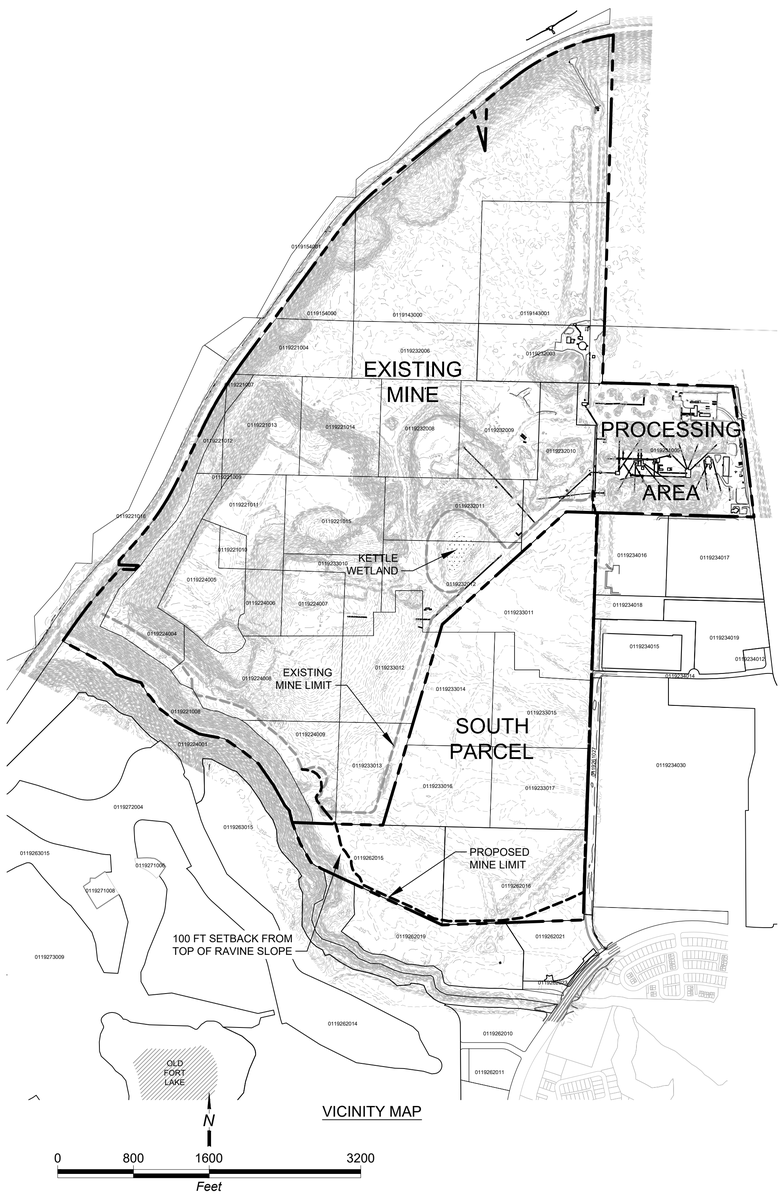
PIONEER AGGREGATES
SOUTH PARCEL PROJECT



VICINITY MAP

TAX ACCOUNT NUMBERS:

SOUTH PARCEL LEASE AREA:
- 0119233011
- 0119233014
- 0119233015
- 0119233016
- 0119233017
- 0119262015
- 0119262016

PROCESSING AREA:
- 0119231005
- 0119232003

EXISTING MINE LEASE AREA:

0119221007	0119224006
0119221008	0119224007
0119221009	0119224008
0119221010	0119224009
0119221011	0119232008
0119221012	0119232009
0119221013	0119232010
0119221014	0119232011
0119221015	0119232012
0119223013	0119233010
0119224004	0119233012
0119221005	

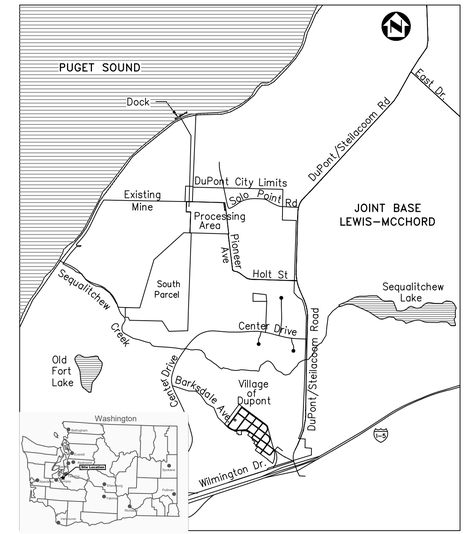
NORTH PARCEL:
- 0119143000
- 0119143001
- 0119221004
- 0119232003
- 0119232006
- 0119154000

LEGAL DESCRIPTION OF 2006 ADDITION TO MINERAL RESOURCE OVERLAY AS MODIFIED IN 2018

THAT portion of Sections 23 and 26, Township 19 North, Range 1 East, W.M., City of DuPont, Pierce County, Washington, being more particularly described as follows:

BEGINNING at the southwest corner of said Section 23, as shown on that exempt segregation as depicted on Record of Survey recorded under Pierce County Recording No. 200609185006;
THENCE 3 88°47'45" E, 500.26 feet:
THENCE N 16°28'48" E, 2207.74 feet:
THENCE N 47°49'56" E, 1770.29 feet:
THENCE 3 88°24'40" E, 329.75 feet to the north-south centerline of said Section 23 as depicted on said exempt segregation;
THENCE along said north-south centerline, S 02°06'11" W, 3353.98 feet to the north quarter corner of said Section 26 as depicted on said exempt segregation:
THENCE 3 01°41'03" W, 949.13 feet to the southeasterly corner of Lot 23 of said exempt segregation;
THENCE along said southerly line, S 87°59'18" W, 1492.66 feet to the southerly corner common to said Lot 23 and Lot 22 of said segregation:
THENCE along the southerly line of said Lot 22, N 65°00'00" W, 897.54 feet:
THENCE N 25°58'31" W, 35.06 feet to the west line of said Section 26 as depicted on said exempt segregation;
THENCE along said west line, N 01°47°33" E, 297.73 feet to the POINT OF BEGINNING.

Containing 172.37 acres, more or less.



LOCATION MAP

NOT TO SCALE

SITE AREAS:

SOUTH PARCEL LEASE:	178 AC
EXISTING MINE LEASE:	360 AC
NORTH PARCEL:	201 AC
PROCESSING AREA:	52 AC

DISTURBED AREA:

EXISTING MINE LIMIT:	497 AC
PROPOSED MINE LIMIT:	620 AC

SITE ADDRESS:

4301 PIONEER AVENUE
DUPONT, WASHINGTON 98327

CONTACTS:

OWNER/APPLICANT:	CALPORTLAND COMPANY PETE STOLTZ (206) 764-3000
AERIAL MAPPING:	AERO-METRIC, INC. (206) 244-2300
GROUND SURVEY:	ESM CONSULTING ENGINEERS, LLC (253) 838-8113
ENGINEER:	ASPECT CONSULTING, LLC OWEN REESE, P.E. (206) 838-5844

SHEET INDEX:

G1	COVER SHEET AND VICINITY MAP
G2	EXISTING TOPOGRAPHY - WHOLE MINE SITE, 2007
G3	EXISTING TOPOGRAPHY - EXISTING MINE AREA, 2018
G4	SENSITIVE AREAS
C1	FINAL SITE PLAN
C2	STORMWATER SITE PLAN
C3	CONSTRUCTION SEQUENCE
C4	CROSS SECTIONS
C5	DEWATERING SYSTEM
C6	BERM AND SLOPE DETAILS
C7	EROSION AND SEDIMENT CONTROL PLAN

02/23/2021
OWEN W. REESE III
STATE OF WASHINGTON
38358
REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	APPR.

CALPORTLAND

Aspect CONSULTING

DATE:	JAN-2021
REVISION:	0
PROJECT NUMBER:	040001
DESIGNED BY:	OGR/BMG
DRAWN BY:	CMV
REVISED BY:	

PIONEER AGGREGATES
SOUTH PARCEL PROJECT
COVER SHEET AND
VICINITY MAP
CalPortland
DuPont, Washington

SHEET REFERENCE NUMBER:

G-1

SHEET 1 OF 11

CAD Path: Q:\CalPortland\040001 DuPont Hydrologic Study\2020-09 PlanSet Update\040001-G01-G04.dwg G1 || Date Saved: Feb 24, 2021 11:51am || User: cvanslyke

DATUM:

HORIZONTAL DATUM: STATE PLANE COORDINATE SYSTEM
WASHINGTON SOUTH ZONE, NAD 83/91,US FEET

VERTICAL DATUM: NGVD 29

THIS MAP HAS BEEN PRODUCED USING PROCEDURES THAT HAVE BEEN DEMONSTRATED TO YIELD MAPPING WHICH COMPLIES WITH THE NATIONAL STANDARD FOR SPATIAL DATA ACCURACY (NSSDA) FOR A SCALE OF 1"=100'.

MAPPING FROM AERIAL PHOTOGRAPHY TAKEN 12 JUNE 2007.

AERIAL MAPPING BY:

AERO-METRIC
SEATTLE
PROJECT NO: 507-0510
Aero-Metric, Incorporated
13052 Interurban Avenue South - Seattle, Washington - 98168
Phone: 206.244.7600 - Fax: 206.244.7601
www.aerometric.net

REV.	DESCRIPTION	DATE	APPR.

CALPORTLAND

Aspect CONSULTING

DATE: JAN-2021	REVISION: 0	PROJECT NUMBER: 040001	DESIGNED BY: OGR/BMG
DRAWN BY: CMV	REVISED BY:		

PIONEER AGGREGATES
SOUTH PARCEL PROJECT
EXISTING TOPOGRAPHY
WHOLE MINE SITE - 2007
CalPortland
DuPont, Washington

SHEET REFERENCE NUMBER:

G-2

SHEET **2** *OF* **11**

CAD Path: Q:\CalPortland\040001 DuPont Hydrologic Study\2020-09 PlanSet Update\040001-G02.dwg G2 || Date Saved: Feb 24, 2021 11:52am || User: cvanslyke

DATUM:

HORIZONTAL DATUM: STATE PLANE COORDINATE SYSTEM
WASHINGTON SOUTH ZONE, NAD 83/91,US FEET

VERTICAL DATUM: NGVD 29

THIS MAP HAS BEEN PRODUCED USING PROCEDURES THAT HAVE BEEN DEMONSTRATED TO YIELD MAPPING WHICH COMPLIES WITH THE NATIONAL STANDARD FOR SPATIAL DATA ACCURACY (NSSDA) FOR A SCALE OF 1"=100'.

MAPPING FROM AERIAL PHOTOGRAPHY TAKEN NOVEMBER 8, 2018.

AERIAL MAPPING BY:

AERO-METRIC
SEATTLE
Aero-Metric, Incorporated
12652 Interurban Avenue South - Seattle, Washington - 98168
Phone: 206.244.2500 - Fax: 206.244.2505
www.aerometric-inc.com

REV.	DESCRIPTION	DATE	APPR.

CALPORTLAND

Aspect CONSULTING

DATE:	REVISION:	PROJECT NUMBER:	DESIGNED BY:	DRAWN BY:	REVISED BY:
JAN-2021	0	040001	OGR/BMG	CMV	

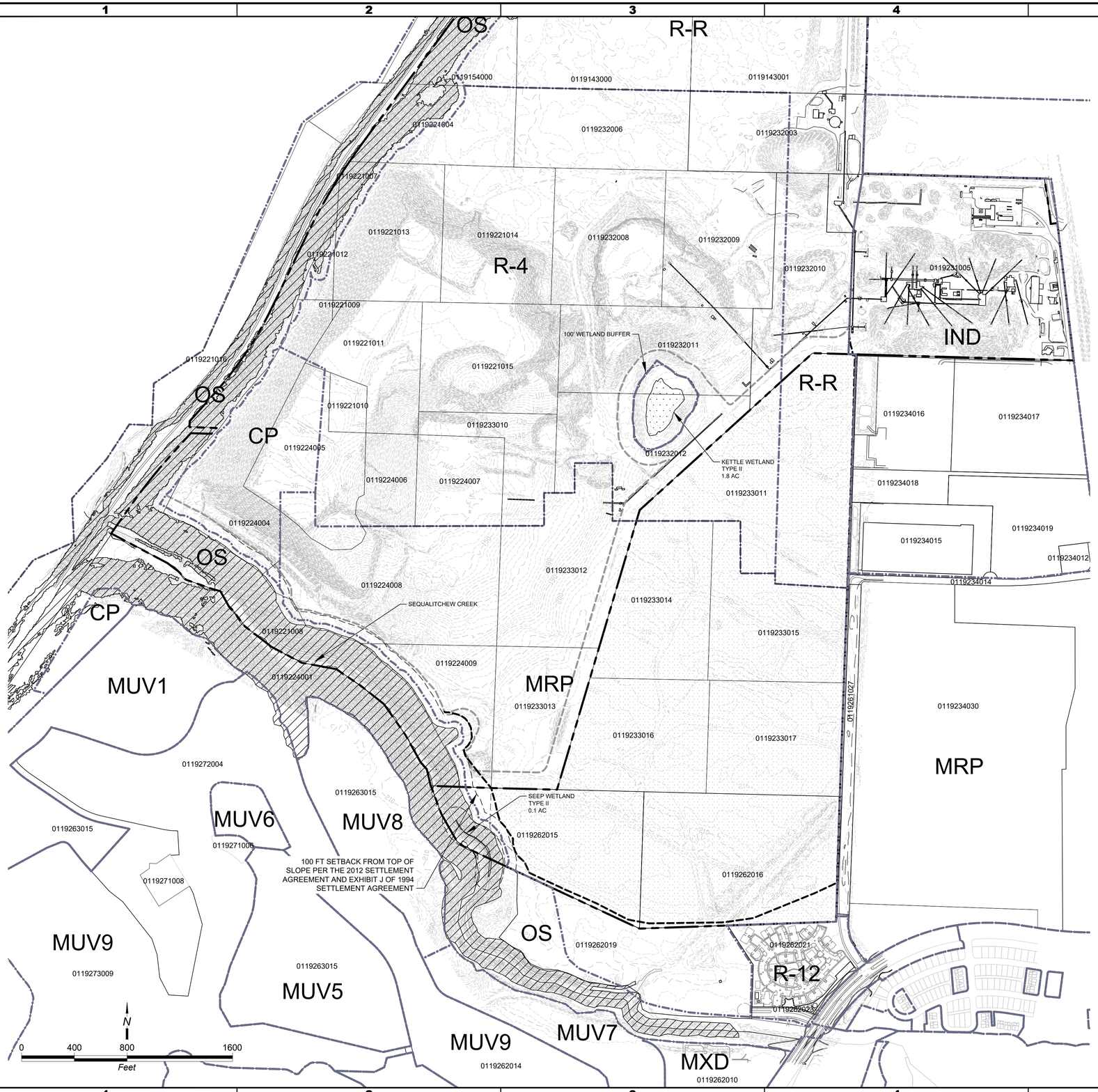
PIONEER AGGREGATES
SOUTH PARCEL PROJECT
EXISTING TOPOGRAPHY
EXISTING MINE AREA - 2018
CalPortland
DuPont, Washington

SHEET REFERENCE NUMBER:

G-3

SHEET 3 *OF* 11

C:\D Path: Q:\CalPortland\040001 DuPont Hydrologic Study\2020-09 PlanSet Update\040001-G03.dwg G3 || Date Saved: Feb 24, 2021 11:52am || User: cvanslyke



LEGEND

- SITE BOUNDARY
- PARCEL BOUNDARY
- 0119233011 TAX ACCOUNT NUMBER

SENSITIVE AREAS

- WETLAND (TYPE II)
- WETLAND BUFFER
- STREAM
- 100 FT STREAM BUFFER
- 50 FT STEEP SLOPE BUFFER
- GEOLOGICALLY HAZARDOUS AREAS

ZONING

- ZONING BOUNDARY
- MINERAL RESOURCE OVERLAY- 2006 ADDITION

MRP	MANUFACTURING AND RESEARCH
MUV	MIXED USE VILLAGE
MXD	MIXED USE
R-4	RESIDENTIAL 4
RR	RESIDENTIAL RESERVE
CP	COMMUNITY PARK
OS	OPEN SPACE
IND	INDUSTRIAL
BTP	BUSINESS TECHNICAL PARK
R-12	RESIDENTIAL 12

NOTES:

1. WETLANDS SHOWN ACCORDING TO WETLAND DELINEATION REPORT (2007) AND ADDENDUM (2018) BY ANCHOR QEA.
2. GEOLOGICALLY HAZARDOUS AREAS SHOWN ACCORDING TO CRITICAL AREA REPORT (ANCHOR QEA AND ASPECT CONSULTING, 2021.)
3. OPEN ZONE WITHIN THE PIONEER AGGREGATE PROPERTY IS BASED ON KNOWN CRITICAL AREAS AND BUFFER DISTANCES. ALL OTHER ZONING BOUNDARIES ARE PER CITY OF DUPONT COMPREHENSIVE PLAN (2019).

02/23/2021
EVAN SCOTT WASHINGTON
EVAN D. W. REESE III
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
46190

REV.	DESCRIPTION	DATE	APPR.

CALPORTLAND

Aspect CONSULTING

DESIGNED BY:	OGR/BMG
DRAWN BY:	CMV
REVISED BY:	
PROJECT NUMBER:	040001
REVISION:	0
DATE:	JAN-2021

PIONEER AGGREGATES
SOUTH PARCEL PROJECT
SENSITIVE AREAS AND ZONING
DUPONT MINE EXPANSION

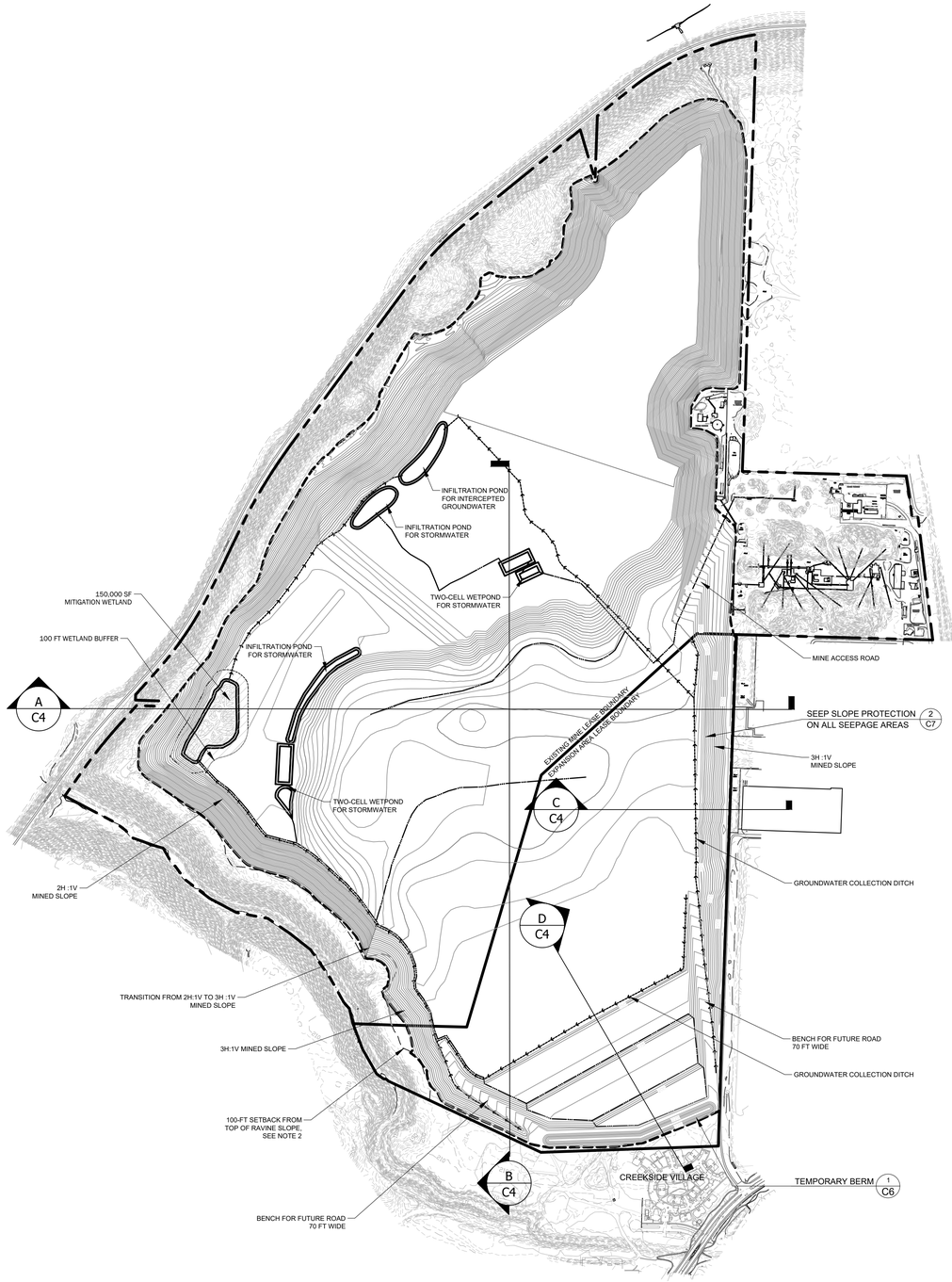
CalPortland
DuPont, Washington

SHEET REFERENCE NUMBER:

G-4

SHEET 4 OF 11

CAD Path: Q:\CalPortland\040001 DuPont Hydrologic Study\2020-09 PlanSet Update\040001-G01-G04.dwg G4 || Date Saved: Feb 24, 2021 11:52am || User: cvanslyke



LEGEND

- SITE BOUNDARY
- MINERAL RESOURCE OVERLAY
- PROPOSED MINE LIMITS
- SENSITIVE AREA BUFFER
- STORMWATER DRAINAGE DITCH
- GROUNDWATER COLLECTION DITCH
- STORMWATER MANAGEMENT FACILITY
- 100 — PROPOSED MINE CONTOURS

NOTES:

1. NO MINING IS PROPOSED WITHIN 189 FEET OF THE LOCATION OF THE MISSION HISTORICAL SITE, AS DESCRIBED IN EXHIBIT C OF THE 2012 SETTLEMENT AGREEMENT.
2. NO MINING IS PROPOSED WITHIN 100 FEET OF THE TOP OF SLOPE OF THE SEQUALITCHEW CREEK RAVINE IN ACCORDANCE WITH THE 2012 SETTLEMENT AGREEMENT AND EXHIBIT J OF THE 1994 SETTLEMENT AGREEMENT.

N

0 600 1200 2400

Feet

02/23/2021

REV.	DESCRIPTION	DATE	APPR.

CALPORTLAND

Aspect CONSULTING

REVISED BY:	
DRAWN BY:	CMV
DESIGNED BY:	OGR/BMG
PROJECT NUMBER:	040001
REVISION:	0
DATE:	JAN-2021

FINAL SITE PLAN

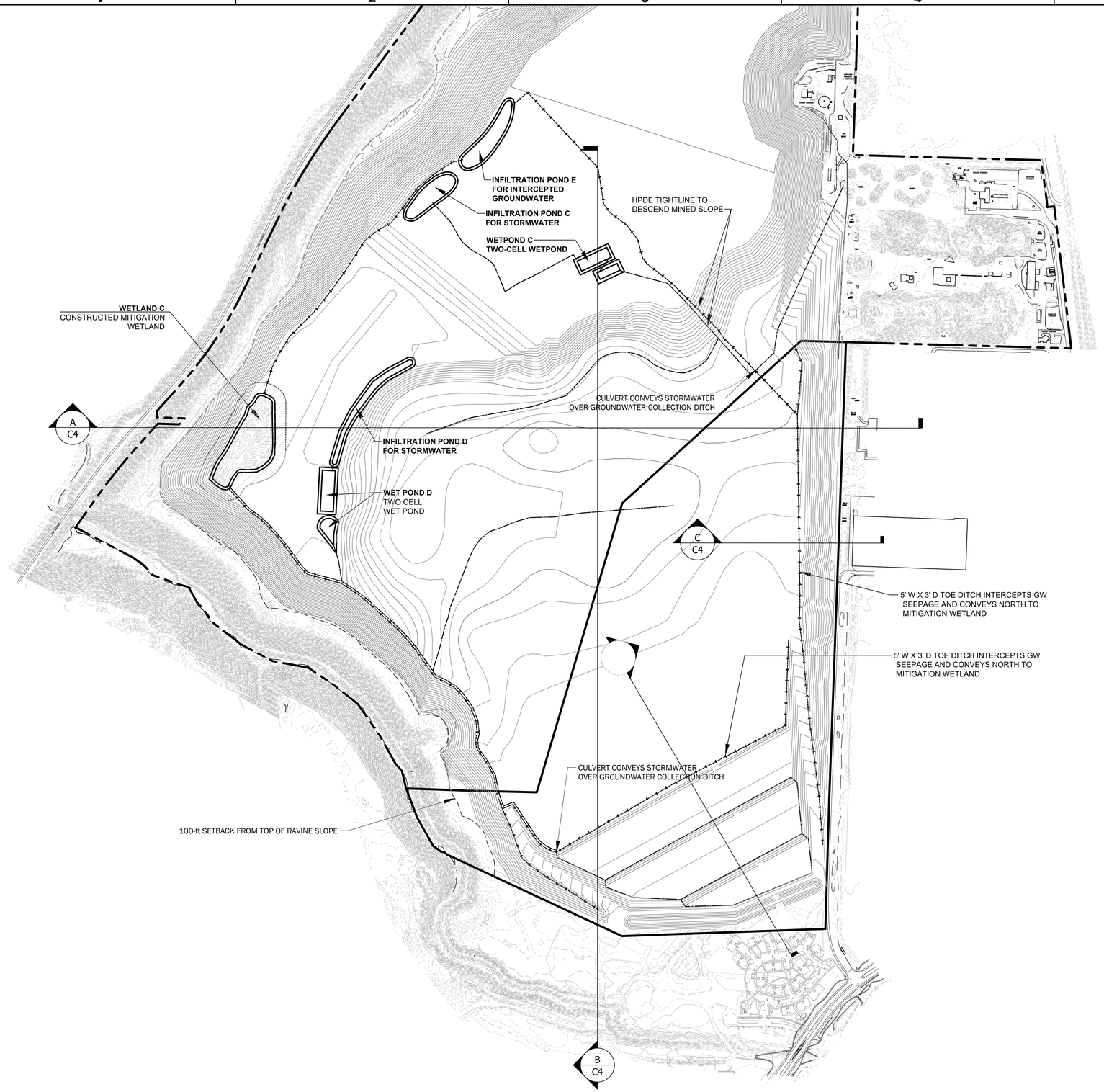
CalPortland
DuPont, Washington

SHEET REFERENCE NUMBER:

C-1

SHEET 5 OF 11

CAD Path: Q:\CalPortland\040001 DuPont Hydrologic Study\2020-09 PlanSet Update\040001-C01-04-07.dwg C01 || Date Saved: Feb 24, 2021 11:53am || User: cvanslyke



LEGEND

- GROUNDWATER COLLECTION DITCH
- DRAINAGE DITCH
- STORMWATER FACILITY
- 100 PROPOSED MINE CONTOURS

CONVEYANCE NOTES:

1) DITCH LOCATIONS SHOWN ARE BASED ON CURRENT UNDERSTANDING OF SUBSURFACE TOPOGRAPHY. DITCHES WILL BE CONSTRUCTED IN THE FIELD BASED ON CONDITIONS ENCOUNTERED.

2) GRADE MINE FLOOR TO DRAIN TO MAIN DITCHES SHOWN ON PLAN.

3) PERMANENT OR LONG-TERM DITCHES SHALL BE VEGETATED WHERE SLOPE IS LESS THAN 6 PERCENT, COBBLE-LINED WHERE SLOPE IS BETWEEN 6 TO 10 PERCENT, AND RIPRAP-LINED ON STEEPER SLOPES.

WETPOND DIMENSION SCHEDULE

POND	CELL	DEPTH IN FT	VOLUME IN CF
C	1	6	79,704
	2	7	187,614
D	1	6	111,816
	2	7	263,739

INFILTRATION POND DIMENSION SCHEDULE

POND	DESIGN INFILT RATE IN INCH/HR	DEPTH IN FT	BOTTOM AREA IN SF	TOP AREA IN SF
C	8.2	5	50,762	66,748
D	8.1	5	37,655	68,755
E	8.2	6	57,807	82,120

WETPOND AND INFILTRATION POND NOTES:

1) POND LOCATIONS SHOWN ARE BASED ON CURRENT UNDERSTANDING OF SUBSURFACE CONDITIONS. PONDS LOCATIONS MAY CHANGE BASED ON CONDITIONS ENCOUNTERED OR OPERATIONAL NEEDS. RELOCATED PONDS SHALL BE CONSTRUCTED ACCORDING TO THE DIMENSIONS SCHEDULES SHOWN ON THIS SHEET.

2) INFILTRATION PONDS AND WETPONDS SHALL HAVE 3H:1V SIDE SLOPES, EXCEPT FOR WETPOND BERMS WHICH SHALL HAVE 2H:1V SIDE SLOPES AND BE SUBMERGED BY 1 FT.

3) POND DEPTH INCLUDES 1 FOOT OF FREEBOARD, AND 1 FOOT RESERVED FOR SEDIMENT STORAGE IN FIRST CELL OF WETPONDS.

4) VOLUME IS WHEN FULL TO DESIGN WATER SURFACE ELEVATION AND DOES NOT INCLUDE RESERVE FOR SEDIMENT STORAGE.

N

0 400 800 1600

Feet

02/23/2021

REV.	DESCRIPTION	DATE	APPR.

CALPORTLAND

Aspect CONSULTING

DATE: JAN-2021 | REVISION: 0 | PROJECT NUMBER: 040001 | DESIGNED BY: OGR/BMG | DRAWN BY: CMV | REVISED BY:

STORMWATER SITE PLAN

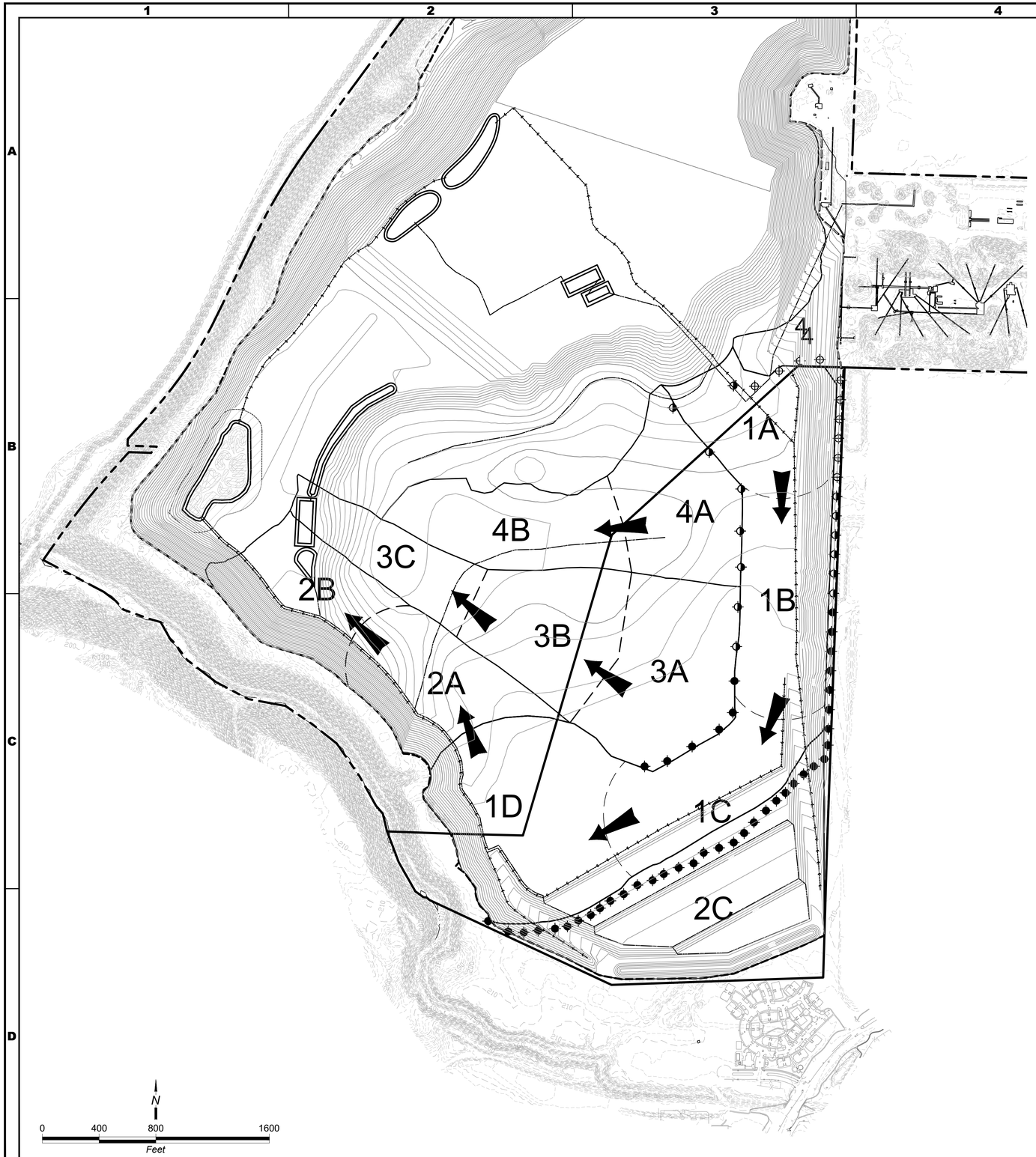
CalPortland
DuPont, Washington

SHEET REFERENCE NUMBER:

C-2

SHEET 6 OF 11

CAD Path: Q:\CalPortland\0400001 DuPont Hydrologic Study\2020-09 PlanSet Update\040001-C01-04-07.dwg C02 || Date Saved: Feb 24, 2021 11:54am || User: cvanslyke



LEGEND

- 1A — SEQUENCE AREA
- MINE SEGMENT NUMBER
- MINE SEGMENT BOUNDARY
- SEQUENCE AREA BOUNDARY
- MINING SEQUENCE
- PHASE DW-1 DEWATERING WELLS
- PHASE DW-2 DEWATERING WELLS
- PHASE DW-3 DEWATERING WELLS

NOTES:

1. MINING WITHIN EACH SEGMENT WOULD GENERALLY PROCEED ACCORDING TO THE SEQUENCE SHOWN. THIS SEQUENCE DEPICTED ON THIS SHEET REPRESENTS THE BEST ESTIMATE AT THIS TIME. ACTUAL SEQUENCE MAY VARY DEPENDING ON AGGREGATE MARKET CONDITIONS, AND SOIL AND GROUNDWATER CONDITIONS ENCOUNTERED DURING EXCAVATION.

2. SEQUENCE SUBDIVISIONS ARE NOT SHOWN FOR PORTION OF SEGMENTS IN THE EXISTING MINE. MINING WOULD PROGRESS CONCURRENTLY IN THE EXISTING MINE AND EXPANSION AREA SUCH THAT VOLUMES EXTRACTED FROM EACH ARE ROUGHLY EQUAL.

GRADING VOLUMES

TOTAL SAND & GRAVEL EXTRACTED	51.5	MILLION CY CUT
SEGMENT 1	13.7	MILLION CY CUT
EXISTING MINE	6.9	MILLION CY CUT
SOUTH EXPANSION AREA	6.8	MILLION CY CUT
SEGMENT 2	15.0	MILLION CY CUT
EXISTING MINE	9.7	MILLION CY CUT
SOUTH EXPANSION AREA	5.3	MILLION CY CUT
SEGMENT 3	11.4	MILLION CY CUT
EXISTING MINE	8.7	MILLION CY CUT
SOUTH EXPANSION AREA	2.7	MILLION CY CUT
SEGMENT 4	11.4	MILLION CY CUT
EXISTING MINE	9.9	MILLION CY CUT
SOUTH EXPANSION AREA	1.5	MILLION CY CUT
SOUTH MITIGATION BERM	69,000	CY FILL

CONSTRUCTION SEQUENCE

Mining				Active Dewatering										Stormwater Management		Wetland Mitigation		Monitoring				
					Step 1			Step 2			Step 3			Permanent System								
Mining Segment	Active Mining in Area	Prep. Next Seq. Area	Build Southern Berm	Construct Pond E	Install	Operate	Shut Off (Stepped)	Install	Operate	Shut Off (Stepped)	Install	Operate	Shut Off (Stepped)	Construct Pond C	Construct Pond D	Construct Wetland	Monitoring & Maintenance	Offsite Wetlands	Sequalitchew Creek	Step 1 Wells	Step 2 Wells	Step 3 Wells
Pre		•		•	•	•								•				•	•	•		
1	A	•				•		•	•							•		•	•	•	•	
	B	•					•		•		•	•					•	•	•	•	•	•
	C	•	•						•	•		•					•	•	•		•	•
	D	•								•		•					•	•	•			•
2	A	•											•				•	•	•			•
	B	•											•		•		•	•	•			•
	C	•															•	•	•			
3	A	•															•	•	•			
	B	•															•	•	•			
	C	•															•	•	•			
4	A	•															•	•	•			
	B																•	•	•			
Post																	•	•	•			

NOTES:
1. CONSTRUCTION SEQUENCE DEPICTED IN THIS TABLE REPRESENTS THE BEST ESTIMATE AT THIS TIME. ACTUAL SEQUENCE MAY VARY DEPENDING ON AGGREGATE MARKET CONDITIONS, AND SOIL AND GROUNDWATER CONDITIONS ENCOUNTERED DURING EXCAVATION.
2. RECLAMATION PHASES ROUGHLY CORRESPOND TO MINING SEGMENT. FOR EXAMPLE, THE MINE FLOOR IN SUB-SEGMENT 2C WOULD BE RECLAIMED WHILE MINING SUB-SEGMENT 3A.
3. POST-MINING MONITORING WILL CONTINUE AS DESCRIBED IN THE MONITORING PLAN.
4. ACTIVITIES MARKED WITH • ARE OCCURRING CONCURRENTLY WITH MINING IN THE INDICATED SEGMENT AND SEQUENCE AREA.

02/23/2021
CHAD WYNN REESE III
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
38350

REV.	DESCRIPTION	DATE	APPR.

CALPORTLAND

Aspect CONSULTING

DESIGNED BY: OGR/BMG
DRAWN BY: CMV
REVISED BY:
PROJECT NUMBER: 040001
REVISION: 0
DATE: JAN-2021

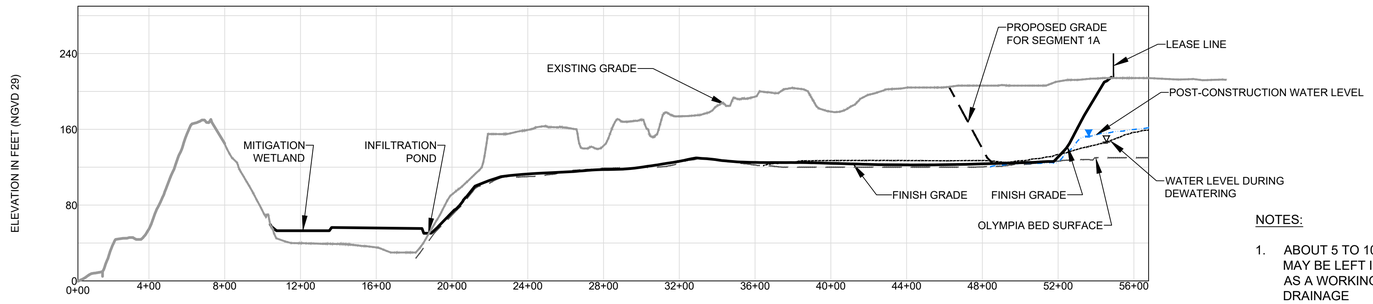
CONSTRUCTION SEQUENCE

CalPortland
DuPont, Washington

SHEET REFERENCE NUMBER:
C-3

SHEET 7 OF 11

CAD Path: Q:\CalPortland\040001 DuPont Hydrologic Study\2020-09 PlanSet Update\040001-C01-04-07.dwg C03 || Date Saved: Feb 24, 2021 11:55am || User: cvanslyke



SECTION A

A
C1

0 400 800 1200

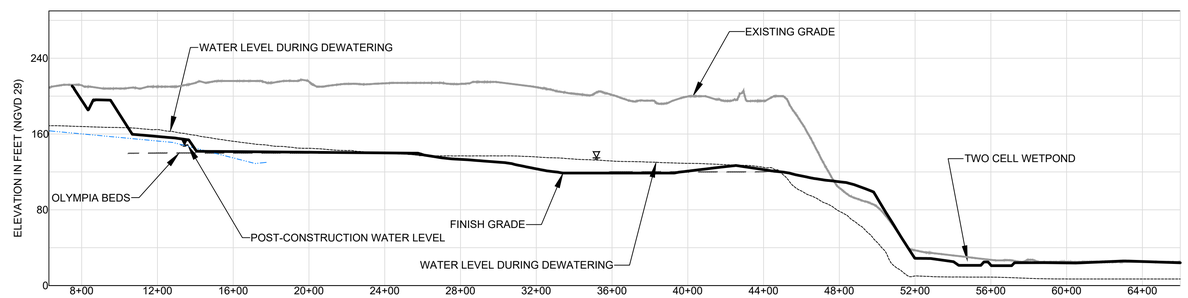
1" = 400'

HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION x 5

NOTES:

1. ABOUT 5 TO 10 FEET OF NATIVE SAND AND GRAVEL MAY BE LEFT IN PLACE ABOVE THE OLYMPIA BEDS AS A WORKING SURFACE AND TO FACILITATE DRAINAGE

SOUTH NORTH



SECTION B

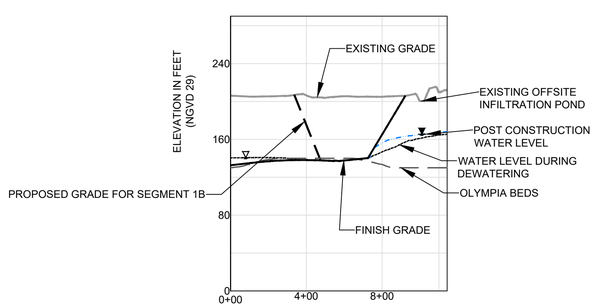
B
C1

0 400 800 1200

1" = 400'

HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION x 5

WEST EAST



SECTION C

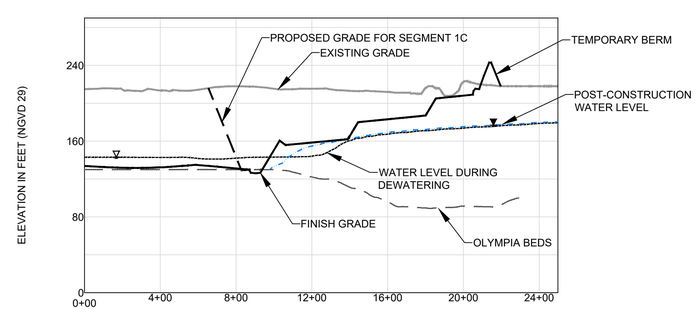
C
C1

0 400 800 1200

1" = 400'

HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION x 5

NORTHWEST SOUTHEAST



SECTION D

D
C1

0 400 800 1200

1" = 400'

HORIZONTAL SCALE IN FEET
VERTICAL EXAGGERATION x 5

REV.	DESCRIPTION	DATE	APPR.

CALPORTLAND

REVISED BY:
DRAWN BY: CMV
DESIGNED BY: OGR/BMG
PROJECT NUMBER: 040001
REVISION: 0
DATE: JAN-2021

Aspect CONSULTING

PIONEER AGGREGATES SOUTH PARCEL PROJECT CROSS SECTIONS

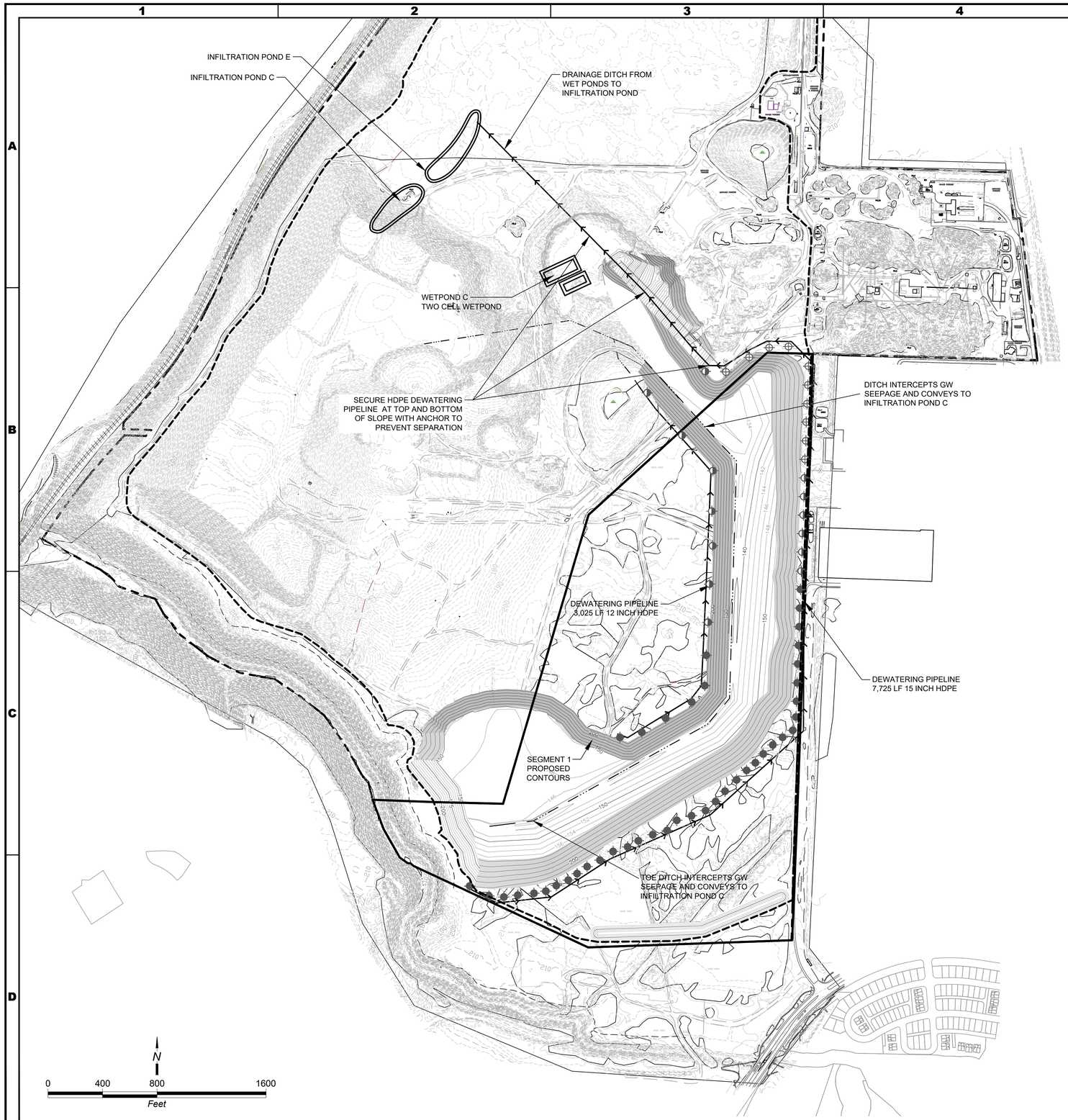
CalPortland
DuPont, Washington

SHEET REFERENCE NUMBER:

C-4

SHEET 8 OF 11

CAD Path: Q:\CalPortland\040001 DuPont Hydrologic Study\2020-09 PlanSet Update\040001-C01-04-07.dwg C04 || Date Saved: Feb 24, 2021 11:57am || User: cvanslyke



LEGEND

- DEWATERING WELLS ADDED IN STEP 1 (10)
- DEWATERING WELLS ADDED IN STEP 2 (14)
- DEWATERING WELLS ADDED IN STEP 3 (42)
- DRAINAGE DITCH
- DEWATERING PIPELINE

DEWATERING DISCHARGE TO POND E

PHASE	TOTAL WELLS INSTALLED	AVG. ANNUAL FLOW IN CFS
1 - INITIAL PUMPING TEST	10	3.6
2 - PREPARATION FOR MINING / EXPANDED DEWATERING TEST	24	5.2
3 - ACTIVE DEWATERING DURING MINING	66	6.9

NOTES:

1. FLOW ESTIMATES BASED ON GROUNDWATER MODELING DESCRIBED IN ASPECT CONSULTING'S GROUNDWATER MODELING REPORT (2017).

02/23/2021
CHARLES DWYER REESE III
STATE OF WASHINGTON
38198
REGISTERED PROFESSIONAL ENGINEER

REV.	DESCRIPTION	DATE	APPR.

CALPORTLAND

Aspect CONSULTING

REVISED BY:	
DRAWN BY:	CMV
DESIGNED BY:	OGR/BMG
PROJECT NUMBER:	040001
REVISION:	0
DATE:	JAN-2021

PIONEER AGGREGATES SOUTH PARCEL PROJECT DEWATERING SYSTEM

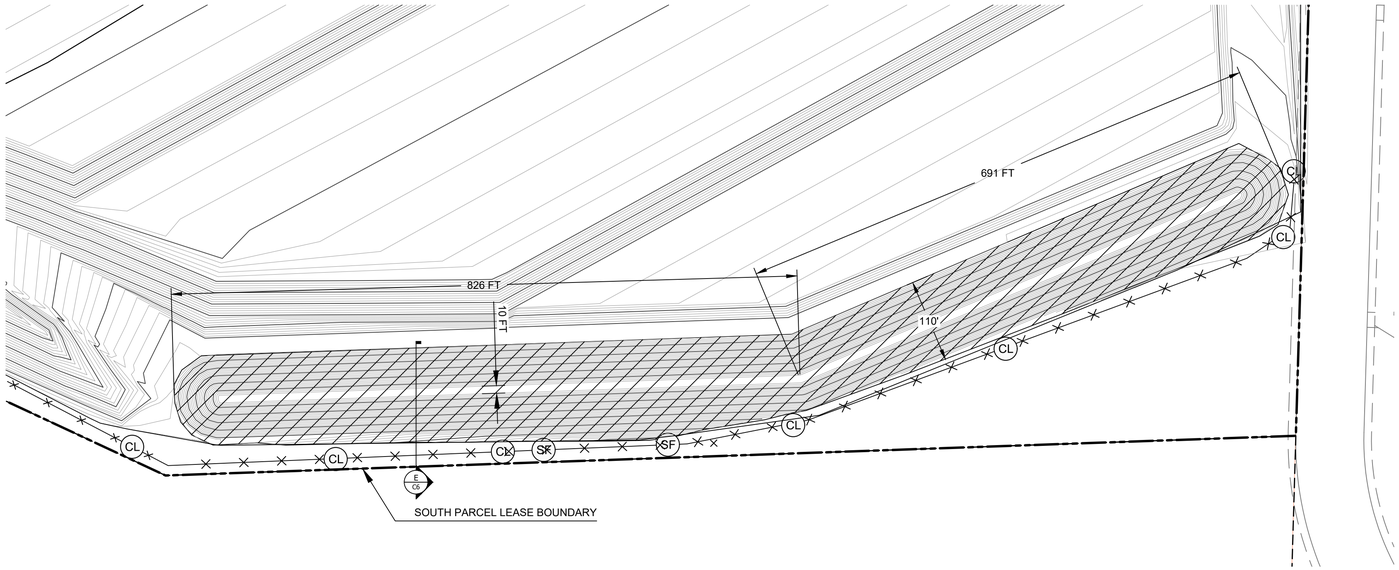
CalPortland
DuPont, Washington

SHEET REFERENCE NUMBER:

C-5

SHEET 9 OF 11

CAD Path: Q:\CalPortland\040001 DuPont Hydrologic Study\2020-09 PlanSet Update\040001-C05.dwg C05 || Date Saved: Feb 24, 2021 11:58am || User: cvanslyke



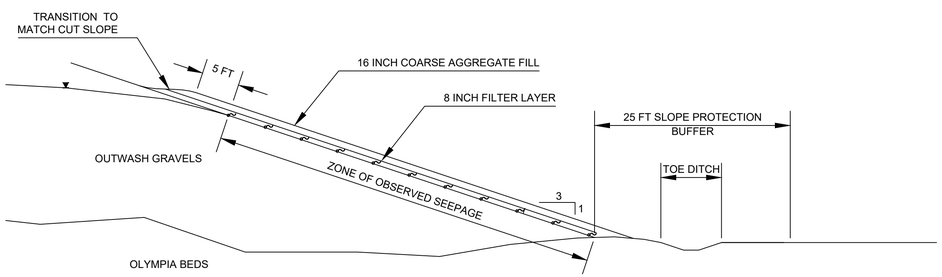
EROSION AND SEDIMENT CONTROL

- CL — CLEARING LIMITS
- SF — SILT FENCE
- TOPSOIL AND HYDROSEED

TEMPORARY BERM DETAIL

SCALE: 1" = 100'

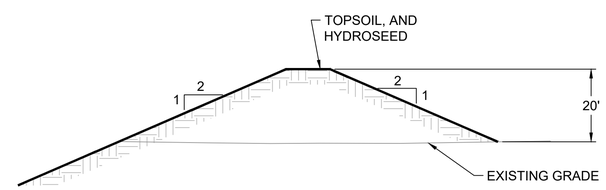
1 / C6



SLOPE PROTECTION AT SEEPS

SCALE: 1" = 100'

2 / C6



SECTION - TEMPORARY BERM

Scale: 1" = 20'

E / C6

SLOPE PROTECTION SPECIFICATIONS:

1) PLACE SEEP SLOPE PROTECTION IN ALL AREAS OF EASTERN MINE SLOPE WITH OBSERVED SEEPS OR SPRINGS AFTER DEWATERING WELLS HAVE BEEN TURNED OFF. SEEP SLOPE PROTECTION SHALL EXTEND A MINIMUM OF 5 FEET ABOVE AND TO THE SIDES OF OBSERVED SEEPAGE.

2) SEEP SLOPE PROTECTION CONSISTS OF:
   - A) 8 INCH FILTER LAYER CONSISTING OF COARSE SAND\FINE GRAVEL. FILTER LAYER SPECIFICATIONS SHALL BE DETERMINED BASED ON GRAIN SIZE OF THE EXPOSED NATIVE MATERIAL ACCORDING TO THE FOLLOWING EQUATIONS:
     D50filter < 25 * D50native
     D15filter < 5 * D85native
   - B) 16 INCH LAYER OF CLEAN, WELL-GRADED AGGREGATE FILL.
   - C) TOPSOIL AND VEGETATION PER WETLAND MITIGATION PLAN.

3) WHERE SPRINGS OR CONCENTRATED FLOW ARE PRESENT, PLACE COBBLE ARMOR INSTEAD OF TOPSOIL AND VEGETATION.

REV.	DESCRIPTION	DATE	APPR.

CALPORTLAND

REVISED BY:
DRAWN BY: CMV
DESIGNED BY: OGR/BMG
PROJECT NUMBER: 040001
REVISION: 0
DATE: JAN-2021

Aspect CONSULTING

BERM AND SLOPE DETAILS

CalPortland
DuPont, Washington

SHEET REFERENCE NUMBER:

C-6

SHEET **10** *OF* **11**

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LEGEND

- SITE BOUNDARY
- SENSITIVE AREA BUFFER
- DRAINAGE DITCH
- STORMWATER MANAGEMENT FACILITY
- 100 — PROPOSED MINE CONTOURS

ESC ZONES

INTERNALLY DRAINING AREA

ESC PROVIDED BY RECLAMATION ACTIVITIES
SEE RECLAMATION PLAN (ECOLOGICAL LAND SERVICES, 2007)

TEMPORARY BERM

SEE SHEET C6

NOTES:

1) BMPS SHALL BE IMPLEMENTED ACCORDING TO THE APPLICABLE ELEMENTS OF THE BMP DESCRIPTIONS IN THE 2012 ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON AS AMENDED IN DECEMBER 2014, AS APPROPRIATE FOR A MINE SITE AND THE EROSION RISK IN EACH ESC ZONE.

2) SEE CSWPPP BY ASPECT CONSULTING (2020) FOR ADDITIONAL DETAIL REGARDING BMP IMPLEMENTATION.

N

0 400 800 1600
Feet

REV.	DESCRIPTION	DATE	APPR.

CALPORTLAND

Aspect CONSULTING

REVISED BY:	
DRAWN BY:	CMV
DESIGNED BY:	OGR/BMG
PROJECT NUMBER:	040001
REVISION:	0
DATE:	JAN-2021

EROSION AND SEDIMENT CONTROL PLAN

CalPortland
DuPont, Washington

SHEET REFERENCE NUMBER:

C-7

SHEET 11 OF 11

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