

FINAL UTILITY REPORT

**Little School Daycare
203 Perry Street
PN: 2505-162-00-001
Town of Castle Rock
Sanitary Sewer and Water Supply
Design Report
CD24-0028**

Prepared for: The Little School on Perry St.

Taylor Lewison

Prepared by: Adam Steele

Reviewed by: Mike Beach, P.E.

Dated: December 12, 2024



541 E. Garden Drive, Unit N, Windsor, CO 80550

(970) 663-4552 EMAIL: astele@ridgetopeng.com/mbeach@ridgetopeng.com

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Engineer's Statement:

"I hereby certify that this report for the Final Utility Design of Little School Daycare was prepared by me (or under my direct supervision) in accordance with the provisions of the Town of Castle Rock Standards and Specifications for the Design and Construction of public and private improvements for the Responsible Parties thereof. I understand that the Town of Castle Rock does not and shall not assume liability for utilities designed by others. "

Signature: _____
Registered Professional Engineer
State Of Colorado No. 45088
(Affix seal)



DEVELOPMENT SERVICES
APPROVED

By jkirkpatrick
on 12/16/2024

APPROVED-CD24-0028 Final Util Rpt.pdf
Record Document on File

"(The Little School on Perry St.) hereby certifies that the sewer and water system for (Little School on Perry Street) will be constructed according to the design presented in this report. I understand that the Town of Castle Rock does not and shall not assume liability for the sewer and water system designed and/or certified by my engineer. I understand that the Town of Castle Rock reviews utility plans but cannot, on behalf of (Little School on Perry Street), guarantee that final utility design review will absolve (The Little School on Perry St.) and/or their successors and/or assigns of future liability for improper design. I further understand that approval of the Plat and/or Development Permit does not imply approval of my engineer's utility design."

Attest:

Name of Responsible Party

Notary Public

Authorized Signature

Introduction

The site is ±10,545 sf (±0.245 ac) with two existing buildings, one ±657 sf, and the other ±1,206 sf. The proposed development consists of an expansion of approximately 1,314 SF Building between the two existing buildings.

The existing land use for development is business and the proposed land use is daycare center. The proposed development entails the construction of a daycare center with associated sidewalk, outdoor playground and landscape areas. Other improvements include repaving the existing parking lot, stormwater roof drain conveyance, and landscaping. Existing ground cover around buildings is native grass and soil. Proposed ground cover will be asphalt, buildings, and outdoor playgrounds.

The existing site slopes generally from the East to the West side of the site into existing development and storm infrastructure. The planned development is proposing to install a new water service, sanitary sewer service with grease interceptor, roof drain storm connections, and overlot grading throughout the development, as well as other utilities to the development.

Existing Water System

The site is located within the Town of Castle Rock's Yellow Water Pressure Zone. There is an existing buried water line of undetermined size connected to a spigot along the southeast corner of the existing house building. This water service line leads northeast and connects to a ¾" water meter in the sidewalk adjacent to the site before connecting to a 12" main running along N. Perry St. This main will be tapped by the development to supply a proposed Type K Copper water service.

Proposed Water Supply

The existing water service discussed above shall be removed to the main and a new tap installed at the existing connection. A 1" Type K copper water service line and 1" water meter shall be installed at the existing locations. The final meter size will be determined based on the required demand of the total building water supply fixture units and any additional water usage, as shown on the commercial fixture unit worksheet to be provided to the Town of Castle Rock at the time of building permitting. The water service will be increased to 1.25" after the meter and shall be installed following the existing service path, to connect to the existing building. Any proposed development of the existing water infrastructure needed to serve the site is the responsibility of the developer/owner.

The criteria used for design purposes of this project will follow the Town of Castle Rock Water System Design 2018 Criteria Manual. Per the Criteria Manual, typical Average Daily Demand (ADD) for our proposed use is 5 gallons per student per day. The demand factor for Max Day Demand (MDD) is 2.5 times ADD, and demand factor for Peak Hour Demand (PHD) is 5.5 times the ADD.

Existing Commercial Water Demand

No existing Final Utility Report has been provided to Ridgetop at this time. However, we can estimate the existing ADD as follows:

Existing ADD (Average Daily Demand) = 0.2 gal per 1 SF of building area per day.

The total SF area of the existing buildings is 1,863 SF. Working backwards from the area finds that the existing ADD for the existing site is roughly 372.6 gpd.

Proposed Commercial Water Demand

Using the standards from the Town of Castle Rock Water System Design 2018 Criteria Manual, as well as the estimate made by the calculations earlier in the report, the proposed commercial water demand is as follows. Per the table in section 4.4.1 of the Manual, typical domestic Average Daily Demand (ADD) and Single Family Equivalent (SFE) rates for an Elementary establishment are 5 gpd/student and 0.013/student, respectively. The typical irrigation ADD and SFE rates for an Elementary establishment are 3,000 gpd/total acreage and 7.5/total acreage respectively. The demand factor for Max Day Demand (MDD) is 2.5 times ADD, and demand factor for Peak Hour Demand (PHD) is 5.5 times the ADD.

The following calculations and data are listed below:

Average Day Demand: 5 gpd per student (42 Students Max)
3,750 gpd/TTL acreage (1,144 sf Irrigation)
Max. Day Demand: 2.5 times ADD
Peak Hour Demand: 5.5 times ADD

Average Day Demand	= 5 x 42	= 210 gpd
	= 1,144/43,560 x 3,750	= 98.5 gpd
	210 / (24*60)	= 0.146 gpm
	98.5 / (24*60)	= 0.068 gpm
Maximum Day Demand	= 0.146 gpm x 2.5 + 0.068	= 0.433 gpm
Peak Hour Demand	= 0.146 gpm x 5.5 + 0.068	= 0.871 gpm

The proposed project site will have an actual ADD of 308.5 gpd with an area of 3,177 SF, which is in conformance with the estimated existing commercial water demand. The proposed water line has additionally been upsized from 1" to 1¼" after the meter.

The occupancy group for the site is "Business Group". Both existing buildings as well as the proposed addition have a construction type of V-B and a total area of ±3,180 sf. The site contains no existing or proposed sprinkler systems. The Castle Rock Fire and Rescue Dept. has determined that the total fire flow required for this site is 1,750 GPM minimum at 20-psi residual pressure for a 2-hour duration. This flow must be provided from a minimum of 1 hydrant. Individually, each fire hydrant must supply 1,500 GPM minimum at 20 psi residual pressure (See Appendix A). Given these values, the total required storage has been calculated below:

0.433 GPM x (24*60)	= 623.52 gallons
+ 1,750 x 60 x 2	= 210,000 gallons
Total required storage	= 210,623.52 gallons (0.211 MG)

Existing Wastewater System

Currently wastewater service line exits the west side of the existing house building and travels west, connecting to an 8" main in the alley on the west side of the site. Existing sanitary connection is to be demolished and removed to the main.

Proposed Wastewater System

This development is planning to tap into the existing main west of the site and construct a new 6" wastewater service line to connect to the proposed building. This service line will branch off into three separate connections to the structure, one of which will be through a grease interceptor. The proposed grease interceptor shall be in accordance with the Plum Creek Water Reclamation Authority Code of Rules and Regulations.

Any future development of the existing wastewater infrastructure needed to serve this site is the responsibility of the Developer.

The criteria used for design purposes of this project will follow the Town of Castle Rock Wastewater Collection Design 2018 Criteria Manual. Per the Criteria Manual, typical Average Daily Flow (ADF) for our development is 5 gallons per student per day. The peaking factor (PF) can be found using the equation $PF = 3.65 \times [(ADF)^{-0.168}]$ and Peak Design Flow (PDF) is found using the equation $PDF = (ADF \times PF) + (0.1 \times ADF)$.

Existing Commercial Wastewater Demand

No existing Final Utility Report has been provided to Ridgetop at this time. However, we can estimate the existing ADF as follows:

Required ADF (Average Daily Flow) = 0.1 gal per 1 SF of building area per day.

The total SF area of the existing buildings is 1,863 SF. Working backwards from the area finds that the required ADF for the existing site is roughly 186.3 gpd.

Proposed Commercial Wastewater Demand

Using the standards from the Castle Rock Wastewater Collection Design 2018 Criteria Manual, as well as the estimate made by the calculations earlier in the report, the proposed commercial wastewater demand is as follows.

The maximum PF shall be 5.0, and ADF shall be expressed in units of million gallons per day (MGD).

The following calculations and data are listed below:

Average Day Flow: 5 gpd x maximum number of students

Peaking Factor: $3.65 \times [(ADF)^{-0.168}]$

Peak Design Flow: $(ADF \times PF) + (0.1 \times ADF)$

Average Daily Flow	$= 5 \text{ gpd} \times 42$	$= 210 \text{ gpd}$
	$210 \text{ gpd} / (24 \times 60)$	$= 0.15 \text{ gpm}$
	$210 \text{ gpd} / 1,000,000$	$= 0.00021 \text{ MGD}$

Peaking Factor	$= 3.65 \times [(0.00021)^{-0.168}]$	$= 15.111 > 5$
----------------	--------------------------------------	----------------

Peak Design Flow	$= ((0.00021) \times 5) + (0.1 \times (0.00021))$	$= 1.07 \times 10^{-3} \text{ MGD}$
	$(0.00107) \times 1,000,000$	$= 1,071 \text{ gpd}$
	$1,071 \text{ gpd} / (24 \times 60)$	$= 0.74 \text{ gpm}$

The proposed project site will have an average daily flow of 210 gpd, and a peak flow of 1,071 gpd. Comparing these values to the 186.3 gpd estimated earlier in this report shows that the proposed wastewater demand for the project site is no longer in compliance with the estimated existing calculations.

To account for the increase in wastewater from the site, Ridgetop has proposed a new 6" sanitary line with three branches leading towards different parts of the building. One of these branches is to have a 750 gallon grease interceptor and cleanouts. With these proposed improvements, Ridgetop believes the increased wastewater can be properly managed throughout the site.



DATE: October 22, 2024
TO: Town of Castle Rock
FROM: Mike Beach, P.E.
PROJECT: Little School on Perry St. – CD24-0028
SUBJECT: Fire Flow Confirmation Memo

Introduction

The site is $\pm 10,545$ sf (± 0.245 ac) with two existing buildings, one ± 657 sf, and the other $\pm 1,206$ sf. The proposed development consists of an expansion of approximately 1,314 SF Building between the two existing buildings. The existing land use for development is business and the proposed land use is daycare center. The proposed development entails the construction of a daycare center with associated sidewalk, outdoor playground and landscape areas.

Fire Flow Analysis

The 2021 International Fire Code was used to calculate the values within this memo. The occupancy group for the site is "Business Group". Both existing buildings as well as the proposed addition have a construction type of V-B and a total area of $\pm 3,180$ sf. The site contains no existing or proposed sprinkler systems.

The total fire flow required for this site is 1750 GPM minimum at 20 -psi residual pressure for a 2 -hour duration. This flow must be provided from a minimum of 1 hydrant. Individually, each fire hydrant must supply 1,500 GPM minimum at 20 psi residual pressure.

Alayna Moore

Digitally signed by Alayna Moore
DN: C=US,
E=amoores@cr.gov.com,
O=Castle Rock Fire and
Rescue, CN=Alayna Moore
Date: 2024.10.28 13:51:44-06'00'

Castle Rock Fire & Rescue Dept.

10-28-2024

Date



Commercial Business Building Permit Grease Interceptor Requirement

All Commercial Business Building Permits for new business and construction of new buildings, remodels, or tenant improvement permits will be required to comply with Town Code 13.05, Grease Interceptors Required. Applicant will be required to submit an Industry Information Questionnaire through Plum Creek Water Reclamation Authority (PCWRA) to verify if the business will require an oil/grease interceptor. Please go to the PCWRA website at:

https://www.pcwracolorado.org/pretreatment/commercial_businesses/index.php

CONSTRUCTION DRAWINGS

Please note PCWRA requires all new commercial buildings to provide a stub-out for a separate waste line for future interceptor installation, if not proposed with the project. All drainage fixtures and grease waste lines that are tied to the oil/grease must be shown in the construction drawings as well as the location of the oil/grease.

ACKNOWLEDGEMENT

The applicant must sign and date this form to acknowledge that the applicant has read and understands the Town's Code requirement regarding Grease Interceptors, PCWRA's requirement to complete an Industry Information Questionnaire and Food Service Application, and the Town's requirement that a letter from PCWRA must be provided with the Town of Castle Rock Building Permit. This signed form is required to be included in the Utility Report with the Predevelopment Plan (PDP), Site Development Plan (SDP) and Construction Document (CD) submittals.

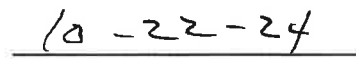
The Little School on Perry Street

Name of Project

203 Perry St Castle Rock, CO 80104

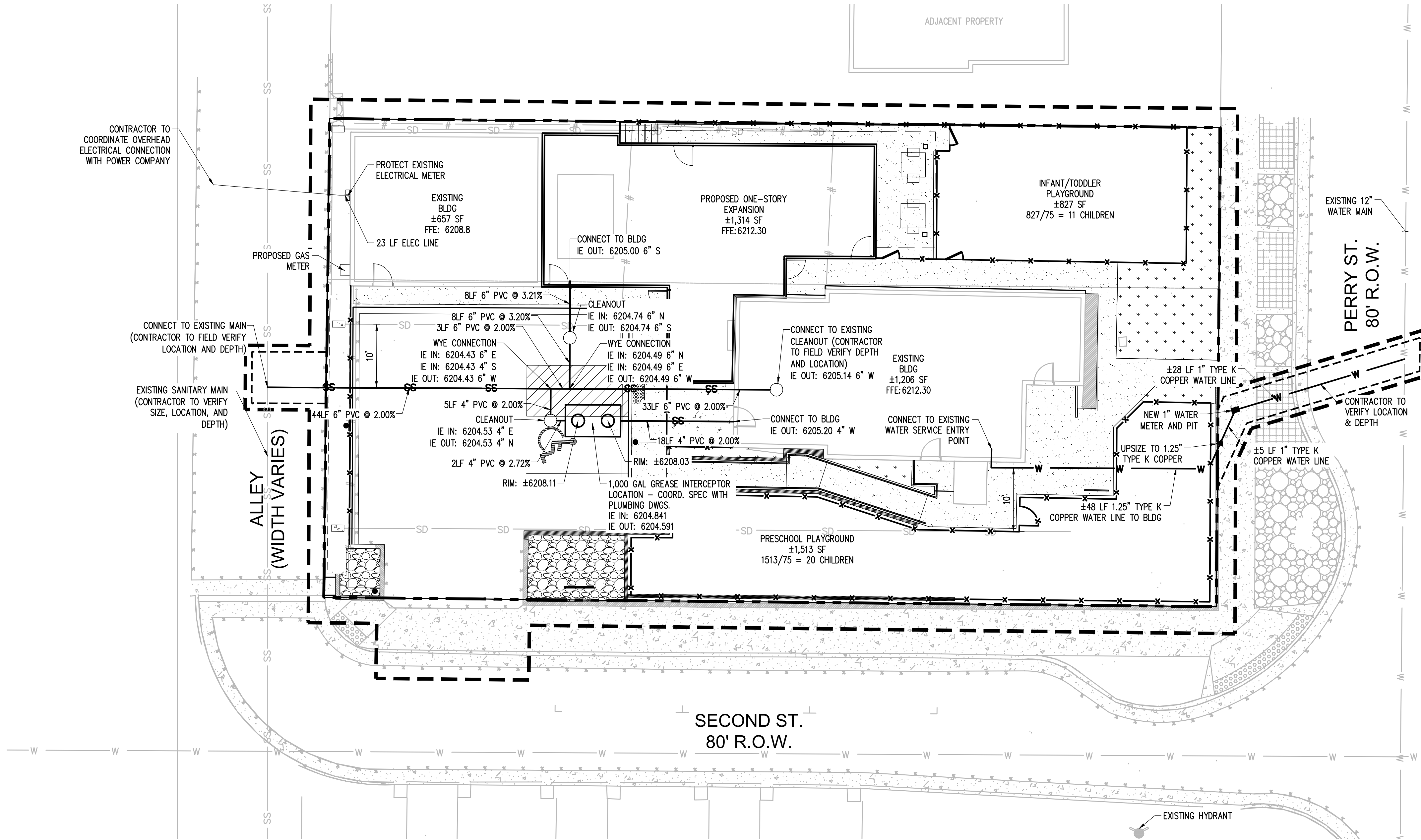
Address of property, if known


Signature


Date

File: CD-CRUSTJ300U.dwg Path: P:\Colorado\castle rock\outdoor design group\#23-222-002\Drawings\ Plotted by: Adam Date: 12-Dec-24 10:07:15am

PUBLIC IMPROVEMENT CONSTRUCTION PLANS
THE LITTLE SCHOOL ON PERRY STREET
LOT 6 & S 1/2 OF LOT 5, BLOCK 22, TOWN OF CASTLE ROCK
LOCATED IN THE NORTHWEST QUARTER OF SECTION 11, TOWNSHIP 8, RANGE 67 WEST OF THE 6TH P.M.
TOWN OF CASTLE ROCK, COUNTY OF DOUGLAS, STATE OF COLORADO
TOWN OF CASTLE ROCK PROJECT NO. CD24-0028



LEGEND	
	PROPERTY LINE
	LIMITS OF DISTURBANCE
	CURB AND GUTTER
	FENCE
	BUILDING SETBACK
	PROPOSED BUILDING
	WATER LINE
	SEWER LINE
	GAS LINE
	ELECTRIC LINE
	COMMUNICATIONS LINE
	STORM DRAIN LINE
	SANITARY MANHOLE

GENERAL UTILITY NOTES

- ALL IMPROVEMENTS SHALL MEET LOCAL, STATE DOT AND A.P.W.A. STANDARD SPECIFICATIONS.
- REFER TO INTERIOR PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES.
- ALL FILL MATERIAL SHALL BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
- CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
- MINIMUM WATER AND SANITARY SEWER TRENCH WIDTH SHALL BE 2 FEET.
- ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 18" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
- IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATERLINES, SANITARY LINES, STORM LINES AND GAS LINE (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING, THE WATERLINE SHALL BE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 18" CLEARANCE, MEETING REQUIREMENTS OF ANSI A21.10 AND ANSI A21.11 (AWWA C-151) (CLASS 50).
- ALL LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
- CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE SPECIFICATIONS OF THE LOCAL AUTHORITIES WITH REGARD TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
- ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICE.
- CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
- CONTRACTOR TO PROVIDE TRENCHING, BACKFILL, 2 - 4" PVC SCHEDULE 40 CONDUITS, AND PULLING WIRES FOR UNDERGROUND TELEPHONE SERVICE FROM EXISTING FACILITIES AS SHOWN ON PLANS. CONTRACTOR TO COORDINATE INSTALLATION AND POINT OF CONNECTION WITH UTILITY PROVIDER.
- CONTRACTOR IS TO PROVIDE TRENCHING, CONDUIT, AND BACKFILL FOR ALL UNDERGROUND POWER LINE AND VAULTS AS REQUIRED BY UTILITY PROVIDER. POWER LINES AND POLES TO BE INSTALLED BY UTILITY PROVIDER. SEE SITE ELECTRICAL PLAN FOR SITE LIGHTING AND FOR PRIMARY ELECTRIC SERVICE LOCATIONS.
- GAS PIPING SHOWN FOR COORDINATION ONLY. INSTALLATION OF THE GAS MAIN AND METER TO BE ACCOMPLISHED BY UTILITY PROVIDER.
- BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED INSIDE THE BUILDING FOR EACH APPLICABLE USE INCLUDING DOMESTIC, FIRE, AND IRRIGATION SYSTEMS. CONTRACTOR SHALL COORDINATE AND SUPPLY A BACKFLOW TEST REPORT TO THE WATER AND SEWER DEPARTMENT UPON INSTALLATION. OWNER IS REQUIRED TO SUPPLY AN ANNUAL BACKFLOW TEST REPORT TO THE WATER AND SEWER DEPARTMENT.

UTILITY NOTES

NOTE: ALL STREET CUTS FOR UTILITY CONNECTIONS WITHIN THE R.O.W. REQUIRE A R.O.W. PERMIT. MUST BE BACKFILLED WITH FLOWABLE FILL. PERIMETER SHALL BE SAW CUT AND EDGE MILLED. A MILL AND OVERLAY MAY BE REQUIRED. COORDINATE WITH THE CONSTRUCTION INSPECTOR.

- ALL PROPOSED EASEMENTS MUST BE RECORDED PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS. REVISED: 11/5/2019
- THE MINIMUM SEPARATION BETWEEN WATERLINES, SANITARY SEWER AND STORM SEWER LINES IS 10 FEET.
- THE MINIMUM SEPARATION BETWEEN WATER SERVICE LINES IS 5 FEET.
- THIS SITE IS LOCATED WITHIN THE TOWN OF CASTLE ROCK YELLOW WATER PRESSURE ZONE.
- THE GREASE INTERCEPTOR USED ON THIS SITE SHALL BE IN ACCORDANCE WITH THE PLUM CREEK WATER RECLAMATION AUTHORITY CODE OF RULES AND REGULATIONS.
- THE FINAL METER SIZE WILL BE DETERMINED BASED ON THE REQUIRED DEMAND OF THE TOTAL BUILDING WATER SUPPLY FIXTURE UNITS AND ANY ADDITIONAL WATER USAGE, AS SHOWN ON THE COMMERCIAL FIXTURE UNIT WORKSHEET TO BE PROVIDED TO THE TOWN OF CASTLE ROCK AT THE TIME OF BUILDING PERMITTING.

NOTE: CURRENT PLAN SET IS NOT FOR CONSTRUCTION



Know what's below.
Call before you dig.

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 STANDARDS AND STATUTES, RESPECTIVELY; AND THAT I AM FULLY RESPONSIBLE FOR ALL DESIGN AND REVISIONS RELATIVE TO SAID PLANS.

MICHAEL ROBERT BEACH, P.E. NO. 45088

DATE

NOTE: PER THE RECORDED PLAT AND AFTER REVIEW OF THE TITLE COMMITMENT, THE ONLY EASEMENTS ON THIS SITE ARE UTILITY AND BLANKET IN NATURE.

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

LOGO



SEAL



PROJECT TITLE

LITTLE SCHOOL
ON PERRY ST

203 PERRY ST.
CASTLE ROCK, CO 80104

PREPARED FOR

MISSION CAPITAL
PROPERTIES
BAYSIDE

16 SUN GLOW LN
LAS VEGAS, NV 89135

SUBMITTAL

CONSTRUCTION
DOCUMENTS

DRAWN BY: KNW

CHECKED BY: MRB

PROJECT NO.: 23-222-002

REVISIONS

RESUBMITTAL 11/06/24

RESUBMITTAL 12/02/24

RESUBMITTAL 12/12/24

DATE

08/31/2023

SHEET TITLE

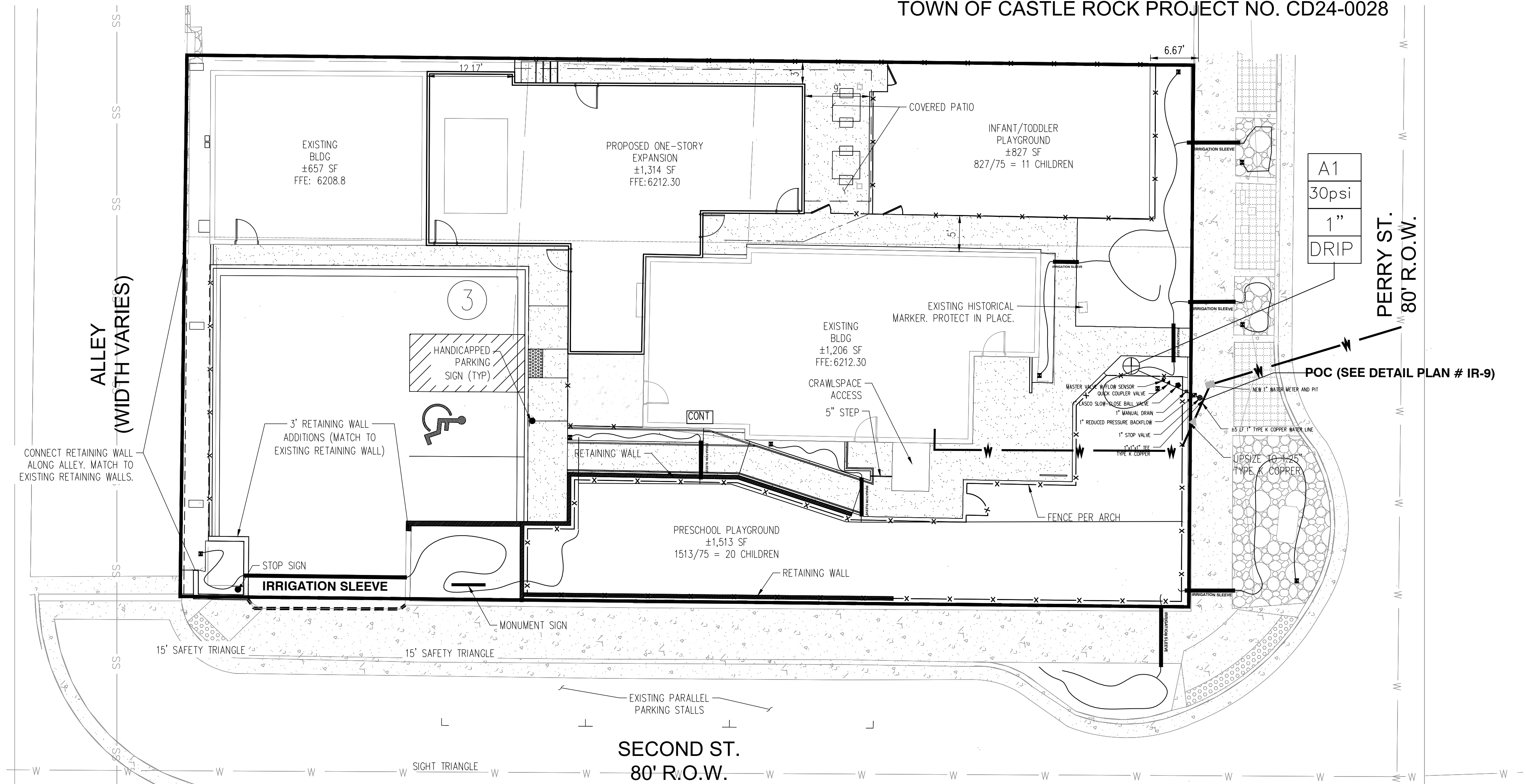
GENERAL
UTILITY PLAN

SHEET INFORMATION

C-3.0

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PUBLIC IMPROVEMENT CONSTRUCTION PLANS
THE LITTLE SCHOOL ON PERRY STREET
LOT 6 & S 1/2 OF LOT 5, BLOCK 22, TOWN OF CASTLE ROCK
LOCATED IN THE NORTHWEST QUARTER OF SECTION 11, TOWNSHIP 8, RANGE 67 WEST OF THE 6TH P.M.
TOWN OF CASTLE ROCK, COUNTY OF DOUGLAS, STATE OF COLORADO
TOWN OF CASTLE ROCK PROJECT NO. CD24-0028



Landscape and Irrigation Notes:

- Installing contractor shall contact Castle Rock Water at 720.733.6017 to schedule a pre-construction meeting before beginning the installation of the landscaping.
- Landscape and irrigation shall be installed by a Town of Castle Rock registered landscape contract professional.
- Soil inspection is required before plant installation and scheduling soil inspection should be discussed at the landscape preconstruction meeting.
- Installing Contractor is to provide submittal from suppliers for sod and native seed mix at time of landscape inspection.
- 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.
- Trees, large shrubs and permanent objects are not permitted in water, sanitary and storm sewer utility easements.
- All landscape is to be installed per Town of Castle Rock planting details.
- 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.
- 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)
- Town permit and Town approved landscape plans are required on site during installation of the landscape and irrigation.
- Town inspectors will not approve landscape and overhead irrigation on slopes steeper than 3:1.
- Overhead irrigation is not permitted on slopes equal to 3:1 or in areas less than 10' in width.

Irrigation Sheets

- 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.
- Irrigation shall be installed by a Town of Castle Rock registered landscape contract professional.
- 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.
- 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.
- 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.

- 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.
- All irrigation installations must meet Town of Castle Rock details
- 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.
- 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
- Irrigation systems are to be winterized annually in the fall.

CLWUR CHART (LWUR X IA) /TA								
IRRIGATION ZONE	PLANT NAME	APP. RATE (INCHES/MONTH)	ZONE (VL, L, M, H)	% OF TOTAL AREA	IA (Irrigated area in SF for each zone)	LWUR (Landscape Water Use Rating)	TA (Total area of all irrigated landscape zones)	CLWUR (LWUR X IA/TA)
Drip	Deciduous Shrub and Perennial beds	2	Low	100%	1,144 SF	2	1,144 SF	2
TOTALS					1,144 SF			2

TOWN OF CASTLE ROCK IRRIGATION CHART											
Registered Professional: Robert Molloy Registration PLA #0001064 Date: November 6, 2024 Company Name: Planscapes LLC Address: 980 Norway Maple Drive Loveland CO Phone: 970-988-5301 Email: rmmolloy@men.com Clock/Make: Hunter Model: PRO-HC Monday, Wednesday, Friday (west side of I-25) Tuesday, Thursday, Saturday (east side of I-25)											
Zone	Hydrozone (Very Low (V), Low (L), Medium (M), High (H))	Plant Type (urf, native, shrubs, perennials, trees, annuals, etc.)	Head Type (jetters, sprays, bubblers, drip, SCS, etc.)	Nozzle (nozzle/emitter size)	App. Rate (inches/month)	GPM (per zone)	Inches/Month (peak not to exceed 1" per month or 1.5" per week)	Run Time (minutes per month)	Run Time (minutes per day)	Water Usage (gallons per month)	
1	Low	Shrub	Drip	1 gph	0.28	1	2.89	667	67	667	
Total								Min/month	Min/cycle	Gallons/month	

IRRIGATION LEGEND

☒ REMOTE CONTROL VALVE ASSEMBLY FOR SPRINKLER LATERALS HUNTER IVC 1"

▲ 1" QUICK COUPLER VALVE ASSEMBLY HUNTER HQ -SRC WITH YELLOW RUBBER COVER, RED BRASS, AND STAINLESS STEEL

CONTR SPRINKLER CONTROL BOX HUNTER C-CORE 01

☒ 1" LESCO BALLVALVE DRAIN

● HUNTER IVC-101G 1" MASTER VALVE AND WEATHERTAK WTFLOW-P-100 FLOW SENSOR

A1 30psi 1" DRIP

INDICATES CONTROLLER STATION

A1 15 1" DRIP

INDICATES LATERAL DISCHARGE (GPM)

INDICATES VALVE SIZE (INCHES)

INDICATES LANDSCAPE APPLICATION

— LATERAL PIPE TO SPRINKLERS: CLASS 200 PVC 1 INCH AS SHOWN ON PLAN

~ LATERAL PIPE TO EMITTERS: UV RADIATION RESISTANT POLYETHYLENE (3/4-INCH SIZE, ROUTING DIAGRAM) SHOWN WITHIN DRIP HATCHED AREAS

— SLEEVE PIPE UNDER PAVEMENT: CLASS 200 PVC 2 INCH AS SHOWN ON DETAIL SHEET

RAIN SENSOR RSD SERIES RAIN SENSOR

MANUAL DRIP LINE FLUSH VALVE AND ZONE OPERATION INDICATOR ASSEMBLY

FEBCO 1" BACKFLOW PREVENTER

MATCO 1" THREADED GATE VALVE ASSEMBLY

1" LASCO SLOW-CLOSE BALL VALVE

ANNUAL WATER NEEDS

LOW WATER ZONE
1,144sf x 7gal.= 8,000 gallons annually

COMPOSITE LANDSCAPE WATER USE RATING CHART	
LANDSCAPE ZONE	LWU RATING RANGE
Very low	0.0 to 1.5
Low Water Use	+1.5 to 3.0
Moderate Water Use	+3.0 to 4.5
High Water Use	+4.5

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 STANDARDS AND STATUTES, RESPECTIVELY, AND THAT I AM FULLY RESPONSIBLE FOR ALL DESIGN AND REVISIONS RELATIVE TO SAID PLANS.

MICHAEL ROBERT BEACH, P.E. NO. 45088 DATE

TOWN APPROVAL BLOCK

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

APPROVED BY: DATE

DEVELOPMENT SERVICES DATE

LOGO

RIDGE TOP
ENGINEERING & SURVEYING
541 E. Garden Drive, Unit N Windsor, CO 80550
T (970) 663-4552 W ridgetopeng.com

SEAL

ROBERT MICHAEL MOLLOY
0001064
06/13/2014
Original Date of Licensure
Robert Molloy
STATE OF COLORADO
LICENSED LANDSCAPE ARCHITECT

PROJECT TITLE

LITTLE SCHOOL ON PERRY ST

203 PERRY ST.
CASTLE ROCK, CO 80104

PREPARED FOR

MISSION CAPITAL PROPERTIES BAYSIDE

16 SUN GLOW LN
LAS VEGAS, NV 89135

811
Know what's below.
Call before you dig.

SUBMITTAL

CONSTRUCTION DOCUMENTS

DRAWN BY: #####

CHECKED BY: MRB

PROJECT NO.: 23-222-002

REVISIONS

DATE

08/31/2023

SHEET TITLE

IRRIGATION PLAN

SHEET INFORMATION

IR 1

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