

REQUEST FOR BIDS (BY FAX)

**LAKE CITY DRAIN REPLACEMENT
Informal/Roster Solicitation No. 4924**

ADDENDUM NO. 1
Issued August 18, 2017

FROM: Seattle Housing Authority
190 Queen Anne Ave North
P.O. Box 19028
Seattle, WA 98109

TO: Potential Roster Bidders

This Addendum No. 1 containing the following revisions, additions, deletions and/or clarifications, is hereby made a part of the Request for Bids by Fax solicitation and Contract Documents for the above-named project. Bidders shall take this Addendum into consideration when preparing and submitting their response to this solicitation. Receipt of this Addendum shall be acknowledged on the Request for Bids by Fax Bid Form. Failure to do so may deem the proposer as non-responsive.

CHANGES TO THE SOLICITATION

Item #1: Add the following to solicitation:

Add the following Scope of work

- **Add: Section 011000 – Summary**
- **Add: Section 220000 – General Plumbing Requirements**
- **Add: Section 221313 – Facility Sanitary Sewers**
- **Add: Section 221316 – Sanitary Waste and Vent Piping**
- **Add: Section 315000 – Excavation Support and Protection**
- **Add: Drawings**

End of Addendum No. 1

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including General Conditions, Attachment A-Version 2, and other Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Work covered by the Contract Documents.
 - 2. Type of the Contract.
 - 3. Use of premises.
 - 4. Owner's occupancy requirements.
 - 5. Work restrictions.
 - 6. Specification formats and conventions.
 - 7. Permits.
 - 8. Governing Codes and Regulations.
 - 9. Preconstruction Conference.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Lake City House Drain Line Replacement.
 - 1. Project Location: **12546 33rd Ave NE, Seattle, WA, 98125**
- B. Owner: Seattle Housing Authority, 190 Queen Anne Ave. N., P.O. Box 19028, Seattle, WA, 98109-1028
 - 1. Owner's Representative:
 - a. Ricky Phillips, Construction Project Manager.
- C. The Work consists of the following:
 - 1. The Contractor will provide all labor, new materials, permits, and equipment necessary to perform all work. The work includes but is not limited to:

Gridlines A - C

- a. Removal and disposal of approximately 136-sq.ft. of concrete slab in corridor at units 103, 104, 105, & 106 to expose area where soil will need to be removed for access to damaged sewer pipe.
- b. Excavate soil to expose three-inch, four-inch, & six-inch cast iron sewer line at corridor and also vertical riser clean-out in mechanical shaft. Intent is to remove and replace all waste lines that service kitchen drains at units 103, 104, 105, & 106 as well as removing & replacing clean-outs located in

plumbing chases at units 104 & 103. Depth of sewer line ranges from five-feet at corridor area to nine-feet outside the building.

- c. Store excavated materials on site and reuse if permissible.
- d. Remove approximately 50-lf of four-inch cast iron sewer pipe and replace with four-inch ABS sewer pipe. Remove and replace existing clean-out in vertical riser and replace with new ABS clean-out with cap reconnecting any branch lines and connecting to existing sewer line at vertical riser clean-out in plumbing chase.
- e. Backfill trench, compact and bring finish grade to allow for an eight-inch thick concrete patch at corridor. Replace VCT flooring to match existing as close as possible.

Gridlines D – F

- a. Removal and disposal of approximately 12-sq.ft. of concrete slab in corridor at unit plumbing stacks X07 & X09 to expose area where soil will need to be removed for access to damaged sewer pipe.
- b. Excavate soil to expose three-inch, four-inch, & six-inch cast iron sewer line at corridor and also vertical riser clean-out in mechanical shaft. Intent is to remove and replace all waste lines that service kitchen drains at units 107, 108, & 109 as well as removing & replacing clean-outs located in plumbing chases at units 108 & 109. Depth of sewer line ranges from five-feet at corridor area to nine-feet outside the building.
- c. Store excavated materials on site and reuse if permissible.
- d. Remove approximately 10-lf of four-inch cast iron sewer pipe and replace with four-inch ABS sewer pipe. Remove and replace existing clean-out in vertical riser and replace with new ABS clean-out with cap reconnecting any branch lines and connecting to existing sewer line at vertical riser clean-out in plumbing chase.
- e. Backfill trench, compact and bring finish grade to allow for an eight-inch thick concrete patch at corridor. Replace VCT flooring to match existing as close as possible.

Gridlines F – G

- a. Removal and disposal of approximately 120-sq.ft. of concrete slab in corridor at units X11 & X13 to expose area where soil will need to be removed for access to damaged sewer pipe.
- b. Excavate soil to expose three-inch, four-inch, & six-inch cast iron sewer line at corridor that services the X11 stack of unit kitchen drains. Intent is to remove and replace all waste lines that service kitchen drains at units 111 & 113 as well as removing & replacing clean-outs located in plumbing chases at X11 kitchen drain stack. At this location, the four-inch waste lines that connect to side sewer outside of build will be removed and replaced. Depth of sewer line ranges from five-feet at corridor area to nine-feet outside the building. Provide new clean-out within five-feet of building exterior and connect to existing side sewer system at downhill side of sewer.
- c. Store excavated materials on site and reuse if permissible.
- d. Remove approximately 20-lf of four-inch cast iron, 5-lf of six-inch sewer pipe inside the building and 3-lf of four-inch sewer pipe outside the building and replace with new ABS sewer pipe appropriately sized for building capacity. Remove and replace existing clean-out in vertical riser and

replace with new ABS clean-out with cap reconnecting any branch lines and connecting to existing sewer line at vertical riser clean-out in plumbing chase.

- e. Backfill trench, compact and bring finish grade to allow for an eight-inch thick concrete patch at corridor. Replace VCT flooring to match existing as close as possible.

Gridlines J – K

- a. Removal and disposal of approximately 120-sq.ft. of concrete slab in corridor at unit plumbing stacks X18 & X19 to expose area where soil will need to be removed for access to damaged sewer pipe.
- b. Excavate soil to expose three-inch, four-inch, & six-inch cast iron sewer line at corridor and also vertical riser clean-out in mechanical shaft. Intent is to remove and replace all waste lines that service kitchen drains at units 118 & 119 as well as removing & replacing clean-outs located in plumbing chases at unit stacks X18 & X19. Depth of sewer line ranges from five-feet at corridor area to nine-feet outside the building.
- c. Store excavated materials on site and reuse if permissible.
- d. Remove approximately 20-lf of four-inch cast iron and 5-lf of six-inch cast iron sewer pipe and replace with new four-inch and six-inch ABS sewer pipe. Remove and replace existing clean-out in vertical riser and replace with new ABS clean-out with cap reconnecting any branch lines and connecting to existing sewer line at vertical riser clean-out in plumbing chase.
- e. Backfill trench, compact and bring finish grade to allow for an eight-inch thick concrete patch at corridor. Replace VCT flooring to match existing as close as possible.

D. Contractor shall field verify all measurements and site conditions.

E. Contractor will make provisions to protect building, landscaping and vegetation per Owners directive.

1.4 TYPE OF CONTRACT

- A. Project will be constructed under a single-prime, general construction contract.
- B. The Contractor shall use Prevailing Wage rates when determining bid and for payment purposes to all eligible employees, as required by law.
- C. Sales Tax: charged to materials only.

1.5 USE OF PREMISES

- A. General: Contractor shall have full use of premises for construction operations, including use of Project site, during construction period. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

1. Owner Occupancy: Allow for Owner occupancy of Project site.
2. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Contact the owner for placement location of waste containers and storage materials in the building parking areas. Inspection of asphalt and concrete surface prior to Work and at completion of work will be conducted by owner and contractor. Damage to asphalt from work will be repaired by the Contractor, solely at the Contractor expense, to Owner's satisfaction.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
3. Parking: parking is available in building parking lot and street on first come first serve basis.

1.6 OWNER'S OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: Owner will occupy site and existing buildings during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.
 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
 2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

1.7 WORK RESTRICTIONS

- A. On-Site Work Hours: Work shall be generally performed during normal business working hours of 8 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated.
 1. Weekend Hours: No weekend work permitted without owner permission.

1.8 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's "MasterFormat" numbering system.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. **Abbreviated Language:** Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred, as the sense requires. Singular words shall be interpreted as plural and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

<u>Item</u>	<u>Meaning</u>
Accepted	Reviewed with no exceptions taken to submittal material. See "Submittal".
Approved	Inspected and accepted by the Authority Having Jurisdiction.
Furnish	Deliver to the jobsite.
Install	To enter permanently into the project and make fully operational.
Provide	Furnish and install.
Required	As required by code, Authority Having Jurisdiction or contract documents
	For the particular installation to be fully operational.
Shown	As indicated on the drawings or details.
AHJ	Authority having jurisdiction.

2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

- a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.9 PERMITS

- A. It is the Contractor's responsibility to obtain all necessary permits and inspections as may be required to perform all aspects of the required work for this project including Right of Way and Street Use. The cost of any such permits and associated fees is to be included in the Contractor's bid amount.
- B. Contractor shall arrange for and supply personnel for inspections of work by all AHJ Inspectors (including building permit inspections) and shall give the inspectors all necessary assistance in their work of inspection as required.

1.10 GOVERNING CODES AND REGULATIONS

- A. The work shall be performed in accordance with applicable codes, and regulations. If any conflict occurs between government-adopted laws and drawings and this Specification, the laws are to govern. Nothing in the drawing or these specifications

shall be construed to permit work not conforming to the governing laws. The preceding sentence shall not be construed as relieving the Contractor from complying with any requirements of those herein before mentioned governing laws and rules and not contrary to same.

- B. The Contractor is required to be familiar with the details of these standards and any local codes and ordinances as they affect the installation of specific systems. The edition of the appropriate code or standard current at commencement of installation shall govern all installations.

1.11 PRECONSTRUCTION CONFERENCE

- A. Attend a pre-construction conference before starting any work at a time agreed upon by both parties. The meeting agenda will be to review responsibilities and personnel assignments.
- B. Agenda: Discuss items of significance that could affect progress, including the following:
 - 1. Construction schedule.
 - 2. Designation of responsible personnel.
 - 3. Use of premises.
 - 4. Parking availability.
 - 5. Storage areas.
 - 6. Equipment deliveries and priorities.
 - 7. Safety procedures.
 - 8. First Aid.
 - 9. Security.
 - 10. Working hours.

END OF SECTION 011000

PART 1 – GENERAL PLUMBING REQUIREMENTS

1.1 INTRODUCTION

- A. Section Includes
 - 1. The purpose of this section is to define the design approach upon which the mechanical design/build is to base his bid and establish the design criteria, and design submittals, which will be required in the preparation and execution of the design.
 - 2. All work under this section must meet the minimum construction requirements as specified in the CSI Master Format.

1.2 APPLICABLE CODES & STANDARD

- A. Design shall comply with rules and regulations of the following:
 - 1. 2015 Seattle Energy Code (SEC)
 - 2. 2015 International Mechanical code (IMC) with City of Seattle Amendments
 - 3. 2015 International Fuel gas code (IFGC) with City of Seattle Amendments
 - 4. 2015 International Fire code (IFC) with City of Seattle Amendments
 - 5. 2015 Seattle Building Code (SBC)
 - 6. 2015 International Building Code (IBC) with City of Seattle Amendments
 - 7. 2015 Washington State Plumbing Code (WSPC) with City of Seattle Amendments
 - 8. National Fire Protection Association (NFPA)
 - 9. 2008 WAC 296-46B Electrical Safety Standards, Administration, and Installation
 - 10. 2014 National Electrical Code (NEC) with City of Seattle Amendments
 - 11. National Electrical Manufacturers Association (NEMA)
 - 12. WA State Underground Damage Prevention Act ('Call Before you Dig') – RCW 19.122
 - 13. Federal Americans With Disabilities Act (ADA)
 - 14. All other applicable local jurisdiction amendments.

1.3 PROJECT DELIVERY

- A. This project is to be delivered complete. The Plumbing Contractor responsible for all Plumbing systems (referred to herein as the PC) shall use the provided plumbing drawings as reference information. Drawings do not represent exact location of waste lines. PC shall provide information showing actual locations of waste lines and points of connection between new and existing work through as-built drawings at end of project.
- B. The PC is encouraged to provide voluntary alternates beyond the specific scope outlined in this narrative and the accompanying drawings.
- C. The PC will provide bid response that covers the complete scope of work required to deliver a fully functional and code compliant project.
- D. Contractor shall attend design coordination meetings as needed.

- E. The architectural floor plans provided are not final. Pricing shall allow for equipment relocations due to minor interior layout modifications.
- F. Submittals, and shop drawings will be reviewed for conformance with the design build bid package as well as conformance with codes and accepted practice. Discrepancies will be noted for team review prior to acceptance.
- G. Complete equipment and materials submittals shall be provided to the owner in both printed and electronic format per the time schedule issued by the Owner. Submittals shall be complete with all components included, installation manuals, and customized to this project's requirements. All submittals require Owner approval prior to purchase. The project specific equipment model numbers, options, and features are to be clearly marked within the literature. Electronic submittals with original PDF's (avoid scanning) are requested for consultant review. Additionally, conformances with Division 1 specifications including hard copy requirements apply.
- H. Construction Administration: The selected Contractor will perform construction administration, including RFI responses, attendance at periodic meetings, formal review and approval of shop drawings and submittals, coordination with other trades, preparation of final punchlist.
- I. All work contracted for must be accepted by all applicable inspectors including Site Superintendent, GC Quality Control Personnel, AHJ's, and Owner.
- J. Warranty period to extend for one year from date that the owner accepts the work. Warranty not applicable to defective items due to faulty work of subsequent trades.
- K. The PC shall submit final as-built drawings to the General Contractor for submittal to Owner within two weeks of project completion or unless alternative timing is agreed to. Drawings shall be provided in PDF format.
- L. Operations and Maintenance (O&M) Manual: Provide 1 hard copy and 1 electronic copy (PDF) of O&Ms for ALL systems within TWO weeks of substantial completion.
- M. Codes, Permits, Inspections, and Fees:
 - 1. The PC shall obtain all permits and inspections and pay all fees required by State and Local authorities, except as noted.
 - 2. All work and materials shall be in accordance with requirements of all applicable local and state codes, statues, standards and other regulations. Date of regulations shall be as adopted by local authorities at the time of permit intake, unless indicated otherwise.
 - 3. The codes shall be construed as establishing a minimum or base level of requirements. Contract Documents shall not be construed to permit or direct work not in conformance with codes, statues, standards and other regulations. Where provisions of the various regulations conflict with each other, or with the Contract Documents, the more stringent provisions shall

be included in contract pricing. Conflict shall be resolved with the Owner and Authorities Having Jurisdiction (AHJ) prior to completing the design.

4. Where the Contract Documents call for material or construction of a better quality or higher capacity than required by the codes, statutes, standards, and other regulations, the provisions of the Contract Documents shall take precedence over the requirements of the codes and standards.
5. Material and equipment within the scope of the UL Testing Laboratory Service shall be listed by the Underwriters Laboratories for the purpose for which they are used and shall bear their listing mark.
6. PC shall call for all inspections by the local code authorities when they become due and shall not cover any work until approved by these authorities.

1.4 MISCELLANEOUS SCOPE ITEMS:

- A. The structural engineer is responsible for all structural calculations required for the supporting structure for permit intake.
- B. PC is to provide and install fire stopping of all through and membrane penetrations as required by the IBC and other applicable codes. Floor penetrations to include a watertight seal.
- C. All piping, plumbing, and equipment are to be seismically restrained as required by the 2015 IBC and Seattle Building Code..
- D. All code required access panels in walls and/or ceilings are provided and installed by the plumbing contractor. PC to coordinate required locations and sizes with the GC and the Owner.
- E. The contractors will provide and install phenolic tags identifying each specific piece of equipment where required.

1.5 COORDINATION

- A. All pipe routing and equipment locations shall be coordinated with Owner.
- B. No cutting or drilling of joists or beams will occur without Owner and Structural Engineer approval.
- C. Cutting, framing, patching and painting of wall, ceiling and floor openings shall be by Awarded Contractor.

PART 2 – PRODUCTS

2.1 PLUMBING SYSTEMS GENERAL

- A. All plumbing products in contact with potable water shall be certified Lead Free and NSF 61/NSF 372 compliant.
- B. All plumbing in areas that contain plenums are to be plenum compatible. No plastic material will be utilized unless noted otherwise.
- C. Plumbing materials are per the materials matrix.

- D. All plumbing is to be pressure tested or flow tested in accordance with code and accepted standards.
- E. All clean outs are to be installed in accessible locations. Plumbing Contractor is to provide access panels and coordinate installation with Owner as required for access to clean outs.
- F. All fixtures shall be provided and installed to comply with Washington State accessibility codes or per other architectural directions.
- G. All fixtures to be provided and installed to comply at a minimum with Washington State water conservation performance standards and UPC maximum flow rate standards.
- H. All water supply and waste and vent piping shall be secured in place with 3/16" neoprene strips wrapped around the pipe at stud penetrations or point of support to prevent direct contact with framing and resultant rattling and vibration.

2.2 DOMESTIC WATER PIPING INSULATION

- A. (NOT USED)

PART 3 – EXECUTION

3.1 PREPARATION & INSTALLATION

- A. All work contracted for must be accepted by all applicable inspectors including site superintendent, GC quality control personnel, and Owner.
- B. Piping shall be run concealed in all areas.
- C. As-built drawings: Provide Owner with electronic as-built drawings within two weeks of substantial completion. As-built drawings will reflect all changes from the construction drawing set.
- D. Owner and Maintenance Manual: provide 1 hard copy and 1 electronic copy of O&Ms for all systems. O&M's will also comply with architectural specification sections.

3.2 TESTING & INSPECTION

- A. The Plumbing Contractor (PC) is responsible for all test, balance, and startup of plumbing systems.
- B. All plumbing systems are to be tested by the PC as required by the AHJ and Plumbing Codes.
- C. The PC will document deficiencies and provide equipment, materials, and labor necessary to correct deficiencies found during the commissioning process to fulfill contract and warranty requirements.

END OF SECTION

SECTION 221313 - FACILITY SANITARY SEWERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes gravity-flow, nonpressure sanitary sewerage inside and outside the building, with the following components:
 - 1. Special fittings for expansion and deflection.
 - 2. Corrosion-protection piping encasement.

1.3 DEFINITIONS

- A. PVC: Polyvinyl chloride plastic
- B. ABS: Acrylonitrile Butadiene Styrene
- C. NPS: Nominal Pipe Size
- D. ASTM: American Society for Testing and Materials
- E. SDR: Standard Dimensional Ratio

1.4 PERFORMANCE REQUIREMENTS

- A. Gravity-Flow, Nonpressure, Drainage-Piping Pressure Rating: 10-foot head of water.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not store plastic pipe, and fittings in direct sunlight.
- B. Protect pipe, pipe fittings, and seals from dirt and damage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 PIPING MATERIALS

- A. Refer to Part 3.2 "Piping Applications" Article for applications of pipe, fitting, and joining materials.

2.3 ABS PIPE AND FITTINGS

- A. ABS Sewer Pipe and Fittings, NPS 15 and Smaller: ASTM D 2661, SDR 35, with bell-and-spigot ends for gasketed joints with ASTM F 477, elastomeric seals.

2.4 NONPRESSURE-TYPE PIPE COUPLINGS

- A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined and corrosion-resistant-metal tension band and tightening mechanism on each end.
- B. Sleeve Materials:
 - 1. For Concrete Pipes: ASTM C 443, rubber.
 - 2. For Cast-Iron Soil Pipes: ASTM C 564, rubber.
 - 3. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
 - 4. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.
- C. Shielded, Flexible Couplings: ASTM C 1460, elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.
 - 1. Manufacturers (or approved equal):
 - a. Charlotte Pipe Co.
 - b. NIBCO
 - c. Dallas Specialty & Mfg. Co.
 - d. Mission Rubber Company; a division of MCP Industries, Inc.

- D. Nonpressure-Type, Rigid Couplings: ASTM C 1461, sleeve-type reducing- or transition-type mechanical coupling molded from ASTM C 1440, TPE material with corrosion-resistant-metal tension band and tightening mechanism on each end.
 - 1. Manufacturers (or approved equal):
 - a. ANACO.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Excavating, trenching, and backfilling must meet the minimum construction requirements as specified in the CSI Master Format, OSHA, and City of Seattle building and safety regulations.

3.2 PIPING APPLICATIONS

- A. Pipe couplings and special pipe fittings with pressure ratings at least equal to piping rating may be used in applications below, unless otherwise indicated.
 - 1. Use nonpressure-type flexible couplings where required to join gravity-flow, nonpressure sewer piping, unless otherwise indicated.
 - a. Shielded flexible or rigid couplings for same or minor difference OD pipes.

3.3 PIPING INSTALLATION

- A. General Locations and Arrangements: Location and depth of piping layout has been identified by SHA. Install piping as indicated, to extent practical.
- B. Install piping, gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements.
- C. Use fittings for branch connections, unless direct tap into existing sewer is indicated.
- D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- E. Install gravity-flow, nonpressure, drainage piping according to the following:
 - 1. Install piping pitched down in direction of flow, to achieve the minimum slope required by AHJ.
 - 2. Install ABS sewer piping according to ASTM D 2235 and ASTM F 402.

- F. Clear interior of piping of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed. Place plug in end of incomplete piping at end of day and when work stops.

3.4 PIPE JOINT CONSTRUCTION

Basic piping joint construction is specified in Division 22 Section "Common Work Results for Plumbing" Where specific joint construction is not indicated, follow piping manufacturer's written instructions.

- A. Join gravity-flow, nonpressure, drainage piping according to the following:
 - 1. Join ABS sewer piping according to ASTM D 2235 and ASTM D 3034 for elastomeric-seal joints or ASTM D 3034 for elastomeric-gasket joints.
 - 2. Join dissimilar pipe materials with nonpressure-type, flexible or rigid couplings.

3.5 CONNECTIONS

- A. Connect nonpressure, gravity-flow drainage piping to building's sanitary building drains specified in Division 221316 Section "Sanitary Waste and Vent Piping."
- B. Make connections to existing piping.
 - 1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping.

3.6 IDENTIFICATION

Materials and their installation must meet the minimum construction requirements as specified in the CSI Master Format.

- 1. Use warning tape or detectable warning tape over ferrous piping.
- 2. Use detectable warning tape over nonferrous piping and over edges of underground manholes.

3.7 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.
 - 1. Defects requiring correction include but is not limited to the following:
 - a. Alignment: Less than full diameter of inside of pipe is visible between structures.

- b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
 - c. Crushed, broken, cracked, or otherwise damaged piping.
 - d. Infiltration: Water leakage into piping.
 - e. Exfiltration: Water leakage from or around piping.
- 2. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
- B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
 - 1. Do not enclose, cover, or put into service before inspection and approval.
 - 2. Test completed piping systems according to requirements of authorities having jurisdiction.
 - 3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
- C. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

3.8 CLEANING

- A. Clean interior of piping of dirt and superfluous material. Flush with potable water.

END OF SECTION 221313

SECTION 221316 - SANITARY WASTE AND VENT PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 01, Division 22000, and Division 221313 apply to this Section.

1.2 SUMMARY

- A. This Section includes sanitary drainage inside the building footprint up to a point 5'-0" outside the building and vent piping inside the building including:
 - 1. DWV Pipe and fittings.
 - 2. Special pipe fittings.

1.3 PERFORMANCE REQUIREMENTS

- A. Components and installation shall be capable of withstanding the following minimum working pressure, unless otherwise indicated:
 - 1. Soil, Waste, and Vent Piping: 10-foot head of water.

1.4 SUBMITTALS

- A. Contractor shall provide submittal package on each product installed related to the project. Submittals packages shall include the following:
 - 1. Project name.
 - 2. Date.
 - 3. Name and address of Contractor.
 - 4. Name and address of subcontractor.
 - 5. Name and address of supplier.
 - 6. Name of manufacturer.
 - 7. Submittal number or other unique identifier, including revision identifier.
 - a.) Submittal number shall use consecutively numbered submittals (001, 002, etc), followed by the Specification Section number, followed by a sequential number indicating version (e.g., 001-13 3300-0).
 - b.) Example: 001 – 01 1300 – 0
 - 1.) 001: Consecutively numbered submittals
 - 2.) 01 1300: Specification Section
 - 3.) 0: Version of submittal (0 = original submittal; 1 = first resubmittal; 2 = 2nd resubmittal; etc.)
 - 8. Number and title of appropriate Specification Section.
 - 9. Drawing number and detail references, as appropriate.
 - 10. Location(s) where product is to be installed, as appropriate.
 - 11. Other necessary identification.

- B. LEED Submittal:
 - 1. Product Data for Credit EQ 4.1: For solvent cements and adhesive primers, including printed statement of VOC content.
- C. Field quality-control inspection and test reports.

1.5 QUALITY ASSURANCE

- A. Piping materials shall bear label, stamp, or other markings of specified testing agency.
- B. Comply with NSF 14, "Plastics Piping Systems Components and Related Materials," for plastic piping components. Include marking with "NSF-DWV" for plastic drain, waste, and vent piping; and "NSF-drain" for plastic drain piping.

1.6 FIELD CONDITIONS

- A. Interruption of Existing Sanitary Waste Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
 - 1. Notify Owner no fewer than five-business days in advance of proposed interruption of sanitary waste service.
 - 2. Do not proceed with interruption of sanitary waste service without the Owner's written approval. Notices to tenants must be posted a minimum of 48-hours before any utility shutdowns take place.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

- A. Hub-and-Spigot, Cast-Iron Pipe and Fittings: ASTM A 74, Service class.
 - 1. Gaskets: ASTM C 564, rubber.
- B. Hubless Cast-Iron Pipe and Fittings: ASTM A 888 or CISPI 301.
 - 1. Shielded Couplings: ASTM C 1277 assembly of metal shield or housing, corrosion-resistant fasteners, and rubber sleeve with integral, center pipe stop.
 - a. Standard, Shielded, Stainless-Steel Couplings: CISPI 310, with stainless steel corrugated shield; stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve.
 - b. Heavy-Duty, Shielded, Stainless-Steel Couplings: With stainless-steel shield, stainless-steel bands and tightening devices, and ASTM C 564, rubber sleeve.

- C. Schedule 40 ABS Pipe: ASTM D 2661, solid-wall drain, waste, and vent.
 - 1. ABS Fittings: ASTM D 2661, drain, waste, and vent patterns.
 - 2. Solvent Cement and Adhesive Primer:
 - a. Use ABS solvent cement that conforms to ASTM D 2235. The joint is made while the solvent cement is still wet, and then rotate ¼-turn.
- D. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade A or B, Schedule 40, galvanized. Include ends matching joining method.
 - 1. Drainage Fittings: ASME B16.12, galvanized, threaded, cast-iron drainage pattern.
 - 2. Pressure Fittings:
 - a. Steel Pipe Nipples: ASTM A 733, made of ASTM A 53/A 53M or ASTM A 106, Schedule 40, galvanized, seamless steel pipe. Include ends matching joining method.
 - b. Malleable-Iron Unions: ASME B16.39; Class 150; hexagonal-stock body with ball-and-socket, metal-to-metal, bronze seating surface; and female threaded ends.
 - c. Gray-Iron, Threaded Fittings: ASME B16.4, Class 125, galvanized, standard pattern.
 - d. Cast-Iron Flanges: ASME B16.1, Class 125.
 - e. Cast-Iron, Flanged Fittings: ASME B16.1, Class 125, galvanized.
- E. CPVC Drainage Pipe and Fittings: ASTM F 2618 pipe and drainage-pattern fittings.
 - 1. Acceptable Manufacturers: Charlotte Chemdrain (Basis of Design)
 - 2. Solvent Cement for Joining CPVC Piping: ASTM F 493. Include primer according to ASTM F 656.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. Excavating, trenching, and backfilling must meet the minimum construction requirements as specified in the CSI Master Format, OHSA, and City of Seattle building and safety regulations.

3.2 PIPING APPLICATIONS

- A. Special pipe fittings with pressure ratings at least equal to piping pressure ratings may be used in applications below, unless otherwise indicated.
- B. Flanges and unions may be used on aboveground pressure piping, unless otherwise indicated.
- C. Aboveground, soil & waste piping shall be:

1. Schedule 40 ABS Pipe: ASTM D 2661, solid-wall drain, waste, and vent.
 2. ABS Fittings: ASTM D 2661, drain, waste, and vent pipe.
- D. Aboveground, vent piping shall be one of the following:
1. Hubless cast-iron soil pipe and fittings; standard, shielded, stainless-steel couplings; and hubless-coupling joints.
 2. Schedule 40 ABS Pipe: ASTM D 2661, solid-wall drain, waste, and vent. ABS fittings and solvent-cemented joints.
- E. Underground, soil, waste, and vent piping shall be one of the following:
1. Service class, hub-and-spigot, cast-iron soil pipe and fittings; gaskets; and compression joints.
 2. Schedule 40 ABS Pipe: Install to meet ASTM D 2661, solid-wall drain, waste, and vent.
 3. Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings: Install to meet criteria as outlined in ASTM D 3034-16.
- F. Sewage pump or sump pump discharge piping shall be one of the following:
1. Solid-wall Schedule 40 PVC pipe, PVC socket fittings, and solvent-cemented joints.
 2. Schedule 40 galvanized steel pipe with screwed galvanized cast iron drainage fittings.
- G. Single-Wall, Chemical-Waste Sewerage Piping: Use the following piping materials for each size range:
1. NPS 1-1/2 to NPS 4 (DN 40 to DN 100): CPVC drainage pipe and fittings and solvent-cemented joints.
- H. Underground, Double-Containment, and Chemical-Waste Sewerage Piping: Use the following piping materials for each size range:
1. NPS 2 to NPS 12 (DN 50 to DN 300): CPVC double-containment drainage pipe and fittings.
- I. Aboveground Chemical-Waste Piping: Use the following piping materials for each size range:
1. NPS 1-1/2 to NPS 6 (DN 40 to DN 150): CPVC drainage piping and solvent-cemented joints.
- J. PVC piping may not be installed in a return air plenum for any of the above piping applications unless piping is completely insulated in fire retardant insulation rated for return air plenums.

3.3 PIPING INSTALLATION

- A. Site sanitary sewer piping removal and replacement shall be to a point 5'-0" outside the building footprint or to existing clean out.
- B. Basic piping installation requirements are specified in Division 22 Section "Plumbing General Requirements."
- C. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."
- D. Install CPVC drainage piping according to ASTM D 2321 and ASTM F 1668.
- E. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn, double Y-branch and 1/8-bend fittings if 2 fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.
- F. Lay buried building drainage piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed.
- G. Install soil and waste drainage and vent piping at the following minimum slopes, unless otherwise indicated:
 - 1. Sanitary Drains: 2 percent downward in direction of flow for piping NPS 2 and 1 percent downward in direction of flow for piping NPS 3 and larger.
 - 2. Vent Piping: Slope toward vertical fixture vent or toward vent stack.
- H. Sleeves are not required for cast-iron soil piping passing through concrete slabs-on-grade if slab is without membrane waterproofing.
- I. Install PVC soil and waste drainage and vent piping according to ASTM D 2665 and ASTM D 2321.
- J. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

- K. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Division 22 Section "Common Work Results for Plumbing".
- L. Install sleeve seals for piping penetrations of concrete walls and slabs.
- M. Install escutcheons for piping penetrations of walls, ceilings, and floors.

3.4 VALVE INSTALLATION

- A. General-duty valves are specified in Division 22 Section "General-Duty Valves for Plumbing Piping."
- B. Shutoff Valves: Install shutoff valve on each sewage pump or sump pump discharge.
- C. Check Valves: Install swing check valve, downstream from shutoff valve, on each sewage pump or sump pump discharge.

3.5 JOINT CONSTRUCTION

- A. ABS DWV Piping Joints shall meet the following criteria:
 - 1. ABS DWV Piping shall be installed per manufacturers specifications.
 - 2. ABS pipe must be cut squared with a wheeled cutter, miter saw, or power saw designed for that use. Pipe ends must be deburred and wiped clean and dry.
 - 3. Apply solvent cement conforming to ASTM D 2235 to joint surfaces. The joint is made while the solvent cement is still wet, then rotate ¼-turn.
- B. Cast-Iron, Soil-Piping Joints: Make joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."
 - 1. Gasketed Joints: Make with rubber gasket matching class of pipe and fittings.
 - 2. Hubless Joints: Make with rubber gasket and sleeve or clamp.
- C. Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings:
 - 1. Solvent Joints: Install to meet criteria as outlined in ASTM D 2855.
 - 2. Gasketed Joints (Elastomeric Seals): Install to meet criteria as outlined in ASTM F 477.

3.6 HANGER AND SUPPORT INSTALLATION

- A. Pipe hangers and shall be installed to meet the following criteria:
 - 1. Vertical Piping: MSS Type 8 or Type 42, clamps.
 - 2. Individual, Straight, Horizontal Piping Runs: According to the following:
 - a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
 - b. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.
 - c. Longer Than 100 Feet, if Indicated: MSS Type 49, spring cushion rolls.
 - 3. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
 - 4. Base of Vertical Piping: MSS Type 52, spring hangers.
- B. Install supports according piping manufacturers specifications and local Codes.
- C. Support vertical piping and tubing at base and at each floor.
- D. Install piping hangers and rod diameters per MSS-SP-69
- E. Install supports for vertical cast-iron soil piping every 15 feet.
- F. Install supports for vertical steel piping every 15 feet.
- G. Install supports for vertical CPVC piping every 48 inches.
- H. Install supports for vertical ABS piping every 48 inches.
- I. Support piping and tubing according to MSS SP-69 and manufacturer's written instructions.

3.7 CONNECTIONS

- A. Connect soil and waste piping to exterior sanitary sewerage piping. Use transition fitting to join dissimilar piping materials.
- B. Connect drainage and vent piping to the following:
 - 1. Plumbing Fixtures: Connect drainage piping in sizes indicated, but not smaller than required by plumbing code
 - 2. Plumbing Fixtures and Equipment: Connect atmospheric vent piping in sizes indicated, but not smaller than required by authorities having jurisdiction.
 - 3. Plumbing Specialties: Connect drainage and vent piping in sizes indicated, but not smaller than required by plumbing code.

4. Equipment: Connect drainage piping or pump discharge piping as indicated. Provide shutoff valve, if indicated, and union for each connection. Use flanges instead of unions for connections NPS 2-1/2 and larger.

3.8 FIELD QUALITY CONTROL

- A. During installation, notify authorities having jurisdiction at least 24 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.
 1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in and before setting fixtures
 2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.
- B. Re-inspection: If authorities having jurisdiction find that piping will not pass test or inspection, make required corrections and arrange for re-inspection.
- C. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.
- D. Test sanitary drainage and vent piping according to procedures of authorities having jurisdiction or in absence of published procedures, as follows:
 1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
 2. Leave uncovered and unconcealed new, altered, extended, or replaced drainage piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.
 3. Test Procedure: Test drainage piping on completion of roughing in. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water. From 15 minutes before inspection starts to completion of inspection, water level must not drop. Inspect joints for leaks.
 - a. Flow test may be adequate. Coordinate appropriate testing method with AHJ.
 4. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
 5. Prepare reports for tests and required corrective action.

3.9 CLEANING

- A. Clean interior of piping. Remove dirt and debris as work progresses.

- B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.
- C. Place plugs in ends of uncompleted piping at end of day and when work stops.

3.10 PROTECTION

- A. Exposed PVC Piping: Protect PVC piping exposed to sunlight with two coats of water-based latex paint.

END OF SECTION 221316

SECTION 315000 - EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes temporary excavation support and protection systems.

1.2 PERFORMANCE REQUIREMENTS

- A. Furnish, install, monitor, and maintain excavation support and protection system capable of supporting excavation sidewalls and of resisting soil and hydrostatic pressure and superimposed and construction loads.
 - 1. Install excavation support and protection systems without damaging existing buildings, pavements, and other improvements adjacent to excavation.

1.3 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Owner and then only after arranging to provide temporary utility services according to requirements indicated.

PART 2 - PRODUCTS

2.1 (NOT USED)

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection system operations.
 - 1. Shore, support, and protect utilities encountered.
- B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

- C. Monitor excavation support and protection systems daily during excavation progress and for as long as excavation remains open. Promptly correct bulges, breakage, or other evidence of movement to ensure that excavation support and protection systems remain stable.
- D. Promptly repair damages to adjacent facilities caused by installing excavation support and protection systems.

3.2 REMOVAL AND REPAIRS

- A. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and bear soil and hydrostatic pressures. Remove in stages to avoid disturbing underlying soils or damaging structures, pavements, facilities, and utilities.

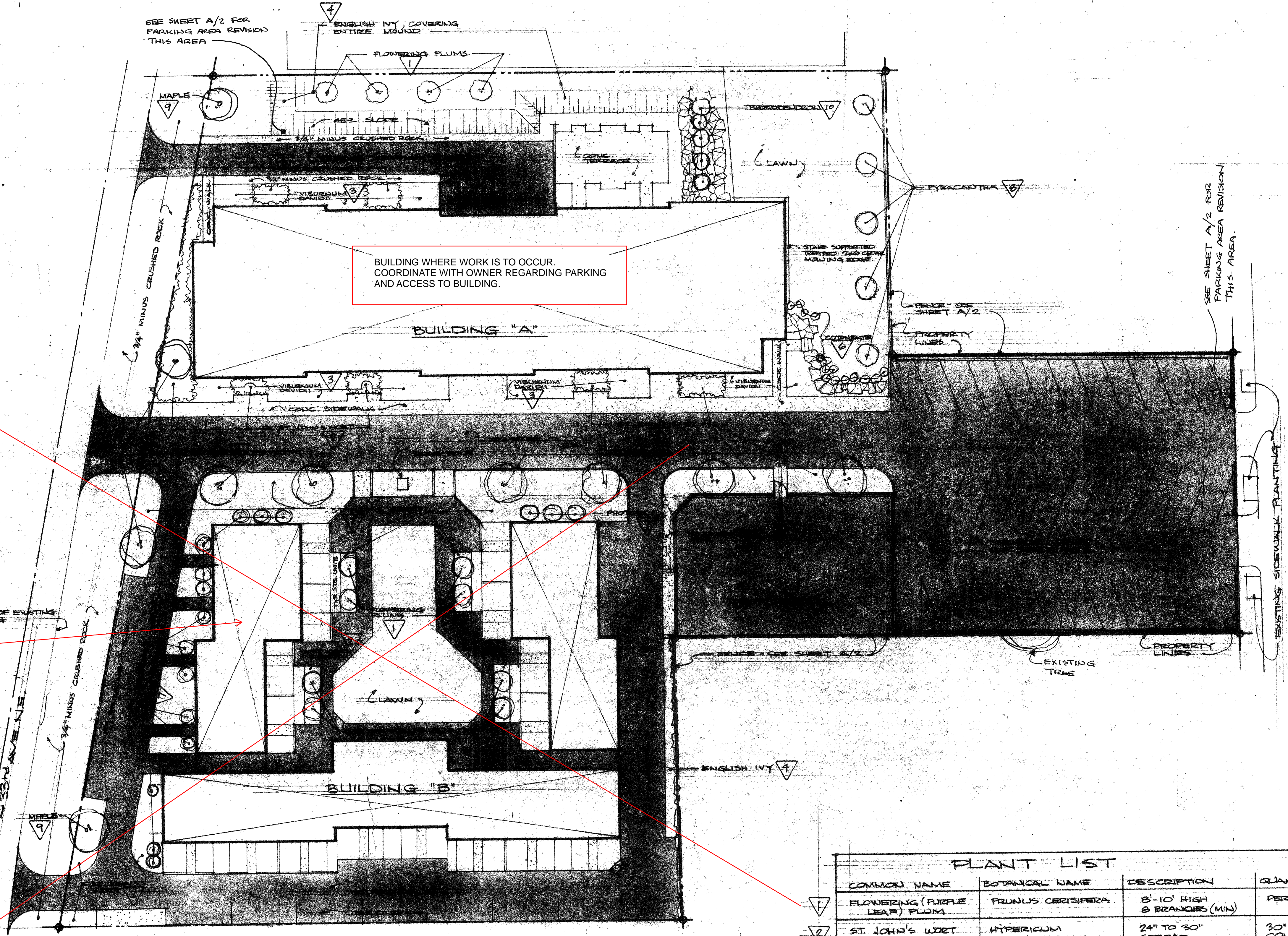
END OF SECTION 315000

LAKE CITY HOUSE KITCHEN DRAIN REPLACEMENT PROJECT:
SEATTLE HOUSING AUTHORITY:

PROJECT MANAGER: RICKY PHILLIPS - 206 615 3530

LOCATION:
12546 33RD AVENUE NW:

This Building is not included in contract



LANDSCAPE PLAN - 1" = 20'-0"
SHOWING LIMITS OF ASPHALTIC CONCRETE PAVING (SHADED AREA)

PLANT LIST			
COMMON NAME	BOTANICAL NAME	DESCRIPTION	QUANTITY
1 FLOWERING (PURPLE LEAF) PLUM	PRUNUS CERISIFERA	8'-10' HIGH 8 BRANCHES (MIN)	PER PLAN (12)
2 ST. JOHN'S WORT	HYPERICUM MOSELIANUM	24" TO 30" SPREAD	30' O.C., TO COVER
3	VIBURNUM DAVIDII	24" TO 30" SPREAD	20' O.C., TO COVER
4 ENGLISH IVY	HEDERA HELIX	MIN. 2 RUNNERS X 4" TO 6" LONG	10' O.C., TO COVER
5 JUNIPER TAM	JUNIPERUS SABINA TAMARISIFOLIA	24" TO 30" SPREAD	PER PLAN, TO COVER
6 ROCKSPRAY COTONEASTER	COTONEASTER MICROPHYLLA	24" TO 30"	PER PLAN, (15)
7 JAPANESE PHOTINIA	PHOTINIA GLABRA		PER PLAN (13)
8 FIRETHORN	PYRACANTHA COCCINEA	8'-10' HIGH	PER PLAN (5)
9 SUGAR MAPLE	ACER SACCHARUM	8'-10' HIGH	PER PLAN (10)
10 RHODODENDRON	TO BE SELECTED FROM AVAILABLE STOCK	3'-4' HIGH	PER PLAN (5)

DATE: APRIL 1, 1970
CHKD
SCALE: AS NOTED
AS BUILT REVISIONS

LEE A. CROWTHERS & ASSOCIATES
ARCHITECTS - PLANNING CONSULTANTS
1315 N.E. RAVENNA BLVD. SEATTLE, WASHINGTON LA 3-0781

REGISTERED ARCHITECT
STATE OF WASHINGTON

LEE A. CROWTHERS
ARCHITECT

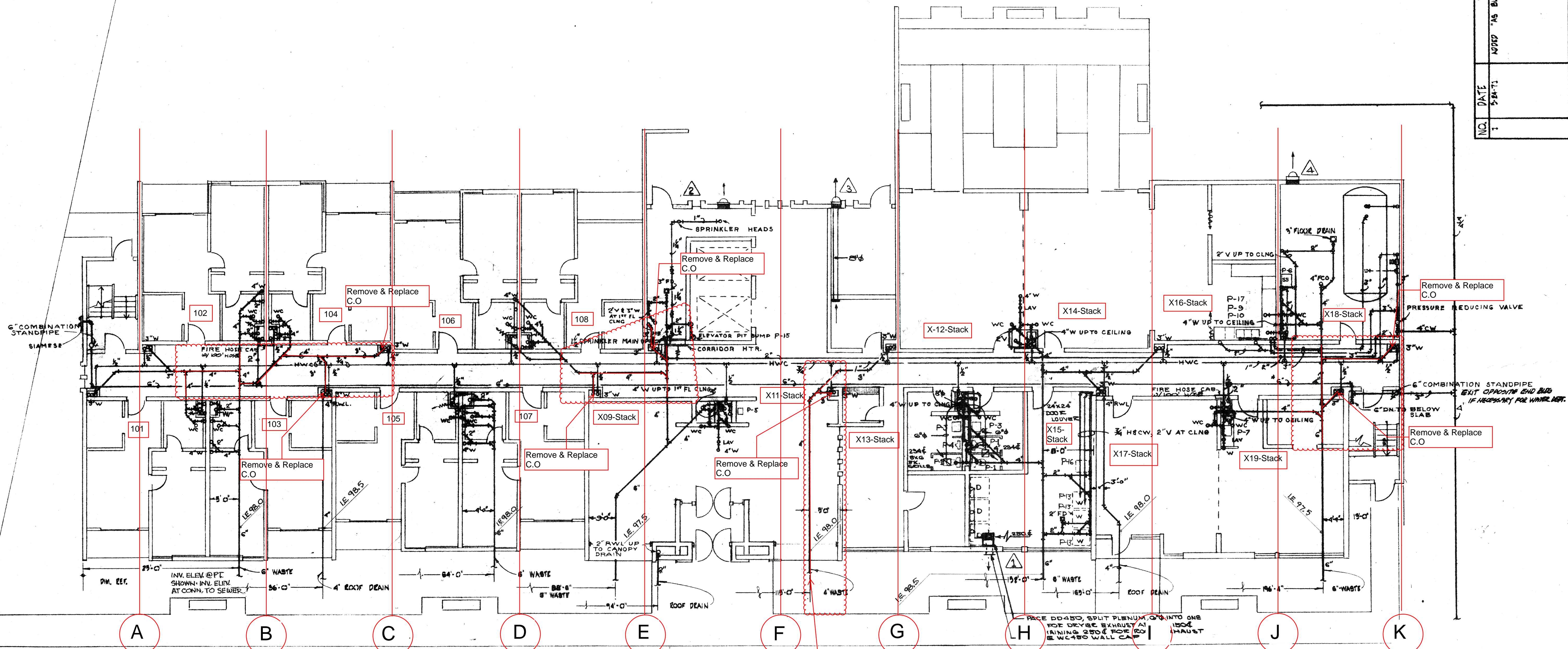
PROJECT: WASH 1-25
SEATTLE (LAKE CITY)
HOUSING FOR THE ELDERLY & LOW INCOME FAMILIES
FOR THE SEATTLE HOUSING AUTHORITY
FRED PETERSON - DEVELOPER

LANDSCAPE PLAN

A

3

JOB NO.
68058



DATUM:
ASSUMED 1ST FLOOR SLAB
= 100 FEET
INV. ELEV. TO NEAREST .5 FOOT

NOTE: RED CLOUDED AREAS DEPICT AREAS WHERE WORK IS TO OCCUR. WITHIN THESE AREAS EXISTING VCT FLOORING WILL NEED TO BE REMOVED, CONCRETE SLAB WILL NEED TO BE CUT AND REMOVED TO EXPOSE KITCHEN DRAIN LINES.

NOTE: SLAB IS PRESUMED TO BE 8-INCHES THICK.

NOTE: EXISTING ELECTRICAL CONDUIT RUN IS IN CORRIDOR AND IS DIRECTLY UNDER CONCRETE SLAB. TAKE NECESSARY PRECAUTIONS WHEN DEMOING CONCRETE SLAB.

Install new C.O. within five-feet of building exterior and connect to existing side sewer. New C.O. to have yard box with identifying lid.

* NOTE
6" COMBINATION FIRE MAIN PIPING BETWEEN STAIRWELL RISERS TO BE BELOW 1ST FLOOR CORRIDOR SLAB

EQUIPMENT SCHEDULE							
SYM.	MFG.	EQUIP.	LOCATION	C.F.M.	S.P.	H.P.	MISC.
▲	PAGE MFG. CO.	PAGE D480 EX. FAN	WASHER & DRYER ROOM	450	1/4"	180WHP	115/1/0 1/2" WC480 WALL CAP
▲	ACME ENG. & MFG. CO.	ACME PW75 EX. FAN	GARBAGE ROOM	250	0"	1/20	115/1/0 1/2" BACKDRAFT DAMPER
▲	" " " "	ACME PW72 EX. FAN	METER ROOM	150	1/8"	1/40	115/1/0 " " " "
▲	" " " "	ACME PW73 EX. FAN	MECHANICAL ROOM	400	0"	1/40	115/1/0 " " " "
▲	PAGE MFG. CO.	PAGE A22 EX. FAN	CORRIDOR SUPPLY FAN	7000	3/4"	2	220/3/0 * LOCATED ON ROOF, NOT SHOWN THESE DRAWINGS
▲	" " "	PAGE CEE II EX. FAN	BATH ROOM CENTRAL EX. FAN	1200	3/8"	1/2	115/1/0 SEE SHEET M-5
▲	NUTONE MFG. CO.	NUTONE 5570 EX. FAN	BATH ROOM EX. FAN	55			115/1/0 4 BATHROOM UNITS ONLY, NOT SHOWN ON THESE DRAWINGS

- SHEET NOTES**
- 1 ACCESS TO DUCT CHASE REQ'D FOR SERVICING ELECT. DUCT HEATERS & FIRE DAMPERS
 - 2 EXTRACTOR REQ'D AT EACH LEVEL
 - 3 CORRIDOR MAKE UP AIR HTS. COIL, MAIN FLOOR 30X12 18KW, 220/3/0, INDOSCO CO.
" " " " " " TYPICAL FLOOR 24X10 14KW, 220/3/0 " " " "
 - 4 SUPPLY REGISTERS: TITUS & BAILEY T-64 CORRIDOR 1ST FLOOR 30X12
EXHAUST GRILLE " " " " T-647 BATH ROOMS 24X10
" " " " " " TYP. FLOORS 24X10

MAIN FLOOR PLAN - BLDG. "A" - 1/8" = 1'-0"
NOTE: COMBINATION STANDPIPE AS SHOWN IS VOID - SEE DWG "M6A"

NO.	DATE	REVISION	BY	CHKD.	DATE	SCALE	NOTED
1	12-24-75						

LEE A. CROWTHERS & ASSOCIATES

ARCHITECTS - PLANNING CONSULTANTS

1315 N.E. RAVENNA BLVD. SEATTLE, WASHINGTON 98101

PROJECT - WASH 1-25

HOUSING FOR THE ELDERLY & LOW INCOME FAMILIES

FOR THE SEATTLE HOUSING AUTHORITY

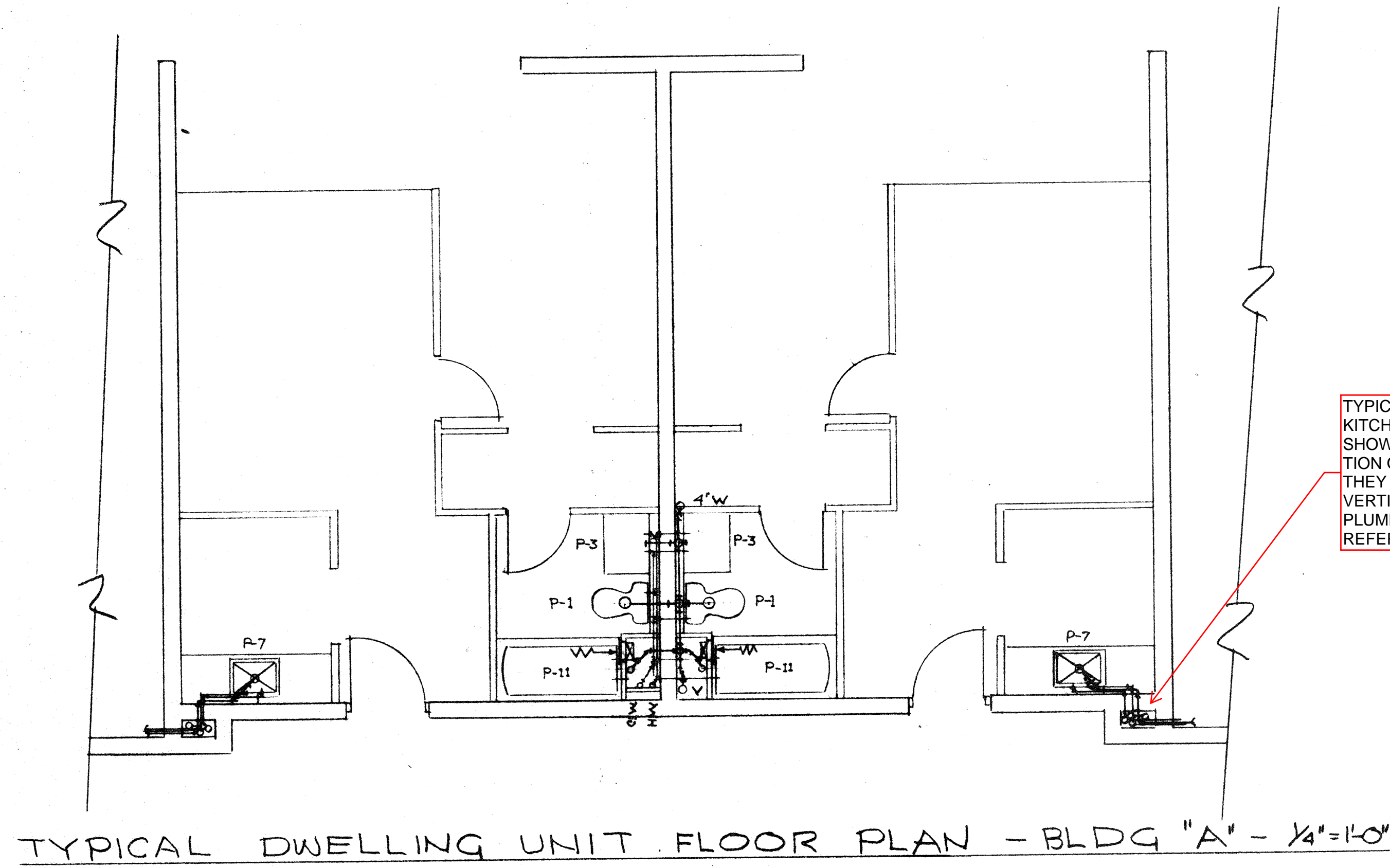
FRED PETERSON - DEVELOPER

MAIN FLOOR PLAN - BLDG. "A"

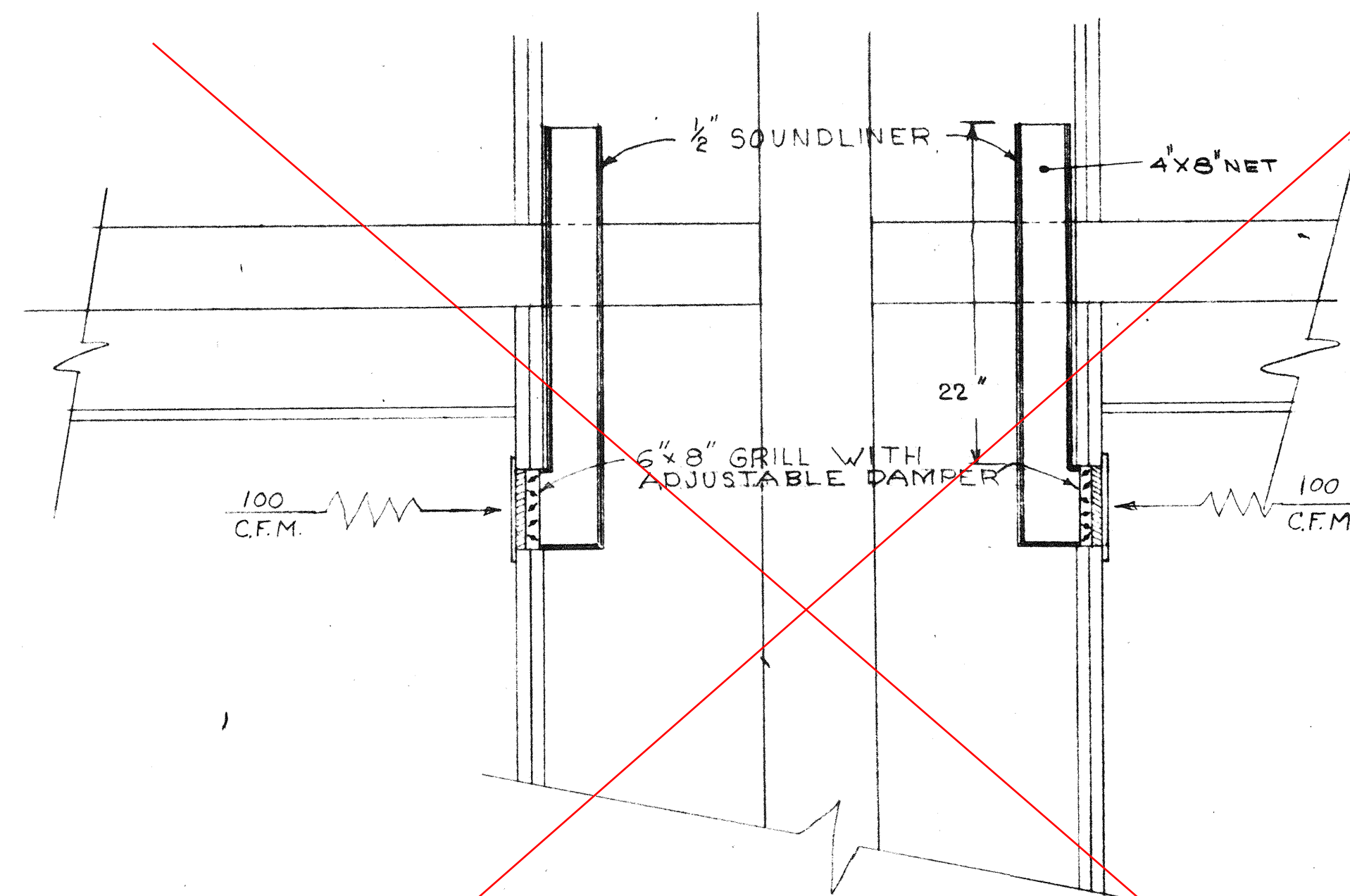
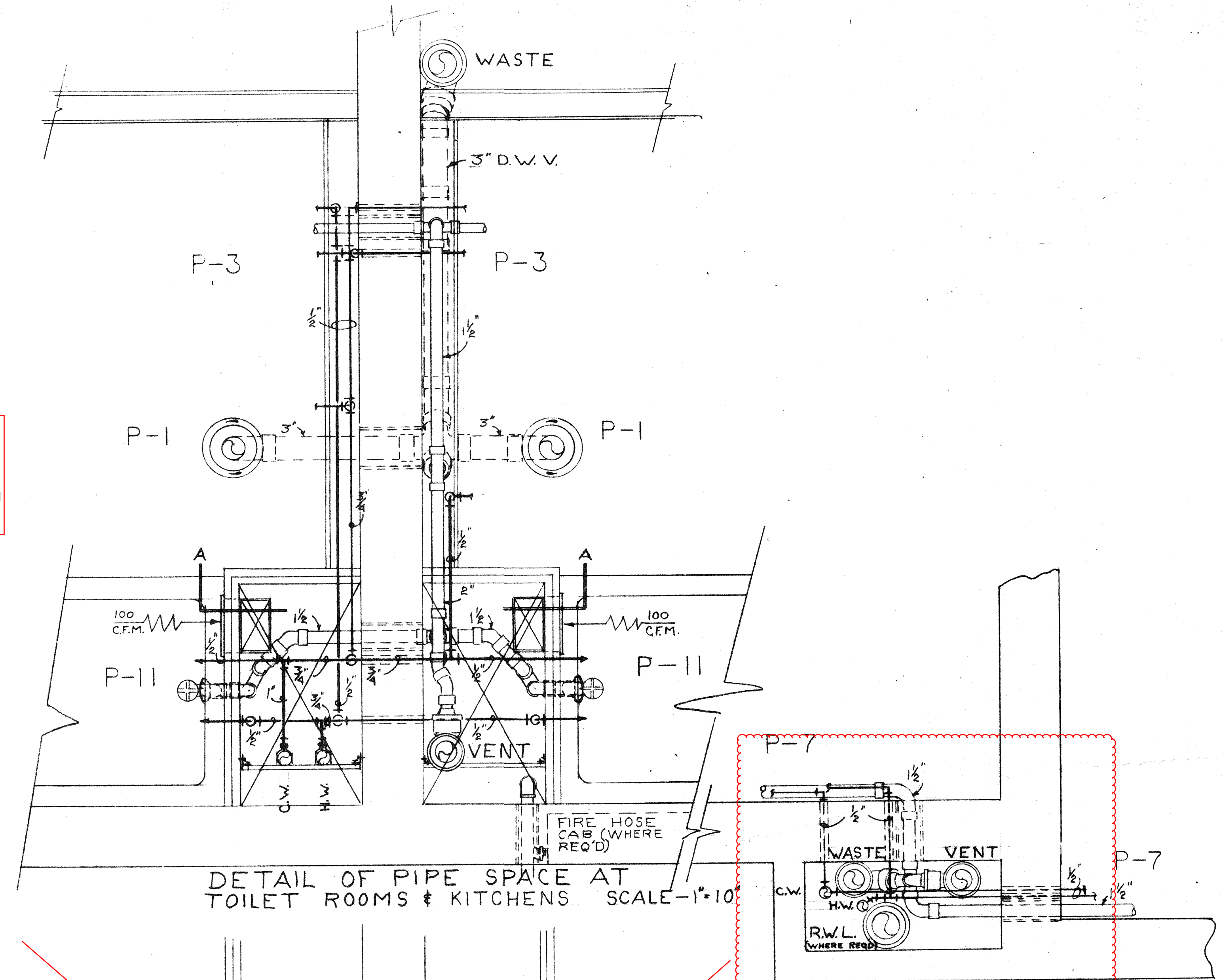
M

2

JOB NO. 68056



TYPICAL DETAIL OF KITCHEN DRAINS SHOWING LOCATION OF SINK AS THEY CONNECT TO VERTICAL STACK IN PLUMBING CHASE; REFERENCE ONLY



DRAWN JLF
DATE APRIL 1, 1970
CHKD GJA
SCALE: NOTED

LEE A. CROWTHERS & ASSOCIATES
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1315 N.E. RAVENNA BLVD. SEATTLE, WASHINGTON LA 3-0781



PROJECT WASH 1-25
SEATTLE (LAKE CITY)
HOUSING FOR THE ELDERLY & LOW INCOME FAMILIES
FOR THE SEATTLE HOUSING AUTHORITY
FRED PETERSON - DEVELOPER
TYPICAL UNIT PLAN & DETAILS - BLDG "A"

M 4
JOB NO. 68053