Appendix B: City of Rochester Utility Appurtenances Policy

City of Rochester
Department of Environmental Services
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Bureau of Architecture and Engineering

Policy of Requirements for Utility Appurtenances Within the Public Right-of-Way (v1.1) 7/1/2019

1.0 Reference Standards

1.1 Reference Policy Details: Found in the *Rules and Regulations for Work in the Public Right-of-Way, Appendix A.*

S100-01 – GRADE LEVEL UTILITY APPURTENANCE CONDITION EVALUATION
S100-02 – PAVEMENT CONDITION AT UTILITY APPURTENANCE
S101-01 – UTILITY PAVEMENT REPAIR LIMIT EXAMPLE 1
S101-02 – UTILITY PAVEMENT REPAIR LIMIT EXAMPLE 2
S101-03 – UTILITY PAVEMENT REPAIR LIMIT EXAMPLE 3
S101-04 – UTILITY PAVEMENT REPAIR LIMIT EXAMPLE 4
S101-05 – UTILITY PAVEMENT REPAIR LIMIT EXAMPLE 5
S101-06 – UTILITY PAVEMENT REPAIR LIMIT EXAMPLE 6

1.2 Reference Construction Details: Found at the City of Rochester Public Works Construction Details website (https://www.cityofrochester.gov/constructiondetails/).

S604-90 – ROUND CONCRETE COLLAR FOR MANHOLE WITHIN ROADWAY
S604-91 – ALTERNATE SQUARE CONCRETE COLLAR FOR MANHOLE WITHIN ROADWAY
S604-92 – CONCRETE COLLAR FOR NEW CATCH BASIN AT CURB
S604-93 – CONCRETE COLLAR FOR NEW CATCH BASIN WUTHOUT CURB
S604-94 – CONCRETE COLLAR FOR EXISTING CATCH BASIN AT CURB
S604-95 – CONCRETE COLLAR FOR EXISTING CATCH BASIN WITHOUT CURB
S604-96 – CONCRETE COLLAR FOR EXISTING CAPSTONE CATCH BASIN

S909-2 – CONCRETE COLLAR FOR VALVE BOX WITHIN ROADWAY
S909-3 - ASPHALT PAVEMENT RESTORATION FOR VALVE BOX WITHIN ROADWAY

1.3 Reference Supplementary Specifications: Found at the City of Rochester Public Works Construction Specifications website (https://www.cityofrochester.gov/Specifications/).

S604 – Catch Basin and Sewer Manhole
S909 – Water Valve Box

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2.0 Street Utility Infrastructure Analysis

As a tenant / permittee within the Right of Way it is the facility owner's responsibility to properly maintain their infrastructure at a level that meets the appropriate structural standard.

All entities with underground infrastructure facilities (manhole, hand hole, valve, utility pedestal, vault, catch basin, control box, monument, hydrant, utility pole, or other) are required on a continual basis to survey the condition of each structure located within the City's Public Right-of-Way and perform maintenance repairs. Maintenance repairs will be performed as needed to keep the appurtenance and the surrounding pavement in good condition. The analysis reporting shall include all structures located in the streets, sidewalks and tree lawn areas. Guidelines regarding the report submission are provided below.

2.1 Guidelines and Reporting

To standardize the required inspection fields as defined herein and offer a streamlined data collection and reporting process, the City of Rochester is providing a field inspection application through Collector for ArcGIS ("Collector"). Collector allows inspectors to use a smartphone or tablet to complete inspections and instantly share the report with the City's Right-of-Way Permit Office. Collector works with both Android and iOS operating systems. Access to the Collector application can be provided upon request.

The City of Rochester is prepared to accept GIS data for Street Utility Appurtenance Analysis reporting as follows:

1. Collector for ArcGIS *(preferred method),* or
2. Two (2) hard copies of your Street Utility Infrastructure Analysis report and one (1) digital copy on a USB / Flash Drive containing GIS data with photos

If not using Collector application, analysis reporting must be provided to the City quarterly in a GIS deliverable, in ArcGIS Layer Package (.lpk) or ArcGIS Map Package (.mpk) format. ArcGIS File Geodatabase format is also acceptable. If you do not use ArcGIS software, Shapefile, MapInfo or KML formats will be accepted. The City's standard coordinate system is State Plane NAD83 Western Zone (US Feet).

Report analysis findings should include:

- Location (street address or closest available address)
- Asset ID (specific to facility owner's identification convention)
- Type of facility structure (manhole, hand hole, valve, utility pedestal, vault, catch basin, control box, monument, hydrant, utility pole, or other)
- Impact Area (sidewalk, tree lawn, driveway, pavement, or other)
- Condition of Structure
  - Vertical offset of frame from surrounding level surface (See Section 2.2)
  - Cover/grate offset from corresponding frame (within ¼", or greater than ¼ ", See Section 2.2)
  - Overall Structural Condition (good condition, or needs structural review)
- Surrounding Pavement Area Condition Rating (See Section 2.3)

- Photo of Each Item / Location
  (Photos should be included as ArcGIS Geodatabase Attachments)

- Estimated date of Restoration / Repair

2.2 Grade Level Utility Appurtenance Condition Evaluation

The following outlines the requirements and acceptable tolerance limitations for grade-level utility appurtenances within the public right-of-way (ROW).

Grade-level utility appurtenances refer to any structure that allows access to the accompanying infrastructure by means of an access point (i.e. cover, grate, hatch, etc.) at the surface, that is flush with the grade and elevation, and is not typically consistent in material or type as paved surfaces, gravel or lawn areas.

In an effort to keep our facilities (i.e. streets, sidewalks, driveways, tree-lawn areas, etc.) within the City's public ROWs in good operating condition while functioning to serve the public need for safe unobstructed travel, the following tolerance levels are provided to assist in the analysis of grade-level utility appurtenances.

Vertical Difference*	Requirement
≤ ¼ inch	No Corrective Action Required
¼ inch up to ½ inch	Monitor Condition and Reinspect Annually in Compliance with Street Utility Infrastructure Analysis Requirements
≥ ½ inch	Corrective Action Required Within 30 Days of Deficiency Identification – Refer to Detail S100-01

* All measurements are from the surrounding level surface elevation

Grade-level utility appurtenances are to be installed and maintained in the same horizontal plane as the surrounding elevation, true to line and grade, and with the cover/grate having full continuous and uniform bearing contact with its corresponding frame. The cover/grate is to be stable and immovable when in place and when under the influence of traffic or any other type of load bearing stress. The top of the cover/grate is to be level with the top of the corresponding frame, within ¼" (Refer to Detail S100-01, S604 Series and S909 Series).

Grade-level utility appurtenances that are located within pedestrian access routes are to be fully compliant with the requirements of the *Americans with Disabilities Act (ADA)* and *Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)*. (https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/proposed-rights-of-way-guidelines)

In general, utility appurtenances should not be placed within the pedestrian access route whenever practical; placement in curb ramps, blended transitions, turning spaces and landings are prohibited. If the placement of the appurtenances outside of the pedestrian access route is technically infeasible, then the following conditions shall be met:

- Shall be slip resistant.

- Horizontal openings in gratings and joints shall not permit passage of a sphere more than 0.5 inches in diameter (see R302.7.3 of the PROWAG).

- Elongated openings in gratings shall be placed such that the long dimension is perpendicular to the dominant direction of pedestrian travel (see R302.7.3 of the PROWAG).

2.3 Utility Pavement Maintenance Responsibility At Utility Appurtenance

The following outlines the requirements for maintenance of pavement surrounding utility appurtenances within the public right-of-way (ROW).

Pavement condition evaluations are based on ASTM D6433.

Pavement condition index (PCI) – a numerical rating of the pavement condition that ranges from 0 to 100 with 0 being the worst possible condition and 100 being the best possible condition.

Pavement condition rating – a verbal description of pavement condition as a function of the PCI value that varies from *failed* to *very good*.

PCI	RATING
100 - 86	VERY GOOD
85 - 71	GOOD
70 - 26	FAIR – POOR
25 - 0	SERIOUS - FAILED

Utility Agency is responsible to maintain the pavement area around utility appurtenance in *Very Good to Good condition* within 36 inches from outer edge of casting, or 12 inches from the outer edge of the underlying structure, whichever is greater. Where pavement is showing any deficiencies, corrective action must be taken by Utility Agency as shown in Detail S100-02.

Where deficiency requires pavement rehabilitation or reconstruction, pavement restoration and repair limits shall be in compliance with Section 3.0 Pavement Restoration, and the *Rules and Regulations for Work in the Public Right-of-Way..*

3.0 Pavement Restoration

Unless otherwise determined by the City Engineer, permanent pavement restoration is required for all work associated with the permit, in accordance with the *Rules and Regulations for Work in the Public Right-of-Way* (Section 5.9 and S101 Series Details in Appendix A), and the City's Standard Construction Documents (http://www.cityofrochester.gov/constructiondocuments/).

The following conditions are considerations for a waiver or reduction of the extended pavement restoration limits shown in the *Rules and Regulations for Work in the Public Right-of-Way*:

- The work does not extend beyond the limits of the concrete collar and the surrounding pavement is undamaged.
- A street paving project is scheduled to begin within 24 months of the work performed by the permitee.
- There is an existing longitudinal asphalt joint adjacent to the work performed, and the extended pavement limits would introduce a new longitudinal joint to the street.

4.0 Utility Appurtenance Installation

Concrete collars are required to be installed when utility appurtenances (manholes, hand holes, valves, vaults, catch basins, etc.) are installed or adjusted within the roadway.

The requirement for a concrete collar may be deferred in the event that a street paving project is scheduled to begin within 24 months of the installation or adjustment of the appurtenance. Once the paving project occurs, any concrete collar work previously deferred must be completed in compliance with the provisions of this section and the *Rules and Regulations for Work in the Public Right-of-Way*.

4.1 Manhole Installation

The following outlines the requirements for installation or adjustment of utility manhole appurtenances within the public right-of-way (ROW). These requirements shall also be applied to hand hole and vault appurtenances within the ROW.

Utility manhole installation requirements herein amend or supplement the City's supplementary specification S604. All provisions which are not amended remain in full force and effect. (http://www.cityofrochester.gov/Specifications/)

Manhole castings and assemblies are to be rated heavy-duty designed for AASHTO HS-20-44 highway loading plus 30 percent impact, minimum at the discretion of the City Engineer. Utility manhole appurtenances are to be installed in the same horizontal plane as the surrounding elevation (within ¼"), true to line and grade, and with the cover/grate having full continuous and uniform bearing contact with its corresponding frame. The cover/grate is to be stable and immovable when in place and when under the influence of traffic or any other type of load bearing stress. The top of the cover/grate is to be level with the top of the corresponding frame, within ¼" (Refer to Detail S604-90 and S604-91).

Utility manholes appurtenances within the roadway are to be installed with a round concrete collar. Round collars are generally required, however at the discretion of the City Engineer, square collars may be allowed where a round collar would be infeasible. Depth of concrete collar to be a minimum depth of 12" and extending to finished grade. Concrete collar is to be Class D concrete reinforced with Synthetic Micro-Fiber as follows:

- 100% Virgin Fibrillated polypropylene micro-fibers engineered and designed for use in concrete, complying with ASTM C 1116, Type III, 1/2 to 1-1/2 inches.
- Application Rate shall be per manufacturer's written instruction, but not less than 1.5 lb./CY.

High-Early-Strength concrete is to be used for placements required to satisfy open to traffic time requirements, as determined by the City Engineer at no additional cost to the City.

4.2 Catch Basin Installation

The following outlines the requirements for installation or adjustment of utility catch basin appurtenances within the public right-of-way (ROW).

Utility catch basin installation requirements herein amend or supplement the City's supplementary specification S604. All provisions which are not amended remain in full force and effect. (http://www.cityofrochester.gov/Specifications/).

Utility catch basin appurtenances are to be installed in the same horizontal plane as the surrounding elevation (within ¼"), true to line and grade, and with the grate having full continuous and uniform bearing contact with its corresponding frame. The cover/grate is to be stable and immovable when in place and when under the influence of traffic or any other type of load bearing stress. The top of the grate is to be level with the top of the corresponding frame, within ¼" (Refer to Detail S604-92 thru S604-96).

Utility catch basin appurtenances within the roadway are to be installed with a square concrete collar. Depth of concrete collar to be a minimum depth of 12" and extending to finished grade. Concrete collar is to be 4000 psi or Class D concrete, reinforced with Synthetic Micro-Fiber as follows:

- 100% Virgin Fibrillated polypropylene micro-fibers engineered and designed for use in concrete, complying with ASTM C 1116, Type III, 1/2 to 1-1/2 inches.
- Application Rate shall be per manufacturer's written instruction, but not less than 1.5 lb./CY.

4.3 Valve Box Installation

The following outlines the requirements for installation or adjustment of utility valve box appurtenances within the public right-of-way (ROW).

Utility valve box installation requirements herein amend or supplement the City's supplementary specification S909. All provisions which are not amended remain in full force and effect. (http://www.cityofrochester.gov/Specifications/).

Utility valve box appurtenances are to be installed in the same horizontal plane as the surrounding elevation (within ¼"), true to line and grade, and with the cover having full continuous and uniform bearing contact with its corresponding frame. The cover is to be stable and immovable when in place and when under the influence of traffic or any other type of load bearing stress. The top of the cover is to be level with the top of the corresponding frame, within ¼" (Refer to Detail S909-02 and S-909-03).

Utility valve box appurtenances within the roadway are to be installed with a square concrete collar, per detail S909-02. Depth of concrete collar to be a minimum depth of 12" and extending to finished grade. In instances where valve boxes are installed or adjusted during pavement rehabilitation or reconstruction, Hot-Mix-Asphalt may be placed above the concrete encasement to the edge of the frame, in accordance with detail S909-03. Concrete collar is to be 4000 psi or Class D concrete, reinforced with Synthetic Micro-Fiber as follows:

- 100% Virgin Fibrillated polypropylene micro-fibers engineered and designed for use in concrete, complying with ASTM C 1116, Type III, 1/2 to 1-1/2 inches.
- Application Rate shall be per manufacturer's written instruction, but not less than 1.5 lb./CY.

High-Early-Strength concrete is to be used for placements required to satisfy open to traffic time requirements, as determined by the City Engineer at no additional cost to the City.