

March 6, 2026

Ken Torres, P.E.
Sr. Plan Review Engineer
Town of Castle Rock
100 North Wilcox
Castle Rock, Colorado 80104

Re: The Oaks Filing No. 2B at Castle Rock CD25-0069 – Utility Conformance Letter

Introduction

The Oaks Filing 2B is a 17.68 acre single family residential development is located in the Town of Castle Rock, Colorado per the approved Preliminary Plat/Final PD Site Plan for The Oaks at Castle Rock Filing No. 2. The project site is in the West ½ of Section 18, Township 8 South, Range 66 West of the 6th Principal Meridian, Town of Castle Rock, Douglas County Colorado, located approximately 0.9 miles east of the intersection of Plum Creek Pkwy and Lake Gulch Rd., east of The Oaks Filing 2A at the intersection of Legend Oaks Trail and Castle Vista Drive.

Water

As previously mentioned, the site is located adjacent to The Oaks Filing 2A at the intersection of Legends Oaks Trail and Castle Vista Drive. Existing water infrastructure adjacent to the site consists of the existing 12" water running east west through the site and then northeast/south along the eastern boundary. Existing PRV 44 is located near the northwestern corner of the site where the existing green zone 12" water main ends and the existing 12" red zone water line begins and runs south through the site and within Castle Vista Drive. East of PRV 44, The Oaks Filing 2A will construct a 12" green zone WL to run south in Castle Vista Drive, parallel to the exiting 12" red zone water main, along with a separate 12" red zone connection to the existing line in Castle Vista Drive and running north/northwest in Legends Oaks Trail. Results from the fire flow test results from The Oaks Filing 2A are included in Appendix A.

The proposed site lies between the red and green pressure zones as delineated by the Town of Castle Rock Water Master Plan. This development will consist of 18 single family lots and 0.21 acres of irrigated area, which equates to 19.97 Single Family Equivalents (SFE). The furthest northwest lot on site will be serviced by the red zone line installed in Legend Oak Trail with The Oaks Filing 2A, all other lots will be serviced via Green Zone water system. Similar to The Oaks Filing No. 2A, this site will also use the Oaks Water Bank. Per the approved Final Utility Reports prepared for The Oaks Filing 2A, The Oaks Filing No. 3, and the Town's 2023 Water Master Plan, there were 183.89 SFEs available for The Oaks Filing 2. The Oaks Filing 2A proposed 138 SFEs, resulting in 45.89 SFEs available for The Oaks Filing 2B. The proposed site proposes 19.97 SFEs, leaving a net positive 25.92 SFEs left over in the Oaks Water Bank. Refer to Appendix A & B for a map of the existing and proposed water distribution system.

Fire flow requirements were determined via Confirmation Memo of Required Fire Flow – The Oaks Filing No. 2B" prepared by the Castle Rock Life and Rescue Department, dated January 16th, 2026 (refer to copy found in Appendix B). The fire flow rate used for the design of this project is 2,000 gpm. Per Table B105.1(2) in Appendix B of the 2018 International Fire Code, 2,000 gpm is capable of supporting Type V-B residential dwellings that have a maximum floor plan of 6,200 ft². Refer to Appendix B for a copy of Table B105.1(2) as it appears in Appendix B of the 2018 international fire code.

The Composite Landscape Water Use Rating (CLWUR) chart is in the Irrigation Charts from Oaks Filing No. 2B at Castle Rock Construction Plans prepared by TN Design in November 2025. Per the CLWUR chart, roughly 0.21 acres of common area is expected to be irrigated. Per the Town of Castle Rock Water System Design Criteria Manual dated 2018, one acre of irrigated lands is the equivalent of 9.38 single family units. Therefore, an irrigated area of 0.21 acres would be equivalent to 1.97 SFE. Combined with the 18 planned single-family units, this makes a total of 19.97 SFEs to provide water demand for. Refer to Appendix for a detailed view of the water demands, including the irrigation watering schedule, water use charts, and the CLWUR chart.

1. Average Day Demand (ADD)

Domestic

$$\begin{aligned} &= (\text{Single Family Residential Value from Section 4.4.1}) \times (\# \text{ of dwelling units}) + \text{Irrigation} \\ &= (400 \text{ gpd/dwelling units}) \times (18 \text{ dwelling units}) + (3,750 \text{ gpd/irrigated acre}) \times (0.21 \text{ acres}) \\ &= 7,200 \text{ gpd} + 787.5 \text{ gpd} = \mathbf{7987.5 \text{ gpd} = 5.55 \text{ gpm} = 8.96 \text{ ac-ft/year}} \end{aligned}$$

2. Maximum Day Demand (MDD)

Domestic

$$\begin{aligned} &= (\text{Average Day Demand}) \times (\text{Maximum Day Factor}) + \text{Irrigation ADD} \\ &= (7,200 \text{ gpd}) \times (2.5) + (787.5 \text{ gpd}) \\ &= \mathbf{18,787.5 \text{ gpd} = 13.05 \text{ gpm}} \end{aligned}$$

- Peak Max Day Factor = 2.5

3. Peak Hour Demand (PHD)

Domestic

$$\begin{aligned} &= (\text{Average Day Demand}) \times (\text{Peak Hour Factor}) + \text{Irrigation ADD} \\ &= (7,200 \text{ gpd}) \times (5.5) + (787.5 \text{ gpd}) \\ &= \mathbf{40,387.5 \text{ gpd} = 28.05 \text{ gpm}} \end{aligned}$$

- Peak Hour Factor = 5.5

4. Water Storage Requirements

$$\begin{aligned} &= (\text{Maximum Day Demand}) + (\text{ISO Fire Flow}) \\ &= (18,787.5 \text{ gpd}) \times (1 \text{ day}) + (2,000 \text{ gpm}) \times (60 \text{ min/hr}) \times (2 \text{ hr}) \\ &= 18,787.5 \text{ gal} + 240,000 \text{ gal} \\ &= 258,787.5 \text{ gal} = 0.259 \text{ MG} \end{aligned}$$

Hydraulic modeling was performed using WaterCAD, developed by Bentley Systems. Storage tank Hydraulic Grade Lines (HGLs) used in hydraulic modeling were provided by the Town of Castle Rock during the Oaks Filing 2A design & review process. The provided Green Zone storage tank HGLs are as follows: 6805' (storage tank at 20% full) and 6824' (storage tank at 100% full). Reservoirs consisting of the storage tank HGLs were placed at connection points to model the water network and all dynamic modeling utilized the lower HGL. Fire flow scenario was modeled using one (1) critical pipe and reservoir (P-2/R-2) out of service.

Sanitary

Currently, there is no existing sanitary sewer infrastructure adjacent or near the proposed site. However, The Oaks Filing 2A proposed 8" sanitary sewer in Legends Oaks Trail and Castle Vista Drive which is currently under construction. The sanitary sewer proposed with The Oaks Filing 2B consists of an 8" sewer main in Leo Lane, sloping west and outfalling directly into The Oaks Filing 2A sanitary sewer system at manhole SAN-38. There are six lots proposed with Oaks 2B along Castle Vista Drive that will be serviced by the sanitary sewer installed with The Oaks Filing 2A. The 2010 Wastewater Master Plan accounted for 258 SFEs from the Oaks Filings 2 and 3. Per the approved Oaks Filing No. 3 Final Utility Report, 121 SFEs were proposed for Filing No. 3 and 114 SFEs were proposed with The Oaks Filing 2A for a total of 235 SFEs. Adding the 18 SFEs proposed with The Oaks Filing 2B, the total Sanitary load from filings 2 and 3 is 253 SFEs, five (5) fewer than accounted for in the 2010 Wastewater Master Plan. No additional Wastewater Facilities are necessary for the development of the proposed site.

1. Average Daily Wastewater Flows (ADF)

$$\text{ADF} = (200 \text{ gpd/dwelling unit}) \times (18 \text{ units}) = 3,600 \text{ gpd} = 2.5 \text{ gpm} = 0.0056 \text{ cfs}$$

2. Peaking Factor (PF)

$$\text{PF} = 3.65 \times (0.0036 \text{ MGD})^{-0.168} = 9.4; \text{ therefore, use the maximum PF, 5.0}$$

3. Peak Design Flow (PDF)

$$\text{PDF} = (3,600 \text{ gpd}) \times (5.0 \text{ PF}) + (0.1) \times (3,600 \text{ gpd}) = 18,360 \text{ gpd} = 12.75 \text{ gpm} = 0.0284 \text{ cfs}$$

In summary, The Oaks Filing 2B at Castle Rock is in conformance with the Town's Water and Wastewater Master Plans and adjacent developments as SFEs for both water and sanitary are less than the anticipated amounts. Hydraulic modeling data of both the water and sanitary sewer systems indicate that the designs meet the requirements of the Town' design criteria.

Respectfully,



Dyan Haruy, PE
Project Engineer



DEVELOPMENT SERVICES
APPROVED

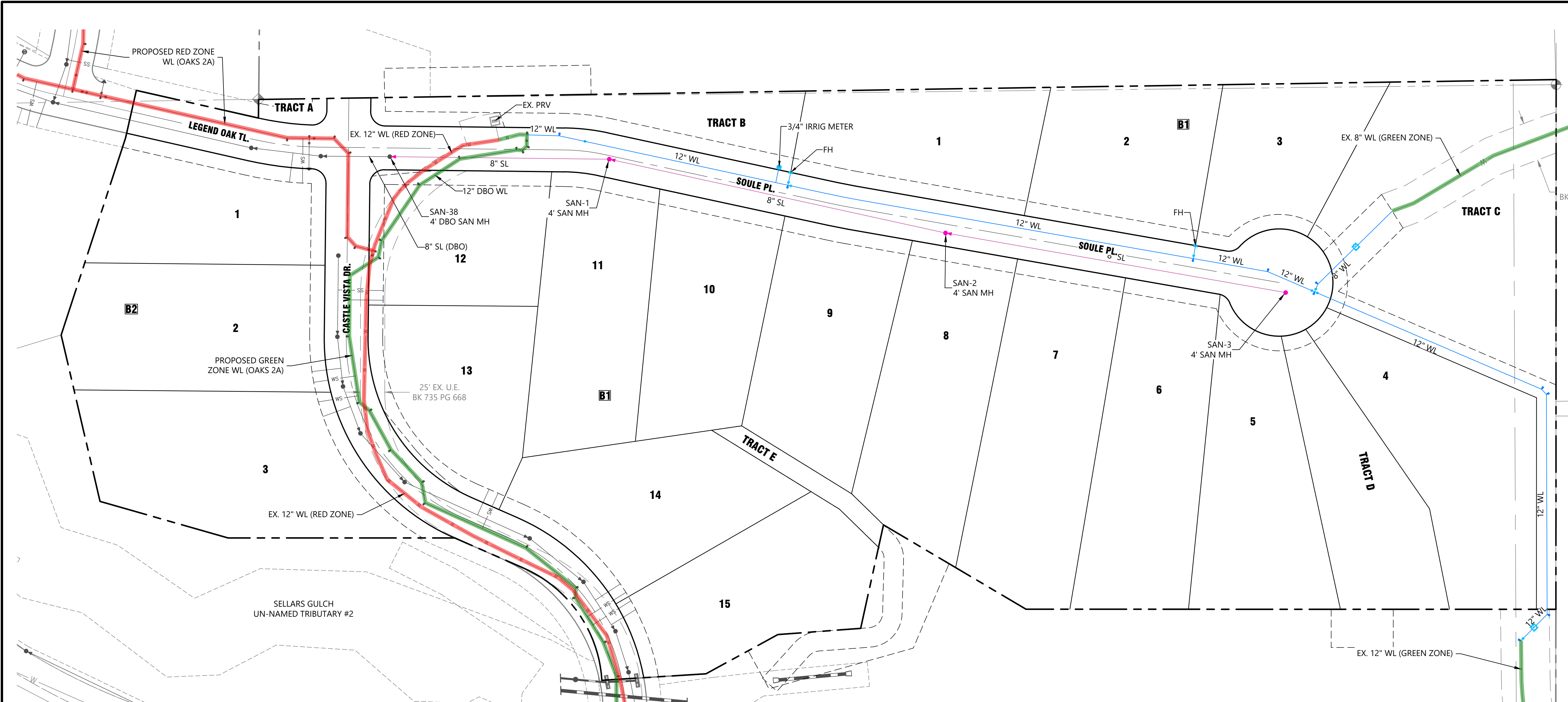
By jkirkpatrick
on 08/20/2026
APPROVED-CD25-0069 Utility
Conformance Letter.pdf
Record Document on File

References

- ❖ *Town of Castle Rock Water System Design 2018 Criteria Manual, Dec. 2018;*
- ❖ *Town of Castle Rock Wastewater Collection Design 2018 Criteria Manual, Dec. 2018;*
- ❖ *Oaks Water Bank Balance Sheet, July 10, 2020*
- ❖ *Town of Castle Rock 2006 Water Facilities Master Plan, prepared by CH2M Hill, September 2006;*
- ❖ *2010 Water Master Plan Update, prepared by Castle Rock Water Engineering, March 2011;*
- ❖ *Town of Castle Rock Water Master Plan 2017, 2017 Update;*
- ❖ *Town of Castle Rock Wastewater Master Plan 2016, 2016 Update;*
- ❖ *The Oaks Filing 2A Final Utility Report, August 2, 2024*

APPENDIX A

I:\JOB FOLDERS\7392\7392-0001\CIVIL\EXHIBITS\UTILITY\OAKS F2B - EXH - 2025-11-14 - UTIL - 2025-11-14 - PRINTED ON: 3/4/2026 4:28 PM



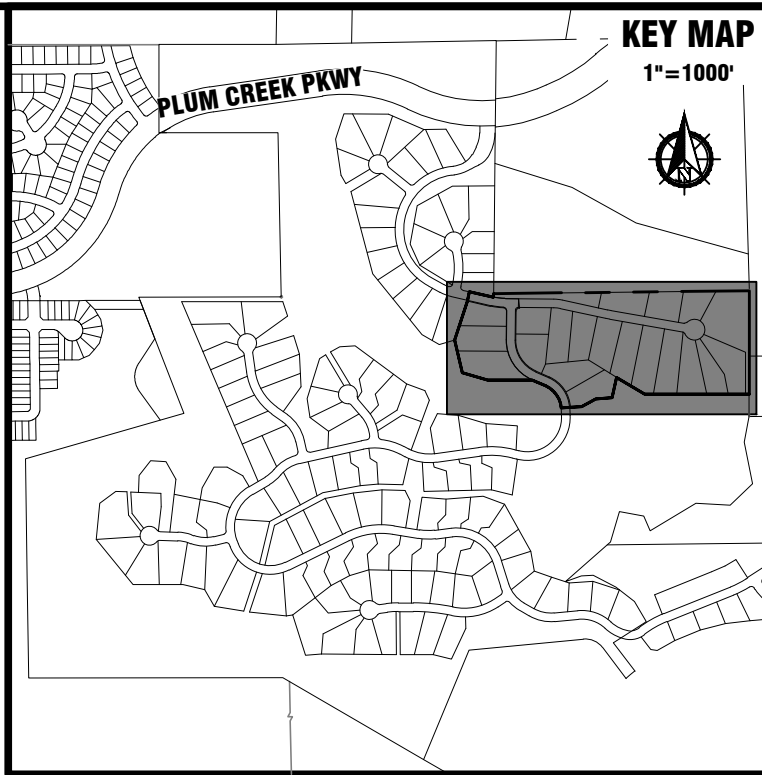
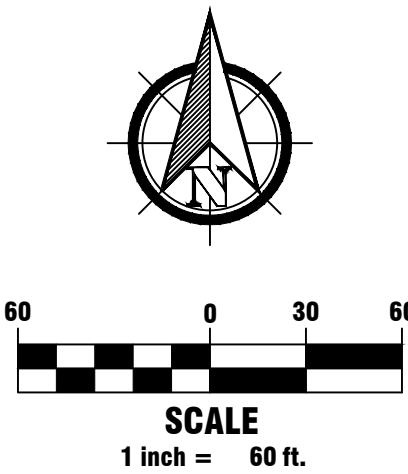
UTILITY PLAN NOTES

1. ALL PROPOSED EASEMENTS MUST BE RECORDED PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.
2. THE MINIMUM SEPARATION BETWEEN WATERLINES AND SANITARY SEWER IS 10 FEET EDGE TO EDGE.
3. THE MINIMUM SEPARATION BETWEEN WATERLINES AND OTHER UTILITIES, INCLUDING DRY UTILITIES, AND SANITARY SEWER AND STORM SEWER IS 10 FEET CENTERLINE TO CENTERLINE.
4. THE MINIMUM SEPARATION BETWEEN WATER SERVICE LINES IS 5 FEET.
5. THIS SITE IS LOCATED WITHIN THE TOWN OF CASTLE ROCK GREEN WATER PRESSURE ZONES.
6. ALL SANITARY SEWER IS 8" UNLESS LABELED OTHERWISE.
7. ALL WATER MAINS ARE 12" UNLESS LABELED OTHERWISE.

PROJECT BENCHMARK:

DOUGLAS COUNTY GIS MONUMENT NO. 4.020005 BEING A 3-3/4" ALUMINUM ALLOY CAP STAMPED "DOUGLAS COUNTY GIS 4.02003" LOCATED 1700 FEET SOUTHWEST OF THE INTERSECTION OF PLUM CREEK PARKWAY AND NORTH RIDGE ROAD, 137 FEET SOUTH OF PLUM CREEK PARKWAY, AND UNDER THE POWER LINES.

ELEVATION = 6569.55' (NAVD 88)



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No.		Rev. Date:	Revision Type:
1			
2			
3			
4			
5			
6			
Designed: MRW		Job No.: 7392-0001	Sheet: 1 of 1
Prepared: MRW		Scale Horiz: 1" = 60'	Date: March 6, 2026
Approved: DKH		Scale Vert: N/A	

Proj. Name: The Oaks of Castle Rock Filing No. 2, Amendment No. 1

Location: Town of Castle Rock, Colorado

Plan Set: Utility Conformance Letter Exhibit

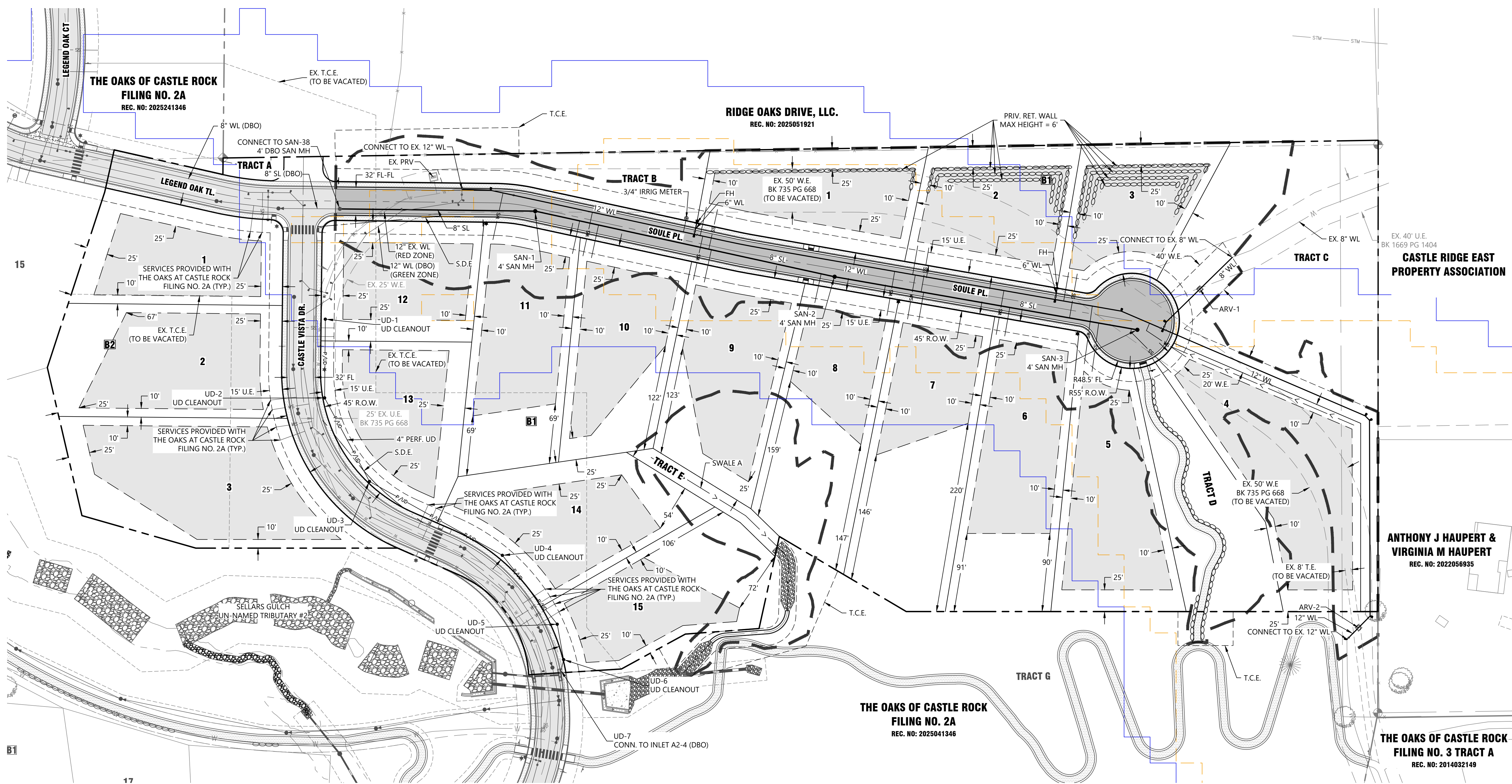
Sheet Name: Water Distribution System & Wastewater Collection System Map

NOT FOR
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Know what's below.
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No. 1

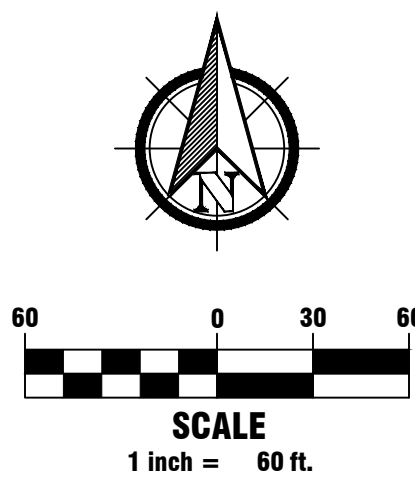


LEGEND

	Property Line		DBO Water Line
	Right of Way Line		Ex. Storm Line
	Centerline		DBO Storm Line
	Easement Line		DBO Sanitary Service Line
	Lot Line		DBO Water Service Line
	Retaining Wall		Sanitary Sewer Manhole
	Ex. Fence Line		Fire Hydrant
	Maximum Bldg. Area		Thrust Block
	Prop. Asphalt Pavement		Water Valve
	Prop. Concrete Pavement		Irrigation Meter
	Prop. Concrete Walk		Street Light
	Class L Riprap		Street Sign
	Ex. Concrete Walk		DBO Sanitary Sewer Manhole
	Ex. Asphalt Pavement		DBO Water Valve
	Sight Distance Area		DBO Fire Hydrant
	Sanitary Sewer Line		DBO Storm Manhole
	Water Line		DBO Street Light
	Sanitary Service Line		DBO Street Sign
	Water Service Line		Ex. Tree
	DBO Sanitary Line		Proposed Major Contour
	Ex. Water Line		Existing Major Contour
			Existing Minor Contour
			Skyline - Moderate
			Skyline - Minor

UTILITY NOTES:

1. FINAL DESIGN OF ANY AND ALL UNDERDRAIN SYSTEMS SHALL BE IN ACCORDANCE WITH A GEOTECHNICAL INVESTIGATION PERFORMED BY A REGISTERED GEOTECHNICAL ENGINEER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR/ OWNER TO VERIFY ACTUAL UNDERDRAIN DESIGN REQUIREMENTS FROM THE GEOTECHNICAL INVESTIGATION REPORT. THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY AND ALL UNDERDRAIN NOT CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT.
2. TOP ELEVATION OF ALL EXISTING UTILITIES TO REMAIN SHALL BE ADJUSTED TO MATCH PROPOSED GRADING ELEVATIONS.
3. ALL UTILITIES ARE PROPOSED UNLESS OTHERWISE NOTED.
4. ALL PROPOSED WATER MAINS SHALL BE C900 PVC UNLESS OTHERWISE NOTED.
5. ALL PROPOSED FIRE HYDRANT LATERALS SHALL BE DIP.
6. ALL PROPOSED SANITARY SEWER MAIN PIPES SHALL BE SDR-35 PVC.
7. ALL REINFORCED CONCRETE PIPE (RCP) SHALL BE CLASS III, UNLESS OTHERWISE NOTED.
8. EXISTING DRY UTILITIES (I.E. GAS, ELECTRIC, ETC.) ARE ANTICIPATED TO BE APPROXIMATELY 2.5' BELOW EXISTING SURFACE. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. DRY UTILITIES SHALL BE ADJUSTED TO MAINTAIN A MINIMUM OF 1.5' OF VERTICAL SEPARATION FROM STORM SEWER & WATER LINES.
9. FLOWLINE ELEVATION AT INLETS IS THEORETICAL. INLETS' THROAT INVERT SHALL BE DETERMINED PER CURB SECTION DETAIL AND INLET DETAIL, WHICH RESULTS IN A THROAT INVERT OF 3" BELOW FL WHEN LOCATED WITHIN 6" MOUNTABLE CURB & GUTTER, AND 5" BELOW FL WHEN LOCATED WITHIN 4" MOUNTABLE CURB & GUTTER.
10. EXISTING DRY UTILITIES (I.E. GAS, ELECTRIC, ETC.) ARE ANTICIPATED TO BE APPROXIMATELY 2.5' BELOW EXISTING SURFACE. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. DRY UTILITIES SHALL BE ADJUSTED TO MAINTAIN A MINIMUM OF 1.5' OF VERTICAL SEPARATION FROM STORM SEWER & WATER LINES.
11. PRIVATE UTILITIES ARE NOT REVIEWED OR APPROVED BY TOWN OF CASTLE ROCK.
12. CONTRACTOR SHALL PROVIDE A MINIMUM OF SEVENTY TWO (72) HOURS' NOTICE TO THE ON-SITE TCR CONSTRUCTION INSPECTOR, (720) 733-2200, PRIOR TO MAKING ANY CONNECTIONS OR 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 REQUIRES A LINE SHUTDOWN, OR 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.
13. WHEN A WATER MAIN CROSSES OVER A STORM OR SANITARY SEWER WITH LESS THAN 2 FEET BETWEEN THE PIPES, PROPER SOIL COMPACTION, SUITABLE BACKFILL OR OTHER STRUCTURAL SUPPORT TO PRECLUDE SETTLING AND FAILURE OF EITHER PIPE AT THE CROSSING IS REQUIRED. PROPER SUPPORT INCLUDES THE LOWER PIPE ENCASED WITH A MINIMUM OF SIX INCHES OF CONCRETE OR THE PLACEMENT OF FLOW FILL TO THE SPRINGLINE OF BOTH PIPES PER TOWN STANDARD DETAIL W-39.



PROJECT BENCHMARK:

DOUGLAS COUNTY GIS MONUMENT NO. 4.020005 BEING A 3-3/4" ALUMINUM ALLOY CAP STAMPED "DOUGLAS COUNTY GIS 4.02003" LOCATED 1700 FEET SOUTHWEST OF THE INTERSECTION OF PLUM CREEK PARKWAY AND NORTH RIDGE ROAD, 137 FEET SOUTH OF PLUM CREEK PARKWAY, AND UNDER THE POWER LINES.

ELEVATION = 6569.55' (NAVD 88)

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.

DYLAN K. HARDY, PE #63324

DATE

TOWN APPROVAL BLOCK

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

DEVELOPMENT SERVICES

DATE



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No.	Rev.	Date:	Revision Type:
1			
2			
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Designed:	MRW	Job No.: 7392-0001	Sheet: 4 of 31
Prepared:	MRW	Scale Horiz: 1" = 60'	Date: March 6, 2026
Approved:	DKH	Scale Vert: N/A	

Proj. Name: The Oaks of Castle Rock Filing No. 2, Amendment No. 1

Location: Town of Castle Rock, Colorado

Plan Set: Public Improvement Construction Plans

Sheet Name:

Site Plan & Master Utility Plan

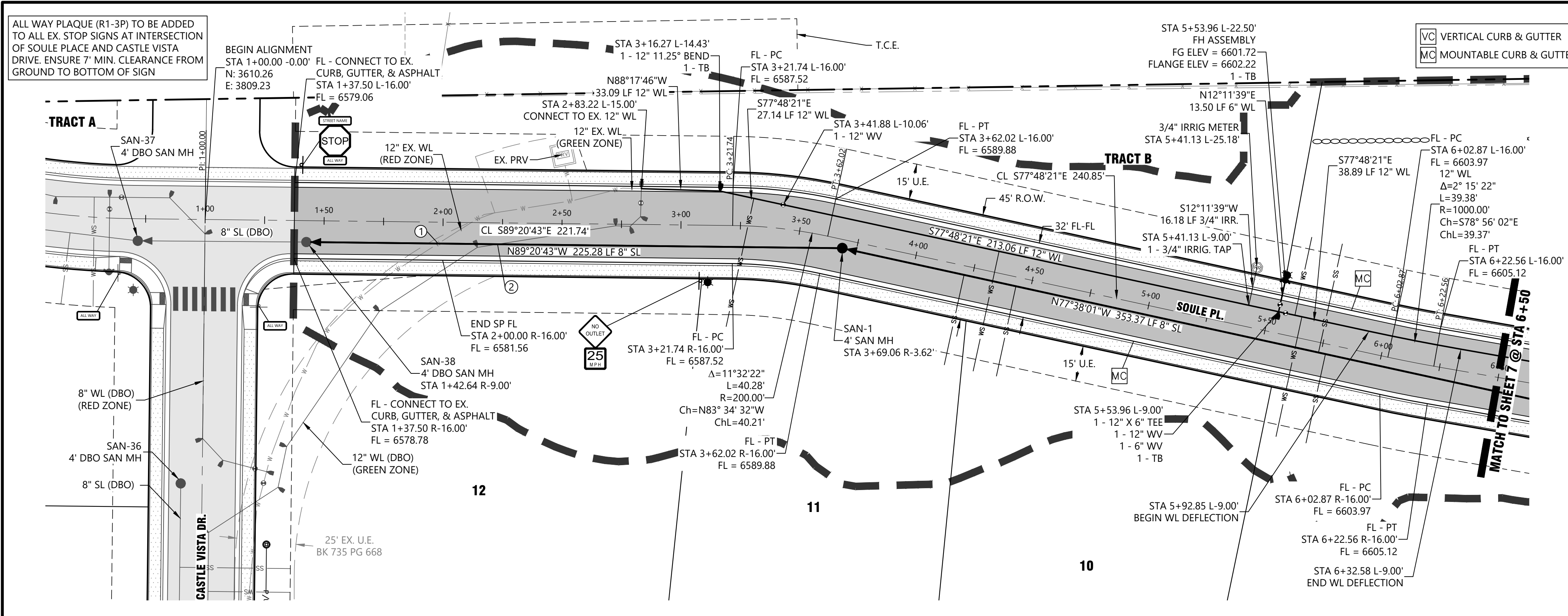
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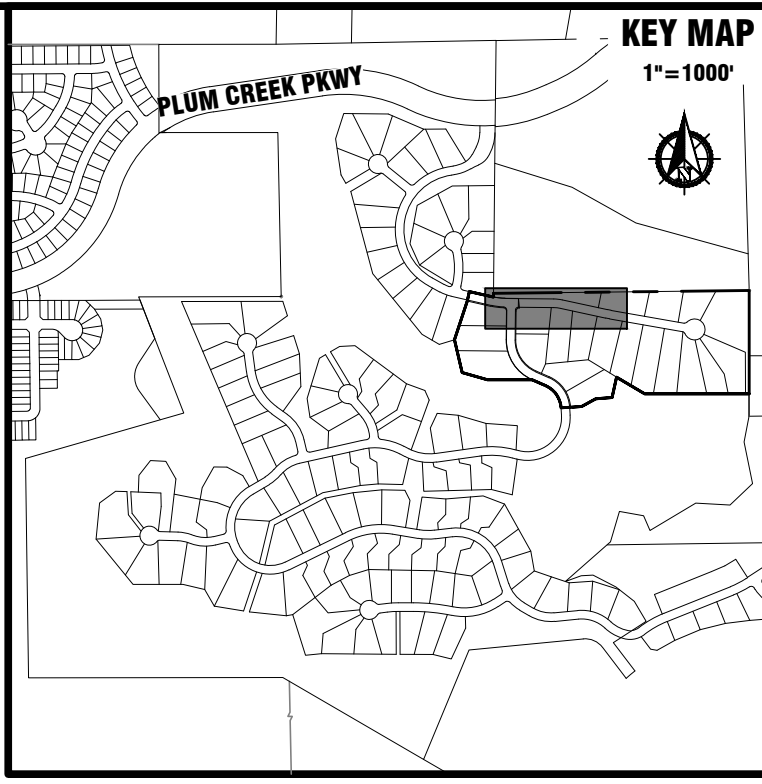
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No. 4 of 31

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- NOTES:
1. AREAS OUTSIDE THE LIMITS OF CONSTRUCTION ARE SHOWN FOR INFORMATION ONLY.
 2. ALL WATERLINE VERTICAL DEFLECTIONS SHALL COMPLY WITH SECTION 4.4.5 OF THE TOCR WATER SYSTEM DESIGN CRITERIA MANUAL.
 3. SEE MAIN PLAN VIEW FOR STREET WARPING INFORMATION.
 4. SEE SHEET 2 FOR LEGEND.
 5. TIME AND MATERIAL UTILITY PERMIT (TMU) IS REQUIRED PRIOR TO CONSTRUCTION. CASTLE ROCK WATER OPERATIONS TEAM WILL PREPARE A COST ESTIMATE, WHICH WILL DETERMINE THE TMU FEE.
 6. ALL SECTIONS OF DIP WATERLINE SHALL BE FULLY RESTRAINED.
 7. VARIANCES TO TOWN OF CASTLE ROCK STANDARD CRITERIA INCLUDE THE FOLLOWING:
 - 7.1. TCV25-0071 WATERLINE SLOPE



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Revision Type:						Revision	Date
No.	Rev.	Date	By	Check	Appr.		
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Designed: MRW
Prepared: MRW
Approved: DKH

Job No.: 7392-0001
Scale Horiz: 1" = 30'
Scale Vert: 1" = 5'

Sheet: 6 of 31
Date: March 6, 2026



SPEED LIMIT
25
R2-1
24" X 30"



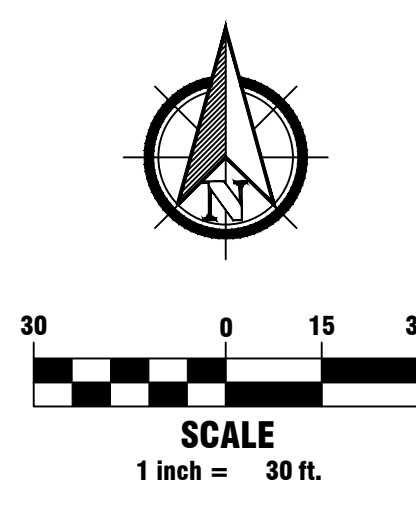
NO OUTLET
W14-2
30" X 30"



STOP SIGN &
STREET NAME DETAIL
R1-1
30" X 30"

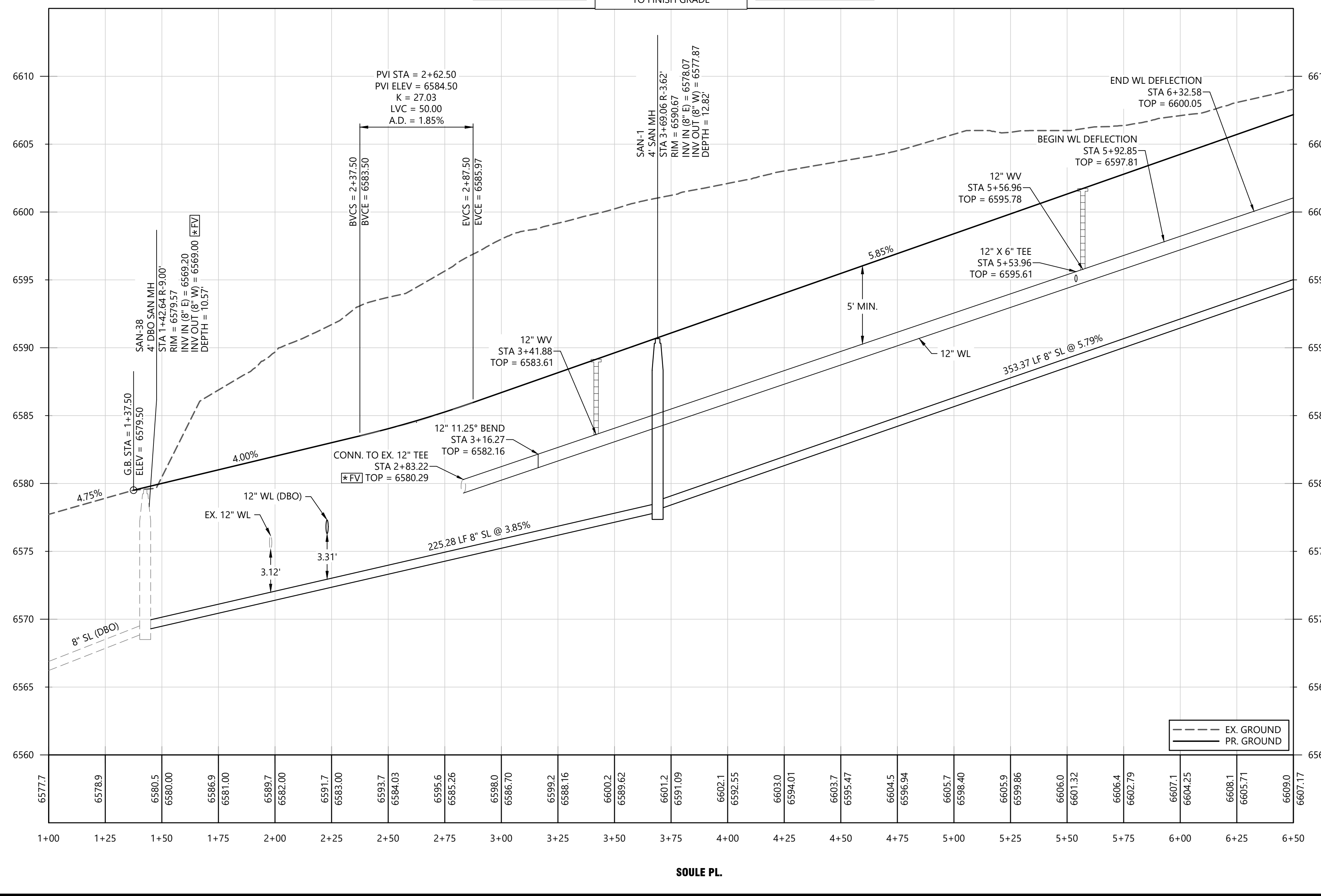


ALL WAY SIGN DETAIL
R1-3P
18" X 6"



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ELEVATION = 6569.55' (NAVD 88)

- MAINTAIN AN 18" MIN. VERTICAL SEPARATION BETWEEN UTILITIES
- MAINTAIN 5" MINIMUM COVER OVER WL & A MAXIMUM COVER OF 6" TO TOP OF PIPE
- RIM ELEVATIONS SHOWN TO PROPOSED FINISH GRADE. ADJUST LIDS & COVERS OF ALL MANHOLES AND VALVES TO FINISH GRADE
- FIELD VERIFY LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION
- FIELD VERIFY EXISTING ELEVATIONS



- LEGEND
- Property Line
 - Right of Way Line
 - Centerline
 - Easement Line
 - Lot Line
 - Retaining Wall
 - Ex. Fence Line
 - Maximum Bldg. Area
 - Prop. Asphalt Pavement
 - Prop. Concrete Pavement
 - Prop. Concrete Walk
 - Class L Riprap
 - Ex. Concrete Walk
 - Ex. Asphalt Pavement
 - Sight Distance Area
 - Sanitary Sewer Line
 - Water Line
 - Sanitary Service Line
 - Water Service Line
 - DBO Sanitary Line
 - Ex. Water Line
 - DBO Water Line
 - Ex. Storm Line
 - DBO Storm Line
 - DBO Sanitary Service Line
 - DBO Water Service Line
 - Sanitary Sewer Manhole
 - Fire Hydrant
 - Thrust Block
 - Water Valve
 - Irrigation Meter
 - Street Light
 - Street Sign
 - DBO Sanitary Sewer Manhole
 - DBO Water Valve
 - DBO Fire Hydrant
 - DBO Storm Manhole
 - DBO Street Light
 - DBO Street Sign
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 - Proposed Minor Contour
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 - Existing Minor Contour
 - Limit of Construction

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DEVELOPMENT SERVICES DATE

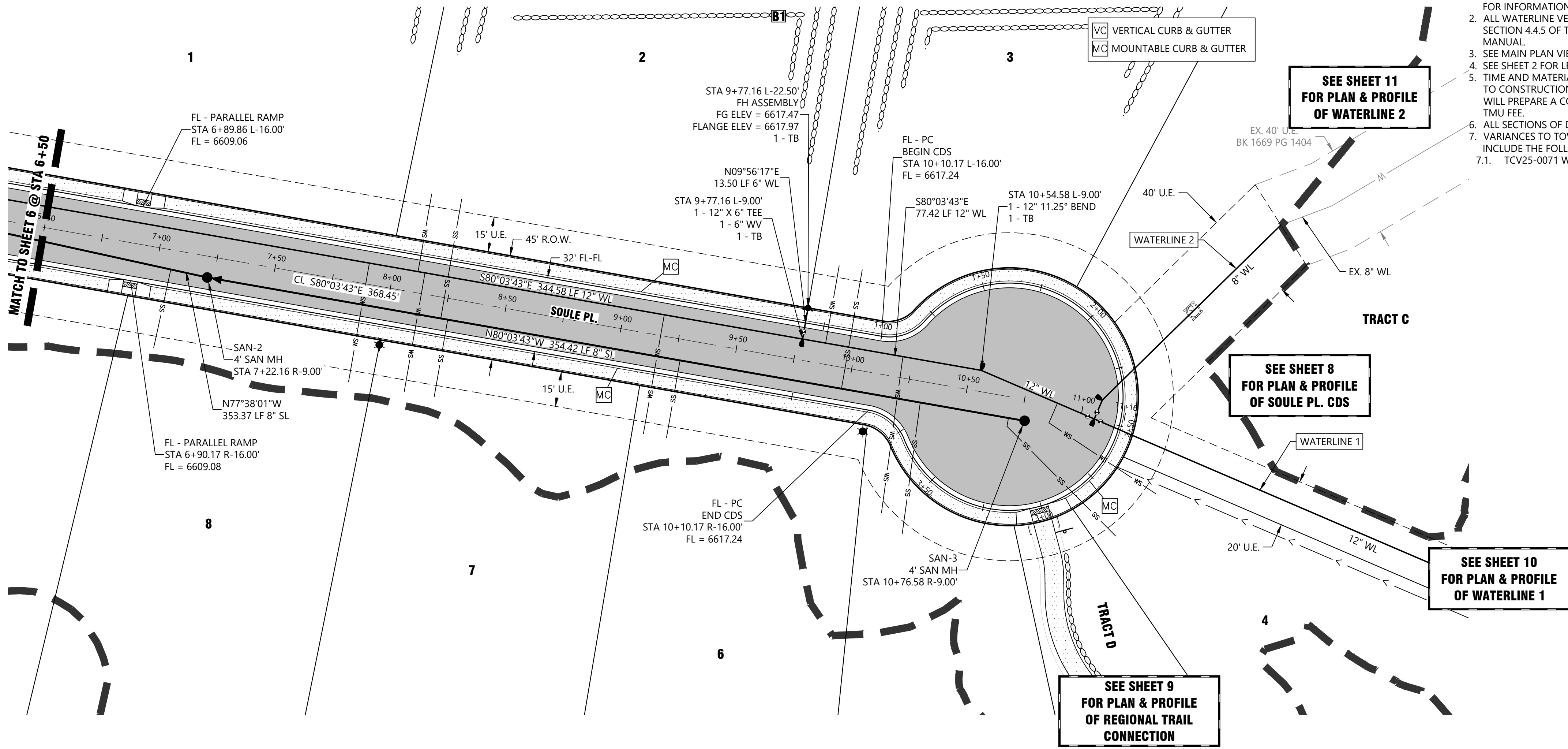
Pro. Name: The Oaks of Castle Rock Filing No. 2, Amendment No. 1
Location: Town of Castle Rock, Colorado
Plan Set: Public Improvement Construction Plans
Sheet Name: Plan & Profile - Soule Place

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CONSTRUCTION

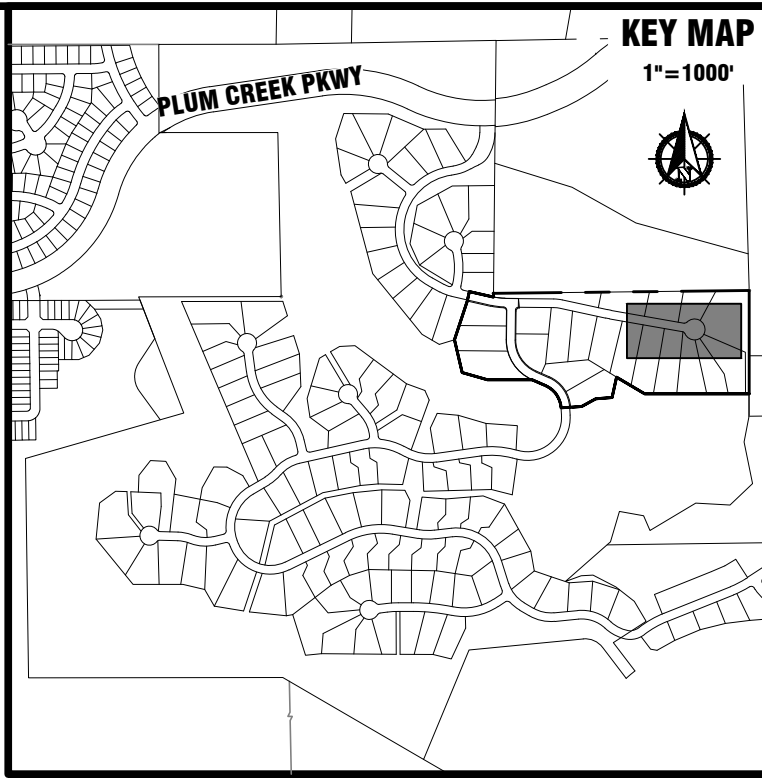
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No. 6 of 31

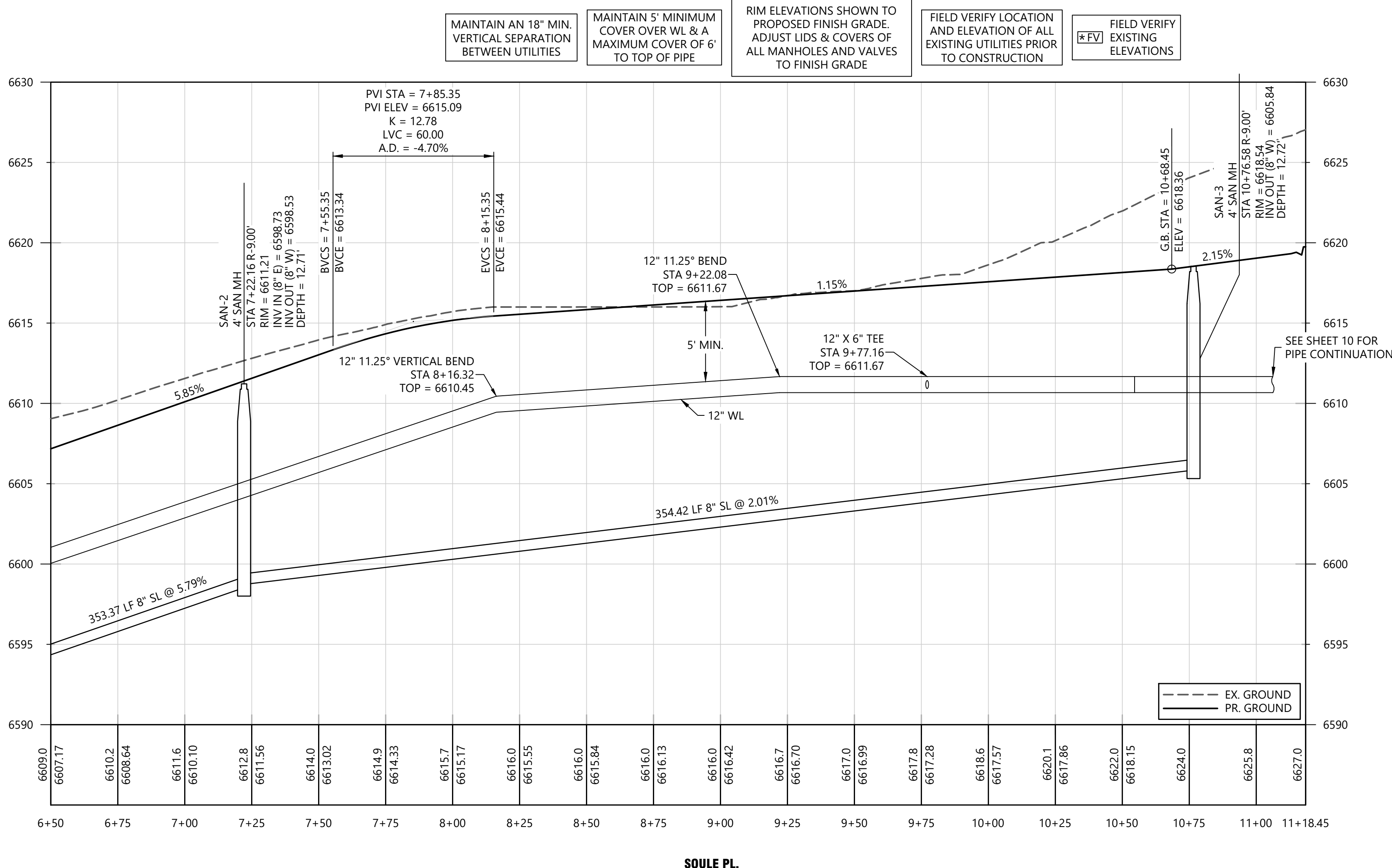
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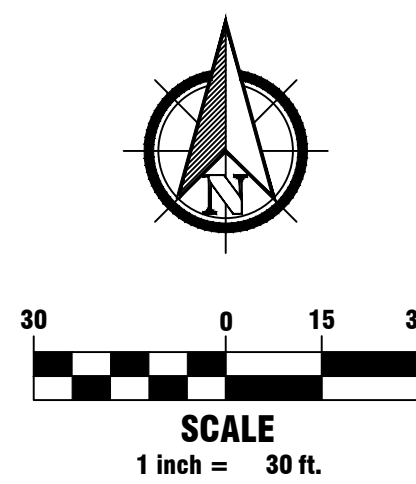
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 - 7.1. TCV25-0071 WATERLINE SLOPE



LEGEND					
	Property Line		Sanitary Sewer Line		Sanitary Sewer Manhole
	Right of Way Line		Water Line		Fire Hydrant
	Centerline		Sanitary Service Line		Thrust Block
	Easement Line		Water Service Line		Water Valve
	Lot Line		DBO Sanitary Line		Irrigation Meter
	Retaining Wall		Ex. Water Line		Street Light
	Ex. Fence Line		DBO Water Line		Street Sign
	Maximum Bldg. Area		Ex. Storm Line		DBO Sanitary Sewer Manhole
	Prop. Asphalt Pavement		DBO Storm Line		DBO Water Valve
	Prop. Concrete Pavement		DBO Sanitary Service Line		DBO Fire Hydrant
	Prop. Concrete Walk		DBO Water Service Line		DBO Storm Manhole
	Class L Riprap		Sanitary Sewer Manhole		DBO Street Light
	Ex. Concrete Walk		Fire Hydrant		DBO Street Sign
	Ex. Asphalt Pavement		Thrust Block		Ex. Tree
	Sight Distance Area		Water Valve		Proposed Major Contour
	Sanitary Sewer Line		Irrigation Meter		Proposed Minor Contour
	Water Line		Street Light		Existing Major Contour
	Sanitary Service Line		Street Sign		Existing Minor Contour
	Water Service Line		DBO Sanitary Sewer Manhole		Limit of Construction
	DBO Sanitary Line		DBO Water Valve		
	Ex. Water Line		DBO Fire Hydrant		
	DBO Water Line		DBO Storm Manhole		
	Ex. Storm Line		DBO Street Light		
	DBO Storm Line		DBO Street Sign		
	DBO Sanitary Service Line				
	DBO Water Service Line				



01 UTILITY CROSSING



PROJECT BENCHMARK:
DOUGLAS COUNTY GIS MONUMENT NO. 4.020005 BEING A 3-3/4" ALUMINUM ALLOY CAP STAMPED "DOUGLAS COUNTY GIS 4.02003" LOCAATED 1700 FEET SOUTHWEST OF THE INTERSECTION OF PLUM CREEK PARKWAY AND NORTH RIDGE ROAD, 137 FEET SOUTH OF PLUM CREEK PARKWAY, AND UNDER THE POWER LINES.
ELEVATION = 6569.55' (NAVD 88)

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.
DYLAN K. HARDY, PE #63324 DATE
TOWN APPROVAL BLOCK
TOWN OF CASTLE ROCK APPROVAL PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM DATE OF DEVELOPMENT SERVICES APPROVAL
DEVELOPMENT SERVICES DATE

1765 W. 121st Avenue
Suite 300
Westminster, CO 80234
303-421-4224 • www.lja.com

Pro. Name: The Oaks of Castle Rock Filing No. 2, Amendment No. 1
Location: Town of Castle Rock, Colorado
Plan Set: Public Improvement Construction Plans
Sheet Name: Plan & Profile - Soule Place

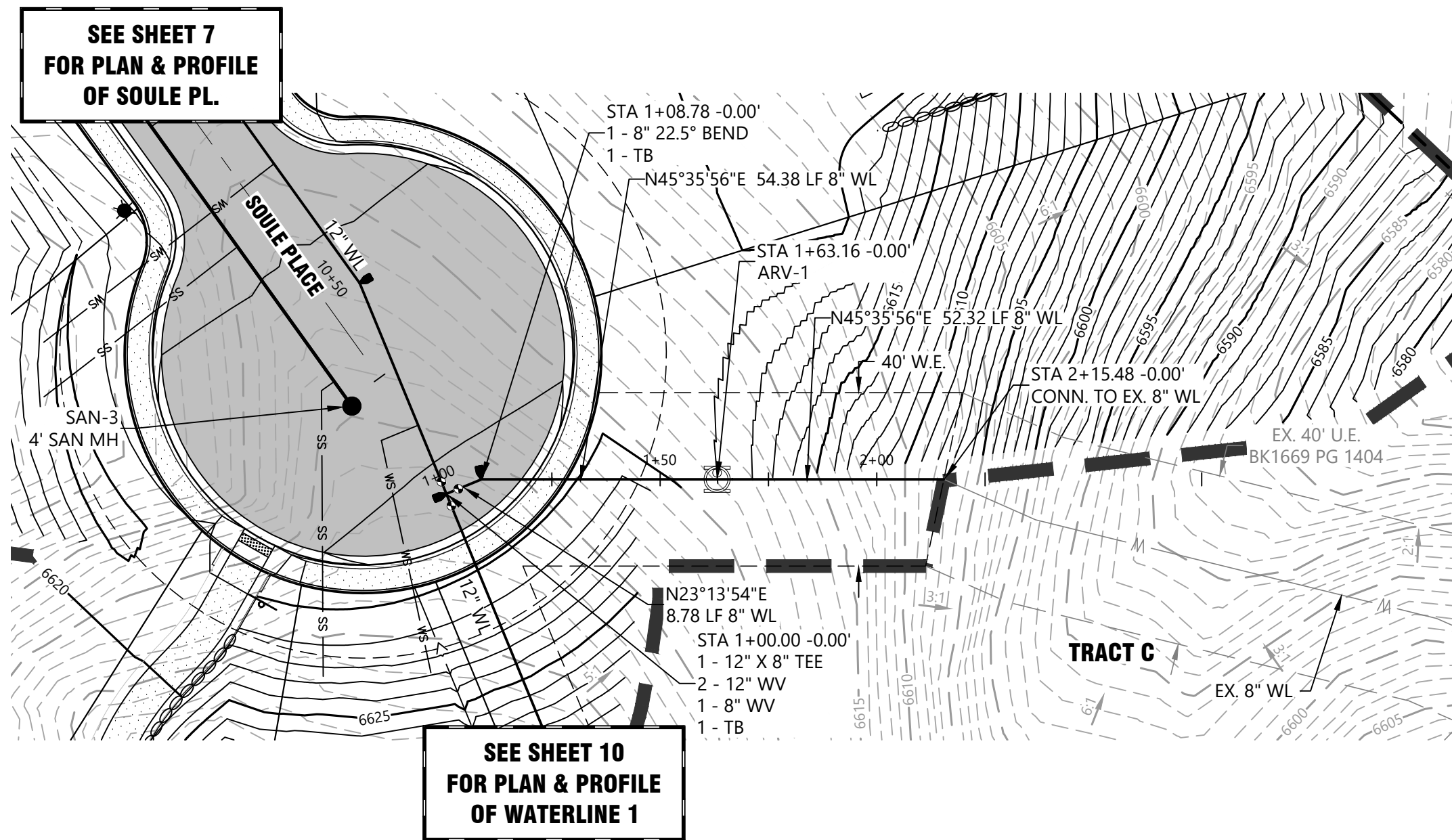
Revision Type: No. 1 2 3 4 5 6
Rev. Date: 1 2 3 4 5 6
Desiged: MRW Job No.: 7392-0001 Sheet: 7 of 31
Prepared: MRW Scale Horiz: 1" = 30' Date: March 6, 2026
Approved: DKH Scale Vert: 1" = 5'

NOT FOR CONSTRUCTION

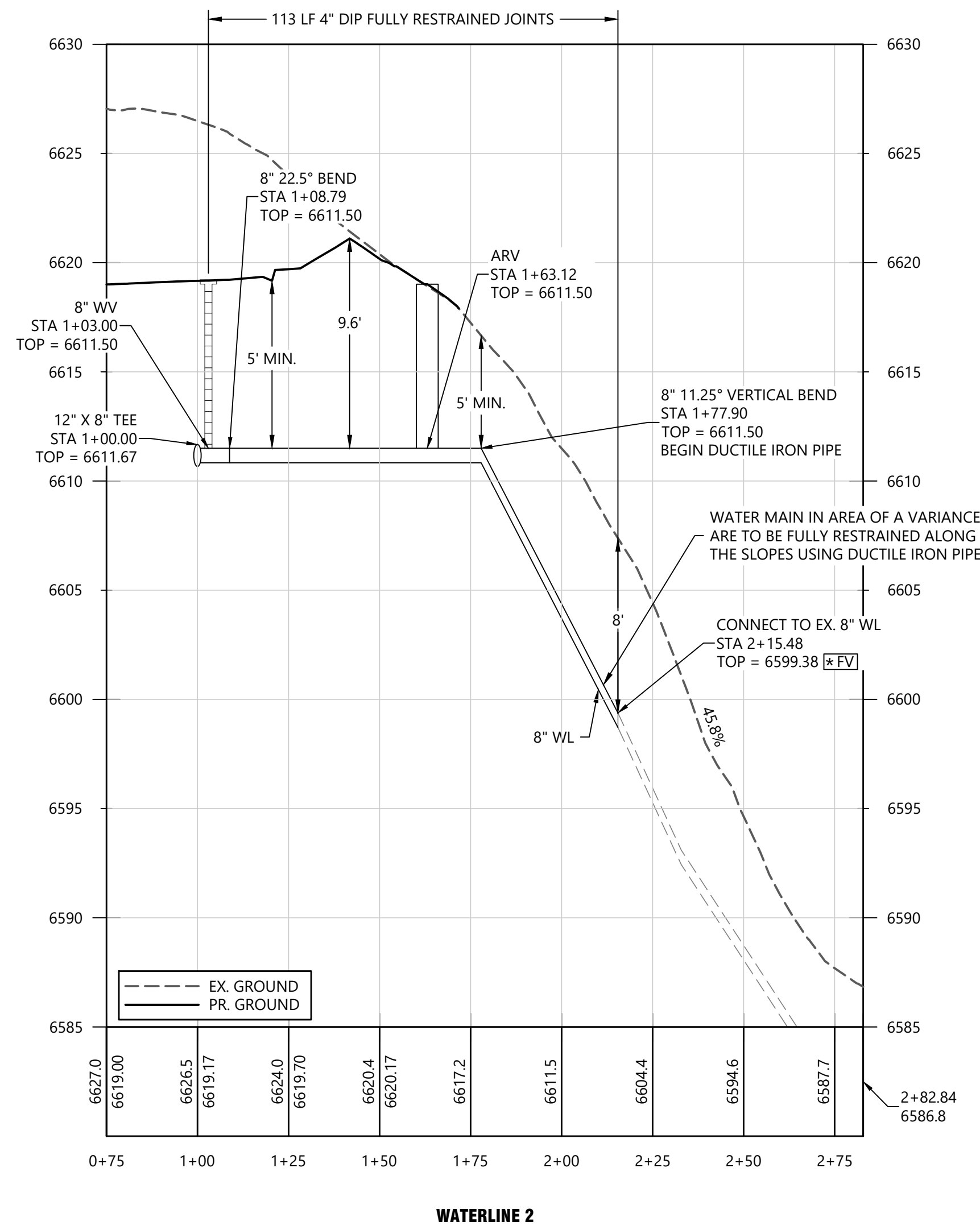
Know what's below.
Call before you dig.

No. 7 of 31

I:\JOB FOLDERS\7392\7392-0001\CIVIL\PROD\CD\VP - WATERLINE 2 - WATERLINE 2 PRINTED ON: 3/6/2026 12:44 PM

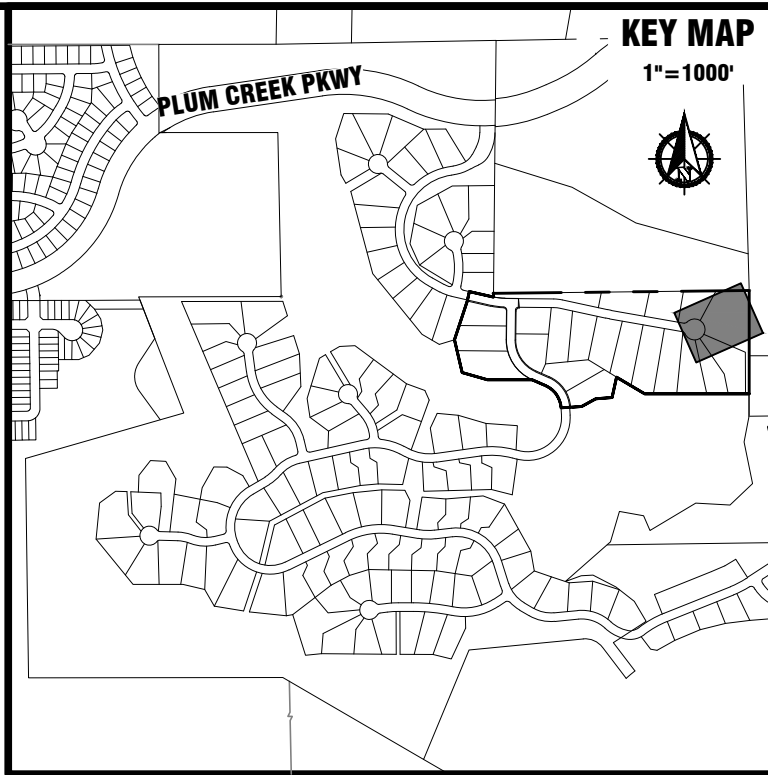


- MAINTAIN AN 18" MIN.
VERTICAL SEPARATION
BETWEEN UTILITIES
- MAINTAIN 5" MINIMUM
COVER OVER WL & A
MAXIMUM COVER OF 6"
TO TOP OF PIPE
- RIM ELEVATIONS SHOWN TO
PROPOSED FINISH GRADE.
ADJUST LIDS & COVERS OF
ALL MANHOLES AND VALVES
TO FINISH GRADE
- FIELD VERIFY LOCATION
AND ELEVATION OF ALL
EXISTING UTILITIES PRIOR
TO CONSTRUCTION
- ☒ FV FIELD VERIFY
EXISTING
ELEVATIONS

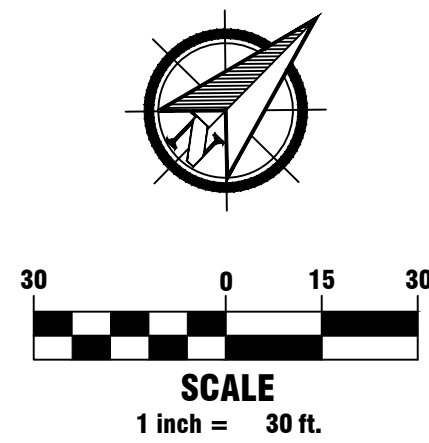


NOTES:

1. AREAS OUTSIDE THE LIMITS OF CONSTRUCTION ARE SHOWN FOR INFORMATION ONLY.
2. ALL WATERLINE VERTICAL DEFLECTIONS SHALL COMPLY WITH SECTION 4.4.5 OF THE TOCR WATER SYSTEM DESIGN CRITERIA MANUAL.
3. SEE MAIN PLAN VIEW FOR STREET WARPING INFORMATION.
4. SEE SHEET 2 FOR LEGEND.
5. TIME AND MATERIAL UTILITY PERMIT (TMU) IS REQUIRED PRIOR TO CONSTRUCTION. CASTLE ROCK WATER OPERATIONS TEAM WILL PREPARE A COST ESTIMATE, WHICH WILL DETERMINE THE TMU FEE.
6. ALL SECTIONS OF DIP WATERLINE SHALL BE FULLY RESTRAINED
7. VARIANCES TO TOWN OF CASTLE ROCK STANDARD CRITERIA INCLUDE THE FOLLOWING:
 - 7.1. TCV25-0071 WATERLINE SLOPE



LEGEND					
	Property Line		Sanitary Sewer Line		Sanitary Sewer Manhole
	Right of Way Line		Sanitary Service Line		DBO Sanitary Sewer Manhole
	Centerline		Water Service Line		DBO Water Valve
	Easement Line		DBO Sanitary Line		DBO Fire Hydrant
	Lot Line		Ex. Water Line		DBO Storm Manhole
	Retaining Wall		DBO Water Line		DBO Street Light
	Ex. Fence Line		DBO Storm Line		DBO Street Sign
	Maximum Bldg. Area		DBO Sanitary Service Line		Ex. Tree
	Prop. Asphalt Pavement		DBO Water Service Line		Proposed Major Contour
	Prop. Concrete Pavement		Fire Hydrant		Proposed Minor Contour
	Prop. Concrete Walk		Thrust Block		Existing Major Contour
	Class L Riprap		Water Valve		Existing Minor Contour
	Ex. Concrete Walk		Irrigation Meter		Limit of Construction
	Ex. Asphalt Pavement		Street Light		
	Sight Distance Area		Street Sign		



PROJECT BENCHMARK:

DOUGLAS COUNTY GIS MONUMENT NO. 4.020005 BEING A 3-3/4" ALUMINUM ALLOY CAP STAMPED "DOUGLAS COUNTY GIS 4.02003" LOCAATED 1700 FEET SOUTHWEST OF THE INTERSECTION OF PLUM CREEK PARKWAY AND NORTH RIDGE ROAD, 137 FEET SOUTH OF PLUM CREEK PARKWAY, AND UNDER THE POWER LINES.

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DYLAN K. HARDY, PE #63324

DATE

TOWN APPROVAL BLOCK

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

DEVELOPMENT SERVICES

DATE

Proj. Name: The Oaks of Castle Rock Filing No. 2, Amendment No. 1

Location: Town of Castle Rock, Colorado

Plan Set: Public Improvement Construction Plans

Sheet Name:

Plan & Profile - Waterline 2

**NOT FOR
CONSTRUCTION**



Know what's below.
Call before you dig.

No. 11 of 31

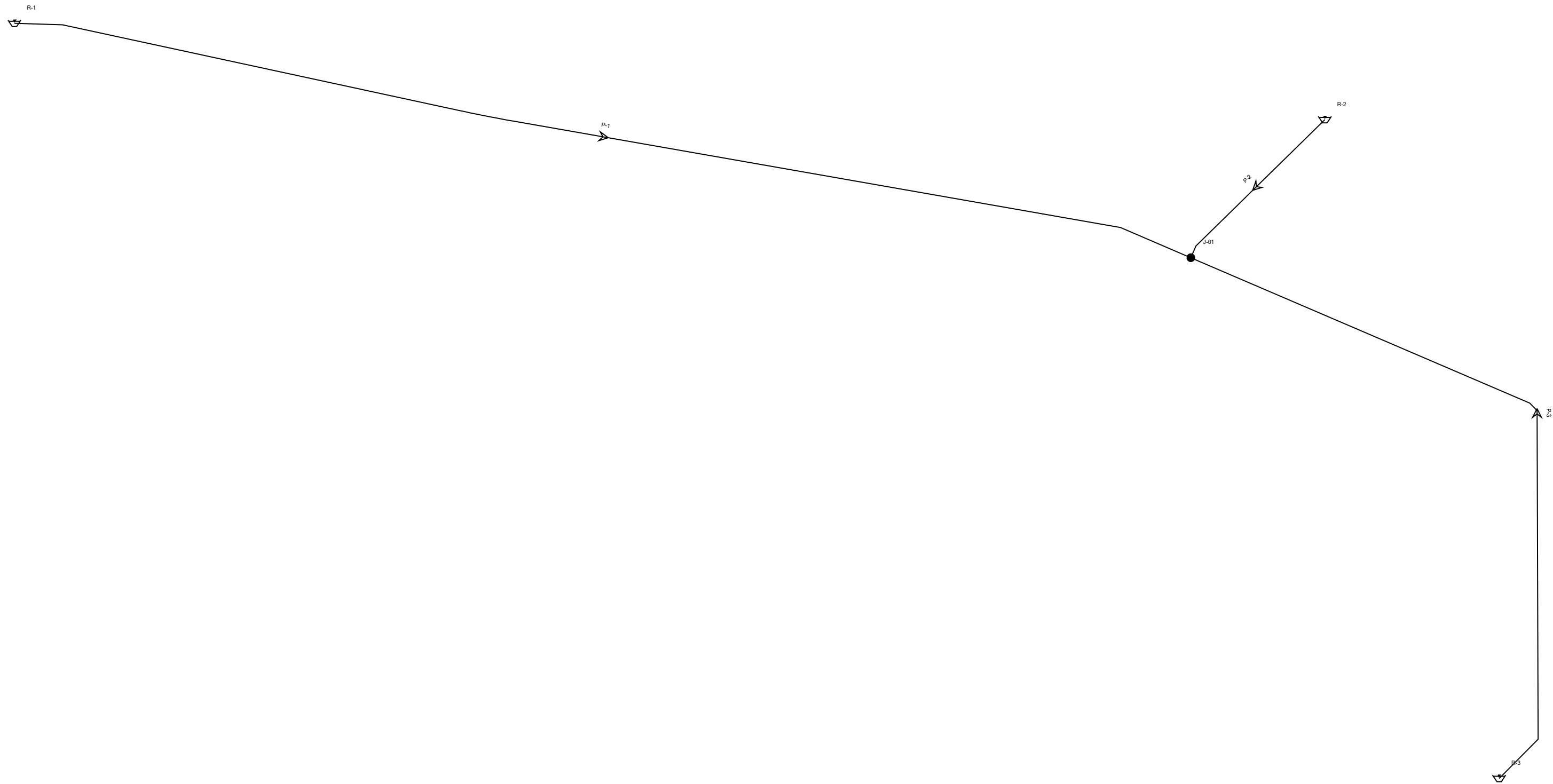
Oaks Filing 2B Water Demand Calculations

Residential Demand	Single Family Units/Paired Homes		Average Day Demand (gpd / person)	Maximum Day Demand Factor (X ADD)	Peak Hour Demand Factor (X MDD)	Irrigation Day Demand (gpd / irrigated acre)
	Occupancy:	4	100	2.5	5.5	3750
Junction(s)	Irrigated Area (Acres)	Residential Units	Average Day Demand (gpm)	Maximum Day Demand (gpm)	Peak Hour Demand (gpm)	Irrigation Demand (gpm)
J-01	0.21	17	4.72	11.81	25.97	0.55
Oaks F2B Total	0	17	4.72	11.81	25.97	0.55

Oaks Filing 2B Water Demand Calculations

Residential Demand	Single Family Units/Paired Homes		Average Day Demand (gpd / person)	Maximum Day Demand Factor (X ADD)	Peak Hour Demand Factor (X MDD)
	Occupancy:	4	100	2.5	5.5
	Irrigation Demand (gpm)	Residential Units	Average Day Demand (gpm)	Maximum Day Demand (gpm)	Peak Hour Demand (gpm)
Oaks F2B Total	0.55	17	5.27	12.35	26.52

WaterCAD Model/Nodal Diagram



Static 20%
Pipe Table - Time: 0.00 hours

Label	Start Node	Stop Node	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-1	R-1	J-01	12.0	PVC	120.0	0	0.00	0.000
P-2	J-01	R-2	8.0	PVC	120.0	0	0.00	0.000
P-3	J-01	R-3	12.0	PVC	120.0	0	0.00	0.000

Junction Table - Time: 0.00 hours

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-01	6,620.87	0	6,805.00	80

Reservoir Table - Time: 0.00 hours

Label	Elevation (ft)	Hydraulic Grade (ft)	Flow (Out net) (gpm)
R-1	6,805.00	6,805.00	0
R-2	6,805.00	6,805.00	0
R-3	6,805.00	6,805.00	0

Static 100%
Pipe Table - Time: 0.00 hours

Label	Start Node	Stop Node	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-1	R-1	J-01	12.0	PVC	120.0	0	0.00	0.000
P-2	J-01	R-2	8.0	PVC	120.0	0	0.00	0.000
P-3	J-01	R-3	12.0	PVC	120.0	0	0.00	0.000

Junction Table - Time: 0.00 hours

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-01	6,620.87	0	6,824.00	88

Reservoir Table - Time: 0.00 hours

Label	Elevation (ft)	Hydraulic Grade (ft)	Flow (Out net) (gpm)
R-1	6,805.00	6,824.00	0
R-2	6,805.00	6,824.00	0
R-3	6,805.00	6,824.00	0

ADD**Pipe Table - Time: 0.00 hours**

Label	Start Node	Stop Node	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-1	R-1	J-01	12.0	PVC	120.0	2	0.00	0.000
P-2	J-01	R-2	8.0	PVC	120.0	-2	0.01	0.000
P-3	J-01	R-3	12.0	PVC	120.0	-2	0.01	0.000

Junction Table - Time: 0.00 hours

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-01	6,620.87	5	6,805.00	80

Reservoir Table - Time: 0.00 hours

Label	Elevation (ft)	Hydraulic Grade (ft)	Flow (Out net) (gpm)
R-1	6,805.00	6,805.00	2
R-2	6,805.00	6,805.00	2
R-3	6,805.00	6,805.00	2

MDD**Pipe Table - Time: 0.00 hours**

Label	Start Node	Stop Node	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-1	R-1	J-01	12.0	PVC	120.0	4	0.01	0.000
P-2	J-01	R-2	8.0	PVC	120.0	-4	0.02	0.000
P-3	J-01	R-3	12.0	PVC	120.0	-5	0.01	0.000

Junction Table - Time: 0.00 hours

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-01	6,620.87	12	6,805.00	80

Reservoir Table - Time: 0.00 hours

Label	Elevation (ft)	Hydraulic Grade (ft)	Flow (Out net) (gpm)
R-1	6,805.00	6,805.00	4
R-2	6,805.00	6,805.00	4
R-3	6,805.00	6,805.00	5

MDD+FF P-2/R-2 OOS**Pipe Table - Time: 0.00 hours**

Label	Start Node	Stop Node	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-1	R-1	J-01	12.0	PVC	120.0	883	2.51	0.002
P-2	J-01	R-2	8.0	PVC	120.0	(N/A)	(N/A)	(N/A)
P-3	J-01	R-3	12.0	PVC	120.0	-1,129	3.20	0.004

Junction Table - Time: 0.00 hours

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-01	6,620.87	2,012	6,803.07	79

Reservoir Table - Time: 0.00 hours

Label	Elevation (ft)	Hydraulic Grade (ft)	Flow (Out net) (gpm)
R-1	6,805.00	6,805.00	883
R-2	6,805.00	(N/A)	(N/A)
R-3	6,805.00	6,805.00	1,129

PHD**Pipe Table - Time: 0.00 hours**

Label	Start Node	Stop Node	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Velocity (ft/s)	Headloss Gradient (ft/ft)
P-1	R-1	J-01	12.0	PVC	120.0	8	0.02	0.000
P-2	J-01	R-2	8.0	PVC	120.0	-8	0.05	0.000
P-3	J-01	R-3	12.0	PVC	120.0	-11	0.03	0.000

Junction Table - Time: 0.00 hours

Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J-01	6,620.87	27	6,805.00	80

Reservoir Table - Time: 0.00 hours

Label	Elevation (ft)	Hydraulic Grade (ft)	Flow (Out net) (gpm)
R-1	6,805.00	6,805.00	8
R-2	6,805.00	6,805.00	8
R-3	6,805.00	6,805.00	11

ADF = 200 gpd/du

On-Site Wastewater Design Flow												
Land Area	Number of Dwelling Units (du)		SFEs per Unit	Contributing Single Family Equivalent Units (SFE)	Average Daily Wastewater Flow (ADF) (gpd)	Average Daily Wastewater Flow (ADF) (gpm)	Average Daily Wastewater Flow (ADF) (cfs)	Peaking Factor (PF)	Infiltration & Inflow (I/I) (10% ADF)	Peak Design Flow (PDF) (gpd)	Peak Design Flow (PDF) (gpm)	Peak Design Flow (PDF) (cfs)
Oaks of Castle Rock Filing 2B (Single Family)	18	du	1.00	18	3,600	2.50	0.005	5.0	360	18,360	12.75	0.028

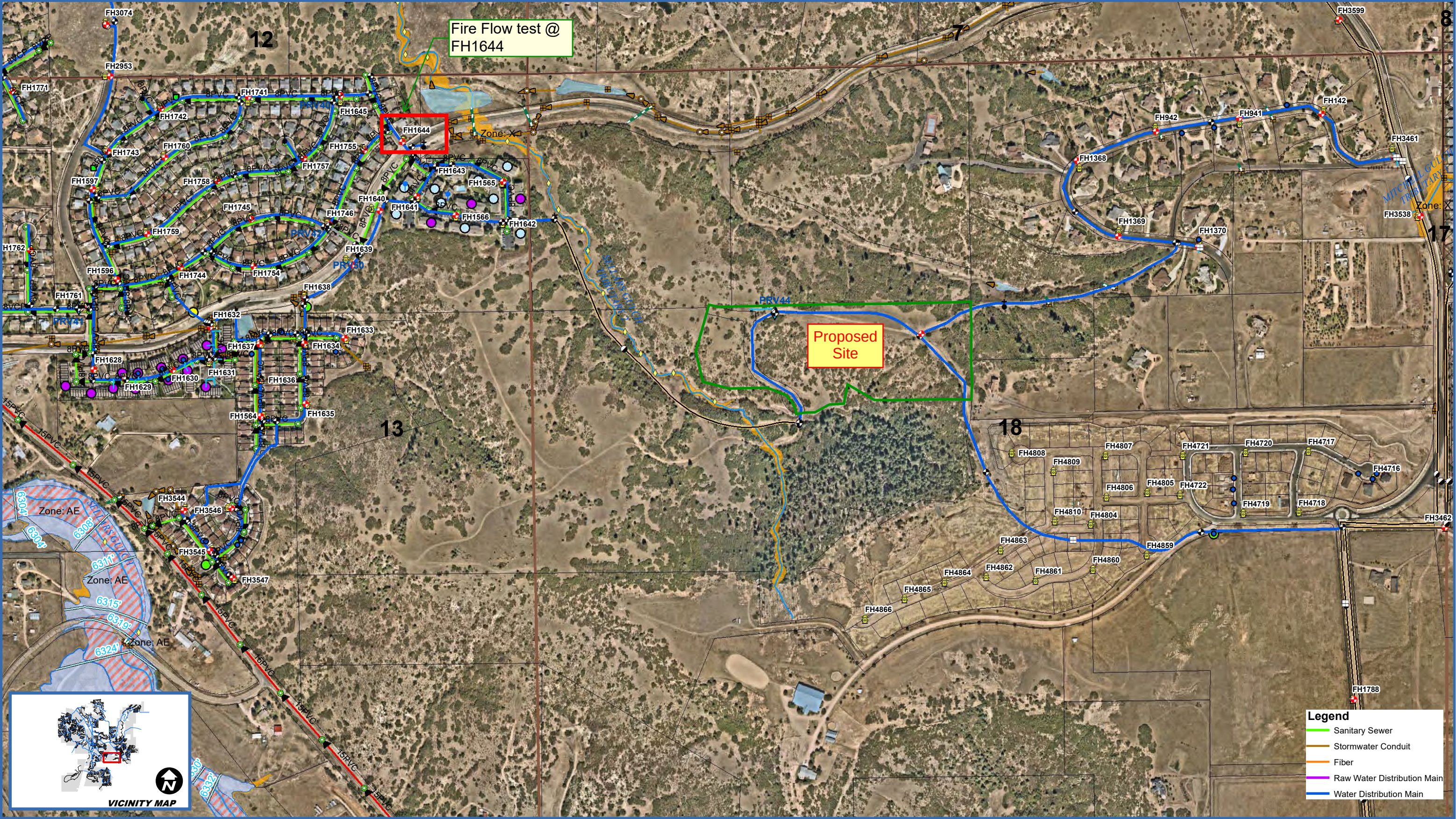
Downstream Wastewater Design Flow												
Existing/DBO Contributions Downstream to the 8" Pipe between SMH2770 and SMH2772 from the Castle Rock Utilities Map												
Vistas at Plum Creek Apartments	552	du	0.65	358.8	71,760	49.83	0.108	5.0	7,176	365,976	254.15	0.566
Vistas at Plum Creek Clubhouse	1.5	inch tap	4.00	4.00	800	0.56	0.001	5.0	80	4,080	2.83	0.006
Beacham Drive northeast (Single Family)	26	du	1.00	26	5,200	3.61	0.008	5.0	520	26,520	18.42	0.041
Summerfield Dr and Beacham Dr (Single Family)	202	du	1.00	202	40,400	28.06	0.061	5.0	4,040	206,040	143.08	0.319
Oaks of Castle Rock Filing 2A (Single Family)	114	du	1.00	114	22,800	15.83	0.034	5.0	2,280	116,280	80.75	0.180
Additional Contributions Proposed Downstream to the 8" Pipe Between SMH2770 and SMH2772 from the Castle Rock Utilities Map												
Oaks of Castle Rock Filing 2B (Single Family)	18	du	1.00	18	3,600	2.50	0.005	5.0	360	18,360	12.75	0.028
Proposed Condition Between SMH2770 &SMH2772				722.8	144,560	100.39	0.217	5.0	14,456	737,256	511.98	1.141

Existing/DBO Contributions Downstream to the 8" Pipe Between SMH2803 and SMH2805 from the Castle Rock Utilities Map												
Vistas at Plum Creek Apartments	552	du	0.65	358.8	71,760	49.83	0.108	5.0	7,176	365,976	254.15	0.566
Vistas at Plum Creek Clubhouse	1.5	inch tap	4.00	4.00	800	0.56	0.001	5.0	80	4,080	2.83	0.006
Beacham Drive northeast (Single Family)	26	du	1.00	26	5,200	3.61	0.008	5.0	520	26,520	18.42	0.041
Summerfield Dr and Beacham Dr (Single Family)	202	du	1.00	202	40,400	28.06	0.061	5.0	4,040	206,040	143.08	0.319
Live Oak Road (Duplexes)	74	du	1.00	74	14,800	10.28	0.022	5.0	1,480	75,480	52.42	0.117
Oak Crest Circle (Townhomes)	110	du	0.65	71.5	14,300	9.93	0.021	5.0	1,430	72,930	50.65	0.113
Baldwin Park Road (Single Family)	45	du	1.00	45	9,000	6.25	0.014	5.0	900	45,900	31.88	0.071
Oaks of Castle Rock Filing 2A (Single Family)	114	du	1.00	114	22,800	15.83	0.034	5.0	2,280	116,280	80.75	0.180
Additional Contributions Proposed Downstream to the 8" Pipe Between SMH2803 and SMH2805 from the Castle Rock Utilities Map												
Oaks of Castle Rock Filing 2B (Single Family)	18	du	1.00	18	3,600	2.50	0.005	5.0	360	18,360	12.75	0.028
Proposed Condition Between SMH2803 &SMH2805				913.3	182,660	126.85	0.274	4.9	18,266	905,382	628.74	1.401

The Oaks Filing 2B Sewer Analysis

Label	Solve For	Friction Method	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (in)	Diameter (in)	Discharge (cfs)	Flow Area (ft²)
Average Daily Flow - Terminal Sewer Pipe	Normal Depth	Manning Formula	0.011	3.920	0.1	8.0	0.01	0.0
Peak Design Flow - Terminal Sewer Pipe	Normal Depth	Manning Formula	0.011	3.920	0.2	8.0	0.03	0.0
Wetted Perimeter (ft)	Hydraulic Radius (in)	Top Width (ft)	Critical Depth (in)	Percent Full (%)	Critical Slope (ft/ft)	Velocity (ft/s)	Velocity Head (ft)	Specific Energy (ft)
0.1	0.1	0.14	0.4	1.2	0.007	7.66	0.91	0.92
0.2	0.1	0.20	0.9	2.4	0.005	13.06	2.65	2.67
Froude Number	Maximum Discharge (cfs)	Discharge Full (cfs)	Slope Full (ft/ft)	Flow Type	Notes	Messages		
18.847	30.41	28.27	0.000	Supercritical				
22.287	30.41	28.27	0.000	Supercritical				

APPENDIX B



- Legend**
- Sanitary Sewer
 - Stormwater Conduit
 - Fiber
 - Raw Water Distribution Main
 - Water Distribution Main



0 250 500 1,000 1,500 Feet
1 inch = 500 feet



Disclaimer: The data presented has been compiled from various sources, each of which introduces varying degrees of inaccuracies or inconsistencies. Such discrepancies in data are inherent in and in supplying this product the Town of Castle Rock assumes no liability for its use or accuracy. Questions or comments regarding the cartographic composition of this map including, but not limited to, errors, omissions, corrections, and/or updates, should be directed to the Utilities Department, Town of Castle Rock, (720) 733-6056. Copyright 2020, Town of Castle Rock Utilities Mapping.

**CASTLE ROCK
UTILITIES MAP
(INTERNAL USE ONLY)**

Document Path: \\crrsan1\UTshare\GIS\Standard Maps\10.6\11x17 LndScp_10.6.mxd

Date: 2/26/2021



TOWN OF CASTLE ROCK FIRE FLOW TEST FORM

5/20/2022

Dylan Hardy

303-421-4224 x106

dylan@innovativelandinc.com

F F11-2022
P _____

Oaks Filing 2 S. of PC Pkwy at Eaton Roundabout

Test Conducted By: _____

Date: _____

Start Time _____

End Time _____

Pressure Hydrant

Hydrant ID	FH	1644	
Pre-test Static Pressure (Ps1)		83	psi
Residual Pressure (Pr)		77	psi
Post-test Static Pressure (Ps2)			psi
Flowing Hydrant			
Hydrant ID	FH	??? Matt Hayes	1643
Orifice Side (D)			in
Main Size (Dp)			in
Calculated Flowrate (Qr)		1500	gpm
Estimated Volume Discharged (Q)			gallons

[Estimated with hydraulic model.](#)

Notes: Please see map attached

Castle Rock Fire and Rescue Department
300 Perry Street
Castle Rock, CO

01/16/2026

Re: Confirmation Memo of Required Fire Flow - The Oaks Filing No. 2B

To Life Safety Division:

Please accept the following required fire flow evaluation(s) based upon the currently adopted 2018 International Fire Code for review and confirmation for each of the following proposed buildings.

Building Name – **The Oaks Filing No. 2B (18 lots)**

Total Fire Flow Calculation Area: **Maximum home size – 5000 square feet**

Building Construction Type: **Type V-B**

Are fire sprinklers provided throughout this building? **NO**

Are you proposing a reduction in Required Fire Flow for fire sprinklers? **NO**

Are Fire walls provided in this building? **NO**

Reference Appendix B, Table B105.1

Required Fire Flow: **2000-gpm at 20-psi**

Flow Duration: **2-hours**

If applicable, Calculated Fire Flow including reduction for sprinklers: **N/A**

Flow Duration: **N/A**

Reference Appendix C, Table C105.1

Required Number of Fire Hydrants: **2 (The Oaks Filing No. 2B)**

Maximum Average Spacing: **450 feet within The Oaks Filing No. 2B**

Maximum Distance from Fire Hydrant to Building: **225 feet**, as a fire truck would drive
(Note in sprinkled buildings, a hydrant shall be located within 100-ft of the FDC)

Design Engineers Signature:  Date: 01/13/2026

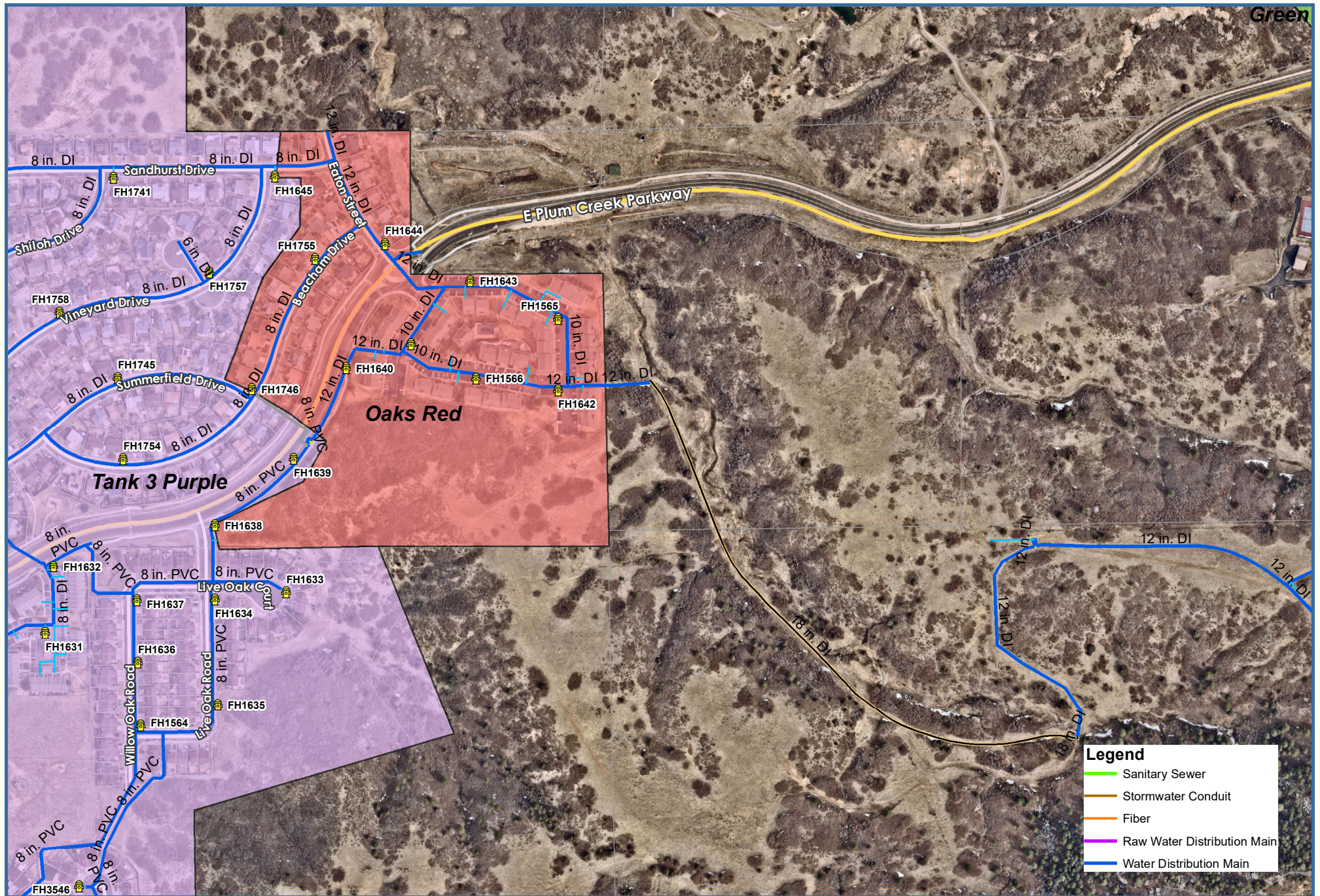
The determined Required Fire Flow, Number of Fire Hydrants and Hydrant Spacing as shown above satisfy the fire protection requirements of the Castle Rock Fire and Rescue Department.

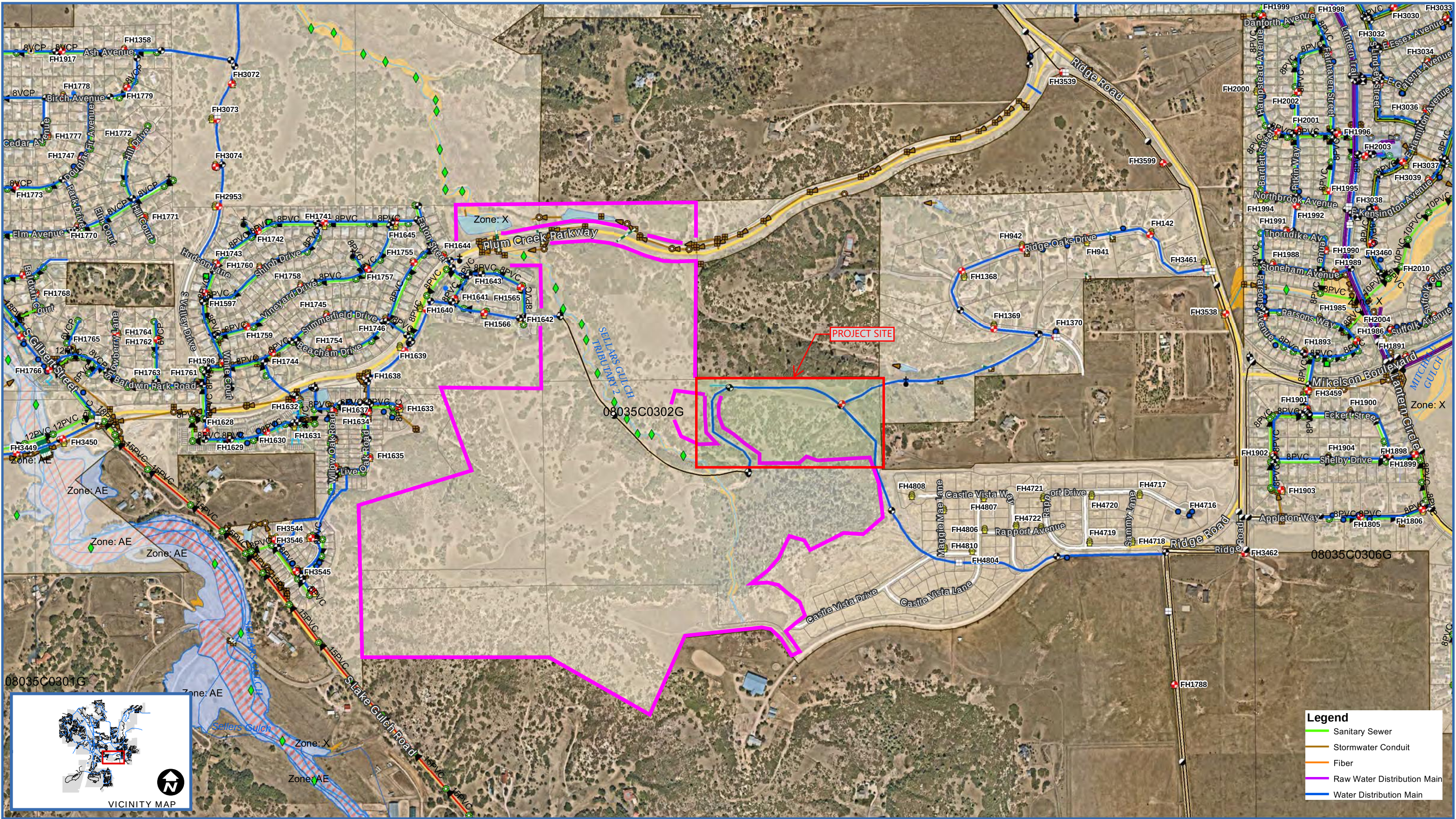
Final fire hydrant placement will be determined and approved during the Site Development (SDP) and/or Construction Document (CD) review phase.

Castle Rock Fire Signature: _____ Date: 1/22/2026

Fire Department Plan Review Number: _____







Legend

- Sanitary Sewer
- Stormwater Conduit
- Fiber
- Raw Water Distribution Main
- Water Distribution Main



Securing our future drop by drop

0 330 660 1,320 1,980 Feet

1 inch = 650 feet

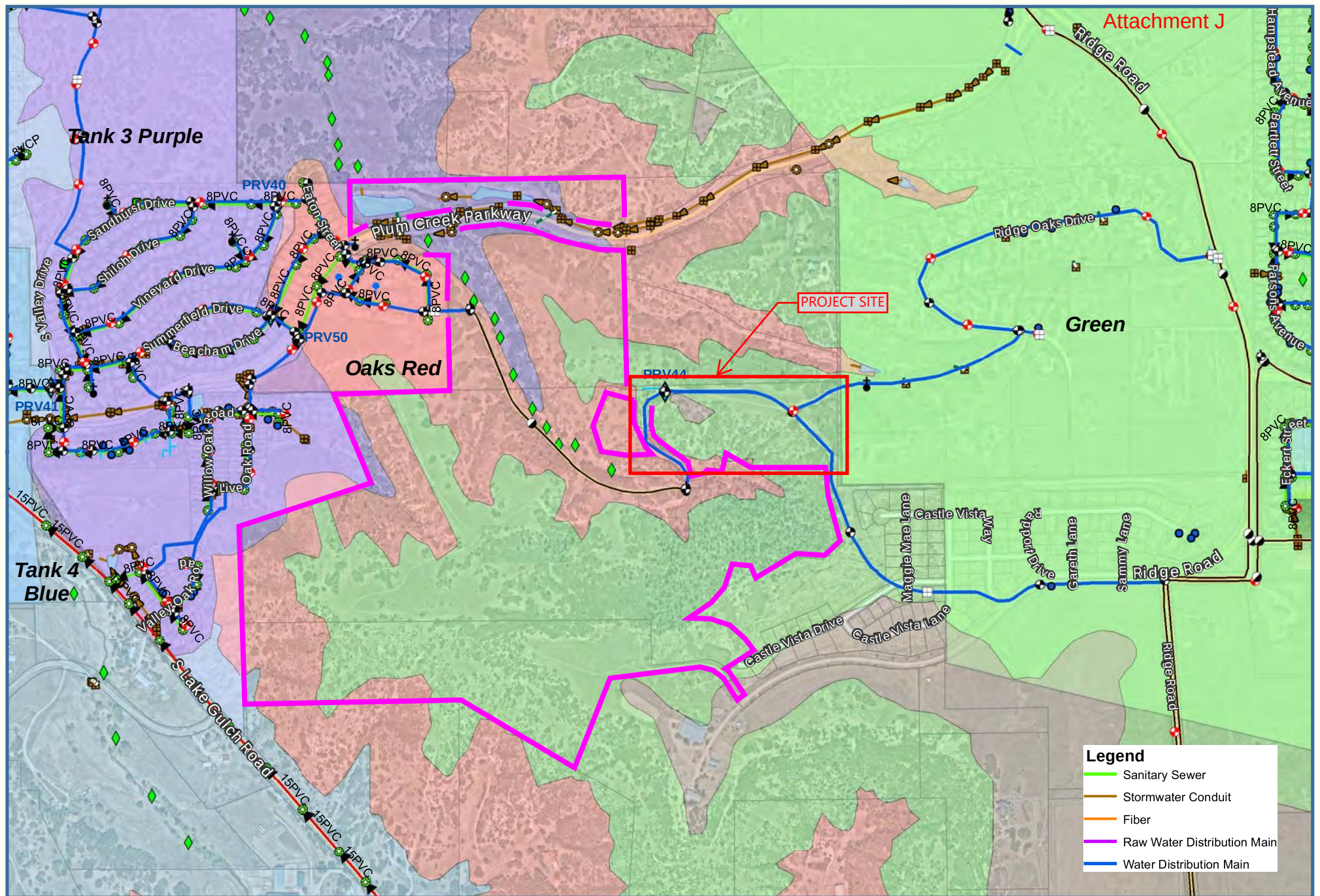


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**CASTLE ROCK
UTILITIES MAP
(INTERNAL USE ONLY)**

Document Path: \\CRSAN1\UTUsers\close\Desktop\11x17 LndScp_10.6.mxd

Date: 10/7/2020



- Legend**
- Sanitary Sewer
 - Stormwater Conduit
 - Fiber
 - Raw Water Distribution Main
 - Water Distribution Main



0 350 700 1,400 2,100 Feet

Date: 10/2/2020

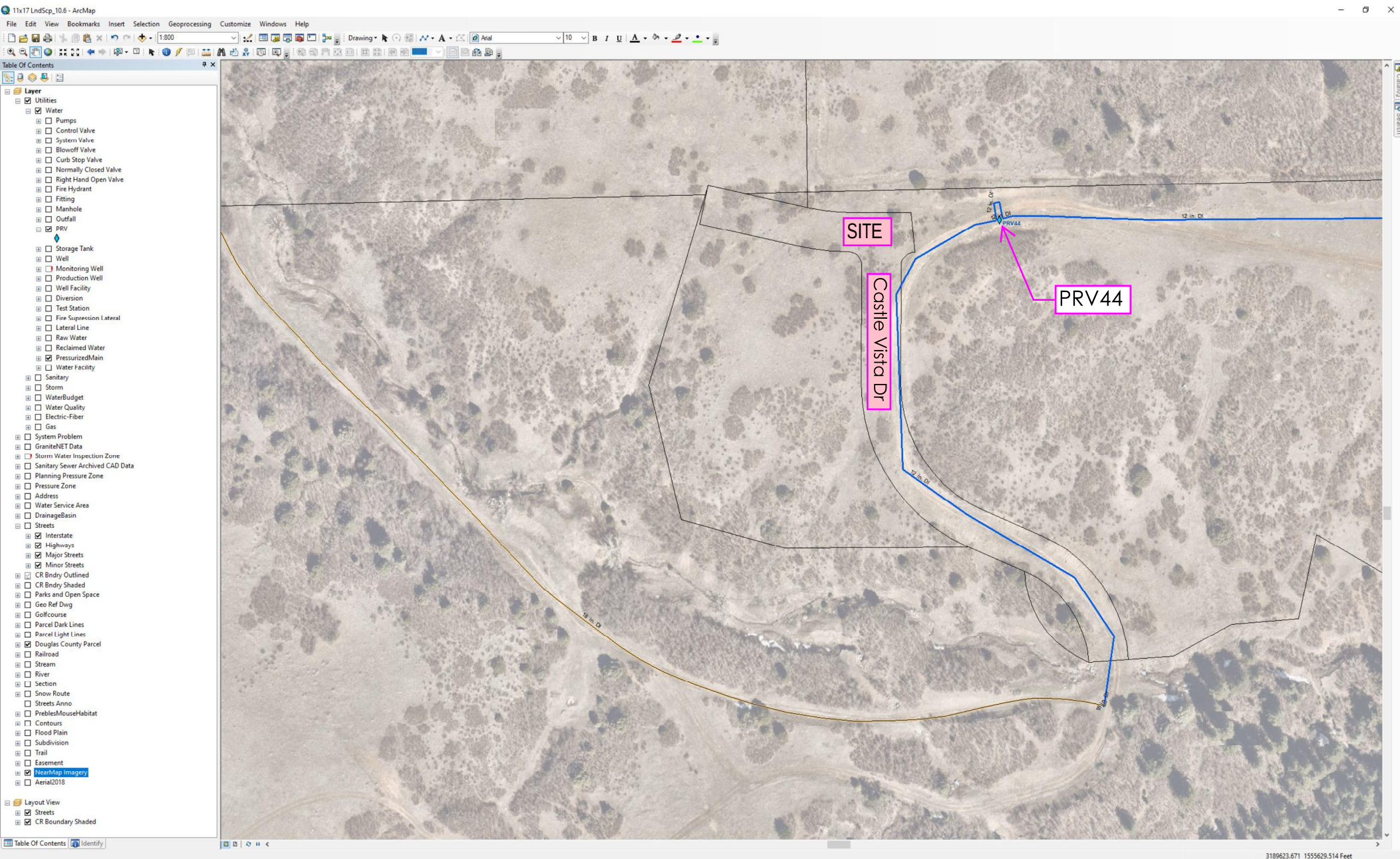
1 inch = 794 feet

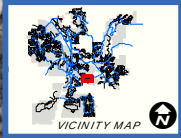
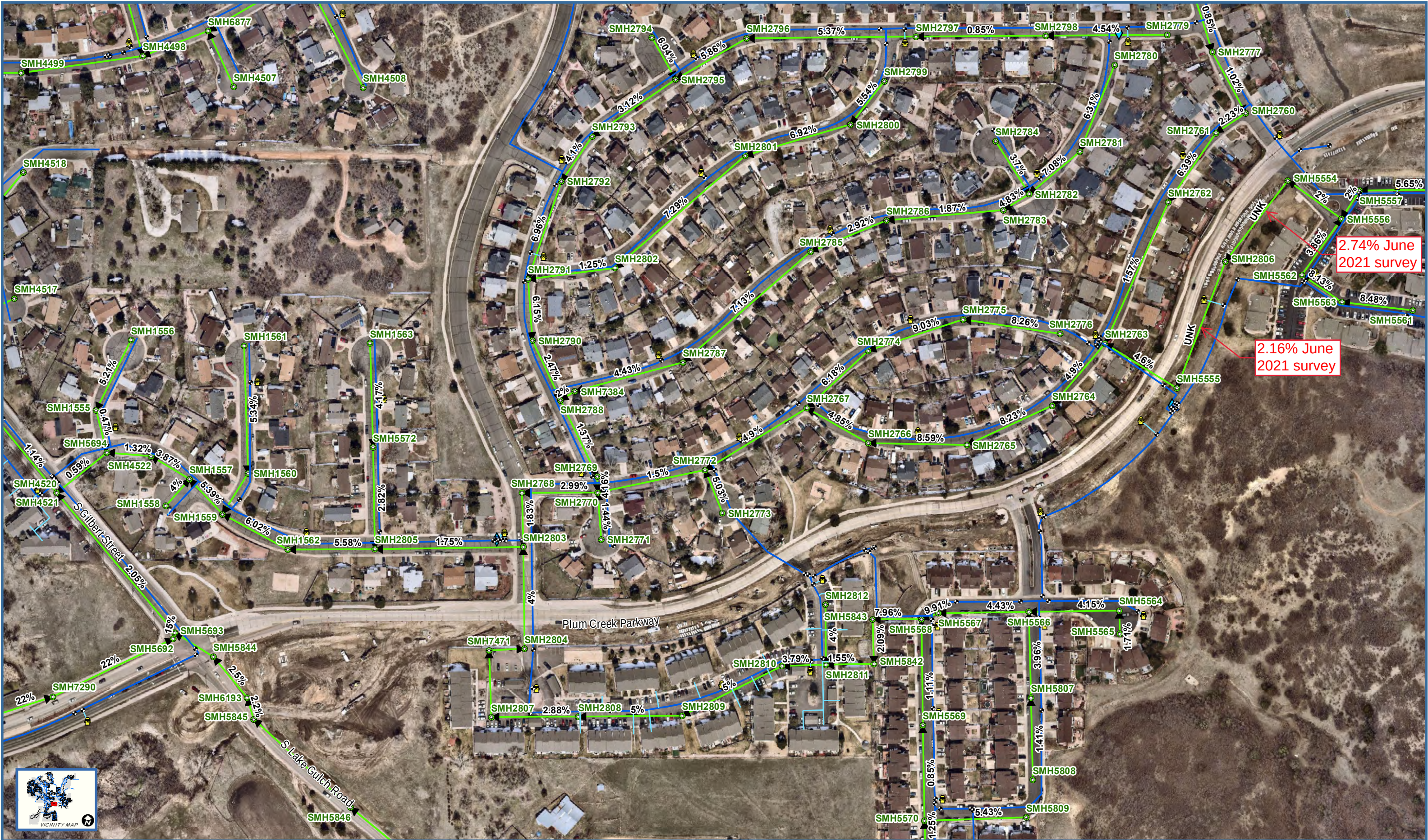


Disclaimer: The data presented has been compiled from various sources, each of which introduces varying degrees of inaccuracies or inconsistencies. Such discrepancies in data are inherent and in supplying this product the Town of Castle Rock assumes no liability for its use or accuracy. Questions or comments regarding the cartographic composition of this map including, but not limited to, errors, omissions, corrections, and/or updates, should be directed to the Utilities Department, Town of Castle Rock, (720) 733-6056. Copyright 2020, Town of Castle Rock Utilities Mapping.

**CASTLE ROCK
UTILITIES MAP
(INTERNAL USE ONLY)**

Document Path: J:\GIS\Standard Maps\10.6\Letter LndScp_10.6.mxd





0 100 200 400 Feet
Date: 5/22/2020 1 inch = 200 feet

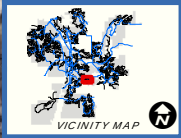
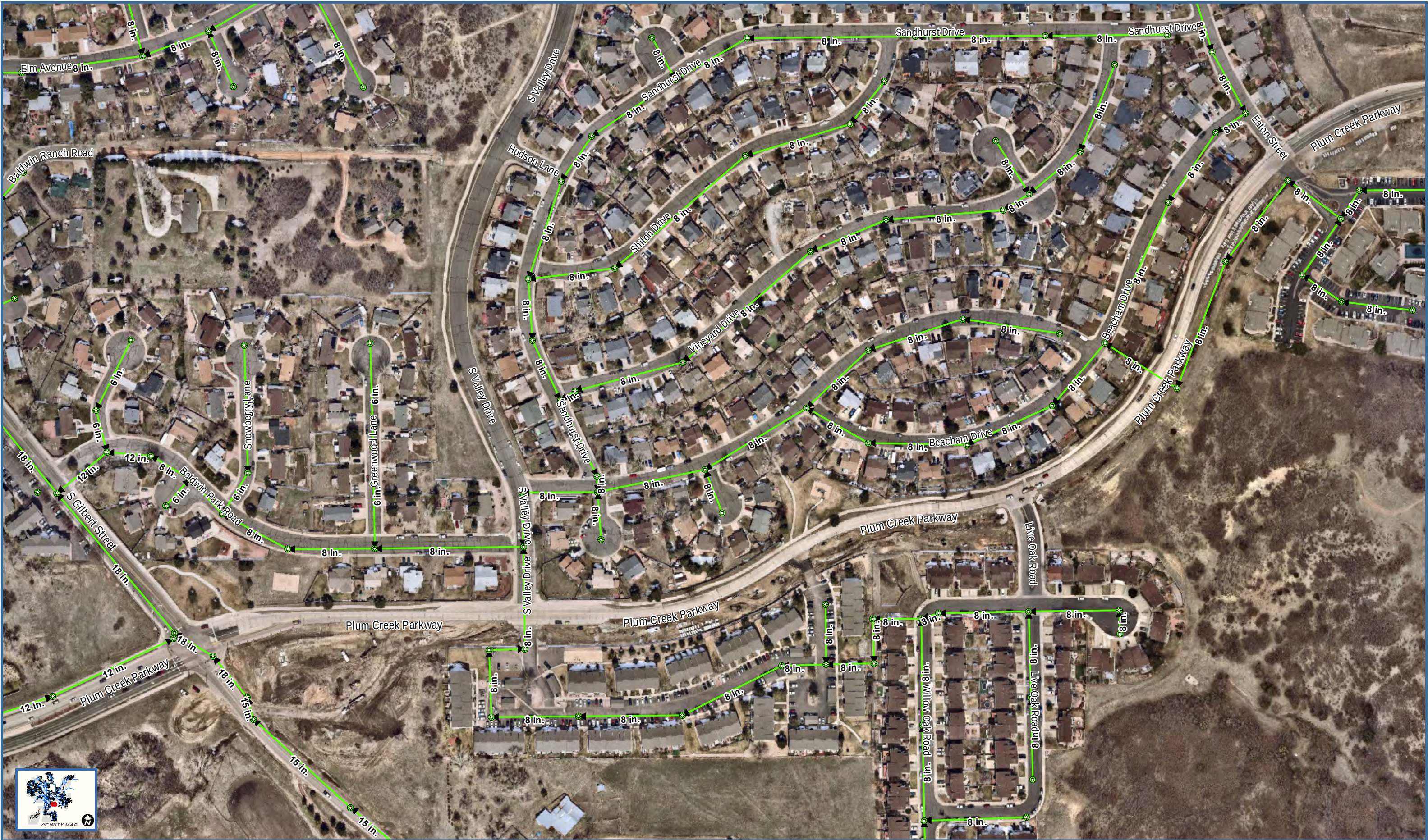


Disclaimer: The data presented has been compiled from various sources, each of which introduces varying degrees of inaccuracies or inconsistencies. Such discrepancies in data are inherent and in supplying this product the Town of Castle Rock assumes no liability for its use or accuracy. Questions or comments regarding the cartographic composition of this map including, but not limited to, errors, omissions, corrections, and/or updates, should be directed to the Utilities Department, Town of Castle Rock, (720) 733-6087. Copyright 2019, Town of Castle Rock Utilities Mapping.

CASTLE ROCK
UTILITIES MAP

- Water Valve
- Water Manhole
- Fire Hydrant
- Water Lateral
- Active Water Main
- Sanitary Sewer Manhole
- Sanitary Sewer

Document Path: \\CRSAN1\UTShare\GIS\Map Requests\2020\External_Request\4_16_2020_PlumCreekPkwy\PlumCreekPkwy_San_Slope.mxd



0 100 200 400 Feet
Date: 4/20/2020 1 inch = 200 feet



Disclaimer: The data presented has been compiled from various sources, each of which introduces varying degrees of inaccuracies or inconsistencies. Such discrepancies in data are inherent and in supplying this product the Town of Castle Rock assumes no liability for its use or accuracy. Questions or comments regarding the cartographic composition of this map including, but not limited to, errors, omissions, corrections, and/or updates, should be directed to the Utilities Department, Town of Castle Rock, (720) 733-6087. Copyright 2019, Town of Castle Rock Utilities Mapping.

**CASTLE ROCK
UTILITIES MAP**

crwater.UTEDIT.SS_Gravity_Main — Active Sanitary Sewer
* Sanitary Sewer Manhole

Document Path: J:\GIS\Map Requests\2020\External_Request\4_16_2020_PlumCreekPkwy\PlumCreekPkwy.mxd



2010 Wastewater Master Plan Update



Prepared by
Castle Rock Water Engineering
March 2011

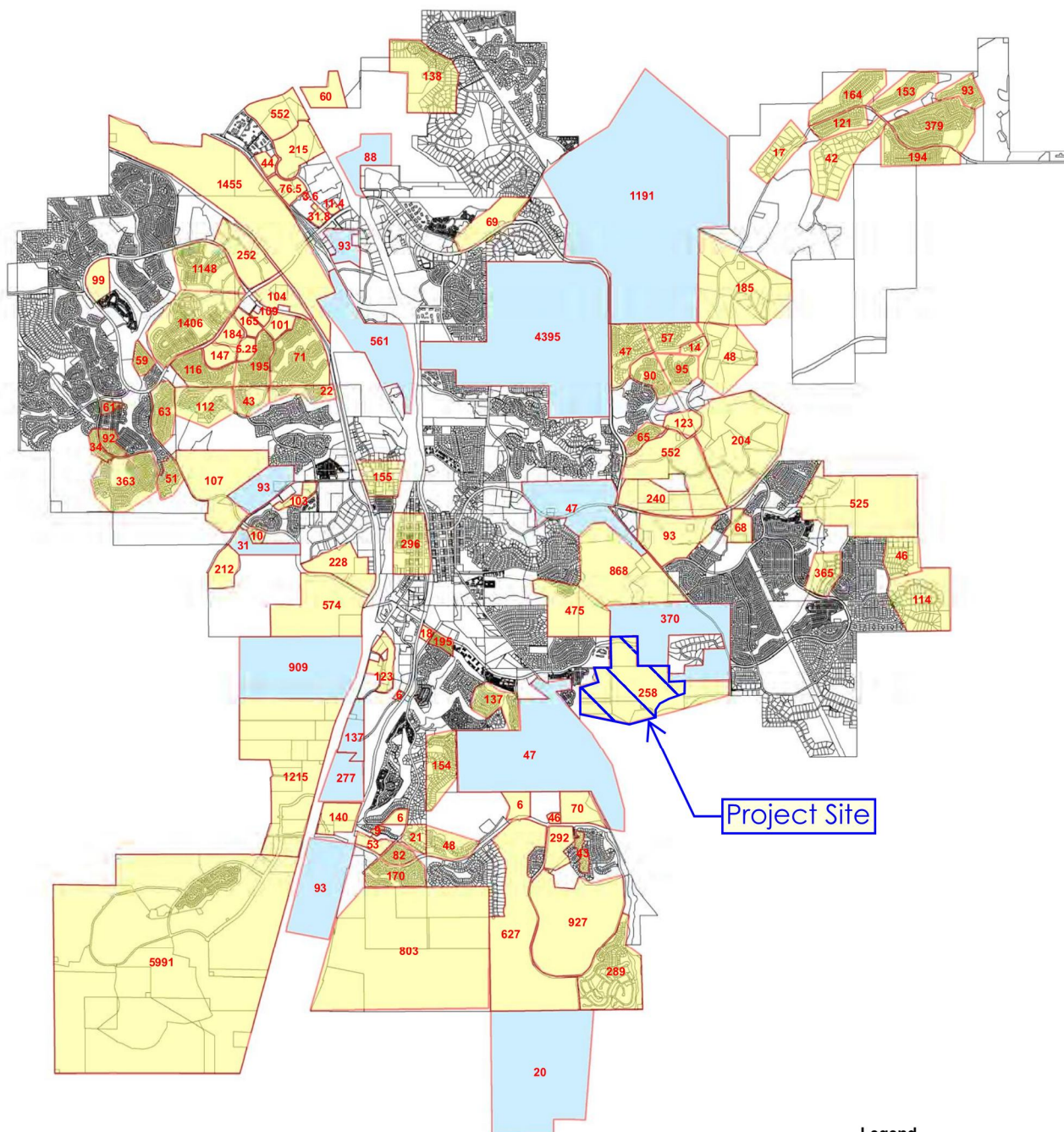
Water Storage

Finished water storage is critical for meeting peak demands and fire flow requirements. The Town has 17 water storage tanks located in the various pressure zones with a total storage capacity of 38.9 million gallons (MG). Table 3-2 provides an inventory of existing water storage tanks. The Town plans to maintain these existing tanks and add several more as the Town continues to grow.

Table 3-2 Finished Water Storage Tank Inventory

Tank ID	Year Built	Capacity (MG)	Diameter (ft)	Height (ft)	Pressure Zone
Tank 3	1980	1.0	92.6	19.1	Purple
Tank 4	1984	1.5	118.0	18.6	Blue
Tank 5	1984	0.5	66.0	19.4	Yellow
Tank 6A	1986	2.0	120.0	23.5	Green
Tank 6B	1997	2.0	120.0	23.5	Green
Tank 6C	2010	2.2	120.0	23.5	Green
Tank 7 ¹	1986	2.0	122.0	22.7	Red
Tank 8	1987	3.0	147.0	24.8	Blue
Tank 9	1989	1.0	96.0	19.3	Purple
Tank 11	1998	1.2	92.5	24.0	Purple
Tank 12A	1999	4.0	172.0	22.8	Yellow
Tank 12B	2007	6.0	172.0	22.8	Yellow
Tank 14	2001	2.0	121.0	23.3	Red
Tank 15	2002	4.0	174.0	22.7	Red
Tank 16	2004	3.1	140.0	27.0	Red
Tank 17A	2005	2.2	136.0	20.6	Red
Tank 17B	2009	2.2	136.0	20.6	Red
Total Storage Capacity		39.9			

¹ Tank 7 is located in Dawson Ridge and currently is not in service. This tank must be evaluated to determine if it can be used in the future.

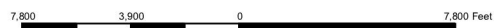


Town Current SFE (14.5 mgd)
 Town Planned SFE 26,509 (26.5 mgd)
 Non-annexed SFE 8,352 (8.35 mgd)

- Legend**
- Build-Out SFE Distribution**
- <all other values>
- Annexed**
- No
 - Yes



Utilities Department
 Planning Numbers
 December 31, 2009



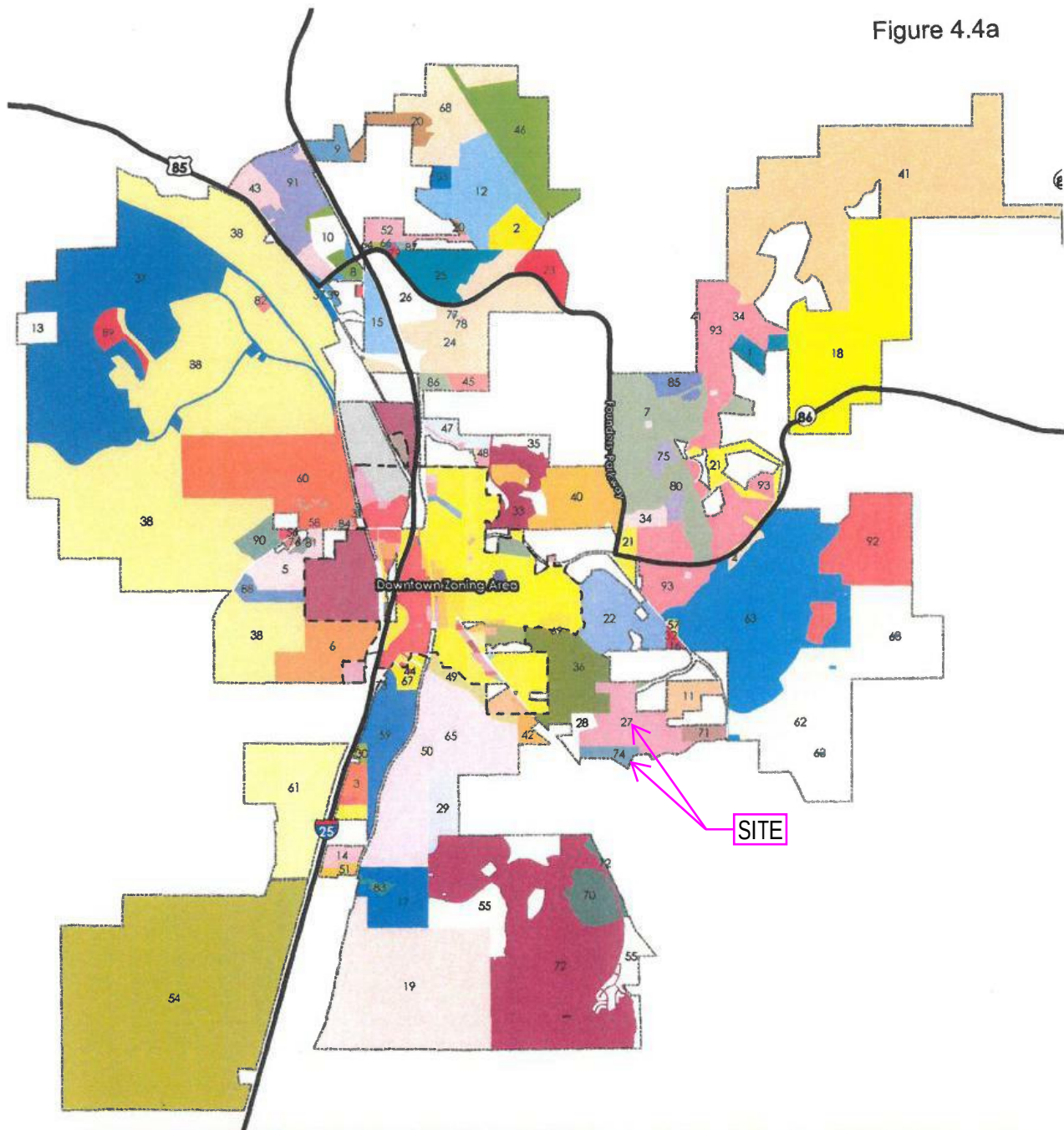


Water Master Plan 2017



Engineering Division

Figure 4.4a



Planned Development Zoning

An inventory of the forms and boundaries of Planned Development zoning and amendments. This map is a summary of the forms and boundaries of Planned Development zoning and amendments. It is not a legal document and should not be used for legal purposes. The map is a summary of the forms and boundaries of Planned Development zoning and amendments. It is not a legal document and should not be used for legal purposes. The map is a summary of the forms and boundaries of Planned Development zoning and amendments. It is not a legal document and should not be used for legal purposes.

Legend



Disclaimer: The data presented has been compiled from various sources, each of which has its own varying degrees of accuracy or technicalities. Such discrepancies in data are inherent and in adopting this product to the public the Town of Castle Rock assumes no liability for its use or misinterpretation. For questions or comments regarding zoning, contact the Planning Department at 303.941.1000 or visit www.castlerock.org/planning.

Copyright 2014, Town of Castle Rock
This map was prepared on 10/22/2014
Outreach No. 2014-04
Revision Date: 7/29/2014
Coordinate System: NAD83 Colorado Central (8803)
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Feet US



1. 1ST AMD TO CASTLE OAKS PRELIM PD SITE PLAN AMD 1
2. BROOKWOOD PD
3. BURT AT CASTLE ROCK PD
4. CAMBRIDGE HEIGHTS PD
5. CASTLE HIGHLANDS MAJOR MODIFICATION
6. CASTLE MEADOWS INTERCHANGE OVERLAY PDP
7. CASTLE OAKS AMENDMENT NO. 1
8. CASTLE PINES COMMERCIAL AMENDMENT (1995)
9. CASTLE PINES COMMERCIAL MAJOR MODIFICATION
10. CASTLE PINES COMMERCIAL PD
11. CASTLE RIDGE PD
12. CASTLE ROCK ESTATES I AMENDMENT
13. CHURCH OF THE ROCK PD
14. CREEKSIDE PD
15. DOUGLAS COUNTY JUSTICE CENTER MAJOR MODIFICATION
16. FAITH LUTHERAN CHURCH PD
17. HECKENDORF RANCH AMENDMENT NO. 2
18. HERITAGE FARM PD
19. THE LANTERNS AMENDMENT NO. 3
20. MAHER RANCH PD
21. MALL AND OFFICE CENTER INFILL
22. MEADOWS YOUNG INFILL
23. METZLER RANCH 2ND MAJOR AMENDMENT
24. METZLER RANCH PD (1996)

25. METZLER RANCH THIRD MAJOR AMENDMENT
26. MILESTONE OFFICE CAMPUS AMENDED (1998)
27. OAKS OF CASTLE ROCK AMENDMENT NO. 1
28. OAKS OF CASTLE ROCK PD
29. PLUM CREEK SOUTH PD
30. PLUM CREEK WEST PD
31. RED HAWK PD32. RIDGE VIEW PD
33. SCOTT RANCH PD
34. VILLAGES AT CASTLE ROCK PD
35. WOODLANDS MINOR MODIFICATION
36. YOUNG AMERICAN PD
37. MEADOWS THIRD AMENDMENT
38. MEADOWS FOURTH AMENDMENT
39. MEADOWS PARKWAY PD
40. WOODLANDS SECOND AMENDMENT
41. LIBERTY VILLAGE 2ND AMENDMENT
42. STANBRO PD
43. CASTLE PINES COMMERCIAL AMENDMENT (2009)
44. CENTRE ON PLUM CREEK FLG 2 AMENDED
45. HAZEN MOORE AMENDMENT
46. MAHER RANCH MAJOR AMENDMENT (PHASE I)
47. SCOTT I MAJOR MODIFICATION
48. SCOTT II AMENDED
49. PLUM CREEK FIRST AMENDMENT

50. PLUM CREEK SECOND AMENDMENT
51. PLUM CREEK POINTE AMENDMENT
52. COOPER-HOOK PD
53. CASTLE ROCK ESTATES II PD
54. DAWSON RIDGE AMENDMENT
55. CRYSTAL VALLEY RANCH MAJOR AMENDMENT
56. ARBORIS PD
57. MT. ZION LUTHERAN CHURCH PD
58. WOLFENBERGER PDP
59. BROOKSIDE BUSINESS CENTER AMENDED
60. RED HAWK AMENDMENT NO. 1
61. WESTFIELD TRADE CENTER 2ND AMENDMENT
62. CASTLEWOOD RANCH MINOR AMENDMENT
63. FOUNDERS VILLAGE AMENDED (1994)
64. 1-25 AND FOUNDERS PKWY CONOCO PD
65. PLUM CREEK AMENDED
66. MAIN PLACE PD
67. MILLER RANCH PD
68. MAHER RANCH MAJOR AMENDMENT (PHASE 2)
69. YOUNG AMERICAN SECOND AMENDMENT
70. CRYSTAL VALLEY RANCH 2ND AMENDMENT
71. OAKS OF CASTLE ROCK AMENDMENT NO. 3
72. CRYSTAL VALLEY RANCH 4TH AMENDMENT

73. DEMIS PD
74. OAKS OF CASTLE ROCK AMENDMENT NO. 4
75. CASTLE OAKS AMEND NO. 1 PPD, 2ND
76. EPIPHANY EVANGELICAL LUTHERAN CHURCH
77. METZLER RANCH PPD 4TH AMENDMENT
78. METZLER RANCH PPD 5TH AMENDMENT
79. SHOPPES ON FOUNDERS
80. CASTLE OAKS AMEND NO. 1 PPD, 3RD
81. ALBURN RIDGE PD
82. MEADOWS PDP NO.1
83. HECKENDORF RANCH PDP AMD NO.3
84. RED HAWK CROSSING PDP
85. CASTLE OAKS ESTATES PDP NO. 1
86. HAZEN MOORE PDP NO. 1
87. MONTANA VISTA PDP
88. COVENANT AT CASTLE ROCK PDP
89. MEADOWS PDP NO. 2
90. HILLSIDE PDP
91. PROMENADE AT CASTLE ROCK PDP
92. BELLA MESA PDP
93. TERRAIN PDP

Water Master Plan 2017 Update

Build-out Planning Numbers

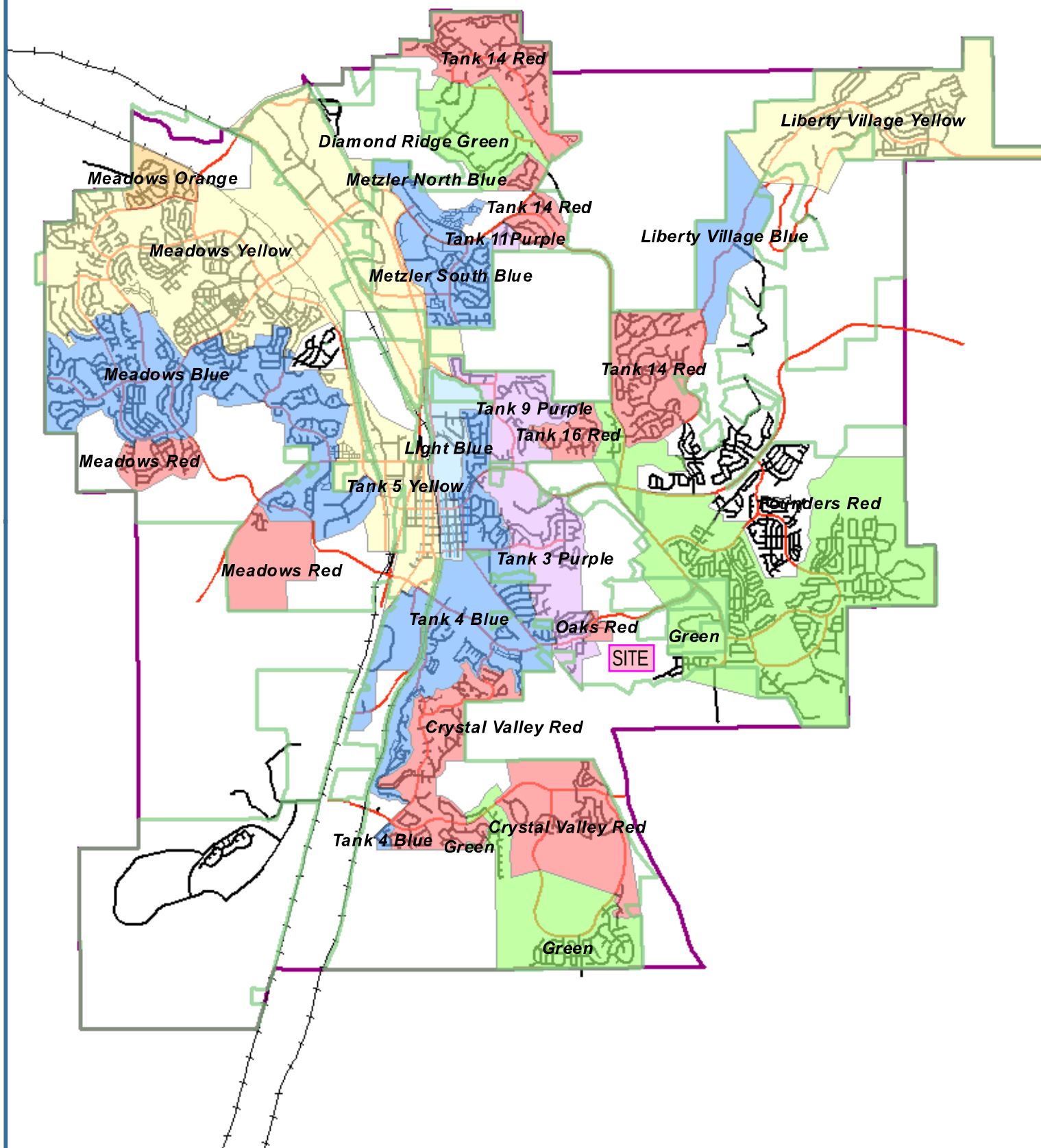
Figure 4.4b

Data through June 30, 2017, please note that these are estimates, and numbers are subject to change

PD #	Planned Developments (year zoned)	MAXIMUM ZONED UNITS			PLATTED (SF) SDP (MF)			Full Growth @ 100% Build Out			COMMENTS
		SF	MF	Total	SF	MF	Total	SF	MF	Total	
56	Arbors (2002)	38	80	118	0	0	0	38	80	118	Undeveloped, proposed to be developed in conjunction with Wildside
81	Auburn Ridge (2013)	0	289	289	0	289	289	0	289	289	Full development is expected in 2018, pending approved zoning & SDP recordation
2	Brookwood (2003)	72	0	72	72	0	72	72	0	72	Full development is expected
4	Cambridge Heights (2003)	0	100	100	0	0	0	0	100	100	Undeveloped, no dates for activity
5	Castle Highlands (1994)	132	358	490	131	300	301	132	358	490	Project completed, no additional lots are platted
6	Castle Meadows (1989)	70	218	288	0	0	0	70	218	288	Full development is expected
7, 75, 80, 85, 93	Castle Oaks / Terrain (2002)	1992	775	2767	1696	0	1696	1992	775	2767	Full development is expected
8, 9, 10, 43, 91	Castle Pines Commercial / Promenade (1987)	0	1550	1550	0	1062	1062	0	1550	1550	Project re-entitled by Alberta Corporation. Total MF build-out equals 1016 MF units, not the previously-entitled 1550 MF units
11	Castle Ridge East (1996)	30	0	30	28	0	28	30	0	30	Project is complete
12 & 53	Castle Rock Estates - Diamond Ridge (1995)	126	0	126	126	0	126	126	0	126	Project is complete
27 & 71 & 74 & 28	Castleview Estates - The Oaks of Castle Rock (1985)	248	326	574	239	0	239	248	326	574	Full development is expected
62	Castlewood Ranch (1998)	1300	0	1300	1288	0	1288	1300	0	1300	Remaining lots platted for sale, most will be custom homes, full development expected
straight zones, downtown	Central Castle Rock (various)	1538	883	2421	1522	791	2313	1538	883	2421	Development nearly complete, approximately 20 SF units remaining
88	Covenant At Castle Rock (2014)	58	0	58	58	0	58	58	0	58	Full development is expected
55, 70	Crystal Valley Ranch (2000)	2722	753	3475	1306	0	1306	2722	753	3475	Full development is expected
54	Dawson Ridge (1986)	2447	5453	7900	0	0	0	2447	5453	7900	Project was entitled in the late 1980's. The property has been vacant since the early 1990's with no specific plans for improvement. All involved with property ownership and development discussions agree that a new land use plan, infrastructure plan, Development Agreement and service plans need to be submitted and approved by Council prior to any development of the site no matter what decision are made on the existing condition
63, 92	Founders Village - Inc. Founders 24 and Bella Mesa (1989)	1754	3667	5421	2634	0	2634	1754	3667	5421	Project is approximately 1/3 built with the expectation of the entitled 5421 residential units will be constructed.
45, 86	Hazen Moore (2000)	243	0	243	161	0	161	243	0	243	Full development is expected
17	Heckendorf Ranch (1985)	406	224	630	301	0	301	406	224	630	A portion of the property is developed. Full development expected
90	Hillside (2005)	120	0	120	0	0	0	120	0	120	Full development is expected
19	Lantens (2003)	1200	0	1200	0	0	0	1200	0	1200	The property was recently entitled for an increase from 548 units to 1200 homes
41	Liberty Village (2004)	1245	0	1245	1212	0	1212	1245	0	1245	Full development is expected
20, 46, 69	Maier Ranch (1988)	2309	100	2409	761	98	857	2309	100	2409	Full development is expected
37, 38, 82, 89	Meadows (1985)	6642	4002	10644	7188	240	7428	6642	4002	10644	The developer consistently states the intent to build the entire number of lots
22	Memorial Young Hill (1985)	559	476	1035	0	0	0	559	476	1035	The property is entitled and undeveloped but questions remain whether the entitled density can be reached due to topography, skyline / Ridgeline and presence of cap rock throughout the property
23 & 24 & 25	Metzler Ranch (1996)	1056	660	1716	727	683	1410	1056	660	1716	It is uncertain at this time if the property will develop to the entitled number of residential homes
49, 50, 65	Plum Creek (1983)	3025	0	3025	1177	360	1537	3025	0	3025	There are areas remaining where additional lots could be plat and homes constructed. It is uncertain at this time if or when the remaining lots will be built
no PD number, downtown map	Plum Creek Ridge (2006)	92	70	162	65	45	110	92	70	162	Full development is expected, MF are Townhomes
29	Plum Creek South (1985)	307	198	505	140	0	140	307	198	505	They are close to completion, approx. 3.5 acres remaining undeveloped on north side of Emerald Drive. Full development is not expected
60	Red Hawk (1996)	658	268	926	887	0	887	658	268	926	Full development is expected
47, 48	Scott II (1987)	85	240	325	78	220	298	85	220	305	This project is complete
42	Shelton P.D. (1997)	92	92	184	0	0	0	92	92	184	Full development is expected
34	Villages at Castle Rock (1991)	0	626	626	0	0	0	0	626	626	Full development is expected
58	Wolfsberger - formerly Graham P.D. (1996)	0	56	56	0	56	56	0	56	56	Full development is expected
40, 33, and 35	Woodlands - Inc. Scott Ranch (1983)	1160	0	1160	551	0	551	1160	0	1160	Lots platted, but not all built Full development is expected
36	Young American (1983)	78	1128	1206	375	188	561	78	1128	1206	Full development is expected
ZONED UNITS											
* MF counts shown approved by SDP											
PLATTED (SF) SDP (MF)											
TOTAL UNITS		31,744	22,572	54,316	27,723	4,228	26,951	31,744	22,572	54,316	approximately 1,725 SFA units within SF lots
POPULATION ESTIMATES		96,682	85,144	181,826	83,878	8,458	77,634	96,294	85,144	181,438	Persons Per Household: 1.04 SFA, 2.34 SFA, 2.00 MF

Pressure Zones

Figure 7.1



Oaks Water Bank

	BALANCE	LAST UPDATED	IMPORTANT NOTES		
	25.92	11/13/2025	N/A		
ENTRY	DATE RECORDED/ PERMIT DATE	RECORDING INFO	SFE DEMAND	SFE SUPPLY	NET
Annexation Contract - 3rd Amendment	10/24/1995	1295/1046		505	505.00
Oak Crest Transfer			15		490.00
Castle Highlands Transfer	8/9/1996	1362/895	118		372.00
Castle Highlands Transfer			9		363.00
Castle Ridge Transfer				127	490.00
Filing 1 Plat[1]	11/7/2001	1106090	122		368.00
1308 Live Oak Irrigation[2]			1		367.00
Plum Creek Ridge Transfer			113		254.00
Archer Transfer			30		224.00
2464 Valley Oak Dr. Irrigation[3]			1		223.00
Filing 3 Plat[4]	6/18/2014	2014032149	51		172.00
Filing 1 Reallocation[5]				1.98	173.98
Filing 1 Reallocation[6]				0.66	174.64
Filing 1 Reallocation[7]				2.64	177.28
Filing 1 Reallocation[8]				0.66	177.94
Filing 1 Reallocation[9]				0.66	178.60
Filing 1 Reallocation[10]				0.66	179.26
Filing 1 Reallocation[11]				0.66	179.92
Filing 1 Reallocation[12]				0.66	180.58
Filing 1 Reallocation[13]				0.66	181.24
Filing 1 Reallocation[14]				0.66	181.90
Filing 1 Reallocation[15]				1.32	183.22
Filing 3 Reallocation[16]	6/1/2020			0.67	183.89
The Oaks Filing 2A			138		45.89
The Oaks Filing 2B			19.97		25.92

Oaks Water Bank - Footnotes

[1] Includes 122 duplex lots @ 1 SFE per unit.

[2] 3/4" irrigation tap (1 SFE)

[3] 3/4" irrigation tap (1 SFE)

[4] Includes 117 lots and a 1.5" irrigation tap (4 SFE); 70 SFE deducted from the Archer Water Bank

[5] Reallocation for 2 lots permitted on 09-30-11 (.66 SFE), 2 lots permitted on 03-31-15 (.66 SFE) and 2 lots permitted on 5-14-15 (.66 SFE), per SFE calculations that became effective on 09-14-11

[6] Reallocation for 2 lots permitted on 07-09-15 (.66 SFE), per SFE calculations that became effective on 09-14-11

[7] Reallocation for 4 lots permitted on 08-13-15 (1.32 SFE), 2 lots permitted on 08-19-15 (.66 SFE) and 2 lots permitted on 10-08-15 (.66 SFE), per SFE calculations that became effective on 09-14-11

[8] Reallocation for 2 lots permitted on 12-11-15, per SFE calculations that became effective on 09-14-11

[9] Reallocation for 2 lots permitted on 03-03-16, per SFE calculations that became effective on 09-14-11

[10] Reallocation for 2 lots permitted on 06-06-16, per SFE calculations that became effective on 09-14-11

[11] Reallocation for 2 lots permitted on 07-06-16, per SFE calculations that became effective on 09-14-11

[12] Reallocation for 2 lots permitted on 09-30-16, per SFE calculations that became effective on 09-14-11

[13] Reallocation for 2 lots permitted on 12-20-16, per SFE calculations that became effective on 09-14-11

[14] Reallocation for 1 lot permitted on 05-02-17 and 1 lot permitted on 05-03-17, per SFE calculations that became effective on 09-14-11

[15] Reallocation for 1 lot permitted on 06-15-17 and 1 lot permitted on 06-27-17 and 2 lots permitted on 6-28-17, per SFE calculations that became effective on 09-14-11

[16] Reallocation for a 1.5" irrigation tap (3.33 SFE) permitted on 6/1/20. Original deduction (Footnote 4) deducts 4 SFE for a 1.5" tap so 0.67 SFE are reallocated.

Anna Sparks

From: Ken Torres <KTorres@crgov.com>
Sent: Wednesday, April 28, 2021 5:23 PM
To: Anna Sparks
Cc: Tess Hogan; hbalpert@msn.com
Subject: RE: PREAPP21-0012 – The Oaks 2A Revised

Hello Anna,

I'm sorry this got lost in the emails. We have been waiting on operations for the actual PRV settings. The red zone will be fed by the prv. For now, an HGL of 6224' for the normal operation and 6200' for the fire condition can be used. Currently, we only have a few services at the bottom of this zone. If these HGL's do not work for your development, we can work with you on adjusting them.

The following green zone HGL's are correct: 6824 (max) / 6805 (20%)

Thank you,

Ken Torres, P.E.
Plan Review Engineer
100 North Wilcox
Castle Rock, Colorado 80104
ktorres@crgov.com
(720) 733-6072

Your feedback is important to us, please let us know how we are doing by taking our Customer Service survey.
<https://www.surveymonkey.com/r/LR35C27>

COVID-19 UPDATES: Find the latest COVID-19 updates from the Town and its government partners, including available community resources and information on how to Work With Us Online, at CRgov.com/COVID.

From: Anna Sparks <anna@innovativelandinc.com>
Sent: Wednesday, April 28, 2021 4:21 PM
To: Ken Torres <KTorres@crgov.com>
Cc: Tess Hogan <tess@innovativelandinc.com>; hbalpert@msn.com
Subject: RE: PREAPP21-002 – The Oaks 2A Revised

Good Afternoon Ken Torres,

The ILC Team is looking for site-specific Green and Red Zone HGLs for the Oaks at Castle Rock Filing No. 2A. There's an existing 12" waterline through the site already and a pressure reducing valve to transition from the green zone down to the red zone. Please let me know what you can find.

Sincerely,

Anna Sparks, P.E., CFM
Project Manager

Innovative Land Consultants, Inc.
12071 Tejon Street, Suite 470
Westminster, CO 80234

Office: 303.421.4224 Ext. 111

anna@innovativelandinc.com
www.innovativelandinc.com



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Thank you.

From: Anna Sparks
Sent: Friday, March 5, 2021 11:41 AM
To: ktorres@crgov.com
Cc: Tess Hogan <tess@innovativelandinc.com>; hbalpert@msn.com
Subject: PREAPP21-002 – The Oaks 2A Revised

Good Morning Ken Torres,

Could we please get the site-specific Green and Red Zone HGLs? Below is the preapp 21-002 The Oaks 2A comment. The associated attachments are included for reference as well.

U2. The Project site is located within two pressure zones (Green, Red) served by an existing transmission line thru the site and a PRV between the two zones. There are two green zone connections from Ridge Rd. The Red Zone has several connections to Plum Creek Parkway. See attached utility and pressure zone maps (Attachments L & M). The existing water distribution system must be extended to serve the proposed lots and two zones may require to relocate or add PRVs. Engineer shall contact Castle Rock Water to confirm the appropriate HGL numbers for this specific site.

Sincerely,

Anna Sparks, P.E., CFM
Project Manager

Innovative Land Consultants, Inc.
12071 Tejon Street, Suite 470
Westminster, CO 80234

Office: 303.421.4224 Ext. 111

anna@innovativelandinc.com
www.innovativelandinc.com



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Thank you.

From: Tess Hogan <tess@innovativelandinc.com>
Sent: Thursday, March 4, 2021 4:06 PM
To: Anna Sparks <anna@innovativelandinc.com>
Subject: FW: PREAPP comment letter and checklists

FYI, see below and attached.

Tess Rae Hogan, PE
President

Innovative Land Consultants, Inc.
12071 Tejon Street, Suite 470
Westminster, CO 80234

Office: 303.421.4224 Ext. 102
Mobile: 303.818.4113

tess@innovativelandinc.com
www.innovativelandinc.com



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Thank you.

From: khenry@henrydesigngroup.com <khenry@henrydesigngroup.com>
Sent: Thursday, March 4, 2021 3:42 PM

To: 'Dave Clinger' <davidclinger@dclinger.com>; hbalpert@msn.com; Tess Hogan <tess@innovativelandinc.com>
Subject: FW: PREAPP comment letter and checklists

Please see attached

Karen Z Henry, PLA



From: Pam Hall <PHall@crgov.com>
Sent: Thursday, March 4, 2021 2:09 PM
To: khenry@henrydesigngroup.com
Cc: Donna Ferguson <DFerguson@crgov.com>
Subject: PREAPP comment letter and checklists

Hi Karen,
I have attached the PREAPP comments and checklists to this email. Please review prior to your scheduled Conference Call via Web-Ex (Tuesday, March 9, 2021 at 3:00 pm) due to COVID-19 precautions.
Thank you!

Pam Hall
Planner I
Development Services
720-733-2205



Your feedback is important to us, please let us know how we are doing by taking our Customer Service survey:
<https://www.surveymonkey.com/r/LR35C27>

COVID-19 UPDATES: Find the latest COVID-19 updates from the Town and its government partners, including available community resources and information on how to Work With Us Online, at [Crgov.com/COVID](https://crgov.com/COVID).

Copy of International Fire Code (2018), Appendix B, Table B105.1(2)

TABLE B105.1(2) REFERENCE TABLE FOR TABLES B105.1(1) AND B105.2

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute) ^b	FLOW DURATION (hours)
Type IA and IB ^a	Type IIA and IIIA ^a	Type IV and V-A ^a	Type IIB and IIIB ^a	Type V-B ^a		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	3
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	4
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

For SI: 1 square foot = 0.0929 m², 1 gallon per minute = 3.785 L/min, 1 pound per square inch = 6.895 kPa.

a. Types of construction are based on the International Building Code.

b. Measured at 20 psi residual pressure.

revised 7/2018



Irrigation System Hydraulic Worksheet

Project Name: The Oaks Filing 2B Date: 03.05.2026
Project Location:

Prepared by: Troy Noser Current TOCR Registration # N/A

Tap Size 0.75 " Source of Pressure LJA
Static Water Pressure: 80 psi

Hydraulic Grade At Zone: 6588 Company TN Design LLC

	Ft. of Copper	Pipe Size (")	K Copper	Friction Loss (from chart)	Flow-GPM	Loss/Gain
Service Line (tap to meter):	16 LF	0.75	K Copper	7.50 /100 FT	10	1.20
Water Meter:		0.75		1.00	10	1.00
Service Line (meter to backflow):	12 LF	0.75	K Copper	7.50 /100 FT	10	0.90
Backflow:		0.75		12	10	12.00
Master Valve:		1		3	10	3.00

Pressure Required at Head: 40

Lateral Allowance: 5.00

Control Valve Allowance: 3.00

Mainline Allowances:							
Length of Mainline	Pipe Material	Size	Gals.				
225	LF CL200BE	1.000 "@	10	GPM	1.42 /100 FT		3.20
0	LF CL200BE	0.000 "@	10	GPM-Looped	0.00 /100 FT		0.00

Elevation: Tap elevation 6,603 High/Low: 6,588 -6.50

Green shading indicates required information you must provide

Total System requirements (PSI) 62.80

Available System Pressure (PSI) 80.00

Town of Castle Rock provides a minimum of 43 psi

Total irrigated area for tap # A is 9,313 sq. ft.