



ENGINEERING SITE OBSERVATION REPORT

DATE: June 10, 2009

SUBJECT: Sam's Club of El Monte, CA (Store No 6614-01) Post-Construction Stormwater BMP Observation Report

TO: K.K. Yeow, Wal-Mart Stores, Inc.

FROM: Ken Jewell, M.S., P.E. CPESC

This report presents the results of the Site Observations of the permanent storm drain system and post construction Best Management Practices (BMPs) for Sam's Club, Store #6144-01 located in El Monte, CA. Adams Engineering visited the construction site during several milestones in the installation of the storm drain system and post-construction BMPs.

The purpose of the special observations assures the project is being built in general conformance with the contract documents and according to the design concept. This scope of work is intended to determine, by periodic visits to the construction site by the project's Civil Engineer, if the work is preceding in general conformance with the contract documents and with the design concept.

These construction observations are limited in scope and purpose, and are not a detailed inspection which the Clients construction testing lab is responsible for performing. These observations are not intended to (1) uncover any code violations or defects in construction, (2) nor monitor the contractors work in detail, (3) nor provide any supervision. This construction observation does not relieve the contractor of their obligations under the construction contract— particularly for the means and methods and jobsite safety.

This report presents pictures taken during the installation of the underground storm drainage system, underground infiltration system, bio-cell or landscape infiltration, and the other best management practices (BMP's) that were described and designed in the Project's Standard Urban Stormwater Mitigation Plan (SUSMP).

Sam's Club Store No. 6614-01
El Monte, CA

UNDERGROUND INFILTRATION BASIN OBSERVATIONS:



Underground Infiltration Basin – 09/08/08

Excavation of Underground Infiltration Basin No. 2 near the Southern property line adjacent to Lower Azusa Road.



Underground Infiltration Basin – 09/08/08

The underground infiltration tanks modules (Atlantis® Matrix™) were assembled at surface, prior to installation into Basin No. 2.



Underground Infiltration Basin – 09/08/08

Excavation of Underground Infiltration Basin No. 2 near the Southern property line adjacent to Lower Azusa Road.



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Underground Infiltration Basin – 09/11/08

Installation of Underground Infiltration Basin No. 2, near the Southern property line Note permeable geo-fabric and clean-out portals.



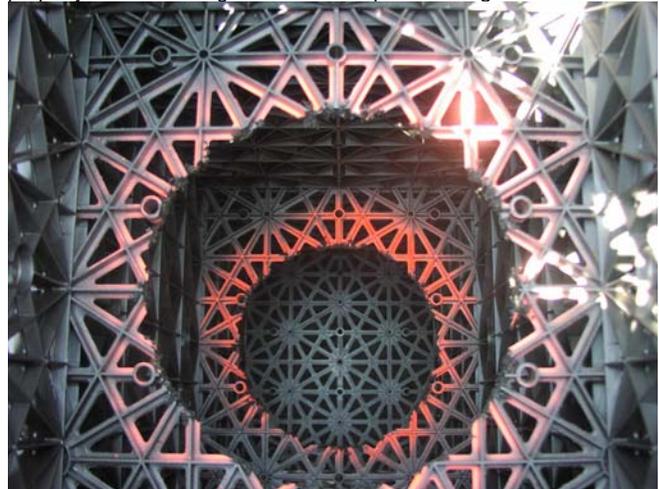
Underground Infiltration Basin – 09/11/08

Installation of Underground Basin No. 2, near the Southern property line Note the gravel base and permeable geo-fabric.



Underground Infiltration Basin – 09/11/08

Installation of Underground Basin No. 2. Please note the gravel base, permeable geo-fabric and cleanout portal.



Underground Infiltration Basin – 09/11/08

Installation of Underground Basin 2 -- cleanouts are cut through the modular tank units per the manufacturers' recommendations.



Underground Infiltration Basin – 09/11/08

Installation of Underground Basin No. 2, near the Southern property line Note the gravel base and permeable geo-fabric.



Underground Infiltration Basin – 09/11/08

Installation of Underground Basin 2, near the Southern property line Note permeable geo-fabric and installation nearly complete.

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Underground Infiltration Basin – 09/24/08

Installation of the outlet/discharge pipes from Underground Infiltration Basin No. 1. Also note the geo-fabric over 1 foot of sand backfill.



Underground Infiltration Basin – 10/02/08

Installation of the outlet structure and storm drain pipes near the discharge of Underground Infiltration Basin No. 2.



Underground Infiltration Basin – 10/02/08

Installation of the outlet structure and storm drain pipes near the discharge of Underground Infiltration Basin No. 2.



Underground Infiltration Basin – 6/10/09

Cleanouts in the parking area for Underground Infiltration Basin No. 2.

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BIORETENTION CELL OBSERVATIONS:



Storm Drain – 10/02/08

Installation of concrete forms for the concrete anchors and storm drain piping at the edge of the bioretention cells to limit water seepage through the storm drain trench.



Bioretention Cells -- 02/11/09

Excavation of exiting soil at Bioretention Cell. Note the storm drain inlet and soil preparation for the impermeable vertical liner.



Bioretention Cells -- 02/11/09

Excavation of exiting soil at Bioretention Cell. Note the storm drain inlet and pipe for overflow discharges.



Bioretention Cells -- 02/11/09

Excavation of exiting soil at Bioretention Cell. Note the storm drain inlet and pipe for overflow discharges.



Bioretention Cells -- 02/12/09

Installation of Bioretention Cell. Note the storm drain inlet with under-drain stub-out, and the vertical impermeable liner.



Bioretention Cells -- 02/12/09

Installation of Bioretention Cell. Note the storm drain inlet with under-drain stub-out, and the vertical impermeable liner.



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Bioretention Cells -- 02/13/09

Installation of Bioretention Cell. Note the storm drain inlet with under-drain stub-out, the gravel sub-base & the vertical impermeable liner.



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Bioretention Cells -- 02/13/09

Installation of Bioretention Cell. Note the gravel sub-base & the vertical impermeable liner.



Bioretention Cells -- 03/04/09

Installation of Bioretention Cell. Note the amended soils have been installed and the area is nearly at finished grade.



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Installation of Bioretention Cell. Note the amended soils have been installed and the area is nearly at finished grade.



Bioretention Cells -- 03/04/09

Installation of Bioretention Cell. Note the amended soils have been installed and landscaping activities have begun



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Bioretention Cells -- 03/23/09

Installation of landscaping and irrigation within the Bioretention Cell. Note rip-rap velocity dissipation installed at curb openings.


Bioretention Cells -- 03/23/09

Installation of landscaping and irrigation within the Bioretention Cell. Note rip-rap velocity dissipation installed at curb openings.


Bioretention Cells -- 03/23/09

Installation of landscaping and irrigation within the Bioretention Cell. Note rip-rap velocity dissipation at inlet to Bioretention Cell.


Bioretention Cells -- 03/23/09

Installation of landscaping and irrigation within the Bioretention Cell. Note rip-rap velocity dissipation installed at curb opening.


Bioretention Cells -- 04/07/09

Installation of final layer of wood mulch as a part of the filter within the Bioretention Cell. Note rip-rap velocity dissipation at curb openings.


Bioretention Cells -- 04/07/09

Installation of final layer wood mulch as the top filter layer within the Bioretention Cells.

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Bioretention Cells – 04/07/09

Installation of final layer of wood mulch as a part of the filter within the Bioretention Cell. Note rip-rap velocity dissipation at curb openings



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Installation of wood mulch as the top filter layer within the Bioretention Cell. Note rip-rap velocity dissipation at curb openings.



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Installation of final layer of wood mulch as a part of the filter within the Bioretention Cell. Note rip-rap velocity dissipation at curb openings.



Bioretention Cells – 04/07/09

Installation of wood mulch as the top filter layer within the Bioretention Cell. Note rip-rap velocity dissipation at curb openings.



Bioretention Cells – 06/10/09

Completed bioretention cells



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Completed bioretention cells

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Bioretention Cells – 06/10/09
Completed bioretention cells



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Completed bioretention cells

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POST CONSTRUCTION BMPs:

Outdoor Storage Area -- 04/07/09

The outdoor pallet recycling storage area is protected by an impermeable roof, and surface runoff flows drain away from this area.


Trash Compactor Area -- 04/07/09

The compactor is covered and the area drain is connected to the sanitary sewer. Surface flows drain away from this area.


Fueling Station Canopy -- 04/07/09

The fueling area is covered by a canopy and the roof drains are connected to an underground infiltration basin. Stormwater runoff flows drain away from fueling area and the area drain under the canopy is connected to an oil stop valve in case of an accidental spill and nuisance water drainage..


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The fueling area is covered by a canopy and the roof drains are connected to an underground infiltration basin. Stormwater runoff flows drain away from fueling area and the area drain under the canopy is connected to an oil stop valve in case of an accidental spill and nuisance water drainage..


Fueling Station Oil Stop Valve -- 06/10/09

The area drain under the canopy is connected to an oil stop valve in case of an accidental spill and nuisance water drainage.


Outdoor Storage Area -- 04/23/09

The outdoor tire and battery storage area is protected by a roof, and surface runoff flows drain away from this area

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Inlet Insert 04/23/09

The storm drain inlet insert was installed to remove trash, debris, and oils



Truck Well – Inlet Insert 04/23/09

The truck well drain inlet insert was installed to remove trash, debris, and oils