

EXHIBIT B

3.8 PAVEMENT RESTORATION REQUIREMENTS

3.8.1. The City of Bend establishes a “Grade” based pavement cut standards system developed on the date of construction, the last qualifying pavement treatment applied and the Pavement Condition Index (PCI) rating of a pavement. These standards will be in effect for any City roadway from initial construction or from the time the most recent qualifying pavement treatment was applied. The PCI and road classification (Arterial, Collector or Local road) will determine which Grade must be used.

3.8.2. Grade 1 - Pavement Cut Restriction Standard (PCI 100-60, < 5 years): Pavement cuts will only be allowed on an emergency basis or through the exception process defined in section 3.8.6. No planned or permitted cuts will be allowed when these standards apply. If pavement cutting is necessary for emergencies, pavement restoration will be at the direction of the City Engineer and may include a full width restoration.

3.8.2.1. Grade 2 – Full Standard (PCI 100-60, > 5 years): Pavement cuts must be full depth and extend twelve inches (12”) beyond the nominal trench edge longitudinally and transversely (Standard Drawing R-10) and be a minimum of four (4) feet in width. Pavement cuts must be at lane and skip lines. Transverse trenches (perpendicular to the center line) that are less than 20’ (inside edge to inside edge) apart shall be patched as one patch. Restoration must extend from curb to fog/bike lane line (5-7’ from curb); curb to centerline (if cut is past fog/bike lane line) and curb to curb (if past centerline).

3.8.2.2. Grade 3 - Modified Standard (PCI 59-40): Pavement cuts must be full depth and extend twelve inches (12”) beyond the nominal trench edge longitudinally and Transversely (Standard Drawing R-10) and be a minimum of four (4) feet in width. Pavement cuts must be at lane and skip lines or center of traveled lanes. Transverse trenches (perpendicular to the center line) that are less than 20’ (inside edge to inside edge) apart must be patched as one patch.

Restoration must extend from:

- Curb to fog/bike lane line (5-7’ from curb);
- Fog/bike lane line to center of traveled lane;
- Center of Traveled lane to center line;
- Fog/bike lane line to centerline; or
- Curb to curb (if past centerline).

All pavement restoration must be shown on the permit plans and approved prior to construction. Half lane improvement are on a case by case basis and as approved.

3.8.2.3. T-Cut Standard (PCI 39-0): Pavement cuts must be full depth and extend twelve inches (12”) beyond the nominal trench edge longitudinally and Transversely (Standard Drawing R-10) and be a minimum of four (4) feet in width.

Applicable standards based on Grade (number of years since last qualifying pavement treatment) and City Street Classification is established in the following table:

TABLE 1- RESTORATION REQUIREMENTS BY CLASSIFICATION AND TIER

Classification	PCI 100 - 60 < 5 years	PCI 100-60	PCI 60-40	PCI 40 - 0
Local	Grade 1	Grade 2	Grade 3	T - Cut
Collector	Grade 1	Grade 2	Grade 3	Grade 3
Arterial	Grade 1	Grade 2	Grade 2	Grade 3

Grade 1 - Pavement Cut Restriction Standard; Grade 2 - Full Standard; Grade 3 - Modified Standard; T - Cut Standard (ACP Only)

Note: Proposals to deviate from the standards described above may be allowed at the discretion of the City Engineer and will require approval in advance by the City Engineer. See exemption process described below. During the permit review process, the City Engineer will determine the applicable standard based on the above table. (See figures 1-9 attached)

3.8.3. PERMITS

3.8.3.1. As part of obtaining a Right-of-Way permit per Bend Code, Chapter 3.40, Permittee must submit a complete application to Community Development Department for review and approval. A Right-of-Way application is available on the City website. The City Engineer will determine the restoration requirements in accordance with these Standards. The Permittee must provide the City Engineer at least twenty-four (24) hours’ notice prior to completing final restoration to allow for inspection. The permittee shall notify the City within 48 hours after completion of the work (3.40.025). Warranty period will not begin unless the final inspection has been completed. Permittee is responsible for all work until the permit is closed and the warranty period begins.

3.8.3.2. If the City Engineer determines, in the City Engineer’s discretion, that previous violations of these Standards exist, future construction work may be disallowed until the Permittee has fulfilled all obligations. Written notification by the City Engineer will be sent prior to this action.

3.8.4. RESPONSIBLE PARTY

The Permittee shall be responsible for all construction and warranty requirements of these standards even when the work is done by a Permittee-retained contractor.

3.8.5. GENERAL REQUIREMENTS

3.8.5.1. Materials must comply ODOT Standards and specs and as amended by the City of Bend's Standards and Specifications.

- a. All patching materials and construction requirements not addressed in this document must conform to the City's Special Provisions Section 00744.
- b. To the extent Controlled Low Strength Material (CLSM aka CDF) is required for a particular repair, the Permittee must follow ODOT Standard Specification, Section 00442 – Controlled Low Strength Materials.

3.8.5.2. Pavement Sections must meet the pavement design standards in Section 11.4. and, comply with the following standards:

- a. Local roads shall be 4 inches of pavement and a minimum of 6 inches Base rock.
- b. Collectors shall be 6 inches of pavement and a minimum of 8 inches of base rock.
- c. Arterials shall be 8 inches of pavement and a minimum of 10 inches of base rock.

3.8.5.3. Patching: Full, Modified and T-Cut Standards

- a. Longitudinal cuts that extend through multiple grade classifications require discussion with the City Engineer to determine the appropriate patching approach. In principle, each road section will be patched according to the applicable standard and grade in which it is ranked; however, the City retains the right to require a higher level grade at its discretion.
- b. For all full depth asphalt repairs on local roads, the minimum asphalt thickness shall be four (4) inches, or match the existing depth of asphalt, whichever is greater.
- c. Existing base rock disturbed within full depth asphalt repairs must be re-compacted prior to paving. For trench backfill requirements Bend Standard Specs. (see Standard Drawing R-10)

- d. All cold-planed surfaces must be swept and kept clean at all times. All cold-planed materials must be removed and disposed off-site at the cost of the Permittee.
- e. If a new patch adjoins an existing patch, the existing patch will need to be replaced up to 20 feet from the edge of the new patch. This will be on a case by case basis and will be at the discretion of the City Engineer.
- f. If any part of the excavation, patch or damaged area intrudes into an adjacent lane, that lane must also be replaced.
- g. New patches adjacent to any existing patch must be combined into one patch if there is less than 4 feet separation.
- h. When two (2) or more patches on the same project are created within twenty (20) feet of each other (inside edge of trench to inside edge of trench), they must be incorporated into a single patch at the expense of the Permittee. The total number of street cuts should be kept to a minimum. If there are three or more street cuts within a block every effort must be made to combine all three into one patch. It is at the discretion of the City Engineer to determine the final pavement restoration limits of a project.
- i. All restoration shall be shown on approved permit plans; otherwise the grade standards apply in full.
- j. Pavement cuts must be straight and clean and must be either parallel or perpendicular with respect to the travel lane. No jagged, broken or undermined edges will be allowed unless otherwise approved by the City Engineer.
- k. All pavement overcuts shall be sealed using an ODOT approved edge sealing tack material and clean sand blanket. Edge sealing methods must be consistently applied throughout, four (4) to six (6) inches in width.
- l. Contractors must use appropriate release agents and tack when placing multiple lifts of ACP.
- m. The top lift of asphalt for all longitudinal repairs with a length that exceeds thirty (30) feet must be placed using a paving machine with a screed or an asphalt spreader box.
- n. The completed surface of all courses must be of uniform texture; smooth, uniform as to crown and grade and free from defects. The completed surface of the wearing course must not vary more than one-quarter ($\frac{1}{4}$) inch from the lower edge of a twelve (12) foot straightedge placed parallel to the centerline. Tolerance exceptions and corrective measures due to

existing roadway conditions or other reasons must be approved by the City Engineer.

- o. All areas outside of the travel lanes or shoulders that are affected by the work must be restored to their original condition.

3.8.5.4. Traffic Control:

- a. Permittee must use Section 3.7 for all traffic control.

3.8.6. Pavement Cut Restriction (Exception Process)

3.8.6.1. After any street has been constructed, reconstructed, paved or overlaid by the City, the pavement surface must not thereafter be cut or opened for a period of 5 years or as directed by the City Engineer or Director of Streets & Operations. It is understood that field conditions or emergencies may warrant an exception to this Policy. However, the exception process in NO WAY obligates the City to allow cutting or opening the Street Cut Restriction Street, and any such decisions are at the City's discretion.

3.8.6.2. A utility desiring to perform work in Street Cut Restriction streets must schedule a meeting with City staff prior to submittal of a permit application. If an exception is granted, the Private Development Engineering Department will make a concerted effort to protect the integrity of the pavement structure, and to ensure a high quality replacement patch or overlay. Additional restoration requirements and extended limits will apply.

3.8.6.3. When granting exceptions to this policy, the Streets Director or City Engineer may impose conditions determined appropriate to insure the rapid and complete restoration of the street and the surface paving.

3.8.6.4. Valve and manhole repairs shall be exempt from the patching requirements of these standards. Valve and manhole patching requirements must be in accordance with City Standards. All warranty and construction requirements must be met. No longitudinal construction joints must be allowed in the wheel path.

3.8.6.5. Maintenance patching or potholing filling operations shall be exempt from the requirements of these standards.

3.8.6.6. Potholing to find utilities shall be exempt from patching requirements of these standards. To be exempt, it is preferred that all potholes are cut with a core/hole saw. If a larger pot hole is required the pavement cuts must be less than two (2) feet square with no joints in the wheel path and must be backfilled with CLSM or other City approved fill from twelve (12) inches above the utility to bottom of asphalt. Core coupons (removed asphalt circle) maybe grouted back into the existing pavement with an approved method and material.

3.8.6.7. City Owned Projects: City projects will be subject to testing and warranty requirements that are established under the applicable public procurement contracts.

3.8.6.8. An exception from the street cut restrictions standards may be granted if the City Engineer determines that impacts to vehicle, bicycle, and/or pedestrian traffic would negate the public benefit of this standard.

3.8.6.9. Exception Request: Permittee may seek an exception of these Standards as follows:

- a. Permittee must submit an exception request to the City Engineer identifying the proposed project, the impact the project will have on the roadway, the timeline for completion and explaining how all alternative solutions including avoidance have been exhausted.
- b. A meeting with the City Engineer to discuss the project may be required and the City may request additional information.
- c. The City Engineer must accept or deny any such request. If a request is accepted, the City Engineer may attach conditions of approval that require additional restoration of the area affected and/or special inspections, the cost of which shall be borne by the Permittee.

3.8.7. Permits for Non Street Cut Restriction Streets and Street Cut Restriction Streets with Approved Exception

3.8.7.1. No excavation or tunneling must be performed under any area within public rights-of-way prior to first obtaining the applicable permit from the City (permits for emergency work may be issued after the fact per this policy).

3.8.7.2. Applications for utility permits must be made on forms provided by the City. The applicant must describe the purpose, location, and size of the anticipated construction project (work), the name of the person/firm performing the actual work, and the name of the person/firm for whom the utility work is being performed. The application must be endorsed by the person/firm for whom the work is being performed or the person's/firm's agent. By signing the application, it is understood that the person/firm performing the utility work will comply with the requirements of this policy and any conditions imposed upon the work.

3.8.7.3. Depending on the impact to traffic, pedestrians, businesses or residents, public notification plans (signs, advertisements, flyers, public service announcement, etc.) may be necessary and submitted as part of the permit application. It is the responsibility of the permit applicant or the duly authorized

representative to coordinate with all affected neighbors. A pedestrian detour route shall be clearly delineated whenever sidewalks are obstructed.

3.8.7.4. Emergency utility or service lateral repair work necessary for the immediate preservation of life or property is acceptable; provided that any person making such emergency repair work they call for emergency locates. Permittee must notify the City Engineer of emergency repairs not later than the next business day. The ROW restoration for such emergency repairs must be in conformance with the criteria stated in this policy. Note, work necessary to locate faulting utilities, conduits or pipes during the emergency situation is considered part of the emergency repairs. Permittee must make every reasonable effort to restore the roadway quickly.

3.8.7.5. When the City Engineer determines that traffic conditions, safety or convenience of the public necessitates ROW utility or service lateral construction and repair be performed as quickly as possible, the City Engineer will require the permittee to provide adequate personnel, equipment, and facilities on a 24-hour basis such that the utility or service lateral work be completed as soon as practicable. This may include, but is not limited to, flaggers, temporary traffic control signs and devices, lighting, etc. The permittee must be responsible for the cost of providing the necessary personnel, equipment, and facilities.

3.8.7.6. If work is being performed within Highway 20 & 97 (including Parkway 3rd St and Greenwood), coordination with Oregon Department of Transportation (ODOT) may be necessary and the applicant must comply with their requirements for all work solely in the ODOT jurisdiction. For any work in that is jointly permitted, the utility/permittee must provide a copy of the ODOT permit to in conjunction with the City's permit application.

3.8.8. Special requirements for Concrete Roads

All concrete road cuts must be pre-approved before beginning work (except in the case of an emergency situation). Concrete roads must require full panel replacement unless approved otherwise by the City Engineer. All concrete joints must require an approved tie bar and dowel retrofit. Depth of concrete replacement must match the existing thickness or as directed by the City. Care must be made not to undermine the existing panels. If the adjacent panels are disturbed or damaged, they also must be replaced at the City Engineer's direction. All joints must be sealed with material approved by the City Engineer. Where concrete roads are overlaid with asphalt, the concrete must be replaced as described above and asphalt portion of the cut must be constructed according to the pavement standard.

3.8.9. NEW DEVELOPMENT

These standards are minimum standards applicable to all cuts made in existing roadways. For new development, additional requirements may apply. Contact the Community Development Department for specific additional requirements.

3.8.10. TEMPORARY PAVEMENT RESTORATION

3.8.10.1. Pavement must be restored with temporary patches before the road is reopened to traffic as defined below. The Permittee must maintain the temporary patch until the patch has been permanently restored. Gravel surfacing is not acceptable as a temporary patch.

3.8.10.2. Immediate Patch: An immediate patch may be used to open the roadway to traffic. Immediate patches may include the use of steel plates with signs or be a minimum of two (2) inches thick cold mix asphalt on two (2) inches thick crushed surfacing. Immediate patches will only be allowed while work is being completed and must be replaced with an interim or permanent patch within seven (7) days after placement. Steel plates must be pinned and ramped with cold mix asphalt. At the direction of the City staff or City Engineer, Steel plates may not be used from November 1st to the end of March 31st. Higher classification roads are on a case by case basis. Steel plates may only be used for less than 5 working days.

3.8.10.3. Interim Patch: When a permanent patch cannot be completed within seven (7) days of an immediate patch, an interim patch must be used to keep the roadway open to traffic. Interim patches must be a minimum of two (2) inches thick ACP on two (2) inches thick crushed surfacing. Interim patches must be replaced with a final patch within thirty (30) days after placement.

3.8.10.4. Material exceptions may be requested in the event that the ACP Plants have shut down for the season or at the discretion of the City Engineer. Material exception forms must be submitted with the final inspection. Permittee is responsible for making final restoration within 30 days of the ACP plants opening for the season or as directed by the City. Permittee must submit photo documentation, and street location of all street cuts with material exceptions 5 days prior to completing the work

3.8.11. TESTING & WARRANTY REQUIREMENTS

3.8.11.1. ACP testing must be in accordance with Bend Standards and Specifications. Patches greater than 40 feet in length and a travel lane in width may require density testing per the Bend Standards and Specifications and ODOT Standards and Specification (current adopted version). The City reserves the right to require density testing on a case by case basis if field observations indicate minimum compactive efforts are not being achieved as required in the Bend Standards and Specification. .

3.8.11.2. Pavement restoration on roadways under all pavement cut standards will have a minimum warranty period of one year. The patch must be repaired if necessary until the warranty has passed.

3.8.11.3. All warranties will become void if the road receives a qualifying pavement treatment within the patching limits. Qualifying pavement treatments include the following but are not limited to: Mill and overlay, removal and replacement, thin lift overlay, large area patches half a block in length, and half a lane in width or full street reconstruction. Slurry seals, chipseals, and fog seals are not considered pavement treatments; they are considered a maintenance treatment.

3.8.11.4. All warranty work requires that a City inspector be on site. The Permittee must be required to coordinate inspection with the City Engineer.

3.8.11.5. The following minimum defects identified by the City Engineer must be covered by warranty (but not limited to):

- a. Sunken pavement patches greater than or equal to one-quarter ($\frac{1}{4}$) inch (measured by a twelve (12) foot straight edge).
- b. Surface raveling or oxidation due to deficiencies with the asphalt material.
- c. Poor workmanship.
- d. Inadequate compaction per Bend Standards and Specifications.

3.8.11.6. Notice of Repairs

- a. If emergency repairs are needed due to safety concerns, the Permittee must immediately make such repairs and give notice to the City Engineer.
- b. For non-emergency repairs on arterial or collector streets, the Permittee has forty-eight (48) hours in which to make such repairs from time of verbal notice by the City Engineer. For residential streets, the Permittee has up to seven (7) days to make such repairs.
- c. The City may undertake the repairs if not completed within the specified timeframes above. The City Engineer must notify Permittee of non-compliance and Permittee must make all identified repairs within two (2) business days of notification of noncompliance. Repairs involving public safety maybe made by the City without notice. Permittee will be assessed all costs associated with the City performed repairs, plus fifteen (15) percent overhead fees.
- d. If repairs are made other than seam sealing to the warranted patch, a new warranty will be implemented for the new patch.

3.8.12. No Dig/Trenchless Technology

To minimize damage to road surfaces and other surface infrastructure, implementation of no dig/trenchless technology is the preferred method for most utility work.

3.8.13. Trenchless Technology Plan Requirements

3.8.13.1. Applicants for work in the ROW planning to use trenchless technology must submit plans prepared by a qualified professional. Any qualified professional, as defined in this policy, experienced in trenchless utility installation may prepare plans for simple work. Typical “simple work” includes borings of 100’ or less perpendicular to street alignment and borings of one City block or 400’ whichever is less, parallel to road and sidewalk surfaces. For longer distances, the applicant must meet with Department staff to discuss the proposed operations. The City Engineer may require the plan to be prepared by a qualified registered civil engineer, geotechnical engineer or geological engineer licensed in the State of Oregon and require additional studies or information than those required for “simple work”. The plans for “simple work”, at a minimum, must address/consider the following:

- a. The proposed bore path (bore plan and profile must be provided) should be planned to allow sufficient room from other utilities or structures for workers to perform maintenance or operations on adjacent utilities. There must be a 5’ minimum horizontal and 18” vertical separation between the proposed utility and City sewers or as otherwise directed. However, additional separation may be required depending upon depth of new utility installation, environmental factors, and engineering conditions.
- b. The locations of other utilities within or adjacent to the proposed bore path (within 5 feet) must be shown. Include proposed potholing locations.
- c. In preparing the plan, location of other structures such as manhole covers, valve box covers, meter boxes, telephone and cable television boxes, electrical transformers, conduit, or droplines from utility poles, pavement patches, previous locator markers, heating oil tanks, utility vaults, and sewer lateral cleanouts must be considered.
- d. Include pavement restoration details (as needed) according to this policy. This includes repair of borehole entry pits and potholes.

3.8.14. Drilling Fluid Handling

The trenchless technology contractor must contain, handle, and dispose of drilling fluids in accordance industry and Oregon Department of Environmental Quality standards. Excess drilling fluid must be confined in a containment pit at the entry and exit locations until recycled or removed from the site. Precautions must be taken to insure that drilling fluid does not enter roadways, streams, municipal storm or sanitary sewer lines, and/or any other drainage system or body of water. Unintended surfacing of drilling fluid must be contained at the point of discharge and recycled or removed from the site. Drilling fluids that are not recycled and reused must be removed from the site and disposed at an approved disposal site.

Any damage as a result of using Trenchless Technologies is the sole responsibility of the permittee.

3.8.15. Settlement/Heaving Monitoring

Trenchless technologies must be performed in a manner that will minimize the movement of the ground in front of, above, and surrounding the boring operation; and will minimize disturbance of the surface above and in the vicinity of the boring. The applicant must be responsible for the repair to City infrastructure resulting from heave or settlement caused by the use of the trenchless technology. All operations must stop immediately whenever a vertical change in elevation of 1/2 inch or more, or any surface disruption is observed. The permittee must then immediately report the amount of settlement to the Engineering Inspector, Street Department or Utility Department.

3.8.16. Trenchless Technology Operations Guidelines

All construction work must be performed in accordance with City requirements and industry standards. The permittee must ensure that all cleanup and restoration is in compliance with the City requirements for right of way restoration. In some cases determined by the Department, the permittee will televise, in the presence of Department staff, the City stormwater and wastewater components within five feet parallel to boring activity or crossed by the boring activity.

3.8.17. Compliance

3.8.17.1. As part of the notice of noncompliance, the City Engineer will include a notice to comply within five (5) working days or all future permits may be denied until the problems have been corrected. A meeting must be arranged with the City Engineer and a plan of action to prevent future noncompliance must be presented before issuance of any new permits.

3.8.17.2. Noncompliance Activities include:

- a. Failure to obtain a permit.
- b. Failure to maintain temporary patches.
- c. Failure to make permanent repairs.
- d. Failure to make emergency repairs.
- e. Failure to make warranty repairs.
- f. Failure to inform the City of asphalt completion date.
- g. Failure to follow traffic control measures, as required.
- h. Failure to meet specified timeline for any repairs.