

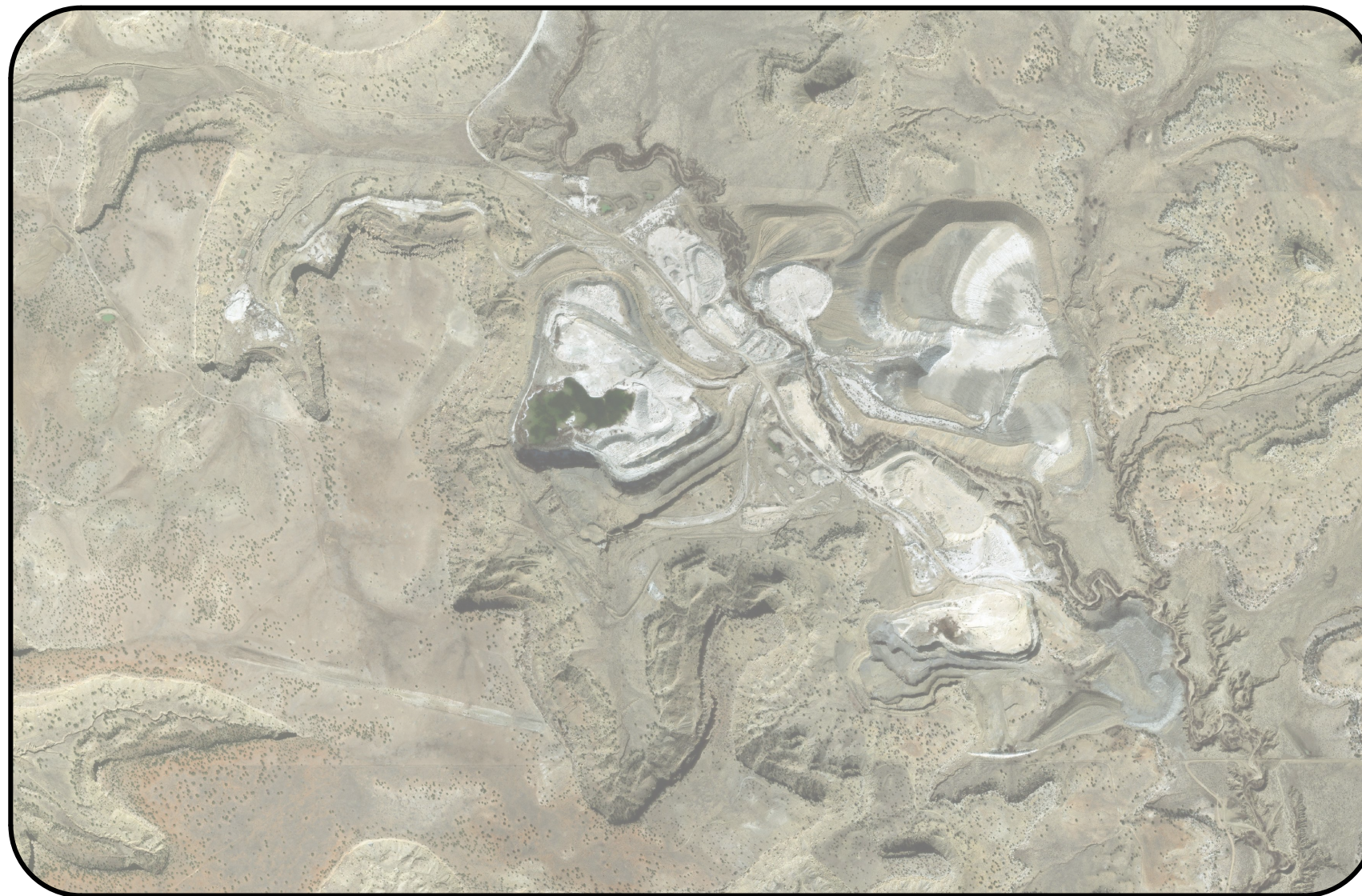


# ST. ANTHONY MINE

Closeout Plan - Design Drawings

Prepared For

## UNITED NUCLEAR CORPORATION AND GENERAL ELECTRIC COMPANY



**PRELIMINARY**

FOR DISCUSSION ONLY

Monday, November 20, 2021 1:20:46 PM K:\REED\C\USERS\KREED\STANTEC\STANTHONY - CIVIL\SHEETSET\02-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_COVER.DWG LayoutCover

REV	DATE	BY	DESCRIPTION
1	11/2021	KR	30% DESIGN
0	02/2019	KR	PRELIMINARY DESIGN

DRAWN K. REED  
 CHECKED C. FRITZ  
 APPROVED J. CUMBERS

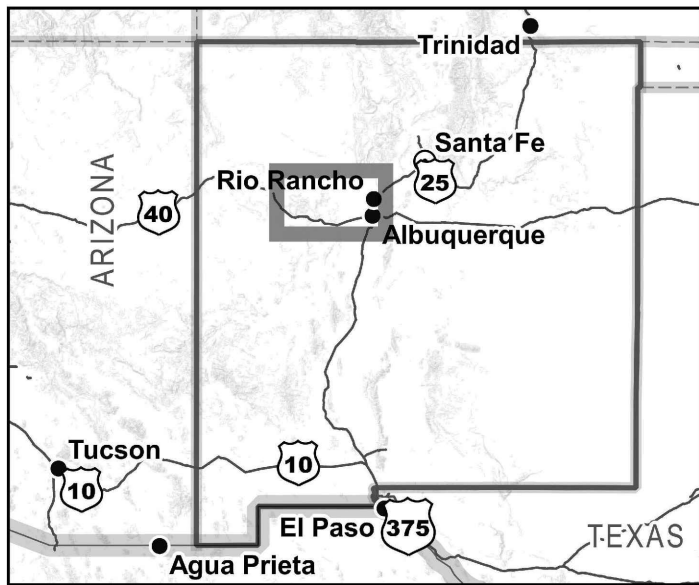
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 1. All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).  
 2. Elevations/Topo:  
 2.1. On site Cooper Aerial, 05/09/2011, (050911-1000overview3d.dwg)  
 2.2. Supplemental Off Site: USGS DEM 10m  
 3. Township and Section lines: rgis.unm.edu, 08/04/2014  
 4. Parcels and Cibolaleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18  
 5. Permit Boundary: (1008506X001.dwg)



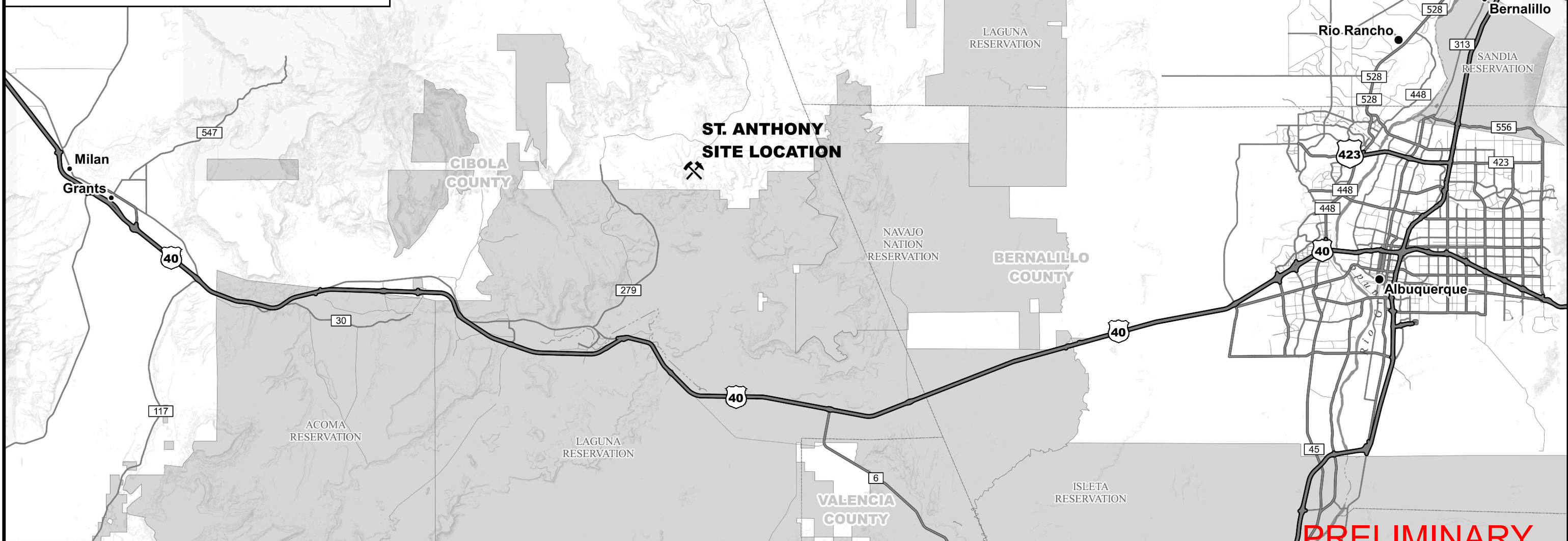
UNITED NUCLEAR CORPORATION  
 ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO

COVER SHEET

SHEET  
 1  
 233001076



**SITE LOCATION MAP**  
100 0 100 Miles



**SITE VICINITY MAP**  
5 0 5 Miles

**PRELIMINARY**  
FOR DISCUSSION ONLY

Monday, November 29, 2021 1:24:15 PM K:\REED\C\USERS\KREED\STANTEC\ANTHONY - CIVIL\SHEETS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_LOCATION\DWG\_Layout2 SITE LOCATION

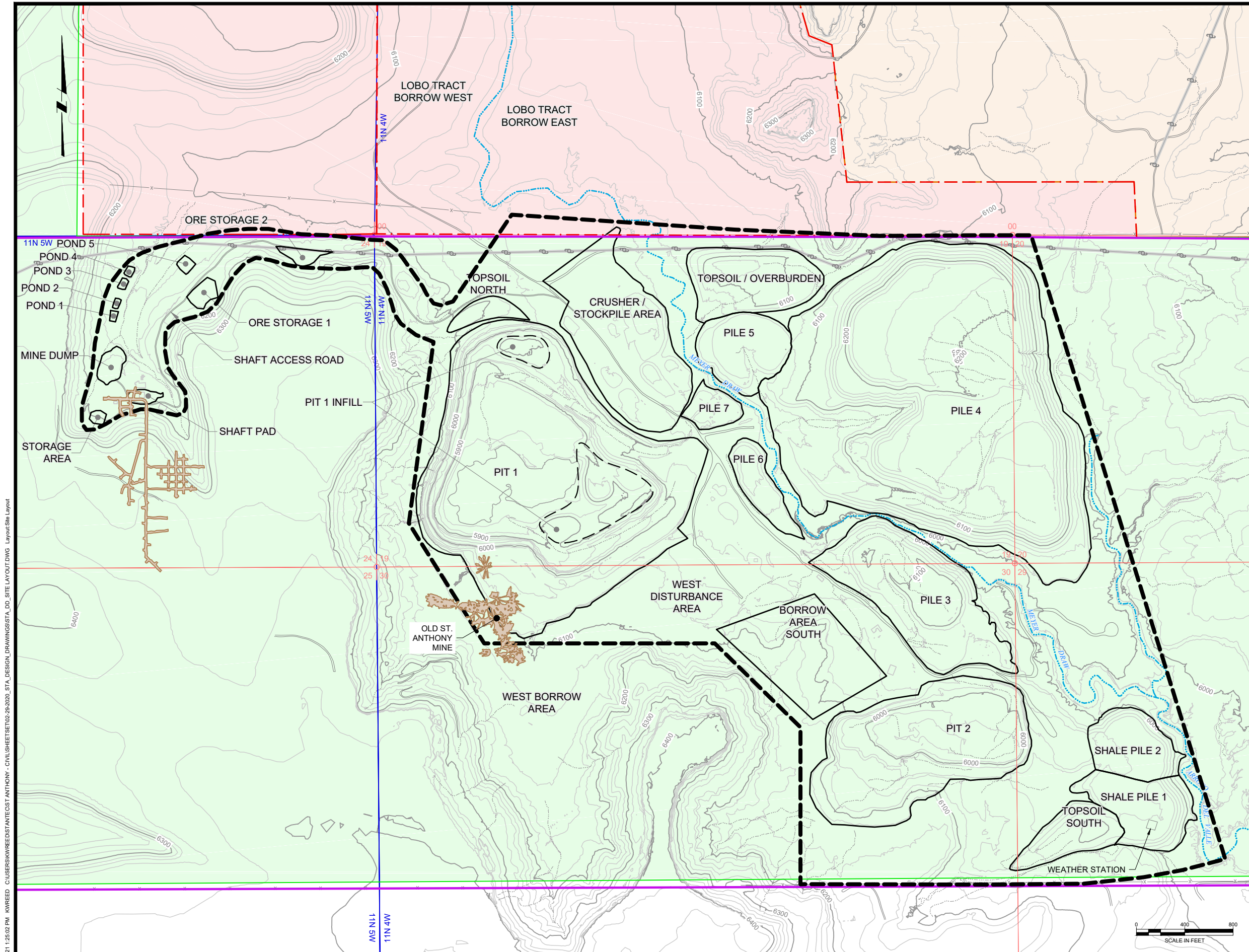
REV	DATE	BY	DESCRIPTION	DRAWN	K. REED
1	11/2021	KR	30% DESIGN	CHECKED	C. FRITZ
0	02/2019	KR	PRELIMINARY DESIGN	APPROVED	J. CUMBERS



UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO

SITE LOCATION

SHEET  
2  
233001076



**LEGEND:**

	EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
	APPROXIMATE MINE PERMIT BOUNDARY
	GULLEY / DRAINAGE
	ARROYO
	EXISTING ROAD
	EXISTING FENCE
	EXISTING OVERHEAD ELECTRIC, POWER POLES, AND RIGHT-OF-WAY
	TOWNSHIP LINE AND NUMBER
	SECTION LINE AND NUMBER
	CEBOLLETA LAND GRANT
	PARCEL - LOBO PARTNERS,LLC
	PARCEL - UNITED NUCLEAR CORP (UNC)
	FACILITY OUTLINES

**PRELIMINARY**  
FOR DISCUSSION ONLY



Monday, November 20, 2021 1:25:02 PM KVREED C:\USERS\KVREED\STANTREC\ANTHONY - CIVIL\SHEETS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_SITE\LAYOUT.DWG Layout:Site Layout

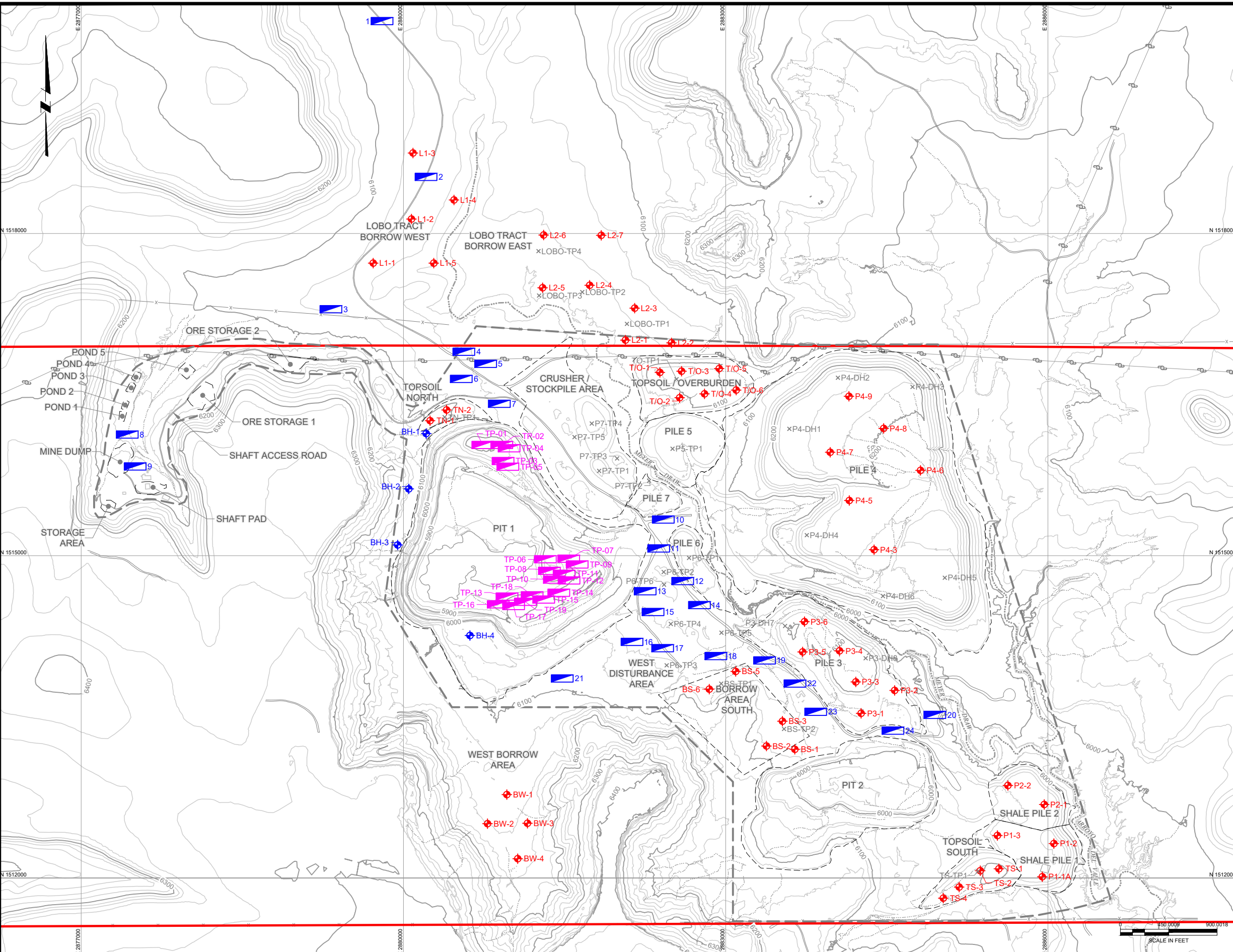
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1	11/2021	KR	30% DESIGN	K. REED
0	02/2019	KR	PRELIMINARY DESIGN	C. FRITZ
				J. CUMBERS

**DRAWING REFERENCES:**

- All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
- Elevations/Topo:
- On site Cooper Aerial, 05/09/2011, (050911-1000overview3d.dwg)
- Supplemental Off Site: USGS DEM 10m
- Township and Section lines: rgis.unm.edu, 08/04/2014
- Parcels and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
- Permit Boundary: (100859X001.dwg)

		UNITED NUCLEAR CORPORATION ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO	SHEET <b>3</b>
		SITE LAYOUT EXISTING CONDITIONS	233001076

Monday, November 20, 2021 1:25:45 PM KWREED C:\USERS\KWREED\STANTEC\ANTHONY - CIVIL\SHEETS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_SURFACE\_CHAR.DWG Layout4 SURFACE CHARACTERIZATION



**LEGEND:**

	EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
	APPROXIMATE MINE PERMIT BOUNDARY
	GULLEY / DRAINAGE
	ARROYO
	EXISTING ROAD
	EXISTING FENCE
	EXISTING OVERHEAD ELECTRIC AND POWER POLES
	FACILITY OUTLINES
	EXISTING SAMPLING LOCATIONS (MWH, 2007)
	BOREHOLE (STANTEC, 2018)
	TEST PIT (STANTEC, 2018)
	TEST PIT (STANTEC, 2019)
	BOREHOLE (STANTEC, 2021)

PRELIMINARY

FOR DISCUSSION ONLY

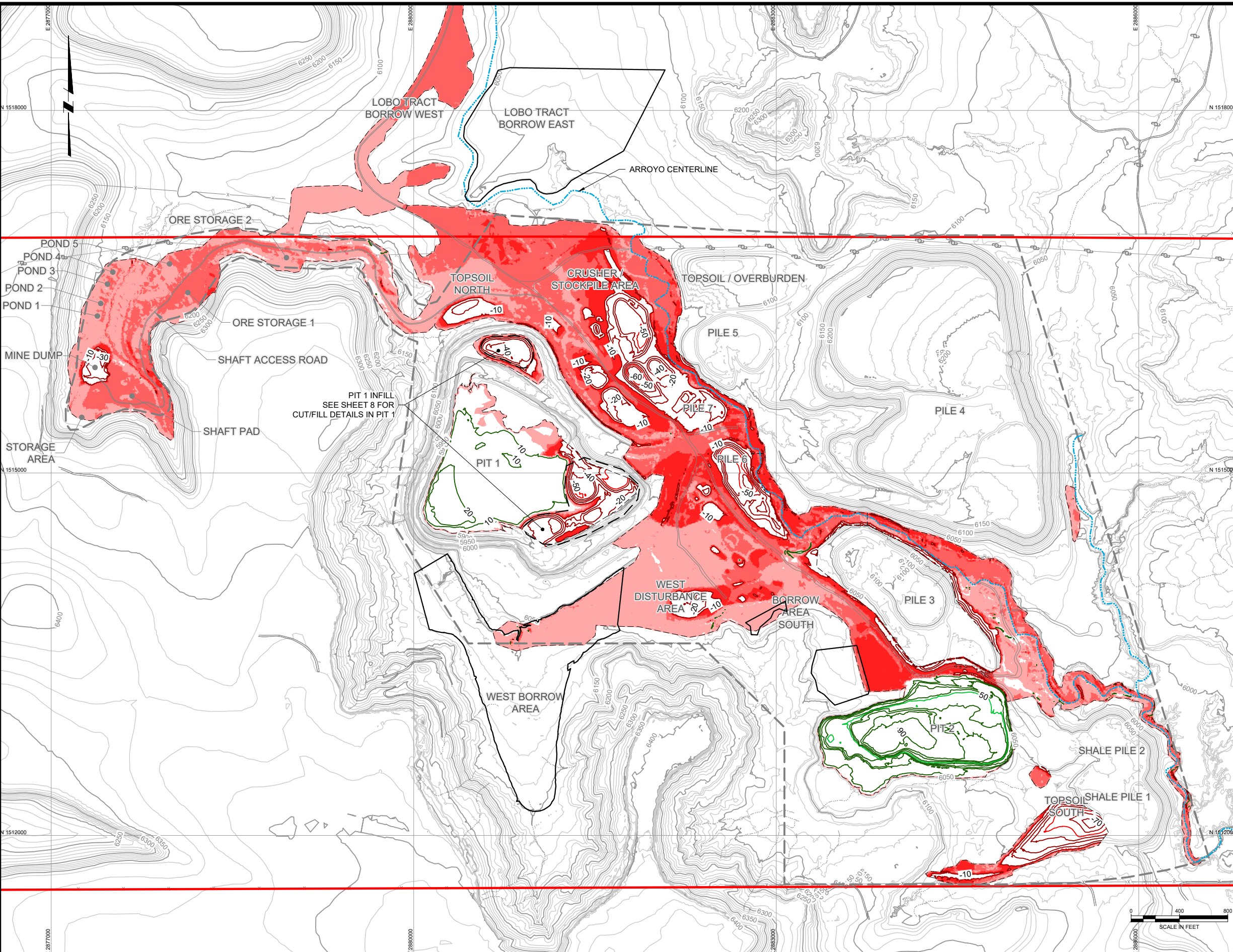
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0	02/2019	KR	PRELIMINARY DESIGN		

**DRAWING REFERENCES:**

- All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
- Elevations/Topo:
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  - Supplemental Off Site: USGS DEM 10m
- Township and Section lines: rgis.unm.edu, 08/04/2014
- Parcels and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
- Permit Boundary: (100859X001.dwg)



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**LEGEND:**

- 6100 EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- 50 EXCAVATION DEPTH CONTOUR, FEET
- 50 FILL DEPTH CONTOUR, FEET
- APPROXIMATE MINE PERMIT BOUNDARY
- GULLEY / DRAINAGE
- ARROYO
- EXISTING ROAD
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC AND POWER POLES
- REMOVAL AREA BOUNDARY
- BORROW AREA BOUNDARY

COLOR	DEPTH RANGE (FT)
	5 - 10
	2 - 5
	0 - 2

PRELIMINARY

FOR DISCUSSION ONLY

REV	DATE	BY	DESCRIPTION
1	11/2021	KR	30% DESIGN
0	02/2019	KR	PRELIMINARY DESIGN

DRAWN K. REED  
 CHECKED C. FRITZ  
 APPROVED J. CUMBERS

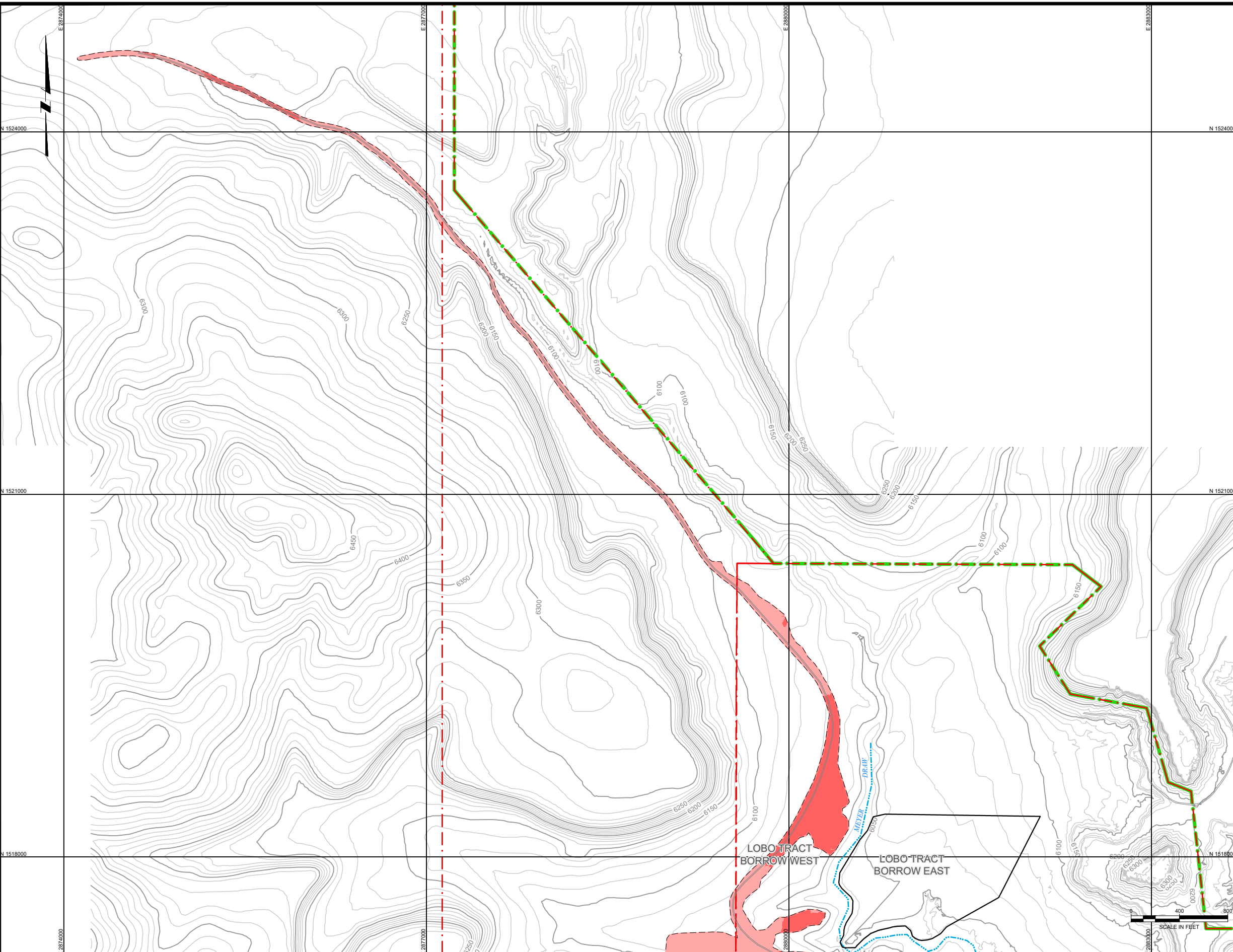
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  - Township and Section lines: rgis.unm.edu, 08/04/2014
  - Parcels, and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
  - Permit Boundary: (100859X001.dwg)

UNITED NUCLEAR CORPORATION  
 ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO

REMOVAL EXCAVATION PLAN (1 OF 2)

SHEET  
**5**  
 233001076

Monday, November 20, 2021 1:28:44 PM KWREED C:\USERS\KWREED\STANTEC\ANTHONY - CIVIL\SHEETS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_EXCAVATION.DWG Layout:6 REMOVAL EXCAVATION PLAN (2 OF 2)



**LEGEND:**

- 6100 EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- GULLEY / DRAINAGE
- ARROYO
- EXISTING ROAD
- PARCEL - LOBO PARTNERS, LLC
- PARCEL - UNITED NUCLEAR CORP (UNC)
- REMOVAL AREA BOUNDARY
- BORROW AREA BOUNDARY

Removal Excavation Depth Table	
COLOR	DEPTH RANGE (FT)
	5 - 10
	2 - 5
	0 - 2

PRELIMINARY

FOR DISCUSSION ONLY

REV	DATE	BY	DESCRIPTION
1	11/2021	KR	30% DESIGN
0	02/2019	KR	PRELIMINARY DESIGN

DRAWN	K. REED
CHECKED	C. FRITZ
APPROVED	J. CUMBERS

**DRAWING REFERENCES:**

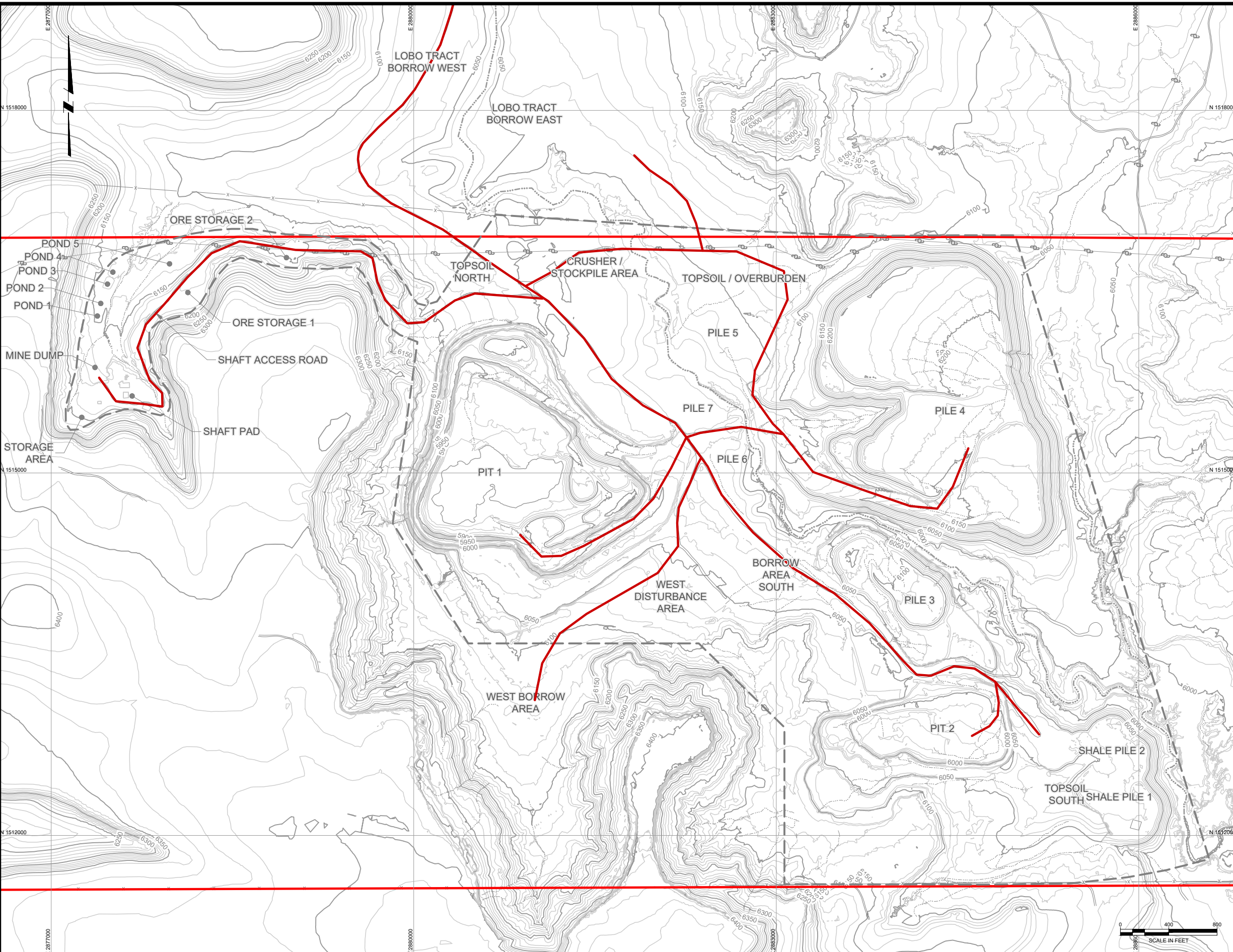
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2. Elevations/Topo:
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- 2.2. Supplemental Off Site: USGS DEM 10m
3. Township and Section lines: rgis.unm.edu, 08/04/2014
4. Parcels and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
5. Permit Boundary: (100859X001.dwg)



UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE, CIBOLA COUNTY, NEW MEXICO

REMOVAL EXCAVATION PLAN (2 OF 2)

Monday, November 20, 2021 1:28:34 PM KVVREED C:\USERS\KVVREED\STANTEC\ANTHONY - CIVIL\SHEETS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_HAUL\_ROUTES.DWG Layout:7 HAUL ROUTES



**LEGEND:**

	EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
	APPROXIMATE MINE PERMIT BOUNDARY
	GULLEY / DRAINAGE
	ARROYO
	EXISTING ROAD
	EXISTING FENCE
	EXISTING OVERHEAD ELECTRIC AND POWER POLES
	PROPOSED HAUL ROADS

**PRELIMINARY**  
FOR DISCUSSION ONLY

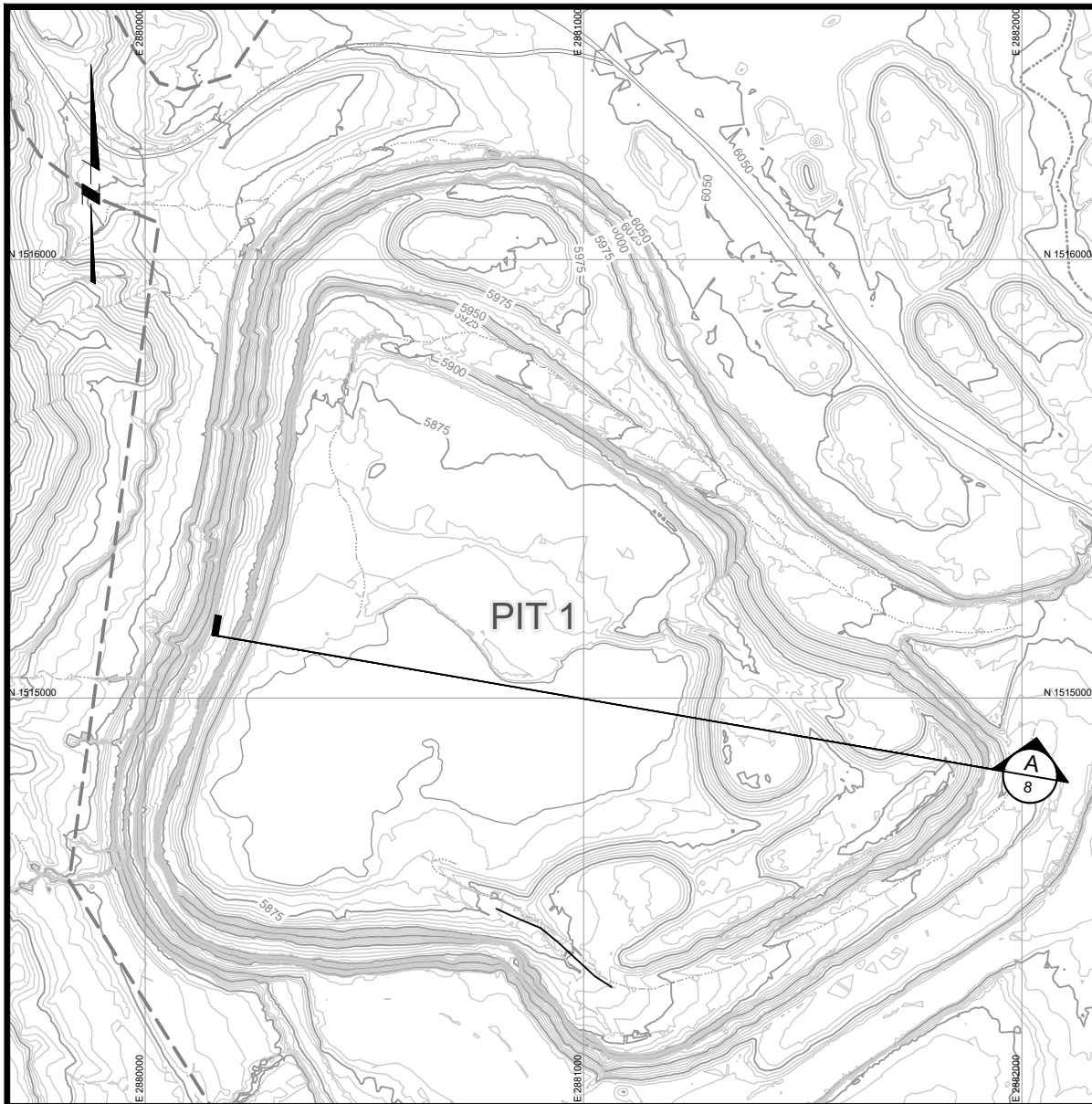
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DRAWN	K. REED
CHECKED	C. FRITZ
APPROVED	J. CUMBERS

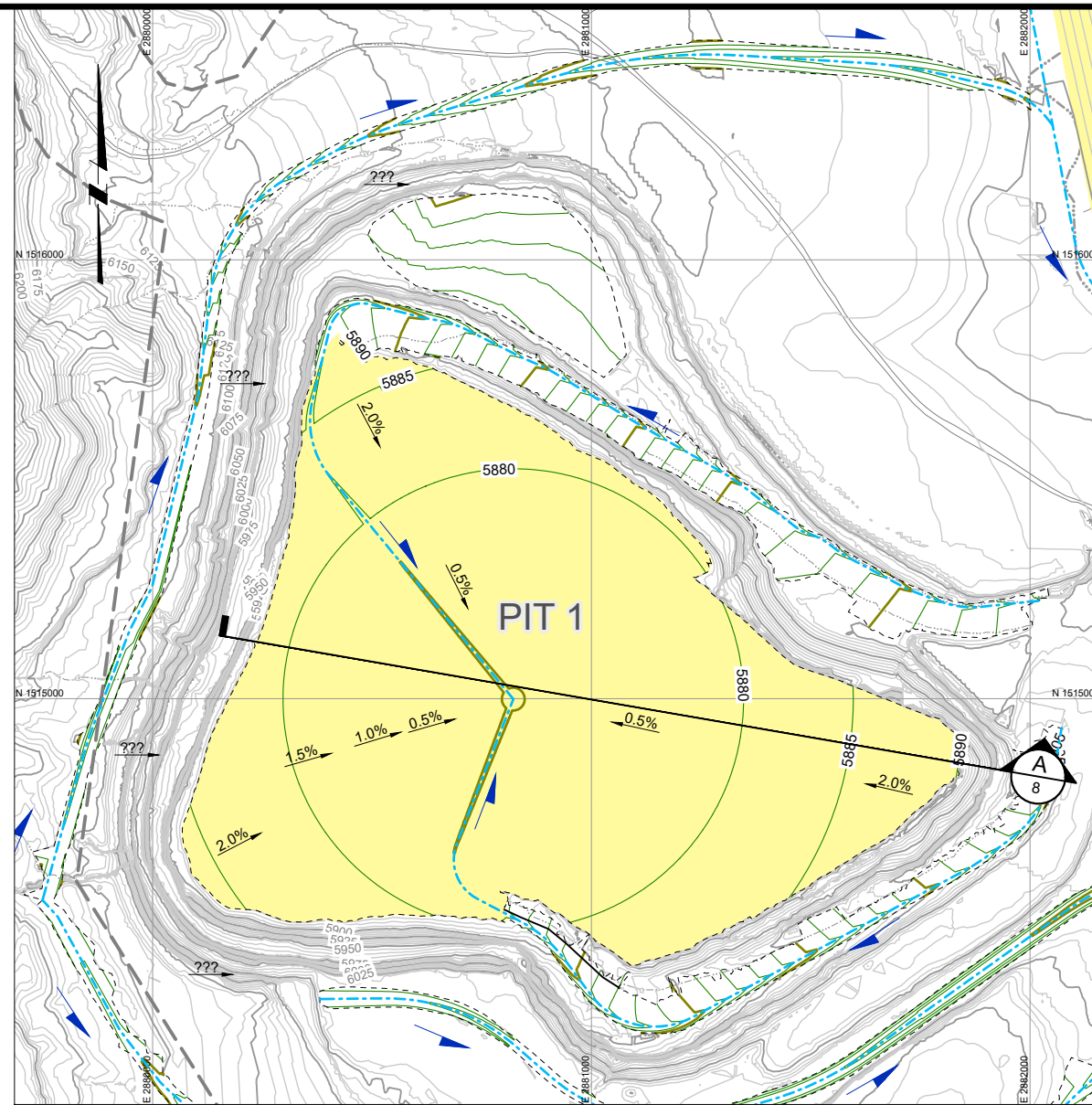
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  3. Township and Section lines: rgis.unm.edu, 08/04/2014
  4. Parcels, and Cibolaleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
  5. Permit Boundary: (1008506X001.dwg)

		UNITED NUCLEAR CORPORATION ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO	SHEET <b>7</b> 233001076
		HAUL ROUTES	

Monday, November 29, 2021 1:31:22 PM K:\REED\C\USERS\K\REED\STANTEC\ANTHONY - CIVIL\SHEETS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_PIT1.DWG Layout\Figure

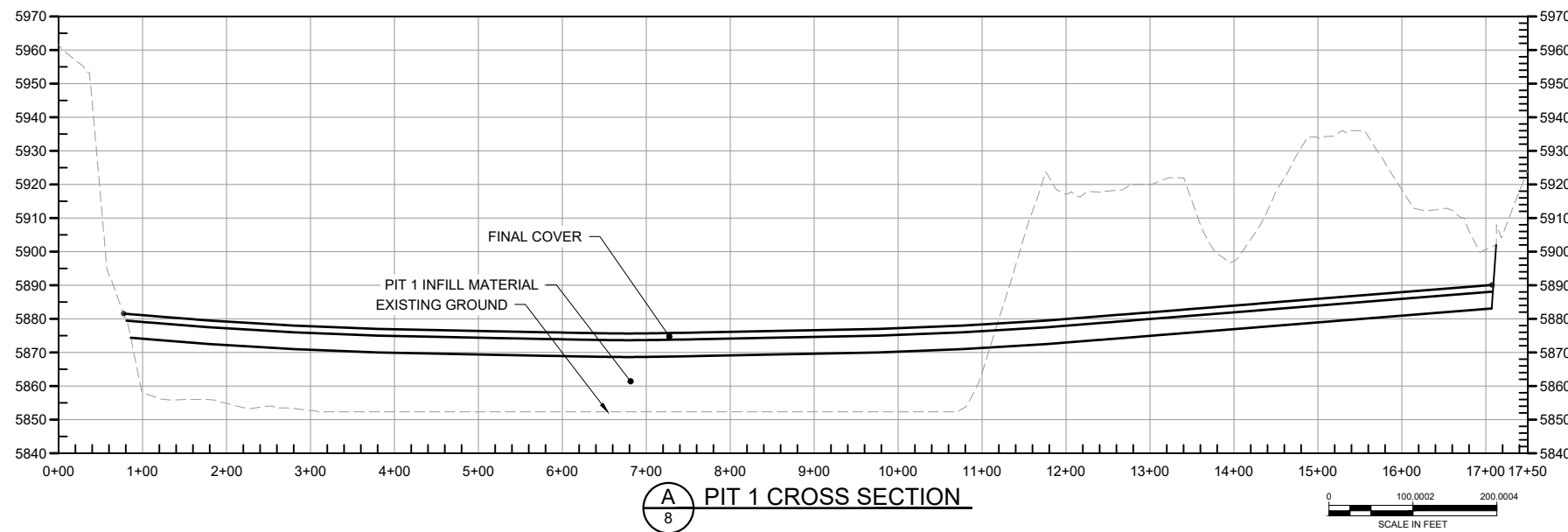


**PIT 1**  
EXISTING CONDITIONS



**PIT 1**  
FINAL CONDITIONS

- LEGEND:**
- EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
  - PROPOSED FINAL GRADING CONTOUR & ELEVATION, FEET
  - APPROXIMATE MINE PERMIT BOUNDARY
  - GULLEY / DRAINAGE
  - ARROYO
  - EXISTING ROAD
  - EXISTING FENCE
  - EXISTING OVERHEAD ELECTRIC AND POWER POLES
  - FINAL DRAINAGE CENTERLINE
  - AREAS TO BE COVERED



**PIT 1 CROSS SECTION**

PRELIMINARY

FOR DISCUSSION ONLY

REV	DATE	BY	DESCRIPTION	DRAWN	CHECKED	APPROVED
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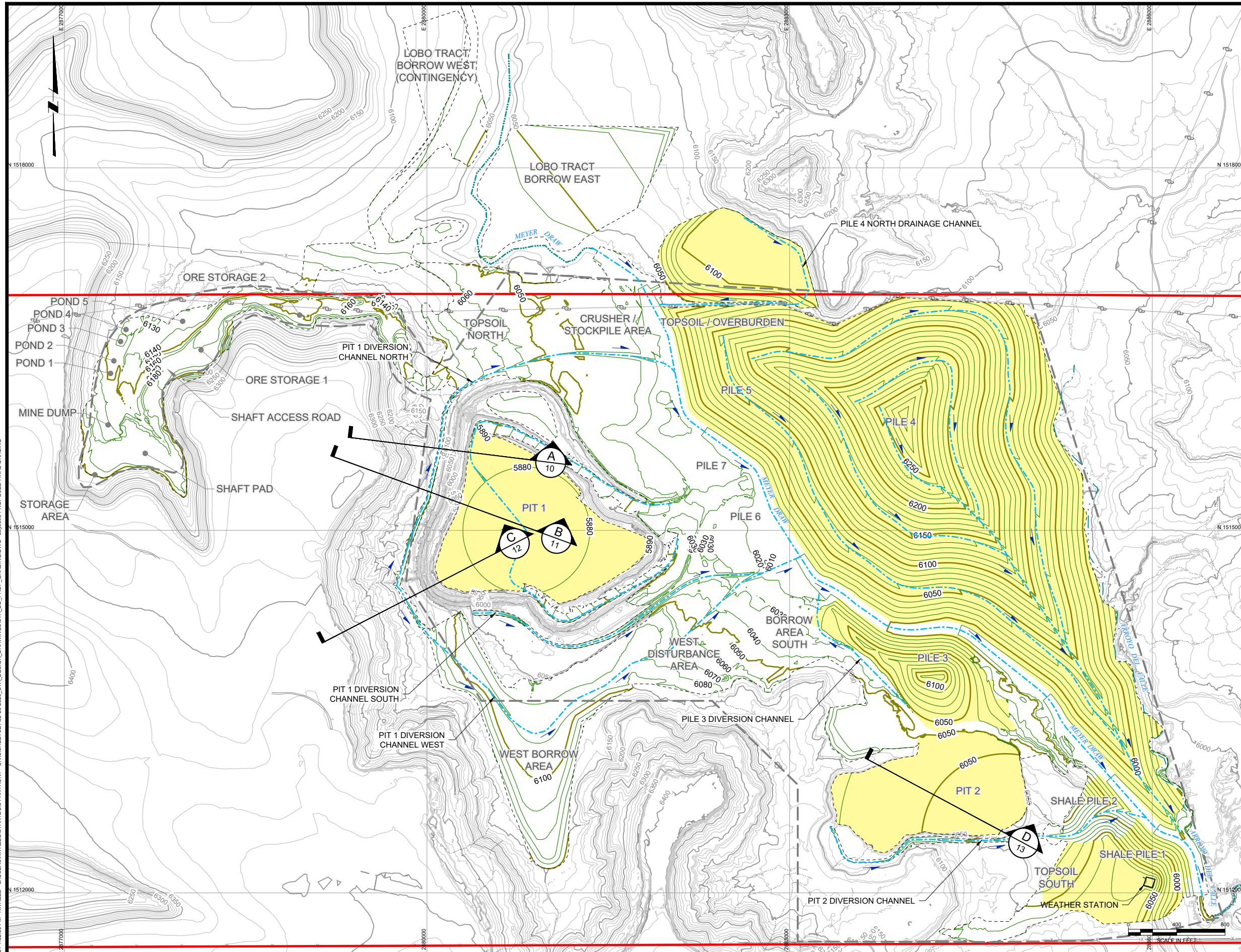
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  - 2.2. Supplemental Off Site: USGS DEM 10m
  3. Township and Section lines: rgis.unm.edu, 08/04/2014
  4. Parcels, and Cibolaleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
  5. Permit Boundary: (1008506X001.dwg)



UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE, CIBOLA COUNTY, NEW MEXICO

PIT 1 EXISTING AND FINAL CONDITIONS





**LEGEND:**

	EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
	PROPOSED FINAL GRADING CONTOUR & ELEVATION, FEET
	APPROXIMATE MINE PERMIT BOUNDARY
	GULLEY / DRAINAGE
	EXISTING ARROYO
	EXISTING ROAD
	EXISTING FENCE
	EXISTING OVERHEAD ELECTRIC AND POWER POLES
	FINAL DRAINAGE CENTERLINE
	AREAS TO BE COVERED

**PRELIMINARY**  
FOR DISCUSSION ONLY

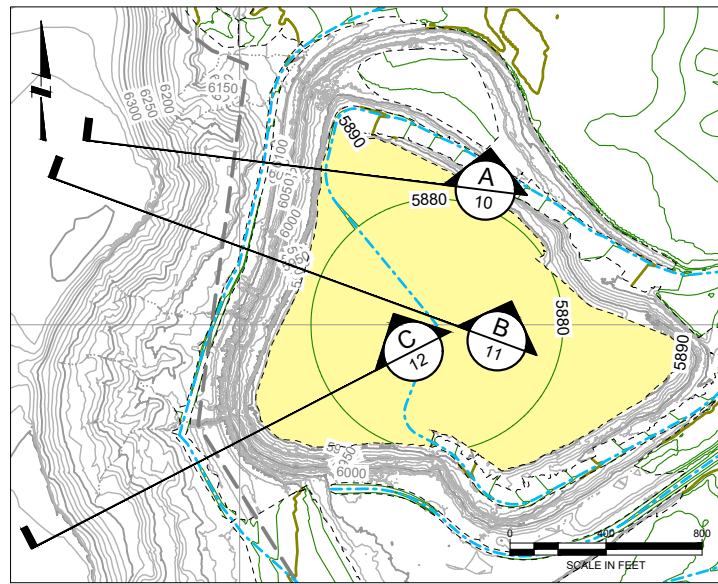
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REV	DATE	BY	DESCRIPTION
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0	02/2019	KR	PRELIMINARY DESIGN

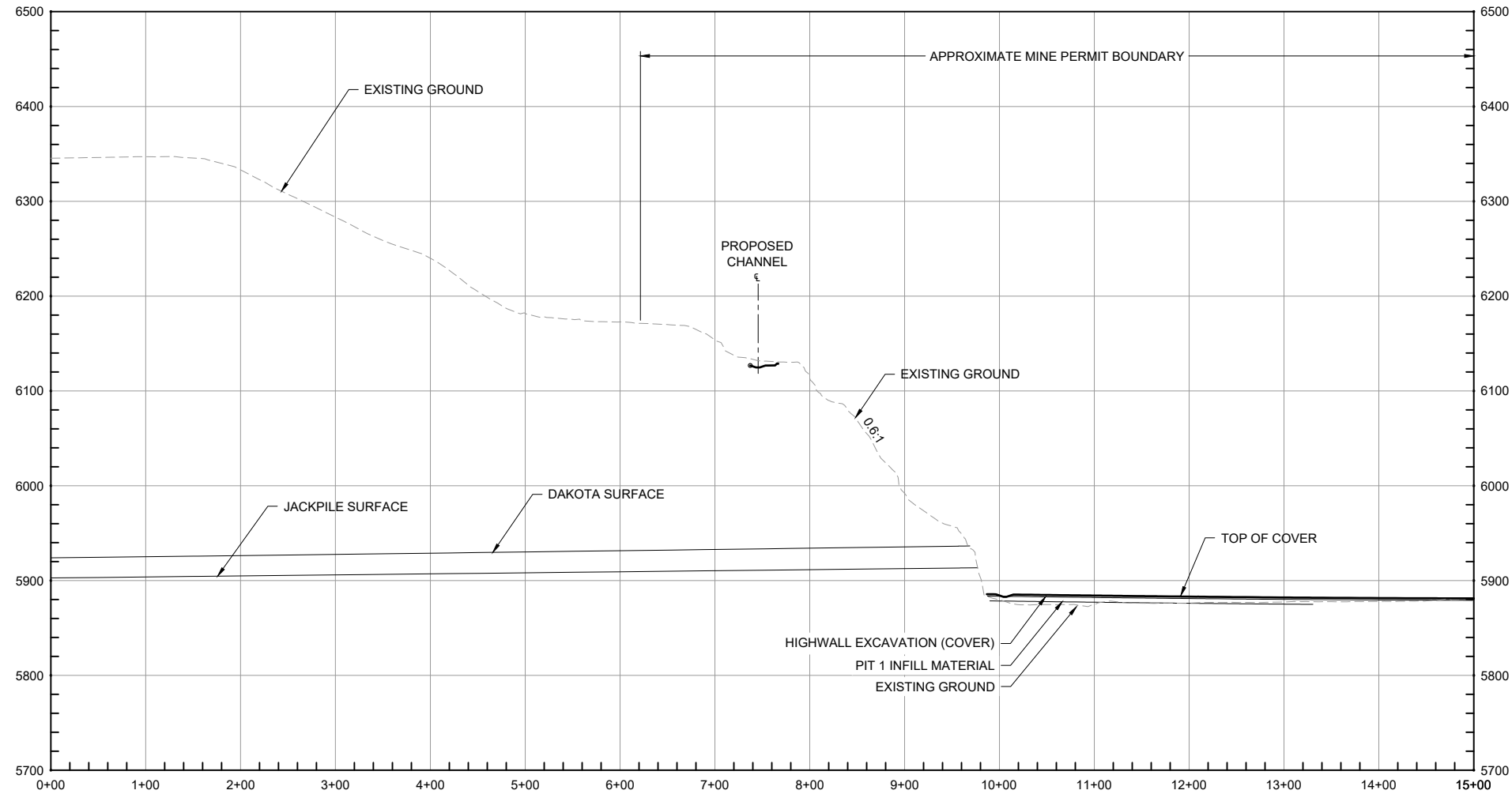
DRAWN K. REED  
CHECKED C. FRITZ  
APPROVED J. CUMBERS

- DRAWING REFERENCES:**
- All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
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  - Permit Boundary: (100850X001.dwg)

			UNITED NUCLEAR CORPORATION ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO  PROPOSED FINAL GRADING	SHEET <b>9</b> 233001076
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- LEGEND:**
- 6100 EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
  - 6200 PROPOSED FINAL GRADING CONTOUR & ELEVATION, FEET
  - APPROXIMATE MINE PERMIT BOUNDARY
  - FINAL DRAINAGE CENTERLINE
  - AREAS TO BE COVERED



**A**  
10 CROSS SECTION A

**PRELIMINARY**  
FOR DISCUSSION ONLY

Monday, November 29, 2021 1:33:43 PM K\REED - C\USERS\K\REED\STANTEC\ANTHONY - CIVIL\SHEETS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_PROP\_GRADING.DWG Layout:10 PIT 1 HIGHWALL CROSS SECTION A

REV	DATE	BY	DESCRIPTION
1	11/2021	KR	30% DESIGN
0	03/2020	CF	PRELIMINARY DESIGN

DRAWN K. REED  
 CHECKED C. FRITZ  
 APPROVED J. CUMBERS

- DRAWING REFERENCES:**
1. All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
  2. Elevations/Topo.
  - 2.1. On site Cooper Aerial, 05/09/2011, (050911-1000overview3d.dwg)
  - 2.2. Supplemental Off Site: USGS DEM 10m
  3. Township and Section lines: rgis.unm.edu, 08/04/2014
  4. Parcels and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
  5. Permit Boundary: (1008506X001.dwg)



UNITED NUCLEAR CORPORATION  
 ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO

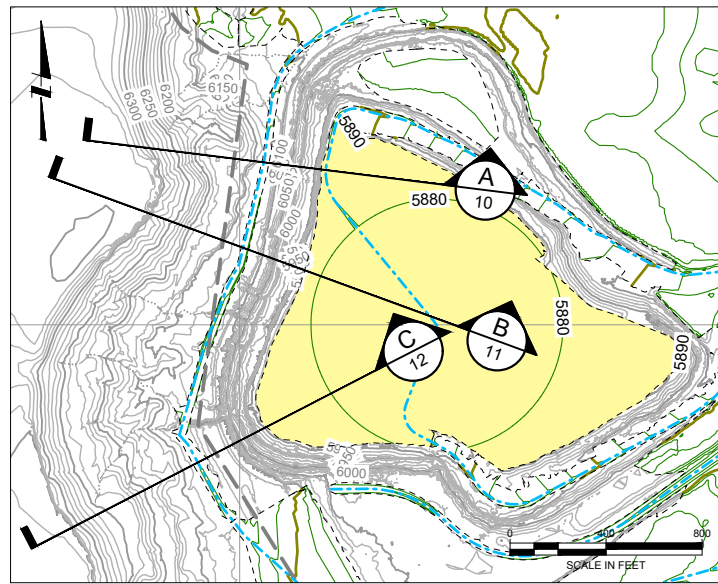
PIT 1 HIGHWALL CROSS SECTION A

SHEET

10

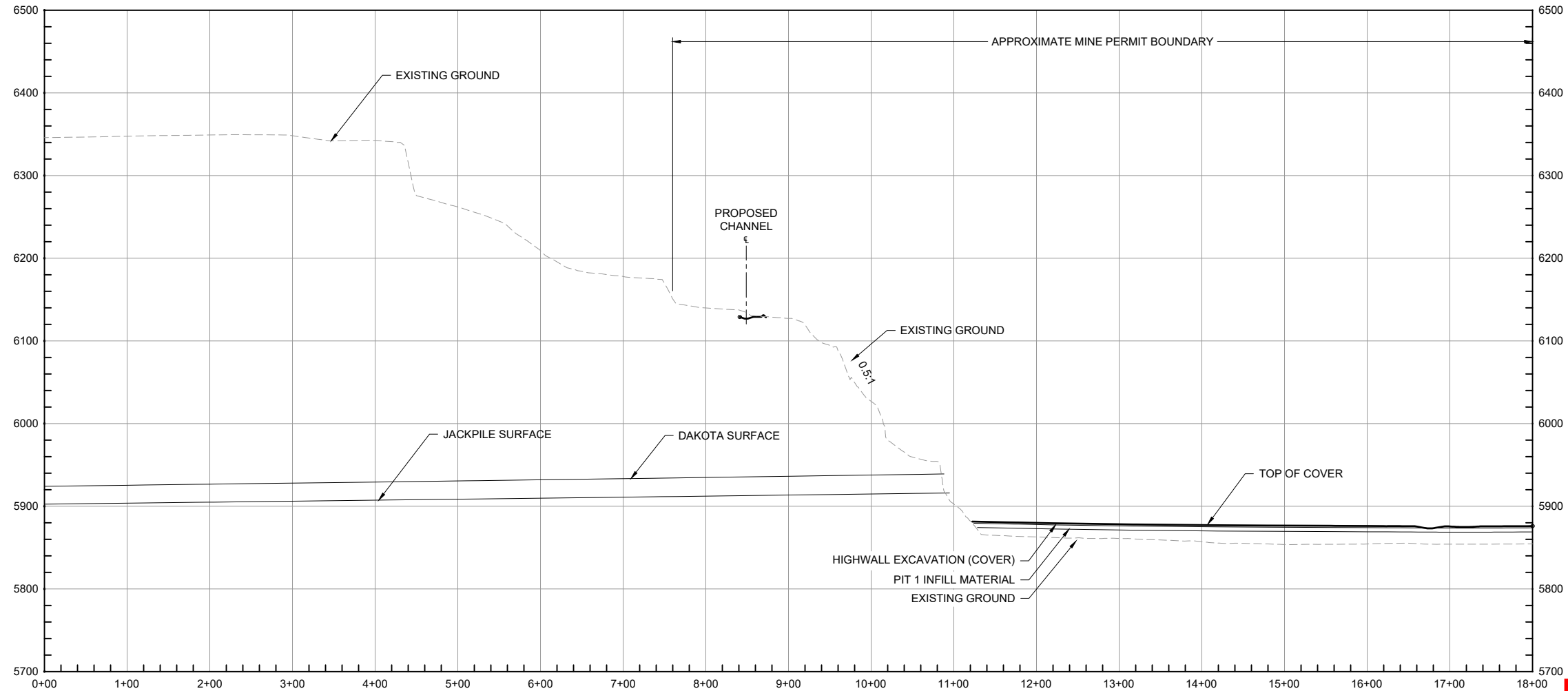
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**LEGEND:**

	EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
	PROPOSED FINAL GRADING CONTOUR & ELEVATION, FEET
	APPROXIMATE MINE PERMIT BOUNDARY
	FINAL DRAINAGE CENTERLINE
	AREAS TO BE COVERED



**B** CROSS SECTION B  
11

**PRELIMINARY**  
FOR DISCUSSION ONLY

REV	DATE	BY	DESCRIPTION
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0	03/2020	CF	PRELIMINARY DESIGN

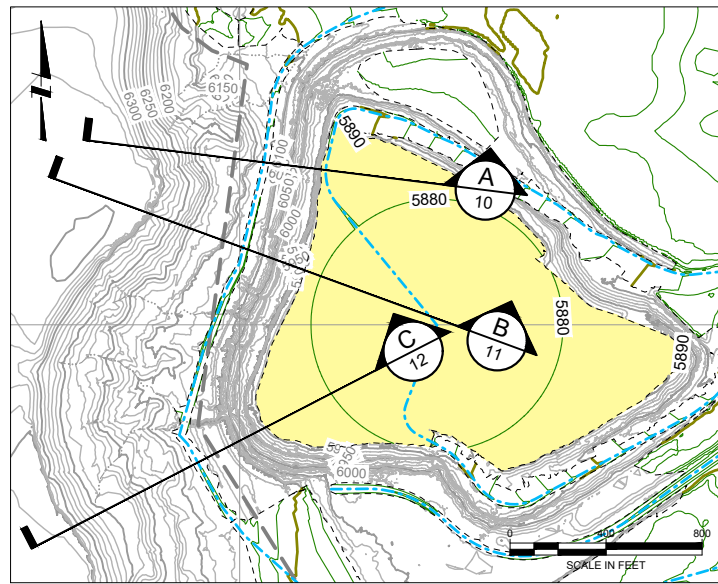
DRAWN K. REED  
CHECKED C. FRITZ  
APPROVED J. CUMBERS

- DRAWING REFERENCES:**
- All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
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    - On site Cooper Aerial, 05/09/2011, (050911-1000overview3d.dwg)
    - Supplemental Off Site: USGS DEM 10m
  - Township and Section lines: rgis.unm.edu, 08/04/2014
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  - Permit Boundary: (1008506X001.dwg)



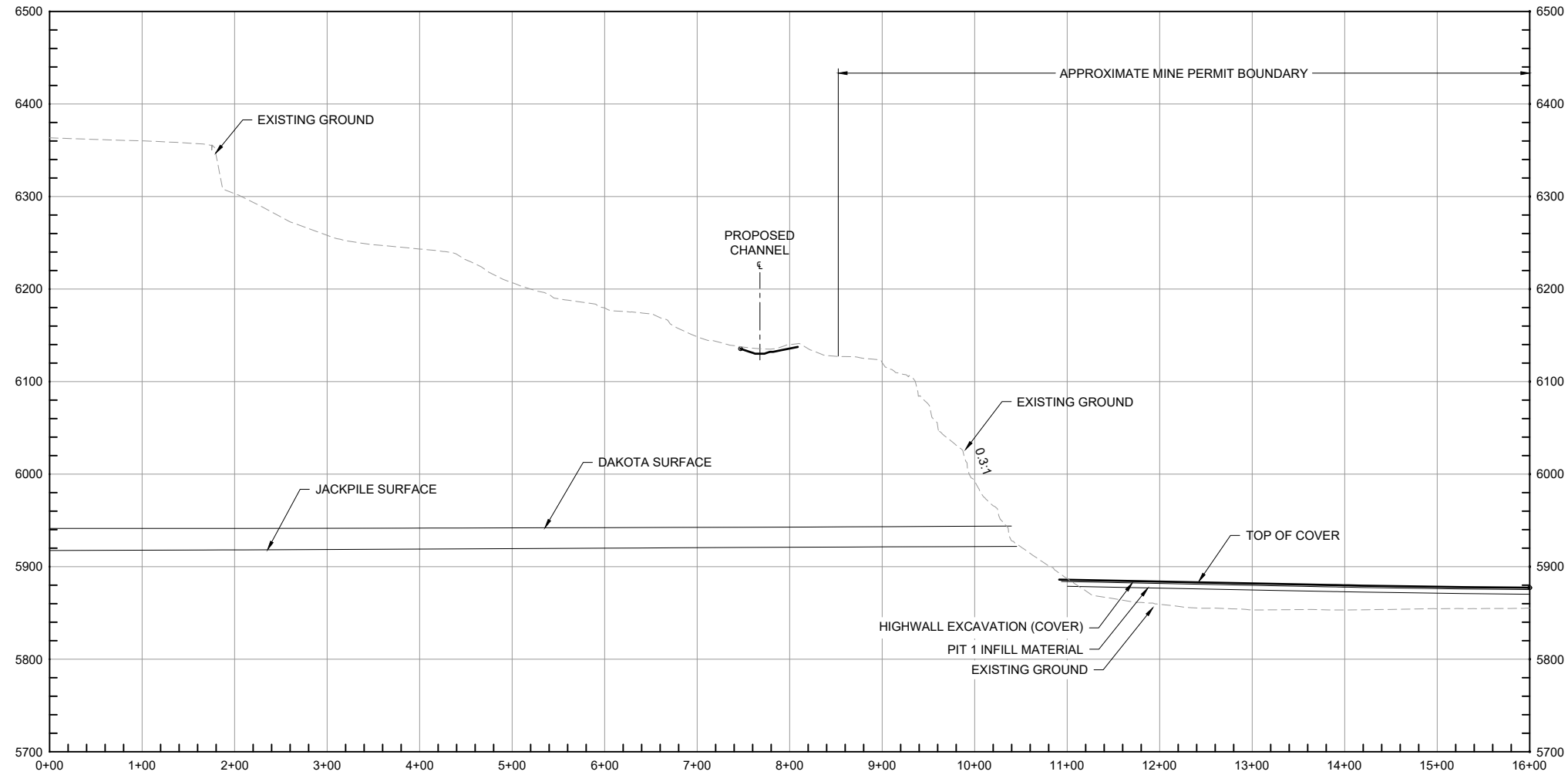
UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO  
PIT 1 HIGHWALL CROSS SECTION B

SHEET  
11  
233001076



**LEGEND:**

	6100	EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
	6200	PROPOSED FINAL GRADING CONTOUR & ELEVATION, FEET
		APPROXIMATE MINE PERMIT BOUNDARY
		FINAL DRAINAGE CENTERLINE
		AREAS TO BE COVERED



**C**  
12 CROSS SECTION C

**PRELIMINARY**  
FOR DISCUSSION ONLY

Monday, November 29, 2021 1:35:20 PM KWREED C:\USERS\KWREED\STANTEC\ANTHONY - CIVIL\SHEETS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_PROP\_GRADING.DWG Layout:12 PIT 1 HIGHWALL CROSS SECTION C

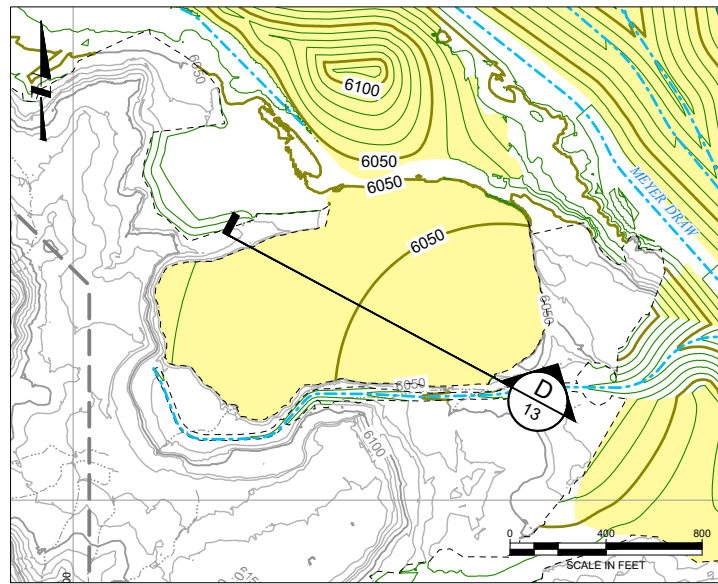
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0	03/2020	CF	PRELIMINARY DESIGN			

- DRAWING REFERENCES:**
- All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
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  - Township and Section lines: rgis.unm.edu, 08/04/2014
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  - Permit Boundary: (1008506X001.dwg)

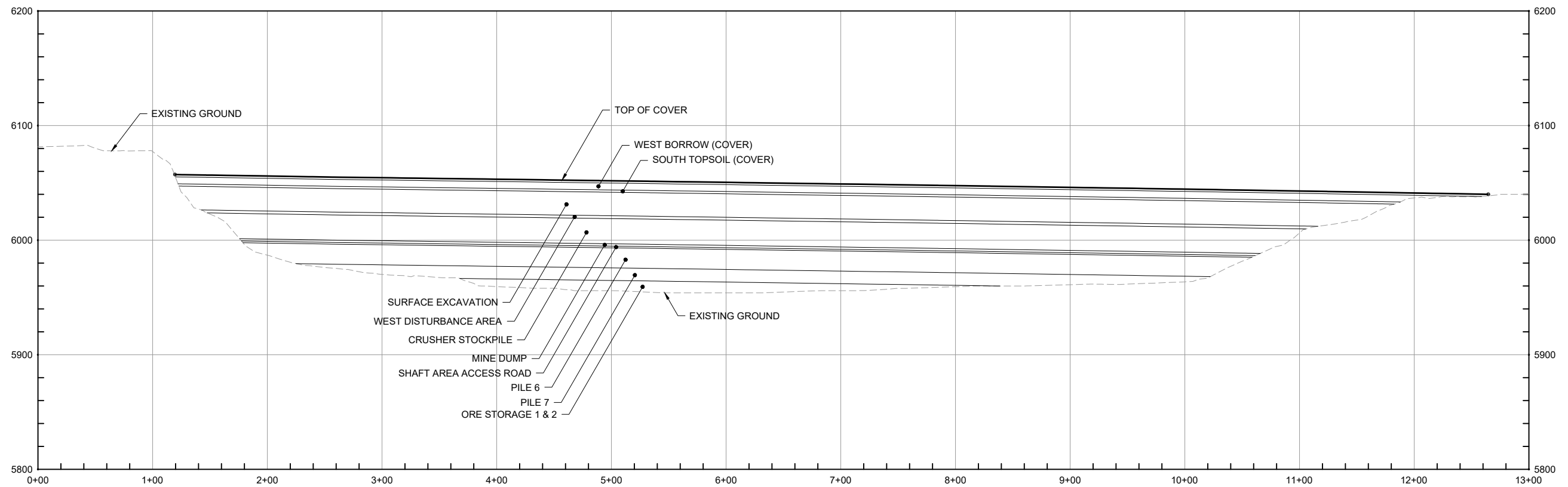


UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO  
PIT 1 HIGHWALL CROSS SECTION C

SHEET  
12  
233001076



- LEGEND:**
- 6100 EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
  - 6200 PROPOSED FINAL GRADING CONTOUR & ELEVATION, FEET
  - APPROXIMATE MINE PERMIT BOUNDARY
  - FINAL DRAINAGE CENTERLINE
  - AREAS TO BE COVERED



**C** CROSS SECTION C  
13

**PRELIMINARY**  
FOR DISCUSSION ONLY

Monday, November 20, 2021 1:36:06 PM KWREED C:\USERS\KWREED\STANTEC\ANTHONY - CIVIL\PROJECTS\2020-2021\STA DESIGN\DRAWINGS\STA\_DD\_PROP\_GRADING.DWG Layout:13 PIT 2 CROSS SECTION D

REV	DATE	BY	DESCRIPTION
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DRAWN K. REED  
CHECKED C. FRITZ  
APPROVED J. CUMBERS

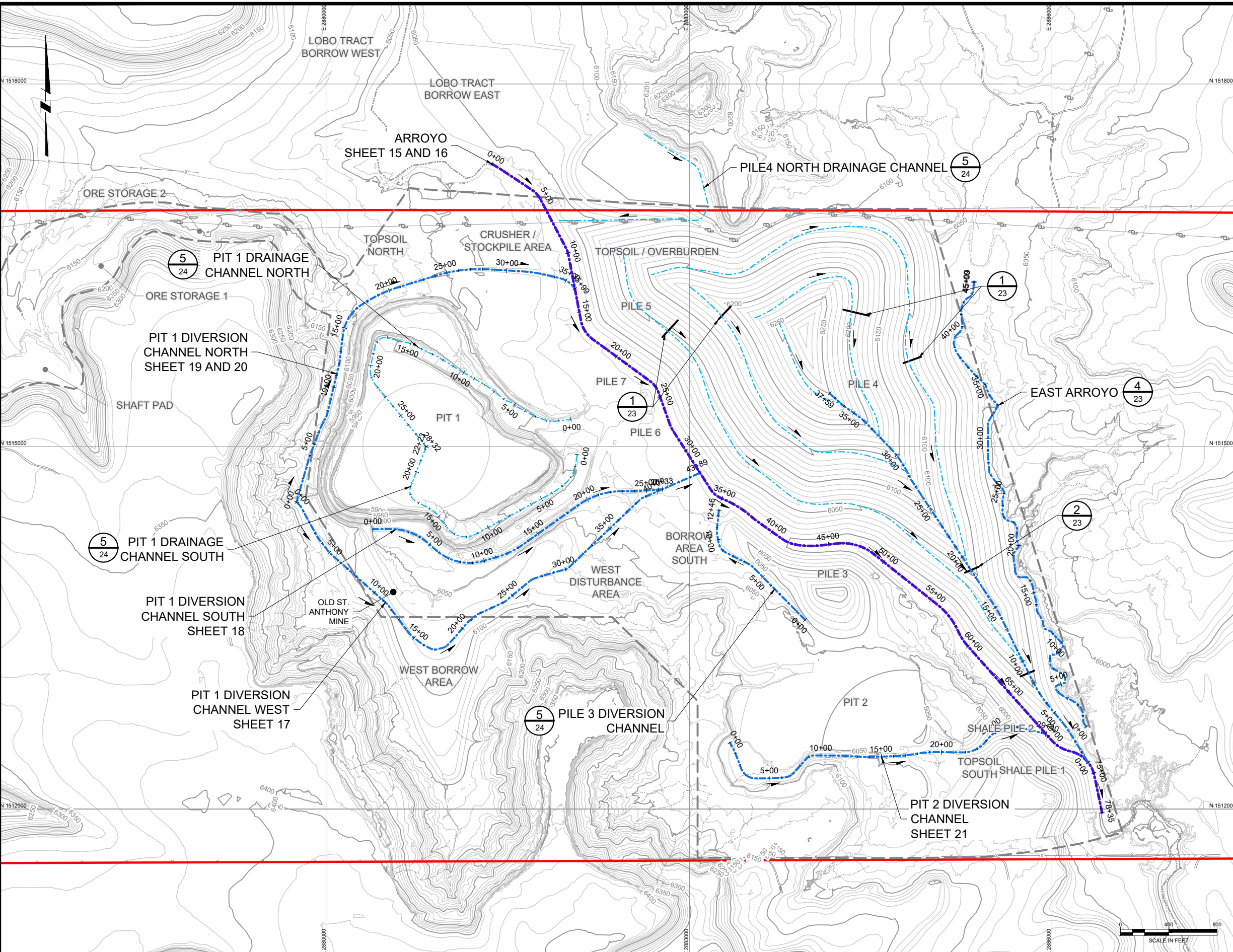
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  2. Elevations/Topo.
  - 2.1. On site Cooper Aerial, 05/09/2011, (050911-1000overview3d.dwg)
  - 2.2. Supplemental Off Site: USGS DEM 10m
  3. Township and Section lines: rgis.unm.edu, 08/04/2014
  4. Parcels and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
  5. Permit Boundary: (1008506X001.dwg)



UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO  
PIT 2 CROSS SECTION D

SHEET  
13  
233001076

Monday, November 20, 2021 1:37:13 PM KWREED C:\USERS\KWREED\STANTEC\ANTHONY - CIVIL\SHEETS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_DRAINAGE\_INDEX\DWG Layout: 14 DIVERSION CHANNEL INDEX



**LEGEND:**

	EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
	APPROXIMATE MINE PERMIT BOUNDARY
	GULLEY / DRAINAGE
	ARROYO
	EXISTING ROAD
	EXISTING FENCE
	EXISTING OVERHEAD ELECTRIC AND POWER POLES
	DESIGN ARROYO
	DESIGN DIVERSION CHANNELS AND EAST ARROYO
	DESIGN DRAINAGE CHANNELS

PRELIMINARY

FOR DISCUSSION ONLY

REV	DATE	BY	DESCRIPTION
1	11/2021	KR	30% DESIGN
0	02/2019	KR	PRELIMINARY DESIGN

DRAWN	K. REED
CHECKED	C. FRITZ
APPROVED	J. CUMBERS

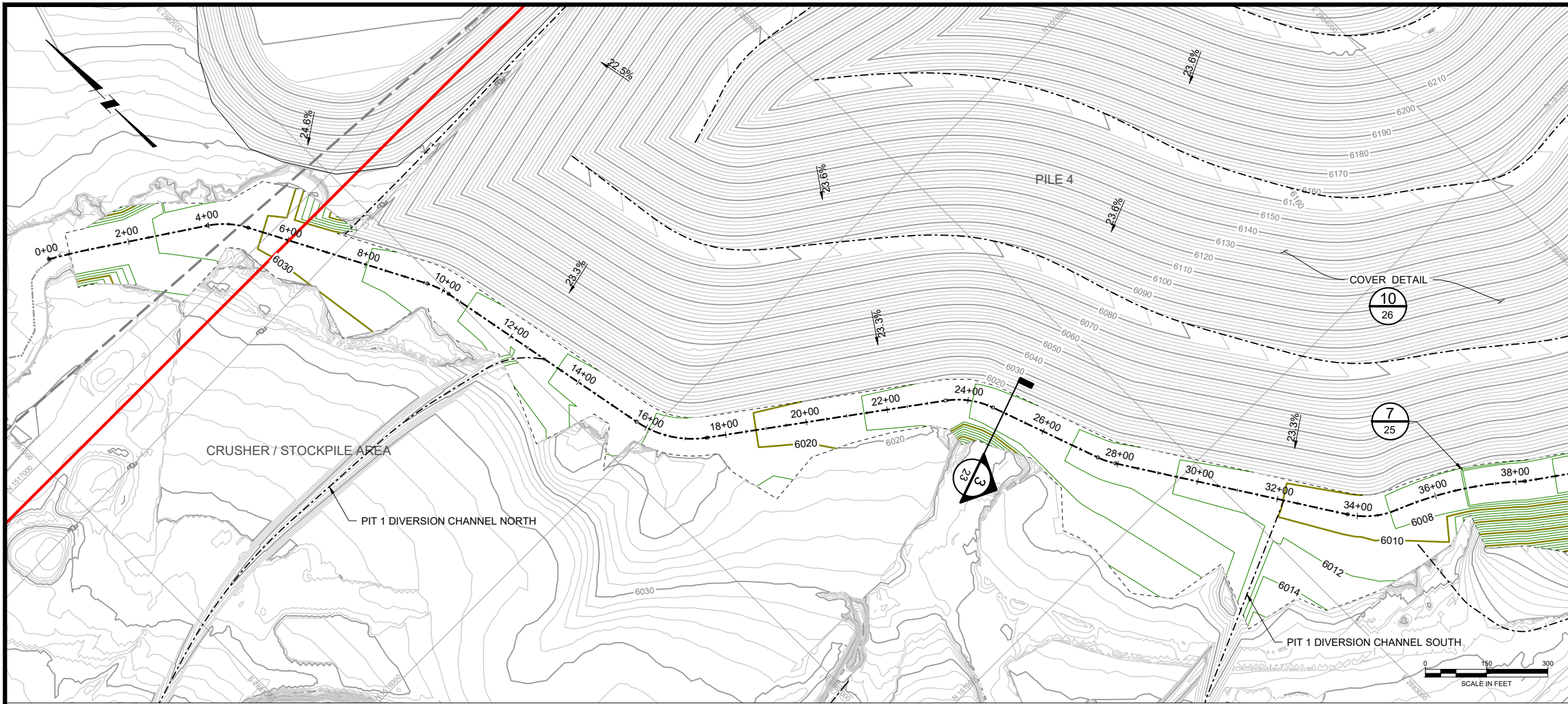
**DRAWING REFERENCES:**

- All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
- Elevations/Topo:
- On site Cooper Aerial, 05/09/2011, (050911-1000overview3d.dwg)
- Supplemental Off Site: USGS DEM 10m
- Township and Section lines: rgis.unm.edu, 08/04/2014
- Parcels and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
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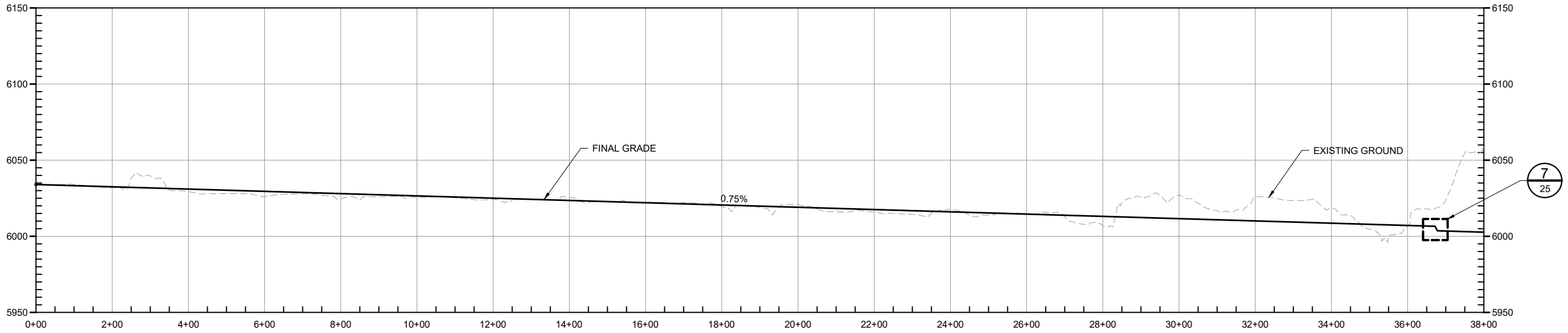


UNITED NUCLEAR CORPORATION ST. ANTHONY MINE, CIBOLA COUNTY, NEW MEXICO		SHEET 14
DIVERSION CHANNEL INDEX		233001076

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- LEGEND:**
- 6100 FINAL CONDITIONS GROUND SURFACE CONTOUR & ELEVATION, FEET
  - 6200 PROPOSED ARROYO CONTOUR & ELEVATION, FEET
  - APPROXIMATE MINE PERMIT BOUNDARY
  - GULLEY / DRAINAGE
  - ARROYO
  - EXISTING OVERHEAD ELECTRIC AND POWER POLES
  - PROPOSED DRAINAGE CENTERLINE



PRELIMINARY

FOR DISCUSSION ONLY

REV	DATE	BY	DESCRIPTION	APPROVED
1	11/2021	KR	30% DESIGN	K. REED
0	02/2019	KR	PRELIMINARY DESIGN	C. FRITZ
				J. CUMBERS

- DRAWING REFERENCES:**
1. All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
  2. Elevations/Topo.
  - 2.1. On site Cooper Aerial, 05/09/2011, (050911-1000overview3d.dwg)
  - 2.2. Supplemental Off Site: USGS DEM 10m
  3. Township and Section lines: rgis.unm.edu, 08/04/2014
  4. Parcels and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
  5. Permit Boundary: (1008506X001.dwg)

UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO

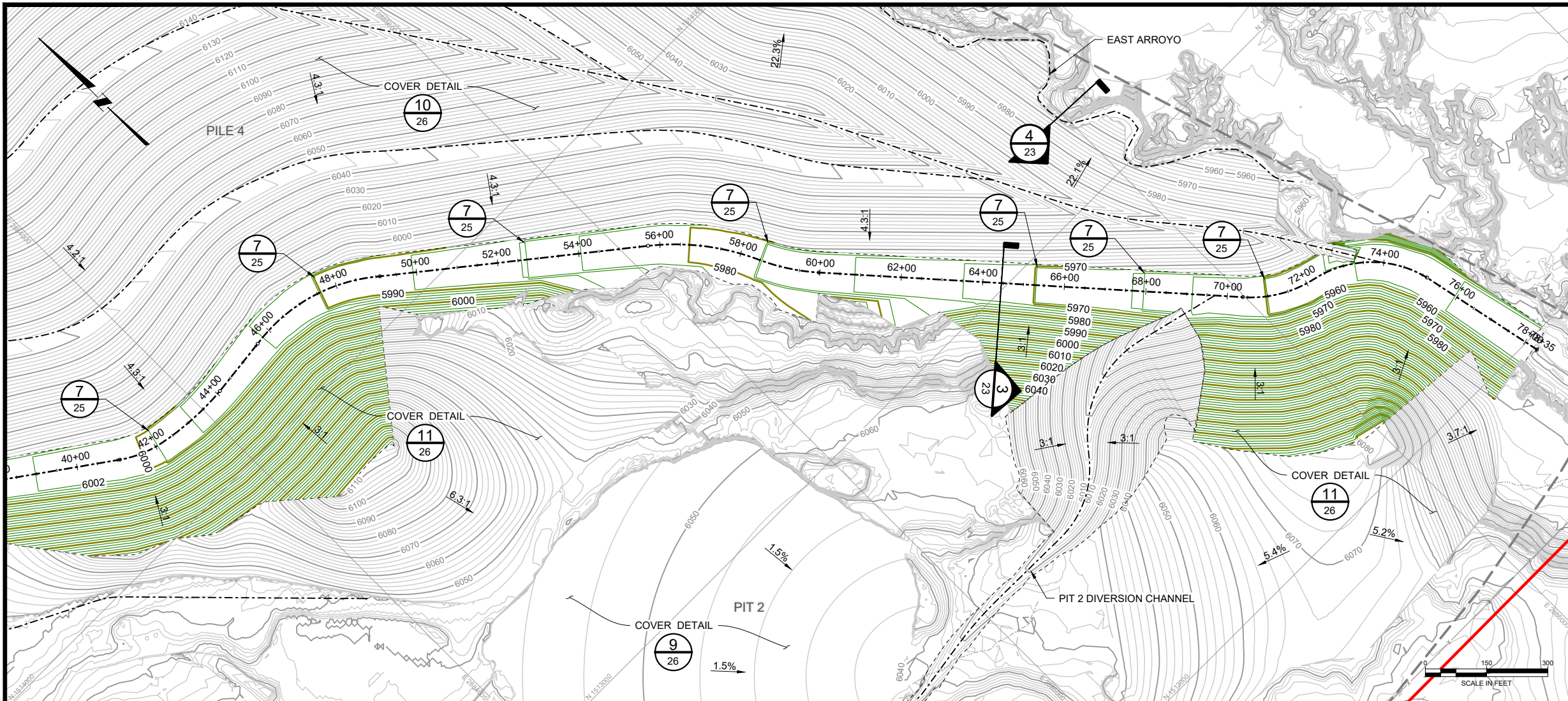
ARROYO STABILIZATION PLAN AND PROFILE (1 OF 2)

SHEET

15

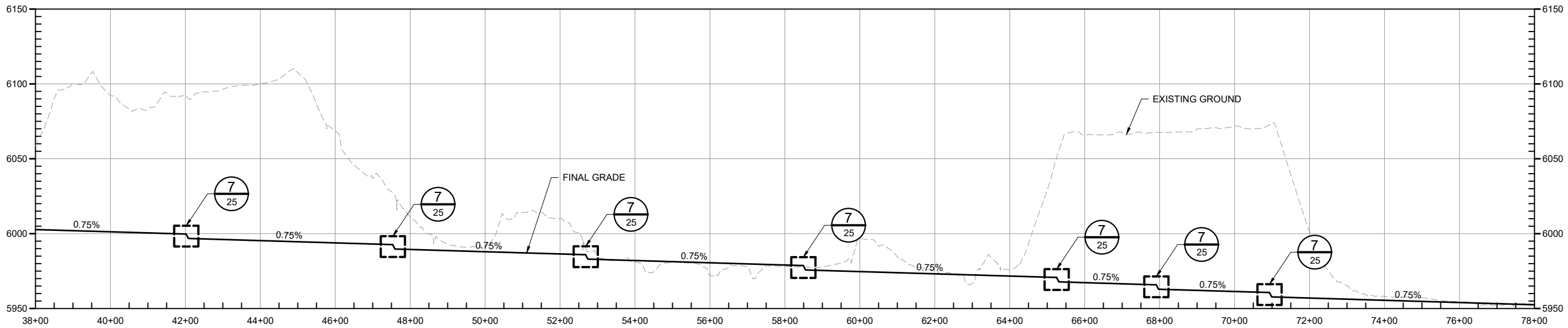
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**LEGEND:**

	6100	FINAL CONDITIONS GROUND SURFACE CONTOUR & ELEVATION, FEET
	6200	PROPOSED ARROYO CONTOUR & ELEVATION, FEET
		APPROXIMATE MINE PERMIT BOUNDARY
		GULLEY / DRAINAGE
		PROPOSED DRAINAGE CENTERLINE



PRELIMINARY

FOR DISCUSSION ONLY

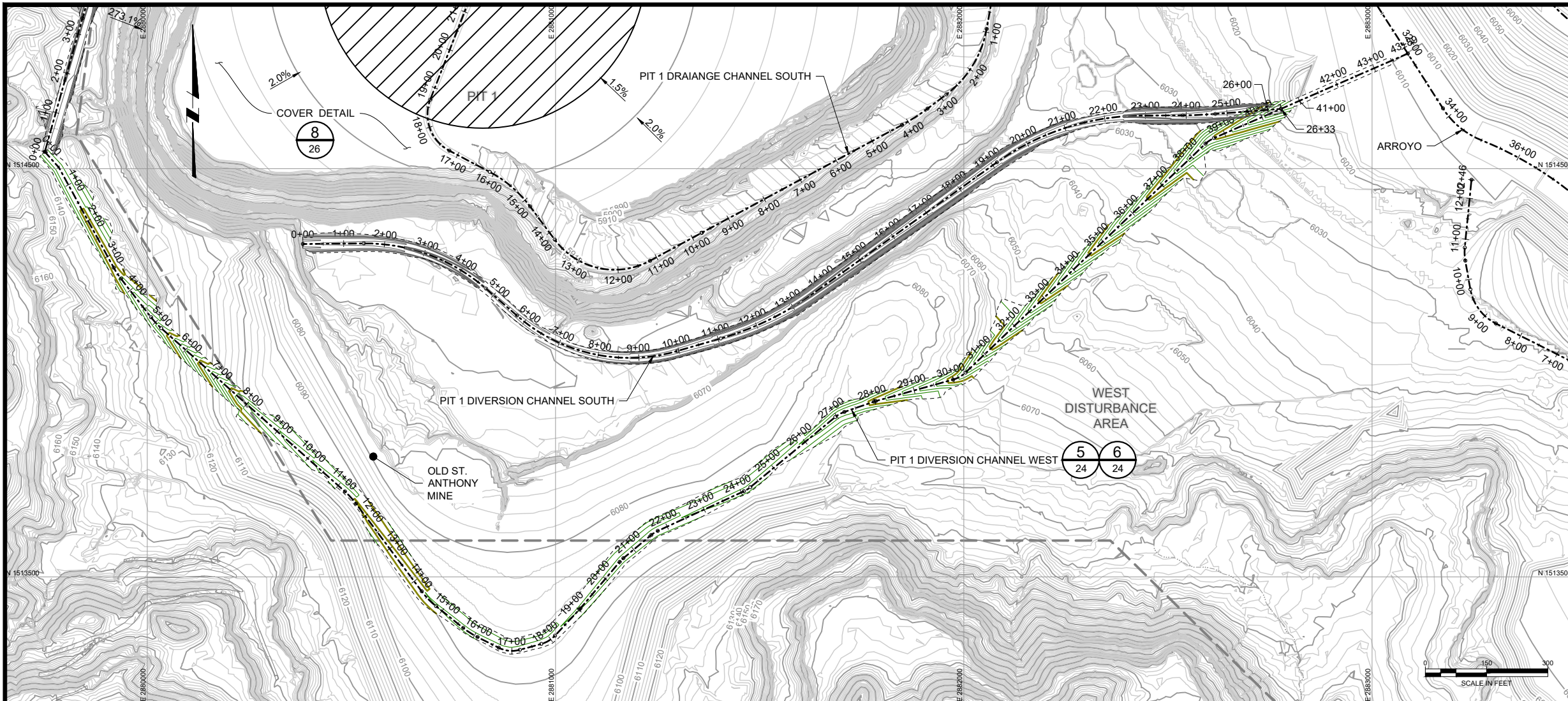
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0	02/2019	KR	PRELIMINARY DESIGN	

- DRAWING REFERENCES:**
1. All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
  2. Elevations/Topo.
  - 2.1. On site Cooper Aerial, 05/09/2011, (050911-1000/overview3d.dwg)
  - 2.2. Supplemental Off Site: USGS DEM 10m
  3. Township and Section lines: rgis.unm.edu, 08/04/2014
  4. Parcels and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
  5. Permit Boundary: (1008506X001.dwg)

			UNITED NUCLEAR CORPORATION ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO  ARROYO STABILIZATION PLAN AND PROFILE (2 OF 2)	SHEET  16  233001076
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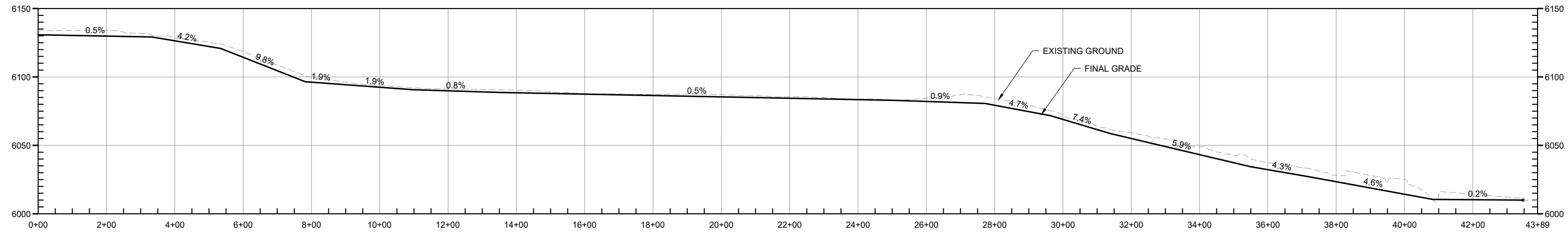


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**LEGEND:**

	FINAL CONDITIONS SURFACE CONTOUR & ELEVATION, FEET
	PROPOSED DRAINAGE CHANNEL CONTOUR & ELEVATION, FEET
	APPROXIMATE MINE PERMIT BOUNDARY
	GULLEY / DRAINAGE
	PROPOSED DRAINAGE CENTERLINE



PRELIMINARY

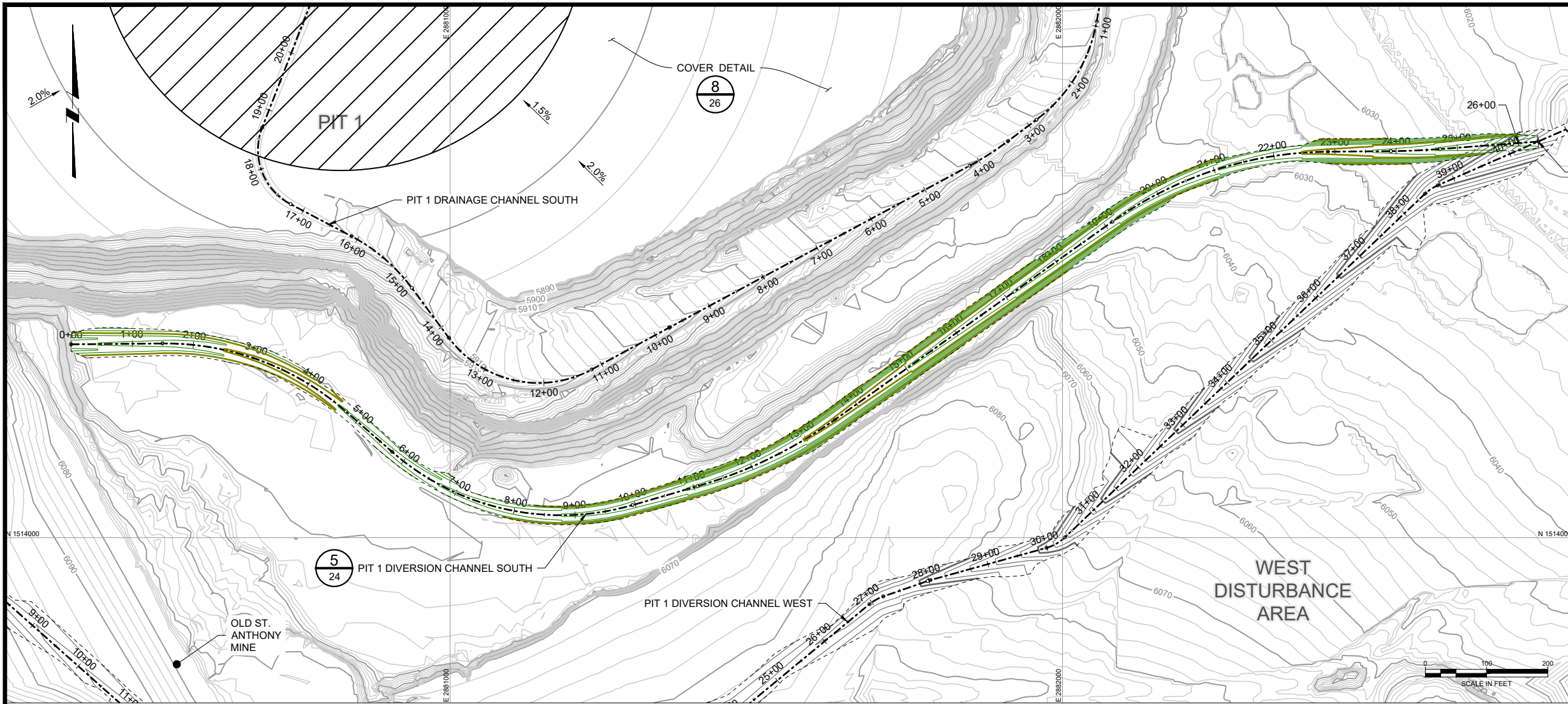
FOR DISCUSSION ONLY

REV	DATE	BY	DESCRIPTION	APPROVED
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0	02/2019	KR	PRELIMINARY DESIGN	

- DRAWING REFERENCES:**
1. All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
  2. Elevations/Topo.
  - 2.1. On site Cooper Aerial, 05/09/2011, (050911-1000overview3d.dwg)
  - 2.2. Supplemental Off Site: USGS DEM 10m
  3. Township and Section lines: rgis.unm.edu, 08/04/2014
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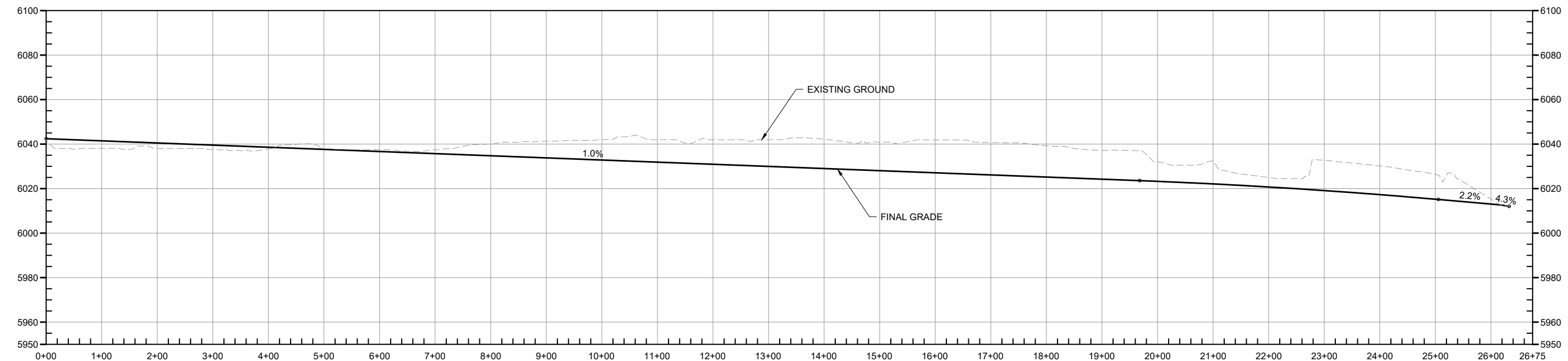
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			SHEET <b>17</b> 233001076

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**LEGEND:**

	FINAL CONDITIONS SURFACE CONTOUR & ELEVATION, FEET
	PROPOSED DRAINAGE CHANNEL CONTOUR & ELEVATION, FEET
	APPROXIMATE MINE PERMIT BOUNDARY
	GULLY / DRAINAGE
	PROPOSED DRAINAGE CENTERLINE



**PRELIMINARY**  
FOR DISCUSSION ONLY

REV	DATE	BY	DESCRIPTION
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0	03/2020	KR	PRELIMINARY DESIGN

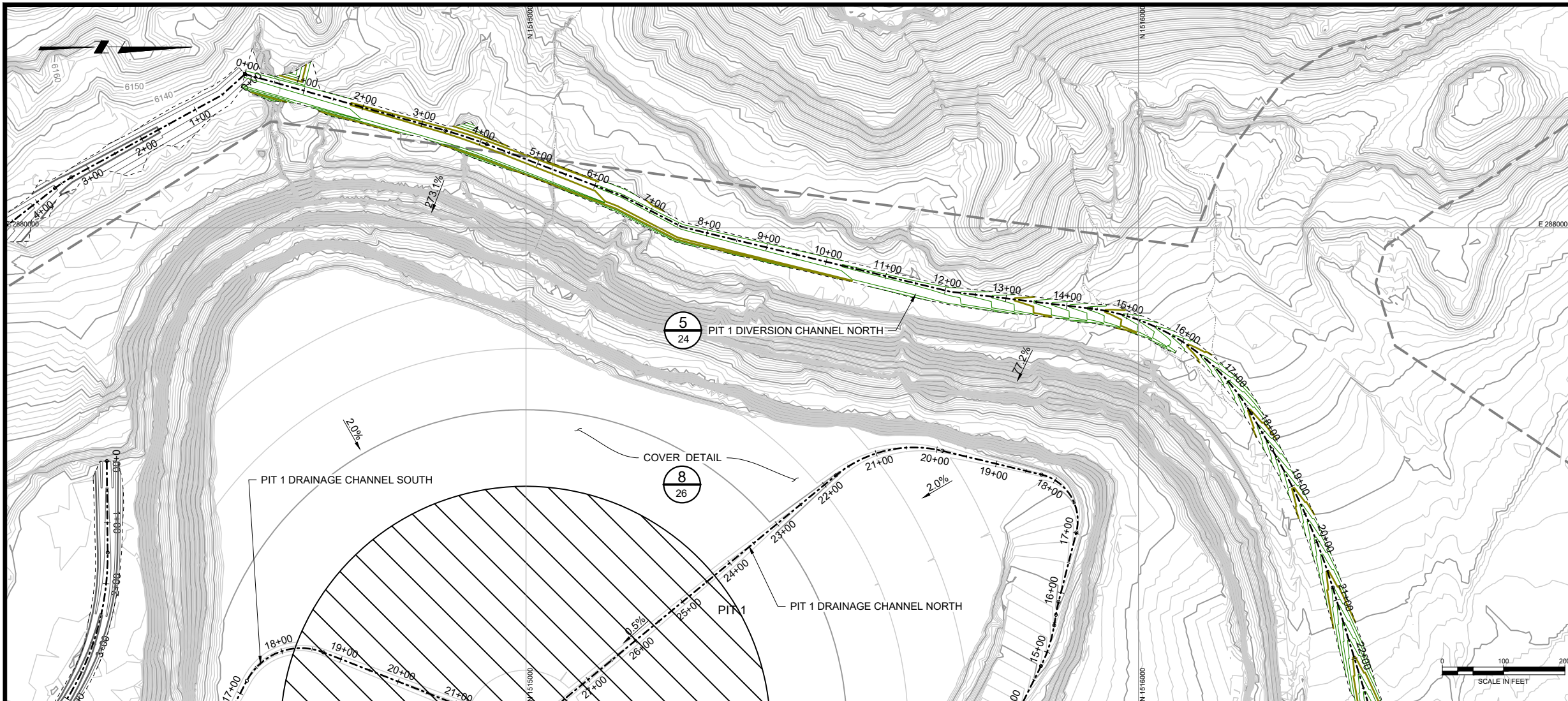
  

DRAWN	K. REED
CHECKED	C. FRITZ
APPROVED	J. CUMBERS

- DRAWING REFERENCES:**
- All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
  - Elevations/Topo.
  - On site Cooper Aerial, 05/09/2011, (050911-1000overview3d.dwg)
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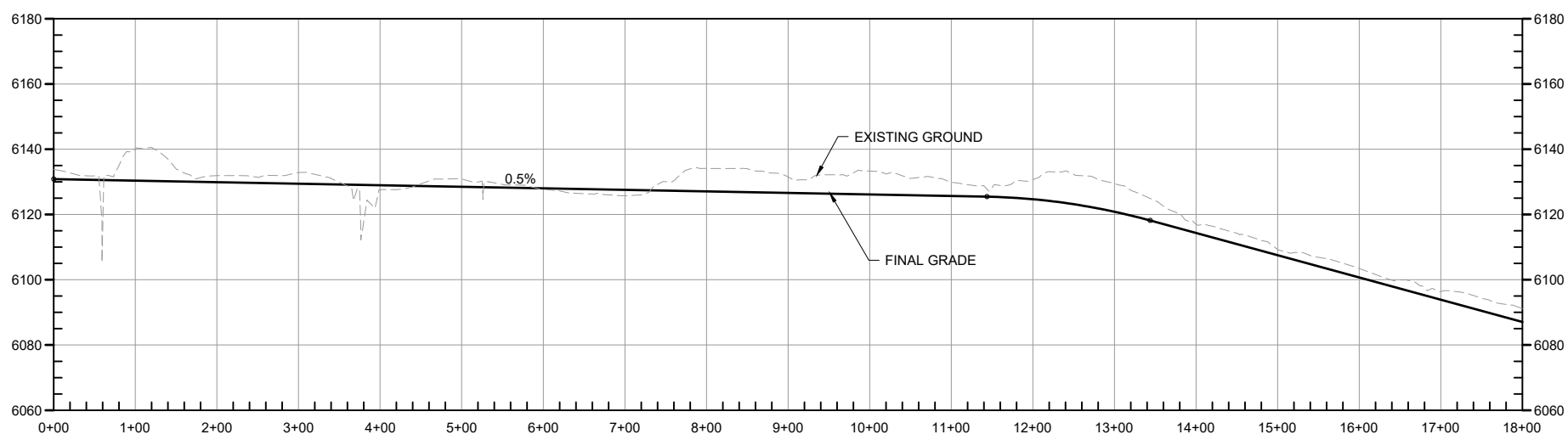
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Monday, November 20, 2021 14:23 PM K:\REVISED\CUSTOMERS\KREED\STANTEC\ANTHONY - CIVIL\SHEETS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_DRAINAGE\_CHANNELS.DWG Layout\Pit1.dwg berm-1



**LEGEND:**

	FINAL CONDITIONS SURFACE CONTOUR & ELEVATION, FEET
	PROPOSED DRAINAGE CHANNEL CONTOUR & ELEVATION, FEET
	APPROXIMATE MINE PERMIT BOUNDARY
	GULLEY / DRAINAGE
	PROPOSED DRAINAGE CENTERLINE



PRELIMINARY

FOR DISCUSSION ONLY

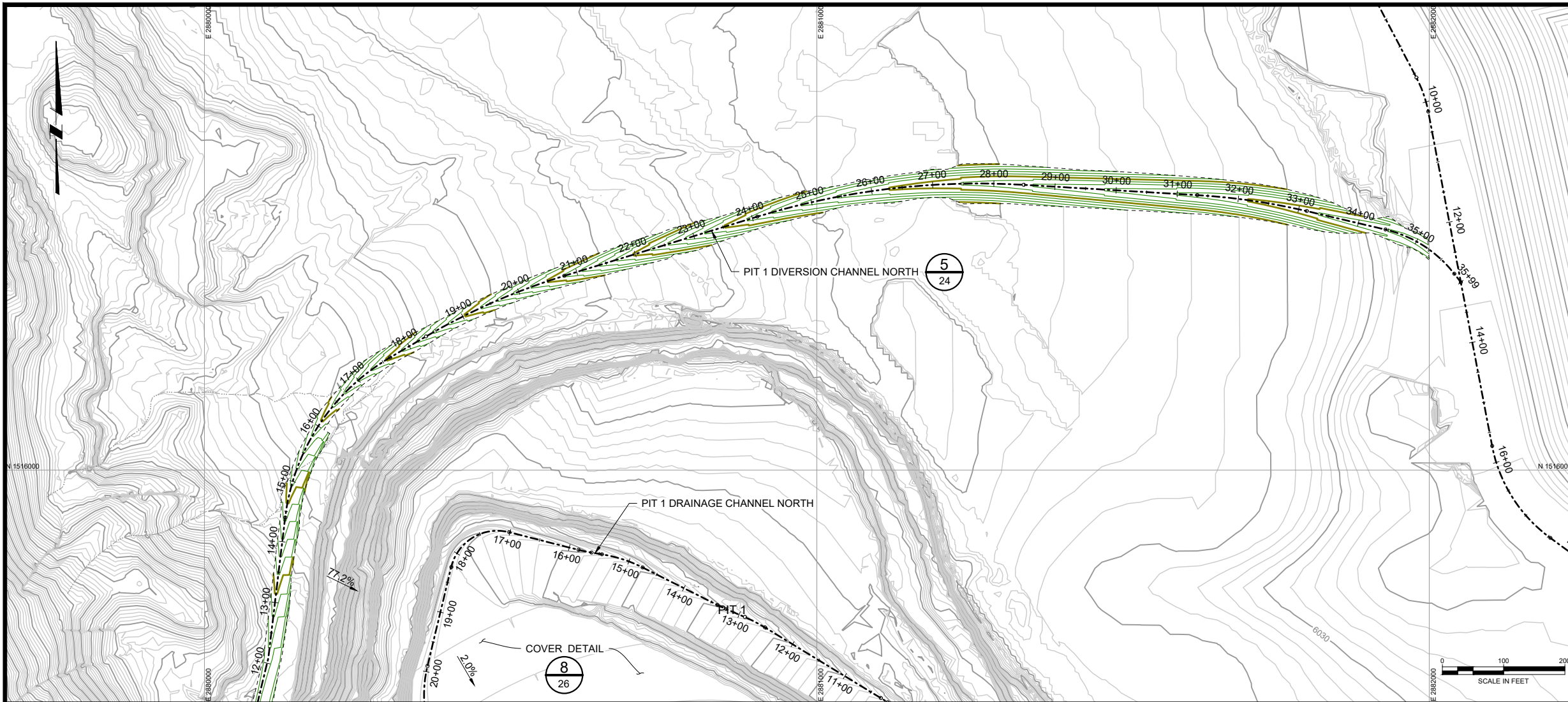
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0	02/2019	KR	PRELIMINARY DESIGN	C. FRITZ
				J. CUMBERS

**DRAWING REFERENCES:**

1. All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
2. Elevations/Topo:
- 2.1. On site Cooper Aerial, 05/09/2011, (050911-1000overview3d.dwg)
- 2.2. Supplemental Off Site: USGS DEM 10m
3. Township and Section lines: rgs.unm.edu, 08/04/2014
4. Parcels and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
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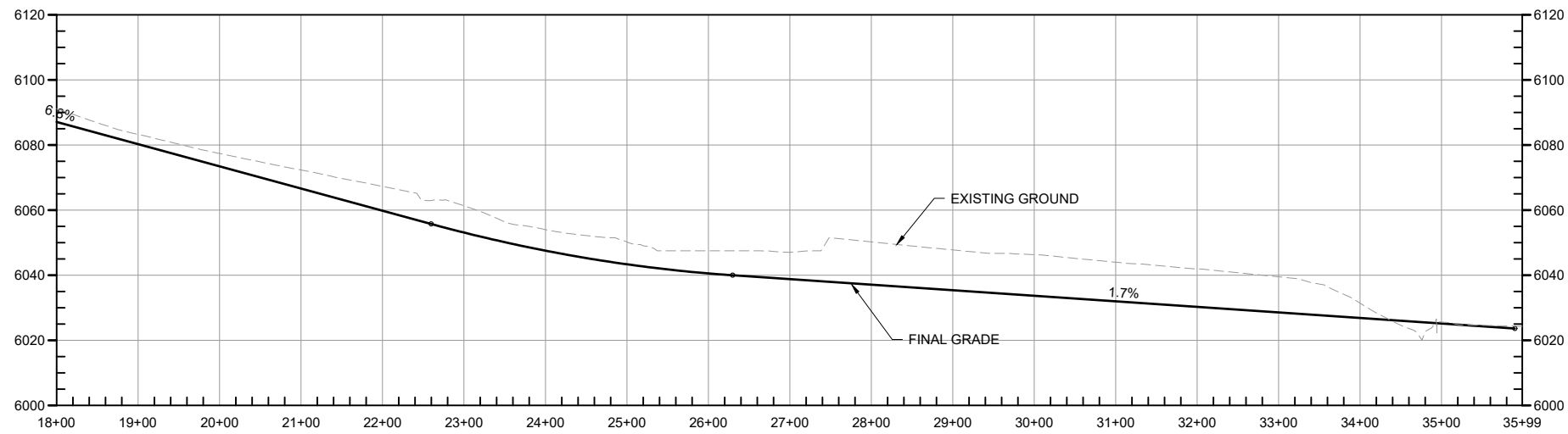
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**LEGEND:**

	FINAL CONDITIONS SURFACE CONTOUR & ELEVATION, FEET
	PROPOSED DRAINAGE CHANNEL CONTOUR & ELEVATION, FEET
	APPROXIMATE MINE PERMIT BOUNDARY
	GULLEY / DRAINAGE
	PROPOSED DRAINAGE CENTERLINE



PRELIMINARY

FOR DISCUSSION ONLY

REV	DATE	BY	DESCRIPTION	APPROVED
1	11/2021	KR	30% DESIGN	DRAWN <u>K. REED</u> CHECKED <u>C. FRITZ</u> APPROVED <u>J. CUMBERS</u>
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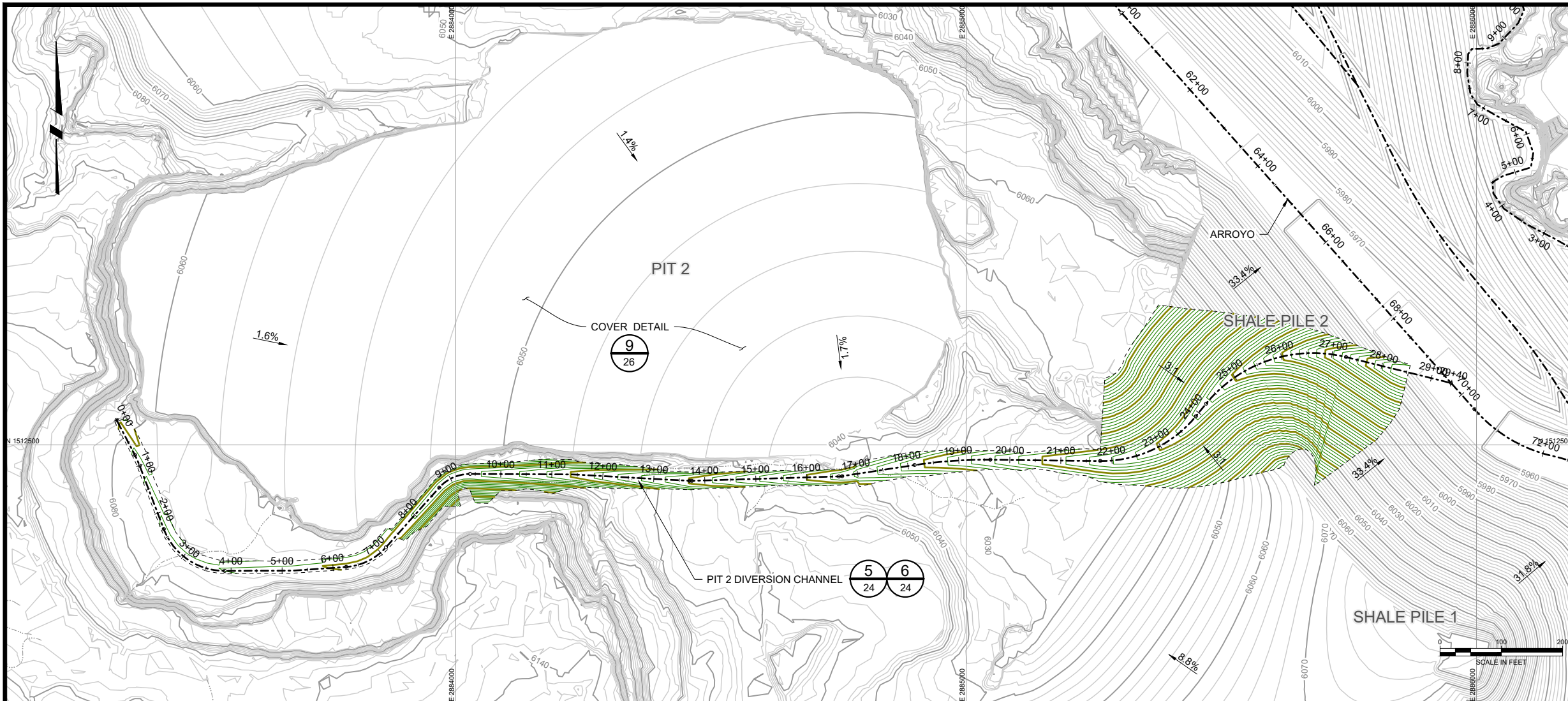
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  - 2.2. Supplemental Off Site: USGS DEM 10m
  3. Township and Section lines: rgis.unm.edu, 08/04/2014
  4. Parcels, and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
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UNITED NUCLEAR CORPORATION  
 ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO

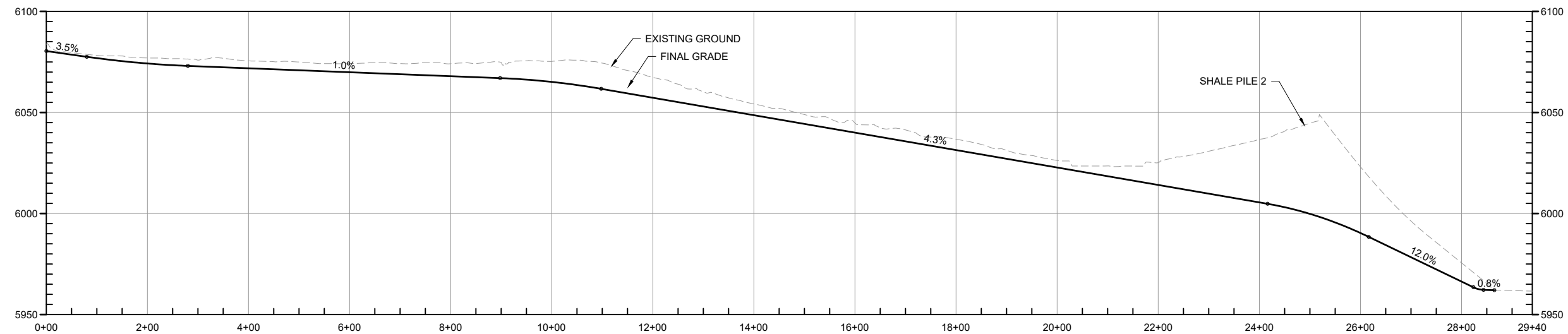
NORTH PIT 1 DIVERSION CHANNEL (2 OF 2)

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**LEGEND:**

	FINAL CONDITIONS SURFACE CONTOUR & ELEVATION, FEET
	PROPOSED DRAINAGE CHANNEL CONTOUR & ELEVATION, FEET
	APPROXIMATE MINE PERMIT BOUNDARY
	GULLEY / DRAINAGE
	PROPOSED DRAINAGE CENTERLINE



PRELIMINARY

FOR DISCUSSION ONLY

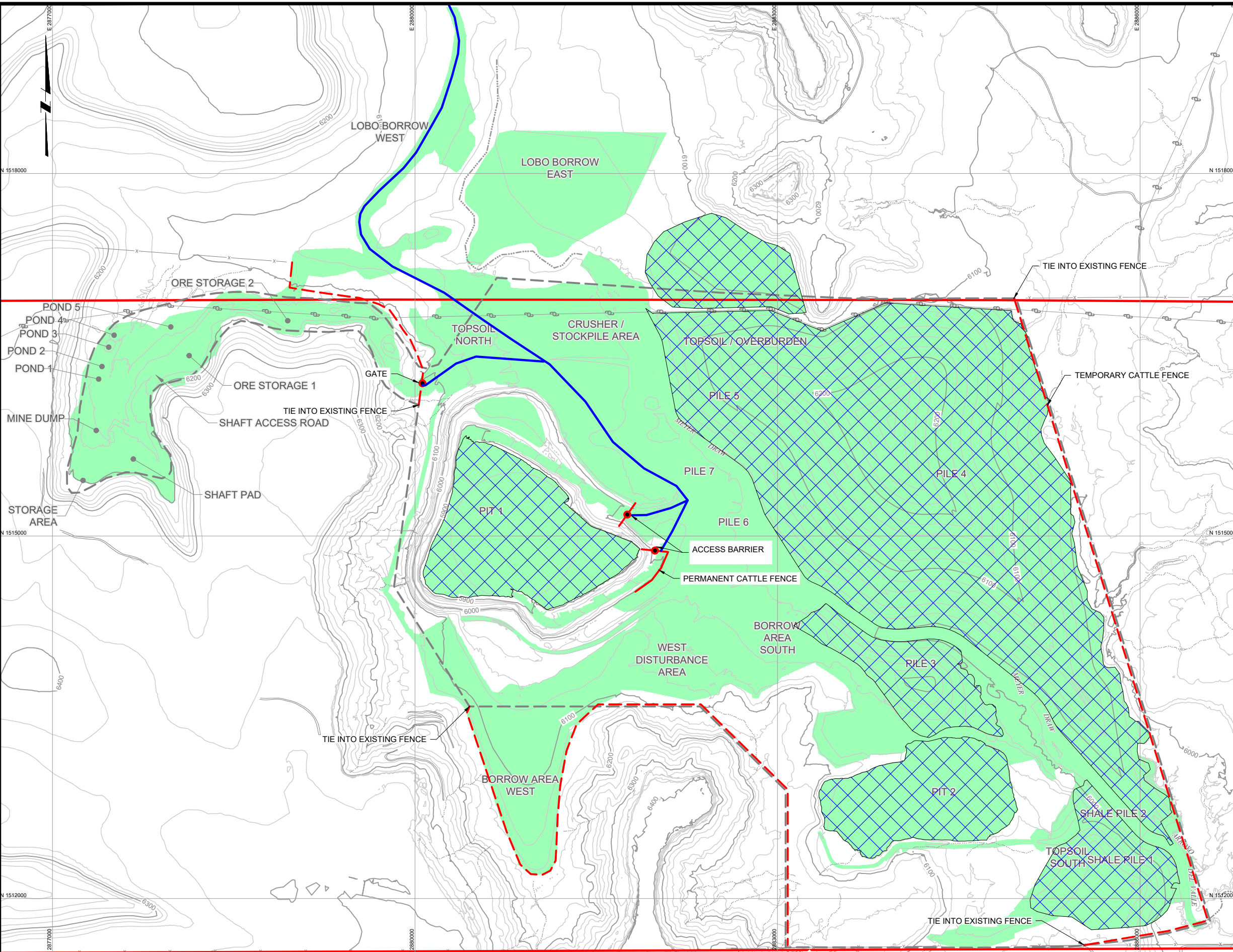
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0	02/2019	KR	PRELIMINARY DESIGN	

**DRAWING REFERENCES:**

1. All coordinates in New Mexico State Plane West, NAD83, Feet (U.S. Survey).
2. Elevations/Topo.
- 2.1. On site Cooper Aerial, 05/09/2011, (050911-1000overview3d.dwg)
- 2.2. Supplemental Off Site: USGS DEM 10m
3. Township and Section lines: rgis.unm.edu, 08/04/2014
4. Parcels, and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
5. Permit Boundary: (1008506X001.dwg)

			UNITED NUCLEAR CORPORATION ST. ANTHONY MINE; CIBOLA COUNTY, NEW MEXICO  PIT 2 DIVERSION CHANNEL	SHEET  21  233001076
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**LEGEND:**

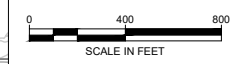
- 6100 EXISTING GROUND SURFACE CONTOUR & ELEVATION, FEET
- APPROXIMATE MINE PERMIT BOUNDARY
- GULLEY / DRAINAGE
- ARROYO
- EXISTING ROAD
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC AND POWER POLES
- AREAS TO BE REVEGETATED
- AREAS TO BE COVERED AND REVEGETATED
- PERMANENT CATTLE FENCE
- TEMPORARY CATTLE FENCE
- PERMANENT ACCESS ROAD

**NOTE(S):**

1. NATIVE SEED MIX REQUIRED PER RECOMMENDATIONS OF ECOLOGICAL CONSULTANT.

PRELIMINARY

FOR DISCUSSION ONLY



REV	DATE	BY	DESCRIPTION	APPROVED	J. CUMBERS
1	11/2021	KR	30% DESIGN	DRAWN	K. REED
0	02/2019	KR	PRELIMINARY DESIGN	CHECKED	C. FRITZ

**DRAWING REFERENCES:**

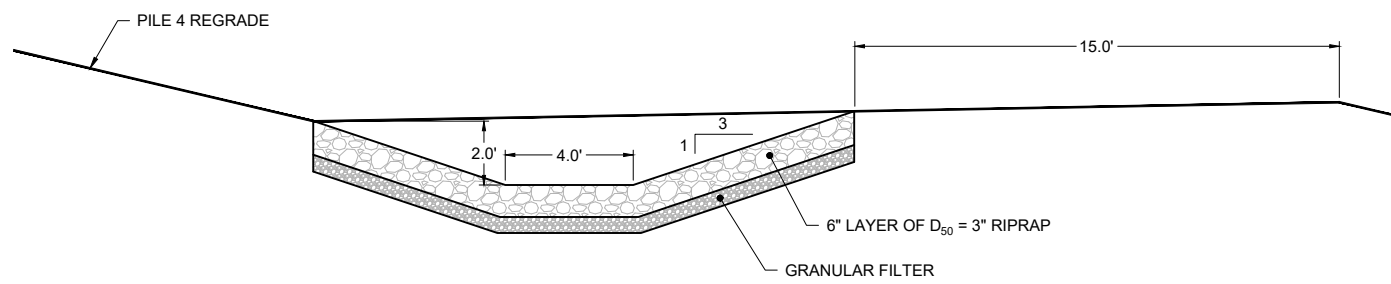
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- 2.2. Supplemental Off Site: USGS DEM 10m
3. Township and Section lines: rgis.unm.edu, 08/04/2014
4. Parcels and Cebolleta Land Grant: Cibola County, cibolacountynm.com, 02/15/18
5. Permit Boundary: (1008596X001.dwg)

UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE, CIBOLA COUNTY, NEW MEXICO

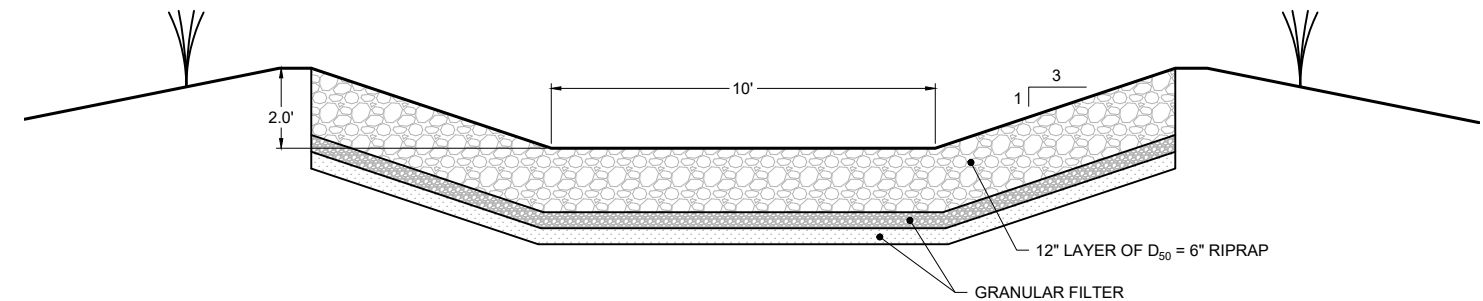
REVEGETATION AND ENGINEERING CONTROLS PLAN

SHEET  
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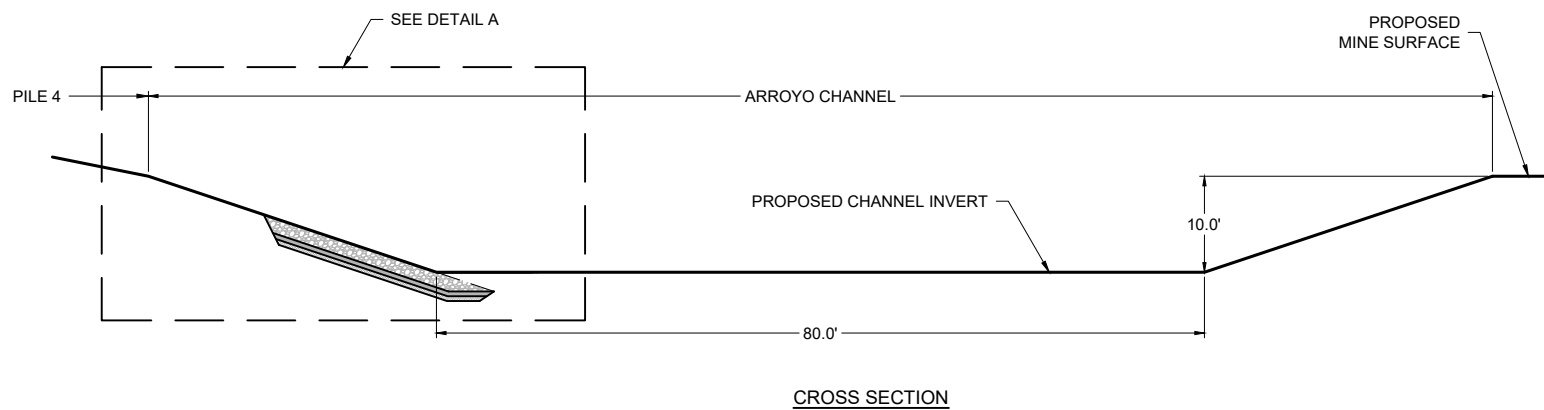
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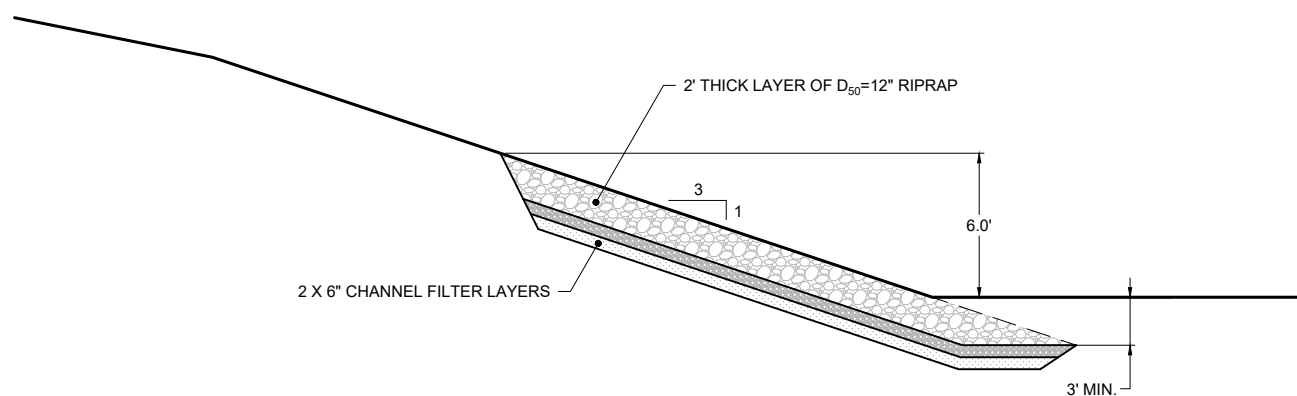
1  
23 PILE 4 BENCH CHANNEL  
(NOT TO SCALE)



2  
23 PILE 4 DOWNDRAIN CHANNEL  
(NOT TO SCALE)

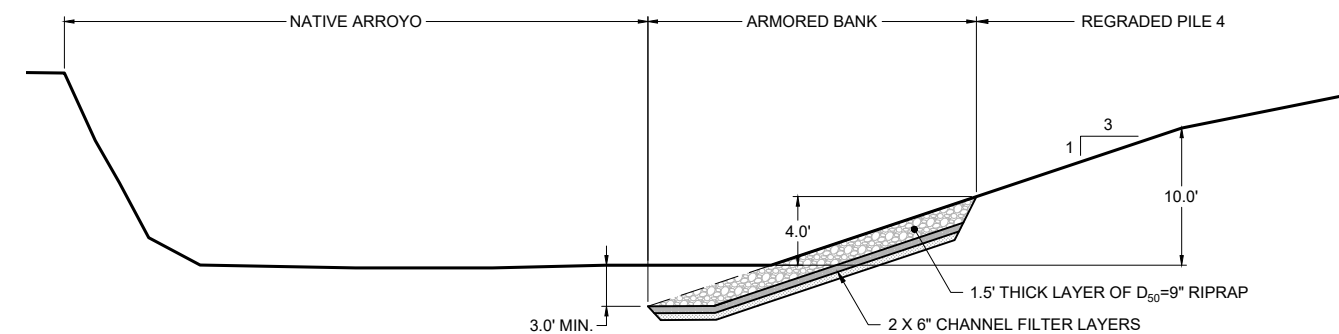


CROSS SECTION



DETAIL A

3  
23 MEYER DRAW CHANNEL ARMORING - TYPICAL SECTION  
(NOT TO SCALE)



4  
23 EAST TRIBUTARY CHANNEL ARMORING - TYPICAL SECTION  
(NOT TO SCALE)

**PRELIMINARY**  
FOR DISCUSSION ONLY

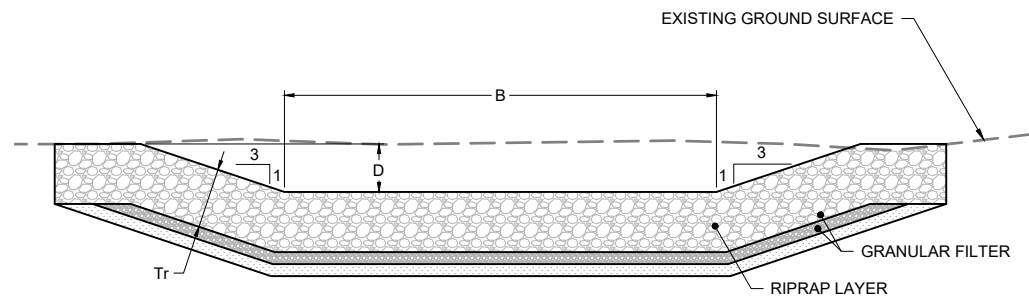
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0	02/2019	KR	PRELIMINARY DESIGN			



UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE, CIBOLA COUNTY, NEW MEXICO  
PILE 4 STABILIZATION DETAILS (1 OF 4)

SHEET  
23  
233001076

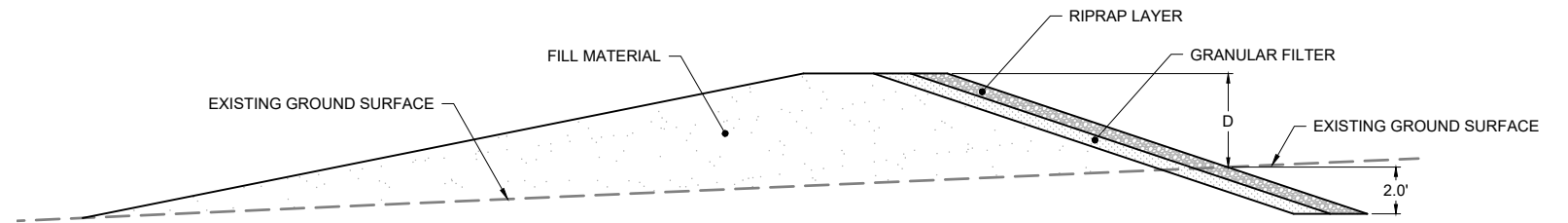
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**5**  
24 TYPICAL DIVERSION/DRAINAGE CHANNEL DETAIL  
(NOT TO SCALE)

NOTE(S):

1. REFERENCE TABLE 1 FOR CHANNEL DIMENSIONS.



**6**  
24 TYPICAL DIVERSION BERM DETAIL  
(NOT TO SCALE)

NOTE(S):

1. REFERENCE TABLE 1 FOR CHANNEL DIMENSIONS.

**TABLE 1: DIVERSION CHANNEL AND BERM DIMENSIONS**

CHANNEL	SECTION	DETAIL REFERENCE	BOTTOM WIDTH,	CHANNEL DEPTH,	MEDIAN RIPRAP	RIPRAP THICKNESS,
			B (FT)	D (FT)	D50 (IN)	TR (FT)
PIT 1 DIVERSION CHANNEL NORTH	0+00 TO 12+00	1	5	3.0	3	0.5
	12+00 TO 25+00	1	5	2.3	9	1.5
	25+00 TO 35+99	1	5	3.0	6	1.0
PIT 1 DIVERSION CHANNEL WEST	5+00 TO 8+00	1	10	2.0	9	1.5
	8+00 TO 27+50	2		3.5	3	0.5
	27+50 TO 43+00	1	10	3.5	12	2.0
PIT 1 DRAINAGE CHANNEL NORTH	0+00 TO 19+00	1	3	2.0	9	1.5
	19+00 TO 28+32	1	3	2.5	6	1.0
PIT 1 DRAINAGE CHANNEL SOUTH	0+00 TO 17+00	1	3	2.0	6	1.0
	17+00 TO 22+23	1	3	2.5	3	0.5
PIT 2 DIVERSION CHANNEL	0+00 TO 10+25	2		2.5	3	0.5
	10+25 TO 25+85	1	10	2.5	6	1.0
	25+85 TO 28+25	1	15	2.5	12	2.0
PIT 1 DIVERSION CHANNEL SOUTH	-	1	4	2.5	3	0.5
PILE 3 DIVERSION CHANNEL	-	1	5	2.0	6	1.0
PILE 4 NORTH DRAINAGE CHANNEL	-	1	5	2.5	6	1.0

**PRELIMINARY**  
FOR DISCUSSION ONLY

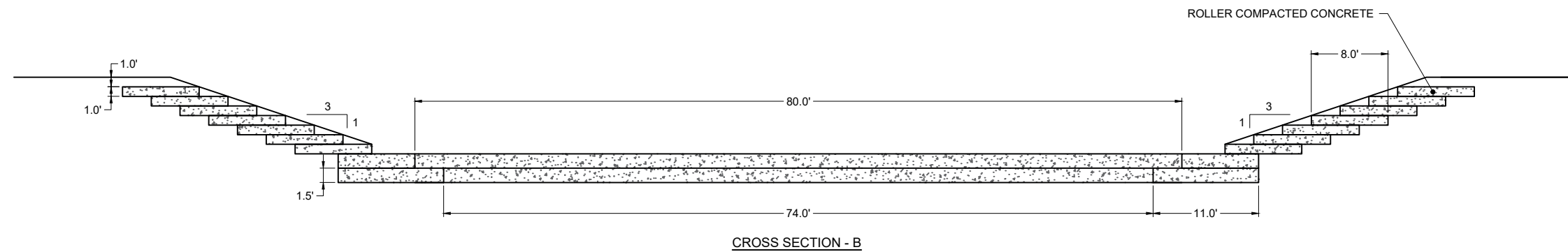
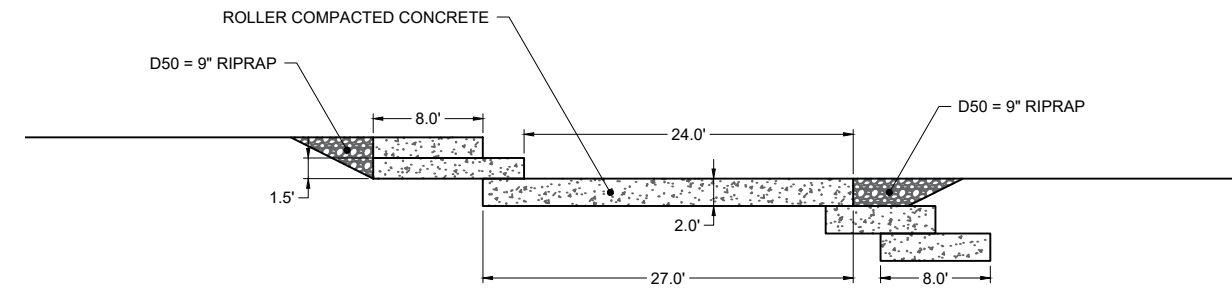
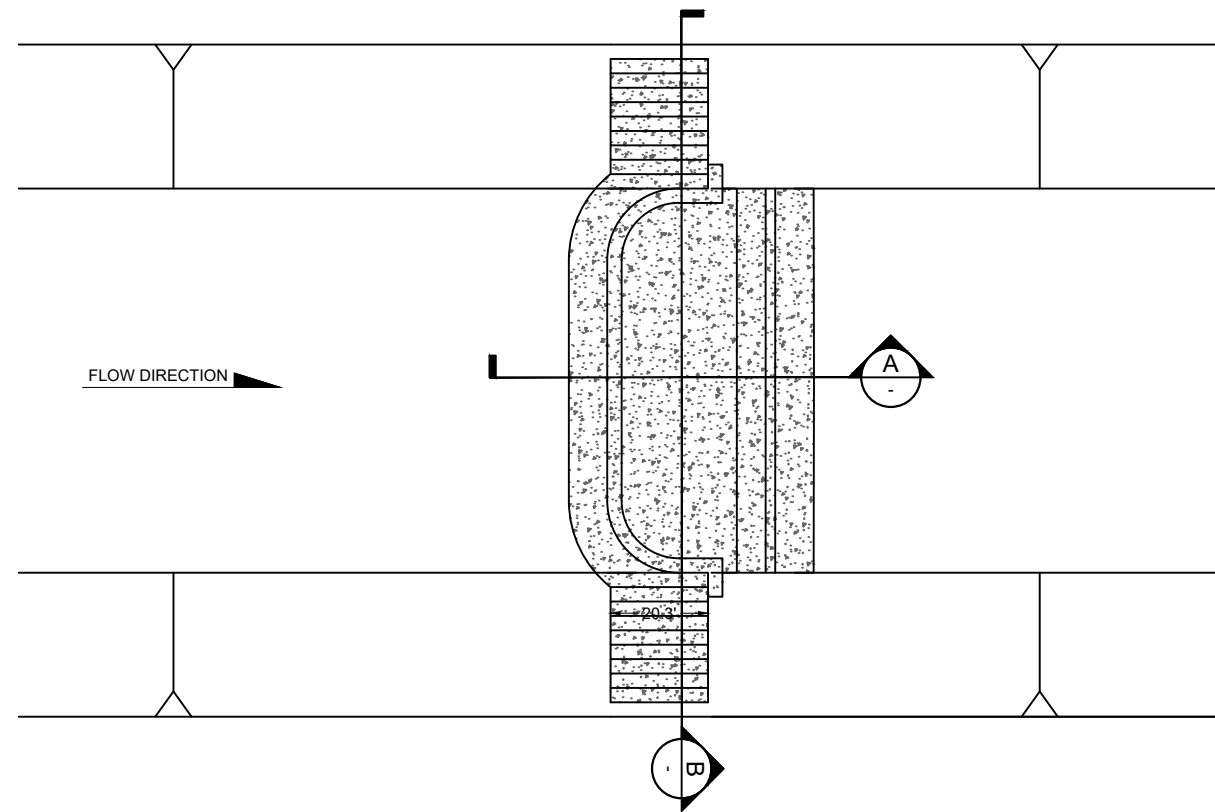
1	11/2021	KR	30% DESIGN	DRAWN <u>K. REED</u>
				CHECKED <u>C. FRITZ</u>
				APPROVED <u>J. CUMBERS</u>
REV	DATE	BY	DESCRIPTION	



UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE, CIBOLA COUNTY, NEW MEXICO  
DIVERSION CHANNEL DETAILS (2 OF 4)



Monday, November 29, 2021 1:45:05 PM K:\REED\C\USERS\KREED\STANTEC\ANTHONY - CIVIL\PROJECTS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_DETAILS.DWG Layout:25 ARROYO STABILIZATION DETAILS (3 OF 4)



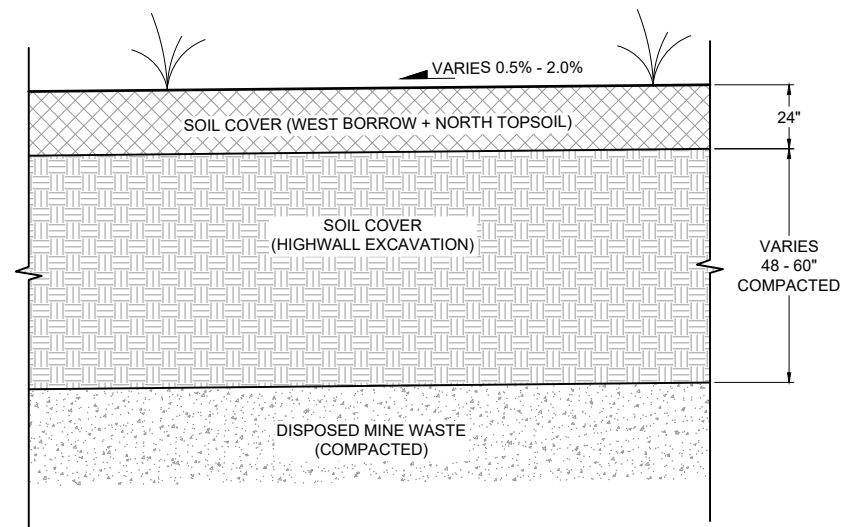
7 GRADE CONTROL STRUCTURE  
25 (NOT TO SCALE)

**PRELIMINARY**  
FOR DISCUSSION ONLY

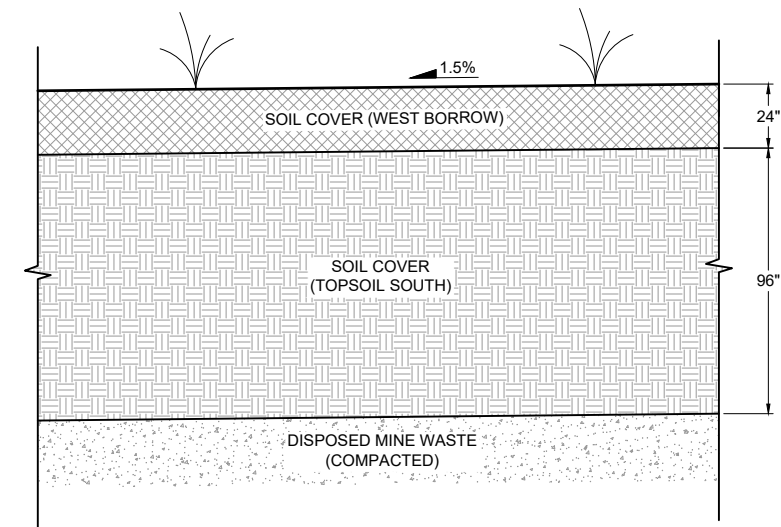
REV	DATE	BY	DESCRIPTION	DRAWN	K. REED
1	11/2021	KR	30% DESIGN	CHECKED	C. FRITZ
0	02/2019	KR	PRELIMINARY DESIGN	APPROVED	J. CUMBERS



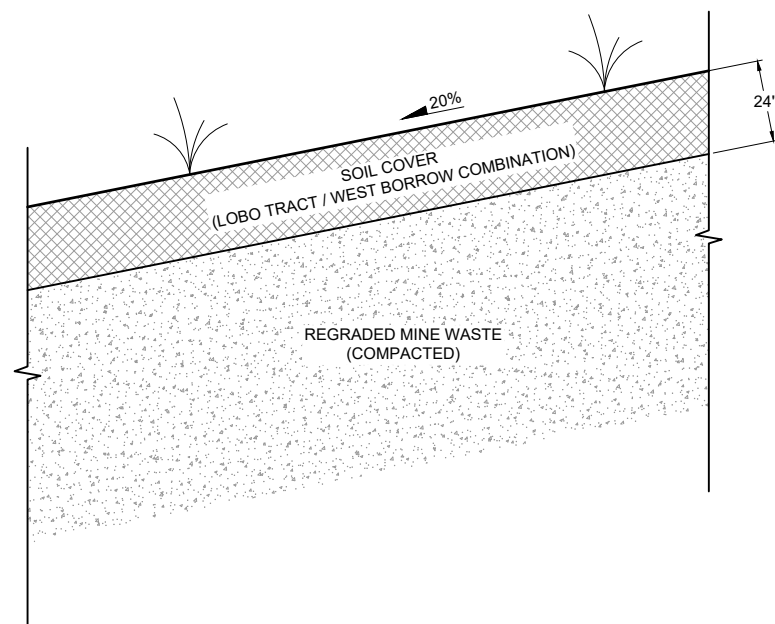
UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE, CIBOLA COUNTY, NEW MEXICO  
ARROYO STABILIZATION DETAILS (3 OF 4)



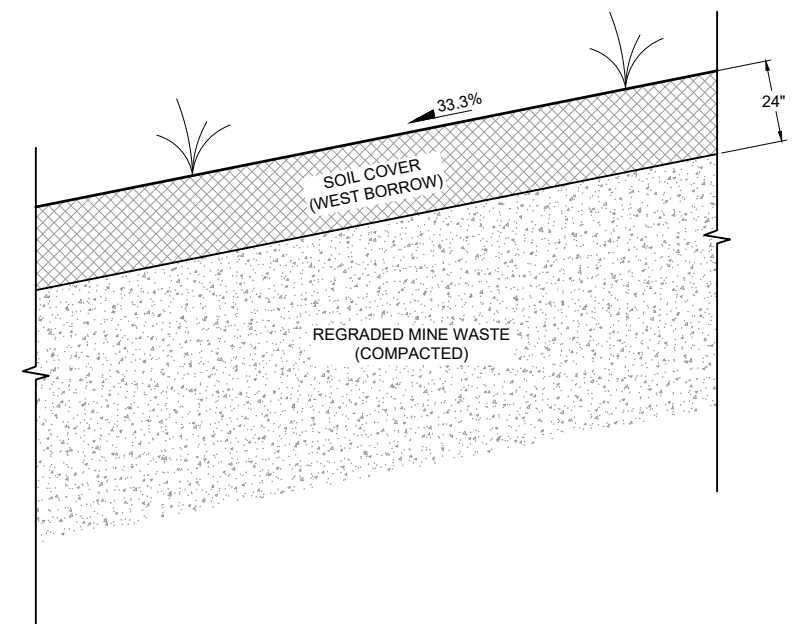
8 COVER DETAIL - PIT1  
26 (NOT TO SCALE)



9 COVER DETAIL - PIT2  
26 (NOT TO SCALE)



10 COVER DETAIL - PILE 4  
26 (NOT TO SCALE)



11 COVER DETAIL - SHALE PILES 1 & 2 AND PILE 3  
26 (NOT TO SCALE)

**PRELIMINARY**  
FOR DISCUSSION ONLY

Monday, November 29, 2021 1:45:10 PM K:\REED\C\USERS\K\REED\STANTEC\ANTHONY - CIVIL\SHEETS\102-29-2020\_STA\_DESIGN\_DRAWINGS\STA\_DD\_DETAILS.DWG Layout:26 COVER SYSTEM DETAILS (4 OF 4)

REV	DATE	BY	DESCRIPTION
1	11/2021	KR	30% DESIGN
0	02/2019	KR	PRELIMINARY DESIGN

DRAWN K. REED  
CHECKED C. FRITZ  
APPROVED J. CUMBERS



UNITED NUCLEAR CORPORATION  
ST. ANTHONY MINE, CIBOLA COUNTY, NEW MEXICO  
COVER SYSTEM DETAILS (4 OF 4)

SHEET  
26  
233001076