WL SEIS Exhibit 21



# **NorthMet Project**

# Wetland Replacement Plan

**Issue Date: December 2017** 

This document was prepared for Poly Met Mining, Inc. by Barr Engineering Co.



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One vascular plant species that is listed by the State of Minnesota as endangered, *Caltha natans* (floating marsh marigold), was identified in the Project area during surveys conducted between 1999 and 2017. Additional details on plant surveys are presented in Section 12.1.2 and Section 5.2.4 of Reference (2).

Take of a state threatened or endangered vascular plant species, such as *Caltha natans*, may require a permit from DNR under Minnesota Rules, part 6212.1800. Because impacts are unavoidable in one Project location that currently supports a state endangered vascular plant species population, *Caltha natans*, a takings permit application was submitted to the DNR in November 2017 (Reference (17)). PolyMet will work with the DNR and other appropriate agencies to determine acceptable mitigation for directly impacted species.

The Co-lead Agencies have conducted a review of effects on historic properties in the Area of Potential Effect (APE) under Section 106 of the National Historic Preservation Act (NHPA). After historical research, archaeological and architectural history surveys, oral interviews to identify historical properties of religious and cultural significance to the Bois Forte Band of Minnesota Chippewa, the Fond du Lac Band of Lake Superior Chippewa, and the Grand Portage Band of Lake Superior Chippewa (Consulting Bands) and extensive consultation, the Co-lead Agencies determined that the following historic properties in the APE are eligible for listing in the National Register for Historic Places (NRHP) and will be adversely affected by the NorthMet Project: the Erie Mining Company Hoyt Lakes Mining Landscape Historic District, which includes multiple contributing mining features within the APE (such as the Concentrator Building), as well as areas outside of the APE, such as Hoyt Lakes and Taconite Harbor, the Partridge River Segment of the Beaver Bay to Lake Vermillion Trail, the Partridge River section of Mesabe Widjiu, and the Spring Lake Mine Sugarbush. An MOA resolving adverse effects to eligible properties was executed and the NHPA process was completed on December 27, 2016. Additional details on historic properties are presented in Section 12.2 and Sections 4.2.9 and 5.2.9 of Reference (2).

### Wetland Mitigation

Wetlands that are directly impacted and impacted by fragmentation will be replaced and mitigated by credit purchase from an off-site wetland bank #1609 in the St. Louis River watershed (#3), in Bank Service Area (BSA) #1, in St. Louis County, prior to construction of the Project. The option agreement for the wetland credits is provided in Attachment D.

Preference for the bank selection followed the preferential sequencing for compensatory mitigation per the USACE St. Paul District Policy for Compensatory Mitigation in Minnesota (Reference (18)). Under that policy, the preference is that wetland mitigation banks under consideration for this Project be located in the BSA #1, which is the BSA where the Project wetland impacts would occur.



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# 14.0 Wetland Mitigation

Wetlands that are directly impacted and impacted by fragmentation will be replaced and mitigated by credit purchase from an off-site wetland bank. PolyMet will purchase wetland bank credits in BSA #1, in the St. Louis River watershed, prior to construction of the Project.

Wetland mitigation will be accomplished by purchasing compensatory mitigation credits from an off-site wetland bank (Table 14-1). Preference for the bank selection follows the preferential sequencing for mitigation banking per the USACE St. Paul District Policy for Compensatory Mitigation in Minnesota (Reference (18)). Under that policy, the preference is that wetland mitigation banks under consideration be located in the Bank Service Area (BSA) #1, which is the BSA where the Project wetland impacts would occur.

Wetlands that are directly impacted and impacted by fragmentation will be replaced and mitigated by credits purchased from an off-site wetland bank (Table 14-1). PolyMet will purchase wetland bank credits in BSA #1, in the St. Louis River watershed, prior to construction of the Project.

The wetland bank that was approved by the USACE is summarized in Table 14-1. PolyMet would purchase wetland bank credits from this bank prior to construction. The bank document is provided in Attachment D.

Wetland Bank Account Number	Minor Watersheds	Major Watershed	County	Bank Service Area Number	Number of Credits (ac)	Number of Credits (sq ft)
1609	Stone Creek (3089) Paleface River (3070) Whiteface River (3071) Whiteface River (3072)	St. Louis River (4)	St. Louis	1	1,800	78,408,000

### Table 14-1 Wetland Bank Information

### 14.1 State WCA Wetland Mitigation Overview

Based on the WCA wetland mitigation standards (Minnesota Rules, part 8420.0522, subpart 4), the mitigation credits are proposed at a ratio of one mitigation credit to one acre of wetland impact (1:1). The rationale for this proposal is that the mitigation credits will be purchased from a wetland bank (Table 14-1) within the same BSA as the project wetland impacts, all of which are in a greater than 80% area. See Large Table 5 for wetland replacement in accordance with the WCA using established wetland bank credits.

### Large Table 5

## Wetland Replacement Requirements Proposed for WCA Utilizing Wetland Bank Credits from BSA #1 Poly Met Mining, Inc.

Wetland or Credit Type	NorthMet Project Proposed Direct Wetland Impacts (acres) <sup>(1,2)</sup>	Bank Credits Required for Replacement <sup>3</sup>	Total Mitigation Ratio
Type 2 Fresh (Wet) Meadow	15.80	15.80	1:1
Type 2 Sedge Meadow	23.93	23.93	1:1
Type 3 Shallow Marsh	70.45	70.45	1:1
Type 4 Deep Marsh	75.67	75.67	1:1
Type 5 Shallow, Open Water	0	0	1:1
Type 6 Shrub-Carr	3.89	3.89	1:1
Type 6 Alder Thicket	110.56	110.56	1:1
Type 7 Hardwood Swamp	13.17	13.17	1:1
Type 7 Coniferous Swamp	85.69	85.69	1:1
Type 8 Open Bog	7.64	7.64	1:1
Type 8 Coniferous Bog	523.38	523.38	1:1
Total	930.18	930.18	

(1) Totals may not add exactly due to rounding.

(2) The total includes fragmentation of wetlands (26.9 acres).

(3) Per M.R. 8420.0522, Subp. 4.A.(1), the replacement ratio for withdrawal of existing wetland bank credits from within the Project bank service area (#1), is 1:1.

### Large Table 6

### Wetland Mitigation Utilizing USACE-Approved Wetland Bank Credits from BSA #1 Poly Met Mining, Inc.

	NorthMet Project Proposed Direct Wetland Impacts in Acres <sup>(1,2)</sup>							
	Non-forested, Non-bog, and Low or Medium Quality (Base Ratio 1.5:1) <sup>(3)</sup>	Non-forested, Non-bog, High Quality Wetlands (Base Ratio 1.75:1) <sup>(4)</sup>	Bogs and Forested, and Low or Medium Quality Wetlands (Base Ratio 1.75:1) <sup>(5)</sup>	Bogs, Forested, and High Quality (Base Ratio 2:1) <sup>(6)</sup>	Total Impacts	Total Credits Required for Mitigation at Base Ratio <sup>(3-6)</sup>	Total Credits Required After Applying Incentives <sup>(7)</sup>	Applied Mitigation Ratio
Type 2 Fresh (Wet) Meadow	1.37	14.43	0.0	0.0	15.80	27.31	19.41	1.23:1
Type 2 Sedge Meadow	6.87	17.06	0.0	0.0	23.93	40.16	28.20	1.18:1
Type 3 Shallow Marsh	46.55	23.90	0.0	0.0	70.45	111.65	76.43	1.08:1
Type 4 Deep Marsh	75.58	0.09	0.0	0.0	75.67	113.53	75.69	1:1
Type 6 Shrub-Carr	1.40	2.49	0.0	0.0	3.89	6.46	4.51	1.16:1
Type 6 Alder Thicket	7.50	103.06	0.0	0.0	110.56	191.61	136.33	1.23:1
Type 7 Hardwood Swamp	0.0	0.0	0.69	12.48	13.17	26.17	19.58	1.49:1
Type 7 Coniferous Swamp	0	0	13.03	72.66	85.69	168.12	125.28	1.46:1
Type 8 Open Bog	0	0	0	7.64	7.64	15.28	11.46	1.5:1
Type 8 Coniferous Bog	0	0	0	523.38	523.38	1046.76	785.07	1.5:1
Total	139.27	161.03	13.72	616.16	930.18	1,747.04	1,281.95	1.38:1

(1) Totals may not add exactly due to rounding.

(2)The total includes fragmentation of wetlands (26.9 acres).

(3) Base ratio 1.5:1 per USACE St. Paul District Policy for wetlands that are not considered high quality or difficult-to-replace.

(4) Base ratio 1.75:1 per USACE May 29, 2013 Draft Memorandum for wetlands that are high quality.

(5) Base ratio 1.75:1 per USACE May 29, 2013 Draft Memorandum for wetlands that are difficult-to-replace, which includes forested swamp and bog communities.

(6) Base ratio 2:1 per USACE May 29, 2013 Draft Memorandum for wetlands that are high quality AND difficult-to-replace, which includes forested wetland and bog communities.

(7) Per USACE St. Paul District Policy, includes 0.25 reduction for "in-place" (within the project BSA) and 0.25 reduction for "in-advance" (Corps-approved mitigation bank credits) from the base ratio.



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# 14.2 Federal CWA Wetland Mitigation Overview

PolyMet is working with the USACE St. Paul District to ascertain how many wetland bank credits will satisfy federal requirements. Based on the St. Paul District policy for wetland mitigation, the base ratio for compensation of wetland impacts is 1.5:1. Utilizing wetland bank credits located within the Project BSA allows for a 0.25:1 reduction from the base compensation ratio. Providing wetland bank credits of the same wetland type as the impacted wetlands (using the modified Eggers and Reed plant community classification system) allows for a 0.25:1 reduction from the base compensation ratio. Finally, compensatory wetland mitigation that is established in advance of the impacts, which is typically the case for wetland bank credits, also allows for a 0.25:1 reduction from the base compensation ratio, but no less than a ratio of 1:1. A draft guidance document from the St. Paul District USACE for the Project states that an increase in the base ratio to 2:1 may be required for certain wetland types, but no details are provided for established wetland bank credits containing mature plant communities of the same type as the impacts (Reference (54)). The proposed credits for wetland mitigation using the USACE mitigation policy ratios for the Project are summarized in Large Table 6. A final decision on this compensation ratio has not yet been made. Any credits obtained are available for additional wetland impacts occurred under WCA.

# Attachment D

# Wetland Bank Option Agreement

#### Exhibit C

#### **Notification Letter**

PolyMet Mining, Inc. and EIP, by signature below, verify that they have reached an agreement under which EIP will provide credits from its Superior Mitigation Bank for PolyMet to use to meet the requirements that PolyMet expects to have for wetland mitigation in the Minnesota Permit to Mine for the NorthMet project and the US Army Corps of Engineers Section 404 permit for the NorthMet project. Under that agreement, up to 1,800 credits will be available to PolyMet Mining, Inc. for purchase. IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and year first above written.

**BUYER:** 

### SELLER:

POLYMET MINING, INC.

EIP CREDIT CO., LLC
(t)
By
Name: Nicholys Diks
Title: Manager

By	
Name:	
Title:	

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the day and year first above written.

### **BUYER:**

POLYMET MINING, INC.

By Name: /Jonathan Title: President + CEO

### **SELLER:**

### EIP CREDIT CO., LLC

By	
Name:	
Title:	

# **Transaction Form to Withdraw Credits**

BOARD OF WATER AND SOIL RESOURCES

### **Minnesota Wetland Bank Program**

If the layout of this form looks incorrect, click on View, Edit Document, then save it to your computer.

1. Credit User		This space for BWSR use only.
Name: Poly Met Mining, Inc.	Organization: Poly Met Mining, Inc.	A language and worker printing to
Address: Suite 2060, 444 Cedar Street, St. Paul, MN 55110	Email: jsaran@polymetmining.com	
<b>Phone:</b> 651-389-4108	LGU File #:	
Consultant:		

# 2. Wetland Impact Information

To be completed for the project impacting wetlands and with which this withdrawal is intended to replace.

Project Name: NorthMet Project	Impact Size (acres): 930.2
Impact County: St. Louis	Impact Wetland type: 2/3/4/6/7/8
Impact Major Watershed/BSA: 3/1	Replacement Ratio: 1:1
Sec/Twp/Range: S 5, 6/T58N/R14W; S 1, 2, 3, 4, 9, 1	0, 11, 12, 16, 17, 18/T59N/R13W; S 2, 3, 4, 5, 8, 9, 10,

11, 13, 14, 15, 16, 17, 18, 20, 23, 24, 29, 32/T59N/R14W; and S32, 33, 34/T60N/R14W \*Projects with multiple locations should use the most central location in relation to the project as a whole.

Are Federally authorized credits required for this impact? Yes No

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Corps Regulatory File Number: MVP-1999-5528-JKA

**Comments:** 

3. Credits to be Withdrawn To be completed by the seller of the credits (account holder)

Account Information

Account: 1609	unt: 1609 County: St. Louis		Bank Service Area: 1		
Credit Subgroup	Wetland Type/Plant Com	imunity Type	Federally Approved?	Cost per Credit	Credit Amounts
A	8 – open / coniferous bog		yes		1800
and the second	haven the first of the second states and the				
	istan ages	i i wa	فالبيادية بأعمال	ante da serie de la composición de la c	
Per Cre	dit Withdrawal Fee by BSA	Enter the With	drawal Fee for	Total Credits:	1800
BSA 1 \$520	BSA 6 \$1,083	the BSA of t	he account:	(Withdrawal Fee x total	credits)
BSA 2 \$371	BSA 7 \$1,992			Withdrawal Fee:	
BSA 3 \$725	BSA 8 \$2,577	Easement Stev	wardship Fee:	(Easement Stewardship fe	e x total credits)
BSA 4 \$1,412	BSA 9 \$2,628	\$3	02	Stewardship Fee:	
BSA 5 \$685	BSA 10 \$3,099	ber de la constitue	1 iquivad	Total Fees:	

Please make checks payable to the Minnesota Board of Water and Soil Resources. BWSR does not accept cash. BWSR fee policy: http://www.bwsr.state.mn.us/wetlands/wetlandbanking/fee\_and\_sales\_data/Wetland\_Banking\_Fee\_Policy\_Effective\_June1\_2017.pdf Project Name: NorthMet Project

If anyone else should be notified please indicated their emails below:

4. Regulatory Authorization	
By signing below, the identified agency and a the subject wetland credits are deposited in the similar agreement under their jurisdiction, and	uthorized representative hereby certifies that they have: a) verified that a account of the owner/seller, b) approved a wetland replacement plan or c) approve the proposed use of the wetland bank credit described above.
WCA LGU/Agency:	LGU Representative:
	Email Address:
Signature	Date
For NRCS, DNR, etc. as applicable	
Agency Name and Location:	Representative:
	Email Address:
Signature	Date



Wetland Bank Administration Minnesota Board of Water and Soil Resources 520 Lafayette Road North Saint Paul, MN 55155

BWSR form updated 5/31/2017

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Disclaimer: All transactions in the Wetland Bank system are public information