

FIRE PROTECTION SPECIFICATIONS

I GENERAL

A. General: The work covered consists of furnishing all labor and materials necessary to install, complete and ready for continuous operation, the fire protection systems, apparatus and equipment for the Linda Bean's Perfect Maine at Portland International Jetway.

B. Shop Drawings: Shop drawings of all specified equipment and apparatus shall be submitted to the Architect for approval.

C. Codes: All equipment and materials furnished under the Fire Protection Sub-Contract and labor and testing performed herein shall be in complete accordance with the Maine State Building Codes, Local Ordinances and Regulations of the City or Town, National Fire Protection Association and insurance regulations and requirements governing such work.

D. Permits: Any and all permits required for installation of any material shall be obtained as part of the work of the Specification including all fees or expenses incurred.

E. Instructions: During the assembly and installation of all Fire Protection systems, the Owner's operating personnel shall be instructed regarding its operation and maintenance. A two (2) week instruction period shall be provided after completion of project. Operation and maintenance manuals shall be required.

F. Guarantee: All materials and equipment furnished and installed shall be guaranteed in writing for one (1) year from the date of acceptance of the building by the Owner.

G. Record Drawings: The Fire Protection Subcontractor shall maintain at the job, at all times, a complete and separate set of blackline prints of the Fire Protection Drawings of his trade on which he shall mark clearly, neatly, accurately and promptly as the work progresses. Two CADD disks, AutoCAD 2000 or compatible system as well as mylar reproducible "As-Built" shall be furnished by the Fire Protection Subcontractor at the job completion. The Fire Protection Contractor's Design Engineer shall certify that the completed installation complies with all applicable codes and underwriters' requirements.

H. Inspection: All work shall be subject to the inspection of the Owner, the Architect and such other inspectors having jurisdiction. A properly executed certificate of inspection shall be provided.

I. Examination of Site: The Fire Protection Subcontractor, before submitting prices or beginning work, shall thoroughly examine the site and Contract Documents. No claim for extra compensation will be recognized if difficulties which an examination of site conditions and Contract Documents prior to executing Contract would have revealed.

J. Coordination: Coordinate all work installed under this specification with that of all other trades.

K. Protection of Property: Protect all new and existing work before, during and after installation.

L. Tests: The Fire Protection Subcontractor shall perform all tests at the completion of the work and the results furnished to the Owner and Architect in writing.

M. Certificates of Approval: Upon completion of all work, the Fire Protection Subcontractor shall furnish, in duplicate, certificates of inspections from all inspectors and authorities having jurisdiction, notarized letters from the manufacturers stating that authorized factory engineers have inspected and tested the installation of their respective systems and found same to be in perfect operating condition.

N. Contract Drawings: The Contract Drawings are diagrammatic and indicate only the general arrangements of work. It is not the intent of these Drawings to show every pipe, rise, drop, elbow, etc. Any additional work not shown and required to install the fire protection systems shall be included as part of this Contract.

O. Removal Work: Particular care shall be taken to avoid creating hazards on the site or causing disruption of service in the building. All existing equipment to be removed shall be done in a neat and workmanlike manner. All existing equipment to be turned over to the Owner shall be presented to the Owner in good condition at a location designated by the Owner. All other equipment shall be removed from the premises. Remove all abandoned piping and equipment not built into building construction. Where ceiling or walls are removed, all abandoned piping shall be removed and ends of live services capped. Abandoned elements built into walls or located above existing inaccessible ceilings shall remain and ends capped and marked abandoned.

P. Continuity of Services: Services shall be maintained in all areas which will be occupied during the construction period. If an interruption of service becomes necessary, such shall be made only upon consent of the Owner at a time outside normal working hours as he shall designate. Refer to the overall scheduling of the work of the project. Schedule work to conform to this schedule and install work to not delay nor interfere with the progress of the project.

Q. Asbestos Removal: Should this Subcontractor or any of its Sub-Subcontractors encounter any asbestos and/or asbestos related products of materials (the "asbestos materials") during the performance of its work, this Subcontractor shall stop work immediately and so inform the General Contractor and the Owner of the presence of asbestos.

II SCOPE

A. The work of this Section consists of all labor, materials and equipment required to provide all Fire Protection work complete, in place, as shown on the Drawings, specified herein and as necessary for a proper installation.

B. The extent of the Fire Protection shall include, but not be limited to the following:

- Alterations, additions and/or removal of existing automatic wet sprinkler or combination sprinkler and standpipe system within the renovated area in order to conform to new space requirements.

III RELATED WORK

A. The following equipment items and work shall not be the responsibility of this Contractor:

- Cutting and Patching
- Temporary Water, Heat, Fire Protection and Toilet Facilities
- Temporary Power and Lighting
- Flashing and Caulking
- Finish Painting
- Heating, Ventilating and Air Conditioning
- Plumbing
- Electrical Power and Wiring

IV MATERIALS

A. Pipe and Fittings

- Type E: Schedule 10 welded and seamless steel pipe in accordance with ASTM A135 joined with groove fittings and couplings approved for service with grooves rolled on the pipe by an approved groove rolling machine. Minimum wall thickness shall be Schedule 10 for sizes up to 5 inch pipe, 0.134 inch for 6 inch pipe and 0.188 inch pipe for 8 inch pipe and 10 inch pipe. Fittings and couplings shall be designed specifically for use in grooved piping systems and suitable for 175 psi minimum working pressure. Fittings, couplings and gaskets shall be of the same manufacturer.
- Pipe and fittings shall be in accordance with the following:
 - Sprinkler System Type D & E

B. Pipe Sleeves, Hangers, and Supports

- All piping shall be properly supported from building structure in accordance with NFPA Codes and the manufacturer's recommendations. Provide Schedule 40 steel sleeves, extend 1" above floor, make watertight and seal with material that maintains fire rating. Provide core drilling where required and provide fire rated link seal penetration closures.

C. Valves

- Gate valves shall be OS&Y type iron or bronze body, bronze seated, flanged or threaded ends and UL/FM approved, 175 psi working pressure.
- Check valves shall be swing type iron or bronze body, bronze seated, flanged or threaded ends and UL/FM approved, 200 psi working pressure.
- Globe valves shall be bronze body with threaded ends, 300 psi working pressure.
- Alarm check valves shall be UL/FM approved vertical type for a wet system complete with all trim, excess pressure pump, water motor gong, pressure gauges and drain valves.
- Double check valve assembly shall be approved by authorities having jurisdiction. Seek and secure all applications and permits. Provide test kit and certify installation.

D. Flow Switches

- Flow switches shall be approved type, UL listed, double contacts with adjustable retard dial, cast aluminum saddle, flexible saddle, rubber gasket and dust proof cover.

E. Supervisory Switches

- Supervisory switches for OS&Y valves shall be FM approved, UL listed, double contacts with aluminum case topped for 1/2 inch NPT conduit.

F. Pressure Switches

- Pressure switches shall be FM approved, UL listed, double contacts with aluminum case, brass bellows factory preset and adjustable from 2 PSI to 20 PSI.

G. Sprinklers

- Sprinklers, in general, shall be automatic closed type with temperature ratings to suit installed conditions. Sprinklers shall be located in the center of the ceiling tiles. When the ceiling tile is divided into sections by grooved depressions, the sprinkler shall be located in the center of one of the panels.
- Sprinklers in areas to be finished with ceilings shall be chrome plated pendant type with chrome plated escutcheons. Sprinklers in unfinished spaces shall be natural bronze pendant or upright.
- Spare heads, cabinet and wrench shall be provided in accordance with NFPA 13.

H. Pipe Identification and Valve Tags

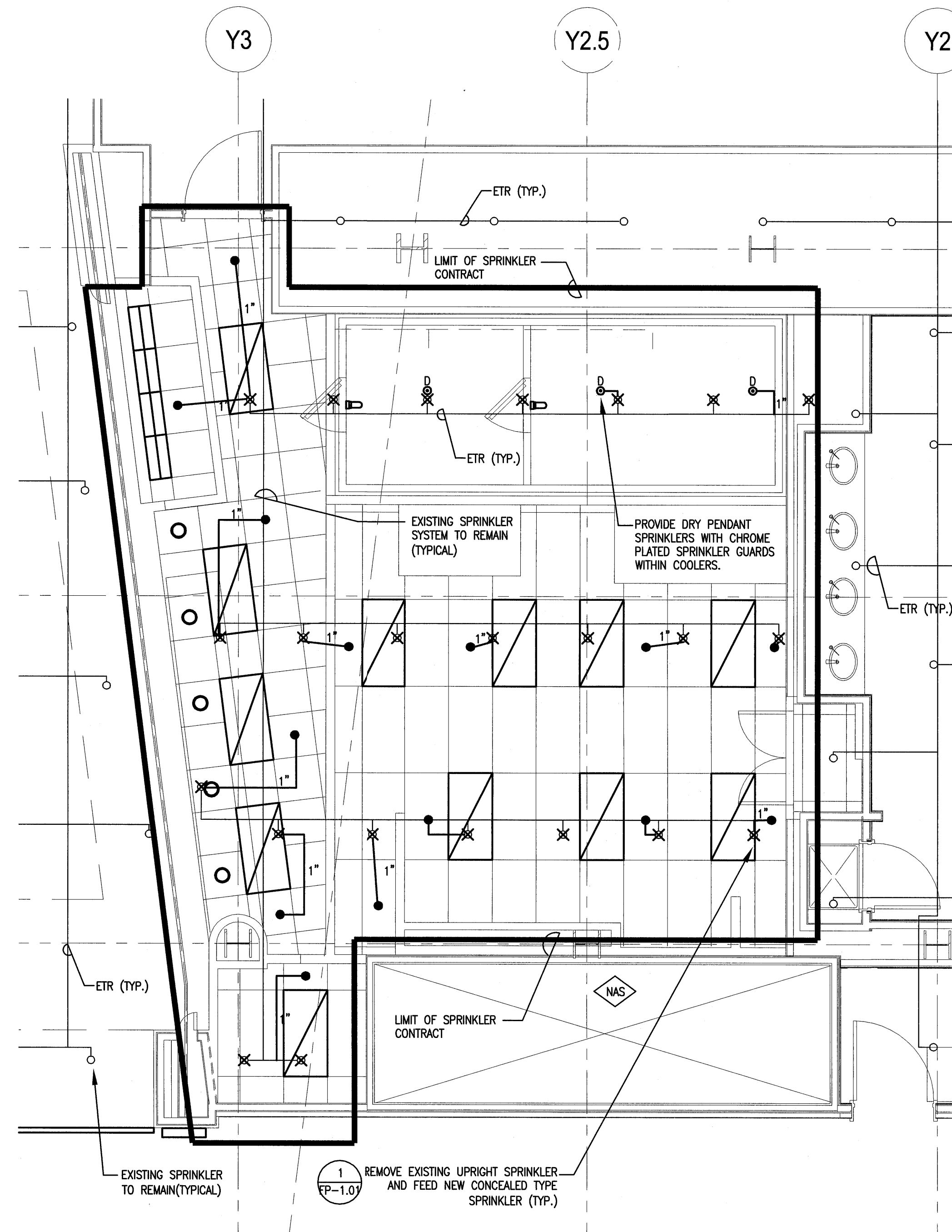
- All fire protection piping shall be labeled at each valve, at each branch, at each passage through wall and at intervals of not more than 20 feet with semi-rigid Setmark pipe markers with arrows indicating the direction of flow. All valves shall be tagged with 1-1/2 inch diameter brass tags and numbered in sequence from point of entrance into the building. Valve charts shall be placed under glass, framed and presented to the Owner.

I. Access Panels

- Furnish access panels for access to all concealed parts of the fire protection systems that require accessibility for the proper operation and maintenance of the system. Size shall be sufficient for the purpose, but no less than 12 inches by 18 inches. Access doors shall be prime coated of rust inhibitive paint, continuous hinge and manufactured by Inland Steel Products Company "Milcor".

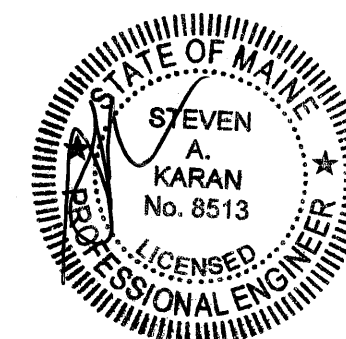
J. Design Criteria

- Sprinkler systems shall be hydraulically designed and calculated by the Fire Protection Contractor. The Fire Protection Contractor shall submit all required hydraulic calculations to prove the hydraulically most remote areas are being protected. Fabrication drawings and hydraulic calculations shall be submitted and stamped approved by the local fire department and insurance underwriters prior to submitting to the Architect for review. Fabrication drawings and hydraulic calculations shall bear the seal of registration of a qualified Registered Professional Fire Protection Engineer. Maintain a minimum of 10 psi cushion between required pressure and available pressure. Comply with all Underwriters' and code authorities requirements including maximum water flow velocity in the fire protection system.
- Automatic sprinkler systems in areas of light hazard occupancy shall be designed with a minimum design density of .10 GPM per square foot over the hydraulically most remote 1500 square feet. Maximum protection area per sprinkler shall be 225 square feet for upright and pendant sprinklers, and 196 feet for sidewall sprinklers. Provide a 100 GPM hose allowance.
- Automatic sprinkler systems in areas of ordinary hazard occupancy shall be designed with a minimum design density of .15 GPM per square foot over the hydraulically most remote 1500 square feet. Maximum protection area per sprinkler shall be 130 square feet. Provide a 250 GPM hose allowance.



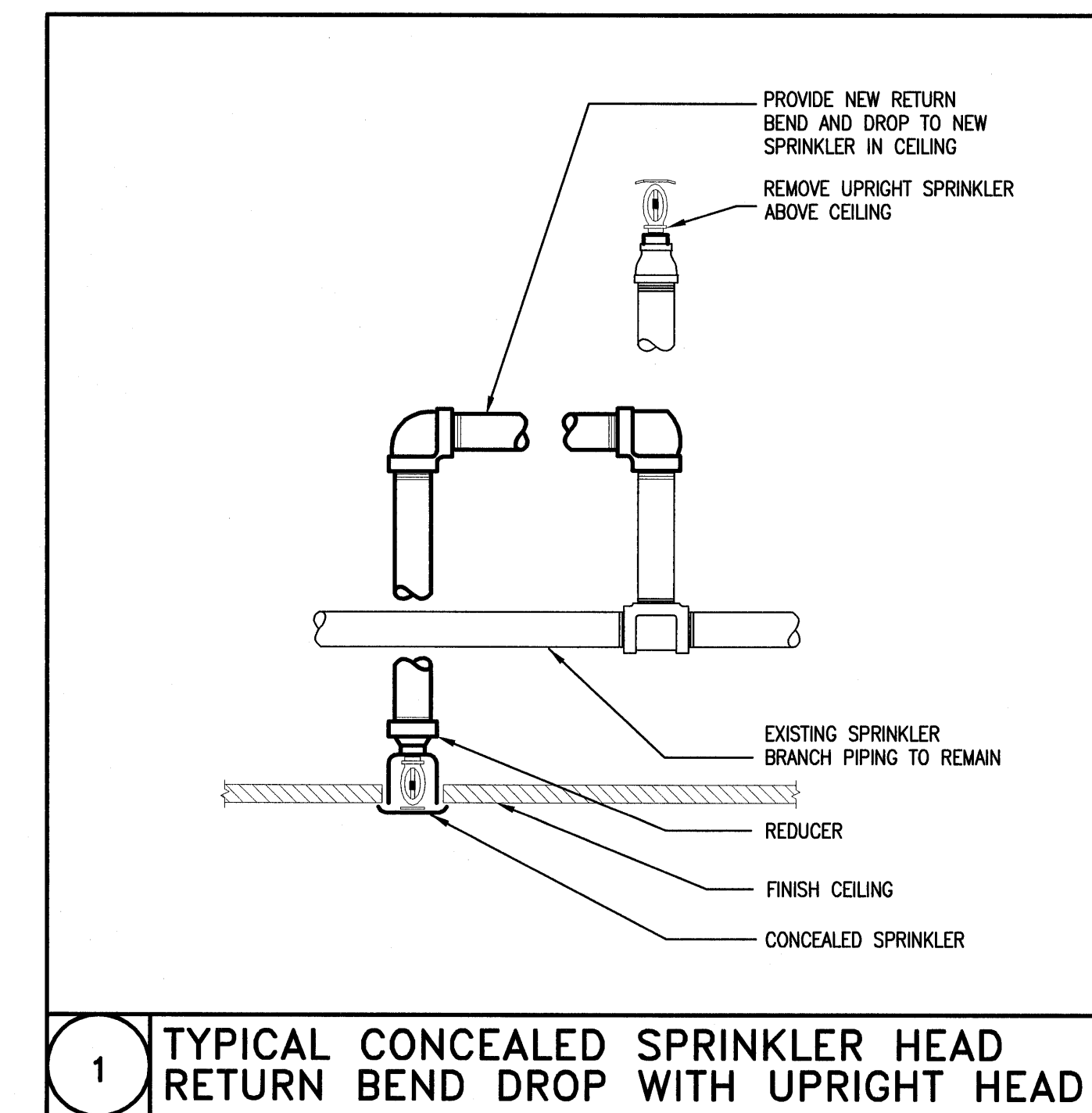
1 FIRE PROTECTION BURGER KING (EXISTING)
1/4" = 1'-0"

- DRAWING NOTES:**
- ALL NEW ARM OVERS SHALL BE 1" PIPING.
 - JOB CONSISTS OF A HEAD FOR HEAD RELOCATION FEEDING NEW CONCEALED SPRINKLERS FROM EXISTING UPRIGHT LOCATIONS.
 - PROVIDE DRY PENDANT SPRINKLERS WITH CHROME PLATED SPRINKLER GUARDS WITHIN COOLERS.
 - SPRINKLERS BEYOND THE LIMIT OF WORK ARE EXISTING TO REMAIN PROVIDED UNDER BASE BUILDING CONTRACT.
 - INSTALL ALL SPRINKLER WITH-IN CENTER OF TILE.
 - MATCH BASE BUILDING FOR TEMPERATURE RATING AND MANUFACTURER, FINISH SHALL BE WHITE UNLESS NOTED OTHERWISE.



FIRE PROTECTION LEGEND

	NEW WORK PIPING (INDICATED AS HEAVY LINE)
	EXISTING TO REMAIN (INDICATED AS LIGHT LINE)
	EXISTING PIPING TO BE REMOVED
	EXISTING EQUIPMENT TO BE REMOVED
	CONNECT TO EXISTING
	WET SPRINKLER PIPE
	PIPE TEE LOOKING UP
	PIPE TEE LOOKING UP
	PIPE ELBOW UP
	PIPE ELBOW DOWN OR DROP
	CONTINUATION
	FLOW IN DIRECTION OF ARROW
	UPRIGHT WET SPRINKLER
	PENDENT WET SPRINKLER
	CONCEALED WET SPRINKLER
	SIDEWALL WET SPRINKLER
	PENDENT DRY SPRINKLER
	NO AUTOMATIC SPRINKLERS
	DIAGRAM NO. & DWG. NO. REFERENCE
	ELECTRIC BELL / WATER MOTOR GONG
	ABOVE FINISHED FLOOR
	ABOVE FINISHED GRADE
	LIMIT OF FIRE PROTECTION CONTRACT
	NOT IN FIRE PROTECTION CONTRACT
	GENERAL CONTRACTOR
	FIRE PROTECTION CONTRACTOR
	PLUMBING CONTRACTOR
	ELECTRICAL CONTRACTOR
	HVAC CONTRACTOR
	FURNISH & INSTALL
	CONTRACTOR FURNISHED / OWNER INSTALLED
	OWNER FURNISHED / CONTRACTOR INSTALLED
	FINISHED FLOOR ELEVATION
	WATER SERVICE ENTRANCE

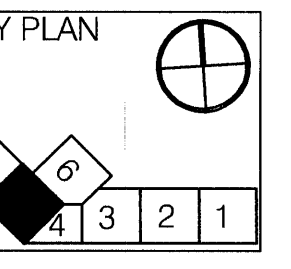


1 TYPICAL CONCEALED SPRINKLER HEAD RETURN BEND DROP WITH UPRIGHT HEAD

Item	Date
PERMIT	5-27-11



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Scale:
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FIRE PROTECTION
SPRINKLER
PLAN

FP-101