PART 1 - GENERAL

1.01 SECTION INCLUDES

A. This section covers the requirements for Contractor's protection of existing facilities.

1.02 NOTIFICATIONS AND COMPLIANCE:

A. Notifications Relative to Contractor's Activities:

1. The Contractor shall plan and schedule Contractor work activities to conform to and allow time for notifications, approvals, reviews, and other conditions of the Contract Documents.

2. Notifications related to protection of existing facilities are specified in Section 00 72 00, subparagraph 1.04.BB.

B. The Contractor shall be liable for all damages arising from noncompliance with this Section.

1.03 LOAD LIMITS:

A. General:

1. While moving Equipment and materials on any public Highway, the Contractor shall comply with any law that controls traffic or limits loads. The Contract does not exempt the Contractor from such laws nor does it license overloads. At the Engineer's request, the Contractor shall provide any information needed to determine the weight of Equipment on the roadway.

2. When the Contractor moves Equipment or materials for the Project, legal load limits shall apply on any:

a. Road open to, and in use by, public traffic.

b. Existing Road not designated for major reconstruction under the current Contract.

c. Newly paved Road (with its final lift in place) built under this Contract. The Contractor may haul overloads (not exceeding 25 percent) on such roads not open to public traffic if this does not damage completed work. Should damage occur, the Contractor shall pay all repair costs.

3. On all other parts of the Project, the Contractor may operate Equipment without load-limit restrictions except as restricted by the Load Limit Restrictions paragraph of this article.

a. In doing so, however, the Contractor remains responsible for any damage that may result.

b. All vehicles subject to licensing on a tonnage basis will be required to license to the maximum legal capacity before being eligible to operate

under the load-limit restrictions described in the Load Limit Restrictions paragraph of this article.

4. The Engineer may approve higher load limits than those allowed by the Load Limit Restrictions paragraph of this article if it is necessary and safe to do so.

   a. To obtain such approval, the Contractor shall make this request in writing to the Engineer at least 5 Working Days in advance of the need.

   b. The request shall describe in detail the loading, configuration, and movement or position of the Equipment on the Structure or over the Culverts and pipes.

   c. The request shall state that the Contractor assumes all risk for damages.

   d. The Contractor shall include in the Bid item prices, all costs for operating over bridges or Culverts.

   e. Nothing in this Section affects the Contractors' other responsibilities under these Specifications or under public Highway laws.

B. Load-Limit Restrictions:

1. The following load limits shall apply to:

   a. Structures Designed for Direct Bearing of Live Loads: On these Structures, the gross or maximum load on each individual vehicle axle shall not exceed the legal load limit by more than 35 percent. No more than one vehicle shall operate over any Structure at one time.

   b. Underpasses and Reinforced Concrete Box Culverts Under Embankments: Over these Structures, maximum loads shall be 24,000 pounds on a single axle and 16,000 pounds each on tandem axles spaced less than 10 feet apart, provided that:

      1) The embankment has been built in accordance with the subparagraphs a), b) and c) below.

         a) The Contractor shall place earth embankments in horizontal layers of uniform thickness. These layers shall run full width from the top to the bottom of the embankment. Slopes shall be compacted to the required density as part of embankment compaction.

         b) During grading operations, the Contractor shall shape the surfaces of embankments and excavations to uniform cross-sections and eliminate all ruts and low places that could hold water.

         c) On a tangent, the Contractor shall raise the center of the embankment above the sides. On a sidehill, the high point of any layer shall intersect the original ground and shall slope uniformly toward the lower side. This slope shall not exceed 1 foot in 20 feet.

2) The embankment has reached at least 3 feet above the top of the underpass or Culvert.

a) When the embankment has reached 5 feet above the top of the Culvert or underpass, the Contractor may increase axle loads up to 100,000 pounds each if outside wheel spacing is at least 7 feet on centers on the axle.

c. Pipe Culverts and Sewer Pipes: Loads over pipe Culverts and sewer pipes shall not exceed 24,000 pounds on a single axle and 16,000 pounds each on tandem axles spaced less than 10 feet apart. These limits are permitted only if:

1) The Culvert or pipe has been installed and backfilled to specifications, and

2) The embankment has reached at least 2 feet above the top limit of pipe compaction.

2. When the embankment has reached 5 feet above the top limit of pipe conpaction, the Contractor may increase per-axle loads up to 100,000 pounds if outside wheel spacing is at least 7 feet on centers on the axle centers, except that:

a. For Class III reinforced concrete pipes, the embankment shall have risen above the top limit of compaction at least 6 feet

b. For Class II reinforced concrete pipes, the maximum load for each axle shall be 80,000 pounds if outside wheel spacing is at least 7 feet on axle centers. In this case, the embankment shall have risen above the top limit of compaction at least 6 feet.

1.04 PROTECTION AND RESTORATION OF PRIVATE AND PUBLIC PROPERTY:

A. The Contractor shall protect from damage or destruction private and public property located on or near the Work that is not designated for repair, replacement or removal. The Contractor shall ensure that interference with the use of such property is minimized.

B. Property includes land; improvements lawfully occupying the Right of Way; trees, shrubbery and landscaping; electric distribution and transmission systems; water distribution and transmission systems; survey markers and monuments; buildings and Structures; conduits and pipes; fences; Highway facilities such as signal systems including loop detection systems in Pavement Structures both approaching and at signalized intersections, roadway lighting systems, signs, guardrails, pavements, curbs, driveways, sidewalks, traffic buttons, paint striping and other channelization; and other property of all descriptions whether shown on the Drawings or not.

C. The Contractor is alerted to the existence of cast iron Water Mains within the Right of Way having pipe joints very sensitive to disturbance..

1. These pipe joints have been known to develop leakage when disturbed by shifting earth, or excessive vibrations, or adverse impacts of any other construction excavation work

2. The Contractor shall take additional precautions to eliminate adverse impact to cast iron Water Main.

D. The Contractor shall, at no additional cost to the Owner, provide and install safeguards acceptable to the Engineer to protect public and private property.

1. If public or private property is damaged or destroyed or its use interfered with by the Contractor, the Contractor's agents or the Contractor's employees, such interference shall be terminated and damaged or destroyed property repaired and restored immediately to its former condition by the Contractor at the Contractor's expense.

2. Should the Contractor refuse or not respond promptly to a written request to restore damaged or destroyed property to its original condition, the Engineer may have such property restored by other means at the Contractor's expense as permitted by Section 00 72 00, Paragraph 1.03.H.

E. The Seattle Public Utilities is responsible for maintaining all Right of Way survey monumentation. If monuments are in danger of being dislodged or lost because of nearby construction, or in danger of being disturbed during removal of pavement where monumentation, whether cased or not, exists within the pavement, the Contractor shall make the advance notification required in Section 00 72 00, Paragraph 1.04.BB.3.r.

F. Cost to replace monumentation not referenced and then lost because of the Contractor's failure to notify Seattle Public Utilities survey crews as required above will be at the sole expense of the Contractor. Costs shall include the cost of replacement surveys and the supervision needed to set monuments in their original locations.

1.05 PROTECTION AND RESTORATION OF TREES, SHRUBS, AND PLANT MATERIAL:

A. Trees, shrubs, plants, and other landscaping not designated for removal shall be left in place and protected from damage or injury during construction. The Contractor shall provide full and adequate protection against construction damage to all landscaping that is to remain.

B. The Contractor shall employ methods to minimize adverse impact to existing trees including the limbs and the roots where existing trees are within the area of the Work, or where existing trees outside the area of Work have driplines extending into the area of the Work.

C. The Contractor shall notify the Engineer of any construction work within the drip line of trees at least 1 Working Day before the scheduled activity. These may include:

1. Temporary construction fencing.

2. Temporary tie-up of low limbs.

3. Application of a 4 to 6 inch layer of mulch (or wood chips salvaged from cleaning and grubbing) within the drip-line of trees.

4. Timber or steel planking for protection of surface roots from Equipment.

5. Tree root pruning or other tree root treatment as directed by the Engineer.

D. No storage of Equipment or materials shall be allowed within the drip-line of trees not designated for removal. Steel planking, or timber planking made of 4-inch thick material, with each plank covering an area of at least 8 square feet, shall be used to support Equipment when set within the drip-line of a tree or on sodded planting strip.

E. Where sidewalk, curb, curb and gutter, and pavement removal and placement operations occur and where tree roots 2 inch or greater in diameter are discovered, the Contractor shall promptly notify the Engineer who will determine how these tree roots are to be handled.

F. Tree removal or tree trimming within 10 feet of overhead power lines less than 50Kv or within 16.5 feet of overhead power lines 50Kv or higher requires the Contractor make the notification specified in Section 00 72 00, Paragraph 1.04.BB.

G. Trenching or tunneling within the drip-line of existing trees not designated for removal, shall be in accordance with the City of Seattle Standard Plans (most recent edition), and defining root zone clearance requirements.

1. Excavation or tunneling of any kind within the "critical root zone" as defined by the Standard Plans will not be allowed unless the Contractor requests at least 2 Working Day in advance and receives approval of the Engineer.

2. Excavation around roots 2-inches in diameter and larger requires handwork.

3. Individual tree roots 2-inches in diameter and larger shall not be cut, but rather protected when within the drip line of the tree.

4. Tree roots smaller than 2-inch diameter shall be cleanly cut flush with the edge of the trench.

5. Ripping or tearing of tree roots will not be allowed.

H. The Contractor may propose alternate methods of installing utilities under an existing root system when work is within the drip line of the tree.

I. Where the Contractor foresees construction operations where impact to limbs cannot be avoided, the Contractor shall notify the Engineer at least 5 Working Days in advance.

J. Low limbs that will interfere with the normal operation of the Contractor’s Equipment shall be trimmed.

1. Before trimming any trees, the Contractor shall notify the Engineer of the proposed method and the amount of trimming required.

2. The trimming shall be done by a professional tree service company whose past and current performance is in accordance with National Arborist Association tree-pruning standards.

K. Trees or other plant material not ordered or designated to be removed but that are destroyed or irreparably damaged by Contractor operations as determined by the Engineer, shall be repaired or replaced by the Contractor in accordance with the Engineer's recommendations.

1. Replacements shall be of the same species and as nearly as possible of the same size as the trees to be replaced and shall be replaced at a rate of 2 replacement trees for every 1 tree removed.

2. The Contractor shall allow 1 Working Day advance notice for inspection of nursery stock replacements by the Engineer.

3. In addition to the Contractor's restoration approved by the Engineer, the Contractor shall be assessed damages for the difference in the dollar value of the damaged tree, shrub or other plant material, and the dollar value of the replacement.

a. The dollar value shall be determined by the Engineer, as specified in Section 01 56 39, 3.04 B.

4. Damages assessed will be deducted from moneys due or that may become due to the Contractor.

5. The planting shall be done in accordance with the requirements of the Contract Documents during the first fall or spring planting period whichever comes first.

1.06 PROTECTION AND RESTORATION OF FENCES, MAILBOXES, AND MISCELLANEOUS ITEMS:

A. The Contractor shall enclose the work area by installing and maintaining temporary fencing when Work is within easements or abuts private property.

B. Reserved.

C. Reserved.

D. When trenching is required within a planting strip the Contractor shall protect the existing curb, gutter and sidewalk from damage utilizing timber pads if necessary.

1. The Contractor shall demonstrate to the Engineer the method or procedure the Contractor intends to follow in order to protect existing improvements adequately before proceeding with trenching in the planting strip.

E. Where sprinkler systems are encountered in the planting strip, the Contractor shall carefully remove the existing sprinkler system for reinstallation by the Contractor after the work in the planting strip is complete.

F. When, due to the Contractor's operations, plastic traffic buttons, lane markers or pavement markings are damaged, destroyed or obliterated outside the neat lines of a trench or area of pavement restoration, the Contractor shall restore them in kind at no expense to the Owner.

1.07 UTILITIES AND SIMILAR FACILITIES:

A. Locations and dimensions shown in the Drawings for existing facilities are in accordance with available information obtained without uncovering, measuring or other verification.

B. The Contractor shall protect from damage private and public utilities encountered during the Work. Utilities shall include, but are not limited to, Sewer and Storm Drain systems; water supply and distribution systems; electrical transmission and distribution systems; natural gas distribution systems; telephone, telegraph, and CATV systems; fiber optic systems; fire alarm systems; petroleum pipe lines; steam distribution systems; traffic control systems; power lines and appurtenances; METRO trolley lines and feeders; railroad tracks and appurtenances; and similar facilities and systems.

C. Public and private utilities, or their contractors, will furnish all work necessary to adjust, relocate, repair, or construct their facilities unless otherwise provided for in the Contract.

1. Where it is necessary to remove or relocate private utilities in order to accommodate the Work, the removal or relocation will normally be accomplished in advance of construction.

2. Under some circumstances however, this removal or relocation may have to be performed concurrent with the Work. In this case, the Contractor shall coordinate the Contract Work with that of the utilities so as to cause the least possible interference with both kinds of work.

3. Where a private utility should have been removed or relocated prior to the Contractor beginning the Work at the point affected, and such work by the utility was not accomplished, the Contractor shall note the presence of the facility and immediately notify the Engineer in writing.

D. Attention is directed to the possible existence of underground facilities that are not shown in the Contract.

1. When the relocation of these facilities is necessary to accommodate the Work, the Engineer will provide for the relocation of these facilities by other forces, or the relocation shall be performed by the Contractor as extra work pursuant to a Change Order.

E. It is further anticipated that the Contractor may encounter private water-service utilities during work operations. These private water-service utilities may be either a single water-service utility from the water meter or a multiple water-service utility(ies) from the water meter.

1. Records of these utilities are not maintained by the Engineer and therefore do not appear on the Drawings and will not be field located by Seattle Public Utilities.

2. The locations of these private utilities can usually be ascertained by relative meter location, residence location, or through discussion with various private property owners.

3. It shall be the Contractor's responsibility to locate and protect these private water services from damage.

F. The Contractor is also alerted to the existence of RCW Chapter 19.122, an act relating to underground utilities and prescribing penalties, and Section 00 72 00, Paragraph 1.04.BB, herein prescribing certain notification to be made by the Contractor.

1. Any cost or scheduling impact incurred by the Contractor by reason of Contractor's required compliance with these statutory and contractual provisions shall be borne by the Contractor.

2. No excavation shall begin until all known facilities near the excavation area have been located and marked.

G. The right is reserved to the Engineer and the owner of utilities, or their authorized agents, to enter upon the Right of Way for the purpose of making changes, connections, or repairs to their facilities.

1. The Contractor shall cooperate with forces engaged in this work and shall avoid any unnecessary delay or hindrance to work being performed by other forces.

2. It shall be the Contractor's responsibility to make all notifications and applications needed to effectively coordinate utility and Contractor Work (See Section 00 72 00, Paragraph 1.04.BB).

H. Should the Contractor desire to have an adjustment in line or grade made on a utility or other improvement for the Contractor's convenience and the rearrangement is in addition to, or different from, that indicated in the Contract, the Contractor shall make all necessary notifications and applications with the owner of the utility for such rearrangement and bear all expenses in connection with that work.

I. If it is necessary to provide temporary water supply connections due to conflict with private water-service pipes during the course of construction, it shall be the responsibility of the Contractor to do so at no additional cost to the Owner.

J. In all cases, private water-service lines damaged by the Contractor shall be repaired by the Contractor at the Contractor's expense.

1. The Contractor shall notify the Engineer immediately of any such damage and shall begin repairs immediately and work continuously until water service is restored.

2. Repair of damaged private water-service lines shall be inspected by Seattle Public Utilities or applicable water utility prior to backfilling.

K. Except as otherwise provided herein, all costs incurred by the Contractor in complying with requirements of this Section shall be included in the Lump SumBid. When others delay the Work through late removal or relocation of any utility or similar facility, the Contractor's loss of time will be adjusted by extending the Contract Time per Section 00 72 00, Paragraph 1.08.I.

L. The Contractor shall, before an excavation begins, call the Utilities Underground Location Center 1-800-424-5555, as specified in Section 00 72 00, subparagraph 1.04.S.3.

M. Before an excavation begins the Contractor shall notify the Engineer in accordance with Section 00 72 00, Paragraph 1.04.BB.

1.08 UTILITY CLEARANCES:

A. Clearances Between Water Mains And Other Utilities:

1. Where possible, sewers shall be laid at a lower invert elevation than Water Mains.

2. Water mains and sewers shall be spaced apart horizontally a minimum of 10 feet, measured center to center, except the spacing may be reduced to the following "nearest point" measurements:

a. Five (5) feet horizontal when the Water Main is a ductile iron Water Main.

b. Less than 5 feet when the Water Main is ductile iron, and:

1) The sewer is constructed of materials and with joints that are equivalent to Water Main standards, including pressure-testing requirements.

2) The bottom of the Water Main is at least 18 inches above the top of the sewer.

3. Water mains crossing over sewers shall be constructed of ductile iron and shall be spaced to provide a minimum separation of 18 inches between the bottom of the Water Main and the top of the sewer.

4. Water Mains passing under sewers shall be protected by providing:

a. A minimum vertical spacing of 18 inches between the bottom of the sewer and the top of the Water Main.

b. Adequate support for the sewer to prevent excessive deflection of joints and settling on and breaking the Water Main.

c. The point of crossing centered between two successive joints of the Water Main pipe.

5. When the Water Main is existing and new side sewers are being installed or reconnected the following requirements pursuant to SMC Chapter 21.16 shall apply:

a. Ductile iron pipe shall be used for all side sewers crossing over Water Mains, for a perpendicular distance of at least 5 feet from the center of the Water Main.

b. Side sewers laid below Water Mains shall be laid at least 6 inches below and 12 inches horizontal, from all Water Mains and

water-service lines as measured from the "nearest points," unless ductile or cast iron pipe is used for the side Sewer.

6. All utilities, both public and private, passing over, under, or very close to existing Water Mains within distances specified in this Section shall be coordinated with Water Operations at least 15 Working Days in advance of construction for approval of, and coordination with, the Engineer. See Section 00 72 00, Paragraph 1.04.BB.

   a. Provide minimum 5 foot horizontal separation from the existing Water Main.

   b. Provide minimum 18 inch separation vertically under the existing Water Main.

   c. No new utility shall be installed over an existing Water Main.

7. Notifications regarding shutdowns of Water Mains or obstructions of hydrants and valves shall be in accordance with Section 00 72 00, Paragraph 1.04.BB

8. Exceptions to the requirements in this Section must be approved by the Engineer.

B. Clearances Between Gas Mains And Other Utilities:

1. Minimum clearances of 1 foot vertical and 6 inches horizontal shall separate an existing gas main, or a gas service line, from a new ductile iron water line to be installed above or below the gas line.

   a. If these minimum clearances cannot be maintained, a protective wrap shall be provided for the entire distance where clearances are smaller than required.

   b. Wrapping material shall consist of either a split PVC pipe or PVC wrapping of at least 0.04-inch thickness and shall be applied to either one of the pipes.

2. Horizontal and vertical clearances of 6 inches or more are desired between Water Mains and all other utilities except gas and sewer lines (discussed in this Paragraph 1.08.B and in Paragraph 1.08.A, respectively). If a smaller separation is unavoidable, the space between the Water Main and the other utilities shall be filled with polyethylene plastic foam material before backfilling.

C. Clearances Between Sewers:

1. Whenever a new Sewer /drain pipe clears an existing or new utility by 6-inch or less, polyethylene plastic foam in accordance with City of Seattle Standard Plans and Specifications (most recent edition), shall be placed between the utilities as a cushion prior to backfilling.

D. Clearances With Electrical Distribution and Transmission Systems:

1. When an underground electrical facility is "marked for locate" as specified in Paragraph 1.07 and is within the vicinity of a proposed excavation, the

Contractor shall give the notification specified in Section 00 72 00, Paragraph 1.04.S regarding clearances from underground electrical distribution and transmission facilities.

2. Trees proposed for planting within 10 feet of an overhead electrical distribution or transmission wire shall make the notification as specified in Section 00 72 00, Paragraph 1.04.S - Overhead Electrical Power Lines and Trees.

3. See Section 00 72 00, subparagraph1.03.B.2 when construction is proposed near any Seattle City Light electrical facility.

E. Tree Clearances: Planting of new trees shall meet the tree clearance requirements as specified on City of Seattle Standard Plan No. 030, for any tree plantings in street rights of way. Tree plantings within Seattle Parks' properties (not located within utility easements or directly over Parks' utilities) shall be located per SPR Design Standards and as shown on the contract documents. Trees shall be located no closer than 5 feet on either side of the utility lines.

PART 2 - PRODUCTS

2.01 POLYETHYLENE PLASTIC FOAM:

A. Polyethylene plastic foam used in sanitary Sewer and Storm Drain construction shall meet the Federal Specification PPP-C-1752C Type 1, Class 2, (Ethafoam).

PART 3 - EXECUTION

(Not Used)

END OF SECTION