

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
 - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
 - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
 - CDOT M & S STANDARDS
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
- CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DPW AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DPW, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

BLACK HILLS ENERGY

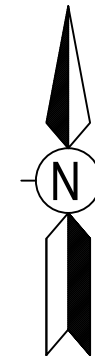
SQUIRREL CREEK

8" STEEL PIPELINE

FOUNTAIN, CO

DECEMBER 2023

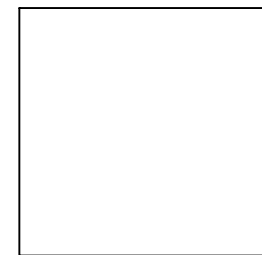
PERMIT PLANS



VICINITY MAP
NOT TO SCALE

IMAGERY PROVIDED BY: GOGGLE EARTH
IMAGERY DATE: 10/6/2019

PROFESSIONAL ENGINEER'S SEAL



ASSISTANT DIRECTOR OF DEVELOPMENT REVIEW
DATE
THESE CONSTRUCTION DRAWINGS HAVE BEEN REVIEWED BY ELPASO COUNTY FOR UTILITY AND SU-GESC IMPROVEMENTS ONLY.
ENGINEERING DIVISION ACCEPTANCE BLOCK

CONTACT:
RYAN KURTZ
719-469-2216

ENGINEER:
BLACK HILLS ENERGY
DEZMOND JEANS

SHEET INDEX		
SHEET	DRAWING#	TITLE
1	3000	COVERSHEET
2	3010	KEY MAP
3	3001	ALIGNMENT 0+00 TO 13+00
4	3002	ALIGNMENT 13+00 TO 28+00
5	3003	ALIGNMENT 28+00 TO 42+00
6	3004	ALIGNMENT 42+00 TO 56+00
7	3004A	ALIGNMENT 56+00 TO 67+00
8	3005	ALIGNMENT 67+00 TO 82+00
9	3006	ALIGNMENT 82+00 TO 97+00
10	3007	ALIGNMENT 97+00 TO 112+00
11	3008	ALIGNMENT 112+00 TO 122+40
12	3201	FOUNTAIN DITCH HDD
13	3202	WETLANDS HDD
14	3203	CHILCOTT CANAL OPEN CUT DETAIL
15	3204	JIMMY CAMP ROAD HDD
16	3205	JIMMY CAMP CREEK HDD
17	3206	TYPICAL JACK & BORE DETAIL
18	5990	CP TEST STATION DETAIL 1
19	5991	CP TEST STATION DETAIL 2
20	5992	CP TEST STATION EXOTHERMIC WELD DETAILS
21	5993	CP TEST STATION MATERIALS

OWNER/DEVELOPER'S STATEMENT:

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN AND ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

[NAME, TITLE]
DATE
[BUSINESS NAME]
[ADDRESS]

Type in information
(Signer's Name & Title,
Business & Address)

DESIGN ENGINEER'S STATEMENT:

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

[NAME, P.E. # _____]
DATE

Type in Engineer's name &
PE #. Date should be it's
own line next to Engineer's
Signature line

EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

JOSHUA PALMER
DATE
COUNTY ENGINEER / ECM ADMINISTRATOR

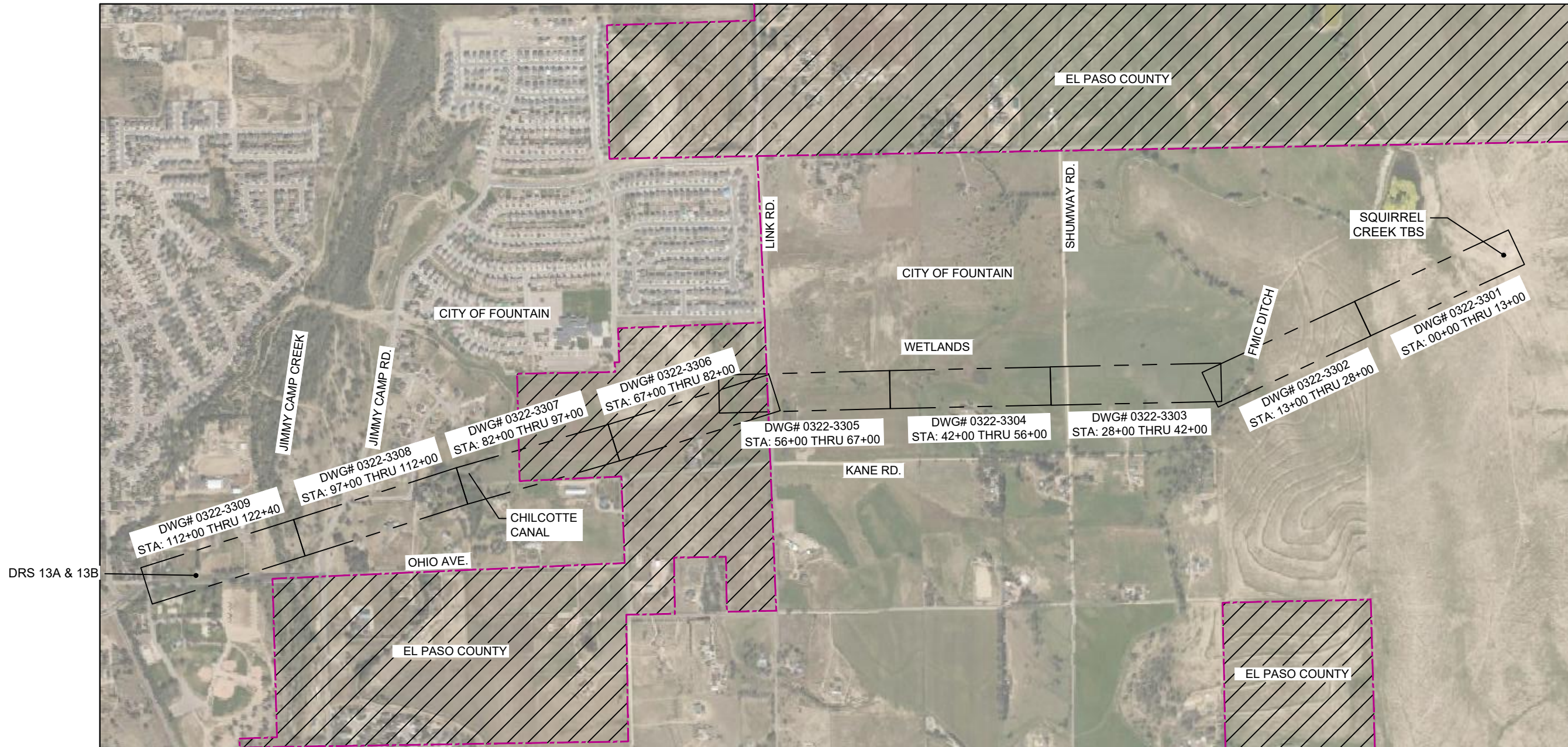
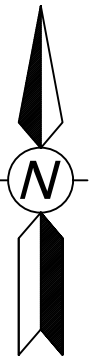
* COUNTY APPROVAL IS FOR UTILITY CROSSINGS WITHIN COUNTY ROW ONLY.

BILL OF MATERIALS		

REVISIONS						
NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD	
A	FOR REVIEW	9/21/23	SKS	DJ	CD	
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD	
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD	
D	ISSUED FOR CONSTRUCTION	12/14/23	SKS	DJ	CD	

	ENGINEERING DESIGN 760 ALEGRE DR. FOUNTAIN, CO 80817	SQUIRREL CREEK COVER SHEET	
	ELPASO COUNTY COLORADO	WO: 10083285	DATE 9/9/2023
2024 CONSTRUCTION	DRWN SKS	CHK. DR. DJ	SCALE AS SHOWN
DESIGNED IN ACCORDANCE WITH TITLE 48-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.	DRAWING NUMBER: 0322-3000	SHEET NO. 1 of 20	

BLACK HILLS ENERGY SQUIRREL CREEK 8" STEEL PIPELINE FOUNTAIN, CO



KEY MAP
NOT TO SCALE

BILL OF MATERIALS			REVISIONS							ENGINEERING DESIGN 760 ALEGRE DR. FOUNTAIN, CO 80817		SQUIRREL CREEK KEY MAP			
			NO.	DESCRIPTION	DATE	BY	QC	APPRVD							
			A	FOR REVIEW	1/15/24	SKS	DJ	CD							
										2024 CONSTRUCTION WO: 10083285		EL PASO COUNTY COLORADO SCALE AS SHOWN DATE 1/15/2024 SHEET NO. 2 of 21			
										DRWN SKS CHK. DR. DJ DATE 1/15/2024		DRAWING NUMBER: 0322-3010			
										DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.					

ADDITIONAL INFORMATION



OWNERSHIP	--	MAOP	585 PSIG
ENVIRONMENTAL	--	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	--	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

LEGEND:

	PIPELINE		TEL. LINE		R.O.W.
	GAS PIPELINE		COMMUNICATION LINE		
	WATER LINE		OVERHEAD ELECTRIC LINE		

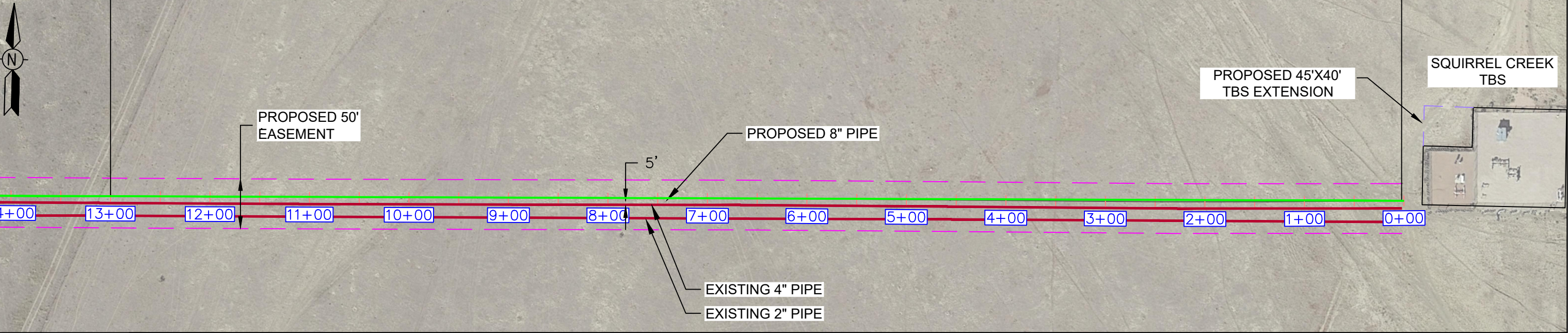
STATE HIGHWAY
CR COUNTY ROAD

HORIZONTAL STATIONING

MATCH LINE
STA: 13+00
SEE DWG.
0322-3302

LINE START
STA: 0+00

ALIGNMENT
SCALE: 1" = 100'



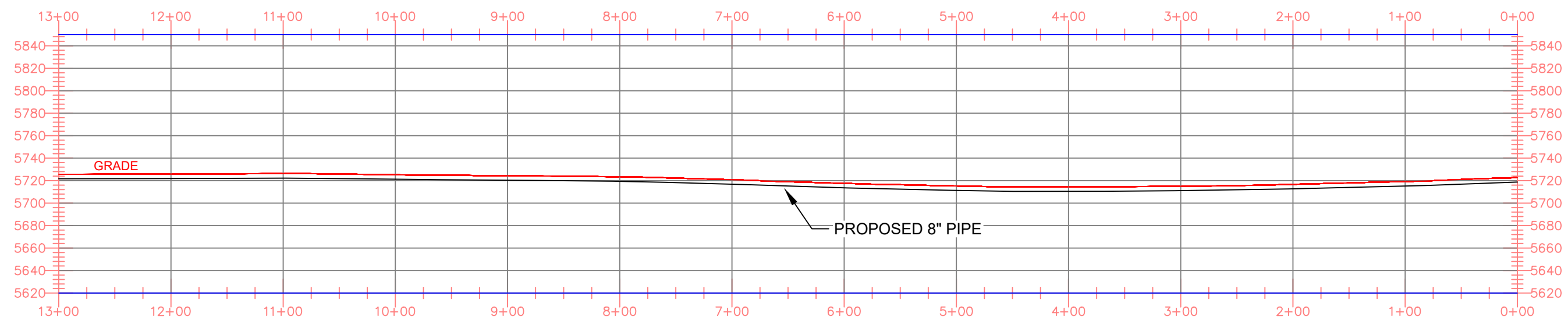
MATERIAL

STA. 13+00

1300'
①

STA. 0+00

PROFILE
SCALE: HORIZONTAL 1"=100' VERTICAL 1"=100'



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS

1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING	1320'
---	--	-------

REVISIONS

NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD
A	FOR REVIEW	9/21/23	SKS	DJ	CD
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD



ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

SQUIRREL CREEK
ALIGNMENT & BORE PROFILE SHEET
0+00 TO 13+00

2024 CONSTRUCTION
DWG. TYPE: PRELIM, BID, FINAL
PANEL: BID, FINAL

WC: --
DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

ELPASO COUNTY COLORADO
DRAWN: SKS, CHK. DR.: DJ, SCALE AS SHOWN, DATE 9/8/23
SHEET NO. 2 of 20

ADDITIONAL INFORMATION

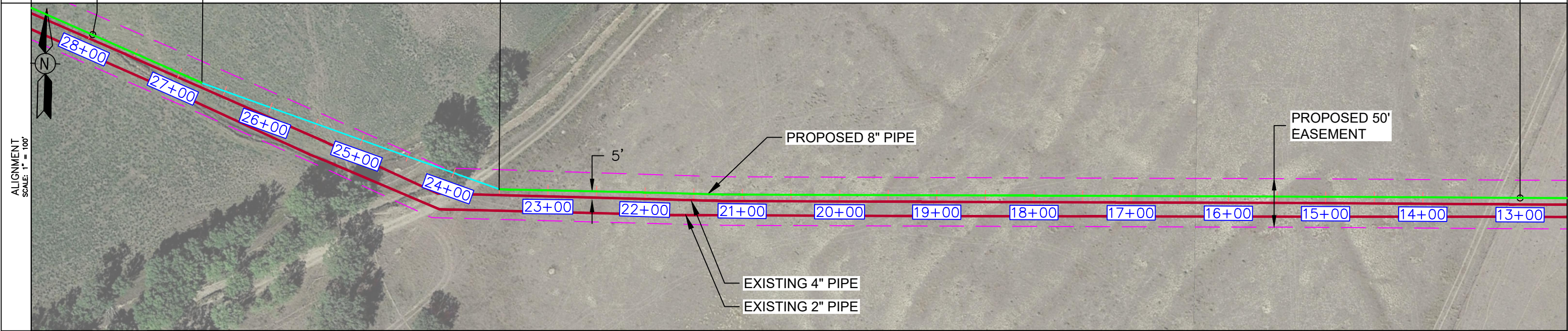


OWNERSHIP	--	MAOP	585 PSIG
ENVIRONMENTAL	--	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	--	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

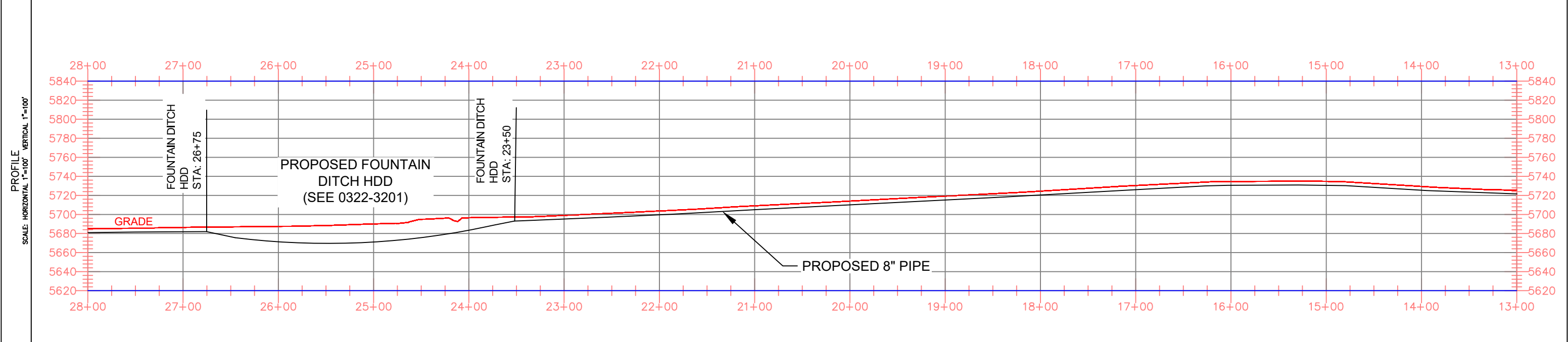
LEGEND:

	PIPELINE		TEL. LINE		R.O.W.
	GAS PIPELINE		COMMUNICATION LINE		STATE HIGHWAY
	WATER LINE		OVERHEAD ELECTRIC LINE		COUNTY ROAD

HORIZONTAL STATIONING	MATCH LINE STA: 28+00 SEE DWG. 0322-3303	FOUNTAIN DITCH HDD STA: 26+75	FOUNTAIN DITCH HDD STA: 23+50	MATCH LINE STA: 13+00 SEE DWG. 0322-3301
-----------------------	---	-------------------------------------	-------------------------------------	---



MATERIAL	STA. 26+75	300' ②	STA. 23+50	950' ①	STA. 13+00
----------	------------	-----------	------------	-----------	------------



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOWN ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS		
1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING	1300'
2	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING AND 40 MILS ARO	300'

REVISIONS						
NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD	
A	FOR REVIEW	9/21/23	SKS	DJ	CD	
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD	
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD	

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

2024 CONSTRUCTION

WC: --

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND OPTIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

SQUIRREL CREEK
ALIGNMENT & BORE PROFILE SHEET
13+00 TO 28+00

EL PASO COUNTY COLORADO

DRAWN	SKS	CHK. DR.	DJ	SCALE AS SHOWN	DATE 9/8/23
DRAWING NUMBER:			SHEET NO.		
0322-3302			3 of 20		

ADDITIONAL INFORMATION



OWNERSHIP	--	MAOP	585 PSIG
ENVIRONMENTAL	--	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	--	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

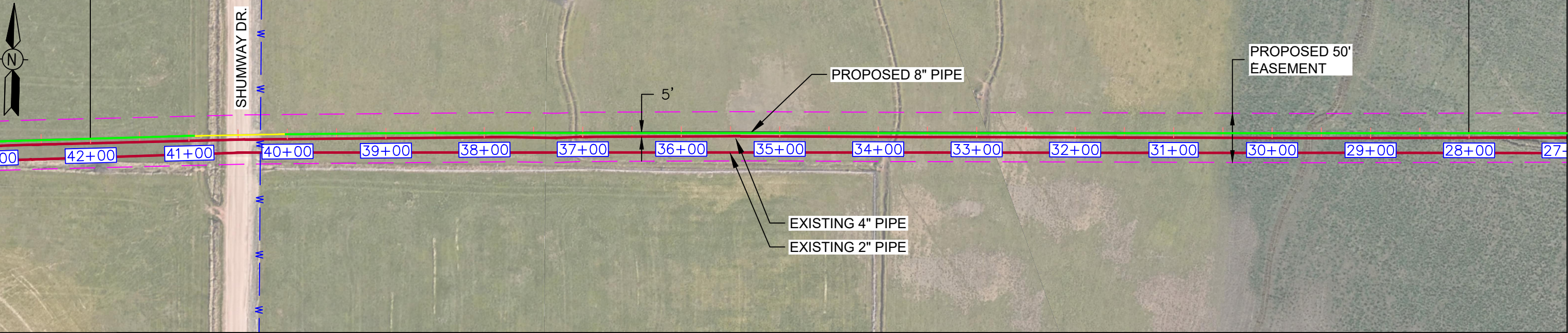
LEGEND:

	PIPELINE		TEL. LINE		R.O.W.
	GAS PIPELINE		COMMUNICATION LINE		STATE HIGHWAY
	WATER LINE		OVERHEAD ELECTRIC LINE		COUNTY ROAD

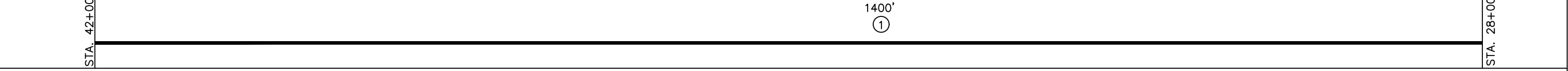
HORIZONTAL STATIONING



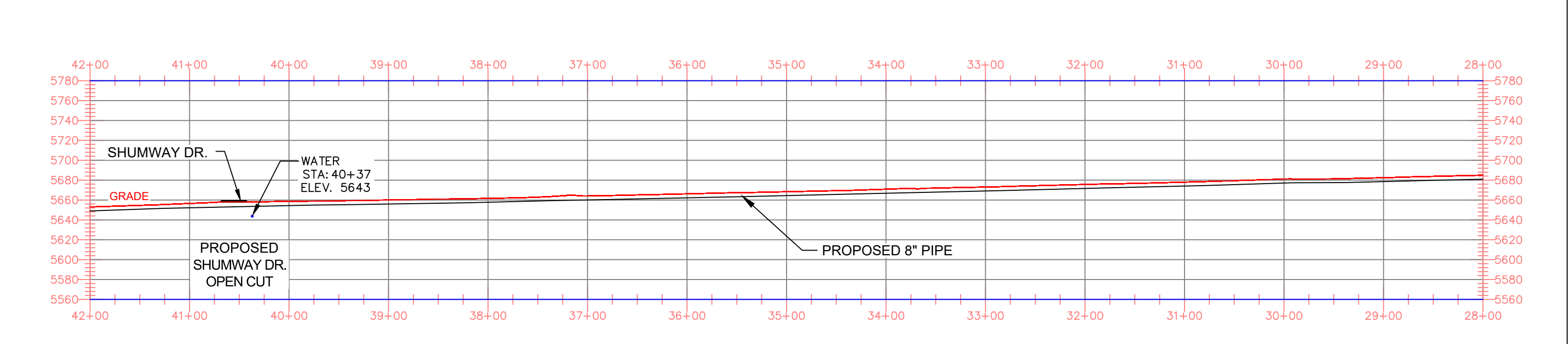
ALIGNMENT SCALE: 1" = 100'



MATERIAL



PROFILE SCALE: HORIZONTAL 1"=100' VERTICAL 1"=40'



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS		
NO.	DESCRIPTION	QUANTITY
1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING	1450'

REVISIONS						
NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD	
A	FOR REVIEW	9/21/23	SKS	DJ	CD	
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD	
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD	

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

2024 CONSTRUCTION
WC: --
DWS. TYPE: --
PRELIM. BID / FINAL

SQUIREL CREEK
ALIGNMENT & BORE PROFILE SHEET
28+00 TO 42+00

ELPASO COUNTY COLORADO
DRAWN: SKS
CHK. DR.: DJ
SCALE AS SHOWN DATE 9/8/23
SHEET NO. 4 of 20

ADDITIONAL INFORMATION	OWNERSHIP	--	MAOP	585 PSIG
	ENVIRONMENTAL	--	CLASS LOCATION	CLASS 3 / DF = 0.5
	JURISDICTION	--	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
	DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG



LEGEND:

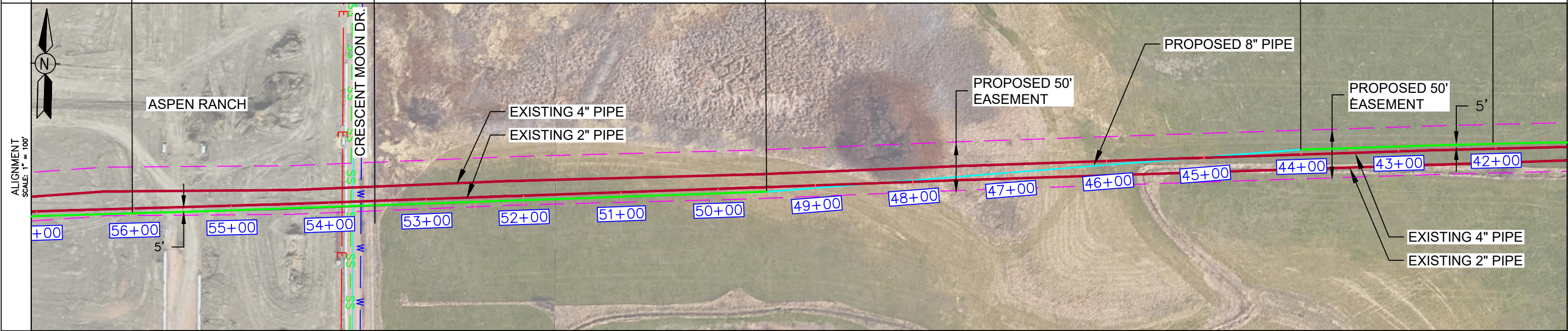
	PIPELINE		TEL. LINE		R.O.W.		DRAIN
	GAS PIPELINE		COMMUNICATION LINE		SEWER		
	WATER LINE		OVERHEAD ELECTRIC LINE		ELECT.		

HORIZONTAL STATIONING: MATCH LINE STA: 56+00 SEE DWG. 0322-3303XXXX (left); MATCH LINE STA: 42+00 SEE DWG. 0322-3303 (right)

EXISTING ← NEW →

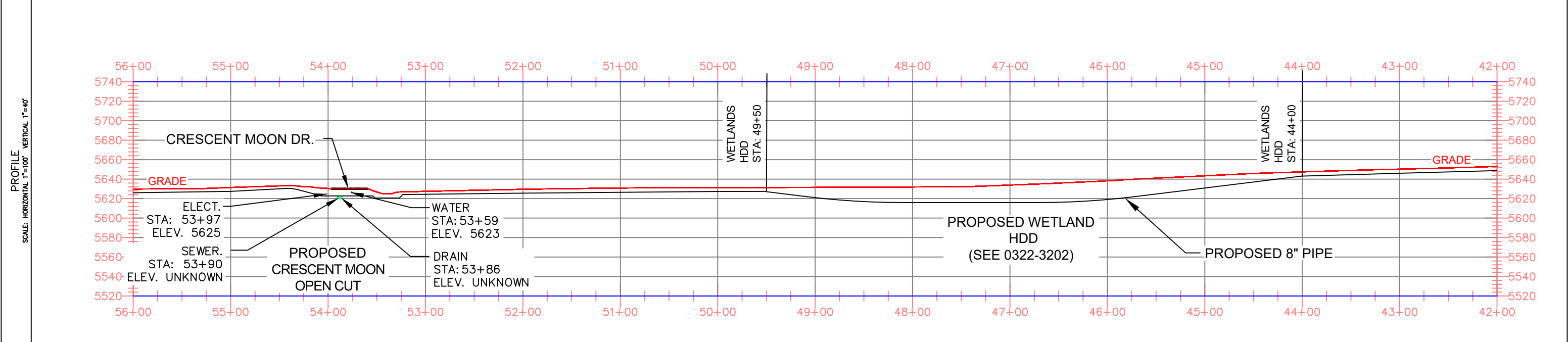
WETLANDS HDD STA: 54+50

WETLANDS HDD STA: 49+00



MATERIAL

STA. 56+00	50' ①	STA. 49+50	600' ②	STA. 49+00	700' ①	STA. 42+00
------------	-------	------------	--------	------------	--------	------------



NOTES:

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOWN ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS

1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING	800'
2	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING AND 40 MILS ARO	650'

REVISIONS

NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD.
A	FOR REVIEW	9/21/23	SKS	DJ	CD
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

SQUIREL CREEK
ALIGNMENT & BORE PROFILE SHEET
42+00 TO 56+00

2024 CONSTRUCTION		WC: --	EL PASO COUNTY	COLORADO
DWG. TYPE: PRELIM	CHK. DR. DJ	SCALE AS SHOWN	DATE 9/8/23	
DWG. TYPE: BID	CHK. DR. DJ	DRAWING NUMBER: 0322-3304	SHEET NO.	5 of 20

ADDITIONAL INFORMATION



OWNERSHIP	--	MAOP	585 PSIG
ENVIRONMENTAL	--	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	--	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

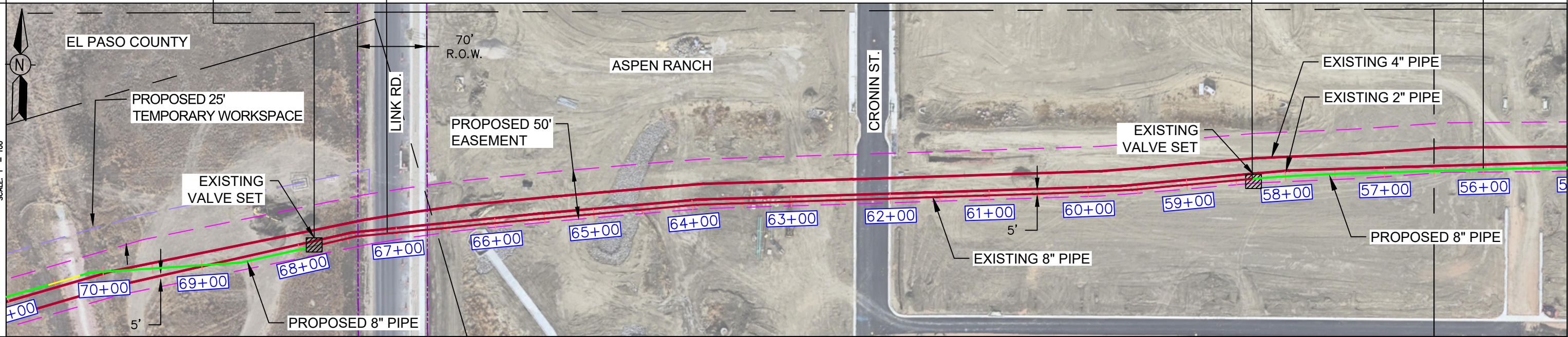
LEGEND:

	PIPELINE		TEL. LINE		R.O.W.
	GAS PIPELINE		COMMUNICATION LINE		STATE HIGHWAY
	WATER LINE		OVERHEAD ELECTRIC LINE		COUNTY ROAD

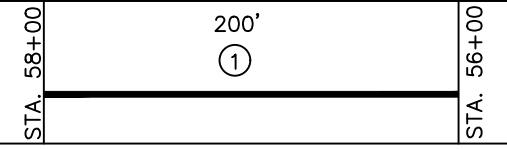
HORIZONTAL STATIONING



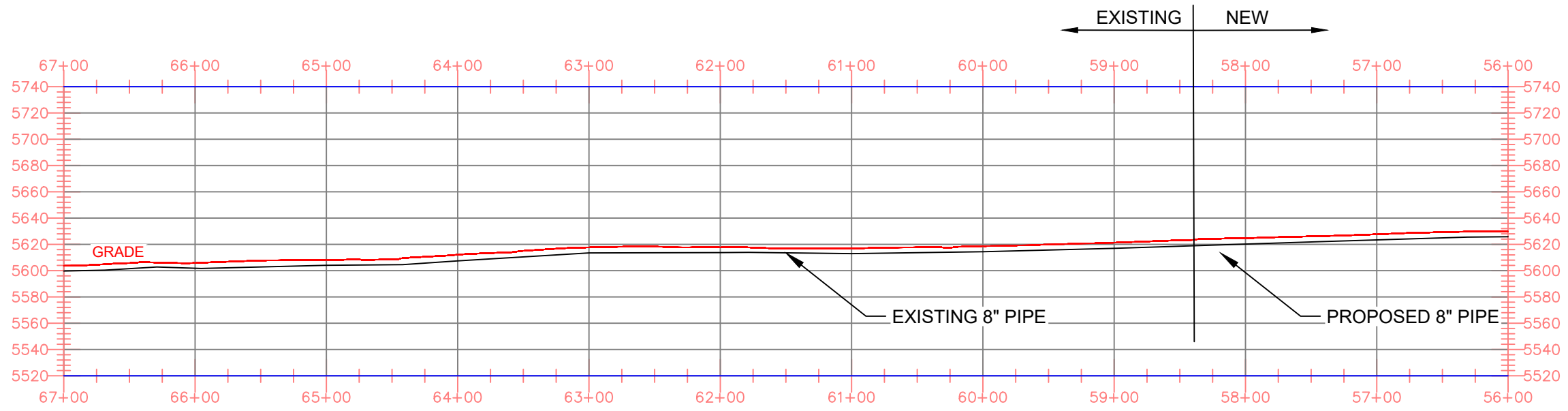
ALIGNMENT SCALE: 1" = 100'



MATERIAL



PROFILE SCALE: HORIZONTAL 1"=100' VERTICAL 1"=40'



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS

1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING	250'
---	--	------

REVISIONS

NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD
A	FOR REVIEW	9/21/23	SKS	DJ	CD
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD
D	ISSUED FOR CONSTRUCTION	12/14/23	SKS	DJ	CD



ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

SQUIREL CREEK
ALIGNMENT & BORE PROFILE SHEET
56+00 TO 67+00

2024 CONSTRUCTION

WO: 10083285

EL PASO COUNTY COLORADO

DWG. TYPE: PRELIM. BID FINAL

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

DRAWN: SKS CHK. DR. DJ SCALE AS SHOWN DATE 9/8/23

DRAWING NUMBER: SHEET NO.

0322-3304A 6 of 20

ADDITIONAL INFORMATION



OWNERSHIP	--	MAOP	585 PSIG
ENVIRONMENTAL	--	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	--	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

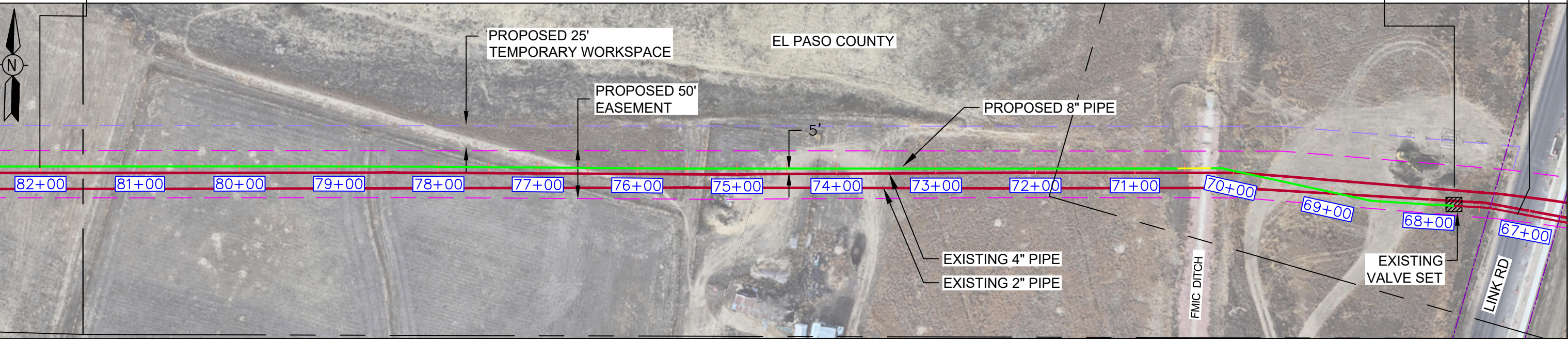
LEGEND:

	PIPELINE		TEL. LINE		R.O.W.
	GAS PIPELINE		COMMUNICATION LINE		STATE HIGHWAY
	WATER LINE		OVERHEAD ELECTRIC LINE		COUNTY ROAD

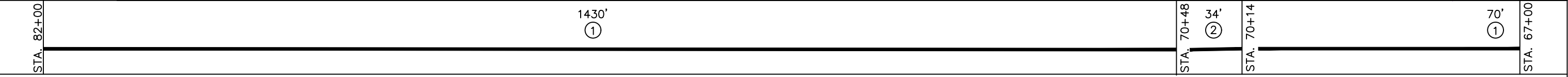
HORIZONTAL STATIONING



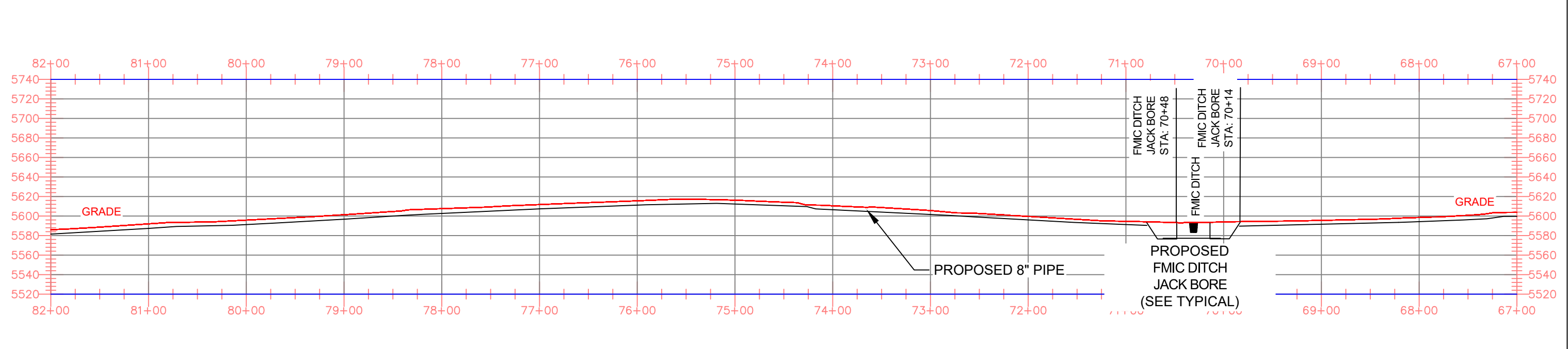
ALIGNMENT SCALE: 1" = 100'



MATERIAL



PROFILE SCALE: HORIZONTAL 1"=100' VERTICAL 1"=40'



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS

1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING	1550'
2	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING AND 40 MILS ARO	350'

REVISIONS

NO.	DESCRIPTION	DATE	BY	CHKD	APPV'D
A	FOR REVIEW	9/21/23	SKS	DJ	CD
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD
D	ISSUED FOR CONSTRUCTION	12/14/23	SKS	DJ	CD

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

2024 CONSTRUCTION

WO: 10083285

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

SQUIREL CREEK
ALIGNMENT & BORE PROFILE SHEET
67+00 TO 82+00

EL PASO COUNTY COLORADO

DRWN: SKS CHK. DR: DJ SCALE: AS SHOWN DATE: 9/8/23

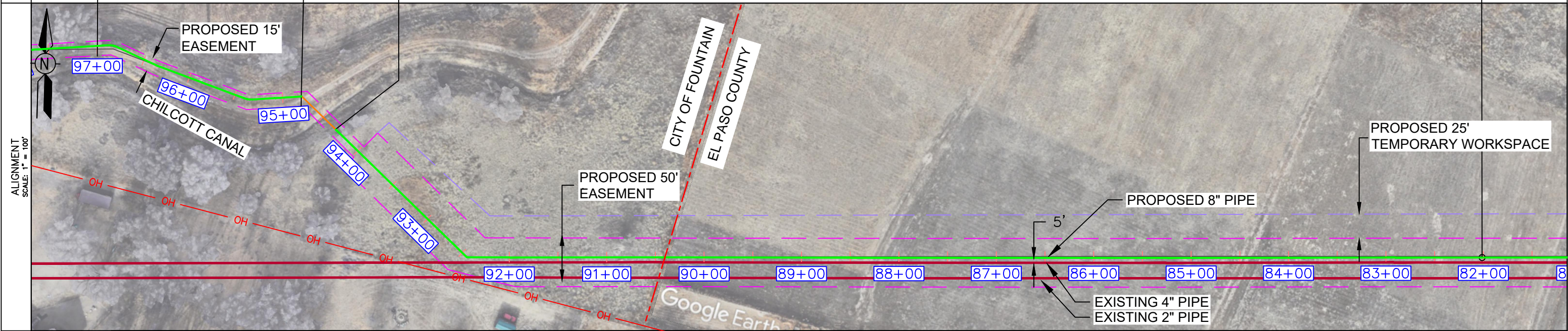
DRAWING NUMBER: 0322-3305 SHEET NO. 7 of 20

ADDITIONAL INFORMATION	OWNERSHIP	--	MAOP	585 PSIG
	ENVIRONMENTAL	--	CLASS LOCATION	CLASS 3 / DF = 0.5
	JURISDICTION	--	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
	DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

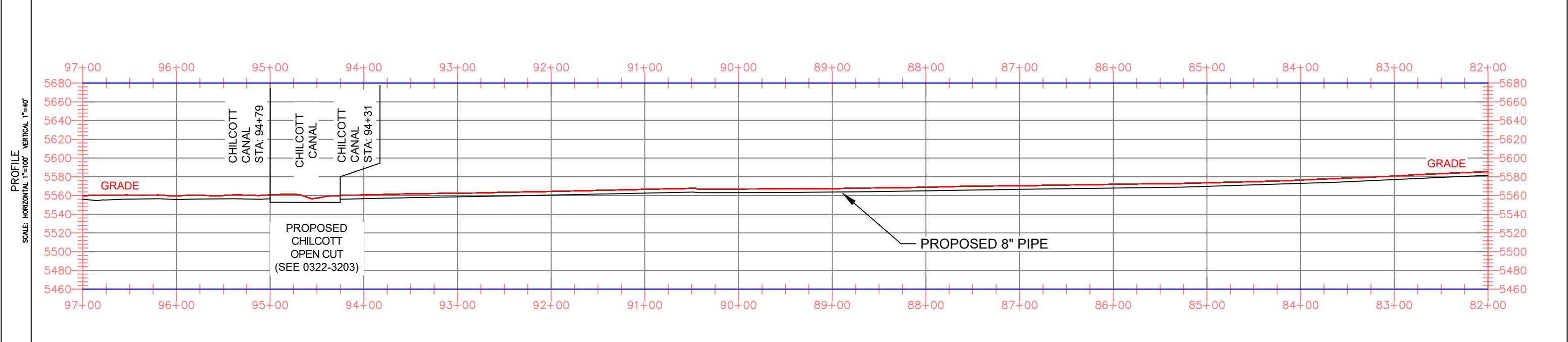


LEGEND:		PIPELINE	TEL. LINE	R.O.W.	STATE HIGHWAY
G	GAS PIPELINE	C	COMMUNICATION LINE	CR	COUNTY ROAD
W	WATER LINE	OH	OVERHEAD ELECTRIC LINE		

HORIZONTAL STATIONING	MATCH LINE STA: 97+00 SEE DWG. 0322-3307	CHILCOTT CANAL OPEN CUT STA: 94+79	CHILCOTT CANAL OPEN CUT STA: 94+31	MATCH LINE STA: 82+00 SEE DWG. 0322-3305
	ALIGNMENT SCALE: 1" = 100'			



MATERIAL	STA. 97+00	1500'	STA. 82+00
----------	------------	-------	------------



- NOTES
- STATIONING IS BASED ON HORIZONTAL DISTANCES.
 - ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
 - BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
 - GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
 - HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS		
NO.	DESCRIPTION	QUANTITY
1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING	1500'

REVISIONS						
NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD	
A	FOR REVIEW	9/21/23	SKS	DJ	CD	
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD	
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD	

Black Hills Energy

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

2024 CONSTRUCTION

WC: --

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND OPTIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

SQUIREL CREEK
ALIGNMENT & BORE PROFILE SHEET
82+00 TO 97+00

ELPASO COUNTY COLORADO

SCALE AS SHOWN DATE 9/8/23

SHEET NO. 8 of 20



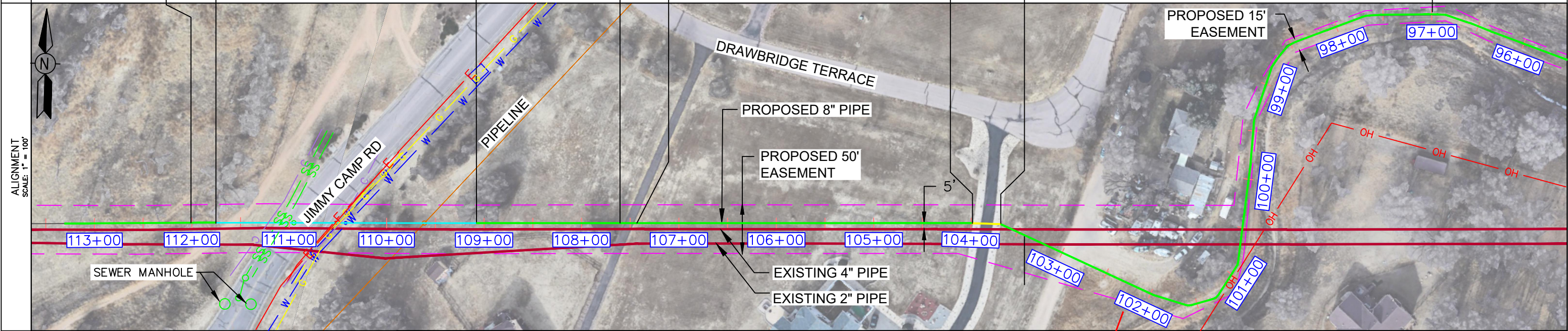
OWNERSHIP	--	MAOP	585 PSIG
ENVIRONMENTAL	--	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	--	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

LEGEND:

	PIPELINE		TEL. LINE		SEWER
	GAS PIPELINE		COMMUNICATION LINE		ELECT.
	WATER LINE		OVERHEAD ELECTRIC LINE		R.O.W.

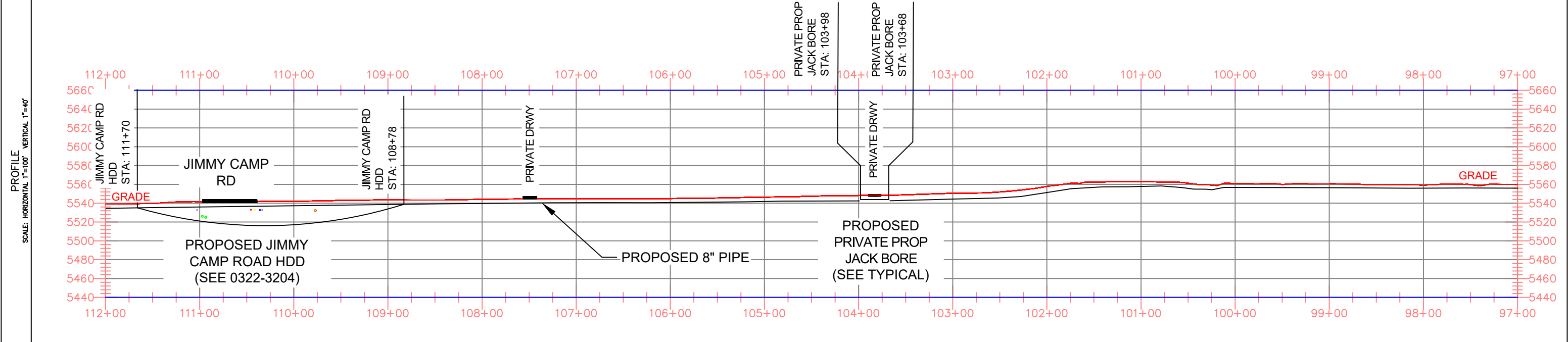
HORIZONTAL STATIONING

MATCH LINE STA: 112+00 SEE DWG. 0322-3308	JIMMY CAMP RD HDD STA: 111+74	JIMMY CAMP RD HDD STA: 109+07	PRIVATE DRWY STA: 107+35	PRIVATE DRWY STA: 107+18	PRIVATE PROP JACK BORE STA: 103+98	PRIVATE PROP JACK BORE STA: 103+68	MATCH LINE STA: 97+00 SEE DWG. 0322-3306
--	-------------------------------------	-------------------------------------	-----------------------------	-----------------------------	---------------------------------------	---------------------------------------	---



MATERIAL

STA. 112+00	30' (2)	288'	450' (1)	30' (2)	304' (1)	STA. 97+00
-------------	---------	------	----------	---------	----------	------------



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOWN ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS

1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING	1425'
2	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING AND 40 MILS ARO	245'

REVISIONS

NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD
A	FOR REVIEW	9/21/23	SKS	DJ	CD
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

**SQUIREL CREEK
ALIGNMENT SHEET
97+00 TO 112+00**

2024 CONSTRUCTION		WC: --		EL PASO COUNTY COLORADO	
DWG. TYPE	PRELIM	CHK. DR.	DJ	SCALE AS SHOWN	DATE 9/8/23
DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND OPTIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.			DRAWING NUMBER:		SHEET NO.
			0322-3307		9 of 20

ADDITIONAL INFORMATION



OWNERSHIP	---	MAOP	585 PSIG
ENVIRONMENTAL	---	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	---	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

LEGEND:

	PIPELINE		TEL. LINE		R.O.W.
	GAS PIPELINE		COMMUNICATION LINE		OVERHEAD ELECTRIC LINE
	WATER LINE				
				CR	COUNTY ROAD
					STATE HIGHWAY

HORIZONTAL STATIONING

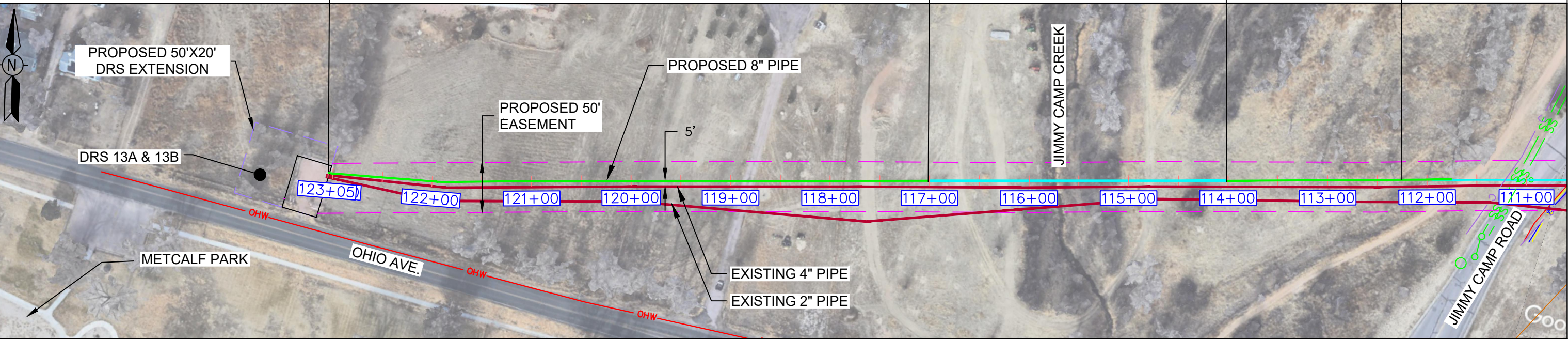
LINE END STA: 122+75

JIMMY CAMP CREEK HDD STA: 117+00

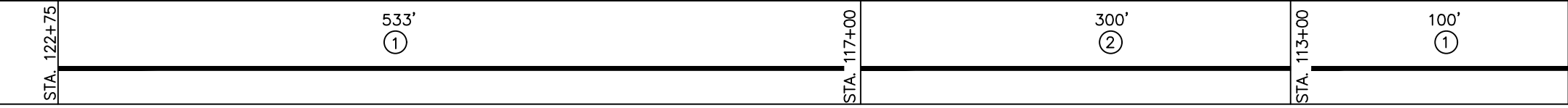
JIMMY CAMP CREEK HDD STA: 114+00

MATCH LINE STA: 112+00 SEE DWG. 0322-3307

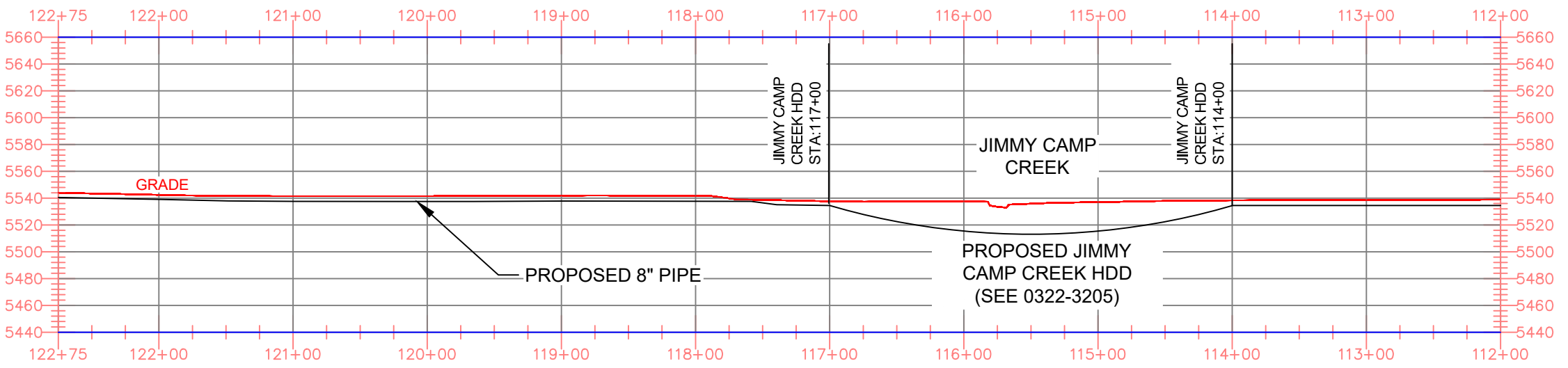
ALIGNMENT SCALE: 1" = 100'



MATERIAL



PROFILE SCALE: HORIZONTAL 1"=100' VERTICAL 1"=40'



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

NO.	DESCRIPTION	QUANTITY
1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING	650'
2	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING AND 40 MILS ARO	325'

NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD
A	FOR REVIEW	9/21/23	SKS	DJ	CD
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

2024 CONSTRUCTION

WC: --

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

SQUIRREL CREEK
ALIGNMENT & BORE PROFILE SHEET
112+00 TO 122+40

ELPASO COUNTY COLORADO

DRWN: SKS CHK. DR: DJ SCALE AS SHOWN DATE 9/8/23

DRAWING NUMBER: 0322-3308 SHEET NO. 10 of 20



OWNERSHIP	---	MAOP	585 PSIG
ENVIRONMENTAL	---	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	---	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

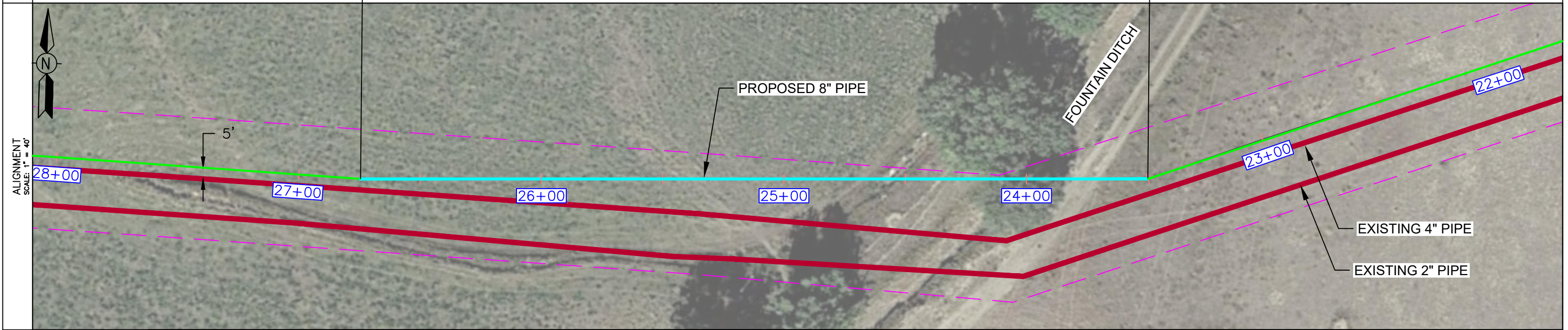
LEGEND:

	PIPELINE		TEL. LINE		SEWER
	GAS PIPELINE		COMMUNICATION LINE		ELECT.
	WATER LINE		OVERHEAD ELECTRIC LINE		R.O.W.

HORIZONTAL STATIONING

FOUNTAIN DITCH HDD STA: 26+75

FOUNTAIN DITCH HDD STA: 23+50



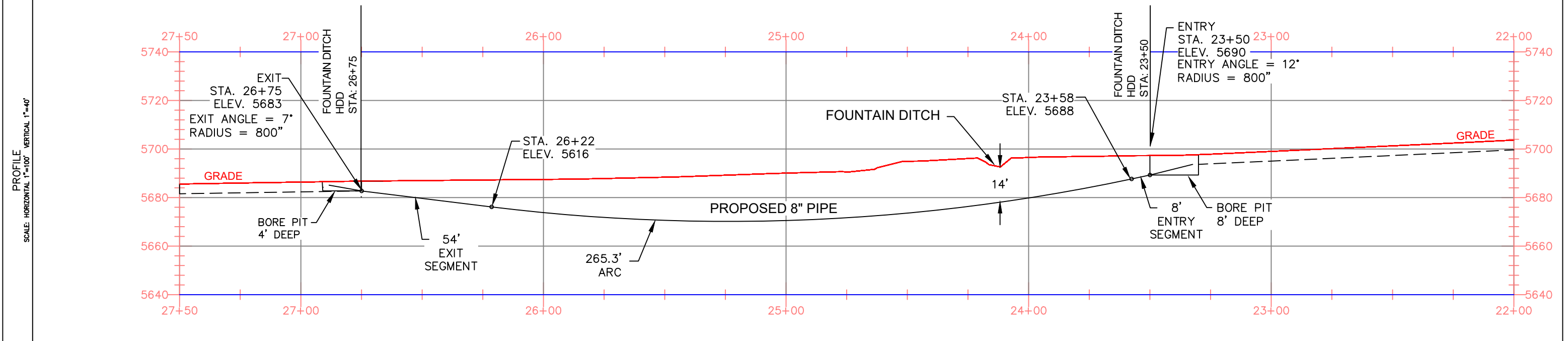
MATERIAL

325'

①

STA. 26+75

STA. 23+50



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS		
1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING AND 40 MILS ARO	350'

REVISIONS						
NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD	
A	FOR REVIEW	9/21/23	SKS	DJ	CD	
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD	
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD	

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

2024 CONSTRUCTION

WC: --

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

SQUIRREL CREEK
BORE PROFILE SHEET
FOUNTAIN DITCH

EL PASO COUNTY COLORADO

DRAWN SKS CHK. DR. DJ SCALE AS SHOWN DATE 9/8/23

DRAWING NUMBER: 0322-3201 SHEET NO. 11 of 20

ADDITIONAL INFORMATION



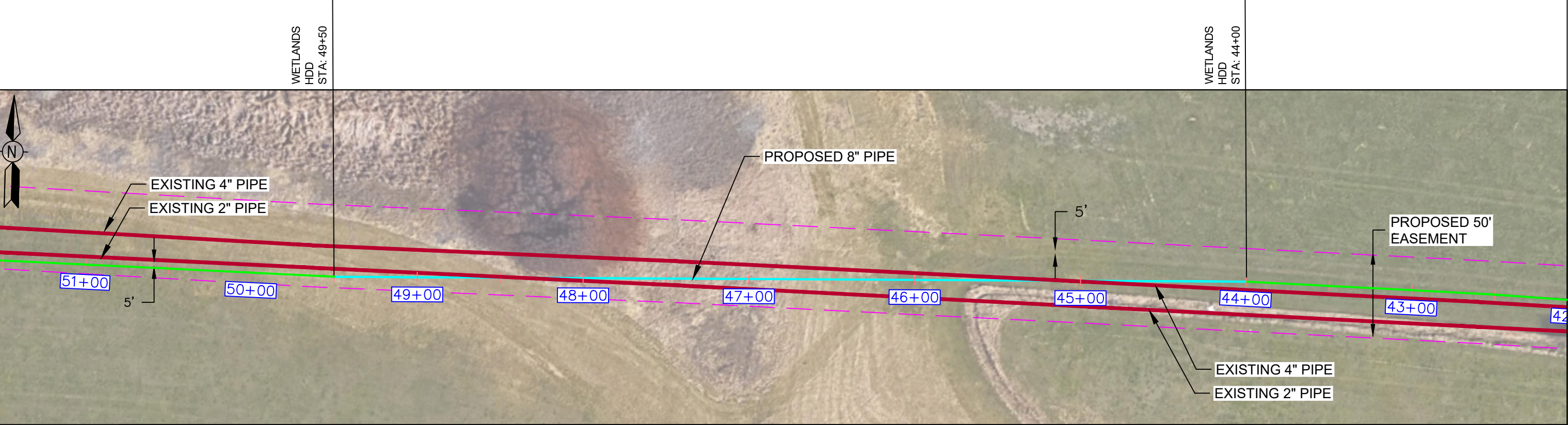
OWNERSHIP	--	MAOP	585 PSIG
ENVIRONMENTAL	--	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	--	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

LEGEND:

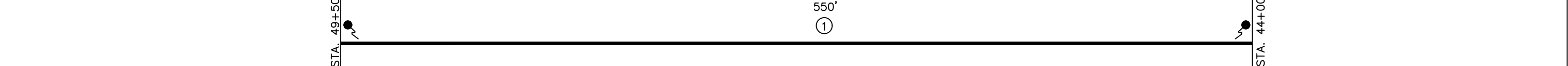
	PIPELINE		TEL. LINE		SEWER
	GAS PIPELINE		COMMUNICATION LINE		ELECT.
	WATER LINE		OVERHEAD ELECTRIC LINE		R.O.W.

HORIZONTAL STATIONING

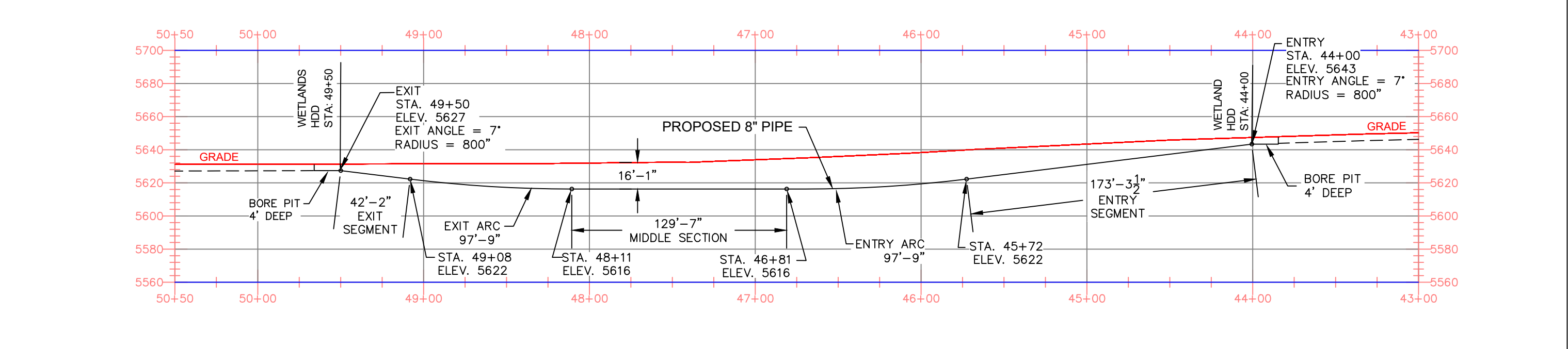
ALIGNMENT SCALE: 1" = 80'



MATERIAL



PROFILE SCALE: HORIZONTAL 1"=100' VERTICAL 1"=60'



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS		
1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING AND 40 MILS ARO	600'

REVISIONS						
NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD	
A	FOR REVIEW	9/21/23	SKS	DJ	CD	
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD	
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD	

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

2024 CONSTRUCTION

WC: --

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

SQUIRREL CREEK
BORE PROFILE SHEET
WETLANDS HDD

EL PASO COUNTY COLORADO

DRAWN	SKS	CHK. DR.	DJ	SCALE AS SHOWN	DATE 9/8/23
DRAWING NUMBER:			SHEET NO.		
0322-3202			12 of 20		

ADDITIONAL INFORMATION



OWNERSHIP	--	MAOP	585 PSIG
ENVIRONMENTAL	--	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	--	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	6 FT MIN.	OPERATING PRESSURE	465 PSIG

LEGEND:

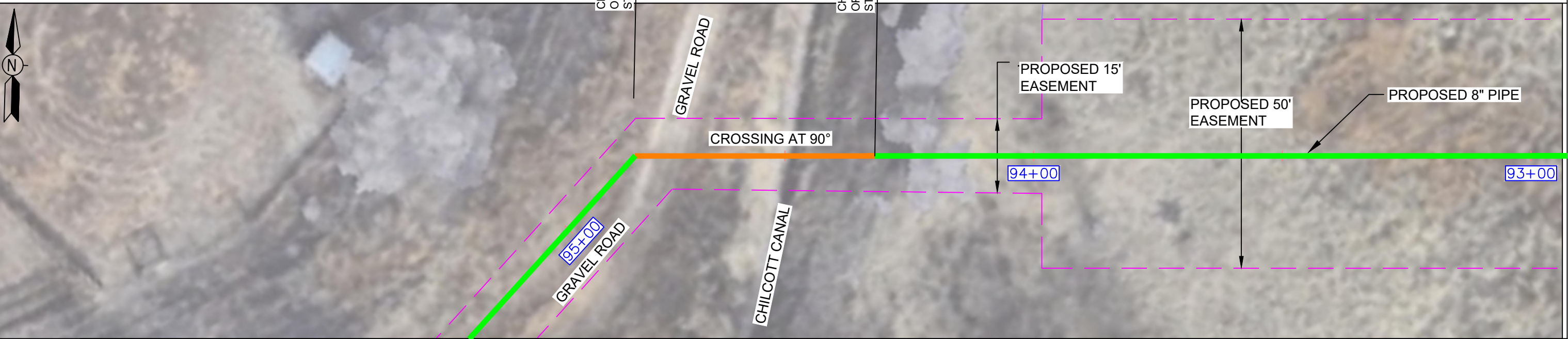
	PIPELINE		TEL. LINE		SEWER
	GAS PIPELINE		COMMUNICATION LINE		ELECT.
	WATER LINE		OVERHEAD ELECTRIC LINE		R.O.W.

HORIZONTAL STATIONING

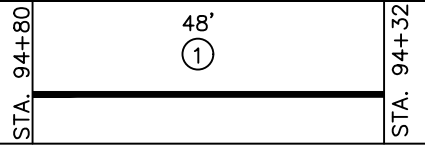
CHILCOTT CANAL OPEN CUT STA: 94+80

CHILCOTT CANAL OPEN CUT STA: 94+32

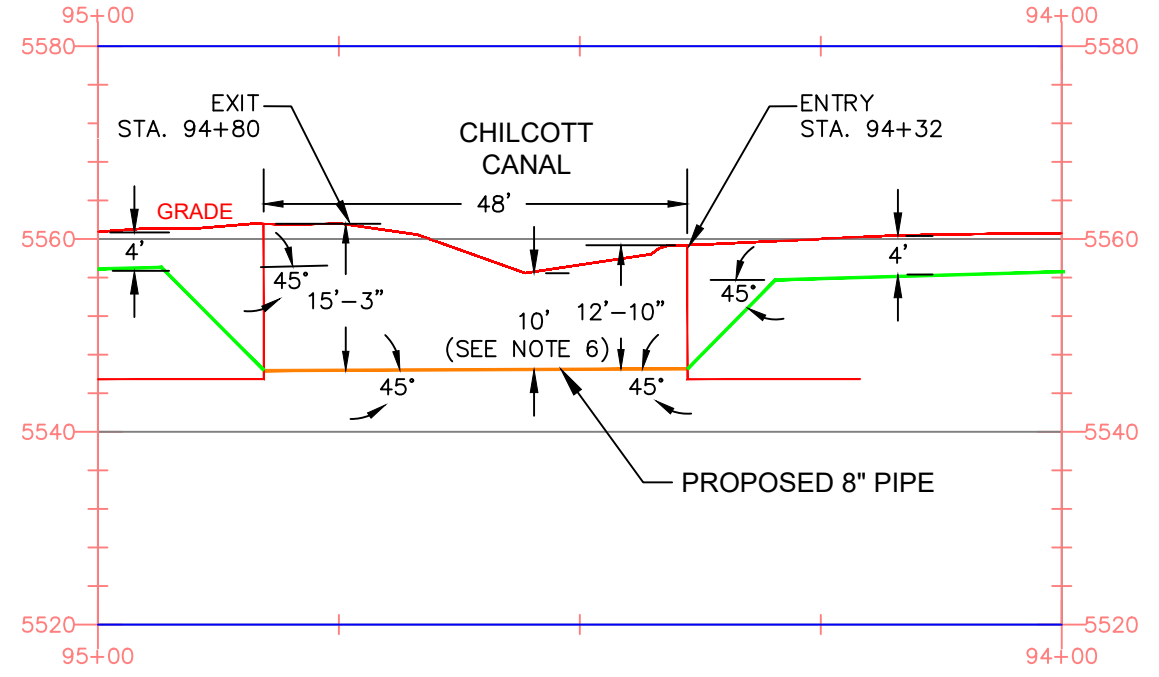
ALIGNMENT SCALE: 1" = 100'



MATERIAL



PROFILE SCALE: HORIZONTAL 1"=100' VERTICAL 1"=40'



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.
- FLOW-FILL SHALL BE USED TO BACKFILL THE TRENCH AT THE DITCH CROSSING.

BILL OF MATERIALS		
NO.	DESCRIPTION	QUANTITY
1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING	50'

REVISIONS						
NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD	
A	FOR REVIEW	9/21/23	SKS	DJ	CD	
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD	
C	FOR BID	12/1/23	SKS	DJ	CD	

	ENGINEERING DESIGN 760 ALEGRE DR. FOUNTAIN, CO 80817	SQUIRREL CREEK DETAIL PROFILE SHEET CHILCOTT CANAL OPEN CUT	
	EL PASO COUNTY COLORADO	DRWN: SKS CHK. DR.: DJ	SCALE: AS SHOWN DATE: 9/8/23
2024 CONSTRUCTION Dwg. TYPE: PRELIM. BID ✓ FINAL	WC: -- DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPTC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.	DRAWING NUMBER: 0322-3203	SHEET NO. 13 of 20

ADDITIONAL INFORMATION



OWNERSHIP	---	MAOP	585 PSIG
ENVIRONMENTAL	---	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	---	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

LEGEND:

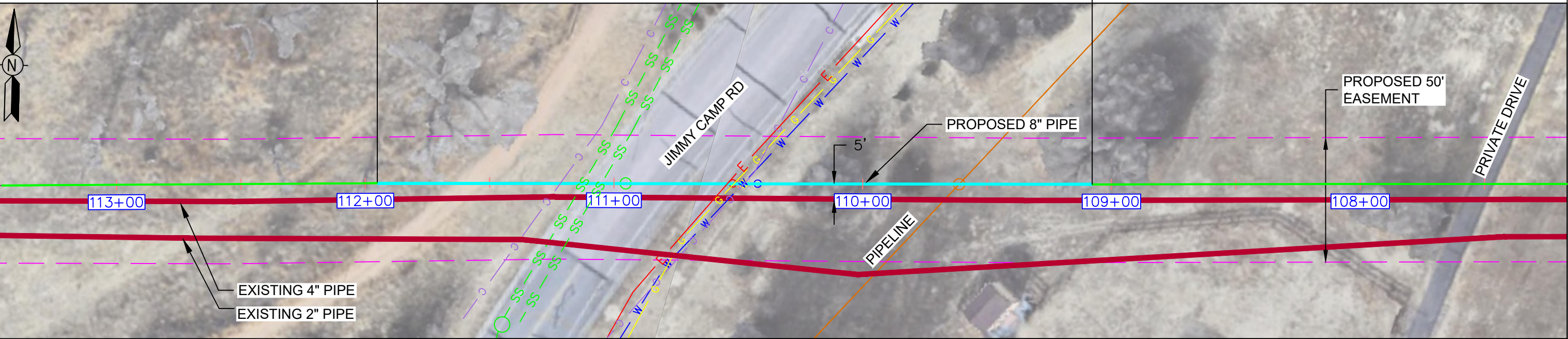
	PIPELINE		TEL. LINE		SEWER		CABLE/FIBER
	GAS PIPELINE		COMMUNICATION LINE		ELECT.		R.O.W.
	WATER LINE		OVERHEAD ELECTRIC LINE		TEST STATION		

HORIZONTAL STATIONING

JIMMY CAMP RD
HDD
STA: 111+70

JIMMY CAMP RD
HDD
STA: 108+78

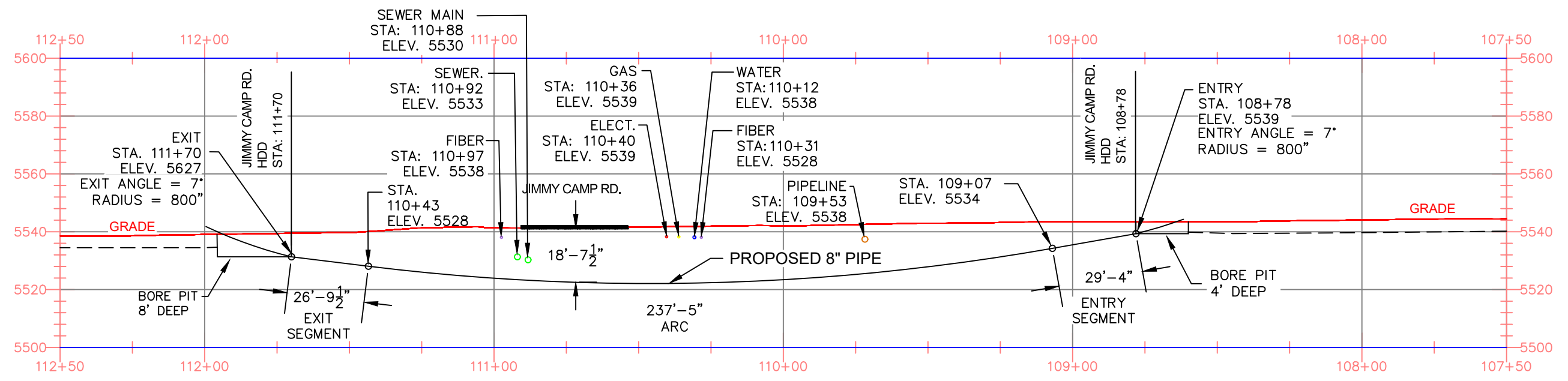
ALIGNMENT
SCALE: 1" = 100'



MATERIAL



PROFILE
SCALE: HORIZONTAL 1"=100' VERTICAL 1"=40'



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS

NO.	DESCRIPTION	QUANTITY
1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING AND 40 MILS ARO	300'

REVISIONS

NO.	DESCRIPTION	DATE	BY	CHK.	APPROVD.
A	FOR REVIEW	9/21/23	SKS	DJ	CD
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD



ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

SQUIREL CREEK
BORE PROFILE
JIMMY CAMP ROAD

2024 CONSTRUCTION
Dwg. TYPE: PRELIM. BID ✓ FINAL

WC: --
DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

EL PASO COUNTY	COLORADO
DRAWN: SKS	CHK. DR.: DJ
DRAWING NUMBER: 0322-3204	SCALE AS SHOWN DATE 9/8/23
SHEET NO. 14	OF 20



OWNERSHIP	---	MAOP	585 PSIG
ENVIRONMENTAL	---	CLASS LOCATION	CLASS 3 / DF = 0.5
JURISDICTION	---	TEST PRESSURE	878 PSIG (MIN.) / 1000 PSIG (MAX)
DEPTH OF COVER	4 FT MIN.	OPERATING PRESSURE	465 PSIG

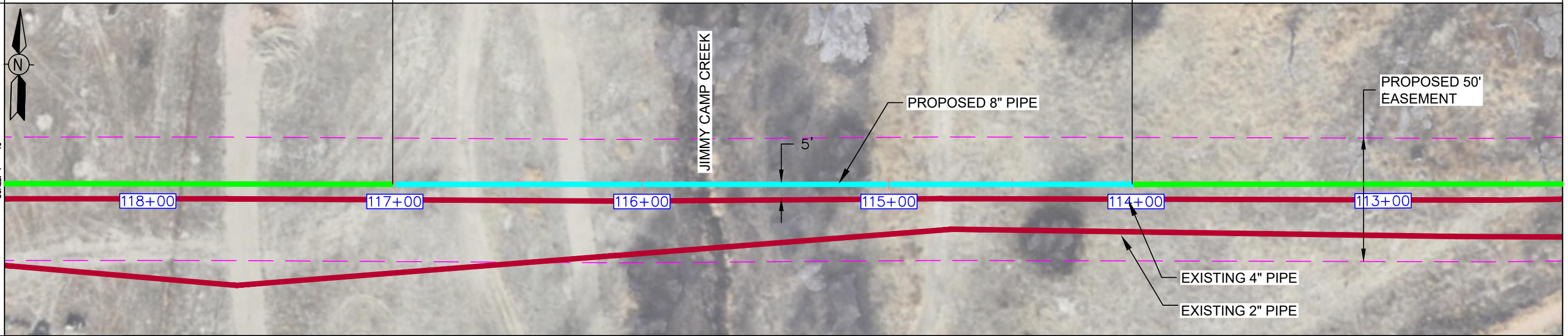
LEGEND:	PIPELINE	TEL. LINE	SEWER
GAS PIPELINE	COMMUNICATION LINE	ELECT.	TEST STATION
WATER LINE	OVERHEAD ELECTRIC LINE	R.O.W.	

HORIZONTAL STATIONING

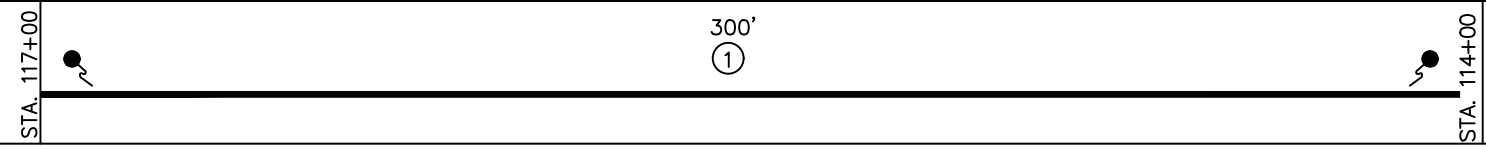
JIMMY CAMP CK
HDD
STA: 117+00

JIMMY CAMP CK
HDD
STA: 114+00

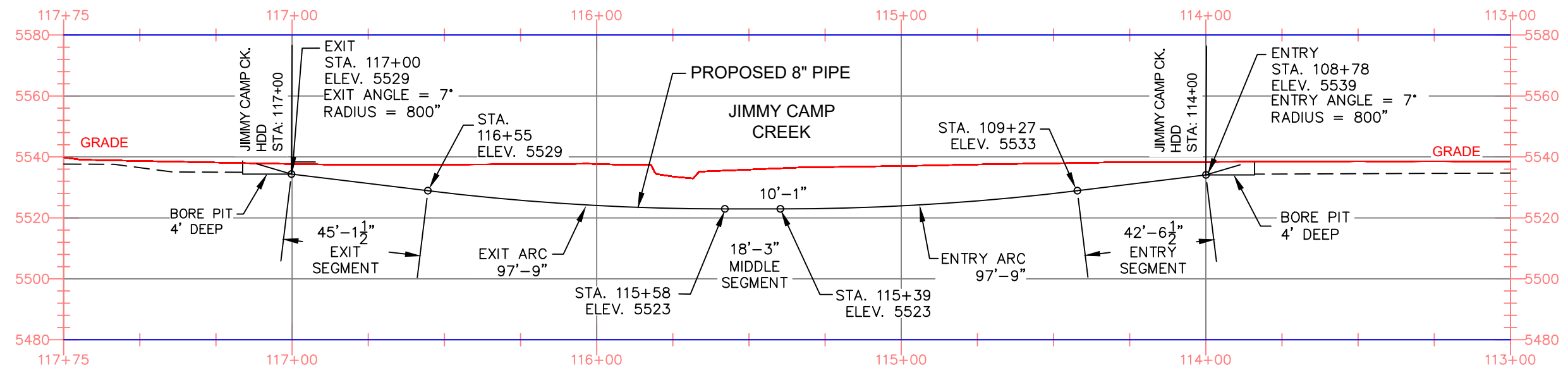
ALIGNMENT
SCALE: 1" = 40'



MATERIAL



PROFILE
SCALE: HORIZONTAL 1"=100' VERTICAL 1"=40'



NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS

1	8.625" OD 0.250" WT API 5LS X52 W14-16 MILLS FBE COATING AND 40 MILS ARO	350'
---	--	------

REVISIONS

NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD
A	FOR REVIEW	9/21/23	SKS	DJ	CD
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD



ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

SQUIREL CREEK
BORE PROFILE SHEET
JIMMY CAMP CREEK

2024 CONSTRUCTION	WC: --
DWG. TYPE: PRELIM. BID ✓ FINAL	

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

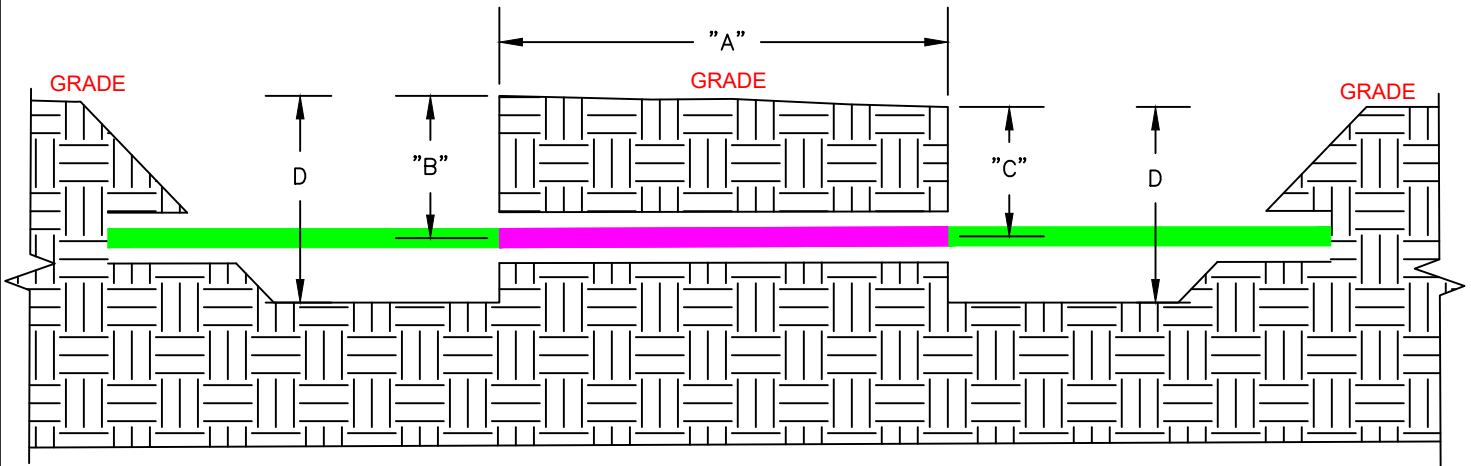
EL PASO COUNTY	COLORADO
DRAWN: SKS	CHK. DR. DJ
DRAWING NUMBER: 0322-3205	SHEET NO. 15 of 20

DATA TABLE

DESCRIPTION	SHEET	LENGTH "A"	DEPTH "B"	DEPTH "C"	DEPTH BELOW OBSTACLE
FMIC DITCH	7	34'-0"	16'-3"	16'-3"	6'-0"
PRIVATE PROP	9	30'-0"	4'-4"	4'-5"	4'-0"

* DIMENSION "D" IS TO BE DETERMINED BY CONTRACTOR.

- BORE PIPE
- INTERCONNECTION PIPE



JACK AND BORE TYPICAL DETAIL
SCALE=NONE



Know what's below.
Call before you dig.

DRAWING REVISIONS						
NO.	DESCRIPTION	DATE	BY	CK.	APPRVD	

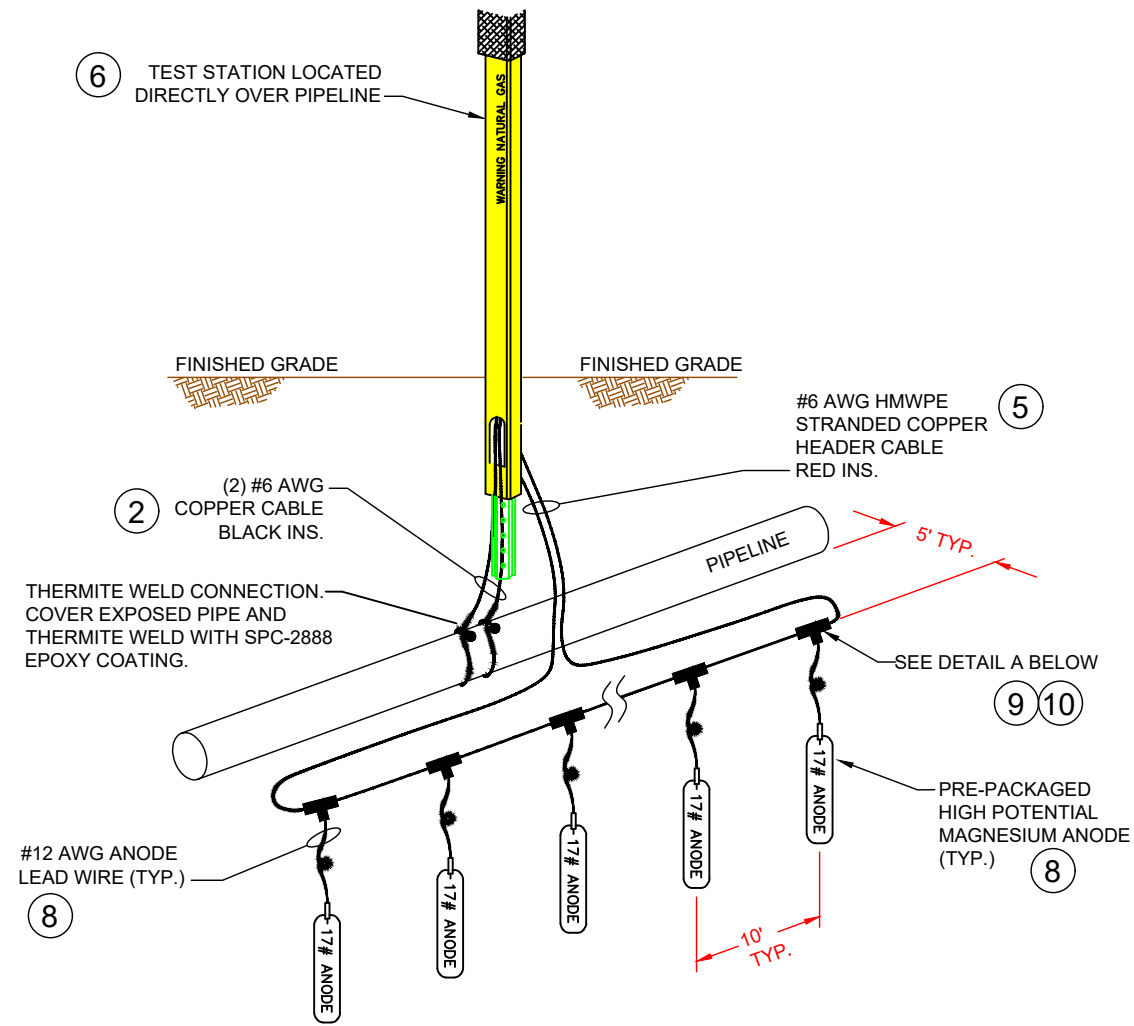


Natural Gas
Engineering Services
1102 E 1st Street
Papillion, NE 68046

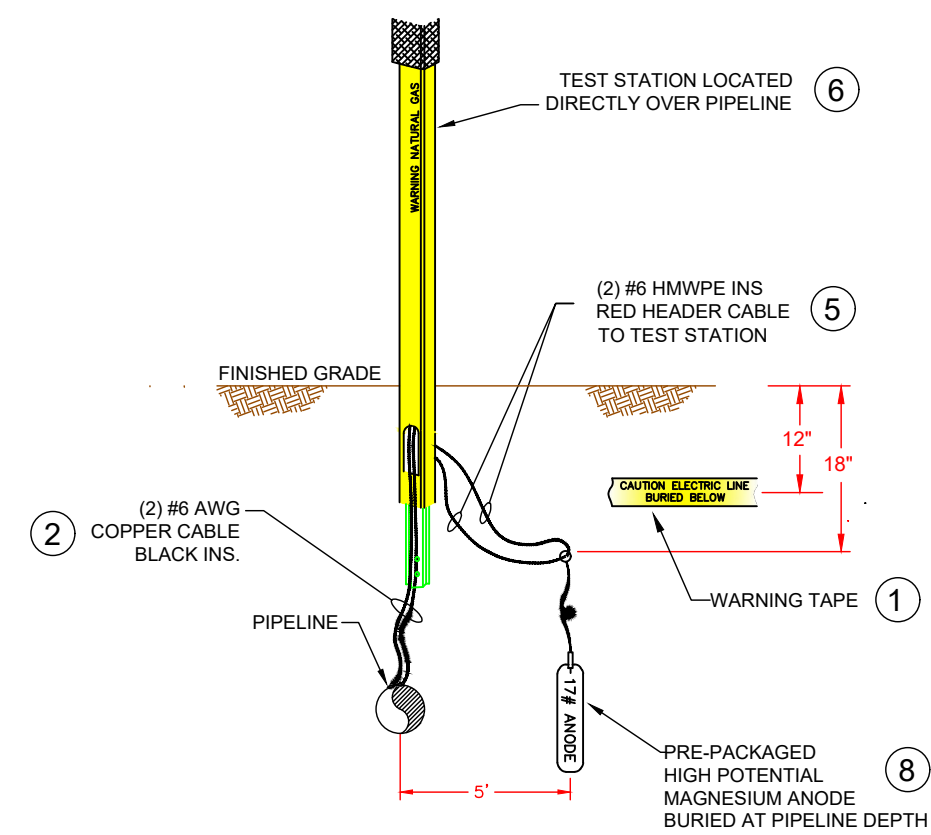
DRAWING APPROVALS		
TYPE	DATE	BY
MECHANICAL		
ELECTRICAL		
PROJECT	DATE	ENGINEER
PIPELINE		
DRAFTING		
MEASUREMENT	DATE	MEASUREMENT
FIELD		

JACK AND BORE TYPICAL		

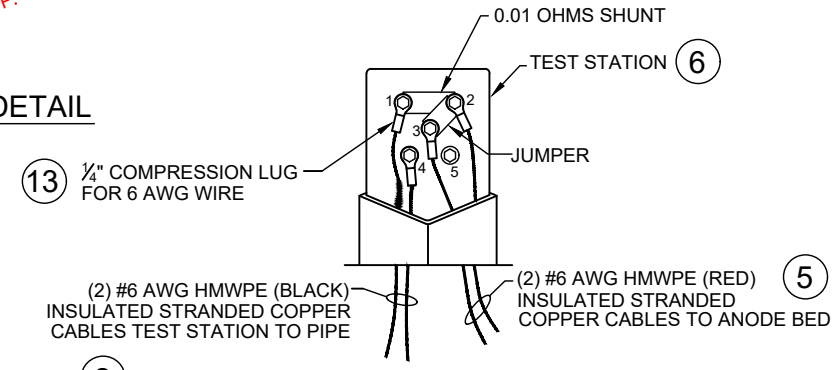
PIPING		
STANDARDS		
DRAWN BY SKS	DATE 11/10/2023	STANDRAD DRAWING
SCALE AS-NOTED	CHECKED ####	DWG. TYPE PRELIM X BID FINAL
CADD FILE TBD		W.O. NO. ####
P.N. TBD		SHEET NO. 16 of 20



MAGNESIUM ANODE INSTALLATION DETAIL



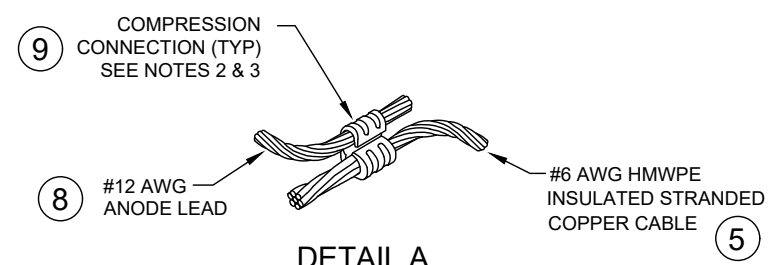
**SIDE VIEW
MAGNESIUM ANODE
INSTALLATION**



**ANODE TEST STATION
WIRING DETAIL
(SHOWN WITHOUT COVER)**

ANODE TEST STATION WIRING DETAIL

CONNECTIONS TO:			QUANTITY	TAPE OR WIRE COLOR
TERMINAL	PIPE/DEVICE			
1	PIPELINE		1	#6 AWG (BLACK)
2	ANODE BED		1	#6 AWG (RED)
3	ANODE BED		1	#6 AWG (RED)
4	PIPELINE		1	#6 AWG (BLACK)
5	UNUSED		-	-



**DETAIL A
ANODE TO ANODE HEADER
#12 AWG TO #6 AWG HMWPE
CRIMP CONNECTION**

NOTES:

1. INSTALL MAGNESIUM ANODE BEDS AT LOCATIONS ALONG PIPELINE ACCORDING TO CP TECHNICIAN INSTRUCTIONS.
2. INSTALL MAGNESIUM ANODE A MINIMUM OF 5' AWAY FROM PIPELINE.
3. ANODE CAN BE INSTALLED IN HORIZONTAL OR VERTICAL CONFIGURATIONS.
4. ANODE BED TO BE CENTERED AT LOCATION INDICATED BY CP TECHNICIAN .
5. INSTALL WARNING TAPE (ITEM 1) APPROXIMATELY 1 FT BELOW GRADE OVERALL ANODE BED.
6. THE MAGNESIUM ANODES WILL BE INSTALLED AT LEAST AS DEEP AS THE BOTTOM OF THE PIPE.
7. USE RESIN SPLICE KIT TO SEAL CRIMP CONNECTIONS.
8. COMPRESS CRIMP CONNECTOR USING CORRECT HAND OPERATED OR HYDRAULIC CRIMPING TOOL WITH CORRECT DIE FOR THE GIVEN CRIMP CONNECTOR.

NOTES

1. STATIONING IS BASED ON HORIZONTAL DISTANCES.
2. ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
3. BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
4. GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
5. HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS

SEE MATERIAL LIST ON DRAWING 0322-5993		

REVISIONS

NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD
A	FOR REVIEW	9/21/23	SKS	DJ	CD
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD



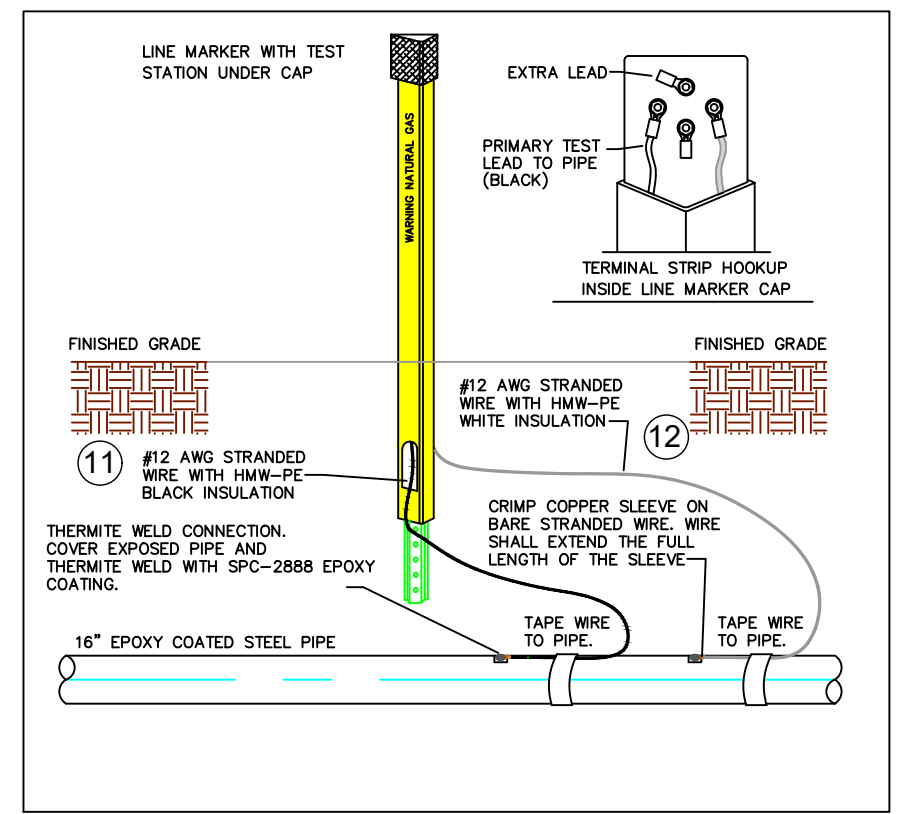
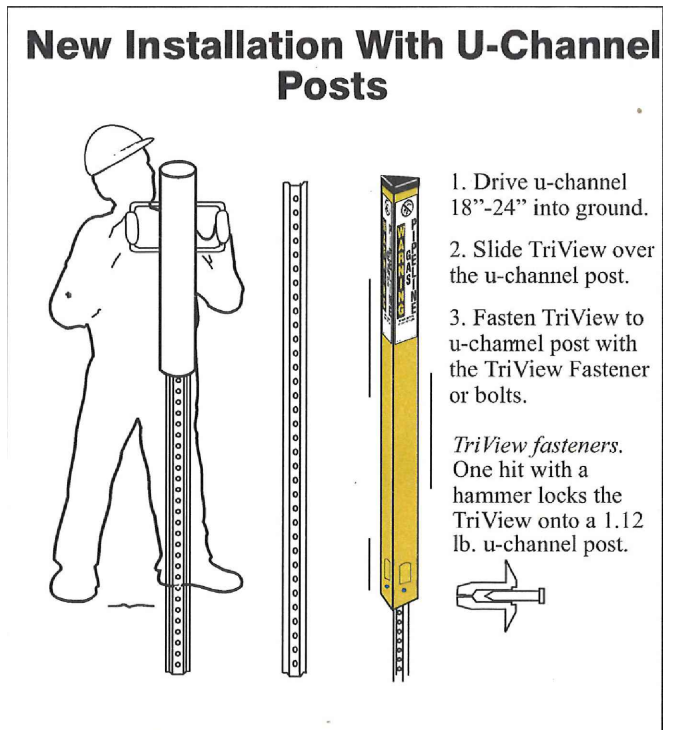
ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

**SQUIREL CREEK
CATHODIC PROTECTION TEST STATION
DETAILS 1**

2024 CONSTRUCTION	WC: --
DWG. TYPE: PRELIM. BID ✓ FINAL	

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.

EL PASO COUNTY	COLORADO
DRAWN: SKS	CHK. DR. DJ
SCALE AS SHOWN	DATE 9/8/23
DRAWING NUMBER: 0322-5990	SHEET NO. 17 of 20



PART	QUANTITY	UNIT	SIZE	ITEM DESCRIPTION	M.S. No.	CLASS	ITEM
11	TBD	FT	#12 AWG	HMWPE (BLACK) INSULATED STRANDED COPPER CABLE, SOFT-DRAWN, COMMERCIALY PURE COPPER, ASTM B8, CLASS B STD.		N/A	
12	TBD	FT	#12 AWG	HMWPE (WHITE) INSULATED STRANDED COPPER CABLE, SOFT-DRAWN, COMMERCIALY PURE COPPER, ASTM B8, CLASS B STD.		N/A	

LINE MARKER/CATHODIC TEST STATION DETAIL

NO SCALE

NOTES

1. STATIONING IS BASED ON HORIZONTAL DISTANCES.
2. ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
3. BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOWN ON THIS PLAN.
4. GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
5. HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS		
1	8" API 5LS X52 W/14-16 MILLS FBE COATING AND 40 MILS ARO	750'
2	8" API 5LS X52 W/14-16 MILLS FBE COATING AND 40 MILS ARO, WT-0.250"	225'

REVISIONS						
NO.	DESCRIPTION	DATE	BY	CHK.	APPRYD	
A	FOR REVIEW	9/21/23	SKS	DJ	CD	
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD	
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD	

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

2024 CONSTRUCTION		WC: --
DWG. TYPE	PRELIM	BID
DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.		

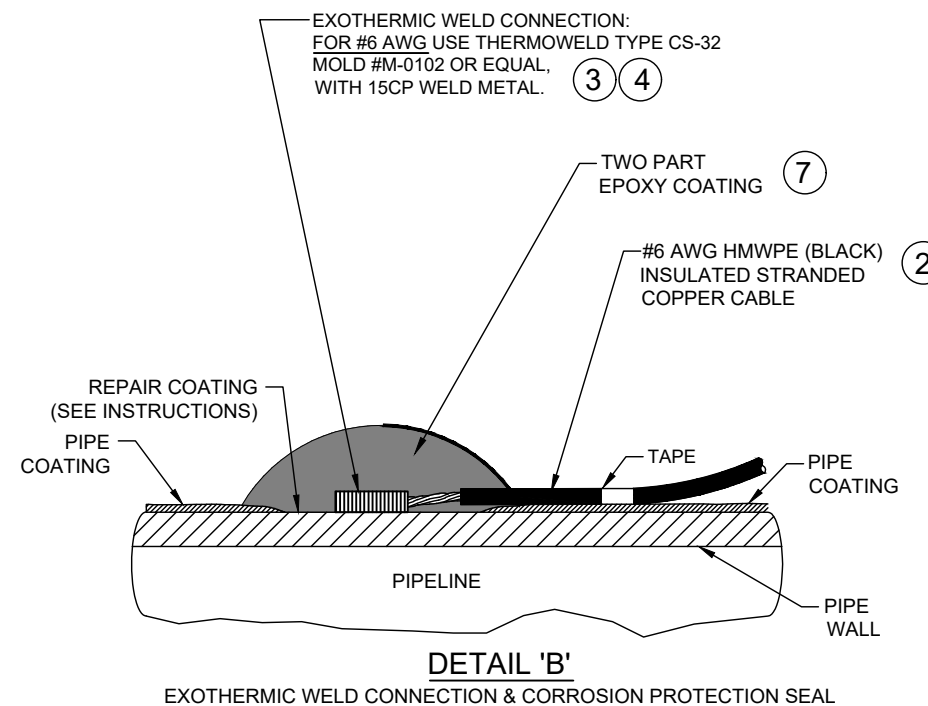
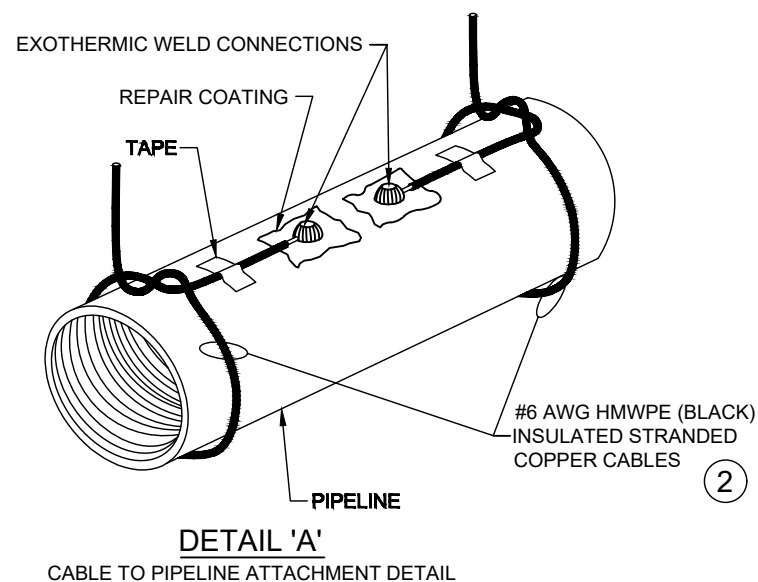
SQUIRREL CREEK CATHODIC PROTECTION TEST STATION DETAILS 2			
EL PASO COUNTY		COLORADO	
DRAWN	CHK. DR.	SCALE	DATE
SKS	DJ	AS SHOWN	9/8/23
DRAWING NUMBER:		SHEET NO.	
0322-5991		18 of 20	

EXOTHERMIC WELD INSTRUCTIONS:

1. FIRST DETERMINE IF THE PIPELINE IS SUITABLE FOR EXOTHERMIC WELDING BY CONDUCTING THE FOLLOWING TESTS:
 - A) DETERMINE THAT THE PIPELINE SMYS (SPECIFIED MINIMUM YIELD STRENGTH) IS <80,000 PSI.
 - B) DETERMINE THAT PIPELINE WALL THICKNESS IS 1/8" (0.125") OR GREATER.
 - C) PERFORM ULTRASONIC TESTING TO PIPELINE TO DETERMINE THAT NO SURFACE OR INTERNAL DEFECTS EXIST.
2. FOR EACH CABLE TO PIPELINE CONNECTION (EXOTHERMIC WELD), REMOVE A 3"x3" MAX AREA OF PIPELINE COATING AT THE 12:00 O'CLOCK POSITION ON THE PIPELINE AND BRUSH UNTIL BRIGHT-CLEAN. ANY ADJACENT CABLE CONNECTIONS SHALL BE A MINIMUM OF 12" APART.
3. PREPARE PIPELINE SURFACE AS SPECIFIED BY COATING MANUFACTURER.
4. DETAIL 'A' SHOWS POSSIBLE METHOD OF CABLE STRAIN RELIEF FOR NEW PIPELINE INSTALLATIONS. THIS METHOD IS NOT A REQUIREMENT. OTHER MEANS OF STRAIN RELIEF MAY BE USED.
5. STRIP BACK ANY CABLE INSULATION 1"-2" AND TAPE CABLE TO PIPE. CRUCIBLE TIGHT TO PIPELINE.

6. ENSURE THAT THE PIPELINE WELD AREA AND CABLE ARE CLEAN AND DRY PRIOR TO WELDING.
7. USE SPECIFIC WELD MOLD AND WELD METAL AS INDICATED IN DRAWING MATERIAL LIST.
8. IF INDICATED, USE COPPER HEAT SLEEVE ON CABLE END TO BE WELDED.
9. USE ONLY A 15 GRAM WELDING CHARGE. DO NOT EXCEED.
10. PLACE THE METAL RETAINER DISK IN THE SPECIFIED WELD MOLD AND DUMP (DO NOT POUR) WELD METAL POWDER ONTO THE DISK. MAKE SURE THAT ALL OF THE FINE STARTING POWDER IS IN THE MOLD. IF ANY POWDER REMAINS IN THE CARTRIDGE BOTTOM, SQUEEZE OUT INTO MOLD AND BREAK UP.
11. CLOSE MOLD LID.
12. REPLACE CAP ON EMPTY WELD METAL CARTRIDGE AND PLACE BACK INTO CARTRIDGE PACK BOX UPSIDE DOWN TO KEEP THE REMAINING CARTRIDGES UPRIGHT.
13. LAY THE CABLE END ON THE PREPARED PIPE HOLDING

14. USING EYE AND HAND PROTECTION, STAND ON THE OPPOSITE SIDE OF THE CRUCIBLE FROM THE TOUCH HOLE AND IGNITE POWDER WITH SPARK FROM FLINT GUN. ***CAUTION: POWDER WILL FLASH WHEN IGNITED***
15. WHEN WELD HAS SET, REMOVE WELD MOLD AND TEST CONNECTION BY RAPPING SHARPLY WITH A SLAG HAMMER. IF THERE IS ANY INDICATION THAT A COMPLETE WELD HAS NOT BEEN ACHIEVED, REMOVE THE WELD AND RE-APPLY.
16. IF WELD IS GOOD, REMOVE ANY SLAG WITH HAMMER AND CLEAN USING A WIRE BRUSH.
17. ONCE THE WELD CONNECTION AND AREA HAVE BEEN CLEANED, REPAIR COATING USING TWO-PART EPOXY COATING REPAIR KIT AS SPECIFIED IN THE DRAWING MATERIALS LIST (OR APPROVED COATING AS SPECIFIED BY BLACK HILLS ENERGY).
18. REFER TO BLACK HILLS ENERGY REPAIR SPECIFICATIONS AND PRODUCT DATA SHEET TO DETERMINE IF REPAIR IS ACCEPTABLE.
19. AFTER REPAIR COATING HAS CURED ACCORDING TO MANUFACTURER'S SPECIFICATIONS, HOLIDAY DETECTION MUST BE PERFORMED.



PART	QUANTITY	UNIT	SIZE	ITEM DESCRIPTION	M.S. No.	CLASS	ITEM
2	TBD FT		#6 AWG	HMWPE (BLACK) INSULATED STRANDED COPPER CABLE, SOFT-DRAWN, COMMERCIALY PURE COPPER, ASTM B8, CLASS B STD. (ANODE TEST STATIONS)		N/A	
3	1 EA			EXOTHERMIC WELD MOLD, THERMOWELD P/N M-0102 OR EQUAL W/ HANDLE & FLINT IGNITOR		N/A	
4	1 BOX			EXOTHERMIC WELD METAL, THERMOWELD P/N 15CP OR EQUAL		N/A	
7	TBD TUBE(S)			SPC-2888 TWO PART EPOXY (APPLY 20 MILS THICKNESS MIN. 50 ML TUBE WILL REPAIR TWO CONNECTIONS TO PIPE)		N/A	

EXOTHERMIC WELD-CATHODIC TEST STATION DETAIL

NO SCALE

NOTES

1. STATIONING IS BASED ON HORIZONTAL DISTANCES.
2. ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
3. BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
4. GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
5. HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

BILL OF MATERIALS		
SEE ABOVE		750'
		225'

REVISIONS						
NO.	DESCRIPTION	DATE	BY	CHK.	APPRVD	
A	FOR REVIEW	9/21/23	SKS	DJ	CD	
B	FOR REVIEW (REVISED)	10/24/23	SKS	DJ	CD	
C	ISSUED FOR BID	12/1/23	SKS	DJ	CD	

Black Hills Energy

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

2024 CONSTRUCTION		WC: --
DWG. TYPE	PRELIM	BID
DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.		

SQUIREL CREEK CATHODIC PROTECTION TEST STATION EXOTHERMIC WELD DETAILS	
EL PASO COUNTY	COLORADO
DRAWN SKS	CHK. DR. DJ
SCALE AS SHOWN	DATE 9/8/23
DRAWING NUMBER: 0322-5992	SHEET NO. 19 of 20

PART	QUANTITY	UNIT	SIZE	ITEM DESCRIPTION	M.S. No.	CLASS	ITEM
1	1	ROLL	3" WIDE	PANDUIT CORP., UNDERGROUND WARNING TAPE, PART #HTU3Y-E, YELLOW TAPE WITH BLACK LETTERS, READS "CAUTION ELECTRICAL LINE BURIED BELOW", 1 ROLL = 1000 FEET, GRAYBAR ELECTRICAL COMPANY, OMAHA, NE, PHONE 402-592-7676		N/A	
2	TBD	FT	#6 AWG	HMWPE (BLACK) INSULATED STRANDED COPPER CABLE, SOFT-DRAWN, COMMERCIALY PURE COPPER, ASTM B8, CLASS B STD. (ANODE TEST STATIONS		N/A	
3	1	EA		EXOTHERMIC WELD MOLD, THERMOWELD P/N M-0102 OR EQUAL W/ HANDLE & FLINT IGNITOR		N/A	
4	1	BOX		EXOTHERMIC WELD METAL, THERMOWELD P/N 15CP OR EQUAL		N/A	
5	TBD	FT	#6 AWG	HMWPE (RED) INSULATED STRANDED COPPER CABLE, SOFT-DRAWN, COMMERCIALY PURE COPPER, ASTM B8, CLASS B STD. (ANODE TEST STATIONS CONNECTIONS TO		N/A	
6	TBD	EA	6'	RHINO TRVIEW TEST STATION, YELLOW POST WITH WHITE CAP & LOCK, 72" LENGTH, 5 - 1/4" BRASS TERMINALS, TO INCLUDE (1 EA.) 0.01 OHM SHUNT & (1 EA.) JUMPER		N/A	
7	TBD	TUBE(S)		SPC-2888 TWO PART EPOXY (APPLY 20 MILS THICKNESS MIN. 50 ML TUBE WILL REPAIR TWO CONNECTIONS TO PIPE)		N/A	
8	TBD	EA	17#	MAGNESIUM ANODE, 17 LB SIZE, PREPACKAGED WITH LEAD WIRE	44.01	044	0143
9	TBD	EA		CRIMP CONNECTOR, COPPER, #6 AWG STRANDED RUN, #12 AWG TAP, BURNDY P/N YC6L12		N/A	
10	TBD	EA		RESIN SPLICE KIT, 3M SCOTCHCAST 90-B1 (FOR PROTECTION OF CRIMPED CABLE		N/A	
11	TBD	FT	#12 AWG	HMWPE (BLACK) INSULATED STRANDED COPPER CABLE, SOFT-DRAWN, COMMERCIALY PURE COPPER, ASTM B8, CLASS B STD.		N/A	
12	TBD	FT	#12 AWG	HMWPE (WHITE) INSULATED STRANDED COPPER CABLE, SOFT-DRAWN, COMMERCIALY PURE COPPER, ASTM B8, CLASS B STD.		N/A	
13	4	PER POST	#6	COMPRESSION LUG - 1/4" STUD HOLE, BURNDY PT. #YA6C OR EQUAL		N/A	


MATERIAL LIST-CATHODIC TEST STATION

NO SCALE

NOTES

- STATIONING IS BASED ON HORIZONTAL DISTANCES.
- ALL GAS, WATER AND UTILITY LINES SHOULD BE LOCATED PRIOR TO ANY EXCAVATING, DIGGING, OR TRENCHING ANYWHERE ON OR NEAR THIS SITE.
- BHE ASSUMES NO RESPONSIBILITY FOR THE SPECIFIC LOCATION OF ANY BURIED GAS, WATER, OR UTILITY LINES THAT MAY BE PRESENT ON OR NEAR THIS SITE, NOR IS ANY LIABILITY ASSUMED FOR ANY LEGAL ACTION WHICH RESULTS FROM A DISCOVERY OF A GAS, WATER, OR UTILITY LINE IN ADDITION TO OR IN A DIFFERENT LOCATION THAN SHOW ON THIS PLAN.
- GROUND SURVEY PROVIDED BY (SURVEYOR), (MONTH), 20XX.
- HORIZONTAL CONTROL IS BASED ON NAD83 COLORADO STATE PLANE SOUTH ZONE (0503). VERTICAL DATUM IS NAVD88 AND BASED ON AN OPUS SOLUTION UTILIZING GEOID 12B.

NO.		DESCRIPTION		DATE	BY	CHK.	APPRVD
A		FOR REVIEW		9/21/23	SKS	DJ	CD
B		FOR REVIEW (REVISED)		10/24/23	SKS	DJ	CD
C		ISSUED FOR BID		12/1/23	SKS	DJ	CD



Black Hills Energy

ENGINEERING DESIGN
760 ALEGRE DR.
FOUNTAIN, CO 80817

SQUIRREL CREEK
CATHODIC PROTECTION TEST STATION
DETAILS 4

2024 CONSTRUCTION		WC: --	EL PASO COUNTY	COLORADO
DRW. TYPE	PRELIM	BID	FINAL	
DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND GPIC GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS, LATEST EDITION.		SCALE AS SHOWN	DATE 9/8/23	SHEET NO.
DRAWING NUMBER: 0322-5993		20 of 20		