
**DAVIS WARREN GU C NO. 3 PAD
SUPPLEMENTAL STORM WATER MANAGEMENT PLAN (SWMP)**

Appendix PK 27 October 2011

Revised December 21, 2011

1.0 SITE AND PROJECT INFORMATION

Project Name: Davis Warren GU C No.3

Project Location: The project is located on private lands located in Sec 13;
T33N, R09W SUL La Plata County, Colorado N.M.P.M.
Well Head: 37°06' 19.503" N 107°46' 58.179" W

Owner Name and Address: BP America Production Company
380 Airport Road
Durango, CO 81301

Facility Contact and Telephone Number: Dan Fauth
(970) 247-6800

Project Specifics

- a. Description of the Construction Activity: Construction of a natural gas well pad ~260' x 195'
- b. Sequence of Major Construction activities
 - . Well Pad Construction
 - . Well Drilling and Completion
 - . Interim Pad Reclamation
- c. Estimated Total Area of Site disturbance ~1.38 Acres
- d. Estimated Runoff Coefficient, Before and After

Resource:	Before:	After
Bare Rough Agricultural	0.4	0.4

Existing Soil Data:

Soil:	Area:	Erosion:
Falfa clay loam, 3 to 8 percent slopes	100 %	Moderate

- e. Description of Existing Vegetation and Estimate of Percent Aerial Cover:

Pinon Juniper <1%
Sage/Shrubland ~25%

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- f. Description of Potential Pollution Sources: 1) Diesel fuel and gasoline for equipment and vehicles; 2) Lubricating oil 3) Drilling mud (bentonite -based viscous fluid); 4) Casing cement.
- g. Description of Anticipated Non-storm water Discharges: None Anticipated
- h. Name of Receiving Water and Type of Outfalls: Florida River via overland flow & unnamed intermittent drainage

2.0 SITE MAPS

The attached maps (Exhibit C) illustrate the approximate location of the well pad. Construction activities and areas of cut and fill and soil disturbance are limited to the area surveyed for the location. The maps illustrate the features required by the CDPS General Permit for field wide construction activities on fee lands under the field wide permit. There are no point-source outfall structures.

3.0 BEST MANAGEMENT PRACTICES FOR STORMWATER POLLUTION PREVENTION

The Best Management Practices (BMP) to be employed during the construction of this, well site project are outlined in the field wide Storm Water Management Plan. Specific BMPs to be implemented during the proposed project are described in Exhibit B.

4.0 INSPECTION AND MAINTENANCE

Inspections of the project site and maintenance of BMPs installed shall be conducted in accordance with the CDPHE CDPS permit and the field wide plan.

5.0 TERMINATION

At this time no formal permit termination is necessary as the PHASE II rule under the CDPHE is covered under a field wide permit. Upon final stabilization of the site covered under this supplemental plan, the plan and its associated inspections should be kept for at least three years following the date of final stabilization.

EXHIBIT A
Implementation Responsibility Transfer Log

By signing below, I certify under penalty of law that I understand and am responsible for the maintenance and implementation of the terms and conditions of the general Colorado Discharge Pollutant System (CDPS) permit and measures identified by the above site specific Storm Water Management Plan (SWMP) that may authorize the storm water discharges associated with my activities from the construction site identified in this site specific SWMP.

Site Responsibilities:

Name and Title (type or print): _____

Signature: _____

Date: _____

By signing below, I certify under penalty of law that I understand and am responsible for the maintenance and implementation of the terms and conditions of the general Colorado Discharge Pollutant System (CDPS) permit and measures identified by the above site specific Storm Water Management Plan (SWMP) that may authorize the storm water discharges associated with my activities from the construction site identified in this site specific SWMP.

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Date: _____

EXHIBIT B
Detailed BMPs & BMP Alterations Log

BMPs

Identified Implementation Locations:

1. **Drilling Pad Construction (See attached maps page 2)**

- Implement structural best management practices (i.e. wattles) where shown on maps prior to ground disturbing activities.
- Establish subbase to route surface water as sheet flow off the east side of location.
- Establish base lift gravel to accommodate level drilling operations and stabilize pad surface.
- Store topsoil as shown on map south of the proposed pad. Track and temporarily mulch topsoil to minimize off site siltation.
- Construct diversion ditch to tie into existing diversion ditch at top of slope on the west side of pad. Convey flow around the pad and discharge to a riprap rundown on the east side of the pad.

2. **Drilling and Completion Operations**

BMPs: Spill and Contaminated Soil Management

- Fuel, mud products, drill cutting spoils, trailer septic tanks, etc. that may contribute to storm water run-off shall be maintained within the graveled well pad area and contained in proper containers and/or sheltered from exposure.
- Any equipment maintenance shall be avoided during drilling and completion—in the event maintenance must occur, it shall be conducted within the graveled pad area, fluids shall be captured within spill proof containers, and absorbent mats shall be utilized beneath maintenance operations.
- Contaminated soil should be collected and disposed of at an appropriate soil farm or similar facility.

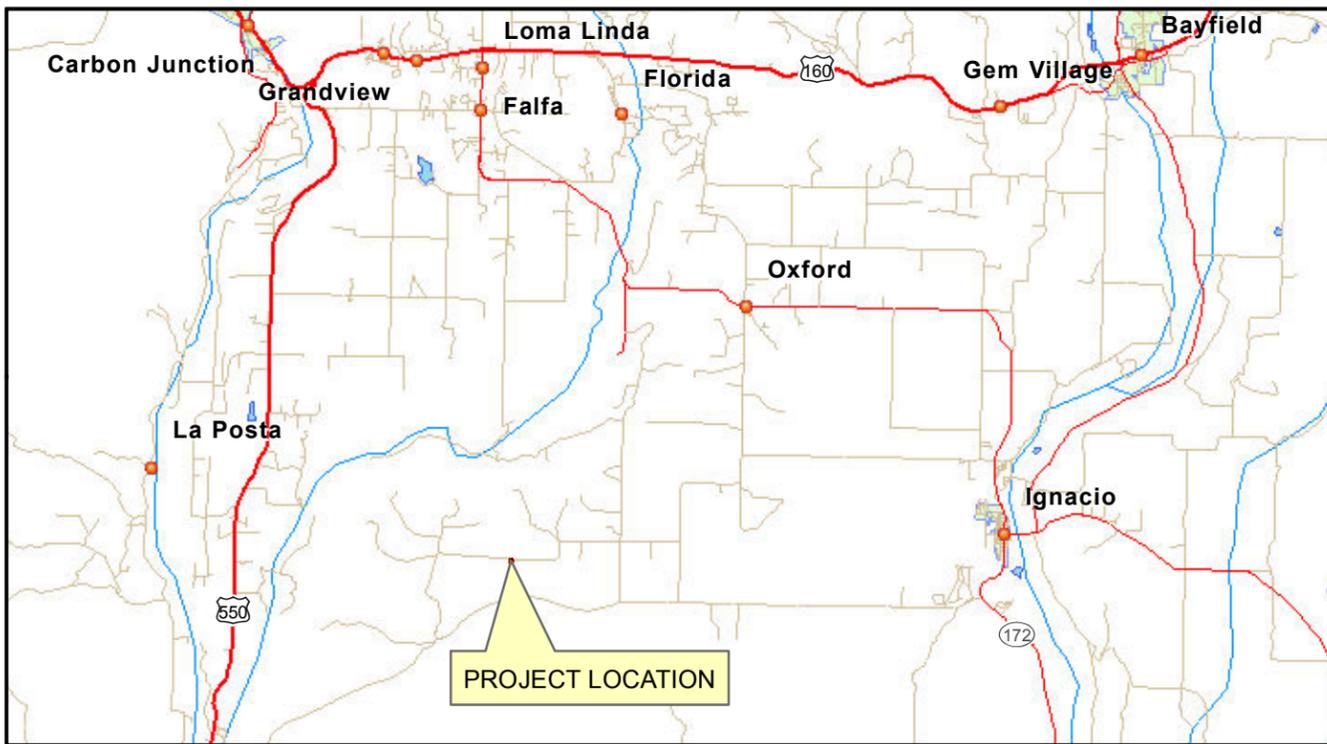
3. **Interim Pad Reclaim (See attached maps page 3)**

- Reclaim cut/fill slopes to 3:1 or less. Use excess spoil material as initial reclamation of cut slopes.
- Dispose of drill cuttings in accordance with COGCC 900 series rules.
- Spread topsoil over fill slopes & blend to existing grade areas where sloping meets pre-disturbance grade.
- Repair, replace, or install pad wattles if necessary or as shown.

4. **Re-seeding & BMP Removal**

- Re-seed as soon as possible following reclamation of pad, provided season and weather permits and cover with 2 tons/acre of weed free straw mulch. Tackify or crimp the mulch to the exposed soil surfaces.
 - Cut/Fill Slopes & Topsoil Storage Area.
- Seed mix should implement an annual cover or triticale.
 - Seed Mixture = G-P
- Upon 70% Re-Vegetation across site, remove wattles and any other temporary erosion and sediment control BMP.

EXHIBIT C
Maps



- | | | | |
|-----------------------------|---|---------------------------|--|
| (SCL) | Sediment control log "wattle" | (WB) | Water bar or slope break |
| (CD) _{SCL} | Sediment control log as a check dam | (CWA) | Concrete wash area |
| (CD) _{ROCK} | Rock check dam | (TS) | Temporary Seeding |
| (SF) | Silt Fence | (PS) _{MU} | Permanent seeding and Mulching (Straw, Hay, Hydro-Mulch) |
| (CV) | Culvert | (SR) | Surface roughening or Track Depressions |
| (FL) | Flume | (ECM) | Erosion control matting |
| (CMP) | Corrugated Metal Pipe | (ECB) | Erosion control blanket |
| (IP) _{SCL} | Sediment control log as inlet protection | (DW) | Dewatering location |
| (IP) _{ROCK} | Rock (Rip-Rap) inlet protection | (TSS) | Topsoil Storage |
| (OP) _{SCL} | Sediment control log as outlet protection | (SMZ) | Stream management zone |
| (OP) _{ROCK} | Rock (Rip-Rap) outlet protection | (VB) | Vegetated buffer |
| (SCE) | Stabilized construction entrance | | |
| (DV) | Diversion Ditch | | |
| (DD) | Diversion Dike | | |
| (RD) | Rundown or spill way (Rip Rap) | | |



SUPPLEMENTAL STORM WATER MANAGEMENT PLAN

Scale: **1"=100'** File: 11-0802.mxd

Revision: **B - 12/21**

**BP AMERICA PROTECTION Co.
DAVIS WARREN GU C #3
WELL PAD**

LA PLATA COUNTY, COLORADO

DRAWN BY: MJW

CHECKED BY: CK

DATE: 12/21/2011

PAGE 1 OF 3

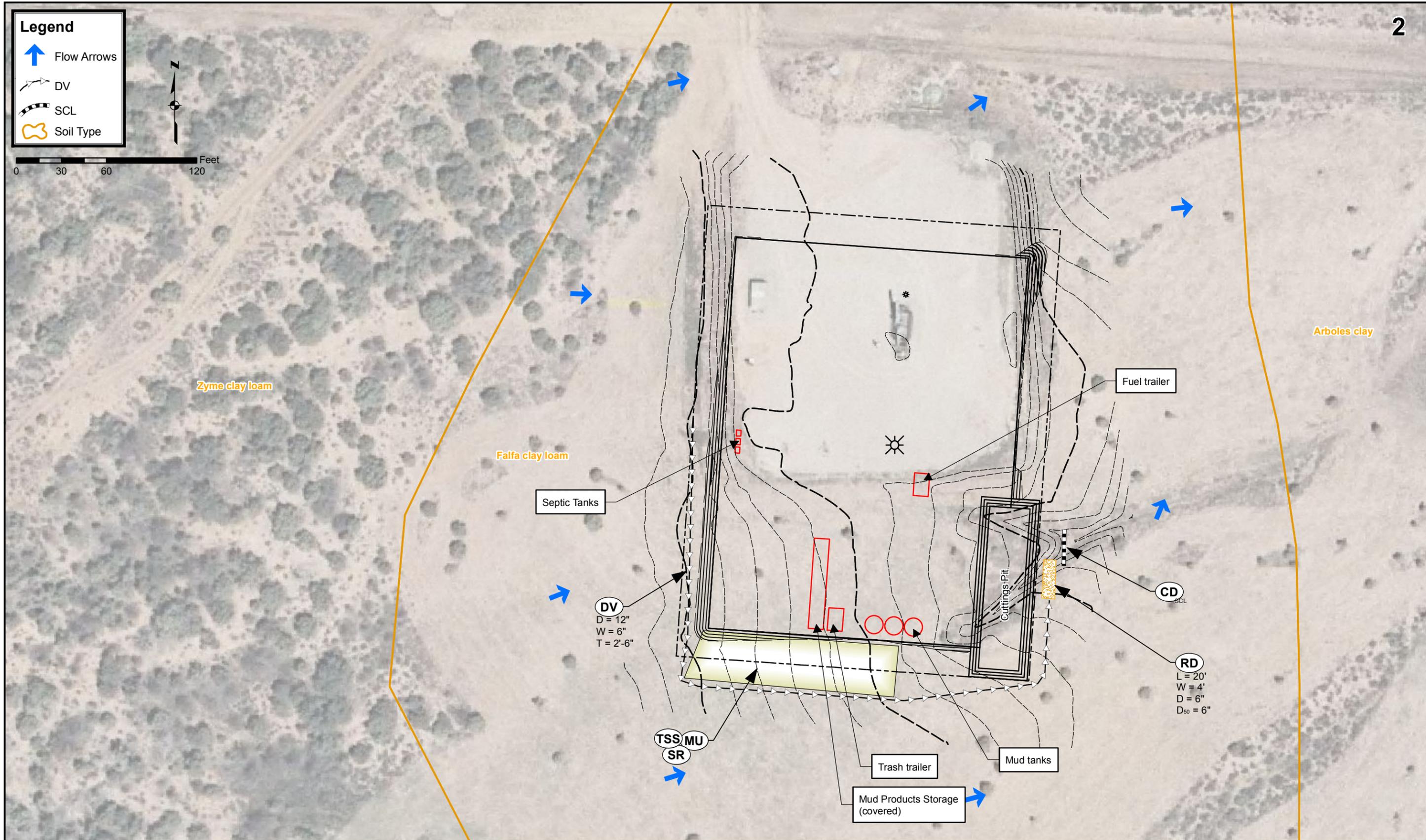
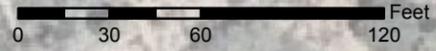


"Dedicating resources to tomorrow's environment for today's industry."
150 ROCKPOINT DR DURANGO, CO (970) 385-4732

Note:
Prymors Environmental Consulting is not responsible for the accuracy of the data provided for this project. This map is to be used as a reference drawing only not established for surveying or engineering. No underground utilities are outlined on this map contractors are encouraged to make a "one call" prior to ground disturbance activities.

Legend

-  Flow Arrows
-  DV
-  SCL
-  Soil Type



**CLEARING/GRADING/CONSTRUCTION
SUPPLEMENTAL STORM WATER
MANAGEMENT PLAN**

**BP AMERICA PRODUCTION Co.
DAVIS WARREN GU C #3
WELL PAD

LA PLATA COUNTY, COLORADO**

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PAGE 2 OF 3



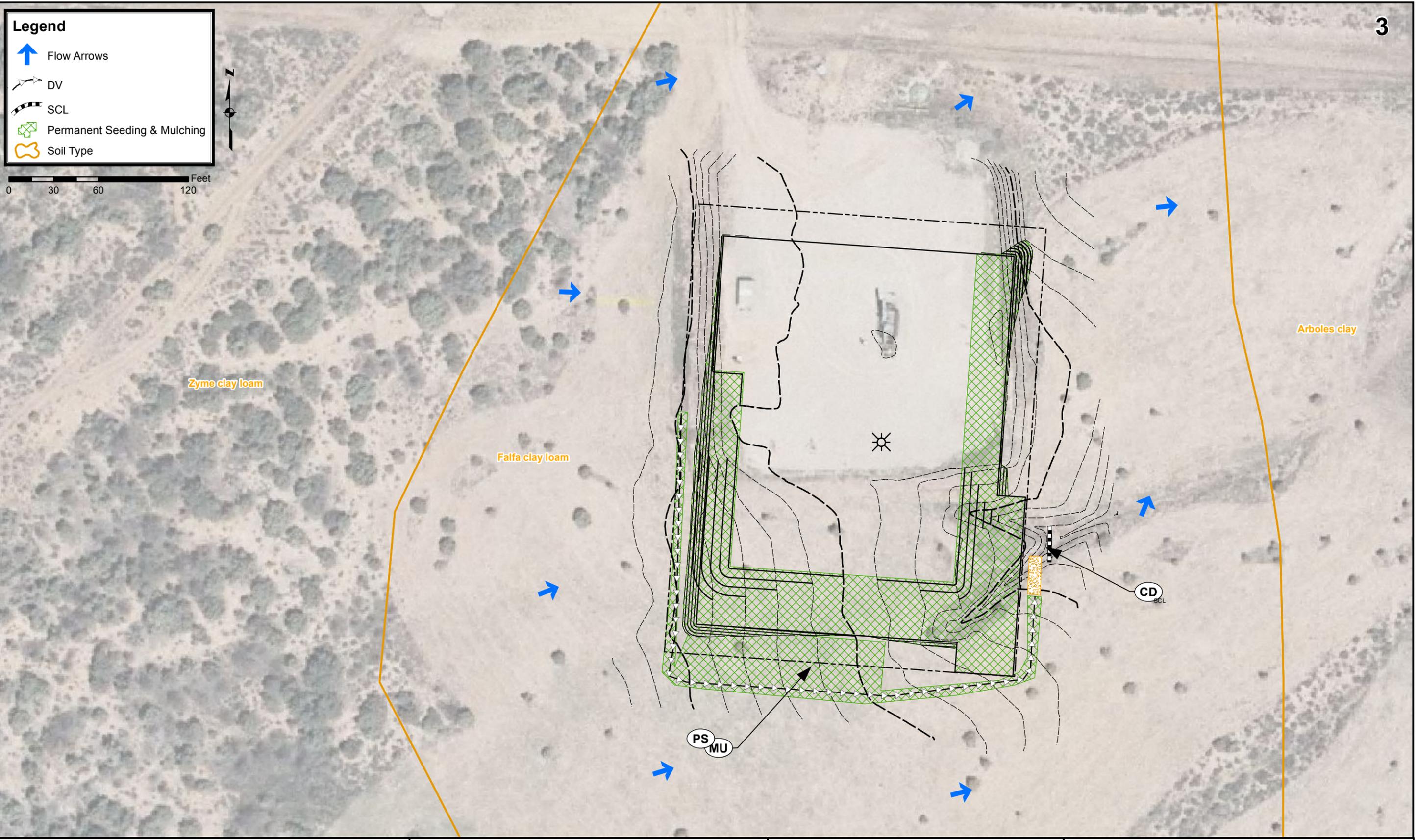
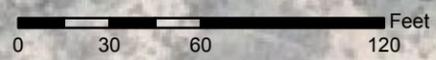
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Scale: 1"=60'	File BP_Davis Warren GU C #3 SWMP 11-1025MW.mxd	Revision B - 12/21
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Legend

-  Flow Arrows
-  DV
-  SCL
-  Permanent Seeding & Mulching
-  Soil Type



**POST CONSTRUCTION/RECLAMATION
SUPPLEMENTAL STORM WATER
MANAGEMENT PLAN**

Scale: 1"=60'	File BP_Davis Warren GU C #3 SWMP 11-1025MW.mxd	Revision B - 12/21
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DAVIS WARREN GU C #3
WELL PAD**

LA PLATA COUNTY, COLORADO

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PAGE 3 OF 3



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