PREVENTION OF TRIGGERING DEBRIS SLIDES

As a condition of approval for the Reclamation Plan Amendment, the County has mandated that mine operators shall be trained in the prevention of triggering debris slides. This is targeted at keeping sediment, especially limestone-based materials, from entering Permanente Creek and PCRA areas.

Please discuss the following topics with all employees:

1) General awareness of the causes and impacts of debris slides.

Debris slides can occur on steep hillsides where consolidation of the substrate cannot support the loads above. Slides usually happen where fill slopes are steep and composed of loose materials. Any loosening or disturbance of supporting materials can cause a debris slide.

2) Maintaining thorough and adequate erosion control measures.

Controls to prevent materials from sloughing off include debris/silt fencing placed on outer edge of grading and excavation operations, back-sloping excavations to prevent grade slope towards the creek, operations buffer areas, and berms along the outer extent of operations closest to the creek.

At the Permanente Quarry, the main control is the haul road berms to prevent materials from entering the PCRA. Secondary controls are installed on the slopes below the haul road berm in various subareas on the creek slopes including erosion control matting, straw wattles, and wire-backed silt fencing.

3) Prevention of actions that may cause or exacerbate debris slide conditions

Avoid unnecessarily removing vegetation, boulders and other substrates. Restrict vehicle operations to maintained roads. Stockpile fill and other debris in appropriate areas as designated with the haul road berms.

4) Regularly inspect areas with a high potential for slides and report any suspected conditions that might cause a debris slide into Permanente Creek and PCRA areas.

EROSION CONTROL TRAINING TOPICS

Erosion control is the practice of preventing or controlling wind or water erosion in agriculture, land development and construction. Effective erosion controls are important techniques in preventing water pollution and soil loss. Erosion controls are used in natural areas, agricultural settings or urban environments. Erosion controls often involve the creation of a physical barrier, such as vegetation or rock, to absorb some of the energy of the wind or water that is causing the erosion. On construction sites they are often implemented in conjunction with sediment controls such as sediment basins and silt fences.

On the Permanente Quarry Site, the main erosion controls include:

- Haul road berms to keep water out of the creek and directed toward siltation basins or ponds
- Siltation basins or ponds to settle out sediment and control waters leaving the site
- Silt fences,

6 *Goals Of Erosion Control*

1. *No Sediment Leaves the Site*
2. *Lines of Defense Everywhere* & *Always*
3. *Cover Quickly*
4. *Protect the Swale, Ditch ,and Channel*
5. *Keep Clean Water Clean*
6. *Inspect, Clean* & *Fix*

Inlet Barriers (i.e.: sand bags, gutter buddies, straw wattles)

- Is the structure deteriorating
- Is sediment >1/2 the height of structure?
- Evidence of water/sediment getting around or under barrier?
- Are there other structures that require inlet barriers?

Sediment Barriers (i.e.: haul road check dams, ditch checks)

- Are they trenched in or falling down?
- Evidence of sediment/water getting around or under barrier?
- Is sediment more than 1/2 height of structure?
- Are there areas where more sediment barriers are required or need extended?

Perimeter Control (i.e.: Haul road berms, silt fence, straw wattles)

- Is all the off-site water being diverted where applicable?
- Evidence of water/sediment getting around or under barrier?
- Are there areas that need extended or additions to other locations?
- Are the barriers in good condition or in need of repair?
- Straw Blankets-are they deteriorating and need replaced?
- Are the haul road berms preventing water from entering the creek?

Stabilized Construction Entrance

- Evidence of sediment being tracked off site onto public streets?

Soil and Fines Stockpiles

- An earth berm must be constructed upstream around the area to prevent runoff from contacting stockpile and a downstream ditch to prevent waters from leaving the stockpile site

Sediment Basins

- Note the basin depth. Is the basin more than half full of sediment from original design?
- Condition of basin side slopes
- Evidence of water overtopping embankments
- Condition of outfall

General Site Conditions

- Trash barrels-any evidence of trash lying around site
- Location of porta potties
- Leaking vehicles
- Concrete Washouts Designated

STORM WATER POLLUTION PREVENTION PLAN

BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are practices used to reduce the amount of pollution entering surface waters. Based on the potential pollutant areas identified at the facility, existing and recommended BMPs for the facility are discussed below.

Please discuss the following areas with all employees:

1) **Truck Loading Areas**
    a. Continue to immediately cleanup any spilled cement or aggregate
2) **Raw Material Storage**
    a. Any total suspended solids (TSS) generated by stormwater contact with the aggregate storage areas is directed to detention ponds or basins which are designed to remove TSS prior to discharge. BMP in these areas would be to insure that stormwater runoff from aggregate storage or cement loading areas does not leave the property, but indeed goes to ponds or basins.
    b. Maintain bag houses to prevent dust from cement. Immediately cleanup any spill material to limit exposure to stormwater.
3) **Secondary Containment Storage**
    a. Secondary containment walls should be maintained, inspected and repaired when necessary to prevent leaks. Secondary containment is defined as spill containment for the contents of the single largest tank plus sufficient freeboard to allow for a 25 year, 24 hour storm event.
    b. Maintain the equipment and hoses within the containment area used to transfer the materials. Clean inside walls when necessary.
4) **Diesel Tanks**
    a. Fuel overflows during storage tank filling can be a major source of spills. Watch the transfer constantly to prevent overfilling and spilling.
    b. Clean up any spills or drips immediately.
    c. Verify that drain plug is installed.
    d. Discourage topping off of fuel tanks.
    e. Properly protect portable fuel tanks, pumps and hoses from contact with trucks and other mobile equipment.
    f. Install secondary containment around tank pump and piping if not already done, this would prevent a leak or spill from entering ponds, basins or from leaving the property.
5) **Oil Storage Areas**
    a. Place all drums and lubricants on drip containment pallets.
    b. Clean up any spills or drips with sorbent materials immediately.
    c. Maintain valves to prevent leaks.

d. Clean out within containment when necessary. Inspect for residue prior to rainwater release.
e. Remove old & unused barrels

6) Ponds and Basins

a. Inspect basins regularly for damage, erosion, waste, and sediment buildup.
b. Clean out basins when necessary to prevent a stormwater overflow.
c. Reduce amount of sediment and processed water to keep basins level low.
d. Inspect outfall regularly for dry weather discharge.

7) Sediment Drying Areas

a. Inspect area regularly for damage, erosion, waste, and sediment buildup.
b. Clean out area when necessary to prevent a stormwater overflow.
c. Reduce amount of sediment to keep sediment levels low.

8) Equipment Wash Areas

a. Continue to wash mobile equipment to the basins and direct all wash water to prevent it from leaving the containment area
b. Keep area swept and free of aggregates, fines and trash that could enter the ponds, basins or leave property.
c. Inspect area regularly for damage and erosion.

REMEMBER:

Keep tanks inside secondary containment.

Prevent a leak or spill from entering the ponds, basins or leaving the property.

Lehigh Southwest Cement Company:
Permanente Plant
2012 SWPPP Training:

	Name	Dept.	Date
1	Aceves, Vicente	Contractor - ECI	9/13/2012
2	Avent, Sean	Contractor - WRA	9/13/2012
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Lehigh Southwest Cement Company
Permanente Quarry

2013 Reclamation Plan Amendment Staff Training

[redacted]

Training Topics

1) Reclamation Plan Amendment (RPA)
2) Environmental Impact Report (EIR) Mitigation Monitoring and Reporting Plan (MMRP)
3) Conditions of Approval (COA's)
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6) Erosion Control Training

Sign-in Sheet

Name	Department	Date
	STEVENS CREEK QUARRY	
Dave Romay	SCQ	6/27/13
Domingo Magana	SCQ	6/27/13
James Bubst	SCQ	6/27/13
PHIL CONRAD	SCQ	6/27/13
Josh Congdon	SCQ	6/27/13
John Bassler	SCQ	6/27/13
Joe Parisi	SCQ	6/27/13
Steve Nelson	SCQ	6-27-13
Keith an Ledger	SCQ	6-27-13
DUSTIN PLANT	SCQ	6-27-13
Eric Grant	SCQ	6/27/13
MARK KLINE	SCQ	6/27/13
Brian Bradbury	SCQ	6/27/13
BRAD ALLMON	SCQ	6 27 13
Guillermo Orozco	SCQ	6-27-13
Omar Angulano	SCQ	6-27-13
Tom Trumbull	SCQ	6-27-13

Lehigh Southwest Cement Company
Permanente Quarry

Name	Department	Date

Lehigh Permanente Quarry

EROSION CONTROL TRAINING TOPICS

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On the Permanente Quarry Site, the main erosion controls include:

- Haul road berms to keep water out of the creek and directed toward siltation basins or ponds
- Siltation basins or ponds to settle out sediment and control waters leaving the site
- Silt fences, straw wattles, and erosion control blankets on the creek side of the haul road berms in select locations
- Silt fences, straw wattles, and erosion control blankets on the topsoil stockpiles

6 Goals Of Erosion Control

1. *No Sediment Leaves the Site*
2. *Lines of Defense Everywhere & Always*
3. *Cover Quickly*
4. *Protect the Swale, Ditch ,and Channel*
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STORM WATER POLLUTION PREVENTION PLAN
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2. Raw Material Storage

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Maintain bag houses to prevent dust from cement. Immediately cleanup any spill material to limit exposure to stormwater.

3. Secondary Containment Storage

Secondary containment walls should be maintained, inspected and repaired when necessary to prevent leaks. Secondary containment is defined as spill containment for the contents of the single largest tank plus sufficient freeboard to allow for a 25 year, 24 hour storm event.

Maintain the equipment and hoses within the containment area used to transfer the materials. Clean inside walls when necessary.

4. Diesel Tanks

Fuel overflows during storage tank filling can be a major source of spills. Watch the transfer constantly to prevent overfilling and spilling.

Clean up any spills or drips immediately.

Verify that drain plug is installed.

Discourage topping off of fuel tanks.

Properly protect portable fuel tanks, pumps and hoses from contact with trucks and other mobile equipment.

Install secondary containment around tank pump and piping if not already done, this would prevent a leak or spill from entering ponds, basins or from leaving the property.

5. Oil Storage Areas

Place all drums and lubricants on drip containment pallets.

Clean up any spills or drips with sorbent materials immediately.

Maintain valves to prevent leaks.

Clean out within containment when necessary. Inspect for residue prior to rainwater release.

Remove old & unused barrels

6. Ponds and Basins

Inspect basins regularly for damage, erosion, waste, and sediment buildup.

Clean out basins when necessary to prevent a stormwater overflow.

Reduce amount of sediment and processed water to keep basins level low.

Inspect outfall regularly for dry weather discharge.

7. Sediment Drying Areas

Inspect area regularly for damage, erosion, waste, and sediment buildup.

Clean out area when necessary to prevent a stormwater overflow.

Reduce amount of sediment to keep sediment levels low.

8. Equipment Wash Areas

Continue to wash mobile equipment to the basins and direct all wash water to prevent it from leaving the containment.area

Keep area swept and free of aggregates, fines and trash that could enter the ponds, basins or leave property.

Inspect area regularly for damage and erosion.

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Keep tanks inside secondary containment.
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STORM WATER POLLUTION PREVENTION PLAN

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Permanente Plant
2012 SWPPP Training:

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Lehigh Southwest Cement Company
Permanente Quarry

2013 Reclamation Plan Amendment Staff Training

4/3/2013

Training Topics

1) Reclamation Plan Amendment (RPA)
2) Environmental Impact Report (EIR) Mitigation Monitoring and Reporting Plan (MMRP)
3) Conditions of Approval (COA's)
4) Storm Water Pollution Prevention Plan (SWPPP)
5) Prevention of Triggering Debris Slides
6) Erosion Control Training

Sign-in Sheet

Name	Department	Date
Nate Castro	Quarry	4/3/2013
Louie Bedolla	Quarry	4/3/2013
Tony Berrospe	Quarry	4/3/2013
Jose Valdez	Quarry	4/3/2013
Terry Duke	Quarry	4/3/2013
Hector Martinez	Quarry	4/3/2013
Marcos Lutin	Quarry	4/3/2013
Pastor Lopez	Quarry	4/3/2013
Jimmy Urena	Quarry	4/3/2013
Adam Vega	Quarry	4/3/2013
Jorge Moreno	Quarry	4/3/2013
Jose Solorio	Quarry	4/3/2013
Roberto Hemander	Quarry	4/3/2013
Fidel Castillo	Quarry	4/3/2013
Esteban Navarro	Quarry	4/3/2013
Juan Villa	Quarry	4/3/2013
George Dias	Quarry	4/3/2013
Vicente Cortes	Quarry	4/3/2013

Lehigh Southwest Cement Company
Permanente Quarry

Name	Department	Date
Christopher Pacheco	Quarry	4/3/2013
Hanan Butler	Quarry	4/3/2013
Orlando Salazar	Quarry	4/3/2013
Blaine Simon	Quarry	4/3/2013
Jose Rivas	Quarry	4/3/2013
Jojo Ortillo	Quarry	4/3/2013
Dan Zacharisen	Quarry	4/3/2013

COA 11.

By October 1 of each year, starting in 2012, the Mine Operator shall provide to the Planning Manager a report summarizing the date of the annual training, topics reviewed, and list of all employees attending the training. The Mine Operator shall annually train all mining staff, including outside vendors, contractors, or consultants who are responsible for implementation of any part of the mine operations or reclamation at Permanente Quarry, on the requirements and provisions of the RPA, the conditions of approval, and the MMRP.

COA 78d.

In areas such as the WMSA where fill slopes are steep and composed of loose material, controls shall be in place to prevent material from sloughing off into the PCRA and Permanente Creek. These controls shall include debris/silt fencing placed on outer edge of grading and excavation operations back-sloping excavations to prevent grade slope towards the creek, operations buffer areas that require the use of smaller grading equipment, temporary berms along the outer extent of operations closest to the creek, Mine Operator training regarding the prevention of triggering debris slides.

COA 78m.

Provide adequate erosion control training to all equipment and mine operators, site superintendants, and managers to ensure that stormwater and erosion controls are maintained and remain effective.

Lehigh Southwest Cement Company
Permanente Quarry

2013 Reclamation Plan Amendment Staff Training

August, 2013

Training Topics

1) Reclamation Plan Amendment (RPA)
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3) Conditions of Approval (COA's)
4) Storm Water Pollution Prevention Plan (SWPPP)
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Sign-in Sheet

Name	Department	Date
Reuben Brandt	WRA	8/14/13
Katie Allan	WRA	8/14/13
Sean Avent	WRA	8/14/13
Pat Nalewaik	WRA	8/14/13
Daniel Chase	WRA	8/14/13
Rob Sorell	WRA	8/14/13
[illegible]	WRA	8/14/13
[illegible]	WRA	8/20/13