



**Construction Documents (CDs)
Required Signature Blocks and Standard Notes**

Revised January 14, 2019

INDEMNIFICATION AND ADHERENCE TO STANDARDS STATEMENTS

These plans have been reviewed by the Town of Castle Rock for concept only. The review does not imply responsibility by the reviewing department, the Town Engineer, or the Town of Castle Rock for accuracy and correctness of the calculations. Furthermore, the review does not imply that quantities of items on the plans are the final quantities required. The review shall not be construed for any reason as acceptance of financial responsibility by the Town for additional quantities of items shown that may be required during the construction phase.

All work shall be constructed in accordance with the Town of Castle Rock Municipal Code, Technical Manuals and/or other Town-approved applicable standards.

TOWN APPROVAL BLOCK

**TOWN OF CASTLE ROCK APPROVAL
PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM
DATE OF DEVELOPMENT SERVICES APPROVAL**

Approved By:

Development Services

Date

PROFESSIONAL ENGINEER CERTIFICATION

I hereby affirm that these final construction plans were prepared under my direct supervision, in accordance with all applicable Town of Castle Rock and State of Colorado standards and statutes, respectively; and that I am fully responsible for all design and revisions relative to said plans.

(Civil Engineer signature and seal here) Date

COVER SHEET GENERAL NOTES

1. All materials, workmanship, and construction of Public Improvements shall meet or exceed the standards and specifications set forth in the Town of Castle Rock (TCR) Municipal Code, TCR Technical Manuals, and applicable State and Federal Regulations. Where there is conflict between these Plans and the Technical Manual or any applicable Standards, the more stringent Standard shall apply. All Work shall be inspected and approved by the TCR Construction Inspector.
2. The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these Plans is based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied upon as being exact or complete.
3. The Contractor must call the local utility location center at least 48 hours before any excavation to request exact field locations of the utilities. Prior to construction, the Contractor shall verify pertinent locations and elevations, especially at connection points and at potential utility conflicts. It shall be the responsibility of the Contractor to relocate all existing utilities that conflict with the proposed improvements shown on these Plans.
4. The Contractor shall coordinate and cooperate with the Town and all utility companies involved with regard to relocations or adjustments of existing utilities during construction and to assure that the Work is accomplished in a timely fashion and with a minimum disruption of service. The Contractor shall be responsible for contacting all parties affected by any disruption of any utility service.
5. Contractor shall provide a minimum seventy-two (72) hours notice to the on-site TCR Construction Inspector, (720) 733-2200, prior to making any connections/tie-ins to existing Water, Sanitary Sewer, and/or Storm Sewer systems provided that the utility tie-in does not disrupt service to existing CR Water customers. If the tie-in will disrupt utility service, then Contractor shall provide a minimum of three (3) weeks notice to the TCR Construction Inspector to allow time for CR Water to provide written notification to existing customers affected by the tie-in. All Town utility tie-ins must be approved by CR Water prior to commencing work.
6. The Contractor shall have one (1) signed copy of the approved Plans, one (1) copy of the appropriate criteria and specifications, and a copy of any permits and extension agreements needed for the job onsite at all times.
7. The Contractor shall be responsible for all aspects of safety including, but not limited to, excavation, trenching, shoring, traffic control, and security.
8. If during the construction process conditions are encountered which could indicate a situation that is not identified in the Plans or specifications, the Contractor shall contact the TCR Construction Inspector immediately.
9. All references to any published Standards shall refer to the latest revision of said Standard unless specifically stated otherwise.
10. The Contractor shall submit a Traffic Control Plan in accordance with MUTCD to the appropriate Right-of-Way authority (Town, County or State) for approval prior to any construction activities within or affecting the Right-of-Way. The Contractor shall be responsible for providing any and all traffic control devices as may be required by the construction activities.
11. The Contractor is responsible for providing all labor and materials necessary for the completion of the intended improvements shown on these drawings or as designated to be provided, installed, or constructed unless specifically noted otherwise.
12. The Contractor shall be responsible for keeping roadways free and clear of all construction debris and dirt tracked from the Site.
13. The Contractor shall be responsible for recording As-Built information on a set of record drawings kept on the construction site and available to the TCR Construction Inspector at all times.
14. Dimensions for layout and construction are not to be scaled from any drawing. If pertinent dimensions are not shown, contact the Consultant Engineer for clarification and annotate the dimension on the As-Built Record drawings.

15. The Contractor shall comply with all terms and conditions of the Colorado Permit for Storm Water Discharge, the Storm Water Management Plan, and the Erosion Control Plan.
16. All structural erosion control measures shall be installed at the limits of construction prior to any other earth-disturbing activity. All erosion control measures shall be maintained in good repair by the Contractor until such time as the entire disturbed area is stabilized with hard surface or landscaping.
17. The Contractor shall sequence installation of utilities in such a manner as to minimize potential utility conflicts. In general, storm sewer and sanitary sewer should be constructed prior to installation of the water lines and dry utilities.
18. There shall be no site construction activities on Saturdays unless specifically approved by the TCR Construction Inspector and no site construction activities on Sundays or holidays unless there is prior written approval by the Public Works Director.
19. No solid object (excluding fire hydrants and traffic control devices and traffic signs) exceeding thirty (30) inches in height above the flowline elevation of the adjacent street, including but not limited to buildings, utility cabinets, walls, fences, landscape plantings, crops, cut slopes, and berms, shall be placed within sight distance lines and sight distance easements.
20. Provide Benchmark information here - the location, description and NAVD88 elevation of the project's survey benchmark. The project benchmark shall have a published NAVD88 elevation. i.e. NGS Benchmarks or Douglas County Control Points. In addition to the project benchmark, any on-site benchmarks should also be provided for contractor use.
21. Provide a basis of bearings statement per Colorado State Statute.

STREET CONSTRUCTION NOTES

1. All street construction is subject to the General Notes on the Cover Sheet of these Plans as well as the Street Construction Notes listed here.
2. A paving section design, signed and sealed by a Colorado registered Professional Engineer, must be submitted to the TCR Public Works Department for approval prior to any street construction activity (full-depth asphalt sections are not permitted at a depth greater than 8" asphalt). The job mix shall be submitted for approval prior to placement of any asphalt.
3. Where proposed paving adjoins existing asphalt, the existing asphalt shall be saw cut a minimum distance of 12" from the existing edge to create a clean construction joint. The Developer shall be required to remove existing pavement to a distance where a clean construction joint can be made.
4. Street subgrades shall be scarified to a minimum depth of 12" and re-compacted prior to sub-base installation. No base material shall be laid until the subgrade has been inspected and approved by the TCR Construction Inspector.
5. Valve boxes are to be brought up to grade at the time of pavement placement or overlay. Valve box adjusting rings are not allowed.

SIGNAGE AND STRIPING NOTES

1. All signage and striping is subject to the General Notes on the Cover Sheet of these Plans as well as the Signage and Striping Notes listed here.
2. All paint shall be 15 mil thick upon installation and 8 mil thick when dry.
3. All permanent longitudinal pavement striping on asphalt surfaces (centerlines, lane lines, bay lines, etc.) shall be installed using an approved reflective traffic paint or pavement marking tape. Reflective beads shall be applied in accordance with CDOT's Standard Specifications for Road and Bridge Construction and the manufacturer's requirements. When tape is used on an asphalt street, it shall be "rolled" into the final lift. On concrete surfaces tape shall be utilized with a contrasting black edge and grooved into the pavement.

4. Thermo-plastic applications shall be as specified in the Plans and/or per Town criteria.
5. All surfaces that accept paint/thermo-plastic striping or pre-formed markings shall be first sandblasted and thoroughly cleaned prior to installation of striping or markings.
6. All Arrow Markings shall be pre-formed tape, thermo-plastic or epoxy-painted.
7. Stop Bars shall be 90 mil thermo-plastic.
8. All roadway signage shall conform to the MUTCD and/or the Town's criteria.
9. All signposts shall utilize breakaway assemblies and fasteners, per the TCR Standard detail.

FIRE NOTES

1. It is the responsibility of the property owner to maintain drive lanes for emergency vehicle ingress and egress, including snow removal.
2. Emergency Vehicle Access road is required to allow access within 150' of all exterior of the building by an approved route.
3. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fires apparatus and shall be provided with a surface so as to provide all-weather driving capabilities. Access road shall be either concrete, asphalt, or other approved alternative material accompanied with an engineer's stamp stating the material will support a 75,000 pound imposed load.
4. Fire hydrant(s) are required to be installed and made serviceable prior to combustible materials being brought onto the site and during the time of vertical construction.
5. "No Parking Fire Lane" signs are required in areas that meet the following criteria and in areas designated by the Fire Prevention Bureau. Signs shall be posted on both sides of Fire Department access roadways, public or private roadways and driveways less than 26 feet wide. Signs shall be posted on one side only of Fire Department access roadways, public or private roadways or driveways between 26 feet wide and 32 feet wide. No signage is required for access roadway Fire Department access roadways, public or private roadways or driveways exceeding 32 feet wide.
6. When fire apparatus access roads or a water supply for fire protection is required to be installed, such protection shall be installed and made serviceable prior to combustible materials being brought onto the site and the building construction going vertical.

WATER LINE CONSTRUCTION NOTES

1. All water line construction is subject to the General Notes on the cover sheet of these plans as well as the Water Line Construction Notes listed herein.
2. All water lines shall be: 1) ductile iron pipe (DIP), conforming to the requirements of AWWA C150, CL350 (6"-12"), CL250 (16" and 20"), CL200 (>24"), with push-on gasketed joints or mechanical joint ends, in conformance with AWWA C111. Pipe shall be cement-lined in accordance with AWWA C104, and an exterior coating in accordance with C151; or 2) PVC pipe, conforming to AWWA C900 for pipe sizes 8" and 12", CL305 (DR14) and AWWA C905 for pipe size of 16", CL235 (DR18). Minimum distribution main size shall be 8". Water lines that are 10", 14", and 18" in diameter are not permitted.
3. Water line fittings shall be DIP conforming to AWWA C153 or C110 and shall have a pressure rating not less than the pipe. All fittings shall be mechanical joint, unless approved by Castle Rock Water.
4. All DIP and fittings shall be encased in polyethylene to prevent corrosion. Polyethylene wrap, tape and installation shall meet the requirements of AWWA C105.

5. Gate valves shall be designed and manufactured in accordance with AWWA C509-1 and AWWA C515-01, as appropriate, and shall be ductile iron body and bonnet, resilient-seated wedge gate, non-rising stem type, O-ring seals, and slip-on connections (tapping valves, where allowed, shall be flange x MJ). Valve ends shall be mechanical joint, unless otherwise specified in the Plans. The valves shall be suitable for a working pressure of 200 PSI. They shall be closed by turning clockwise and shall have two-inch square cast iron operating nuts with an arrow cast in the nut indicating the direction of opening. Valves shall be polyethylene wrapped in accordance with AWWA C105. They shall be of such design as to maintain the full area of the pipe through the valve when open and shall be designed to take full pressure on either face. Valve shall have Type 304 stainless steel bonnet bolts and nuts and Type 304 stainless steel O-ring gland bolts and nuts. Valves shall be manufactured by American Flow Control, Kennedy or Mueller and shall have the manufacturer's name or initials and the pressure rating cast on the body.
6. All fire hydrants shall be "Pacer WB67-250" by Waterous Co. or "Super Centurion 250" by Mueller Co., opening to the left. Refer to TCR standard Detail W-11.
7. All water lines shall be buried an absolute minimum of 5 feet from final grade to the top of the water main. The maximum bury depth shall be 6 feet, unless additional depth is required for utility crossings or other conflicts. Wherever such crossings or conflicts occur, the TCR standard Detail W-17a shall be used.
8. All water lines shall be bedded in accordance with TCR standard Detail W-21.
9. Contractor shall maintain a minimum 18-inch vertical clearance and 10-foot horizontal clearance edge-to-edge between all water lines and any other piped utilities.
10. All bends, tees, fire hydrants and plugs at dead-end mains shall be restrained from thrust by using Megalug restraints per TCR standard Detail W-18 in combination with concrete thrust blocks per TCR standard Detail W-22.
11. Contractor shall be responsible for adjusting all fire hydrants and valve boxes to finish grade in accordance with TCR standard Details W-10 and W-11.
12. Prior to connecting to the Town's existing water system, all new waterlines and/or segments of waterlines shall be disinfected, pressure tested, and bacteriologically tested in accordance with Section 450.5 of the Town of Castle Rock Construction Methodology and Materials Manual; AWWA C651-14 and C600-5.2; and details W-35A and/or W-35B. Please note that this disinfection and testing will be performed while the new waterlines and/or segments of waterlines are not physically connected to the Town's existing water system. Town and Contractor shall furnish materials as shown on Details W-35A and/or W-35B. Contractor shall perform all procedures for testing, flushing and disinfecting of all water lines. Testing shall be done in the presence of the TCR Construction Inspector. Contractor shall provide a minimum seventy-two (72) hour notice to, and obtain approval from the on-site TCR Construction Inspector, (720)733-2200, prior to disinfection, pressure testing, and bacteriological testing of any new waterlines and/or segments of waterlines.
13. Distances for water lines are horizontal distance from the center of the fitting to center of the fitting. Therefore, distances shown on the plans are approximate and could vary due to vertical alignment and fitting dimensions.
14. All domestic water service lines shall be Type K copper from the main to the meter. The water meter shall be supplied by the Town and installed by the contractor. The water meter will be available for pick up at Castle Rock Water. The individual picking up the water meter must have proof of a permit and must have paid all fees associated with the water meter.
15. Water line trenches shall be sloped or braced and sheeted as necessary for the safety of the workers and the protection of other utilities, in compliance with all applicable state and federal requirements. For all excavation operations, safety is the responsibility of the Contractor.
16. Water lines shall be aligned 6 feet off the north and east gutter flow lines of public streets wherever possible. See Detail W-13.
17. Where water line improvements are difficult to locate on the surface, the Contractor shall be required to install permanent water line markers, in accordance with TCR standard Detail W-23, or at the discretion of the TCR Construction Inspector.

18. Tracer wire shall be used on all DIP and PVC pipe and warning tape shall be placed 1 foot above all DIP and PVC pipe. Test stations are to be made of high impact A.B.S. plastic and heavy duty cast iron collars and covers ASTM Class 25 or higher. Recommended manufacturer is Test Services – VALVCO, Inc.
19. The minimum distance between tees, crosses, valves, and bends shall be 10 feet wherever possible.
20. All bends, crosses, tees, fire hydrants, and plugs at dead-end mains shall be restrained from thrust by using concrete thrust blocks per the TCR standard Detail W-22.
21. Maximum deflection for water mains shall not exceed one-half of the manufacturer's maximum allowable deflection or 2.5 degrees, whichever is less.
22. All residential water service lines shall be constructed perpendicular to the front property line in conformance with the Town of Castle Rock Water System Design Criteria Manual and Water Details.
23. The maximum deflection of domestic water service lines and irrigation lines shall not exceed the manufacturer's maximum allowable deflection.
24. The size of the irrigation tap, line, meter and backflow prevention assembly shall be the same to a minimum distance of 10 pipe diameters past the winterization tee.
25. The minimum horizontal separation between utility lines carrying the same material (e.g., water and water) shall be 5 feet.
26. When installing cut in tees or other appurtenances on/in an existing water line, the pipe material between the existing water line and the cut in tee or other appurtenance shall remain consistent.
27. Contractor is responsible to provide backflow prevention downstream of the meter. Acceptable backflow prevention assemblies are as follows:
 - Commercial Potable Water Service: Reduced Pressure Assembly.
 - Residential Potable Water Service: Double Check Valve Assembly, Reduced Pressure Assembly.
 - Commercial Fire Service: Reduced Pressure Detector Assembly, Double Check Valve Detector Assembly.
 - Residential Fire Service: Reduced Pressure Detector Assembly, Double Check Valve Detector Assembly.
 - Commercial and Multifamily Irrigation Water Service: Reduced Pressure Assembly.

The Double Check Detector Assembly (DCDA) is the only back flow prevention device rated for horizontal or vertical installation.

STORM DRAINAGE CONSTRUCTION NOTES

1. All storm drainage construction is subject to the General Notes on the Cover Sheet of these Plans as well as the Storm Drainage Construction Notes listed here.
2. All storm drainage pipes shall be reinforced concrete pipe (RCP) per ASTM C76, CL III installed with flexible plastic (bitumen) gaskets, according to the manufacturer's installation guidelines. Any storm drainage pipe under a proposed or future traffic area shall be RCP CL III as a minimum. RCP to be jacked shall be CL-V as a minimum.
3. All storm drainage pipes shall have a minimum cover of 24" unless load calculations are provided. Under no circumstances will any pipe have less than 18" cover from the finish surface to the outside wall of the pipe.
4. All storm drainage pipes shall be bedded in accordance with TCR Standard detail SD-2.
5. All storm drainage trenches shall be sloped or braced and sheeted as necessary for the safety of the workers and the protection of other utilities and in compliance with all applicable State and Federal requirements. All excavation operation safety is the responsibility of the Contractor.

6. All manhole rim elevations given on these Plans are to be considered approximate. The Contractor shall set the final rim elevation based on the completed finish surface.
7. All storm drainage pipes shall have a minimum horizontal separation of 10' from all water lines. Where lines cross, there shall be a minimum of 18" clear vertical separation.

SANITARY SEWER CONSTRUCTION NOTES

1. All sanitary sewer construction is subject to the General Notes on the cover sheet of these plans as well as the Sanitary Sewer Construction Notes listed herein.
2. All sanitary sewer pipelines shall be PVC, SDR-35, in accordance with ASTM D-3034, bell and spigot with elastomeric seal.
3. All sanitary sewer pipelines shall have a minimum cover of 5 feet and maximum cover of 20 feet.
4. All sanitary sewer pipelines shall be bedded in accordance with TCR standard Detail SS-8.
5. All manhole rim elevations given on these plans are considered approximate. The Contractor shall set the final rim elevation based on the complete finish surface and per TCR standard Detail SS-3.
6. Sanitary sewer pipeline shall be aligned 6 feet off the south and west gutter flow lines of public streets wherever possible.
7. All sewer lines shall have a minimum horizontal separation of 10 feet edge-to-edge from all water lines. Where lines cross, there shall be a minimum of 18" clear vertical separation.
8. All sanitary sewer lines must be tested in accordance with Section 450.6 of the Town of Castle Rock Construction Methodology and Materials Manual in the presence of a TCR Construction Inspector.
9. All sanitary sewer line trenches shall be sloped or braced and sheeted as necessary for the safety of the workers and the protection of other utilities, in compliance with all applicable state and federal requirements. All excavation operation safety is the responsibility of the Contractor.
10. Sanitary sewer services shall be connected a minimum of 5 feet outside of manholes with a wye connection in accordance with TCR standard Detail SS-2.
11. Minimum cover for sanitary sewer service lines shall be 5 feet and the minimum slope shall be 2.0%.
12. All sanitary sewer service lines shall be constructed along the shortest and straightest route possible in conformance with the Town of Castle Rock Wastewater System Design Criteria Manual.
13. The minimum horizontal separation between utility lines carrying the same material (e.g., wastewater and wastewater) shall be 5 feet.
14. The Plum Creek Wastewater Authority must approve oil and grease interceptors for commercial installations.

LANDSCAPE NOTES

1. Non-irrigated native seed areas shall be installed using the Town of Castle Rock Grading Erosion and Sediment Control Manual (GES) standard detail #17.
2. No turf and/or overhead irrigation on slopes 3:1.
3. No slopes greater than 3:1 are permitted.
4. Top soil, if disturbed shall be stock piled and reused on the site.

5. No more than sixty percent of the total commercial landscape area shall include irrigated turf grass.
6. No individual plant may have supplemental water demand greater than 15" per growing season.

IRRIGATION NOTES

1. The irrigation system shall be equipped with a backflow prevention assembly approved by the Town of Castle Rock.
2. Irrigation tap, line, meter and backflow prevention assembly must be the same size from the tap to a minimum distance of 10 pipe diameters past the backflow prevention assembly and winterization tee.
3. Water waste is not allowed per the Town of Castle Rock's Water Use Management Plan. Therefore, all nozzles are to be fine tune/adjusted so that overspray onto hard surfaces is eliminated.
4. Irrigation is not permitted on 3:1 slopes.
5. Velocity shall not exceed 7.5 FPS through the water meter.
6. No overhead irrigation in areas less than 10 feet wide.
7. There is to be neither plant material nor irrigation in areas less than 4 feet wide.

LANDSCAPE AND IRRIGATION NOTES
(To be included on Landscape and Irrigation sheets)

Landscape Sheets

1. Installing contractor shall contact Castle Rock Water at 720.733.6017 to schedule a pre-construction meeting before beginning the installation of the landscaping.
2. Landscape and irrigation shall be installed by a Town of Castle Rock registered landscape contract professional.
3. Soil inspection is required before plant installation and scheduling soil inspection should be discussed at the landscape preconstruction meeting.
4. Installing Contractor is to provide submittal from suppliers for sod and native seed mix at time of landscape inspection.
5. Soil amendment shall be a minimum of four (4) cubic yards of organic matter per one-thousand square feet. This soil amendment shall be rototilled to a depth of six (6) inches. Class I or Class II compost is required.
6. Trees, large shrubs and permanent objects are not permitted in water, sanitary and storm sewer utility easements.
7. All landscape is to be installed per Town of Castle Rock planting details.
8. Plant species and location should follow the approved plan, if site conditions or plant availability require changes to the plan, the contractor must obtain approval from the Town of Castle Rock and the owner's representative.
9. Town of Castle Rock is not responsible for replacing landscape or irrigation removed in utility easements due to utility line maintenance or repair (PWR 14.3.13)
10. Town permit and Town approved landscape plans are required on site during installation of the landscape and irrigation.
11. Town inspectors will not approve landscape and overhead irrigation on slopes steeper than 3:1.
12. Overhead irrigation is not permitted on slopes equal to 3:1 or in areas less than 10' in width.

Irrigation Sheets

1. Installing contractor shall contact the Town of Castle Rock utilities department at 720.733.6017 to schedule a pre-construction meeting before beginning the installation of the irrigation system.
2. Irrigation shall be installed by a Town of Castle Rock registered landscape contract professional.
3. Backflow to be tested by a certified backflow technician approved by the utility department within 10 days of the irrigation meter installation and annually thereafter.
4. Irrigation exemption must be obtained from the Castle Rock Water if irrigating the native seed or the sod on a daily basis for establishment during the months of June and August. Irrigation exemptions will not be issued during the month of July.
5. Irrigation systems must be designed to operate within the Town of Castle Rock Water Use Management plan. Current commercial hours of operation are a three fixed days a week from 10 pm to 6 am.
6. Overhead irrigation in areas less than 10' in width or installed on slopes steeper than 3:1 will not be approved by Town of Castle Rock inspectors.
7. All irrigation installations must meet Town of Castle Rock details
8. Please note that the irrigation tap, line, meter and backflow prevention assembly must be the same size from the tap

to a minimum distance of 10 pipe diameters past the backflow prevention assembly and winterization tee.

9. All sprinkler heads to be adjusted to minimize/eliminate over spray on to hard surfaces or unintended areas. Per Town of Castle Rock Water Use Management Plan Water Waste is not allowed

10. Irrigation systems are to be winterized annually in the fall.

As-Built Record Drawings Approval Block

AS-BUILT

THESE AS-BUILT PLANS HAVE BEEN PREPARED BASED ON INFORMATION COMPILED AND FURNISHED BY OTHERS. THE TOWN OF CASTLE ROCK HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS, WHICH MAY BE INCORPORATED INTO THESE AS-BUILT PLANS.

RECORD ENGINEER STATEMENT

THIS ORIGINAL SET OF APPROVED CONSTRUCTION PLANS HAS BEEN "AS-BUILT" BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION IN CONFORMANCE WITH CURRENT TOWN STANDARDS FOR AS-BUILT PLANS.

(Civil Engineer Signature)

DATE