



Street Restoration Standards



January, 2002

Approved:	Board of Public Works	02/14/02
	Common Council	02/20/02

ORDINANCE NO. 2369

AN ORDINANCE REPEALING AND RECREATING SECTION 9.04 OF THE
GREENFIELD MUNICIPAL CODE REGARDING OCCUPANCY OF RIGHTS-OF-WAY

The Common Council of the City of Greenfield do ordain as follows:

PART I. Section 9.04 of the Greenfield Municipal Code is hereby repealed and recreated to read as follows:

(1) GENERAL PROVISIONS

(a) Purpose and Findings. In the exercise of governmental functions the City has priority over all uses of the public rights-of-way. The City desires to anticipate and minimize the number of obstructions and excavations taking place therein and to regulate the placement of facilities in the rights-of-way to ensure that the rights-of-way remain available for public services and safe for public use. The taxpayers of the City bear the financial burden for the upkeep of the rights-of-way and a primary cause for the early and excessive deterioration of its rights-of-way is the frequent excavation by persons who locate facilities therein.

The City finds increased use of the public rights-of-way and increased costs to the taxpayers of the City and that these costs are likely to continue into the foreseeable future.

The City finds that occupancy and excavation of its rights-of-way causes costs to be borne by the City and its taxpayers, including but not limited to:

1. Administrative costs associated with public right-of-way projects, such as registration, permitting, inspection and supervision, supplies and materials.
2. Management costs associated with ongoing management activities necessitated by public right-of-way users.
3. Repair or restoration costs to the roadway associated with the actual excavation into the public right-of-way.
4. Degradation costs defined as depreciation caused to the roadway in terms of decreased useful life, due to excavations into the public rights-of-way.

In response to the foregoing facts, the City hereby enacts this ordinance relating to administration of and permits to excavate, obstruct and/or occupy the public rights-of-way. Pursuant to the provisions of state statute 196.58 this ordinance imposes reasonable regulations on the placement and maintenance of equipment currently within its rights-of-way or to be placed therein at some future time. It is intended to complement the regulatory roles of state and federal agencies.

The purpose of this ordinance is to provide the City a legal framework within which to regulate and manage the public rights-of-way, and to provide for recovery of the costs incurred in doing so. This ordinance provides for the health, safety and welfare of the residents of the City as they use the rights-of-way of the city, as well as to ensure the structural integrity of the public rights-of-way.

(b) Definitions. The following definitions apply in this ordinance. References hereafter to "sections" are unless otherwise specified references to sections in this ordinance. Defined terms remain defined terms whether or not capitalized.

"Applicant" means any person requesting permission to excavate, obstruct and/or occupy a right-of-way.

"City" Shall mean the City of Greenfield, Wisconsin, a Wisconsin municipal corporation.

"Degradation" means the decrease in the useful life of the paved portion of the right-of-way, excluding the sidewalk right-of-way, caused by an excavation of the right-of-way, resulting in the need to reconstruct such right-of-way earlier than would be required if the excavation did not occur.

"Department" means the Engineering Department of the City.

"Emergency" means a condition that (1) poses a clear and immediate danger to life or health, or of a significant loss of property; or (2) requires immediate repair or replacement in order to restore service to a customer.

"Engineer" means the City Engineer or his/her designee.

"Excavate" means to dig into or in any way remove or physically disturb or penetrate any part of a right-of-way.

"Facilities" means all equipment owned, operated, leased or subleased in connection with the operation of a service or utility service, and shall include but is not limited to poles, wires, pipes, cables, underground conduits, ducts, manholes, vaults, fiber optic cables, lines and other structures and appurtenances.

"In", when used in conjunction with "right-of-way", means over, above, within, on or under a right-of-way.

"Local representative" means a local person or persons, or designee of such person or person, authorized by a registrant to accept service and to make decisions for that registrant regarding all matters within the scope of this Chapter.

"Obstruct" means to place any object in a right-of-way so as to hinder free and open passage over that or any part of the right-of-way.

"Performance Bond" means a bond, or cash deposit posted to ensure the availability of sufficient funds to assure that right-of-way excavation repair work or right-of-way excavation restoration work is completed in both a timely and quality manner, per Department specifications.

"Permittee" shall mean any Person to whom a permit to occupy, excavate or obstruct a Right-of-Way has been granted by the City under Chapter 9 of the ordinances.

"Person" shall mean corporation, company, association, firm, partnership, limited liability company, limited liability partnership and individuals and their lessors, transferees and receivers.

"Public Utility" has the meaning provided in Wis Stats 196.01(5).

"Registrant" means any person who has registered with the City to have its facilities located in any right-of-way.

"Repair" means to perform construction work necessary to make the right-of-way useable for travel according to Department specifications, or to restore equipment to an operable condition.

"Restore or Restoration" means the process by which an excavated right-of-way and surrounding area, including pavement and foundation is reconstructed, per Department specifications.

"Right-of-Way" means the surface and space above and below an improved or unimproved public roadway, highway, street, bicycle lane and public sidewalk in which the City has an interest, including other dedicated rights-of-way for travel purposes.

(c) Administration. The Engineer or his/her designee is responsible for the administration of the rights-of-way, and the permits and ordinances related thereto.

(2) REGISTRATION FOR RIGHT-OF-WAY OCCUPANCY.

(a) Each person who has, or seeks to have, facilities located in any right-of-way shall register with the Department and pay the fee set forth in Section 9.04(4). Registration will consist of providing application information and paying a registration fee. This section shall not apply to those persons who have facilities in the right-of-way pursuant to a franchise or other agreement.

(b) No person may construct, install, maintain, repair, remove, relocate or perform any other work on, or use any equipment or any part thereof in any right-of-way unless that person is registered with the Department.

(c) Nothing herein shall be construed to repeal or amend the provisions of a City ordinance requiring persons to plant or maintain the tree lawn in the area of the right-of-way between their property and the street curb or pavement, construct sidewalks or driveways or other similar activities. Persons performing such activities shall not be required to obtain any permits under this Chapter.

(3) REGISTRATION INFORMATION. The information provided to the Department at the time of registration shall include, but not be limited to:

(a) Each registrant's name, Diggers Hotline registration certificate number, address and e-mail address, if applicable, and telephone and facsimile numbers.

(b) The name, address and e-mail address, if applicable, and telephone and facsimile numbers of a local representative. The local representative or designee shall be available at all times. Current information regarding how to contact the local representative in an emergency shall be provided at the time of registration.

(c) A certificate of insurance on a form acceptable by the Department.

(d) If the registrant is a corporation, a LLC or LLP, a copy of any certificate required to be filed under Wisconsin Statutes as recorded and certified by the Secretary of State.

(e) A copy of the registrant's certificate of authority from the Wisconsin Public Service Commission or other applicable state or federal agency, where the person is lawfully required to have such certificate from said commission or other state or federal agency.

(f) Execution of an indemnification agreement in a form prescribed by the Department.

(g) The registrant shall keep all of the information listed above current at all times by providing to the Department information as to changes within fifteen (15) working days following the date on which the registrant has knowledge of any change.

(4) REGISTRATION FEE. The Department shall charge an annual Registration fee in an amount of \$75 to recover the costs incurred by the City for processing and updating registration information.

(5) REPORTING OBLIGATIONS. It is in the best interests of all affected parties to attempt to coordinate construction in the public right-of-way whenever it is reasonably possible. Therefore, periodic reporting by the registrant of known construction plans will be useful to achieve this objective.

(a) Every registrant shall, at the time of registration and no later than January 1 of each year, file a construction and major maintenance plan with the Department. The plan shall include, but shall not be limited to, the following information:

1. The locations and the estimated beginning and ending dates of all projects planned to be commenced during the next calendar year; and

2. The tentative locations and estimated beginning and ending dates for all projects contemplated for the two years following the next calendar year.

(6) PERMIT TO EXCAVATE IN RIGHT-OF-WAY REQUIRED.

(a) Excavation Permit Required. Except as otherwise provided in this Chapter or other Chapters of the Greenfield Municipal Code, no person shall excavate any right-of-way without first having obtained an excavation permit from the Department. A copy of any permit issued under this Chapter shall be made available at all times by the Permittee at the indicated work site and shall be available for inspection by the Department upon request.

(b) Excavation Permit Application. Application for a permit shall be made to the Department. Permit applicants shall contain, and will be considered complete only upon compliance with the requirements of the following provisions:

1. Registration with the Department if required by this Chapter.

2. Submission of a completed permit application form, including all required attachments, and scaled drawings showing the location and area of the proposed project and the location of all existing and proposed facilities that are part of applicant's proposed project.

3. Payment of all money due to the City for:

- a. applicable permit fees and costs as set forth below;

- b. subject to section 9.04(6)(b)5., unpaid fees or costs due to prior excavations; or

- c. subject to section 9.04(6)(b)5., any loss, damage, or expense suffered by the City because of applicant's prior excavations of the rights-of-way or any emergency actions taken by the City.

4. Execution of a Performance Bond. A performance bond binding the applicant, as principal, and a corporate surety licensed to do business in this State, as surety, to the City in a sum equal to the amount of the work to be done, the condition of the bond being that the applicant will perform and fully complete, in a workmanlike manner, all work for which any permit is issued during the term of the bond in accordance with State laws and City ordinances. The applicant shall reimburse the City for all damages to City property resulting from his work regardless of whether such damage is done by himself, his agents, employees or subcontractors.

5. The Department shall not deny an applicant an excavation permit because of a dispute between the City and the applicant, related to Section 9.04(6)(b)3.a. or c. if;

a. the dispute has been adjudicated in favor of the applicant;

b. the dispute is the subject of any appeal filed by the applicant and no decision in the matter has yet been rendered.

(7) EXCAVATION PERMIT FEE. The Excavation Permit Fee shall be established by the Department in an amount sufficient to recover the costs incurred by the City. This fee shall recover administrative and inspection costs, as well as degradation costs should the permittee choose to repair rather than restore the right-of-way. Payment of said fees shall be collected prior to issuance of the permit. However, the Engineer may, with the advice and consent of the Finance Director, establish a fee collection process from governmental agencies and private utilities in order to expedite the permitting system and recognize that certain excavations are deemed emergencies.

(a) Waiving of Fees. Fees shall not be waived unless the work involved is a direct result of the Engineer's demand that a plant owned by a utility be improved or relocated or unless waived by the Board of Public Works on appeal.

(b) Fee Schedule. The minimum fee for each excavation permit shall be forty dollars (\$40); plus an additional ten dollars (\$10) per 100 square feet for excavation and thirty cents (\$.30) per lineal foot for boring. Excavation permits for utility work in new subdivisions and within the limits of public works projects, where the work is undertaken prior to the installation of pavement, shall only be charged the minimum fee. The fee for a permit issued after commencing work, except in cases of emergency as determined by the Engineer, shall be double the fees set forth herein. This permit fee shall be in addition to any forfeiture provided elsewhere in this ordinance.

For those permit applications which provide for a substantial undertaking of excavation within the public right-of-way attended by disruption of the general public and traffic, the Engineer is authorized to assess the actual cost of the City employee's time engaged in the review and inspection of the anticipated work multiplied by a factor determined by the respective department to represent the City's cost for statutory expenses, benefits, insurance, sick leave, holidays, vacation and similar benefits, overhead and supervision, said factor not to exceed 2.0, plus the cost of mileage reimbursed to City employees which is attributed to the work, plus all consultant fees associated with the work at the invoiced amount plus fifteen percent (15%) for administration. The Department may require a cash deposit with the permit application against which these charges may be drawn.

(c) City Exemption. The City and its contractors shall not pay degradation fees for excavations due to general government functions.

(d) Permit fees paid for a permit that the Department has revoked are not refundable.

(8) RIGHT-OF-WAY REPAIR/RESTORATION.

(a) The Permittee shall be required to repair the public right-of-way to Department specifications, subject to inspection and acceptance by the Department, and to pay a degradation fee, as per Section 9.04(8)(d), unless the Permittee elects to restore the right-of-way pursuant to Section 9.04(8)(e). In addition to repairing its own work, the Permittee must repair the general area of work, and the surrounding areas, including the paving and its foundations, to the specifications of the Department. The City shall inspect the area of the work and accept the work when it determines that proper repair has been made, per City specifications.

(b) Guarantees. The Permittee guarantees its work and shall maintain it for thirty-six (36) months following is completion. During this period it shall, upon notification from the Department, correct all work to the extent necessary, using the method required by the Department. Said work shall be completed within ten (10) calendar days of the receipt of the notice from the department, not including days during which work cannot be done because of circumstances constituting force majeure.

(c) Failure to Repair/Restore. If the Permittee fails to repair/restore the right-of-way in the manner and to the condition required by the Department, or fails to satisfactorily and timely complete all work required by the Department, the Department at is option may do such work. In said event the Permittee shall pay to the City, within thirty (30) days of billing, the cost of repairing/restoring the right-of-way.

(d) Degradation. The general formula for computing the degradation fee shall be the cost per square yard for street, overlay and seal coat multiplied by the appropriate depreciation rate for that street multiplied by the area of the patch. The area or the patch shall be calculated by adding one foot to each side for the actual street cut. Degradation fee schedule to be provided by the Department.

(e) Restoration in Lieu of Repair and Degradation. Unless otherwise ordered by the Department the Permittee may elect to restore the excavation and surrounding pavement in lieu of repair and a degradation fee. The restoration shall be in accordance with the Standard Specifications for Public Works Construction and the plans and specifications of the Department. The Permittee shall then also comply with Section 9.04(8)(b) and (c).

(9) INSPECTION.

(a) Notice of Completion. When the work under any permit hereunder is begun and completed, the Permittee shall notify the Department.

(b) Site Inspection. Permittee shall make the work site available to the Department, designees of the City, and to all others as authorized by law for inspection at all reasonable times during the execution of and upon completion of the work.

(c) Authority of City. At the time of inspection the City may order the immediate cessation of any work which poses a threat to the life, health, safety or well being of the public. The City may issue a cessation order to the registrant or Permittee for any work that does not conform to the applicable City standards, conditions or codes. The order shall state that failure to correct the violation will be cause for revocation of the permit. Within ten (10) days after issuance of the order, the registrant or Permittee shall present proof to the Department that the violation has been corrected. If such proof has not been presented within the required time, the Department may revoke the permit pursuant to Section 9.04 (12).

(10) ONGOING MANAGEMENT FEES.

The cost of trimming trees around facilities is an ongoing cost to the City. The specific cost will be determined and a fee to offset those costs may be assessed in the future.

(11) COMPLIANCE WITH OTHER LAWS. Obtaining a permit to excavate and/or occupy the right-of-way does not relieve Permittee or its duty to obtain all other necessary permits, licenses, and authority and to pay all fees required by any other City, County, State, or Federal rules, laws or regulations. A permittee shall comply with all requirements of local, state and federal laws. A permittee shall perform all work in conformance with all applicable codes and established rules and regulations, and is responsible for all work done in the right-of-way pursuant to its permit, regardless of who does the work.

(12) REVOCATIONS, SUSPENSIONS, REFUSALS TO ISSUE OR EXTEND PERMITS.

(a) The Department may refuse to issue a permit or may revoke, suspend or refuse to extend an existing permit if it finds any of the following grounds:

1. The applicant or Permittee is required to be registered and has not done so;
2. Issuance of a permit for the requested date would interfere with an exhibition, celebration, festival or other event;
3. Misrepresentation of any fact by the applicant or Permittee;
4. Failure of the applicant or Permittee to maintain required bonds and/or insurance;
5. Failure of the applicant or Permittee to complete work in a timely manner;
6. The proposed activity is contrary to the public health, safety or welfare;
7. The extent to which right-of-way space where the permit is sought is available;
8. The competing demands for the particular space in the right-of-way;
9. The availability of other locations in the right-of-way or in other rights-of-way for the facilities of the Permittee or applicant;
10. The applicability of ordinances or other regulations of the right-of-way that affect location of facilities in the right-of-way;

(b) Discretionary Issuance. The Department may issue a permit where issuance is necessary (a) to prevent substantial economic hardship to a customer of the Permittee or applicant, or (b) to allow such customer to materially improve its utility service, or (c) to allow the Permittee or applicant to comply with state or federal law or city ordinance or an order of a court or administrative agency.

(c) Appeals. Any person aggrieved by a decision of the Department revoking, suspending, refusing to issue or refusing to extend a permit may file a request for review with the Board of Public Works. A request for review shall be filed within ten (10) days of the decision being appealed. Following a hearing, the Board of Public Works may affirm, reverse or modify the decision of the Department.

(13) WORK DONE WITHOUT A PERMIT.

(a) Emergency Situations. Each registrant shall immediately notify the City by verbal notice on an emergency phone number provided by the City of any event regarding its facilities that it considers to be an emergency. The registrant may proceed to take whatever actions are necessary to respond to the emergency. Within two business days after the occurrence of the emergency the registrant shall apply for the necessary permits, pay the fees associated therewith and otherwise fully comply with the requirements of this Chapter.

If the City becomes aware of any emergency regarding a registrant's facilities, the City may attempt to contact the local representative of each registrant affected, or potentially affected, by the emergency. The City make take whatever action it deems necessary to protect the public safety as a result of the emergency, the cost of which shall be borne by the registrant whose facilities occasioned the emergency.

(b) Non-Emergency Situations. Except in an emergency, any person who, without first having obtained the necessary permit, excavates a right-of-way must subsequently obtain a permit, and shall in addition to any penalties prescribed by ordinance, pay double the normal fee for said permit, pay double all the other fees required by this Chapter or other Chapters of the Greenfield General Ordinances, deposit with the Department the fees necessary to correct any damage to the right-of-way and comply with all of the requirements of this chapter.

(14) LOCATION OF FACILITIES.

(a) Undergrounding. Unless in conflict with state or federal law, except when existing aboveground facilities are used, the installation of new facilities and replacement of old facilities shall be done underground or contained within buildings or other structures in conformity with applicable codes.

(b) Limitation of Space. The Department may prohibit or limit the placement of new or additional facilities within the right-of-way if there is insufficient space to accommodate all of the requests of persons to occupy and use the right-of-way. In making such decisions, the Department shall strive to the extent possible to accommodate all existing and potential users of the right-of-way, but may prohibit or limit the placement of new or additional facilities when required to protect the public, health, safety or welfare.

(c) Attachment to Bridges. Whenever an applicant or Permittee under this section requests permission to attach pipes, conduits, cables or wires to any City bridge structure, the applicant shall pay a fee of \$1,000 upon the granting of such permission to help defray administrative expense in the analysis and inspection of such installation. The owner of such pipes, conduits, cables or wire shall not be entitled to compensation for removal or relocation of the same in the case of repair, removal, or replacement of said bridge structure by the City.

(15) RELOCATION OF FACILITIES. Except as prohibited by State or Federal law, a registrant must promptly and at its own expense, with due regard for seasonal working conditions, permanently remove and relocate its facilities in the right-of-way whenever the City requests such removal and relocation, and shall restore the right-of-way to the same condition it was in prior to said removal or relocation. The City may make such request to prevent interference by the Company's facilities with (i) a present or future City use of the right-of-way, (ii) a public improvement undertaken by the City, (iii) an economic development project in which the City has an interest or investment, (iv) when the public health, safety and welfare require it, or

(v) when necessary to prevent interference with the safety and convenience of ordinary travel over the right-of-way.

Notwithstanding the foregoing, a person shall not be required to remove or relocate its facilities from any right-of-way which has been vacated in favor of a nongovernmental entity unless and until the reasonable costs thereof are first paid to the person therefore.

(16) INTERFERENCE WITH OTHER FACILITIES DURING MUNICIPAL CONSTRUCTION. When the City performs work in the right-of-way and finds it necessary to maintain, support, shore, or move a registrant's facilities, the city shall notify the local representative. The registrant shall meet with the City's representative within twenty-four (24) hours and coordinate the protection, maintenance, supporting and/or shoring of the registrant's facilities. The registrant shall accomplish the needed work within seventy-two (72) hours, unless the City agrees to a longer period.

In the event that the registrant does not proceed to maintain, support, shore or move its facilities within the timeframe set by the City, the City may arrange to do the work and bill the registrant, which bill shall be paid within thirty (30) days.

(17) ABANDONED FACILITIES.

(a) Discontinued Operations. A registrant who has determined to discontinue its operations in the City or if the City has determined the registrant to have discontinued its operations, must either:

1. Provide information satisfactory to the Department that the registrant's obligations for its facilities under this Chapter have been lawfully assumed by another registrant; or

2. Submit to the Department a proposal and instrument for dedication of its facilities to the City. If a registrant proceeds under this clause, the City may, at its option:

a. accept the dedication for all or a portion of their facilities; or

b. require the registrant, at its own expense, to remove their facilities in the right-of-way; or

c. require the registrant to post a bond or provide payment sufficient to reimburse the City for reasonably anticipated costs to be incurred in removing the facilities.

However, any registrant who has unusable and abandoned facilities in any right-of-way shall remove it from that right-of-way within one year, unless the Department waives this requirement.

(b) Abandoned Facilities. Facilities of a registrant which fail to comply with Section 9.04(17)(a)1., and which, for two (2) years, remains unused shall be deemed to be abandoned. Abandoned facilities are deemed to be a nuisance. In addition to any remedies or rights it has at law or in equity, the City may at its option (i) abate the nuisance, (ii) take possession of the facilities, or (iii) require removal of the facilities by the registrant, or the registrant's successor in interest with the costs and expenses of any action to be assessed against the registrant or its successor.

(c) Public Utilities. This section shall not apply to a public utility, as defined by Section 196.01(5), Wis. Statutes, that is required to follow the provisions of Section 196.81, Wis. Statutes.

(18) RESERVATION OF REGULATORY AND POLICE POWERS. The City, by the granting of a permit to excavate, obstruct and/or occupy the right-of-way, or by registering a person under this Chapter does not surrender or to any extent lose, waive, impair, or lessen the lawful powers and rights, which it now has or may hereafter acquire under the Constitution and statutes of the State of Wisconsin to regulate the use of the right-of-way by the permittee; and the permittee by its acceptance of a permit to excavate, obstruct and/or occupy the right-of-way or of registration under this Chapter agrees that all lawful powers and rights, regulatory powers, or police power, or otherwise as are or the same may be from time to time vested in or reserved to the City, shall be in full force and effect and subject to the regulatory and police powers of the City to adopt and enforce general ordinances necessary to the safety and welfare of the public and is deemed to agree to comply with all applicable general law, and ordinances enacted by the City pursuant to such powers.

(19) SEVERABILITY. If any section, subsection, sentence, clause, phrase, or portion of the Chapter is for any reason held invalid or unconstitutional by any court or administrative agency of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions thereof.

(20) PENALTY. Any person who violates this ordinance or fails to comply with the provisions of this ordinance shall be subject to a forfeiture of not less than one hundred twenty dollars (\$120) nor more than six hundred dollars (\$600). Each day such violation or failure to comply continues shall be considered a separate offense.

PART II. All ordinances or parts of ordinances contravening the provisions of this ordinance are hereby repealed.

PART III. This ordinance shall take effect and be in force from and after its passage and publication.

ADOPTED December 5, 2000

APPROVED December 6, 2000

Donna M. Rynders
Donna M. Rynders, City Clerk

Timothy T. Seider
Timothy T. Seider, Mayor

Published: December 14, 2000

ORDINANCE NO. 2397

AN ORDINANCE CREATING SECTION 9.04 (21) OF THE
GREENFIELD MUNICIPAL CODE RELATING TO A POLICY MANUAL
REQUIRED FOR STREET RESTORATION STANDARDS

The Common Council of the City of Greenfield do ordain as follows:

PART I. Section 9.04(21) of the Greenfield Municipal Code is hereby created to read as follows:

"9.04(21) POLICY MANUAL ADOPTED. (a) The City of Greenfield Street Restoration Standards policy manual (dated January 2002), inclusive, and all amendments thereto, now and in the future, is adopted and incorporated in this chapter by reference and made a part of this chapter as though fully set forth herein.

(b) The City Engineer, the Director of Public Works and their respective delegated representatives are hereby authorized and directed to administer and enforce all of the provisions of said policy manual.

(c) The Board of Public Works shall recommend amendments to said policy manual for approval by the Common Council as necessary.

PART II. All ordinances or parts of ordinances contravening the provisions of this ordinance are hereby repealed.

PART III. This ordinance shall take effect and be in force from and after its passage and publication.

ADOPTED February 20, 2002

APPROVED February 21, 2002

Donna M. Rynders
Donna M. Rynders, City Clerk

Timothy T. Seider
Timothy T. Seider, Mayor

Published: February 28, 2002

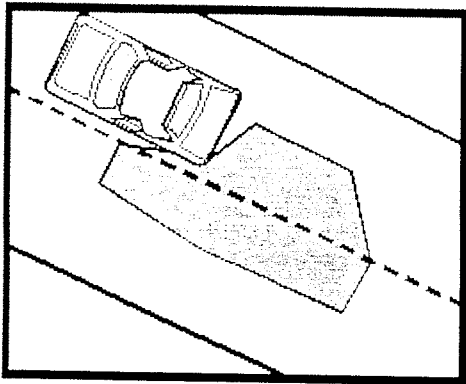
CITY OF GREENFIELD
STREET RESTORATION STANDARDS
January, 2002

Section 1: Developing a "Quality" Approach to Street Repairs

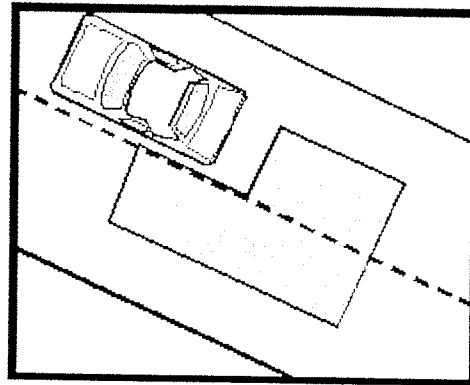
- (1) General. Every street and street repair situation is unique. Design criteria and construction standards cannot address every situation but, in order to maintain some form of consistency, these standards have been developed. In most cases, they provide the minimum acceptable standards for construction 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 judgment. This will restore the street to an acceptable condition with minimal patching failures. In most 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).

- A. Appearance. Does the final appearance of the street suggest the repairs were planned, or that they happened by accident?
1. 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.
 2. 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:
 - a. Existing pavements should be removed to clean, straight lines parallel and perpendicular to the flow of traffic. Do not construct patches with angled sides and irregular shapes.

NOT ACCEPTABLE

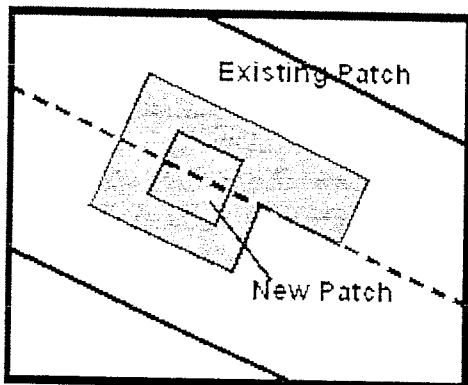


ACCEPTABLE

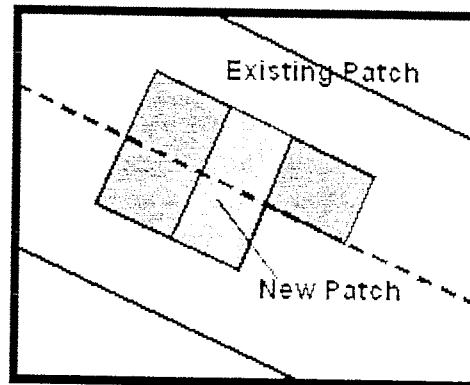


- b. Avoid patches within existing patches. If this cannot be avoided, make the boundaries of the patches coincide.

NOT ACCEPTABLE

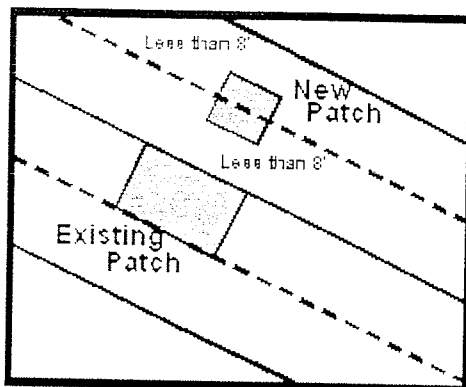


ACCEPTABLE

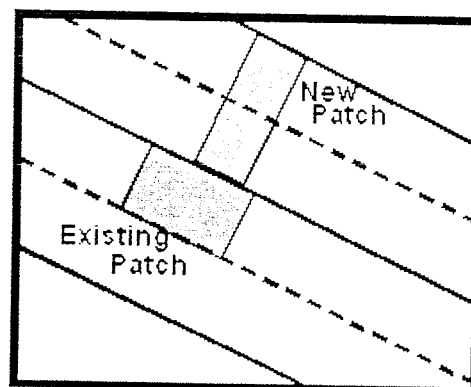


- c. Do not "leave" strips of pavement less than one-half lane in width from the edge of the new patch to the edge of an existing patch or the lip of the gutter.

NOT ACCEPTABLE

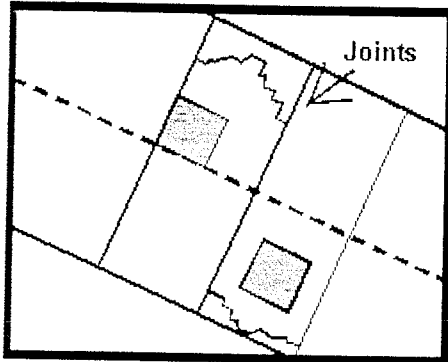


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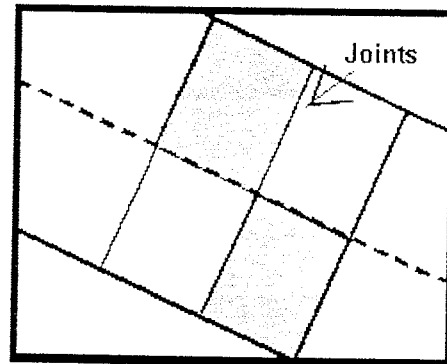


- d. In concrete pavements, remove sections to existing joints in the case of concrete in good repair. In damaged concrete, the limits of removal should be determined in the field by a representative of the Permitting agency. Tie-rods should be properly installed between old concrete and new concrete (6" minimum in each structure) spaced no more than 18" apart.

NOT ACCEPTABLE

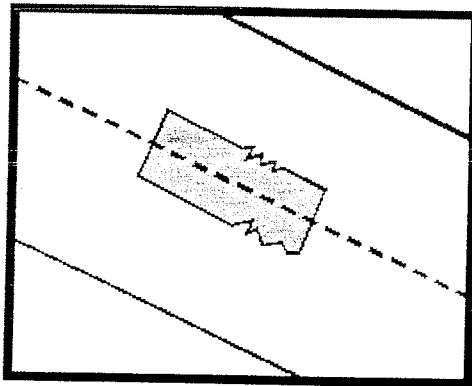


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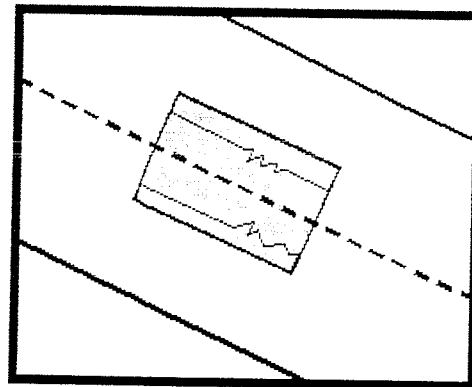


- e. Cutting or grinding - Avoid breaking away the edges of the existing pavement or damaging the remaining pavement with heavy construction equipment.

NOT ACCEPTABLE

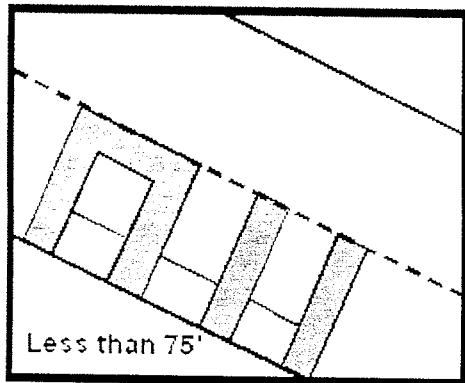


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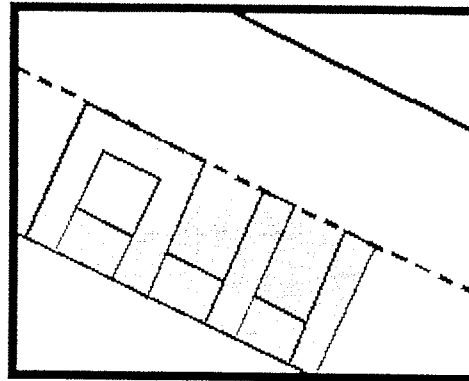


- f. In the case of a series of patches or patches for service lines off a main trench, repair the pavement over the patches by grinding and overlay when the spacing between the patches is less than 75 feet (in cases where the existing pavement is in poor condition and may require overlay within the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

NOT ACCEPTABLE



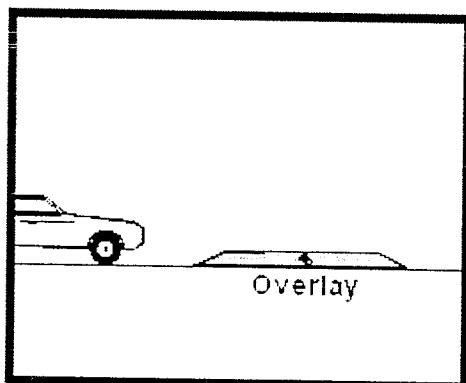
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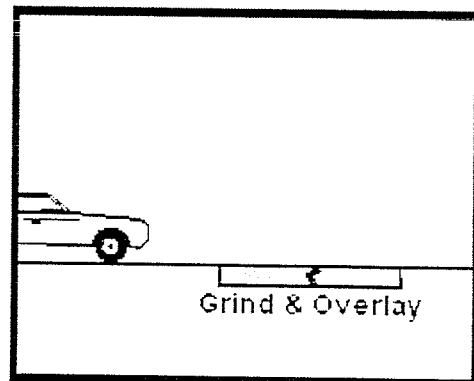
B. Rideability. Are the transitions on and off of the repair smooth? Does the patch itself offer a smooth ride? Are the joints located outside of the normal wheel path?

1. 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, he/she should not be able to "feel" it in driving normally down the street.
2. Do not place overlays with feathered edges on streets of any classification. Overlays should be placed by first removing the existing pavement to the desired depth by grinding, and then placing the pavement flush with the adjacent surfaces.

NOT ACCEPTABLE

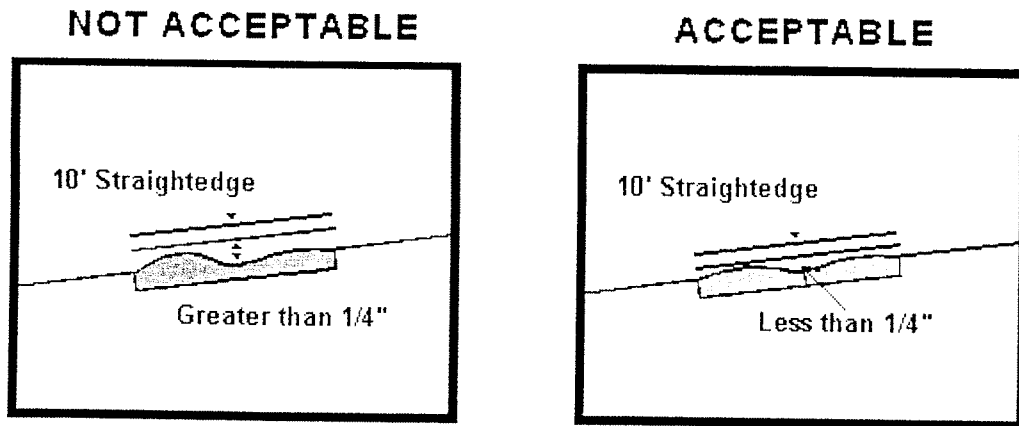


ACCEPTABLE



3. 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.



C. Pavement Management.

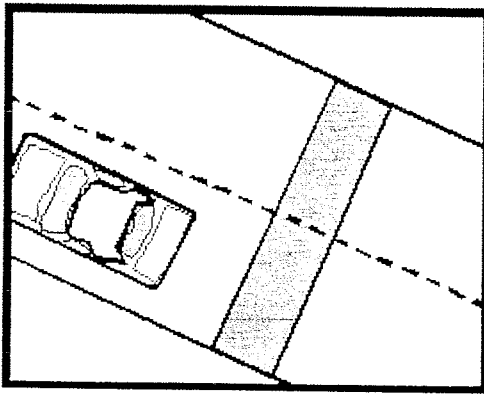
Is the repair consistent with the long-term pavement management strategy for the particular street?

1. Street repairs should leave a pavement in a condition at least as good as, if not better than, the condition prior to the repairs.
2. 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 City of Greenfield 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.
 - a. In the case of minor repairs, these pavement surveys can be made by visual observation.
 - b. 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 City of Greenfield. 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 City of

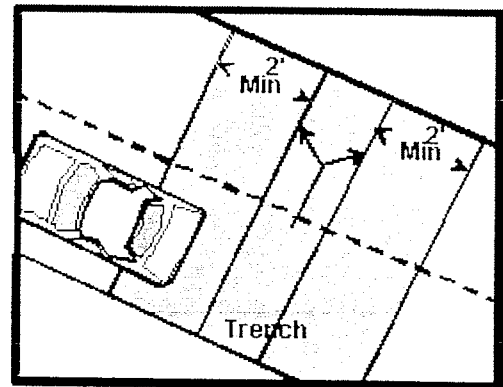
Greenfield' street authority and the utility splitting the cost of the overlay. In such a case, the utility may be able to save the cost of grinding half the street. The City of Greenfield' street authority will allocate a reasonable percentage of their annual overlay program to accommodate their share of these situations. This includes minor (2-3 block) maintenance projects and larger capital improvement projects. Coordination for these types of cooperative repairs should occur as far in advance of actual construction as possible.

- a. Transverse patches on arterial and collector streets shall be overlaid across the entire street width for a distance of two (2) feet minimum on all sides of the trench.

NOT ACCEPTABLE

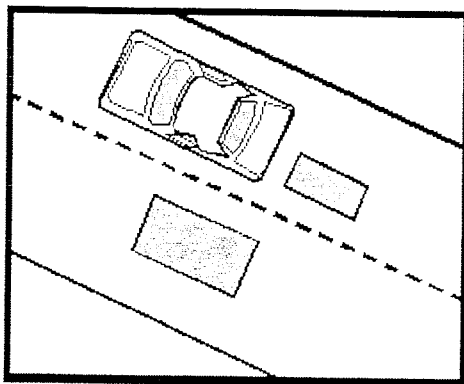


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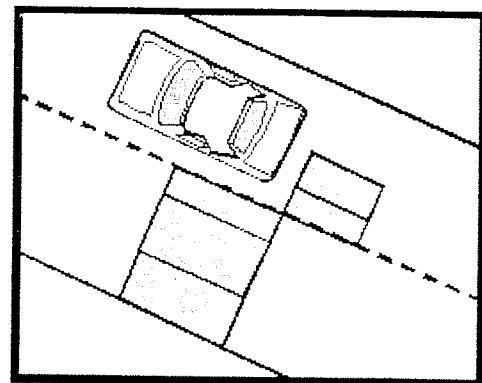


- b. Do not allow the edges of patches to fall in existing wheel paths. The edges of patches parallel to the direction of traffic shall be limited to the boundaries of lanes or to the centerline of travel lanes.

NOT ACCEPTABLE

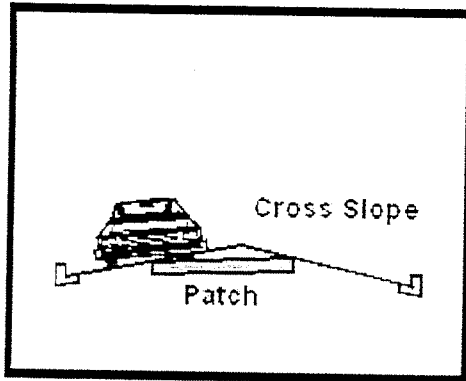


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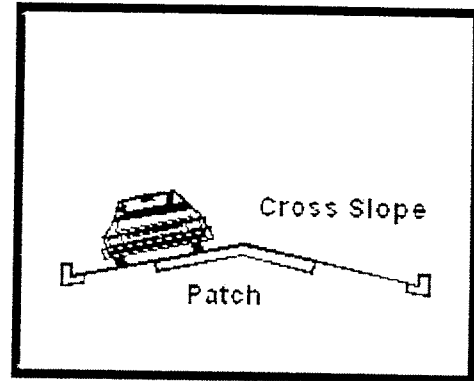


- c. Patches should have a smooth longitudinal grade consistent with the existing roadway. Patches should also have a cross slope or cross section consistent with the design of the existing roadway.

NOT ACCEPTABLE

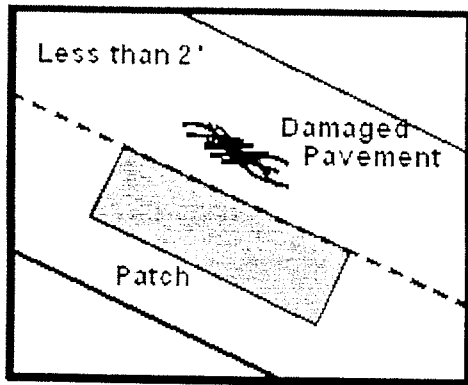


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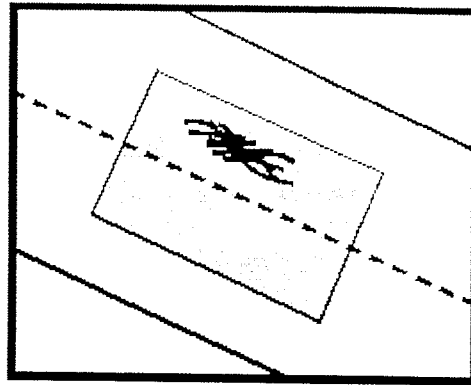


- D. Future Maintenance. Will the repair pose any future maintenance problems or make future maintenance more difficult?
1. Excavations and street repairs, even well constructed street repairs, shorten a pavement's life. Several types of street distress, settlement, alligator cracking, and potholes, often show up around patches. Quality street repairs should attempt to reduce the occurrence of these types of distress.
 2. 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.
 - a. When the proposed excavation falls within ten 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.

NOT ACCEPTABLE

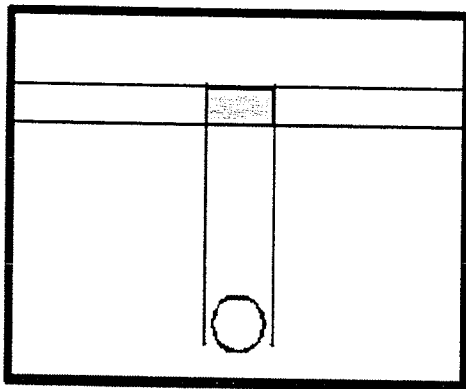


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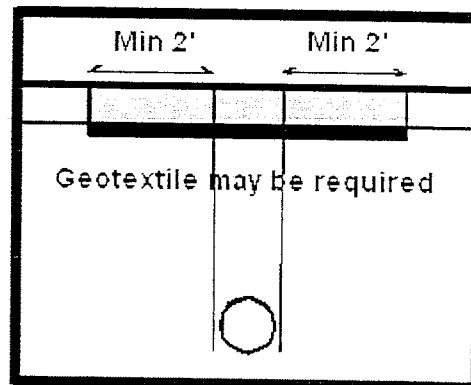


- b. In the case of older pavement where the likelihood of cracking and potholes next to the patch is greater, it may be necessary to extend the "shoulders" of the pavement beyond the two-foot minimum, and reinforce this area with a geotextile. "T" cutting is required for all repairs.

NOT ACCEPTABLE

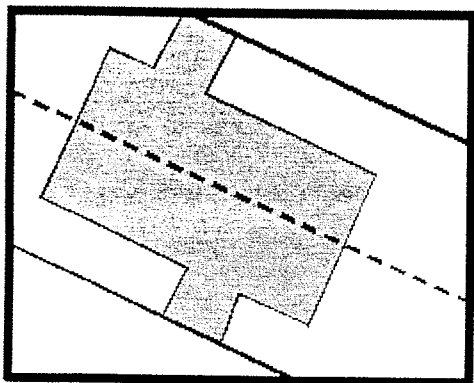


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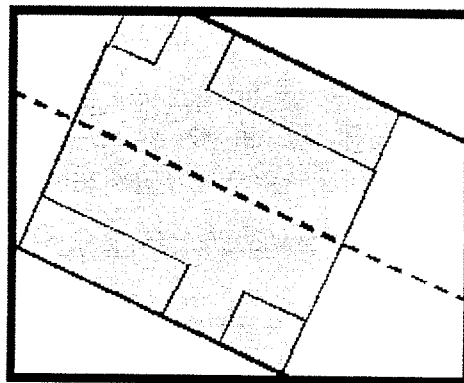


- c. For patches in asphalt, a tack coat shall be applied to all edges of the existing asphalt before placing the new pavement. After placing the new asphalt, all seams (joints) between the new and existing pavements shall be sealed with an asphalt tack coat or rubberized crack seal material.
- d. Avoid frequent changes in width of patches. For future maintenance, this simplifies removal of adjacent pavement failures.

NOT ACCEPTABLE



ACCEPTABLE



Section 2: Street Restoration Specification Guidance

(1) 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 (the "contractor") 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, terraces, 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 Digger's Hotline for utility locates a minimum of three (3) 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, and the Contractor shall promptly notify the permit agency.
- 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.

2. Temporary Surfaces Required. When the final surface is not immediately installed, it shall be necessary to place a temporary asphalt surface on any street cut opening. The temporary surface installation and 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 three (3) weeks except as outlined by the City of Greenfield in the Permit. All permanent street repairs delayed by winter weather shall be completed by May 15th of each year.
3. Pavement Patches. 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.
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. Completion of the work including replacement of pavement and cleanup shall normally be accomplished within three (3) 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 permitting agency. If the repairs are not completed in the allotted time, the City of Greenfield 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 City of Greenfield will draw upon the contractor's deposit and/or 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 utility 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 "unclassified excavation" and removed from the site and disposed of in accordance with applicable City of Greenfield, 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 greater than 9" in diameter, during construction.

2. Any work on trees, including roots, must be reviewed by the City of Greenfield.
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 City and 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 permitting agency acquired from roadway or utility 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 City and/or Owner. Material removed in excavation and not acceptable or not required for embankment fill or backfill shall be disposed of by the Contractor. It shall not be wasted on private property without City approval and written permission of the property owner. Waste banks shall be left with reasonable smooth and regular surfaces.
5. Utility related construction, any repair activity, or other work 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 permitting agency 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 two hundred (200) feet in length, or be

trenched or backfilled in non-continuous sections unless approved by the permitting agency. 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. All streets, alleys (if asphalt or concrete) and sidewalks shall be swept or washed as required by the permitting agency.
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 permitting agency, 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 the permitting agency.
11. Crossings under sidewalks or curbs may be made by tunneling only when approved. If the Contractor elects to remove a portion of the sidewalk or curb, the applicable City of Greenfield standards shall be followed for the replacement.
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.
13. When soft or unstable material or rock is encountered in the trench subgrade that will not uniformly support the pipe, such material shall be excavated to additional depths directed by the permitting agency and backfilled with approved material.

- C. **Blasting.** The Contractor's blasting procedures shall conform to Federal, State, and local ordinances. The Contractor shall acquire all required permits prior to the start of blasting. Blasting for excavation will be permitted only after securing the approval of the permitting agency. The agency will fix the hours of blasting. The Contractor shall use the utmost care to protect life and property. All explosives shall be safely and securely stored in compliance with local laws and ordinances, and all storage places shall be clearly marked "Dangerous Explosives". No explosives shall be left unprotected where they could endanger life or property. When blasting in trenches, the Contractor shall cover the area to be shot with earth backfill or approved blasting mats. Prior to blasting, the Contractor shall station flaggers and provide signals of danger in suitable places to warn people and stop vehicles. The Contractor shall be responsible for all damage to property and injury to persons resulting from blasting or accidental explosions that may occur in connection with the use of explosives.
- D. **Equipment.** 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.
1. No tracked vehicles shall be permitted on streets unless approved by the permitting agency. When tracked vehicles are allowed, existing facilities will be restored to original condition at the Contractor's expense.
 2. 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 any Federal, State and local permitting requirements prior to beginning any dewatering operations.
- F. **Removals**
1. **Streets, Paved.** Bituminous pavement shall be saw cut to clean, straight lines and should be perpendicular or parallel to the flow of traffic. In existing pavement, all excavations within 36" of the edge of the asphalt shall require removal and replacement from the edge of asphalt to the excavation edge. Concrete pavement, cross 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 the aggregate base course standard adopted by the City. 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 City of Greenfield, 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 was existing. Such surface treatments shall be of the same chemical composition as what existed prior to the excavation work. The permitting agency 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 permitting agency.

G. Backfill.

1. Flowable-Fill (Aggregate slurry). Flowable-Fill will be required as utility trench backfill for all trenches unless otherwise approved. Refer to restoration and testing sections for compaction requirements. This requirement applies to all pavement and gravel locations. Flowable-fill vibration may be required. 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. Refer to Section 6.43.8 or 6.43.9 of the Standard Specifications for Sewer and Water Construction in Wisconsin. Aggregate slurry or flash-fill shall be prohibited as a 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.
2. Conventional Backfill (Other Than Flowable Fill). When "non flowable-fill" backfill material has been pre-approved by the permitting agency, backfill in existing or proposed streets, curbs, gutters, sidewalks and alleys shall comply with the standards contained within Chapter 6.43.0, Bedding, Cover, Foundation, and Backfill materials of Standard Specifications for Sewer and Water Construction in Wisconsin.

3. Compaction Testing Requirements. See restoration and testing sections.
4. Embankment and Slopes.
 - a. The permitting agency shall approve all fill material.
 - b. All cut slopes shall conform to OSHA standards.

H. Restoration

1. Bore Holes - Vertical and Horizontal
 - a. For openings less than or equal to 6" in diameter, bore holes 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 (aggregate slurry) to provide necessary support to the surface. The sealing of bore holes is the responsibility of the Contractor or persons making the bore.
 - b. For openings greater than 6" in diameter, the limits of repair shall be identified in the permit.
 - c. 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 or current City road construction standards. 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 six (6) inches, moisture adjusted as necessary, and recompact to not less than the following:
 - a. For cohesive soils, 90% maximum Modified Proctor dry density at 2% of optimum moisture content, or 95% maximum Standard Proctor dry density at 2% of optimum moisture content.
 - b. For non-cohesive soils, 92% maximum Modified Proctor dry density at 2% of optimum moisture content, or 97% maximum Standard Proctor dry density at 2% of optimum moisture content.
 - c. For expansive soils, 88% maximum Modified Proctor dry density at 3% or greater above optimum moisture content, or 93% maximum

Standard Proctor dry density at 1% or greater above optimum moisture content. For highly expansive soils (swell potential 2% under 200 psf surcharge pressure), paving will not be permitted without a subgrade treatment approved by the permitting agency.

- d. 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 five (5) feet beyond the edge of asphalt and descending at 1:1 outward.
3. Asphalt Surfacing. 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 City of Greenfield.
- a. The depth of asphalt patches in asphalt streets shall typically be the depth of the existing asphalt surface as specified by the permitting agency.
 - b. 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.
 - c. All street cuts shall be patched as per the guidelines contained in Section 1 and in item 4 below. In streets that are less than five (5) years old the City of Greenfield reserves the right to deny any street excavation or require repairs that are over and above these specifications.
 - d. Exceptions. There may be situations where the patching standards are considered inappropriate. For example, rebuilding half of a road today when we know the road is due for reconstruction at a different profile in 2-3 years. In these cases, the Permit Holder can provide a more modest patch adequate to accommodate traffic for the 2-3 year period. In addition, the Permit Holder may be required to make a financial contribution to the street maintenance, rehabilitation or reconstruction program to support the more permanent improvements that are anticipated. This determination shall be made by the Permitting agency.

- e. Dispute Resolution. 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 permitting agency.
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 high early 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, pot holes, equipment and/or material scaring of the exiting surface. When repairing concrete, removal perimeter shall be sawcut and replacement concrete shall be doweled into the old concrete as directed by the permitting agency.

5. Joint Filling

- a. Asphalt. Following placement of the asphalt surface, the joints where the new asphalt abuts the old shall be sealed with an approved elastic type joint filler (hot-pour) as more fully described in the next paragraph.
- b. Concrete. Joints shall be thoroughly cleaned of all foreign material then filled with a hot-poured elastic type joint filler conforming to Wisconsin Standard Specifications for Road and Bridges Section 415.2.5 or silicone sealants or others as approved by the permitting agency. 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.

(2) TESTING

- A. Description. The contractor is required to provide material testing for each phase of the work and at no cost to the City of Greenfield when required by the City.

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

1. The number of density tests required may be increased if directed by the permitting agency. 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 City of Greenfield as soon as possible.
2. All tests must be submitted to the permitting agency on a daily basis as acquired and shall be hand delivered or faxed to the City of Greenfield.
 - a. 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.
 - b. Aggregate slurry - Testing may be required at the discretion of the permitting agency.
 - c. Concrete pavement, curbs, gutters and sidewalks - Testing to be conducted for every 100 cubic yards or portion thereof, with a minimum of one. The types of testing required shall be as prescribed by the City of Greenfield.
 - d. Asphalt Pavement
 - (1) Asphalt content - One test per 500 tons or fraction thereof of mix produced, minimum of one test per job.
 - (2) Gradation - Aggregate: one test per 500 tons or fraction thereof of mix produced, minimum of one test per job.
 - (3) In-place density - One test per 500 tons or fraction thereof of mix placed, minimum of one test per job.
 - e. Aggregate base course materials - One test per 400 lane feet.

- C. Testing waived. The permitting agency may elect to waive the testing requirement in projects that will displace less than a total of 5 cubic yards of street pavement or earthen material.

(3) INSPECTION

All construction work within the public rights-of-way shall be subject to inspection by the permitting agency and certain types of work may have continuous inspection. It shall be the

responsibility of the contractor or his/her designee 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 permitting agency or his authorized representatives that such work is ready for inspection. The permitting agency requires that every request for inspection is to be received at least forty-eight (48) hours before such inspection is desired. Such requests may be in writing or by telephoning or faxing the permitting agency. The permitting agency may make or require other inspections of any work as deemed necessary to ascertain compliance with the provisions of these Guidelines or the City of Greenfield's *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 City of Greenfield to provide inspection, the contractor or utility company will incur the cost of a private inspection firm. This inspection firm will be chosen by the City of Greenfield prior to issuance of the Permit.

(4) RESTORATION SPECIFICATIONS-SODDING

- A. Description. Sodding shall be required unless exempted by the permitting agency. This shall consist of preparing sod beds, furnishing and laying of live sod on the shoulders, slopes, ditches, or other locations as designated by the Engineer, the construction of sod ditch checks or similar appurtenances, furnishing and applying the required fertilizer, all in accordance with these specifications.
- B. Materials.
 - 1. Sod. The sod shall consist of a dense, well-rooted growth of permanent and desirable grasses, indigenous to the general locality where it is to be used, and shall be practically free from weeds or undesirable grasses. At the time the sod is cut, the grass on the sod shall have a length of approximately two (2) inches (if longer, the grass shall be cut to approximately this length) and the sod shall have been raked free from debris. The sod shall be cut in uniform strips approximately 18" x 72", but no longer than what can be easily handled. The sod strips shall be uniform in thickness; shall have no holes in them; shall be free of weeds, insects, and diseases; shall be uniformly green and not discolored due to drying or heating; and shall be moist. The thickness of the sod shall be uniform, approximately $\frac{3}{4}$ inch or more, depending on the nature of the sod, so that practically all of the dense root system of the grasses will be retained, but exposed, in the sod strip and so that the sod can be handled without undue tearing or breaking up. In the event the sod which is to be cut is in a dry condition as to cause crumbling or breaking during cutting operations, at least twelve (12) hours before cutting the sod, the Contractor, at no additional cost to the Municipality, shall apply water to

the sod in sufficient quantities to provide a well moistened condition of the sod to the depth to which it is to be cut.

2. Fertilizer. Fertilizer shall conform to the requirements set forth in Section C4 below.

C. Construction Methods.

1. Preparation of the earth bed. The area to be sodded shall have been previously constructed to the required cross section and contour, and the tops and bottoms of the slopes shall be rounded to a minimum four (4) foot radius curve. The areas to be sodded shall be free from stones, roots, or other undesirable foreign material. The soil on the area to be sodded shall be loosened and brought to a reasonably fine granular texture, to a depth of two (2) to three (3) inches, by means of equipment or hand methods adapted to the purpose.
2. Placing the sod. The earth bed upon which the sod is to be placed shall be moistened to the loosened depth, if not naturally sufficiently moist, and the sod shall be placed thereon within approximately twenty-four (24) hours after the same has been cut. Sod shall be laid so that the joints caused by abutting ends of sod strips are not continuous. Each sod strip shall be so laid as to abut snugly against the strip previously laid. As the sod is being laid it shall be rolled or firmly but lightly tamped with suitable wooden or metal tampers, sufficiently only to "set" or press the sod into the underlying soil. At points where water will flow over a sodded area, the upper edges of the sod strips shall be turned into the soil below the adjacent area and a layer of earth placed over this juncture, which earth shall be thoroughly compacted to conduct the surface water over the upper edge of the sod. At the limits of sodded areas, wherever practical or feasible, at the end strips shall be placed to effect a broken line, and ends of the strips shall be turned. Frozen sod shall not be placed, nor shall any sod be placed upon frozen soil.
3. Staking. On all slopes steeper than one (1) foot vertical to four (4) feet horizontal the sod shall be staked or pegged with pieces of plasterers' lath or stakes equivalent thereto, twelve (12) inches in length, spaced as required by the nature of the soil and steepness of slope, from 18 inches to 36 inches apart along the longitudinal axis of the sod strip. Stakes shall preferably be placed near the top edges of the sod strip and shall be driven approximately plumb through the sod to be almost flush with the sod. All sod placed in ditches, flumes, or other appurtenances, where a concentrated flow of water may be expected, shall be staked regardless of the slope. After the staking has been completed the surface shall be

cleared of loose sod, excess soil, or other foreign material, and the areas shall then be thoroughly moistened by sprinkling with water.

4. Fertilizing. When the fertilizing of areas to be sodded is required, the fertilizer shall be spread uniformly over the areas to be sodded at the rate of 17 pounds per 1,000 square feet of area unless otherwise specified in the Contract or directed by the City. The fertilizer shall be pulverized and free from lumps when applied. The fertilizer shall be incorporated into the areas to be sodded by light discing or harrowing.
5. Watering. All sodded areas shall be kept thoroughly moist by watering or sprinkling, when rainfall is deficient, for a minimum period of ten (10) days, or until proper growth is established, whichever is longer. In the event the sodded areas are subject to weed infestation, the Contractor shall remove the weeds by appropriate methods to ensure grass growth. Notwithstanding the above, the Contractor shall be required to provide and maintain a guaranteed growth for three (3) years after project completion.

(5) PROJECT COORDINATION

A. Coordination of Excavation Planning.

1. Non-Emergency Work. Every person who is responsible for the preparation of plans for non-emergency work in the right-of-way shall take reasonable action to learn the location of any existing facilities in and near the area where excavation is to be conducted, plan the excavation to avoid, to the extent possible, conflict or interference with existing facilities in and near the excavation area, and coordinate the excavation plans with the facility owners or operators.
2. Non-Emergency City Work. When the City plans non-emergency work in the right-of-way and finds it necessary to maintain, support, shore, or move a registrant's facilities, the City shall notify the local representative. The permittee shall meet with the City's representative within 3 days to plan and coordinate the protection, maintenance, supporting, or shoring of the registrant's facilities that will be required during excavation by the City. When the City excavation progresses near the registrant's facility, the City shall notify the registrant's local representative. The permittee shall accomplish any needed work within 72-hours, unless the City agrees to a longer period. In the event that the permittee does not proceed to maintain, support, shore, or move its facilities, the City may arrange to do the work and bill the permittee, said bill to be paid within thirty (30) days.
3. Emergency Work. In an emergency, every person shall take all reasonable precautions to avoid, and to the extent possible, conflict or interference

with existing facilities in and near an excavation area in public rights-of-way and shall notify as promptly as possible the owners or operators of facilities which may be affected by the emergency excavation.

4. Emergency City Work. When the City performs emergency work in the right-of-way and finds it necessary to maintain, support, shore, or move a registrant's facilities, the City shall notify the local representative. The permittee shall meet with the City's representative within 4-hours and coordinate the protection, maintenance, supporting, or shoring of the registrant's facilities. The permittee shall accomplish the needed work within 12-hours, unless the City agrees to a longer period.

DEGRADATION FEE SCHEDULE

Age of
Street

Initial Pavement Depreciation

Arterial % Collector % Local %

0	100	100	100
1	98	98	98
2	96	96	97
3	93	94	95
4	90	92	93
5	86	88	90
6	82	84	87
7	76	79	83
8	68	72	76
9	60	65	69
10	54	59	64
11	49	55	61
12	44	51	58
13	40	47	54
14	37	44	51
15	35	42	48
16	33	40	47
17	32	39	45
18	31	38	45
19	30	37	44
20	30	37	44
21	29	36	43
22	28	36	43
23	28	35	42
24	27	35	42
25	27	34	41
26	27	34	41
27	27	33	40
28	26	33	40
29	25	31	37
30	24	29	34
31	22	27	32
32	21	25	29
33	19	23	26
34	17	19	22
35	14	16	18
36	12	14	15
37	10	11	12
38	7	8	8
39	4	4	4
40	1	1	1

Age of
Street

Pavement Overlay Depreciation

Arterial% Collector % Local%

0	100	100	100
1	93	94	95
2	87	88	90
3	80	82	85
4	73	76	80
5	67	71	75
6	60	65	70
7	53	59	65
8	47	53	60
9	40	47	55
10	33	41	50
11	27	35	45
12	20	29	40
13	13	24	35
14	7	18	30
15	1	12	25
16		6	20
17		1	15
18			10
19			5

Age of
Street

Sealcoat Depreciation

Arterial % Collector % Local %

0	100	100	100
1	100	100	100
2	88	86	86
3	72	72	72
4	58	58	58
5	44	44	44
6	30	30	30
7	16	16	16

Within Pavement (Excludes)

Street Reconstruction	\$400 Per 100 SF
Pavement Overlay	\$157 Per 100 SF
Seal Coats	\$ 56 Per 100 SF