

SECTION 2:  
**Construction Control and Inspection**

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### **2.0 CONSTRUCTION CONTROL AND INSPECTION**

#### **2.1 BASIS FOR CONTROL OF THE WORK**

Work performed in the construction or improvement of public or private streets and utilities shall be done in accordance with these Standards and approved Engineering Plans, and any other specifications or guidelines as per Section 1.6 References. It is emphasized that no work may be started until such plans are approved by the City. Any revision to such Engineering Plans shall be approved by the Engineer before being implemented per Section 1.14 Revisions or Additions After Approvals. Any improvements by other water and sewer providers other than the City shall be designed and approved by the utility, with copies provided to the City prior to approval of the Engineering Plans.

The Engineer is authorized to enforce these Standards as well as other referenced or pertinent specifications or guidelines. He/she will appoint project engineers and inspectors as necessary to inspect the work and they will exercise such authority as the Engineer may delegate.

Provisions of Section 1-05 of the WSDOT Standard Specifications shall apply, with the term "Engineer" therein construed to be the Engineer as defined in these Standards.

#### **2.2 INSPECTION**

Generally, on all privately developed infrastructure including street, utility, and drainage system construction proposed or in progress by a private developer, control and inspection will be done by the Construction Management Section on behalf of the Engineer. The Engineer must approve any deviations from the Standards during construction as described herein.

The Developer is ultimately responsible for quality control of construction and the assurance of meeting these Standards. Public Works inspectors monitor these activities with enforcement authority when requirements are not met.

All materials provided by the Developer shall be subject to inspection and approval by the Inspector at any time during the progress of work until Final Acceptance. The contractor's construction schedule shall include sufficient time for materials testing and any required verification by the Inspector.

The Inspector may advise the Developer or contractor of any faulty work or materials; however, failure of the Inspector to advise the Developer or contractor does not constitute acceptance or approval. At the Inspector's order, the Developer and/or contractor shall immediately remedy, remove, replace, and dispose of unauthorized or defective work or materials and bear all the costs of doing so.

All street, utility and drainage system infrastructure must be inspected. Subgrade inspection will not commence until density tests confirm that the compaction is in accordance with the specifications.

### 2.2.A Minimum Requirements

Prior to beginning any critical task, the Developer must schedule meetings and/or inspections with the Inspector in advance. At a minimum, the following critical tasks require advance notification:

1. **Pre-Construction Conference:** Five (5) working days prior notice unless otherwise approved by the Engineer. Conference must precede the beginning of construction and include the Developer, contractor, design engineer, utilities, and other applicable participants. Engineering plan approvals and permits must be issued prior to the scheduling of the conference, unless otherwise approved by the Engineer.
2. **Clearing and Temporary Erosion/Sedimentation Control:** One (1) working day notice prior to initial site work involving drainage and installation of temporary erosion/sediment control. See Section 5.7 Erosion Control for additional information.
3. **Utility and Storm Drainage Installation:** One (1) working day notice prior to trenching and placing of storm sewers and underground utilities such as sanitary, water, gas, power, telephone, and TV lines. See Section 6.17 All Utilities Within City Right-of-Way and Standard Plans 6-64 through 6-69 for additional information on pavement restoration.
4. **Utility and Storm Drainage Backfill and Compaction:** One (1) working day notice before backfill and compaction of storm sewers, drainage structures, and underground utilities.
5. **Subgrade Completion:** One (1) working day notice at stage that underground utilities and street grading are complete; to include placement of gravel base if required.
6. **Curb and Sidewalk Forming:** One (1) working day notice.
7. **Curb and Sidewalk Placement:** One (1) working day notice.
8. **Crushed Surfacing Placement:** One (1) working day notice.
9. **Paving:** Three (3) working days notice in advance of paving with asphalt or Portland cement concrete. Roadway surface paving shall not be allowed until all subsurface drainage and sewer facilities have passed inspection by the City or other franchised utility.
10. **Structural:** Three (3) working days notice prior to each critical stage, such as placement of foundation piling or footings, placement and assembly of major components, and completion of structure and approaches.
11. **Final Inspection:** Fifteen (15) working days prior to overall check of project site. All paving and associated appurtenances and improvements, cleaning of drainage system, and all necessary cleanup shall be completed prior to the request for final inspection.

Prior to approval of construction work, acceptance and release of construction performance financial guarantees, the Developer shall pay any required fees, submit any required maintenance and defect financial guarantees, and submit required Record Drawings, in both hardcopy and electronic file formats, reflecting all minor and design plan changes of the street, utility and drainage systems.

12. Final Maintenance Inspection: The final maintenance inspection is performed by the Public Works Department forty-five (45) days prior to the end of the 2-year maintenance period. Prior to release of the maintenance financial guarantee, there shall be successful completion of the maintenance period as described in Section 1.15.J Maintenance Period and Final Inspection of All Public Improvements, replacement/repair of any failed facilities, and the payment of any outstanding fees.

### **2.2.B Penalties for Failure to Notify and Obtain Approval**

Notification by the Developer or designated representative, at the necessary time frames noted above, is essential for the City to verify, through inspection, that the work meets these Standards. Failure to notify and obtain approval will result in the City requiring additional materials sampling and testing by a materials testing laboratory. Costs of such testing and certification shall be borne by the Developer. If the test results conclude that the unauthorized work does not meet these Standards, the Developer will be required to remove the unauthorized material and replace it with materials that meet the Standards at his/her own expense. At the time that such action is directed by the Engineer, further work on the development may be limited or prohibited until all directed tests have been completed, approved, and all corrections identified by the City have been made to the satisfaction of the Engineer. If necessary, the City may take further action as set forth in Kent City Code.

## **2.3 CONTROL OF MATERIALS**

### **2.3.A Source of Supply and Quality of Materials**

The Developer shall notify the Engineer of proposed sources of supply for all materials to be furnished. At the option of the Engineer, the source of supply of each of the materials shall be approved by the Engineer before the delivery is started. Only materials conforming to the requirements of the WSDOT Standard Specifications and approved by the Engineer shall be used in the work. See Section 1-06.1 of the WSDOT Standard Specifications. Any of the materials proposed to be used may be inspected or tested at any time during their preparation and use. If, after testing, it is found that sources of supply which have been previously approved do not meet the specifications or if the product from any source proved unacceptable at any time, the Developer shall furnish approved

materials from other approved sources. No materials which, after approval, have in any way become unfit for use shall be used in the work.

### **2.3.B Samples and Tests**

At the direction of the Engineer, the Inspector shall direct that a materials testing laboratory be utilized to conduct necessary field and/or lab tests of materials or methods. All testing shall be done in accordance with ASTM and AASHTO accepted standards and all reports shall be stamped and signed by a Professional Engineer. Such test/laboratory reports shall be transmitted to the Inspector by the Developer and shall be the basis upon which decisions may be made for the Developer to proceed with certain portions of their work. The absence of adequate materials testing reports may delay or prohibit work from proceeding. In such cases the City shall not be responsible for Developer delays.

All testing shall be in accordance with commonly recognized standards of the appropriate national organizations, WSDOT, ASTM, AASHTO, or common industry standards. The field tests of materials shall be made as deemed necessary by the Engineer at no cost to the City. In general, tests shall be made at the frequency as outlined by the applicable sections of the WSDOT Standard Specifications, and the WSDOT Construction Manual.

The Developer shall furnish, without charge, samples of all materials as requested by the Engineer. Materials shall be delivered, in advance, on the site in such quantities as to afford the Engineer an opportunity to make tests before the materials are to be used. The Developer shall furnish, at their own expense, such labor and facilities as may be required to enable the Engineer to make a thorough inspection of the materials. A Certificate of Materials shall be provided. Materials shall not be used until approved.

As soon as materials have been tested and inspected, the Developer shall immediately remove all rejected materials from the site as the Engineer may require, and shall arrange for replacement of rejected materials at their own expense. The neglect or failure on the part of the Engineer to reject inferior materials or work shall not be construed as an acceptance of the materials or work.

### **2.3.C Storage of Materials**

All materials intended for use in the work shall be stored by the Developer by means that will prevent damage from exposure to the elements, erosion, contamination from admixture of foreign materials, or from any other cause. The Engineer will refuse to accept, or to sample for testing, any materials that are improperly stored. The Engineer may inspect materials when, in the opinion of the Engineer, the materials no longer meet specifications. If materials are found not to meet specifications, they shall be removed immediately from the project site.

### **2.3.D Defective Materials**

All materials not conforming to the requirements of these specifications and the approved Engineering Plans will be rejected by the Engineer and all such materials whether in place or not, shall be immediately removed from the site by the Developer.

### **2.3.E Temporary Stockpiling**

A temporary stockpile consists of materials such as fill material, unsuitable excavation, or aggregate that is stored in piles of varying size awaiting use or disposal on a public or private project.

No contaminated stockpiles shall be allowed within the City of Kent, unless associated with a cleanup plan approved by DOE, or as otherwise approved by the City of Kent.

Temporary stockpiles are allowed within public or private project limits subject to the requirements below.

All stockpiling activities on privately owned property adjacent to, or in the vicinity of, a project shall be subject to the grading requirements of KCC 14.01.030A and these Standards. In addition, stockpiling of more than 500 cubic yards throughout the total lifetime of the fill or excavation shall be subject to SEPA regulations per KCC 11.03.

All of the following requirements shall be met while temporarily stockpiling material:

1. All proposed stockpile locations must be shown on the Temporary Erosion and Sediment Control (TESC) plan sheets or otherwise approved by the Engineer.
2. Locate temporary stockpiles a minimum of 50' away from sensitive area buffers, concentrated flows of stormwater, drainage courses, and/or inlets. This 50' restriction may be reduced based on a site specific TESC plan that addresses best management practices (BMPs) for protecting the stockpile and as approved by the Engineer.
3. Protect all temporary stockpiles from wind and stormwater erosion using plastic sheeting installed per City of Kent Surface Water Design Manual specifications. Perimeter protection, such as vegetative buffers, silt fence, straw bale barriers, or wattles, must be used in conjunction with the stockpile covering as necessary to prevent sediment transport.
4. All temporary stockpiles shall be inspected before, based on weather forecasts and after any recordable precipitation or once a week if no precipitation occurs.
5. Temporary stockpile locations shall not block the sight distance at any intersection or driveway.
6. Maximum height of stockpiled materials shall be 24'.

All temporary stockpiles shall be covered and protected during the wet season (October 1 to March 31) if they are not being used for any 2-day period or, if during the dry season (April 1 to September 30) the material is not to be used for any 7-day period. During the wet season, slopes and stockpiles 3H:1V or steeper with more than 10' of vertical relief shall be covered if they are to remain unworked for more than twelve (12) hours. The intent of these measures is to prevent erosion by having as much area as possible covered during any period of precipitation.

Portland cement, cement concrete rubble, asphalt concrete, and asphalt concrete rubble stockpiles shall be covered at all times.

All temporary stockpiles shall be removed and the area restored to its original pre-stockpiling condition prior to the Final Acceptance of the project associated with the stockpiling need. Temporary stockpiles may not be used as fill on the stockpile site or any other site unless specifically included, described and approved in a Permit for the Site on which it is to be used.

For further reference on how to temporarily stockpile materials, see Standard Plan 5-32 in Chapter 5.

### **2.4 CONSTRUCTION CONTROL IN DEVELOPMENTS**

The provisions of Section 2-03 of the WSDOT Standard Specifications apply in all respects to development construction unless otherwise instructed by the Engineer. The following elements are mentioned for clarification and emphasis:

#### **2.4.A Embankment and Cut Section Compaction**

Each layer of the entire embankment shall be compacted to 95 percent of the maximum density per Section 2-03.3(14) C of the WSDOT Standard Specifications, as determined by the compaction control tests described in Section 2-03.3(14) D of the WSDOT Standard Specifications.

#### **2.4.B Testing for In-Place Density and Moisture Content**

1. Prior to placing any surfacing material on the street, it will be the responsibility of the Developer to provide density test reports reviewed and approved by a Professional Engineer and accepted by the Inspector. It is the obligation of the approving Professional Engineer to notify the Inspector of any test results that do not meet the minimum requirements of the specifications. Optimum moisture content, maximum density, in-place density and moisture content shall be determined by methods cited in Section 2-03.3(14) D of WSDOT Standard Specifications or by other test procedures approved by the Engineer. For work to be accepted, tests must show consistent uniform density and moisture content as required by tests referenced above.

2. Compaction reports are required for all projects. The reports shall include a sketch showing the locations the tests were taken. compaction testing shall be accomplished as backfill or embankment construction progresses. At a minimum, compaction tests are required per Section 9-5.7 of the WSDOT Construction Manual. Additional tests and/or shorter length intervals may be required by the Inspector.

In cases where tests or frequency of testing do not meet the minimum standard, corrective action shall be taken as directed by the Developer's Engineer and approved by the Inspector. Retests shall show passing densities prior to placing the next lift of fill or pavement.

### **2.4.C Unsuitable Foundation Excavation**

The contractor shall excavate unstable natural ground before building any embankment over it or in trenches for storm drainage and utilities. This unstable material may include peat, muck, swampland, buried logs and stumps, or other material not fit for a base. If unsuitable material is encountered, the Developer and/or contractor shall immediately contact the Inspector. No fill, backfill or permanent parts of a structure shall progress until authorized by the Inspector. Corrective actions may include, but are not limited to, over excavation, dewatering and/or development and approval of a special design section. The contractor shall excavate such material to the boundaries set by the Inspector.

## **2.5 SUBGRADE**

In preparing the roadbed for surfacing before any paving, the requirements outlined in Sections 2-06.3(1) and 2-06.3(2) of the WSDOT Standard Specifications shall be met. After the subgrade preparation has been completed, it shall be thoroughly checked by the Developer and/or contractor using a level, laser level string line, crown board, or other means to determine that the subgrade conforms to the approved street section and these Standards prior to placing any surfacing material.

## **2.6 TRAFFIC CONTROL IN DEVELOPMENT CONSTRUCTION**

### **2.6.A Interim Traffic Control**

The Developer shall be responsible for interim traffic control during construction on or along traveled City streets, including grade and fill operations which exceed haul route requirements and work on private property where trucks and equipment are entering and exiting the site on a daily basis. See Section 6.12.C Construction Area Traffic Control. When street or drainage work is to be performed on City streets that are open to traffic, the Developer will be required to submit a traffic control plan for approval by the Engineer prior to approval of the plans unless otherwise approved by the Engineer. In no case shall construction begin until the traffic control plans have been approved. Traffic control shall follow the

guidelines of Section 1-07.23 of the WSDOT Standard Specifications. All barricades, signs and flagging shall conform to the requirements of the MUTCD Manual. For more specific requirements, see Section 6.12 Traffic Control Devices and Standard Plan 6-72. Signs must be legible and visible and shall be removed at the end of each workday if not applicable after construction hours.

### **2.6.B Temporary Street Closures and Detours**

When temporary street closures cannot be avoided the Developer and/or contractor shall post "This Street Will Be Closed" signs, after approval of closure by the City, and a minimum of five (5) working days prior to the closing. The types and locations of the signs shall be shown on a detour plan. A proposal for a street closure and a detour plan must be prepared and submitted to the Engineer at least ten (10) working days in advance and approved prior to closing any City street. In addition, the Developer and/or contractor must notify, in writing, all adjacent property owners and/or tenants, local fire, school, and law enforcement authorities, METRO Transit, and any other affected persons as directed by the Engineer at least five (5) working days prior to closing.

The City will not allow construction related street closures during the following times: Memorial Day Weekend, July 4<sup>th</sup> Weekend, Cornucopia Celebration Weekend (2<sup>nd</sup> weekend in July), Labor Day Weekend, Thanksgiving Weekend, and December 20<sup>th</sup> through January 1<sup>st</sup>. Within the Downtown Overlay District, no construction activities within public right-of-way will be allowed from November 20<sup>th</sup> through January 1<sup>st</sup>.

### **2.6.C Haul Routes**

A haul route plan approval is required when there are more than 100 haul trips to and from the site, or over 10,000 cubic yards of fill or excavation. Haul routes should guide trucks to the nearest City truck route as shown in the City of Kent Transportation Master Plan. If the construction of a proposed development is determined by the Engineer to require special routing of large trucks or heavy construction equipment to prevent impacts to surrounding streets, residences or businesses, the Developer and/or contractor shall be required to develop and use an approved haul route.

When required, the haul route plan must be prepared and submitted to the Engineer and approved prior to beginning or continuing construction. The haul route plan shall address routing, hours of operation, signage, flagging, and daily maintenance. If the Developer and/or contractor's traffic fails to use the designated haul route, the Engineer may prohibit or limit further work on the development until such time as the requirements of the haul route are complied with.

### **2.6.D Haul Route Agreement**

When identified as a need by the SEPA review process or by the Engineer, a haul route agreement shall be obtained by the franchised utility, Developer, or property owner establishing restoration procedures to be performed upon completion of the haul operation.

### **2.7 CITY FORCES AND CITY CONTRACT STREET INSPECTION**

Street construction performed by City forces or by contract for the City will be inspected under the supervision of the Engineer.

### **2.8 CALL BEFORE YOU DIG**

Contractors and builders are responsible for timely notification of utilities in advance of any construction in right-of-way or utility easements. The Utility Notification Center phone number (1-800-424-5555) should be prominently displayed on the site.

### **2.9 UTILITY CERTIFICATION**

All permits for new placement and replacement of existing utilities and utility system structures shall be accompanied by written certification from the utility's Professional Engineer or from an agent authorized by the utility to certify that the installations conform to these Standards, and that the proposed work is in conformity with sound engineering principles relating to highway safety.