NOTE TO CONSULTANTS: Edit, with Track Changes turned on, any text in this section that appears in Bold and Italics then, after approval of the edits, accept changes for the final version. (Remove this Note).

PART 1 - GENERAL

1.01 SECTION INCLUDES:

A. This section covers the requirements for compliance with environmental precautions and controls.

1.02 RELATED SECTIONS:

A. Section 01 32 13 - Progress Schedules

B. Section 01 33 10 - Submittals

C. Section 01 57 13 - Construction Stormwater Control

1.03 SUBMITTALS:

A. Within 10 days of Notice to Proceed, the Contractor shall submit an Environmental Pollution Control Plan. The Plan shall include:

1. Water quality
2. Air quality, including dust control
3. Noise pollution
4. Temporary water pollution/erosion control
5. 'Oil, Fuel, and Chemical Storage, Handling, Spill Prevention, and Control'.

1.04 NOTIFICATIONS RELATIVE TO CONTRACTOR'S ACTIVITIES:

A. 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. The following notifications required for spills or discharges are specified in Section 00 72 00, 1.04.BB:

1. Sanitary Sewer Spills

2. Chemical, Oil, Hazardous Substance, or other Contaminant Spill or Discharge

1.05 PREVENTION OF ENVIRONMENTAL POLLUTION AND PRESERVATION OF PUBLIC NATURAL RESOURCES:

A. General:

1. During the life of the Contract, the Contractor shall comply with all provisions of federal, State and local statutes, ordinances and regulations pertaining to the prevention of environmental pollution and the preservation of public natural resources. Pursuant to RCW 39.04.120 such provisions as are reasonably obtainable are set forth below. Further, if the Contractor must undertake extra work not contemplated by the Contract, due to the enactment

of new, or the amendment of existing, statutes, ordinances, rules, or regulations occurring after the submission of the successful Bid, the Engineer will issue a Change Order setting forth the extra work that must be undertaken, which shall not invalidate the Contract.

1.06 WATER QUALITY:

A. The Environmental Pollution Control Plan shall identify the onsite individual responsible for water quality, and specific activities and locations and specific means and methods to prevent and/or control impacts to water quality.

B. The Contractor shall comply with city ordinances, State, and federal laws and other regulations or rules applicable to water pollution occurring in waters of the State and in interstate waters. The Contractor shall:

1. Exercise precautions throughout the life of the Contract to prevent pollution, erosion, siltation, and damage to property.

2. Provide for the flow of all watercourses, including but not limited to streams, ditches, sewers, and drains intercepted during the progress of the Work.

3. Completely restore disturbed watercourses in as good condition as the Contractor found them, or make such final provisions for them as the Engineer may direct.

4. Not obstruct the gutter of any Street.

5. Use all proper measures to provide for the free passage of surface water.

6. Remove and dispose of all surplus water, mud, silt, slicking, or other run-offs pumped from excavations or resulting from sluicing or pavement cleaning or other operations.

7. Make all applicable notifications required by Section 00 72 00, 1.04.BB.

C. The Contractor shall comply with the water quality criteria required by the Department of Ecology and regulations of:

1. The Washington State Department of Fish and Wildlife.

2. Those federal statutes on oil spills enacted under the federal Water Pollution Control Act Amendments of 1972 (a copy of which may be obtained from the U.S. Environmental Protection Agency).

3. The water quality standards of the State of Washington as set forth in Chapter 173-201A WAC.

4. Any local statutes, regulations, ordinances, or rules, which stipulate the various types of discharge prohibited in public sewer systems or any drainage ditch in the local jurisdiction.

D. State statutes on water pollution covering liability of the Contractor, penalty for violation, liability and damages for injury or death of fish, animals or vegetation are set forth in Chapter 90.48 RCW. As an aid to the Contractor, some though not all, of the rules set forth by the various State departments are summarized below. The Contractor is cautioned, however, that each Department of the State may add other

restrictions, as they deem necessary, to protect fish and to prevent air or water pollution:

1. State Department of Fish and Wildlife: In doing the Work the Contractor shall:

    a. Not degrade water quality in a way that would harm fish. (The Washington State Water Quality Regulations will serve as water quality criteria for the Work.)

    b. Release into a flowing stream or open water any fish stranded by the Work.

    c. Replant any stream bank or shoreline areas if the Work has disturbed the vegetative cover. (Any trees, brush, and grasses used in replanting shall resemble the type and concentration of surrounding vegetation, unless the Contract provides otherwise.)

    d. Provide an open water channel at the lowest level of any isolated pothole remaining when the Work is complete.

    e. Protect fish by preventing harmful siltation on the bed or bottom of any body of water.

    f. Not block stream flow or fish passage.

    g. Keep all Equipment out of any flowing stream or other body of water (except as the Contract may permit).

    h. Not remove gravel or other bottom material from within the high-water flow channel bed of any stream nor from the bottom of any other body of water (except as the Contract may permit).

    i. Dispose of any Project debris beyond high-water flows.

2. State Department of Ecology: In doing the Work, the Contractor shall:

    a. Obtain a waste discharge permit from the Department of Ecology before:

        1) Washing aggregate, and

        2) Discharging water into a ground or surface waterway from pit sites or excavations when the water contains turbidity, silt, or foreign materials.

    b. Provide the Engineer with a copy of each waste discharge permit before starting the Work.

    c. Control drainage and erosion to minimize the pollution of any waterway.

    d. Dispose of all toxicants (including creosote, oil, cement, concrete, and water used to wash Equipment) in ways that will prevent them from entering State waters.

    e. Dispose of all debris, overburden, and other waste materials in ways that will prevent them from entering State waters.

E. The Contractor shall perform such temporary work as may be necessary to effectively control water pollution, erosion, and related damage within the Project Site or which might be necessary at work areas located outside the Project Site. These outside areas may include, but are not limited to, equipment, material and other storage sites. When temporary control facilities or measures are no longer needed, they shall be removed and the areas restored or finished as designated by the Engineer.

F. If Work is suspended for an extended period of time, the Contractor shall be responsible for controlling erosion, pollution, sedimentation, and runoff during the shutdown period.

G. In addition to other requirements in the Contract, this temporary work shall include, but is not limited to, the following water quality considerations:

1. Diversion of Storm Water: Storm water shall be diverted around the Project to prevent pickup of silt. This may be accomplished by pumping; improvising ditches; lining channels or by placing metal, plastic or concrete gravity pipe; constructing ditches, berms, Culverts, etc., to control surface water; or constructing dams, settling basins, or energy dissipaters to control down stream flows.

2. Intercepting Ground Water: Surfacing ground water shall be intercepted and routed around the construction site to prevent silt erosion by the use of gravel trenches, French drain tiles, well points, or interceptor ditch. The Contractor shall provide means of controlling underground water that may be encountered during the Work.

3. Turbid Water Treatment Before Discharge: Determination of turbidity in surface waters shall be at the discretion of the Engineer; for Lake Class Receiving Waters, turbidity shall not exceed 5 NTU (Nephelometric Turbidity Units) over background conditions; for Class AA and Class A Waters, turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU; for other classes of waters, refer to WAC 173-201-045 and WAC 173-201A-030.

   a. The term turbidity means the optical property of sample demonstrating the scattering and absorption of light caused by suspended material as expressed in Nephelometric Turbidity Units and measured with a calibrated turbidimeter.

   b. Discharges to a State waterway caused by aggregate washing, drainage from aggregate pit sites, and stockpiles or dewatering of pits and excavations shall not increase the existing turbidity of the receiving waters.

   c. Turbid water from the Project Site shall be treated before being discharged into stream or other State waters. Turbidity may be removed by the use of lagoons or holding ponds, settling basins, overflow weir, polymer water treatment, discharging to ground

surface, by percolation, evaporation or by passing through gravel, sand or fiber filters.

4. Temporary Erosion Control: Temporary erosion control shall be exercised by minimizing exposed areas and slopes until permanent measures are effective. Plastic sheet covering shall be placed over exposed ground areas to protect from rain erosion. Other alternative methods for erosion control under certain situations may include netting, mulching with binder, and seeding. Should rutting and erosion occur the Contractor shall be responsible for restoring damaged areas and for cleanup of eroded material including that in ditches, catch basins, manholes, and Culverts and other pipes.

5. Chlorine Residual: Water containing chlorine residual shall not be discharged directly into Storm Drains, streams, or State waters. Chlorine water may be discharged into sanitary sewers or disposed on land for percolation. Chlorine residual may be reduced chemically with a reducing agent such as sodium thiosulphate or vitamin C. Water shall be periodically tested for chlorine residual.

6. Vehicle and Equipment Washing: Water used for washing vehicles and Equipment shall not be allowed to enter Storm Drains, streams or other State waters unless separation of petroleum products, fresh concrete products or other deleterious material is accomplished prior to discharge. Detergent solution may be discharged into sanitary sewers or held on the ground for percolation. A recirculation system for detergent washing is recommended. Steam cleaning units shall provide a device for oil separation.

7. Oil and Chemical Storage and Handling: Handling and storage of oil and chemicals shall not take place adjacent to waterways. The storage shall be made in dike tanks and barrels with drip pans provided under the dispensing area. Shut-off and lock valves shall be provided on tanks. Shut-off nozzles shall be provided on hoses. Oil and chemicals shall be dispensed only during daylight hours unless the dispensing area is properly lighted. Should an oil or chemical spill occur, the Contractor shall make the notification in accordance with Section 00 72 00, Paragraph 1.04.BB. Fencing shall be provided around oil storage. Locks shall be provided on valves, pumps, and tanks.

8. Sewage: If a sanitary Sewer line is encountered and repair or relocation work is required, the Contractor shall provide blocking and sealing of the sanitary Sewer line. Sanitary Sewer flow shall be pumped out, collected, and conveyed or pumped directly to a sanitary Sewer system manhole for discharge. The existing Sewers shall be maintained by the Contractor without interruption of service by the use of temporary Sewer bypasses. In addition, the excavated materials adjacent to and around a rupture of a sanitary or combined Sewer pipeline shall be removed to a disposal site. Equipment and tools in contact with the above materials shall be washed by pressure water lines and the attendant wash water discharged into a sanitary Sewer line for transmission to a sewage treatment plant.

9. Sawcutting, Planing, and Grinding By-Products: The Contractor shall take special precautions to ensure that no concrete, asphalt, concrete by-products,

or asphalt byproducts from, or used in, the saw-cutting, grinding, or planing of asphalt cement or cement concrete pavements, sidewalks, curbs, etc. are discharged into any Storm Drain or surface water system. Such discharge is prohibited by the Department of Ecology. In as much as saw-cutting by-products increase the pH of the wastewater, filtering prior to discharge will NOT be acceptable. Impervious surfaces contaminated with sediment and grit from saw-cutting, planing or pulverizing operations shall be cleaned by sweepers to prevent contaminants from entering the Storm Drainage system or surface waters when it rains.

10. Gutters and other Surface Drainage Channels: All Construction, Demolition, and Landclearing Waste and byproduct entering gutters and other pavement surface drainage channels shall be prevented from entering any inlet, catch basin, or other drainage structure or feature. Material shall be removed from drainage channels on a regular basis. If necessary, temporary filters or filter materials shall be placed in drainage channels to prevent the passage of material.

1.07 AIR QUALITY:

A. The Contractor shall identify those portions of the Work that have the greatest potential to impact air quality.

1. Specific means and methods to prevent and/or control impacts to air shall be described for each such portion of work.

B. The Contractor shall not cause or allow the discharge of particulate matter, the emission of any air contaminants or odor bearing gases in excess of the limits specified under Regulation I of the Puget Sound Clean Air Agency, Article 9 - Emission Standards.

C. The Contractor shall maintain air quality within the National Emission Standards for Hazardous Air Pollutants. Air pollutants are defined as that part of the atmosphere to which no ambient air quality standard is applicable, and which, in the judgment of the Administrator of the Environmental Protection Agency Clean Air Act, may cause or contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness.

D. The Contractor shall minimize the potential for air pollution by the use of emission control devices on Contractor operated equipment and by the <u>shut-down of motorized equipment when not in use</u>.

E. The Contractor shall control dust throughout the project.

F. No burning, including trash or vegetation, will be permitted.

G. Refer to Regulation III Puget Sound Clean Air Agency Article 4, Asbestos Control Standard, in the event the Contractor damages an existing duct, asbestos cement pipe, or any other facility that may contain asbestos.

1.08 NOISE POLLUTION:

A. The Contractor shall take all reasonable measures for the suppression of noise resulting from Work operations. Mobile engine driven cranes, loaders and similar

material handling Equipment; engines used in stationary service for standby power; air compressors for high and low pressure service; and other similar Equipment shall be equipped with exhaust and air intake silencers designed for the maximum degree of silencing. The type of silencer required is that for use in critical noise problem locations such as high density residential, hotel, and hospital areas.

B The Contractor shall conduct performance of the Work consistent with the applicable noise control levels set forth in SMC Chapter 25.08 or, if outside the City limits and in King County, Chapters 12.86 through 12.100, King County Code.

1.09 LIABILITY AND PAYMENT:

A. The Contractor shall be liable for the payment of all fines and penalties resulting from failure to comply with the Federal, State and local pollution control regulations even though the Engineer is on the job at the time of the violation.

B. Except as may be otherwise provided for in the Contract, costs pertaining to the prevention of environmental pollution and the preservation of public natural resources as outlined in the Contract shall be considered as incidental to the Work and such costs shall be included in the Lump Sum Bid.

1.10 ARCHAEOLOGICAL AND HISTORIC PRESERVATION:

A. Should the Contractor discover during any construction activity or in any other way discover any artifacts, skeletal remains, or other archaeological resources (as defined under RCW 27.53.040) at the Project Site, it shall be the responsibility of the Contractor to both immediately cease construction activity at the discovery site and surrounding area, and promptly notify the Engineer. If ordered by the Engineer, the Contractor shall suspend construction activity that, in the opinion of the Engineer, would be in violation of Chapter 27.53 RCW. Suspension of this construction activity shall remain in effect until the Engineer has obtained permission to proceed from the State Historic Preservation Officer or from other authority.

1.11 TEMPORARY WATER POLLUTION, EROSION, AND SEDIMENTATION CONTROL:

A. Temporary water pollution, erosion, and sedimentation control work shall comply with the Construction Stormwater Control Technical Requirements Manual (based on SMC Chapter 22.800 Stormwater, Grading & Drainage Code) and DPD's Best Management Practices Manual which consist of temporary measures that may be indicated in the Contract, that may be proposed by the Contractor and approved by the Engineer, or may be ordered by the Engineer during performance of the Work. This temporary work is intended to provide prevention, control, and abatement of water pollution/erosion/sedimentation within the limits of the Project, and to minimize damage to the Work, adjacent property, streams, and other bodies of water.

B. Controlling and preventing pollution, erosion, run-off, sedimentation, and related damage may require the Contractor to perform temporary work items including but not limited to:

1. Providing ditches, berms, Culverts, and other measures to control surface water;

2. Building dams, settling basins, energy dissipaters, and other measures, to control downstream flows;

3. Controlling underground water found during construction; or

4. Covering or otherwise protecting slopes until permanent erosion-control measures are working.

C. The Contractor is hereby notified that compliance with these requirements may necessitate performance of certain items of work at a different time or in a different manner than has been considered normal construction practices in the past and that such revisions in scheduling of Work may interfere with said normal construction practices.

D. Therefore, if required by the Contract, the Contractor shall, before starting the Work, submit to the Engineer for approval an effective temporary water pollution/erosion/sedimentation control plan. The plan shall show the scheduling, as it relates to the Contractor's critical path schedule, for permanent pollution, sedimentation, and erosion control work and for temporary erosion, pollution, and sedimentation prevention control measures the Contractor proposes to take due to the Work on:

1. Areas within the limits of the Project Site.

2. Other work areas outside the Project Site.

3. Haul roads.

4. Adjacent property.

5. Streams and other bodies of water.

E. The Contractor shall not perform clearing, grubbing or any other earthwork on the Project, other than that specifically authorized in writing by the Engineer, until the plan has been approved. The Contractor shall revise and bring the plan up to date whenever the Engineer provides Written Notice requesting revision. The Contractor shall allow the Engineer not less than five Working Days for the review of a submitted plan whether the original or revised. The Engineer will not be liable to the Contractor for failure to approve all or any portion of an originally submitted or revised water pollution/erosion/sedimentation control plan, nor for any delays to the Work due to the Contractor’s failure to submit an acceptable plan.

F. The Contractor shall coordinate temporary water pollution/erosion/sedimentation control work with the permanent drainage, sedimentation, and erosion control work that may be specified in the Contract to ensure continuous water pollution/erosion/sedimentation control is maintained during performance of the Work.

G. If the Engineer, under Section 00 72 00, Paragraph 1.08.G, orders the Work suspended for an extended time, the Contractor shall make, before the Engineer assumes maintenance responsibility, every effort to control erosion, pollution, sedimentation, and run-off during shutdown. Section 00 72 00, Paragraph 1.08.H describes the Engineer’s responsibility in such cases.

H. The extent of excavation, borrow, and embankment operations in progress will be limited commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other permanent pollution/erosion/sedimentation control measures current according to the accepted critical path schedule. If the Engineer determines that water pollution or erosion or sedimentation could occur due to seasonal limitations, the nature of the material, or the Contractor's progress, temporary water pollution/erosion/sedimentation control measures shall be taken immediately. The Engineer may require the Contractor's operations to be scheduled so those permanent pollution/erosion/sedimentation control features will be installed concurrently with or immediately following grading operations.

I. Under no conditions shall the amount of surface area of erodible earth material exposed at one time by clearing and grubbing, excavation, borrow or fill within the Right of Way exceed 18,000 square feet without prior approval by the Engineer.

J. Permanent pollution/erosion/sedimentation control work ordered by the Engineer and not covered in the Bid will be considered extra work and paid for as such. Only pollution/erosion/sedimentation control included in the Bid Form or designated by the Engineer and ordered as extra work will be considered permanent control measures.

K. Temporary erosion control, temporary sedimentation control, and temporary water pollution control shall be the Contractor's responsibility. Costs for temporary erosion control, for temporary sedimentation control, and for temporary water pollution control work will be considered incidental to the Work and such costs shall be included in the Lump Sum Bid.

L. Records of submitted and actual pollution/erosion/sedimentation controls and plans shall be retained for a period of three years after the Completion Date and shall be available at reasonable times and places for inspection by the Engineer and, when applicable, other entities providing funds for the Work.

1.12 DEWATERING:

A. The Contractor shall operate and maintain all pumps, tanks and other equipment necessary for the environmentally safe removal and disposal of water from the various parts of the work. The method proposed by the Contractor for removal of water from excavations shall be subject to the approval of the Engineer. The Engineer has the right and authority to disapprove any method proposed for discharge of water from excavations.

B. When discharge of water from the site is subject to approval of any Federal, State or local agency, the Contractor shall be responsible for obtaining such approval before commencing any pumping or de-watering operation.

C. The Contractor shall include a plan to control and treat any wastewater created from dewatering activities in the Environmental Pollution Control Plan.

1.13 DUST CONTROL:

A. Use water sprinkling, temporary enclosures, and other methods to limit dust and dirt migration. Comply with all local regulations.

PART 2 PRODUCTS

Not applicable.

PART 3 EXECUTION

Not applicable.

END OF SECTION