

## 512 UTILITIES

### A. General

1. Any utilities' use of county rights-of-way will be coordinated with the primary purpose of the rights-of-way which is to provide safe, efficient, and convenient passage for motor vehicles, pedestrians, and other modes of transportation. Locating electric utilities underground will be strongly encouraged, and may be required by other county regulations.
2. Utilities to be located within existing and proposed County road rights-of-way shall be constructed in compliance with these Standards and in accordance with the following:  
  
*Whatcom County Code 12.16 Revocable Encroachment Permits*  
*Whatcom County Code 12.24 Franchise Requirements*  
*Whatcom County Code 12.27 Accommodation of Utilities on Rights-of-way*  
*Whatcom County Code 12.28 Utility Construction*  
*Whatcom County Code 12.30 Fiber Optic Cable Systems*
3. To the extent that no conflict exists with these standards or county code, the utility purveyor's standards will apply beyond existing or planned county road rights-of-way.
4. The County Engineer may require the Utility's authorized representative to submit plans detailing the nature, location, size, and type of utility to be installed. Plans shall conform to Section 507, *Construction Plans*, of these Standards. When required by the County Engineer, Record Drawings shall be submitted in conformity with the provisions of Section 507.D, *Record Drawings*, of these Standards.
5. Plans for new placement and replacement of existing utility poles and other utility structures shall be accompanied by written certification from a professional engineer (or from an agent authorized by the utility to certify) that the installation conforms to these Standards and that the proposed work is in conformity with sound engineering principles related to roadway safety and environmental protection.
6. Any person or persons, corporation, district, municipality, city, town or utility who shall desire to work within or temporarily use the county right-of-way, easement or county-owned land shall first procure from the department of public works a revocable encroachment permit. WCC 12.16.020.
7. Work may be performed on an emergency basis when regard for health or safety and the circumstances do not allow a valid encroachment permit to be issued prior to work within county rights-of-way, provided the County Engineer is notified at the earliest possible time. See WCC 12.16.070 *Emergency* for specifics.

8. An encroachment permit shall be required to occupy road rights-of-way by all utility facilities.
9. No utility facility shall be used for other than the purpose stated and permitted, unless written approval is granted by the County.
10. Requests for alternatives to these Standards will be processed in accordance with the variance procedure in Section 504.F, *Variances*.
11. Before commencing any excavation, all persons/contractors are responsible for timely notification per RCW 19.122.030, "...not less than two business days or more than ten business days before the scheduled date for commencement of excavation,..." of utility construction in rights-of-way or utility easements. Call the Utility Notification Center (One Call) phone number - 1-800-424-5555 or 811.
12. Utilities shall comply with the provisions of Section 511, *Construction Inspection*, of these Standards.

#### B. Securities

The County Engineer may require a performance and/or warranty securities as specified in Section 509, *Securities*.

#### C. Trench Excavation

General provisions for maintenance of traffic shall be in accordance with Section 508.K-4, *Traffic Control*, of this chapter. Trench excavations shall not be left open overnight on roads unless approved by the County Engineer.

#### D. Utility Locations

Utilities within the rights-of-way on new roads or in public roadways where existing topography, utilities or storm drains are not in conflict (or as required by WCC Title 21) shall be located as shown on the typical sections in Drawings 512.D-1, and as indicated below. Where existing utilities or storm drains are in place, new utilities shall conform to these Standards as nearly as practical and yet be compatible with the existing installations. Exceptions to the following may be approved by the County Engineer.

##### 1. Below Grade Utilities

Edges of utility trench shall be constructed within preferred area shown on Drawing 512.D-1, or as noted below:

- a) Horizontal location

- i. Preferred: Backside of ditch or sidewalk, or in shoulder minimum three (3) feet from edge of traveled way, or outside road rights-of-way within separate easements on existing roads.
  - ii. Allowed: See Drawing 512.D-1 for area if conflicts prevent preferred location shown.
- b) Gravity systems (sanitary and stormwater) shall have precedent over other systems in planning and installation, except where non-gravity systems have already been installed under a previously-approved permit.
- c) The preferred location for power and communication is underground.
- d) All underground utilities shall have a minimum cover of 36 inches perpendicular to finished grades.
- e) Mains, service connections, and stub outs to all parcels shall be completed prior to placing of surfacing materials.
- f) If plowing-in cable, a minimum of five (5) feet from edge of pavement or back of curb shall be maintained.
- g) No utility appurtenances (such as manhole covers, valve covers, access covers) or longitudinal trench patch shall be allowed in traveled way wheel tracks.
- h) There shall be no appurtenances in sidewalks.
- i) Street trees if present or planned shall be taken into consideration when placing utilities.
- j) When allowed, the centerline of underground systems and appurtenances shall be located five (5) feet away from road centerline and where they will not otherwise disturb existing survey monumentation.
- k) A common utility trench plan may be approved by the County Engineer.

## 2. Above Grade Utilities

Every new placement and replacement of existing utility poles and other utility structures at or above grade shall conform to the following:

- a) Utility poles and other structures shall be as close to the edge of rights-of-way as practical, while maintaining clear zone requirements.
- b) Roads with shoulders: Poles or appurtenances shall be located back of ditches and in accordance with the criteria in Drawing 512.D-1, unless protected by an approved traffic barrier or impact attenuating device (see WSDOT Design Manual Division 16 Roadside Safety).
- c) Roads with sidewalks/curbs: Poles or appurtenances shall be located a minimum of two (2) feet from the back of sidewalk, or a minimum of two (2) feet from back of curb if sidewalk is not present (see Drawing 512.D-1).
- d) The integrity of the proposed utility, provisions for public safety during the course of construction, and the safety/accident potential for the life of the installation shall be considered.
- e) Locations of poles shall be compatible with driveway approaches, intersections, and other road features (i.e., they shall not interfere with sight distances, road signing, traffic signals, culverts, etc.). Utilities shall share facilities to the greatest extent possible.
- f) An existing pole or other appurtenance, which incurs repeated damage, shall be relocated or protected by the Utility.
- g) The minimum vertical clearance for overhead power, communication lines, and other above grade structures shall be in compliance with WAC 468-34-290 *Vertical clearance* and the WSDOT Design Manual.

### E. Utility Installations

1. Utility installations shall be in accordance with Section 504.D. *Adopted County Specifications*.
2. New road construction or road reconstruction: Utilities, with connections, shall be installed or relocated prior to final road surfacing.

F. Open Cuts on Existing Roads in County Rights-of-Way

1. Open cuts in County roads are not permitted unless it can be shown that alternatives are not feasible (such as boring, jacking, or relocation outside of the paved area), or unless the utility will be installed within four months prior to reconstruction or overlay of the road.
2. When trenching or cutting is permitted, the following will apply:
  - a) Minimum width of trench shall be two (2) feet to accommodate a vibratory compactor.
  - b) Pavement Cutting: The existing pavement shall be first cut by an appropriate means to facilitate removal. Minimum width of the pavement cut shall be 3-1/2 feet. Immediately prior to placement of the permanent "patch", the existing pavement shall be saw cut along rectangular lines as shown on the approved plans. The pavement shall be removed so as to provide a firm, neat, straight, vertical edge to join. The Contractor shall be responsible for maintaining the edge. Additional saw cuts may be required to correct broken or damaged edges.
  - c) Backfilling:
    - i. Backfilling procedure shall be done in accordance with WSDOT/APWA Standard Specifications, Section 7-08.3(3).
    - ii. Backfill material shall comply with WSDOT Standard Specifications Section 9-03, unless the County Engineer specifies the following:
      - (1) Use 5/8 inch-minus crushed rock under the public maintained roadway section. Controlled Density Fill (CDF) may be used as an alternative to this requirement.
      - (2) If cover over pipe is less than 24 inches, use pigmented CDF for trench backfill below the base course or ATB. The County Engineer will specify the color based on the APWA uniform color code. A minimum of two (2) test cylinders to be taken per day. The 28-day test strength shall be between 100 and 300 psi.
  - d) It shall be the responsibility of the utility/developer/contractor to provide density test reports. Reports shall reflect a minimum of two (2) tests for up to 100-ft in trench length, and a minimum of one (1) additional test for every 200-ft of trench length. Tests shall be at depths of 50 percent of the total trench depth and at the surface, or as directed by

the County Engineer. Certified copies of all test results shall be provided to the County.

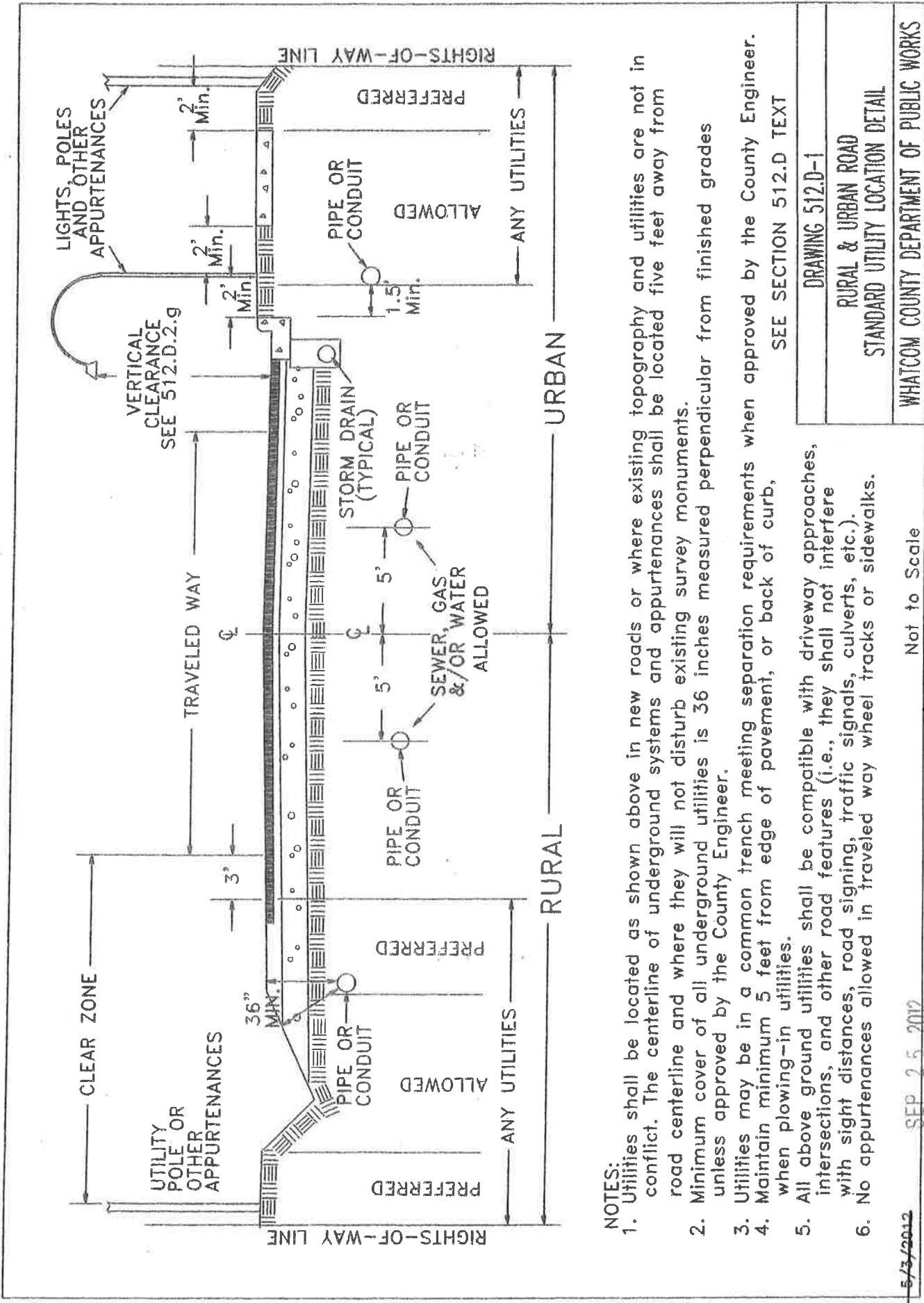
- e) When a trench cannot be backfilled prior to opening road for traffic, appropriately sized steel sheet plates shall be used to cover trench opening with prior approval of the County Engineer.
- f) Temporary Pavement Patching: A temporary two (2)-inch thick cold asphalt plant mix patch may be required to be placed and maintained over the trench area until final settlement is satisfactory to the County Engineer. The temporary patch shall be removed and the existing pavement cut before permanent repairs are made.
- g) Permanent Pavement Repair: Generally, the structural section of the patch shall be equal to the section of the existing pavement. In no case shall the thickness of compacted asphalt concrete be less than two-and-a-half (2-1/2) inches. Full depth asphalt concrete patches shall be placed in layers not exceeding three (3) compacted depth inches.
- h) Tack Coat: A tack coat shall be uniformly applied to all edges to be joined and lapping six (6) inches over the existing pavement. The lines from the new asphalt pavement shall be raked over the tack coat, feathered, and rolled or tamped to seal the joint. The joint shall be sealed per the WSDOT/APWA Standard Specifications.
- i) Asphalt Concrete: Asphalt concrete used for patching shall be HMA class 1/2" and shall be furnished, placed, and compacted in conformance with WSDOT/APWA Standard Specifications.
- j) Portland Cement Concrete: Portland cement concrete mix used for patching shall be Class 4000 and shall be furnished and placed in conformance with the WSDOT/APWA Standard Specifications.
- k) Overlay: A disruption of one-sixth (1/6) or more of the traveled way is subject to an overlay at the direction of the County Engineer. An overlay may include up to the entire traveled way. See Drawing 512.F-2.
- l) Restoration: Where the utility installation leaves less than half width of the existing pavement (traveled way), the entire pavement shall be removed and replaced. WCC 12.28.080.

3. Permanent pavement repair shall be performed according to Drawings 512.F-1 and 512.F-2 or as directed by the County Engineer.

4. Any open cut made in a Low Impact Development (LID) Best Management Practices facility shall be replaced with the same in kind material and/or vegetation to ensure that project design assumptions for the LID facility continue to function as designed after utility construction.
5. For other than existing gravel access approaches, a written agreement for restoration with property owner shall be obtained prior to open cutting a private access approach within county rights-of-way.







**NOTES:**

1. Utilities shall be located as shown above in new roads or where existing topography and utilities are not in conflict. The centerline of underground systems and appurtenances shall be located five feet away from road centerline and where they will not disturb existing survey monuments.
2. Minimum cover of all underground utilities is 36 inches measured perpendicular from finished grades unless approved by the County Engineer.
3. Utilities may be in a common trench meeting separation requirements when approved by the County Engineer.
4. Maintain minimum 5 feet from edge of pavement, or back of curb, when plowing-in utilities.
5. All above ground utilities shall be compatible with driveway approaches, intersections, and other road features (i.e., they shall not interfere with sight distances, road signing, traffic signals, culverts, etc.).
6. No appurtenances allowed in traveled way wheel tracks or sidewalks.

SEE SECTION 512.D TEXT

DRAWING 512.D-1  
 RURAL & URBAN ROAD  
 STANDARD UTILITY LOCATION DETAIL



EXISTING DEPTH OR MIN COMPACTED  
2-1/2" DEPTH OF HMA CLASS 1/2",  
WHICHEVER IS GREATER

VERTICAL  
SAW CUTS  
(TYPICAL)

EXISTING ASPHALT  
OR BST SURFACE

2" MIN CRUSHED  
TOP COURSE

10" MIN  
AGGREGATE FOR  
GRAVEL BASE

9" MIN

APPROVED  
BACKFILL MATERIAL

FLEXIBLE PAVEMENT REPAIR

VERTICAL  
SAW CUTS  
(TYPICAL)

TIE BAR OR  
DOWEL BAR  
(TYPICAL)

7" MIN PCC  
CLASS 4000

9" MIN

APPROVED  
BACKFILL MATERIAL

CONCRETE PAVEMENT REPAIR

NOTES:

1. All depth and type of materials shall match existing road cross section or minimum shown, unless the County Engineer specifies otherwise.
2. A revocable encroachment permit is required for all work in County rights-of-way.
3. Any disruption of 1/6 or more of the traveled way may require a pavement overlay or restoration, see Drawing 512.F-2.
4. No longitudinal trenching in traveled way wheel tracks without County Engineer approval.
5. Steel plates may be used to cover trench with County Engineer approval.
6. All backfill shall be compacted with a vibratory compactor and is subject to compaction testing.
7. Existing pavement shall be saw cut to achieve neat vertical edges prior to patching.
8. Tack coat shall be applied to all edges to be joined before asphalt placement.
9. Asphalt shall meet WSDOT/APWA Standard Specifications HMA class 1/2" and be placed in lifts not more than 3 compacted depth inches.
10. Trenches in concrete pavement shall be repaired using tie bars or dowel bars and sealed joints, in accordance with Section 5-05 of the WSDOT/APWA Standard Specifications.
11. See Section 515 for Definitions and Acronyms.

DRAWING 512.F-1

TRENCH REPAIR DETAIL

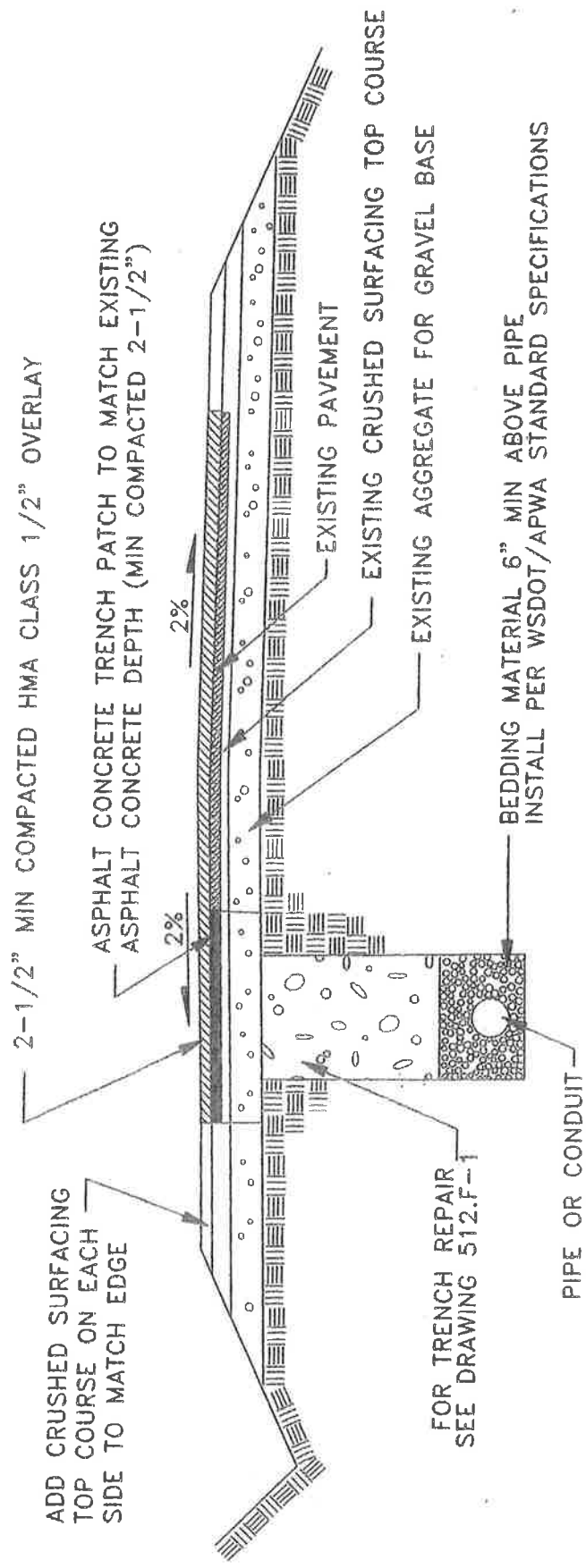
SEP 25 2012

Not to Scale

WHATCOM COUNTY DEPARTMENT OF PUBLIC WORKS

5/13/2012





**NOTES:**

1. Generally, a disruption of 1/6 or more of traveled way may require a full traveled way width overlay at the direction of the County Engineer.
2. Where the utility installation leaves less than half width of the existing pavement (traveled way), the entire pavement shall be removed and replaced.
3. See Section 515 for Definitions and Acronyms.

DRAWING 512.F-2

PAVEMENT OVERLAY  
DETAIL

SEP 25 2012

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WHATCOM COUNTY DEPARTMENT OF PUBLIC WORKS

