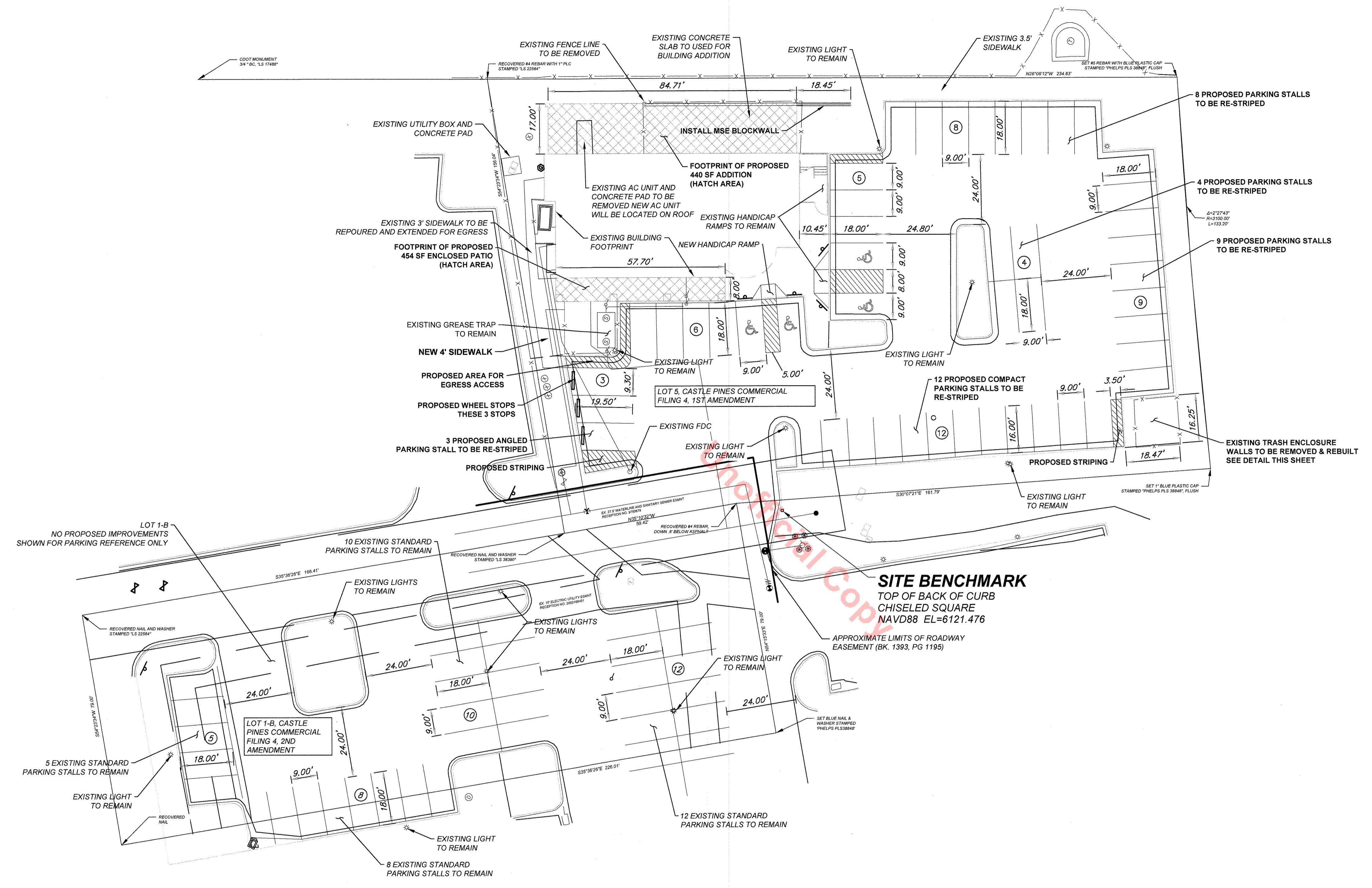




### SITE DEVELOPMENT PLAN, AMENDMENT NO. 3 LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4, 1ST AMENDMENT AND LOT 1-B, CASTLE PINES COMMERCIAL FILING NO. 4, 2ND AMENDMENT BEING A PART OF SE 1/4 OF SECTION 27, T7S, R67W OF THE 6TH P.M. COUNTY OF DOUGLAS, STATE OF COLORADO



#### LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- LOT LINE
- SETBACK LINE
- RIGHT-OF-WAY
- EXISTING RIGHT-OF-WAY
- PROPERTY LINE
- EXISTING BOUNDARY LINE
- EXISTING SECTION LINE
- TRACT
- EASEMENT LINE
- EDGE OF PAVEMENT
- PROPOSED CURB & GUTTER
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING STORM SEWER
- EXISTING FENCE
- EXISTING FIRE HYDRANT
- EXISTING SANITARY MANHOLE
- PARKING/TRAFFIC SIGN
- PARKING MARKING
- PARKING STRIPING
- WATER METER
- EXISTING TELEPHONE PEDESTAL
- EXISTING GATE VALVE
- EXISTING WATER VALVE
- EXISTING IRRIGATION VALVE
- EXISTING ELECTRICAL PEDESTAL
- EXISTING GAS METER
- PARKING COUNT
- EXISTING GROUND ELEVATION
- PROPOSED GROUND ELEVATION
- TOP OF SLAB
- TOP OF WALL
- BOTTOM OF WALL
- FINISHED GRADE

#### NOTE:

- NO IMPROVEMENTS ARE PROPOSED ON LOT 1-B. IT IS SHOWN FOR REFERENCE TO EXISTING PARKING ONLY.
- THE ONLY SITE IMPROVEMENTS ARE THE PROPOSED BUILDING ADDITION, PARKING STRIPING, & LANDSCAPING.
- EXISTING SITE LIGHTING TO REMAIN.

#### ZONE: COMMERCIAL

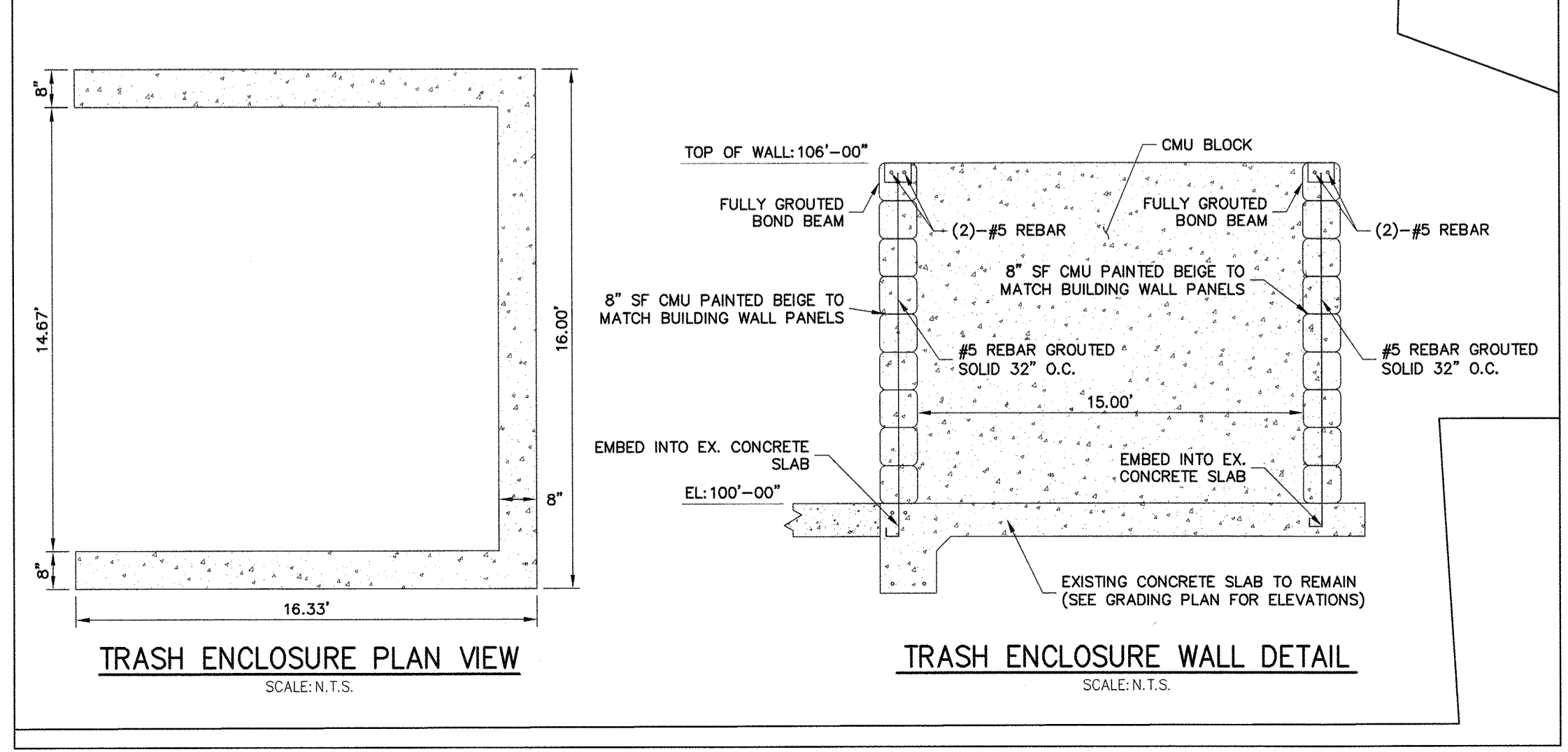
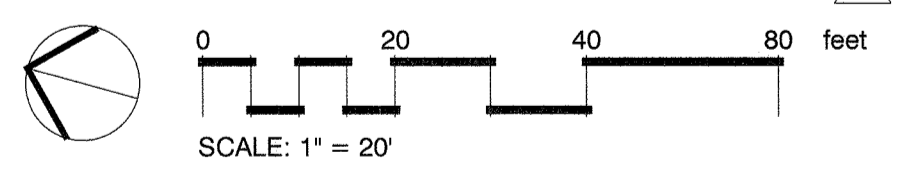
LOT 5, 0.74 ACRES, 32,234 SF

#### BENCHMARK

FOUND COLORADO DEPT. OF TRANSPORTATION  
RIGHT-OF-WAY MONUMENT, +/- 98 FEET NORTHWEST OF  
EASTERLY MOST NORTHEAST CORNER OF SITE, NAVD88  
ELEVATION = 6126.65 FEET.

#### BASIS OF BEARINGS

BASIS OF BEARINGS: NORTH AMERICAN DATUM OF 1983, 1992  
ADJUSTED (NAD83/92) COLORADO STATE PLANE CENTRAL ZONE  
COORDINATE SYSTEM GRID - BEARING DETERMINED BY  
LOCATING NORTH LINE OF LOT 1-B, EXTENDED WESTERLY  
(301.33 FEET IN LENGTH), BOTH ENDS OF SAID LINE  
MONUMENTED WITH A NAIL & WASHER. THE EAST POINT  
WASHER STAMPED "LS 22564" - WEST POINT NOT LEGIBLE -  
BEARING OF LINE: SOUTH 54°23'34" WEST



#### CIVIL ENGINEER'S CERTIFICATE

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.

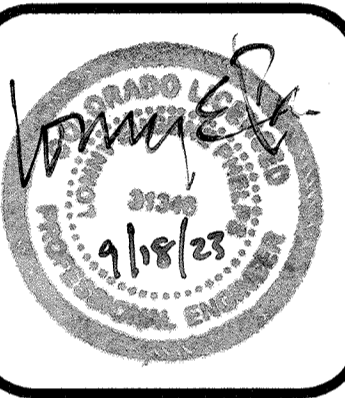
*Lonny Phelps*  
LONNY PHELPS, P.E.  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF COLORADO NO. 31346  
PHELPS ENGINEERING SERVICES

9/15/23  
DATE

SITE DEVELOPMENT PLAN AMENDMENT NO. 3  
LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4 & LOT 1-B CASTLE PINES  
COMMERCIAL FILING NO. 4, 2ND AMENDMENT SDP23-0015

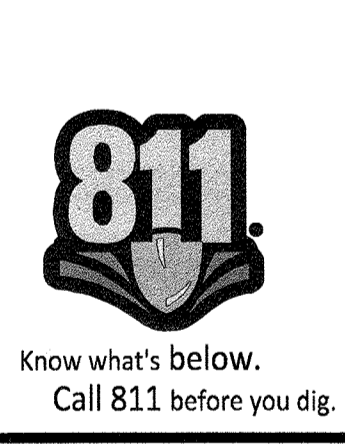
NO.	REVISIONS	DATE	BY
1	TOWN OF CR COMMENTS	7/26/23	KRM

**PHELPS ENGINEERING**  
7200 E. Hampden Ave., Suite 300  
Denver, CO 80224 (303) 298-7644  
www.phelpsengineering.net



SCALE: AS SHOWN
DESIGNED BY: CT
DRAWN BY: KRM
CHECKED BY: CT

SITE PLAN



LOT 5 & 1-B, CASTLE PINES  
COMMERCIAL FILING NO. 4  
810 NEW MEMPHIS CT  
CASTLE ROCK, CO 80108  
STATE PARCEL # 2351-274-04-010

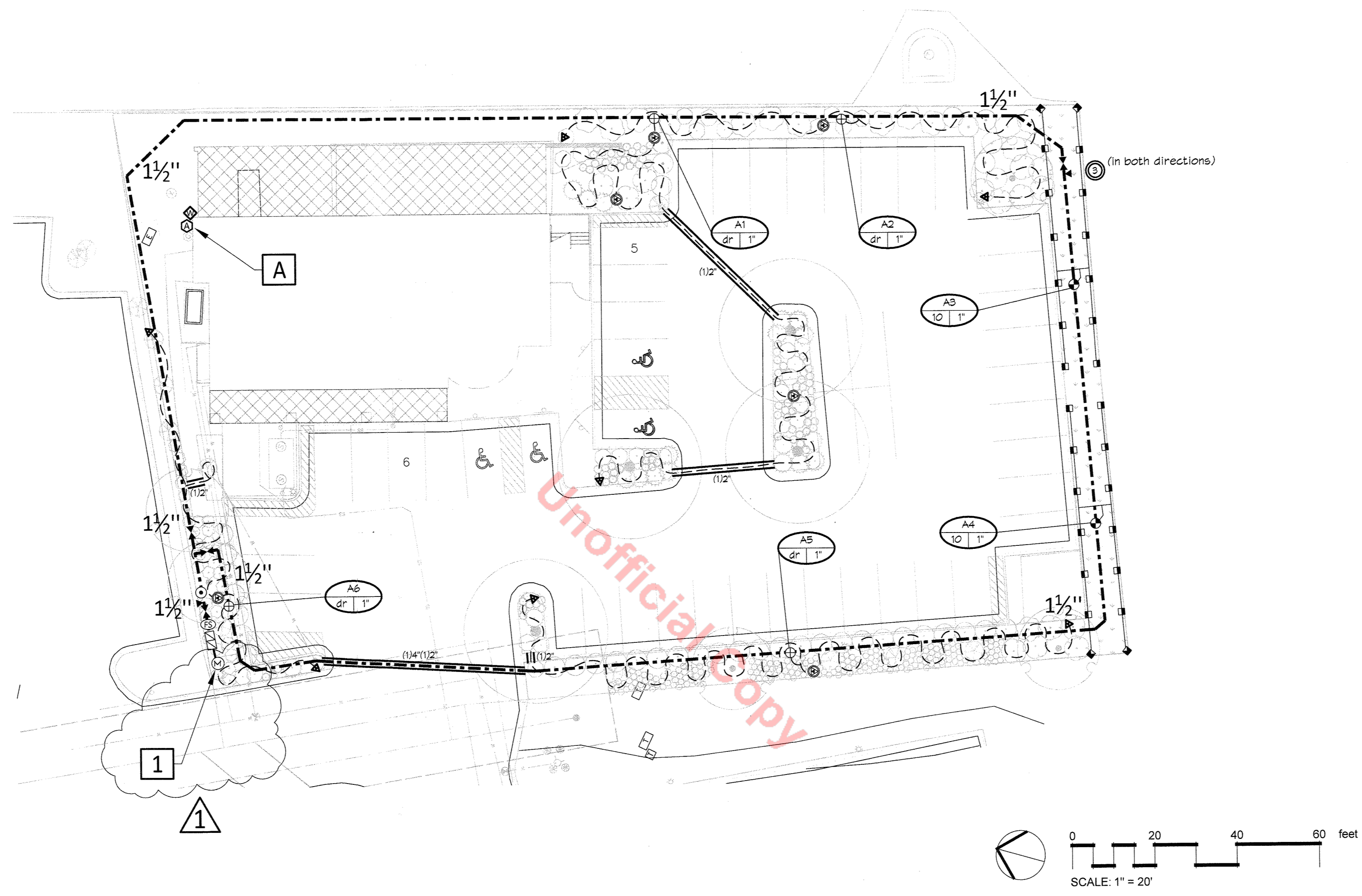
DATE: 5/18/2023
PROJECT NO. 221011







**SITE DEVELOPMENT PLAN, AMENDMENT NO. 3**  
**LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4, 1ST AMENDMENT**  
**AND LOT 1-B, CASTLE PINES COMMERCIAL FILING NO. 4, 2ND AMENDMENT** 1  
 BEING A PART OF SE ¼ OF SECTION 27, T7S, R67W OF THE 6TH P.M.  
 COUNTY OF DOUGLAS, STATE OF COLORADO



**1 POINT OF CONNECTION #1 - EXISTING 1 1/2" TAP, NEW 3/4" IRRIGATION METER**  
 PEAK FLOW REQUIREMENT: 10 GPM. REQUIRED STATIC PRESSURE: 65 PSI  
 TAP ADDRESS: 810 NEW MEMPHIS COURT  
 CONTRACTOR TO LOCATE EXISTING 1 1/2" COPPER LINE INSIDE EXISTING WATER METER PIT, AT THIS APPROXIMATE LOCATION. TIE ONTO AND INSTALL ONE TEE AND INSTALL ONE NEW 3/4" METER (DUAL METER PER TOWN OF CASTLE ROCK STANDARDS & SPECIFICATIONS AND PER TOWN OF CASTLE ROCK DETAIL UT2008-01). EXTEND 3/4" TYPE K SOFT COPPER AT 54" MINIMUM DEPTH TO BACKFLOW PREVENTER LOCATION. INSTALL ONE 3/4" STOP AND WASTE VALVE, ONE 3/4" REDUCED PRESSURE BACKFLOW PREVENTER WITH PRESSURE REDUCING VALVE AND PROTECTIVE ENCLOSURE, ONE MANUAL DRAIN VALVE, ONE 3/4" FLOW SENSOR, ONE GATE VALVE, ONE QUICK COUPLING VALVE, ONE 3/4" MASTER VALVE, AND EXTEND PVC MAINLINE AS SHOWN. SET PRY AT 65 PSI. EXTEND ONE FEET 3/4" SHIELDED CABLE FROM FLOW SENSOR TO DATA RETRIEVAL UNIT LOCATED IN ASSOCIATED CONTROLLER. EXTEND 4 UFUL 14# WIRE (TWO ORANGE AND TWO BLUE) AND CONNECT 2 OF THE WIRES FROM THE MASTER VALVE TO THE DATA RETRIEVAL BOARD IN ASSOCIATED CONTROLLER. SEE DETAIL SHEET FOR REQUIRED PIPE LENGTHS UPSTREAM AND DOWNSTREAM OF FLOW SENSING UNIT. WORK SHALL CONFORM TO LOCAL CODE. FEES, PERMITS AND INSPECTIONS ASSOCIATED WITH WORK ARE TO BE OBTAINED AND PAID FOR BY CONTRACTOR. FINAL BACKFLOW PREVENTER LOCATION SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

**A CONTROLLER LOCATION "A"**  
 WALL MOUNT ONE CONTROLLER (REFER TO SCHEDULE FOR MODEL & STATION COUNT), REMOTE READY, AT INDICATED LOCATION. 120 VOLT POWER IS AVAILABLE WITHIN 40 LF. OF CONTROLLER LOCATION FROM BUILDING (EXISTING POWER SOURCE FOR EXISTING IRRIGATION CONTROLLER TO BE USED). ELECTRICAL METER, WIRE/CONDUIT, STEP-DOWN TRANSFORMER (IF REQUIRED) AND POWER CONNECTION TO CONTROLLER IS BY CONTRACTOR WITH WORK CONFORMING TO LOCAL CODES. FEES AND PERMITS ASSOCIATED WITH WORK ARE TO BE OBTAINED AND PAID BY CONTRACTOR. LOCATE SHIELDED CABLE FROM FLOW SENSOR AND CONNECT TO DATA RETRIEVAL UNIT LOCATED IN ASSOCIATED CONTROLLER. LOCATE MASTER VALVE WIRES WITH SPARES AND CONNECT 2 OF THE WIRES FROM THE MASTER VALVE TO THE DATA RETRIEVAL BOARD IN ASSOCIATED CONTROLLER. FINAL CONTROLLER LOCATION SHALL BE APPROVED BY OWNER OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. MOUNT ONE WEATHER SENSOR ON GUTTER/BUILDING WHERE THERE IS 20 FT. OF CLEARANCE FROM ANY OVERHANG OR OBSTRUCTING FEATURE. INSTALL WEATHER SENSOR RECEIVER IN CONTROLLER ENCLOSURE OR ON EXTERNAL WALL. CONNECT SENSOR RECEIVER WIRES TO IRRIGATION CONTROLLER SENSOR PORT THROUGH CONDUIT. FINAL WEATHER SENSOR LOCATION SHALL BE APPROVED BY OWNER OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

**DIRECTORY**

IRRIGATION SCHEDULE	5
IRRIGATION NOTES	5
IRRIGATION PLANS	6
IRRIGATION DETAILS	7-10
IRRIGATION CHARTS	10

Registered Landscape  
 Professional/Irrigation Designer:  
 Jill Bersano #15-1080

**KDI**  
**HydroSystems**  
 Irrigation Consulting & Water Management  
 13949 W. Colfax Ave, Suite 260 Lakewood, Colorado 80401  
 o. 303.980.5327 www.hydrosystemskti.com

1 **SITE DEVELOPMENT PLAN AMENDMENT NO. 3**  
**LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4 & LOT 1-B CASTLE PINES**  
**COMMERCIAL FILING NO. 4, 2ND AMENDMENT SDP23-0015**

Drawing name: I:\7600-7699-Jobs\7675-Castle Pines Commercial\7675-Castle Pines Commercial-IRR-CD-REV 2.dwg 9 (SDP) Aug 09, 2023 2:57pm by: jllid

TOWN OF COMMENTS	DATE	REVISIONS	DATE	BY

**PHELPS ENGINEERING**  
 7200 E. Hampden Ave, Suite 300  
 Denver, CO 80224 (303) 298-1044  
 www.phelpsengineering.net

**KELLY MILLER 1853**  
 LICENSED LANDSCAPE ARCHITECT  
 STATE OF COLORADO

SCALE: AS SHOWN
DESIGNED BY: JSB
DRAWN BY: JSB
CHECKED BY: KJD

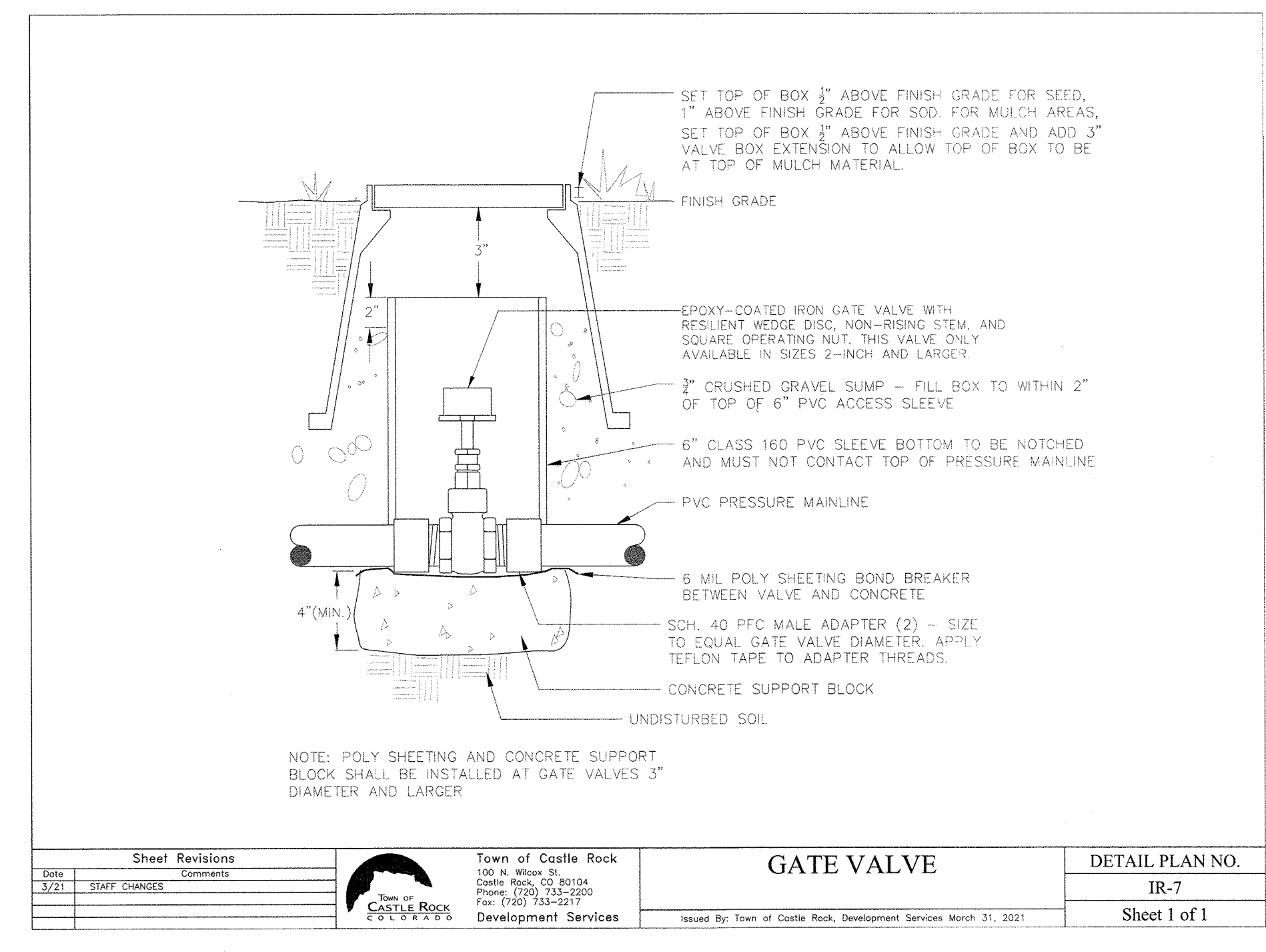
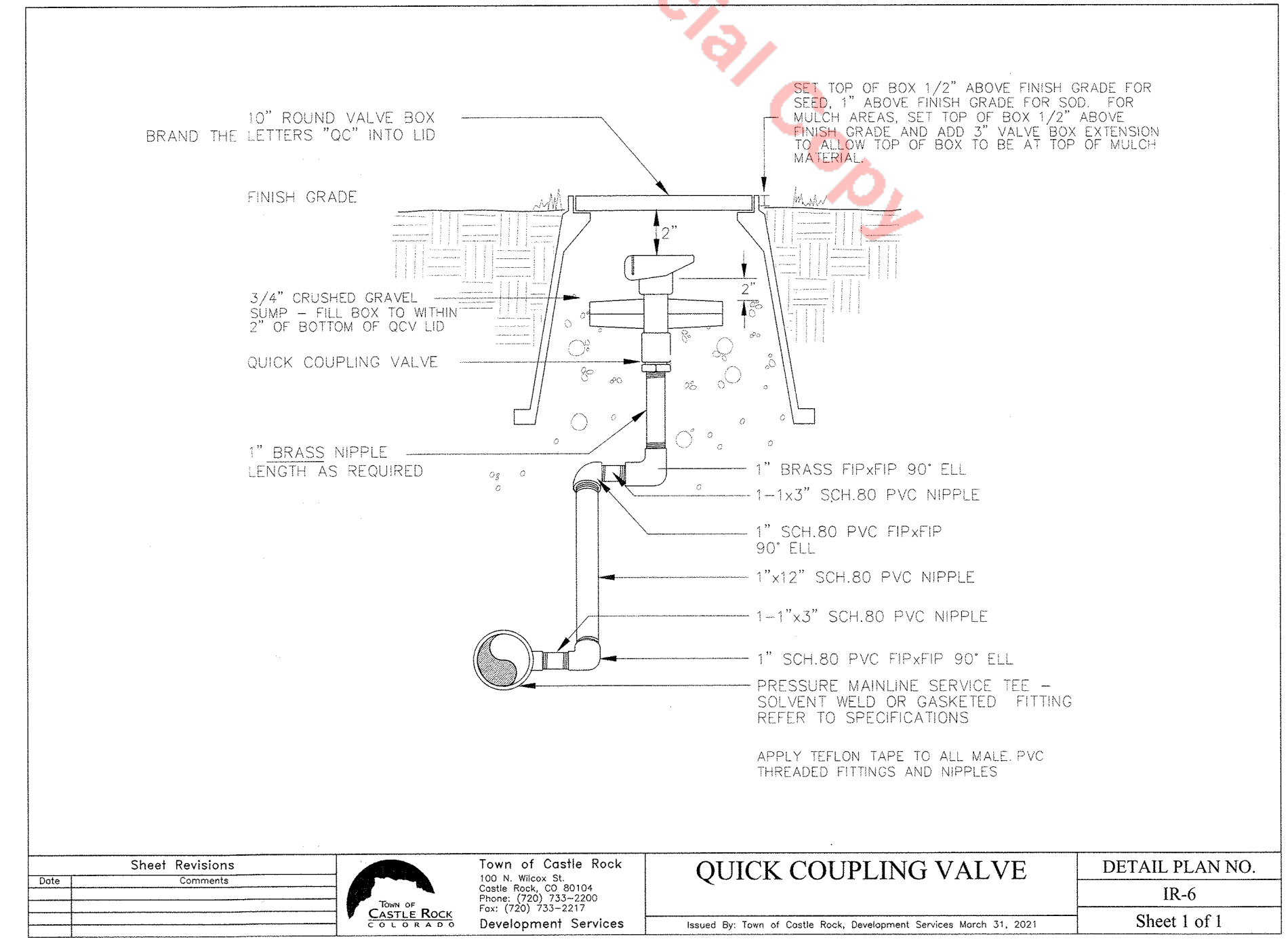
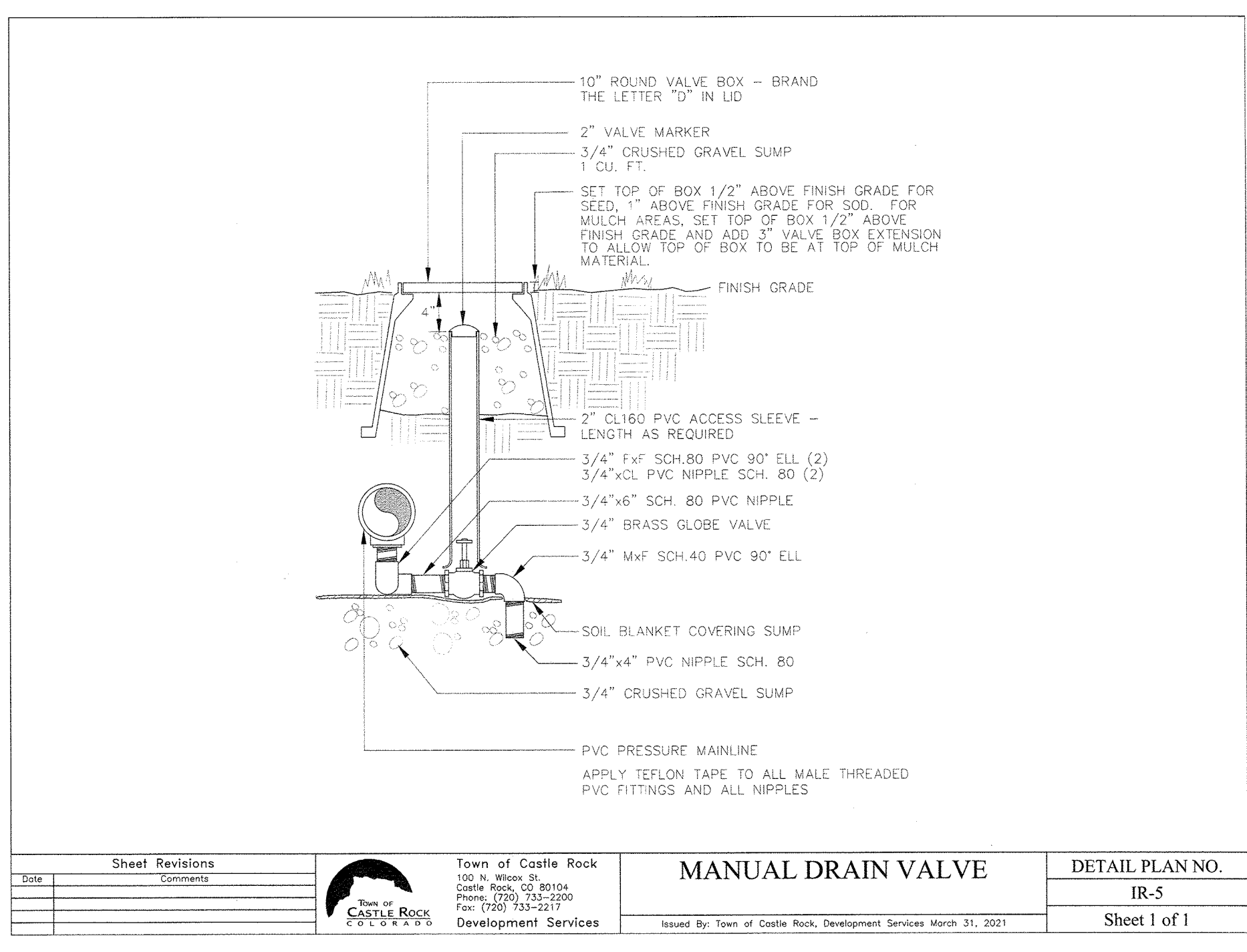
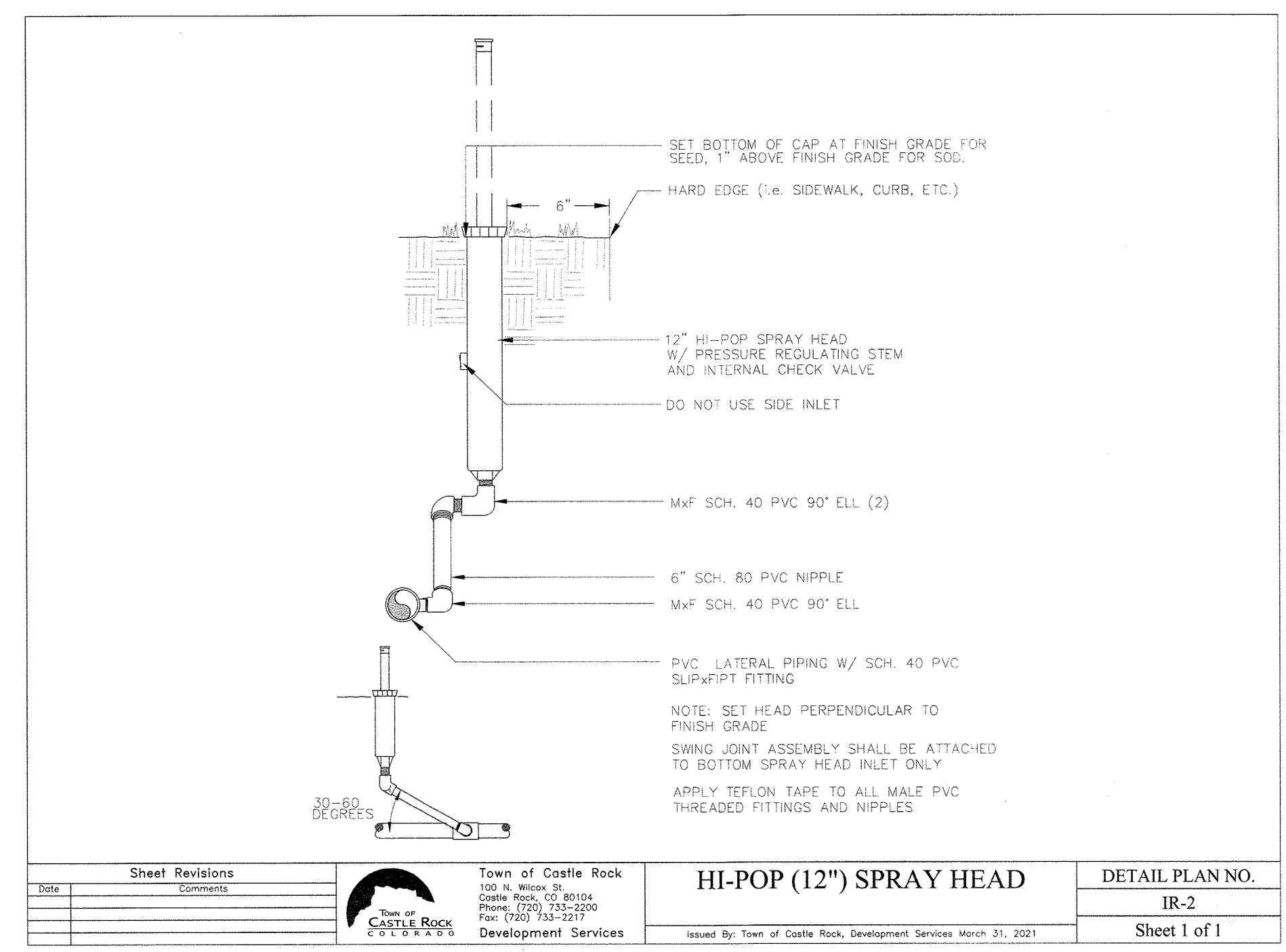
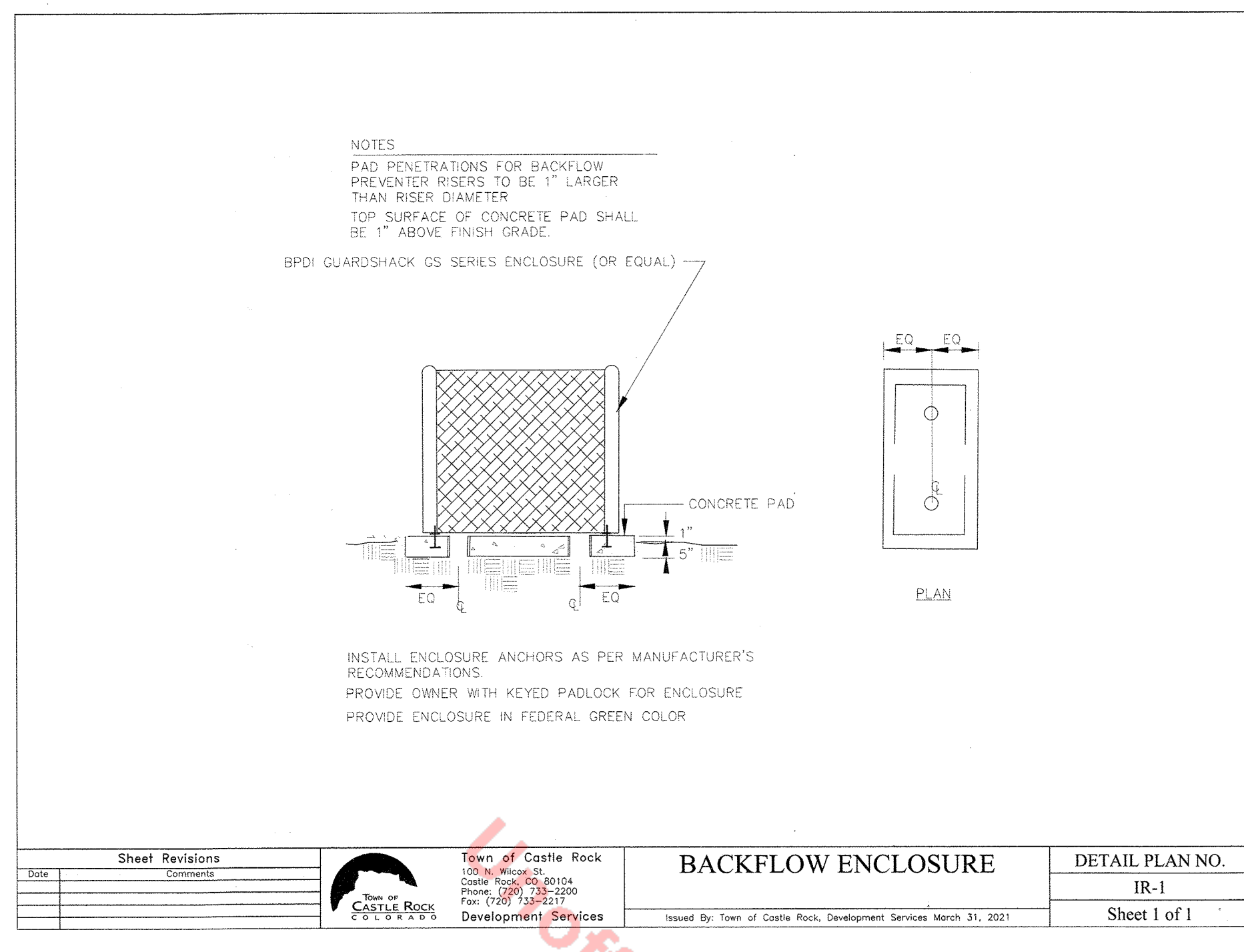
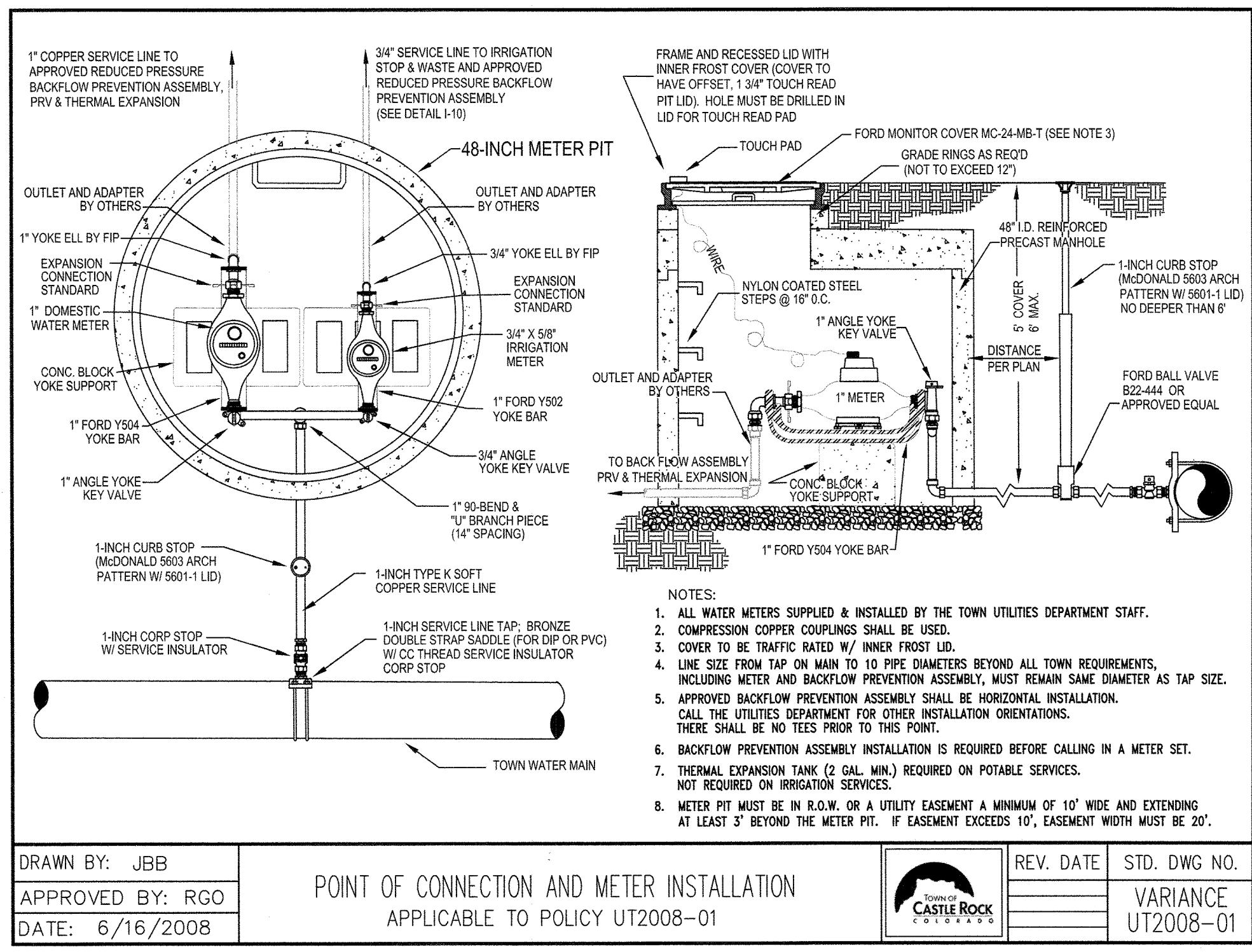
**IRRIGATION PLAN**

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

**LOT 5 & 1-B, CASTLE PINES COMMERCIAL FILING NO. 4**  
 810 NEW MEMPHIS CT  
 CASTLE ROCK, CO 80108  
 STATE PARCEL # 2351-274-04-010

DATE: 5/18/23  
 PROJECT NO. 221011  
 PAGE 6 OF 12

**SITE DEVELOPMENT PLAN, AMENDMENT NO. 3  
LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4, 1ST AMENDMENT  
AND LOT 1-B, CASTLE PINES COMMERCIAL FILING NO. 4, 2ND AMENDMENT** 1  
BEING A PART OF SE ¼ OF SECTION 27, T7S, R67W OF THE 6TH P.M.  
COUNTY OF DOUGLAS, STATE OF COLORADO



**DIRECTORY**

IRRIGATION SCHEDULE	5
IRRIGATION NOTES	5
IRRIGATION PLANS	6
IRRIGATION DETAILS	7-10
IRRIGATION CHARTS	10

**SITE DEVELOPMENT PLAN AMENDMENT NO. 3  
LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4 & LOT 1-B CASTLE PINES  
COMMERCIAL FILING NO. 4, 2ND AMENDMENT SDP23-0015**

Registered Landscape  
Professional/Irrigation Designer:  
Jill Bersano #15-1080

**KDI**  
**HydroSystems**  
Irrigation Consulting & Water Management  
13949 W. Colfax Ave., Suite 260 Lakewood, Colorado 80401  
o: 303.980.5327 www.hydrosystemskdi.com

1	TOWN OF COMMENTS	8/3/23		DATE

**PHELPS**  
ENGINEERING  
7200 E. Hampden Ave., Suite 300  
Denver, CO 80224 (303) 256-1644  
www.phelpsengineering.net

**KELLY MILLER**  
1863  
LANDSCAPE ARCHITECT  
5/15/23

SCALE:	AS SHOWN
DESIGNED BY:	JSB
DRAWN BY:	JSB
CHECKED BY:	KJD

**IRRIGATION  
DETAILS**

**811**

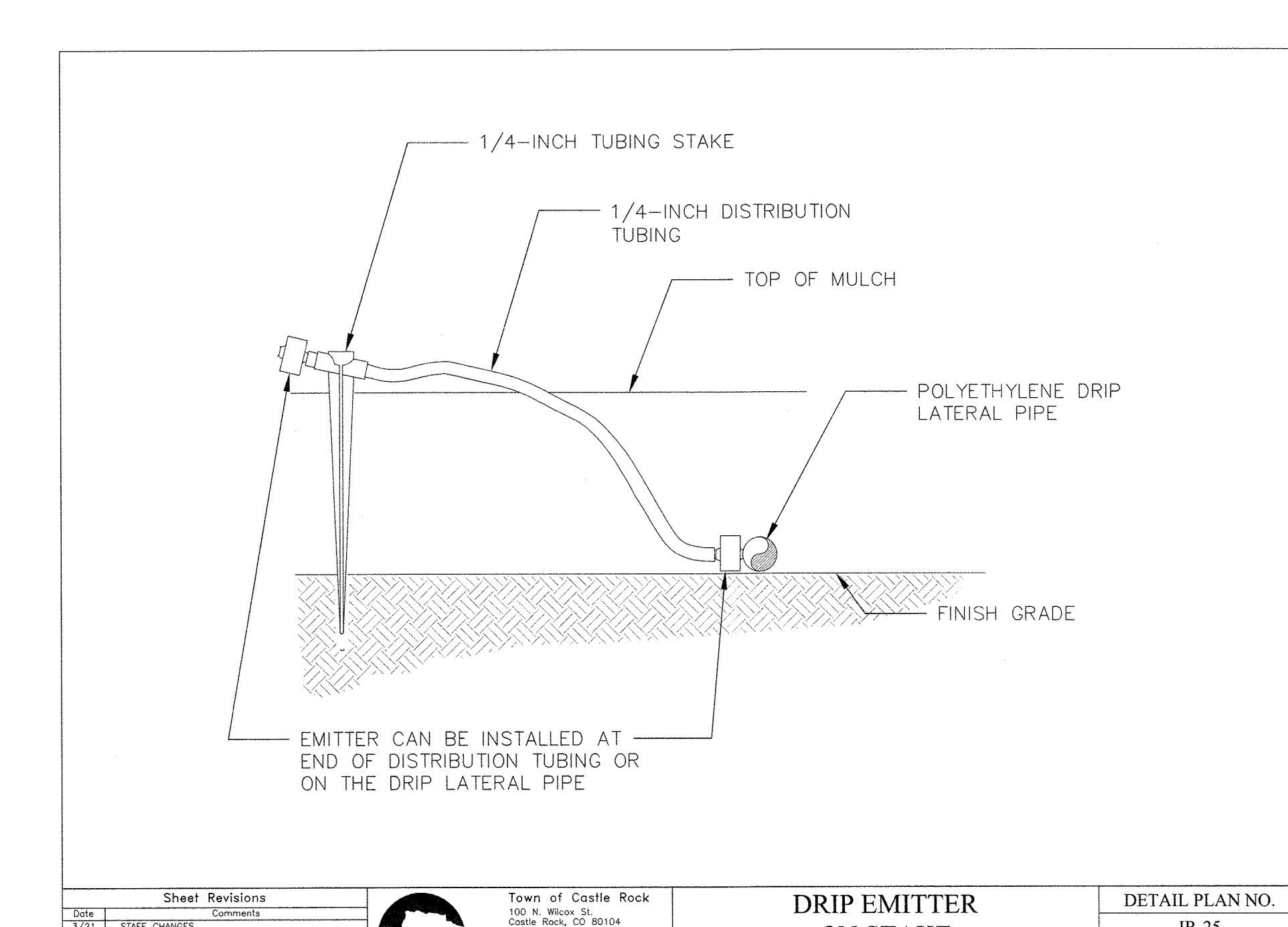
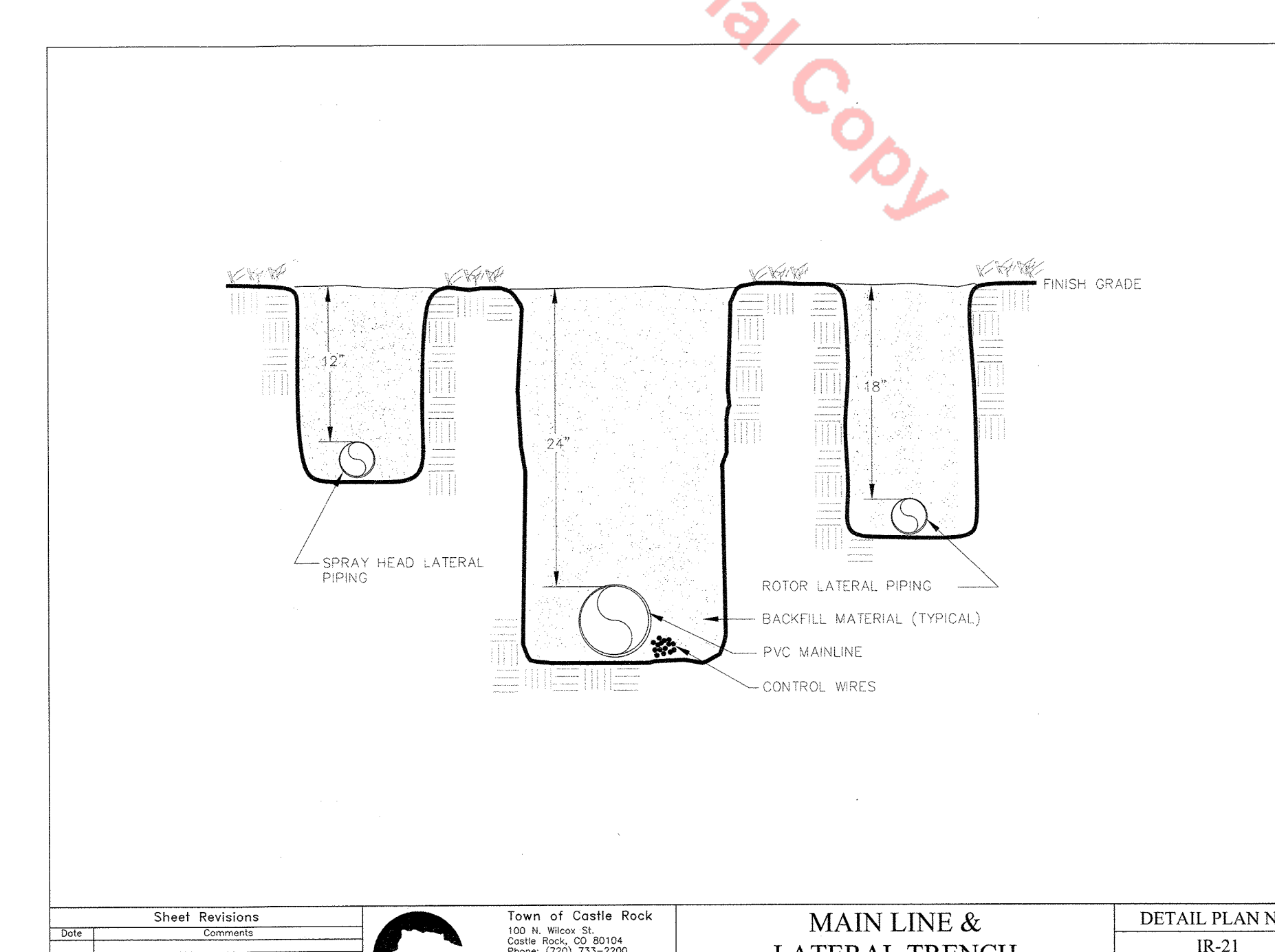
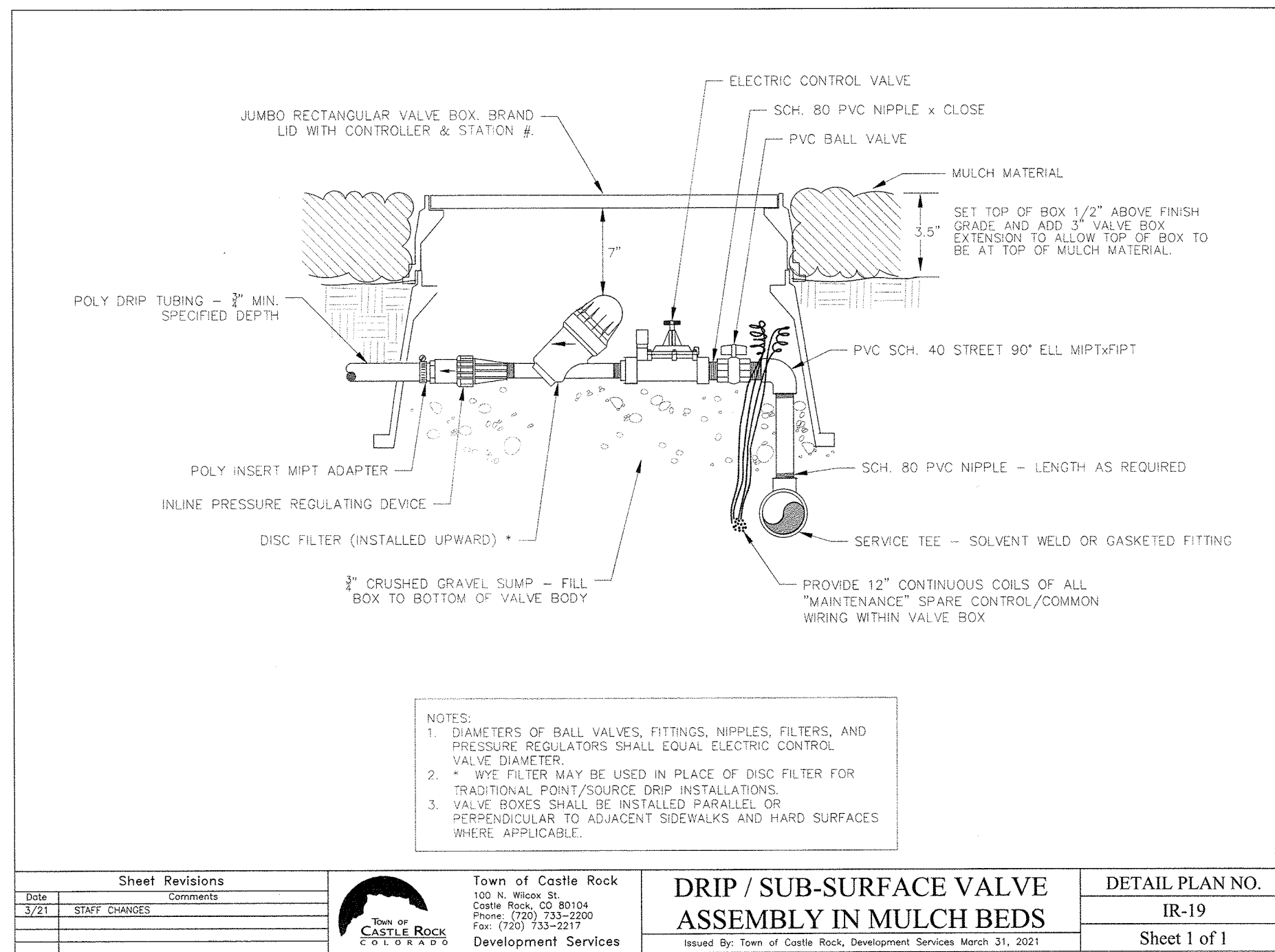
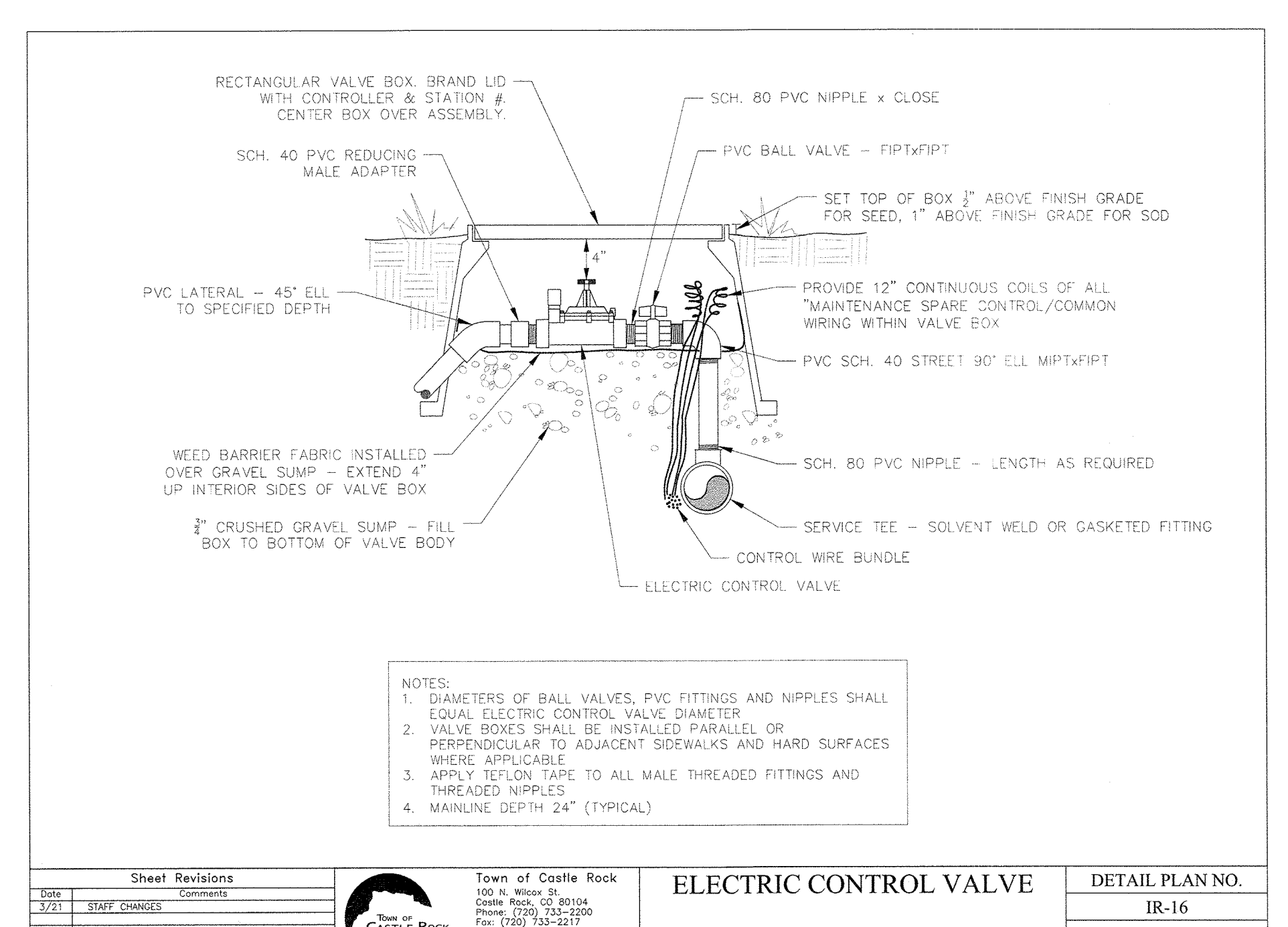
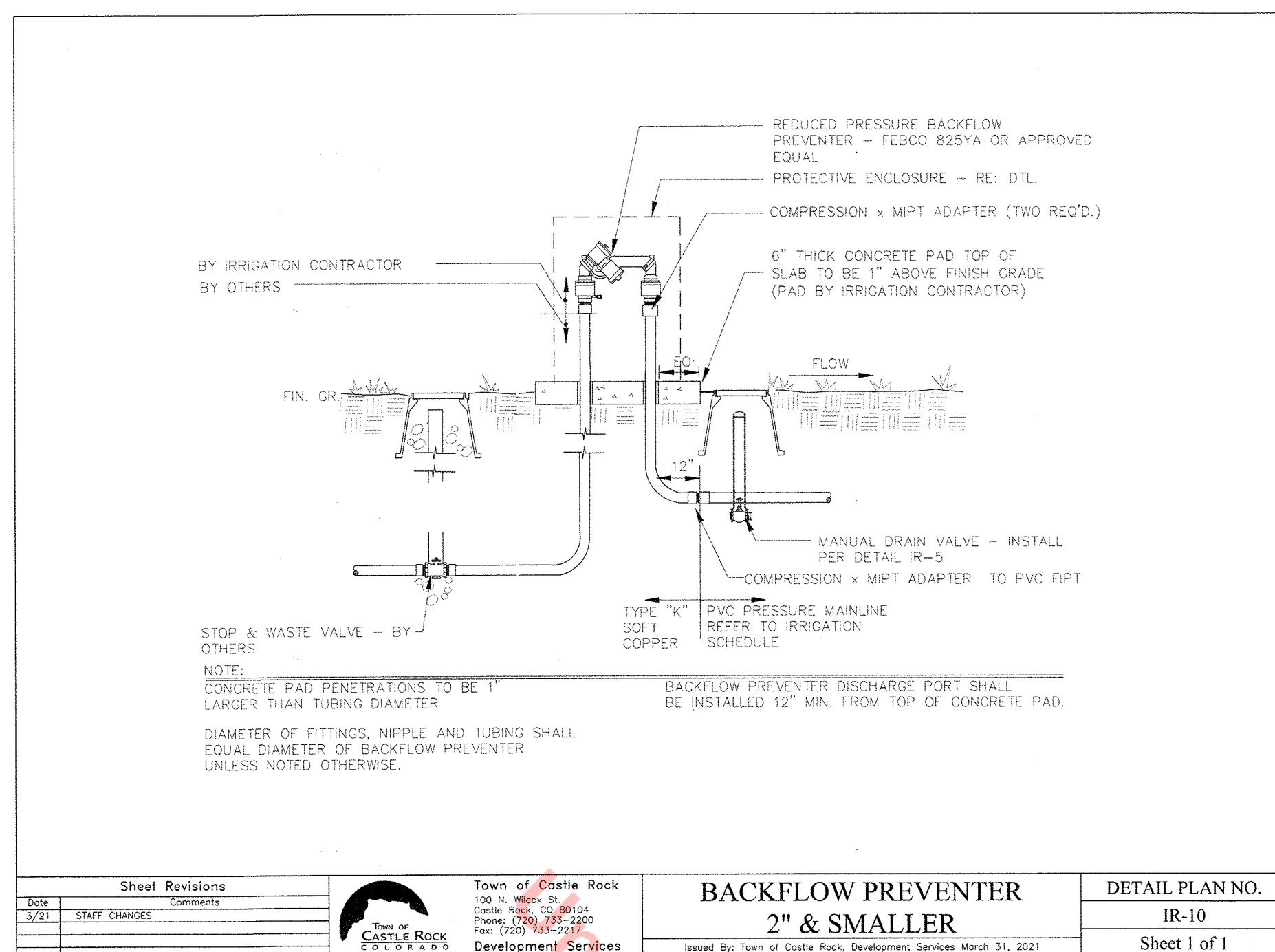
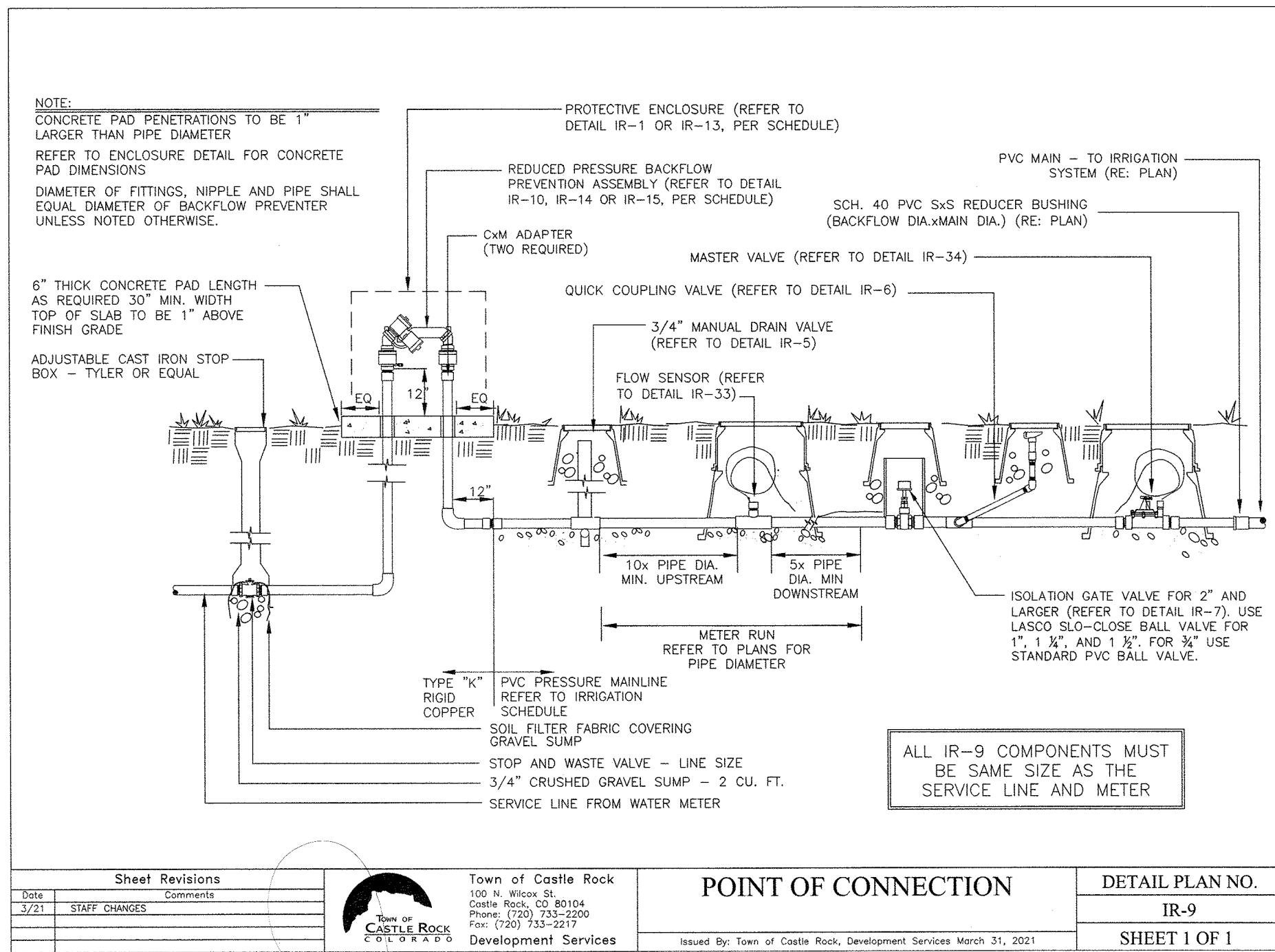
Know what's below.  
Call 811 before you dig.

**LOT 5 & 1-B, CASTLE PINES  
COMMERCIAL FILING NO. 4  
810 NEW MEMPHIS CT  
CASTLE ROCK, CO 80108  
STATE PARCEL # 2351-274-04-010**

DATE:	5/18/23
PROJECT NO.	221011
PAGE 7 OF 12	

Drawing name: I:\7600-7699 Jobs\7675-Castle Pines Commercial-IR-CD-REV 2.dwg 10 (SDP) Aug 09, 2023 2:57pm by: jill

**SITE DEVELOPMENT PLAN, AMENDMENT NO. 3  
LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4, 1ST AMENDMENT  
AND LOT 1-B, CASTLE PINES COMMERCIAL FILING NO. 4, 2ND AMENDMENT** 1  
BEING A PART OF SE 1/4 OF SECTION 27, T7S, R67W OF THE 6TH P.M.  
COUNTY OF DOUGLAS, STATE OF COLORADO



NO.	REVISIONS	DATE
1	TOWN OF COMMENTS	8/3/23

**HELPS ENGINEERING**  
7200 E. Hampden Ave., Suite 307  
Denver, CO 80224 (303) 296-1644  
www.helpsengineering.net

**KELLY MILLER 1953**  
LANDSCAPE ARCHITECT  
DESIGNED BY KJ

SCALE: AS SHOWN  
DESIGNED BY: JSB  
DRAWN BY: JSB  
CHECKED BY: KJD

**IRRIGATION DETAILS**



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

**LOT 5 & 1-B, CASTLE PINES COMMERCIAL FILING NO. 4**  
810 NEW MEMPHIS CT  
CASTLE ROCK, CO 80108  
STATE PARCEL # 2351-274-04-010

DATE: 5/18/23  
PROJECT NO. 221011  
PAGE 8 OF 12

**DIRECTORY**

IRRIGATION SCHEDULE	5
IRRIGATION NOTES	5
IRRIGATION PLANS	6
IRRIGATION DETAILS	7-10
IRRIGATION CHARTS	10

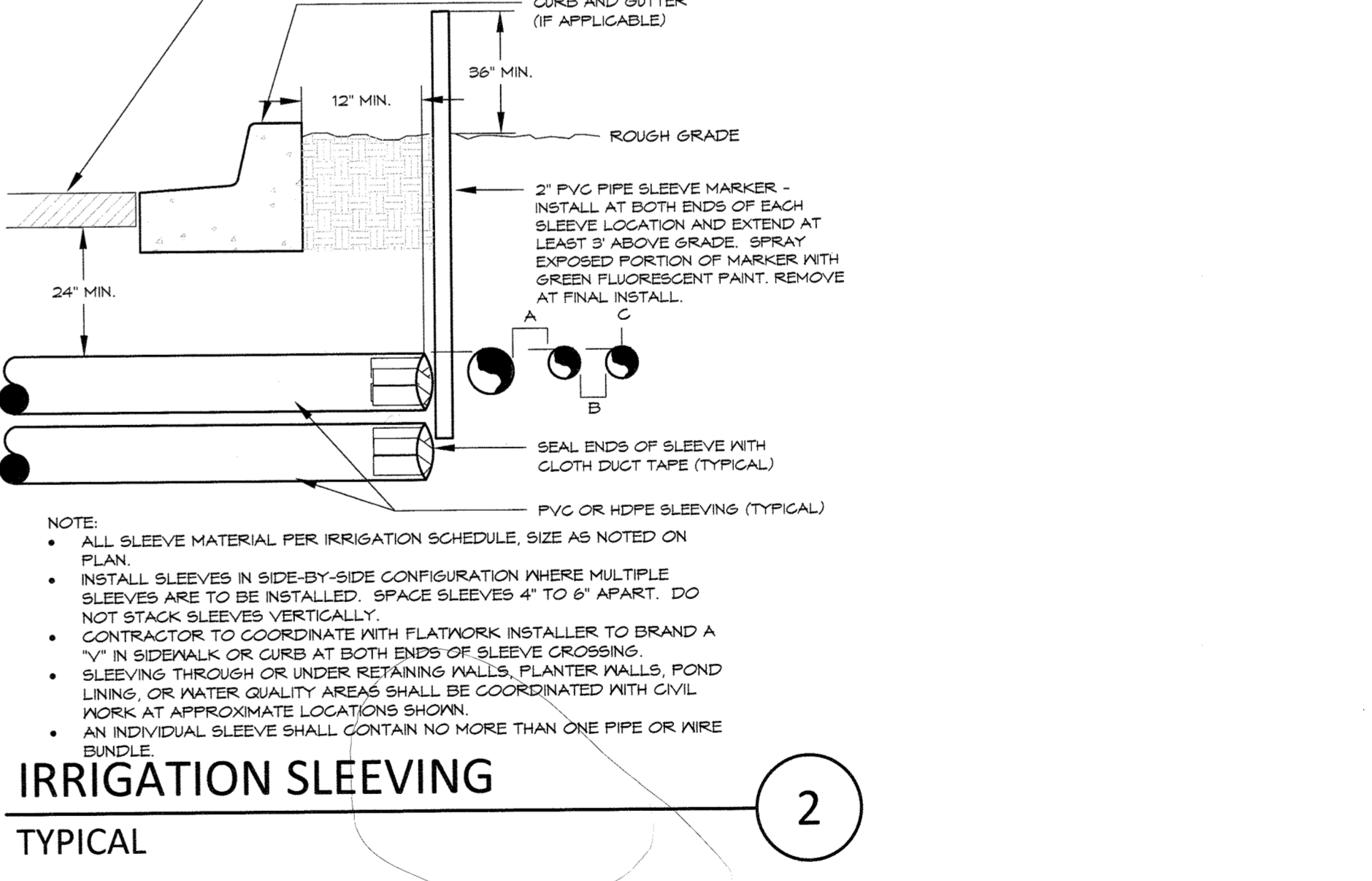
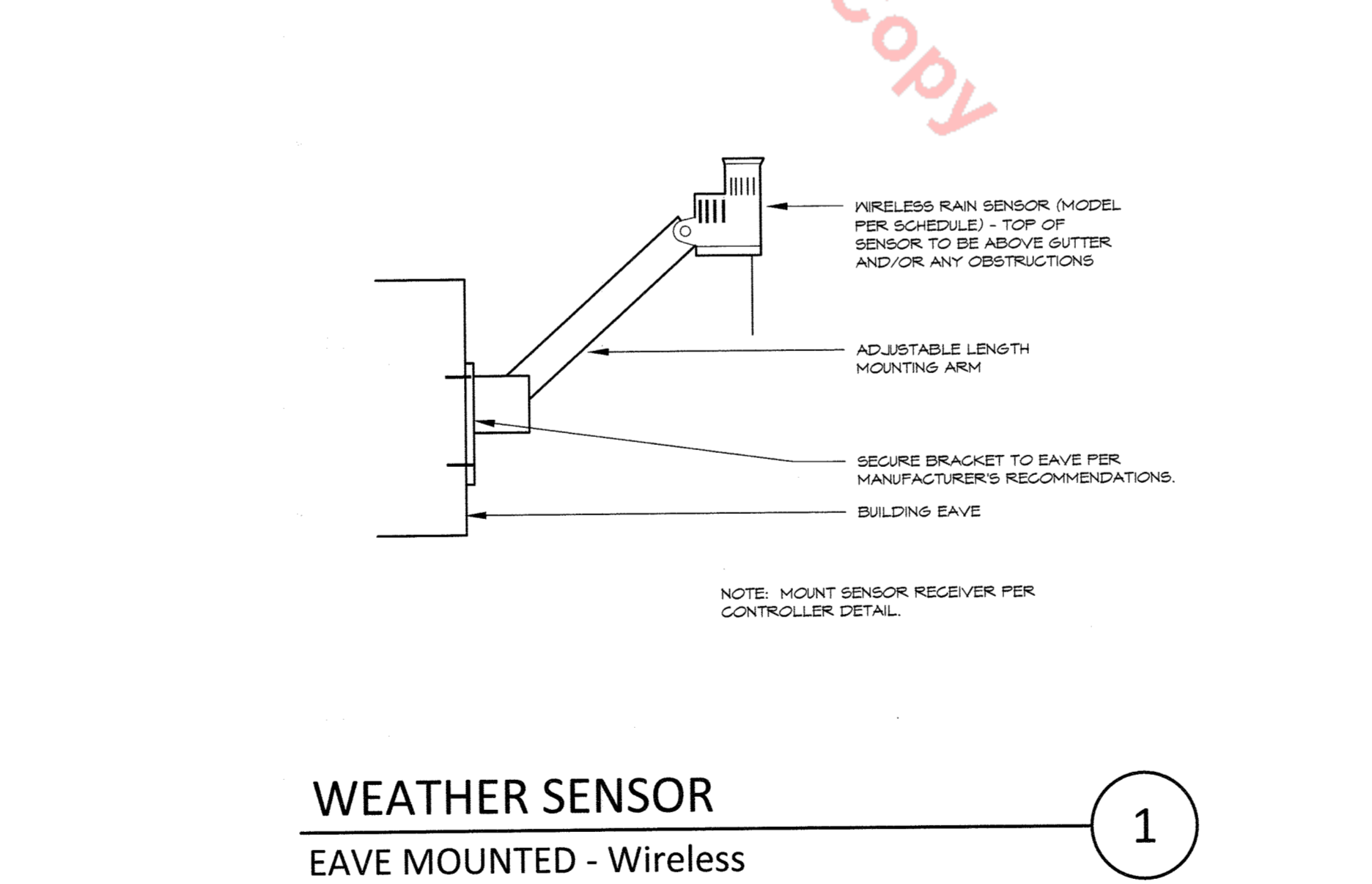
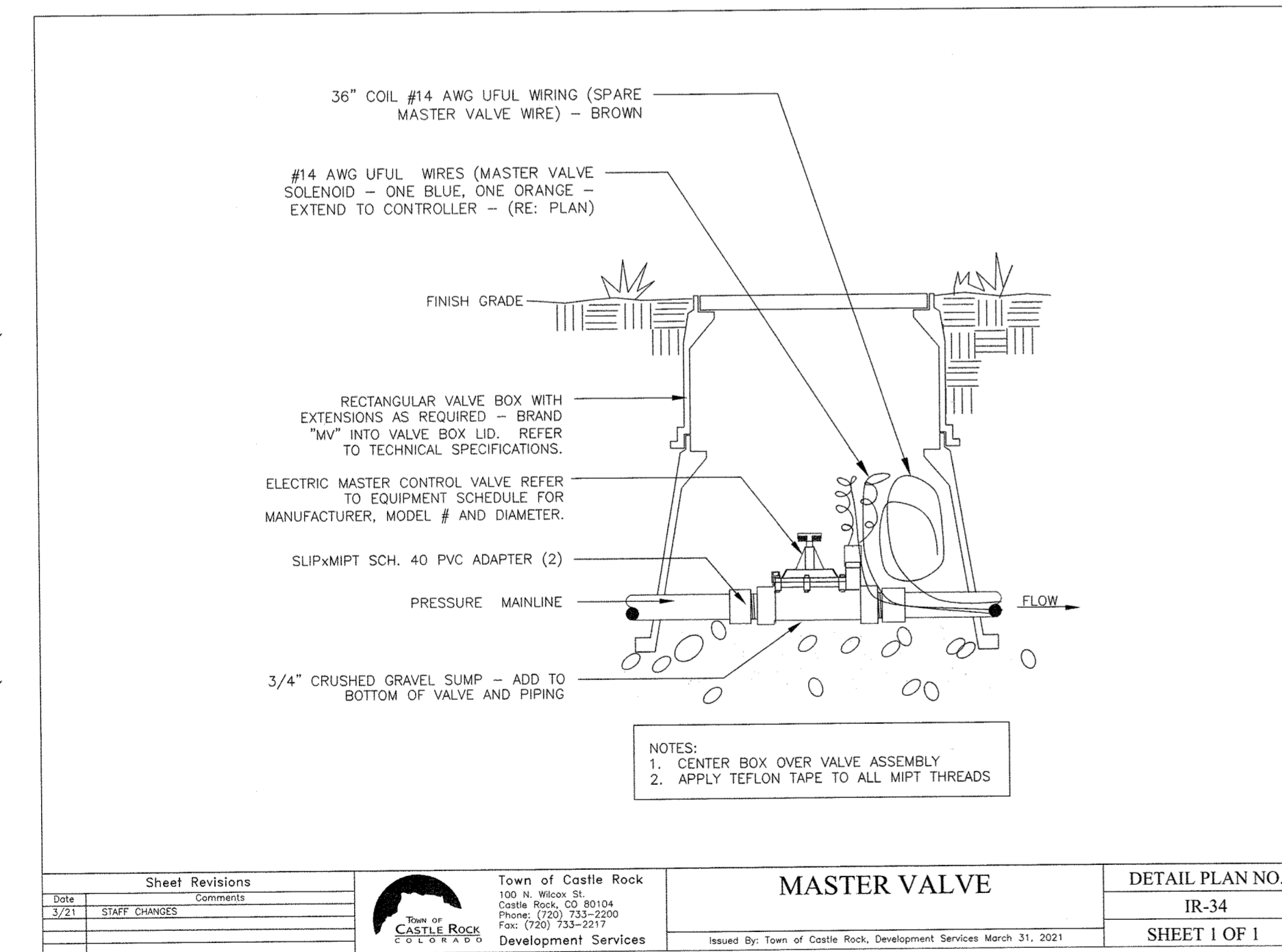
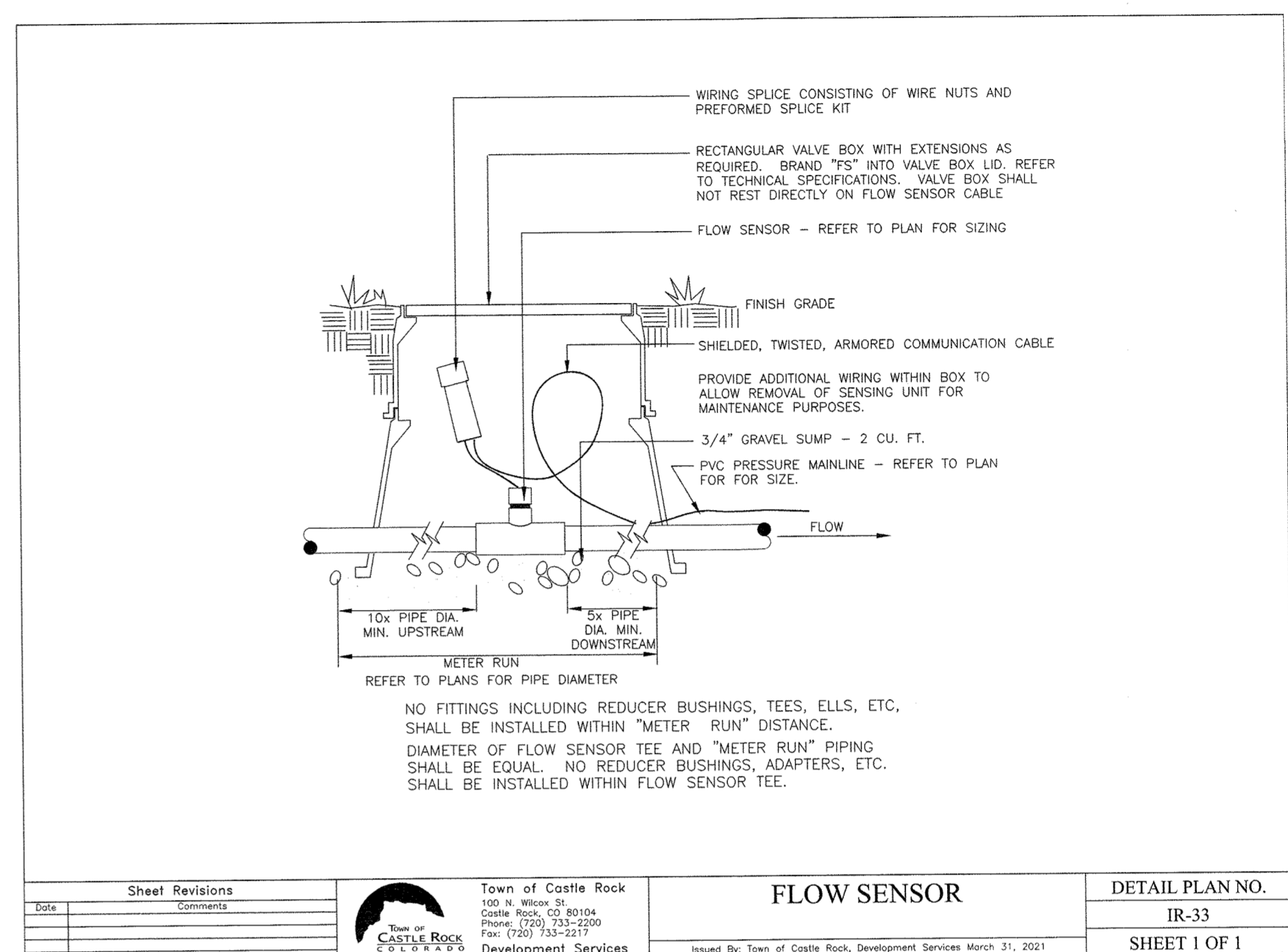
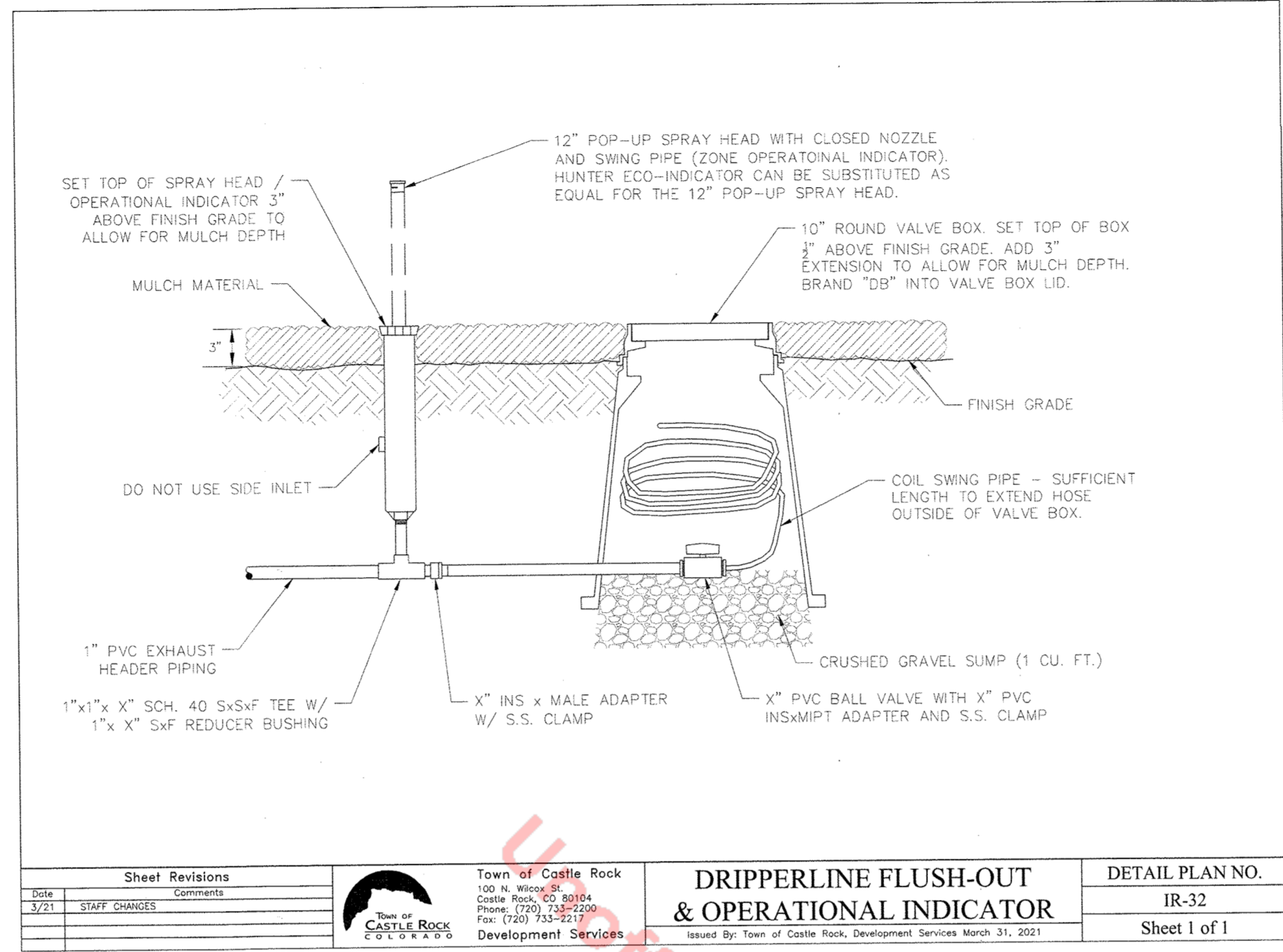
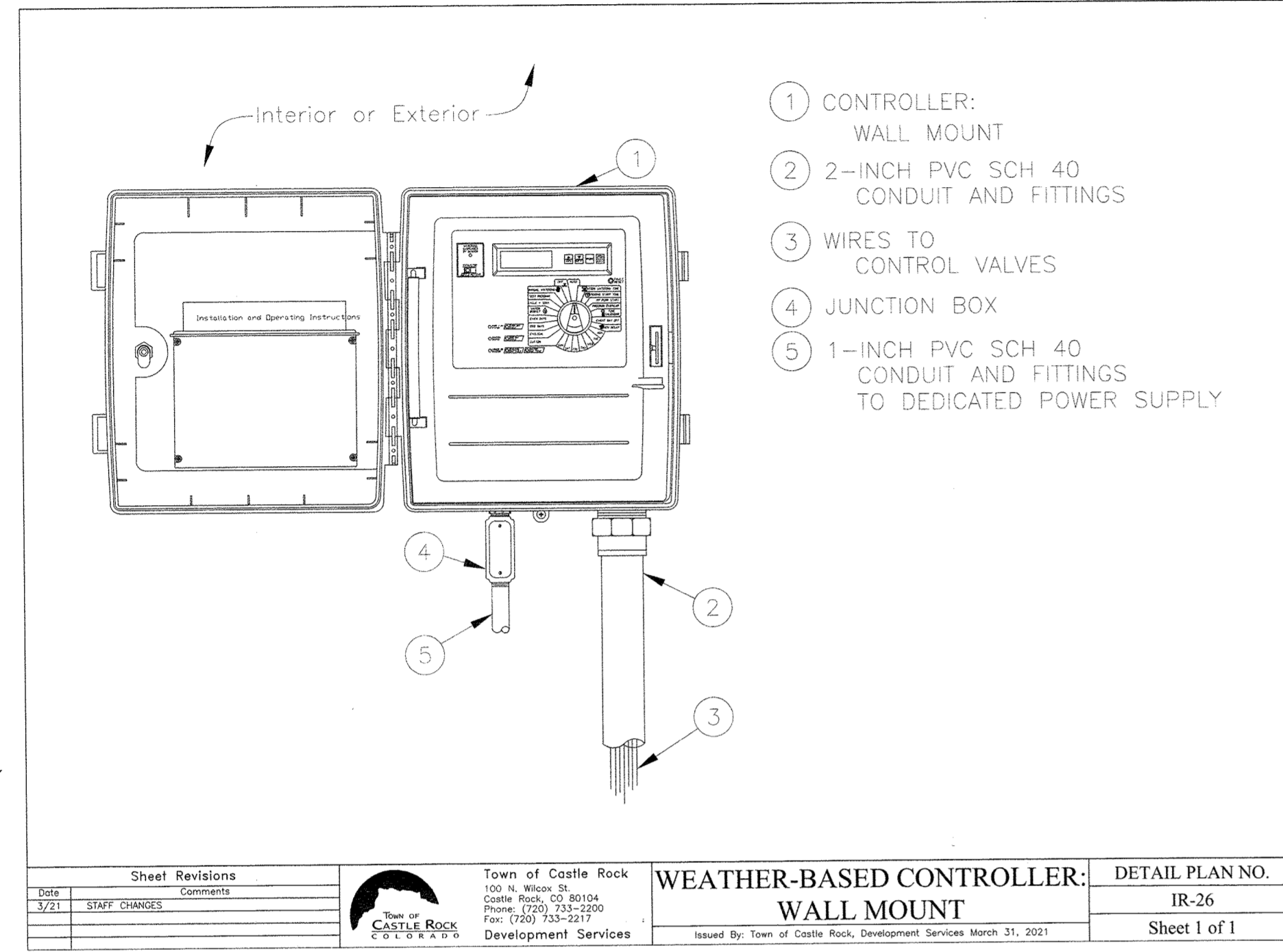
Registered Landscape Professional/Irrigation Designer:  
Jill Bersano #15-1080

**KDI HydroSystems**  
Irrigation Consulting & Water Management  
13949 W. Colfax Ave., Suite 260 Lakewood, Colorado 80401  
o: 303.980.5327 www.hydrosystemsksdi.com

**SITE DEVELOPMENT PLAN AMENDMENT NO. 3  
LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4 & LOT 1-B CASTLE PINES COMMERCIAL FILING NO. 4, 2ND AMENDMENT SDP23-0015** 1

Drawing name: I:\7600-7699\_jobs\7675-Castle Pines Commercial-IRR-CD-REV 2.dwg 11 (SDP) Aug 09, 2023 2:57pm by: jld

**SITE DEVELOPMENT PLAN, AMENDMENT NO. 3**  
**LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4, 1ST AMENDMENT**  
**AND LOT 1-B, CASTLE PINES COMMERCIAL FILING NO. 4, 2ND AMENDMENT** ▲  
 BEING A PART OF SE ¼ OF SECTION 27, T7S, R67W OF THE 6TH P.M.  
 COUNTY OF DOUGLAS, STATE OF COLORADO



**DIRECTORY**

IRRIGATION SCHEDULE	5
IRRIGATION NOTES	5
IRRIGATION PLANS	6
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▲ SITE DEVELOPMENT PLAN AMENDMENT NO. 3  
 LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4 & LOT 1-B CASTLE PINES  
 COMMERCIAL FILING NO. 4, 2ND AMENDMENT SDP23-0015

NO.	REVISIONS	DATE	BY
1	TOWN OF CH COMMENTS	8/23	JSB

**PHELPS**  
ENGINEERING

7200 E. Hampden Ave. Suite 800  
Denver, CO 80224 (303) 238-1644  
www.phelpsengineering.net

**KELLY MILLER**  
1883  
LANDSCAPE ARCHITECT

SCALE: AS SHOWN
DESIGNED BY: JSB
DRAWN BY: JSB
CHECKED BY: KJD

**IRRIGATION DETAILS**

**811**

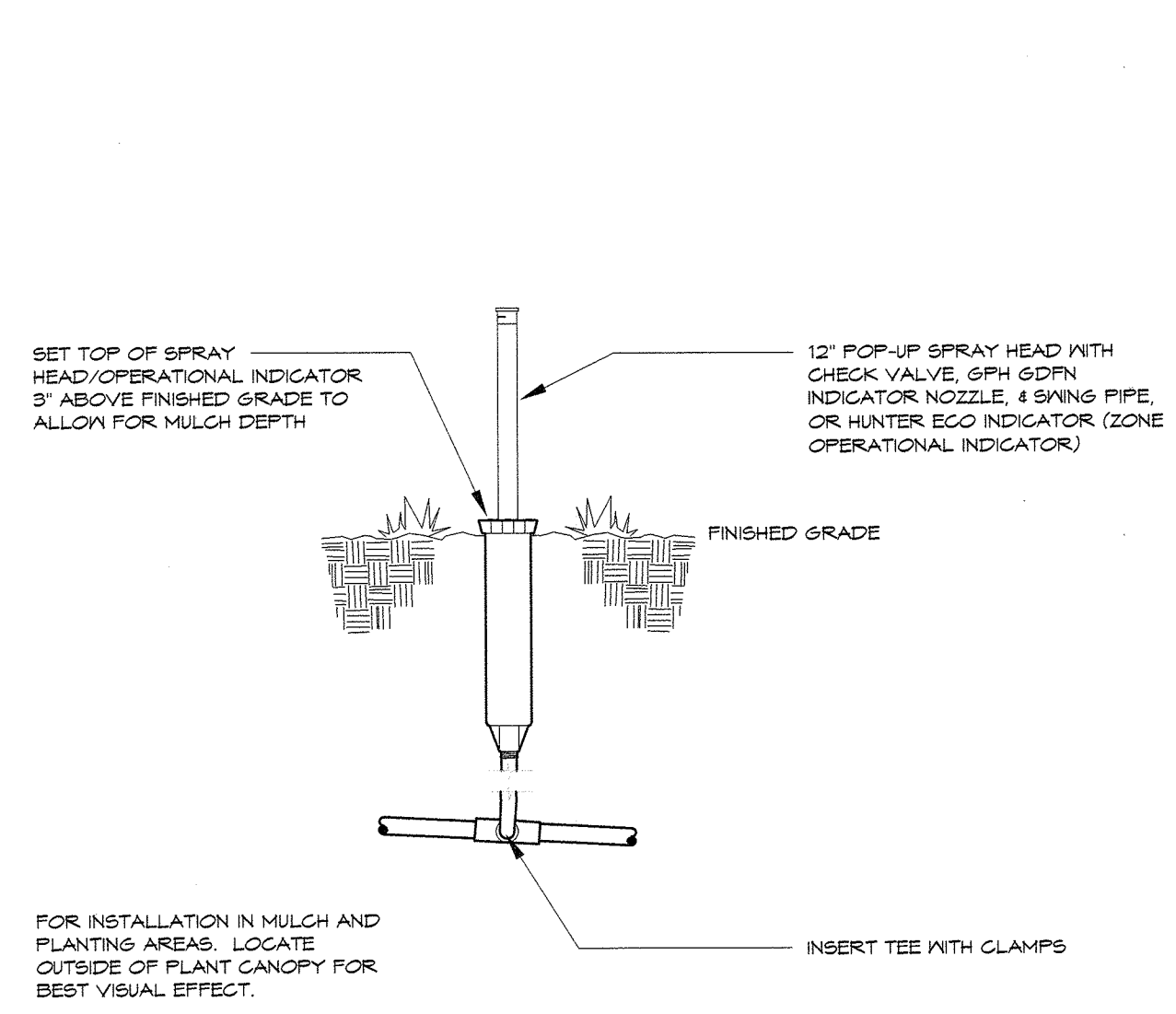
Know what's below.  
Call 811 before you dig.

**LOT 5 & 1-B, CASTLE PINES COMMERCIAL FILING NO. 4**  
 810 NEW MEMPHIS CT  
 CASTLE ROCK, CO 80108  
 STATE PARCEL # 2351-274-04-010

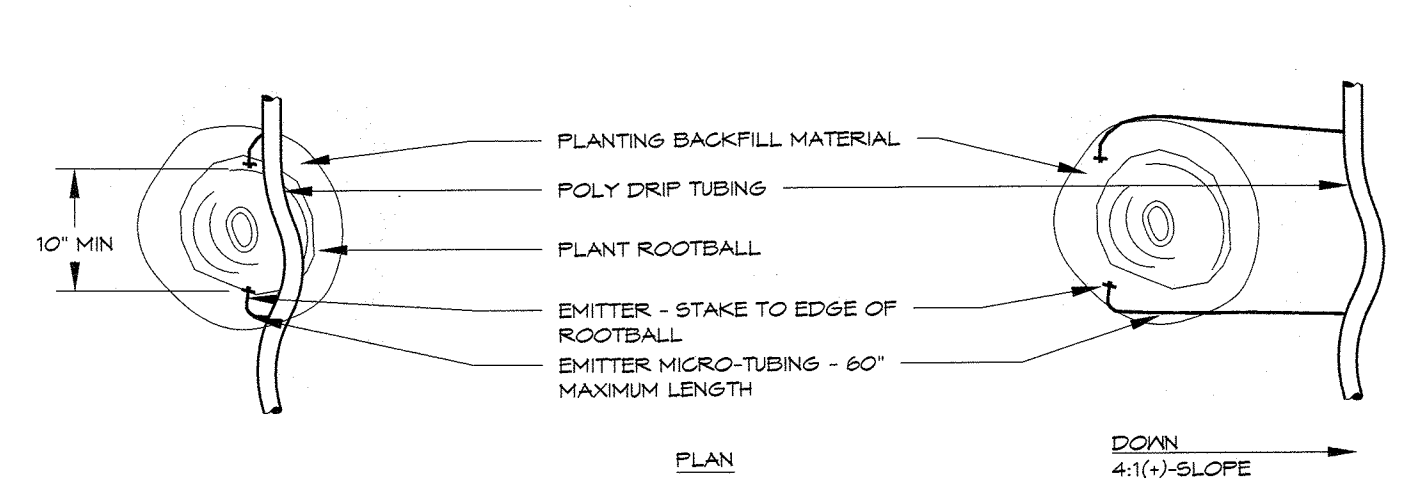
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Drawing name: I:\7600-7899 Jobs\7675-Castle Pines Commercial-IRR-CD-REV 2.dwg 12 (SDP) Aug 09, 2023 2:57pm by: jilid

**SITE DEVELOPMENT PLAN, AMENDMENT NO. 3**  
**LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4, 1ST AMENDMENT**  
**AND LOT 1-B, CASTLE PINES COMMERCIAL FILING NO. 4, 2ND AMENDMENT** ①  
 BEING A PART OF SE ¼ OF SECTION 27, T7S, R67W OF THE 6TH P.M.  
 COUNTY OF DOUGLAS, STATE OF COLORADO



**OPERATIONAL INDICATOR** ③



PLANT SIZE	EMITTER FLOW RATE	EMITTER QTY. AT MULCHED BED LOCATIONS	EMITTER QTY. AT NATIVE SEED LOCATIONS
1 - 2 GALLON MATERIAL	0.5 GPH	ONE EACH	ONE EACH
5 GALLON MATERIAL	0.5 GPH	TWO EACH	TWO EACH
1 1/2" CALIPER TREE	1.0 GPH	THREE EACH	FOUR EACH
2" CALIPER TREE	1.0 GPH	FOUR EACH	SIX EACH
2 1/2" CALIPER TREE	1.0 GPH	SIX EACH	EIGHT EACH
3" CALIPER TREE	1.0 GPH	EIGHT EACH	TEN EACH
3 1/2" CALIPER TREE	1.0 GPH	NINE EACH	ELEVEN EACH
4" CALIPER TREE	1.0 GPH	TEN EACH	TWELVE EACH
6 FT. CONIFEROUS TREE	1.0 GPH	FOUR EACH	SIX EACH
8 FT. CONIFEROUS TREE	1.0 GPH	SIX EACH	NINE EACH
10 FT. CONIFEROUS TREE	1.0 GPH	EIGHT EACH	TWELVE EACH
12 FT. CONIFEROUS TREE	1.0 GPH	TEN EACH	FOURTEEN EACH

**NOTES:**

- INSTALL EMITTERS ON OPPOSING SIDES OF ROOTBALL. THREE OR MORE EMITTERS SHALL BE EQUALLY SPACED AROUND ROOTBALL.
- EMITTERS ARE TO BE INSTALLED TO CLEAR SURFACE BY A MINIMUM OF 1" AND A MAXIMUM OF 2".
- FLUSH ALL LINES THOROUGHLY, INCLUDING EMITTER MICRO-TUBING PRIOR TO EMITTER INSTALLATION.
- IF PLANTING ON A 4:1 SLOPE OR STEEPER, INSTALL BOTH EMITTERS ON UPHILL SIDE OF ROOTBALL.
- EMITTERS SHALL BE SELF-FLUSHING, PRESSURE COMPENSATING-TYPE UNLESS NOTED OTHERWISE WITHIN TECHNICAL SPECIFICATIONS.
- DRIIP VALVE ZONES ARE DESIGNED TO ACCOUNT FOR DIFFERENCES IN PLANT REQUIREMENTS (HYDROZONES) AND SUN EXPOSURE.
- CONTRACTOR SHALL ENSURE HYDROZONES ARE VALVED SEPARATELY AS SHOWN ON PLAN.
- SITE CONDITIONS MAY DICTATE THAT MULTIPLE SUN EXPOSURES ARE VALVED TOGETHER DURING THE DESIGN PROCESS. CONTRACTOR SHALL ADJUST EMITTER SCHEDULE AS FOLLOWS:
  - EMITTER QUANTITIES SHALL REMAIN THE SAME BUT EMITTER GALLONAGES SHALL BE DOUBLED FOR PLANTS WITH SOUTH AND WEST EXPOSURES.
  - EMITTER QUANTITIES AND GALLONAGES SHALL BE AS SHOWN IN SCHEDULE FOR PLANTS WITH NORTH AND EAST EXPOSURES.
  - PLANTS WITH NORTH AND EAST EXPOSURE SHALL DICTATE VALVE RUN-TIMES AND CONTRACTOR SHALL ADJUST SCHEDULING ACCORDINGLY.

**DRIIP EMITTER BELOW GRADE** ④

**Project Name:** Castle Pines Commercial Lot 1B  
**Project Location:** Castle Rock, Colorado  
**Tap Description:** Tap 1  
**Date prepared:** 09-Aug-23

**Seasonal Water Use and Peak Flow Projections Prepared By HydroSystems-KDI, Inc.**

Description	Irrigated Area (Acre)	Month	Application Rate (in/mo/sqft)	Water Application (gallons)	Peak Season Projected Demand (GPM)
Native Tall Grass Spray Irrigated	0.03	May	1.17	916	0.2
		June	1.56	1,219	
		July	1.68	1,317	
		August	1.46	1,145	
		September	1.13	887	
Irrigation Season Totals			7.00	5,485	0.02 acre-feet
Shrubs & Trees Drip Irrigated	0.08	May	1.67	3,820	0.9
		June	2.22	5,083	
		July	2.40	5,491	
		August	2.09	4,775	
		September	1.62	3,696	
Irrigation Season Totals			10.00	22,864	0.07 acre-feet

**Site Totals**

<b>Irrigated Area:</b>	<b>4,925 Sq.Ft.</b>	<b>0.11 Acres</b>
<b>Water Use per Year:</b>	<b>28,349 Gallons</b>	<b>0.09 Acre-feet</b>
<b>Average Water per Year:</b>	<b>5.76 Gallons/SqFt</b>	<b>9.23 Inches/SqFt</b>
<b>Peak Season Monthly Water Use:</b>	<b>6,808 Gallons</b>	<b>0.02 Acre-feet</b>
<b>Average Peak Season Flow:</b>	<b>1 GPM</b>	
<b>Required Tap Size:</b>	<b>3/4 Inches</b>	

*Projections are based on a three day per week, eight hour per day, peak season watering schedule. Peak season application for Native Tall Grass is 0.38" per week. Peak season application for Shrubs & Trees is 0.54" per week.*

**WATER USE CHART** ①

**Project Name:** Castle Pines Commercial Lot 1B  
**Project Location:** Castle Rock, Colorado  
**Tap Description:** Tap 1  
**Tap Size:** 3/4"  
**Irrigation System Hydraulic Worksheet**  
 Prepared by HydroSystems-KDI, Inc.

**Date:** 09-Aug-23  
**Static Water Pressure:** 86 From: Dawn Tiffany  
 10% of: Castle Rock Water

**\*This value has been decreased by safety factor of: A3**  
**Hydraulic Grade calculated at Zone: A3**

Equipment or Material	Quantity (one if not specified)	Nominal Size	Equipment or Pipe Material	Friction Loss Through Pipe per Chart (psi)	Velocity through pipes (ft/sec)	Flow Rate (gpm)	Loss/Gain (psi)
Corp Stop:		3/4"	Typical Corp. Stop			10	0.90
Svc Line (tap to meter):	10 LF	3/4"	K Copper	14.41 /100 FT	7.35	10	1.44
Curb Stop:		3/4"	Typical Curb Stop			10	0.50
Water Meter:		3/4"	Typical Meter			10	1.60
Svc Line (meter to backflow):	10 LF	3/4"	K Copper	14.41 /100 FT	7.35	10	1.44
Stop & Waste:		3/4"	Typical Stop & Waste Valve			10	0.50
Backflow:		3/4"	Febco 825YA			10	12.50
<b>Point of Connection (POC) Subtotal:</b>							<b>18.88</b>
<b>Pressure downstream of POC:</b>							<b>67.52</b>
Master Valve:		3/4"	Hunter ICV			10	3.00
Flow Sensor:		3/4"	CST FSI			10	1.00
Gate Valve:	5	1 1/2"	Typical Bronze Gate Valve			10	0.00
Pressure Required at Head: Pop-ups							30.00
Lateral Allowance:							3.00
Control Valve allowance: 1 " Hunter ICV							10 3.00
Mainline allowances:							
	10 LF	1 1/2"	CL 200 PVC	0.22 /100 FT	1.38	10	0.02
	675 LF Looped	1 1/2"	CL 200 PVC	0.06 /100 FT	0.69	10	0.41
Mainline Fitting allowance: 10% of Mainline allowances							0.04
Elevation:							
	Tap Elev.	0		Control Valve Elev.	5		2.17
Factor of Safety: 5% System Losses							3.08
<b>Total System Hydraulic Losses (PSI)</b>							<b>64.59</b>
<b>Provided Water Pressure (PSI)</b>							<b>86.40</b>
<b>Residual Pressure (PSI), PRV Required</b>							<b>21.81</b>

**Irrigated Area:** 4925 sqft  
 Town of Castle Rock provides a minimum of 43 psi

**HYDRAULIC WORKSHEET** ②



**IRRIGATION CHART**

Zone	Hydrozone	Plant Type	Head Type	Nozzle*	App. Rate	GPM	Inches/Month	Run Time	Run Time	Water Usage
		(Turf, Native Shrubs, Perennials, Trees, Annuals, etc.)	(Rotors, Sprays, Bubbler, Drip, SDI, etc.)	(Nozzle/Emitter size)	(Inches/hour)	(Per Zone)	(Peak not to exceed 6"/month or 1.5"/week)	(Minutes/Month)	(Minutes/Day)	(Gallons per month)
Ex: 1	High	Blue Grass	RB 1806 SAM PRS	15'	1.83	16	6	197		2851
Ex: 2	Low	Buffalo Grass	Hunter I-20	3	0.4	16	1	160	15	2250
A1	Low	Shrubs & Trees	Drip - Point Source	0.5gph - 1.0gph	0.50	3	2.4	288	22	865
A2	Low	Shrubs & Trees	Drip - Point Source	0.5gph - 1.0gph	0.50	2	2.4	288	22	576
A3	Low	Native Tall Grass	Head - Popup	12	1.10	10	1.7	92	7	917
A4	Low	Native Tall Grass	Head - Popup	12	1.10	10	1.7	92	7	917
A5	Low	Shrubs & Trees	Drip - Point Source	0.5gph - 1.0gph	0.50	3	2.4	288	22	865
A6	Low	Shrubs & Trees	Drip - Point Source	0.5gph - 1.0gph	0.50	2	2.4	288	22	576
<b>Total</b>								<b>Min/Month</b>	<b>Min/cycle</b>	<b>Gallons/Month</b>
								1336	101	4718

\*Zones noting "Assorted" nozzles contain a mix of pop up heads from the same family, in multiple throw radii. Refer to plans & construction notes for spacing and throw of each head.

**CONTROLLER CHART** ③

**DIRECTORY**

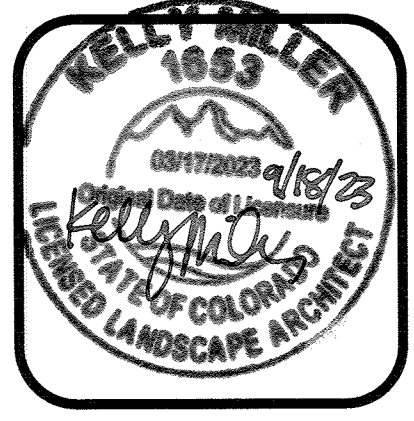
IRRIGATION SCHEDULE	5
IRRIGATION NOTES	5
IRRIGATION PLANS	6
IRRIGATION DETAILS	7-10
IRRIGATION CHARTS	10

① **SITE DEVELOPMENT PLAN AMENDMENT NO. 3**  
**LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4 & LOT 1-B CASTLE PINES COMMERCIAL FILING NO. 4, 2ND AMENDMENT SDP23-0015**

Registered Landscape Professional/Irrigation Designer:  
 Jill Bersano #15-1080



TOWN OF COMMENTS	DATE	REVISIONS	BY



SCALE: AS SHOWN

DESIGNED BY:	JSB
DRAWN BY:	JSB
CHECKED BY:	KJD

**IRRIGATION DETAILS & CHARTS**

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

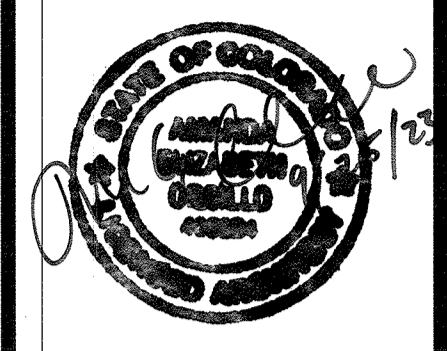
**LOT 5 & 1-B, CASTLE PINES COMMERCIAL FILING NO. 4**  
 810 NEW MEMPHIS CT  
 CASTLE ROCK, CO 80108  
 STATE PARCEL # 2351-274-04-010

DATE:	5/18/23
PROJECT NO:	221011



**SITE DEVELOPMENT PLAN, AMENDMENT NO. 3**  
**LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4, 1ST AMENDMENT**  
**AND LOT 1-B, CASTLE PINES COMMERCIAL FILING NO. 4, 2ND AMENDMENT**  
 BEING A PART OF SE ¼ OF SECTION 27, T7S, R67W OF THE 6TH P.M.  
 COUNTY OF DOUGLAS, STATE OF COLORADO

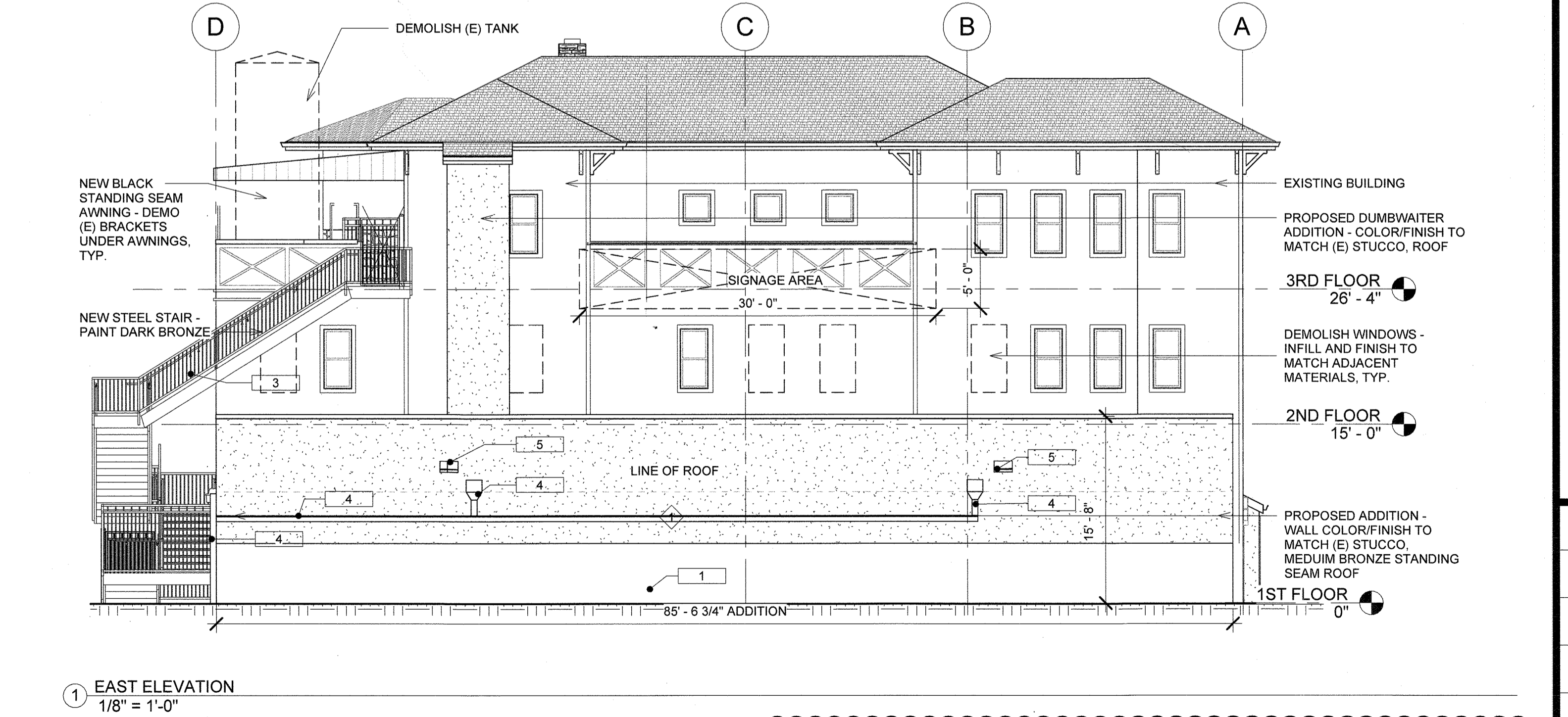
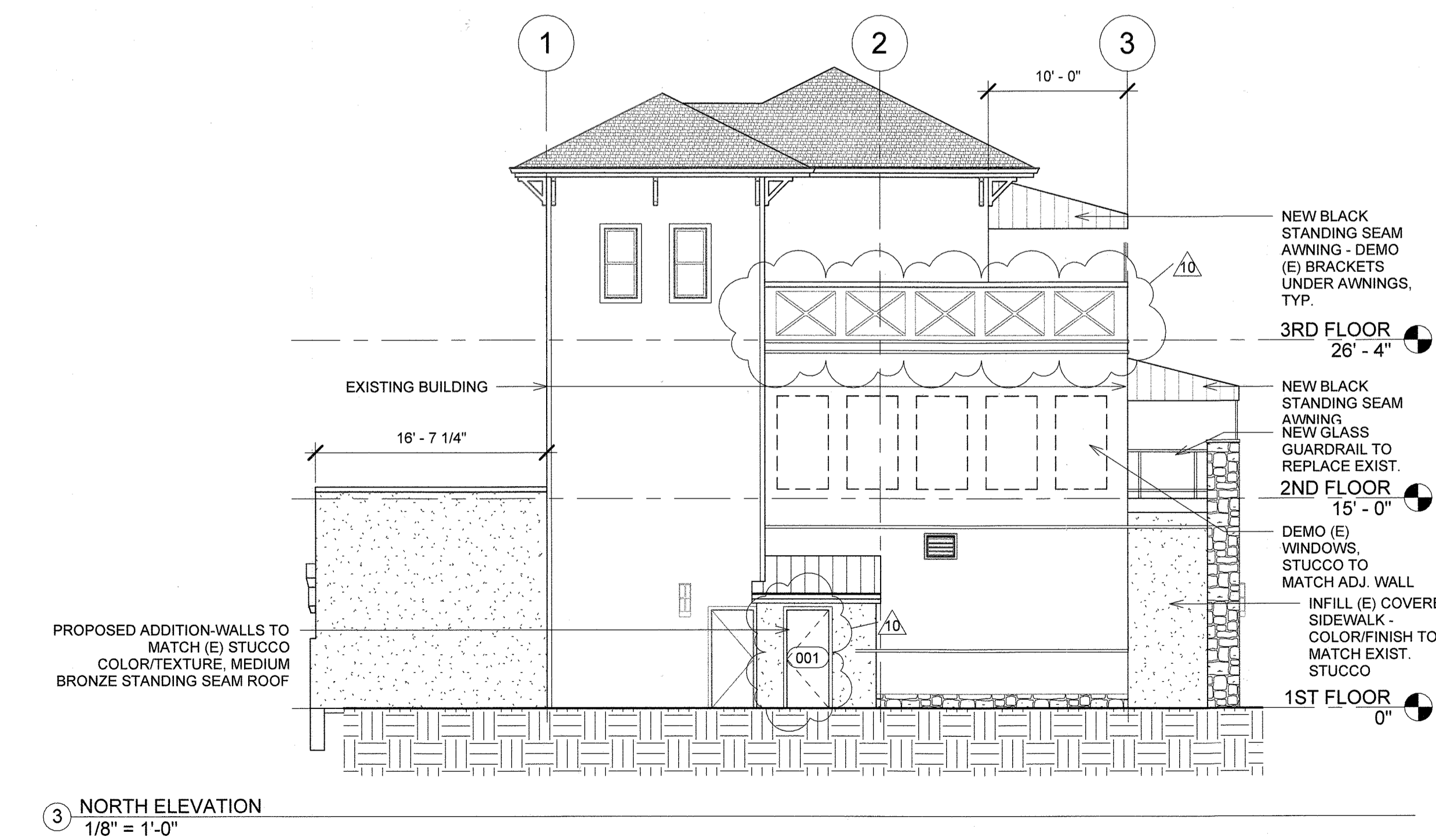
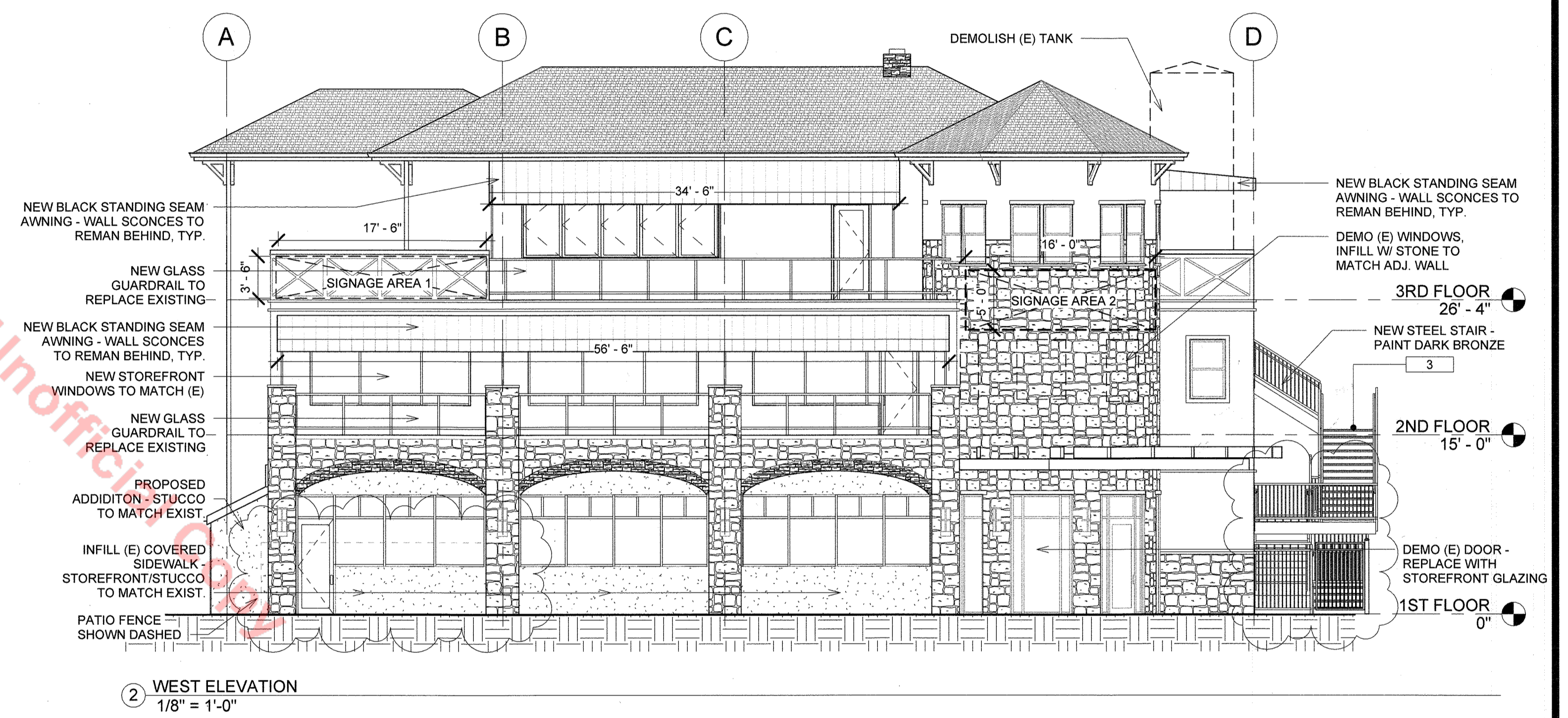
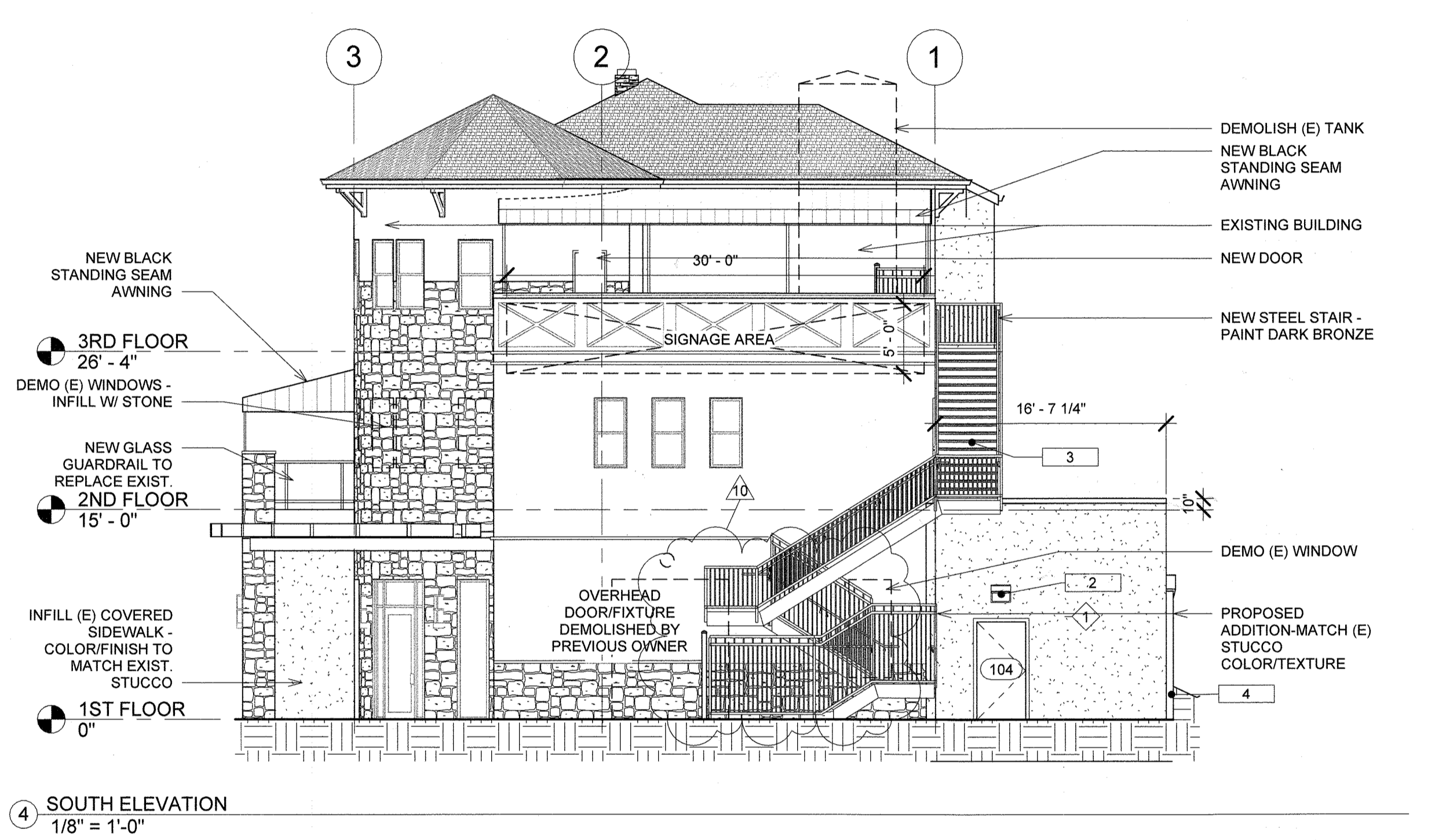
No.	Date	Description
10	04/18/23	OWNER REV



**ORSI DESIGN**  
 815 N FOOTE AVE  
 COLORADO SPRINGS, CO 80909  
 P: 719-650-5938

**NOTE: ALL MATERIALS AND COLORS/FINISHES TO MATCH EXISTING BUILDING.**

KEYNOTES	
1	FOUNDATION WALL PER STRUCT. - PROVIDE DAMPROOFING BELOW GRADE, CONT. VERT. R-10 INSULATION
2	WALLPACK PER ELEC.
3	STEEL EXTERIOR EGRESS STAIRS PER DETAILS
4	PREFINISHED 24GA SCUPPER, 6" BOX GUTTER & 8" SLOTTED DOWNSPOUT. DRAIN BELOW GRADE TO CURB IF POSSIBLE
5	PROVIDE OVERFLOW 4" ABOVE SCUPPER



**SITE DEVELOPMENT PLAN AMENDMENT NO. 3**  
**LOT 5, CASTLE PINES COMMERCIAL FILING NO. 4 & LOT 1-B CASTLE PINES**  
**COMMERCIAL FILING NO. 4, 2ND AMENDMENT SDP23-0015**

**THE FAMOUS - CASTLE ROCK**  
 810 NEW MEMPHIS CT  
 CASTLE ROCK, CO 80108  
**EXTERIOR ELEVATIONS**

<b>DRAWN BY</b>	AEO
<b>DATE</b>	02-25-19
<b>SCALE</b>	1/8" = 1'-0"
<b>JOB NO.</b>	16-05
<b>SHEET</b>	

**A2.1**  
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