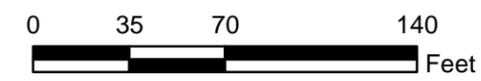


Legend

- Top 20 Ranked Discontinued Stormwater Monitoring Location
- Top 20 Ranked Active Stormwater Monitoring Location
- Other Location
- BMPs
- Drainage Area (Approx.)
- ISRA
- Property Boundary
- - - RFI Site Boundary
- Drainage

Location Labels:
 ID
 Description
 n = total samples (2013-2014 samples)
 Multi-Constituent Rank = x



In March of 2013, improvements were made at CM-9 area including:

- Erosion control blanket and straw wattles were installed along the slopes adjacent to the Area II Road
- A low flow diversion inlet structure and a diversion pipe with perforations were installed to spread road runoff along the slope
- A rock berm was installed for ponding as pre-treatment to CM-9

In September of 2013, improvements included:

- Sediment removal at CM-9
- Mesh screen placed over culvert inlet to perforated pipe to prevent clogging.

Recommendations:

- Replace filter fabric on the CM-9 weir boards when the fabric becomes clogged or damaged
- Remove sediment accumulation at the inlet of the culvert modification and at the pretreatment rock berm
- Note any water ponded upstream of the weir board for greater than 72 hours as it may suggest that media or underdrain maintenance is needed
- Continue inspection and maintenance of BMPs

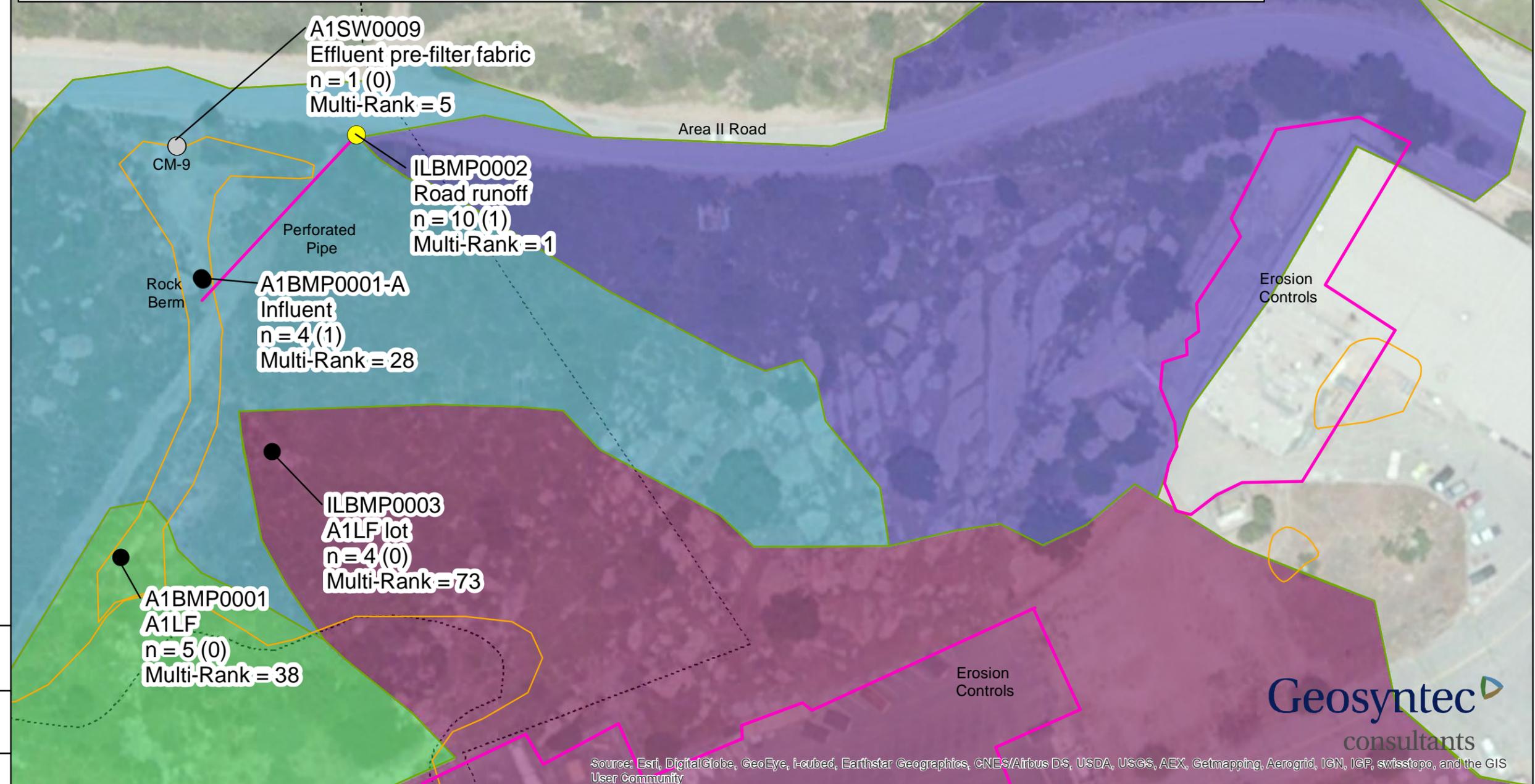


Figure ES-3: CM-9 Area

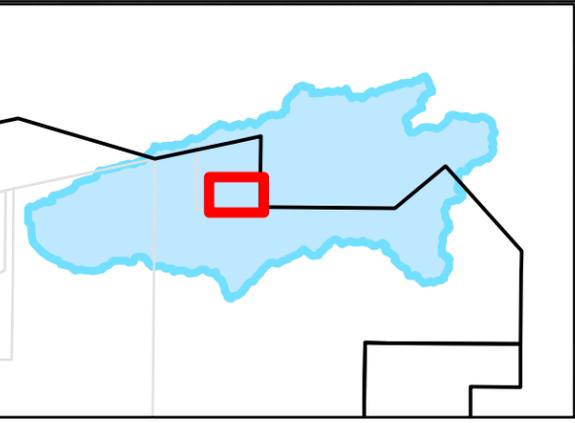
Santa Susana Site
 Ventura County, CA

August 2014



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Date: 8/27/2014, Path: P:\GIS\Projects\Boeing\SSFL\Projects\OldArcMap\2014 Priority Sites-CM9_final.mxd, User: MMOTTO



BMP Activities:

- Placement of jute matting on the south slope of the dirt road
- Installation of fiber rolls along the dirt road and slope to the south
- Fresh gravel applied along the dirt road
- Repairs to grade control structure on northern drainage channel at base of LOX
- Hydroseed applied to the slope

Recommendations:

- Continued inspection and maintenance of the LOX BMPs

Legend

- Top 20 Ranked Discontinued Stormwater Monitoring Location
- Top 20 Ranked Active Stormwater Monitoring Location
- Other Location
- Background Location
- BMPs
- Drainage Area (Approx.)
- ISRA Areas
- Property Boundary
- - - RFI Site Boundary
- Drainage

Location Labels:

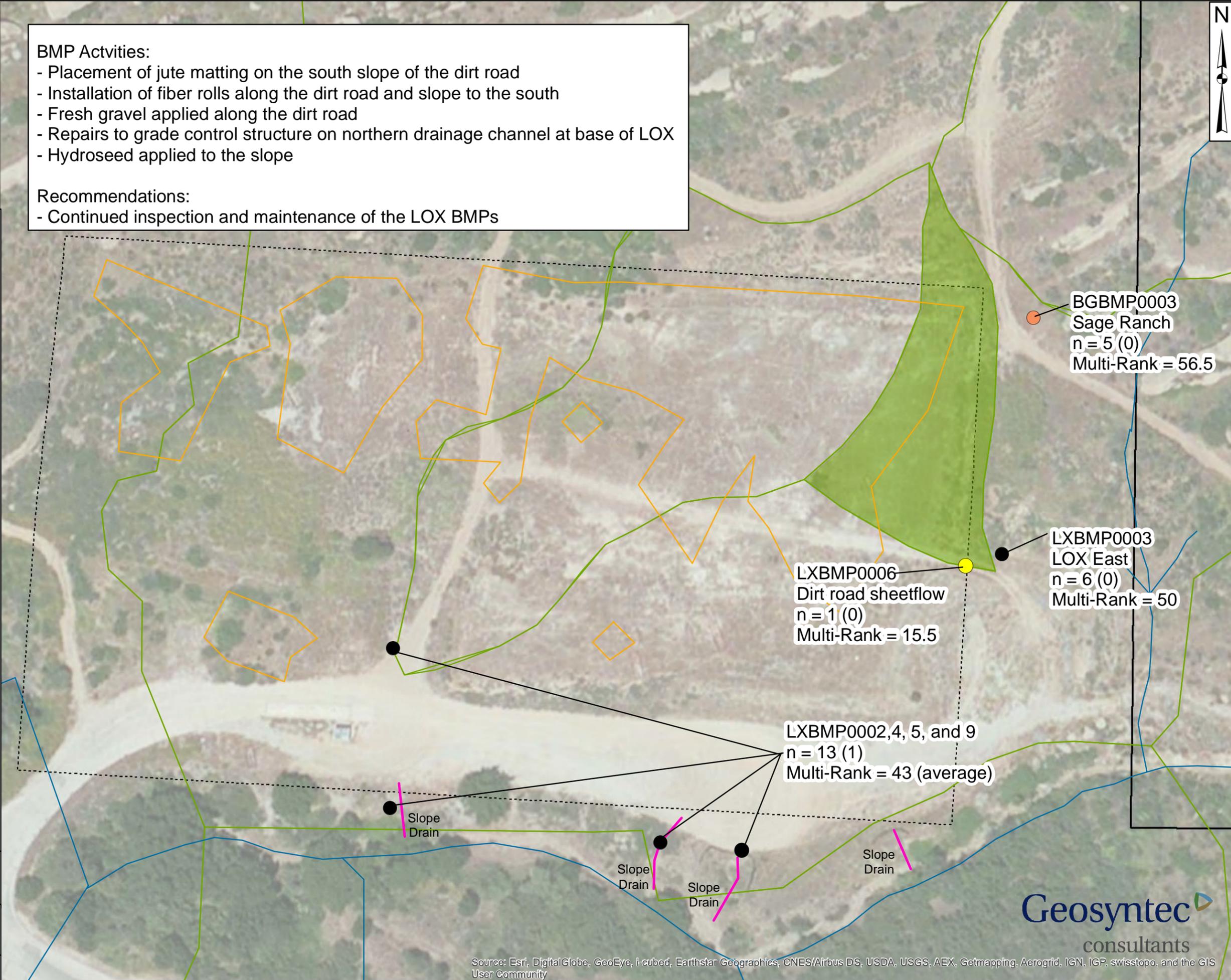
ID
Description
n = total samples (2013-2014 samples)
Multi-Constituent Rank = x



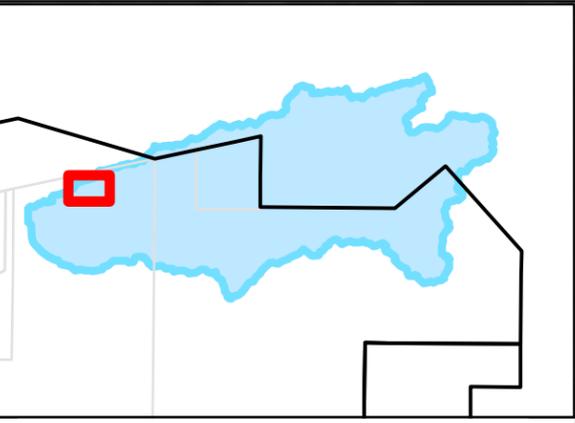
Figure ES-4: LOX Area

Santa Susana Site
Ventura County, CA

August 2014



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Legend

- Top 20 Ranked Discontinued Stormwater Monitoring Location
- Top 20 Ranked Active Stormwater Monitoring Location
- BMPs
- Drainage Area (Approx.)
- ISRA
- Property Boundary
- - - RFI Site Boundary
- - - Culvert
- Drainage

Location Labels:
ID
Description
n = total samples (2013-2014 samples)
Multi-Constituent Rank = x



EVBMP0002
Helipad runoff (OLD)
n = 6 (0)
Multi-Rank = 3

EVBMP0002-B
Helipad runoff, post improvements
n = 5 (1)
Multi-Rank = 39

Activities:

- In August of 2013 a concrete curb along the paved area west of the Helipad was constructed to route runoff from this area to the Helipad.
- Drainage from the west was modified by the installation of a lowered concrete slab, increasing flows from previous monitoring seasons.
- The sandbag berms and pumps were kept in operation during the 2013/2014 season.

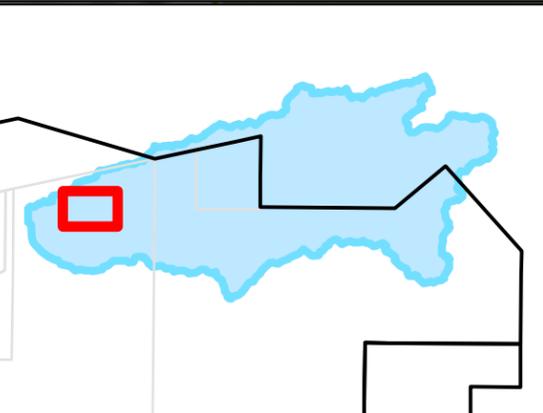
Recommendations:

- Continued operation of temporary capture system or equivalent runoff capture and treatment as a temporary control strategy until NASA is able to remove asphalt from the Helipad area during the planned demolition.
- Ponded water should be pumped out to the sump area and the storm drain inlet "plug" under Helipad Road be removed when either 1) Outfall 009 is flowing or 2) the sump is overflowing onto Helipad Road.
- Continued inspection and maintenance of the Helipad sandbag berms and any future BMPs.

Figure ES-5: Helipad Area

Santa Susana Site
Ventura County, CA

August 2014



ELV stormwater treatment system was installed in November of 2013.
Sediment removal was performed at CM-1 in September of 2013.

- In March of 2014 following a site visit the Expert Panel submitted recommendations to NASA including:
- Improved erosion control along the earth-bottom portions of the ELV channel (completed)
 - Modify influent screen in the sump if significant clogging is observed
 - If overflows are observed, incorporate automated pump controls
 - Evaluate capacity of filter tank overflow pipe to prevent tank overtopping
 - Conduct additional media rinsing until low turbidity goal is met
 - Clarify tank draining procedures and rules to address vector concerns

- Recommendations:
- Continued inspection and maintenance of all BMPs
 - Consider March recommendations
 - Add sandbags along rip-rap, extend matting over the sides of the ELV channel, and weight down matting with pass-through bags
 - Collect stormwater samples at the midpoint between sedimentation basin and media filter.

Legend

- Top 20 Ranked Discontinued Stormwater Monitoring Location
- Top 20 Ranked Active Stormwater Monitoring Location
- Other Location
- BMPs
- Drainage Area (Approx.)
- ISRA
- Property Boundary
- - - RFI Site Boundary
- - - Culvert
- Drainage

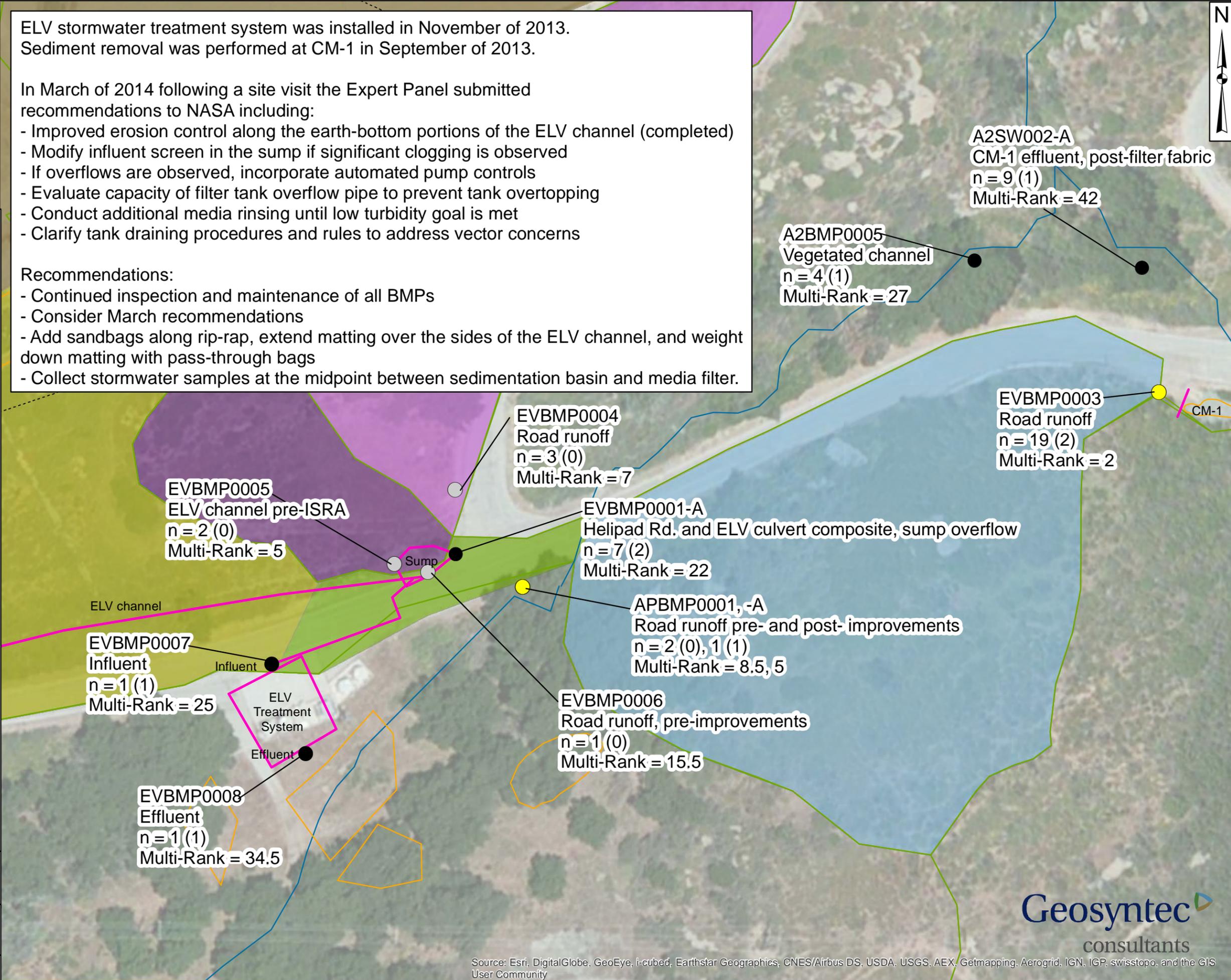
Location Labels:
ID
Description
n = total samples (2013-2014 samples)
Multi-Constituent Rank = x



Figure ES-6: ELV/CM-1 Area

Santa Susana Site
Ventura County, CA

August 2014



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community