

# Standards and Specifications Changes & Updates 2021 Edition

The following updates/changes to the Town of Erie's Standards and Specifications for Design and Construction of Public Improvements have been PROPOSED:

## UNIVERSAL-

- Updated footer on all amended sections

## COVER SHEET-

- Updated edition (Remove Date)

## TABLE OF CONTENTS-

- No changes

## SECTIONS-

### SECTION 100- Title, Scope and General Requirements

- Changed UDFCD to MHFD throughout entire section.

*Reason: UDFCD (Urban Drainage and Flood Control District) updated their name to MHFD (Mile High Flood District)*

- Changed "Grading and Stormwater Quality Permit" to "Stormwater Quality Permit throughout entire section.

*Reason: To match the language in the updated ordinance*

- **110.00 TITLE**

These regulations shall be known as the Town of Erie Standards and Specifications for the Design and Construction of Public Improvements 2021 Edition and may be cited as such and will be referred to herein as the STANDARDS AND SPECIFICATIONS.

*Reason: Date Change - 2018 to 2020*

- **131.03 Final Cleanup**

Upon completion of the work, the Contractor shall remove from the project area all surplus and discarded materials, rubbish, erosion control measures, and temporary structures, and leave the project area in a neat and presentable condition. The Contractor shall restore all work that has been damaged by his/her operations, to general conformity with the specifications for the item or items involved.

*Reason: Included as a requirement of permit termination.*

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▪ **141.06 Dust Proofing**

The Contractor will take all necessary steps to control dust arising from operations connected with the work. Unless otherwise directed by the Town Engineer, a water truck shall always be on-site and all disturbed areas of a project shall be watered to prevent dust and wind-caused erosion. The Contractor shall adhere to the air permitting requirements from the Colorado Department of Public Health and Environment (CDPHE).

*Reason: CDPHE requires an APEN for land disturbing activities that are longer than 6 months and greater than 25 acres.*

▪ **151.00 Stormwater Quality Permit**

It shall be unlawful for any person, firm, or corporation to conduct any construction activity resulting in the disturbance of one acre or more or the disturbance is less than one acre but is part of a larger common plan of development without first obtaining a Stormwater Quality (GSQ) permit for such work from the Town of Erie. Applicants subject to the requirements of these STANDARDS AND SPECIFICATIONS shall not be considered for approval until a Final Plat has been approved.

*Reason: Name of permit changed*

▪ **151.01 Application for Permit**

Applicants applying for stormwater permits shall complete an application in writing on a Stormwater Quality (SWQ) Permit form furnished by the Planning and Development Department. In support of the application, the applicant shall submit:

- A. All information required on the SWQ permit and any additional information requested by the Town.
- B. The application signed by the person or person responsible for compliance with the permit.
- C. Documentation of an application for a CDPHE stormwater general permit for construction activities.

*Reason: Name of permit changed*

▪ **154.00 Inspections**

All construction work for which a Stormwater Quality Permit is required shall be subject to inspections as outlined on the Stormwater Quality Permit form provided by the Planning and Development Department. All construction work for which a Public Improvement Permit or a Right of Way Permit is required shall be subject to inspection by the Town Engineer. It shall be the responsibility of the person performing the work authorized by a permit to notify the Town Engineer or his/her authorized representative that such work is ready for inspection. Every request for inspection shall be filed at least one (1) working day before such inspection is desired unless otherwise stated in these STANDARDS AND SPECIFICATIONS. Such request may be in writing or by telephone, at the option of the Town Engineer.

*Reason: Name of permit changed*

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▪ **161.02.06 Demolition Plan Details**

A. Existing site conditions.

1. Infrastructure – pipe sizes and lengths.
2. Structures – Types and Sizes.
3. Permanent Equipment – Type.
4. Landscaping and Fencing.

B. Any infrastructure, structures, or landscaping to be removed and the extents.

C. Any infrastructure, structures, or landscaping to be removed and relocated and the extents.

D. Any infrastructure, structures, or landscaping to be protected in place.

*Reason: Added to clearly identify site characteristics to be removed, relocated, or protected in place during development.*

▪ **161.02.06 Easement Widths**

Water, sanitary sewer, and storm sewer easements shall be a minimum of thirty feet (30') in width. Utility locations within easements shall be a minimum of ten feet (10') from the edge of the easement to the center of pipe and 10 feet from center of pipe to center of pipe for more than one utility. For buried utility lines greater than ten feet (10'), the Engineer shall submit proposed easement width for approval by the Town Engineer.

Fire hydrants, Town water meters, and Town water meter vaults that extend on to private property shall require pocket easements around the facility. For fire hydrants and Town meters, the easement shall extend a minimum of 5' from the center of the hydrant or Town Meter and to the property or easement line. For Town water meter vaults, the easement shall extend a minimum of 5' from the outside edges of the facility and to the property or easement line.

*Reason: This is to set a standard for pocket easements for the Town. This is consistent with other municipalities and utility districts.*

▪ **161.03 Final Construction Plan Requirements**

Final Construction Plans shall accompany all Final Plat submittals.

The following items will be shown on all plan sheets:

- A. Title Block (lower right-hand corner preferred)
- B. Scale (both horizontal and vertical for plans and profiles)
- C. Both original date and revision date
- D. Name of professional engineer or firm
- E. Professional engineer's seal
- F. Drawing number(s)
- G. Key map

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The following items will be shown on the cover sheet only:

- A. Vicinity Map  
An up to date vicinity map at a scale of 1"=2000'.
- B. Drawing Acceptance

All work shall be constructed in conformance with current Town of Erie standards and Specifications, as amended. This drawing has been reviewed and found to be in general compliance with these Standards and Specifications and other Town requirements. This acceptance shall not be constructed to relieve any requirement to the Standards and Specifications not specifically addressed in these plans. IN ADDITION, THE ENGINEERING DESIGN AND CONCEPT REMAINS THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE APPEAR HEREON.

*Reason: Updated acceptance language.*

**161.03.07 Demolition Plan Details**

In addition to the above general plan details, all street construction plans will include the following:

- A. Existing site conditions.
  - 1. Infrastructure – pipe sizes and lengths.
  - 2. Structures – Types and Sizes.
  - 3. Permanent Equipment - Type
  - 4. Landscaping and Fencing
- B. Any infrastructure, structures, or landscaping to be removed and the extents.
- C. Any infrastructure, structures, or landscaping to be removed and relocated and the extents.
- D. Any infrastructure, structures, or landscaping to be protected in place.

*Reason: Added to clearly identify site characteristics to be removed, relocated, or protected in place during development.*

**161.03.09 Erosion Control Plan Details**

All final construction plans shall include an Erosion Control Plan. Erosion Control Plan drawings will use the same base map as that for the Drainage Plan and shall include, at a minimum, the following information:

- A. A vicinity map with sufficient detail to identify drainage flow entering and leaving the development (flow directional arrows) and general drainage patterns.
- B. Major construction (i.e., development, irrigation ditches, existing detention facilities, culverts, storm sewers) along the path of drainage and points of discharge to the MS4, if applicable.
- C. Location (if applicable) and identification of all structural and non-structural control measures to provide control of all potential pollutants, such as but not limited to sediment, construction site waste, trash, discarded building materials, concrete truck washout, chemicals, sanitary waste, and contaminated soils in discharges the MS4.

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**Deleted:** At a minimum, pollutant sources associated with the following construction activities must be addressed:<sup>¶</sup>

- All areas of land disturbance and storage of soils<sup>¶</sup>
- Vehicle tracking<sup>¶</sup>
- Loading and unloading operations<sup>¶</sup>
- Outdoor storage of construction site materials, building materials, fertilizers and chemicals<sup>¶</sup>
- Bulk storage of materials<sup>¶</sup>
- Vehicle and equipment maintenance and fueling<sup>¶</sup>
- Significant dust or particulate generating processes<sup>¶</sup>
- Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, and oils<sup>¶</sup>
- Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment<sup>¶</sup>
- Dedicated asphalt and concrete batch plants<sup>¶</sup>
- Other areas or operations where spills can occur<sup>¶</sup>
- Other non-stormwater discharges including construction dewatering not covered under the construction Dewatering Discharges general permit and wash water that may contribute pollutants to the MS4 work, access points with vehicle tracking, temporary/haul roads, and storage and staging areas.

- D. Specifications and details for installation and implementation of stormwater control measures. Appropriate control measures must be implemented prior to the start of construction activities, must control potential pollutants during each phase of construction, and must be continued through final stabilization. Appropriate structural control measures must be maintained in operational condition.
- E. A narrative description of non-structural control measures.
- F. A transition grading/drainage plan for construction activities that are phased or sequenced (initial, interim, and final). All residential developments shall require a transition-grading plan.
- G. Other information as required by the Town of Erie

*Reason: Language is included in the updated ordinance and is no longer needed in the Standards and Specs*

▪ **161.03.10 Easement Widths**

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Water, sanitary sewer, and storm sewer easements shall be a minimum of thirty feet (30') in width. Utility locations within easements shall be a minimum of ten feet (10') from the edge of the easement to the center of pipe and 10 feet from center of pipe to center of pipe for more than one utility. For buried utility lines greater than ten feet (10'), the Engineer shall submit proposed easement width for approval by the Town Engineer.

Fire hydrants, Town water meters, and Town water meter vaults that extend on to private property shall require pocket easements around the facility. For fire hydrants and Town meters, the easement shall extend a minimum of 5' from the center of the hydrant or Town Meter and to the property or easement line. For Town water meter vaults, the easement shall extend a minimum of 5' from the outside edges of the facility and to the property or easement line.

Commented [DP1]: This is to set a standard for pocket easements for the Town. This is consistent with other municipalities and utility districts.

*Reason: This is to set a standard for pocket easements for the Town. This is consistent with other municipalities and utility districts.*

▪ **162.01.04 Preliminary Drainage Reports**

Three copies of all drainage reports shall be submitted to the TOWN for review. The TOWN will retain two copies. All submitted reports should be clearly and cleanly reproduced. Photostat copies of charts, tables, nomographs, calculations, or any other reference material must be legible. Washed out or unreadable portions of the report are unacceptable and could warrant re-submittal of the report. All reports shall be typed on 8-1/2" x 11" paper and bound. The drawings, figures, plates, and tables shall be bound with the report or included in a pocket attached to the report. The report shall be prepared by or supervised by a professional engineer licensed in Colorado. The Phase III Drainage Report shall include documentation of operation and maintenance responsibility.

Deleted: a Permanent Stormwater Best Management Practices Maintenance Agreement.

*Reason: Language clarification for Stormwater requirement.*

**SECTION 200 – Acceptance Procedures**

- No changes

## SECTION 300 – *Site Work and Earthwork*

### ▪ Section 332.00 Grading

A Stormwater Quality Permit shall be required as specified in Section 151.00 of these STANDARDS AND SPECIFICATIONS.

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- A. If grading is in excess of 1 acre or less than one acre but part of a common plan of development, additional requirements must be adhered to in accordance with the Town of Erie's Standards.

Upon completion of the work, the Contractor shall provide the following information:

- A. An "as-graded" plan showing original ground surface elevations, as constructed ground surface elevations, lot drainage patterns, locations and elevations of all surface and subsurface drainage facilities.
- B. A soil grading report prepared by the soils engineer including locations and elevations of field density tests, summaries of field and laboratory tests and any other substantiating data and comments on any changes made during grading and their effect on the recommendations made in the soils engineering report.
- C. A geological report prepared by the engineering geologist including a final description of the geology of the site including any new information disclosed during the grading, and the effect of it on recommendations incorporated in the accepted grading plan.

All areas disturbed during grading operations shall have temporary or final stabilization methods implemented after fourteen (14) days of no work being performed. All areas disturbed during grading operations shall have the final graded area hydro seeded or re-vegetated with native grasses in accordance with the requirements of the Town of Erie. Seeding must be completed within sixty- (60) days of the grading completion and no longer than one hundred eighty (180) days of the commencement of grading operations at the site.

The Contractor shall insure that the dust proofing requirements of Section 141.07, General Requirements, of these STANDARDS AND SPECIFICATIONS are strictly adhered to for the duration of the project.

Grading of filled and unfilled areas shall be to the lines and grades indicated on the accepted plans. Grading shall be performed in conjunction with all of the necessary clearing, grubbing, stripping, filling, and compacting operations to the satisfaction of the Town. Slopes of 4:1 will be considered a normal minimum. Under special conditions, slopes of 3:1 may be utilized with written approval of the Town Engineer.

*Reason: This establishes a consistent grading requirement that is consistent with other sections of the Standards and Specifications.*

### ▪ Section 341.00 Excavation

All excavation shall meet the requirements as outlined in Senate Bill 18-167 (Colorado Subsurface Utility Law) or current.

*Reason: This wording added to meet the SUE requirements of SB 8-167.*

▪ **Section 352.00 Bedding for Pipelines and Service Lines**

All pipe shall be installed on sufficient bedding material (as defined in Section 340.01 of these STANDARDS AND SPECIFICATIONS or set forth below) so as to provide a minimum of six (6) inches separation between the subsoil and the pipe and shall extend up to the spring line of the pipe. The bedding material will be tamped around the full length of the pipe barrel to assure support for the total pipe length. The pipe barrel will be uniformly supported along the entire length of the pipe. Bedding material will be placed to a depth of twelve inches (12") above the top of all PVC pipe, HDPE pipe, and ductile iron pipe and to the spring line of all other pipe unless otherwise noted on the accepted plans. Suitable backfill material, as defined in Section 340.01 and modified in Section 353.00 of these STANDARDS AND SPECIFICATIONS, shall be placed from spring line to a minimum of twelve (12) inches over the top of the pipe and carefully tamped in place. Each type of pipe shall be installed as specified in the appropriate Section. Bedding material for sanitary sewer and water lines shall be a clean well-graded squeegee sand or ½" x No. 4 bedding material, and shall conform to the following limits when tested by means of laboratory sieve or an approved equivalent:

<b>Bedding Material for Pipelines / Service Lines</b>	
<u>Sieve size</u>	<u>Percent Passing</u>
<u>¾ inch</u>	
<u>½ inch</u>	
<u>⅜ inch</u>	<u>100%</u>
<u>No. 4</u>	<u>85% - 100%</u>
<u>No. 8</u>	<u>10% - 40%</u>
<u>No. 16</u>	<u>0% - 10%</u>
<u>No. 30</u>	
<u>No. 50</u>	<u>0% - 5%</u>
<u>No. 100</u>	
<u>No. 200</u>	<u>0% - 1.5%</u>

*Reason: This language change and gradation change is set to match a better quality product and to be consistent with what is being requested on projects currently.*

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**SECTION 400 – Concrete Work**

- No changes

**SECTION 500 – Town Street Construction**

▪ **514.00 Final Overlay**

Final Overlay shall not be scheduled until 2 years have expired since the initial construction surface was installed or at 100% built out, or as approved by the Town Engineer. Final Overlay shall not be performed until all utility repairs and/or utility abandonments have taken place as identified as part of the Final Acceptance inspection unless approved otherwise by the Town Engineer.

*Reason: To reduce the likelihood of having to do utility work after the final overly work occurs. This will provide the Town and the residents with a more complete final product.*

▪ **521.01 Alleys**

All alleys, when permitted by the Town Engineer, shall be paved to a full width and shall provide paved access to a paved street at both ends. Minimum access easement widths are 20' without utilities and 30' with utilities. Pavement minimum width is 12' when emergency access is not necessary. Dead end alleys shall be 150' maximum length and alleys greater than 600' in length shall have a secondary access to a residential street.

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*Reason: This is to be consistent with the UDC and International Fire Code.*

▪ **521.02 Emergency Access**

Emergency access roads shall have a minimum of roadway width of 20'.

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*Reason: This is to be consistent with International Fire Code*

▪ **539.03 Underdrain**

Landscape medians and landscaping next to curb and gutter shall be provided with underdrain to handle sprinkler runoff and nuisance flows. See Standard Details ST 17 and ST 18.

All Town owned underdrain pipe as described in 539.03 and per Standard Details ST 17 and ST 18 shall be installed with electronic markers at a maximum spacing of one marker for every 50 lineal feet of pipe. These markers shall be green in color and as manufactured by 3M. Near surface markers shall be used for Town owned underdrain pipe.

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*Reason: This paragraph added to meet the requirements of SB 18-167.*

▪ **563.04 Curb Cuts and Driveways**

Curb cuts in six-inch (6") vertical curbs will be provided at all driveway locations and at additional locations, as shown on the accepted plans for residential lots. Commercial lots shall be eight-inch (8"). Construction of curb cuts will be as shown in the Standard Drawings. Spacing will be as shown in the Standard Drawings. A medium density or low-density residential zoned lot shall have one driveway access to a public roadway. A driveway access to a public roadway shall be paved at least 100 feet off the edge of pavement.

*Reason: To improve roadway safety and reduce long-term maintenance of adjacent public roadway*

**SECTION 600 – Water Supply Facilities**

- Entire section updated to be consistent with Town Master Plan Documents and State SUE requirements.

**SECTION 700 – Sanitary Sewer Facilities**

- Entire section updated to be consistent with Town Master Plan Documents and State SUE requirements.

## SECTION 800 – Storm Drainage Facilities

- **Changed UDFCD to MHFD throughout entire section.**

*Reason: UDFCD (Urban Drainage and Flood Control District) updated their name to MHFD (Mile High Flood District)*

### ▪ **815.03.01**

The locations of inlets is important to address the effect of nuisance flows and avoid icing. Nuisance flows are urban runoff flows that are typically most notable during dry weather and come from sources such as over-irrigation, snowmelt, and excessive sump pump discharge. Nuisance flows can cause problems in both warm and cold weather months. Problems include algae growth and ice. While it is possible to minimize nuisance conditions through design, irrigation practices in the summer and snow and ice removal in the winter make it very difficult to eliminate nuisance flows entirely. Because these practices are somewhat controlled by residents and businesses, homeowner’s associations and business associations should plan for maintenance on private roadways and parking areas to address nuisance flow conditions, particularly in the winter when ice accumulation can impede the ability of the drainage system to serve its purpose. Design engineers should work with property owners and development teams to implement a storm drainage design that minimizes the impact of nuisance flows to the greatest degree possible.

Because of many of the issues related to nuisance flows are beyond the control of the Town, identifying problem areas and incorporating maintenance objectives shall be considered as part of the planning and design process to minimizing nuisance conditions. For new development projects, inlet placement should take in to reasonable consideration interception of runoff prior to accumulation at a design point with increased chance of freezing, avoidance of heavily shaded areas, and increased inlet capacity at strategic locations.

Discharge from foundations drains, private lot storm drainage pipes, and sump pumps must comply with applicable State and Local requirements. Down spout and sump pump discharges shall be directed to swales, lawns, and gardens (keeping away from foundation backfill zones and walkways) where water can infiltrate. Discharge from sump pumps may be tied to the Town’s stormwater system upon approval from the Town Engineer but may not discharge directly to a street surface. All tie-in points shall be installed at approved locations such as at a manhole or an inlet. No direct tie-in to a storm drain pipe shall be allowed. Sump pump discharge flows can only be released into a stormwater conveyance system specifically designed and accepted by the Town to receive such flows.

Control of nuisance waters including but not limited to flows over sidewalks, algae growth on sidewalks, and ice accumulation on sidewalks and driveways is strictly the responsibility of the property owner of the adjoining lot. The Town will make reasonable efforts to minimize the occurrence of such nuisances through its review and inspection authorities, but if such nuisances do occur, the Town is not responsible or obligated to correct or require any other party to correct such a problem.

*Reason: This Section is being added to address requirements and guidelines for nuisance flows during Land Use Application review.*

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▪ **823.00 Permits Required**

The Town Engineer will require a public improvement permit and may require a Stormwater Quality permit. Refer to Section 150.00, Permits and inspections, of these STANDARDS AND SPECIFICATIONS for additional requirements.

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*Reason: To be consistent with the code*

▪ **833.00 Submittal**

A discussion summarizing erosion control methods shall be submitted as part of the preliminary and final drainage reports as required in Section 162.00 of these STANDARDS AND SPECIFICATIONS. A detailed Erosion Control Plan must accompany the Area Grading Plan and approved Drainage Plan as required in Section 161.03 of these STANDARDS AND SPECIFICATIONS. The Erosion Control Plan must be submitted to, and accepted by the Town of Erie Planning and Development Department prior to receiving a Stormwater Quality permit.

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Deleted: grading

*Reason: To be consistent with the code.*

▪ **834.00 Erosion Control Measures**

Detailed control measures must be provided to protect the following:

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- A. Inlets and culverts
- B. Drainageways
- C. Streams or other water bodies that are immediately adjacent to land disturbed by construction activity.
- D. Cut and fill areas where exposed soil exists.
- E. Properties and improved streets adjacent to construction activity.
- F. Other as required by the Town Engineer.

Initial control measures such as sediment traps, inlet protection or silt fences must be installed in accordance with the accepted Erosion Control Plan prior to any disturbance on site. Control measures shall be kept in good repair and fully functional until the erosion potential from the site no longer exists. Permanent stabilization measures (sod, seed, mulching, etc.) will be in place prior to the request for a Certificate of Occupancy.

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Deleted: grading p

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*Reason: Capitalization and terminology change.*

▪ **835.00 Erosion Control Structures**

Erosion and sediment control measures should be obtained from the Urban Storm Drainage Criteria Manual or selected, designed, and adequately sized in accordance with good engineering, hydrologic, and pollution control practices.

Deleted: Standard details and specifications are provided in the Standard Drawings. When applicable, details of additional erosion

*Reason: We removed our Town Standard Specification for erosion control details. This provides guidance on how to choose their own details.*

▪ **842.02 Electronic Marker System**

All storm sewer pipe shall be installed with electronic markers at a maximum spacing of one marker for every 50 lineal feet of pipe. These markers shall be green in color and as manufactured by 3M. Full range markers shall be used up to a maximum depth of 8 feet. If the storm pipe is to be installed at a depth greater than 8 feet, a marker shall be placed in the trench at a depth of 8 feet aligned with the pipe centerline. The markers shall be tested to verify acceptable function at time of Initial Acceptance.

*Reason: Added to meet requirements of CO SB 18-167 for SUE Requirements.*

**SECTION 900 – Traffic Control Devices**

▪ **925.01 Residential Street Lighting**

All intersections and cul-de-sac bulbs shall have a minimum of one light. If a segment of street between intersections is greater than 450 feet and less than 600 feet, a light shall be installed at the center of the segment. Residential lighting shall be 25 feet in height unless otherwise approved by the Town. All residential lighting shall be LED. A light color temperature maximum of 3,000K or 4,000K will be implemented whichever is lower based upon electrical utility company.

*Reason: Update to what is available from power utility company and to require LED to improve efficiency.*

▪ **925.02 Collector Street Lighting**

Collector lighting shall be LED with a 250 watt high pressure sodium equivalent wattage or approved equal on metal or fiberglass poles 25 feet in height. The light fixture shall have a flat lens and the poles shall be dark in color unless otherwise approved by the Town. A minimum of two lights shall be placed on diagonal corners at all intersections and signalized locations. Collector lighting shall be 25 feet in height unless otherwise approved by the Town.

*Reason: Update to what is available from power utility company and to require LED to improve efficiency.*

▪ **925.03 Arterial Street Lighting**

Arterial lighting shall be LED with a 250 watt high pressure sodium equivalent wattage or approved equal on metal or fiberglass poles, 35 feet in height. The light fixture shall be 35 feet in height, have a flat lens, and on 10-foot long mast arms unless otherwise approved by the Town. The poles shall be dark in color unless otherwise approved by the Town. A minimum of two lights shall be placed on diagonal corners at all intersections and signalized locations.

*Reason: Update to what is available from power utility company and to require LED to improve efficiency.*

## **SECTION 1000 – Parks**

- Entire section updated – Best Management Practices.

## **SECTION 1100 – Traffic Signals**

- No changes

## **STANDARD DETAILS:**

### ***Curb/Gutter and Sidewalk Details***

- ST13A – Moved misplaced dimensions to proper location (JM)
- ST13B - Moved misplaced dimensions to proper location (JM)

### ***Streets Details***

- ST8 - Change title to reflect change made in July 2019 (WP)
- ST9 - Updated driveway width for residential and non-residential, and removed note #2 (TB)
- ST1A - Updated text of line in top and bottom drawing from “Solid Yellow Line” to “Solid White Line” (DB)
- ST1B - Updated text of line in top and bottom drawing from “Solid Yellow Line” to “Solid White Line” (DB)
- ST2A - Updated text of line in top and bottom drawing from “Solid Yellow Line” to “Solid White Line” (DB)
- ST2B - Updated text of line in top and bottom drawing from “Solid Yellow Line” to “Solid White Line” (DB)
- ST4 - Updated text of line in top drawing from “Solid Yellow Line” to “Solid White Line” (DB)
- ST7 – Updated text of line in drawing from “Solid Yellow Line” to “Solid White Line” (DB)

### ***Sanitary Sewer Details***

- SS16 – Remove platform from detail (JM)
- SS1 – Added a 3<sup>rd</sup> note for top diagram. Replaced the note for the bottom diagram, now says “Pipe bell or solid pvc coupling shall be placed no more than 12 inches from the manhole wall. (DP)
- SS3A – Replaced text from “Adjusting rings 18” max” to “Adjusting rings 12” max”. Added text to drawing saying “Provide pipe bell or solid PVC coupling shall be placed no more than 12 inches from the manhole” as well as an arrow pointing to the bottom of the inlet to show where this note takes place. (DP)
- SS4 – All text that stated “Underdrain” was changed to “Drain”, including title. Updated text in center of diagram from “Be determined by design engineer” to “Be determined by owner’s/private engineer. (DP)
- SS5 – Added text to top of diagram stating “RamNek sealant @ grade rings & ring and cover” with an arrow to indicate where it is located on the diagram. Replaced text from “Cement grout joint and ramneck sealant” to “Ramnek sealant”. (DP)
- SS7 – Was previously blank, now has details (previously W34). (DP)
- SS9 – Replaced all text that states “Underdrain” to “Drain”, including title. Added an 8<sup>th</sup> note to note section. (DP)
- SS10 – Replaced note on top of drawing from “Universal building code” to “International code council”. (DP)
- SS11A – Replaced 5<sup>th</sup> note from “For vertical drops in excess of 1.5 feet an outside drop manhole is required” to “For vertical drops in excess of 2 feet a drop manhole is required”. (DP)
- SS11B – Same change to the 5<sup>th</sup> note as SS11A. (DP)

- SS12 – Removed (DP)
- SS16 – Removed entire drawing and replaced with Inside Drop Manhole Detail. (DP)
- SS18 – Replaced text from “Main sewer” to “Sewer main”. (DP)
- SS19 – Updated 4<sup>th</sup> note to say “If the crossing involves a water main and there is 18’ clearance”. (DP)
- SS22 – Updated 3<sup>rd</sup> note from “Subject to district approval” to “Subject to Town approval”. (DP)

#### ***Storm Sewer Details***

- STM10 - Removed detail for type 13 inlet (TB)
- Removed STM1 Single lot erosion control (MH)
- Removed STM2 (MH)
- Removed STM3 Inlet Protection (MH)
- Removed STM4 Silt Fence Erosion Barrier (MH)
- Removed STM5 Straw Bale Erosion Bale (MH)
- Removed STM6A Tracking Control Pad- Crushed Rock (MH)
- Removed STM6B Tracking Control Pad- Cattle Guard (MH)
- Removed STM7 Erosion Control Sequence Single Lot (MH)
- Renumbered all storm detail pages and index to account for removal of 8 detail drawings mentioned above. (MH)

#### ***Water Details***

- W2 – Updated text in drawing from “Approved Mastic Typ” to “Ramneck or Equal” (DP)
- W3 – Updated text in drawing from “Casket or Ramneck Seal” to “Linkseal, or Equal”. Also updated all “Schedule 40” text to “C900”. (DP)
- W5 – Removed note on top of drawing. Replaced tie rods with mechanical joints in drawing. Updated text from “1 cu. Ft. bedding material” to “1 cu. Ft. Crushed Rock Bedding Material”. (DP)
- W6A – Updated text in drawing from “Shall have restrained joints back” to “Restrain Valve”. Moved the valve in both drawings so that it was connected to the tee, as well as readjusted the length of the tie-rods. (DP)
- W6B – Updated text from “Anchor coupling and valve” to “Anchor or Swivel”. Added text of “Restrain valve to tee” and arrow to show location on the drawing. Removed a portion of the 2<sup>nd</sup> figure. (DP)
- W7 – Removed text saying “6’ anchor coupling or 6’ swivel adapter” as well as the line in the drawing that shows where these are installed. Updated “M.J. Tee” to “M.J. Swivel Tee”. Updated text in drawing from “6” M.J. gate valve” to “6” M.J. gate valve restrain to swivel tee”. Updated text in drawing from “Mechanical restraint joints or ¾ inch rods or clamps” to “Mechanical restraint joints”. Removed note #1 at bottom of drawing, now showing 4 notes instead of 5. Removed section of pipe in drawing between tee and valve, made it so that the tee is connected to the valve. (DP)
- W8A – Updated all “Water line” text to “Water Main”. Removed “Anchor Coupling” labels. Replaced text from “4” mastic around” to “Linkseal or equal”. Replaced text from “Tie rod” to “Tie rod or megalugs”. Replaced “4” DI pipe” with “Pressure reducing valve 2” copper pipe”. (DP)
- W8B - Replaced text from “1” mastic around pipes and rods (typ)” to “Linkseal or equal”. Replaced text from “Grout” to “Ram-nek or equal”. Drew steps into the diagram leading down from the entrance of the manhole to the bottom of the drawing. Also Included text stating the amount of separation between the steps saying “Consistently placed 12” to 16” apart (Typ)”. (DP)
- W12A – Replaced text from “Not more than 6’-0”” to “Not more than 5’-6””. (DP)
- W13 – Added text stating “Rem-nek, or equal between grade rings.” And added arrow to show location in drawing. Added text stating the amount of separation between steps saying “Consistently placed 12” to 16” apart (Typ).” (DP)

- W25 – Replaced text saying “Water line” to “Water Main” throughout drawing.” (DP)
- W27 – Replaced title from “12” or smaller waterline” to “12” or smaller watermain”. (DP)
- W28 – Replaced text from “4” DIA steel post painted blue” to “4” DIA steel post painted blue for potable water, purple for non-potable water”. (DP)
- W30 – Added text to Mastic section of drawing to now say “Mastic provide 2-inch clearance for differential settlement”. (DP)
- W34 – Deleted since it was moved to SS7 (Sanitary). (DP)
- W36 – Replaced text from “Water line” to “Water Main”. (DP)

**Parks Details**

- Included new detail P30 for Rain Sensor Pole Mount with External Antenna (MM & TR)
- Included new detail P31 for Parks and Open Space Division Construction Inspection Checklist (MM & TR)

**Traffic Signal Details**

- No changes

**GENERAL NOTES:**

**Construction**

- 15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MANAGING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER MUST BE MANAGED PER THE REQUIREMENTS IDENTIFIED BY THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE). GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS OR EROSION OF ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. THE USE OF ANY SANITARY SEWER TO DISPOSE OF TRENCH WATER WILL NOT BE PERMITTED. NO CONCRETE SHALL BE PLACED WHERE GROUNDWATER IS VISIBLE OR UNTIL THE GROUNDWATER TABLE HAS BEEN LOWERED BELOW THE PROPOSED IMPROVEMENTS. ANY UNSTABLE AREAS, AS A RESULT OF GROUNDWATER, ENCOUNTERED DURING THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE STABILIZED AS AGREED UPON BY THE CONTRACTOR, THE TOWN OF ERIE, AND THE DESIGN ENGINEER AT THE TIME OF THE OCCURRENCE

Deleted: REMOVING

Deleted: A CONSTRUCTION DEWATERING PERMIT MUST BE OBTAINED FROM

*Reason: Per the CDPHE Low Risk Guidance Document, clean groundwater can be utilized for dust control or allowed to infiltrate the ground*

- 19. REGULAR WORK HOURS ARE SEVEN (7) A.M. UNTIL SEVEN (7) P.M. OR DUSK (WHICHEVER OCCURS FIRST) OF THE SAME DAY, MONDAY THROUGH FRIDAY. THE CONTRACTOR WILL NOT PERMIT OVERTIME WORK OUTSIDE OF REGULAR WORKING HOURS OR THE PERFORMANCE OF WORK ON SATURDAY, SUNDAY OR ANY LEGAL HOLIDAY WITHOUT RECEIVING WRITTEN CONSENT FROM THE TOWN ENGINEER. REQUESTS FOR WEEKEND WORK APPROVAL MUST BE SUBMITTED, IN WRITING TO THE TOWN OF ERIE NO LATER THAN WEDNESDAYS AT 3:30 PM FOR SUBSEQUENT WEEKEND AND REQUESTS FOR HOLIDAY WORK APPROVAL MUST BE SUBMITTED, IN WRITING TO THE TOWN OF ERIE NO LATER THAN 7:00 AM-2 BUSINESS DAYS PRIOR TO THE HOLIDAY. WHEN APPROVED, STANDARD WORK HOURS FOR WEEKENDS AND

Deleted: PUBLIC WORKS DIRECTOR

HOLIDAYS ARE EIGHT (8) A.M. UNTIL FOUR (4) P.M. OR AS STIPULATED BY THE TOWN ENGINEER. WORK HOURS FOR WORK IN ACTIVE ROW SHALL BE SUBJECT TO APPROVAL OF THE TOWN ENGINEER AND SHALL BE CONSIDERED ON A CASE BY CASE BASIS. ALL EXPENSES INCURRED BY THE TOWN SHALL BE REIMBURSED AT A RATE TO BE DETERMINED BY DIRECTOR OF FINANCE.

*Reason: To update to standard practice.*

- 31. THE CONTRACTOR SHALL NOTIFY THE TOWN WITHIN 24 HOURS OF BECOMING AWARE OF A DISCHARGE OF ANY POLLUTANT INTO THE MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4). THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR REMEDIATION OF ANY ADVERSE IMPACTS TO THE MS4, RECEIVING WATERS, WATERWAYS, WETLANDS, OR OTHER PUBLIC OR PRIVATE PROPERTIES, RESULTING FROM WORK DONE AS PART OF THIS PROJECT.

*Reason: This demonstrates liability for the impacts from discharges. Additionally, it is in the Towns best interest to know about any discharge to make sure that it is properly cleaned.*

**Grading**

- No Changes

**Parks**

- No Changes

**Roadway**

- No changes

**Sewer**

- No changes

**Storm Drain**

- No changes

**Water**

- No changes

**Non-Potable Water**

- No changes