

Appendix 3

Mine Site and Dunka Road Earthwork Permit Application Support Drawings

Errata Sheet

Poly Met Mining, Inc. NorthMet Project

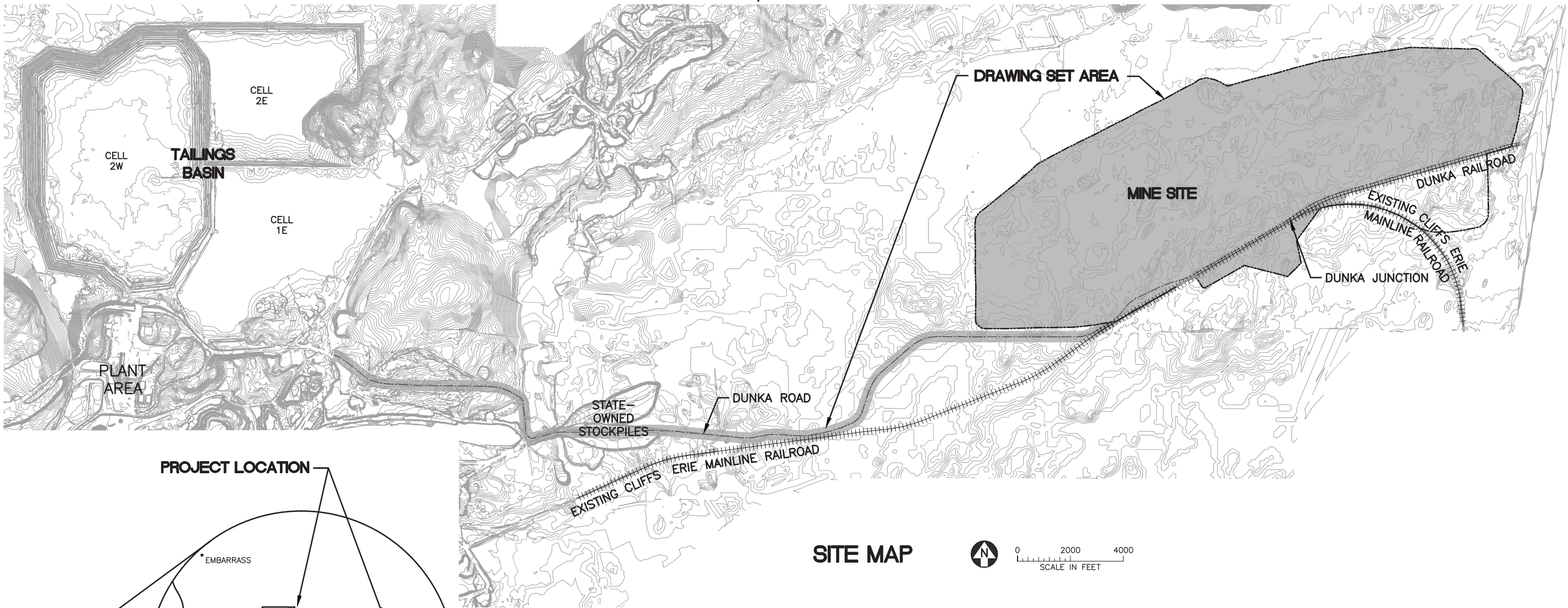
Permit Application Support Drawings: Mine Site and Dunka Road Earthwork

November 2017 (version 4)

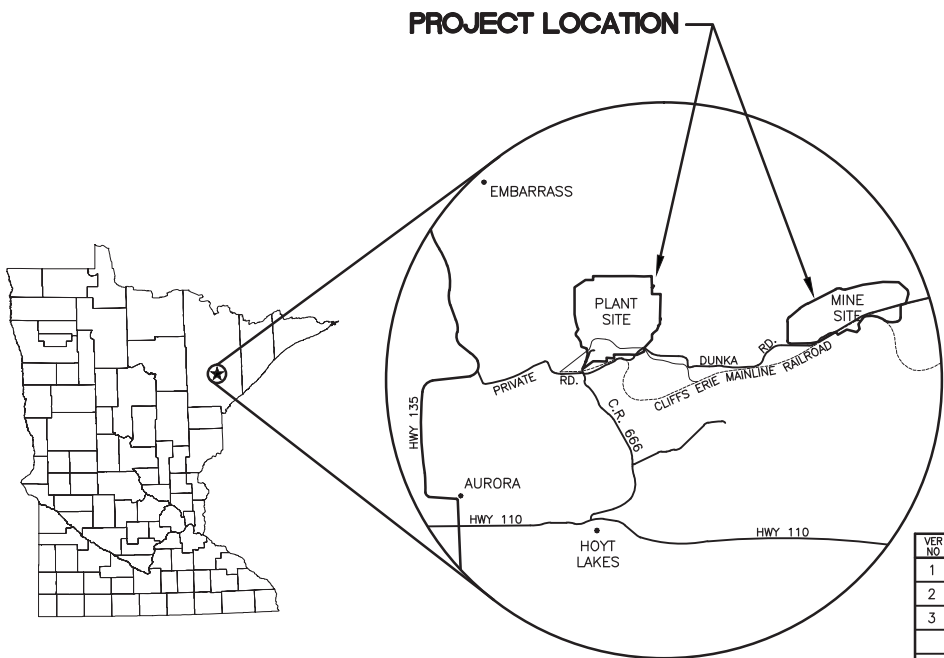
Engineering design is currently in progress. The table below lists changes that have been identified to-date and have not yet been incorporated in the attached permit application support drawings within this set. Final design will incorporate these changes along with additional site-specific information (e.g., supplementary geotechnical data); therefore, additional adjustments may be made during final design that will be incorporated into the final design drawing set.

Drawing Sheet(s)	Change
Global change to all sheets, as needed	The terminology "mine drainage" as noted in these drawings will be changed to "mine water".
EW-003	Temporary sedimentation basins or stormwater infiltration basins may be added to meet construction stormwater requirements along Dunka Road. These construction stormwater features require additional site-specific data and will be evaluated in final design.
EW-008	All references to "pre-stripping" will be changed to "stripping"
EW-002, EW-003, EW-005, EW-009, EW-010, EW-011	The "Mine Site Boundary" will be replaced by the "Mining Area Boundary" as shown on figures included in the Permit to Mine Application.
EW-010, EW-011	Note 3 will be modified to read: "Reclamation of the Haul Roads will consist of removing safety berms through grading, seeding the regraded surface, and establishing a 15-foot-wide access road near the centerline of all haul roads." Note 3 will be modified to read: "All active haul roads to be reclaimed."

POLY MET MINING, INC. NORTHMET PROJECT
PERMIT APPLICATION SUPPORT DRAWINGS
MINE SITE AND DUNKA ROAD EARTHWORK
HOYT LAKES, MINNESOTA



SITE MAP



LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

VER NO	DATE	DESCRIPTION	ISSUE STATUS		
			ISSUED	VERSION	DATE
1	5/21/15	ISSUED FOR INCLUSION IN PERMIT APPLICATION	ISSUED		
2	8/10/16	CORRECTION ON EW-009			
3	6/7/2017	PERMIT APPLICATION UPDATES	FOR PERMITTING	3	6/7/2017
			FOR CONSTRUCTION		
			NOT APPROVED FOR CONSTRUCTION.		

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PRINTED NAME: PAUL T. SWENSON
SIGNATURE:
DATE: 5/26/17 LICENSE# 20533

DRAWN: KKB
CHECKED: ATS
BARR PROJECT NO.: 23/69-0C29
SCALE: AS SHOWN

PLANT DRAWING NUMBER:
MINE SITE AND DUNKA ROAD EARTHWORK
LOCATION MAP AND SITE MAP



POLY MET MINING, INC.
NORTHMET PROJECT
HOYT LAKES, MINNESOTA



BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
SUITE 200
MINNEAPOLIS, MN.
Ph: 1-800-632-2277

DWG. NO. EW-001

REV B

CADD USER: Kate K. Brown FILE: K:\DESIGN\23690C29-10\PERMIT_NMM-05-EW-002.DWG PLOT SCALE: 1:2 PLOT DATE: 6/9/2017 6:43 AM

INCHES

1

2

GENERAL LEGEND

EXISTING

—1000—

EXISTING CONTOUR – MAJOR

— — — — —

EXISTING CONTOUR – MINOR

⊗

EXISTING POWER POLE

+++++

EXISTING RAILROAD

— · · · · —

WATER EDGE/CREEK CENTER LINE

=====

EXISTING ROAD

EXISTING TRAIL

- - - - -

EXISTING UNIMPROVED TRAIL

—R/W—

RIGHT OF WAY

=====

PROPERTY LINE

— - - - —

MINE SITE BOUNDARY

EXISTING STRUCTURES

TREE LINE

WETLAND BOUNDARY

— OE —

EXISTING OVERHEAD ELECTRIC

— UE —

EXISTING UNDERGROUND ELECTRIC

EXISTING VALVE

EXISTING CULVERT

PROPOSED MINE WATER CULVERT

PROPOSED

—1000—

PROPOSED CONTOUR – MAJOR

— — — — —

PROPOSED CONTOUR – MINOR

=====

PROPOSED ROADS

PROPOSED OTHER FACILITY

—1000—

OTHER FACILITY PROPOSED CONTOUR – MAJOR

— — — — —

OTHER FACILITY PROPOSED CONTOUR – MINOR

ABBREVIATIONS

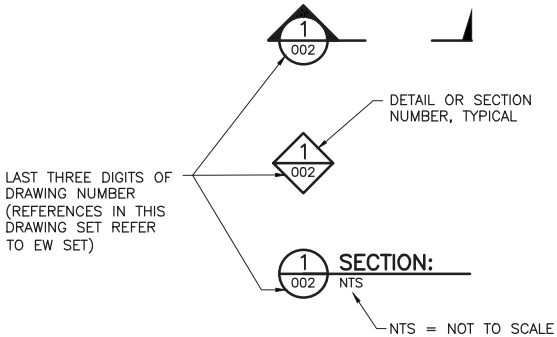
CATEGORY 1 STOCKPILE	–	CATEGORY 1 WASTE ROCK STOCKPILE
CATEGORY 2/3 STOCKPILE	–	CATEGORY 2/3 WASTE ROCK STOCKPILE
CL	–	CENTERLINE
EW	–	EARTHWORK
MPP	–	MINE TO PLANT PIPELINES
OE	–	OVERHEAD ELECTRIC
STA	–	STATION
SWPPP	–	STORMWATER POLLUTION PREVENTION PLAN
TYP	–	TYPICAL
I, II, III, IV, V	–	ROMAN NUMERALS FOR RIPRAP CLASSIFICATION

SHEET INDEX

SHEET NO. TITLE



GENERAL DRAWINGS	
EW-001	LOCATION MAP AND SITE MAP
EW-002	LEGEND AND SHEET INDEX
EW-003	DUNKA ROAD UPGRADE GENERAL LAYOUT
EW-004	DUNKA ROAD UPGRADE TYPICAL SECTION
EW-005	HAUL ROADS GENERAL LAYOUT – MINE YEAR 11
EW-006	HAUL ROADS TYPICAL SECTIONS AND DETAILS
EW-007	HAUL ROADS TYPICAL SECTIONS AND DETAILS
EW-008	PRE-STRIPPING PIT TYPICAL SECTION
EW-009	OVERBURDEN STORAGE AND LAYDOWN AREA GRADING PLAN
EW-010	HAUL ROAD CLOSURE PLAN MINE YEARS 1–11
EW-011	HAUL ROAD CLOSURE PLAN MINE YEARS 11–20
G-100-B	RAIL TRANSFER HOPPER – PLAN VIEW
G-101-B	RAIL TRANSFER HOPPER – ELEVATION VIEW
G-101-C	RAIL TRANSFER HOPPER – ELEVATION VIEW

DRAWING NUMBERING



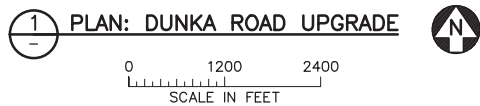
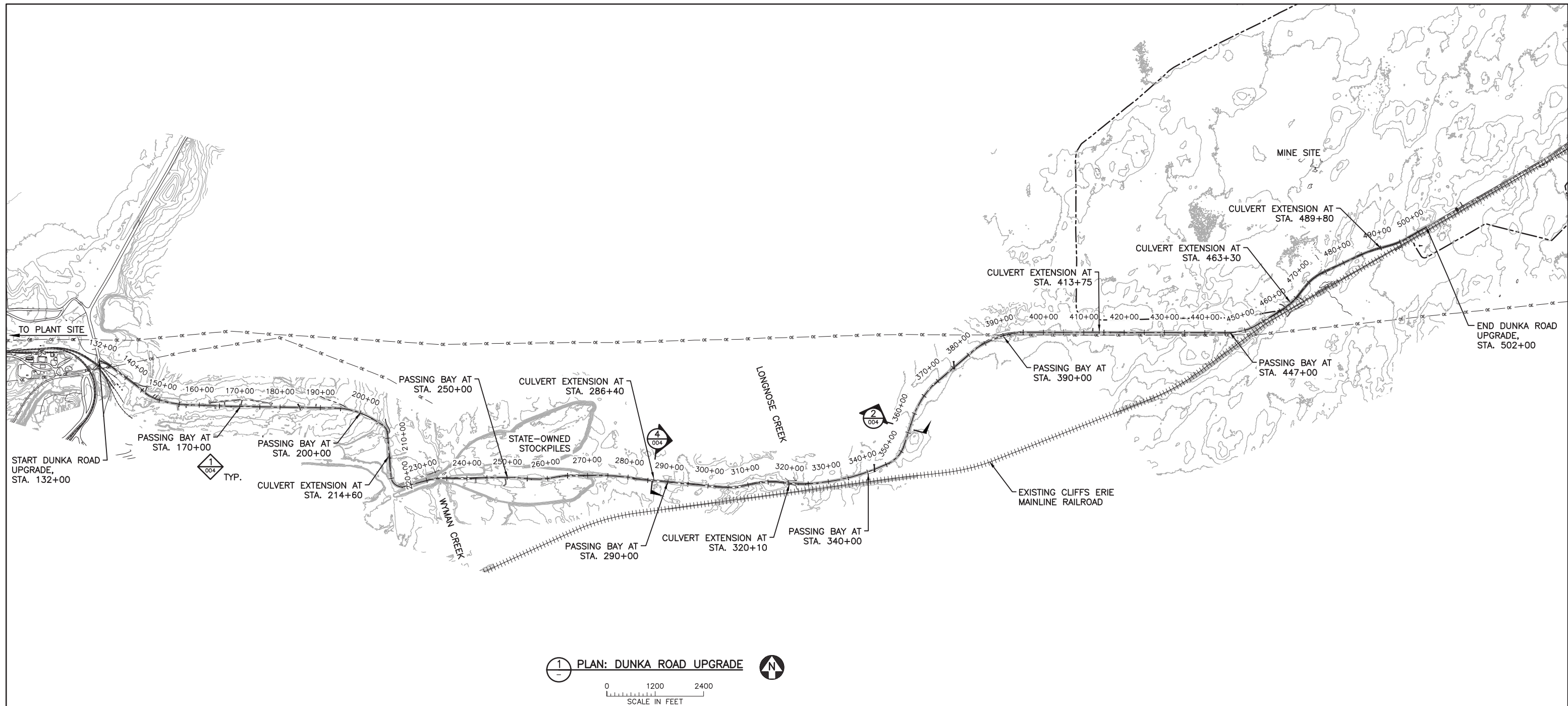
NOTES


- COORDINATE SYSTEM IS MINNESOTA STATE PLANE NORTH ZONE, NAD83.
- ELEVATIONS ARE BASED ON MEAN SEA LEVEL (MSL), NAVD88.
- EXISTING TOPOGRAPHIC INFORMATION SHOWN ON THE DRAWINGS WAS PREPARED BY AEROMETRIC, INC. FROM LIDAR DATA COLLECTED ON MARCH 17, 2010.


VER NO		DATE	DESCRIPTION	ISSUE STATUS			I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	DRAWN:		POLYMET MINING		POLY MET MINING, INC. NORTHMET PROJECT HOYT LAKES, MINNESOTA	
1		5/21/15	ISSUED FOR INCLUSION IN PERMIT APPLICATION	ISSUED	VERSION	DATE		KKB	BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN. Ph: 1-800-632-2277				
3		6/7/2017	PERMIT APPLICATION UPDATES	FOR PERMITTING	3	6/7/2017		ATS					
				FOR CONSTRUCTION				BARR PROJECT NO.: 23/69-0C29					
								SCALE: AS SHOWN					
								DWG. NO. EW-002					
				NOT APPROVED FOR CONSTRUCTION.			PRINTED NAME <u>PAUL T. SWENSON</u>				REV B		
							SIGNATURE 						
							DATE <u>5/26/17</u> LICENSE# <u>20533</u>						

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INCHES
1
2



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3	6/7/2017	PERMIT APPLICATION UPDATES	FOR PERMITTING	3	6/7/2017							
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POLYMET

MINING

POLY MET MINING, INC.

NORTHMET PROJECT

HOYT LAKES, MINNESOTA



BARR

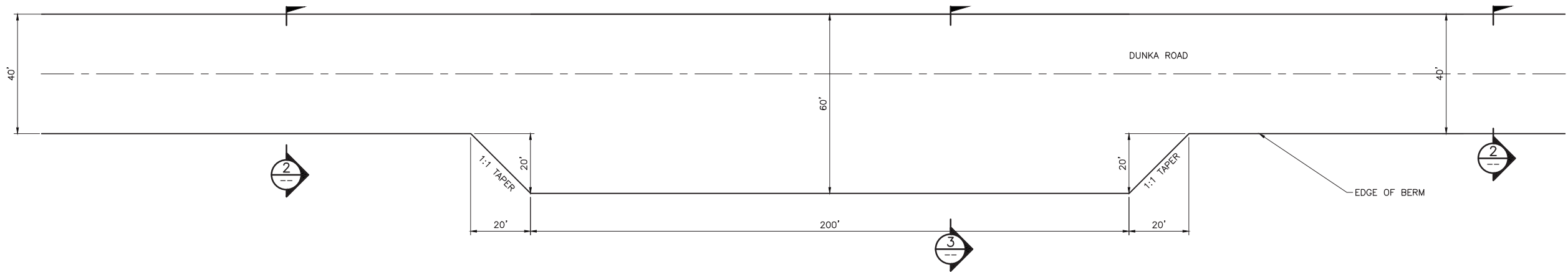
BARR ENGINEERING CO.

4300 MARKETPOINTE DRIVE

SUITE 200

MINNEAPOLIS, MN.

Ph: 1-800-632-2277



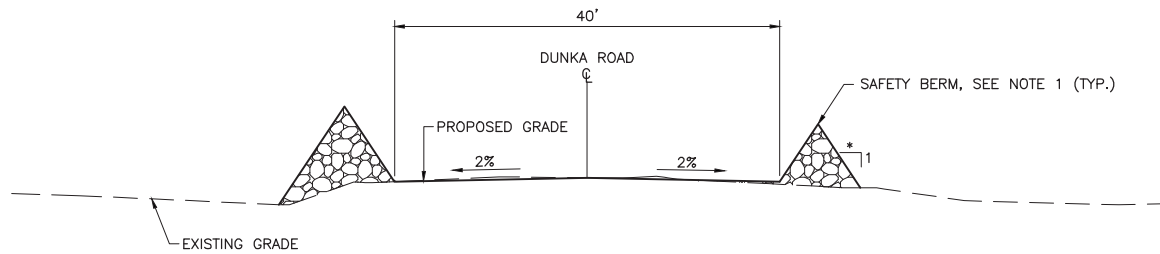
1
003

DETAIL: DUNKA ROAD PASSING BAY

0 20 40
SCALE IN FEET

APPROXIMATE PASSING BAY LOCATIONS

STA 170+00
STA 200+00
STA 250+00
STA 290+00
STA 340+00
STA 390+00
STA 447+00



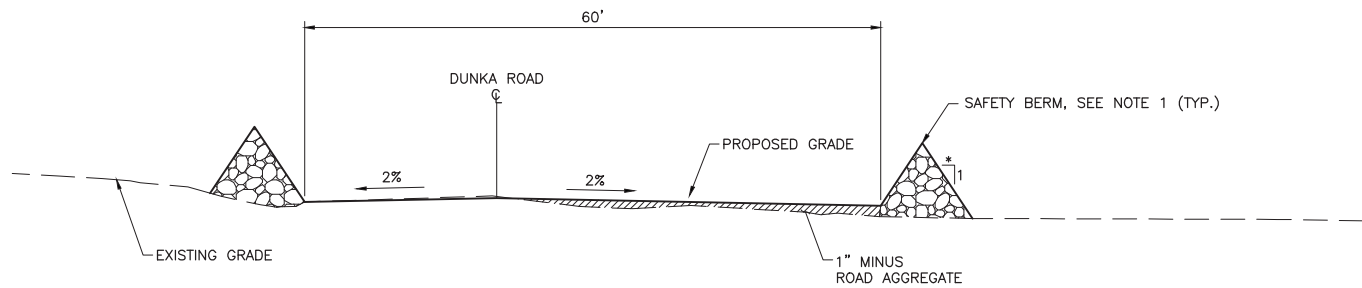
2
003

SECTION: TYPICAL DUNKA ROAD

0 10 20
SCALE IN FEET

NOTES:

1. WHERE BERMS ARE REQUIRED.
2. * = ANGLE OF REPOSE



3
-

SECTION: TYPICAL DUNKA ROAD PASSING BAY

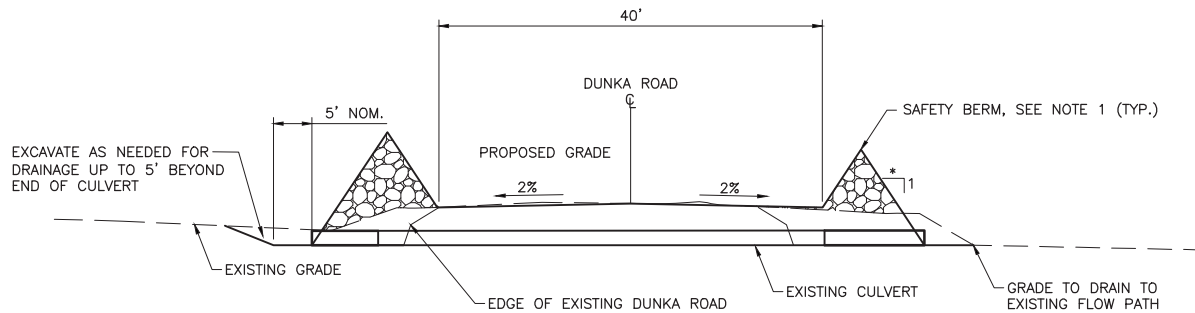
0 10 20
SCALE IN FEET

NOTES:

1. WHERE BERMS ARE REQUIRED.
2. * = ANGLE OF REPOSE

APPROXIMATE CULVERT EXTENSION LOCATIONS

STA 214+60
STA 286+40
STA 320+10
STA 413+75
STA 463+30
STA 489+80



4
003

SECTION: TYPICAL DUNKA ROAD CULVERT EXTENSION

0 10 20
SCALE IN FEET

NOTES:

1. WHERE BERMS ARE REQUIRED.
2. * = ANGLE OF REPOSE

PLANT DRAWING NUMBER:

MINE SITE AND DUNKA ROAD EARTHWORK
DUNKA ROAD UPGRADE
TYPICAL SECTION



POLY MET MINING, INC.
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HOYT LAKES, MINNESOTA



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Ph: 1-800-632-2277

DRAWN:
KKB
CHECKED:
ATS
BARR PROJECT NO.:
23/69-0C29
SCALE:
AS SHOWN

DWG. NO.
EW-004

REV
B

VER NO	DATE	DESCRIPTION	ISSUE STATUS		
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INCHES
1
2



NOTES

1. CULVERT SECTION SHOWN AS TYPICAL CALLOUT. ALL CULVERTS THAT CROSS THE HAUL ROADS, SHOWN ON THIS DRAWING WILL BE CONSTRUCTED AS SHOWN ON **2-007**.

1 PLAN: HAUL ROADS GENERAL LAYOUT – MINE YEAR 11

0 700 1400
SCALE IN FEET



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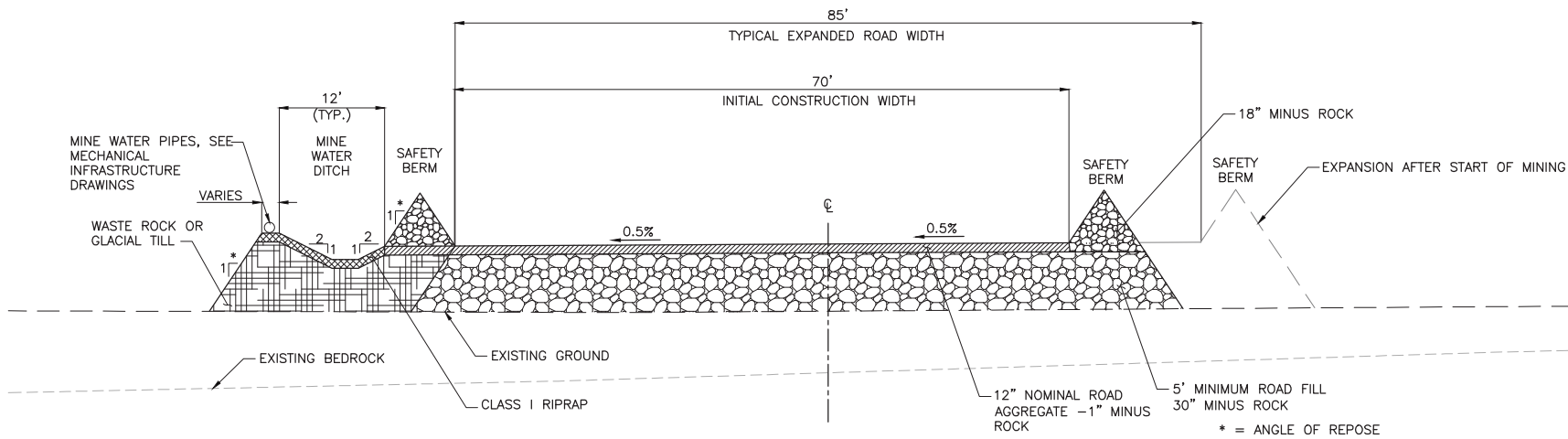
PRINTED NAME **PAUL T. SWENSON**
SIGNATURE
DATE **5/26/17** LICENSE# **20533**

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CHECKED: ATS
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SCALE: AS SHOWN

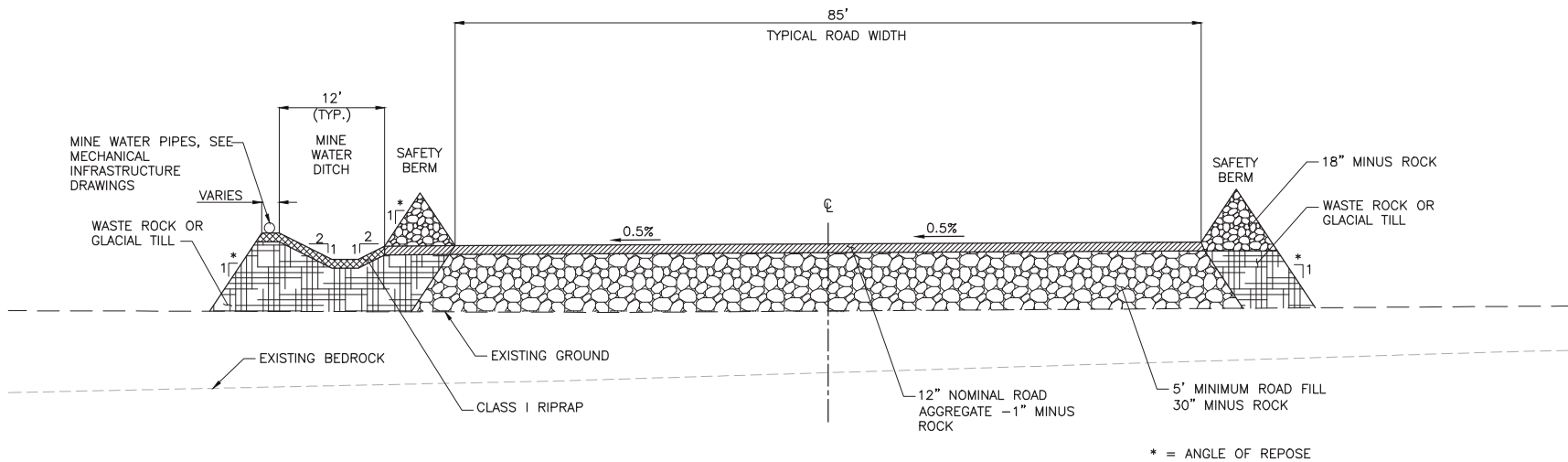
PLANT DRAWING NUMBER:	
MINE SITE AND DUNKA ROAD EARTHWORK HAUL ROADS GENERAL LAYOUT MINE YEAR 11	
	POLY MET MINING, INC. NORTHMET PROJECT HOYT LAKES, MINNESOTA
	BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN. Ph: 1-800-632-2277
DWG. NO. EW-005	REV B

CADD USER: kate K. Brown FILE: K:\DESIGN\23690C29\10\PERMIT_NMM-09-EW-006.DWG PLOT SCALE: 1:2 PLOT DATE: 6/1/2017 9:39 AM

INCHES
1
2



1 SECTION: TYPICAL PRE-MINING HAUL ROAD WITH EXPANSION
005 SHOWN AT INITIAL CONSTRUCTION WIDTH
0 10 20
SCALE IN FEET



2 SECTION: TYPICAL HAUL ROAD AFTER START OF MINING
005 (AFTER MINE ROCK EXCAVATION BEGINS)
0 10 20
SCALE IN FEET

NOTES:



1. MINE WATER DITCH TO BE CONSTRUCTED WHERE NEEDED. DITCH MAY BE LOCATED ON EITHER OR BOTH SIDES OF ROAD.
2. SAFETY BERMS TO BE CONSTRUCTED OF WASTE ROCK OBTAINED FROM STATE-OWNED STOCKPILE (PRIOR TO START OF MINING) OR FROM CATEGORY 1 WASTE ROCK (AFTER START OF MINING).
3. DESIGN GRADE OF DITCHES BASED ON HYDRAULIC DESIGN REQUIREMENTS STARTING AT STORAGE POND ELEVATION.
4. ROAD GRADE ESTABLISHED TO PROVIDE POSITIVE DRAINAGE INTO DITCH WITH NO BACKUP OF WATER ONTO THE ROAD FOR THE 10-YEAR, 24-HOUR STORM.
5. DRAINAGE SYSTEM DESIGNED TO CONTROL/CONTAIN THE 100-YEAR, 24-HOUR STORM.
6. DRAINAGE PATH MUST BE PROVIDED THROUGH BERM BETWEEN ROAD AND DITCH. THIS CAN BE ACCOMPLISHED BY THE FOLLOWING OPTIONS IN APPROPRIATELY SPACED LOCATIONS.
 - A. COARSE WASTE ROCK FROM STATE-OWNED STOCKPILE (PRIOR TO START OF MINING) OR FROM CATEGORY 1 WASTE ROCK (AFTER START OF MINING) (NO FINES)
 - B. CULVERTS
 - C. LARGE BOULDERS FROM PRE-STRIPPING
 - D. GAP IN BERM
7. ROAD FILL TO BE CONSTRUCTED OF WASTE ROCK OBTAINED FROM STATE-OWNED STOCKPILE (PRIOR TO START OF MINING) OR FROM CATEGORY 1 WASTE ROCK (AFTER START OF MINING).
8. DISTURBED SOIL AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE CONSTRUCTION SWPPP.

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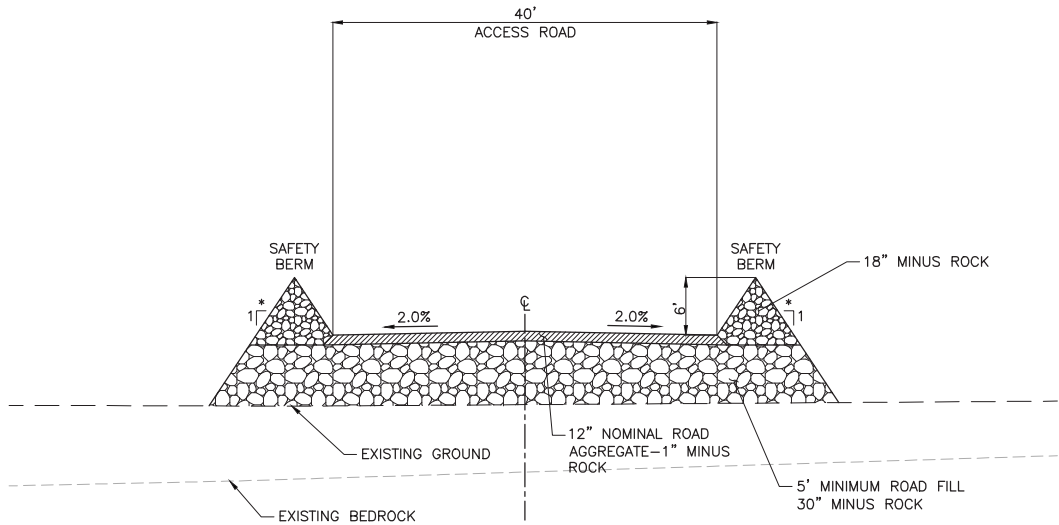
PRINTED NAME: PAUL T. SWENSON
SIGNATURE: *Paul T. Swenson*
DATE: 5/26/17 LICENSE# 20533

DRAWN: KKB
CHECKED: ATS
BARR PROJECT NO.: 23/69-0C29
SCALE: AS SHOWN

PLANT DRAWING NUMBER:	
MINE SITE AND DUNKA ROAD EARTHWORK HAUL ROADS TYPICAL SECTIONS AND DETAILS	
	POLY MET MINING, INC. NORTHMET PROJECT HOYT LAKES, MINNESOTA
	BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN. Ph: 1-800-632-2277
DWG. NO. EW-006	REV B

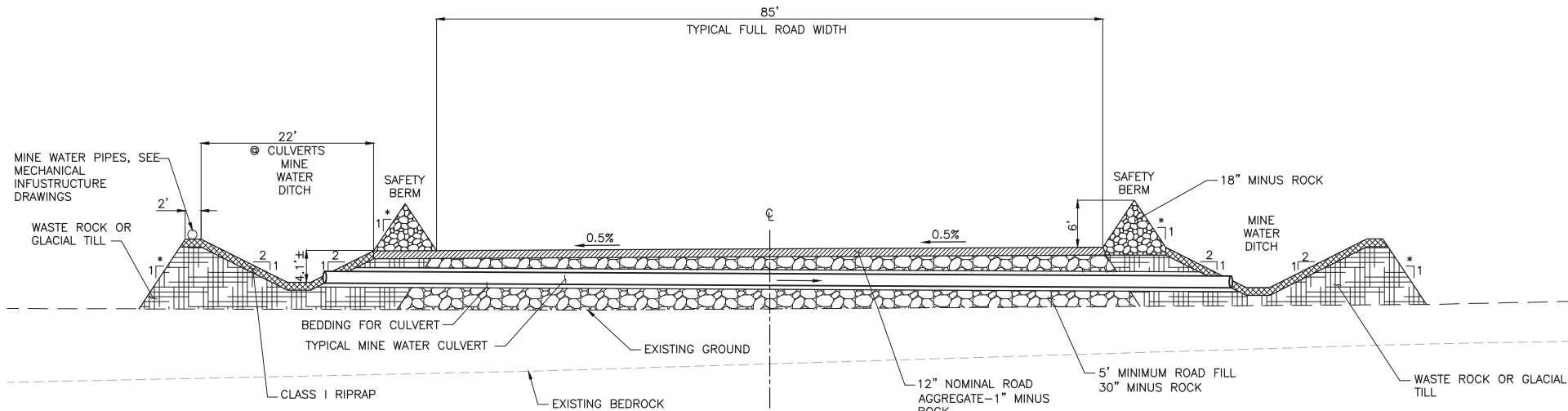
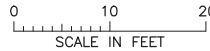
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INCHES
1
2



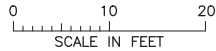
NOTES:
* - ANGLE OF REPOSE

1 SECTION: TYPICAL ACCESS ROAD (ROAD 1)
005



NOTES:
* - ANGLE OF REPOSE

2 SECTION: TYPICAL HAUL ROAD WITH MINE WATER CULVERT CROSSING
005



NOTES:



1. TYPICAL SECTION IS SHOWN TO ILLUSTRATE GENERALIZED DESIGN OF LOCATIONS WHERE ROAD DRAINAGE IS DIVERTED FROM ONE SIDE OF THE ROAD TO THE OTHER. ACTUAL DESIGN WILL VARY BY LOCATION. CROSS SLOPE ON ROAD WILL TRANSITION TO DRAIN SURFACE WATER TO DOWNSTREAM MINE DRAINAGE DITCH. CROSS SLOPE AT CULVERT MAY SLOPE EITHER DIRECTION, OR A PORTION OF THE ROAD MAY SLOPE BOTH DIRECTIONS, DEPENDING ON THE SPECIFIC CULVERT LOCATION.
2. REFER TO MINE SITE MINE WATER DRAWINGS FOR LOCATIONS.

VER NO	DATE	DESCRIPTION	ISSUE STATUS		
1	5/21/15	ISSUED FOR INCLUSION IN PERMIT APPLICATION	ISSUED	VERSION	DATE
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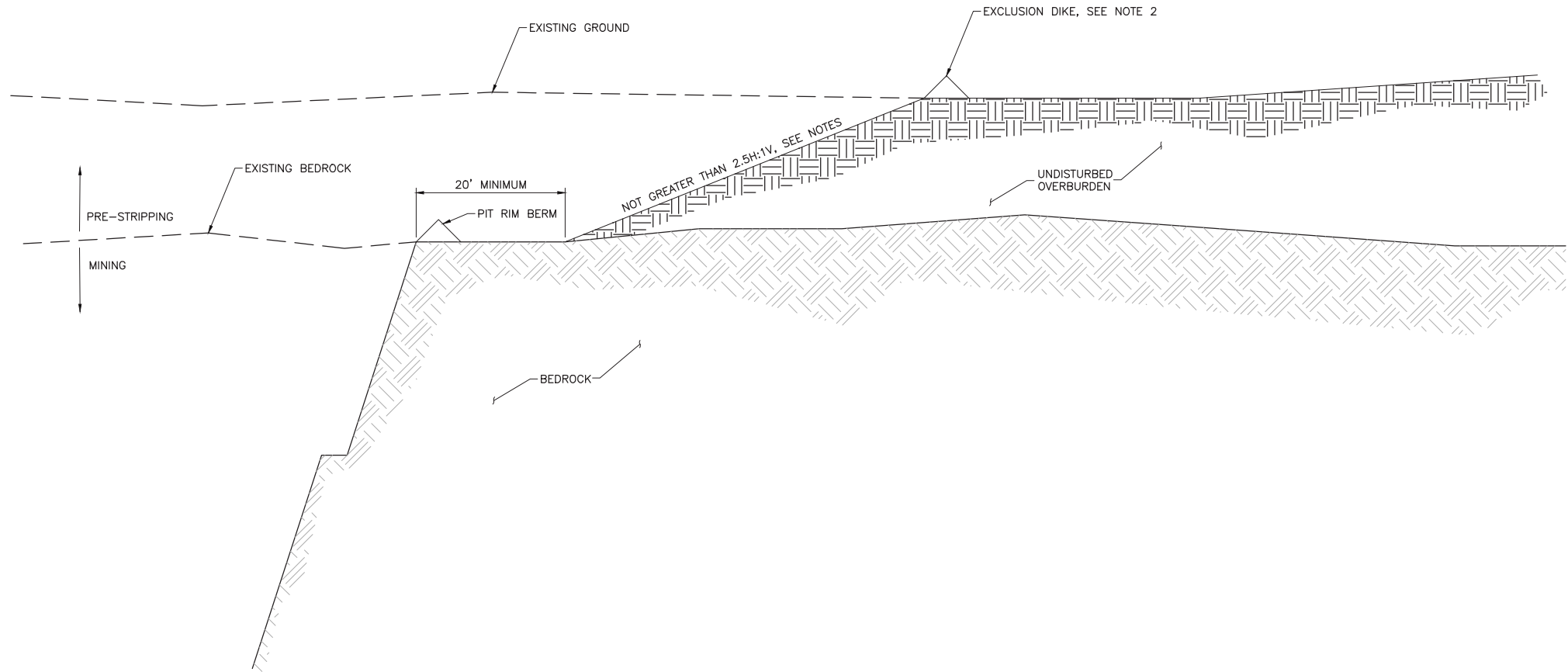
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SIGNATURE: *Paul T. Swenson*
DATE: 5/26/17 LICENSE# 20533

DRAWN: KKB
CHECKED: ATS
BARR PROJECT NO.: 23/69-0C29
SCALE: AS SHOWN

PLANT DRAWING NUMBER:	
MINE SITE AND DUNKA ROAD EARTHWORK HAUL ROADS TYPICAL SECTIONS AND DETAILS	
	POLY MET MINING, INC. NORTHMET PROJECT HOYT LAKES, MINNESOTA
	BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN. Ph: 1-800-632-2277
DWG. NO. EW-007	REV B

CADD USER: Kate K. Brown FILE: K:\DESIGN\23690C29-10\PERMIT_NMM-09-EW-008.DWG PLOT SCALE: 1:2 PLOT DATE: 6/5/2017 10:46 AM



1 SECTION: TYPICAL EDGE OF PIT TO UNDISTURBED GROUND
0 10 20
SCALE IN FEET

NOTES:



1. PROPOSED FINISHED GRADE WITHIN PRE-STRIPPING AREA REFLECTS BEDROCK DATA PROVIDED BY POLYMET.
2. CONSTRUCT EXCLUSION DIKE AROUND PIT PERIMETER TO DIVERT SURFACE RUNOFF AWAY FROM PIT.
3. FINAL PIT SLOPES SHALL ADHERE TO CHAPTER 6132.23 OVERBURDEN PORTION OF PITWALLS OF MINNESOTA DNR STANDARDS. AFTER GRADING IS COMPLETED, RECLAIM FINAL PIT SLOPES IN ACCORDANCE WITH MINE RECLAMATION PLAN.
4. SLOPES IN AREAS WHERE ORGANIC SOILS AND WETLANDS ARE PRESENT MAY BE SLOPED AS NECESSARY TO MAINTAIN A STABLE SLOPE.
5. 20' BENCH SHALL BE ESTABLISHED FROM THE TOE OF THE OVERBURDEN TO THE FUTURE CREST OF ROCK IN ACCORDANCE WITH MINNESOTA DNR SIDEWALL DESIGN STANDARDS.
6. CONTRACTOR SHALL LEAVE TEMPORARY HAUL ROADS WITHIN PRE-STRIPPING LIMITS IN PLACE FOR OWNER'S ACCESS.
7. CONTRACTOR SHALL STOCKPILE OVERBURDEN IN LOCATIONS AND AT QUANTITIES TO BE APPROVED BY OWNER.

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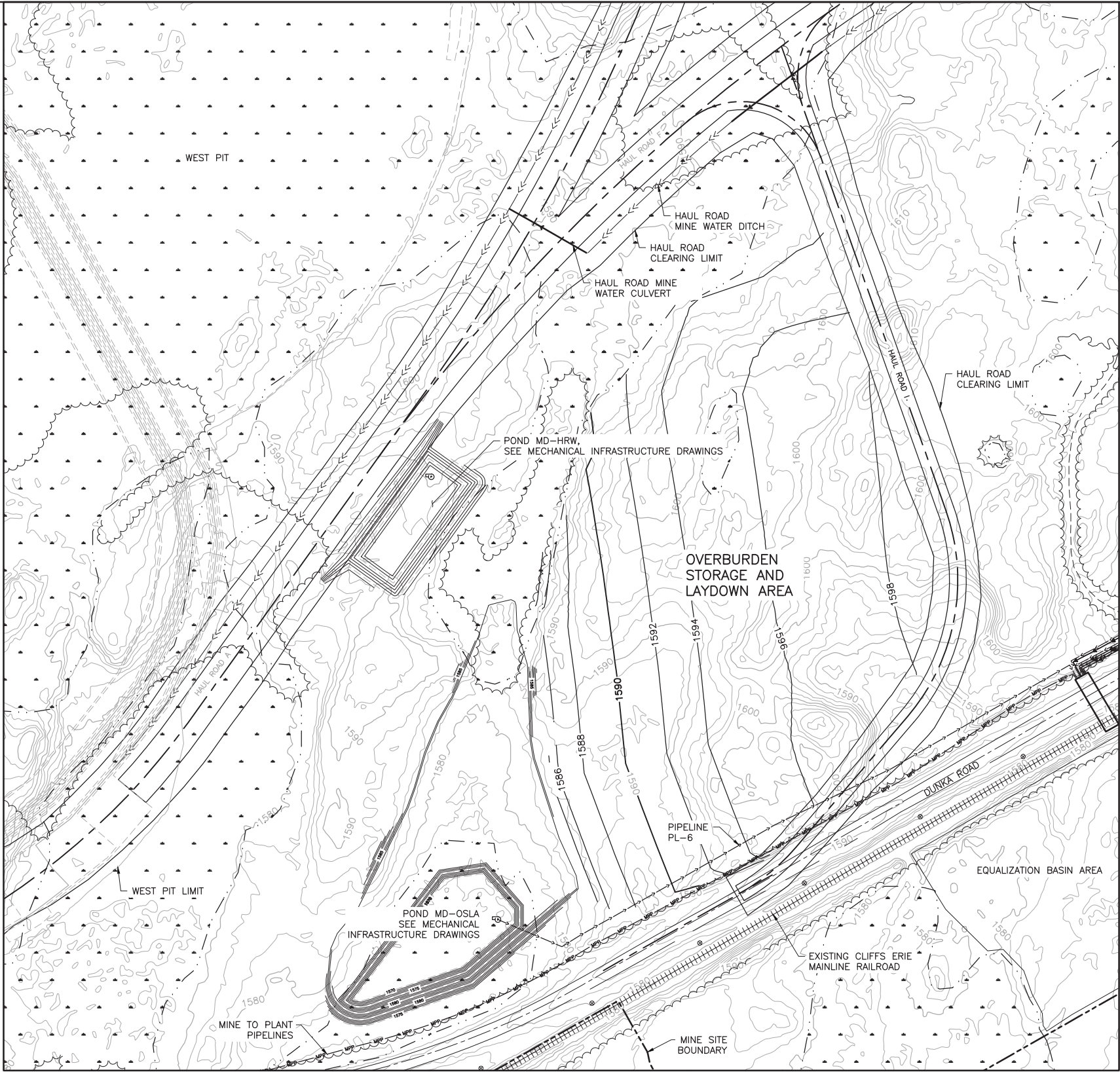
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BARR PROJECT NO.: 23/69-0C29
SCALE: AS SHOWN

PLANT DRAWING NUMBER:	
MINE SITE AND DUNKA ROAD EARTHWORK PRE-STRIPPING PIT TYPICAL SECTION	
	POLY MET MINING, INC. NORTHMET PROJECT HOYT LAKES, MINNESOTA
	BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN. Ph: 1-800-632-2277
DWG. NO. EW-008	REV B


CADD USER: Kate K. Brown FILE: K:\DESIGN\23690C29\10\PERMIT_NMW-09-EW-009.DWG PLOT SCALE: 1:2 PLOT DATE: 6/5/2017 10:48 AM



1 PLAN: OVERBURDEN STORAGE AND LAYDOWN AREA
005
0 150 300
SCALE IN FEET

VER NO.	DATE	DESCRIPTION	ISSUE STATUS		
			ISSUED	VERSION	DATE
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2	8/10/16	OSLA CONTOUR DISPLAY CORRECTED			
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PLANT DRAWING NUMBER:

MINE SITE AND DUNKA ROAD EARTHWORK
OVERBURDEN STORAGE AND LAYDOWN AREA
GRADING PLAN



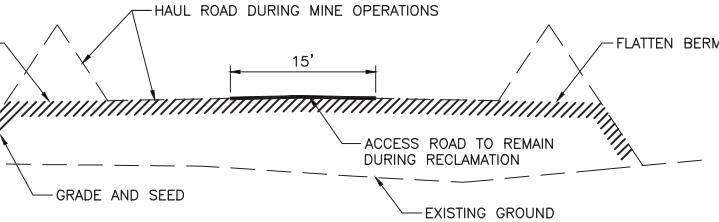
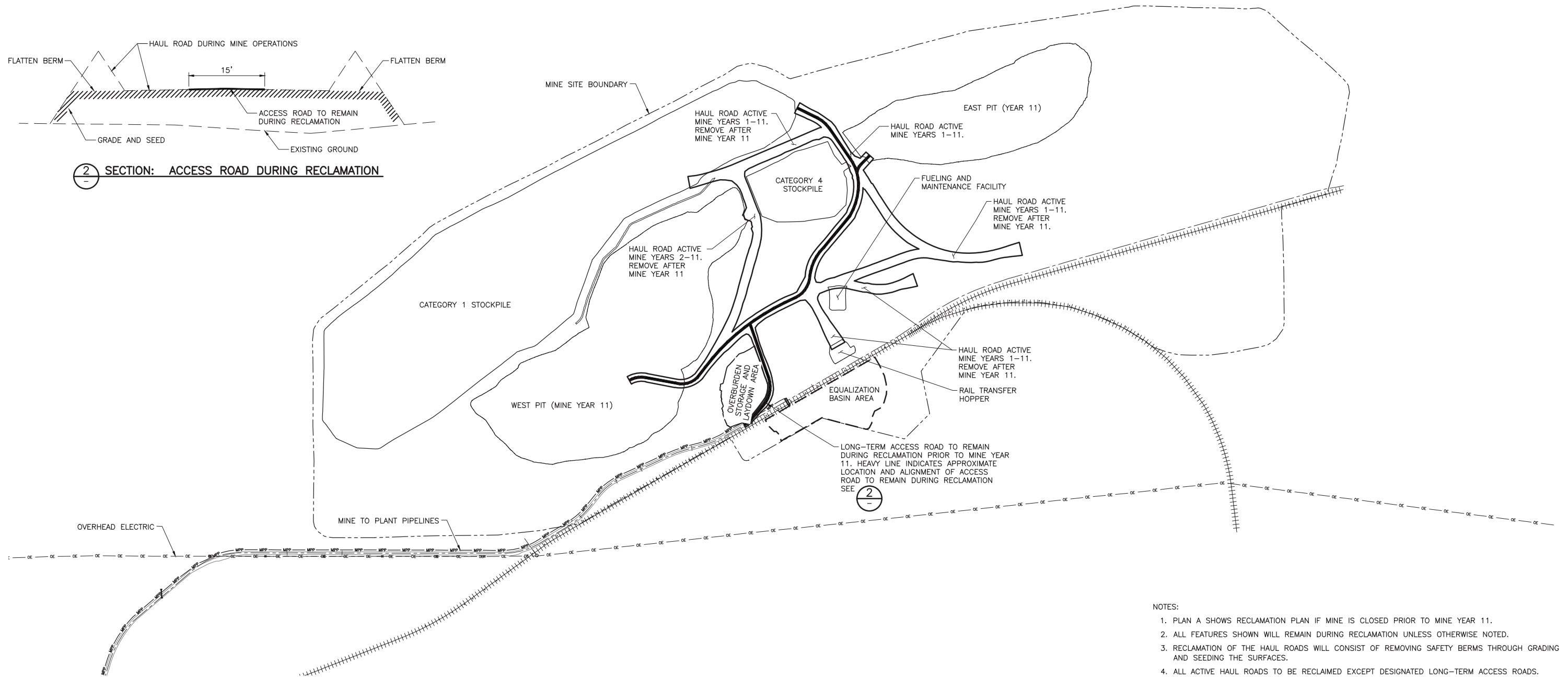
POLY MET MINING, INC.
NORTHMET PROJECT
HOYT LAKES, MINNESOTA



BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
SUITE 200
MINNEAPOLIS, MN.
Ph: 1-800-632-2277

DWG. NO. EW-009
REV B

CADD USER: Kate K. Brown FILE: K:\DESIGN\23690C29\10\PERMIT_NMM-05-EW-010.DWG PLOT SCALE: 1:2 PLOT DATE: 6/9/2017 7:02 AM



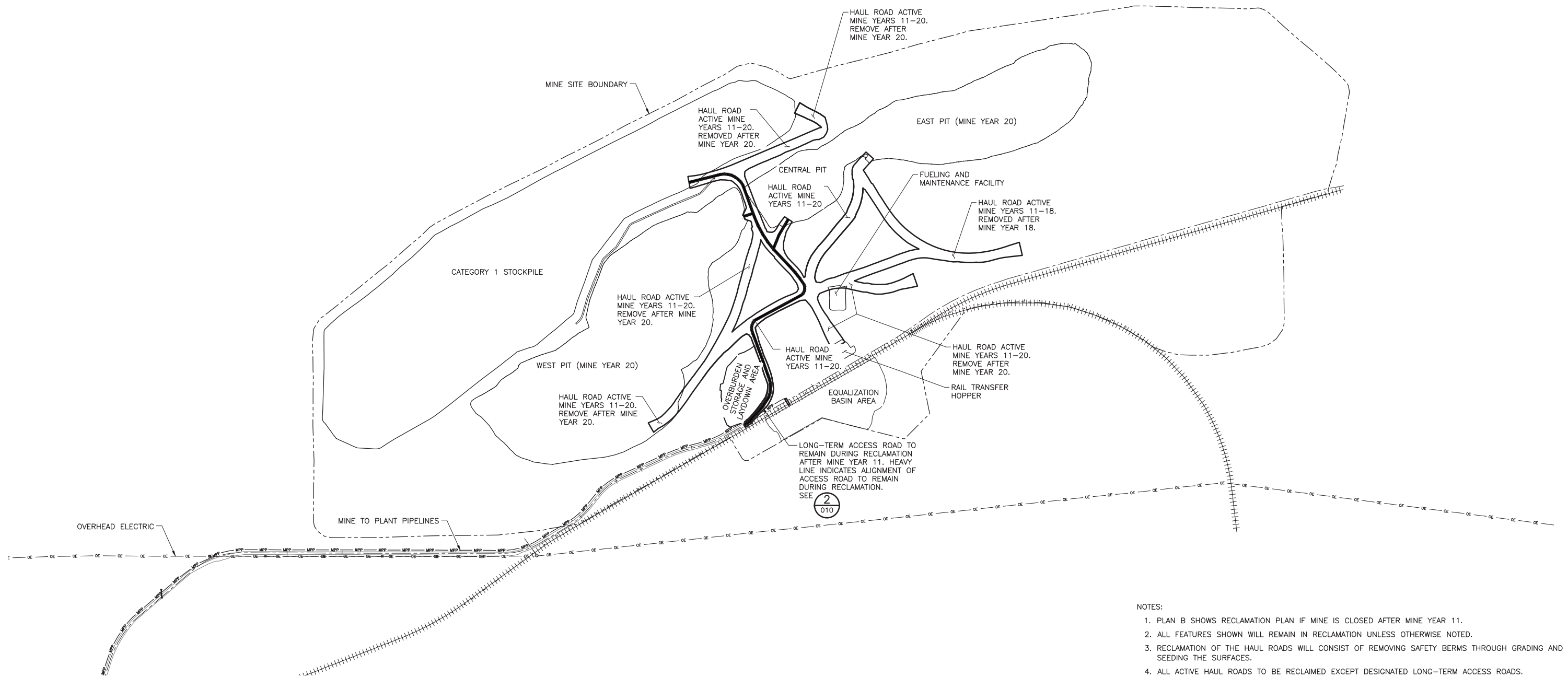
1 PLAN: HAUL ROAD RECLAMATION PLAN A

- NOTES:
1. PLAN A SHOWS RECLAMATION PLAN IF MINE IS CLOSED PRIOR TO MINE YEAR 11.
 2. ALL FEATURES SHOWN WILL REMAIN DURING RECLAMATION UNLESS OTHERWISE NOTED.
 3. RECLAMATION OF THE HAUL ROADS WILL CONSIST OF REMOVING SAFETY BERMS THROUGH GRADING AND SEEDING THE SURFACES.
 4. ALL ACTIVE HAUL ROADS TO BE RECLAIMED EXCEPT DESIGNATED LONG-TERM ACCESS ROADS.

VER NO		DATE	DESCRIPTION	ISSUE STATUS			I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	DRAWN: KKB	PLANT DRAWING NUMBER:	
				ISSUED	VERSION	DATE			MINE SITE AND DUNKA ROAD EARTHWORK HAUL ROAD RECLAMATION PLAN A MINE YEARS 1-11	
1		5/21/15	ISSUED FOR INCLUSION IN PERMIT APPLICATION						POLYMET MINING	
3		6/7/2017	PERMIT APPLICATION UPDATES	FOR PERMITTING	3	6/7/2017			POLYMET MINING	
				FOR CONSTRUCTION			PRINTED NAME PAUL T. SWENSON	CHECKED: ATS	POLYMET MINING	
				NOT APPROVED FOR CONSTRUCTION.			SIGNATURE <i>Paul T. Swenson</i>	BARR PROJECT NO.: 23/69-0C29	BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN. Ph: 1-800-632-2277	
							DATE 5/26/17 LICENSE# 20533	SCALE: AS SHOWN	DWG. NO. EW-010	REV B

CADD USER: Kate K. Brown FILE: K:\DESIGN\23690C29\10\PERMIT_NMM-05-EW-011.DWG PLOT SCALE: 1:2 PLOT DATE: 6/9/2017 6:50 AM



INCHES
1
2

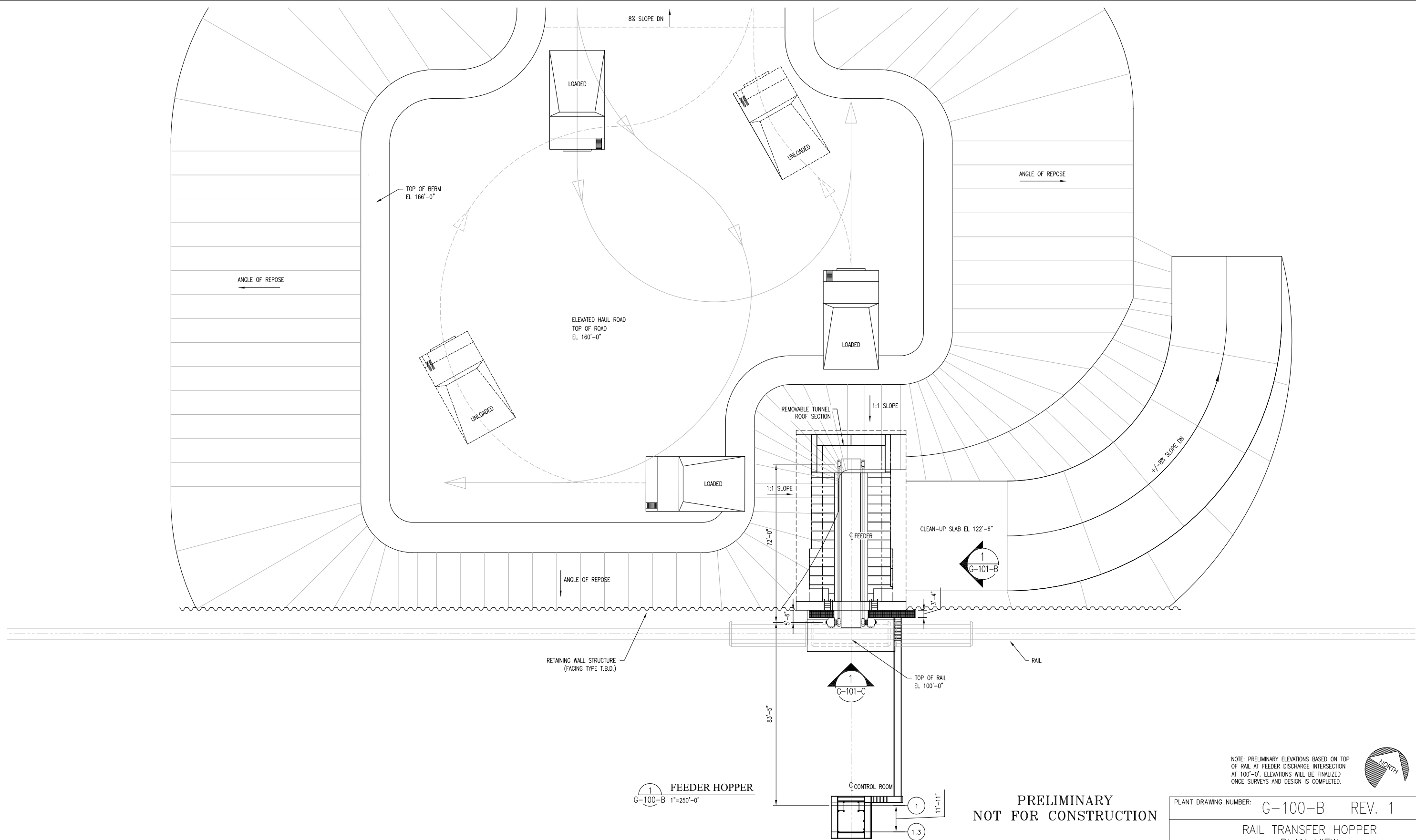


- NOTES:
1. PLAN B SHOWS RECLAMATION PLAN IF MINE IS CLOSED AFTER MINE YEAR 11.
 2. ALL FEATURES SHOWN WILL REMAIN IN RECLAMATION UNLESS OTHERWISE NOTED.
 3. RECLAMATION OF THE HAUL ROADS WILL CONSIST OF REMOVING SAFETY BERMS THROUGH GRADING AND SEEDING THE SURFACES.
 4. ALL ACTIVE HAUL ROADS TO BE RECLAIMED EXCEPT DESIGNATED LONG-TERM ACCESS ROADS.

1 PLAN: HAUL ROAD RECLAMATION PLAN B



VER NO	DATE	DESCRIPTION	ISSUE STATUS			I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME <u>PAUL T. SWENSON</u> SIGNATURE <u><i>Paul T. Swenson</i></u> DATE <u>5/26/17</u> LICENSE# <u>20533</u>	DRAWN: KKB CHECKED: ATS BARR PROJECT NO.: 23/69-0C29 SCALE: AS SHOWN	<div>POLYMET MINING</div> <div>POLY MET MINING, INC. NORTHMET PROJECT HOYT LAKES, MINNESOTA</div> <div>BARR BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN. Ph: 1-800-632-2277</div>	REV B
1	5/05/17	ISSUED FOR INCLUSION IN PERMIT APPLICATION	ISSUED	VERSION	DATE				
3	6/7/2017	PERMIT APPLICATION UPDATES	FOR PERMITTING	3	6/7/2017				
			FOR CONSTRUCTION						
			NOT APPROVED FOR CONSTRUCTION.					DWG. NO. EW-011	



PRELIMINARY
NOT FOR CONSTRUCTION

REV NO	DATE	REVISIONS	BY	CHKR	DRAWING STATUS				
1	5/24/17	ISSUED FOR INCLUSION IN PERMIT APPLICATIONS	JF	RKM	ISSUED	REV	DATE	SDE	PEM
—	—	—	—	—	PRELIMINARY	1	5/24/17	—	—
—	—	—	—	—					
—	—	—	—	—					
—	—	—	—	—	APPROVED FOR CONSTRUCTION	—	—	—	—
—	—	—	—	—					
—	—	—	—	—	NOT APPROVED FOR CONSTRUCTION				
—	—	—	—	—					

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SIGNATURE
PRINTED NAME RYAN MCKIBBON
DATE 5/24/17 REG. NO. 46303

DRAWN: JF DATE: 5/24/17

CHECKED: RKM DATE: 5/24/17

KOA PROJECT NO.: 151003

SCALE: 1"=250'-0"

PLANT DRAWING NUMBER: G-100-B REV. 1

RAIL TRANSFER HOPPER
PLAN VIEW

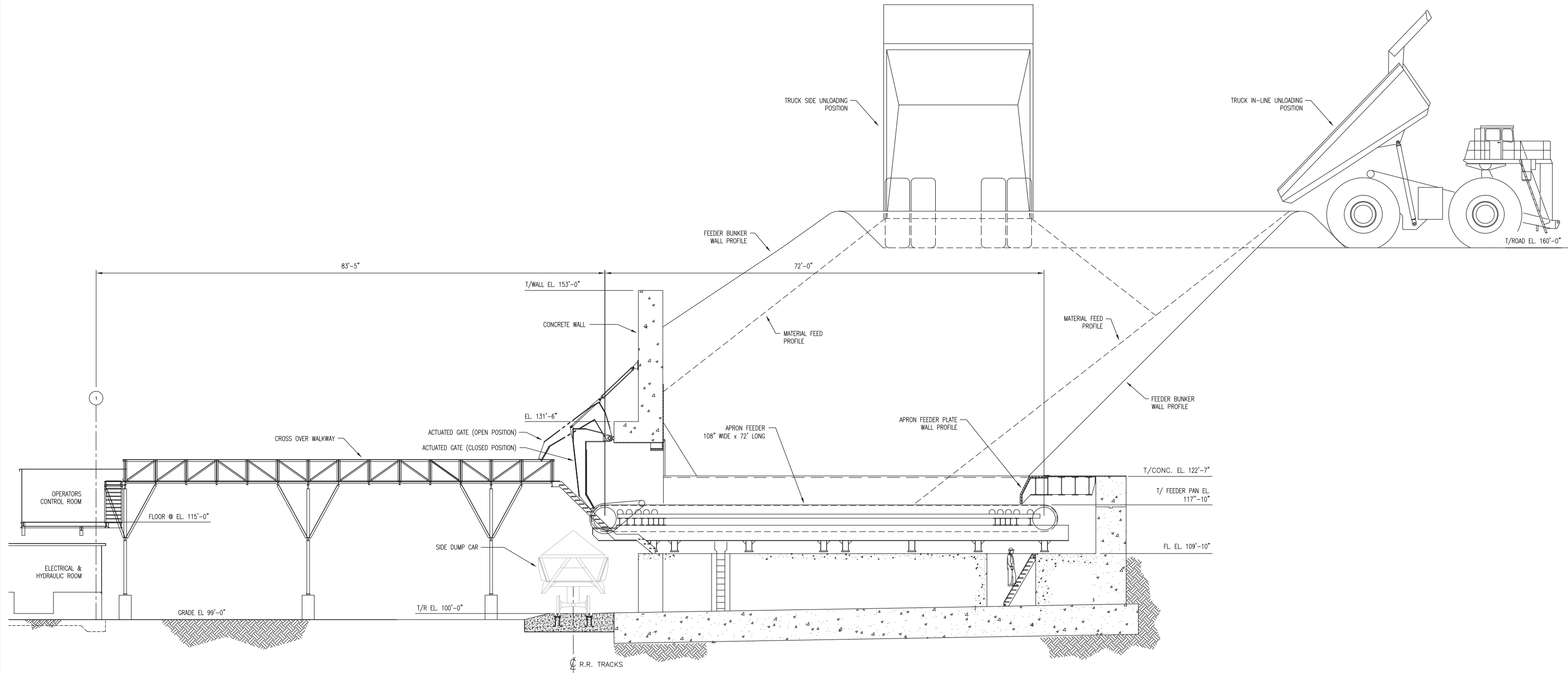


POLY MET MINING, INC.
NORTHMET PROJECT
HOYT LAKES, MINNESOTA



Engineers
& Architects

227 WEST FIRST STREET, SUITE 200
DULUTH, MINNESOTA 55802
Ph: 218.727.3282
Fax: 218.727.1216
www.krechojard.com



1
G-101-B 1/8"=1'-0"

NOTE: PRELIMINARY ELEVATIONS BASED ON TOP
OF RAIL AT FEEDER DISCHARGE INTERSECTION
AT 100'-0". ELEVATIONS WILL BE FINALIZED
ONCE SURVEYS AND DESIGN IS COMPLETED.

PRELIMINARY
NOT FOR CONSTRUCTION

REV NO	DATE	REVISIONS	BY	CHKR	DRAWING STATUS				
1	5/24/17	ISSUED FOR INCLUSION IN PERMIT APPLICATIONS	JF	RKM	ISSUED	REV	DATE	SDE	PEM
-	-	-	-	-	PRELIMINARY	1	5/24/17	-	-
-	-	-	-	-					
-	-	-	-	-					
-	-	-	-	-					
-	-	-	-	-	APPROVED FOR CONSTRUCTION	-	-	-	-
-	-	-	-	-					
-	-	-	-	-	NOT APPROVED FOR CONSTRUCTION				
-	-	-	-	-					

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SUPERVISION AND THAT I AM A DULY
LICENSED PROFESSIONAL ENGINEER
UNDER THE LAWS OF THE STATE OF
MINNESOTA.

SIGNATURE 
PRINTED NAME RYAN.MCKIBBIN
DATE 5/24/17 REG. NO. 46303

DRAWN: JF DATE: 5/24/17
CHECKED: RKM DATE: 5/24/17
KOA PROJECT NO.: 151003
SCALE: 1"=250'-0"

PLANT DRAWING NUMBER: G-101-B REV. 1

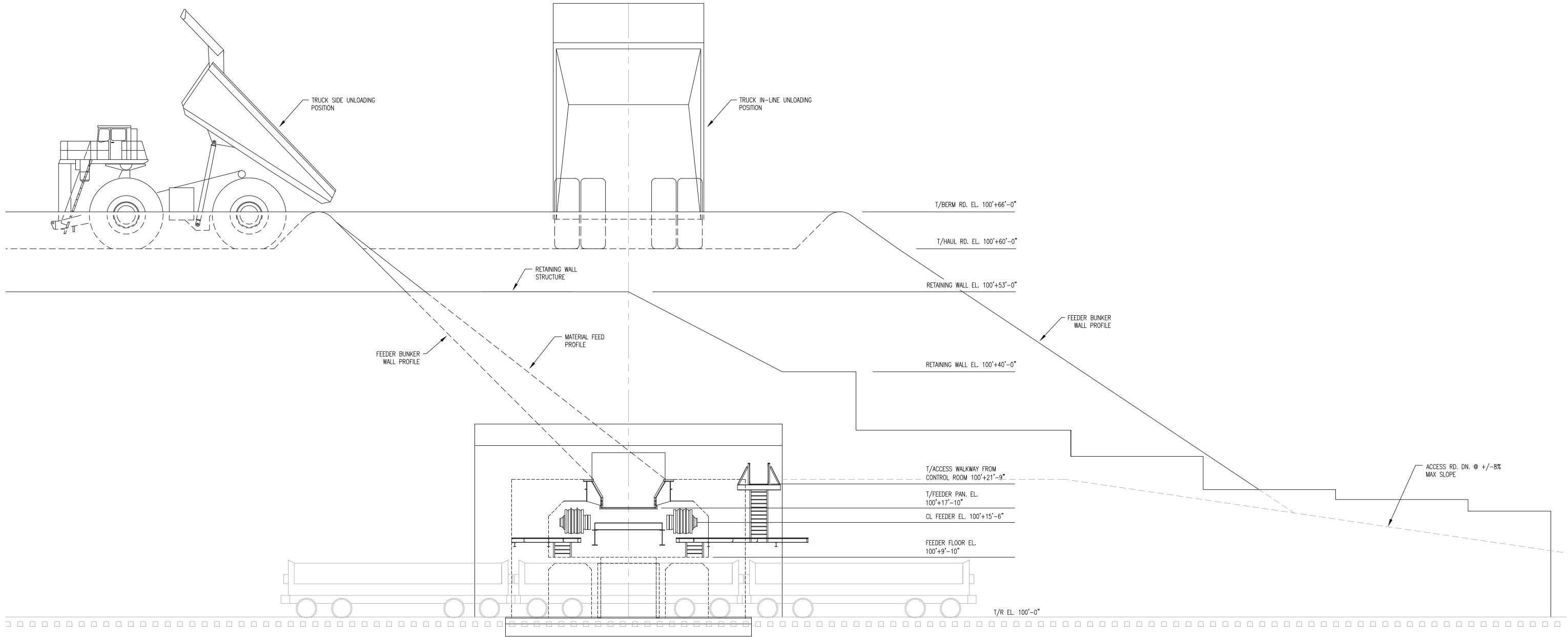
RAIL TRANSFER HOPPER
ELEVATION VIEW



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DULUTH, MINNESOTA 55802
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www.krechojard.com



1 SOUTH ELEVATION
G-101-C 1/8"=1'-0"

NOTE: PRELIMINARY ELEVATIONS BASED ON TOP OF RAIL AT FEEDER DISCHARGE INTERSECTION AT 100'-0". ELEVATIONS WILL BE FINALIZED ONCE SURVEYS AND DESIGN IS COMPLETED.

PRELIMINARY
NOT FOR CONSTRUCTION

REV NO	DATE	REVISIONS	BY	CHKR	DRAWING STATUS				
1	5/24/17	ISSUED FOR INCLUSION IN PERMIT APPLICATIONS	JF	RKM	ISSUED	REV	DATE	SDE	PEM
-	-	-	-	-	PRELIMINARY	1	5/24/17	-	-
-	-	-	-	-					
-	-	-	-	-					
-	-	-	-	-	APPROVED FOR CONSTRUCTION	-	-	-	-
-	-	-	-	-					
-	-	-	-	-					
-	-	-	-	-	NOT APPROVED FOR CONSTRUCTION				
-	-	-	-	-					

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SIGNATURE: 
PRINTED NAME: RYAN.MCKIBBIN
DATE: 5/24/17 REG. NO. 46303

DRAWN: JF DATE: 5/24/17
CHECKED: RKM DATE: 5/24/17
KOA PROJECT NO.: 151003
SCALE: 1"=250'-0"

PLANT DRAWING NUMBER: G-101-C REV. 1

RAIL TRANSFER HOPPER
ELEVATION VIEW



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NORTHMET PROJECT
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