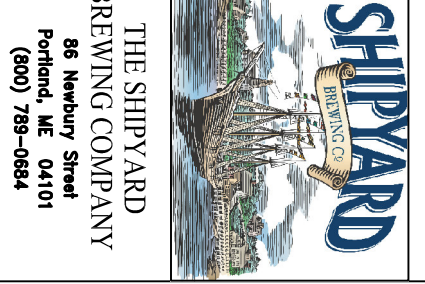


Item	Date



The Shipyard
Main Terminal - Lower Level
Portland International Jetport
1001 Westbrook Street
Portland, ME 04102



HMS Host
6600 Rockledge Drive
Bethesda, MD 20817
TEL: (301) 656-4625
FAX: (301) 656-4175

L2M Foodservice DESIGN GROUP
8111 Corner Park Drive
Glen Burnie, MD 21061
PH: (410) 863-1302
FX: (410) 863-1308

Building Engineering Resources, Inc.
28 Main Street, Bldg. 43A
North Haven, MD 02156
TEL: (508) 230-0200
FAX: (508) 230-0209
E: beth@buildingeng.com

LLOYD ARCHITECTS
Two High Cliff, Plymouth MA 02360
3 0 2 3 6 0
l l o y d a r c h . c o m
@ l l o y d a r c h . c o m
3 0 2 3 6 0
l l o y d a r c h . c o m
3 0 2 3 6 0
l l o y d a r c h . c o m
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Job No.: 07417
Scale: As Noted
Issued: 12/11/07
Fire Protection Legend, Details, & Schedules

FPI

FIRE PROTECTION SPECIFICATION

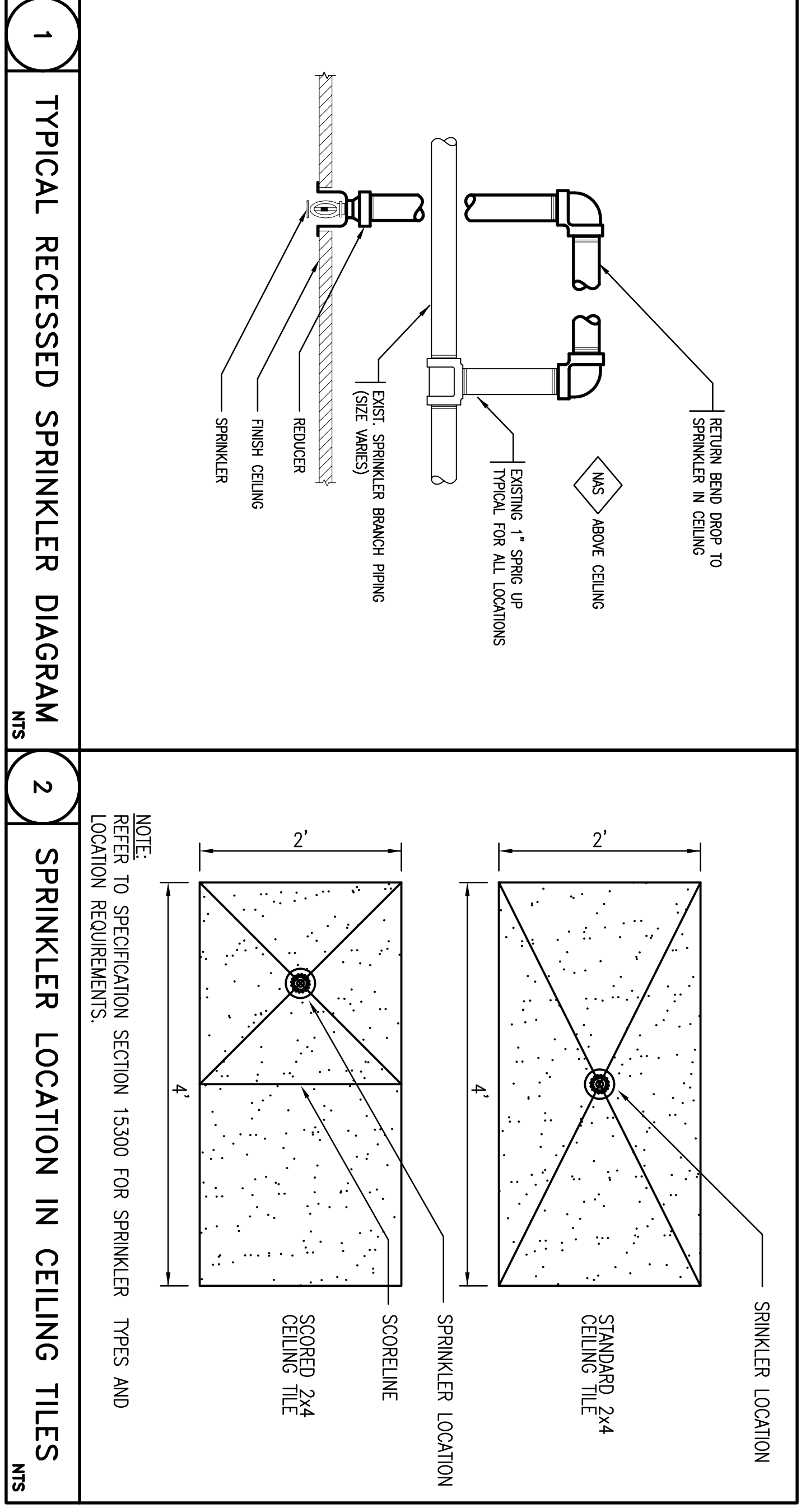
- I GENERAL**
- General: The work covered consists of furnishing all labor and materials necessary to install, complete and ready for continuous operation, the fire protection systems, apparatus and equipment for the Shipyard Restaurant.
 - Shop Drawings: Shop drawings of all specified equipment and apparatus shall be submitted to the Architect for approval.
 - 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 of Portland, National Fire Protection Association and insurance regulations and requirements governing such work.
 - 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.
 - 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.
 - 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.
 - Record Drawings: The Fire Protection Subcontractor shall maintain, at the job, at all times, complete, accurate and legible drawings of the Fire Protection systems, including but not limited to, shop drawings, field notes, and field sketches, which shall be available for review and reproduction. "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.
 - Inspection: All work shall be subject to the inspection of the Owner, the Architect and the Fire Protection Authority having jurisdiction. A properly executed certificate of inspection shall be provided.
 - 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 for difficulties which on examination of site conditions and Contract Documents prior to executing Contract would have revealed.
 - Coordination: Coordinate all work included under this specification with that of all other trades.
 - Protection of Property: Protect all new and existing work before, during and after installation.
 - 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.
 - Certificates of Approval: Upon completion of all work, the Fire Protection Subcontractor shall furnish, in triplicate, a Certificate of Approval from the inspectors and authorities having jurisdiction, notated letters from the manufacturers stating that systems and found same to be in perfect operating condition.
 - Contract Drawings: The Contract Drawings are definitive and include only the general arrangement of work. It is not to be construed as a contract. Any additional work not shown and required to install the fire protection systems shall be included as part of this Contract.
 - Contract Work: Particular care shall be taken to avoid creating hazards on the site or causing disruption of services in the building. All existing equipment to be removed shall be removed in accordance with the Fire Protection Subcontractor's specifications and shall be removed 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 the respective ceilings shall remain and ends capped and marked adequately.
 - 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 on the shall designate. Refer to the overall scheduling of the work of the project. Schedule the work to be performed so that the schedule and install work to not delay nor interfere with the progress of the project.
- II SCOPE**
- The work of this Section consists of all labor, materials and equipment required to provide all Fire Protection systems, apparatus and equipment, as shown on the Drawings, specified herein and as necessary for a proper installation.
 - The extent of the Fire Protection shall include, but not be limited to the following:
 - Revised automatic wet sprinkler protection.
 - Furnishing of access panels.
 - 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 codes requirements.
 - Core drilling.
- III RELATED WORK**
- The following equipment items and work shall not be the responsibility of this Contractor:
 - Cutting and Patching
 - Temporary Power and Lighting
 - Flashing and Caulking
 - Finish Painting
 - Plumbing, Ventilation and Air Conditioning
 - Electrical Power and Wiring
 - Fire Extinguishers and Cabinets
 - Electric Heat Tracing
 - Installation of Access Panels
- IV MATERIALS**
- Pipe and Fittings
 - Type A: Mechanized joint ductile iron, Class 52, with mechanized joint ductile iron fittings; pipe and fittings shall be 350 psi rated. Pipe and fittings shall be coated on the outside, cement lined on the inside. All changes in direction shall have the rods and clamps anchored to thrust blocks.
 - Type B: Cast iron forged pipe and fittings; pipe shall conform to Federal Specification WW-P-421, Class 150; flanges faced and drilled for 125 psi service. Pipe and fittings shall be coated on the outside, cement lined on the inside.
 - Type C: Schedule 40 black steel pipe, black cast iron screwed companion flanges and forged cast iron fittings, all standards for 175 psi working water pressure.
 - Type D: Schedule 40 black steel pipe with black cast iron screwed sprinkler fittings suitable for 175 psi working water pressure.
 - Type E: Schedule 10 welded and seamless steel pipe in accordance with ASTM A133 and schedule 40 grooved pipe in accordance with Schedule 40 Grooved Pipe Fittings. Grooved pipe by an approved groove rolling machine. Minimum wall thickness shall be Schedule 10 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.
 - Type F: Schedule 40 galvanized interior and exterior steel pipe with galvanized iron screwed fitting suitable for 175 psi working water pressure.
 - Type G: Schedule 40 seamless red brass pipe with brass screwed fittings suitable for 175 psi working water pressure.
 - Pipe and fittings shall be in accordance with the following:
 - For Exterior Water Service Type A
 - For Service Entrance into Building Type B
 - For Above Ground Piping where Working Connections are Made Type C
 - Standpipe System Type D & E
 - Sprinkler System Type D & E
 - Piping from Alarm Valve to Water Motor Gong Type G
 - Pipe, Steves, 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 mastic that moldings fire rating. Provide core drilling where required and provide fire rated link seal penetration closures.
 - Valves
 - Globe 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.
 - Sprinklers
 - Sprinklers, in general, shall be automatic closed type with temperature ratings to suit installing conditions. Sprinklers shall be located in the center of the ceiling tiles. When installed 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 scotchlocks. Sprinklers in unfinished spaces shall be industrial bronze pendant or upright.
 - Spare heads, cabinet and wrench shall be provided in accordance with NFPA 13.
 - Pipe Identification and Valve Tags
 - All fire protection piping shall be labeled at each work, at each branch, at each access panel, and at each valve. Labels shall be made of 1/2" x 3/4" aluminum or 1/2" x 3/4" steel pipe markers with arrows indicating the direction of flow. All valves shall be tagged into the building. Valve charts shall be placed under glass, framed and pointed to the Owner.
 - Access Panels
 - Access 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.
 - 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 hydraulic most remote area and design protection. Hydraulic calculations 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 outdoor 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 1.0 GPM per square foot over the hydraulically most remote 1500 square feet. Minimum protection area per sprinkler shall be 225 square feet for upright and pendant sprinklers, and 195 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 1.15 GPM per square foot over the hydraulically most remote 1500 square feet. Minimum protection area per sprinkler shall be 130 square feet. Provide a 250 GPM hose allowance.
 - Provide a new hydrant flow test. Use the results of this new hydrant flow test to hydraulically design the sprinkler systems within the building.

FIRE PROTECTION LEGEND

SYMBOL	DESCRIPTION
—————	NEW WORK PIPING (INDICATED AS HEAVY LINE)
—————	EXISTING TO REMAIN (INDICATED AS LIGHT LINE)
SPR	SPRINKLER PIPING
TD	TEST DRUM
○ E	EXISTING SPRINKLER TO REMAIN
✕ R	REMOVE SPRINKLER
● U	NEW UPRIGHT SPRINKLER
●	CONNECT TO EXISTING
○	TYPICAL

FIRE PROTECTION GENERAL NOTES

- SPRINKLER SYSTEM WORK SHALL BE LIMITED TO RELOCATION OF SPRINKLER LOCATIONS FOR THE NEW CEILING LAYOUT BY THE ARCHITECT CONTRACTOR SHALL RE-USE EXISTING PIPING AND SHALL NOT ALTER EXISTING SYSTEM DESIGN BEYOND RELOCATIONS.
- THE SPRINKLER LAYOUT SHOWN ON THE CONTRACT DOCUMENTS ARE TO DEFINE THE DESIGN INTENT FOR COMPETITIVE BIDDING AND FOR PRELIMINARY SUBMISSION TO THE AUTHORITIES HAVING JURISDICTION.



1 TYPICAL RECESSED SPRINKLER DIAGRAM NNS

2 SPRINKLER LOCATION IN CEILING TILES NNS