

# Public Works Department

## MANUAL



## Pavement Management and Maintenance Program

## Manual

### **Pavement Cutting and Excavation Prohibition**

#### **SECTION 1.0 INTENT AND PURPOSE**

##### **SECTION 1.01 INTENT AND PURPOSE**

The Town of Cutler Bay (the “Town”) has adopted a Pavement Management Maintenance Program (PMMP) via Ordinance No. ; establishing a five (5) year prohibition that will allow the protection of the newly paved local street(s) to better manage pavement degradation from the effects of utility cut(s), and keep the street pavement with an aesthetic look throughout the Town. This (PMMP) will also apply to all existing roadways within the Town. When it becomes necessary to cut into a prohibition street, the Town’s Department of Public Works (DPW) will make a concerted effort to protect the integrity of the pavement structure, and to ensure a high quality replacement patch or overlay.

- (A) These Rules have been enacted by the Town Council to regulate the use of public right-of-ways in the interest of public safety and convenience, and to operate and protect Public Works infrastructure. Excavation and restoration standards are required to preserve the integrity, operational safety, and function of the public right-of-way.
- (B) The Town’s DPW is granted the authority to administer and the Department of Code Compliance is authorized to enforce the requirements of these Rules and Regulations with direction from the DPW. Compliance with the provisions of these Rules shall be monitored by the Public Works Department who shall have the right, in conjunction with the Code Compliance Department, to require such actions as may be necessary to enforce the Town’s Code of Ordinance(s). Note that most excavations into the Town’s right-of-way occur within Town owned streets; however, references to “streets” in these Rules shall also be applicable to all other Town right-of-ways to include Miami Dade County and FDOT.
- (C) It is the intent of the Town to ensure quality performance by all permitted users and to promote cooperation among all users of the public right-of-way. To minimize disruption of public places the Town’s DPW strongly encourages the use of tunneling, boring, jacking, or other trenchless technologies instead of open trench excavation whenever possible. It should be noted that there may be no applicable permit expenses if open trench excavation into paved areas is avoided; however, a utility permit will be required prior to the commencement of any work within the Town’s right of way.
- (D) Depending on the particular trench cut size, location, and construction duration, conditions will be placed on the permittee to return the street to a similar integrity as prior to the cut occurring. This may require a larger pavement restoration area on each side of the trench, a full-lane-width pavement replacement, and/or a full curb-to-curb replacement. For large scale projects final pavement restoration limits will be determined on the field by the Towns Public Works Director and/or his designee.
- (E) These Rules and Regulations are intended to provide a mechanism to assure that all excavation activities are performed consistently within the Town’s Municipal limits.

## **SECTION 2.0 DEFINITIONS**

### **SECTION 2.01      DEFINITIONS**

For the purposes of these Rules and Regulations, all words shall have their normal meanings and such meanings as may be in common use in the field of excavation and pavement restoration. Certain words are more particularly defined as follows:

- **Backfill** shall mean the placement of specified material in all spaces excavated and not occupied by substructures up to the elevation of the bottom of the pavement structure or other surface material.
- **Town** shall mean Town of Cutler Bay, FL.
- **Compaction** shall mean the act of firmly packing together construction material to ensure stability of substructures, bedding materials, backfill, base gravels, and surface materials.
- **Controlled Density Fill (CDF)** shall mean an alternate backfill material which may be poured into excavated areas where typical compaction methods are not feasible.
- **County** shall mean Miami-Dade County, FL.
- **Dig-Safe** shall be the existing underground facility damage prevention system, Sunshine 811, Florida State Statute 556 (Underground Facility Damage Prevention and Safety).
- **Director** shall mean Director of Public Works and/or designee.
- **DPW** shall mean the Department of Public Works.
- **DRER** shall mean Department of Regulatory and Economic Resources - Miami Dade County, FL.
- **Emergency** shall mean any event which may threaten public health or safety, including but not limited to: damaged or leaking water or gas conduit systems, damaged, plugged or leaking sewer or storm drain conduit systems, damaged underground electrical and communications facilities, or downed or seriously damaged overhead pole structures.
- **Excavation** shall mean any operation in which earth, rock, or other material below the ground is moved or otherwise displaced, by means of power tools, power equipment or explosives and including grading, trenching, digging, ditching, drilling, augering, tunneling, scraping and cable or pipe driving, except tilling of soil and gardening or displacement of earth, rock or other material for agricultural purposes, and except installation and maintenance of signs performed by the Town or County.
- **F.S.** shall mean Florida Statutes.

- **Facility** shall mean pipe, pipeline, tube, main, service, trap, vent, vault, manhole, meter, gauge, regulator, valve, conduit, wire tower, pole, pole line, anchor, cable, junction box, or any other material, structure, or object of any kind or character, whether enumerated herein or not, which is or may be lawfully constructed, left, placed or maintained in, upon, along, across, under, or over any public place.
- **FDOT** shall mean Florida Department of Transportation.
- **LBR** shall mean Lime rock Bearing Ratio.
- **Major Excavation** shall mean placement, repair, or replacement of any main utility line, placement, repair, or replacement of the majority of utility service lines on any street, any excavation project of a minimum one hundred (100) foot length or two hundred and fifty (250) square foot area, or any project complex enough to be deemed major by the Director.
- **MOT** shall mean Maintenance of Traffic.
- **MDTPW** shall mean Miami Dade County Department of Transportation and Public Works
- **Newly Paved Road** shall mean a way, or portion thereof, for vehicular travel that is owned or maintained by the Town and has been paved or repaved within the last five (5) years.
- **OSHA** shall mean Occupational Safety and Health Administration - the main federal agency charged with the enforcement of safety and health legislation.
- **Paved Area** shall mean an area with a paved surface of material such as hot-mixed asphalt, concrete, brick, or pavers. These areas are typically referred to as streets, driveways, alleys, sidewalks, or walkways.
- **Pavement Structure** shall be made up of a surface, intermediate course, and sometimes a base hot-mixed asphalt (HMA) material, or Portland cement concrete or other approved base/subbase material, all of which are founded on backfill material.
- **Permanent Pavement Restoration** shall mean the process of replacing any pavement disturbed by excavation activity to a condition level which typically meets or exceeds the standards and it can reasonably be expected to remain in good condition for at least the remainder of the street's original pavement life before excavation.
- **Permittee** shall mean a person who has obtained a permit as required by the Town Code of Ordinances and these Rules and Regulations.
- **Person** shall mean any individual, firm, company, association, corporation, trust or government authority, partnership, public or private corporation or authority, trust, estate, governmental entity, agency or political subdivision of a municipality, the State of Florida, or the United States, or any other legal entity, or their legal representative, agent, or assign.

- **Prohibition Street** shall mean that period of time (five year period) during which newly constructed, reconstructed, or rehabilitated Town owned streets including Miami-Dade County and FDOT streets, shall not typically be excavated except as provided by the Town Code of Ordinance, and these Rules and Regulations.
- **Public Works Department** shall mean the Town's Public Works Director and/or designee(s).
- **Rehabilitation** shall mean that activity of work on any street which provides structural improvement having a minimum service life of fifteen (15) years with minor maintenance; which includes pavement overlay of one (1) inch minimum depth, and partial or full depth reconstruction, micro-resurfacing, rejuvenation, etc.
- **Rideability** shall mean the effect of street pavement conditions on vehicular traffic. Acceptable rideability is typically achieved from pavement surfaces which are smooth, dense, and uniform.
- **Roadway** shall mean any area (generally paved) within the Town's right-of-way (including driveways) which is available to vehicular traffic.
- **ROW** shall mean the Right-of-Way.
- **SFWMD** shall mean South Florida Water Management District.
- **Substructure** shall mean any pipe, conduit, duct, tunnel, manhole, vault, buried cable, wire, utility system appurtenance or any other similar structures located below the surface of any public place.
- **Temporary Pavement Repair** shall mean the replacement of excavated pavement with hot-mixed asphalt approved by the Town's Public Works Department.
- **Trench** shall mean an area normally excavated to accommodate a substructure and its appropriate bedding material.
  - Lateral Cuts: these are generally used to cut into a pre-existing facility to allow for a single connection (may include full street-width crossings).
  - Longitudinal Cuts – These cuts generally run lengthwise in the roadway.
- **Utility** shall mean a business that furnishes an everyday necessity to the public at large. Public utilities provide water, sewer, electricity, natural gas, telephone service, and other essentials. This includes any contractor and/or sub-contractor that is performing the work on behalf of the utility.

## END OF SECTION

## **SECTION 3.0 PERMIT REQUIREMENTS**

### **SECTION 3.01           ACTIVITIES REQUIRING PERMIT**

Examples of work typically requiring a permit include, but are not limited to, installation of utilities, driveways, curbing, or sidewalks; excavation or filling for grading purposes; or any other modification which could either damage the Town's infrastructure and/or conflict with existing or planned utility or infrastructure locations.

### **SECTION 3.02           APPLICATION**

- (A) No permit shall be issued unless a complete written Public Works/Utility application is provided to the Building Department for processing and approved by the Public Works Department.

### **SECTION 3.03           MAJOR EXCAVATIONS**

- (A) All applicants requesting permits for major excavations are required to meet with the Town to discuss the scope of work and necessary conditions prior to application. A major goal of this meeting will be to define the excavation, traffic and parking impacts, and street surface conditions allowed during the project; focusing on the safety and convenience of the traveling public. The Director or designee may assign a Town inspector to the project. The applicant may also be required to submit for approval plans and specifications, including a Maintenance of Traffic plan prior to issuance of permit if the project is extraordinarily complex as determined by the Public Works Department on a case-by-case basis.
- (B) Permit Application for Emergency Work:
  - 1. Advance permit application approvals or notifications are not required for repairs performed in accordance with guidelines from this procedures/policy. If the type of work would normally require a permit, the Utility shall submit a completed Utility Permit Application and as-built plans within five (5) business days after the repairs are completed; however, an MOT does not need to be submitted since the repairs have been completed; however, the utility/contractor is still responsible to meet MOT standards and any other guidelines while the repair and restoration is being completed. The area will be inspected for completion and the necessary testing per this policy.
  - 2. For situations of a serious nature, developing suddenly and unexpectedly, and demanding immediate action that will affect public safety, disruption of utility service, or damage to the Town's ROW the Utility shall proceed immediately with all necessary actions. The Utility shall be responsible for safe and efficient traffic control and shall notify the Town's DPW of all necessary actions being taken as soon as practical, but no later than the next scheduled Town working day. If the type of work would normally require a permit, the Utility shall submit a permit application in accordance with this policy.

The Utility shall bear the expense of restoring the ROW to the condition prior to the emergency. When making emergency repairs to attachments to structures, the Utility shall obtain verbal approval from the Public Works Department prior to making the repairs.

(C) Permit Application Objections:

1. When notified of a permit application denial to the utility permit applicant, the affected utility/contractor shall, within ten (10) days, forward to the Public Works Department a response and/or any required document or information to process the permit application.

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**END OF SECTION**

## **SECTION 4.0**

### **TECHNICAL STANDARDS - STREET EXCAVATIONS**

#### **SECTION 4.01      TECHNICAL STANDARDS**

(A) Any person or utility having first obtained a permit shall be fully responsible for restoring streets and their appurtenances (e.g. curb, drain, filter fabric, sewer and drainage structures, median strips, signage, pavement markings, traffic signal loops, sidewalks, handicap access ramps, approaches (if damaged), etc.) in complete compliance with this Town's Code of Ordinances, FDOT Technical and Design Standards and Guidelines, and any required County and FDOT Permits.

1. Relocation of FDOT Signs or Reflector Pavement Markers (RPM)

a. To prevent signs and RPMs from conflicting with the Utility's work, the Utility shall be responsible for relocating or replacing all conflicting signs and reflectors as directed by FDOT, County Traffic Engineering Division, or the Town.

#### **SECTION 4.02      EXCAVATION REQUIREMENTS**

(A) All work must be conducted in strict accordance with the latest regulations of OSHA for excavations.

(B) All excavations per this Ordinance shall be performed in accordance with the Town's, County's and FDOT's Standards or in a manner as prescribed by the Director of Public Works or designee for circumstances not covered by the specifications.

(C) Maintenance of Traffic:

1. Maintenance of Traffic shall be in compliance with FDOT and County Public Works Manuals.
2. Maintain traffic within the limits of the project for the duration of the construction period, including any temporary suspensions of the work.
3. Construct and maintain detours.
4. Provide facilities for access to residences, businesses, etc., along the project. Furnish, install and maintain traffic control and safety devices during construction.
5. Furnish and install work zone pavement markings for maintenance of traffic in construction areas.
6. Provide any other special requirements for safe and expeditious movement of traffic specified on the plans. Maintenance of Traffic includes all facilities, devices and operations as required for safety and convenience of the public within the work zone.

7. Do not maintain traffic over those portions of the project where no work is to be accomplished or where construction operations will not affect existing roads. Do not obstruct or create a hazard to any traffic during the performance of the work, and repair any damage to the existing pavement open to traffic.
  8. Temporary Closing of a Street must be approved and coordinated with the Town's Public Works Director and/or designee.
  9. Except for emergencies, the Utility shall comply with Section 335.15, F.S. (Road Detours) for temporary closing of any road on the State Highway System. The Utility shall notify the Town, FDOT, and/or Miami-Dade County at least forty-eight (48) hours before the closure. When work requires closing one or more traveled lanes for more than two (2) hours, the Utility shall also notify the local law enforcement and fire rescue with jurisdiction over the area prior to commencing work.
- (D) All material excavated from trenches and piled adjacent to the trench or in any street shall be piled and maintained in such manner as not to endanger those working in the trench, pedestrians or users of the streets, and so that as little inconvenience as possible is caused to those using streets and adjoining property. Where the confines of the area being excavated are too narrow to permit the piling of excavated material beside the trench, the Town shall have the authority to require that the permittee haul the excavated material offsite.
- (E) It shall be the permittee's responsibility to secure the necessary permits and make all necessary arrangements for all required storage and disposal sites to include any permits required by other agencies (DRER, SFWMD, FDOT, MDCPW, etc.).
- (F) All material excavated shall be laid compactly along the side of the trench and kept trimmed so as to cause as little inconvenience as reasonably possible to vehicular and pedestrian traffic, or as specified by the Town. Whenever necessary in order to expedite the flow of traffic or to abate the dirt or dust nuisance, boards or bins may be required by the Town to prevent the spreading of dirt into traffic lanes. If any portion of the excavated material is allowed to be used as backfill, it shall be stockpiled separately from all other materials.
- (G) Breaking through pavement in streets:
1. The Permittee shall make every effort to keep the amount of pavement damage to a minimum. Any pavement damage created by permittee's excavation shall be promptly repaired by the permittee.
  2. All excavations into paved street surfaces shall be mechanically pre-cut in a neat line with saws.
  3. Heavy duty pavement breakers may be prohibited by the Town when the use endangers existing substructures or other property.
  4. No irregular shapes, i.e. jagged edges, will be allowed. The shape of pavement cutouts will generally be rectangular, triangular, or a combination of these shapes unless otherwise agreed to by the Town and permittee.

5. Pavement edges shall be trimmed to a neat vertical face free of loose materials and neatly aligned with the centerline of the trench.
  6. Unstable pavement shall be removed over cave-outs and over breaks and the subgrade shall be treated as the main trench.
  7. An additional area of pavement extending a minimum of twelve (12) inches beyond the edges of the disturbed soils caused by excavation shall be neatly removed prior to the final compaction of limerock base. This task must result in exposing a minimum twelve (12) inch width of undisturbed soils for the entire depth of the excavation, creating this twelve-inch (12") shelf. Please refer to Detail A for a diagram of the required shelf.
  8. For Pavement Restoration on intersections refer to the County's Public Works Manual and/or FDOT.
- (H) The permittee shall not be required to repair pavement damage outside of the requirements of Section 4.04 existing prior to the excavation unless his or her cut results in small floating sections that may be unstable, in which case, the permittee shall remove the unstable portion and the area shall be treated as part of the excavation.
- (I) The utility/contractor shall notify the Sunshine State One-Call System (811) prior to any excavation or demolition activities in accordance with Chapter 556, F.S. This shall not relieve the utility/contractor from their obligation to notify the Town.

#### **SECTION 4.03 BACKFILL REQUIREMENTS**

- (A) All work must be conducted in strict accordance with the latest regulations of OSHA for excavations.
- (B) All work must be protected from the weather.
- (C) Temporary or permanent sheeting or other acceptable means must be used to support the side walls where necessary to prevent undermining of the full depth twelve (12) inch stable shelf of undisturbed street base soil, adjacent pavement, and/or maintain the safety of personnel and traffic.
- (D) Adequate provision shall be made for the disposal of water resulting from dewatering or pumping operations in accordance with State and County requirements. A DRER permit will be required if water is pumped to the surrounding area.
  1. All storm drains in the vicinity of the construction site shall be securely covered with filter fabric to prevent loose debris and sediments from entering the catch basin. Sediment trapped by the filter fabric must be removed periodically to avoid clogging of grate. Upon completion of storm drain, it will be the responsibility of the contractor to clean the catch basin.

- (E) Backfilling of excavations shall be performed by the Permittee as soon as practicable so that the least possible subsequent settling will occur. In most cases backfilling shall occur on the same day as the excavation was begun. If this is not feasible due to the complex nature of work, emergency, or unpreventable conditions the permittee must notify the Director or designee that same day, if not sooner, and take appropriate measures to protect public safety and infrastructure until work commences again the following day. Permittees are encouraged to contact the Public Works Inspector before backfilling commences, allowing adequate time for inspection of the site.
- (F) All subgrade and base materials shall conform to Sec. 4.05.
1. Subgrade:
    - a. Roadway subgrades shall be stabilized to a minimum depth of twelve (12) inches to a Limerock Bearing Ratio of not less than 40. Stabilizing shall be completed as defined in Section 160 of the FDOT Standard Specifications - Stabilizing.
- (G) All remaining excavated material shall be removed from the jobsite and disposed of, as the Permittee's responsibility, in such a manner that will minimize interference with pedestrian and vehicular traffic. No material shall be left within the right-of-way once the repair and/or installation is complete.
- (H) To reduce the time traffic is taken off of an existing facility, the Town may approve the use of flowable fill:
- Controlled Density Fill (CDF) which is a digable, pourable backfill (FDOT Standard Specifications for Road and Bridge Construction) to compacted soil as approved by the Public Works Director or designee under the following conditions:
    1. Excavatable, flowable fill will be allowed. These mixes are designed to have very flowable characteristics for filling small areas or hard to reach areas such as multiple duct trenches whereby compaction equipment maneuvering would be difficult.
      - a. Mix Design: (FDOT Standard Specifications for Road and Bridge Construction)
        - Flowable fill is a mixture of Portland cement, fly ash, fine aggregate, air entraining admixture and water. Flowable fill contains a low cementitious content for reduced strength development.
        - Submit mix designs to the Public Works Department for approval. The following are suggested mix guides for excavatable and non-excavatable flowable fill: (Table #1)

**Table #1**

	<b>Excavatable</b>	<b>Non-Excavatable</b>
<b>Cement Type 1</b>	75-100 lb/yd <sup>3</sup>	75-150 lb/yd <sup>3</sup>
<b>Fly Ash</b>	None	150-600 lb/yd <sup>3</sup>
<b>Water</b>	*	*
<b>Air**</b>	5-35%	5-15%
<b>28 Day Compressive Strength**</b>	Maximum 100psi	Minimum 125 psi
<b>Unit Weight (Wet)**</b>	90-110Lb/Ft <sup>3</sup>	100-125Lb/Ft <sup>3</sup>
<p>*Mix designs shall produce a consistency that will result in a flowable self-leveling product at time of placement.</p> <p>**The requirements for percent air, compressive strength and unit weight are for laboratory designs only and are not intended for jobsite acceptance requirements.</p> <p>Fine Aggregate shall be proportioned to yield 1 yd<sup>3</sup>.</p>		

2. Applications for this material include: beddings, encasements, closures for tanks, pipes, and general backfill for trenches.
3. This material is not to be used for bedding material or in situations that will cause floating of the utility lines, or in the presence of cast iron or steel pipes.
4. Acceptance of flowable fill will be based on the following documentation and a minimum temperature of flowable fill at the point of delivery of 50°F. Furnish a delivery ticket to the Town's DPW for each load of flowable fill delivered to the worksite. Ensure that each ticket contains the following information:
  - a. Project Designation
  - b. Date and Time
  - c. Class and Quantity of flowable fill
  - d. Actual batch proportions
  - e. Free moisture content of aggregates and Quantity of water withheld
  - f. CDF placement in trenches must be fully barricaded and protected for a minimum of three (3) hours after the pour or until a set is reached that will prevent a hazard to animals or humans

5. Leave the fill undisturbed until the material obtains sufficient strength. Sufficient strength is thirty-five (35) psi penetration resistance as measured using a hand held penetrometer in accordance with ASTM C-403. Provide a hand held penetrometer to measure the penetration resistance of the hardened flowable fill.
6. The requirements of this Section are intended to maximize compaction and therefore minimize settling.

#### **SECTION 4.04 RESTORATION OF LOCALLY OWNED STREETS**

- (A) Wherever the existing road is disturbed, area must be restored to the Public Works Director's or designee's satisfaction, without any cost to the Town.
- (B) Upon the completion of proper backfilling, the Permittee shall construct temporary pavement, if needed to extend the repair date(s)--See section 4.07(D) for details of construction methods. The permittee shall take all reasonable measures to complete temporary pavement on the same day excavation work was begun. If same day paving is not achievable due to complexity of work, emergency, or unpreventable conditions, the permittee must notify the Director or designee as soon as practicable that same day, and take appropriate measures to protect the public safety and infrastructure until work commences again the following day. The most stringent measures will be required on arterial/collector streets. Same day paving will typically be required if work is not expected to be continued the next day, regardless of location.
  1. Sand seal on the limerock base course will not be permitted in lieu of temporary paving.
- (C) Before paving operations begins, the permittee must notify the Director or designee, allowing adequate time as determined by the Director or designee for inspection. All hot-mixed asphalt paving must first be approved by the Director or designee as to depth and materials; this applies to both temporary and permanent paving activities.
  1. Notification of the anticipated timing of all paving activity must be acknowledged by the Director or designee; any notification delivered by facsimile machine or email must be preceded or followed up by a telephone conversation to assure its proper and timely receipt.
  2. Permittees shall endeavor to make notification by 3:00 PM of each work day that paving or any other inspection is anticipated for the following day. In the event of schedule changes or emergencies, the permittee is requested to provide a minimum of one hour notification to assure inspection availability.
  3. If a Town inspector is not able to be on-site within thirty (30) minutes of the acknowledged anticipated start time of paving activity, the permittee shall be allowed to commence paving in accordance with this Section.
  4. Permittees who do not provide proper notification of paving activities may be subject to required removal and replacement of pavement for the purpose of inspection and the replacement cost will be the sole responsibility of the contractor.

- (D) All temporary pavements shall be hot-mixed asphalt placed in one and one half (1½") inch compacted lifts. The total depth of temporary pavement shall match the total depth of hot- mixed asphalt pavement found in the street.
- (E) All damage to pavement by the Contractor as a result of Work under this project shall comply with "DAMAGE BY CONTRACTOR", above, and shall be repaired in a manner satisfactory to the Department. The repair shall include the preparation of the subgrade, the placing and compacting of the limerock base, the priming of the base, the placing and maintaining of the surface treatment, all as specified herein. The width of all repairs within the work area shall be completed according to the Standard Detail "A" herein.
- (F) Any street markings or traffic loops disturbed by the permittee shall be promptly replaced by the permittee, unless otherwise directed by the Director or designee and the repairs coordinated with Miami Dade County Traffic Engineering Division. Street markings (centerlines, crosswalks, stop bars, lane markings, etc.) and traffic loops must be replaced after pavement restoration. If work disturbs centerlines or lane markings on arterial/collector streets, the permittee shall, and has the duty and obligation to, place temporary reflective markers immediately after the pavement is placed. Pavement markings removed or obliterated by the Contractor's operations shall be promptly replaced in accordance with the FDOT Standard Specifications, "Pavement Markings and Traffic Signs", and to the satisfaction of the Town's DPW, County's Traffic Engineering Division, or other authority having jurisdiction over the work area.
- (G) The Permittee shall be responsible for the proper placement and maintenance of the temporary pavement and shall keep the temporary pavement in acceptable ride-ability condition.
- (H) It shall be the responsibility of the Permittee to perform the necessary restoration of disturbed areas beyond the limits of the street pavement which shall include but not be limited to restoration of lawns, shrubs, gardens, curbing, sidewalks, drains, separations fabrics, fences, walls, etc.
  - 1. Restoration of Landscape:
    - a. Except for trees or shrubs removed in accordance with the permit for purposes of complying with horizontal clearances, the Utility shall replace all planted or naturally occurring trees and shrubbery irreparably damaged or destroyed by the Utility during utility work on the ROW. Such replacements shall be like-sized. The Utility shall determine replacement plant sizes as follows:
      - i. If existing trees or shrubs have a clear trunk up to the diameter at breast height (DBH) measured four and one-half (4.5) feet above the ground, the Utility shall calculate the total DBH of affected trees and/or shrubbery.
      - ii. If the trunk has vegetation and does not have a clear area below the DBH, the Utility shall calculate the total average height of affected trees and/or shrubs.

- b. The Utility shall do all of the following:
  - i. All tree removal requires DRER and/or Town Permit.
  - ii. Measure trees and shrubs before cutting to determine DBH.
  - iii. Measure replacement material in the nursery industry standard of caliper inches (measured six (6) inches above grade of nursery stock). The Town shall direct which replacement method is appropriate for trees or shrubs cut down before measurement.
  - iv. On Town approved landscape projects, the Utility shall notify the Town's DPW of the proposed scope of work.
  - v. Begin sodding within one (1) week after the utility work is completed and water for thirty (30) days after installation.

Upon completion of the permanent repairs outside the limits of the street pavement, the Permittee shall notify the Director or designee in writing that the permanent repairs and/or replacements have been completed, setting forth the date of completion after final inspection.

- a. Permanent Pavement Restoration:
  - i. Permanent pavement restoration requirements shall be dependent on whether the street was under a five-year prohibition at the time of excavation or not (Sec. 4.07 (E) for details); if the street was under a five-year prohibition also see Sec. 4.08 for additional requirements).
  - ii. If two (2) or more excavations are made for the same utility or client and are within six (6) feet of each other, edge to edge, they will be permanently repaired as one trench, including the pavement between excavations.

**SECTION 4.05 MATERIAL SPECIFICATIONS**

**(A) SUBGRADES:**

- 1. The entire width of cut shall be de-mucked, if necessary. All materials supporting the roadway and shoulder shall have a minimum Lime rock Bearing Ratio (LBR) of forty (40). The top twelve inches (12") of soil shall be compacted to one hundred percent (100%) of maximum dry density.
  - a. Stabilizing shall be as defined in Section 160 of the FDOT Standard Specifications. Stabilization may require the addition and thorough mixing in of crushed limerock, course limerock screenings, or any other stabilizing material acceptable to the Department. The stabilizing material shall be applied in such quantity that, after mixing and blending, the subgrade will have a LBR of not less than forty (40). Stabilizing material shall be mixed or blended in the subgrade material by plowing, scarifying, disking, harrowing, blading and mixing with rotary tillers until the mixed materials are of uniform bearing value throughout the width and depth of the layer being processed.

- b. When the material does not have the proper moisture content to insure the required density, wetting or drying shall be required. If the material is deficient in moisture, water will be added and uniformly mixed in by disking the base course to its full depth. If the material contains an excess of moisture, it shall be allowed to dry before being compacted. As soon as proper conditions of moisture are attained, the material shall be compacted to an average density not less than ninety-eight (98) percent maximum density as per AASHTO T-180. When the base is constructed in more than one course, the density shall be obtained in each lift of the base.
- c. After spreading of the base material is completed, the entire surface shall be scarified and shaped so as to produce the exact grade and cross section after compaction. For double course base, this scarifying shall extend a depth sufficient to penetrate slightly the surface of the first course. The maximum depth of each lift shall be 8-inches.

(B) BASES:

- 1. The replaced base material according to FDOT Standard Specifications – Section 125 Excavation/Backfilling.
- 2. The width of the replacement for the base shall be the width of the ditch plus 12 inches on each side.
- 3. Base material shall be placed in six inches (6”) maximum layers and each layer thoroughly rolled or tamped, LBR according to FDOT Standard Specifications – Section 125 Excavation/Density to include exceptions to Pipe Density Requirements).
- 4. If the ditch is filled temporarily, it shall be covered with a two inch (2”) thick asphaltic concrete patch to keep the fill material from raveling, until replaced with a permanent patch.
- 5. Paving and Concrete materials shall conform to FDOT Standard Specifications.

(C) PAVEMENT:

- 1. Use Superpave Asphalt Concrete pavement with the type, or offered as alternates, as selected. Superpave mixes are identified as Type SP-9.5, Type SP-12.5 or Type SP-19.0.
  - a. Use one and a half inch (1.5”) Superpave Asphalt Type SP-9.5 and it will need to be placed on two lifts (3/4” each lift). The mix design for Superpave Type SP-9.5 shall be current certified by Florida Department of Transportation.
  - b. The thickness and individual layer thickness will be converted to spread rate based on the maximum specific gravity of the asphalt mix being used, as well

as the minimum density level, as shown in the following equation: (spread rate calculations should be rounded to the nearest whole number)

- Spread rate (lbs/yd<sup>2</sup>) = t x Gmm x 43.3
- Where: t = Thickness (in.) (Plan thickness or individual layer thickness)
- Gmm = Maximum specific gravity from the verified mix design

c. The allowable layer thicknesses for fine Type SP Asphalt Concrete mixtures are as follows:

- Type SP-9.5..... 1 - 1 1/2 inches
- Type SP-12.5..... 1 1/2 - 2 1/2 inches
- Type SP-19.0..... 2 - 3 inches

d. In addition to the minimum and maximum thickness requirements, the following restrictions are placed on fine mixes when used as a structural course:

- Type SP-9.5 - Limited to the top two structural layers, two layers maximum.
- Type SP-9.5 – May not be used on Traffic Level D and E applications.
- Type SP-19.0 - May not be used in the final (top) structural layer.

2. Liquid Asphalt for Prime and Tack Coat shall meet the requirements of FDOT Standard Specifications.

3. Asphaltic Concrete - Type SP Mix shall meet the requirements of FDOT Standard Specifications.

**NOTE:** Permittees shall restore any swale with grass if disturbed or damaged, and water area until satisfactory growth of grass is established.

## **SECTION 4.06 SPECIAL CONDITIONS**

### **(A) French Drainage System**

1. If an excavation cuts through an area that has been constructed as a drainage system, the restoration procedures shall be repaired by the permittee in accordance with the MDCPW Technical and Design Standards and Guidelines with the approval of the Director or designee.

### **(B) Erosion & Sediment Controls**

1. The Utility shall install any required erosion and sediment controls in compliance with local, state and federal requirements before beginning any utility work per

## **SECTION 4.07        METHODS OF CONSTRUCTION**

### **(A)    Workmanship**

1.    The permittee is required to furnish all materials and will be responsible for the job to be done in an orderly, timely, quality controlled manner, and will be required to utilize quality workmanship and construction techniques conducted in accordance with industry standards for the successful completion of the utility work, backfilling, appurtenant restorations and pavement repair.
2.    All equipment necessary for construction shall be on the job site in first class working condition. Spilling, leaking or dropping of petroleum products is prohibited and all defective equipment shall be removed or replaced immediately. The Contractor shall be subject to all DRER regulations and clean up requirements.
3.    The Permittee shall keep a competent supervisor and sufficient competent employees to carry on the work with all proper speed and in accordance with the requirements of law and other public authorities and to the reasonable satisfaction of the Director or designee.
4.    The Permittee shall conduct the work in such a manner as not to unreasonably interfere with other work being done by the Town, by contract or otherwise. If deemed necessary by the Director or designee, the work done under these specifications shall conform to the progress of said other work. The Permittee shall cooperate with the contractors or employees who may be doing work for the Town affected by the work in arranging for storage places, temporary support for structures, repairs, etc.
5.    All temporary repairs shall be properly maintained by the Permittee to assure good rideability conditions until the end of the guarantee period or until permanent repair has been made, whichever first occurs.
6.    Permanent pavement restoration accomplished by utilities shall be properly completed to assure against settling and have good ride-ability conditions.

### **(B)    Pavement Removal**

1.    Pavement shall be mechanically sawed and be neatly removed such that all surfaces are neat and free of loose materials to affect a tight seal with the new pavement.

### **(C)    Length of Trench Opening**

1.    The maximum length of open trench in an excavation permissible at a given time shall be two hundred (200') feet, and no greater length shall be opened for pavement removal excavation, construction, backfilling, repairing or any other operation without the express written permission of the Town.

(D) Temporary Asphalt Pavement

1. All temporary pavements shall be installed according to these specifications which include a thickness matching the existing pavement depth, and use of hot-mixed asphalt placed in one and a half inch (1½”) compacted lifts. All materials, placement, compaction and workmanship shall be in accordance with the applicable provisions of the FDOT Standard Specifications for this material.
2. Each one and a half inch (1½”) layer of hot-mixed asphalt is to be compacted separately.
3. Mechanical compactors will be permitted for repairs less than ten (10) square yards; repairs exceeding ten (10) square yards shall be rolled with an appropriately sized, power driven, steel-wheeled roller to obtain specification density.
4. Hot-mixed asphalt materials shall be laid upon an approved clean, dry, compacted surface, spread and struck off to the established grade and elevation giving regard to the loss in depth between loose and compacted mixtures. Immediately after the bituminous mixture has been spread, struck off, and surface irregularities adjusted, it shall be thoroughly and uniformly compacted. A tight seal to existing pavement shall be accomplished to prevent entry of water.
5. Asphaltic concrete shall be laid only where the surface to be covered is intact, firm, cured and dry, and only when weather conditions are suitable. The temperature of the mixture at the time of spreading shall be within limits of FDOT Standard Specifications or within (+ -) thirty (30) degrees of the temperature set by the design mix. All compaction rolling shall be completed before the mixture drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement as per FDOT Standards 330-10.1.2.
6. Any mixture caught in transit by a sudden rain may be laid at the Contractor’s risk, if the base is in suitable condition. Under no circumstances shall asphalted material be placed while rain is falling, or when there is water on the area to be paved.

(E) Permanent Pavement Restoration

1. All materials, placement, compaction and workmanship shall be in accordance with the applicable provisions of the FDOT Standard Specifications.
2. Existing paving material shall be saw cut and neatly removed, as needed to comply with all provisions of this subsection.
3. Pavement structure base and subbase should be checked for compliance with specifications (FDOT Standard Specifications – Section 160- Stabilizing) before paving will be allowed.
4. Permanent pavement restoration requirements shall be dependent on whether the local street was under a five (5) year prohibition at the time of excavation.

- a. If a five (5) year prohibition is not in effect for a particular roadway, the road restoration shall be milled a minimum of twelve (12) inches beyond the original excavation and width of lane(s) shall be milled and paved depending on the utility cut location.
  - b. If a five (5) year prohibition is in effect, the Town will strictly enforce the prohibition restoration requirements set forth in these Rules and Regulations.
5. The permanent pavement materials shall conform to the specifications found in the FDOT Standards Specifications. Depth of permanent pavement layers shall match those of the surrounding pavement.
6. Milling of the existing asphalt pavement:
  - a. Remove existing asphalt concrete pavement by milling to lower the finished grade adjacent to existing restoration prior to resurfacing, or to completely remove existing pavement.
  - b. Remove the existing raised reflective pavement markers prior to milling.
  - c. Equip the milling machine with means to effectively limit the amount of dust escaping during the removal operation.
  - d. Milling depth shall be no less than one and one-half (1½) inches and a maximum of the existing street surface pavement depth.
  - e. Multiple cuts may be made to achieve the required pavement configuration or depth of cut. Utility/Contractor must control the cross slope of the milling surface. Approval from the Town's DPW will be required prior and during to milling operation.
  - f. The Utility/Contractor will take possession of the milled material.
7. Mechanical compactors will be permitted for repairs less than ten (10) square yards; repairs exceeding ten (10) square yards shall be rolled with an appropriately sized, power driven, steel-wheeled roller to obtain specification density.
8. Hot-mixed asphalt materials shall be laid upon an approved clean, dry, compacted surface, spread and struck off to the established grade and elevation giving regard to the loss in depth between loose and compacted mixtures. Immediately after the bituminous mixture has been spread, struck off, and surface irregularities adjusted, it shall be thoroughly and uniformly compacted. A tight seal to existing pavement shall be accomplished to prevent entry of water.
9. The placing temperature of the hot-mixed asphalt mixture shall the master range for all mix designs will be the established temperature from the mix design (+ -) thirty (30) Degrees, per FDOT Standards 330-6.3. This can and should be checked by using a thermometer suitable for this type of work.

(F) “Tack” Coating

1. All surfaces of the existing pavement shall be neat, free of loose materials, and tack coated with an approved asphalt emulsion by applying the liquid material per FDOT Standard Specifications (300-7) to fully cover the surfaces prior to pavement installation.

**SECTION 4.08 FIVE (5) YEAR PROHIBITION STREET RESTORATION REQUIREMENTS**

- (A) The Director of Public Works is empowered to approve or deny any permit application requesting the excavation of any roadway during its five (5) year pavement prohibition period.
- (B) All excavations into such Town streets shall be subject to these requirements, including emergency excavations, with the exception of: Traffic loop installation and Town/FDOT/ County construction, reconstruction or paving projects (to include rehabilitation) of a street adjoining a five (5) year pavement prohibition street.
- (C) If excavation occurs the following minimum requirements will apply:
1. Permanent pavement restoration shall be performed immediately following the completion of the project.
  2. The permanent pavement restoration width shall require paving the entire width of the paved street on which the excavation occurred.
  3. The permanent pavement restoration length required shall be ten (10) feet in both directions from the furthest edges of the excavation. If the permanent pavement restoration area overlaps the edge of a repair from any previous opening the area shall be expanded to include the entire previously repaired area to its furthest edge. Previous opening is defined as any repair performed by anyone during the five-year prohibition period.
  4. The permanent pavement restoration depth shall be no less than one and one-half (1½) inches and a maximum of the existing street surface pavement depth.
  5. Preparation for permanent paving shall be accomplished by machine grinding the existing pavement to meet the depth requirement per Section 4.07(E)(6). Vertical surfaces of machine ground pavement shall be perpendicular to the pavement surface.
  6. All permanent pavements shall be paver applied and rolled with an appropriately sized, power driven, steel wheeled roller to obtain specification density.
- (D) Any exceptions to these standards must have the Director of Public Works approval and will be approved or denied on a case by case basis.

**END OF SECTION**

**SECTION 5.0**  
**TECHNICAL STANDARDS**  
**(OTHER THAN STREET EXCAVATION)**

**SECTION 5.01 EXCAVATION REQUIREMENTS**

- (A) All parts of Section 4.02 shall apply to this section.
- (B) On concrete sidewalks, all cuts shall be made from the nearest joint or score line on one side of the excavation to the nearest joint or score line on the other side of the excavation.
- (C) On Stamped and/or colored concrete sidewalks, all cuts shall be made by neatly squaring all edges of the excavation to the nearest line of the bricks; match existing color and design.
- (D) Driveway excavation shall incorporate the full width and extend from the street line to the sidewalk.

**SECTION 5.02 BACKFILL REQUIREMENTS**

- (A) All parts of Sec. 4.03 shall apply to this section.
- (B) All sidewalk, walkway, driveway, curb, and lawn areas disturbed by excavation activity shall be repaired in conformance with the MDCPW Technical and Design Standards and Guidelines. Modifications may be allowed only upon the express approval of the Director or designee in response to special field circumstances not covered by this policy or the Town Technical and Design Standards and Guidelines.

**SECTION 5.03 RESTORATION OF SIDEWALKS/WALKWAYS/DRIVEWAYS/LAWNS**

- (A) The permittee shall be required to restore the area(s) bounded by the dimensions described in Section 5.01, or as determined by the Director or designee, to minimize the effects of excavation.
- (B) Permanent restoration of the sidewalk, walkway, driveway, and lawn area shall be made promptly by the Permittee and shall be performed in accordance with the MDCPW Technical and Design Standards and Guidelines or in a manner as prescribed by the Director for special conditions not covered by these specifications.
- (C) It shall be the responsibility of the Permittee to perform the necessary restoration beyond the limits of the pavement which shall include but not be limited to restoration of lawns, shrubs, gardens, curbing, underdrains, fabrics, fences, walls, signage, etc. Upon completion of the permanent repairs outside the limits of the pavement, the Permittee shall notify the Director or designee in writing that the permanent repairs or replacement has been completed, setting forth the date of completion. The Permittee shall, and has the duty and responsibility to, guarantee the restoration area outside of the pavement against construction defects for a period of two (2) years after completion is approved by the Town.

- (D) Lawn repair areas: the permittee is required to establish healthy ninety percent (90%) grass growth through two consecutive mowing's. The Town strongly recommends that the permittee date photograph any horticultural restorations and healthy grass growth after two mowing's and submit documentation to the Director or designee.
- (E) The Permittee shall be required to construct a handicapped accessible ramp conforming to American with Disabilities Act and the Town's DPW Specifications when the area of excavation lies within ten (10') feet of a street intersection or when the excavation extends through an intersection right-of-way. All sidewalk and driveway areas between the trench and the intersection shall be restored by the permittee.

## **SECTION 5.07           METHODS OF CONSTRUCTION**

### **(A)   Workmanship**

1. The permittee is required to furnish all materials and will be responsible for the job to be completed in an orderly, timely, quality controlled manner, and will be required to utilize quality workmanship and construction techniques conducted in accordance with industry standards for the successful completion of the utility work, backfilling, appurtenant restorations and pavement repair.
2. The Permittee shall keep a competent supervisor and sufficient competent employees to carry on the work with all proper speed and in accordance with the requirements of law and other public authorities and to the reasonable satisfaction of the Director or designee.
3. The Permittee shall conduct the work in such a manner as not to unreasonably interfere with other work being done by the Town, by contract or otherwise. If deemed necessary by the Director or designee, the work done under these specifications shall conform to the progress of said other work. The Permittee shall cooperate with the contractors or employees who may be doing work for the Town affected by the work in arranging for storage places, temporary support for structures, repairs, etc.
4. All temporary repairs must be maintained by the Permittee until the permanent repair has been completed.

### **(B)   Length of Trench Opening**

1. All work must be conducted in strict accordance with the latest regulations of OSHA for excavations to include trench shoring to prevent accidents and undermining of pavement, sidewalks, and private property.
2. The maximum length of open trench in an excavation other than the street that is permissible at any time shall be fifty (50') feet, and no greater length shall be opened for pavement removal or swale excavation, construction, backfilling, repairing or any other operation without the express written permission of the Town.

(C) Placement of backfill material

1. The backfill material shall be spread and compacted in layers not exceeding eight inches (8") in loose depth.
2. No excavated pavement shall be used or mixed in with any backfill material.

**SECTION 5.08 GUARANTEE PERIOD**

The Permittee shall guarantee the workmanship of the final sidewalk, driveway, curb, etc. for permanent repairs for a period of two (2) years. The owner of the new facility shall be responsible for any settlement in trenches that may occur after the date of installation and acceptance by the Town. The owner of the new facility shall be responsible for watering the sodded areas for a period of thirty (30) days after completion of the project.

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**END OF SECTION**

## **SECTION 6.0**

### **QUALITY CONTROL / QUALITY ASSURANCE PROTOCOL**

#### **SECTION 6.01      INSPECTIONS**

- (A) The Town has the right to perform inspections for the purpose of assuring quality performance by all permittees. The main purpose of these inspections will be to verify if proper compaction, depth, and quality of materials are present in trench excavation repairs.
- (B) Town Inspection of pavement structure gravel base materials will be required of all street excavations prior to paving.
- (C) All permittees will be subject to Town inspection of any and all excavation and restoration activities. All excavations shall conform to Florida Building Codes, the State of Florida Trench Safety Act, OSHA requirements and the provisions herein.
- (D) Methods of inspection and testing shall be in conformance with industry standards, and may be conducted after final pavement is installed.
- (E) Testing will be conducted on a random basis to assure compliance with the Town's rules. This testing may include procedures to confirm rideability and proper soils and pavement materials, depths, and compaction.
  - 1. Density tests shall be made on the sub-grade and grade every one hundred (100) feet and/or as directed by the Town.
  - 2. Density tests shall be taken at each 6" lift of base rock every one hundred (100) L/F at each lift.

#### **SECTION 6.02      ACCEPTABLE RESULTS**

- (A) Each backfill layer shall be thoroughly compacted with a powered hand tamper or a mechanized power tamper to at least ninety-eight (98) percent (sub-base) and one hundred percent 100% (base) of maximum density and moisture (sub-base) as determined by AASHTO Specification T-180 or such greater density as may be required by the governing authority over the area in which the work is performed and Town Inspector must be present at the time of the test. A testing laboratory will make periodic field tests to determine the density being obtained in each lift, or layer, or the backfill. When compacted backfill fails to meet the specified percentage of maximum density as shown by test results, it shall be reworked and re-compacted in a manner approved by the Town, and then retested. The reworking, re-compacting and retesting of the backfill shall be repeated as many times as may be necessary to obtain compacted backfill with density meeting or exceeding the specified percentage as indicated by test results.
- (B) The number of individual permittee / utility repairs tested shall be increased if unacceptable results are found to exceed ten percent (10%) of the total number of repairs tested. In addition, if testing must be increased, the permittee / utility shall be required of the contractor for all costs of testing, whether the results are unacceptable or not.
- (C) The permittee shall continue testing until the percentage of unacceptable results is acceptable.

## **SECTION 7.0 ENFORCEMENT**

### **SECTION 7.01      ENFORCEMENT**

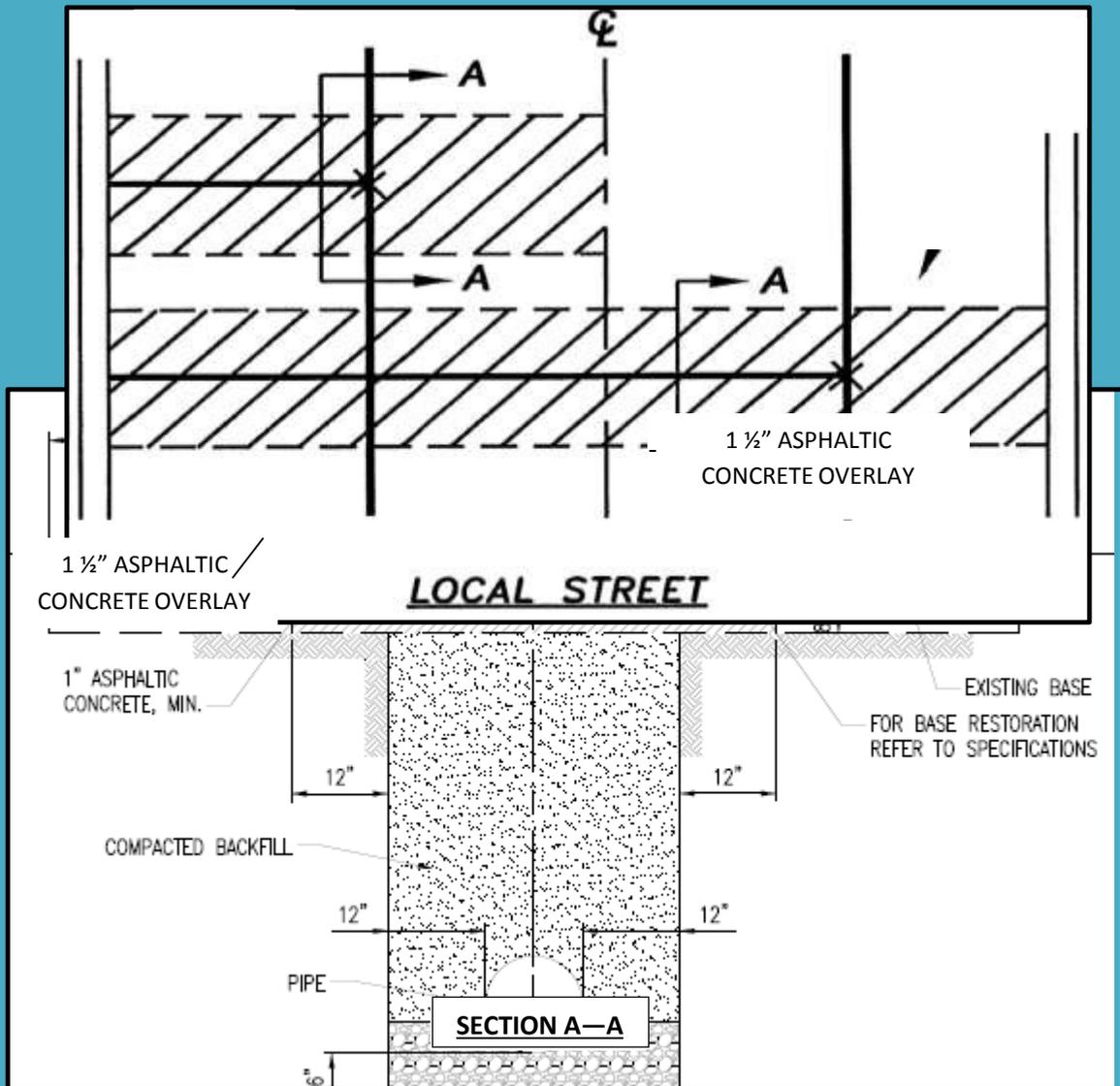
(A)      Violations:

The following shall be deemed violations of this Code:

- (a) Excavating without a Permit to include fine, stop work and apply for permit (work to commence after permit is approved and issued).
- (b) Improper Site Protection (i.e. improper plating, path of travel, barricading, etc.
- (c) Failure to maintain the Public Works Permit or copy on the work site until completion of the project.
- (d) Making an excavation, which endangers adjoining property or buildings or is a menace to public health or safety.
- (e) Failure to properly guard and protect an excavation.
- (f) Failure to obtain required inspection (s).
- (g) Failure to comply with a lawful stop work order.
- (h) Failure to notify the State one-call system and area marked prior to excavation.
- (i) Excavation when utility markings are not visible.
- (j) Construction in right-of-way that do not conforming to this ordinance.
- (k) Failure to properly provide competent supervision.
- (l) Failure to maintain traffic and temporary or permanent signs in the construction area.
- (m) Violating any other provision in this Ordinance.

(B)      Penalty:

Each violation of this article shall be subject to enforcement through chapter 8, Town code enforcement, as may be amended from time to time.



**STANDARD DETAILS**

**PAVEMENT RESTORATION**

**DETAIL A**

**August 2013**



**END OF DOCUMENT**