

**Section VII**  
**TRENCHING, BACKFILL, AND PAVEMENT RESTORATION**  
**FOR UTILITY INSTALLATIONS IN PUBLIC RIGHTS-OF-WAY**

The standards in this section primarily apply to installations in paved areas within public rights-of-way. The City encourages trenching for franchise utilities to occur outside of paved areas, in which case the following pavement restoration standards would not apply. For work in paved areas, all of the following standards shall apply.

**A. General**

Materials and workmanship shall be in conformance with the adopted standards of the City of Poulsbo, including the most recent version of the WSDOT/APWA Standard Specifications for Road, Bridges, and Municipal Construction. Construction shall be in conformance with the details and conditions outlined in the Public Property Construction Permit and with the following. The City Engineer reserves the right to use discretion in this matter when deviations are in the best public interest.

1. No pavement cuts of any kind are allowed in pavement less than 10 years old.
2. Windows *may* be allowed in pavement more than 10 years old. A Class B asphalt overlay is required for all windows in the traveled way.
3. Open cuts *may* be allowed, on a case-by-case basis depending on traffic issues, for pavement that is more than 10 years old. A Class B asphalt overlay is required for all open cuts in the traveled way.
4. The "traveled way" is defined as the area of pavement from curb to curb. When there are no curbs, then the traveled way is defined as the area of pavement from fog-line to fog-line. Paved shoulders outside of the fog line are not considered to be in the traveled way.
5. Street crossings for public utilities shall be pushed or bored whenever possible. When existing utilities are located in the push or bore vicinity in pavement more than ten years old, a window may be excavated to reveal the exact location of the existing utility. The window shall be the smallest size possible that insures that the push or bore will not damage the existing utility. Existing windows shall be used whenever possible.
6. Excavation or tunneling under sidewalks is not allowed. Sidewalks shall be sawcut, removed, and replaced at a location approved by the City Engineer. The sidewalk replacement shall conform to City standards.
7. Maintain two lanes of traffic whenever possible. A minimum of one lane of alternating two-way traffic shall be maintained at all times with appropriate signs and flaggers. No street closures will be allowed.

8. A pedestrian detour route shall be clearly delineated whenever sidewalks are obstructed.

#### **B. Backfill**

1. All backfill material for transverse trenches shall be imported 3/4" minus crushed rock or Controlled Density Fill (CDF) conforming to the Standard Specifications. Native backfill will not be allowed. Sand, gravel screenings, or pea gravel may be used within the pipe zone for bedding. Crushed rock or CDF shall then be placed and compacted in the remainder of the excavation.
2. Trench backfill for longitudinal trenches shall be imported unless the City Engineer determines that the native material is suitable. The top 8 inches of backfill shall be crushed surfacing top course in any case.
3. All trench backfill shall be compacted to 95% maximum density as described in the Standard Specifications.
4. The City Engineer may require compaction testing of trenches and/or paving. Testing shall be performed by an independent certified testing laboratory. The cost of testing is the responsibility of the franchise utility or the contractor. Compaction of all lifts of asphalt shall be per the Standard Specifications. The number of tests required per square foot of trenching shall be as follows unless directed otherwise by the City Engineer:
  - a. One test for less than fifty square feet of trenching area.
  - b. Two tests for fifty to one hundred square feet of trenching area.
  - c. Three tests for one hundred plus to three hundred square feet of trenching area.
  - d. One test for every two hundred square feet over three hundred square feet of trenching area or every one hundred lineal feet of trench, if applicable.
5. Trenches or other excavations four (4) feet or more in depth that do not meet the open pit requirements of the latest edition of the WSDOT Standard Specifications shall be shored. The contractor shall be solely responsible for worker safety and damages related to shoring or failure to shore.

#### **C. Restoration**

1. Trench restoration shall be accomplished with a patch or an overlay as required by the City Engineer.
2. All trench and pavement cuts shall be made by sawcuts or by grinding. The sawcuts or grinding shall be a minimum of one foot outside the trench width. If a patch is allowed, the trench limits shall be sawcut prior to final patching.

3. The replacement pavement section shall include a minimum of 8", compacted depth, crushed rock top course and 4" Class B asphalt.
4. All patching and paving shall be asphalt Class B, placed and compacted in 2 lifts. Emulsified asphalt tack shall be placed on all cut pavement edges. All pavement joints shall be sealed with rubberized asphalt sealer. All materials shall conform to the Standard Specifications.
5. Trenches and excavations within paved areas must be patched at the close of each workday. Cold mix asphalt may be placed temporarily. Cold patches shall be maintained constantly until permanent patching is complete. Permanent patching with hot mix asphalt sealer must be completed within a time frame determined by the City Engineer, usually two weeks, unless traffic conditions warrant paving sooner as determined by the City Engineer. Overlays, when required, shall be completed in a timely manner or within a time frame determined by the City Engineer as stated on the Public Property Construction Permit. Since it is more cost effective to pave multiple locations at one time, the City Engineer may allow an extension of time to complete overlays. The City Engineer may allow the time frame to be adjusted if paving delays are due to inclement weather or other adverse conditions.
6. Disturbed unpaved shoulder areas shall be compacted to 95% maximum density and restored to original or better condition. At a minimum, 3/4" minus crushed rock shall be placed at a minimum compacted depth of 2 inches.
7. Trenches, excavations, and windows in paved areas must be patched at the close of each workday. Cold mix asphalt may be placed temporarily. Cold patches shall be maintained constantly until permanent patching is complete. Permanent patching with hot mix asphalt, including rubberized asphalt edge sealer, must be completed within two weeks unless traffic conditions warrant paving sooner as determined by the City Engineer. Overlays shall be completed in a timely manner; however, since it is more cost effective to pave multiple locations at one time, the City Engineer may allow an extension of time to complete the overlays.

#### **D. Overlays**

1. A Class B asphalt overlay shall be required for all open cuts and new "windows" in the traveled way. The existing pavement shall be ground to a depth of 1.5 inches. Joint edges shall be sealed with rubberized asphalt sealer. The overlay shall extend transversely across the entire lane width and longitudinally for a distance determined by the City on a case-by-case basis. For windows, the minimum longitudinal distance shall be four feet on each side of the excavation.

## E. Conduit and Ductbanks for Telecommunications

### 1. Background

The City of Poulsbo has been an active participant in the Regional Telecommunications Committee sponsored by the Kitsap County Economic Development Council. The purpose of this group is to encourage economically competitive telecommunication service through a collaborative effort of providers, business, and government. The Telecommunications Committee has identified a need to develop standards that will facilitate the cost-effective installation of underground infrastructure while preserving the integrity and safety of public rights-of-way.

### 2. Purpose

The purpose of these conduit and ductbank standards will be to:

- a. Facilitate the installation of state-of-the-art telecommunications facilities for the City of Poulsbo and Kitsap County.
- b. Minimize the duration and frequency of disruption to the public caused by construction within the rights-of-way.
- c. Allow and require, as necessary, the installation of empty conduit for future use by various providers.
- d. Establish a moratorium on right-of-way use permits that require trenching following street construction or resurfacing.
- e. Provide uniform trenching and conduit installation guidelines for utility companies, telecommunications providers, and developers.
- f. Outline trenching and pavement restoration standards.

### 3. Deviations

Deviations from these standards may be authorized by the City Engineer as conditions warrant. Emergency situations will be handled on a case-by-case basis.

### 4. Planning and Coordination

It is incumbent on the individual utility companies and telecommunications providers to initiate contact with the City and to be aware of any projects in the City's Six-Year Transportation Improvement Program, Capital Improvement Program, or on-going developer activities that may coincide with their planned installation(s). The City will attempt to facilitate these communications insofar as possible, but the responsibility rests with the providers and failure to be aware of, and coordinate with, other projects will not become a valid reason for providers to request a deviation from the moratorium on pavement cutting.

5. Joint Trenching

In order to reduce damage to City streets, minimize disruption to the public, and encourage cost-effective installation of utilities and conduits, the City may require joint trenching. This concept may be initiated in a variety of ways such as:

- a. A utility company applies for a permit to install facilities in the right-of-way.
  - 1) the City may notify other companies that they need to occupy the same trench, or
  - 2) the City may furnish pipe and/or conduit to be included at the same time, or
  - 3) the City may require that the applicant install additional empty conduit for future use.
- b. The City initiates a Capital Improvement Project.
  - 1) the City may elect to install its own pipes and/or conduit that can be leased to providers for future use, or
  - 2) the City contacts other companies to give them an opportunity to install their facilities in the right-of-way at the same time in order to avoid a moratorium on pavement cutting.
- c. For new developments, subdivisions, street construction, reconstruction, or commercial sites, the City may require developers to install additional empty ductbanks, conduits, pull-boxes, and related hardware to facilitate the future installation of state-of-the-art telecommunications. Since the industry is changing rapidly, the City Engineer will consult with potential providers in order to determine the details of the required installation.

In all cases, the City Engineer will make the determination as to when joint trenching is in the overall public interest.

Some of these situations may provide an opportunity for the installer to recover a portion of their cost through a delayed benefit agreement or similar cost-recovery process. Delayed benefit agreements must be approved in advance by the City Council.

6. Moratorium on Pavement Cutting

No pavement cuts of any kind are allowed in pavement less than ten years old. Exceptions to this may be authorized by the City Engineer on a case-by-case basis and would take into consideration emergency situations and/or cases where the overall public interest would be served by allowing a deviation from this standard.

**F. Ductbanks and Buried Cable**

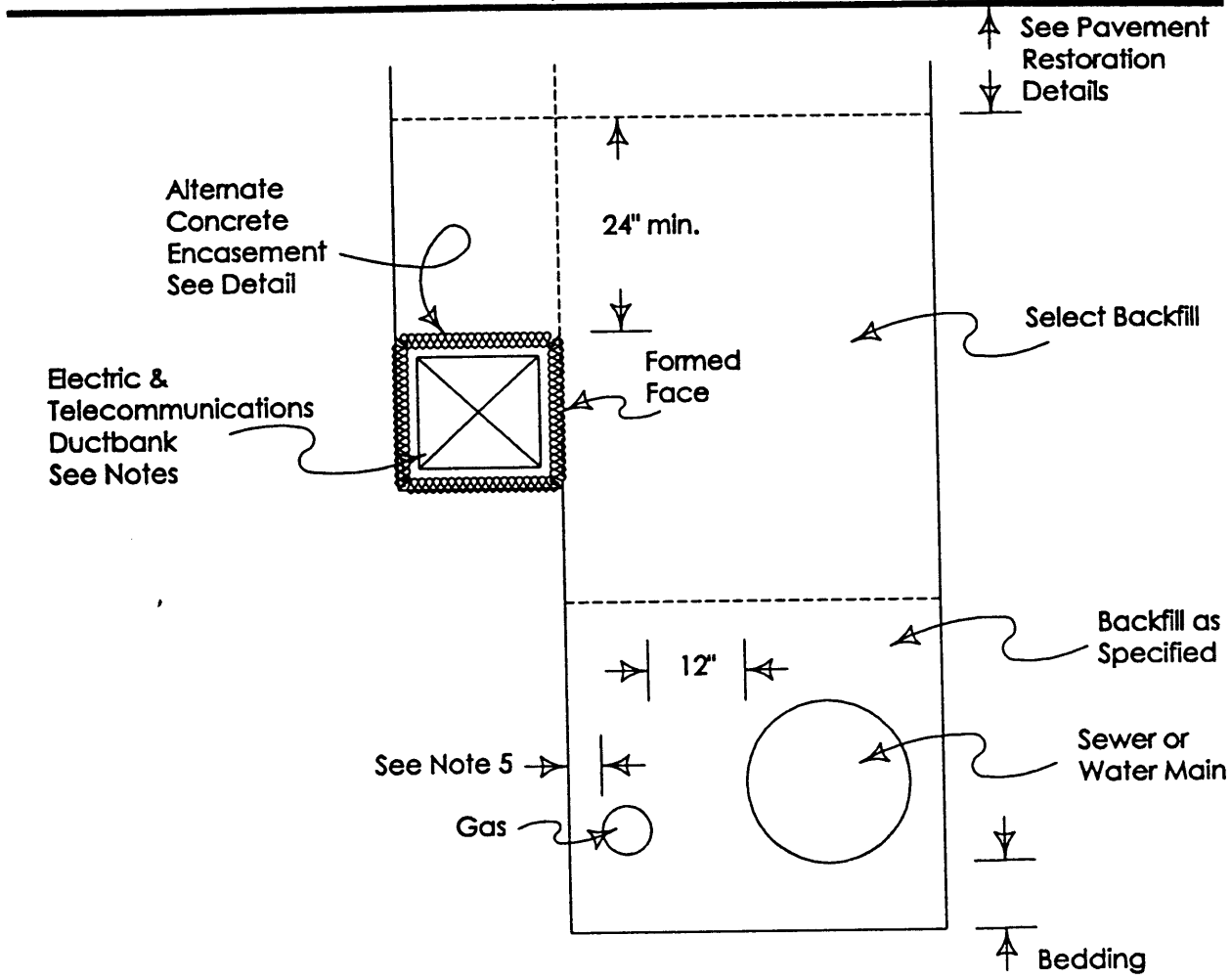
1. Separation between communication cables and power, or other electrical conductors, shall be a minimum of 12 inches.

2. The minimum depth of cover in main trenches shall be 24 inches and 12 inches in service trenches unless utility regulations dictate otherwise.
3. Trench depths and alignment may require variations to accommodate pull boxes, vaults, manholes, etc. Conduit sweeps generally require a 36-inch radius.
4. Concrete encasement for ductwork shall meet the City specifications for controlled density fill. Iron oxide red dye may be required for tinting.
5. Generally, on trenches to be shared with sewer or water lines, the alignment and grade of the pipelines will govern.
6. Unique field conditions, accepted industry standards, or utility regulations required by law may require exceptions to any of the aforementioned installation standards.

#### **G. Standard Details**

1. TR-1 Joint Trenching Option 1
2. TR-2 Joint Trenching Option 2
3. TR-3 Trench Repair and Pavement Restoration (Overlay Not Required)
4. TR-4 Window & Transverse Trench Repair (Overlay Required)

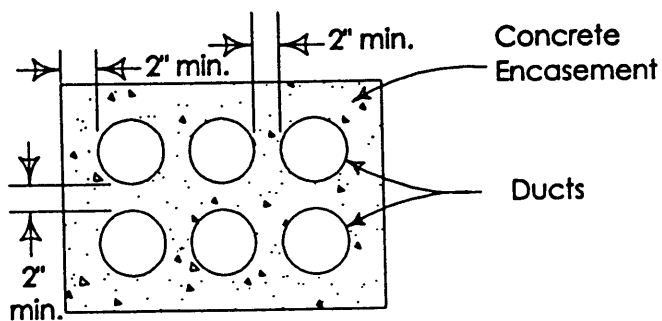
Pavement Surface




Notes:

1. Maintain 2" concrete wall thickness around ductbank.
2. Conduit separation 2" minimum within ductbank.
3. CDF mix and tint as required by City.
4. Sewer or water pipe will dictate alignment.
5. Minimum per utility company requirements.

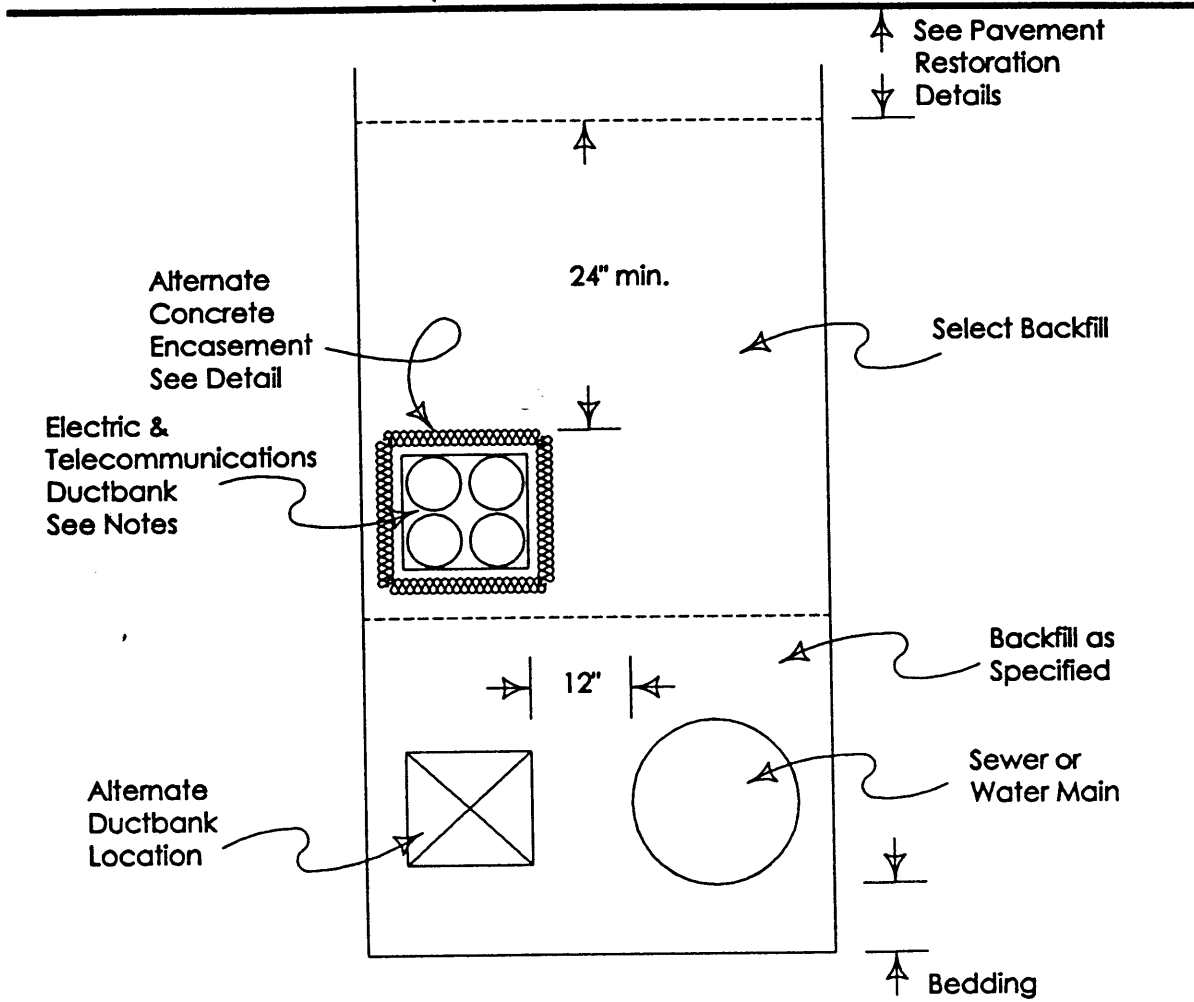
DUCT ENCASEMENT DETAIL



drawing not to scale

	<p><b>CITY OF POULSBO</b> STANDARD DETAILS</p>	
	<p><b>JOINT TRENCHING OPTION 1</b></p>	
<p>STANDARD PLAN TR-1</p>		
<p>DATE 3/30/00</p>	<p>REVISED</p>	

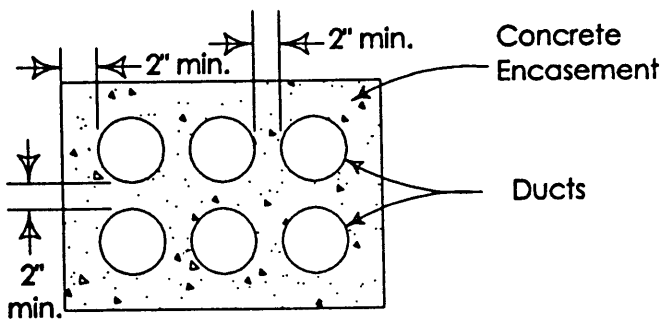
Pavement Surface




Notes:

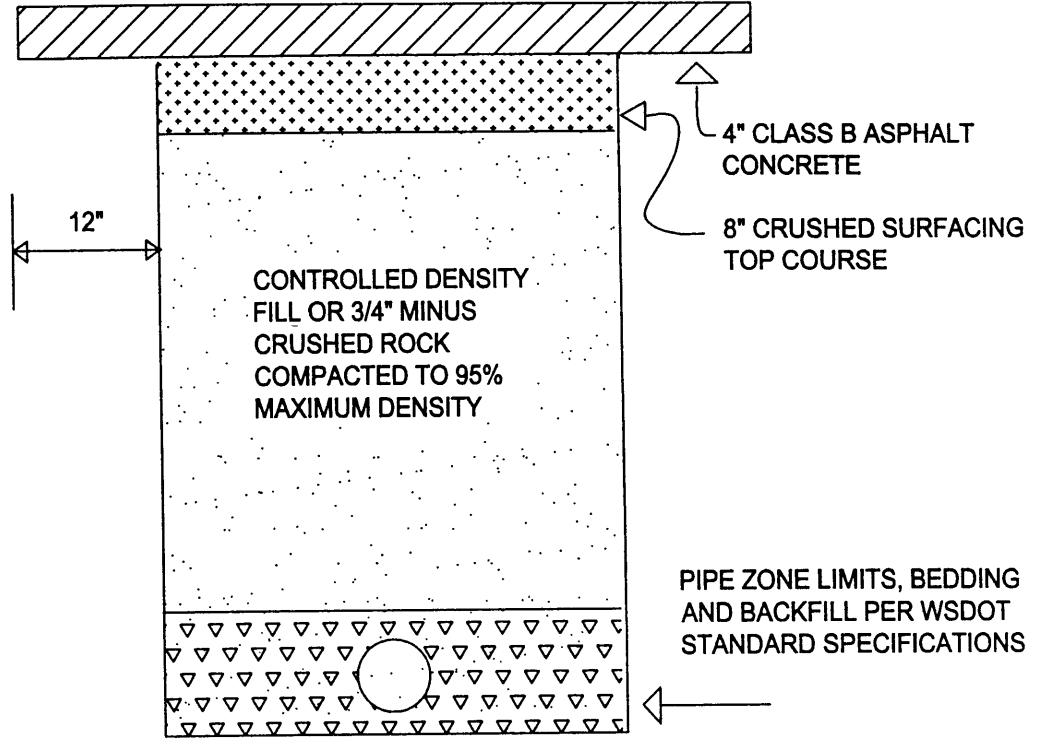
1. Ductbanks may be installed in both locations if required for separation.
2. Sewer or water pipe will dictate alignment.

DUCT ENCASEMENT DETAIL



drawing not to scale


	<p><b>CITY OF POULSBO</b> STANDARD DETAILS</p>
	<p><b>JOINT TRENCHING OPTION 2</b> STANDARD PLAN TR-2</p>
<p>DATE 3/30/00</p>	<p>REVISED</p>

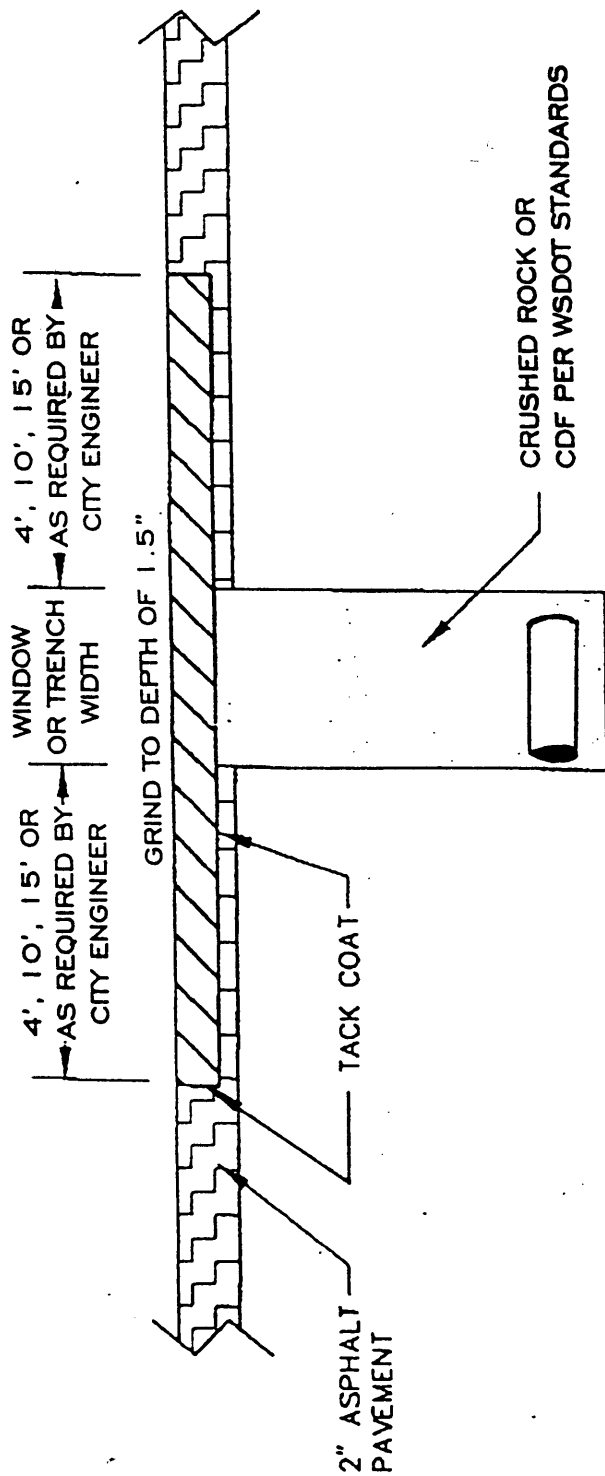


DRAWING NOT TO SCALE

**NOTES:**

1. SAWCUT ALL ASPHALT. CUT ASPHALT BACK 12" FROM EDGES OF TRENCH.
2. PLACE TACK COAT ON THE FACE OF ALL CUT PAVEMENT EDGES.
3. SEAL ALL JOINTS WITH RUBBERIZED ASPHALT SEALER.

	<b>CITY OF POULSBO</b> STANDARD DETAILS
	<b>Trench Repair and Pavement Restoration</b> <b>(Overlay Not Required)</b> Standard Plan TR-3
DATE <b>3/30/00</b>	REVISED



1. THE OVERLAY SHALL EXTEND ACROSS THE ENTIRE LANE WIDTH.
2. THE REPAIR SHALL BE COMPLETED WITHIN THE TIME FRAME STATED ON THE PERMIT.
3. THE TEMPORARY PATCH SHALL BE INSTALLED AS STATED ON THE PERMIT. THE APPLICANT IS RESPONSIBLE FOR MAINTENANCE OF THE PATCH DURING THE INTERIM PERIOD.
4. SEAL JOINTS WITH RUBBERIZED ASPHALT SEALER.
5. SAND, GRAVEL SCREENINGS, OR PEA GRAVEL MAY BE USED AS BACKFILL WITHIN THE PIPE ZONE. THE REMAINDER OF THE EXCAVATION SHALL BE BACKFILLED WITH CRUSHED ROCK OR CDF PER WSDOT STANDARDS.



**CITY OF POULSBO**  
STANDARD DETAILS

Window and  
Transverse Trench Repair  
(Overlay Required)

Standard Plan TR-4

DATE  
3/30/00

REVISED