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**GENESIS SOLAR, LLC**

**GENESIS SOLAR ENERGY PROJECT**

# **DRAINAGE, EROSION AND SEDIMENT CONTROL PLAN**

19 August 2009

Suite 150, 2230 East Bidwell Street Sacramento (Folsom) California, 95630, USA

Tel: +1 916 817 3925

Fax: +1 916 983 1935



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APPENDIX B: STORMWATER POLLUTION PREVENTION PLAN



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## 1. INTRODUCTION

Genesis Solar, LLC, is proposing a Solar Thermal Power Generating Project to be built near Ford Dry Lake in Riverside County, State of California. The Project site will be located in the Colorado Desert between the communities of Blythe, CA (approximately 24 miles east) and Desert Center, CA (approximately 27 miles west).

The Project site covers approximately 1,800 acres of Federal land managed by the Bureau of Land Management (BLM). Surrounding land uses to the Site include Interstate 10 (I-10) to the south, the Palen McCoy Wilderness to the north, the Palen Dry Lake Area of Critical Environmental Concern (ACEC) to the west and open (unrestricted access) lands to the east. Most of the land near the Site is managed by BLM and there is no California State Land in the vicinity, but there are private holdings in the area.

## 2. PURPOSE

The purpose of the Drainage, Erosion and Sediment Control Plan (DESCP) is to address the drainage, erosion and sediment control requirements to support construction and operation of the Genesis Solar Energy Project ("Project").

This has been undertaken as outlined in the following sections:

- Conceptual Drainage Study (**Section 3** and **Appendix A**);
- Stormwater Pollution Prevention Plan (SWPPP) (**Section 4** and **Appendix B**);
- Geomorphology Investigation (**Section 5**);
- Water Quality Investigation (**Section 6**); and
- Operational Best Management Practices (BMPs) (**Section 7**).

The DESCP has been developed based on the current understanding of site conditions and the mitigation requirements of the regulatory agencies. The on site grading and drainage design are directly interrelated, and adjustments to each will be made during the detailed design phase. The conceptual design can and should be adjusted during the detailed design to provide for the most efficient engineering solutions that provide for storm water quality control and treatment in compliance with the relevant laws, ordinances, regulations and standards (LORS).

## 3. CONCEPTUAL DRAINAGE STUDY

A conceptual drainage study was prepared by WorleyParsons to evaluate existing grading and drainage patterns associated with pre-developed conditions and the future post development



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grading requirements and drainage flows through and around the Project site (refer **Appendix A**). The objective of the study was to ensure the solar thermal development minimizes its overall impact within the Project site and on the downstream properties and drainage system.

The conceptual drainage study includes:

- Pre Development Drainage Conditions
- Post Development Drainage Conditions
- Post Development Grading Conditions

## **4. STORMWATER POLLUTION PREVENTION PLAN**

A preliminary Stormwater Pollution Prevention Plan (SWPPP) has been prepared to meet the requirements of General Permit No. CAS000002 (Permit) issued by the State of California, State Water Resources Control Board (SWRCB) for construction activity (refer **Appendix B**).

The SWPPP contains Best Management Practices (BMP) for:

- Erosion Control;
- Sediment Control;
- Wind Erosion;
- Tracking Control;
- Non-stormwater discharges; and
- Waste Management.

The scope of this SWPPP covers all activities associated with the construction of the Project. The selected Contractor will be responsible for performing temporary storm water management and erosion control during construction of the Project using existing and new control measures described within the SWPPP. The selected Contractor will also install all necessary permanent erosion controls and storm water management measures at the Site.

## **5. GEOMORPHOLOGY STUDY**

The Project site is in a desert fluvial drainage system where there are rare intense events that form and alter the drainage features. During a storm event, the ephemeral streams will transport sediment downstream, until the sediment drops out of the system due to gravity, velocity of the water flow or other impediments. The following investigation was included in the Section 5.5 (Geological Hazards) of the Project's Application for Certification submitted to the California Energy Commission (CEC) in August 2009, and a summary is provided below. In



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addition, the SWPPP contains information on the BMPs to cater for the erosion susceptibility on the Project site.

Physiographically, the Project site lies near the toe of alluvial fans emanating from the Palen Mountains to the north and the McCoy Mountains to the east. The eastern portion of the Site is underlain by a broad valley-axial drainage that extends southward between these mountains and drains to the Ford Dry Lake playa located about 1 mile south of the Site.

Geophysical investigations conducted at the Project site indicate that the electrical conductivity of the underlying sediments (an indicator of the amount of fine grained sediment and the salinity of the groundwater) shows a similar profile across the Project site area. In addition, seismic reflection profiling suggests that the shallow alluvium has similar properties across the Project site. Based on a site-specific subsurface investigation, the Site is underlain by alluvium consisting of interbedded and intermixed dense sand and gravel, and hard silt and clay to a depth of approximately 245 to 275 feet below ground surface (bgs) (approximately 125 feet above mean sea level [amsll]). These sediments are heterogeneous both laterally and vertically, though the valley axial alluvium beneath the eastern portion of the Site is expected to be more laterally continuous.

Deposits in the valley axial drainage that underlies the majority of the eastern part of the Site are characterized by a north south trending fabric in aerial photography and possess a generally subdued bar and swale topography generally lacking water erosional features, indicative of a depositional surface. These deposits represent the distal portion of the valley axial drainage that enters Ford Dry Lake from the northeast. Very few small washes are continuous across the eastern part of the Site. Surfaces on the valley axial deposits display no to incipient desert pavement development, and no carbonate accumulation in the soil. Evidence of competing wind erosion, including lag deposits and small mounds next to bushes were also noted; however, the dominant processes appear to be alluvial. The morphology and lack of soil development are consistent with depositional surfaces that are at most a few hundred years old, suggesting a prograding alluvial apron.

Subsurface stratification consists of silty sand beds with silt laminations spaced about 1 cm apart in silty sand deposits in the down slope portions of the site, which is consistent with the formation of silt crusts after sheet floods. Also observed were cross bedded silty sand beds about 8 to 10 cm thick and massive silty sand with gravel just upslope of the site. The recurrence interval of floods leaving these deposits is not known. Floods reaching Ford Dry Lake and filling the lakebed are reported to occur about once every 10 years. If each of these beds represents 10 years of accumulation, they would be indicative of deposition rates of 1m/1,000 years in the down slope portions of the site and up to 10 times that in the upslope portions of the site. However, beneath the upslope portions of the site that are closer to the fan intersection points, the locus of deposition would be more likely to change from one flood event to the next, so the deposition rates are probably less.

The Riverside County General Plan, Safety Element (Riverside County, 2008), indicates the Site is in an area with moderate potential for wind erosion, the off-site linears are in areas with moderate to high potential for wind erosion. Soil characteristics at the Project site allow for the potential for wind and water erosion, and significant sediment transport currently occurs across



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the valley axial drainage that crosses the majority of the proposed plant site. Limited sand and & erosion also occurs between depositional episodes.

Soil erosion from wind and water during construction activities is further evaluated in Section 5.6 (Agriculture and Soils) of the AFC and included in the SWPPP. Under current conditions, the soil loss is estimated to be about one ton per year from the Site and areas of off-site linears associated with the Project. Construction activities without implementation of BMPs would result in a potential for soil loss of about 1,400 tons. The implementation of BMPs is expected to reduce water and wind erosion of soils during construction to less than significant levels.

## 6. WATER QUALITY OBJECTIVES

Riverside County produced a Stormwater Quality Best Management Practice Design Handbook in July 2006 to provide design procedures for structural BMPs for new development and redevelopment within Riverside County. The method for determining the design volume for the capture and treatment of the initial and more frequent run-off surges that convey the greatest amount of pollutants is based on capturing 85 percent of the total annual run-off. The Riverside County Hydrology Manual recommends a drawdown time of 48 hours, consistent with the California Best Management Practice Handbook. A preliminary calculation is provided below as this analysis was not included in the conceptual drainage design study.

The run-off coefficient (C) is determined as follows:

$$C = 0.858i^3 - 0.78i^2 + 0.774i + 0.04$$

i = the watershed imperviousness ratio (0.40 as per the SWPPP)

$$\text{Therefore; } C = 0.0549 - 0.1248 + 0.3096 + 0.04 = 0.2797$$

Per the California BMP Handbook for New Development and Redevelopment, the "Urban Run-off Quality Management Approach", the Maximized Detention Volume (Po) is determined as follows:

$$Po = (a)(C)(P_6) \text{ - in watershed-inches}$$

Per the same section 5.5.1 of the BMP Handbook, a (regression constant) = 1.963 for a 48 hour draw down.

P<sub>6</sub> (mean annual run-off producing rainfall depths) = 0.5" (per BMP Handbook table Thermal Airport is 0.47)

Thus:

$$Po = (1.963)(0.2797)(0.47) = 0.2580"$$

To get the "capture volume of the BMP" Po is multiplied by the drainage area of each 125 MW module

$$= (900 \text{ Acres})(0.2580") = 232 \text{ Acre-Inches} = \mathbf{19.4 \text{ Acre-Feet (AF)}}$$



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This “BMP Handbook” method of retention capture shows that the 49 or 66 AF of detention required for each 125MW unit will provide adequate volume within the detention pond to satisfy the retention requirements, and indicates that the Riverside County / California BMP methodology should be followed for the detailed design of the retention basins for the Project site. Details of the detention pond will need to be determined during detailed design that allow retention (capture) of a minimum of 19.4 AF of water, and provide for infiltration of that flow within 48 hours.

## **7. OPERATIONAL BEST MANAGEMENT PRACTICES**

Industrial activities with the potential to impact storm water discharges are required to obtain a NPDES permit for those discharges. In California, an Industrial Storm Water General Permit, Order 97-03-DWQ (General Industrial Permit CAS 000001) may be issued to regulate discharges associated with ten broad categories of industrial activities, including electrical power generating facilities. The General Industrial Permit requires the implementation of BMPs that will protect water quality. This is achieved by undertaking an Industrial SWPPP and monitoring plan. Through compliance with the General Industrial Permit, all potential pollutants generated during the industrial phase will be sufficiently mitigated such that water quality standards will not be violated.

Prior to commercial operation, Genesis Solar LLC will develop a SWPPP for operation of the Project site, and implemented to meet the National Pollutant Discharge Elimination System (NPDES) requirements.

The following is list of BMPs that shall be included in the Industrial SWPPP. The relevance of each item will be assessed when the Industrial SWPPP will be developed and may include additional site specific processes.

### **1) EROSION AND SEDIMENT CONTROL**

Erosion and sediment control includes practices to prevent soil particles from being detached and reaching storm drains. BMP measures may include:

- ES-1: *“Implement erosion and sediment control. This shall cover all areas that are not covered by an impervious surface (i.e. areas covered by concrete, asphalt, crushed stone or equivalent”.*
- ES-2: *“Maintain erosion/sediment controls to achieve optimal performance during storm events”.*

Erosion and Sediment Control may include temporary or permanent measures to stabilize the soil surface by covering or binding soil particles or preventing the concentration of run off by water or wind erosion. This may include periodically treating dirt roads and exposed surfaces with dust palliatives as needed.



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Runoff velocities will be minimized by strategically placing BMPs which may include gravel berms, stone filters, check dams, detention structures and vegetation throughout the project site and in the re-routed offsite drainage channels to provide areas for sediment deposition and to promote the sheet flow of storm water prior to leaving the project site boundary. Native materials (rock and gravel) would be used for the construction of stone filters and check dams when available. Armoured drop structures will be used in channels to maintain a slope of less than 0.5%. Slopes may be armoured as required using rip rap or gabions.

The rerouted ephemeral washes and the detention area will be designed to accommodate flow from a 100-year storm event. The rerouted ephemeral drainage line may also contain a low flow meandering channel within the larger drainage channel however this would be coordinated with the needs of flora and fauna to be protected and the requirements of the rerouted wash to reflect the natural drainage patterns.

The outlet of the re-routed washes into the downstream native system will also be designed to minimize any erosion and sediment impacts. As the soil has high erodability, there will be sediment in the stormwater at the outlet, which will be released into the natural drainage system on slope of less than 0.5%. This will include ensuring there is adequate transition between the two systems, preventing sediment deposition at the outlet causing local flooding impacts.

The power block area will be graded with moderate slopes to direct runoff and divert storm water to retention areas.

By its nature, a solar thermal project must keep dust to a minimum, as a film on the mirrors of the solar array will reduce their efficiency for power production. Dust control will be achieved by a combination of soil stabilizers. Operational controls designed to control dust will reduce the overall soil erosion in the area.

## **2) GOOD HOUSEKEEPING**

Good Housekeeping measures aim to maintain a clean and orderly facility. BMP measures may include:

- HOUSE-1: *“Inspect weekly all outdoor areas associated with industrial activity, storm water discharge locations, drainage areas, conveyance systems, waste handling/disposal areas and perimeter areas impacted by off facility materials or storm water run on. Any identified debris, wastes and spilled, tracked or leaked materials shall be cleaned and disposed of properly”.*
- HOUSE-2: *“Implement procedures to reduce or prevent material tracking”.*
- HOUSE-3: *“Cover all stored industrial materials which can be readily mobilized by contact with storm water.”*
- HOUSE-4: *“Contain all stored non-solid industrial materials that can be transported or dispersed via wind dissipation or contact with storm water”.*



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- HOUSE-5: *"Divert storm water or authorized non-storm water flows from non industrial areas from contact with industrial areas"*.

### **3) PREVENTATIVE MEASURES**

Preventative measures minimize the potential spills and leaks from facility equipment, outdoor systems and material handling. BMP measures may include:

- PM-1: *"Identify all equipment and systems used outdoors that may spill or leak pollutants"*.
- PM-2: *"Inspect weekly each of the identified equipment and systems to detect leaks or identify conditions that may result in the development of leaks. Weekly inspections may be suspended during periods when there is no outdoor exposure of the equipment and systems"*
- PM-3: *"Establish a schedule to perform maintenance of identified equipment and systems. The schedule shall either be periodic or based upon more appropriate intervals such as hours of use, mileage, age etc"*.
- PM-4: *"Establish procedures for prompt maintenance and repair of equipment and systems when inspections detect leaks or when conditions exist that may result in the development of spills or leaks"*

### **4) SPILL RESPONSE PROCEDURES**

Spill response procedures address incidents of spills or leaked material based upon the quantities and location of significant materials. BMP measures may include:

- SPILL-1: *"Develop and implement spill response procedures. Spill response shall be designed to prevent spilled materials from discharging from the facility via the storm drain system. Spilled materials shall be cleaned promptly and disposed of properly"*.
- SPILL-2: *"Identify and describe all necessary and appropriate spill response equipment, location of spill response equipment and spill response equipment maintenance procedures"*.
- SPILL-3: *"Identify and train appropriate spill personnel"*.

### **5) MATERIAL HANDLING/WASTE MANAGEMENT**

Material handling practices will minimize exposure of water materials to storm water. BMP measures may include:

- MAT/WASTE-1: *"Prevent or minimize handling of materials or wastes that can be readily mobilized by contact with storm water during a storm event"*.
- MAT/WASTE-2: *"Contain non-solid materials or wastes that can be dispersed via wind erosion during handling"*



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- MAT/WASTE-3: *“Cover waste disposal containers when not in use”*
- MAT/WASTE-4: *“Clean all spills of materials/wastes that occur during handling in accordance with the spill response procedures required in SPILL-1”.*
- MAT/WASTE-5: *“Inspect and clean daily any outdoor material/waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes”.*

## **6) EMPLOYEE TRAINING PROGRAM**

The employee training program ensures adequate training for the personnel responsible for implementing the SWPPP, monitoring program, and other compliance activities in the General Industrial Permit. BMP measures may include:

- TRAIN-1: *“Prepare or acquire appropriate training manuals or training material”.*
- TRAIN-2: *“Identify which personnel shall be trained, their responsibilities and type of training they shall receive”.*
- TRAIN-3: *“Provide training schedule”.*
- TRAIN-4: *“Maintain documentation of all completed training classes and the personnel who received training”.*

## **7) RECORD KEEPING AND QUALITY ASSURANCE**

Compliance activities shall be completed properly, documented and maintained. BMP measures may include:

- REC-1: *“Keep and maintain records of inspections, spills, BMP related maintenance activities, corrective actions, visual observations etc”*
- REC-2: *“Develop and implement management procedures to ensure that appropriate staff implements all elements of the SWPPP and Monitoring Program”*

## **8) VISUAL INSPECTIONS**

Periodic visual inspections are required to ensure that the SWPPP addresses any significant changes to the facilities operations or BMP implementation procedures. BMP measures may include:

- INSPECT-1: *“Conduct a minimum of four quarterly visual inspections or all areas of the industrial activity and associated potential pollutant source. The annual comprehensive evaluation may substitute one of the quarterly inspections”.*
- INSPECT-2: *“Implement any corrective actions and/or SWPPP revisions resulting from the inspection”.*



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- INSPECT-3: *“Prepare a summary and status of the corrective actions and SWPPP revisions resulting from the inspections. Include this summary in the Annual Report”.*
- INSPECT-4: *“Certify in the Annual report that each quarterly visual inspection was completed”.*

## **8. REFERENCES**

- 1) Conceptual Drainage Study for Genesis Solar Energy Project, WorleyParsons Group Inc, August 19<sup>th</sup> 2009.
- 2) Preliminary Stormwater Pollution Prevention Plan for Genesis Solar Energy Project, WorleyParsons Group Inc, July 31<sup>st</sup> 2009.
- 3) California BMP Handbook for New Development and Redevelopment, the “Urban Runoff Quality Management Approach”
- 4) Riverside County Stormwater Quality Best Management Practice Design Handbook, Riverside County Flood Control and Water Conservation District, July 21 2006
- 5) Hydrology Manual, Riverside County Flood Control and Water Conservation District, April 1978



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## **APPENDIX A – CONCEPTUAL DRAINAGE STUDY**

# **GENESIS SOLAR ENERGY PROJECT**

## **CONCEPTUAL DRAINAGE STUDY**

**RIVERSIDE COUNTY**

**CALIFORNIA**

Prepared By:

**WorleyParsons Group, Inc.**

August 19<sup>th</sup> 2009



**NOTICE**

*The information presented in this document was compiled and interpreted exclusively for the purposes of a conceptual drainage study for Genesis Solar Energy Project. WorleyParsons provided this report for Genesis Solar, LLC for the purpose noted above.*

*WorleyParsons has exercised reasonable skill, care, and diligence to assess the information acquired during the preparation of this report, but makes no guarantees or warranties as to the accuracy or completeness of this information. The information contained in this report is based upon, and limited by, the circumstances and conditions acknowledged herein, and upon information available at the time of its preparation. The information provided by others is believed to be accurate but cannot be guaranteed.*

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## I. PROJECT LOCATION

Genesis Solar, LLC, is proposing to construct, own and operate the Genesis Solar Energy Project (herein “Project”) on approximately an 1,800-acre site near Ford Dry Lake in Riverside County, California (refer **Figure 1**). The Project Site (“Site”) will be located in the Colorado Desert between the communities of Blythe, CA (approximately 24 miles east) and Desert Center, CA (approximately 27 miles west). The Project is a concentrated solar power (CSP) electric generating facility that will use a proven parabolic trough solar thermal technology.

The Site covers approximately 1,800 acres of Federal land managed by the Bureau of Land Management (BLM). Surrounding land uses to the Site include Interstate 10 (I-10) to the south, the Palen McCoy Wilderness to the north, the Palen Dry Lake Area of Critical Environmental Concern (ACEC) to the west and open (unrestricted access) lands to the east. Most of the land near the Site is managed by BLM and there is no California State Land in the vicinity, but there are substantial private holdings.

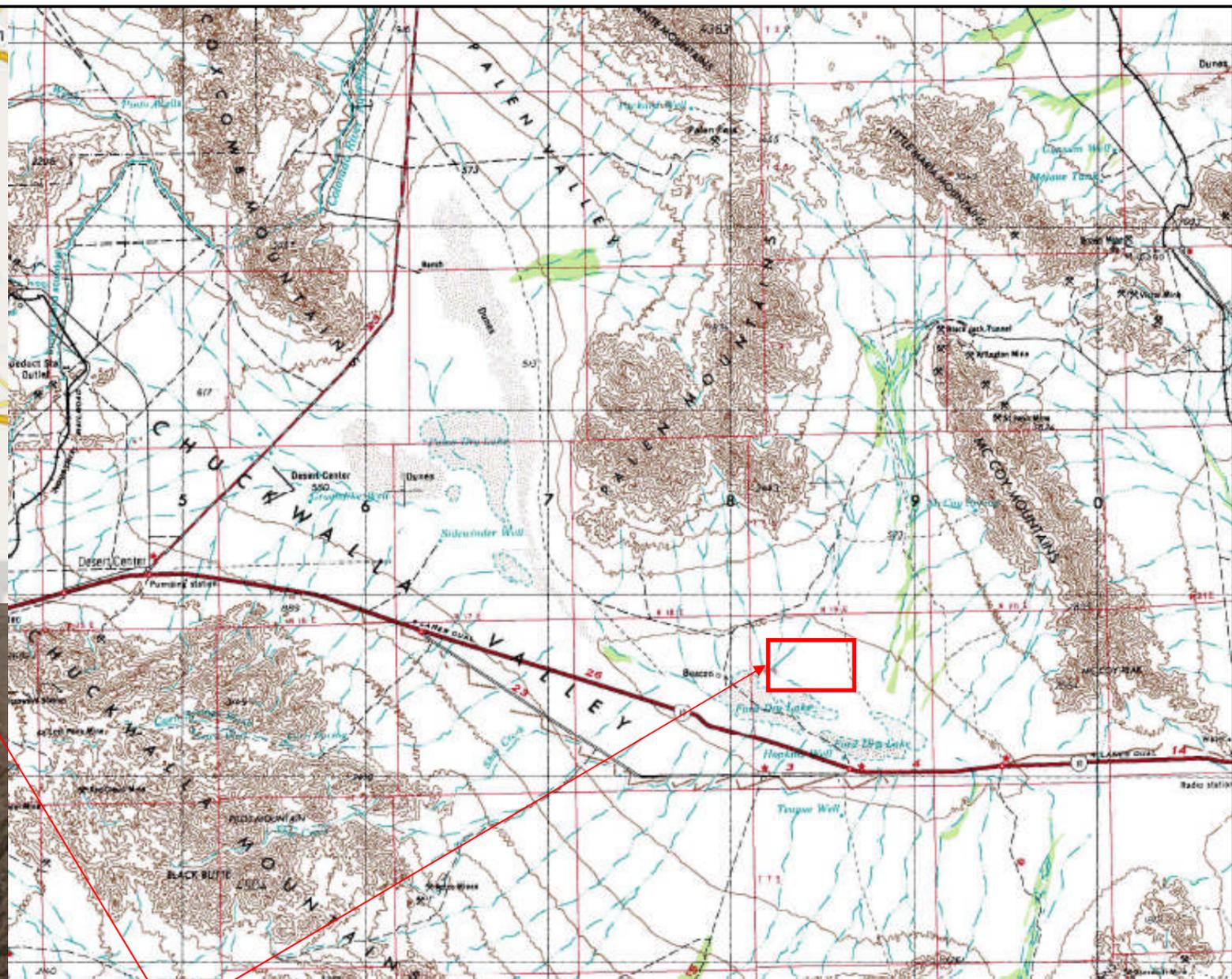
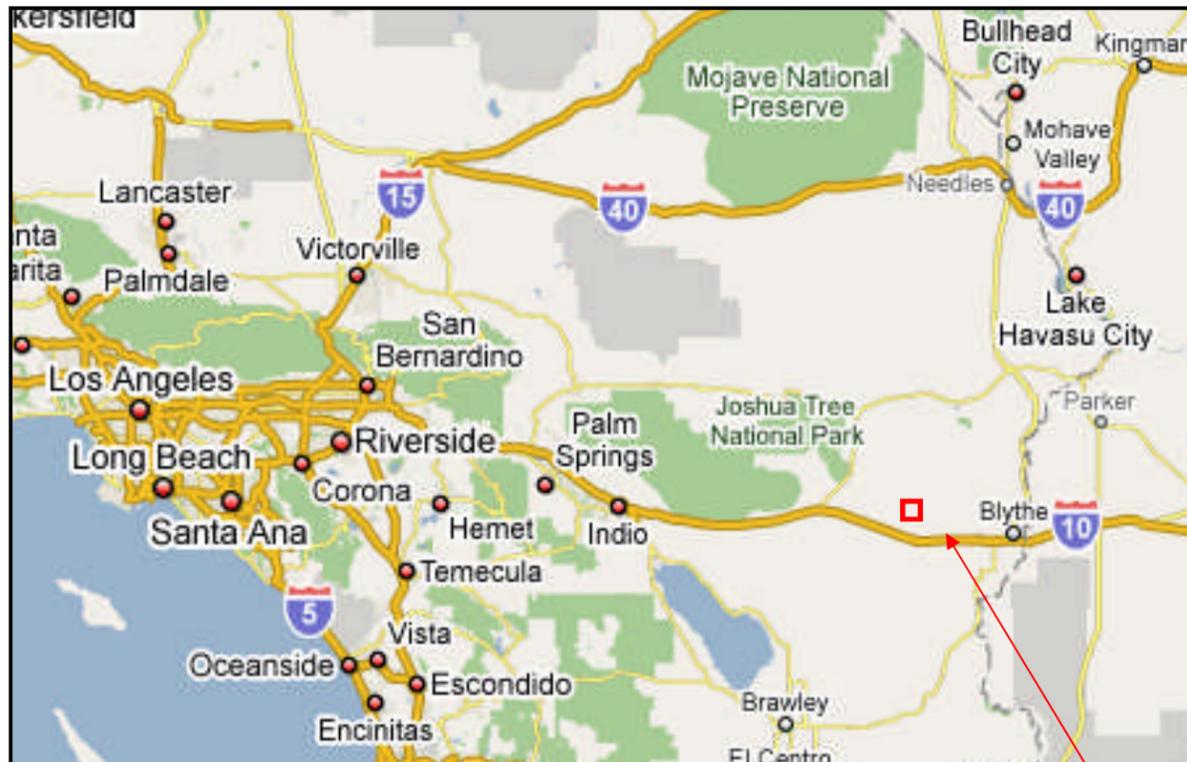
The Site is situated within the Chuckwalla Valley and is relatively flat. The Site generally slopes from north to south with elevations of approximately 400 to 370 feet above mean sea level. The Site is occupied by a community of low creosote and bursage scrub vegetation and includes portions of the Ford Dry Lake and McCoy Spring USGS topographic maps.

Natural drainage across the Project site is episodic, shallow and occurs over a broad area primarily as sheet flow or in shallow washes.

The Site has been historically used for both off-highway vehicles and sheep grazing; however neither activity currently occurs.

The Site is to be found within “RIVERSIDE COUNTY AND INCORPORATED AREAS” within FEMA (Federal Emergency Management Agency); however there are no flood insurance maps provided for this area (refer **Appendix A**). As outlined in **Section V A**, there is only 3.51 inches of rain precipitation in a 100 year, 24 hour storm event. Coupled with an annual evaporation rate of over 100 inches in the region, flooding is not expected to be a major issue in this area.

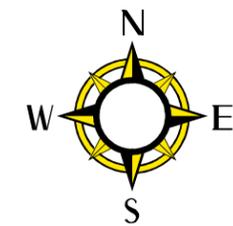
There is an additional proposed Site within Project Genesis (near McCoy Wash); however it is not included as part of this conceptual drainage study.



**Approximate Site Location**

Not to Scale

Sources: 2009 Google Maps, 2007 Google Earth, USGS Salton Sea (11S) Topographic Map 1969



CONCEPTUAL DRAINAGE STUDY  
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**SITE LOCATION MAPS**

08/2009

JF

**1**



## II. PROJECT DESCRIPTION

Genesis Solar, LLC is proposing to develop a 250-megawatt (MW) solar thermal power generating project, using concentrated solar power (CSP) technology. There will be two 125 MW units on site to provide 250 MW of power (“Units 1 and 2”) (refer **Appendix D**, Drawing GENI-1-DW-112-726-003).

Each unit contains solar fields, power block and stormwater control facilities. There is an additional area between the two units which shall be used for evaporation ponds and a land treatment unit (LTU). In addition, there shall be ancillary facilities constructed and operated on site, including an onsite substation, administration and warehouse buildings. A short transmission line shall be constructed from the Site south across the I-10 to connect with the 230kV Blythe Transmission Line.

The Site shall be graded to create level solar pad elevations with approximate balanced cut and fill, therefore existing vegetation and debris shall be removed.

Off-site storm water flows are sourced from a large area to the north of the Site (approximately 91,627 acres) (refer **Section V D** for further information). Due to the magnitude and type of terrain, a main concern is the presence of storm flushed flood events. In order to address this concern, the runoff originated by the upstream areas will be diverted around Units 1 and 2 using berms and channels capable of conveying flows for a 100 year, 24 hour storm event (refer **Section V E** for further information).

On-site storm water run off within the solar fields will sheet flow into smaller drainage swales, aligned north to south and located adjacent to the plant interior roads. The swales shall divert flows into a detention basin (one for each unit), situated in the lower elevation areas of each unit. The detention basins shall attenuate the post developed 100 year, 24 hour storm event run off from each unit, and discharge at the pre developed 100 year, 24 hour storm event flow rate into the natural drainage system downstream. The detention basins will also have emergency spillways to discharge runoff generated due to major rainfall events in excess of the 100 year storm. Emergency spillways will discharge into the proposed peripheral drainage channel, diverting the excessive flow away from the site.

Detail design of the peripheral channels and detention basins will be included with the final drainage design.



### III. OBJECTIVE

The hydrologic and hydraulic conditions associated with the development of approximately 1,500 acres for the Project are conceptually addressed in this study; Unit 1 is the area east of the evaporation pond / LTU area, and Unit 2 is the area west of the evaporation pond / LTU area.

This conceptual drainage study addresses existing drainage patterns associated with pre-developed conditions and the future post development drainage flows through and around the Site. The objective of the study is to ensure the solar power plant development does not impact on the downstream drainage system and properties. This objective was achieved by undertaking the follow activities:

- Determine the drainage watershed boundary for the Project site (including off-site sources);
- Determine the quantity of stormwater run-off entering the Project site;
- Determine the quantity of stormwater run-off within the Project site under pre-developed conditions;
- Determine the quantity of stormwater run-off within the Project site under post-developed conditions;
- Evaluate the difference in stormwater run-off quantities between pre-developed and post developed conditions and estimate the required size of on-site detention basins;
- Determine the alignment and sizing of drainage channels within the Project site to facilitate stormwater run-off; and
- Determine the preliminary grading requirements on-site to facilitate the storm water run-off into the drainage channels and detention basin(s).

In order to accomplish this, hydrology calculations are performed using TR-55 (SCS Method) to determine the rate of pre and post development stormwater run-on and run-off in the watershed.

The USDA Natural Resources Conservation Service and Riverside Hydrology manual are used to classify soil characteristics, expected soil types and other design criteria necessary for use with the TR-55 calculations. Offsite flows are to be determined using the watershed boundaries from available state watershed information, contour intervals, and available soils mapping information. The watershed is then further broken down into sub-basins as required to determine the flow from the ephemeral washes as they approach the Site. Nodes shall be placed at appropriate locations to evaluate the pre and post development stormwater flows, and to ensure that the Site post-development discharge is kept or below the pre-developed discharge.



#### IV. DRAINAGE SUMMARY

Drainage modeling and calculations were performed using Bentley PondPack Ver. 10.1. The objective of not exceeding the pre-developed flows at the points of interest were accomplished (refer to **Table 1**). Detention basins shall be designed to ensure that the Site post-development discharge is kept at or below the pre-developed discharge.

**Table 1: 100 year, 24 hour Pre Developed and Post Development Flows**

	Pre Developed Flow (cfs)	Post Developed Flow (cfs)
<b>UNIT 1</b>		
Outlet	519	1295
Detention Basin	N/A	Less than 519 (require a minimum estimated detention basin size of 66 ac-ft)
<b>UNIT 2</b>		
Outlet	419	1127
Detention Basin	N/A	Less than 419 (require a minimum estimated detention basin size of 49 ac-ft)

cfs = cubic feet per second

N/A = not applicable



## V. HYDROLOGY

The hydrology analysis was performed and analyzed as set forth in the Riverside Hydrology Manual. USDA Natural Resources Conservation Service (NRCS formerly SCS) Technical release 55 (TR-55) is used to assign curve numbers (CN) in calculating runoff. TR-55 is also used to compute time of concentration. Time of concentration is based on sheet flow, shallow concentrate, and channel flow.

As outlined in **Section II**, the Site will predominantly use channels to convey runoff through and around the project. For large drainage areas, the Riverside County Hydrology Manual requires using the (NRCS/SCS) Unit Hydrograph Methodology for drainage calculation.

### A. RAINFALL

In the 100 year, 24 hour storm event, 3.51 inches of rainfall shall fall (refer to **Appendix B**). Based on the Site location, the (NRCS/SCS) Type II rainfall distribution was used when performing calculations.

### B. SOILS

Soil classification was made using data from USDA Natural Resources Conservation Service (refer to **Appendix C**). The soil type within the pre-developed watershed and post-developed watershed is listed in **Table 2**. The areas of the pre-development and post-development watersheds vary, as outlined in **Table 3** and **4**, due to the perimeter road berm and channels, diverting upstream 100 year flows around the Site.

**Table 2: Soil Types**

Soil Type	Off-site Watershed Areas (acres)	On-site Unit 1 Pre and Post Development Watershed Area (acres)	On-site Unit 2 Pre and Post Development Watershed Area (acres)
A	698	0	117
B	32,561	0	0
C	8,705	0	0
D	49,732	792	579
<b>TOTAL</b>	<b>91,696</b>	<b>792</b>	<b>696</b>

The soil on site is classified as typical durorthids, loamy-skeletal mixed, hyperthermic and shallow, and typical torripsamments, mixed, hyperthermic. A soil list for the watershed is included in **Appendix C**.



### C. HYDROLOGIC LOSSES

With the hydrologic soil group established, hydrologic losses can be computed using (NRCS/SCS) runoff curve numbers (CN) found by using TR-55 runoff curve numbers (refer to **Appendix C**). The sub-region and associated curve numbers are input into PondPack, which calculates a weighted CN for the total area to be used for the runoff computations. The hydrologic cover type was assumed to be desert shrub and allocated as “fair” for pre development (CN of 86) and “poor” for post development conditions (CN of 88).

### D. PRE DEVELOPED CONDITIONS

In desert regions, catchment boundaries and distribution of drainage may shift over time based on the ground conditions, intensity of the storm event, velocity of the flow and sediment transportation. The boundary selected for this study was based on existing information. The pre-developed drainage plans (refer to **Appendix D**) were prepared to estimate the runoff for all drainage areas at the Site. The total watershed area is 93,182 acres, of which 91,627 is off-site. The watershed was divided into three upstream sub-basins (sub basin 1, 2 and 3) and two onsite sub-basins (sub basin A and B). The area of each sub basin is show in **Table 3**.

**Table 3: Pre Developed Conditions, Sub-basin Areas**

SUB-BASIN NUMBER	AREA (Acre)
1	17,910
2	10,990
3	62,795
A (Unit 1)	792
B (Unit 2)	696
<b>TOTAL</b>	<b>93,182</b>

Drainage was estimated using USGS quadrangle maps. It is assumed that flows are unimpeded at all crossings structures that exist. This assumption is conservative because it does not take into account any storage or reduction in peak flows that may be associated with an undersized crossing structure.

The calculations of the 100 year, 24 hour storm flows under pre-developed conditions for off-site and on-site areas are summarized in **Appendix D**. The 100 year, 24 hour storm flows were calculated using PondPack software. The software generates required runoff hydrographs for each of the drainage area separately, rainfall distribution used in this calculation is Type II 24 hour rainfall and the 100 year rainfall events were obtained from

NOAA Atlas 2 Rainfall Depth – Duration – Frequency Maps reproduced for the Riverside area (refer to **Appendix B**).

## E. POST DEVELOPED CONDITIONS

The post-developed drainage plans are located in **Appendix E**. The total watershed area under post-developed conditions is approximately 1,488 acres (Units 1 and 2 only). As outlined in **Section II**, flows from offsite shall be diverted in three channels:

- Flows from the sub-basin 1 (north-western) will be diverted through a channel on the west side of Unit 1;
- Flows from sub-basin 2 (north) will be diverted through a channel between Unit 1 and 2; and
- Flows from sub-basin 3 (north-eastern) will be diverted through a channel along the east side of Unit 2.

Then, all these three main channels will divert flows downstream of the Site following its existing drainage path, causing no impact to the Site. The main purposes of the diversion are to prevent interaction with off-site stormwater and onsite stormwater which will:

- Allow natural groundwater recharge of the off-site stormwater with no contact with the changed flow conditions of the on-site water;
- Protect the Site infrastructure from flash flood events, which have the potential to damage the solar parabolic troughs;
- Control treatment of the on-site flows from the solar collector array (location of heat transfer fluid within the solar parabolic troughs);
- Protect the Site from upstream sediment loading;
- Control on-site flows in detention basin to ensure there is no increase in post developed flow discharging from the site, minimizing the impact on downstream drainage features (lake playas etc), and
- Maximize the developable area within the solar field.

In addition, detention basins have included in the model to capture all run off from Unit 1 and 2. There are no culverts or crossing structures required in the model. The sub areas for post developed conditions are shown in **Table 4**.

**Table 4: Post Developed Conditions, Sub Basin Areas**

SUB-BASIN NUMBER	AREA (Acre)
A	792
B	696
<b>TOTAL</b>	<b>1,488</b>



There is an increase in impervious area on Site due to:

- Paved Access Roads (around the Site and connecting to off-site existing roadways);
- Administration Building;
- Warehouse; and
- Power Block.

It has been assumed that each of the parabolic troughs will freely drain onto the ground. The ground surface may be slightly more impervious in post developed conditions due to the footings of the parabolic trough blocks.

The calculations of the 100 year, 24 hour storm event flows under post-developed conditions are summarized in **Appendix E**. The 100 year storm flows were calculated using PondPack software. The minimum preliminary volumes required for the detention basins are 66 acre-feet for Unit 1 and 49 acre-feet for Unit 2. Further specifics for the detention pond (i.e. outlet design, risers, and spillway structures) shall be undertaken during detailed design, occurring in a later phase of this project.



## **VI. HYDRAULICS**

### **A. SUMMARY**

Channels were designed using open channel flow criteria.

### **B. DESIGN CONSIDERATIONS**

#### **1. DESIGN STORM FREQUENCY**

100 year, 24 hour event with the water surface contained within all channels.

#### **2. DESIGN STORM DURATION**

The goal in the storm drain design is to convey the maximum peak flow for a given design storm. This involves choosing a storm with the same duration as the time-of-concentration for the watershed (critical duration). As the storm is passed down the collection system, the time-of-concentration at each point downstream of the headwater sheds will increase according to shed minimum time-of-concentration plus travel time in structures.

#### **3. MINOR LOSSES**

A Manning's roughness coefficient  $n$  value of 0.030 was assumed for the channels. This assumed  $n$  value will take into account any re-vegetation of the drainage channels, however this will be reassessed during detailed design to ensure the coefficient reflects any operational best management practices installed in the channel (i.e. armoring).

### **C. CROSS SECTIONS**

Preliminary channel cross sections are shown on the Conceptual Grading Plan (refer to **Appendix E**). The width and depth of the channels vary depending on location. Further specifics for the channels (i.e. individual cross sections, material selection, compaction, stabilization) shall be undertaken during detailed design, occurring in a later phase of this project.

The channels and diversion berms will be sized sufficiently to pass the anticipated flows and entrained sediment volumes, will be armored as necessary for erosion protection using natural gravel derived during Site grading activities, and will be maintained periodically or after major storm events as needed to sustain their proper function.



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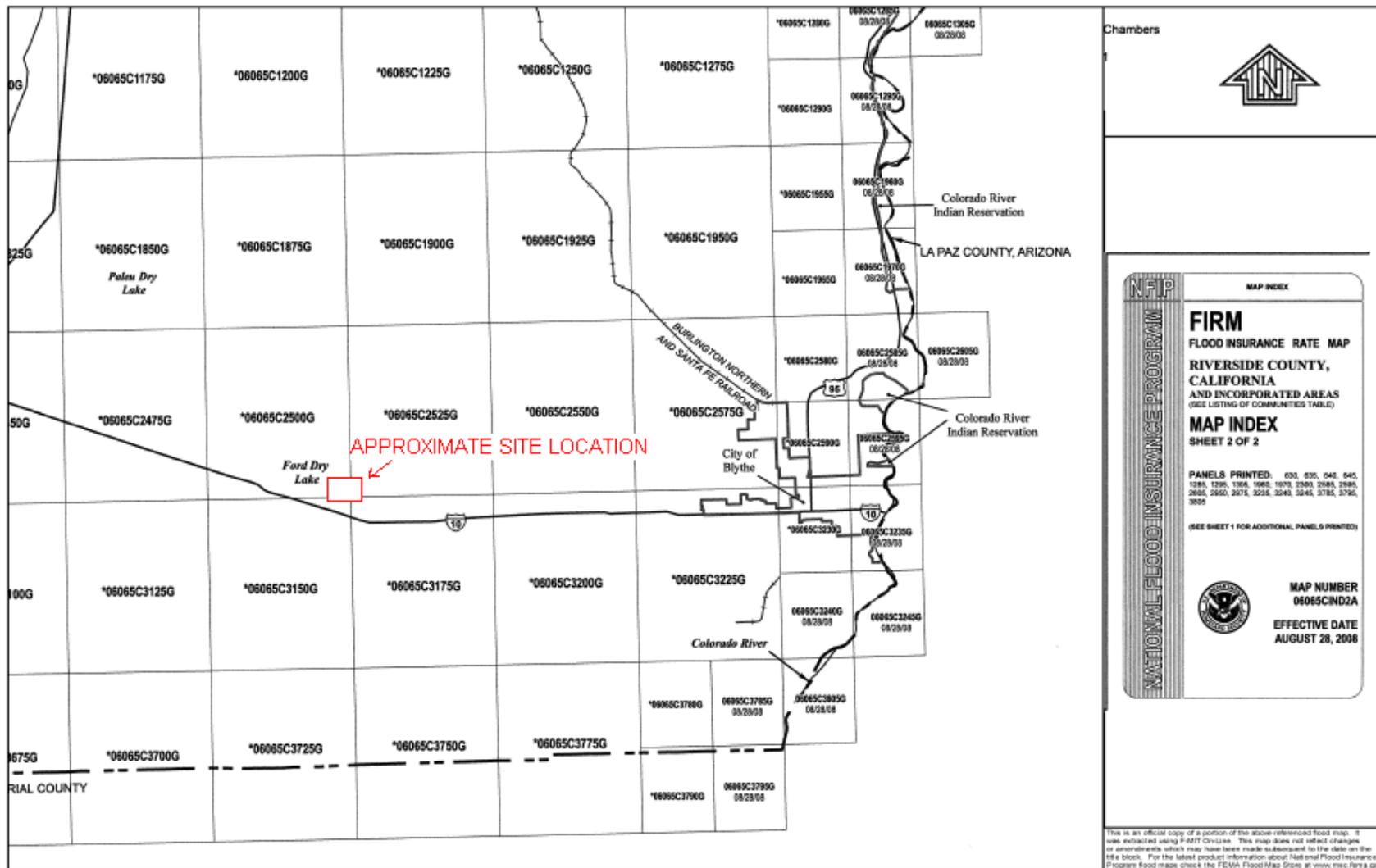
## APPENDICES



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### APPENDIX A – FLOOD MAP



Chambers



**NFP** MAP INDEX

**FIRM**  
FLOOD INSURANCE RATE MAP  
RIVERSIDE COUNTY,  
CALIFORNIA  
AND INCORPORATED AREAS  
(SEE LISTING OF COMMUNITIES TABLE)

**MAP INDEX**  
SHEET 2 OF 2

PANELS PRINTED: 631, 635, 642, 645, 1285, 1295, 1305, 1960, 1970, 2300, 2985, 2995, 2995, 2995, 2975, 3235, 3245, 3245, 3785, 3795, 3805

(SEE SHEET 1 FOR ADDITIONAL PANELS PRINTED)

MAP NUMBER  
06065CIND2A  
EFFECTIVE DATE  
AUGUST 28, 2008

This is an official copy of a portion of the above referenced flood map. It was included using FIRM Coverage. This map does not reflect changes or amendments which may have been made subsequent to the date on the file block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



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## **APPENDIX B – RAINFALL PRECIPITATION**





## APPENDIX C – SOIL CLASSIFICATION

### Curve Number (CN) Determination

The SCS Curve Number Method uses a curve cover complex number (CN) for computing excess precipitation. The CN is related to hydrologic soil group (A, B, C, or D), land use, treatment class (cover), and antecedent moisture condition. The soil group is determined from published soil maps for the area (usually published by the NRCS (SCS))

The definitions of the hydrologic soil groups are:

*Group A – Low run off potential. Soils having a high infiltration rates even when thoroughly wetted and consisting chiefly of deep, well drained sands or gravels. These soils have a high rate of water transmission.*

*Group B – Soils having moderate infiltration rates when thoroughly wetted and consisting chiefly of moderately deep to deep, moderately well to well drained sandy-loam soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.*

*Group C – Soils having slow infiltration rates when thoroughly wetted and consisting chiefly of silty loam soils with a layer than impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission.*

*Group D – High run off potential. Soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.*

The Hydrologic Soil Classifications were obtained from:

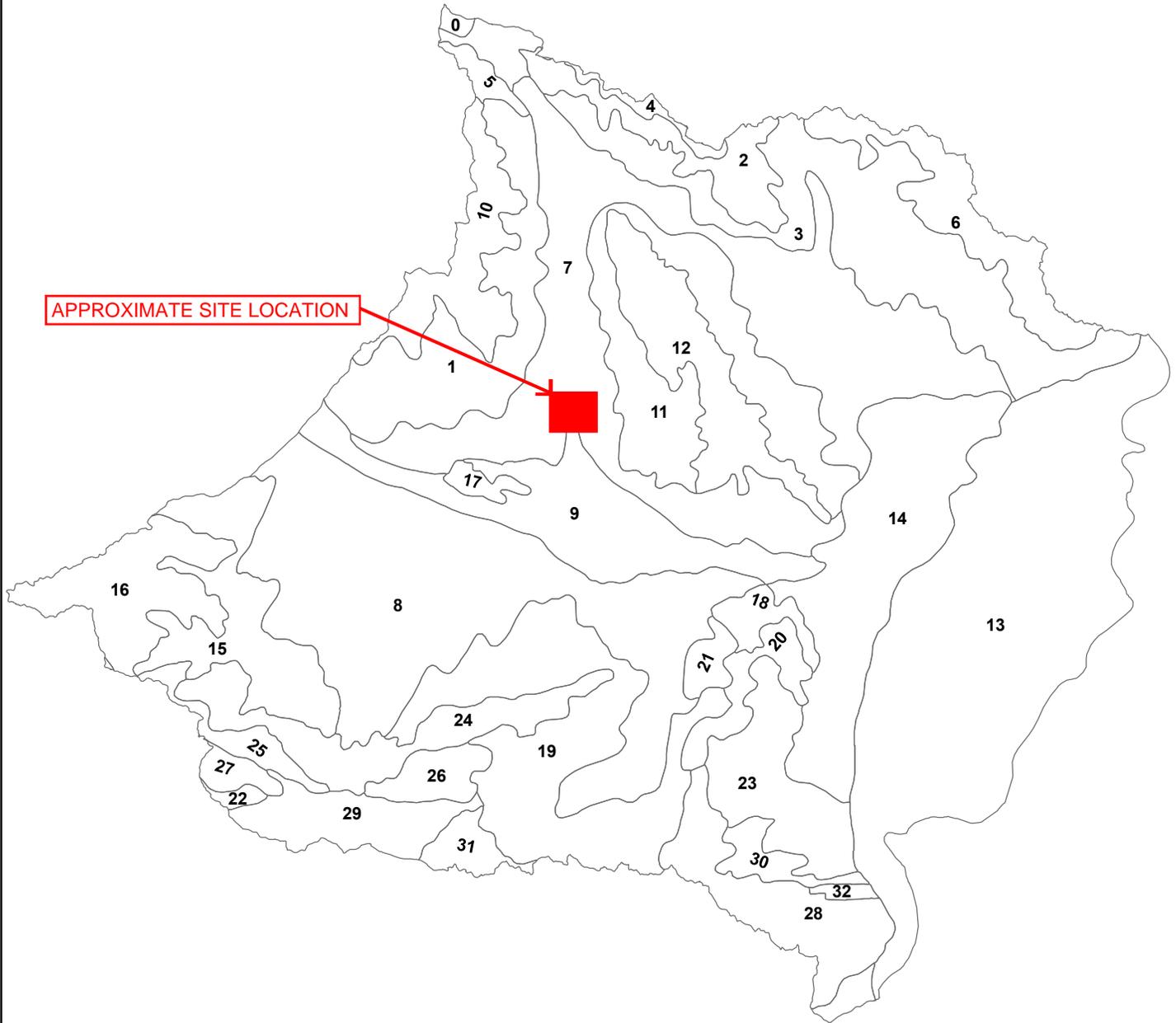
SSURGO – Soil Survey Geographic Data Base U.S. Department of Agriculture, Natural Resources Conservation Service.

Specific Soil taxonomy for the watershed is shown in the following maps.

GENESIS SOLAR ENERGY PROJECT  
CONCEPTUAL DRAINAGE STUDY

# SOIL TAXONOMY MAP

SOURCE: <http://soils.usda.gov/technical/classification/taxonomy/>



FID

soil\_tax\_2

- 0 LITHIC TORRIORTHENTS
- 1 TYPIC CALCIORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC
- 2 TYPIC CAMBORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC
- 3 TYPIC CALCIORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC
- 4 LITHIC TORRIORTHENTS, LOAMY-SKELETAL, MIXED (CALCAREOUS), THERMIC
- 5 TYPIC CAMBORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC
- 6 LITHIC TORRIORTHENTS, LOAMY-SKELETAL, MIXED (CALCAREOUS), THERMIC
- 7 TYPIC DURORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC, SHALLOW
- 8 TYPIC DURORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC, SHALLOW
- 9 TYPIC TORRIPSAMMENTS, MIXED, HYPERTHERMIC
- 10 LITHIC TORRIORTHENTS, LOAMY-SKELETAL, MIXED (CALCAREOUS), THERMIC
- 11 TYPIC CALCIORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC
- 12 LITHIC TORRIORTHENTS, LOAMY-SKELETAL, MIXED (CALCAREOUS), THERMIC
- 13 TYPIC TORRIFLUENTS, FINE-SILTY OVER SANDY OR SANDY-SKELETAL, MIXED (CALCAREOUS), HYPERTHERMIC
- 14 TYPIC TORRIORTHENTS, COARSE-LOAMY, MIXED (CALCAREOUS), HYPERTHERMIC
- 15 TYPIC CALCIORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC
- 16 LITHIC TORRIORTHENTS, LOAMY-SKELETAL, MIXED (CALCAREOUS), THERMIC
- 17
- 18 TYPIC CALCIORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC
- 19 TYPIC CALCIORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC
- 20 LITHIC TORRIORTHENTS, LOAMY-SKELETAL, MIXED (CALCAREOUS), THERMIC
- 21 TYPIC TORRIPSAMMENTS, MIXED, HYPERTHERMIC
- 22 TYPIC CALCIORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC
- 23 TYPIC CALCIORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC
- 24 LITHIC TORRIORTHENTS, LOAMY-SKELETAL, MIXED (CALCAREOUS), THERMIC
- 25 LITHIC TORRIORTHENTS, LOAMY-SKELETAL, MIXED (CALCAREOUS), THERMIC
- 26 LITHIC TORRIORTHENTS, LOAMY-SKELETAL, MIXED (CALCAREOUS), HYPERTHERMIC
- 27
- 28 LITHIC TORRIORTHENTS, LOAMY-SKELETAL, MIXED (CALCAREOUS), THERMIC
- 29 TYPIC DURORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC, SHALLOW
- 30 TYPIC TORRIPSAMMENTS, MIXED, HYPERTHERMIC
- 31 LITHIC TORRIORTHENTS, LOAMY-SKELETAL, MIXED (CALCAREOUS), HYPERTHERMIC
- 32 TYPIC CALCIORTHIDS, LOAMY-SKELETAL, MIXED, HYPERTHERMIC

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CONCEPTUAL DRAINAGE STUDY

## SOIL TAXONOMY LIST

SOURCE: <http://soils.usda.gov/technical/classification/taxonomy/>



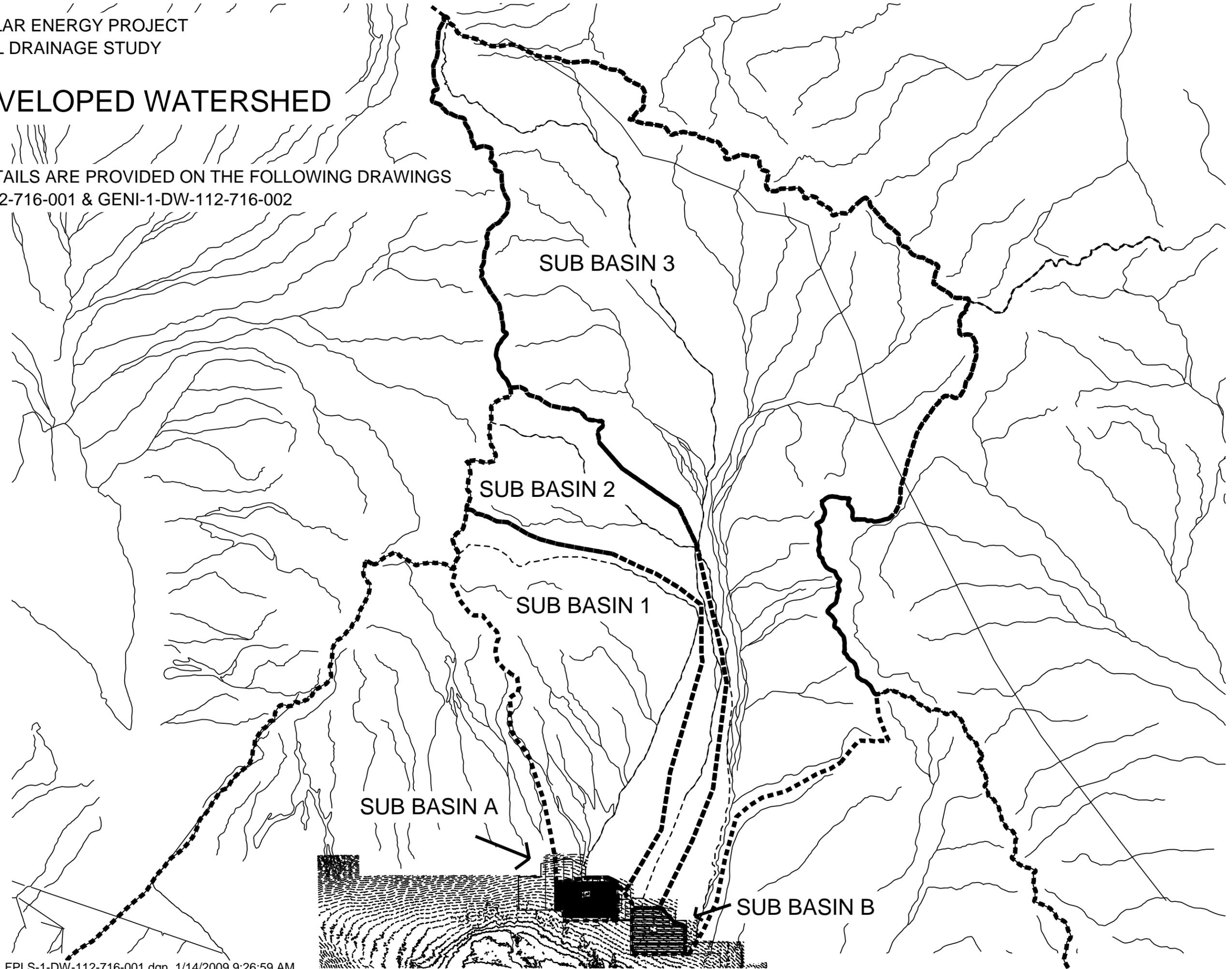
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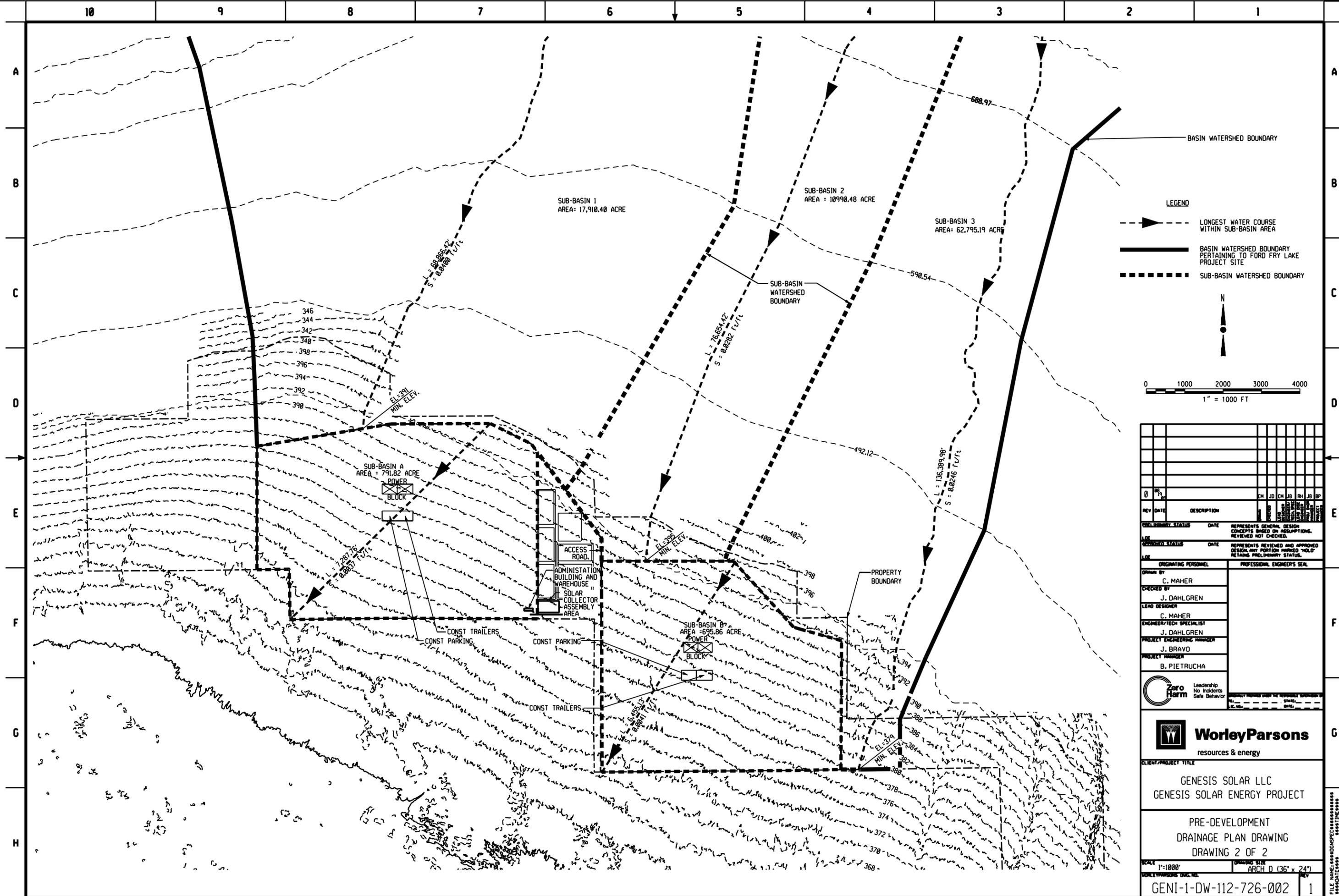
## **APPENDIX D – PRE-DEVELOPED CONDITIONS**

# PRE DEVELOPED WATERSHED

FURTHER DETAILS ARE PROVIDED ON THE FOLLOWING DRAWINGS  
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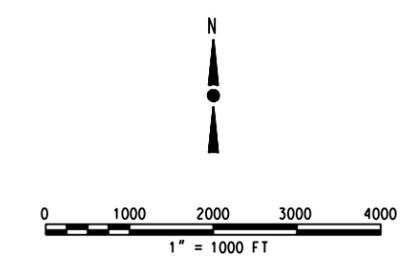






**LEGEND**

- LONGEST WATER COURSE WITHIN SUB-BASIN AREA
- BASIN WATERSHED BOUNDARY PERTAINING TO FORD FRY LAKE PROJECT SITE
- SUB-BASIN WATERSHED BOUNDARY

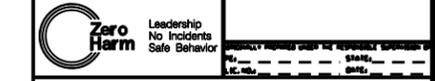


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DESIGNED STATUS: [ ] DATE: [ ] REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.

CHECKED STATUS: [ ] DATE: [ ] REPRESENTS REVIEWED AND APPROVED DESIGN. NOT PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

ORIGINATING PERSONNEL	PROFESSIONAL ENGINEER'S SEAL
DRAWN BY C. MAHER CHECKED BY J. DAHLGREN LEAD DESIGNER C. MAHER ENGINEER/TECH SPECIALIST J. DAHLGREN PROJECT ENGINEERING MANAGER J. BRAVO PROJECT MANAGER B. PIETRUCHA	

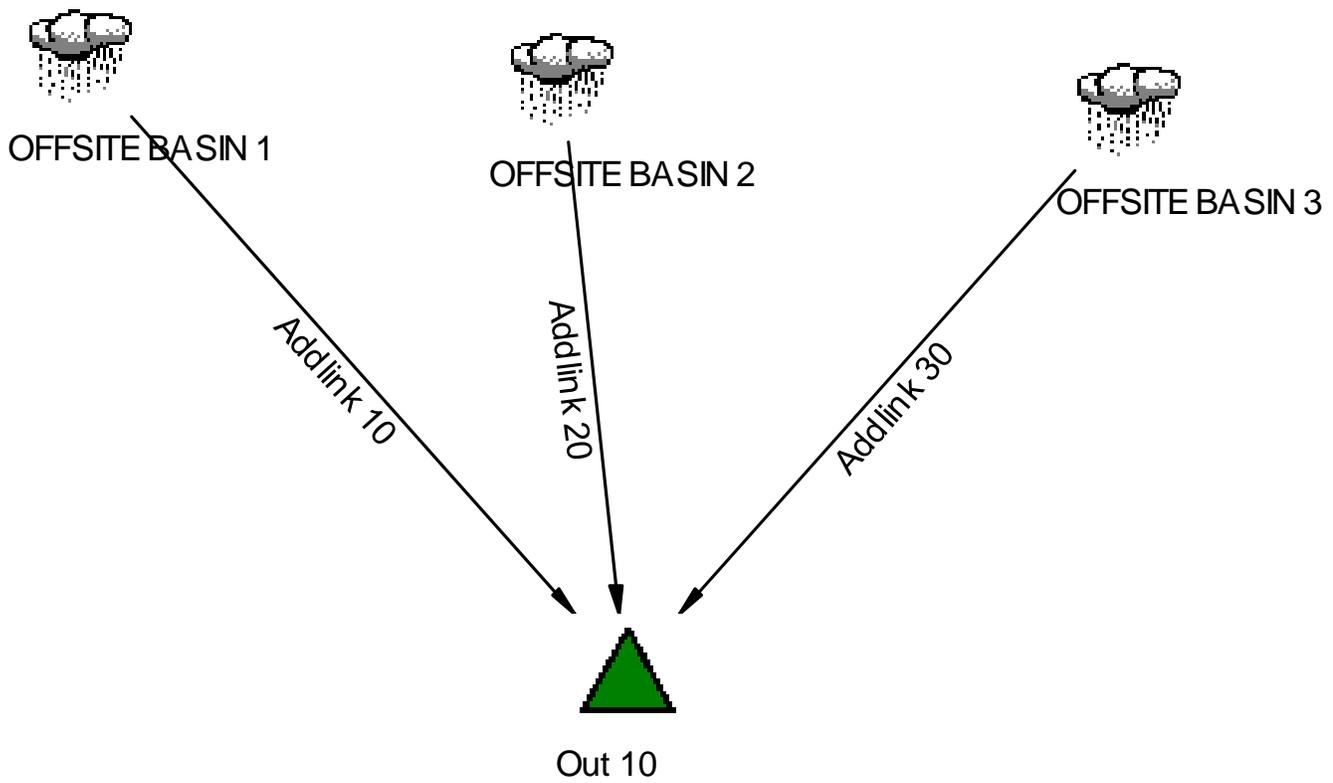


CLIENT/PROJECT TITLE  
GENESIS SOLAR LLC  
GENESIS SOLAR ENERGY PROJECT

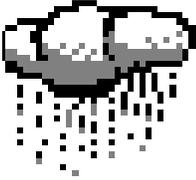
PRE-DEVELOPMENT  
DRAINAGE PLAN DRAWING  
DRAWING 2 OF 2

SCALE: 1"=1000' DRAWING SIZE: ARCH D (36" x 24")  
WORLDWIDE PROJECTS DIV. NO. GENI-1-DW-112-726-002

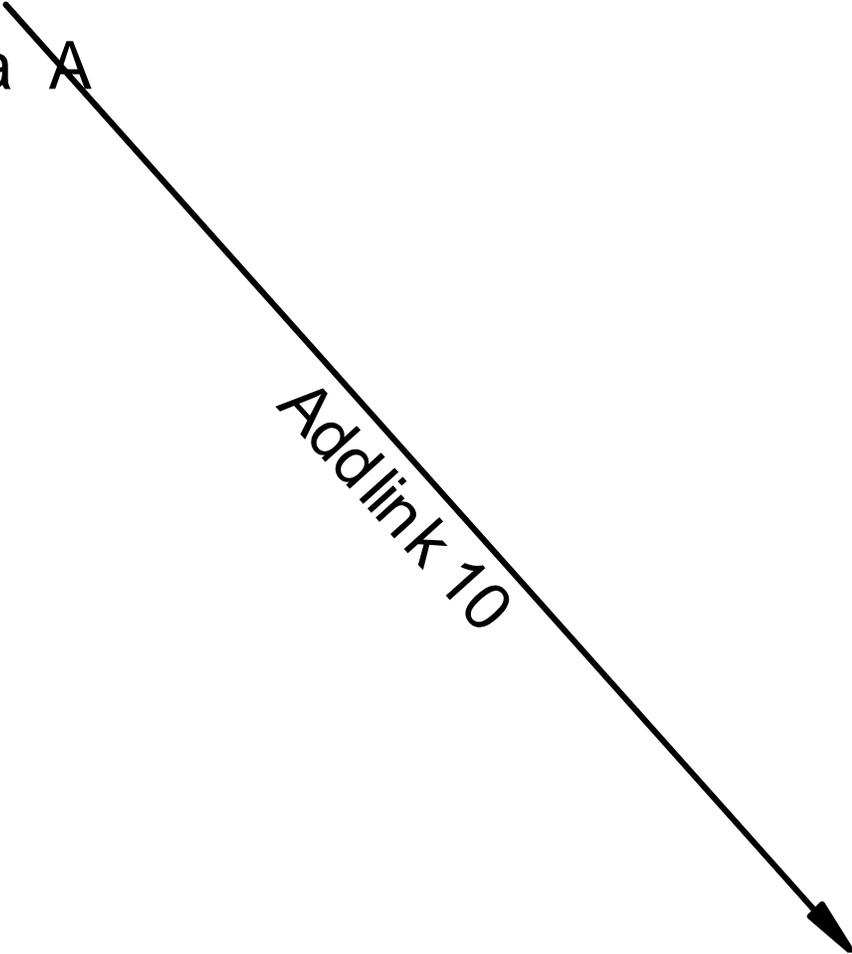
# PRE DEVELOPED PONDPACK MODEL - OFF SITE FLOWS



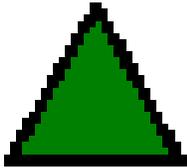
PRE DEVELOPED PONDPACK MODEL - UNIT 1



Subarea A

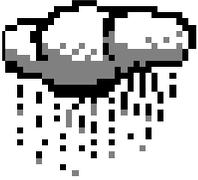


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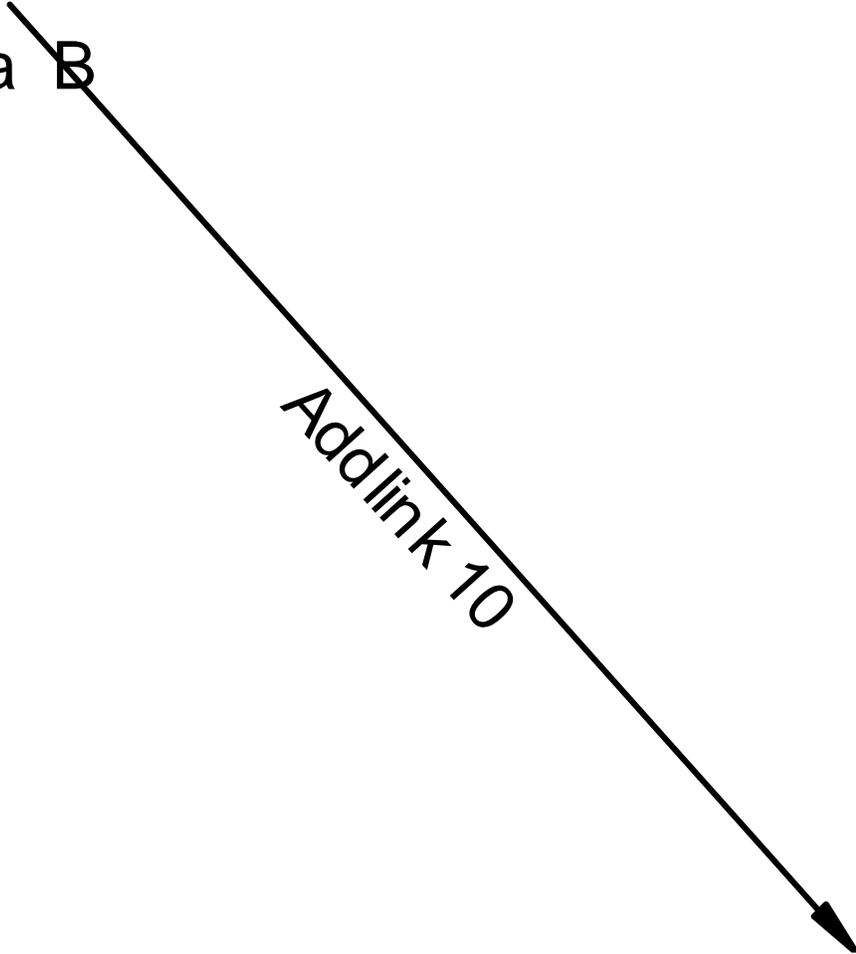


Out 10

PRE DEVELOPED PONDPACK MODEL - UNIT 2



Subarea B



*Addlink 10*



Out 10

# GENESIS SOLAR ENERGY PROJECT

## MASTER DESIGN STORM SUMMARY

### 100-YR, 24-HR EVENT PRE-DEVELOPMENT CONDITIONS OFFSITE DRAINAGE FLOWS FOR SUB-BASINS 1, 2, AND 3

Network Storm Collection: Ford Dry Lake

Return Event	Total Depth in	Rainfall Type	RNF ID
Pre100	3.5100	Synthetic Curve	Type II 24hr

#### MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion ;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Max Qpeak hrs	Qpeak cfs	Max WSEL ft	Pond Storage ac-ft
OFFSITE BASIN 1 AREA		100	2562.192		15.8000	4070.86		
OFFSITE BASIN 2 AREA		100	1709.932		17.5500	2203.46		
OFFSITE BASIN 3 AREA		100	8604.637		21.9500	6469.52		
*OUT 10	JCT	100	12876.770		17.9500	10022.25		

# GENESIS SOLAR ENERGY PROJECT

## MASTER DESIGN STORM SUMMARY

### 100-YR, 24-HR EVENT PRE-DEVELOPMENT CONDITIONS ONSITE DRAINAGE FLOWS FOR SUB-BASIN A

Network Storm Collection: Ford Dry Lake

Return Event	Total Depth in	Rainfall Type	RNF ID
Pre100	3.5100	Synthetic Curve	Type II 24hr

#### MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion ;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Max Qpeak cfs
*OUT 10	JCT	100	139.043		13.2000	518.63
SUBAREA A	AREA	100	139.043		13.2000	518.63

# GENESIS SOLAR ENERGY PROJECT

## MASTER DESIGN STORM SUMMARY

### 100-YR, 24-HR EVENT PRE-DEVELOPMENT CONDITIONS ONSITE DRAINAGE FLOWS FOR SUB-BASIN B

Network Storm Collection: Ford Dry Lake

Return Event	Total Depth in	Rainfall Type	RNF ID
Pre100	3.5100	Synthetic Curve	Type II 24hr

#### MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion ;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Max Qpeak cfs
*OUT 10	JCT	100	99.546		13.0500	419.21
SUBAREA B	AREA	100	99.546		13.0500	419.21



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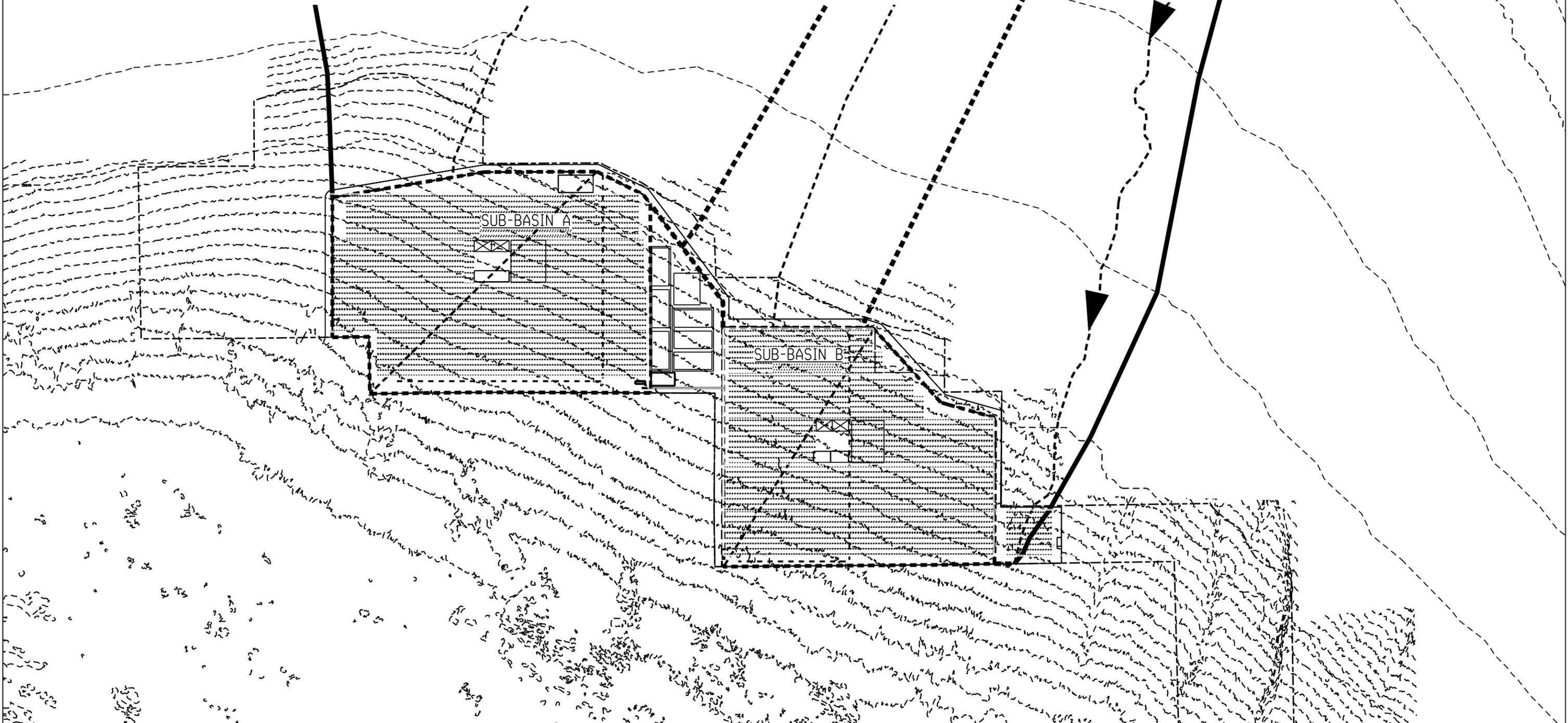
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## **APPENDIX E – POST-DEVELOPED CONDITIONS**

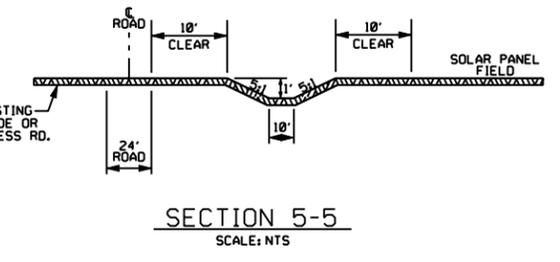
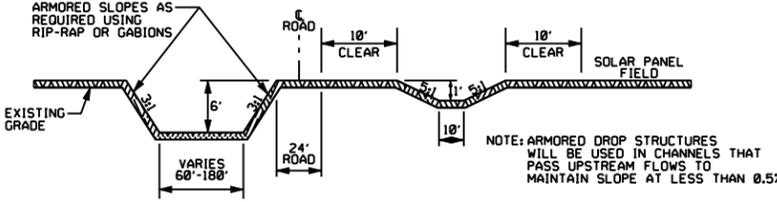
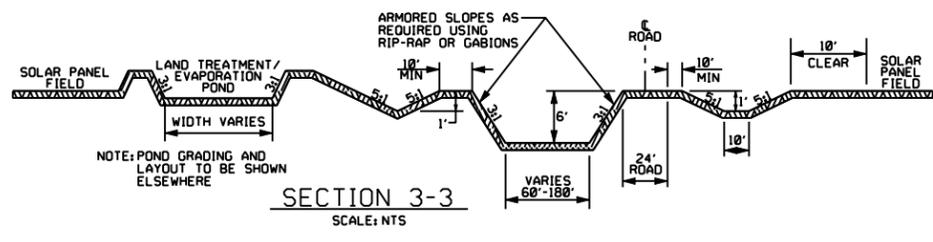
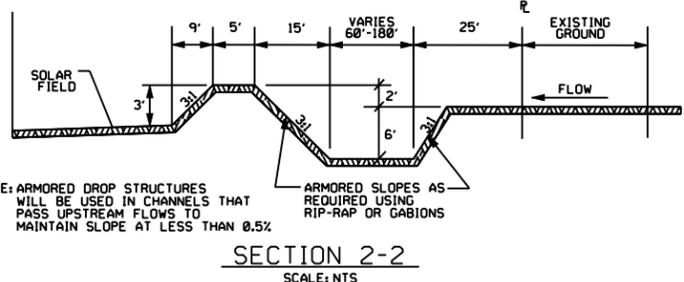
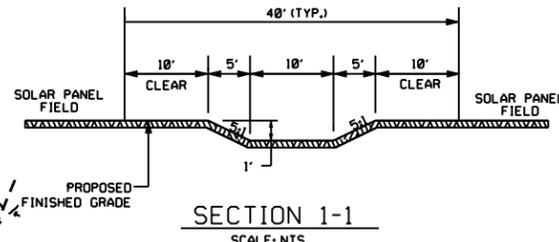
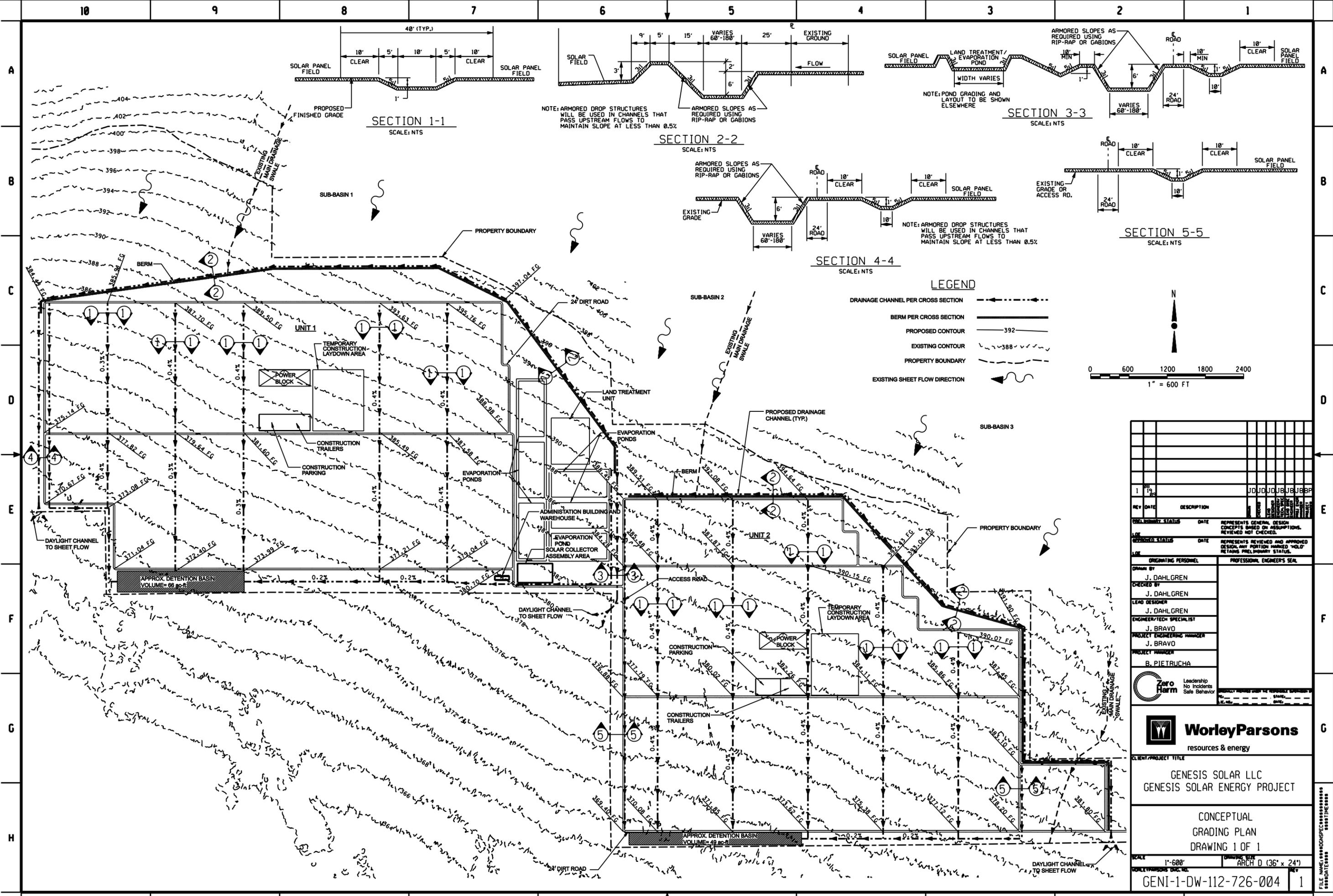
# POST DEVELOPED WATERSHED

OFFSITE RUN OFF DIVERTED IN CHANNELS AROUND / THROUGH THE SITE

FURTHER DETAILS ARE PROVIDED ON THE FOLLOWING DRAWINGS:  
GENI-1-DW-112-716-003 & GENI-1-DW-112-716-004

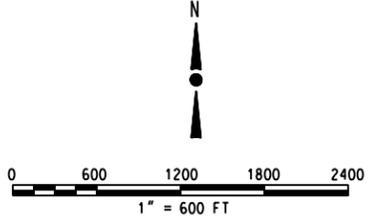






**LEGEND**

- > DRAINAGE CHANNEL PER CROSS SECTION
- ==== BERM PER CROSS SECTION
- 392 --- PROPOSED CONTOUR
- 388 --- EXISTING CONTOUR
- - - - - PROPERTY BOUNDARY
- > EXISTING SHEET FLOW DIRECTION



REV	DATE	DESCRIPTION	BY	CHECKED
1	12/15/09		JD	JD

CONCEPTUAL STATUS DATE REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.

PRELIMINARY STATUS DATE REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.

DESIGNED BY	J. DAHLGREN	PROFESSIONAL ENGINEER'S SEAL
CHECKED BY	J. DAHLGREN	
LEAD DESIGNER	J. DAHLGREN	
ENGINEER/TECH SPECIALIST	J. BRAVO	
PROJECT ENGINEERING MANAGER	J. BRAVO	
PROJECT MANAGER	B. PIETRUCHA	

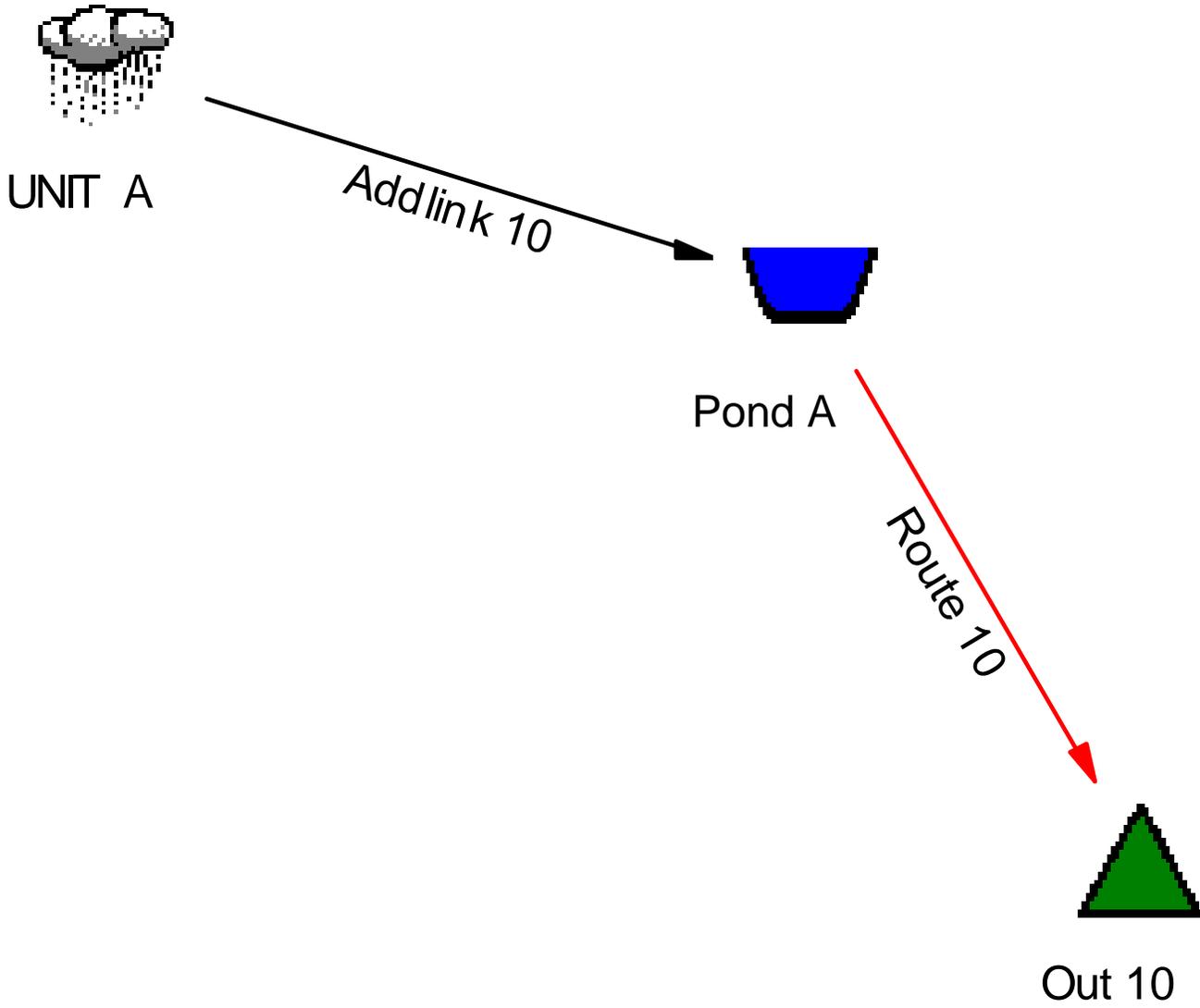


CLIENT/PROJECT TITLE  
GENESIS SOLAR LLC  
GENESIS SOLAR ENERGY PROJECT

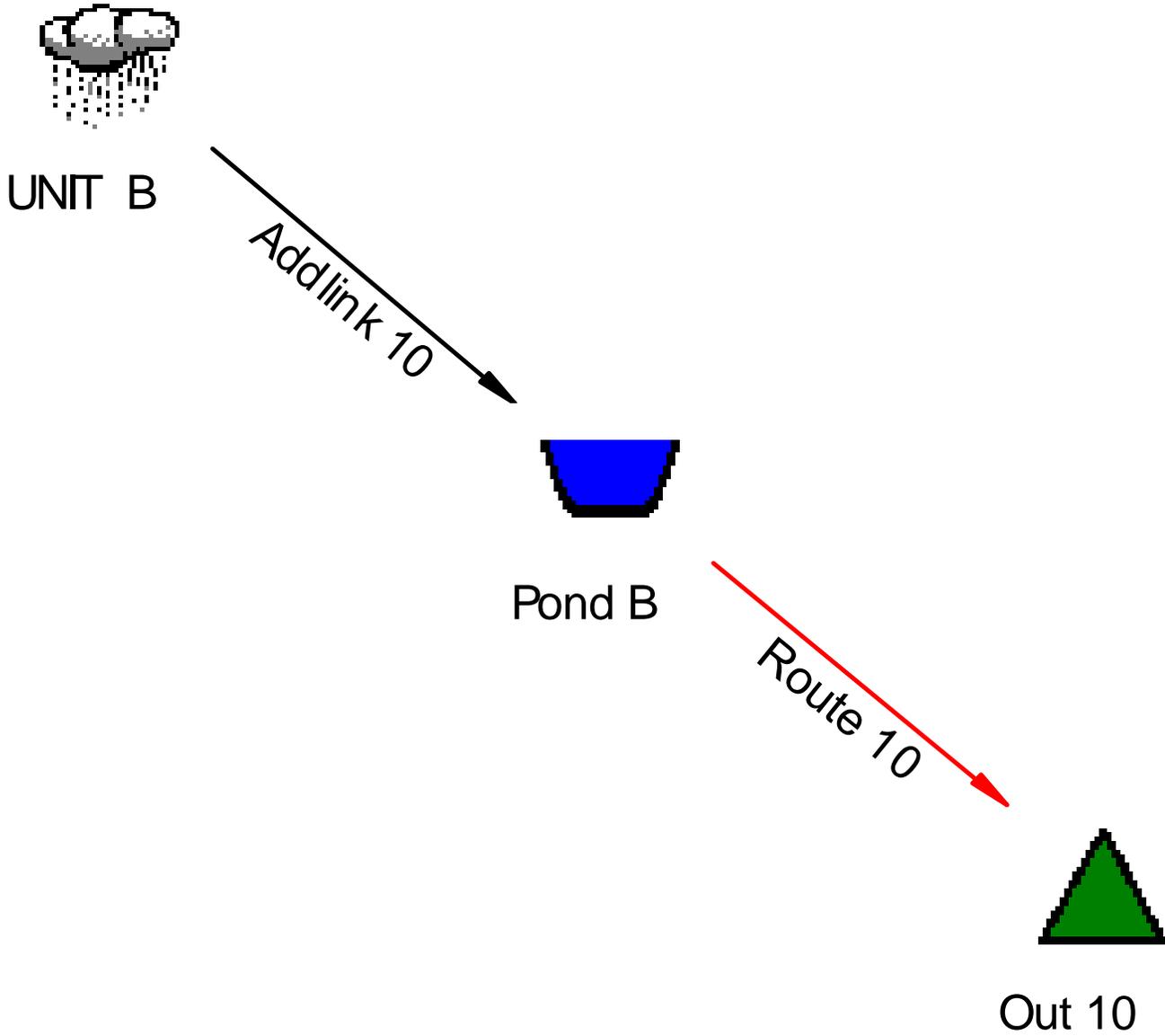
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DRAWING 1 OF 1

SCALE 1"=600' DRAWING SIZE ARCH D (36" x 24")  
GENI-1-DW-112-726-004 1

# POST DEVELOPED PONDPACK MODEL - UNIT 1



## POST DEVELOPED PONDPACK MODEL - UNIT 2



# GENESIS SOLAR ENERGY PROJECT

## MASTER DESIGN STORM SUMMARY

### 100-YR, 24-HR EVENT POST-DEVELOPMENT CONDITIONS ONSITE DRAINAGE FLOWS FOR SUB-BASIN A

Network Storm Collection: Ford Dry Lake

Return Event	Total Depth in	Rainfall Type	RNF ID
Dev100	3.5100	Synthetic Curve	Type II 24hr

#### MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion ;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Max Qpeak cfs
*OUT 10	JCT	100	150.302		12.2500	1295.00
SUBAREA A	AREA	100	150.302		12.2500	1295.00

Job File: F:\01-Projects\FPLE Solar\03-Project Genesis\03-Engineering\Civil\H&H\PondPack\F  
Rain Dir: F:\01-Projects\FPLE Solar\03-Project Genesis\03-Engineering\Civil\H&H\PondPack\F

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=====  
JOB TITLE  
=====

Project Date: 1/12/2009

Project Engineer: Juan Bravo, P.E.

Project Title: FORD DRY LAKE (Onsite Subarea A)

Project Comments:

The purpose of these calculations, is to determine the amount of runoff produced in a 100-yr, 24-hr storm event by the onsite tributary drainage area correspondent to the Subarea A (or Unit A) for the Ford Dry Lake Project when developed. Also, to determine the volume of detention required to minimized downstream impact.

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POND A..... Target Outflow Volume Estimates .... 0.01

\*\*\*\*\* HYDROGRAPHS \*\*\*\*\*

POND A..... 100  
Hydrograph ..... 1.01

Type.... Target Outflow Volume Estimates  
Name.... POND A

File.... F:\01-Projects\FPLE Solar\03-Project Genesis\03-Engineering\Civil\H&H\PondPack\Fo

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DETENTION STORAGE ESTIMATES -- Target Peak Outflow Rate

Return Events	Peak In (cfs)	Target (cfs)	Lower (ac-ft)	Linear (ac-ft)	Curvlinr (ac-ft)	Upper (ac-ft)	Total (ac-ft)
100	1295.002	518.629	30.033	41.711	65.753	84.636	150.302

CALCULATION TIME RANGES

Return Events	Lower		Linear		Curvilinear		Upper		Total	
	From (hrs)	To (hrs)								
100	11.93	12.77	11.60	12.77	5.90	12.77	5.90	12.77	5.90	26.10

INFLOW HYDROGRAPH...

HYG file =

HYG ID = POND A IN

HYG Tag = Dev100

-----  
 Peak Discharge = 1295.00 cfs  
 Time to Peak = 12.2500 hrs  
 HYG Volume = 150.302 ac-ft  
 -----

HYDROGRAPH ORDINATES (cfs)

Time | Output Time increment = .0500 hrs  
 hrs | Time on left represents time for first value in each row.

Time hrs					
5.9000	.00	.00	.01	.02	.05
6.1500	.08	.14	.22	.31	.43
6.4000	.56	.72	.88	1.06	1.26
6.6500	1.46	1.67	1.89	2.12	2.35
6.9000	2.58	2.82	3.06	3.31	3.56
7.1500	3.82	4.07	4.33	4.60	4.86
7.4000	5.13	5.40	5.67	5.94	6.22
7.6500	6.49	6.77	7.06	7.34	7.63
7.9000	7.91	8.20	8.49	8.79	9.08
8.1500	9.39	9.71	10.04	10.38	10.75
8.4000	11.15	11.56	12.01	12.48	12.97
8.6500	13.49	14.03	14.59	15.17	15.77
8.9000	16.39	17.03	17.69	18.37	19.06
9.1500	19.75	20.45	21.13	21.82	22.47
9.4000	23.11	23.72	24.31	24.88	25.43
9.6500	25.99	26.55	27.14	27.76	28.45
9.9000	29.17	29.99	30.86	31.79	32.82
10.1500	33.88	35.05	36.27	37.57	38.95
10.4000	40.38	41.93	43.52	45.21	46.99
10.6500	48.85	50.85	52.92	55.18	57.54
10.9000	60.05	62.72	65.47	68.50	71.63
11.1500	75.03	78.74	82.67	87.24	92.03
11.4000	97.50	103.46	109.99	118.58	128.28
11.6500	145.68	169.49	205.19	263.71	334.80
11.9000	450.38	578.42	737.86	897.95	1058.61
12.1500	1175.62	1273.18	1295.00	1286.85	1235.90
12.4000	1154.56	1060.57	953.01	848.68	752.03
12.6500	668.59	594.32	535.22	480.22	434.95
12.9000	394.13	358.27	328.53	301.02	279.09
13.1500	258.83	241.58	226.60	212.85	201.55
13.4000	190.88	181.77	173.48	165.91	159.28

HYDROGRAPH ORDINATES (cfs)					
Time hrs	Output Time increment = .0500 hrs				
	Time on left represents time for first value in each row.				
13.6500	152.93	147.27	141.85	136.77	132.07
13.9000	127.51	123.60	119.87	116.59	113.58
14.1500	110.74	108.12	105.57	103.24	101.06
14.4000	99.03	97.22	95.50	94.00	92.58
14.6500	91.27	90.05	88.88	87.79	86.72
14.9000	85.70	84.72	83.76	82.82	81.90
15.1500	81.01	80.11	79.23	78.35	77.48
15.4000	76.60	75.73	74.87	74.01	73.15
15.6500	72.30	71.44	70.59	69.74	68.89
15.9000	68.03	67.17	66.31	65.46	64.61
16.1500	63.77	62.95	62.18	61.43	60.73
16.4000	60.08	59.46	58.90	58.37	57.89
16.6500	57.43	57.01	56.61	56.22	55.85
16.9000	55.49	55.14	54.80	54.47	54.14
17.1500	53.81	53.49	53.17	52.85	52.54
17.4000	52.23	51.92	51.61	51.31	51.00
17.6500	50.69	50.38	50.07	49.77	49.46
17.9000	49.15	48.85	48.54	48.24	47.93
18.1500	47.63	47.32	47.01	46.70	46.39
18.4000	46.08	45.78	45.47	45.16	44.85
18.6500	44.55	44.24	43.93	43.62	43.31
18.9000	43.00	42.69	42.38	42.07	41.76
19.1500	41.45	41.14	40.83	40.53	40.21
19.4000	39.90	39.59	39.28	38.96	38.65
19.6500	38.34	38.03	37.72	37.41	37.10
19.9000	36.79	36.48	36.16	35.85	35.54
20.1500	35.24	34.94	34.67	34.40	34.17
20.4000	33.94	33.74	33.57	33.40	33.26
20.6500	33.13	33.01	32.91	32.81	32.72
20.9000	32.63	32.55	32.47	32.40	32.32
21.1500	32.25	32.19	32.12	32.05	31.99
21.4000	31.92	31.86	31.80	31.74	31.67
21.6500	31.61	31.55	31.49	31.43	31.37
21.9000	31.31	31.25	31.18	31.12	31.06
22.1500	31.00	30.94	30.88	30.82	30.76
22.4000	30.70	30.64	30.58	30.52	30.46
22.6500	30.40	30.33	30.27	30.21	30.15
22.9000	30.09	30.03	29.97	29.91	29.85
23.1500	29.78	29.72	29.66	29.60	29.54
23.4000	29.48	29.42	29.36	29.30	29.23
23.6500	29.17	29.11	29.05	28.99	28.93
23.9000	28.87	28.81	28.64	28.42	27.82
24.1500	26.98	25.68	23.89	21.84	19.43
24.4000	17.00	14.59	12.33	10.21	8.48
24.6500	6.89	5.73	4.70	3.88	3.22

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs

Time on left represents time for first value in each row.

Time hrs	-----				
24.9000	2.62	2.18	1.79	1.47	1.21
25.1500	.99	.82	.66	.55	.44
25.4000	.36	.29	.23	.19	.15
25.6500	.12	.09	.07	.05	.03
25.9000	.02	.01	.01	.00	.00

CURVILINEAR OUTFLOW ESTIMATE...

-----  
 Peak Discharge = 518.63 cfs  
 Time to Peak = 12.7384 hrs  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs  
 Time on left represents time for first value in each row.

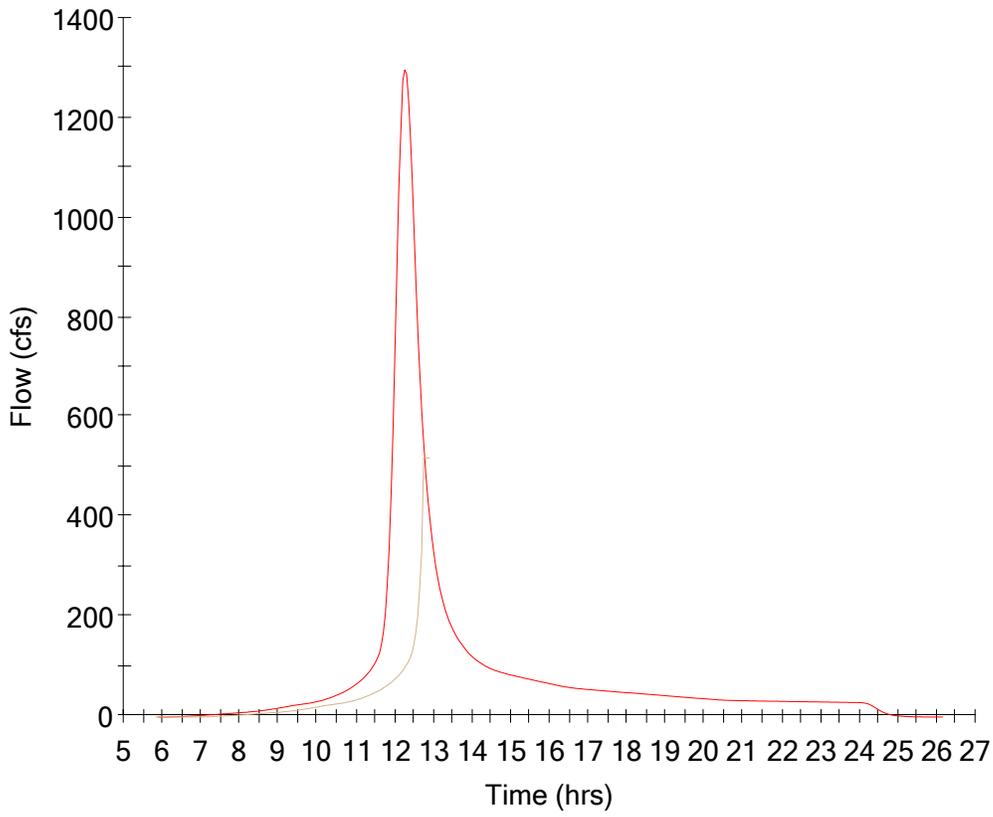
Time hrs					
5.8384	.00	.00	.00	.00	.00
6.0884	.00	.00	.00	.00	.00
6.3384	.00	.00	.00	.00	.00
6.5884	.00	.00	.00	.00	.00
6.8384	.01	.02	.05	.08	.14
7.0884	.22	.31	.43	.56	.72
7.3384	.88	1.06	1.26	1.46	1.67
7.5884	1.89	2.12	2.35	2.58	2.82
7.8384	3.06	3.31	3.56	3.82	4.07
8.0884	4.33	4.60	4.86	5.13	5.40
8.3384	5.67	5.94	6.22	6.49	6.77
8.5884	7.06	7.34	7.63	7.91	8.20
8.8384	8.49	8.79	9.08	9.39	9.71
9.0884	10.04	10.38	10.75	11.15	11.56
9.3384	12.01	12.48	12.97	13.49	14.03
9.5884	14.59	15.17	15.77	16.39	17.03
9.8384	17.69	18.37	19.06	19.75	20.45
10.0884	21.13	21.82	22.47	23.11	23.72
10.3384	24.31	24.88	25.43	25.99	26.55
10.5884	27.14	27.76	28.45	29.17	29.99
10.8384	30.86	31.79	32.82	33.88	35.05
11.0884	36.27	37.57	38.95	40.38	41.93
11.3384	43.52	45.21	46.99	48.85	50.85
11.5884	52.92	55.18	57.54	60.05	62.72
11.8384	65.47	68.50	71.63	75.03	78.74
12.0884	82.67	87.24	92.03	97.50	103.46
12.3384	109.99	118.58	128.28	145.68	169.49
12.5884	205.19	263.71	334.80	518.63	518.63
12.8384	518.63	518.63			

Index of Starting Page Numbers for ID Names

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----- P -----  
POND A... 0.01, 1.01

Hydrograph  
Curvilinear Est 100



POND A IN Dev100  
Curvilinear Est 100

# GENESIS SOLAR ENERGY PROJECT

## MASTER DESIGN STORM SUMMARY

### 100-YR, 24-HR EVENT POST-DEVELOPMENT CONDITIONS ONSITE DRAINAGE FLOWS FOR SUB-BASIN B

Network Storm Collection: Ford Dry Lake

Return Event	Total Depth in	Rainfall Type	RNF ID
Dev100	3.5100	Synthetic Curve	Type II 24hr

#### MASTER NETWORK SUMMARY SCS Unit Hydrograph Method

(\*Node=Outfall; +Node=Diversion ;)  
 (Trun= HYG Truncation: Blank=None; L=Left; R=Rt; LR=Left&Rt)

Node ID	Type	Return Event	HYG Vol ac-ft	Trun	Qpeak hrs	Max Qpeak cfs
*OUT 10	JCT	100	112.794		12.2000	1127.07
UNIT B	AREA	100	112.794		12.2000	1127.07

Job File: F:\01-Projects\FPLE Solar\03-Project Genesis\03-Engineering\Civil\H&H\PondPack\F  
Rain Dir: F:\01-Projects\FPLE Solar\03-Project Genesis\03-Engineering\Civil\H&H\PondPack\F

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=====  
JOB TITLE  
=====

Project Date: 1/12/2009

Project Engineer: Juan Bravo, P.E.

Project Title: FORD DRY LAKE (Onsite Subarea B)

Project Comments:

The purpose of these calculations, is to determine the amount of runoff produced in a 100-yr, 24-hr storm event by the onsite tributary drainage area correspondent to the Subarea B for the Ford Dry Lake Project when developed. Also, to determine the amount of volume needed to detain to minimized downstream impact

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Table of Contents

POND B..... Target Outflow Volume Estimates .... 0.01

\*\*\*\*\* HYDROGRAPHS \*\*\*\*\*

POND B..... 100  
Hydrograph ..... 1.01

Type.... Target Outflow Volume Estimates  
Name.... POND B

File.... F:\01-Projects\FPLE Solar\03-Project Genesis\03-Engineering\Civil\H&H\PondPack\Fo

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DETENTION STORAGE ESTIMATES -- Target Peak Outflow Rate

Return Events	Peak In (cfs)	Target (cfs)	Lower (ac-ft)	Linear (ac-ft)	Curvlinr (ac-ft)	Upper (ac-ft)	Total (ac-ft)
100	1127.070	419.212	23.320	31.901	48.377	59.997	112.794

CALCULATION TIME RANGES

Return Events	Lower		Linear		Curvilinear		Upper		Total	
	From (hrs)	To (hrs)								
100	11.90	12.63	11.65	12.63	7.50	12.63	7.50	12.63	7.50	25.65

INFLOW HYDROGRAPH...

HYG file =  
HYG ID = POND B IN  
HYG Tag = Dev100

-----  
Peak Discharge = 1127.07 cfs  
Time to Peak = 12.2000 hrs  
HYG Volume = 112.794 ac-ft  
-----

HYDROGRAPH ORDINATES (cfs)

Time | Output Time increment = .0500 hrs  
hrs | Time on left represents time for first value in each row.

Time hrs					
7.5000	.00	.00	.01	.03	.07
7.7500	.12	.20	.30	.42	.56
8.0000	.71	.88	1.05	1.24	1.44
8.2500	1.65	1.87	2.10	2.35	2.60
8.5000	2.88	3.16	3.46	3.78	4.11
8.7500	4.45	4.80	5.17	5.56	5.96
9.0000	6.37	6.79	7.23	7.67	8.12
9.2500	8.56	9.00	9.43	9.86	10.27
9.5000	10.67	11.06	11.46	11.86	12.29
9.7500	12.73	13.21	13.74	14.32	14.92
10.0000	15.58	16.28	17.02	17.79	18.62
10.2500	19.51	20.44	21.41	22.47	23.57
10.5000	24.73	25.94	27.23	28.58	30.01
10.7500	31.53	33.19	34.94	36.80	38.80
11.0000	40.92	43.16	45.52	48.13	50.99
11.2500	54.12	57.57	61.56	65.90	70.60
11.5000	75.81	82.80	92.89	107.44	131.59
11.7500	171.50	229.07	307.48	425.12	572.42
12.0000	734.73	903.04	1029.33	1104.09	1127.07
12.2500	1090.90	1005.43	903.01	791.68	684.81
12.5000	595.31	518.76	454.34	402.26	357.65
12.7500	318.89	285.56	259.16	236.51	217.14
13.0000	200.87	187.55	175.81	165.45	156.52
13.2500	148.77	141.78	135.47	129.86	124.72
13.5000	120.01	115.73	112.09	108.79	105.75
13.7500	102.91	100.26	97.72	95.28	92.96
14.0000	90.75	88.61	86.53	84.55	82.69
14.2500	80.95	79.32	77.88	76.58	75.39
14.5000	74.30	73.33	72.42	71.55	70.74
14.7500	69.95	69.19	68.45	67.73	67.01
15.0000	66.31	65.62	64.93	64.24	63.55

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs

Time on left represents time for first value in each row.

Time hrs	Output Time increment = .0500 hrs				
	Time on left represents time for first value in each row.				
15.2500	62.87	62.19	61.51	60.82	60.14
15.5000	59.46	58.78	58.10	57.42	56.73
15.7500	56.05	55.36	54.67	53.99	53.30
16.0000	52.61	51.92	51.24	50.58	49.94
16.2500	49.35	48.79	48.28	47.82	47.41
16.5000	47.03	46.68	46.36	46.05	45.76
16.7500	45.47	45.20	44.94	44.67	44.42
17.0000	44.16	43.91	43.66	43.41	43.17
17.2500	42.92	42.67	42.43	42.18	41.94
17.5000	41.69	41.45	41.20	40.96	40.71
17.7500	40.46	40.22	39.97	39.73	39.48
18.0000	39.23	38.98	38.74	38.49	38.24
18.2500	37.99	37.74	37.49	37.24	37.00
18.5000	36.75	36.50	36.25	36.00	35.75
18.7500	35.50	35.25	35.00	34.75	34.49
19.0000	34.24	33.99	33.74	33.49	33.24
19.2500	32.98	32.73	32.48	32.23	31.97
19.5000	31.72	31.47	31.21	30.96	30.70
19.7500	30.45	30.20	29.94	29.69	29.43
20.0000	29.18	28.93	28.68	28.44	28.21
20.2500	28.00	27.81	27.64	27.49	27.36
20.5000	27.25	27.15	27.06	26.99	26.91
20.7500	26.85	26.78	26.72	26.67	26.61
21.0000	26.56	26.51	26.46	26.40	26.35
21.2500	26.31	26.26	26.21	26.16	26.11
21.5000	26.06	26.01	25.96	25.92	25.87
21.7500	25.82	25.77	25.72	25.67	25.63
22.0000	25.58	25.53	25.48	25.43	25.38
22.2500	25.33	25.29	25.24	25.19	25.14
22.5000	25.09	25.04	24.99	24.94	24.90
22.7500	24.85	24.80	24.75	24.70	24.65
23.0000	24.60	24.55	24.50	24.45	24.40
23.2500	24.36	24.31	24.26	24.21	24.16
23.5000	24.11	24.06	24.01	23.96	23.91
23.7500	23.86	23.81	23.76	23.71	23.66
24.0000	23.53	23.22	22.66	21.40	19.64
24.2500	17.47	14.97	12.47	10.12	7.99
24.5000	6.26	4.93	3.86	3.01	2.38
24.7500	1.87	1.46	1.13	.90	.70
25.0000	.54	.42	.33	.25	.19
25.2500	.14	.11	.08	.05	.04
25.5000	.02	.01	.00	.00	

CURVILINEAR OUTFLOW ESTIMATE...

-----  
 Peak Discharge = 419.21 cfs  
 Time to Peak = 12.5862 hrs  
 -----

HYDROGRAPH ORDINATES (cfs)

Output Time increment = .0500 hrs

Time on left represents time for first value in each row.

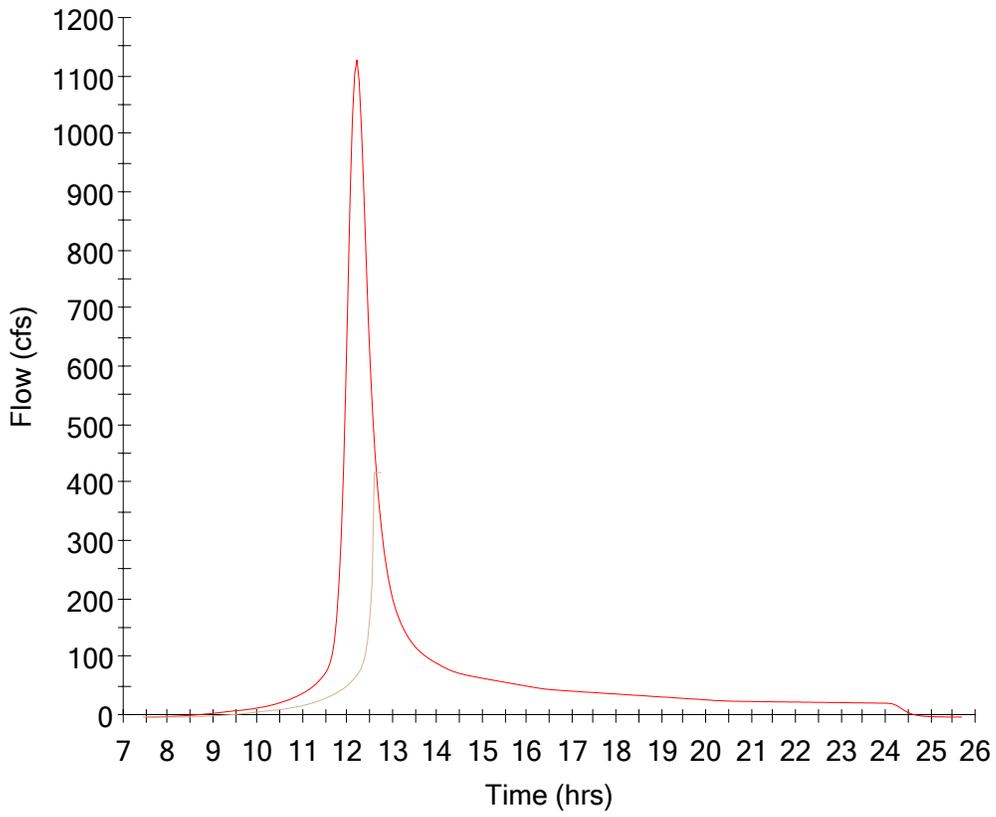
Time hrs	Output Time increment = .0500 hrs				
	Time on left represents time for first value in each row.				
7.4362	.00	.00	.00	.00	.00
7.6862	.00	.00	.00	.00	.00
7.9362	.00	.00	.00	.00	.00
8.1862	.00	.00	.00	.01	.03
8.4362	.07	.12	.20	.30	.42
8.6862	.56	.71	.88	1.05	1.24
8.9362	1.44	1.65	1.87	2.10	2.35
9.1862	2.60	2.88	3.16	3.46	3.78
9.4362	4.11	4.45	4.80	5.17	5.56
9.6862	5.96	6.37	6.79	7.23	7.67
9.9362	8.12	8.56	9.00	9.43	9.86
10.1862	10.27	10.67	11.06	11.46	11.86
10.4362	12.29	12.73	13.21	13.74	14.32
10.6862	14.92	15.58	16.28	17.02	17.79
10.9362	18.62	19.51	20.44	21.41	22.47
11.1862	23.57	24.73	25.94	27.23	28.58
11.4362	30.01	31.53	33.19	34.94	36.80
11.6862	38.80	40.92	43.16	45.52	48.13
11.9362	50.99	54.12	57.57	61.56	65.90
12.1862	70.60	75.81	82.80	92.89	107.44
12.4362	131.59	171.50	229.07	419.21	419.21
12.6862	419.21	419.21			

Index of Starting Page Numbers for ID Names

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----- P -----  
POND B... 0.01, 1.01

Hydrograph  
Curvilinear Est 100



POND B IN Dev100  
Curvilinear Est 100



**WorleyParsons**

resources & energy

**GENESIS SOLAR LLC  
GENESIS SOLAR ENERGY PROJECT  
DRAINAGE, EROSION AND SEDIMENT CONTROL PLAN**

## **APPENDIX B – PRELIMINARY STORMWATER POLLUTION PREVENTION PLAN**

**PRELIMINARY  
STORMWATER POLLUTION  
PREVENTION PLAN**

**FOR**

**GENESIS SOLAR ENERGY PROJECT**

Prepared For:

**GENESIS SOLAR, LLC  
700 Universe Boulevard  
Juno Beach, FL 33408**

Contractor:

*To Be Determined*

SWPPP Prepared By:

**WorleyParsons Group Inc.  
2330 E. Bidwell Street, Suite 150  
Folsom, CA 95630**

SWPPP Preparation Date:

August 19<sup>th</sup> 2009

Estimated Project Dates:

Start of Construction: *To Be Determined*  
Completion of Construction: *To Be Determined*

WDID NO.: (*To Be Determined*)

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## **ACRONYMS**

BMP	BEST MANAGEMENT PRACTICE
CCR	CALIFORNIA CODE OF REGULATIONS
CFR	CODE OF FEDERAL REGULATIONS
EPA	ENVIRONMENTAL PROTECTION AGENCY
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
MSDS	MATERIAL SAFETY DATA SHEETS
RWQCB	REGIONAL WATER QUALITY CONTROL BOARD
SAP	SAMPLING AND ANALYSIS PLAN
SWPPM	STORMWATER POLLUTION PREVENTION MANAGER
SWPPP	STORMWATER POLLUTION PREVENTION PLAN
SWRCB	STATE WATER RESOURCES CONTROL BOARD
TBD	TO BE DETERMINED
USDA	UNITED STATES DEPARTMENT OF AGRICULTURE
WDR	WASTE DISCHARGE REQUIREMENTS

# 1. SWPPP CERTIFICATIONS AND APPROVALS

## 1.1 Notice to Contractor

This is a living document and a tool to be used to assist the Owner/contractor in complying with stormwater quality regulations, and is required to be amended as necessary.

The burden of comprehensive compliance rests solely with the project Owner/developer. WorleyParsons does not guarantee compliance or assume any responsibility for failure to comply with the State General Permit as a result of using the information provided herein. The information contained in this report is based upon, and limited by, the circumstances and conditions acknowledged herein, and upon information available at the time of its preparation.

## 1.2 Certification by Engineer or Authorized Designee (Preparer)

Project Name: Genesis Solar Energy Project

Project Number: \_\_\_\_\_

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

---

Preparer's Name: Bob Anders

Signature: \_\_\_\_\_

Title: Professional Engineer

Date: \_\_\_\_\_

Telephone Number(s): (916) 817 3973

### 1.3 Owner Approval and Certification of SWPPP

**Owners (or Authorized Representative)  
Approval and Certification of the  
Stormwater Pollution Prevention Plan**

**Project Name:** Genesis Solar Energy Project

**Project Number:** \_\_\_\_\_

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

---

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Telephone  
Number(s): \_\_\_\_\_

## 1.4 Contractors Approval and Certification of SWPPP

### General Contractor Approval and Certification of Implementing Storm Water Pollution Prevention Plan

**Project Name:** Genesis Solar Energy Project

**Project Number:** \_\_\_\_\_

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

---

**Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Telephone  
Number(s):** \_\_\_\_\_

## **1.5 Annual Compliance Certification**

By July 1 of each year, the Owner shall complete an Annual Certification of Compliance stating compliance with the terms and conditions of the General Permit (Permit) and the Storm Water Pollution Prevention Plan (SWPPP). The blank Annual Certification of Compliance Form is included in **Attachment 11**. Completed Annual Certifications of Compliance and Approvals can be found in the following pages.

A copy of the certification shall be filed at the owner's office, but does not have to be submitted to the Regional Water Quality Control Board (RWQCB), Colorado River Basin Region 7.

## **1.6 Location of SWPPP**

A copy of the SWPPP shall be kept at the construction site during the construction activity and made available upon request to representatives of the California RWQCB or the general public (public access pursuant to Section 308(b) of the Federal Clean Water Act).

## **2. SWPPP AMENDMENTS**

### **2.1 SWPPP Amendments**

This SWPPP shall be amended:

- Whenever there is a change in construction or operations which may affect the discharge of pollutants to surface waters, groundwater(s) or a municipal storm or sewer system;
- If any Condition of the Permits is violated or the general objective of reducing or eliminating pollutants in storm water discharges has not been achieved. If the RWQCB determines that the Permit violation has occurred, the SWPPP shall be amended and implemented within 14-calendar days after notification by the RWQCB;
- Annually, prior to the defined rainy season; and
- When deemed necessary by the Owner.

The following items will be included in each amendment:

- Who requested the amendment;
- The location of proposed change;
- The reason for change;
- The original Best Management Practice (BMP) proposed, if any; and
- The new BMP proposed.

The amendments for this SWPPP, along with the Owner's Certification and the Owner approval, can be found in the following pages.

**2.2 SWPPP AMENDMENT CERTIFICATION**

**SWPPP AMENDMENT NO.** \_\_\_\_\_

**Project Name:** Genesis Solar Energy Project

**Project Number:** \_\_\_\_\_

**PREPARER CERTIFICATION OF THE  
STORMWATER POLLUTION PREVENTION PLAN AMENDMENT**

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

\_\_\_\_\_  
Preparer's Signature Date

\_\_\_\_\_  
Preparer's Name and Title Telephone Number

**OWNER (OR AUTHORIZED REPRESENTATIVE) APPROVAL OF THE  
STORMWATER POLLUTION PREVENTION PLAN AMENDMENT**

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

\_\_\_\_\_  
Owner (or Authorized Representative) Signature Date

\_\_\_\_\_  
Name and Title Telephone Number



### 3. INTRODUCTION AND PROJECT DESCRIPTION

#### 3.1 Project Information and Background

---

Name of Facility: Genesis Solar Energy Project

Address: *To Be Determined*  
XXXXXXXXXXXXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXX

Type of Facility: Solar Power Plant

Owner/Operator: Genesis Solar, LLC  
700 Universe Boulevard  
Juno Beach, FL, 33408

Contractor: *To Be Determined*

---

Genesis Solar, LLC is proposing to develop a 250-megawatt (MW) solar thermal power generating project, using concentrated solar power (CSP) technology. The Project Site ("Site") will be located in the Colorado Desert between the communities of Blythe, CA (approximately 24 miles east) and Desert Center, CA (approximately 27 miles west).

The Site covers approximately 1,800 acres of Federal land managed by the Bureau of Land Management (BLM). Surrounding land uses to the Site include Interstate 10 (I-10) to the south, the Palen McCoy Wilderness to the north, the Palen Dry Lake Area of Critical Environmental Concern (ACEC) to the west and open (unrestricted access) lands to the east.

Most of the land near the Site is managed by BLM and there is no California State Land in the vicinity, but there are private holdings. The Site is in California State Water Resources Control Board District 7, under the authority of the Colorado River Regional Water Quality Control Board

The Site is situated within the Chuckwalla Valley and is relatively flat. The Site generally slopes from north to south with elevations of approximately 400 to 370 feet above mean sea level. The Site is comprised of low creosote scrub vegetation and includes portions of the Ford Dry Lake Lakebed.

The Site has been historically used for both off-highway vehicles and sheep grazing; however neither activity currently occurs.

The site improvements shall include two 125 MW units, where each unit will include solar fields, power block, evaporation ponds, a bioremediation land treatment unit and stormwater control facilities. In addition, there shall be ancillary facilities constructed and operated on site, including an onsite substation, administration and warehouse buildings. A short transmission line shall be constructed from the Site south across the I-10 to connect with the 230kV Blythe Transmission Line.

Onsite groundwater will be used for water supply. The Site is located within the Chuckwalla Valley Groundwater Basin (Basin No. 7-5), which has a surface area of 940 mi<sup>2</sup> (2,435 km<sup>2</sup>) (Tetra Tech and

WorleyParsons 2009). The basin is bounded by consolidated rocks of the Chuckwalla, Little Chuckwalla, and Mule mountains on the south, of the Eagle Mountains on the west, of the Mule and McCoy mountains on the east, and Coxcomb, Granite, Palen, and Little Maria mountains on the north (Tetra Tech and WorleyParsons 2009).

Evaporation ponds will contain the process wastewater and the sanitary wastewater from sinks, toilets, showers, other sanitary facilities will be discharged to a septic tank system.

### **3.2 Unique Site Features**

Average rainfall in the project area is around 5 to 6 inches annually, but a single rainstorm, particularly during the monsoon season from mid-July to the end of August, can bring 1 to 3 inches of rain in a few hours. Extreme events in the nearby area have recorded over 10 inches of rain in 24 hours. The vast majority of the time, the area is dry and devoid of any surface flow anywhere in either project area. Evaporation potential is around 90 to 100 inches annually. The Federal Emergency Management Agency (FEMA) has not mapped the site for presence of floodplains.

The Site is also located within the Colorado River Drainage Basin, within the Chuckwalla Valley Basin. There are no perennial streams in Chuckwalla Valley. Water runoff occurs only in response to infrequent intense rain storms. Much of the area is subject to inundation either by sheet flow or flow confined to an expansive network of ephemeral washes. Palen, Ford, and several smaller dry lakes are found in topographic low-points. The entire area drains first to these two dry lakes, and then to groundwater. During large rainfall events, Ford Dry Lake will retain water for days or weeks.

The Site shall be graded to create level solar pad elevations with approximate balanced cut and fill, therefore existing vegetation and debris shall be removed. Due to the magnitude and type of terrain, a main concern is the presence of storm flushed flood events. In order to address this concern, the runoff originated by the upstream areas will be diverted around the 125MW units ("unit") using berms and channels capable of conveying flows for a 100 year, 24 hour storm event.

On-site storm water run off within the solar fields will sheet flow into smaller drainage swales, aligned north to south and located adjacent to the plant interior roads. The swales shall divert flows into a detention basin (one for each unit), situated in the lower elevation areas of each unit. The detention basins shall attenuate the post developed 100 year, 24 hour storm event run off from each unit, and discharge at the pre developed 100 year, 24 hour storm event flow rate into the natural drainage system downstream. The detention basins will also have emergency spillways to discharge runoff generated due to major rainfall events in excess of the 100 year storm. Emergency spillways will discharge into the proposed peripheral drainage channel, diverting the excessive flow away from the Site.

The Riverside County General Plan, Safety Element (Riverside County, 2008), indicates the Site is in an area with moderate potential for wind erosion, the off-site linears are in areas with moderate to high potential for wind erosion. Soil characteristics at the Project site allow for the potential for wind and water erosion, and significant sediment transport currently occurs across the valley axial drainage that crosses the majority of the proposed plant site. Limited sand and & erosion also occurs between depositional episodes.

Soil erosion from wind and water during construction activities is address in Section 5.6 (Agriculture and Soils) of the AFC, and summarized below. Under current conditions, the soil loss is estimated to be about one ton per year from the Site and areas of off-site linears associated with the Project (refer to below table). Construction activities without implementation of BMPs would result in a potential for soil loss of about 1,400 tons.

Estimates Using RUSLE2 <sup>a</sup>					
Feature (acreage) <sup>b</sup>	Activity	Duration <sup>c</sup> (months)	Soil Loss (tons) without BMPs	Soil Loss (tons) with BMPs	Soil Loss (tons/yr) No Project
<b>Project Site</b> (1,800 acres total, 1,350 acres to be graded)	Grading	6	330.8	5.198	1.148
	Construction	19 <sup>d</sup>	1047.4	16.458	--
<b>Roads</b> (15.76 acres)	Grading & Construction	3	1.931	0.0303	0.0134
<b>Transmission Lines</b> (9.18 acres for construction; 0.05 acre for pole footprints)	Grading	2	0.0041	0.000064	0.00043
	Construction	4	1.499	0.0236	--
<b>Natural Gas Pipeline</b> (36.36 acres for construction; 2.91 acres for trench)	Grading	2	0.238	0.0037	0.00247
	Construction	3	4.454	0.0699	--
<b>Project Soil Loss Estimates</b>	<b>All activities listed above</b>		<b>1386.3</b>	<b>21.78</b>	<b>1.16</b>

**Notes:**

- <sup>a</sup> Soil losses (tons/acre/year) are estimated using RUSLE2 software. (NCRS 2002)  
The soil characteristics were estimated using RUSLE2 soil profiles corresponding to the mapped soil unit  
Estimates of actual soil losses use the RSLE2 soil loss times the duration and affected area.  
The No Project Alternative estimate does not have a specific duration, and loss is given in tons/year.
- <sup>b</sup> Project Acreages based on the assumption that 75 % of the project site will be graded.  
Other areas based project disturbance table for acreage outside the project footprint.
- <sup>c</sup> Duration of activities based upon assumptions in the Plan of Development (Genesis Solar, LLC, 2009)
- <sup>d</sup> 19 months per 125 MW Unit, total of 37 months for entire project

**RUSLE2 Assumptions:**

100-ft slope length, 2% slope

**Construction and Grading:** soil losses assume the following inputs: Management – bare ground; Contouring – None, rows up and down hill; Diversion/terracing – None; Strips and Barriers – None.

**Construction and Grading with BMP** soil losses assume the following inputs: Management – Silt fence; Contouring – Perfect, no row grade; Diversion/terracing – None; Strips and Barriers- 2 fences, 1 at end of slope.

**No Project** soil losses assume the following inputs: Management – Dense grass, not harvested; Contouring – None, rows up and down hill; Diversion/terracing – None; Strips and Barriers – None.

Given the proximity of an Army Air base during WWII and previous mining activities, there is the potential for unexploded ordnance and mining waste dumping, although no evidence of either was seen in a casual drive-through.

### 3.3 Construction Site Estimates

The following are estimates of the construction site:

Construction site area <sup>(1)</sup>	1,800	Acres
Percentage impervious area before construction <sup>(2)</sup>	30	%
Percentage impervious area after construction <sup>(3)</sup>	40	%
Anticipated storm water flow onto the construction site <sup>(4)</sup>	0	cfs

- <sup>(1)</sup> Conceptual drainage report only included 1,500 acres in the two units as there was no change in land use between the two models (other 300 acres).
- <sup>(2)</sup> Current surface is desert shrub with no development – however they are group D soils (clays) therefore will have high potential of runoff, therefore assume there is some imperviousness – refer discussion in below section.
- <sup>(3)</sup> This includes the roads (access roads and between the solar fields), parabolic trough footings, power block, administration buildings, control buildings, and parking areas. Refer discussion in below section.
- <sup>(4)</sup> A berm shall be construction initially around the site to prevent run-on

The drainage study for the project site was based on TR-55 method with curve numbers (CN). The major factors that determine CN are the hydrologic soil type, cover type, hydrologic condition and antecedent runoff conditions (USDA 1986).

The project site is mainly comprised of Group D type soils (WorleyParsons 2009). Before construction, the land was considered fair desert shrub with a CN of 86 and post construction, the land was considered poor desert shrub with a CN of 88. The formula to compare fraction impervious to Group D CNs is (Hydrology and Earth System Sciences 2009):

$$CN = 0.188 Impf + 80.205$$

Therefore the fraction impervious for a CN of 86 is 30% and the fraction impervious for a CN of 88 is 40%. This is consistent with the TR-55 manual which presents similar fraction impervious values for the same CN values when applied to a residential lot (1/3 acre) (USDA 1986).

Desert shrub is considered to contain major plants include salt bush, greasewood, creosote bush, black brush, bursage, palo verde, mesquite and cactus (USDA 1986). The CN and fraction impervious values are high for a agriculture landscape as Group D soils have high runoff potential. Group D soils have very low infiltration rates when thoroughly wetted as the soil types include clay loam, silty clay loam, sandy clay, silty clay, or clay (USDA 1986). “Poor” surface cover means there are factors that impair infiltration and tend to increase runoff. “Good” surface cover means there are factors that encourage average and better than average infiltration and tend to decrease runoff (USDA 1986).

It is assumed that all rainfall on the construction site shall flow towards the low point of the site. In the 100 year, 24 hour storm event, 3.51 inches of rainfall shall fall (WorleyParsons 2009). The retention basin/temporary sediment basin has been sized to cater for this event (refer **Attachment 4**).

### 3.4 Project Schedule/Water Pollution Control Schedule

The following is a potential schedule of construction activities sequenced with the implementation of construction BMPs. Genesis Solar, LLC proposes a 25-month construction schedule, which is shown and anticipates commencing commercial operation of the site in 2014.

<b>Estimated Start Date</b>	<b>Estimated Finish Date</b>	<b>Construction Activity</b>
August 1	October 1	Rainy Season (Southern California Desert Area) A
November 1	May 1	Rainy Season (Southern California Desert Area) B
TBD	TBD	SWPPP Approved
TBD	TBD	Mobilization
TBD	TBD	Project Start Date
TBD	TBD	Delineate and mark the boundaries of the construction zone
TBD	TBD	Berm Construction
TBD	TBD	Construct Material/Waste Storage Facilities
TBD	TBD	Construct Stabilized Construction Entrance/Exit
TBD	TBD	Install/Maintain Temporary Sediment Controls
TBD	TBD	Install/Maintain Temporary Soil Stabilization
TBD	TBD	Install Pre-Rainy Season Temporary Controls
TBD	TBD	Install Sediment Basin / Retention Basin / Ponds
TBD	TBD	Grading – strip top soil
		<i>(BMPs for Sediment/Erosion Control)</i>
TBD	TBD	Assemble and erect parabolic troughs
		Power block construction
TBD	TBD	Construct Reinforced concrete foundations
TBD	TBD	Paving
TBD	TBD	Trench gas line corridor
TBD	TBD	Building Construction
		<i>(Waste Management and Materials Pollution Control BMPs)</i>
TBD	TBD	Commissioning and Testing

### 3.5 Contact Information / List of Responsible Parties

The Contractor Storm Water Pollution Prevention Manager (SWPPM) assigned to this project is:

Name: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Contractor's Company Name: \_\_\_\_\_

Contractor's Company Address: \_\_\_\_\_

The SWPPM shall have primary responsibility and significant authority for the implementation, maintenance, inspection and amendments to the approved SWPPP. The SWPPM will be available at all times throughout the duration of the project. Duties of the SWPPM include but are not limited to:

- Ensuring full compliance with the SWPPP and the Permit
- Implementing all elements of the SWPPP, including but not limited to:
  - Implementation of prompt and effective erosion and sediment control measures;
  - Implementing all non-storm water management, and materials and waste management activities such as: monitoring discharges (dewatering, diversion devices); general site clean-up; vehicle and equipment cleaning, fueling and maintenance; spill control; ensuring that no materials other than storm water are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems; etc.
- Pre-storm inspections;
- Storm event inspections;
- Post-storm inspections;
- Routine inspections as specified in the project's specifications or described in the SWPPP
- Updates/Amendments to the SWPPP, as needed;
- Preparing annual compliance certification for Owner's, or Owner's authorized representative, signature;
- Ensuring elimination of all unauthorized discharges;
- The SWPPM shall be assigned authority by the Contractor to mobilize crews in order to make immediate repairs to the control measures;
- Coordinate with the Contractor to assure all of the necessary corrections/repairs are made immediately, and that the project complies with the SWPPP, the Permit and approved plans at all times; and
- Submitting Notices of Discharge and reports of Illicit Connections or Illegal Discharges.

## 4. REFERENCES

The following documents are made a part of this SWPPP by reference:

- State Water Resources Control Board (SWRCB) Order No. 99-08-DWQ, NPDES General Permit No. CAS000002 (“General Permit”), WDRs for Discharges of Storm Water Runoff Associated with Construction Activity, August 19, 1999.
- Modification of SWRCB Order 99-08-DWQ, NPDES General Permit No. CAS000002 (“General Permit”), WDRs for Discharges of Storm Water Runoff Associated with Construction Activity to include Small Construction Activity (One to Five Acres).
- SWRCB Resolution No. 2001-046, “Modification of Water Quality Order 99-08-DWQ SWRCB NPDES General Permit For Storm Water Discharges Associated With Construction Activity (CGP),” to amend the monitoring provisions of the General Permit for sampling and analysis requirements.
- California Storm Water BMP Handbook – Construction, January 2003;
- Storm Water Management for Construction Activities – Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92-005, October 1992.
- Hydrology and Earth Sciences (2009), Staged cost optimization of urban storm drainage systems based on hydraulic performance in a changing environment, published 9<sup>th</sup> April 2009 <http://www.hydrol-earth-syst-sci.net/13/481/2009/hess-13-481-2009.pdf>
- Tetra Tech Inc, (2009), Phase I Environmental Site Assessment – Genesis Solar Energy Project, prepared for Genesis Solar LLC, August 2009, 90 pages
- Tetra Tech and WorleyParsons (2009), Plan of Development, Submitted by Genesis Solar, LLC, dated June 2009
- United States Department of Agriculture (USDA) (1986), Urban Hydrology for small watershed – TR-55, Natural Resources Conservative Service, June 1986
- WorleyParsons (2009), Conceptual Drainage Study, Project Genesis Ford Dry Lake, dated January 19<sup>th</sup>, 2009

## 5. BODY OF SWPPP

### 5.1 Objectives

This SWPPP has six main objectives:

- Identify all pollutant sources, including sources of sediment that may affect the quality of storm water discharges associated with construction activity (storm water discharges) from the construction site;
- Identify non-stormwater discharges;
- Identify, construct, implement in accordance with a time schedule, and maintain BMPs to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site during construction;
- Develop a maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs);
- Identify a sampling and analysis strategy and sampling schedule for discharges from construction activity which discharge directly into water bodies listed on Attachment 3 of the Permit (Clean Water Act Section 303(d) [303(d)] Water Bodies listed for Sedimentation) [refer to **Attachment 12**]; and
- For all construction activity, identify a sampling and analysis strategy and sampling schedule for discharges that have been discovered through visual monitoring to be potentially contaminated by pollutants not visually detectable in the runoff.

This SWPPP conforms to the required elements of the General Permit No. CAS000002 (Permit) issued by the State of California, State Water Resources Control Board (SWRCB). This SWPPP will be modified and amended to reflect any amendments to the Permit or any changes in construction or operations that may affect the discharge of pollutants from the construction site to surface waters or groundwater. The SWPPP will also be amended if it is in violation of any condition of the Permit or has not achieved the general objective of reducing pollutants in storm water discharges. The SWPPP shall be readily available onsite for the duration of the project.

### 5.2 Scope

The scope of this SWPPP covers all activities associated with the construction of the Genesis Solar Energy Project. The selected Contractor will be responsible for performing temporary storm water management and erosion control during construction of the Genesis Solar Energy Project using existing and new control measures described within this plan. The selected Contractor will also install all necessary permanent erosion controls and storm water management measures at the Site.

The Construction Contractor(s) will be required to sign the appropriate certification statements and keep the SWPPP on file in their project construction office. This SWPPP will not be final until adopted and certified by the Construction Contractor(s).

### 5.3 Project Activities

The construction phases of the Genesis Solar Energy Project as they pertain to stormwater management are expected to be as follows:

- **Preparation** - A temporary staging area will be established including fenced parking, covered trash disposal facilities, construction trailers, a laydown area, and sufficient portable toilets and potable water for the construction staff.
- **Site Disturbance** - Once all areas are appropriately staked and signed and access to the site has been established, grading activities will occur over an extensive portion of site. Grading will commence with rough grading activities, including grubbing, clearing, moisture conditioning, bulk grading, and initial compaction. The first ground-disturbing activities to take place will be the initial clearing and grading required to prepare the site for the storm water drainage structure construction and equipment foundation pads. Temporary drainage ditches and berms will also be designed around construction work areas, soil stockpile areas, and excavation areas to minimize the amount of potential pollutant or sediment-laden surface water runoff.
- **Site Grading** - The solar pad grading of the proposed site will have an average slope of 1 to 3 percent on the north-south direction. Each solar pad will be graded with the intent of balancing the cut-and-fill as much as possible to minimize earth movement on the site. Drainage diversion channels and protective berms will also be developed with a balance of cut and fill earthwork.
- **Site Drainage** - The post-development sediment/retention basin at the discharge points will provide storm water pollution prevention BMP controls along with retention time to reduce the peak off-site discharge to match pre-development conditions. The road berm will also be constructed to provide site protection from storm water run-on during a 100-year return storm event. The toe of the western protective berm slope may be armored with soil cement cover and rip rap to provide for slope erosion protection during a heavy storm event.
- **Internal Road System** - A primary access road will be constructed to the power block area. This road will be 24 feet wide and paved with imported asphalt concrete material. Auxiliary roads will be 24 feet wide and use compacted native materials or gravel surface.
- **Power Plant Construction** - The two 125 MW units will require concrete to support the load of various structures both in the solar field and within the power block. Foundation construction will involve excavation, form, and rebar work preceding a number of concrete pours. Electrical connections to each mirror assembly will be placed underground by means of an open-cut trench, or (if code and operational considerations allow) placed on grade between adjacent mirrors. The final construction activities will include switchyard installation, site paving, and control system installation and programming.
- **Restoration of Temporary Disturbance** - All temporarily disturbed areas will be restored to their preconstruction conditions, as required by the BLM. Temporary access roads used during construction will also be regraded and restored to pre-existing function and grade. BLM-approved seed mixes will be applied to temporarily disturbed areas, as required. No fertilizer

will be used during stabilization or rehabilitation activities unless authorized by the BLM. No vegetation will be restored or encouraged within the solar field because of the fire hazard. Vegetation within the bioremediation area will be controlled to prevent containment from being compromised. When construction of storm water management structures is complete, contours will be carefully restored to the extent feasible.

## 5.4 Vicinity Map

The construction project vicinity map(s) showing the project location, surface water boundaries, geographic features, construction site perimeter, and general topography, is located in **Attachment 1**.

The Construction Site is within open desert lands. Existing offsite drainage or receiving waters will not be impacted by construction activities pertaining to this SWPPP.

## 5.5 Pollutant Source Identification

The following is a list of construction materials that may be used and activities that may be performed that will have the potential to contribute pollutants, other than sediment, to storm water runoff. Control practices for each activity are identified in the **Section 5.8**:

- Vehicle fluids, including oil, grease, petroleum, and coolants;
- Asphaltic emulsions associated with asphalt-concrete paving operations;
- Cement materials associated with Portland cement concrete (PCC);
- Base, subbase and aggregate material;
- Joint and curing compounds;
- Concrete curing compounds;
- Paints;
- Solvents, thinners and acids;
- Spent batteries;
- BMP materials such as sandbags and fencing;
- Treated lumber (materials and waste);
- PCC rubble; and
- General litter.

Construction activities that have the potential to contribute sediment to storm water discharges include:

- Clear and grub operations;
- Grading operations;

- Paving operations;
- Boring operations;
- Delivery/transportation operations;
- Utility trenching and containment excavation operations;
- Foundation/structure construction operations;
- Vehicle and equipment cleaning, fueling and maintenance; and
- Painting.

## 5.6 Existing (Pre-Construction) Control Measures

There shall be no existing control measures on the Site. The Site has a desert landscape therefore erosion and sediment control will be required from the commencement of construction.

## 5.7 Nature of Fill Material and Existing Data describing the Soil

The Site's past use was for off-highway vehicles and sheep grazing however these have not occurred for a while. A Phase I Environmental Site Assessment (ESA) was conducted between November 2008 and July 2009 (Tetra Tech 2009). There was no evidence of any hazardous wastes and substances, storage tanks or solid waste accumulations, therefore there soil contamination is not expected at the site and there should not be any existing site features that may contribute pollutants to the surface waters.

Soil classification was made using data from United States Department of Agriculture (USDA) Natural Resources Conservation Service. The USDA soil survey classified the soil on Site as typical durorthids, loamy-skeletal mixed, hyperthermic and shallow, and typical torripsamments, mixed, hyperthermic (WorleyParsons 2009). It is within Soil Group D, which is (WorleyParsons 2009):

*High run off potential. Soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.*

## 5.8 BMP Selection

**Attachment 3** lists all BMPs that have been selected for potential implementation in this project. Actual BMPs will be selected based on need during implementation of the project (i.e., based on the materials actually used and the activities actually conducted).

Narrative descriptions of BMPs to be used during the project are listed by category in each of the following SWPPP sections. **Attachment 13** includes copies of the fact sheets of all the BMPs selected for this project.

### 5.8.1 Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in storm water runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles. This project will incorporate erosion control measures required by the contract documents, and other measures selected by the Contractor and/or SWPPP Manager from the BMPs identified in this SWPPP. At a minimum, this project will implement the following practices for temporary and final erosion control:

**Year-round:**

- SWPPM to monitor the weather using National Weather Service reports to track conditions and alert crews to the onset of rainfall events.
- Preserve existing vegetation where required and when feasible. Conduct clearing and grading only in areas necessary for project activities and equipment traffic. Install temporary fencing prior to construction along the boundaries of the construction zone to clearly mark this zone, preventing vehicles or personnel for straying onto adjacent habitat.
- Within designated site development areas, all vegetation will be removed. Areas to remain undisturbed shall be clearly marked and existing foliage will remain in place to anchor the soil reducing the potential for erosion. All cut vegetation is to mulched, buried, burned or composted onsite to limit waste disposal. In areas of substantial grading, native vegetation may be harvested for possible reuse to obtain long-term soil stabilization.
- Sequence construction activities with the installation of both erosion control and sediment control measures. Arrange the construction schedule as much as practicable to leave existing vegetation undisturbed until immediately prior to grading.
- Protect slopes susceptible to erosion by installing controls.
- Stabilize non-active areas as soon as feasible after construction is complete and no later than 14 days after construction in that portion of the site has temporarily or permanently ceased. Reapply as necessary to maintain effectiveness.
- Place covers over stockpiles prior to forecasted storm events and during windy conditions. Place sediment controls (fiber rolls or gravel bags) around the perimeter of stockpiled materials year-round.
- Apply temporary erosion control to remaining active and non-active areas as from the California Storm water BMPs Handbook – Construction as required by the contract documents or as necessary based on the judgment of the Contractor and/or SWPPM. Reapply as necessary to maintain effectiveness
- Maintain sufficient erosion control materials onsite to allow implementation in conformance with General Permit requirements and as described in this SWPPP. This includes implementation requirements for active areas and non-active areas that require deployment before the onset of rain.
- Repair and reapply BMPs in areas where erosion is evident as soon as possible.

- At completion of construction, apply permanent erosion control to all remaining disturbed soil areas.

**During the rainy season:**

- Implement temporary erosion control measures at regular intervals throughout the defined rainy season and as needed determined by site conditions.
- Control erosion in concentrated flow paths by applying erosion control blankets, erosion control seeding, and lining swales as required in the contract documents.
- Inspect and stabilize disturbed areas with temporary or permanent erosion control measures before rain events.

**During the non-rainy season:**

- Conduct construction activities that will have an impact on waters of the United States during the dry season to the extent feasible to minimize erosion.

The following BMPs have been selected for Erosion Control:

- EC-1, Scheduling
- EC-2, Preservation of Existing Vegetation
- EC-3, Hydraulic Mulch
- EC-6, Straw Mulch
- EC-7, Geotextiles, Plastic Covers and Erosion Control Blankets/Mats
- EC-9, Earth Dikes and Drainage Swales
- EC-11, Slope Drains

**EC-1, EC-2 Scheduling and Preservation of Existing Vegetation**

The project schedule will sequence construction activities with the installation of both soil stabilization and sediment control measures. BMPs will be deployed in a sequence to follow the progress of grading and construction. The construction schedule will be arranged as much as practicable to leave existing vegetation undisturbed until immediately prior to grading.

**EC-3, EC-6 Hydraulic Mulch and Straw Mulch**

Straw mulch may be applied to all bare areas around the perimeter to the Site and may also be applied to the disturbed areas adjacent to excavations and on shallow slopes surrounding the Site, and used to cover exposed soil and stockpiled material areas.

### **EC-7 Geotextiles, Plastic Covers and Erosion Control Blankets/Mats**

Polyethylene covers may be used to cover exposed soil (including the berm) and stockpiled material areas. Covers will be placed over stockpiles prior to forecast storm events, and anchored to prevent damage by wind.

### **EC-9 Earth Dikes and Drainage Swales**

Earth dikes or swales may be used to intercept and divert sediment-laden storm water to the sediment basin or sediment traps to avoid sheet flow over the Site.

### **EC-11 Slope Drains**

Slope drains may be used to intercept and direct surface runoff or groundwater into stabilized watercourses or sediment traps.

## **5.8.2 Sediment Control**

Sediment controls are structural measures that are intended to complement and enhance the soil stabilization (erosion control) measures and reduce sediment discharges from construction areas. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water. This project will incorporate minimum temporary sediment control requirements, temporary sediment control measures required by the contract documents, and other measures selected by the Contractor, SWPPM, or Owner.

Sediment control BMPs will be installed at all appropriate locations along the Site perimeter at all times during the rainy season. During the non-rainy season, the sediment basin or trap shall be used to capture the sediment discharges. At a minimum, this project will implement the following practices for temporary sediment control:

#### **Year round:**

- The power block area will be graded with moderate slopes to direct runoff and diverted stormwater to an infiltration/evaporation area before overflowing through native stone rip-rap to reinstate natural sheet flow conditions. Relatively small rock filters and local diversion berms through the sites will discourage water from concentrating to maintain sheet flow. The diversions ditches and infiltration/evaporation areas will be designed to pass flow from a 100 year storm event to prevent damage to the power block and cooling tower areas; the design will also include in its calculations stormwater run-on to the site.
- Maintain the following temporary sediment control materials onsite: silt fence materials, gravel bags for linear barriers, and fiber rolls in sufficient quantities throughout the project to implement temporary sediment controls in the event of predicted rain and to respond to failures or emergencies, in conformance with General Permit requirements and as described in this SWPPP.

- Install gravel filter berms at the base of slopes adjacent to delineated sensitive areas (i.e., wetlands, dry washes) – if any.
- Native onsite stones/rocks will be used in construction of gravel filter berms or check dams.

**During the rainy season:**

- During the rainy season, implement temporary sediment controls at the draining perimeter of disturbed soil areas, at the toe of slopes, and at outfall areas.

**During the non-rainy season:**

- During the non-rainy season, implement temporary sediment controls at the draining perimeter of disturbed soil areas.

The following BMPs have been selected for Sediment Control:

- SE-1, Silt Fence
- SE-2, Sediment Basin
- SE-3, Sediment Trap
- SE-4, Check Dams
- SE-5, Fiber Rolls
- SE-7. Street Sweeping and Vacuuming
- SE-8, Sandbag Barrier

**SE-1 Silt Fence**

Silt fences shall be installed along the perimeter of the construction site to intercept sediment laden run off and run on. Silt fences will also be placed around the base of temporary stockpiles areas.

**SE-2 Sediment Basin**

A sediment basin shall be constructed in the location of the future detention basin and may be used in association with drainage swales and slope drains located along each side of the property to retain runoff and allow excessive sediment to settle prior to discharge. If the basin is not dry within 72 hours, it must be pumped dry. If it fills over capacity, there may be localized flooding however this shall be monitored by the Contractor and SWPPM to ensure surrounding properties are not impacted. Refer to **Attachment 4** for calculations of the required basin size.

**SE-3 Sediment Traps**

If the sediment basin is not used, sediment traps shall be constructed to collect, intercept and trap sediment-laden runoff.

### **SE-4 Check Dams**

Check dams (small barrier constructed of rock, gravel bags, sandbags, fiber rolls, or reusable products, placed across a constructed swale or drainage ditch) are only be used in small open channels that drain less than 10 acres, and where stormwater runoff velocities exceed 5 ft/s.

### **SE-5 Fiber Rolls**

Fiber rolls shall be placed along the perimeter of the Site to intercept runoff and provide removal of sediment from the runoff.

### **SE-7 Street Sweeping and Vacuuming**

Street sweeping and vacuuming is required to remove the sediment from the public and private roadways, typically at the point of egress.

### **SE-8 Sandbag Barriers**

Sandbag barriers may be placed at the toe of slopes or stockpiles, at sediment traps at culvert/pipe outlets and along the perimeter of the Site as a linear sediment control measure

### **5.8.3 Wind Control**

Wind Controls are required to prevent the transportation of soil from soil-disturbed areas of the Site, offsite by wind. At a minimum, this project will implement the following practices for wind control:

#### **Year-round:**

- Potable water will be applied to disturbed soil areas of the Site as needed to control dust and maintain optimum moisture levels for compaction. The water will be applied using water trucks.
- During windy conditions (forecast or actual wind conditions of approximately 20 mph or greater), dust control will be applied to disturbed areas, including haul roads to adequately control wind erosion.
- Suspend excavation and grading during periods of high winds.
- Cover all trucks hauling soil and other loose material or maintain at least 2 feet of freeboard

The following BMPs have been selected to control dust from the construction site:

- WE-1, Wind Erosion Control

## **WE-1 Wind Erosion Control**

Project soils will be disturbed and exposed during dates allocated in the Construction Schedule. Water applications will be concentrated during the late summer and early fall months.

Wind Erosion Control and Water Conservation Practices BMPs will be implemented to provide dust control while at the same time preventing storm water runoff. Water application rates will be minimized as necessary to prevent runoff and ponding and water equipment leaks will be repaired immediately.

Stockpile management using silt fences, sand bag barriers and plastic covers will be implemented to prevent wind dispersal of sediment from stockpiles.

## **5.8.4 Tracking Control**

Tracking controls are required to prevent sediment from the construction site, tracking onto public or private roadways. At a minimum, this project will implement the following practices for wind control.

### **Year-round**

- Maintain all public roadways free from dust, dirt and debris caused by construction activities.
- Clearly mark the driving areas within the site for limited speed to control dust

The following BMPs have been selected to reduce sediment tracking from the construction site onto private or public roads:

- TC-1, Stabilized Construction Entrance/Exit
- TC-2, Stabilized Construction Roadway
- TC-3. Entrance/Outlet Tire Wash

## **TC-1 Stabilized Construction Entrance/Exit**

A stabilized construction entrance/exit will be constructed and maintained at construction site entrances and exits as shown on the WPCDs. A stabilized construction entrance/exit may also be constructed at the equipment yard, water filling area for water trucks, and project office location.

The Site entrance/exit will be stabilized to reduce tracking of sediment as a result of construction traffic. The entrance will be designated and graded to prevent runoff from leaving the Site. Stabilization material will be 3- to 6-inch crushed aggregate. The entrance will be flared where it meets the existing road to provide an adequate turning radius. The Site entrance/exit shall only be installed to reduce tracking of sediment during dirt-hauling activities that extend over a one-week time period.

## **TC-2 Stabilized Construction Roadway**

The construction roadway through the Site will also be designated and stabilized to prevent erosion and to control tracking of mud and soil material onto adjacent roads. The roadway will be clearly

marked for limited speed to control dust. On site vehicle speed shall be limited to 10 miles per hour (mph). Refer to the WPCDs for entrance/exit and construction roadway locations (**Attachment 2**). Aggregate may be placed as a stabilization material, if needed. A regular maintenance program will be conducted to replace sediment-clogged stabilization material with new stabilization material.

### **TC-3 Entrance/Outlet Tire Wash**

The tire wash is located at the stabilized construction access points to remove sediment from the tires and undercarriages. This can be used in co-ordination with the stabilized construction entrance/exit and street sweeping BMP's to reduce the use of tire wash water, and is generally only required when there is mud caked onto the ties and undercarriages.

### **5.8.5 Non-Storm Water Discharges**

Non-stormwater discharges consist of all discharges which do not originate from precipitation events (i.e. stormwater). At a minimum, this project will implement the following practices for non-stormwater discharge.

#### **Year-round:**

- Dispose of Portland cement concrete and asphalt concrete waste in accordance with NS-3.
- Regularly inspect vehicles and equipment for signs of leaks. Have vehicles and equipment on a regular maintenance schedule.
- Place drip pans or absorbent materials under paving equipment when not in use. Park paving equipment over plastic to prevent soil contamination.
- Locate staging areas for construction equipment so that spills of oil grease or other petroleum by-products will not be discarded into watercourses or sensitive habitat. Protect the staging area with berms and/or dikes to prevent run-on, runoff, and to contain spills.
- Fuel, clean, and maintain vehicles and other equipment only within designated areas.
- A dedicated fueling area will be protected with berms and/or dikes to prevent run-on, runoff, and to contain spills. Self-propelled vehicles will be fueled offsite or at the temporary fueling area. Fuel trucks will be used for onsite fueling, whether at the temporary fueling area or for mobile fueling elsewhere on the site. Drip pans will be used for mobile fueling. Each fuel truck will be equipped with absorbent spill cleanup materials and a spill containment boom at all times.
- Drip pans or absorbent pads will be used for vehicle and equipment maintenance activities that involve grease, oil, solvents, or other vehicle fluids.
- Machinery will be properly maintained and cleaned to prevent spills and leaks.
- Inform workers of the importance of preventing spills and measures to take should a spill occur. Clean up spills immediately in accordance with applicable local, state, or federal regulations. Such spills will be reported in the post-construction compliance reports.

- Use proper storage and handling techniques for concrete curing compounds.
- Clean offsite vehicles that regularly enter and leave the site.
- Inspect all vehicles and equipment for leaks before coming onsite.

The following BMPs have been selected for non-storm water discharges:

- NS-1, Water Conservation Practices
- NS-2, Dewatering Practices
- NS-3, Paving and Grinding Operations
- NS-6; Illicit Connection / Discharge
- NS-8, Vehicle and Equipment Cleaning
- NS-9, Vehicle and Equipment Fueling
- NS-10, Vehicle and Equipment Maintenance
- NS-12, Concrete Curing
- NS-13, Concrete Finishing

### **NS-1 Water Conservation Practices**

Water application rates will be minimized as necessary to prevent runoff and ponding. Water equipment leaks will be repaired immediately. The water truck filling area will be stabilized.

### **NS-2 Dewatering Practices**

Dewatering may be required to remove stormwater runoff in the basin for longer than 72 hours (refer to BMP SE-2) or for maintenance purposes (removal of sediment is required when the storage volume is reduced by one-half).

### **NS-3 Paving and Grinding Operations**

The project will include placement of paving. Estimated paving operation dates are shown on the construction schedule in **Section 3.4**. BMP NS-3, Paving and Grinding Operations will be implemented to prevent paving materials from being discharged into the sediment basin.

### **NS-6 Illicit Connection / Discharge**

The contractor will implement the Illicit Connection/Illegal Discharge Detection Reporting BMP throughout the duration of the project.

### **NS-8, NS-9, NS-10 Vehicle and Equipment Operations**

Several types of vehicles and equipment will be used onsite throughout the project, including graders, scrapers, excavators, loaders, paving equipment, rollers, trucks and trailers, backhoes, forklifts, generators and compressors. BMPs NS-9, Vehicle and Equipment Fueling, and NS-10, Vehicle and Equipment Maintenance will be utilized to prevent discharges of fuel and other vehicle fluids. Except for concrete washout, vehicle cleaning will not be performed onsite.

A temporary fueling area shall be established in the laydown area, protected with berms and dikes to prevent runoff and to contain spills. All wheeled vehicles shall be fueled offsite or at the temporary fueling area. Fuel trucks, each equipped with a spill clean-up kit including absorbent spill clean-up materials, shall be used for all onsite fueling, whether at the temporary fueling area or for mobile fueling elsewhere on the site. Drip pans shall be used during all mobile fueling. The fueling truck shall be parked on the paved fueling area during overnight storage.

Drip pans or absorbent pads will be used for all vehicle and equipment maintenance activities that involve grease, oil, solvents, or other vehicle fluids.

All vehicle maintenance and mobile fueling operations will be conducted at least 50 feet away from the sediment basin and drainage facilities and on a level graded area.

### **NS-12, NS-13 Concrete Curing and Finishing**

Excess cure water and water from high pressure blasting will be collected and disposed of, and should not be allowed to enter into the sediment basin. Wet blankets will be used wherever possible to eliminate excess cure water.

## **5.8.6 Waste Management and Materials Pollution Control**

Waste management consists of implementing procedural and structural BMP's for collecting, handling, storing and disposing of wastes generated by a construction project to prevent release of waste materials into stormwater discharges. At a minimum, this project will implement the following practices waste management.

### **Year-round:**

- Prevent discharges of construction materials during delivery, storage, and use.
- Handle and dispose of hazardous wastes in accordance with applicable laws, ordinances, regulations, and standards, including licensing, personnel training, accumulation limits and times, and reporting and recordkeeping.
- Store only enough products required to do the job.
- Keep products in their original containers with the original manufacturer's label.
- Follow manufacturers' recommendations for the storage, use and disposal of all materials.

- Undertake spill prevention and cleanup and report spills of toxic or hazardous materials to the Project Manager (or designee), regardless of the size.
- Report spills of hazardous materials that exceed their reportable quantities to all appropriate local, state and federal government agencies.
- Place covers over stockpiles prior to forecasted storm events and during windy conditions.
- Place sediment controls at the foot of stockpiled materials.
- Load solid wastes directly into trucks for offsite disposal. When onsite storage is necessary, store solid wastes in watertight covered dumpsters in the general storage area.
- Have licensed waste hauler remove solid waste at least weekly and dispose of offsite.
- Provide weekly maintenance for portable toilets by a licensed sanitary service and dispose of wastes offsite.
- Locate portable toilets away from concentrated flow paths and traffic flow.
- Anchor portable toilets during periods of heavy winds.

The following BMPs have been selected for waste management and materials pollution control:

- WM-1, Material Delivery and Storage
- WM-2, Material Use
- WM-3, Stockpile Management
- WM-4, Spill Prevention and Control
- WM-5, Solid Waste Management
- WM-6, Hazardous Waste Management
- WM-8, Concrete Waste Management
- WM-9, Sanitary/Septic Waste Management
- WM-10, Liquid Waste Management

### **WM-1, WM-2 Material Delivery, Storage and Use**

In general, BMPs shall be implemented to help prevent discharges of construction materials during delivery, storage, and use. The general material storage area shall be located in the laydown area as shown on the WPCDs. A sandbag barrier, swale or berm shall be provided around the storage area to prevent run-on from adjacent areas.

Watertight containers will be used to store hand tools, small parts, and most construction materials that can be carried by hand, such as paint cans, solvents and grease.

If hazardous materials are being stored, a separate covered storage/containment facility shall be constructed adjacent to the shipping containers to provide storage for larger items such as drums and

items shipped or stored on pallets. Liquids, petroleum products and substances listed in 40 CFR 110, 117 and 302 shall be contained. This containment volume shall contain rainfall from the 24-hr, 25 year storm event, plus the greater of 10% of the aggregate volumes of all containers or 100% capacity of the largest container within the boundary.

Very large items, such as framing materials, steel and stockpiled lumber, will be stored in the open in the general storage area. Such materials will be elevated with wood blocks to minimize contact with run-on.

Spill clean-up materials shall be maintained and stored in the storage area. Material safety data sheets (MSDS), a material inventory, and emergency contact numbers shall be posted in the area.

### **WM-3 Stockpile Management**

BMP WM-3, Stockpile Management will be implemented to reduce or eliminate pollution of storm water from stockpiles of soil and paving materials such as portland cement concrete, rubble, asphalt concrete, asphalt concrete rubble, aggregate base, aggregate sub-base, pre-mixed aggregate and asphalt binder (so called "cold mix" asphalt), or other stockpiled materials. Stockpiles shall be surrounded with sediment controls. Plastic covers shall be used to cover exposed soil stockpiled material areas.

### **WM-4 Spill Prevention and Control**

BMP WM-4, Spill Prevention and Control will be implemented to contain and clean-up spills and prevent material discharges to the storm drain system.

Employees and subcontractors shall be familiar with potential environmental impacts resulting from the materials they are handling. Good Housekeeping practices shall be implemented to control spills including the use of secondary containment, and designating specific areas for equipment maintenance. This practice will be applied to all solid and liquid materials, including, but not limited to: fuels, lubricants, other petroleum distillates, paints, solvents, cement, mortar, soil stabilizers, and fertilizers. In addition, this practice will be applied to storage areas for chemicals and/or hazardous substances, fuel areas, and vehicles/equipment transporting and handling chemicals and other hazardous substances.

### **WM-5 Solid Waste Management**

BMP WM-5, Solid Waste Management BMPs shall be implemented, if applicable to minimize storm water contact with waste materials and prevent waste discharges. Solid wastes include wood refuse, metal and glass containers, protective plastic coverings discarded bags, and other discarded materials and rubbish. Solid wastes will be loaded directly onto trucks for offsite disposal. When onsite storage is necessary, solid wastes will be collected and stored in watertight dumpsters in the general storage area of the laydown area. Solid waste will be removed and disposed offsite at least weekly.

Liquid wastes, if applicable, will be stored in the covered containment area discussed above for materials storage.

### **WM-6 Hazardous Waste Management**

BMP WM-6, Hazardous Waste Management BMPs shall be implemented, if applicable to minimize storm water contact with waste materials and prevent waste discharges.

Any solid or liquid hazardous wastes shall be stored in appropriate and clearly marked containers in the covered containment area and segregated from other waste and non-waste materials. Wastes shall be stored in sealed containers constructed of a suitable material and shall be labeled as required by Title 22 CCR, Division 4.5 and 49 CFR Parts 172, 173, 178, and 179. All hazardous waste shall be stored, transported, and disposed as required in Title 22 CCR, Division 4.5 and 49 CFR 261-263.

### **WM-8 Concrete Waste Management**

Discharges from concrete placement will consist of rinse water and residual concrete (PCC, aggregates, admixture, and water). Estimated pour dates are shown on the project construction schedule and shall not be conducted during or immediately prior to rainfall events.

Concrete waste management will be implemented in accordance with contract documents and the Concrete Waste Management BMP. Concrete washout facilities will be maintained at the laydown area and designed in accordance with project plans and specifications. All excess concrete and concrete washout slurries shall be discharged to the washout facility for drying. BMP maintenance, waste disposal, and BMP removal shall be conducted as described in the Concrete Waste Management BMP.

### **WM-9 Sanitary/Septic Waste Management**

The contractor shall implement the Sanitary and Septic Waste Management BMP. Portable toilets shall be located and maintained at the laydown area for the duration of the project. Specific locations are shown on the WPCDs. Weekly maintenance shall be provided by a licensed contractor and wastes shall be disposed offsite. The toilets shall be located away from concentrated flow paths and traffic flow.

## **5.9 Water Pollution Control Drawings**

Implementation and location of BMPs are shown on the water pollution control drawings (WPCDs) in **Attachment 2**.

## 5.10 Construction BMP Maintenance, Inspection and Repair

Site inspections shall be conducted by the Contractor at the following minimum frequencies:

- Prior to a forecast storm;
- After a rain event that causes runoff from the construction site;
- At 24-hour intervals during extended rain events;
- Weekly during the rainy season;
- Every two weeks during the non-rainy season; and
- At any other time(s) or intervals of time specified in the Contract documents.

Completed inspection checklists shall be submitted to the Engineer within 24 hours of inspection. Copies of the completed checklists will be kept with the SWPPP. A tracking or follow-up procedure shall follow any inspection that identifies deficiencies in BMPs. A program for Maintenance, Inspection and Repair of BMPs shall be provided in **Attachment 6** of this SWPPP. In accordance with this program, the following activities shall be undertaken:

- All year round:
  - Weather reports will be monitored to track conditions and alert crews to the onset of rainfall events.
  - Disturbed soil areas will be stabilized with temporary erosion control or with permanent erosion control as soon as possible after rough grading is complete.
  - Wind Controls BMP's
  - Tracking Control BMP's
  - Non-Stormwater Discharges BMP's
  - Waste Management BMPs
- During the rainy season:
  - Disturbed areas will be stabilized with temporary or permanent erosion control before rain events.
  - Disturbed areas that are substantially complete will be stabilized with permanent erosion control (soil stabilization) and vegetation (if within seeding window for seed establishment).
  - Prior to forecast storm events, temporary erosion control BMPs will be deployed and inspected.
- During the non rainy season, the construction schedule will be arranged as much as practicable to leave existing vegetation undisturbed until immediately prior to rough grading.

## 5.11 Post Construction Storm Water Management

### 5.11.1 Post Construction Control Practices

The Owner shall be responsible for ensuring all construction activity is completed as permitted, to implement permanent pollution prevention practices and to maintain permanent structural controls.

The following are the post-construction erosion and sediment control BMPs that are to be used at this construction site after all construction is complete, but are not limited to:

- Permanent sediment basin for stormwater capture
- Vegetation shall remain on Site to reduce erosion and sediment run off
- Removal of debris
- Removal of temporary BMP measures (if necessary)

### 5.11.2 Operation/Maintenance after Project Completion

The post-construction BMPs that are described above will be funded and maintained by Genesis Solar, LLC.

## 5.12 Training

**Section 3.5** shows the name of the contractor's SWPPM. This person has received training as described in **Attachment 8**.

Contractor/Subcontractors shall train his/her employees regarding implementing and maintenance of the stormwater management practices and controls described in this SWPPP. Onsite construction personnel will have the responsibility for installation and maintenance of on-site BMPs.

The training log showing formal and informal training of various personnel is shown in **Attachment 8**. Training records shall be updated, documented and reported in the SWPPP quarterly. Documentation of new training shall be submitted to the Engineer within 24-hours of training.

Ongoing, formal training sessions shall be selected from one of the following organizations:

- State of California RWQCB;
- IECA, ABAG and/or AGC sponsored training;
- USEPA sponsored training;
- Recognized municipal stakeholder organizations throughout California; and
- Professional organizations and societies in the building and construction field

Informal training shall include tailgate site briefings to be conducted bi-weekly and address the following topics:

- Erosion Control BMPs;

- Sediment Control BMPs;
- Tracking and Wind Erosion Control BMPs;
- Non-Storm water BMPs;
- Waste Management and Materials Pollution Control BMPs;
- Emergency Procedures specific to the construction site storm water management; and
- Sampling and Analysis.

Other personnel attending tailgate training shall document attendance using the form in **Attachment 8**.

This SWPPP was prepared by WorleyParsons, under the direction of Mr. Bob Anders, a registered Professional Civil Engineer in the State of California. Mr. Anders has over 20 years of experience in the preparation of numerous project-specific Storm water Pollution Prevention Plans (SWPPPs).

All contractors and subcontractors shall be notified of the requirement for storm water management measures during the project. A list of contractors shall be maintained and included in the SWPPP. If subcontractors change during the project, the list shall be updated accordingly. The subcontractor notification letter and log is included as **Attachment 9**.

### **5.13 Other Plans / Permits**

Following is a list of the plans and permits included in **Attachment 12**.

- State Water Resources Control Board (SWRCB) Resolution No. 99-08-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002, Waste Discharge Requirements (WDRs) for Discharges of Storm Water Runoff Associated with Construction Activity, August 1999, and amendments.

## 6. MONITORING PROGRAM AND REPORTS

### 6.1 Site Inspections

Site inspections shall be conducted by the Contractor's SWPPM or other approved trained staff at the following minimum frequencies:

- Prior to a forecast storm;
- After a rain event that causes runoff from the construction site;
- At 24-hour intervals during extended rain events;
- Weekly during the rainy season;
- Every 2 weeks during the non-rainy season; and
- At any other time(s) or intervals of time specified in the Contract documents.

The results of all inspections and assessments shall be documented, a copy shall be provided to the Engineer within 24 hours of the inspection, and copies of the completed inspection checklists shall be maintained with the SWPPP. Site inspections conducted for monitoring purposes shall be performed using the inspection checklist shown in **Attachment 7**.

The name(s) and contact number(s) of the assigned inspection personnel are listed below and their training qualifications are provided in **Attachment 8**.

Assigned Inspector:

Contact Phone No.:

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Alternate Inspector:

Contact Phone No.:

---

### 6.2 Discharge Reporting

If a discharge occurs or if the project receives a written notice of non-compliance, the Contractor will immediately notify the Owner and will file a written report to the Owner within 7 days of the discharge or notice. The Owner is responsible for filing a written report to the RWQCB within 30 days or identification of non-compliance.

Discharges requiring reporting include:

- Discharge of hazardous substances above the reportable quantities in 40 CFR 110.3, 117.3 or 302.4;
- Storm water runoff containing hazardous substances from spills discharged to a waterway or storm drain system;
- Where water quality sample results indicate elevated levels of non-visible pollutants;
- Discharges that may endanger health or the environment; and

The report to the Engineer will contain the following items (refer to **Attachment 10** for the Non-Compliance form):

- The date, time, location, nature of operation, and type of unauthorized discharge, including the cause or nature of the notice or order;
- The control measures (BMPs) deployed before the discharge event, or prior to receiving notice or order;
- The date of deployment and type of control measures (BMPs) deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent re-occurrence; and
- An implementation and maintenance schedule for any affected BMPs.

Corrective measures will be implemented immediately following the non-compliance and all discharges documented recorded in the Discharge Reporting Log in **Attachment 15**.

The Regional Board's address is:

**California Regional Water Quality Control Board**

Colorado River Basin Region 7  
73-720 Fred Warring, Suite 100  
Palm Desert, CA, 92260

### **6.3 Record Keeping and Reports**

Upon completion of the project's construction and termination of coverage under the General Permit, all records shall be retained by the Owner/operator with a copy of the final Plan. The Owner shall retain records of all monitoring inspections, compliance certification, and non-compliance reports for a period of three years as part of the SWPPP.

If the ownership of a portion of the project is transferred, a Change of Information form must be submitted to the RWQCB with a revised site map, and name, address and phone number of the new owners. A copy of the Change of Information Form is in **Attachment 16**.

**Please note that the Owner/Developer is subject to the annual fee until a Notice of Termination is filed and approved with the RWQCB. A copy of the form can be found in Attachment 17 of this SWPPP.**

### **6.4 Sampling and Analysis Plan for Sediment**

Sampling and analysis plans for sediment are only required if the construction site directly discharges into a water body listed for sedimentation/siltation pursuant to the Clean Water Act, Section 303(d).

The Site is located within the Colorado River Drainage Basin and the Colorado River (Imperial Reservoir to California-Mexican Border) is listed in the Clean Water Act, Section 303(d) for selenium only. However that section of the river is not in the vicinity of the construction nor listed for sediment/siltation therefore a sampling and analysis plan for sediment is not required.

## 6.5 Sampling and Analysis Plan for Non-Visible Pollutants

This Sampling and Analysis Plan (SAP) for Non-Visible Pollutants describes the sampling and analysis strategy and schedule for monitoring non-visible pollutants in storm water discharges from the Site, in accordance with the requirements of Section B of the General Permit, including SWRCB Resolution 2001-046.

### 6.5.1 Scope Monitoring Activities

The construction materials, wastes, or activities, as identified in **Section 5.5** are potential sources of non-visible pollutants to storm water discharges from the project.

Sampling for non-visible pollutants will be conducted when (1) a breach, leakage, malfunction, or spill is observed; and (2) the leak or spill has not been cleaned up prior to the rain event; and (3) there is the potential for discharge of non-visible pollutants to surface water/groundwater or drainage system through direct contact between the potential contaminant source and storm water.

**The most effective way to avoid the sampling and analysis requirements, and to ensure permit compliance, is to avoid the exposure of construction materials to precipitation and stormwater runoff.**

### 6.5.2 Monitoring Strategy

#### Sampling Strategy

In conformance with the U.S. Environmental Protection Agency definition, a minimum of 72 hours of dry weather will be used to distinguish between separate rain events. Collection of discharge samples for non-visible pollutant monitoring will be triggered when any of the following conditions are observed during the required inspections conducted before or during rain events:

- Materials or wastes containing potential non-visible pollutants are not stored under watertight conditions. Watertight conditions are defined as (1) storage in a watertight container, (2) storage under a watertight roof or within a building, or (3) protected by temporary cover and containment that prevents storm water contact and runoff from the storage area.
- Materials or wastes containing potential non-visible pollutants are stored under watertight conditions, but (1) a breach, malfunction, leakage, or spill is observed, (2) the leak or spill is not cleaned up prior to the rain event, and (3) there is the potential for discharge of non-visible pollutants to surface waters or groundwaters.
- An operational activity, including but not limited to those in **Section 5.5**, with the potential to contribute non-visible pollutants (1) was occurring during or within 24 hours prior to the rain event, (2) applicable BMPs were observed to be breached, malfunctioning, or improperly implemented, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm sewer system.
- Soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil have been applied, and there is the potential for discharge of non-visible pollutants to surface waters or ground waters.

If sampling for non-visible pollutant(s) is needed, the storm water samples and a sufficiently large uncontaminated background sample will be collected during the first two hours of discharge from rain events that result in a sufficient discharge for sample collection. Samples will be collected during daylight hours (sunrise to sunset) and will be collected regardless of the time of year, status of the construction site, or day of the week.

**Sampling Locations**

Sampling locations will be based on proximity to planned non-visible pollutant storage, occurrence or use; accessibility for sampling, personnel safety; and other factors in accordance with the applicable requirements in the Permit. Samples of discharge shall be collected at the designated sampling locations for observed breaches, malfunctions, leakages, spills, operational areas, soil amendment application areas, and historical site usage areas that triggered the sampling event.. Additional sampling locations, if any, will be based on field conditions.

Designated sampling locations are:

- \_\_\_\_\_
- \_\_\_\_\_

**6.5.3 Monitoring Preparations**

Samples on the Site will be collected by the following contractor sampling personnel:

Name: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Alternative Name (s): \_\_\_\_\_

Alternates Telephone Number: \_\_\_\_\_

Prior to the rainy season, all sampling personnel and alternates will review the SAP. Qualifications of designated Contractor personnel describing environmental sampling training and experience are provided in **Attachment 8**.

An adequate stock of monitoring supplies and equipment for monitoring non-visible pollutants will be available on the Site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool-temperature environment that will not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule.

Supplies maintained at the Site will include, but are not limited to, nitrile gloves, sample collection equipment, coolers, appropriate number and volume of sample bottles, identification labels, re-sealable storage bags, paper towels, personal rain gear, ice, Sampling Activity Log forms, and Chain of Custody (COC) forms. The Contractor will obtain and maintain the field-testing instruments for analyzing samples in the field by Contractor sampling personnel.

Safety practices for sample collection will be in accordance with the approved Site-Specific Health and Safety Plan dated **TBD**.

### 6.5.4 Analytical Constituents

**Table 1** lists a range of sources and types of potential non-visible pollutants which may be applicable on the Site and the associated water quality indicator constituent(s) for that pollutant.

**Table 1: Sources and Types of potential non-visible pollutants**

<b>Category</b>	<b>Possible Products</b>	<b>Potential Pollutants</b>
Adhesives	Adhesives, Glues Resins, Epoxy Synthetics Caulks, Sealers, Putty, Sealing Agent Coal Tars (Naphtha, Pitch)	Phenolics, Formaldehydes Phenolics, Formaldehydes Asbestos, Phelolics Formaldehydes Benzene, Phelols, Naphthalene
Cleaners	Polishes (Metal, Ceramic, Tile) Etching Agents Cleaners, Ammonia, Lye, Caustic Sodas Bleaching Agents Chromate Salts	Metals Metals Acidity/Alkalinity Acidity/Alkalinity Chromium
Plumbing	Solder (Lead, Tin), Flux (Zinc Chloride) Pipe Fitting (Cut Shavings) Galvanized Metals (Nails, Fences) Electric Wiring	Lead, Copper, Zinc, Tin Copper Zinc Copper, Lead
Painting	Paint Thinner, Acetone, MEK, Stripper Paints, Lacquers, Varnish, Enamels Turpentine, Gum Spirit, Solvents Sanding, Stripping Paints (Pigments), Dyes	VOC's Metals, Phenolics, Mineral Spirits VOC's Metals Metals
Woods	Sawdust Particle Board Dusts (Formaldehyde) Treated Woods	Solid Waste Formaldehyde Copper, Creosote
Masonry & Concrete	Dusts (Brick, Cement) Colored Chalks (Pigments) Glazing Compounds Cleaning Surfaces	Acidity, Sediments Metals Asbestos Acidity
Floors and Walls	Flashing Drywall Tile Cutting (Ceramic Dust) Adhesives <sup>1</sup>	Copper, Aluminum Dusts Minerals
Air Conditioning and Heating	Insulation Coolant Reservoirs Adhesives	Asbestos Freon
Yard Operations and Maintenance	Vehicle and Machinery Maintenance Gasoline, Oils, Additives Marking Paints (Sprays) Grading, Earth Moving Portable Toilets Fire Hazard Control (Herbicides) Health and Safety Wash Waters	Oil, Grease, Coolants Benzene & Derivatives, Oils & Grease Vinyl Chloride, Metals Erosion (Sediments) BOD, Disinfectants (Spills) Sodium Arsenite, Di-nitro Compounds, Rodenticides Insecticides, Herbicides, Concrete, Greases, BOD

Landscaping & Earth Moving	Planting, Plant Maintenance Excavation, Tilling Masonry & Concrete Trees & Shrubs Exposing Natural Lime or Mineral Deposits Soil Additives Re-vegetation of Graded Areas	Pesticides, Herbicides, Nutrients, Erosion (Sediments)  Solid Wastes Acidity/Alkalinity, Metals  Aluminum Sulfate, Sulfur Fertilizers
Materials Storage	Waste Storage (Used Oils, Solvents, Etc.) Hazardous Waste Containment Raw Material Piles	Spills, Leaks, Polluted discharge Spills, Leaks, Polluted discharge Dusts, Sediments, Polluted Discharge

**6.5.5 Sample Collection and Handling**

**Sample Collection Procedures**

Grab samples shall be collected and preserved in accordance with the methods identified in **Table 3**, “Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants.” Only personnel trained in proper water quality sampling shall collect samples. Include copies of training records in **Attachment 8**.

Samples shall be collected by placing a separate laboratory-provided sample container directly into a stream of water downgradient and within close proximity to the potential non-visible pollutant discharge location. This separate laboratory-provided sample container shall be used to collect water, which shall be transferred to sample bottles for laboratory analysis. The upgradient and uncontaminated background samples shall be collected first prior to collecting the downgradient to minimize cross-contamination. The sampling personnel shall collect the water upgradient of where they are standing. Once the separate laboratory-provided sample container is filled, the water sample shall be poured directly into sample bottles provided by the laboratory for the analyte(s) being monitored.

To maintain sample integrity and prevent cross-contamination, sampling collection personnel shall:

- Wear a clean pair of nitrile gloves prior to the collection and handling of each sample at each location;
- Not contaminate the inside of the sample bottle by not allowing it to come into contact with any material other than the water sample;
- Discard sample bottles or sample lids that have been dropped onto the ground prior to sample collection;
- Not leave the cooler lid open for an extended period of time once samples are placed inside;
- Not sample near a running vehicle where exhaust fumes may impact the sample;
- Not touch the exposed end of a sampling tube, if applicable;
- Avoid allowing rainwater to drip from rain gear or other surfaces into sample bottles;
- Not eat, smoke, or drink during sample collection;

- Not sneeze or cough in the direction of an open sample bottle;
- Minimize the exposure of the samples to direct sunlight, as sunlight may cause biochemical transformation of the sample to take place;
- Decontaminate sampling equipment prior to sample collection using a TSP-soapy water wash, distilled water rinse, and final rinse with distilled water; and
- Dispose of decontamination water/soaps appropriately (i.e., not discharge to the storm drain system or receiving water).

**Sample Handling Procedures**

Immediately following collection, sample bottles for laboratory analytical testing will be capped, labeled, documented on a Chain of Custody form provided by the analytical laboratory, sealed in a re-sealable storage bag, placed in an ice-chilled cooler, at as near to 4 degrees Celsius as practicable, and delivered within 24 hours to the following California state-certified laboratory:

**Laboratory Name** \_\_\_\_\_  
Address \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Point of Contact \_\_\_\_\_

Immediately following collection, samples for field analysis shall be tested in accordance with the field instrument manufacturer’s instructions and results recorded on the Sampling Activity Log.

**Sample Documentation Procedures**

All original data documented on sample bottle identification labels, COC forms, Sampling Activity Logs, and Inspection Checklists shall be recorded using waterproof ink. These shall be considered accountable documents. If an error is made on an accountable document, the individual shall make corrections by lining through the error and entering the correct information. The erroneous information shall not be obliterated. All corrections shall be initialed and dated. Copies of the COC form and Sampling Activity Log are provided in **Attachment 14**.

Duplicate samples shall be identified consistent with the numbering system for other samples to prevent the laboratory from identifying duplicate samples. Duplicate samples shall be identified in the Sampling Activity Logs.

Sampling and field analysis activities shall be documented using the following:

- **Sample Bottle Identification Labels:** Sampling personnel shall attach an identification label to each sample bottle. At a minimum, the following information shall be recorded on the label, as appropriate:
  - Project name
  - Project number

- Unique sample identification code ~ SSSSYMMDDHmTT where:
  - SSSSS = sampling point number (e.g., CCUP1, CCDN2)
  - YY = last two digits of the year (e.g. 06)
  - MM = month (01-12)
  - DD = day (01-31)
  - HH = hour sample collected (00-23)
  - mm = minute sample collected (00-59)
  - TT = Type or QA/QC Identifier (if applicable)
  - G = grab
  - FS = field duplicate
  - For example, the sample number for a grab sample collected at Station CCUP1 collected at 4:15PM on December 8, 2006 would be: CCUP10612081615G
- Collection date/time (No time applied to QA/QC samples)
- Analysis constituent
- Initials of person who collected the sample
- **Sampling Activity Logs:** A log of sampling events shall identify:
  - Sampling date;
  - Separate times for collected samples and QA/QC samples recorded to the nearest minute;
  - Unique sample identification number and location;
  - Analysis constituent;
  - Names of sampling personnel;
  - Weather conditions (including precipitation amount);
  - Field analysis results; and
  - Other pertinent data.
- **COC Forms:** All samples to be analyzed by a laboratory will be accompanied by a COC form provided by the laboratory. Only the sample collectors will sign the COC form over to the laboratory. COC procedures will be strictly adhered to for QA/QC purposes.
- **Stormwater Quality Construction Inspection Checklists:** When applicable, the contractor's Storm water inspector will document on the checklist that samples for non-visible pollutants were taken during a rain event.

**6.5.6 Sample Analysis**

Samples shall be analyzed for the applicable constituents listed in **Table 1**. **Table 2** lists potential analytical methods which may be applicable to this Site.

For samples collected for field analysis, collection, analysis and equipment calibration will be in accordance with the field instrument manufacturer's specifications.

The following field instrument(s) will be used to analyze the following constituents:

Field Instrument	Constituent

The instrument(s) will be maintained in accordance with manufacturer's instructions. The instrument(s) will be calibrated before each sampling and analysis event. Maintenance and calibration records will be maintained with the SWPPP.

**Table 2: Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants**

Constituent	Analytical Method	Minimum Sample Volume	Sample Bottle	Sample Preservation	Reporting Limit	Maximum Holding Time
VOCs-Solvents	EPA 8260B	3 x 40 mL	VOA-glass	Store at 4°C, HCl to pH<2	1 ug/L	14 days
PAHs	EPA 8270C	1 x 1 L	Glass-Amber	Store at 4°C	10 ug/L	7 days
pH	EPA 150.1	1 x 100 mL	Polypropylene	None	Unitless	Immediate
TDS	EPA 160.1	1 x 100 mL	Polypropylene	None	ppm	Immediate
Alkalinity	SM 2320B	1 x 250 mL	Polypropylene	Store at 4°C	1 mg/L	14 days
TPH as gasoline	EPA 8015B	3 x 40 mL	VOA-glass	Store at 4°C, HCl to pH<2	50 ug/L	14 days
TPH as diesel	EPA 8015BB	1 x 1 L	Glass-Amber	Store at 4°C	50 ug/L	14 days
Metals (Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, Se, Na, Th, Va, Zn)	EPA 6010B/7470A	1 x 250 mL	Polypropylene	Store at 4°C, HNO <sub>4</sub> to pH<2	0.1 mg/L	6 months

Notes: C – Degrees Celsius  
 EPA – Environmental Protection Agency  
 TPH – Total Petroleum Hydrocarbons  
 HCl – Hydrogen Chloride  
 H<sub>2</sub>SO<sub>4</sub> – Hydrogen Sulfide  
 HNO<sub>3</sub> – Nitric Acid  
 L – liter  
 mg/L – milligrams per liter  
 ug/L – micrograms per liter  
 mL – milliliter  
 PAHs – Polyaromatic hydrocarbons  
 VOCs – Volatile Organic Compound  
 VOA – volatile organic analysis

### **6.5.7 Quality Assurance / Quality Control**

For an initial verification of laboratory or field analysis, duplicate samples will be collected at a rate of 10 percent or 1 duplicate per sampling event. The duplicate sample will be collected, handled, and analyzed using the same protocols as primary samples. A duplicate sample will be collected at each location immediately after the primary sample has been collected. Duplicates will be collected where contamination is likely, not on the background sample. Duplicate samples will not influence any evaluations or conclusions; however, they will be used as a check on laboratory quality assurance.

### **6.5.8 Data Management and Reporting**

A copy of all water quality analytical results and QA/QC data will be included in the onsite SWPPP within 5 days of sampling (for field analyses) and within 30 days (for laboratory analyses). Lab reports and COCs will be reviewed for consistency between lab methods, sample identifications, dates, and times for both primary samples and QA/QC samples. All data, including COC forms and Sampling Activity Logs, shall be kept with the SWPPP.

### **6.5.9 Data Evaluation**

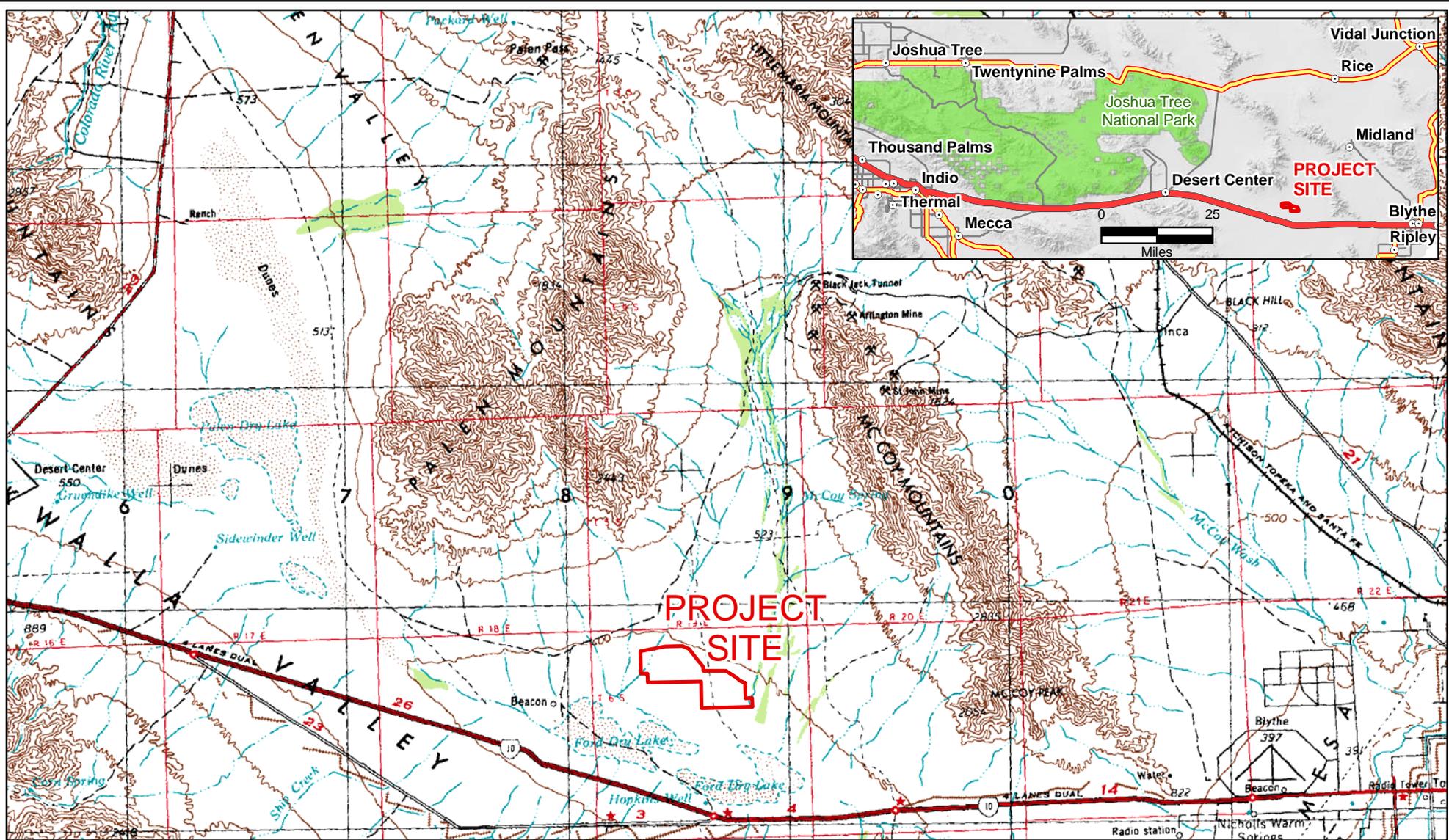
An evaluation of the water quality sample analytical results, including figures with sample locations, the water quality analytical results, and the QA/QC data, will be included in the onsite SWPPP.

If the runoff/downgradient sample shows an increased level of the tested analyte relative to the background sample, the BMPs, site conditions, and surrounding influences will be assessed to determine the probable cause for the increase. As determined by the site and data evaluation, appropriate BMPs will be repaired or modified to mitigate discharges of non-visual pollutant concentrations. Any revisions to the BMPs will be recorded as an amendment to the SWPPP.

### **6.5.10 Change of Conditions**

Whenever SWPPP monitoring, pursuant to Section B of the General Permit, indicates a change in site conditions that might affect the appropriateness of sampling locations or introduce additional non-visible pollutants of concern, testing protocols will be revised accordingly. All such revisions will be recorded as amendments to the SWPPP.

**ATTACHMENT 1 – LOCATION MAPS**



SOURCE:  
 USGS 250K Quad Sheet, Salton Sea  
 All locations approximate



GENESIS SOLAR ENERGY PROJECT



**WorleyParsons**

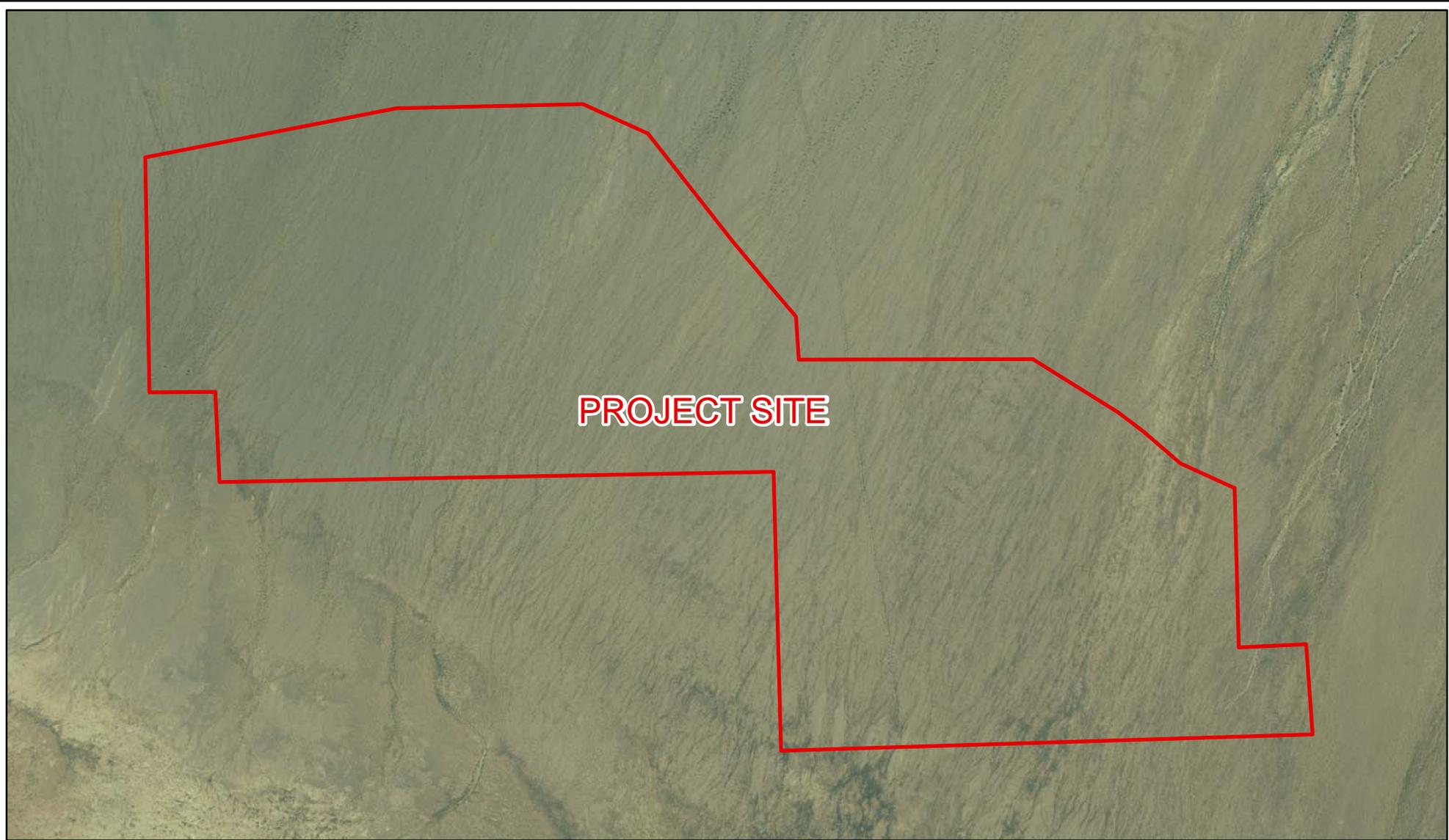
resources & energy

**SITE VICINITY MAP**

SWL	JF	7/2009
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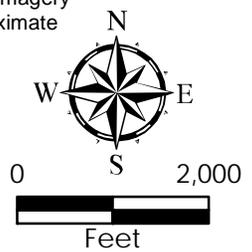
52004617

**1**



**PROJECT SITE**

SOURCE:  
2005 USDA NAIP Imagery  
All locations approximate



GENESIS SOLAR ENERGY PROJECT



**WorleyParsons**  
resources & energy

**SITE LOCATION MAP**

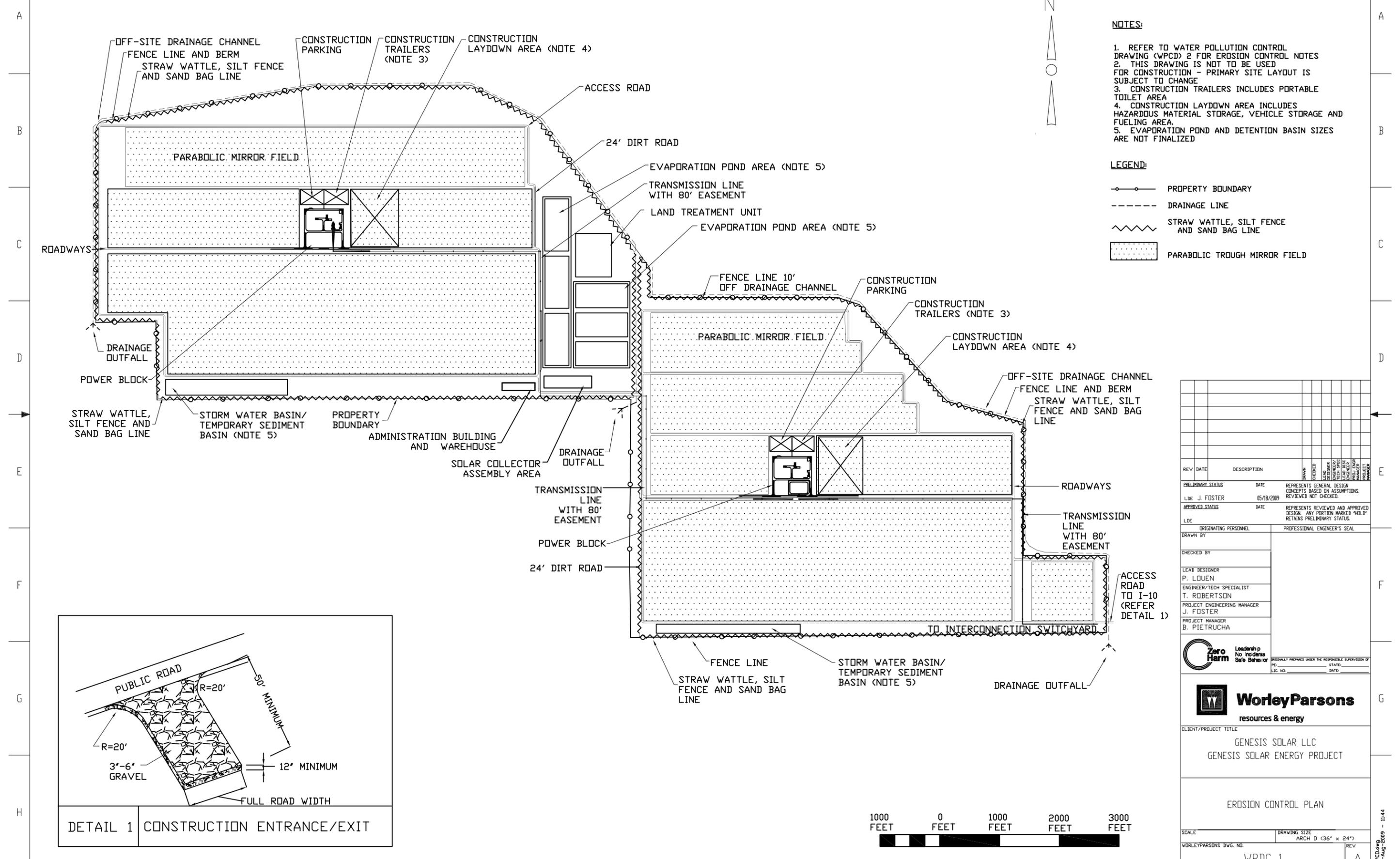
SWL	JF	7/2009
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**2**

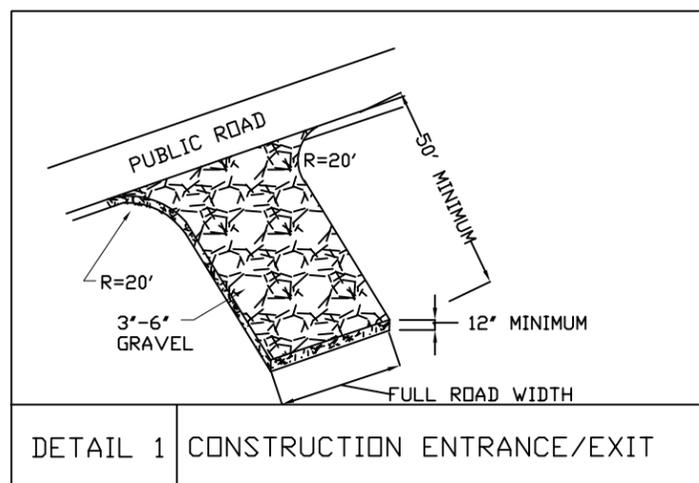
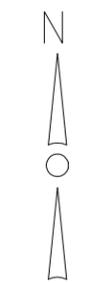
## **ATTACHMENT 2 – WATER POLLUTION CONTROL DIAGRAMS**

10 9 8 7 6 5 4 3 2 1



- NOTES:**
1. REFER TO WATER POLLUTION CONTROL DRAWING (WPCD) 2 FOR EROSION CONTROL NOTES
  2. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION - PRIMARY SITE LAYOUT IS SUBJECT TO CHANGE
  3. CONSTRUCTION TRAILERS INCLUDES PORTABLE TOILET AREA
  4. CONSTRUCTION LAYDOWN AREA INCLUDES HAZARDOUS MATERIAL STORAGE, VEHICLE STORAGE AND FUELING AREA.
  5. EVAPORATION POND AND DETENTION BASIN SIZES ARE NOT FINALIZED

- LEGEND:**
- PROPERTY BOUNDARY
  - - - DRAINAGE LINE
  - ~ Straw Wattle, Silt Fence and Sand Bag Line
  - ▤ PARABOLIC TROUGH MIRROR FIELD



REV	DATE	DESCRIPTION	DRAWN	CHECKED	LEAD	ENGINEER	LEAD	ENGINEER	MANAGER	PROJECT
PRELIMINARY STATUS										
DATE		REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.								
LDE	J. FOSTER	05/18/2009								
APPROVED STATUS										
DATE		REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.								
LDE										
ORIGINATING PERSONNEL					PROFESSIONAL ENGINEER'S SEAL					
DRAWN BY										
CHECKED BY										
LEAD DESIGNER										
P. LOUEN										
ENGINEER/TECH SPECIALIST										
T. ROBERTSON										
PROJECT ENGINEERING MANAGER										
J. FOSTER										
PROJECT MANAGER										
B. PIETRUCHA										



CLIENT/PROJECT TITLE  
 GENESIS SOLAR LLC  
 GENESIS SOLAR ENERGY PROJECT

EROSION CONTROL PLAN



SCALE ARCH D (36" x 24")  
 WPDC 1 A

10 9 8 7 6 5 4 3 2 1

15-Aug-2009 - 11:44

GENERAL NOTES:

1. IMPLEMENTATION OF BEST MANAGEMENT PRACTICE (BMP) IS AN ACTIVE TASK THAT REQUIRES FLEXIBILITY AND COMMITMENT BY THE CONTRACTOR. THE EROSION CONTROL PLAN IS INTENDED TO PROVIDE GUIDANCE TO THE CONTRACTOR. THE LOCATION AND TYPES OF BMPS SHOWN ARE GUIDELINES ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT PRACTICES THAT COMPLY WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM, GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES.

2. BMP CONTROLS MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION UNTIL SUCH TIME THAT THE PROJECT HAS BEEN STABILIZED AND ACCEPTED BY THE LOCAL AGENCY.

3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PREVENT DISCHARGE OF SEDIMENT FROM THE SITE TO ANY WATERCOURSE, DRAINAGE SYSTEM OR NEIGHBORING PROPERTY.

4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH LOCAL, STATE AND FEDERAL WASTE DISCHARGE REQUIREMENTS RELATING TO STORM WATER RUN OFF ASSOCIATED WITH CONSTRUCTION ACTIVITY.

5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PROJECT. A COPY OF THE SWPPP SHALL BE LOCATED AT THE CONSTRUCTION SITE AT ALL TIMES.

6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO UNDERTAKE SITE INSPECTIONS PRIOR TO A FORECAST STORM, AFTER A RAINFALL EVENT THAT CAUSES RUNOFF, AT 24 HOUR INTERVALS DURING EXTENDED RAINFALL EVENTS, WEEKLY DURING THE RAINFALL SEASON, FORTNIGHTLY DURING THE NON-RAINY SEASON AND AT ANY OTHER TIME(S) OR INTERVALS SPECIFIED IN CONTRACT DOCUMENTS.

7. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE CAPABLE OF BEING PLACED WITHIN 24 HOURS.

8. STRAW MULCH MAY BE PLACED ON ALL BARE AREAS AROUND THE PERIMETER TO THE SITE AND MAY ALSO BE APPLIED TO THE DISTURBED AREAS ADJACENT TO EXCAVATIONS, ON SHALLOW SLOPES SURROUNDING THE SITE AND USED TO COVER EXPOSED SOIL AND STOCKPILED MATERIAL AREAS.

9. ALL STOCKPILES SHALL BE COVERED (OR CAPABLE OF BEING COVERED WITHIN 24 HOURS) WITH STRAW MULCH OR PLASTIC SHEETING. ALL SOIL STOCKPILES SHALL HAVE SILT FENCES AT THE TOE OF THE MATERIAL.

10. EARTH DIKES OR SWALES MAY BE USED TO INTERCEPT AND DIVERT SEDIMENT LADEN WATER TO THE SEDIMENT BASIN OR SEDIMENT TRAPS.

11. SILT FENCES, STRAW WATTLE AND SAND BAGS SHALL BE INSTALLED AROUND THE PERIMETER TO INTERCEPT SEDIMENT LADEN RUNOFF BEFORE IT ENTERS THE OFF-SITE DRAINAGE CHANNELS. FIBER ROLLS MAY ALSO BE USED.

12. THE SEDIMENT BASIN SHALL BE PUMPED DRY IF IT IS NOT DRY WITHIN 72 HOURS AFTER A RAINFALL EVENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MANAGE ANY LOCALIZED FLOODING.

13. CHECK DAMS TO BE USED IN SMALL ONSITE OPEN CHANNELS IF DRAIN LESS THAN 10 ACRES AND STORM WATER VELOCITIES EXCEED 5 FEET PER SECOND.

14. IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT SAFETY MEASURES ONSITE.

15. ONSITE VEHICLE SPEED SHALL BE LIMITED TO 10 MILES PER HOUR.

16. DUST CONTROL WILL BE APPLIED TO DISTURBED AREAS IN FORECAST OR ACTUAL WIND SPEEDS OF 20 MILES PER HOUR OR GREATER.

17. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE ESTABLISHED WITH 3 TO 6 INCH CRUSHED AGGREGATE. THE STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL EXTEND A MINIMUM OF 50 FEET INTO THE PROJECT CONSTRUCTION SITE WITH A FLARED ENTRANCE TO MEET THE EXISTING ROADS AS NECESSARY.

18. TRASH / GENERAL LITTER SHALL BE REMOVED ON A REGULAR BASIS BY THE CONTRACTOR.

19. THE LAYDOWN AREA IN THE CONSTRUCTION SITE INCLUDES PORTABLE TOILETS, MATERIAL STORAGE, FUELING AREA AND VEHICLE STORAGE.

20. SAMPLING AND ANALYSIS OF NON-VISIBLE POLLUTANTS SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE SWPPP.

REV	DATE	DESCRIPTION	DRAWN	CHECKED	LEAD DESIGNER	ENGINEER/TECH SPECIALIST	PROJECT ENGINEERING MANAGER	PROJECT MANAGER
PRELIMINARY STATUS		DATE	REPRESENTS GENERAL DESIGN CONCEPTS BASED ON ASSUMPTIONS. REVIEWED NOT CHECKED.					
LDE: J. FOSTER		05/18/2009						
APPROVED STATUS		DATE	REPRESENTS REVIEWED AND APPROVED DESIGN. ANY PORTION MARKED "HOLD" RETAINS PRELIMINARY STATUS.					
LDE:								
ORIGINATING PERSONNEL				PROFESSIONAL ENGINEER'S SEAL				
DRAWN BY								
CHECKED BY								
LEAD DESIGNER								
P. LOUEN								
ENGINEER/TECH SPECIALIST								
T. ROBERTSON								
PROJECT ENGINEERING MANAGER								
J. FOSTER								
PROJECT MANAGER								
B. PIETRUCHA								
 <b>Zero Harm</b> Leadership No incidents Safe Behavior		ORIGINALLY PREPARED UNDER THE RESPONSIBLE SUPERVISION OF PE: _____ STATE: _____ LIC. NO.: _____ DATE: _____						
 <b>WorleyParsons</b> resources & energy		CLIENT/PROJECT TITLE GENESIS SOLAR LLC GENESIS SOLAR ENERGY PROJECT						
		EROSION CONTROL NOTES						
SCALE		DRAWING SIZE						
		ARCH D (36" x 24")						
WORLEYPARSONS DWG. NO.		REV						
WPDC 2		A						

VPC/eng/2009 - 08/35

**ATTACHMENT 3 – BMP CONSIDERATION  
CHECKLIST**

**CONSTRUCTION SITE BMPs  
CONSIDERATION CHECKLIST**

**The BMPs listed here should be considered for every project. Those BMPs that are not included in the SWPPP must be checked as "Not Used" with a brief statement describing why it is not being used.**

**EROSION CONTROL BMPs**

BMP No.	BMP	CONSIDERED FOR PROJECT	CHECK IF USED	CHECK IF NOT USED	IF NOT USED, STATE REASON
EC-1	Scheduling	X	X		
EC-2	Preservation of Existing Vegetation	X	X		
EC-3	Hydraulic Mulch	X	X		
EC-4	Hydroseeding	X		X	Hydroseeding will not establish in the ground conditions. Use Hydraulic mulch and/or straw wattle instead.
EC-5	Soil Binders	X		X	Hydraulic mulch and/or straw mulch used instead
EC-6	Straw Mulch	X	X		
EC-7	Geotextiles & Mats	X	X		
EC-8	Wood Mulching	X		X	Hydraulic mulch and/or straw mulch used
EC-9	Earth Dikes & Drainage Swales	X	X		
EC-10	Velocity Dissipation Devices	X		X	Not required for project
EC-11	Slope Drains	X	X		
EC-12	Streambank Stabilization	X		X	Not required for project
EC-13	Polyacrylamide	X		X	Hydraulic mulch and/or straw mulch used

**CONSTRUCTION SITE BMPs  
CONSIDERATION CHECKLIST**

The BMPs listed here should be considered for every project. Those BMPs that are not included in the SWPPP must be checked as "Not Used" with a brief statement describing why it is not being used.

**SEDIMENT CONTROL BMPs**

BMP No.	BMP	CONSIDERED FOR PROJECT	CHECK IF USED	CHECK IF NOT USED	IF NOT USED, STATE REASON
SE-1	Silt Fence	X	X		
SE-2	Sediment Basin	X	X		
SE-3	Sediment Trap	X	X		
SE-4	Check Dam	X	X		Only if velocities are higher than 5 ft/s in the small channels
SE-5	Fiber Rolls	X	X		
SE-6	Gravel Bag Berm	X		X	Not required for project
SE-7	Street Sweeping and Vacuuming	X	X		
SE-8	Sand Bag Barrier	X	X		
SE-9	Straw Bale Barrier	X		X	Not required for project
SE-10	Storm Drain Inlet Protection	X		X	Not required for project
SE-11	Chemical Treatment	X		X	Not required for project

**WIND EROSION CONTROL BMPs**

WE-1	Wind Erosion Control	X	X		
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**TRACKING CONTROL BMPs**

TR-1	Stabilized Construction Entrance/Exit	X	X		
TR-2	Stabilized Construction Roadway	X	X		
TR-3	Entrance/Outlet Tire Wash	X	X		Construction entrance/exit with street sweeping may be sufficient if there is no caked on mud to tires and undercarriages of trucks

**CONSTRUCTION SITE BMPs  
CONSIDERATION CHECKLIST**

**The BMPs listed here should be considered for every project. Those BMPs that are not included in the SWPPP must be checked as “Not Used” with a brief statement describing why it is not being used.**

**NON-STORM WATER MANAGEMENT BMPs**

<b>BMP No.</b>	<b>BMP</b>	<b>CONSIDERED FOR PROJECT</b>	<b>CHECK IF USED</b>	<b>CHECK IF NOT USED</b>	<b>IF NOT USED, STATE REASON</b>
NS-1	Water Conservation Practices	X	X		
NS-2	Dewatering Operations	X	X		
NS-3	Paving and Grinding Operations	X	X		
NS-4	Temporary Stream Crossing	X		X	Not applicable to this project because no streams to cross
NS-5	Clear Water Diversion	X		X	Not applicable to this project because there are no upstream diversions
NS-6	Illicit Connection/ Discharge	X	X		
NS-7	Potable Water/Irrigation	X		X	
NS-8	Vehicle and Equipment Cleaning	X	X		
NS-9	Vehicle and Equipment Fueling	X	X		
NS-10	Vehicle and Equipment Maintenance	X	X		
NS-11	Pile Driving Operations	X		X	Not applicable as there will be no pile driving operations during construction
NS-12	Concrete Curing	X	X		
NS-13	Concrete Finishing	X	X		
NS-14	Material and Equipment Use Over Water			X	Not applicable because there is no construction over water
NS-15	Demolition Adjacent to Water			X	Not applicable because there is no demolition during this phase of the project
NS-16	Temporary Batch Plants			X	Not applicable as a batch plant is not to be used on site

**CONSTRUCTION SITE BMPs  
CONSIDERATION CHECKLIST**

The BMPs listed here should be considered for every project. Those BMPs that are not included in the SWPPP must be checked as "Not Used" with a brief statement describing why it is not being used.

**WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL BMPs**

BMP No.	BMP	CONSIDERED FOR PROJECT	CHECK IF USED	CHECK IF NOT USED	IF NOT USED, STATE REASON
WM-1	Material Delivery and Storage	X	X		
WM-2	Material Use	X	X		
WM-3	Stockpile Management	X	X		
WM-4	Spill Prevention and Control	X	X		
WM-5	Solid Waste Management	X	X		
WM-6	Hazardous Waste Management	X	X		
WM-7	Contaminated Soil Management	X		X	Not applicable to this project because there is no known contaminated soil on site
WM-8	Concrete Waste Management	X	X		
WM-9	Sanitary/Septic Waste Management	X	X		
WM-10	Liquid Waste Management	X	X		

## **ATTACHMENT 4 – RUN-OFF CALCULATIONS AND SEDIMENT BASIN SIZING**

## WORKSHEET FOR RUN-OFF COEFFICIENT CALCULATIONS

$$\text{Total Site Area} = \frac{1800 \text{ Acres}}{\quad} \quad (\text{A})$$

### Existing Site Conditions

$$\text{Impervious Site Area}^1 = \frac{0.00 \text{ Acres}}{\quad} \quad (\text{B})$$

$$\text{Impervious Site Area Runoff Coefficient}^{2,4} = \frac{.95}{\quad} \quad (\text{C})$$

$$\text{Pervious Site Area}^3 = \frac{1,800 \text{ Acres}}{\quad} \quad (\text{D})$$

$$\text{Pervious Site Area Runoff Coefficient} = \frac{0.35}{\quad} \quad (\text{E})$$

$$\text{Existing Site Area Runoff Coefficient} = \frac{\frac{(B \times C) + (D \times E)}{(A)}}{\quad} = \frac{0.35}{\quad} \quad (\text{F})$$

### Proposed Site Conditions (after construction)

$$\text{Run Off Area}^5 = \frac{1,800 \text{ Acres}}{\quad} \quad (\text{G})$$

$$\text{Impervious Site Area}^1 = \frac{300 \text{ Acres}}{\quad} \quad (\text{H})$$

$$\text{Impervious Site Area Runoff Coefficient}^2 = \frac{.95}{\quad} \quad (\text{I})$$

$$\text{Pervious Site Area (A)}^3 = \frac{1,400 \text{ Acres}}{\quad} \quad (\text{J})$$

$$\text{Pervious Site Area Runoff Coefficient (A)} = \frac{0.35}{\quad} \quad (\text{K})$$

$$\text{Pervious Site Area (B)}^3 = \frac{100 \text{ Acres}}{\quad} \quad (\text{L})$$

$$\text{Pervious Site Area Runoff Coefficient (B)}^4 = \frac{0.10}{\quad} \quad (\text{M})$$

$$\text{Proposed Site Area Runoff Coefficient} = \frac{\frac{(H \times I) + (J \times K) + (L \times M)}{(G)}}{\quad} = \frac{0.45}{\quad} \quad (\text{N})$$

1. Includes paved areas, areas covered by buildings, foundations in the solar field and other impervious surfaces.
2. Use 0.95 unless lower or higher runoff coefficient can be verified.
3. Includes areas of vegetation (desert shrub), most unpaved or uncovered soil surfaces, and other pervious areas. Higher runoff coefficient as clay soils therefore runoff expected.
4. Detention Basins, Evaporation Ponds, Land Farm Units that should not have any runoff

## FROM BMP SE-2; SEDIMENT BASIN SIZING

### Option 2:

*Sediment Basin(s), as measured from the bottom of the basin to the principle outlet, shall have at least a capacity equivalent to 3,600 cubic feet of storage per acre draining into the sediment basin. The length of the basin shall be more than twice the width of the basin. The depth must not be less than 3 ft nor greater than 5 ft....*

Property Area	=	1800 acres
Required Storage	=	3,600 <u>cubic feet</u> x 1800 acres
		acre
	=	6,480,000 cubic feet
If depth of 5 feet, Area	=	1,296,000 square feet
	=	29.75 acres

The temporary sediment basin shall be in the place of the two proposed retention basin. The retention basin has been sized to cater for the 1 in 100 year rain fall event, where 100% of the run off will flow into the basin. The required volume of the retention basins are 66 acre-feet and 49 acre-feet for the two 125 units. This is a total of 115 acre-feet which is equivalent to 5,009,400 cubit feet. Therefore using Option-2, some additional capacity would be required to cater for the sediment basin.

### Option 3:

*Sediment basin(s) shall be designed using the standard equation:*

$$A_s = 1.2Q/V_s$$

Where:

*A<sub>s</sub> = Minimum surface area for trapping soil particles of a certain size*

*V<sub>s</sub> = settling velocity of the design particle size chosen*

$$Q = C I A$$

Where:

*C = runoff coefficient*

*I = precipitation intensity for a 10 year, 6 hour rain event*

*A = Area draining in to the sediment basin in acres*

A	=	1,800 Acres
C	=	0.45
I	=	1.4 in/hr (from NOAA Atlas 2, Volume 11)
Q	=	0.45 x 1.4 x 1,800
	=	1134 ft <sup>3</sup> /sec

Settling Velocity - This is the velocity of water flow at which the water no longer has the energy necessary to transport a specific sediment size. As clays are very fine grain size, the fine silt sized 0.01mm shall be used for the calculation.

Use Typical Value: V <sub>s</sub>	=	0.0001 m/s
	=	0.0003 ft/s

PRELIMINARY SWPPP  
GENESIS SOLAR ENERGY PROJECT

$$\begin{aligned} \text{As} &= 1.2 \times (1134)/(0.0003) \\ &= 4,356,000 \text{ ft}^2 \\ &= 104 \text{ acres} \end{aligned}$$

Option 3 of 104 acres is significantly larger than Option 2's 30 acres, therefore Option 2 shall be used for sizing the sediment basin(s) on site. The sediment basin will be cleaned out as required under SE-2 to prevent accumulation of sediment impacting on its functionality.

## **ATTACHMENT 5 – NOTICE OF INTENT**



**Linda S Adams**  
Secretary for  
Environmental Protection

# State Water Resources Control Board



**Arnold Schwarzenegger**  
Governor

## Division of Water Quality

1001 I Street • Sacramento, California 95814 • (916) 341-5537  
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977  
FAX (916) 341-5543 • Internet Address: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/](http://www.waterboards.ca.gov/water_issues/programs/stormwater/)

### CHECKLIST FOR SUBMITTING A NOTICE OF INTENT

In order for the State Water Resources Control Board to expeditiously process your Notice of Intent (NOI), the following items must be submitted to either of the addresses indicated below:

1. \_\_\_\_\_ NOI (please keep a copy for your files) with all applicable sections completed and original signature of the landowner or signatory agent;
2. \_\_\_\_\_ Check made out to the “State Water Resources Control Board”  
See reverse for listing of fees by acre. The fee is based on the “Total Acres to be Disturbed” for the life of the project.
3. \_\_\_\_\_ Site Map of the facility (see NOI instructions). **DO NOT SEND BLUEPRINTS**

#### U.S. Postal Service Address

State Water Resources Control Board  
Division of Water Quality  
Attn: Storm Water Section  
P.O. Box 1977  
Sacramento, CA 95812-1977

#### Overnight Mailing Address

State Water Resources Control Board  
Division Of Water Quality  
Attn: Storm Water, 15<sup>th</sup> Floor  
1001 I Street  
Sacramento, CA 95814

NOIs are processed in the order they are received. A NOI receipt letter will be mailed to the land owner within approximately two weeks. Incomplete NOI submittals will be returned to the landowner’s address within the same timeframe and will specify the reason(s) for return. If you need a receipt letter by a specific date (for example, to provide to a local agency), we advise that you submit your NOI thirty (30) days prior to the date the receipt letter is needed.

Please do not call us to verify your NOI status. A copy of your NOI receipt letter will be available on our web page within twenty-four (24) hours of processing. Go to: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/databases.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/databases.shtml) to retrieve an electronic copy of your NOI receipt letter. If you have any questions regarding this matter, please contact us at (916) 341-5537.

## Construction Annual Fees by Acre

Partial Acreage rounded to nearest whole number

<u>Acres</u>	<u>Fee</u>	<u>21% Surcharge</u>	<u>Total Fee</u>	<u>Acres</u>	<u>Fee</u>	<u>21% Surcharge</u>	<u>Total Fee</u>
0	\$238	\$50	\$288	51	\$1,462	\$307	\$1,769
1	\$262	\$55	\$317	52	\$1,486	\$312	\$1,798
2	\$286	\$60	\$346	53	\$1,510	\$317	\$1,827
3	\$310	\$65	\$375	54	\$1,534	\$322	\$1,856
4	\$334	\$70	\$404	55	\$1,558	\$327	\$1,885
5	\$358	\$75	\$433	56	\$1,582	\$332	\$1,914
6	\$382	\$80	\$462	57	\$1,606	\$337	\$1,943
7	\$406	\$85	\$491	58	\$1,630	\$342	\$1,972
8	\$430	\$90	\$520	59	\$1,654	\$347	\$2,001
9	\$454	\$95	\$549	60	\$1,678	\$352	\$2,030
10	\$478	\$100	\$578	61	\$1,702	\$357	\$2,059
11	\$502	\$105	\$607	62	\$1,726	\$362	\$2,088
12	\$526	\$110	\$636	63	\$1,750	\$368	\$2,118
13	\$550	\$116	\$666	64	\$1,774	\$373	\$2,147
14	\$574	\$121	\$695	65	\$1,798	\$378	\$2,176
15	\$598	\$126	\$724	66	\$1,822	\$383	\$2,205
16	\$622	\$131	\$753	67	\$1,846	\$388	\$2,234
17	\$646	\$136	\$782	68	\$1,870	\$393	\$2,263
18	\$670	\$141	\$811	69	\$1,894	\$398	\$2,292
19	\$694	\$146	\$840	70	\$1,918	\$403	\$2,321
20	\$718	\$151	\$869	71	\$1,942	\$408	\$2,350
21	\$742	\$156	\$898	72	\$1,966	\$413	\$2,379
22	\$766	\$161	\$927	73	\$1,990	\$418	\$2,408
23	\$790	\$166	\$956	74	\$2,014	\$423	\$2,437
24	\$814	\$171	\$985	75	\$2,038	\$428	\$2,466
25	\$838	\$176	\$1,014	76	\$2,062	\$433	\$2,495
26	\$862	\$181	\$1,043	77	\$2,086	\$438	\$2,524
27	\$886	\$186	\$1,072	78	\$2,110	\$443	\$2,553
28	\$910	\$191	\$1,101	79	\$2,134	\$448	\$2,582
29	\$934	\$196	\$1,130	80	\$2,158	\$453	\$2,611
30	\$958	\$201	\$1,159	81	\$2,182	\$458	\$2,640
31	\$982	\$206	\$1,188	82	\$2,206	\$463	\$2,669
32	\$1,006	\$211	\$1,217	83	\$2,230	\$468	\$2,698
33	\$1,030	\$216	\$1,246	84	\$2,254	\$473	\$2,727
34	\$1,054	\$221	\$1,275	85	\$2,278	\$478	\$2,756
35	\$1,078	\$226	\$1,304	86	\$2,302	\$483	\$2,785
36	\$1,102	\$231	\$1,333	87	\$2,326	\$488	\$2,814
37	\$1,126	\$236	\$1,362	88	\$2,350	\$494	\$2,844
38	\$1,150	\$242	\$1,392	89	\$2,374	\$499	\$2,873
39	\$1,174	\$247	\$1,421	90	\$2,398	\$504	\$2,902
40	\$1,198	\$252	\$1,450	91	\$2,422	\$509	\$2,931
41	\$1,222	\$257	\$1,479	92	\$2,446	\$514	\$2,960
42	\$1,246	\$262	\$1,508	93	\$2,470	\$519	\$2,989
43	\$1,270	\$267	\$1,537	94	\$2,494	\$524	\$3,018
44	\$1,294	\$272	\$1,566	95	\$2,518	\$529	\$3,047
45	\$1,318	\$277	\$1,595	96	\$2,542	\$534	\$3,076
46	\$1,342	\$282	\$1,624	97	\$2,566	\$539	\$3,105
47	\$1,366	\$287	\$1,653	98	\$2,590	\$544	\$3,134
48	\$1,390	\$292	\$1,682	99	\$2,614	\$549	\$3,163
49	\$1,414	\$297	\$1,711	>100	\$2,618	\$550	\$3,168
50	\$1,438	\$302	\$1,740				

NOTICE OF INTENT (NOI) TO COMPLY WITH THE TERMS  
OF THE GENERAL PERMIT TO DISCHARGE STORM WATER  
ASSOCIATED WITH CONSTRUCTION ACTIVITY

GENERAL INSTRUCTIONS

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Who Must Submit

Discharges of storm water associated with construction that results in the disturbance of one acre or more of land must apply for coverage under the General Construction Activities Storm Water Permit (General Permit). Construction activity which is a part of a larger common area of development or sale must also be permitted. (For example, if 4 acres of a 20-acre subdivision is disturbed by construction activities, and the remaining 16 acres is to be developed at a future date, the property owner must obtain a General Storm Water Permit for the 4-acre project). Construction activity includes, but is not limited to: clearing, grading, demolition, excavation, construction of new structures, and reconstruction of existing facilities involving removal and replacement that results in soil disturbance. This includes construction access roads, staging areas, storage areas, stockpiles, and any off-site areas which receive run-off from the construction project such as discharge points into a receiving water. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

The owner of the land where the construction activity is occurring is responsible for obtaining a permit. Owners may obtain coverage under the General Permit by filing a NOI in accordance with the following instructions. Coverage for construction activity conducted on easements (e.g., pipeline construction) or on nearby properties by agreement or permission, or by an owner or lessee of a mineral estate (oil, gas, geothermal, aggregate, precious metals, and/or industrial minerals) entitled to conduct the activities, shall be obtained by the entity responsible for the construction activity. Linear construction projects which will have construction activity occurring in one or more than one Region should contact the State Water Resources Control Board at the number listed below prior to submitting an NOI application for specific information related to the use of the NOI form.

Construction Activity Not Covered By This General Permit

Storm water discharges in the Lake Tahoe Hydrologic Unit will be regulated by a separate permit(s) adopted by the California Regional Water Quality Control Board, Lahontan Region, and will not be covered under the State Water Resources Control Board's (SWRCB) General Permit. Storm water discharges on Indian Lands will be regulated by the U.S. Environmental Protection Agency.

### Where to Apply

The NOI form, vicinity map, and appropriate fee must be mailed to the SWRCB at the following address:

State Water Resources Control Board  
Division of Water Quality  
Attn: Storm Water Permit Unit  
P.O. Box 1977  
Sacramento, CA 95812-1977

### When to Apply

Property owners proposing to conduct construction activities subject to this General Permit must file a Notice of Intent prior to the commencement of construction activity.

### Fees

The total annual fee is the current base fee plus applicable surcharges for all construction sites submitting an NOI. Checks should be made payable to: SWRCB.

### Completing the Notice of Intent (NOI)

The submittal to obtain coverage under the General Permit must include a completed NOI Form (Notice of Intent, attached), a vicinity map, and the appropriate annual fee. The NOI must be completely and accurately filled out; the vicinity map and annual fee must be included with the NOI or the submittal is considered incomplete and will be rejected. A construction site is considered to be covered by the General Permit upon filing a complete NOI submittal, and implementation of a defensible Storm Water Pollution Prevention Plan (SWPPP). Upon receipt of a complete NOI submittal, each discharger will be sent a receipt letter containing the waste discharger's identification (WDID) number.

### Questions?

If you have any questions on completing the NOI please call the SWRCB at (916) 341-5537.

## NOI-LINE-BY-LINE INSTRUCTIONS

Please type or print when completing the NOI Form and vicinity map.

### SECTION I--NOI STATUS

Mark one of the two boxes at the top portion of the NOI. Check box 1 if the NOI is being completed for new construction. Check box 2 if the NOI is being submitted to report changes for a construction site already covered by the General Permit. An example of a change that warrants a resubmittal of the NOI is a change of total area of the construction site. The permit is non-transferable, a change of ownership requires a Notice of Termination (NOT) submittal and a new NOI. Complete only those portions of the NOI that apply to the changes (the NOI must always be signed). If box 2 is checked, the WDID number must be included.

### SECTION II--PROPERTY OWNER

Enter the construction site owner's official or legal name and address; contact person (if other than owner), title, and telephone number.

### SECTION III--DEVELOPER / CONTRACTOR INFORMATION

Enter the name of the developer's (or general contractor's) official or legal name, address, contact person, title, and telephone number. The contact person should be someone who is familiar with the construction site and is responsible for compliance and oversight of the general permit.

### SECTION IV-CONSTRUCTION PROJECT INFORMATION

Enter the project name, site address, county, city, (or nearest city if construction is occurring in an unincorporated area), zip code, and telephone number (if any) of the construction site. Include an emergency contact telephone or pager number. Construction site information should include latitude and longitude designations, tract numbers, and/or mile post markers, if applicable. The site contact person should be someone who is familiar with the project, site plans, SWPPP, and monitoring program. All NOIs must be accompanied by a vicinity map.

Part A: Enter the total size in acres of all areas associated with construction activity, including all access roads.

Part B: Enter the total size in acres of the area to be disturbed by construction activity and the percentage of the area listed in Part A above that this represents.

Part C: Enter the percentage of the site that is impervious (areas where water cannot soak into the ground, such as concrete, asphalt, rooftops, etc.) before and after construction.

Part D: Include tract numbers, if available.

- Part E: Enter the mile post marker number at the project site location.
- Part F: Indicate whether the construction site is part of a larger common plan of development or sale. For example, if the construction activity is occurring on a two-acre site which is within a development that is one acre or greater, answer yes.
- Part G: Enter the name of the development (e.g. "Quail Ridge Subdivision", "Orange Valley Estates", etc.).
- Part H: Indicate when construction will begin (month, day, year). When a NOI is being submitted due to a change in ownership, the commencement date should be the date the new ownership took effect.
- Part I: Indicate the percentage of the total project area to be mass graded.
- Part J: Enter the estimated completion dates for the mass grading activities and for the project completion.
- Part K: Indicate the type(s) of construction taking place. For example, "Transportation" should be checked for the construction of roads; "Utility" should be checked for installation of sewer, electric, or telephone systems. Include a description of the major construction activities, (e.g., 20 single family homes, a supermarket, an office building, a factory, etc.)

#### SECTION V--BILLING ADDRESS

To continue coverage under the General Permit, the annual fee must be paid. Indicate where the annual fee invoice should be mailed by checking one of the following boxes:

Owner: sent to the owners address as it appears in Section II.

Developer/Contractor: sent to the developer's address as it appears in Section III.

Other: sent to a different address and enter that address in the spaces provided.

#### SECTION VI--REGULATORY STATUS

Indicate whether or not the site is subject to local erosion/sediment control ordinances. Indicate whether the erosion/sediment control plan designed to comply with the ordinance addresses the construction of infrastructure and structures in addition to grading. Identify the name and telephone number of the local agency, if applicable.

## SECTION VII--RECEIVING WATER INFORMATION

Part A: Indicate whether the storm water runoff from the construction site discharges indirectly to waters of the United States, directly to waters of the United States, or to a separate storm drain system.

Indirect discharges include discharges that may flow overland across adjacent properties or rights-of-way prior to discharging into waters of the United States.

Enter the name of the owner/operator of the relevant storm drain system, if applicable. Storm water discharges directly to waters of the United States will typically have an outfall structure directly from the facility to a river, lake, creek, stream, bay, ocean, etc. Discharges to separate storm sewer systems are those that discharge to a collection system operated by municipalities, flood control districts, utilities, or similar entities.

Part B: Enter the name of the receiving water. Regardless of point of discharge, the owner must determine the receiving water for the construction site's storm water discharge. Enter the name of the receiving water.

## SECTION VIII--IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS

Part A: Indicate the status of the SWPPP, date prepared, or availability for review. Also indicate if a tentative construction schedule has been included in the SWPPP (the inclusion of a construction activity schedule is a mandatory SWPPP requirement).

Part B: Provide information concerning the status of the development of a monitoring program, a component of the SWPPP which outlines an inspection and maintenance schedule for the proposed Best Management Practices (BMPs). Provide name and phone number of program preparer.

Part C: Provide the name and phone numbers of the responsible party or parties designated to insure compliance with all elements of the General Permit and SWPPP.

## SECTION IX--VICINITY MAP AND FEE

Provide a "to scale" or "to approximate scale" drawing of the construction site and the immediate surrounding area. Whenever possible, limit the map to an 8.5" x 11" or 11" x 17" sheet of paper. At a minimum, the map must show the site perimeter, the geographic features surrounding the site, and general topography, and a north arrow. The map must also include the location of the construction project in relation to named streets, roads, intersections, or landmarks. A NOI containing a map which does not clearly indicate the location of the construction project will be rejected. Do not submit blueprints unless they meet the above referenced size limits.

## SECTION X--CERTIFICATIONS

This section must be completed by the owner or signatory agent of the construction site\*. The certification provides assurances that the NOI and vicinity map were completed in an accurate and complete fashion and with the knowledge that penalties exist for providing false information. Certification also requires the owner to comply with the provisions in the General Permit.

\* For a corporation: a responsible corporate officer (or authorized individual). For a partnership or sole proprietorship: a general partner or the proprietor, respectively. For a municipality, State, Federal, or other public agency: either a principal executive officer, ranking elected official, or duly authorized representative.



State Water Resources Control Board

### NOTICE OF INTENT

TO COMPLY WITH THE TERMS OF THE  
GENERAL PERMIT TO DISCHARGE STORM WATER  
ASSOCIATED WITH CONSTRUCTION ACTIVITY (WQ ORDER No. 99-08-DWQ)



#### I. NOI STATUS (SEE INSTRUCTIONS)

MARK ONLY ONE ITEM	1. <input type="checkbox"/> New Construction	2. <input type="checkbox"/> Change of Information for WDID#	<input type="text"/>
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#### II. PROPERTY OWNER

Name		Contact Person		
Mailing Address		Title		
City	State	Zip	Phone	
Owner Type (check one) 1. <input type="checkbox"/> Private Individual    2. <input type="checkbox"/> Business    3. <input type="checkbox"/> Municipal    4. <input type="checkbox"/> State    5. <input type="checkbox"/> Federal    6. <input type="checkbox"/> Other				

#### III. DEVELOPER/CONTRACTOR INFORMATION

Developer/Contractor		Contact Person		
Mailing Address		Title		
City	State	Zip	Phone	

#### IV. CONSTRUCTION PROJECT INFORMATION

Site/Project Name		Site Contact Person		
Physical Address/Location		Latitude _____°	Longitude _____°	County
City (or nearest City)		Zip	Site Phone Number	Emergency Phone Number
A. Total size of construction site area: _____ Acres	C. Percent of site imperviousness (including rooftops): Before Construction: _____% After Construction: _____%		D. Tract Number(s): _____, _____	
B. Total area to be disturbed: _____ Acres (% of total _____)	E. Mile Post Marker: _____			
F. Is the construction site part of a larger common plan of development or sale? <input type="checkbox"/> YES <input type="checkbox"/> NO		G. Name of plan or development:		
H. Construction commencement date: ____/____/____		J. Projected construction dates: Complete grading: ____/____/____    Complete project: ____/____/____		
I. % of site to be mass graded: _____				
K. Type of Construction (Check all that apply): 1. <input type="checkbox"/> Residential    2. <input type="checkbox"/> Commercial    3. <input type="checkbox"/> Industrial    4. <input type="checkbox"/> Reconstruction    5. <input type="checkbox"/> Transportation 6. <input type="checkbox"/> Utility    Description: _____    7. <input type="checkbox"/> Other (Please List): _____				

#### V. BILLING INFORMATION

SEND BILL TO: <input type="checkbox"/> OWNER (as in II. above)	Name	Contact Person	
<input type="checkbox"/> DEVELOPER (as in III. above)	Mailing Address	Phone/Fax	
<input type="checkbox"/> OTHER (enter information at right)	City	State	Zip

**VI. REGULATORY STATUS**

A. Has a local agency approved a required erosion/sediment control plan?.....  YES  NO  
Does the erosion/sediment control plan address construction activities such as infrastructure and structures?.....  YES  NO  
Name of local agency: \_\_\_\_\_ Phone: \_\_\_\_\_

B. Is this project or any part thereof, subject to conditions imposed under a CWA Section 404 permit of 401 Water Quality Certification?.....  YES  No  
If yes, provide details: \_\_\_\_\_

**VII. RECEIVING WATER INFORMATION**

A. Does the storm water runoff from the construction site discharge to (Check all that apply):  
1.  Indirectly to waters of the U.S.  
2.  Storm drain system - Enter owner's name: \_\_\_\_\_  
3.  Directly to waters of U.S. (e.g. , river, lake, creek, stream, bay, ocean, etc.)

B. Name of receiving water: (river, lake, creek, stream, bay, ocean): \_\_\_\_\_

**VIII. IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS**

A. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (check one)  
 A SWPPP has been prepared for this facility and is available for review: Date Prepared: \_\_\_\_/\_\_\_\_/\_\_\_\_ Date Amended: \_\_\_\_/\_\_\_\_/\_\_\_\_  
 A SWPPP will be prepared and ready for review by (enter date): \_\_\_\_/\_\_\_\_/\_\_\_\_  
 A tentative schedule has been included in the SWPPP for activities such as grading, street construction, home construction, etc.

B. MONITORING PROGRAM  
 A monitoring and maintenance schedule has been developed that includes inspection of the construction BMPs before anticipated storm events and after actual storm events and is available for review.  
If checked above: A qualified person has been assigned responsibility for pre-storm and post-storm BMP inspections to identify effectiveness and necessary repairs or design changes.....  YES  NO  
Name: \_\_\_\_\_ Phone: \_\_\_\_\_

C. PERMIT COMPLIANCE RESPONSIBILITY  
A qualified person has been assigned responsibility to ensure full compliance with the Permit, and to implement all elements of the Storm Water Pollution Prevention Plan including:  
1. Preparing an annual compliance evaluation.....  YES  NO  
Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
2. Eliminating all unauthorized discharges.....  YES  NO

**IX. VICINITY MAP AND FEE (must show site location in relation to nearest named streets, intersections, etc.)**

Have you included a vicinity map with this submittal? .....  YES  NO  
Have you included payment of the annual fee with this submittal?.....  YES  NO

**X. CERTIFICATIONS**

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. In addition, I certify that I have read the entire General Permit, including all attachments, and agree to comply with and be bound by all of the provisions, requirements, and prohibitions of the permit, including the development and implementation of a Storm Water Pollution Prevention Plan and a Monitoring Program Plan will be complied with."

Printed Name: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Title: \_\_\_\_\_

**ATTACHMENT 6 - PROGRAM FOR  
MAINTENANCE, INSPECTION, AND REPAIR OF  
CONSTRUCTION SITE BMPS**

PRELIMINARY SWPPP  
GENESIS SOLAR ENERGY PROJECT

<i>The contractor shall use the following guidelines for maintenance, inspection, and repair of BMPs identified in the SWPPP</i>		
<b>BEST MANAGEMENT PRACTICES (BMPs)</b>	<b>INSPECTION FREQUENCY (all controls)</b>	<b>MAINTENANCE/REPAIR PROGRAM</b>
<b>TEMPORARY EROSION CONTROL BMPs</b>		
<b>EC-1 – Scheduling</b>		<ul style="list-style-type: none"> <li>■ Verify that work is progressing in accordance with the construction schedule.</li> <li>■ Amend the schedule when changes are warranted</li> <li>■ Amend the schedule prior to the rainy season to show updated information on the deployment and implementation of construction BMPs.</li> </ul>
<b>EC-3 – Hydraulic Mulch</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.	<ul style="list-style-type: none"> <li>■ Areas where erosion is evident shall be repaired and BMPs re-applied as soon as possible. Care should be exercised to minimize damage to protected areas while making repairs, as any area damaged will require re-application of BMPs.</li> <li>■ Maintain an unbroken, temporary mulched ground cover throughout the period of construction when the soils are not being reworked.</li> </ul>
<b>EC-6 – Straw Mulch</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.	<ul style="list-style-type: none"> <li>■ Areas where erosion is evident shall be repaired and BMPs re-applied as soon as possible. Care should be exercised to minimize damage to protected areas while making repairs, as any area damaged will require re-application of BMPs.</li> <li>■ Straw needs to last long enough to achieve erosion control objectives.</li> <li>■ Maintain an unbroken, temporary mulched ground while disturbed soil areas are inactive.</li> <li>■ Repair any damaged ground cover and re-mulch exposed areas.</li> <li>■ Reapplication of straw mulch may be required to maintain effective soil stabilization over disturbed areas and slopes.</li> </ul>

PRELIMINARY SWPPP  
GENESIS SOLAR ENERGY PROJECT

<i>The contractor shall use the following guidelines for maintenance, inspection, and repair of BMPs identified in the SWPPP</i>		
<b>BEST MANAGEMENT PRACTICES (BMPs)</b>	<b>INSPECTION FREQUENCY (all controls)</b>	<b>MAINTENANCE/REPAIR PROGRAM</b>
<b>EC-7 – Geotextiles and Mats</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.	<ul style="list-style-type: none"> <li>■ Areas where erosion is evident shall be repaired and BMPs reapplied as soon as possible. Care should be exercised to minimize damage to protected areas while making repairs, as any area damaged will require re-application of BMPs.</li> <li>■ If washout or breakage occurs, re-install the material after repairing the damage to the slope or channel.</li> <li>■ Check that all lap joints are secure.</li> </ul>
<b>EC-9 – Earth Dikes and Drainage Swales</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.	<ul style="list-style-type: none"> <li>■ Inspect ditches and berms for washouts.</li> <li>■ Replace lost riprap or soil stabilizers as needed.</li> <li>■ Inspect embankments, and beds of ditches and berms for erosion and accumulation of debris and sediment. Remove debris and sediment and repair linings and embankments as needed.</li> <li>■ Temporary conveyances should be completely removed as soon as the surrounding drainage area has been stabilized or at the completion of construction.</li> </ul>
<b>EC-11 – Slope Drains</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.	<ul style="list-style-type: none"> <li>■ Repair damage from outlet erosion and downstream scour.</li> <li>■ Remove debris from inlet and repair undercutting at inlet if required.</li> <li>■ Repair leaks in pipes.</li> <li>■ Remove built up of sediment from inlet and outlet.</li> <li>■ Install additional pipe anchors if the pipe has moved.</li> </ul>

PRELIMINARY SWPPP  
GENESIS SOLAR ENERGY PROJECT

<i>The contractor shall use the following guidelines for maintenance, inspection, and repair of BMPs identified in the SWPPP</i>		
BEST MANAGEMENT PRACTICES (BMPs)	INSPECTION FREQUENCY (all controls)	MAINTENANCE/REPAIR PROGRAM
<b>TEMPORARY SEDIMENT CONTROL BMPs</b>		
<b>SE-1 – Silt Fence</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.	<ul style="list-style-type: none"> <li>■ Repair undercut silt fences.</li> <li>■ Repair or replace split, torn, slumping or weathered fabric. The lifespan of the silt fence fabric is generally 5 to 8 months.</li> <li>■ Silt fences that are damaged and become unsuitable for the intended purpose should be removed from the site of work, disposed of, replaced with new silt fence.</li> <li>■ Sediments that accumulate in the BMP must be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height. Sediment removed during maintenance may be incorporated.</li> <li>■ Silt fences should be left in place until the upstream area is permanently stabilized. Until then, the silt fence must be inspected and maintained.</li> <li>■ Holes, depressions, or other ground disturbance caused by the removal of the silt fences should be backfilled and repaired.</li> </ul>
<b>SE-2 – Sediment Basin</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.	<ul style="list-style-type: none"> <li>■ Examine basin banks for seepage and structural soundness.</li> <li>■ Check inlet for any damage or obstructions. Repair damage and remove obstructions as needed.</li> <li>■ Check inlet areas for erosion and stabilize if required.</li> <li>■ Check fencing for damage and repair as needed.</li> <li>■ Remove standing water from the basin within 72 hours after accumulation.</li> <li>■ Sediment should be removed when the sediment accumulation reaches one-half of the volume. Sediment removed during maintenance may be incorporated.</li> <li>■ To minimize vector production, the accumulation of live and dead floating vegetation in basins should be removed during every inspection.</li> </ul>

PRELIMINARY SWPPP  
GENESIS SOLAR ENERGY PROJECT

<i>The contractor shall use the following guidelines for maintenance, inspection, and repair of BMPs identified in the SWPPP</i>		
<b>BEST MANAGEMENT PRACTICES (BMPs)</b>	<b>INSPECTION FREQUENCY (all controls)</b>	<b>MAINTENANCE/REPAIR PROGRAM</b>
<b>SE-3 – Sediment Trap</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.	<ul style="list-style-type: none"> <li>■ Inspect outlet area for erosion and stabilize if required.</li> <li>■ Inspect trap banks for seepage and structural soundness, repair as needed.</li> <li>■ Inspect outlet area structure and spillway for any damage or obstructions. Repair damage and remove obstructions as needed.</li> <li>■ Inspect fencing for damage and repair as needed.</li> <li>■ Inspect the sediment trap for area of standing water during each visit. Corrective measures should be taken if the BMP does not dewater completely in 72 hours or less to prevent vector production.</li> <li>■ Sediments that accumulate in the BMP must be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height. Sediment removed during maintenance may be incorporated.</li> <li>■ Remove vegetation from the sediment trap when first detected to prevent pools of standing water and subsequent vector production.</li> <li>■ BMPs that require dewatering shall be continuously attended while dewatering takes place.</li> </ul>
<b>SE-4 – Check Dams</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.	<ul style="list-style-type: none"> <li>■ Replace missing rock, bags, bales etc. Replace bags or bales that have degraded or become damaged.</li> <li>■ Sediments that accumulate in the BMP must be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height. Sediment removed during maintenance may be incorporated. If BMP is used as a grade control structure only, then sediment removal is not required as long as the system continues to control the grade.</li> </ul>

PRELIMINARY SWPPP  
GENESIS SOLAR ENERGY PROJECT

<i>The contractor shall use the following guidelines for maintenance, inspection, and repair of BMPs identified in the SWPPP</i>		
<b>BEST MANAGEMENT PRACTICES (BMPs)</b>	<b>INSPECTION FREQUENCY (all controls)</b>	<b>MAINTENANCE/REPAIR PROGRAM</b>
<b>SE-5 – Fiber Rolls</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.	<ul style="list-style-type: none"> <li>■ Replace or repair split, torn, unraveling or slumping fiber rolls.</li> <li>■ Sediments that accumulate in the BMP must be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height. Sediment removed during maintenance may be incorporated.</li> </ul>
<b>SE-7 – Street Sweeping and Vacuuming</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season. When actively in use, points of ingress and egress must be inspected daily	<ul style="list-style-type: none"> <li>■ When tracked or spilled sediment is observed outside the construction limits, it must be removed at least daily.</li> <li>■ Be careful not to sweep up any unknown substance or any object that may be potentially hazardous.</li> </ul>
<b>SE-8 Sand Bag Barriers</b>	Prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.	<ul style="list-style-type: none"> <li>■ Reshape or replace sand bags as needed.</li> <li>■ Repair washouts or other damage as needed.</li> <li>■ Sediments that accumulate in the BMP must be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height. Sediment removed during maintenance may be incorporated.</li> <li>■ Remove sand bag berms when no longer needed. Remove sediment accumulation and clean-re-grade and stabilize area. Remove sediment should be incorporated in the project or disposed of.</li> </ul>
<b>WIND EROSION CONTROL BMPs</b>		
<b>WE-1 – Wind Erosion Control</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Check areas protected to ensure coverage.</li> <li>■ Most dust control measures require frequent, often daily, or multiple times per day attention.</li> </ul>
<b>TRACKING CONTROL BMPs</b>		

PRELIMINARY SWPPP  
GENESIS SOLAR ENERGY PROJECT

<i>The contractor shall use the following guidelines for maintenance, inspection, and repair of BMPs identified in the SWPPP</i>		
<b>BEST MANAGEMENT PRACTICES (BMPs)</b>	<b>INSPECTION FREQUENCY (all controls)</b>	<b>MAINTENANCE/REPAIR PROGRAM</b>
<b>TC-3 – Entrance/Outlet Tire Wash</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Remove accumulated sediment from wash rack and / or sediment trap to maintain system performance.</li> <li>■ Inspect routinely for damage and repair as needed.</li> </ul>
<b>NON-STORM WATER MANAGEMENT BMPs</b>		
<b>NS-2 – Dewatering Operations</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way	<ul style="list-style-type: none"> <li>■ Maintain surrounding features such as safety fencing and vegetation</li> </ul>
<b>NS-3 – Paving and Grinding Operations</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Keep ample supplies of drip pans or absorbent materials onsite.</li> <li>■ Inspect and maintain machinery to minimize leaks and drips.</li> </ul>
<b>NS-8 - Vehicle and Equipment Cleaning</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way	<ul style="list-style-type: none"> <li>■ Ensure that employees and subcontractors implement appropriate measures for containment</li> <li>■ Maintain berm integrity</li> </ul>
<b>NS-9 - Vehicle and Equipment Fueling</b>	Equipment should be inspected daily for leaks.	<ul style="list-style-type: none"> <li>■ Leaks should be repaired immediately or problem vehicles or equipment should be removed from the Site.</li> <li>■ Keep ample supplies of spill cleanup materials onsite.</li> <li>■ Immediately cleanup spills and properly dispose of contaminated soil and cleanup materials.</li> </ul>
<b>NS-10 - Vehicle and Equipment Maintenance</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Keep ample supplies of spill cleanup materials onsite.</li> <li>■ Maintain waste fluid containers in leak proof condition.</li> <li>■ Vehicles and equipment should be inspected on each day of use. Leaks should be repaired immediately or the problem vehicles or equipment should be removed from the Site.</li> <li>■ Inspect equipment for damaged hoses and leaky gaskets routinely. Repair or replace as needed.</li> </ul>

PRELIMINARY SWPPP  
GENESIS SOLAR ENERGY PROJECT

<i>The contractor shall use the following guidelines for maintenance, inspection, and repair of BMPs identified in the SWPPP</i>		
<b>BEST MANAGEMENT PRACTICES (BMPs)</b>	<b>INSPECTION FREQUENCY (all controls)</b>	<b>MAINTENANCE/REPAIR PROGRAM</b>
<b>NS-12 – Concrete Curing</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Ensure that employees and subcontractors implement appropriate measures for storage, handling, and use of curing compounds.</li> <li>■ Inspect cure containers and spraying equipment for leaks.</li> </ul>
<b>NS-13 – Concrete Finishing</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Sweep or vacuum up debris from sandblasting at the end of the shift.</li> <li>■ At the end of each work shift, remove and contain liquid and solid waste from containment structures, if any, and from the general work area.</li> </ul>
<b>WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL BMPs</b>		
<b>WM-1 – Material Delivery and Storage</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Spot check employees and subcontractors throughout the job to ensure appropriate practices are being employed.</li> </ul>
<b>WM-3- Stockpile Management</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Repair and/or replace perimeter controls and covers as needed to keep them functioning properly.</li> </ul>
<b>WM-4- Spill Prevention and Control</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Keep ample supplies of spill control and cleanup materials onsite, near storage, unloading and maintenance areas.</li> <li>■ Update your spill prevention and control plan and stock materials as changes occur in the types of chemicals onsite.</li> </ul>
<b>WM-5- Solid Waste Management</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Arrange for regular waste collection.</li> </ul>

PRELIMINARY SWPPP  
GENESIS SOLAR ENERGY PROJECT

<i>The contractor shall use the following guidelines for maintenance, inspection, and repair of BMPs identified in the SWPPP</i>		
<b>BEST MANAGEMENT PRACTICES (BMPs)</b>	<b>INSPECTION FREQUENCY (all controls)</b>	<b>MAINTENANCE/REPAIR PROGRAM</b>
<b>WM-6- Hazardous Waste Management</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Hazardous waste should be regularly collected.</li> <li>■ A foreman or construction supervisor should monitor onsite hazardous waste storage and disposal procedures.</li> <li>■ Waste storage areas should be kept clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored.</li> <li>■ Perimeter controls, containment structures, covers and liners should be repaired or replaced as needed to maintain proper function.</li> <li>■ Hazardous spills should be cleaned up and reported in conformance with applicable MSDS and the instructions posted at the Site.</li> <li>■ A copy of the hazardous waste manifest should be provided.</li> </ul>
<b>WM-8- Concrete Waste Management</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Temporary concrete washout facilities should be maintained to provide adequate holding capacity within a minimum freeboard of 4 in. from above grade facilities and 12 in. for below grade facilities. Maintain temporary concrete washout facilities should include removing and disposing of hardened concrete and returning the facilities to a functional condition. Hardened concrete materials should be removed and disposed of.</li> <li>■ Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.</li> </ul>
<b>WM-9- Sanitary/ Septic Waste Management</b>	Prior to the commencement of the activities and while activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season.	<ul style="list-style-type: none"> <li>■ Arrange for regular waste collection.</li> <li>■ If high winds are expected, portable sanitary facilities must be secured with spikes or weighed down to prevent over turning.</li> </ul>

**ATTACHMENT 7 - STORM WATER QUALITY  
CONSTRUCTION SITE INSPECTION  
CHECKLIST**

## INSPECTION CHECKLIST

### GENERAL INFORMATION

Project Name	<b>Genesis Solar Energy Project</b>		
Project No			
Contractor			
Inspector's Name			
Inspector's Title			
Signature			
Date of Inspection			
Inspection Type (Check Applicable)	<input type="checkbox"/> Prior to forecast rain		<input type="checkbox"/> After a rain event
	<input type="checkbox"/> 24-hr intervals during extended rain		<input type="checkbox"/> Other _____
Season (Check Applicable)	<input type="checkbox"/> Rainy		<input type="checkbox"/> Non-Rainy
Storm Data	Storm Start Date & Time:		Storm Duration (hrs):
	Time elapsed since last storm (Circle Applicable Units)	Min. Hr. Days	Approximate Rainfall Amount (inches)

### PROJECT AREA SUMMARY AND DISTURBED SOIL AREA (DSA) SIZE

Total Project Area \_\_\_\_\_ Acres

Field Estimate of Active DSAs \_\_\_\_\_ Acres

Field Estimate of Non-Active DSAs \_\_\_\_\_ Acres

### INSPECTION OF BMPs

BMP / REQUIREMENT	Yes	No	N/A	Corrective Action
<b>Preservation of Existing Vegetation</b>				
Is temporary fencing provided to preserve vegetation in areas where no construction activity is planned?				
Location:				
<b>Erosion Control</b>				
Does the applied temporary erosion control provide 100% coverage for the affected areas?				
Are any non-vegetated areas that may require temporary erosion control?				
Is the area where erosion controls are used required free from visible erosion?				
Location:				
<b>Temporary Linear Sediment Barriers (Silt Fence, Fiber Rolls, Sandbag Barriers, etc.)</b>				
Are temporary linear sediment barriers properly installed, functional and maintained?				
Are temporary linear sediment barriers free of accumulated litter?				
Is the built-up sediment less than 1/3 the height of the barrier?				
Are cross barriers installed where necessary and properly spaced?				
Location:				
<b>Desilting Basins</b>				
Are basins maintained to provide required retention/detention?				
Are basin controls (inlets, outlets, diversions, weirs, spillways and racks) in working order?				
Location:				
Location:				
Location:				
<b>Stockpiles</b>				
Are all locations of temporary stockpiles, including soil, hazardous waste, and construction materials in approved areas?				

**INSPECTION OF BMPs**

BMP / REQUIREMENT	Yes	No	N/A	Corrective Action
Are stockpiles protected from run-on, run-off from adjacent areas and from winds?				
Are stockpiles located at least 50 ft from concentrated flows, downstream drainage courses and storm drain inlets?				
Are required covers and/or perimeter controls in place?				
Location:				
Location:				
Location:				
<b>Tracking Control</b>				
Are points of ingress/egress to public/private roads inspected, swept, and vacuumed daily?				
Are all paved areas free of visible sediment tracking or other particulate matter?				
Is rock at Temporary Construction Entrance(s) 12-inches or more in thickness?				
Does sediment need to be removed from the rock, or does the rock need to be replaced?				
For Type 2 Construction Entrance, does sediment need to be removed from ribbed plates?				
Location:				
Location:				
Location:				
<b>Wind Erosion Control</b>				
Is dust control implemented?				
Location:				
Location:				
Location:				
<b>Vehicle &amp; Equipment Fueling, Cleaning, and Maintenance</b>				
Are vehicle and equipment fueling, cleaning and maintenance areas reasonably clean and free of spills, leaks, or any other deleterious material?				
Are vehicle and equipment fueling, cleaning and maintenance activities performed on an impermeable surface in dedicated areas?				
If no, are drip pans used?				
Are dedicated fueling, cleaning, and maintenance areas located at least 15 m away from downstream drainage facilities and watercourses, and protected from run-on and runoff?				
Is wash water contained for infiltration/ evaporation and disposed of outside the highway right of way?				
Is on-site cleaning limited to washing with water (no soap, soaps substitutes, solvents, or steam)?				
On each day of use, are vehicles and equipment inspected for leaks and if necessary, repaired?				
Location:				
Location:				

### INSPECTION OF BMPs

BMP / REQUIREMENT	Yes	No	N/A	Corrective Action
Location:				
<b>Waste Management &amp; Materials Pollution Control</b>				
Are material storage areas and washout areas protected from run-on and runoff, and located at least 50 ft from concentrated flows and downstream drainage facilities?				
Are all material handling and storage areas clean; organized; free of spills, leaks, or any other deleterious material; and stocked with appropriate clean-up supplies?				
Are liquid materials, hazardous materials, and hazardous wastes stored in temporary containment facilities?				
Are bagged and boxed materials stored on pallets?				
Are hazardous materials and wastes stored in appropriate, labeled containers?				
Are proper storage, clean-up, and spill-reporting procedures for hazardous materials and wastes posted in open, conspicuous and accessible locations adjacent to storage areas?				
Are temporary containment facilities free of spills and rainwater?				
Are temporary containment facilities and bagged/boxed materials covered?				
Are temporary concrete washout facilities designated and being used?				
Are temporary concrete washout facilities functional for receiving and containing concrete waste and are concrete residues prevented from entering the drainage system?				
Do temporary concrete washout facilities provide sufficient volume and freeboard for planned concrete operations?				
Are the temporary concrete washout facilities' PVC liners free from punctures and holes?				
Are concrete wastes, including residues from cutting and grinding, contained and disposed of off-site or in concrete washout facilities?				
Are spills from mobile equipment fueling and maintenance properly contained and cleaned up?				
Is the site free of litter?				
Are trash receptacles provided in the Contractor's yard, field trailer areas, and at locations where workers congregate for lunch and break periods?				
Is litter from work areas within the construction limits of the project site collected and placed in watertight dumpsters?				
Are waste management receptacles free of leaks?				
Are the contents of waste management receptacles properly protected from contact with storm water or from being dislodged by winds?				
Are waste management receptacles filled at or beyond capacity?				
Location:				
Location:				
Location:				
<b>Illicit Connection/Illegal Discharge Detection and Reporting</b>				
Is there any evidence of illicit discharges or illegal dumping on the project site?				

**INSPECTION OF BMPs**

BMP / REQUIREMENT	Yes	No	N/A	Corrective Action
If yes, has the Engineer been notified?				
Location:				
Location:				
Location:				
<b>Discharge Points</b>				
Are discharge points and discharge flows free from noticeable pollutants?				
Are discharge points free of any significant erosion or sediment transport?				
Location:				
Location:				
Location:				
<b>WPCP/SWPPP Update</b>				
Do the WPCP/SWPPP, Project Schedule/Water Pollution Control Schedule and WPCDs adequately reflect the current site conditions and contractor operations?				
Are all BMPs shown on the WPCDs installed in the proper location(s) and according to the details for the plan?				
Location:				
Location:				
Location:				
<b>General</b>				
Are there any other potential water pollution control concerns at the site?				
Location:				
Location:				
Location:				
<b>Storm Water Monitoring</b>				
Were there any BMPs not properly implemented, or breaches, malfunctions, leakages or spills observed, which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water?				
Did storm water contact stored materials or waste and resulted in a discharge from the construction site? (Materials not in watertight containers, etc.)				
If yes, were samples for non-visually detectable pollutants collected pursuant to the sampling and analysis plan during rain events?				

**ATTACHMENT 8 - TRAINED CONTRACTOR  
PERSONNEL LOG**

### STORM WATER MANAGEMENT TRAINING LOG

Project Name: Genesis Solar Energy Project

Project Number/Location: \_\_\_\_\_

Storm Water Management Topic: (check as appropriate)

- Erosion Control
- Sediment Control
- Wind Erosion Control
- Tracking Control
- Non-storm water management
- Waste Management and Materials Pollution Control
- Storm Water Sampling

Specific Training Objective: \_\_\_\_\_

Location: \_\_\_\_\_ Date: \_\_\_\_\_

Instructor: \_\_\_\_\_ Telephone: \_\_\_\_\_

Course Length (hours): \_\_\_\_\_

#### Attendee Roster (attach additional forms if necessary)

Name	Company	Phone

COMMENTS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ATTACHMENT 9 - SUBCONTRACTOR  
NOTIFICATION LETTER AND  
NOTIFICATION LOG**

**SWPPP NOTIFICATION**

Company  
Address  
City, State, ZIP

Date

Dear Sir/Madam,

Please be advised that the California State Water Resources Control Board has adopted the General Permit (General Permit) for Storm Water Discharges Associated with Construction Activity (CAS000002). The goal of these permits is prevent the discharge of pollutants associated with construction activity from entering the storm drain system, ground and surface waters.

Genesis Solar, LLC has developed a Storm Water Pollution Prevention Plan (SWPPP) in order to implement the requirements of the Permits.

As a subcontractor, you are required to comply with the SWPPP and the Permits for any work that you perform on site. Any person or group who violates any condition of the Permits may be subject to substantial penalties in accordance with state and federal law. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP and the Permits. A copy of the Permits and the SWPPP are available for your review at the construction office. Please contact me if you have further questions.

Sincerely,

Name  
Title



**ATTACHMENT 10 - NOTICE OF NON  
COMPLIANCE**



**Implementation and maintenance schedule for any affected BMPs**

Insert implementation and maintenance schedule

If further information or a modification to the above schedule is required, notify the contact person below.

\_\_\_\_\_  
Name of Contact Person

\_\_\_\_\_  
Title

\_\_\_\_\_  
Company

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**ATTACHMENT 11 - ANNUAL CERTIFICATION OF  
COMPLIANCE FORM**

**ANNUAL CERTIFICATION OF COMPLIANCE FORM**

**Project Name:** Genesis Solar Energy Project

**Project Number:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Construction Start Date:** \_\_\_\_\_ **Completion Date:** \_\_\_\_\_

This project is in compliance with the General Permit and this SWPPP (check yes or no)  **YES**  **NO**

**Description of Work:**

description of work
---------------------

**Work Now in Progress:**

work in progress
------------------

**Work Planned for Next 12 Months:**

work planned
--------------

"I certify under penalty of law that, during the past 12 months, the construction activities are in compliance with the requirements of the General Permit and this SWPPP. This Certification is based upon the site inspections required in Section B, Item 3 of the General Permit. This document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

\_\_\_\_\_  
Owner (or Authorized Representative) Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name and Title

\_\_\_\_\_  
Telephone Number

## **ATTACHMENT 12 - OTHER PLANS AND PERMITS**

PRELIMINARY SWPPP  
GENESIS SOLAR ENERGY PROJECT

*ATTACHMENT 12 TO CONTAIN THE STATE WATER RESOURCES CONTROL  
BOARD GENERAL PERMIT DOCUMENT – WILL BE PROVIDED IN FINAL SWPPP*

**ATTACHMENT 13 - BMPS SELECTED FOR THE  
PROJECT**

*ATTACHMENT 13 TO CONTAIN THE CALIFORNIA STORMWATER BEST  
MANAGEMENT PRACTICE HANDBOOK (CONSTRUCTION) FACT SHEETS FOR  
THE FOLLOWING BMP'S*

*EROSION CONTROL (EC): 1, 2, 3, 6, 7, 9 and 11*

*SEDIMENT CONTROL (SC): 1, 2, 3, 4, 5, 7 and 8*

*WIND EROSION (WE): 1*

*TRACKING CONTROL (TR): 1, 2 and 3*

*NON STORMWATER DISCHARGES (NS): 1, 2, 3, 6, 8, 9, 10, 12 and 13*

*WASTE MANAGEMENT (WM): 1, 2, 3, 4, 5, 6, 8, 9 and 10*

## **ATTACHMENT 14 - SAMPLING ACTIVITY LOG**



## **ATTACHMENT 15 - DISCHARGE REPORTING LOG**



**ATTACHMENT 16 – CHANGE OF OWNERSHIP  
FORM**

**NEW OWNER INFORMATION AND  
CHANGE OF INFORMATION (COI) FORM FOR THE  
GENERAL CONSTRUCTION PERMIT NO. CAS000002**

Owners Name: \_\_\_\_\_  
 WDID No.: \_\_\_\_\_  
 Prepared By: \_\_\_\_\_

Date: \_\_\_\_\_  
 Date of Last NOI Change: \_\_\_\_\_  
 Signature of Preparer: \_\_\_\_\_

	Area Transferred (acres) <sup>1</sup>  column 1	Area Remaining (acres) <sup>2</sup>  column 2	Lot/Tract Numbers Transferred	Contact Person and Company Name of NewOwner(s)	Address(es) of the New Owner(s)	Phone # of New Owner	Is Const/Post Construction Complete? Yes/No	Date of Ownership Transfer
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

<sup>1</sup>Use approximate area (in acres) if no exact figure is available.

<sup>2</sup>Calculate running total in this column as follows:

- Enter in column 2, line 1, the area from NOI minus the area in column 1.
- Enter in column 2, line 2, the area in column 2, line 1, minus the area in line 2, column 1.
- Enter in column 2, line 3, the area in column 2, line 2, minus the area in line 3, column 1, and so forth.

**ATTACHMENT 17 – NOTICE OF TERMINATION  
FORM**

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**Linda S. Adams**  
*Secretary for  
Environmental Protection*

# State Water Resources Control Board

## Division of Water Quality

1001 I Street • Sacramento, California 95814 • (916) 341-5537  
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977  
FAX (916) 341-5543 • Internet Address: <http://www.waterboards.ca.gov/stormwtr/index.html>



**Arnold Schwarzenegger**  
*Governor*

To: Storm Water Permit Holder

**RE: NOTICE OF TERMINATION OF COVERAGE UNDER THE GENERAL  
CONSTRUCTION STORM WATER PERMIT (GENERAL PERMIT)**

In order for us to terminate your coverage under the General Permit, please complete and submit the enclosed Notice of Termination (NOT) your local Regional Water Quality Control Board (RWQCB). Refer to the last page of the NOT packet for RWQCB locations.

Submittal of a NOT does not guarantee termination and outstanding invoices are still valid. If your NOT is denied, you will be required to continue complying with the requirements of the General Permit and all outstanding invoice(s) are due. You will be notified of your NOT status by the RWQCB or State Water Resources Control Board. Approval of your Notice of Termination does not relieve you from paying any applicable outstanding invoices.

Should you have any questions regarding this matter, please contact your local RWQCB at the number listed on the back page of the NOT package, or the Storm Water Unit at (916) 341-5537.

Sincerely,

Storm Water Unit  
Division of Water Quality

Enclosure

SEND TO YOUR LOCAL RWQCB FOR APPROVAL

State of California  
State Water Resources Control Board

**NOTICE OF TERMINATION**

OF COVERAGE UNDER THE NPDES GENERAL PERMIT NO. CAS000002  
FOR DISCHARGES OF STORM WATER  
ASSOCIATED WITH CONSTRUCTION ACTIVITY

Submission of this Notice of Termination constitutes notice that the owner (and his/her agent) of the site identified on this form is no longer authorized to discharge storm water associated with construction activity by NPDES General Permit No. CAS000002.

**I. WDID NO.**

**II. OWNER**

COMPANY NAME \_\_\_\_\_ CONTACT PERSON \_\_\_\_\_  
STREET ADDRESS \_\_\_\_\_ TITLE \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_ PHONE \_\_\_\_\_

**III. CONSTRUCTION SITE INFORMATION**

A. DEVELOPER NAME \_\_\_\_\_ CONTACT PERSON \_\_\_\_\_  
STREET ADDRESS \_\_\_\_\_ TITLE \_\_\_\_\_  
CITY \_\_\_\_\_ CA \_\_\_\_\_ ZIP \_\_\_\_\_ PHONE \_\_\_\_\_

B. SITE ADDRESS \_\_\_\_\_ COUNTY \_\_\_\_\_  
CITY \_\_\_\_\_ CA \_\_\_\_\_ ZIP \_\_\_\_\_ PHONE \_\_\_\_\_

**IV. BASIS OF TERMINATION**

\_\_\_\_\_ 1. The construction project is complete and the following conditions have been met.

- All elements of the Storm Water Pollution Prevention Plan have been completed.
- Construction materials and waste have been disposed of properly.
- The site is in compliance with all local storm water management requirements.
- A post-construction storm water operation and management plan is in place.

Date of project completion \_\_\_\_/\_\_\_\_/\_\_\_\_

\_\_\_\_\_ 2. Construction activities have been suspended, either temporarily \_\_\_\_\_ or indefinitely \_\_\_\_\_ and the following conditions have been met.

- All elements of the Storm Water Pollution Prevention Plan have been completed.
- Construction materials and waste have been disposed of properly.
- All denuded areas and other areas of potential erosion are stabilized.
- An operation and maintenance plan for erosion and sediment control is in place.
- The site is in compliance with all local storm water management requirements.

**SEND TO YOUR LOCAL RWQCB FOR APPROVAL**

Date of suspension \_\_\_\_/\_\_\_\_/\_\_\_\_ Expected start up date \_\_\_\_/\_\_\_\_/\_\_\_\_

\_\_\_\_ 3. Site can not discharge storm water to waters of the United States (check one).

\_\_\_\_ All storm water is retained on site.

\_\_\_\_ All storm water is discharged to evaporation or percolation ponds offsite.

\_\_\_\_ 4. Discharge of storm water from the site is now subject to another NPDES general permit or an individual NPDES permit.

NPDES Permit No. \_\_\_\_\_ Date coverage began \_\_\_\_/\_\_\_\_/\_\_\_\_

\_\_\_\_ 5. There is a new owner of the identified site. Date of owner transfer \_\_\_\_/\_\_\_\_/\_\_\_\_

Was the new owner notified of the General Permit requirements? YES \_\_\_\_ NO \_\_\_\_

**NEW OWNER INFORMATION**

COMPANY NAME \_\_\_\_\_ CONTACT PERSON \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_ TITLE \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_ PHONE \_\_\_\_\_

**V. EXPLANATION OF BASIS OF TERMINATION (Attach site photographs - see instructions).**

**VI. CERTIFICATION:**

I certify under penalty of law that all storm water discharges associated with construction activity from the identified site that are authorized by NPDES General Permit No. CAS000002 have been eliminated or that I am no longer the owner of the site. I understand that by submitting this Notice of Termination, I am no longer authorized to discharge storm water associated with construction activity under the general permit, and that discharging pollutants in storm water associated with construction activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this Notice of Termination does not release an owner from liability for any violations of the general permit or the Clean Water Act.

PRINTED NAME \_\_\_\_\_ TITLE \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE \_\_\_\_/\_\_\_\_/\_\_\_\_

**REGIONAL WATER BOARD USE ONLY**

This Notice of Termination has been reviewed, and I recommend termination of coverage under the subject NPDES general permit.

Printed Name \_\_\_\_\_ Region No. \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_

NOT effective date:  
Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**INSTRUCTIONS FOR COMPLETING  
NOTICE OF TERMINATION  
FOR CONSTRUCTION ACTIVITY**

Who May File

Dischargers who are presently covered under NPDES General Permit No. CAS000002 for discharge of storm water associated with construction activity may submit a Notice of Termination when they meet one of the following criteria.

1. The construction project has been completed and the following conditions have been met: all elements of the Stormwater Pollution Prevention Plan have been completed; construction materials and equipment maintenance waste have been disposed of properly; the site is in compliance with all local storm water management requirements including erosion/sediment control requirements and the appropriate use permits have been obtained; and a post-construction storm water operation and management plan is in place.
2. Construction activities have been suspended, either temporarily or indefinitely and the following conditions have been: all elements of the Stormwater Pollution Prevention Plan have been completed; construction materials and equipment maintenance waste have been disposed of properly; all denuded areas and other areas of potential erosion are stabilized; an operation and maintenance plan for erosion and sediment control is in place; and the site is in compliance with all local storm water management requirements including erosion/sediment control requirements.  
The date construction activities were suspended, and the expected date construction activities will start up again should be provided.
3. Construction site can not discharge storm water to waters of the United States. Please indicate if all storm water is retained on site or if storm water is collected offsite.
4. Discharge of construction storm water from the site is now subject to another NPDES general permit or an individual NPDES permit. The general permit or individual permit NPDES number and date coverage began should be provided.
5. There is a new owner of the identified site. If ownership or operation of the facility has been transferred then the previous owner must submit a Notice of Termination and the new owner must submit a Notice of Intent for coverage under the general permit. The date of transfer and information on the new owner should be provided. Note that the previous owner may be liable for discharge from the site until the new owner files a Notice of Intent for coverage under the general permit.

Where to File

Submit the Notice of Termination to the Executive Officer of the Regional Water Quality Control Board responsible for the area in which the facility is located. See attached. Submittal of a NOT does not guarantee termination and outstanding invoices are still valid. If the Executive Officer, or his designated staff, agrees with the basis of termination, the Notice of Termination will be transmitted to the State Water Board for processing at which time it will be determined if any outstanding invoices are still valid. Approval of your Notice of Termination does not relieve you from paying any applicable outstanding invoices. If the Executive Officer, or his designated staff, does not agree with the basis of termination, the Notice of Termination will be returned. The Regional Water Board may also inspect your site prior to accepting the basis of termination.

## **LINE-BY-LINE INSTRUCTIONS**

All necessary information must be provided on the form. Type or print in the appropriate areas only. Submit additional information, if necessary, on a separate sheet of paper.

### **SECTION I--WDID NO.**

The WDID No. is a number assigned to each discharger covered under the General Permit. If you do not know your WDID No., please call the State Water Board or Regional Water Board and request it prior to submittal of the Notice of Termination.

### **SECTION II--OWNER**

Enter the owner of the construction site's official or legal name (This should correspond with the name on the Notice of Intent submitted for the site), address of the owner, contact person, and contact person's title and telephone number.

### **SECTION III--CONSTRUCTION SITE INFORMATION**

In Part A, enter the name of the developer (or general contractor), address, contact person, and contact person's title and telephone number. The contact person should be the construction site manager completely familiar with the construction site and charged with compliance and oversight of the general permit. This information should correspond with information on the Notice of Intent submitted for the site.

In Part B, enter the address, county, and telephone number (if any) of the construction site. Construction sites that do not have a street address must attach a legal description of the site.

### **SECTION IV--BASIS OF TERMINATION**

Check the category which best defines the basis of your termination request. See the discussion of the criteria in the Who May File section of these instructions. Provide dates and other information requested. Use the space under Explanation of Basis of Termination heading.

### **SECTION V--EXPLANATION OF BASIS OF TERMINATION**

Please explain the basis or reasons why you believe your construction site is not required to comply with the General Permit. To support your explanation, provide a site map and photograph of your site.

### **SECTION VI--CERTIFICATION**

This section must be completed by the owner of the site.

The Notice of Termination must be signed by:

For a Corporation: a responsible corporate officer

For a Partnership or Sole Proprietorship: a general partner or the proprietor, respectively.

For a Municipality, State, or other Non-Federal Public Agency: either a principal executive officer or ranking elected official.

For a Federal Agency: either the chief or senior executive officer of the agency.

