

SECTION 220001

PLUMBING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS, which are hereby made a part of this Section of the Specifications.
- B. Time, Manner and Requirements for Submitting Sub-Bids:
 - 1. Sub bids for work under this Section shall be for the complete work and shall be filed in a sealed envelope with the Massachusetts Trial Court at a time and place as stipulated in the "NOTICE TO CONTRACTORS".

The following should appear on the upper left hand corner of the envelope:

NAME OF TRADE BIDDER: (Insert name of Trade bidder)

MASS. STATE PROJECT: TRC 1704

TRADE BID FOR SECTION: 220001 – PLUMBING WORK

- 2. Each bid submitted for work under this Section shall be on forms furnished by the Division of Capital Asset Management as required by Section 8 of Chapter 149A of the General Laws, as amended. Bid forms may be obtained at the office of the Massachusetts Trial Court, or may be obtained by written or telephone request; telephone (617) 725-3177.
 - 3. Sub bids filed with the Massachusetts Trial Court shall be accompanied by BID BOND or CASH or CERTIFIED CHECK or TREASURER'S CHECK or CASHIER'S CHECK issued by a responsible bank or trust company payable to the Commonwealth of Massachusetts in the amount of five percent of the bid. A bid accompanied by any other form of bid deposit than those specified will be rejected.
- C. Sub Sub-Bid Requirements: None
 - D. Reference Drawings: The Work of this Trade Bid is shown on the following Contract Drawings:
 - PD-1 Plumbing Demolition Plan
 - P-1 Plumbing Plan

1.02 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Disconnect and Removal of existing Toilets and lavatory
 2. New Plumbing Fixtures.
 3. New Waste / Vent piping to fixtures.
 4. Hangers, supports and attachments.
 5. Coordination drawings and record drawings and similar requirements.
- B. Alternates: Not Applicable.
- C. Items To Be Installed Only: Install the following items as furnished by the designated Sections: N/A
- D. Items To Be Furnished Only: Furnish the following items for installation by the designated Sections: N/A
- E. Related Work: The following items are not included in this Section and will be performed under the designated Sections:
1. Section 033000- Cast in Place Concrete
 2. Section 042000- Unit Masonry
 3. Section 079200 – Joint Sealants.
- F. Perform work and provide material and equipment as shown on Drawings and as specified or indicated in this Section of the Specifications. Completely coordinate work of this Section with work of other trades and provide a complete and fully functional installation.
- G. Drawings and Specifications form complimentary requirements; provide work specified and not shown, and work shown and not specified as though explicitly required by both. Although work is not specifically shown or specified, provide supplementary or miscellaneous items, appurtenances, devices and materials obviously necessary for a sound, secure and complete installation.
- H. Give notices, file plans, obtain permits and licenses, pay fees and back charges, and obtain necessary approvals from authorities that have jurisdiction as required to perform work in accordance with all legal requirements and with Specifications, Drawings, Addenda and Change Orders, all of which are part of Contract Documents.

1.03 SUBMITTALS

- A. Comply with requirements specified in Section 013300 – SUBMITTAL REQUIREMENTS.
- B. Material and equipment requiring Shop Drawing Submittals shall include but not be limited to:
1. Plumbing fixtures and trim.
 2. Piping.
 3. Fittings,

1.04 DEFINITIONS

- A. As used in this Section, "provide" means "furnish and install" and "POS" means "Provided Under Other Sections". "Furnish" means "to purchase and deliver to the project site complete with every necessary appurtenance and support," and "Install" means "to unload at the delivery point at the site and perform every operation necessary to establish secure mounting and correct operation at the proper location in the project."

1.05 CONTRACT DOCUMENTS

- A. Listing of Drawings does not limit responsibility of determining full extent of work required by Contract Documents. Refer to Architectural, HVAC, Plumbing, Electrical, Structural, and other Drawings and other Sections that indicate types of construction in which work shall be installed and work of other trades with which work of this Section must be coordinated.
- B. Drawings are diagrammatic. They are not intended to be absolutely precise; they are not intended to specify or to show every offset, fitting, and component. The purpose of the drawings is to indicate a systems concept, the main components of the systems, and the approximate geometrical relationships. Based on the systems concept, the main components, and the approximate geometrical relationships, the contractor shall provide all other components and materials necessary to make the systems fully complete and operational.

1.06 DISCREPANCIES IN DOCUMENTS

- A. Where Drawings or Specifications conflict or are unclear, advise Designer in writing before Award of Contract. Otherwise, Designer's interpretation of Contract Documents shall be final, and no additional compensation shall be permitted due to discrepancies or unclarity thus resolved.
- B. Where Drawings or Specifications do not coincide with manufacturers' recommendations, or with applicable codes and standards, alert Designer in writing before installation. Otherwise, make changes in installed work as Designer requires within Contract Price.
- C. If the required material, installation, or work can be interpreted differently from drawing to drawing, or between drawings and specs, this contractor shall provide that material, installation, or work which is of the higher standard.
- D. It is the intent of these contract documents to have the contractor provide systems and components that are fully complete and operational and fully suitable for the intended use. There may be situations in the documents where insufficient information exists to precisely describe a certain component or subsystem, or the routing of a component. In cases such as this, where the contractor has failed to notify the Designer of the situation in accordance with Paragraph (A) above, the contractor shall provide the specific component or subsystem with all parts necessary for the intended use, fully complete and operational, and installed in workmanlike manner either concealed or exposed per the design intent.
- E. In cases covered by Paragraph (D) above, where the contractor believes he needs engineering guidance, he shall submit a sketch identifying his proposed solution and the Designer shall review, note if necessary, and approve the sketch.

1.07 MODIFICATIONS IN LAYOUT

- A. Plumbing Drawings are diagrammatic. They indicate general arrangements of mechanical and electrical systems and other work. They do not show all offsets required for coordination nor do they show the exact routings and locations needed to coordinate with structure and other trades and to meet Architectural requirements.
- B. In all spaces, prior to installation of visible material and equipment, including access panels, review Architectural Drawings for exact locations and where not definitely indicated, request information from Designer.
- C. Check Contract Drawings as well as Shop Drawings of all subcontractors to verify and coordinate spaces in which work of this Section will be installed.
- D. Maintain maximum headroom at all locations. All piping and associated components to be as tight to underside of structure as possible.
- E. Make reasonable modifications in layout and components needed to prevent conflict with work of other trades and to coordinate according to Paragraphs A, B, C, D above. Systems shall be run in a rectilinear fashion.
- F. Where conflicts or potential conflicts exist and engineering guidance is desired, submit sketch of proposed resolution to Designer for review and approval.

1.08 SITE VISIT

- A. Before submitting bid, visit and carefully examine site to identify existing conditions and difficulties that will affect work of this Section.

1.09 EXISTING CONDITIONS AND PREPARATORY WORK

- A. Before starting work in a particular area of the project, visit site and examine conditions under which work must be performed including preparatory work done under other Sections or Contracts or by User Agency. Report conditions that might affect work adversely in writing through Contractor to Designer. Do not proceed with work until defects have been corrected and conditions are satisfactory. Commencement of work shall be construed as complete acceptance of existing conditions and preparatory work.

1.10 CODES, STANDARDS, AUTHORITIES AND PERMITS

- A. Perform work strictly as required by rules, regulations, standards, codes, ordinances, and laws of local, state, and Federal governments, and other authorities that have legal jurisdiction over the site. Materials and equipment shall be manufactured, installed and tested as specified in latest editions of applicable publications, standards, rulings and determinations of:
 - 1. Local and state building, plumbing, mechanical, codes.
 - 2. Occupational Safety and Health Act (OSHA).
 - 3. Underwriters' Laboratories (UL).
- B. When requirements cited in this Specification conflict with each other or with Contract Documents, most stringent shall govern work. Designer may relax this requirement when such relaxation does not violate ruling of authorities that have jurisdiction. Approval for such relaxation shall be obtained in writing.

1.11 GUARANTEE AND 24 HOUR SERVICE

- A. Guarantee Work of this Section in writing for one year following the date of beneficial occupancy by the User Agency. If the equipment is used for ventilation, temporary heat, etc. prior to initial beneficial occupancy by the User Agency, the bid price shall include an extended period of warranty covering the one-year of occupancy, starting from the initial date of beneficial occupancy by the User Agency. The guarantee shall repair or replace defective materials, equipment, workmanship and installation that develop within this period, promptly and to Designer's satisfaction and correct damage caused in making necessary repairs and replacements under guarantee within Contract Price.

1.12 RECORD DRAWINGS

- A. Comply with requirements specified in Section 017700 – CONTRACT CLOSEOUT.
- B. Drawings shall show record condition of details, sections, riser diagrams, control changes and corrections to schedules. Schedules shall show actual manufacturer and make and model numbers of final equipment installation.

1.13 BULLETINS, MANUALS, AND OPERATING INSTRUCTIONS, AND PROTECTION

- A. Furnish three copies of manuals to Designer for approval and distribution to Trial Court Project Manager. Deliver manuals no less than 30 days prior to acceptance of equipment to permit User Agency's personnel to become familiar with equipment and operation prior to acceptance.
- B. Operating instructions: Upon completion of installation or when Trial Court Project Manager accepts portions of building and equipment for operational use, instruct User Agency's operating personnel in any or all parts of various systems. Instructions shall be performed by factory-trained personnel. User Agency shall determine which systems require additional instructions. Duration of instructions shall take equipment through complete cycle of operation (at least five working days). Make adjustments under operating conditions.
- C. Each contractor shall be responsible for his work and equipment until finally inspected, tested, and accepted. Carefully store materials and equipment which are not immediately installed after delivery to site. Close open ends of work with temporary covers or plug during construction to prevent entry of obstructing material.
- D. Each separate contractor shall protect the work and material of other trades that might be damaged by his work or workmen and make good all damage thus caused.

1.14 COORDINATION DRAWINGS

- A. Refer to Section 013100 – PROJECT MANAGEMENT AND COORDINATION for coordination drawing requirements.

PART 2 - PRODUCTS

2.01 PIPE FITTINGS AND JOINTS

A. General

1. Pipe and fittings shall conform to the latest ANSI, ASTM, NFPA and AWWA Standards including latest amendments.
2. Each length of pipe, each pipe fitting, trap, material and/or device used in the respective system shall have cast, stamped or indelibly marked on it, the maker's name or mark, weight and quality of the product when such marking is required by the approved standard that applies.
3. Piping and fittings shall be factory coated.

B. Sanitary Drainage Piping Below Floor (Soil, Waste and Vent)

1. Piping below floor shall be service weight cast iron hub and spigot.
2. Joints in cast iron soil piping below ground shall be code approved compression type, made with rubber gaskets conforming to ASTM Specification C564. Joints in cast iron soil pipe and fittings using a double seal, compression type molded neoprene gasket shall be provided with a modified hub as required to provide a positive seal. No hub pipe will not be allowed below ground. (Adhesive type lubricant shall be used with the resilient gaskets on pipes 5" and larger).

C. Sanitary Drainage Piping Above Floor (Soil, Waste, and Vent)

1. Piping 2" and larger shall be no-hub service weight cast iron soil pipe except at urinals and cleanouts and joints just prior to exiting the building which shall be service weight hub and spigot with lead and oakum joints.
2. Piping 2" and smaller shall be type "L" copper.
3. Couplings for joining no-hub cast iron soil pipe: Couplings shall have a shield constructed of corrugated 304 stainless steel and provide a shield thickness of 0.16 inches or greater. Shield shall be a minimum width of 3 inches for pipe sizes 1-1/2 inch through 4 inch, and a minimum width of 4 inches for pipe sizes 5 inch through 10 inches. Couplings with at least 4 sealing bands shall require 80 inch pounds of torque per band. Tightening screws shall be 3/8 inch hexagon head. Couplings with only 2 sealing bands on sizes 1-1/2 inch through 4 inches shall require 125 inch pound of torque per band. Gaskets shall be neoprene rubber conforming to ASTM C-564.
4. Joints in copper tubing except as otherwise specified herein shall be made according to manufacturer's specifications using sweat fitting and lead free solder and non-corrosive flux.
5. Connections between earthenware of any fixture and flanges in soil and waste piping shall be made absolutely gas and watertight with closet setting compounds and gaskets which must be absolutely gas and fireproof, watertight, stainproof, containing neither oil nor asphaltum and which will not rot, harden or dry under any extreme climatic change, and must adhere on wet surfaces.

D. Water Piping (Domestic)

1. Above Ground

- a. 2-1/2 inches and smaller shall be hard drawn Type L copper with wrought or cast copper fittings.
- b. Joints in copper tubing except as otherwise specified herein shall be made according to manufacturer's specifications using sweat fitting and lead free solder and non-corrosive flux.
- c. Provide galvanized malleable iron unions, with bronze facings conforming to ANSI B16.39 for sizes 2 inch and smaller.

E. Unions and Flanges

1. Unless otherwise specified herein, unions for copper and brass piping two inches and smaller in diameter shall be 125 SWP, bronze body brass ground joint type. Those larger than two inches in diameter shall be 150 SWP flat faced cast brass flanges conforming to ANSI Standard B16.24.
2. Where brass flanges and ferrous flanges are to be joined, ferrous flanges shall be full faced.
3. Mating of ferrous and non-ferrous flanges shall be separated with rubber gaskets (1/16 inch minimum thickness) and teflon liners installed in the bolt holes. Bolt holes shall be drilled to receive the teflon lines. Physical contact between the ferrous and non-ferrous flanges including the bolts, nuts and washers will not be permitted.
4. Unions for ferrous piping shall be of the same material as the piping to which they connect.

2.02 VALVES AND SUNDRIES

A. General

1. Manufacturer: Subject to compliance with requirements, provide products from one of the manufacturers listed.
2. Sizes: Same size as upstream pipe, unless otherwise indicated.
3. End Connections: As indicated in the valve specifications.
 - a. Threads: Comply with ANSI B1.20.1.
 - b. Flanges: Comply with ANSI B15.1 for cast iron, ANSI B16.5 for steel, and ANSI B16.24 for bronze valves.
 - c. Solder-Joint: Comply with ANSI B16.18.
 - 1) Caution: Where soldered end connections are used, use solder having a melting point below 840 deg. F for gate, globe, and check valves; below 421 deg F for ball valves.

B. Gas Ball Valves: Ball valves shall be the fire seal type, conforming to UL 842 and UL 125.

1. Valves shall be rated for service at not less than 200 psi at 200 degrees F.
2. Valve bodies in sizes 1 inch ips and smaller shall be screwed end type constructed of ductile iron, carbon steel, or cast steel.

3. Valve bodies in sizes 1 1/4 inch psi and larger shall be flanged end type constructed of ductile iron, carbon steel, or cast steel unless otherwise specified.
 4. Valve bodies shall have socket weld ends or butt weld ends where indicated to be welded, and body shall be constructed of carbon steel or cast steel.
 5. Balls and stems shall be Type 316 corrosion resistant steel.
 6. Valves shall be suitable for flow from either direction and shall seal tightly in either direction.
 7. Valves shall have full pipe size flow areas where indicated.
 8. Valve seats and seals shall be tetrafluoroethylene; seats shall have secondary corrosion resistant steel seating surfaces to effect shutoff should resin be burned out.
- C. Gas Line Pressure Regulators: Single stage, steel jacketed, corrosion-resistant gas pressure regulators; with atmospheric vent, elevation compensator; with threaded ends for 2 inch and smaller, flanged ends for 2-1/2 inch and larger; for inlet and outlet gas pressures, specific gravity, and volume flow indicated

2.03 General

Provide pipe stands, supports, hangers and other supporting appliances as necessary to support work required by Contract Documents. All components of the hanger support system shall comply with the standards set forth in MSS-SP58 and MSS-SP69 (Manufacturers Standardization Society) latest publication.

2.04 PLUMBING FIXTURES

- A. In general, the work of this Article shall include, but not be limited to:
- B. Fixtures and Trim
1. Acceptable Manufacturers: Submit manufacturers not listed below for review and approval as specified for substitutions in Article Quality Assurance in this Section.
 2. P-Traps: Cast brass adjustable P-trap with cleanout plug, ground joint and 17 gage minimum weight extension with escutcheon.
 3. Stops and Supplies: Provide stops and supplies of the same manufacturer as the fixture or faucet trim.
 4. Fixture Supports: Provide floor mounted fixture support carriers for wall mounted fixtures including but not limited to: water closets, lavatories, scrub sinks, urinals, and clinical sinks.
- C. Fixture Description
1. P-1. Water Closet (ADA Compliant), Equal to American Standard Medera Flowise 3043.001 vitreous china floor mounted, white, elongated wall outlet water closet, 1.28 GPF, 1-1/2" top spud. American Standard Extra heavy duty solid plastic seat with check hinges (open front). 1.28 gpf exposed manual flush valve. Mount in accordance with architectural barriers board.
 2. P-2 Countertop Top Basin (Barrier free) : American Standard Ovalyn # 9482.00 or equal , ASME A112.19.2, vitreous china rimless undercounter lavatory,

19.25"x15.75" with drillings on 4" centers, front overflow, 1 1/4" outlet and a seal of caulking. Chrome Plated brass grid strainer w/ 1 1/4" outlet tube. Faucet similar to Chicago ADA Faucet model 3400-TABCP with thermostatic mixing valve.

Provide Deck mounted hand-held drench hose with 1/2" IPS U.S. made ball valve, push down valve activation, aluminum mounting bracket, insulator handle, nylon deck flange and locator guide, and 8ft. PVC hose with hose guide bracket. Unit shall have polypropylene FS-Plus™ spray head with integral "flip-top" dust cover, filter and 3.2-GPM flow control orifice angled at 90°. Provide thermostatic mixing valve. The drench hose shall be equal to Guardian Equipment G5043 with TMV 3600LF thermostatic mixing valve.

3. Stainless Steel Water Closet: P-3: Water closet equal to Willoughby Industries Model ETF-1490-FM, Other approved manufacturer are Acorn Engineering Company, I-Con or equal.
 - a. Material: 0.078-inch- minimum-thick, 14 GA, type 304 stainless steel. Standard: ASME A112.19.3/CSA B45.4.
 - b. Finish: Exposed stainless steel surfaces polished to a No. 4 satin finish. Cabinet:
 - c. Mounting: 1/2 inch threaded rod with nuts and washers through wall into accessible service space.
 - d. Elongated, with back inlet, integral trap, and Blowout design with Wall outlet and contoured seat.
 - e. Seat Surface: No. 4 satin finish.
 - f. Floor Outlet Connection: Water closet gasket waste. Flange and bolts supplied by Contractor.
 - g. Consumption: 1.28 GPF.
 - h. Toilet Overflow Preventer: vacuum-operated disabler with integral vacuum generator and integral bowl overflow sensor.
 - i. Minimum Supply Pressure: 35 PSI flowing.
 - j. Flushometer Valve: ETime-Trol Electronic Flush Valve.
4. P-3A Combination Units: Rear access, floor, cabinet, with water closet and lavatory equal to Willoughby Industries Model 1545, Other approved manufacturer are Acorn Engineering Company, I-Con or equal.
 - a. Material: 0.078-inch- minimum-thick, 14 GA, type 304 stainless steel. Standard: ASME A112.19.3/CSA B45.4.
 - b. Finish: Exposed stainless steel surfaces polished to a No. 4 satin finish. Cabinet:
 - c. Water-Closet Bowl Location: Left of cabinet. Ligature-resistant option only available for a floor-mounted unit.
 - d. Mounting: 1/2 inch threaded rod with nuts and washers through wall into accessible service space.
 - e. Elongated, with back inlet, integral trap, and Blowout design with Wall outlet and contoured seat.
 - f. Seat Surface: No. 4 satin finish.
 - g. Retain either "Wall Outlet Connection" or "Floor Outlet Connection" subparagraph below.

- h. Wall Outlet Connection: 3" Cast iron, supplied with no hub coupling sized to match.
- i. Floor Outlet Connection: Water closet gasket waste. Flange and bolts supplied by Contractor.
- j. Consumption: 1.28 GPF.
- k. Toilet Overflow Preventer: vacuum-operated disabler with integral vacuum generator and integral bowl overflow sensor.
- l. Minimum Supply Pressure: 35 PSI flowing.
- m. Flushometer Valve: ETime-Trol Electronic Flush Valve.
- n. Lavatory:
Standard: NSF/ANSI 61, NSF/ANSI 372.
Location: In top of cabinet.
Receptor: Bowl with integral, self-draining, soap depression.
Bubbler/Filler: machined type 303 stainless steel. No chrome-plated brass allowed.
Pushbuttons and Escutcheons: Machined type 303 stainless steel. No chrome-plated brass allowed.
Lavatory Water Supply Valve(s):
Standard: ASME A112.18.1/CSA B125.1.
Valve Type: Electronic adjustable] with individual check stops.
Temperature: Single temperature
Control: EPBH electronic ligature-resistant push-button.
Drain: Fast integral punched grid.
Trap Location: Integral NPS 1-1/2 (DN 40) complying with ASME A112.18.2/CSA B125.2.

- 2.05 ELECTRONIC WATER USAGE FLUSH CONTROLLER: The Unit shall be Icon- CTR, Willoughby Model WUFC-4000. The Flush controller shall be stand-alone electronic module designed to control the operation of an electronic push button toilet flush valve on a toilet fixture from the utility chase. Each Flush controller shall be capable of controlling up to 4 low voltage solenoid valve.
Controller manufacturer shall supply a hardwired 120V/24 VAC 40 VA step down transformer with each controller. Flush controller shall retain all functional setting after the event of power interruption. All electronic circuitry shall be encased in water resistant, epoxied enclosure.

2.06 FIRE STOPPING

- A. Work of Section 078413 – PENETRATION FIRESTOPPING.

2.07 SLEEVES AND PENETRATIONS

- A. Piping penetrations through fire rated construction shall comply with a listed fire rated assembly as detailed in the UL Fire Resistance Directory. Pipe sleeves through floors, exterior walls and fire-rated construction shall be galvanized Schedule 40 steel pipe. Pipe sleeves through non-fire-rated partitions shall be 26 gauge-galvanized steel.
- 1. Sleeves Through Exterior Below Grade Foundation Walls and Floor Slabs on Grade: Provide galvanized Schedule 40 steel with continuous weld slop on welding flange water stop. Provide waterproof caulking assembly by Link-Seal or Sure-Seal.

2. In areas where pipe is exposed, install sleeves flush with the finish floor, except in mechanical rooms, and janitor's closets extend sleeves at least 4 inches above finish floor.

2.08 PIPING IDENTIFICATION

- A. Piping: Provide matching flow arrows to indicate direction of flow. Markers shall be equal to Seton Setmark. Pipe marking for outside diameters of 6 inches or greater may be springs or metal bands secured to the corners at each end of the semi-rigid plastic marker to hold each end of the marker firmly against the pipe.

1. Color coding and size of legend letters shall comply with the standards of ANSI A13.1.
2. Provide markers with legend letters sized in compliance with the following schedule:

Outside Diameter (Over Insulation)	Size of Letters:	Length of Color Code:
1-1/4 inch and smaller	2 inch	8 inches
1-1/2 inch to 2 inch	3/4 inch	8 inches

PART 3 – EXECUTION

- A. Valve Installation

1. Location of Valves: There shall be valves where indicated on the drawings and where specified as follows:
 - a. Each fixture supply shall have a separate angle stop or straight stop finished like the pipe it services.
 - b. Each piece of equipment shall have isolation valves for each service connected.
 - c. Valves shall be located to permit easy operation, replacement or repair.

3.02 INSPECTION AND TESTS

- A. General

1. All labor, materials, instruments, devices and power required for testing shall be provided by the Plumbing Subcontractor. The tests shall be performed in the presence and to the satisfaction of the Designer and Project Manager and such other parties as may have legal jurisdiction.
2. Restore to its finished condition any work, provided by other Contractors, damaged or disturbed by tests. The Plumbing Subcontractor shall engage the original Contractor to do the work of restoration to the damaged or disturbed work.
3. Caulking of screwed joints or holes in piping will not be acceptable.

3.03 MATERIALS AND WORKMANSHIP

- A. Provide supplies, appliances and connections necessary for complete and operational installation. Provide components required or recommended by OSHA and applicable NFPA documents.
- B. References to manufacturers and to catalog designation, are intended to establish standards of quality for materials and performance but imply no further limitation of competitive bidding.

3.04 CONTINUITY OF SERVICES

- A. Do not interrupt existing services without Trial Court Project Manager's approval.
- B. Schedule interruptions in advance, according to Project Manager's instructions. Submit, in writing, with request for interruption, methods proposed to minimize length of interruption.
- C. Interruptions shall be scheduled at such times of day and work so that they have minimal impact on User Agency's operations.

3.05 CORE DRILLING

- A. Do not core new concrete structure without written approval from the Structural Engineer.
- B. Perform all core drilling required for the proper installation of this Section. Locate all required openings and prior to coring. Coordinate the opening with the other Trades and obtain approval from the Structural Engineer.
- C. Thoroughly investigate the existing conditions in the vicinity of the required opening prior to cutting. Take care so as not to disturb the existing building systems. Damage to existing conditions incurred during core drilling shall be corrected to Trial Court Project Manager's satisfaction with no additional expense to the owner.

END OF SECTION