

EXHIBIT "B"

City of Wilmington
Department of Public Works

UNDERGROUND FACILITIES COORDINATION MANUAL

~~April 1, 2007~~

January 1, 2009

Preface

It is in the public interest for utility and similar installations to be accommodated within the rights-of-way of City streets. Since this accommodation can significantly affect the function of the streets within the City, occupancy and use of the rights-of-way must be regulated to ensure that:

- ◆ Traffic flows freely and public safety is maintained.
- ◆ The methods of access to the underground facilities and repair of the street structure are uniform and applicable to all persons who install facilities in the rights-of-way.
- ◆ Applicable federal, state, and local laws are complied with.

This Underground Facilities Coordination Manual (Manual) presents the practices, policies, and procedures governing the installation, adjustment, and maintenance of facilities within the rights-of-way of the streets in the City of Wilmington. It establishes the requirements and working relationships between the Department of Public Works and the facilities owners and contractors. It describes how facilities may be accommodated along or within the rights-of-way of City controlled and maintained streets.

The manual is to be used by City personnel, employees or contractors of persons with facilities in the rights-of-way, and other agencies involved with or affected by the design, construction, adjustment, relocation, or maintenance of underground facilities.

Such closely related subjects as rights-of-way, legal requirements, plans, and construction may of necessity be touched upon in this manual but are not covered in detail.

It is recognized that technological advances may affect some requirements concerning underground facilities installations. Documented requests for consideration of these advances will ~~be acknowledged~~accepted and ~~evaluated promptly~~are encouraged.

This Manual is intended to provide uniform direction to those opening and restoring the streets in the City so that the integrity of the City streets ~~is~~are maintained and that the safety and convenience of the public using these streets is not unduly impaired or jeopardized.

The Underground Facilities Coordination Manual (dated ~~April~~January 1, ~~2007~~2009) replaces all previous manuals issued by the City.

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CHAPTER ONE: INTRODUCTION

1.1 Purpose and Objectives

The "facilities coordination" process for the purpose of installing, maintaining, repairing [and removing](#) underground utilities involves a complex series of issues. A primary reference resource for this City of Wilmington Underground Facilities Coordination Manual is the Utilities Design Manual issued by the Delaware Department of Transportation, dated October 1995 except as noted and/or modified herein. It is recognized that many unique engineering and operational issues exist in an urban environment. As such not all sections of the State manual apply in this urban environment. The purpose of the Underground Facilities Coordination Manual is to unify, organize, simplify, and condense the issues to help the user identify, find, and understand the pertinent regulations and procedures for facilities work in the City whether in State or City maintained roads.

The objectives of this manual are:

- ◆ To provide standard requirements for permitting excavation in the City of Wilmington streets and rights-of-way.
- ◆ To enable persons installing facilities in the rights-of-way to accomplish their work with the least delay and minimum interference.
- ◆ To prevent service disruptions, damage to in-place underground installations of other service providers and the creation of hazardous conditions.
- ◆ To assure that standards, specifications, and environmental considerations are met.
- ◆ To assure the proper performance, high quality, and timely accomplishment of underground facilities work is achieved.
- ◆ To assure that the work performed provides for the safety and, so far as possible, the convenience of the users of the City streets during and following construction.

The information in this manual applies to all public and private utilities and other persons that have facilities located within the rights-of-way of streets under the City's jurisdiction.

1.2 Authority. This Manual is issued and updated pursuant to the Departments authority under Chapter 42 of the City Code.

1.3 Exceptions to Requirements. Any request for deviation from the requirements described in this manual due to extreme hardship shall be submitted in writing to the Department of Public Works. The request should include full justification supporting the claimed hardship condition. The Department of Public Works will promptly review the claim and provide a recommendation that will be forwarded to the Commissioner of Public Works (hereinafter "Commissioner") for final action.

The City recognizes and encourages innovative techniques and new technologies in the removal and restoration of street pavements and rights of way. To that end, the Commissioner may waive or revise certain specific requirements of this policy, when such action would effectively advance a new technology and/or state of knowledge. The burden of testing or otherwise demonstrating that a new technique is likely to be effective rests with the requestor.

1.4 Definitions. Words used in this Manual shall have the meanings given herein, unless otherwise expressly stated. Unless otherwise expressly stated, words not defined herein shall be given the meaning set forth in the City of Wilmington, Delaware Code, as amended; words not defined therein shall be given the meaning set forth in Title 47 of the United States Code, as amended; and words not defined therein shall have their common and ordinary meaning.

CHAPTER TWO: REQUIREMENTS

2.1 Type of Work. This Manual applies to work on existing ~~underground~~ facilities or the installation of new ~~underground~~ facilities. The person owning the facilities or its authorized contractor (who must be licensed to work in the City of Wilmington) shall coordinate and execute the work in accordance with this Manual.

2.2 Bonding.

2.2.1 The performance bond to be provided to the City for the duration of the construction permit for road surface repairs, shall be in an amount equal to the estimated value of the construction in the right-of-way, provided that if the applicant can demonstrate that the cost of road surface repairs, as approved by the Department of Public Works, is less than this amount, the applicant need only provide a bond in the amount of the cost of road surface repairs. The Facility Owner or its contractor shall furnish sufficient information regarding these construction costs to adequately support the bond amount proposed.

2.2.2 The performance bond to be provided to the City for facility removal shall be as provided in the utility franchise or, if there is no franchise or such franchise does not specify an amount, shall be 20 percent of the cost of construction for the proposed facility, provided that if the applicant can demonstrate that the cost of removal of those facilities is less than this amount, the applicant need only provide a bond in the amount of the cost of removal, to remain in effect throughout the operation and use of the facility as security for removal of the facility or any part thereof.

2.3 Insurance. Any person placing facilities in the rights-of-way shall file with the City evidence of workers compensation and liability insurance as specified in the City Code.

2.4 Planning.

2.4.1 Pursuant to Section 42-714(d) of the City Code, any utility company with underground facilities within the City of Wilmington's right-of-way is requested to submit a five-year plan, updated annually, showing street locations of proposed construction.

2.5 Street Safety

2.5.1 The Department of Public Works considers street safety to be a high priority and an essential and indispensable component of every project from the planning through the design and construction phases. Companies that install, maintain, service, operate, or otherwise work upon facilities within the street right-of-way in the City of Wilmington are obliged to consider the safety of the general public. This includes, but is not limited to, providing appropriate traffic control and provisions for alternative pedestrian traffic routes.

2.5.2 All reasonable measures shall be taken for the protection and safe operation of traffic during and after installation of facilities. For all facilities maintenance or construction operations within public street rights-of-way:

2.5.2.1. When a permit is required, a traffic control plan shall be prepared in conformance with the current DeIDOT manual Traffic Controls for Street and Highway Construction, Maintenance, Utility and Emergency Operations (1 February 00 - BASIC), as modified by Appendix C, and shall be submitted with the application for a permit.

2.5.2.2. This traffic control plan is subject to review and approval by the Department of Public Works.

~~2.5.2.3. The Public Safety Department shall review traffic control plans submitted with permit applications to determine the need for police personnel for traffic control, which, if necessary, shall be provided at the permittee/contractor's expense.~~ 2.5.2.4 Failure by the facilities owner or its contractor to provide for traffic safety in accordance with the approved plan will be cause for immediate suspension of operations. Work will not be allowed to continue until the City is satisfied that the traffic control has been installed in accordance with the approved plan.

~~2.5.2.5~~ 2.5.2.4 The Manual on Uniform Traffic Control Devices (MUTCD), as modified by Appendix C, shall govern if there are discrepancies between the Traffic Control Manual and the MUTCD.

2.6 Street Markings

2.6.1 Paint used in Utility Location shall conform to the color schedule for the service established by the Delaware Underground Utility Damage Prevention and Safety Act.

2.6.2 Any temporary street markings approved as a part of the Traffic Control Plan to assist with providing good traffic flow and public safety shall conform in color, width, and type given on the Traffic Control Plan.

2.6.3 Any temporary street marking provided for traffic control during the work period shall have a minimum 60-day life expectancy. At the completion of the work the painted marking shall be removed from the street surface by mechanical brushing or grinding and the surface shall be treated with a bitumastic coating to make the temporary markings as invisible as possible.

2.6.4 Any traffic control markings existing prior to the cutting of the road shall be reinstalled on the repaired surface in the equivalent color, width, type of paint and spacing as existed prior to construction.

2.7 Flaggers and Traffic Control Equipment

2.7.1 The contractor shall provide traffic "flaggers" in accordance with the requirements of the Traffic Control Plan.

2.7.2 Specific requirements for flagger-warning signs, safety clothing, associate training, and flagger concerns are described in the DeIDOT Traffic Control Manual. Utilities are expected to understand and abide by these requirements. Flaggers are expected to be alert and to know the correct way to stop traffic, slow it down, and keep it moving. Training for flaggers is the responsibility of the permittee and is available through DeIDOT or other approved sources.

2.8 Inspection of Traffic Control

2.8.1 A person designated by the facilities' owner shall make daily inspections of the traffic controls during the course of the work and take necessary action to assure that it is in compliance with the approved traffic control plan for the work.

2.8.2 When a facilities owner or a contractor employed by the facilities owner fails to follow the approved traffic control plan, City inspectors may suspend the work until the approved traffic control is in place. Failure to follow the traffic control plan violates 21 Del. C. §4105 and is subject to penalties as provided by law.

2.9 Design. Facilities installed in the right-of-way area of City streets must meet or exceed the requirements listed below.

2.9.1. Electric power and communications shall be installed in accordance with the recommendations of the National Electric Safety Code (NESC).

2.9.2. Water transmission and distribution piping shall be a minimum of four (4) feet below the surface to the top of the pipe.

2.9.3. Pipelines carrying natural gas and hazardous materials: U. S. DOT Rules and Regulations governing transportation of such materials. Including CFR 49, Parts 192 and 195.

2.9.4. Pressure pipelines and liquid petroleum pipelines not covered in 2.9.3 above: piping shall be a minimum of four (4) feet below the surface to the top of the pipe unless covered by a similar recognized industry code.

2.9.5. Fiber optic facilities: American National Standard for the Physical Location and Protection of Below Ground Physical Plant (EIA/TIA-590); also NESC provisions for communications cable.

2.10 References. [Unless otherwise modified in Appendix C](#), The Delaware Department of Transportation Utilities Design Manual, latest edition, the Traffic Control Manual, latest edition, and Specifications for Road and Bridge Construction, January 1998 or latest edition are cited as appropriate reference sources for methods and materials not otherwise delineated herein. It is recognized that many unique engineering and operational issues exist in an urban environment. As such, not all sections of the State manuals apply in this urban environment. Other industry publications and codes may provide useful reference information. Sound professional engineering judgment must be applied in addressing these issues.

CHAPTER 3: PERMIT PROCEDURE AND REQUIREMENTS

3.0 Purpose. The purpose of the Utility Construction Permit (Permit) is to alert the City when the work proposed is taking place, and to facilitate verification of traffic control, ~~Public Safety notification~~, and inspection of the work to ensure the integrity of the street.

3.1 Compliance. Compliance with these regulations is mandatory for all excavation work within the rights-of-way of the City streets. Requests for waivers from any part of these regulations shall be made in writing to the Commissioner. A waiver maybe granted or revision made if the utility (contractor) demonstrates to the Commissioner that the issuance of a waiver will not deviate from the intent of these regulations.

3.2 Applicability. The requirements shall be applicable to every firm, utility, contractor, or other entity that for any reason finds it necessary to cut the surface and excavate in any street or pavement within the City of Wilmington right of way, [or that blocks or impedes traffic flow within a City of Wilmington right of way](#).

3.3. Permit Application Forms. Application forms are available between the hours of 8:00AM and 4:00 PM on normal workdays in the offices of the Department of Public Works in the Louis L. Redding City/County Building, 800 N. French St., Wilmington, DE. These forms may be reproduced.

3.4 Permit Fees.

3.4.1 Permit fees, where allowed by law, are designed to recover, among other things, processing and record keeping; research related to permit evaluation; applicable field inspections; review of traffic control and public safety issues; coordination with other City Departments; and ~~Communications~~communications related expenses.

3.4.2 Utility construction permits shall be issued only upon payment of all applicable permit fees. Permit fees are listed in Appendix A. ~~No other fees shall apply to underground excavation work.~~ It is possible that the applicable expenses may be adjusted from time to time to achieve a neutral cost position.

3.5 Notices. All mail shall be directed to:

Commissioner of Public Works
City of Wilmington
Department of Public Works City/County Building, 6th Floor
800 N. French Street
Wilmington, DE 19801-3537

CHAPTER 4: STANDARD CONSTRUCTION METHODS.

4.0 Purpose. To insure ~~the quality of Permit and Construction Work, as defined in section 2.1, such~~quality work within the public right of way, all work shall be conducted utilizing the following guidelines.

4.1 Open Cutting.

4.1.1 While "Open Cuts" in roadways are undesirable, it is recognized that, in an urban environment, ~~the majority of Permit and Construction Work must be conducted using this method.~~use of "open cuts" is often unavoidable.

4.1.2 When open cutting is allowed, the facilities owner or contractor employed by the facilities owner must adhere strictly to the backfill and restoration requirements specified herein or as modified due to special conditions by the Commissioner of Public Works.

4.2 Excavation.

4.2.1 Whenever practical, the contractor shall saw cut the pavement over the area of proposed excavation prior to actual excavation. If saw cutting prior to excavation is not practical, the pavement surrounding the opening shall be saw cut to provide a rectangular repair of the road surface.

4.2.2 Pavement removed shall be disposed of at the contractor's expense at an off site location and shall not be permitted to be used in the backfill material.

4.2.3 Unsuitable excavated material shall not be used as backfill in the area of the work that constitutes the traveled roadway that will be resurfaced. Such material shall be promptly removed from the work site. It shall not be stored at the work site overnight except during emergencies or with specific authorization of the City.

4.2.4 Any water encountered during excavation either from ground water, potable water system, or storm water shall be pumped from the excavation and discharged into an approved sediment control system prior to release to an existing gutter, swale, or other drainage structure. It is the contractor's responsibility to use "Best Management Practices" or to obtain specific approval of the sediment control system and the point of discharge prior to the start of work, whether or not it is anticipated that water removal shall be required. The contractor shall also pursue and maintain the pumping system to minimize the undermining of the walls of the excavation during the work. Water or liquid that may be the result of a broken or otherwise leaking line that is not storm water, groundwater or potable water shall be removed from the excavation and properly disposed of by the contractor. At no time shall liquid that is not storm water, potable water, or groundwater be allowed to be discharged into any drainage system of the City of Wilmington without written consent by the Commissioner of Public Works.

4.3 Backfill of Excavation.

4.3.1 Following completion of the work that required the excavation, the trench shall be backfilled in accordance with DeIDOT Standard Specifications for Road and Bridge Construction, Section 208.04 or as required by the standard procedures of the company if they are more stringent. Material shall be placed as shown in Figures 2-3, 2-4, & 2-5 of the DeIDOT Utilities Design Manual. All backfill shall be compacted using equipment that is specifically designed for that purpose. Lifts of fill compacted with hand directed or operated equipment shall not exceed six (6) inches in thickness. Lifts compacted with self propelled mechanical compaction equipment shall not exceed eight (8) inches in thickness. The method used shall produce a level of compaction of 95% of the maximum dry density of the material.

4.3.2 The Commissioner of Public Works may, for reasonable cause, require soil testing to determine gradation, compaction and other parameters relevant to the proper reconstruction of the roadway. Should the City require said testing, the expense shall be borne entirely by the contractor and/or the facilities owner that opened the street.

4.4 Surface Treatment.

4.4.1 Permanent surface repair of the trench and road structure shall be in accordance with the dimensions and provisions shown in Figure 2-4 of DeIDOT Utilities Design Manual.

4.4.2 Utilities shall not be required to restore sections of roadway that include previously existing repairs or restoration, except in instances where the current work intersects previous street repairs. In that situation the repair shall include resurfacing of the previously repaired area.

4.5 Temporary Surface Restoration.

4.5.1 In the event that hot mix asphalt is not available due to cold weather conditions, the contractor shall place compacted gravel in 8-inch lifts and top with 2 inches of cold patch mix. The patched area is to be monitored on a regular basis by the facilities owner (contractor) and repaired as needed until a permanent hot mix repair shall be installed in accordance with the requirements of this Manual. When conditions permit, the cold patch mix shall be completely removed and the surface of the road shall be restored.

4.5.2 Steel plating of a street cut may be provided in lieu of a temporary patch for short-term interruptions of the work. Steel plates shall be properly sized for length, width and thickness and shall be adequately anchored to prevent movement under traffic loading.

4.6 Special Provisions. The Commissioner may for reasonable cause, require special provisions to allow for proper stabilization and surfacing including, but not limited to, the use of infrared technology on joints and Control Density Fill within the excavation area. These special provisions shall be discussed during the permit processing phase.

4.7 Damage To Existing Facilities.

4.7.1. If the contractor damages or suspects an existing facility has been damaged directly or indirectly by the contractor's actions, the contractor shall notify the Department of Public Works and the owner of the damaged facility.

4.7.2. The method of repair to a damaged facility must meet with the approval of the owner of the facility.

4.8 Decorative/Special Pavements. Decorative paving restoration: Any cobblestone and other special or decorative surfaces, including sidewalks, curbs and/or gutters, base and sub-base shall be restored to match original construction conditions and appearance. This restoration may entail additional pavement removal as directed by the Commissioner of Public Works.

APPENDIX A

PERMIT FEES

Schedule of fees and charges

- (1) Single Construction Permit application fee . . . \$35.00
- (2) Engineering inspection (up to 200 square yards) . . . \$150.00
- (3) Engineering Inspection for areas in excess of 200 square yards. (per 100 square yards or part thereof) . . . \$100.00
- ~~(4) Reinspection fee applicable when time of pavement opening exceeds permit time period . . . 35.00~~
- (4) Annual Construction Permit application fee To be determined by Department based upon projected number of construction permits needed by applicant during upcoming calendar year.

Fees (1), (2), and (3) (if applicable) above are due at the time of application. The fee for item (4) ~~will be billed to the permittee/contractor if the time period exceeds the permit approved time allowance~~ must be delivered by December 1st of the previous calendar year.

Fees as listed above are not applicable:

- (1) City-owned utilities.
- (2) For utilities required by the city to relocate their facilities.
- (3) Transportation improvement projects funded by federal, state, or local governments.

APPENDIX B
PERMIT APPLICATION

CITY OF WILMINGTON

- Copy to:
1. Licenses & Inspection
2. Public Safety
3. Parks Dept.

UTILITY ROAD CUT APPLICATION/PERMIT

Permit No. UC - _____

(Please print or Type)

Applicant: _____ Date: _____
Address: _____

Phone: () _____
Fax () _____
Email: _____ Cell Phone: () _____

Purpose of Requested Utility Road Cut Permit: _____

Type of Work: New Utility Installation _____
New Customer Service Line _____
Utility Line Maintenance/Repair _____ **Emergency:** _____

Road Surface Area to be Disturbed: _____ Square Feet. Location Map _____

Road to be closed (if needed): _____

Work Location: _____

Between _____ and _____

Traffic Control Plan Submitted: DelDOT Case No. _____ Date: _____ Review By: _____

Detour Route (if needed) is proposed as follows: _____

Date(s) of Proposed Road Closing: From _____ to _____.

Hours of Day Road is requested to be closed to Vehicle traffic: From _____ to _____.

Hours of Day Road will be closed to pedestrian traffic: From _____ to _____.

Existing Road Surface: Bituminous Concrete Other _____

Curb Type: Bituminous Concrete Vertical Rolled Granite

Permit Fee: _____ \$

Performance Bond: _____ (Cash or Bond equal to estimate of construction cost) Yes c No c

Total Fee at time of Application _____ \$

Insurance Certificate(s) Provided _____ Yes c No c

The Applicant has been provided a copy of the Underground Utility Coordination Manual for work in the City of Wilmington and agrees to perform the proposed work in accordance with the requirements and provisions of this document. The Applicant understands that unapproved variances from the requirements may result in the revocation of the Permit.

Applicant's Signature: _____ Date _____

PERMIT APPROVAL

This application is approved for work this _____ day of _____, 20__.

_____, Commissioner of Public Works.

APPENDIX C

MODIFICATIONS TO DELDOT GUIDELINES

[see attached]

Document comparison by Workshare Professional on Monday, October 20, 2008
2:25:53 PM

Input:	
Document 1 ID	file://P:/LawDocs/pubworks/gen/misc/w0031004.bkd
Description	w0031004
Document 2 ID	file://p:/lawdocs/pubworks/gen/misc/w0031004.doc
Description	w0031004
Rendering set	standard

Legend:	
<u>Insertion</u>	
Deletion	
Moved from	
Moved to	
Style change	
Format change	
Moved deletion	
Inserted cell	
Deleted cell	
Moved cell	
Split/Merged cell	
Padding cell	

Statistics:	
	Count
Insertions	30
Deletions	18
Moved from	0
Moved to	0
Style change	0
Format changed	0
Total changes	48