

STREET OPENING PERMIT

**RULES AND SPECIFICATIONS
REGULATING
STREET EXCAVATIONS**



AS ADOPTED BY THE BOARD OF SELECTMEN

DIRECTOR OF PUBLIC WORKS
Roger Hammond

Adopted: July 29, 1986
Amended: February 24, 2009

Telephone: (508) 747-1620 Ex. 126

Location: 11 Lincoln Street
Plymouth, MA 02360

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A. PERMITTING AUTHORITY

Pursuant to the provisions of General Laws, Chapter 40, Chapter 41, Chapter 82A, Chapter 83, Chapter 84, Chapter 87, and 520 CMR 14.00 as amended, and any other provisions of the law hereto enabling, and by the By-Laws of the Town of Plymouth. The Board of Selectmen of the Town of Plymouth issue and promulgate Rules and Specifications Regulating Street Excavations in the Town of Plymouth.

In accordance with the regulations of the Board of Selectmen entitled “Rules and Specifications Regulating Street Excavations” adopted August 7, 2007 the Board of Selectmen, upon due notice, may from time to time amend and or/ revise rules, regulations and specifications for excavations or digging within the limits of the Public Ways of the Town of Plymouth and streets open to the public, created under Subdivision Control Law but not presently under the control of the Plymouth Planning Board, may by rules, regulate or specify particulars with respect to any excavation or digging as aforesaid.

The day to day administration of Street Excavations shall be done under the authority of the Director of Public Works, hereinafter referred to as the “Permitting Authority.”

B. DEFINITIONS

“Collector street” shall refer to the state classification ‘Urban Minor Arterial or Rural Major Collector’ and ‘Urban Collector or Rural Minor Collector.’

“Contractor” shall mean any person, firm, partnership, association, society, corporation, company or organization of any kind that is licensed to undertake street excavation in the Town of Plymouth.

“Permitting Authority” shall mean Director of Public Works of the Town of Plymouth. He may from time to time delegate certain of these duties to designees who will act in the Town’s behalf.

“Private street” shall mean any street not laid out and accepted or determined to be a Public Way by the Town of Plymouth.

“Street” shall mean any Accepted Street (Public Way) or under the supervision of the Town of Plymouth, and streets open to the public, created under Subdivision Control Law but not presently under the control of the Plymouth Planning Board. Property owned by the Town shall also be considered a street.

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C. APPLICATION FOR INSTALLER'S LICENSE

No person shall make any excavation in any public way without first obtaining a permit granted for each specific excavation from the Department of Public Works except as otherwise provided in these rules.

Permits to perform work within the rights-of-way on Public Ways within the Town of Plymouth and ways open to the public; can be obtained only by licensed contractors. Licenses will be issued to those contractors who, in the opinion of the Permitting Authority, are deemed qualified through experience and have demonstrated by past performance the ability to undertake the scope of work covered by the license.

Categories of Work

Four (4) categories of work are covered by the Utility Installer's license, as follows:

1. **General Construction** - driveway, sidewalk, drainage and curbing construction.
2. **Service Connections** - connection of property or dwelling services to a utility main.
3. **Municipal Utility Main Construction** - extension of the Town's water distribution, sewer collection, storm water system, or other Town utility.
4. **Private Utility Main Construction** - extension or construction of private utilities such as cable, electric, gas, or telephone.

Prior to obtaining a Utility Contractor's License, the following information must be provided:

Performance Bond

A cash bond in the form of a cashiers check or bank check payable to the Town of Plymouth in the following sums:

- Ten thousand (10,000.00) dollars for Major Collector streets
- Seven thousand five hundred (7,500.00) dollars for Minor Collector streets
- Five thousand (5,000.00) dollars for local streets
- One thousand (1,000.00) dollars for private streets

conditioned substantially on the applicant's guarantee of the faithful and satisfactory performance of the work in all respects and of the replacement or restoration of that portion of any street, highway, way or road in which said applicant, his employees or agents shall make such excavation. Bonds shall remain in effect for one (1) year when Controlled Density Fill (CDF) is used, otherwise the bond shall remain in effect for three (3) years. Bonds from Utility Companies that are self-insured will be acceptable if the terms and conditions are similar.

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The instrument must be written so as to allow the Town of Plymouth to perform work deemed necessary by the Director to correct any deficiencies, and all costs incurred by the Town may be applied against the Performance Bond if they are not recovered after bills have been sent to the Contractor. Municipal Utility Companies and State and Federal Government agencies are exempt from this section.

Minimum Insurance Requirements

A Policy of Insurance valid for two (2) years, acceptable to the Permitting Authority, in which the Town of Plymouth shall be named as an insured or beneficiary, issued by an insurance company authorized to issue such insurance in Massachusetts, including the following such limits as herein indicated:

General Liability

Includes:	Each Occurrence	\$1,000,000.00
	Aggregate	\$3,000,000.00

- Comprehensive Form
- Premises/Operations
- Underground Explosion & Collapse Hazard
- Products / Completed Operations
- Broad Form Property Damage
- Personal Injury

General Liability

Includes:	Bodily Injury & Property Damage Combined	\$1,000,000.00
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- All Owned Vehicles
- Hired Vehicles
- Non-owned Vehicles

Workers Compensation & Employers Liability

As required by the Commonwealth of Massachusetts

<i>(Note: Amounts as of July 1, 2007)</i>	Each Accident	\$ 100,000.00
	Bodily Injury by Disease (Policy Limit)	\$ 500,000.00
	Bodily Injury by Disease (Each Employee)	\$ 100,000.00

Exemption to filing insurance endorsement may be made to self insurers and State and Federal Government agencies.

Additional Requirements

1. A listing of available equipment, previous projects of similar size and scope, completed within the past three (3) years, and references, including phone numbers and persons that may be contacted concerning these projects.

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2. A Certificate of Insurance acceptable to said Permitting Authority listing the Town of Plymouth as additionally insured. Exemption to filing insurance endorsement may be made to self insurers and State and Federal Government agencies.
3. Permits must be kept at the job site during the progress of the excavation and must be shown, upon request, to any authorized Town personnel or other interested person.
4. Workers Compensation Insurance Affidavit as required by the Commonwealth of Massachusetts.
5. Certificate of Compliance with the Commonwealth of Massachusetts.

Inspections

The Contractor shall contact the Permitting Authority to inspect all work. Inspection notification, at least twenty-four (24) hours in advance (one work day), is required for each of the following stage of the work:

- Start of work
- Prior to or during any backfilling operations
- Prior to any paving operation
- Final Inspection -Written Notification

The Contractor shall comply with any corrective work requested by the Permitting Authority prior to proceeding further on the project. The Contractor shall request from the Permitting Authority in writing a Final Inspection when the project is completed. The determination as to the acceptability of the work shall be at the sole discretion of the Permitting Authority.

Obligation to Rectify Defects

The Contractor shall rectify defects in work to the extent necessary and as required by the Permitting Authority. Said work shall be done as soon as possible and within five (5) calendar days of receipt of notice from the Permitting Authority. If deemed a safety issue the Town reserves the right to perform the repair work and bill the Contractor.

Guarantee

The Contractor is responsible and shall guarantee all work is free from defects in workmanship or material for a period of three (3) years, two (2) years when Controlled Density Fill (CDF) is used, from the date the work is accepted as complete by the Town. If any settlement, cracking, pavement deterioration or similar problem occurs the Contractor shall promptly repair such defect at no expense to the Town.

Revocation of License

Three (3) documented incidents of poor quality of work failure to complete the work in a timely manner, unless a permit extension is granted, or unwillingness to comply with these regulations shall result in

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the suspension of license of one (1) year and three (3) years probation. Once on probation, one (1) documented incident of poor performance shall result in the suspension of license for two (2) years and three years probation, to be added to (and not served concurrently with) any prior probation. Cancellation of the insurance endorsement automatically revokes the permit.

The Town may refuse to issue a permit, when in the opinion of the Permitting Authority, work done by the Contractor in the past has not been properly executed or failed to reimburse the Town for recoverable charges billed for a previous permit.

Additionally the Permitting Authority may suspend or revoke a Contractor's permits and licenses without a fee refund if, in the opinion of the Director the Contractor is not adequately skilled or competent to undertake the work under the license. The license will be revoked if an evasion or attempt to evade any material provision of the permit, or the perpetration or attempt to perpetrate any fraud or deceit upon the Town or its citizens. The license will be revoked for a material misrepresentation of fact in the license application.

Fines

As provided in MGL c. 40. §21D (non-criminal disposition), any person or Contractor of any kind, including utility companies who perform non-emergency excavation work without a valid permit shall be fined \$100.00 each day per occurrence per site until a permit or permit extension has been applied for and approved.

Any person or Contractor who performs emergency work and fails to apply for a permit within two (2) working days following the commencement of work shall be fined \$100.00 each day until a permit extension has been applied for and approved.

Any person or Contractor who performs work without a permit on the basis that it is an emergency and it is subsequently determined by the Permitting Authority that the work was not a bonafide emergency, shall be fined \$100.00 each day until a permit extension has been applied for and approved.

D. APPLICATION FOR PERMIT AND FEES

Permits and their associated fees are herein established. Please allow three (3) work days to process the application.

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At the time of application a check for \$125.00 minimum charge must be paid to cover the administration cost. This service charge is in addition to the charges assessed for water services or sewer installation. All contractors must obtain a Utility Installer's License for any utility excavation for which there is a \$150.00 annual charge; Licenses expire on December 31st every year. Contractors must when required provide a listing of available equipment, previous projects, of similar size and scope, completed within the past three (3) years, and references that may be contacted about these projects.

PHOTOGRAPHIC RECORD

The applicant shall provide pre-construction photographs in a hard copy and .jpg format. At the time of final inspection photographs in a hard copy and acceptable electronic format (.jpg format) shall be submitted. Videos may be required on large projects.

DURATION OF PERMIT

Permits will be null and void if work does not begin within ninety (90) days or work is not completed within one hundred and twenty (120) days from the time the permit is issued. Permits may be extended by written consent by the Permitting Authority.

GENERAL CONSTRUCTION is defined as follows:

- Any street opening for underground work performed within the right-of-way
- Any street opening for underground work requiring more than two (2) separate cuts or trenches
- Any street opening for underground work that affects more than fifty (50) linear feet of roadway, as measured along the centerline of the traveled way.
- Any installation of pipe or conduit within the right-of-way

STREET OCCUPANCY / DRIVEWAY PAVING & APRONS is defined as any work, which does not require an excavation greater than twelve (12) inches, but does require equipment to work or occupy area within the right-of-way. Examples of this work include but are not limited to;

- No excavation involved
- Driveway paving / widening
- Obstruction of a sidewalk
- Placement of equipment or materials on or adjacent to the road

Driveway Widening/Modification

For the convenience of Plymouth residents seeking access to parcels of land within Plymouth, the Director, in consultation with the Police

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Department, will issue permits to residents for curb cuts on non-heavily traveled roads.

WATER/SEWER SERVICE CONNECTIONS OR RELOCATIONS must be obtained from the Permitting Authority, shall comply with the Town's standards and plans must be reviewed and approved by the Utilities Superintendent.

STORM WATER CONNECTIONS must be obtained from the Permitting Authority shall be subject to review and approval by the Town Engineer. All handling of stormwater shall comply with the Towns guidelines and the latest Best Management Practices (BMPs) and Low Impact Development (LID). A stormwater maintenance plan is a BMP and shall be required.

WORK NOT UNDER THE TOWN'S JURISDICTION shall include work done under MASS/HIGHWAY or other permitting agency. A permit from the Town of Plymouth is required; however, no fees or requirements are involved.

FEE SCHEDULE (not including application fee) by check is as follows:

General Construction	\$125.00
Driveway Paving	No Charge
Water Connection	Shall be determined by the Utilities Superintendent.
Sewer Connection	Shall be determined by the Utilities Superintendent.
Storm Water Connection	\$125.00
Not Town's Jurisdiction	No Charge

D. GENERAL CONDITIONS

Pre-Construction Meeting:

A pre-construction meeting may be required at the discretion of the Permitting Authority.

Before any permit is issued, a complete plan and profile may be required with the application showing the following:

1. The location of the proposed construction.
2. The location of all existing utilities within the proposed construction area based on the field location and the best means and information of record.
3. The elevations of existing underground facilities crossed or connected to the proposed installations.
4. The elevations of proposed construction at all crossing points of possible conflict.
5. The inverts at all proposed manholes or cleanouts.

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6. When work of a major scope is proposed, plans certified by a Professional Engineer and specifications must be submitted, including electronic files acceptable to the Director. The plans should be detailed enough to clearly indicate both existing conditions and proposed work. Sewer or Water location ties shall be provided to the Town. After completion of the major work an As-built plan shall be provided to the Town. The plans will be provided in AUTOCAD/dwg format and ARCGIS.

General Requirements and Restrictions:

1. The Contractor shall be responsible for obtaining all permits required for equipment, workers, or particular operations (such as work near wetlands or blasting if needed) in the performance of the work. Any Orders of Condition, Board of Health, building, Permit to Use Parking/Restricted Spaces, demolition or other required permits must be obtained by the Contractor prior to commencing work.
2. Work shall start as near to the starting date specified in the permit as possible. DIG-SAFE (1-800-DIG-SAFE) shall be notified prior to the start of work. Plymouth Water and Sewer Divisions must also be notified. Every effort shall be taken to notify all other utility companies, such as cable or telecommunications. (See Chapter 502 of the Acts of 1980, reprinted in the index, for the required notice to.) A twenty-four (24) hour notice starting work to the Department of Public Works is sufficient except in critical areas forty-eight (48) hours notice to the Department prior to starting work is required.
3. No street opening permits shall be issued between November 15th and April 1st, except in cases of emergencies, as determined by the Permitting Authority.
4. Trenches on all streets except local streets shall be backfilled with Controlled Density Fill (CDF). CDF shall meet the requirements of MassHighway Section M.4.08.0.
5. Borings on all streets shall be backfilled with Controlled Density Fill (CDF).
6. Night Work - The Permitting Authority may determine that Safety and convenience necessitates the work be done during other than normal working hours.
7. No street opening permits shall be issued between Memorial Day and Labor Day except in cases of emergencies, as determined by the Permitting Authority on the following streets:

Brewster Street	Carver Street	Cherry Street
Chilton Street	Commerce Way	Court Street
Howland Street	Leyden Street	Lincoln Street
Main Street	Main Street Extension	Memorial Drive
Middle Street	North Park Avenue	North Street
Oak Street	Obery Street	Pilgrim Hill Road
Russell Avenue	Samoset Street	Sandwich Street
South Park Avenue	South Street	Standish Avenue
Summer Street	Union Street	Water Street

The above listed streets shall be treated as Collector streets.

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8. A traffic control plan shall be submitted, unless waived by the Permitting Authority for work on Collector streets
9. No Street opening permits shall be issued on newly constructed or paved roads for a period of five (5) years after the roadway is constructed or paved. If a newly constructed or paved road is opened due to an emergency, at a minimum, the following will be required:
 - All material excavated from trenches shall be removed from the site of the work except when the material is suitable for, and permission has been granted by the Permitting Authority to use for back fill. All excess material is to be disposed of by the Contractor at his/her expense
10. The trench shall be backfilled with Controlled Density Fill (CDF). CDF shall meet the requirements of MassHighway Section M.4.08.0. It must be batched at a concrete plant, must be flowable, require no vibrating, and the finished product must be able to be excavated without the use of power tools.
 - After the trench work has been completed in accordance with these specifications, the Contractor shall restore the paved area as specified by the Permitting Authority. Infra-red treatment shall be used for trenches less than one hundred (100) linear feet
 - Trenches exceeding one hundred (100) linear feet shall require milling and a one and one half (1½) inch minimum bituminous concrete overlay. Bituminous cold mix material may only be used if bituminous concrete is unavailable from the batch plant. Said overlay shall extend a minimum of fifty (50) feet beyond the limits of the trench.
11. If the proposed street opening for underground work affects more than fifty (50) feet of roadway area measured longitudinally, the Permitting Authority has the option, including but not limited to, requiring grinding and inlaying, infra-red treatment, or a complete curb to curb pavement overlay of the affected area.
12. Except in emergencies, work shall be limited to the hours of 7:00 AM to 5:00 PM Monday through Friday. On Collector streets work shall be limited to the hours of 9:00 AM to 4:00 PM Mondays through Friday, unless approved by the Permitting Authority. No work shall commence prior to a Holiday weekend when there is a chance that the work will not be completed on the Thursday prior to the Holiday weekend.
13. The Contractor shall use reasonable care to ensure that all tools, appliances or equipment producing noise are within acceptable decibel levels for the times they are used so as not to unreasonably disturb the sleep or repose of occupants of the neighboring property.
14. Except in emergencies, no work shall be allowed on Saturdays, Sundays and legal holidays. No new excavation work shall commence on Fridays.
15. Should it be determined by the Permitting Authority that work of an emergency nature must be accomplished by the Town, the total cost of the traffic controls, police detail, labor and materials shall be charged to the permit holder.

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16. No work, other than of an emergency nature shall be authorized during snow and ice storms and subsequent snow removal operations.
17. Access to private driveways and fire hydrants must be maintained during construction operations at all times.
18. In granting any permit the Permitting Authority may attach such other conditions thereto as may be reasonably necessary to prevent damage to public or private property or to prevent operation from being conducted in a manner hazardous to life or property or in a manner likely to cause a nuisance. Such conditions may include but shall not be limited to:
 - Limitations on the time of day and/or year in which the work may be performed
 - Restrictions to the size and type of equipment, which work within the right-of-way
 - Routes upon which materials and equipment may be transported
 - Location and manner of disposal of excavated materials
 - Requirements for dust control, street cleaning, noise prevention, or other activities that may be considered a nuisance
 - Regulations as to the use of streets during the course of the work
19. Nothing in these rules shall be construed to prevent the making of such excavations as may be necessary for the preserving of life or property or for locating trouble in conduit, cable, or pipe, or for making repairs, provided that the person making such excavation shall apply to the Director for such permit on the first working day after such emergency work is commenced. The person engaged in the emergency action shall notify the Department of Public Works, the Police Department and the Public Utilities, at the start of the emergency work.

Excavation and Backfilling (including Compaction):

1. The use of hydro-hammers or heavy duty pavement breakers for breaking pavement is prohibited on all streets unless written permission is granted by the Director for such use after due consideration of the location, the condition of the street and the depth of saw cutting required prior to the use of the hammers.
2. Sections of bituminous or cement concrete sidewalks shall be removed to the nearest score-line or approved saw cut edge.
3. Unstable pavement shall be removed over cave-outs and over breaks and the sub-grade shall be treated as the main trench.
4. Pavement edges shall be trimmed to a vertical face and neatly aligned with the centerline of the trench.
5. Cut-outs outside of the trench lines must be perpendicular or aligned parallel to the centerline of the trench.
6. Generally excavations shall be made in open cut. Trenchless technologies will be allowed by special permission of the Director. The Contractor shall comply

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with the required OSHA regulations and Massachusetts Excavation and Trench Safety Regulations General Laws, Chapter 82A, Section 1 and 520 CMR 14.00 (As Amended) for the duration of their permit.

7. No street opening shall extend beyond the centerline of the street before being backfilled and the street surface being temporarily restored using bituminous concrete, unless steel plates capable of supporting H-20 loads are used (H-30 loads for Collector streets). If steel plates are used shall have the edge facing traffic protected by bituminous cold mix ramps having a slope of two (2) horizontal to one (1) vertical.
8. No more than one hundred (100) feet measured longitudinally shall be opened in any street at any time, except by special permission of the Permitting Authority.
9. The trench in the street must be filled and temporarily resurfaced in the same day it is opened if possible. The trench shall be backfilled to within fifteen (15) inches of the top with approved excavated materials or gravel for backfilling. A minimum of twelve (12) inches of approved gravel, maximum stone size 2 inches, (see detail) shall be placed in the trench and the remaining one and one-half (1 ½) inches shall be filled with temporary bituminous concrete surface. Road surface shall be pre-cut to avoid damaging surfaces surrounding the trench.
10. Backfill material in the trench must be mechanically tamped in six (6) inch layers; or if the backfill material does not contain too much clay, it may instead be thoroughly wetted unless otherwise directed by the Public Works Department. If the temporary road surface is not placed the first day, then as soon as it is consistent with the permanency of the work or directed by the Public Works Department, the gravel sub-base shall be excavated to the required grade in order to place temporary minimum one and one-half (1 ½) inches of bituminous surface, two (2) inches on a Collector street. The temporary pavement shall be placed and raked to a uniform surface, rolled to the required thickness and to a grade that will match the existing bituminous road surface.
11. The Contractor shall remove and acceptably dispose of all excavated material before proceeding with the remainder of the work and shall thoroughly compact the surface of the sub-base. Any broken or irregular edges of the existing pavements shall be cut away in straight lines as directed leaving a sound vertical face at least six (6) inches back from the edge of existing pavement.
12. All existing drainage facilities shall be adequately safeguarded so as not to impede flows or cause silting. This includes catch basins, pipes, swales, ditches and brooks. If the Contractor damages or impairs any drainage facility, he/she shall repair the damage within the same day.
13. If the road patch starts to fail, the Contractor must respond and repair the pavement on a Major or Minor Collector street within four (4) hours of notification. On local roads, the Contractor must respond within twenty-four (24) hours of notification unless a safety hazard exists. If a safety hazard

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exists, the Contractor must respond within four (4) hours of notification. If the Contractor fails to respond within that time the Town may repair the patch and bill the Contractor for such repair.

Temporary Restoration:

1. Once the work is complete, the pavement shall be temporarily restored with bituminous concrete and the permanent trench restoration shall be placed the following construction season, allowing the trench to settle over a winter freeze thaw cycle.
2. If Controlled Density Fill (CDF) is used the trench may be permanently restored at this time.

Permanent Restoration:

1. All permanent paving shall be done in accordance with the specifications of the Department of Public Works of the Town of Plymouth by and at the expense of the Contractor.
2. For Major Collector streets the bituminous concrete base and top shall be laid and rolled in three (3) courses. The two binder courses shall be not less than the thickness existing base course and the first binder course shall be a minimum of three (3) inches in depth. The second binder course shall be a minimum of two (2) inches in depth. The top course shall be not less than the thickness existing top course and shall be a minimum of two (2) inches in depth. The minimum total thickness of both courses, measured after rolling, shall be seven (7) inches. The base course of the permanent pavement shall be placed and carefully raked to a minimum surface and thoroughly rolled to the required thickness. Before placing the base course of the permanent pavement, the edge of the original bituminous surfacing shall receive an application of approved asphalt emulsion so that the new pavement material may be properly bonded to the old. The top course of the paving shall be placed to a grade that will match the existing surface after rolling.
3. For Minor Collector streets the bituminous concrete base and top shall be laid and rolled in two (2) courses. The binder course shall be not less than the thickness existing base course and the first binder course shall be a minimum of three and one half (3½) inches in depth. The top course shall be not less than the thickness of existing top course and shall be a minimum of two (2) inches in depth. The minimum total thickness of both courses, measured after rolling, shall be five and one half (5½) inches. The base course of the permanent pavement shall be placed and carefully raked to a minimum surface and thoroughly rolled to the required thickness. Before placing the base course of the permanent pavement, the edge of the original bituminous surfacing shall receive an application of approved asphalt emulsion so that the new pavement material may be properly bonded to the old. The top course of the paving shall be placed to a grade that will match the existing surface after rolling.

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4. For local streets the bituminous concrete base and top shall be laid and rolled in two (2) courses. The binder course shall be not less than the thickness existing base course and shall be a minimum of two (2) inches in depth. The top course shall be not less than the thickness existing top course and shall be a minimum of one and one-half (1 ½) inches in depth. The minimum total thickness of both courses, measured after rolling, shall be three and one-half (3 ½) inches and shall not be less than the thickness existing total thickness of both courses. The base course of the permanent pavement shall be placed and carefully raked to a minimum surface and thoroughly rolled to the required thickness. Before placing the base course of the permanent pavement, the edge of the original bituminous surfacing shall receive an application of approved asphalt emulsion so that the new pavement material may be properly bonded to the old. The top course of the paving shall be placed to a grade that will match the existing surface after rolling.
5. The permanent paving shall not overlap the existing pavement and will not have to be applied with a mechanical spreader unless otherwise directed.
6. The Contractor shall furnish, place, grade and compact Bituminous Concrete Pavement of Class I Type I-I as shown and specified in the latest edition of the Massachusetts Highway Department Standard Specifications for Highways and Bridges.
7. Any street or property bounds disturbed shall be reset by a Registered Land Surveyor.
8. All berms, curbing and driveways disturbed shall be restore to preconstruction conditions.
9. Under certain circumstances where trenches are considered extensive it may be required, upon completion of patching trenches, to overlay the affected area for the full width of the roadway and at least thirty (30) feet beyond the affected area with one (1) inch of dense graded bituminous concrete or suitable treatment as determined by the Permitting Authority.
10. All permanent pavement markings (crosswalks, traffic centerlines, etc.) that are obliterated or damaged during construction shall be replaced in kind (painted or thermoplastic) by or under the direction of the Department of Public Works of the Town of Plymouth at the expense of the Contractor.

Sidewalk Restoration:

1. All sidewalks dug through shall be carefully patched, so as to meet ADA requirements, after backfilling. A bituminous concrete sidewalk shall be squared off and patched with the same material and rolled so as to provide a continuous smooth surface. Cement concrete sidewalks shall be repaired by making a new concrete panel or panels through which the trench passes. Prefomed expansion joints, when deemed necessary, will be installed against buildings, utilities, walls, steps, foundations or existing concrete panels. The new cement concrete panels shall be made by Air Entrained Class "A" (3500 lb.) mix or better with fiberglass reinforcement and be matched in color with the remaining sidewalk as nearly as possible. All concrete must be cured by

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covering with material in accordance with the best known concrete curing procedures. All walks shall be laid over a minimum of twelve (12) inches of well compacted gravel. Cement concrete shall be treated with silicone or linseed oil sealer for salt damage prevention. Sidewalks shall be a minimum of five (5) inches in depth and shall be eight (8) inches in depth at driveways. Repair of existing brick or similar walkways shall be placed over a minimum two (2) inches of bituminous concrete base. The Contractor shall be responsible for repairing any damage to public utilities (water, sewer, gas, electric, telephone, cable, etc.) or to Town trees, shrubs, poles or signs which may be disturbed or damaged during the course of the work or on account thereof.

Trees, Plantings and Lawn Replacement:

1. The following measures shall be taken to avoid unnecessary damage and destruction of trees during construction
 - a. All site or landscape plans should show all existing trees and indicate which trees are to be saved and which trees are to be removed.
 - b. Trees to be saved should be marked prominently and tree protection zones shall be set up to protect the trees from breakage, wounds, soil contamination etc.
 - c. Vehicular traffic shall be restricted over the root zone to prevent soil compaction and subsequent root damage.
 - d. The cutting of surface roots shall be avoided whenever possible.
 - e. Authorization from the Towns Arborist/Tree Warden is required whenever excavations are to be made within the tree's drip line.
 - f. Requirements for excavations include the following;
 - Avoid cutting roots over two (2) inches in diameter. Roots which must be severed shall be cut cleanly and kept moist to promote recovery.
 - Directional boring or tunneling may be required if excavations must be closer to the tree than the parameters listed below. When required, tunnels shall be a minimum of two and one half (2½) feet deep.
 - For trees less than six (6) inches in diameter (dbh) trenching should come no closer than the drip line.
 - For trees greater than six (6) inches in diameter (dbh) trenching should come no closer than the following chart

Tree Diameter (DBH)	Limit of Trench (tunneling required)
6- 9 inches	5 feet
10-14 inches	10 feet
15-19 inches	12 feet
> 19 inches	15 feet

2. The Contractor shall not remove, even temporarily, any trees or shrubs which exist in planting strip areas without first obtaining the consent of the Director

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of Public Works (See Massachusetts General Laws Chapter 87, Section 5 - cutting trees).

The following policy will be adhered to if a tree is destroyed by the Contractor or a tree is authorized for removal by the Permitting Authority:

- a. All tree stumps and debris resulting from the work shall be removed from the location.
 - b. A replacement shall be made by the Contractor for each tree removed or destroyed with a minimum caliper of 2 ½ inches or greater; the species and place of relocation to be designated by the Tree Warden planted in place and it must be balled and bur-lapped.
 - c. The Contractor shall deliver to the Director of Public Works a bona fide order, placed with a recognized established nursery before installing the authorized trees. The order shall include in the statement that the size and species required will be in accordance with “USA Standard for Nursery Stock” and that planting will be done in accordance with the applicable provisions of the Massachusetts Department of Public Works Standard Specifications.
 - d. For roadside planting the following types of tree will be acceptable subject to the approval by the Tree Warden as to which specific species is best suited for the location where the tree is to be planted: Sugar Maple, Crimson King Maple, European Linden or approved equal.
 - e. In certain areas of the Town ornamental trees such as Flowering Crab, European Mountain Ash, Japanese Flowering Cherry, Morine Ash and Washington Hawthorne are acceptable as replacement trees. These trees are purchased by height and not caliper and must be balled and bur-lapped. They must conform to the following minimum heights: 5’-6’ for Flowering Crabs and Flowering Cherrys. And 6’-8’ for Moraine Ash, European Mountain Ash and Washington Hawthorne.
 - f. In areas under utility wires the tree placement policy will be governed by the latest Boston Edison Company edition “Trees in Your Community” a copy which is available in the Public Works Department.
3. The Contractor shall replace plantings, loam and grass that existed prior to the work. Any walls curbing, walks or other structures damaged during the work shall be repaired to preconstruction condition by the Contractor. The Contractor shall be responsible for grass growth for two (2) months unless the work is done after September 15th when the Contractor shall be responsible until June 15th of the following year.

Abandonment of Utilities:

Town utilities and service connections may be abandoned in place upon approval of the Permitting Authority, subject to the following conditions:

1. All pipes shall be sealed by installation of a cap, bulkhead or other approved means.
2. Structures shall be filled and castings removed.
3. Gate boxes shall be removed.

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4. Plans showing the locations of the abandoned utilities shall be submitted to the Permitting Authority.

Maintenance of Traffic:

(See also **General Requirements and Restrictions** 7. Night Work)

1. Two-way traffic must be maintained at all times, unless approval of detour routing has been approved by the Plymouth Police, Fire Departments and Permitting Authority prior to work commencing. If work is not complete at the end of the work day, the travel lanes must be reopened to traffic for overnight use either by placement of a temporary patch or steel plates capable of supporting H-20 loads (H30 for Collector streets). If steel are used the steel plates shall have the edge facing traffic protected by bituminous concrete ramps having a slope of two (2) horizontal to one (1) vertical.
2. All open excavations shall be adequately safeguarded to comply with OSHA requirements, including but not limited to signage, barricades, lighting. The Contractor is responsible for the safety of the excavation until the Permitting Authority closes out the permit.
3. It shall be the duty of every person cutting or making any excavation in a street immediately following said excavation, to place and maintain such barriers and warning devices necessary for the public safety placed in accordance with the latest requirements and practices of the Massachusetts Department of Public Works for their use in the performance of work upon streets and highways except when they are in conflict with the Work Zone Safety Guidelines for Construction, Maintenance and Utility Operations.
4. All excavated material shall be placed so that vehicular and pedestrian traffic may be maintained at all times. If the excavation becomes a hazard or if it excessively restricts traffic at any point, then special construction procedures shall be taken, such as limiting the excavation and prohibiting stockpiling material in the street.
5. The Contractor shall keep the Plymouth Police, Fire Departments apprised of any traffic delays or detours resulting from the work. If a police detail is required, they shall be provided at the Contractor's expense.

Detours:

1. All detours must be approved by the Plymouth Police, Fire Departments and Permitting Authority. The Contractor shall provide a Traffic Management Plan clearly showing the location of the work, the detour route, and the location and wording for all traffic signage.
2. Traffic and safety control methods, types of signs, warning lights and barriers shall be provided by the Contractor, and shall comply with the latest edition of the Manual Uniform Traffic Control Devices (MUTCD) and shall be the sole responsibility and liability of the Contractor.

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Cleanup and Property Restoration:

1. The Contractor shall conduct operations in a manner so as to minimize the creation and maximize the suppression of dust. The Contractor shall frequently cleanup all refuse, debris and other material generated by his/her operations. The site of the work and the adjacent areas affected thereby shall at all times present a neat, orderly and workmanlike appearance, including sweeping and wetting of streets if needed. The use of calcium chloride is prohibited unless specifically allowed in writing by the Permitting Authority.
2. When new construction for streets or site development involves trucks entering the street the entrance must be paved for a minimum distance of ten (10) feet up to forty (40) feet if required by the Permitting Authority.
3. The Contractor must employ at all times during the progress of his work adequate safety precautions to prevent injuries to persons or damage to property. The Contractor shall provide adequate material, equipment and labor to correct any and all areas deemed unsafe by the Permitting Authority.
4. Where material or debris has washed or flowed into or has been placed in existing water courses, ditches, gutters, drains, pipes, structures, such materials or debris shall be entirely removed and satisfactorily disposed of during the progress of the work and the ditches, channels, drains, pipes, structures and work shall, upon completion of the work, be left in a neat condition.
5. The Contractor shall restore or replace, when and as directed, any property damaged by his/her work, equipment or employees to a condition at least equal to that existing immediately prior to the beginning of operations. To this end, the Contractor shall do, as required, all necessary highway or driveway, walk and landscaping work. Materials, equipment, and methods for such restoration shall be as approved by the Permitting Authority.
6. The Contractor shall, at his/her own expense, shore up and protect buildings (All protective work carried out or deemed necessary affecting buildings must be approved by the Director of Inspectional Services), trees, walls, fences or other property likely to be damaged during the process of the excavation work and shall be responsible for all damage to public or private property or highways resulting from their failure properly to protect and carry out said work.
7. Before the work is deemed to be complete by the Permitting Authority, the Contractor shall perform a final cleanup to bring the construction site to its original condition.

Miscellaneous:

The Department of Public Works will not issue a Street Opening Permit for any street within a subdivision which is still under the control of the Plymouth Planning Board.

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E. SPECIFICATIONS

Construction Methods and Materials:

All work and material shall comply in all respects to the latest edition of the Massachusetts Highway Department of Public Works Standard Specifications for Highways and Bridges, (Latest Edition). In addition the following list materials required by the Town of Plymouth for purposes of standardization.

- All Water and Sewer materials shall be approved by the Utilities Superintendent. Please refer to Water/Sewer Regulations and Rules.
- All Drain Manholes shall have LeBaron LK110A frames and covers or equal
- All Catch Basins shall have minimum four (4) foot sumps, Eliminator or equal hoods, and LeBaron LF 242-2 frames and grates or equal.
- All brick used to adjust structures to the proper grade shall meet the “Standard Specifications.”
- All drainage pipes shall be HDPE or Reinforced Concrete pipe with “O” Rings or approved equal.

The contractor shall submit copies of shop drawings/specification for all materials used to the Permitting Authority for approval by the Town Engineer prior to the start of work.