

STAGE STORAGE ASBUILTS

Stage Elevation	ASBUILT Surface Area (SF)	Depth (feet)	ASBUILT Stage Volume (CF)	ASBUILT Cumulative Volume (acre-feet)
4557.00	543,732	1.00	537,748	12.35
4556.00	531,806	1.00	525,856	12.07
4555.00	519,927	1.00	514,052	11.80
4554.00	508,112	1.00	502,073	11.53
4553.00	496,095	1.00	489,832	11.25
4552.00	483,548	1.00	465,961	10.70
4551.00	448,387	1.00	400,708	9.20
4550.00	352,989	1.00	304,049	6.98
4549.00	255,131	1.00	205,516	4.72
4548.00	155,897	1.00	113,038	2.60
4547.00	70,144	1.00	45,694	1.05
4546.00	21,240	1.00	13,112	0.30
4545.00	4,993	1.00	2,483	0.06
4544.00	3	0.03	0	0.00
TOTAL	4,120,123		94.59	94.59

RECORD DRAWINGS

THESE RECORD DRAWINGS, PRODUCED BY COLORADO CIVIL GROUP, INC., ARE BASED IN PART UPON FIELD INFORMATION GATHERED BY LAT40, LLC. COLORADO CIVIL GROUP, INC. ASSUMES NO LIABILITY FOR THE ACCURACY OF THIS FIELD INFORMATION. 01/20/2015

LEGEND

EARTHWORK DESCRIPTION	AREA	VOLUME		
CUT - PIT		206,579 CY		
CUT - PARKING LOT (6-INCH SECTION)	6,560 SY	1,093 CY		
FILL - PIT EMBANKMENT/STOCKPILE (INCLUDES 1.15 FILL FACTOR)		207,246 CY		
NET (CUT - WASTE ON MOUND)		426 CY		
IMPORT MATERIAL				
PARKING LOT - ROADBASE (6-INCH SECTION)	6,560 SY	1,093 CY		
PIT PARAMETERS - DESIGN CRITERIA				
MAXIMUM STORAGE CAPACITY		100 ACRE-FEET		
MAXIMUM EMBANKMENT HEIGHT (FILL)		10 FEET		
MAXIMUM SURFACE AREA		20 ACRES		
PIT PARAMETERS - ACTUAL				
STORAGE CAPACITY		94.59-95.3 ACRE-FEET		
MAXIMUM EMBANKMENT HEIGHT (FILL)		7.0 FEET (4557-4550)		
SURFACE AREA		12.35-12.4 ACRES		
SPILLWAY ELEVATION		4557.00 FEET		
EMBANKMENT ELEVATION		4559.00 FEET		
FREEBOARD		2.00 FEET		
EMBANKMENT EXTERIOR FILL SLOPE		5:1		
EMBANKMENT EXTERIOR CUT SLOPE		4:1		
EMBANKMENT INTERIOR SLOPE		4:1		
STOCKPILE FILL SLOPE		4:1		
MINIMUM PIT BOTTOM SLOPE		0.5%		
STAGE-STORAGE				
Stage Elevation	Surface Area (SF)	Depth (feet)	Stage Volume (CF)	Volume (acre-feet)
4557.00	540,977	1.00	535,209	12.3
4556.00	529,674	1.00	524,120	12.0
4555.00	519,516	1.00	505,006	11.8
4554.00	507,450	1.00	501,985	11.5
4553.00	496,495	1.00	491,052	11.3
4552.00	485,632	1.00	468,401	10.8
4551.00	451,144	1.00	402,712	9.2
4550.00	354,247	1.00	304,223	7.0
4549.00	254,204	1.00	205,560	4.7
4548.00	156,488	1.00	109,641	2.5
4547.00	70,144	1.00	45,694	1.1
4546.00	21,142	1.00	13,112	0.7
4545.00	26,709	1.00	18,208	0.4
4544.00	9,717	0.10	479	0.0
TOTAL	4,150,353		95.3	

- NOTES**
- THE PROPOSED CONTOURS SHOWN ON THIS PLAN ARE FINISHED GRADE.
 - THIS GRADING PLAN HAS BEEN PREPARED TO PROVIDE A DESIGN FOR THE DESIRED PIT VOLUME AND BALANCE THE EARTHWORK, WHERE POSSIBLE. COLORADO CIVIL GROUP, INC. WILL PROVIDE ELECTRONIC FILES TO THE CONTRACTOR TO VERIFY EARTHWORK QUANTITIES. THE OWNER SHALL ENGAGE A GEOTECHNICAL ENGINEER TO EVALUATE THE SUBSURFACE CONDITIONS AND TEST THE EXISTING SITE SOILS. THE GEOTECHNICAL ENGINEER SHALL MONITOR GROUNDWATER LEVELS, AND PREPARE A PIT EMBANKMENT DESIGN, AND DETERMINE CONSTRUCTION CRITERIA/PARAMETERS. THE CONTRACTOR SHALL MEET THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEERING REPORT.
 - A FILL FACTOR OF 1.15 WAS ASSUMED FOR THE EARTHWORK ANALYSIS.
 - ALL EXISTING VEGETATION AND/OR TOPSOIL SHALL BE REMOVED TO A DEPTH OF 0.30 FEET PRIOR TO PLACEMENT OF ANY FILL MATERIALS, OR AS INDICATED IN THE GEOTECHNICAL ENGINEERING REPORT.
 - SMALL DRAINAGE SWALES MAY BE NECESSARY TO DIVERT SURFACE RUNOFF FROM ENTERING THE PIT. THE DRAINAGE SWALES SHALL BE PLACED AWAY FROM THE EMBANKMENT SLOPES TO PROTECT THE TOE OF SLOPE.
 - EROSION CONTROL BMP DETAILS ARE PROVIDED ON SHEET 2 OF 2. IF SITE CONDITIONS ARE SUCH THAT BMP'S SUGGESTED ARE INEFFECTIVE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL APPROPRIATE EROSION CONTROL BMP'S TO PREVENT THE TRANSPORTATION OF SEDIMENT OFF-SITE OR TO SENSITIVE AREAS.
 - IF AT SOME POINT IN THE FUTURE THE SITE IS RECLAIMED, ANY DISTURBED SOILS SHALL BE ROUGHENED AND RE-VEGETATED. RE-VEGETATED AREAS SHALL RECEIVE STRAW MULCH AND SHALL BE CRIMPED.
 - SILT FENCE IS CALLED OUT AS THE PERIMETER BMP, HOWEVER, OTHER BMP'S MAY BE SUBSTITUTED SUCH AS STRAW WATTLES AND SMALL EARTHEN BERMS. EARTHEN BERMS SHALL BE A MINIMUM HEIGHT OF 1 FOOT.

EROSION CONTROL BMP LEGEND

(SF)	SILT FENCE	(SW)	STRAW WATTLE
(SR)	SURFACE ROUGHENING	(RVG)	RE-VEGETATION/STRAW MULCH
(SSA)	STABILIZED STAGING AREA		

FILE NAME: 2015.01.20_70 RANCH PIT - ASBUILTS

DESIGNED: CEM

CHECKED: DAH

JOB NO: 0023.0021.00

SCALE: 1" = 100'

DATE: OCTOBER 2014

SHEET: 1 OF 2

BONANZA CREEK

CALL THE UTILITY NOTIFICATION CENTER OF COLORADO

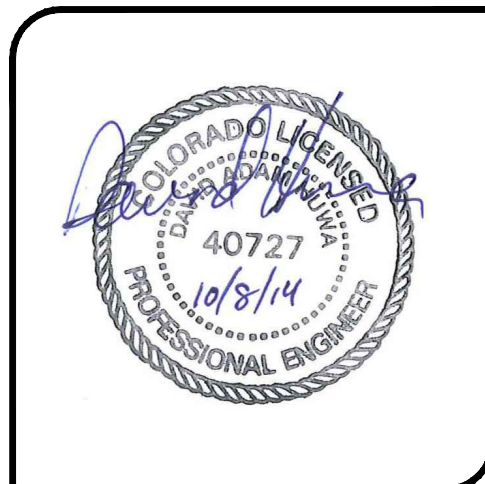
COLORADO 811

3 DAYS BEFORE YOU DIG
811 OR 1-800-922-1987
www.UCC.org

0' 1" BAR IS ONE INCH ON ORIGINAL DRAWING

REVISIONS

DATE	DESCRIPTION
11/7/13	REVISED GRADING PLAN
10/8/14	REVISED GRADING PLAN (ADDITIONAL FREEBOARD)



CCG COLORADO CIVIL GROUP, INC. ENGINEERING CONSULTANTS

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BONANZA CREEK ENERGY

70 RANCH PIT

SITE GRADING PLAN