

Water and Sewer Department: Updated Design Criteria Standards and Specifications

City Council

Public Hearing and Second Reading of an
Ordinance to amend Title 20 of the Greeley
Municipal Code and adopt the Update

February 7, 2023



'23 Update Goals

Provide comprehensive and clear guidance

- Alignment with:
 - 2021 Water & Sewer Infrastructure Plans
 - 2022 Water Efficiency Plan
 - 2018 Comprehensive Plan, Policies, and Procedures
- Provide allowance for updated technology and equipment standards
- Provide for updated materials, methods and possible construction cost savings
- Conformance with statewide Subsurface Utility Engineering (SUE) Laws

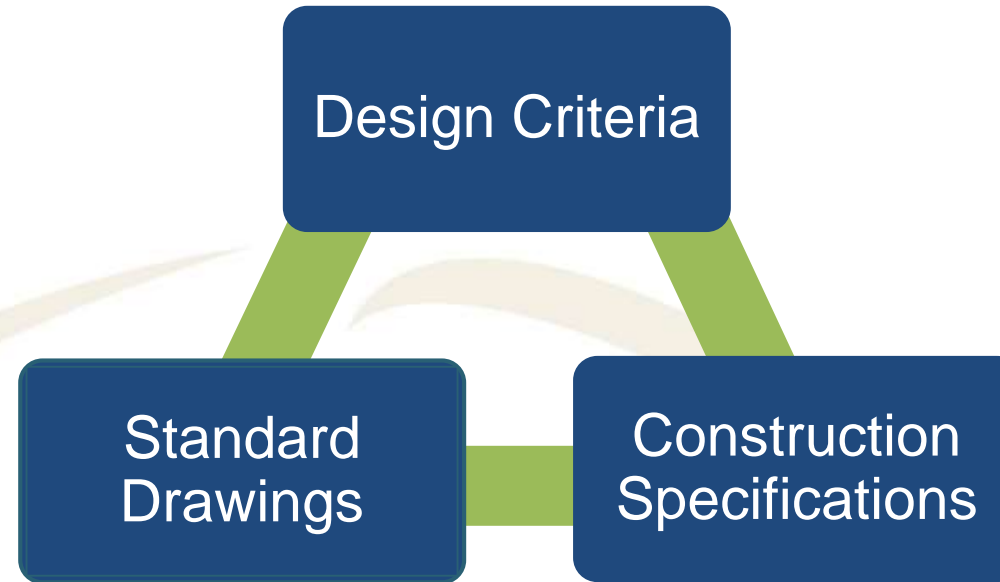


Public Outreach & Engagement

- ✓ City Water and Sewer Board 4/20/22, 7/20/22, & 11/16/22
- ✓ Planning Commission 3/8/22, 8/10/22, 11/8/22 & 12/13/22
- ✓ City Department Reviews (2020-current)
 - ✓ Engineering Development, Planning, CPRD & Civil Inspections
- ✓ Targeted local businesses & development community stakeholders
 - ✓ Builders, Realtors, & Developers Workshops-
7/19/21, 3/2/22, 3/3/22, & 4/29/22
 - ✓ Engagement and Feedback (December 2021-December 2022)
 - ✓ Landscape & Irrigation stakeholders 3/2/22, 3/3/22,
4/29/22, 9/30/22, 11/8/22 & 12/5/22



Design Criteria Standards & Specifications



Section 1: General Requirements of Development

Section 2: Submittal Requirements

Section 3: Potable Water

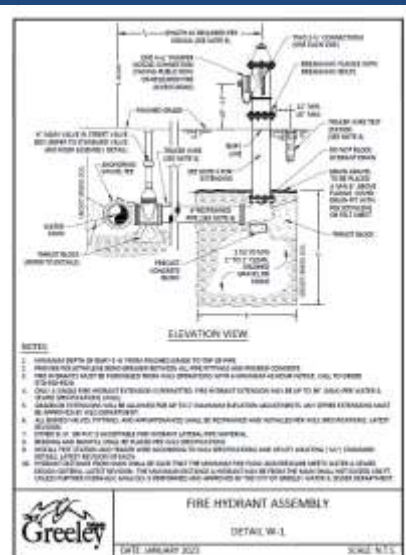
Section 4: Sanitary Sewer

Section 5: Non-potable water

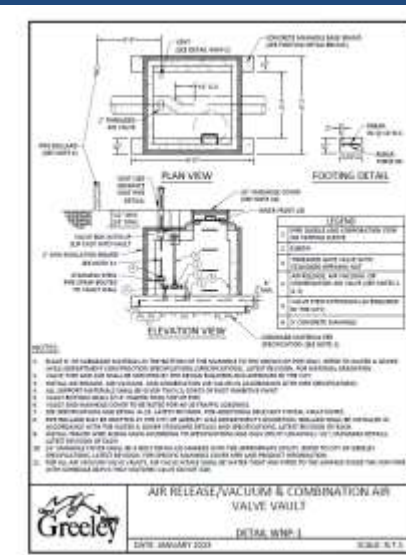
Section 6: Commercial Landscape and Irrigation

Standard Drawings & Construction Specifications

- Details with current material & equipment
- Added Standard lift station drawings, restraint details, and PRV, and many others
- Utility locating details in accordance with the new SUE law in Colorado (SB 18-167)



SECTION	DESCRIPTION	PAGE NO.
0100	GENERAL NOTES	10
0200	WATER DISTRIBUTION SYSTEM TESTING	12
0300	SEWER AND WASTEWATER TESTING	13
0400	UTILITY LOCATING DETAILS	14
0500	PIPELINES	15
0600	MANHOLE	17
0700	SEWAGE LIFT STATION	18
0800	SEWAGE TREATMENT PLANT	19
0900	WATER TREATMENT PLANT	20
1000	WATER TREATMENT PLANT ACCESS	21
1100	WATER TREATMENT PLANT STRUCTURE	22
1200	WATER TREATMENT PLANT EQUIPMENT	23
1300	WATER TREATMENT PLANT PIPING	24
1400	WATER TREATMENT PLANT ELECTRICAL	25
1500	WATER TREATMENT PLANT INSTRUMENTATION	26
1600	WATER TREATMENT PLANT CONTROL	27
1700	WATER TREATMENT PLANT MAINTENANCE	28
1800	WATER TREATMENT PLANT SAFETY	29
1900	WATER TREATMENT PLANT RECORDS	30
2000	WATER TREATMENT PLANT TRAINING	31
2100	WATER TREATMENT PLANT INSPECTION	32
2200	WATER TREATMENT PLANT EVALUATION	33
2300	WATER TREATMENT PLANT IMPROVEMENT	34
2400	WATER TREATMENT PLANT REPAIR	35
2500	WATER TREATMENT PLANT REPLACEMENT	36
2600	WATER TREATMENT PLANT DEMOLITION	37
2700	WATER TREATMENT PLANT DISPOSAL	38
2800	WATER TREATMENT PLANT RECYCLING	39
2900	WATER TREATMENT PLANT ENERGY	40
3000	WATER TREATMENT PLANT MATERIALS	41
3100	WATER TREATMENT PLANT LABOR	42
3200	WATER TREATMENT PLANT EQUIPMENT	43
3300	WATER TREATMENT PLANT STRUCTURE	44
3400	WATER TREATMENT PLANT PIPING	45
3500	WATER TREATMENT PLANT ELECTRICAL	46
3600	WATER TREATMENT PLANT INSTRUMENTATION	47
3700	WATER TREATMENT PLANT CONTROL	48
3800	WATER TREATMENT PLANT MAINTENANCE	49
3900	WATER TREATMENT PLANT SAFETY	50
4000	WATER TREATMENT PLANT RECORDS	51
4100	WATER TREATMENT PLANT TRAINING	52
4200	WATER TREATMENT PLANT INSPECTION	53
4300	WATER TREATMENT PLANT EVALUATION	54
4400	WATER TREATMENT PLANT IMPROVEMENT	55
4500	WATER TREATMENT PLANT REPAIR	56
4600	WATER TREATMENT PLANT REPLACEMENT	57
4700	WATER TREATMENT PLANT DEMOLITION	58
4800	WATER TREATMENT PLANT DISPOSAL	59
4900	WATER TREATMENT PLANT RECYCLING	60
5000	WATER TREATMENT PLANT ENERGY	61



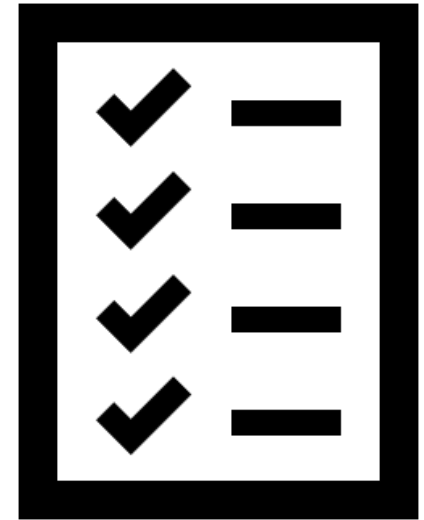
Criteria Sections 1 and 2

Section 1: General Requirements of Development

- Minor updates and streamlined with Engineering Development Reviews

Section 2: Submittal Requirements

- Consistent modeling
- Better survey verifications and as-built drawings
- More details for reimbursement of oversized public infrastructure



Criteria Sections 3 and 4

Section 3: Potable Water

- Guides water demands per development type
- Ensure flows are more accurately calculated
- Protects infrastructure from corrosion

Section 4: Sanitary Sewer

- Flow guidance refined per development type
- Detailed lift station criteria
 - Critical for some developments that do not gravity flow to the existing sewer system



Criteria Section 5: Non-Potable Water Systems

- Aligns with 2021 Non-Potable Master Plan
- Plans for sub-regional systems and oversizing
- Consistency of systems & sizing
- Conservation strategy
 - Reduces energy, controls chemical costs & manages peak water demands on potable water infrastructure



Criteria Section 6: Commercial Landscape & Irrigation

Goals

- Provide clear guidance on attractive water wise irrigation and landscapes
- Support long-range water supply planning
 - Need to be efficient to meet future needs

Applicable to:

- Non-residential (commercial/industrial)
- Multi-family residential
- Right-of-ways and Municipal buildings
 - Coordinate enhanced maintenance and care



Section 6: Commercial Landscape & Irrigation

Landscape & Irrigation Plans

- Site Plan & Construction Drawings
- Certified Irrigation Designer
- Mix of Hydrozones for sustainability

Hydrozones

- Pairs irrigation with right plant type
- Aligns with Comprehensive Plan
- Provides guidance on water tap sizes

Irrigation

- Equipment Specifications
- Maintenance - aligns with city code



Recommendations

Staff Recommendation: Adopt the ordinance to amend Title 20 of the Greeley Municipal Code concerning the adoption of the Water & Sewer Department Design Criteria and Construction Specification

- Greeley Water & Sewer Board approved and recommended the Updated Criteria and Standards to City Council on July 20, 2022
- Planning Commission review on August 9th 2022, and subsequently approved and recommended to City Council on December 13th 2022





Questions