SHALL BE SEALED FIRE AND SMOKE TIGHT WITH AN APPROPRIATE, U.L. LISTED FIRESTOPPING MATERIAL AND/OR SYSTEM, AS MANUFACTURED BY FIREMASTER, GENERAL ELECTRIC, NELSON, OR APPROVED EQUAL. SUBMIT MANUFACTURERS' DATA TO ENGINEER FOR REVIEW AND APPROVAL.
- 11. THE FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR SUBMITTING ALL PERMIT APPLICATIONS, OBTAINING AND PAYING ALL FEES FOR ANY NECESSARY PERMITS AND APPROVALS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION, PRIOR TO BEGINNING WORK.
- 12. THE FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR DRAINING OF THE EXISTING FIRE PROTECTION SYSTEM, AS REQUIRED TO PERFORM WORK OF THIS CONTRACT, AND COORDINATING THIS WORK WITH THE BUILDING OWNER, FIRE DEPARTMENT AND OTHER AGENCIES HAVING JURISDICTION...
- 13. CUTTING, FIRESTOPPING AND PATCHING AS REQUIRED FOR INSTALLATION OF WORK OF THIS CONTRACT.
- 14. SAWCUTTING OF CONCRETE, CORE DRILLING OF CONCRETE AND ALL OTHER RELATED ITEMS REQUIRED FOR WORK OF THIS CONTRACT ARE INCLUDED, EXCEPT AS DESCRIBED ELSEWHERE IN THE SPECIFICATIONS OR DRAWINGS. ANY CORE DRILLING, SAWCUTTING MUST BE APPROVED BY ARCHITECT, ENGINEER AND OWNER BEFORE BEGINNING.
- 15. PROVIDE ACCESS DOORS FOR ALL VALVES, AND OTHER EQUIPMENT, INSTALLED BEHIND CONSTRUCTION. REVIEW ARCHITECTURAL DRAWINGS FOR TYPE OF CONSTRUCTION. ACCESS DOOR SHALL BE SUITABLE FOR THE TYPE OF CONSTRUCTION THEY ARE INSTALLED IN (SHEETROCK, FIRE-RATING, ETC.). SUBMIT LOCATION
- 16. IDENTIFY PIPING, CONCEALED OR EXPOSED, WITH PLASTIC TAPE PIPE MARKERS. USE TAGS ON PIPING 3/4 INCH DIAMETER AND SMALLER. IDENTIFY SERVICE AND FLOW DIRECTION. INSTALL IN CLEAR VIEW AND ALIGN WITH AXIS OF PIPING. LOCATE IDENTIFICATION NOT TO EXCEED 20 FEET ON STRAIGHT RUNS INCLUDING RISERS AND DROPS, ADJACENT TO EACH VALVE AND TEE, AT EACH SIDE OF PENETRATION OF STRUCTURE OR ENCLOSURE, AND AT EACH OBSTRUCTION.
- 17. PREPARE LIST OF ALL TAGGED VALVES FOR THE SPRINKLER SYSTEM. LISTS SHALL INCLUDE VALVE NUMBER, VALVE LOCATION, FLOOR LEVEL, PIPING SYSTEM, AND USE, LISTS SHALL BE TYPEWRITTEN AND MOUNTED IN A SUITABLE FRAME. THE FRAMED LIST SHALL BE LOCATED WHERE DIRECTED BY THE OWNER. INCLUDE A COPY OF THE VALVE LIST(S) IN THE MAINTENANCE MANUAL.
- 18. INCLUDE, AS PART OF THIS WORK, FURNISHING AND INSTALLING ALL ELECTRICAL WORK (INCLUDING, BUT NOT LIMITED TO, WIRING TO TAMPER SWITCHES AND FLOW SWITCHES) REQUIRED FOR THE OPERATION OF FIRE PROTECTION SPRINKLER SYSTEM. COORDINATE ALL REQUIRED ELECTRICAL CONNECTIONS AND FIRE ALARM SYSTEM CONNECTIONS WITH THE ELECTRICAL CONTRACTOR, INCLUDING, BUT NOT LIMITED TO, TAMPER SWITCHES. FLOW SWITCHES. CONTROL PANELS, OUTSIDE ALARM BELLS. ALL ELECTRICAL POWER FOR FIRE PROTECTION SYSTEMS SHALL BE TAKEN FROM THE EMERGENCY POWER SYSTEM.
- 19. REFER TO FIRE PROTECTION SYSTEM REMOVAL NOTES FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

1.2 REFERENCES

A. NFPA 13 - INSTALLATION OF SPRINKLER SYSTEMS.

1.3. CODES AND APPROVALS

A. THE INSTALLATION OF THE SPRINKLER SYSTEM SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF N.F.P.A. #13 AND THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE, INSURANCE UNDERWRITER AND ALL OTHER STATE AND LOCAL AUTHORITIES HAVING JURISDICTION.

B. THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL, DETAILED LAYOUT DRAWINGS. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK UNTIL APPROVALS FROM THESE AGENCIES HAVE BEEN

C. THE CONTRACTOR SHALL GIVE ALL NOTICES, OBTAIN ALL REQUIRED PERMITS, PERFORM ALL TESTS, AND PAY ALL LOCAL, STATE AND FEDERAL TAXES, FEES, ROYALTIES AND OTHER COSTS; FILE ALL NECESSARY DRAWINGS AND OBTAIN ALL APPROVALS OF ALL MUNICIPAL AND STATE AUTHORITIES HAVING JURISDICTION; OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION; FURNISH THE OWNER WITH FINAL CERTIFICATES BEFORE FINAL PAYMENT OF THE CONTRACT.

1.4 TESTS

PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT AND TEST THE SPRINKLER SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE N.F.P.A. 13, THE INSURANCE UNDERWRITERS, AND/OR ALL OTHER AUTHORITIES HAVING JURISDICTION.

B. THE TESTS SHALL BE CONDUCTED IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER AND/ OR OTHER AUTHORITIES HAVING JURISDICTION AS REQUIRED.

C. ALL LEAKS FOUND AFTER TESTING SHALL BE CORRECTED IN A MANNER ACCEPTABLE TO THE AUTHORITIES HAVING JURISDICTION. WHERE DIRECTED, JOINTS SHALL BE TAKEN APART AND RE-MADE WITH NEW MATERIALS. AFTER LEAKS ARE CORRECTED PIPING SHALL BE RETESTED UNTIL ACCEPTABLE TO THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL MAKE GOOD AND PAY FOR ALL DAMAGES RESULTING FROM TESTS. 1.5 SUBMITTALS

PRELIMINARY SHOP DRAWINGS: PRIOR TO DETAILED SUBMISSION. SUBMIT PRELIMINARY LAYOUT OF FINISHED CEILING AREAS INDICATING ONLY HEAD LOCATIONS COORDINATED WITH CEILING INSTALLATION.

SHOP DRAWINGS: INDICATE DETAILED PIPE LAYOUT, HANGERS AND SUPPORTS, COMPONENTS AND ACCESSORIES. INDICATE PIPE MATERIALS USED, JOINTING METHODS, SUPPORTS, FLOOR AND WALL PENETRATION SEALS. INDICATE INSTALLATION, LAYOUT, WEIGHTS, MOUNTING AND SUPPORT DETAILS, AND PIPING CONNECTIONS. INDICATE SYSTEM CONTROLS.

PRODUCT DATA: PROVIDE DATA ON SPRINKLER HEADS, VALVES, AND SPECIALTIES, INCLUDING MANUFACTURERS CATALOGUE INFORMATION. SUBMIT PERFORMANCE RATINGS, ROUGH?IN DETAILS, WEIGHTS, SUPPORT REQUIREMENTS, AND PIPING CONNECTIONS.

- SAMPLES: SUBMIT TWO OF EACH STYLE OF SPRINKLER HEAD SPECIFIED.
- E. SUBMIT SHOP DRAWINGS, PRODUCT DATA, HYDRAULIC CALCULATIONS TO ENGINEER FOR APPROVAL.

MANUFACTURER'S CERTIFICATE: CERTIFY THAT SYSTEM HAS BEEN TESTED AND MEETS OR EXCEEDS CODE REQUIREMENTS.

G. THE FOLLOWING SHOP DRAWING LIST IS MEANT TO BE USED A GUIDELINE, IT IS NOT MEANT TO BE ALL INCLUSIVE:

- VALVES AND APPURTENANCES SPRINKLER HEADS
- . PIPING MATERIALS 4. PIPE FITTINGS
- 5. HANGERS AND SUPPORTS

1.6 PROJECT RECORD DOCUMENTS

A. RECORD ACTUAL LOCATIONS OF SPRINKLER HEADS AND DEVIATIONS OF PIPING FROM DRAWINGS. INDICATE DRAIN AND TEST

1.7 OPERATION AND MAINTENANCE DATA

A. MAINTENANCE DATA: INCLUDE COMPONENTS OF SYSTEM, SERVICING REQUIREMENTS, RECORD DRAWINGS, INSPECTION DATA, REPLACEMENT PART NUMBERS AND AVAILABILITY, AND LOCATION AND NUMBERS OF SERVICE DEPOT.

- 1.8 QUALITY ASSURANCE
- A. PERFORM WORK IN ACCORDANCE WITH NFPA 13.
- B. EQUIPMENT AND COMPONENTS: BEAR FM LABEL OR MARKING.
- 1.9 DELIVERY, STORAGE, AND HANDLING

A. STORE PRODUCTS IN SHIPPING CONTAINERS AND MAINTAIN IN PLACE UNTIL INSTALLATION. PROVIDE TEMPORARY INLET AND OUTLET CAPS. MAINTAIN CAPS IN PLACE UNTIL INSTALLATION.

- B. DELIVER AND STORE VALVES IN SHIPPING CONTAINERS, WITH LABELING IN PLACE.
- C. PROVIDE TEMPORARY PROTECTIVE COATING ON CAST IRON AND STEEL VALVES.
- D. PROVIDE TEMPORARY END CAPS AND CLOSURES ON PIPING AND FITTINGS. MAINTAIN IN PLACE UNTIL INSTALLATION.
- 1.10 EXTRA MATERIALS
- B. PROVIDE EXTRA SPRINKLER HEADS UNDER PROVISIONS OF NFPA 13.
- D. PROVIDE METAL STORAGE CABINET IN LOCATION DESIGNATED.

C. PROVIDE SUITABLE WRENCHES FOR EACH HEAD TYPE.

PART 2 PRODUCTS

- 2.1 MANUFACTURERS
- A. ACCEPTABLE MANUFACTURERS: GRINNELL, VIKING, STAR OR OTHER MANUFACTURER PROVIDING EQUIVALENT PRODUCTS.
- 2.2 SPRINKLER PIPING
- A. STEEL PIPE: ASTM A53; ASTM A795; ANSI/ASTM A135; ASTM A795; ANSI/ASME B36.10; SCHEDULE 40 BLACK OR SCHEDULE 10 FOR 2" DIAMFTER AND ABOVE.
 - STEEL FITTINGS: ANSI/ASME B16.9, WROUGHT STEEL, ASTM A234, WROUGHT CARBON STEEL AND ALLOY STEEL; ANSI/ASME B16.5, STEEL FLANGES AND FITTINGS; ANSI/ASME B16.11, FORGED STEEL SOCKET WELDED AND THREADED.
 - 2. CAST IRON FITTINGS: ANSI/ASME B16.1, FLANGES AND FITTINGS; ANSI/ASME B16.4, SCREWED FITTINGS. MALLEABLE IRON FITTINGS: ANSI/ASME B16.3, SCREWED TYPE 4. MECHANICAL GROOVED COUPLINGS: MALLEABLE IRON HOUSING CLAMPS TO ENGAGE AND LOCK, "C" SHAPED
- COMPOSITION SEALING GASKET, STEEL BOLTS, NUTS, AND WASHERS; GALVANIZED FOR GALVANIZED PIPE. B. FLEXIBLE STAINLESS STEEL HOSE
 - 1. ONE PIECE TYPE 304 STAINLESS STEEL HOSE WITH CONNECTION FOR SPRINKLER HEAD AND CONNECTION TO SUPPLY PIPE. HOSES SHALL BE AVAILABLE IN LENGTHS OF 2 FEET THROUGH 6 FEET.
 - 2. HOSE SHALL BE PROVIDED WITH A MOUNTING BRACKET SUITABLE FOR USE WITH SUSPENDED OR SHEET ROCK CEILING AS REQUIRED BY THE SPECIFIC LOCATION. 3. THE HOSE ASSEMBLY SHALL BE LEAK AND PRESSURE TESTED BY THE MANUFACTURER.
 - 4. THE SYSTEM SHALL BE FACTORY MUTUAL (FM) APPROVED AND UL LISTED. THEY SHALL BE MANUFACTURED IN AN FM/ULAUDITED FACILITY. 5. ASSEMBLY SHALL BE AS MANUFACTURED BY FLEXHEAD INDUSTRIES, OR EQUIVALENT PRODUCT OF ANOTHER

2.3 SPRINKLER HEADS

A. SPRINKLER HEADS: U. L. LISTED OF TYPES AS INDICATED BELOW. SPRINKLER HEADS SHALL BE 160 DEGREES TEMPERATURE RATING UNLESS OTHERWISE NOTED OR REQUIRED BY NFPA 13.

SUSPENDED CEILING:

MANUFACTURER.

- 1. QUICK RESPONSE, FM APPROVED FOR LIGHT HAZARD IN WET AND DRY SYSTEM APPLICATIONS, CONCEALED PENDENT SPRINKLER WITH DROP-DOWN DEFLECTOR AND ADJUSTABLE COVER PLATE FOR INTERIOR, NON-CORROSIVE
- SPRINKLER TO BE OF BRONZE FRAME CONSTRUCTION WITH BRASS COVER PLATE AND COPPER ALLOY SKIRT ASSEMBLY. FUSIBLE LINK SHALL UTILIZE THE STRUT AND LEVER PRINCIPLE OF OPERATION WITH APPROVED BLACK-PAINTED
- BERYLLIUM-NICKEL LINK ASSEMBLY 4. WATER SEAL PROVIDED BY A TEFLON-COATED COPPER ALLOY CAP CONTAIN NO PLASTIC PARTS. CONCEALED
- SPRINKLER ASSEMBLY SHALL BE CAPABLE OF PROVIDING 1/1/2" OF TOTAL ADJUSTMENT. SPRINKLER K-FACTOR SHALL BE NOMINAL 5.6. SPRINKLER TEMPERATURE RATING SHALL BE ORDINARY 165'F, COVER PLATE TEMPERATURE RATING TO BE 135 '
- A PLASTIC PROTECTIVE CAP SHALL BE PROVIDED AND FACTORY INSTALLED INSIDE THE SPRINKLER CUP TO PROTECT THE DROP-DOWN SPRINKLER DEFLECTOR FROM DAMAGE, WHICH COULD OCCUR DURING CONSTRUCTION BEFORE THE COVER PLATE IS INSTALLED. 8. COVER FINISH: WHITE, OR AS SELECTED BY THE ARCHITECT.
- 9. QUICK RESPONSE CONCEALED PENDENT SPRINKLERS SHALL BE RELIABLE MODEL G4A, OR EQUIVALENT PRODUCT OF ANOTHER MANUFACTURER.

C. LOCATE WHERE DIRECTED BY THE ARCHITECT, A BAKED ENAMELED STEEL CABINET WITH SPARE SPRINKLER HEADS AND WRENCHES. PROVIDE SIX (6) HEADS FOR EACH TYPE INSTALLED IN BUILDING.

- FIRE BARRIER PENETRATIONS
- A. FIRE BARRIER PENETRATION SEALS: PROVIDE SEALS FOR ANY OPENING THROUGH FIRE RATED WALLS, FLOORS OR CEILINGS USED AS PASSAGE FOR MECHANICAL COMPONENTS SUCH AS PIPING OR DUCTWORK. 1. CRACKS, VOIDS, OR HOLES UP TO 4" DIAMETER: USE PUTTY OR CAULKING, ONE PIECE INTUMESCENT ELASTOMER, NON-CORROSIVE TO METAL, COMPATIBLE WITH SYNTHETIC CABLE JACKETS. INSTALL AS PER MANUFACTURERS
 - MANUFACTURER: HILTI. 2. OPENINGS 4" OR GREATER: USE SEALING SYSTEM CAPABLE OF PASSING 3 HOUR FIRE TEST IN ACCORDANCE WITH ASTM E-814, CONSISTING OF WALL WRAP OR LINER, PARTITIONS AND END CAPS CAPABLE OF EXPANDING WHEN EXPOSED TO TEMPERATURES OF 250 TO 350 DEGREES F. SEALING SYSTEM SHALL BE UL LISTED. ACCEPTABLE MANUFACTURER: HILTI.

INSTRUCTIONS, ALONG WITH RECOMMENDED BACKING MATERIAL. PRODUCTS HALL BE UL LISTED. ACCEPTABLE

PART 3 EXECUTION

- 3.1 INSTALLATION
- A. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. B. THE CONTRACTOR SHALL COORDINATE THE SPRINKLER AND SYSTEM INSTALLATION WITH THE LOCATION OF LIGHTING FIXTURES, DUCTWORK, PIPING AND WORK OF ALL OTHER TRADES. OBTAIN FROM THE OTHER CONTRACTORS COPIES OF THEIR APPROVED SHOP DRAWINGS REGARDING SYSTEMS AND EQUIPMENT THAT MUST BE COORDINATED WITH THE SPRINKLER AND STANDPIPE
- C. WHEN INSTALLING ANY OF THE APPARATUS HEREIN SPECIFIED SUFFICIENT CLEARANCE SHALL BE PROVIDED TO ALLOW THE
- D. ALL MAINS, RISERS AND PIPING SHALL BE SO INSTALLED THAT ALL LINES SHALL DRAIN BACK TO DRAIN CONNECTIONS.
- F. ROUTE PIPING IN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE. MAINTAIN GRADIENT.

E. INSTALL PIPING IN ACCORDANCE WITH NFPA 13 FOR SPRINKLER SYSTEMS.

REMOVAL OF EQUIPMENT FOR REPAIRS OR REPLACEMENT.

- G. PLACE PIPE RUNS TO MINIMIZE OBSTRUCTION TO OTHER WORK.
- H. PLACE PIPING IN CONCEALED SPACES ABOVE FINISHED CEILINGS. I. SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN AT LOW POINTS. USE ECCENTRIC REDUCERS TO MAINTAIN TOP OF PIPE LEVEL.
- J. PREPARE PIPE, FITTINGS, SUPPORTS, AND ACCESSORIES FOR FINISH PAINTING. WHERE PIPE SUPPORT MEMBERS ARE WELDED TO STRUCTURAL BUILDING FRAMING, SCRAPE, BRUSH CLEAN, AND APPLY ONE COAT OF ZINC RICH PRIMER TO WELDING.
- K. DO NOT PENETRATE BUILDING STRUCTURAL MEMBERS UNLESS INDICATED.
- L. PROVIDE SLEEVES WHEN PENETRATING FLOORS AND WALLS. SEAL PIPE AND SLEEVE PENETRATIONS TO ACHIEVE FIRE RESISTANCE EQUIVALENT TO FIRE SEPARATION REQUIRED.
- M. PROVIDE DRAIN VALVES AT LOW POINTS OF PIPING AND APPARATUS.
- N. USE FLEXIBLE HOSE ASSEMBLY FOR DROPS TO SPRINKLER HEADS. FOR BIDDING PURPOSES, ASSUME A MINIMUM 4 FOOT HOSE LENGTH. THE ACTUAL LENGTH WILL BE DETERMINED/ADJUSTED DURING SHOP DRAWING REVIEW.
- O. CENTER HEADS IN ONE DIRECTION ONLY IN CEILING TILE WITH LOCATION IN OTHER DIRECTION VARIABLE, DEPENDENT UPON SPACING AND COORDINATION WITH CEILING ELEMENTS. P. APPLY MASKING TAPE OR PAPER COVER TO ENSURE CONCEALED SPRINKLER HEAD COVER PLATES DO NOT RECEIVE FIELD PAINT
- FINISH Q. FLUSH ENTIRE PIPING SYSTEM OF FOREIGN MATTER.
- R. HYDROSTATICALLY TEST SPRINKLER SYSTEM. TEST TO BE WITNESSED BY FIRE MARSHALL AND ENGINEER.
- S. FLOW TEST SPRINKLER SYSTEM. TEST TO BE WITNESSED BY HOSPITAL FACILITIES PERSONNEL AND ENGINEER.

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nent for:
CENTER Replacem: MEDICAL

DRAWING NUMBER: