



TOWN OF SNOWMASS VILLAGE PUBLIC WORKS

RIGHT-OF-WAY PERMIT

APPLICATION AND

CONSTRUCTION GUIDELINES

Town of Snowmass Village Public Works

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1. GENERAL

A. Purpose & Mission Statement

The purpose of these Guidelines is to develop one set of construction standards to assist contractors in producing high quality repairs to the existing streets and rights of way. Also to assist contractors in providing their prospective clients with bids based on consistent parameters. The guidelines shall detail the best overall methodology for producing long lasting, low maintenance, repairs to subsurface and surface areas in existing streets. These guidelines are not site specific but incorporate the best overall engineering and construction practices available. These guidelines we hope will satisfy the general public, that as stewards of the roadway infrastructure, we (PWD) are maintaining their investments, and not incurring future expenditures at their expense from private utility improvements.

- Instruct contractors on how to prepare and submit plans and other documentation for Right-of-Way Permits,
- Describe processes, practices and work results or roadway repairs.
- Define policies, roles, requirements and responsibilities of all parties.

B. Introduction

All contractors and public utility agencies must obtain a Right-of-Way Permit for any work performed and accesses within the public rights-of-way of the Town of Snowmass Village. The storage of materials and equipment within the public rights-of-way also requires a Permit. **All contractors/ Property owners are subject to, adhere to and must follow the Town of Snowmass Village current adopted town wide (CMP) Construction Management Plan, which can be attained for the Building Department 923-5524.**

To preserve the original investment of the street and roadway systems within Snowmass Village, minimize the disruption and maximize the safety to the traveling public caused by construction, and reduce future maintenance problems, *it is the policy of the town to require the installation of new utilities across existing streets be done by boring or tunneling when the installation is less than three (3') deep, or in fill sections. Open cutting of existing streets for the installation of new utilities will be permitted only when it can be proven it is not possible to use boring or tunneling techniques, or when waived by the Town.*

Applicants for Right-of-Way Permits must plan for adequate time for review and approval by the town public works and any other involved agencies. Generally, the greater the scope of work, the longer the permit review and approval process will take.

C. Definitions and Abbreviations

Wherever the following words, phrases, or abbreviations appear in these standards, they shall have the following meanings:

AS-CONSTRUCTED DRAWINGS – A set of construction drawings that has been red-penciled or otherwise marked to record all changes, which have occurred during the construction.

BROWN BOOK - “Standard Specifications for Road and Bridge Construction”, State Department of Transportation, Division of Highways, 1999.

CDOT – Colorado Department of Transportation.

CODE - shall mean the latest official adopted ordinances, policies codes and/or regulations of the Town of Snowmass Village.

CONTRACTOR - shall mean a person, partnership or corporation duly bonded, licensed and insured to perform work within public rights-of-way in the Local Entity.

DAYS - intended as calendar days and not normal working days unless stipulated as working days.

DRIVEWAY, RURAL - that portion of gravel or hard surfaced roadway from the street, roadway or alley to the private property line to gain access to the private property.

DRIVEWAY, URBAN - that portion of Portland cement concrete or asphalt extending from the street gutter lip to the property line for the full width of access from the public right-of-way to the private property.

ENGINEER - shall mean the Town of Snowmass Village engineer or public works staff.

ENGINEERING PLANS – Drawings, plans, profiles, cross sections and other required details for the construction of public or private improvements within the public rights-of-way or public easements, conforming with the Local Entities' applicable improvement standards.

FUNCTIONAL CLASSIFICATION – the objective grouping of roads, streets and highways into integrated systems, each ranked by their relative importance to the general welfare, the motorists and land use.

IMPROVEMENT STANDARDS – A set of regulations established by the town setting forth the details, specifications, instructions, and procedures to be followed in the planning, design, installation and construction of public or private improvements within the public rights-of-way or public easements.

INSPECTOR - shall mean an authorized representative of the Engineer assigned to make inspections for contract performances, standards and contract compliance.

MAY - a permissive condition. No requirement for design or application is intended.

MUTCD- Manual on Uniform Traffic Control Devices (Federal Highway Administration).

OSHA - Occupational Safety and Health Administration.

RIGHT-OF-WAY (R.O.W.)- Any strip of area of land, including surface, overhead, or underground, granted by deed, maintenance easement, dedication, prescription or lease, for construction and maintenance according to designated use, such as for streets and highways, drainage ditches, irrigation canals, etc.

RIGHT-OF-WAY PERMIT - An official document issued by the Town of Snowmass Village authorizing the performance of a specified activity or work within public rights-of-way and public maintenance easements by a person, contractor, company, firm, corporation, or public utility.

SHALL - a mandatory condition. Where certain requirements in the design or application are described with the shall stipulation, it is mandatory that these requirements be met.

SHOULD - an advisory condition. Where the word should is used, it is considered to be advisable usage, recommended but not mandatory. Deviations may be allowed when reasons are given which show intent of the standard is met.

STREET - a general term denoting a public way for purposes of vehicular, pedestrian and bicycle travel ways, including the entire area within the right-of-way (includes alleyways). Any constructed facility within the right-of-way or maintenance easement.

TOWN ROADWAYS- All roads that are town property or have public maintenance easements agreements.

TRAFFIC CONTROL SUPERVISOR (TCS) – A well trained and knowledgeable individual assigned the responsibility for traffic control devices at work sites. The TCS must be ATSSA (American Traffic Safety Services Association) or CCA (Colorado Contractor's Association) certified.

TRAFFIC ENGINEER - shall mean the Traffic Engineer or person responsible for monitoring traffic within the Town of Snowmass Village.

UNCC – **Utility Notification Center of Colorado** (commonly referred to as “One Call”). Statewide clearinghouse for coordinating and scheduling utility locates. Most utilities, both public and private, utilize this service. **Toll-free phone number for UNCC is 1-800-922-1987.**

D. Specific Conditions

1. Traffic Control Plans

A Traffic Control Plan (TCP) shall be submitted with ALL permit applications for all proposed work in/on arterial and collector streets for approval by public works staff and or the Town Engineer. All the work described above shall be performed by a TCS. Work in/on residential streets typically do not need a professional TCP but all signs; barricades and other necessary traffic control devices shall be placed in accordance with the MUTCD, Part VI. The contractor shall submit a simple sketch.

2. Traffic Flow During Peak Hours

No interference with traffic flow on arterial or collector streets shall be permitted during the hours of 7:00 a.m. to 8:30 a.m. or from 4:00 p.m. to 5:30 p.m. unless authorized **in writing** by the Town Traffic Engineer or Public Works Director. Traffic can have no longer than 5-minute wait delays.

3. End of Day Lane Conditions

ASPHALT STREET - When work is stopped for the day, all lanes of an arterial or Collector Street shall be opened to traffic unless approved by town staff and or the Engineer. A traffic lane shall be considered satisfactorily open only if it is paved with hot or cold mix asphalt paving, except when the local jurisdiction allows an alternate temporary surface at its discretion. **The contractor shall contact after approved the Police, fire and transportation Communication offices with notification and schedule of any street closures.**

CONCRETE SIDEWALKS - When work is stopped for the day, walkways shall have adequate passage and safety signage and be opened for traffic. A walk lane shall be considered satisfactorily open only if it is surfaced with a temporary asphalt or gravel surface. In the event the surface has been replaced in the same day as the excavation was made, the repaired areas should be properly barricaded to protect the concrete during the curing stage.

4. Inspection Requests

It shall be the responsibility of the person performing the work authorized by the permit to notify the public works staff, Engineer or his authorized representatives that such work is ready for inspection. The public works requires that every request for inspection be received at least twenty-four (24) hours before such inspection is desired. Such requests may be in writing or by telephoning or faxing the public works at 970-923-5110.

5. Seasonal Right of Way Permitted Work

Permits and work within the road and right of way are only allowed between April 15th and October 15th.

No Work, excavation or paving, are allowed within the right of ways or town roadways after October 15th or before April 15th. Only emergency utility work can be performed during the Winter season and all R.O.W. guidelines still apply and are enforced.

6. Road Closures

Road closures will only be allowed at the approval of the police, fire, transportation and public works. Upon approval the **contractor shall contact the Police Communications office (923-5330) and local radio station the previous day and inform them of the construction and closure schedule. Electronic variable message boards and newspaper PSA maybe required.**

E. Permit Fee and Security Deposits

Fee and security schedule for the Town of Snowmass Village:

Right of Way Permit Fee: \$300.00

Access Permit Fee: \$100.00

Obstruction Permit Fee: \$100.00

Right of Way Security Deposit: \$2,000.00 minimum deposit for 2 years.

**Right of Way Security Deposit for Shallow utilities cuts of 30" or less in depth: \$20.00 per sq. ft. of
Asphalt cut equal or greater than \$2,000.00 minimum.**

**Right of Way Security Deposit for Deep utilities cuts of 30" or more in depth: \$30.00 per sq. ft. of
Asphalt cut equal or greater than \$2,000.00 minimum.**

***Bonding can be used in place of security deposit.**

***Return of Security Deposits is forfeited if not claimed after one past the two-year warranty period.**

***Bonding and Insurance naming the Town of Snowmass Village will be in place covering the cost of all capital improvement and infrastructure projects. Also permit fees will be adjusted to cover town administration cost on large projects. To be determined by town engineer or Public Works Director.**

The permit fees are established under appropriate enabling resolutions and/or ordinances and are subject to change periodically. Governments and District utility companies are exempt from this fee, but are still required to file permits and follow guidelines.

F. Insurance Requirements

The Permit Applicant is required to submit certificates of insurance for Commercial General Liability and Automobile Liability as described below:

1. Commercial General Liability

The Contractor shall procure and keep in force during the duration of all work covered under this Permit a policy of Commercial General Liability insurance insuring the Contractor and naming the Town of Snowmass Village as an additional insured against any liability arising out of the ownership, use, occupancy, or construction of the work and all areas appurtenant thereto with a combined single limit of at least \$1,000,000. The limits of said insurance shall not, however, be a limit to the liability of the Contractor hereunder.

2. Automobile Liability

The Contractor shall procure and keep in force during the duration of all work covered under this Permit a policy of Automobile Liability insurance insuring the Contractor and naming the Local Entity as an additional insured against any liability for personal injury, bodily injury, or death arising from the use of motor vehicles and shall cover operations on or off the site of all motor vehicles controlled by the Contractor whether they are owned, non-owned, or hired with a combined single limit of at least \$1,000,000. The limits of said insurance shall not, however, limit the liability of the Contractor hereunder.

3. Terms of Insurance

Insurance required shall be with companies qualified to do business in the State of Colorado with a general policy holder's financial rating of not less than "A" as set forth in the most current edition of "Best's Insurance Reports" and may provide for deductible amounts as the Contractor may deem to be reasonable for the project, but in no event greater than \$1,000. No such policies shall be cancelable or subject to reduction in coverage limits or other modification except after thirty (30) days prior written notice to the Local Entity. However, where cancellation of coverage is due to nonpayment of premium a ten (10) day written notice to the Local Entity is required. The Contractor shall not do nor permit to be done anything, which shall invalidate the insurance policies referred to in this section. Policies described in Sections 1 and 2 above shall be for the mutual and joint benefit and protection of the Contractor and the Town of Snowmass Village. Such policies shall contain a provision that the Town of Snowmass Village, although named as an additional insured, shall nevertheless be entitled to recovery under said policies for any loss occasioned to it, its servants, agents, citizens, and employees by reason of negligence of the Contractor. Such policies shall be written as primary policies not contributing to and not in excess of coverage, which the Town of Snowmass Village may carry. Such policies shall be for the mutual and joint benefit and protection of the Contractor and the Town of Snowmass Village. All policies shall contain a provision that the Town of Snowmass Village, although named as an insured, shall nevertheless be entitled to recovery under said policies for any loss occasioned to it, its servants, agents, citizens, and employees by reason of negligence of the Contractor. All policies shall be written as primary policies not contributing with and not in excess of coverage, which the Town of Snowmass Village may carry. The type of coverage shall be "occurrence".

Contractor shall furnish certificates evidencing required insurance coverage to the Town of Snowmass Village public works. Such certificates shall be in a form acceptable to the Town of Snowmass Village.

4. Indemnification

The Contractor agrees to indemnify and hold harmless the Owner, its officers, employees, insurers, and self-insurance pool, from and against all liability, claims and demands, on account of injury, loss, or damage, including without limitation, claims arising from bodily injury, personal injury, sickness, disease, death, property loss or damage, or any other loss of any kind whatsoever, which arise out of or are in any manner connected with the Contract. If such injury, loss, or damage is caused in whole or in part by the act, omission, error, professional error, mistake, negligence, or other fault of the Contractor, or any officer, employee, representative, or agent of the contractor or of any subcontractor of the Contractor, or which arise out of any women's compensation claim of any employee of the Contractor or any employee of any subcontractor of the Contractor. The Contractor agrees to investigate, handle, respond to, and to provide defense for and defend against, any such liability, claims or demands at the sole expense of the Contractor. The Contractor also agrees to bear all other costs and expenses related thereto, including court costs, expert fees and attorney fees, whether or not any such liability, claims, or demands alleged are groundless, false or fraudulent.

G. Warranty Period

The warranty period shall be **in effect for two years** past the completion and acceptance of the work. In the case the area fails where the work was done and the Permittee refuses to fix the problem, the contractors security deposit, bonding and insurance companies will be contacted and all costs incurred by the town to correct the problem will be forwarded. In addition no further permits will be issued to the contractor and a lien may be placed on any available payment due the contractor from a current client. Also if contractor or permittee do not request refund of there security after one year past warranty period (end of third year) the security deposit will be nonrefundable.

H. Licensing Requirements

All applicants shall acquire a **Town of Snowmass Village business** license prior to the issuance of a permit and commencement of any construction. They are available from the **Town Clerks office** and currently (1997) cost \$85.

2. PERMIT APPLICATION PROCESS

A. Obtain Blank Permit Form

Blank permit forms can be obtained from Town of Snowmass Village Public Works Department at 3745 Owl Creek Road. Fill out the form completely and accurately. Be sure to sign and date the form. Turn in the completed form, together with all required submittals and all copies, to Town of Snowmass Public Works a minimum of 7 days (not including Saturdays and Sundays) prior to the proposed start of work. **For emergency work only** - a permit may be acquired after the start of excavation. A completed permit form shall be submitted the following work day to the Public Works office and marked "EMERGENCY".

B. Submission of Plans

Drawings or plans that clearly indicate the proposed work must be attached to the permit application. These drawings must be to a working scale and must show position and location of work, street/road names/numbers, widths of streets, property lines, topographic and man-made features, existing drainage patterns, etc. Plans shall show the relative position of proposed work to existing utilities and existing improvements and shall be drawn to a given scale of one (1) inch = fifty (50) feet or larger and shall include a north arrow.

C. Submission of Traffic Control Plans

Traffic Control Plans shall show in detail the proposed work area location and the traffic control devices being proposed. Such plan shall be on paper at least 8 1/2 inches by 11 inches and may be faxed, mailed or brought to the Town of Snowmass Village public works office a minimum of 7 days prior to issuance the Permit. Traffic Control Plans may require more detail than normal at the discretion of the Traffic Engineer

due to unique or unusual conditions. Traffic control shall also include construction traffic routing requirements. The **traffic control company hired by the contractor shall be identified** on the application along with a **contact person and phone number**.

D. Payment of Fee

Acceptable methods of payment and payees have been established with the Town of Snowmass Village Public Works Department. The Town Public Works Contact Person will provide Applicants with the appropriate permit fee and method of payment.

E. Review of Submittals

The Town of Snowmass Village Public Works and or town engineer will review the completed submittals. If additional information is needed, the Applicant will be contacted. The Town will check to make certain that the Applicant has provided the required bond, license and insurance certificates.

F. Approval of Submittals

Once the permit form and all required submittals have been reviewed and found to be complete, the Town of Snowmass Village Public Works and or Town Engineer may approve the Permit.

G. Issuance of Permit

The approved Permit is issued to the Applicant. Any modifications to the approved permit including any schedule or scope changes must be submitted in writing to the Town of Snowmass Village Public Works for their review and approval. The Applicant is solely responsible for all work for a period of two (2) years following the project completion.

H. Other Permits

Permit Applicants are responsible for obtaining separate permits or permission as may be required. Examples may be when work is proposed with Water and Sanitation District, other utilities and right-of-ways, or private property.

When work is to be performed on Town owned or managed **Easements or Outlots**, the same application process shall be used. In some cases these outlots may require approval from the Town Board of Trustees. Requests shall be submitted in writing to the Public Works Director the previous month and state the proposed use of said property. Proposal shall include surveyed drawings, which show all physical and planimetric features, including utility locates. Approval may identify the inclusion of special provisions, which are in addition to those in these specifications (such as planting, landscaping and fences).

I. Special Requirements

1. **No water is allowed to drain on to public roadways from private property or any other source. Valley pans, swales, catch basins are required for all driveways that access a public roadway so as surface water will not be allowed to drain on to the roadway. All driveway accesses that cross a town right of way drainage ditch are required to have a minimum of an 18" culvert with flared end sections in stalled and maintained by property owner.**
2. **No improvements with-in 10' of edge of pavement to include rocks, trees, signs, lights standards, landscaping, etc. that higher than the height of pavement. Town of Snowmass Village is not responsible for any damage from snow removal or maintenance to any landscaping or improvements within the 10' or town right of way. Any improvements, rocks, landscaping, signs, light standards, etc. in the town right of way or on town property require a license Agreement with the Town of Snowmass Village Public Works Department.**
3. **No material, equipment, trailers or vehicles are allowed to be stored with in the town right of way with out an obstruction permit.**
4. **Contractors and property owners are responsible for any damage and trashing to a town road and right of way. Also contractor/property owners are responsible for keeping the roadway free and clear of mud, dirt, dust and debris at all times by cleaning roadways, having tracking pads**

and tire wash areas in operation. If in valuation contractor/property owner can be fined and project shut down or red tag.

5. Seasonal weight limits are in effect for all truck traffic from March 15th to June 15th of a maximum weight of 40,000 Gross vehicle weight (GVW). Trucks must not exceed 40 feet in length year round on all town roadways except Brush Creek Road, Owl Creek Road, Highline Road and Carriageway Road.
6. Only one access driveway per property or residents at a maximum width of twenty (20) feet. No double driveways are allowed or parking areas allowed along town roads.

3. CONSTRUCTION DETAILS

A. General Conditions

The following general conditions apply to all work done within the public rights-of-way such as utility line installation or repairs performed by any contractor or utility department, public or private.

1. Protection of Existing Improvements

- a. The Contractor shall at all times take proper precautions and be responsible for the protection of existing street and alley surfaces, driveway culverts, street intersection culverts or aprons, irrigation systems, mail boxes, driveway approaches, curb, gutter and sidewalks and all other identifiable installations that may be encountered during construction.
- b. The Contractor shall at all times take proper precautions for the protection of existing utilities, the presence of which are known or can be determined by field locations of the utility companies. The Contractor shall contact the **UNCC (One Call) at 1-800-922-1987** for utility locates a minimum of two (2) working days prior to his proposed start of work.
- c. Existing improvements to adjacent property such as landscaping, fencing, utility services, driveway surfaces, etc., that are not to be removed shall be protected from injury or damage resulting from the Contractor's operations.
- d. The Contractor shall at all times take proper precautions for the protection of property pins/corners and survey control monuments encountered during construction. Any damaged or disturbed survey markers shall be replaced by a registered land surveyor at the Contractor's expense.
- e. The repair of any damaged improvements as described above shall be the responsibility of the permit holder.
- f. The Contractor shall make adequate provisions to assure that traffic and adjacent property owners experience a minimum of inconvenience
- g. Trees shall be protected from scarring. A sheet metal sheath is the minimum acceptable means of protection.

2. Temporary Surfaces Required

When the final surface is not immediately installed within two weeks of construction, it shall be necessary to place a temporary asphalt surface on any street cut opening. The temporary surface installation and it's maintenance shall be the responsibility of the permittee until the permanent surface is completed and accepted. It shall be either a **hot mix or cold mix paving** material. Temporary surfaces shall be compacted, rolled smooth and sealed to prevent degradation of the repair and existing structures during the temporary period. Permanent patching shall occur within two (2) weeks except as outlined by the Town in the Permit. During winter, the temporary surface (cold mix asphalt) shall be installed immediately. **Wheel rolling is not an acceptable means of final compaction.**

3. Pavement Patches

Paving shall be performed **by an approved contractor**. All material quality and installation shall meet the standards of the **CDOT Brown Book**. All permanent pavement patches and repairs shall be made with “in kind” materials. For example, concrete patches in concrete surfaces, full depth asphalt patches with full depth asphalt, concrete pavement with asphalt overlay patches will be expected in permanent overlaid concrete streets, etc. In no case is there to be an asphalt patch in concrete streets or concrete patch in asphalt streets. Any repair not meeting these requirements will be removed and replaced by the Contractor at his expense. Refer to **Section 4 for details and quality control parameters**.

4. Work to be Done in Expedient Manner

All work shall be done in an expedient manner. Repairs shall be made as rapidly as is consistent with high quality workmanship and materials. Use of fast setting concrete and similar techniques are encouraged whenever possible without sacrificing the quality of repair. Completion of the work including replacement of pavement and cleanup shall normally be accomplished within two (2) weeks after the repair work or activity involving the cut is done. Extension of time for completion shall be with the written approval of the Town Public Works and or Town Engineer. If the repairs are not completed in the allotted time, the Town of Snowmass Village has the right to repair the street at the Contractor’s expense.

5. Removal and Replacement of Unsatisfactory Work

Removal and replacement of unsatisfactory work shall be completed within fifteen (15) days of written notification of the deficiency unless deemed an emergency requiring immediate action. In the event the replacement work has not been completed, the Town of Snowmass Village will take action upon the Contractor’s bond to cover all related costs.

B. Excavation

1. Excavation shall consist of removal of all material necessary for the construction of the roadway section to the subgrade elevation, line, and grade shown on the plans or as specified in the contract documents. Unacceptable material defined as any earthen material containing vegetable or organic silt, topsoil, frozen material, trees, stumps, certain man-made deposits, or industrial waste, sludge or landfill, or other undesirable materials will be categorized as an unclassified excavation and removed from the site and disposed of in accordance with applicable Local Entity, State and Federal requirements. All tree stumps and roots shall be removed to a minimum of two (2) feet below subgrade. Unclassified excavation includes any and all earthen materials encountered, including rocks and boulders measuring less than one-half cubic yard in volume, during construction.

2. Any work in the R.O.W. on trees, including roots, must be reviewed by the Town’s **Parks Department**. Maintenance of the trees health shall be the responsibility of the contractor. The Town shall approve final protection and work around the tree.

3. Excavation shall be performed in a careful and orderly manner with due consideration given to protection of adjoining property, the public and workmen. Any damage to streets, parking lots, utilities, irrigation systems, plants, trees, building or structures or private property, or the bench marks and construction staking due to the negligence of the Contractor, shall be repaired and restored to its original conditions by the Contractor at his expense. Those areas that are to be saved will be clearly fenced off by the Contractor per the owner’s instructions and it will be the Contractor’s responsibility to ensure that these areas are not damaged during the construction process. Following completion of construction, should any of these trees, shrubs or irrigation facilities, etc. require replacement, it shall be done at the Contractor’s expense.

4. All materials determined acceptable by the Engineer acquired from roadway excavations may be used for embankment fill and backfill as needed. The entire area in the vicinity of the construction where excavation and filling has been performed shall be raked clean of all trash, wood forms, and debris, after completion of the work with no additional cost to the Owner. The Contractor shall dispose of material removed in excavation and not acceptable or not required for embankment fill of backfill. It shall not be wasted on private property without written permission of the property owner. Waste banks shall be left with reasonable smooth and regular surfaces.

5. The construction of any repair activity within the street or alley rights-of-way shall be accomplished by open cut, jacking, boring, tunneling or a combination of these methods as approved by the permit. **The Town of Snowmass Village Public Works and or Town Engineer shall approve any change from the approved permit.**
6. Trenches shall be excavated along the lines and grades established and in no case shall be more than **four hundred (400) feet in length**, or be trenched or backfilled in non-continuous sections unless approved by the Engineer. Failure by the Contractor to comply with these requirements may result in an order to stop the excavation in progress until compliance has been achieved.
7. All excavated material shall be **stockpiled** in a manner that does not endanger the work or workers and that does not obstruct sidewalks, streets and driveways. **No stockpiled materials shall be allowed on the asphalt surface or adjacent walkways.** The work shall be done in a manner that will minimize interference with traffic and/or drainage of the street. The Contractor at the end of each day shall barricade all excavations and ditch lines, remove excess material from travel ways, and thoroughly clean all street, alleys and sidewalks affected by the excavation. If it becomes necessary to accomplish this, all streets, alleys (if asphalt or concrete) and sidewalks shall be swept or washed as required by the Town of Snowmass Village Public Works and or Town Engineer.
8. Materials encountered during excavation such as rubbish, organic, or frozen material, and any other **material that is not satisfactory for use as backfill** in the opinion of the Engineer, shall be removed from the site and disposed of daily by the Contractor at his expense. Stones, concrete or asphalt chunks larger than six (6) inches or frozen material shall be considered unsatisfactory backfill and removed by the Contractor.
9. All excavation, shoring and trenching, and the like shall comply with **OSHA's "Construction Industry Standards"** as well as all applicable Federal and State regulations.
10. **No tracked vehicles shall be allowed on asphalt** or concrete unless approved by Town of Snowmass Village Public Works or Town Engineer. **Only rubber tire vehicles are allowed on paved surfaces.**
11. Crossings under sidewalks or curbs may be made by tunneling only when approved by the public work and or Engineer. If the Contractor elects to remove a portion of the sidewalk or curb, the applicable Town or **E.P.U.R.A. standards** shall be followed and material matched upon replacement. Mark appropriate box on the permit form.
12. Grading shall be done as necessary to prevent surface water from entering the excavation; any other water accumulation therein shall be promptly removed. Surface drainage, driveways, fire hydrants, manholes, water valves, etc. of adjoining areas shall be unobstructed. Water pumped from the excavation may require special handling prior to reentry into and river.
13. When soft or unstable material or rock is encountered in the trench subgrade that will not uniformly support the pipe, such material may be excavated to additional depths directed by the Engineer and backfilled with Type B material, as described in Subsection G, Part 2. An acceptable alternative for bedding is **pea gravel or washed rock** up to 1½". This material shall not exceed 12" above the installation, or half the trench depth without the Towns approval. Vibration, water and compaction may be required for sand backfill if directed by the Town.

C. Blasting

1. No blasting or explosives are allowed to be used within the Town of Snowmass Village at anytime.

D. Equipment

1. The use of trench digging equipment will be permitted in places where its operation will not cause damage to existing structures or features, in which case hand methods shall be employed.
2. **No tracked vehicles shall be permitted on streets unless approved by the Town.** When tracked vehicles are allowed, existing facilities will be restored to original condition at the

Contractor's expense. The Town may require the track-scarred area to be Slurry Sealed at the contractor's expense.

3. Construction equipment and material delivery routing will be made a condition of the Permit.

E. Dewatering

Where ground water is encountered in the excavation, it shall be removed to avoid interfering with the work. It is the Contractor's responsibility to comply with all Federal, State and local permitting requirements prior to beginning any dewatering operations. The contractor may be required to secure approval from the U.S. Corps of Engineers prior to dewatering into a local river. Following pumping, washed rock may be used to a level 6" above the water table when approved by the Town.

F. Removals

1. Streets, Paved

Bituminous pavement shall be **saw cut** to clean, straight lines and shall be perpendicular or parallel to the flow of traffic. (See Section 4, A-E) For original excavation roll cutting or jack hammering is an acceptable means of removal. However, saw cutting to meet these standards shall be required prior to asphalt patching.

In existing pavement, all **excavations within 36" of the edge of the asphalt** shall require removal and replacement of that asphalt from the edge of road to the excavation.

Concrete pavement, valley pans, driveways, streets and alleys shall be removed to neatly sawed edges cut to full depth.

2. Streets, Gravel

When trenches are excavated in streets or alleys, which have only a gravel surface, the contractor shall replace such surfacing on a satisfactory compacted backfill with gravel conforming to CDOT Class 5 or Class 6 aggregate base course. Gravel replacement shall be one (1) inch greater in depth to that which originally existed, but not less than four (4) inches. The surface shall conform to the original street grade. Where the completed surface settles, additional gravel base shall be placed and compacted by the Contractor immediately after being notified by the Local Entity, to restore the roadbed surface to finished grade.

Some streets may have been treated with a special surface treatment to control dust and/or bind the aggregates together. In these cases the Contractor is responsible for installing the gravel surface in the same manner as what existed. Such surface treatments shall be of the same chemical composition as what existed prior to the excavation work. The Engineer shall note on the permit the surface treatment that will be required.

3. Concrete Curb, Gutter and Sidewalk

Concrete shall be removed to neatly sawed edges to full depth for sidewalks and curb and gutter and shall be saw cut in straight lines either parallel to the curb or perpendicular to the alignment of the sidewalk or curb. Any removal shall be done to the nearest joint. Replaced sections may require doweling connections if required by the Town.

G. Backfill

1. Flowable-Fill

FLOWABLE-FILL WILL BE REQUIRED AS UTILITY TRENCH BACKFILL FOR ALL TRENCHES UNLESS OTHERWISE APPROVED BY THE TOWN. Refer to Section 6 for compaction requirements. This requirement applies to all pavement and gravel locations. Flowable-fill vibration may be required. Flowable fill shall be used in **all utility service connect** trenches. **It shall be used in any utility main repair or replacement when the work is less than one hundred feet (100') in length and when the work is less than six (6') deep.**

The recommended mix for flowable-fill is shown below. **Concrete backfill will not be allowed** within the public right-of-way. Flash-fill may be used if approved by the Engineer. Refer to CDOT specification 206.02.

INGREDIENTS	POUNDS/CUBIC YARD
Cement	42 (0.47 sack)
Water	235 (39 gallons or as needed)
Coarse Aggregate (Size No. 57)	1700
Sand (ASTM C-33)	1845

The maximum desired 28-day strength is 60 psi. The above combination of material, or an equivalent, may be used to obtain the desired flowable-fill.

Flowable-fill or flash-fill shall be prohibited as a temporary or permanent street surface. Trenches shall initially be backfilled to the level of the original surface. After the flowable-fill has cured, the top surface of the flowable-fill shall be removed and the temporary or permanent surface shall be placed.

Bridging and cutback requirements as described in these standards may still be required if the street failures indicate a clear need.

Repair of failed trenches will be the responsibility of the party requiring the trench.

Another acceptable use of flowable-fill backfill (with proper vibrating) is in situations where there is over break on concrete streets.

2. Conventional Backfill (Other Than Flowable Fill)

When "non flowable-fill" backfill material has been pre-approved by the Engineer, backfill in existing or proposed streets, curbs, gutters, sidewalks and alleys is divided into three (3) categories: initial, intermediate and final lifts as defined below:

- a. The INITIAL LIFT, **designated as Class B and generally comprised of a washed, clean gravel material or sand**, consists of the section from the bottom of the excavation to a point six to twelve (6 - 12) inches above the top of the installation. Placement and compaction of the initial layer shall be as specified by the utility to protect their installation.
- b. The INTERMEDIATE LIFT, **generally comprised of native material**, consists of the section above the initial layer to a point within six (6) inches of the ground level or the bottom of the pavement section whichever is greater. Excavated material may be used in the intermediate layer provided that it is deemed suitable by the Engineer.
- c. The FINAL LIFT includes both **road base and asphalt** surfacing. Road base material shall be CDOT Class 5 or 6 aggregate base course or as specified by the Engineer and placed at a depth of not less than 2". Asphalt shall be grading 'CX' and 4" minimum thickness or match existing.

Maximum dry density of all soil types used will be determined in accordance with AASHTO T 99 or AASHTO T 180. These densities will be determined prior to placement of backfill.

When a hydro-hammer or drop hammer compaction machine is used for compaction of fill in trenches, the maximum layer shall be 30 inches.

3. Compaction Testing Requirements

See Section 5.

4. Embankment and Slopes

- a. The Town shall approve all slope angles, fill compaction and fill material.
- b. All cut slopes shall conform to OSHA standards. Testing of native and imported material may be required, at the contractor's expense, prior to approval.

H. Restoration

1. Bore Holes – Vertical and Horizontal

For openings less than or equal to 6" in diameter, boreholes shall be filled with patching material (**cold mix is not acceptable**) to prevent entry of moisture. Patching material used shall be in all cases compatible with the existing surface. Subgrade shall be replaced with flowable fill to provide necessary support to the surface. The sealing of boreholes is the responsibility of the Contractor or persons making the bore.

For openings greater than 6" in diameter, the limits of repair shall be identified in the permit.

The completed job shall be flush with the surrounding pavement and have no indentations, pockets, or recesses that may trap and hold water.

2. Subgrade

The subgrade for the pavement structure shall be graded to conform to the cross sections and profile required by the construction plans. Prior to the placement of aggregate base course or sub-course, the subgrade should be properly prepared. The subgrade should be scarified to a minimum depth of eight (8) inches and 12" of Brush Creek Road, Owl Creek Road and Highline Road, moisture adjusted as necessary, and recompact to not less than the following:

- a. For cohesive soils, 95% maximum Modified Proctor dry density at K2% of optimum moisture content, or **95% maximum Standard Proctor** dry density at K2% of optimum moisture content.
- b. For non-cohesive soils, 92% maximum Modified Proctor dry density at K2% of optimum moisture content, or 97% maximum Standard Proctor dry density at K2% of optimum moisture content.

Prior to approval to place the base or sub-base course, all utility main and service trenches shall be compacted to not less than the above referenced densities required for the given soil classification. **This density requirement also applies to all utility trenches within the public rights-of-way from a point four (4) feet beyond the edge of asphalt and descending at 1:1 outward.**

3. Asphalt Surfacing

a. Any damage, even superficial, to the existing asphalt surface in the vicinity of the work shall be repaired at the expense of the Contractor, including but not limited to gouges, scrapes, outrigger marks, backhoe bucket marks, etc. A slurry seal type covering will be considered the minimum repair. Patching may be required, at the discretion of the Local Entity.

b. The depth of asphalt patches in asphalt streets shall typically match the depth of the existing asphalt surface with a 4" minimum and 6" on Brush Creek Road, Owl Creek Road and Highline Road or as specified by the Town of Snowmass Village Public works and or Engineer.

c. All asphalt shall be manufactured by an approved plant. The suppliers shall be licensed with the state, county & town and have current State scaling documents, and mix designs available upon request. **All paving specifications shall meet the 1999 CDOT "Brown Book".**

d. The asphalt patch area for street excavations that fall within the wheel path of the vehicular travel lane shall be increased in size to the center of the lane or adjacent lane. **In no circumstance will the edge of a patch area be allowed to fall within the wheel path.**

e. All street cuts shall be patched as per the guidelines of Section 4 (pages 13-20).

f. In streets that are **less than five (5) years old** the town reserves the right to deny any street excavation or require repairs that are over and above these specifications. Owner and Engineers are expected to use common sense and project forecasting to avoid additional requirements when working in newly repaved streets.

EXCEPTIONS - There may be situations where the patching standards are considered inappropriate. These guidelines shall be considered the minimum acceptable standards. However, the Town understands that circumstances differ from site to site. Proposals and modification to the standards will be considered when they do not appear to interrupt the integrity of the street in question, in the opinion of the Town. Work done in older streets that will require repaving regardless of the excavation should bring the governing bodies together to examine a cost sharing solution.

DISPUTE RESOLUTION - Mutual acceptance of these guidelines is expected to evolve over time with experience in the field. Disagreements over requirements and cost sharing are inevitable. In cases where agreement cannot be reached, the dispute shall not deter the Contractor from compliance to the specific Permit or guidelines provided by this document unless approved by the Town of Snowmass Public Works and or Engineer.

4. Concrete Surfacing and Patching

The concrete pavement shall be replaced with 4,000 psi concrete to match the finish and thickness of the existing pavement, but not less than eight (8) inches thick. All concrete construction shall be protected from vehicular traffic, including contractor vehicles, until the concrete has achieved eighty (80) percent of its ultimate strength. Concrete shall be coated and sealed with a uniform application of membrane curing compound applied in accordance with manufacturer's recommendations.

The use of quick curing concrete (3000 psi strength within 48 hours) shall be used on all arterial and collector streets when repair areas are less than 500 square feet or when temperatures are below 40° F. Quick curing concrete repairs may be opened to traffic within two (2) days or when the concrete has achieved eighty (80) percent of its ultimate strength.

Where existing cracks or damage are adjacent to the area being repaired the repair area shall include the cracked or damaged concrete. Pavement repairs shall include all areas of damage, including leak test holes, potholes, equipment and/or material scaring of the exiting surface.

When repairing concrete, the removal perimeter shall be saw cut and replacement concrete shall be doweled into the old concrete as directed by the Engineer.

5. Joint Filling

Asphalt

Following placement of the asphalt surface, the joints where the new asphalt abuts the old shall be sealed with a fog or painted coat of bitumen cement.

Concrete

Joints shall be thoroughly cleaned of all foreign material then filled with a hot-poured elastic type joint filler conforming to M 173, ASTM D1190-80 or ASTM D1751-83, D1752-84, D3405-78, D3406-78, D3407-78 or silicone sealants or others as approved by the Engineer. Joint material shall be filled to within 1/2 inch of the surface. Excess material shall be scraped off to provide a smooth riding surface.

4. DEVELOPING A "QUALITY" APPROACH TO STREET REPAIRS

A. GENERAL

Every street and street repair situation is unique. Design criteria and construction standards cannot address every situation but, in order to maintain some form of consistency, these standards have been developed. In most cases, they provide the minimum acceptable standards for construction or repair. Consequently, when strictly applied, they will provide the minimum acceptable product. Therefore, this criteria has been

developed to maintain the same integrity of the street pavement and subsurface condition prior to its being cut for utility installations.

To achieve the goal of “Quality” or “Excellence” in street repairs, then these criteria shall be viewed as guidelines when used in conjunction with good planning and judgement. This will restore the street to an acceptable condition with minimal patching failures. In many cases, it will be necessary to **exceed** the minimum standards to achieve a quality repair.

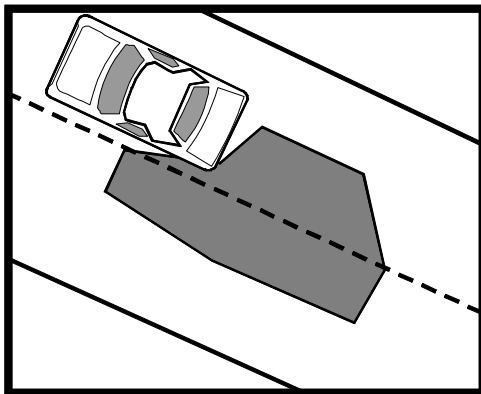
Issues that shall be considered in a quality approach to street repairs are as follows (these criteria must all be balanced against the long-term maintenance needs of the utility):

B. APPEARANCE

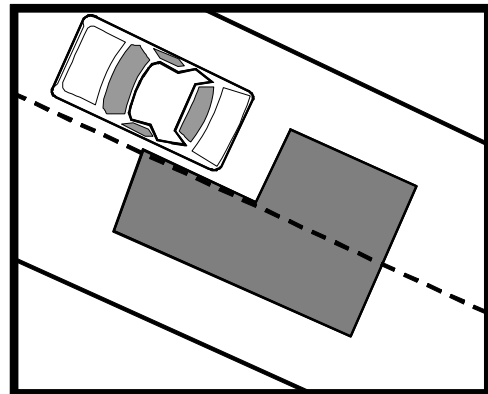
Does the final appearance of the street suggest the repairs were planned, or that they happened by accident?

- Consciously or not, the driving public “rates” the appearance of the street system -- including street repairs -- every day. Street repairs, which are satisfactory from a functional point of view, may produce a negative reaction from the public if they give the appearance of being poorly planned or executed.
- The public’s perception of street repairs is based primarily on shape, size, and orientation -- the geometry of a patch. Here are some guidelines for the geometry of a quality patch:

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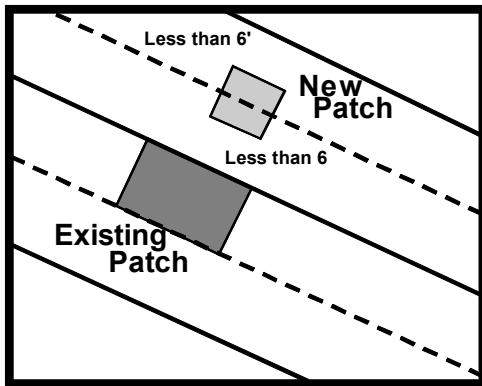


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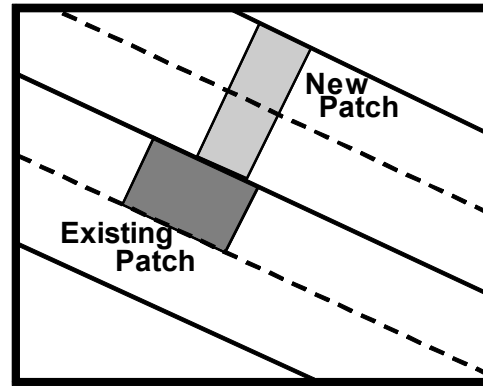


1. Existing pavements should be removed to clean, straight lines **PARALLEL** and **PERPENDICULAR** to the flow

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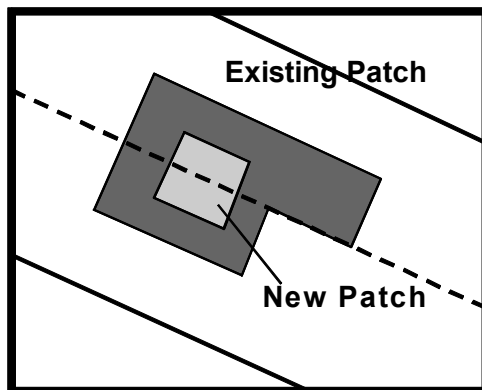


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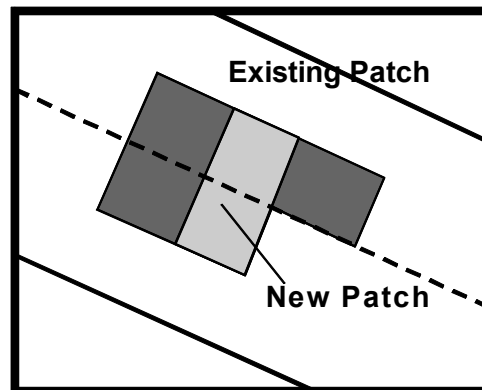


of traffic. Do not construct patches with angled sides and irregular shapes.

NOT ACCEPTABLE



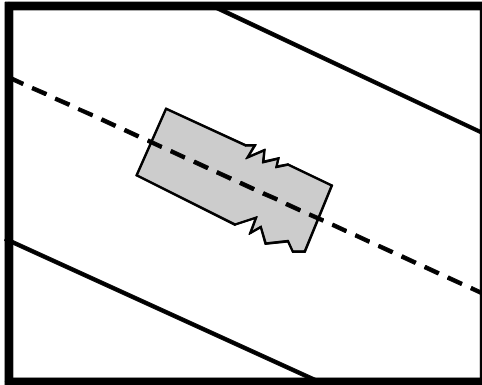
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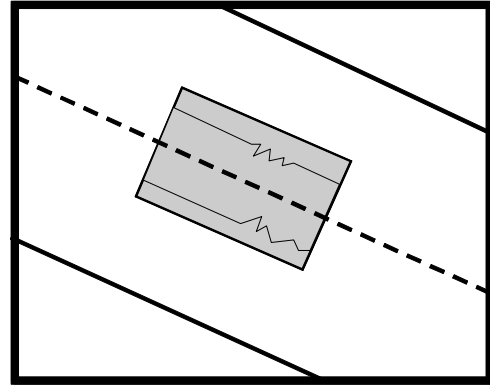
2. **Avoid patches within existing patches.** If this cannot be avoided, make the boundaries of the patches coincide.

3. Do not leave strips of pavement less than one-half lane in width from the edge of the new patch to the edge of an existing patch or the lip of the gutter.

NOT ACCEPTABLE

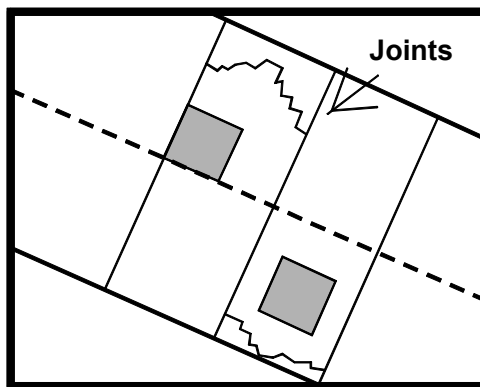


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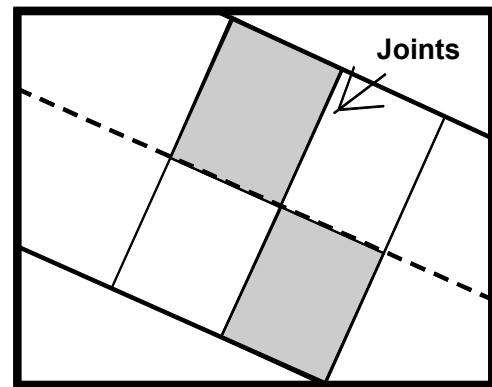


4. Asphalt and concrete pavements should be removed by **saw cutting** or grinding. Avoid breaking away the **edges** of the existing pavement or damaging the remaining pavement with heavy construction equipment.

NOT ACCEPTABLE

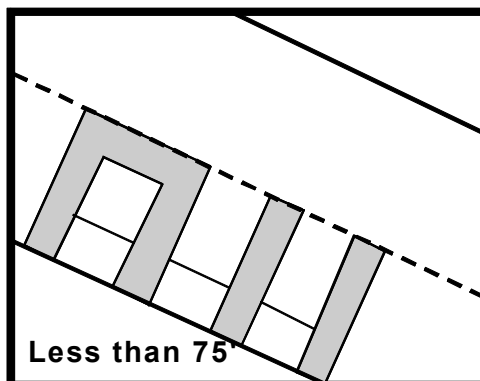


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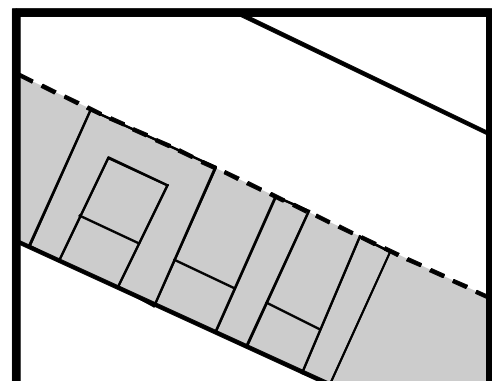


5. In concrete pavements, sidewalks and other public use areas where the surface is in good repair, remove **sections to existing joints**. In damaged concrete, the limits of removal should be determined in the field by a representative of the Town.

NOT ACCEPTABLE



ACCEPTABLE



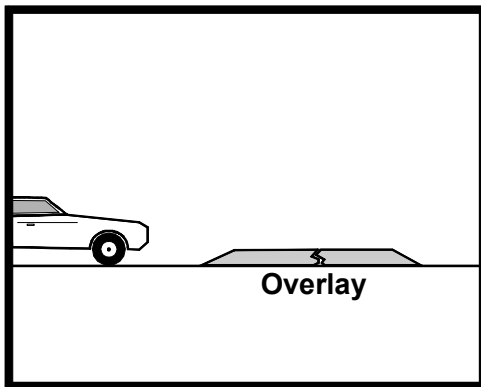
6. In the case of a **series of patches** or patches for service lines off a main trench, repair the pavement over the patches by **overlay** shall be required when the spacing between the patches is less than 75 feet (in cases where the existing pavement is in poor condition and may require overlay within the next few years, this requirement may be modified or waived by the Town).

C. RIDEABILITY

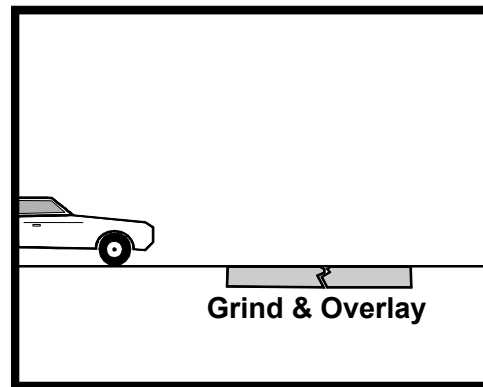
Are the transitions on and off of the repair smooth? Does the patch itself offer a smooth ride? Are the joints located outside of the normal wheel path?

- **COMPLETED STREET REPAIRS SHOULD HAVE RIDEABILITY AT LEAST AS GOOD AS, IF NOT BETTER THAN, THE PAVEMENT PRIOR TO THE REPAIRS.** A driver may be able to see a street repair, but in the case of a quality repair, they should not be able to “feel” it in driving normally down the street.

NOT ACCEPTABLE

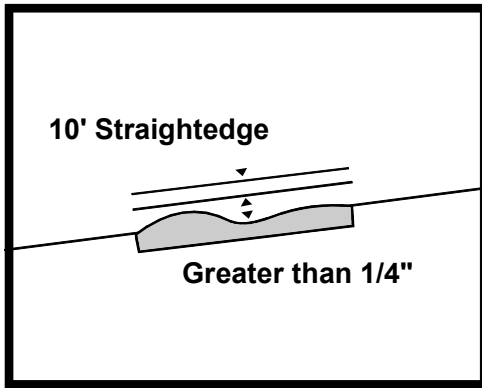


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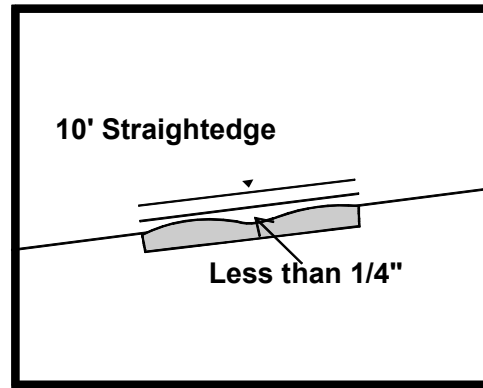


1. Do not construct asphalt overlays in such a manner that create a **bump** to the motoring public. If the leading edge of an overlay is substantially noticeable to a car it is likely to be significant to the snowplow trucks. The Town shall determine the rideability of the overlay. If the transition is not smooth the contractor shall remove and replace to feather out the leading edge to the satisfaction of the Town.

NOT ACCEPTABLE



ACCEPTABLE



2. **Surface tolerances** for street repairs should meet the standard for new construction. That is, the finished surface of the street repair, when tested with a ten (10) foot straightedge parallel to the centerline or perpendicular across joints, will show variations measured from the testing face of the straightedge to the surface of the street repair which do not exceed one-quarter (1/4) inch,

D. PAVEMENT MANAGEMENT

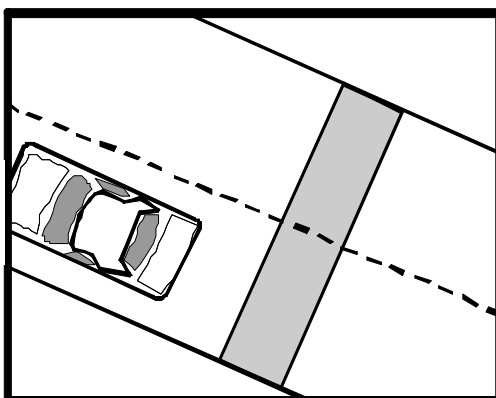
Is the repair consistent with the long-term pavement management strategy for the particular street?

STREET REPAIRS SHOULD LEAVE A PAVEMENT IN A CONDITION AT LEAST AS GOOD AS, IF NOT BETTER THAN, THE CONDITION PRIOR TO THE REPAIRS.

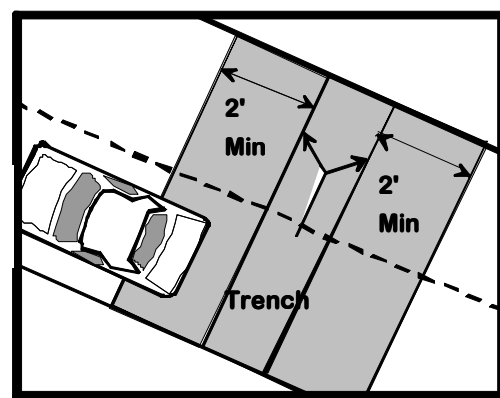
1. In most cases, and particularly in the cases of extensive excavation and repairs, it is desirable to survey the existing pavement condition with a representative of the Local Entity prior to the work. After completion of the work, survey the pavement condition again to verify that the pavement condition has been maintained or improved.
2. In the case of minor repairs, these pavement surveys can be made by visual observation. However, in the case of major projects that involve excessive haul of materials or unusually heavy construction equipment or activity, non-destructive testing of the pavement condition before and after construction is required.
3. Consideration of pavement management issues may also identify opportunities for joint efforts between the utilities and the Local Entity.

For example, suppose the repair of a utility line requires an overlay on half of a street, and that the condition of the remaining half of the street might also warrant an overlay. We may decide at that point to overlay the entire street, with Local Entity's street authority and the utility splitting the cost of the overlay. In such a case, the utility may be able to save the cost of grinding half the street. The Local Entity's street authority will allocate a reasonable percentage of their annual overlay program to accommodate their share of these situations. This includes minor (2-3 block) maintenance projects and larger capital improvement projects (water main line extensions). Coordination for these types of cooperative repairs shall occur as far in advance of actual construction as possible.

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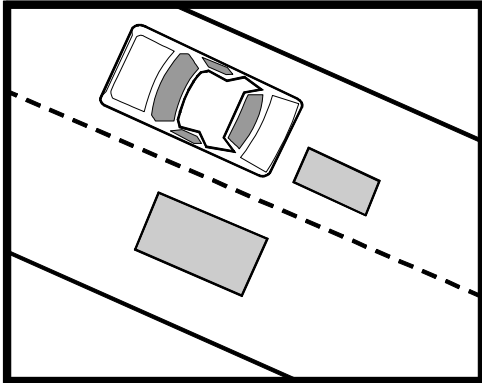


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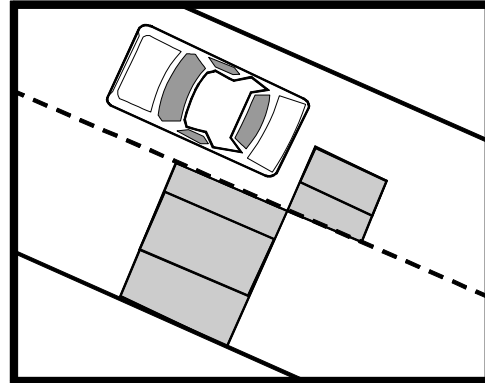


- Transverse patches shall be replaced across the entire street width for a distance of two (2) feet minimum on both side of the trench, thus creating a 'T' shaped patch above the trench.

NOT ACCEPTABLE

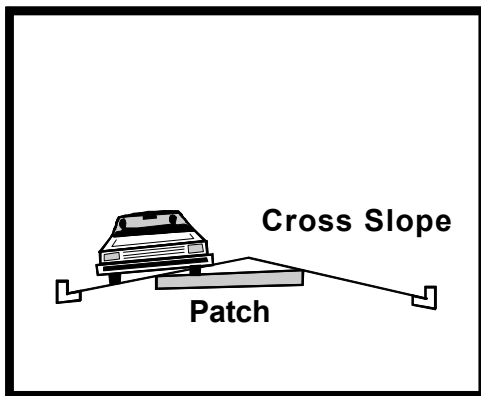


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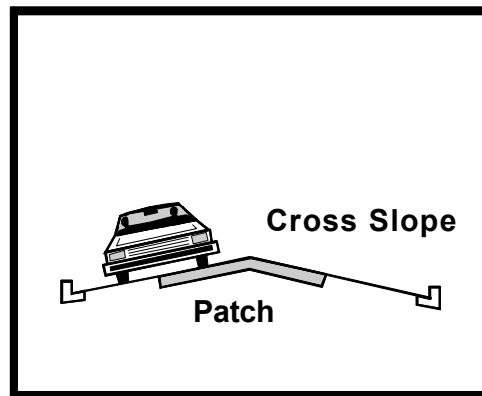


- Do not allow the edges of patches to fall in existing wheel paths. The edges of patches parallel to the direction of traffic shall be limited to the boundaries of lanes or to the centerline of travel lanes.

NOT ACCEPTABLE



ACCEPTABLE



- Patches should have a **smooth longitudinal grade** consistent with the existing roadway and crown. Patches should also have a cross slope or cross section consistent with the design of the existing roadway.

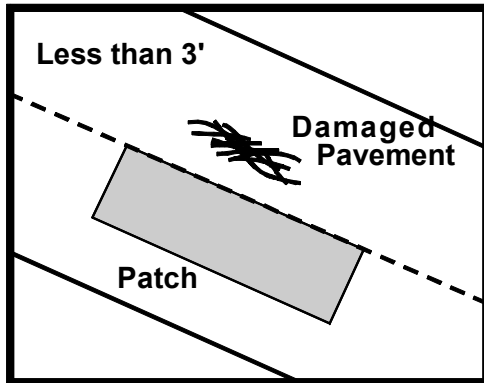
E. FUTURE MAINTENANCE

Will the repair pose any future maintenance problems or make future maintenance more difficult?

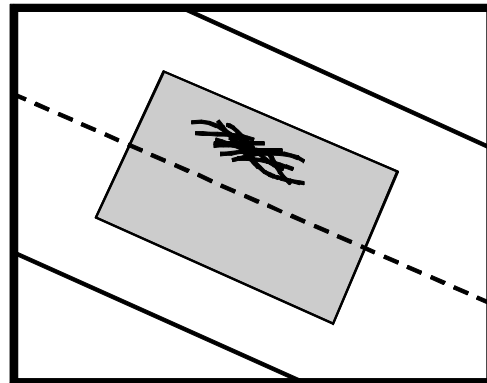
- Excavations and street repairs, even well constructed street repairs, shorten a pavement's life. Several types of street distress, settlement, alligator cracking, and potholes, often show up around patches. Quality street repairs should **attempt to include adjacent minor damage** and reduce the chances of associated growth out to these types of distress.
- Avoid weakening or destroying the existing pavement around an excavation with heavy construction equipment, stockpiling or delivery of materials, etc. When damage does occur, remove the damaged pavement, extending the limits of the street repair, before replacing the pavement. Remember, **no stockpiling of backfill or road building materials is permitted on the pavement.**

- When the proposed excavation falls within three feet of a section of failed pavement, the failed area shall be removed to sound pavement and patched. Scarring, gouging, or other damaged pavement adjacent to a patch shall be removed and the pavement repaired.

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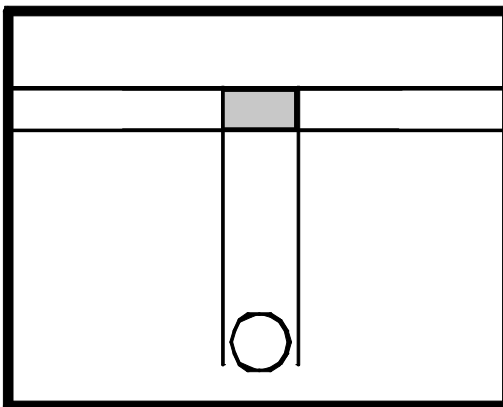


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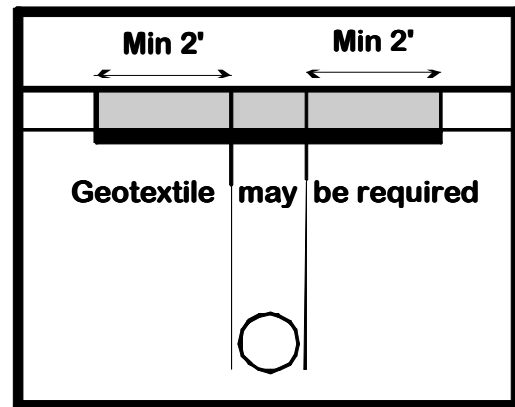


- In the case of older pavement where the likelihood of cracking and potholes next to the patch is greater, it shall be necessary to **extend the "shoulders" of the pavement** beyond the two-foot minimum, when the adjacent deterioration is less than 3' away . reinforce this area with a geotextile.

NOT ACCEPTABLE

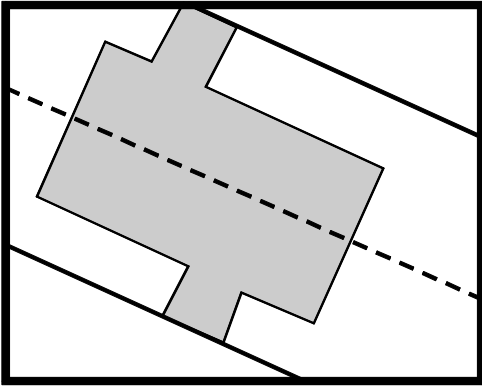


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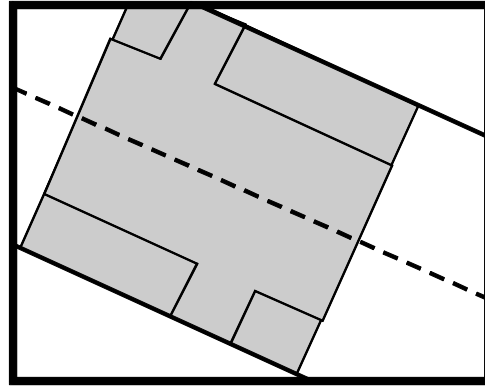


- "T" cutting shall be required for all asphalt repairs in all streets.
- For patches in asphalt, a **tack coat** shall be applied to all edges of the existing asphalt before placing with the pavement.
- After placing the new asphalt, all seams (joints) between the new and existing pavements shall be sealed with an asphalt tack coat or rubberized **crack seal** material.

NOT ACCEPTABLE



ACCEPTABLE



- 8. Avoid frequent changes in width** of patches. For future maintenance, this simplifies removal of adjacent pavement failures.

5. INSPECTION

All construction work within the public rights-of-way shall be subject to inspection by the Engineer and certain types of work may have continuous inspection. It shall be the responsibility of the Contractor to provide safe access for the inspector to perform the required inspections.

It shall be the responsibility of the person performing the work authorized by the Permit to notify the Engineer or his authorized representatives that such work is ready for inspection. The Engineer requires that every request for inspection is to be received at least twenty-four (24) hours (not including weekends and holidays) before such inspection is desired. Such requests may be in writing or by telephoning or faxing the Engineer.

The Engineer may make or require other inspections of any work as deemed necessary to ascertain compliance with the provisions of these Guidelines or the Town of Snowmass Village *Street Design and Construction Standards*, or Municipal Code. Any work performed without the required inspections shall be subject to removal and replacement at the Contractor's expense, regardless of the quality of the work.

Where large-scale projects exceed the ability of the Local Entity to provide inspection, the contractor or utility company will incur the cost of a private inspection firm. The Permit applicant and the Town of Snowmass Village prior to issuance of the Permit will mutually agree upon this inspection firm.

6. TESTING

A. Description

The contractor is required to provide material testing for each phase of the work and at no cost to the Local Entity. The **independent geotechnical-testing firm** chosen to perform this work for the Contractor must be qualified and identified on the Permit application.

B. Testing Frequencies

The number of density tests required may be increased if directed by the Engineer. The costs of any testing, as required, shall be borne by the Contractor. Proctors shall be determined prior to backfilling. Independent lab results shall be faxed to the Local entity as soon as possible.

The horizontal frequencies of density tests are as follows:

1. **Utility Mains** - One test per 100 linear feet per lift.
2. **Service Lines** - One test per each service per lift.
3. **Manholes and valve boxes, and Fire Hydrants:** one per each lift, surrounding the appurtenance.

Following are the **minimum number of tests required for each construction activity**. These tests must be submitted to the Engineer on a daily basis as acquired and shall be hand delivered or faxed to the Town Public Works.

1. **Native or imported backfill:** - One (1) test for every two (2) vertical feet and every one hundred (100) feet horizontally, or some fraction thereof with at least one (1) test per each lift.
3. **Concrete:** pavement, curbs, gutters and sidewalks – Testing to be conducted for every 100 cubic yards or portion thereof, with a minimum of one. Air, slump and 6 cylinders shall be the minimum testing.
4. **ASPHALT PAVEMENT –**
 - Asphalt content – One test per 500 tons or fraction thereof of mix produced, minimum of one test per job.
 - Gradation-Aggregate: one test per 500 tons or fraction there of, of mix produced, minimum of one test per job.
 - In-place density – One test per 500 tons or fraction thereof of mix placed, minimum of one test per job.
5. Aggregate **base course** materials –One test per 400 lane feet. No less than two (2) tests per excavation.

