URS

January 4, 2008

Dockets Unit
California Energy Commission
1516 Ninth Street, MS 4
Sacramento, CA 95814

RE: CPV Sentinel Energy Project
Application for Certification 07-AFC-3

On behalf of CPV Sentinel, LLC, a limited liability company and the applicant for the above-referenced CPV Sentinel Energy Project, we are pleased to submit the enclosed documents:

- Five printed copies of the CPV Sentinel Energy Project Response to Data Request 36 – Draft DESCP
- One copy of the CPV Sentinel Energy Project Response to Data Request 36 – Draft DESCP on CD

These documents are being submitted to the CEC for docketing.

URS Corporation

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Vice President

Enclosures

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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION
FOR THE *CPV SENTINEL ENERGY PROJECT*
Power Plant Licensing Case

Docket No. 07-AFC-3
PROOF OF SERVICE
(Revised 10/15/07)

INSTRUCTIONS: All parties shall 1) send an **original signed document plus 12 copies** OR 2) **mail** one **original** signed **copy** AND **e-mail** the document to the web address below, AND 3) all parties shall also send a printed **OR** electronic copy of the documents that shall include a proof of **service** declaration to each of the individuals on the proof of **service:**

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DECLARATION OF SERVICE

I, Catherine Short, declare that on January 4, 2008 , I deposited copies of the attached Response to Data Request 36 - DESCP in the United States mail at San Francisco with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

OR

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.

C Short

Signature

Response to Data Request 36 – Draft DESCP

Application for Certification (07-AFC-3)

for

CPV Sentinel Energy Project

Riverside County, California

January 2008

Prepared for:

CPV Sentinel, LLC

Prepared by:

URS

CPV Sentinel Energy Project
Riverside County, CA

Drainage Erosion and Sediment Control Plan (DESCP)

DRAFT

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December 2007

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LIST OF ACRONYMS AND ABBREVIATIONS USED IN RESPONSES

AB	Assembly Bill
ACM	asbestos-containing materials
AFC	Application for Certification
BACT	Best Available Control Technology
BMP	Best Management Practices
Btu/kwh	British thermal units per kilowatt hour
California	ISO California Independent System Operator
CASQA	California Stormwater Quality Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CPUC	California Public Utilities Commission
CPVS	CPV Sentinel Energy Project
CTG	Combustion Turbine Generator
CVWD	Coachella Valley Water District
ºF	degrees Fahrenheit
DESCP	Drainage Erosion and Sediment Control Plan
dscf	dry standard cubic feet
DWA	Desert Water Agency
DWR	California Department of Water Resources
ECP	Erosion Control Plan
EGF	Electrical Generating Facility
E-I	Energy Industrial
ERC	emission reduction credit
ESA	Environmental Site Assessment
ETo	evapotranspiration
g/s	grams per second
GHG	greenhouse gases
gpm	gallons per minute
gr/100	scf grains per hundred standard cubic feet
GWP	global warming potential
ISO	Independent System Operator
kV	kilovolt
kw	kilowatt
lb/hr	pounds per hour
lb/MW-hr	pounds per megawatt-hour
lb/yr	pounds per year
LBP	lead-based paint
LGIA	Large Generator Interconnection Agreement
LHV	lower heating value
MGD	million gallons per day
µg/L	micrograms per cubic liter
MMBtu/hr	million British thermal units per hour
MSWD	Mission Springs Water District
MW	megawatt

MWD	Metropolitan Water District
NA	not applicable
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
OAL	Office of Administrative Law
PCBs	polychlorinated biphenyls
PM_{10}	particulate matter less than 10 microns
PUP	Public Use Permit
RH	relative humidity
RTCs	RECLAIM Trading Credits
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
scf	standard cubic feet
SCGC	Southern California Gas Company
SF	Sulfur hexafluoride
SO_2	sulfur dioxide
SO_X	sulfur oxides
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
ton/hr	ton per hour
UWMP	Urban Water Management Plan
VOC	volatile organic compounds
WWTP	Wastewater Treatment Plant

1.0 Overview

CPV Sentinel is leasing a 37-acre site located east of the Devers substation and within unincorporated Riverside County. Offsite linear facilities include a proposed transmission line connecting to SCE's Devers substation, a proposed natural gas pipeline extending from the Indigo Energy Facility and the existing Southern California Gas Company (SoCalGas) natural gas distribution system, a proposed potable water supply pipeline, and a proposed access road extending from the existing Dillon Road. To allow access of heavy haul vehicles to the site, the Dillon Road and the site access road intersection will also be slightly widened.

This Drainage, Erosion, and Sediment Control Plan (DESCP) is for the construction and operation of a nominally rated 850-megawatt (MW) quick-start peaking electrical generating facility in Riverside County. CPV Sentinel, LLC (CPV Sentinel) will construct, commission, own, and operate the power plant. CPV Sentinel has a power purchase agreement with Southern California Edison (SCE) for five of the eight units and anticipates securing a long-term agreement to sell the capacity, energy, and ancillary services of the remaining three units to one or more load-serving entities. The proposed project site consists of 37 acres of land situated approximately 8 miles northwest of the center of the city of Palm Springs. The site is located 700 feet east of the Devers substation, and 1.8 miles northwest of the Indigo Energy Facility. The site locale is an industrial portion of the unincorporated area of Riverside County, and is primarily dedicated to industrial and energy uses. The general location of the site is shown on Attachment 1a, 1b and 1c. A photograph of the site is presented on Attachment 2.

The facility is referred to as the CPV Sentinel Energy Project (CPVS). The CPVS will consist of eight natural gas-fired General Electric (GE) LMS100 combustion turbine generators operating in simple cycle mode. Output of the generators will be connected via a transmission line to the Devers substation. The CPVS will be interconnected to SCE's California transmission grid, and power generated by the facility will be available to serve energy needs throughout California.

Construction of the power plant would occur over an 18-month period (from December 2008 to May 2010). Operation of the first five turbine units is planned to begin by March 2010, and the final three units are planned to begin operation in May 2010.

2.0 Description of Existing Site

The proposed 37-acre project site will be located in an already disturbed area that is primarily used for energy generation and just east of the Devers substation within unincorporated Riverside County. The 37-acre project site consists of parcels 1, 1A, 2 & 3 that are of moderately sloped rocky desert terrain that includes an older structure and well on parcel 3 shown on Attachment 4.

3.0 Existing Development and Off-site Drainage near/to Project

Offsite flows include flows from the northwest, in the vicinity of Pierson Boulevard and Highway 62. The offsite tributary drainage area consists of natural terrain, with minimal ground cover. The majority of this offsite drainage is currently intercepted by a graded channel along the North end of the existing substation, and then conveyed Easterly, and then Southeasterly to a point at the Northeast corner of the proposed project.

The offsite tributary area consists of 377 acres to the northwest of the project site. The high point of this watershed is located northwest of the intersection of Worsley Road (formerly Twentynine Palms Highway) and Pierson Boulevard. The high point is just east of Highway 62. The majority of the offsite drainage is intercepted by an existing channel at the north end of the existing substation, located to the west of the project site. The drainage is then conveyed easterly within the channel, via an earthen swale, to a watercourse located at the northeast corner of the project site.

The drainage from the existing substation to the west of the project site consists of approximately 42 acres, is discharged from the east side of the existing substation to the northwest corner of the project site, and then conveyed southerly within a proposed along the western side of the project site.

The drainage from the approximately 13-acre triangular area directly to the north of the project site shall be collected in a proposed swale along the north end of the project, and then conveyed easterly.

4.0 Proposed Development and Drainage of Project Site

This section of the plan provides an overall description of the project and its location with respect to all nearby water courses, followed by the delineation of all areas of the site subject to soil disturbance, broken out by the key project elements.

4.1 Overall site drainage

Drainage is generally from northwest to southeast in non-point source conditions. The plant will be located on cut and fill on the northerly portion of the site. Runoff flow coming towards the site from the west will be intercepted by diversion ditches and directed around the site during construction and for post development conditions. For the final developed condition, runoff collected on built up areas of the site will be retained in a retention basin with non-point source discharge of off-site flows maintained equal to or less than predevelopment peak levels as calculated with standard hydrologic methods.

The discharge from all storm water management ponds will outfall onto rip rap aprons, or level spreaders, designed to avoid erosion and reduce the velocity of the flow before reaching existing swales.

From the point of view of managing erosion during construction, the key elements of the site include the power block and switch yard, the temporary offices and construction parking, the laydown area, and off-site linear facilities associated with the project – the plant access road, the electric power transmission line interconnection and natural gas pipeline.

Existing drainage patterns will be modified by construction of the facility. During construction and after final development, runoff will flow to the retention pond, as shown in pre/post-development drainage area plan provided as Attachment 7a and 7b.

During construction, sediment and erosion control measures will be implemented to minimize the impact on construction on adjacent ground and receiving water bodies, as described in Section 6.0 of this plan. A sediment basin will be installed to control runoff from four of the drainage outlets from the site, as shown in Attachment 5. After the completion of construction and the stabilization of the interior areas, the basin outlets will be modified for storm water management requirements as appropriate, as described in Section 8.0 of this plan. The drainage facilities associated with each of these elements are discussed in the following subsections.

4.2 On-site Hydrology Purpose and Scope

The purpose of this report is to provide a hydraulic and hydrologic study to accompany the Drainage Erosion and Sediment Control Plan for the proposed 37 acre CPV Sentinel Energy electrical generating facility in Riverside County, CA

This report summarizes the hydraulic and hydrology requirements for the on-site drainage facilities, and addresses the design methodology on which the drainage concept for on-site storm flows is based.

The proposed project site consists of 37 acres of land situated approximately 8 miles northwest of the center of the City of Palm Springs. The site is located approximately 700 feet east of the Devers substation, and 1.8 miles northwest of the Indigo Energy facility. The proposed electrical generating site is in a location that is projected to receive storm flows along its upstream boundaries (north and west) based on traditional drainage patterns across the undisturbed terrain. A separate study within the DESCP report has been prepared to address and quantify these off-site drainage patterns in the Attachments.

From a drainage standpoint, the design methodology is as follows: The 37 acre facility is proposed to be graded to divert traditional off-site flows tributary to the site location around the perimeter of the site boundary. The intent is to divert the traditional off-site drainage flows around the site boundary, releasing the flows downstream of the facility in a manner that does not increase the amount of discharge or velocity of the flows that exist under the current condition. This type of approach is consistent with Riverside County Flood Control District standards. The proposed design also proposes to retain all storm runoff generated within the project boundary on-site, so as not to increase the amount of discharge released by traditional drainage patterns. The intent of the combined design methodologies for on-site and off-site flows will be achieved

through the use of a retention basin that is proposed within the site boundary at the southerly limit of the limits of grading. The proposed retention basin will be sized to capture all of the on-site runoff generated during a 100 year storm event, while detaining off-site flows that intersect the site boundary until they can be released gradually at an overflow location so that discharge velocities are not produced that exceed those existing drainage flows.

This on-site hydrology and hydraulics report provides the calculations required to size the proposed detention basin in order to retain all of the runoff generated on-site during a 100 year storm event. Calculations are also provided within this report to size drainage facilities that will convey on-site flows via surface flow to their terminal destination.

This report includes: 1) the determination of on-site drainage areas as identified on the hydrology map for the project; 2) determination of peak flow rates using the Rational Method (Riverside County) software by CivilCADD/CivilDesign; 3) determination of storm drain conveyance facility sizes utilizing 'FlowMaster' hydraulic software; 4) the determination of flood volumes for the retention basin utilizing Riverside County Flood Control District (RCFCD) Synthetic Unit Hydrograph (Short-cut Method) for the 100 year storm events in the Attachments.

4.3 Power block and Switch Yard Areas

When completed, the power plant and switchyard will occupy specific locations within the 37-acre site, with an average finished grade elevation of approximately 1085 feet MSL. The power block will also occupy specific locations with buildings and roads occupying the remaining portion of the site. This remaining portion of the site will be covered with loose hard gravel and/or asphalt paving.

The switch yard will be entirely covered with gravel. Runoff will be collected in ditches and conveyed to catch basins connected to storm drain pipes in the power block area.

The power block is entirely contained within the drainage basin. During construction all runoff from the power block construction area will be directed to the retention pond as shown in Attachments 6a, 6b, 6c and 6d. After construction the power block area will be drained via overland flow and perimeter ditch system. The drainage ditches will be designed to convey the 10 year, 24 hour rainfall runoff and will be protected by erosion control fabric, rip rap, concrete paving, or soil-cement to minimize erosion. Drainage details are shown Attachment 6a.

All runoff will discharge to the sediment basin, which will be converted to a storm water management pond designed to reduce peak discharge from the upstream area back to predevelopment conditions, and will be maintained for the life of the project. Process related areas of the power block will be curbed to prevent runoff of hazardous materials.

4.4 Permanent Building and Parking Areas

The permanent offices, buildings, power facilities and parking lot will be located throughout the site upon project completion shown on Attachment 6a, 6b, 6c and 6d.

4.5 Temporary Offices and Construction Parking Areas

The temporary offices and construction parking lot will be located on the east side of the power block area, adjacent to the temporary construction access road on the eastern boundary of the 37-acre site. Runoff from these areas will be directed overland to the sediment control basin during construction, as shown in Attachment 5.

After construction is complete, the gravel will be removed, and the upstream area will be re-graded and seeded to a more natural use to surrounding areas. The depression remaining after re-grading the basins will serve to reduce peak runoff to predevelopment levels.

4.6 Laydown Area

A temporary lay down area will be located on the east side of the site, as shown in Attachment 5. The area will be stripped and re-graded for construction as follows:

- Drainage channels will be established for the control of sheet flow, with average slopes ranging from 1 percent to 3.5 percent. To avoid scour and erosion, rip rap will be placed along the channel along the entire needed areas.
- An approximately 0.55-acre pad will be graded with a 1.5 percent slope, covered in Gravel, and used as a lay down area for construction.
- An approximately 0.20-acre pad will be graded to the north of the lay down area and used as an area for stockpiling top soil.

A sediment control basin will be provided at the downstream end of the catchments to intercept all runoff, as described in Section 6 of this plan.

After construction is completed, the area will be re-graded, topsoil from the stockpile will be applied, and vegetation will be reestablished to a more natural use. Any sediment basin will be dredged and graded, and the riser will be removed, leaving the culvert (which is sized for post construction drainage discharges) in place. The depression remaining after re-grading the basin will serve to reduce peak runoff to predevelopment levels.

4.7 Offsite Linear Construction

The plant access road, new transmission interconnection, and access road (see Attachment 1c) will be constructed on the southeasterly portion of the site.

5.0 Clearing and Grading

For all areas where earthwork will be executed, materials suitable for compaction will be stockpiled in designated locations on site. Materials not suitable for compaction will be stored in separate stockpiles and reused on the site, as appropriate. Any contaminated materials encountered during excavation will be disposed of in accordance with applicable laws, ordinances, regulations, and standards.

The following subsections provide a discussion of clearing and grading associated with each of the major construction elements of the project.

6.0 Best Management Plan

Upon mobilization, this project will implement best management practices (BMP's) to minimize the impacts of erosion and sedimentation on adjacent ground and receiving waters bodies. Erosion control, also refer as soil stabilization, consists of control measures designed to prevent soil particles from detaching and becoming transported in storm water runoff. Sediment Controls are structural measures intended to complement and improve the selected erosion control measures and reduce sediment discharges from active construction areas.

In addition, a storm water pollution prevention plan (SWPPP) that includes temporary BMP's will be prepared and implemented in accordance with the National Pollutant Discharge

Elimination System (NPDES) General Permit for Storm Water Discharge Associated with Construction Activities.

The list of CASQA-BMP's used are as follows: EC-1, EC-5, EC-5, EC-9, EC-10, EC-11, NS-1, NS-3, NS-8, NS-9, NS-10, NS-12, SE-1, SE-2, SE-4, SE-7, SE-8, SE-10, SE-11, WE-1, WM-1, WM-2, WM-3, WM-4, MW-5, MW-9 AND MW-10.

6.1 Construction Schedule

Construction of the power plant would occur over an 18-month period (from December 2008 to May 2010). Operation of the first five turbine units is planned to begin by March 2010, and the final three units are planned to begin operation in May 2010.

Estimate Construction Start: December 2008
Estimate Construction Finish: May 2010

Project is scheduled to commence grading operations December 2008 and complete grading operations by May 2010. The project construction includes clearing, grubbing, grading, construction of equipment and building slabs, installation of equipment and buildings, fine grading of finish surfaces, and final treatment of exposed surfaces.

6.2 Silt Fence

Approximately 6200 linear feet of silt fence is to be installed along the perimeter of the entire project site on a level contour (*see Attachment 5*). Silt fence acts as a temporary sediment barrier by intercepting and detaining small amounts of sediment-laden runoff from disturbed areas in order to promote sedimentation behind the fence.

- Silt fence is to be woven polypropylene with a minimum width of 36 inches and minimum tensile strength of 100 lbs force.
- The trench is to be excavated approximately 6 inches wide and 6 inches deep along the line of the fence. The bottom of the silt fence is to be keyed-in a minimum of 12 inches, with posts spaced a maximum of 6 feet.
- Silt fence is to be placed with a setback of at least 3 feet from the toe of slope.

- The maximum slope perpendicular to the fence line shall be 1:1
- For slopes steeper than 2:1 a chain link fence is to be installed adjacent to the bottom of the slope for additional protection.
- The ends of the filter fence are to be turn uphill to prevent storm water from flowing around the fence.
- Fence is to remain in place until the construction area is permanently stabilized.

6.3 Preservation of Existing Vegetation

Existing vegetation to be preserved in designated areas, clearly marked while the land is being developed. No disturbances of any kind are to be allowed within areas selected by the contractor. The purpose of protecting existing vegetation is to ensure the survival of some desirable vegetation and as a method of erosion control; vegetation helps to hold soil in place, thus reducing erosion.

- Temporary fencing is to be placed in the areas selected by the contractor.
- Temporary entrance/exit and access road is to be constructed.
- Maintenance, storage and parking area to be constructed on site.
- Heavy equipment, vehicular traffic or storage material is prohibited within the protected areas.

6.4 Soil Binders

Soil binders to be applied to exposed soil surfaces on the entire construction site to prevent wind erosion and water induced erosion of exposed soils on construction site. Soil stabilization is to be applied prior to construction, during construction and after the disturbance has temporarily or permanently ceased. Soil binders will be applied by means of water trucks with the emulsion and product mixture applied at the rate specified by manufacturer.

- Prior to application, the surface is to be moisture. Uniformly pre-wet ground at 0.03 to 0.3 gal/yd^2 or according to manufacturer's recommendations.
- Soil binders are to be applied under pressure and overlap solution 6 to 12 in.
- Roughen embankments and fill areas prior to soil binder application.
- Crown or slope soil surface previous to soil binder application in order to avoid ponding.

- Soil binders to be applied on stockpiles and where grading activities will soon resume.
- Treated areas are to be allowed at least 24 hours to cure.
- Second treatment is to be applied before first one becomes ineffective, using 50% application rate.
- Follow manufacturer's recommendations for soil binder's application.

6.5 Earth Dikes and Drainage Swales

Dikes and drainage swales is to be used to divert runoff around the construction site, to direct runoff into the sediment basin, thereby reducing the potential for erosion and offsite sedimentation. The North and west open channel swale is 5ft wide at the bottom 2:1 riprap side slope and 3 ft deep. The North flow line slope is 1-3% and the west flow line slope is 2-3.5%. (see Attachment 5).

- Dikes and swales are to be installed early in the construction process.
- Construction activity on earth dikes will be kept to a minimum.
- Swales to be laid at a grade of at least 1%, but no more than 15%.
- Dikes will not be used in areas with slopes steeper than 10%.
- Use soil binder for slopes less than 5% and rip-rap for slopes in excess of 5%.
- Immediate stabilization is to be applied to swales at a slope of 5% of less, use rip-rap for swales of 5-15% slopes.
- Drain or swale with sediment laden runoff will be diverted into the sediment basin before it is discharged from the site.
- All dikes to be compacted by earth moving equipment. Fill material to be compacted along the path of the swale.
- Lined ditch will be used for high flow velocities.
- Earth dikes are to be stabilized immediately after construction or prior to the first rain.

Runoff must not be diverted onto other property without written authorization from the property owner. Earth dikes and drainage swales must conform to local floodplain management requirements.

6.6 Velocity Dissipation Devices

Velocity dissipation devices to be placed in the designated areas to prevent scour of the soil caused by high velocities flows. These devices are to be placed to protect the outfall flow from erosive velocities and to permit spreading of the discharge from the pipe which will further slow the velocities of the discharge to non-erosive velocities.

- Velocity dissipation device are to be place in the shown discharge outlets that carry continuous flow of water. (*See Attachment 5*)
- 4 to 12 inches maximum height, angular, sound and durable rocks are to be used.
- Riprap to be used at selected outlets.
- Compliance to local and state regulations shall be considered.

6.7 Slope Drains

Slope drains to be used with earth dikes and drainage ditches to intercept and direct surface runoff or ground water into a trapping device or stabilized area to protect cut or fill slopes. The slope drain prevents the storm water from flowing directly down the slope by confining the runoff into an enclosed pipe or channel.

- Slope drains to be plastic rigid pipe, with the inlet placed on the top of a slope and the outlet at the bottom of the slope.
- Slope drains are to be installed perpendicular to slope contours.
- Soil to be compacted around outlet, and along length of pipe.
- Inlet structures to be securely entrenched and compacted to avoid gully erosion.
- Slope drains to be securely anchored to the slope to handle any associated forces.
- Outlets to be stabilized with riprap.
- Debris racks are to be located at the inlets.
- Slope drains to be used for sediment basin emergency spillway.
- Slope drains are limited to a drainage area per slope drain of 10 acres.

6.8 Sediment Basin

Retention Basin is to be used also as a sediment basin as shown on Attachment 5. Basins constructed to trap sediment laden runoff, allowing sediment to settle out before the runoff is discharged and leaves the construction site. Sediment basin is to be designed in accordance with section with Best Management Practices published by the State of California.

Basins are to be formed by excavation or construction of an earth embankment of compacted soil and to be constructed with a vertical riser, outfall pipes and spillway structures. Sediment basin to be constructed before clearing and grading work begins.

The following design criteria where also taken into consideration:

- Sediment basin sized to capture runoff from a 2-yr storm, with a detention time of 24 to 40 hours to allow 70-80% of sediment to settle.
- Provide a basin volume with a sediment storage zone of at least 1 ft deep and a settling zone of a minimum of 2 ft deep.
- Insure the length to settling depth ratio (L/SD) to be less than 200.
- Provide a basin capacity equivalent to 67 yd^3 of sediment storage per acre of contributory area.
- The basin length to be more than twice the width of the basin, with a depth no less than 3 ft.
- Basins design to drain within 72 hours following storm events.
- An emergency spillway consisted of an open channel and a minimum of 20 ft in length will be constructed for each basin to convey flow in excess of the basin storage and outlet works capacity.
- Fencing will be provided around each sediment basin to prevent unauthorized entry and for safety concern.

The accumulated sediment in the basin, the gravel berm and the temporary sump structures are to be removed upon completion of construction activities. The sediment cleaned from the basin to be placed in the construction lay down area. The Sediment basin has a life of 12 to 28 months and is to be maintained until the site area is permanently protected against erosion or when a permanent detention basin is constructed.

6.9 Sandbag Barrier

A row of sandbags barrier will be placed on the site south region, at the top of the slope to divert runoff away from the disturbed slopes, causing temporary ponding to allow sediments to settle. Sandbags will be also placed around every storm drain inlet receiving sediment-laden runoff to intercept sheet flows.

- Sandbags to be woven polypropylene, polyethylene or polyamide fabric.
- Minimum unit weight of 4 ounces/yd^2
- Each sand filled bag to have a length of 18 inches, width of 12 inches, thickness of 3 inches and a mass of approximately 33 lbs.
- Fill material to be non-cohesive, class1 or 2 permeable material free from clay and deleterious material.
- Sandbags barriers to be located on a level contour.
- Sandbags to be placed at maximum intervals of 50 ft. for slopes between 20:1 and 2:1, and at 25 ft for slopes 2:1 or steeper, with the first row placed near the slope toe.
- Drainage area not to exceed 5 acres.
- Sandbags to be stacked at least three bags high.
- Butt ends of bags tightly.
- Stack bags using a pyramid approach.
- In non-traffic areas:

  Height = 18 inches minimum

  Top width = 24 inches minimum for 3 or more layers

  Side slope = 2:1 or flatter
- In construction traffic areas:

  Height = 12 inches minimum

  Top width = 24 inches minimum for 3 or more layers

  Side slope = 2:1 or flatter

Sandbags to be removed when no longer needed. Sediment accumulation are to be removed, cleaned, regarded and area to be stabilized.

7.0 Inspection and Maintenance during Construction

This section of the plan provides an overall Inspection and Maintenance of the project listed below.

7.1 Inspection Requirements

During installation, erosion and sediment control measures shall be inspected on a daily basis to assure that the minimum requirements are being met. Once in place, the construction environmental coordinator shall inspect all erosion and sediment control measures at least once every 7 calendar days and within 24 hours of the end of a rainfall event producing a precipitation of 0.5 inches or more. Inspections to be performed on all areas that have not been permanently stabilized stockpiles, structural control measures, access road and construction entrance and exit to and from site. Parking areas and construction laydown are to be inspected weekly for spills or leaks from vehicular traffic. The inspection schedule is to be continued until all areas are permanently stabilized.

The BMP's shall be monitored prior to forecast rain, daily during extended rain events, after rain events, weekly during rainy season and at two-week intervals during non-rainy season.

BMP's that require dewatering are to be continuously attended while dewatering takes place. Dewatering BMP's are to be implemented at all times during dewatering activities.

Silt fence is to be inspected for sediment build ups, tears in fabric, and proper fabric attachment to posts. Post are to be inspected to ensure a firm set on the ground.

Soil binders are to be inspected during construction period to ensure even distribution, avoid dry spots or insufficient binder.

Earth dikes and drainage swales BMP's shall be inspected daily while non-storm water discharges occur. Inspect ditches and berm for washouts.

Outlet structures are to be inspected periodically for proper operation and absence of sediment and debris.

Inspection of velocity dissipation devices and slope drains shall be performed daily while non-storm water discharges occur. Inspect inlets and outlets for clogging or undercutting. Inspect pipes for leakage. Rip-rap should be inspected for evidence of movement or washout. Basin banks to be examine for seepage and structural soundness. Regularly inspect inlets and outlets for erosion, damages or any obstructions.

An erosion Control/Storm Inspection Log is to be maintained by the construction Environmental coordinator to keep record of field inspections and any maintenance and or repair work executed. Detailed information on intensity and type of erosion is required, and the measure chosen to control that specific erosion. The log is to record areas that cannot be immediately repaired, the reason why, and an estimate of when the repair is going to take place.

7.2 Maintenance Requirements

The silt fence is to be replaced or repaired when damage is evident. The life span of silt fence is generally 5 to 8 months. Build up sediment is to be removed form the fence when it has reached 6 inches or 1/3 the height of the fence, whichever is less.

Soil binders are to be reapplied as soon as possible when erosion is evident to establish a stabilized surface in the identified areas. Contaminated soils caused by spills or vehicle leaks are to be removed and treated or disposed of in an approved disposal facility.

Storm water detention/retention basins are to be maintained in working order throughout the construction period. Significant amounts of settled sediment and foreign debris are to be removed and disposed in a properly manner. Sediments on basin banks are to be removed when sediment accumulation reaches ½ the designated sediment storage volume. Standing water will be removed from basin within 72 hours after accumulation.

Ditches and swales are to be maintained at the required depth, sidewall cave-ins and settled sediment material is to be removed and disposed properly.

Rip-rap experiencing movement or washout is to be removed and replaced in response to the observed runoff flow patterns. Pertinent measures are to be taken to ensure anchoring and support where needed. Velocity dissipation devices shall be removed as soon as the drainage area has been stabilized or at the end of construction.

Inlet structures are to be cleaned and maintained to accept inflow at the design rate. At the completion of construction activities, the storm drain system shall be inspected for the presence of deposited sediment and be cleaned as necessary.

Sandbags exposed to sunlight to be replace every two to three months due to degradation of the bags. Replace or reshaped sandbags as needed. Sediments on sandbags are to be removed when sediment accumulation reaches 1/3 of the barrier height. Sediment removed during maintenance to be incorporated into earthwork on the site.

Stones are to be removed or cleaned at construction entrance when stones become inundated with mud.

Erosion channels formed in swales, slopes or around structures are to repaired and stabilized as soon as possible after they have been discovered.

8.0 Storm Water Management Measures

Storm water management measures are integrated at the C.P.V. Sentinel Power Plant Project site to collect runoff from the developed areas in order to capture and recycle the runoff. The storm water management measures incorporated in this site are listed and described below:

8.1 Storm Water Management Basins

Storm Water Management/Retention Basin, located at the lowest elevation and further most Southern portion of the site, is to be used also to trap final contaminant laden runoff before storm water leaves the CPV Energy Project. The Management basin is to be designed in

accordance with section with Best Management Practices published by the State of California.

Basins are to be formed by excavation or construction of an earth embankment of compacted soil and to be constructed with a vertical riser, outfall pipes and spillway structures. Sediment basin to be constructed before clearing and grading work begins.

8.2 Oil/Water Separator

Commercial oil/water separators will be placed in the storm drain piping system in the parking lot area, maintenance, storage and the fueling areas, where small amounts of oil contamination may occur.

8.3 Permanent Vegetation

All disturbed areas that will not be occupied by plant facilities or stabilized surfaces will be stabilized with permanent vegetation to reduce runoff and provide quality control for the runoff produced. Soil is to be tested prior to seeding, to determine soil conditions. Appropriate soil supplement or fertilizers (where permissible) are to be applied when necessary.

8.4 Maintenance of Storm Water Management System

Periodic inspections are to be conducted on the storm drains to check for any accumulated sediment and/ or debris build up. Significant amounts of settled sediment and foreign debris are to be removed and disposed in a properly manner. Storm water detention/retention basins are to be maintained in working order throughout the construction period. Accumulated sediments are to be removed from the storm water management basin when it reaches an average depth of 1 foot. Standing water will be removed from basin within 72 hours after accumulation. Cleaning and removal of sediment and debris are to be performed at least once a month during the summer months and at least every two weeks during periods of rainfall greater than 1 inch per week or as required in order to maintain the operability of the drainage system.

Ditches and swales are to be maintained at the required depth, sidewall cave-ins and settled sediment material is to be removed and disposed properly.

9.0 References

1. Application for Certification for C.P.V. Sentinel Power Plant, Desert Hot Springs, CA. Prepared for URS.

2. Joseph E. Bonadiman and associates, CIVILDESIGN WSPGW Unit Hydrograph computer program for Riverside County, Version 7.0

3. USGS Topographic Map

4. Riverside County Flood Control and Water Conservation District Hydrology Manual – April 1978

5. Google.Com/Maps – Desert Hot Springs

6. Thomas Bros. Maps

7. Haestad Methods, Inc., FlowMaster Computer Program (Hydraulics), Version 6.1

8. California Stormwater BMP Handbook, California Stormwater Quality Association, 2004.

10.0 Attachments

HYDROLOGY

A. Off-site Methodology/Hydrologic Parameters

The offsite hydrology calculations were performed for the 100-year storm event, in accordance with the Riverside County Flood Control and Water Conservation District (RCFC&WCD) Hydrology Manual (dated April 1978), CivilDesign Engineering Software was used to perform the calculations.

The Synthetic Unit Hydrograph analysis was performed for the offsite area tributary to the project site. In accordance with the Hydrology Manual, AMC-II was used for the 100-year storm discharge hydrographs for the 1, 3, 6, and 24-hour duration storms. The Unit Hydrographs were developed using the procedures specified in the Hydrology Manual for the Snyder Synthetic Unit Hydrograph. The 1-hour was determined to be used as the design discharge.

The Rational Method was used to determine the 100-year storm discharge for the substation drainage, along with the drainage from the triangular-shaped area to the east of the existing substation.

The hydrologic soils group for the offsite tributary drainage area was determined by overlaying the drainage boundary on the Hydrologic Soils Group Map for Desert Hot Springs (Plates C-1.22), and a small portion of Whitewater (Plate C-1.21). The drainage area within the site, along with the offsite tributary area, is within Soil Group “A”.

The Runoff Index Number for the area was determined using Plate E-6.1 (Runoff Index Numbers for Pervious Areas), along with land use and type of terrain and Soil Group “A”.

The rainfall used in the calculations was determined from the precipitation maps (Plates D and E) from the Hydrology Manual.

B. Off-site Results

The 100-year storm Unit Hydrograph and Rational Method calculations were prepared, and are included in this Hydrology Study, along with the Hydrology Map Exhibit.

The results are as follows:

Offsite Drainage (Node 1 to Node 2):
Drainage Area = 377 Acres
Q-100 = 753 cfs

Triangular Area to the east of the existing substation (Node 101 to Node 103):
Drainage Area = 13 Acres
Q-100 = 35 cfs

Substation Drainage (Node 201 to Node 203):
Drainage Area = 42 Acres
Q-100 = 167 cfs

The proposed swales along the northerly and westerly boundaries of the project site were hydraulically verified using FlowMaster computer, by Haestad Methods. The hydraulic calculations are included in this report.

C. On-site Design Criteria

The following Riverside County Flood Control District (RCFCD) parameters were used in the preparation of the analyses:

Antecedent Moisture Condition – 100 year	3	
2 year – 1 hour point Precipitation	0.6”	RCFCD Hyd. Plate D4.3
100 year – 1 hour point Precipitation	1.6”	RCFCD Hyd. Plate D4.4
Intensity Duration Curve Slope	0.57	RCFCD Hyd. Plate D4.6
100 year – 3 hour Precipitation	2.4”	RCFCD Hyd. Plate E5.2
100 year – 6 hour Precipitation	2.8”	RCFCD Hyd. Plate E5.4
100 year – 24 hour Precipitation	4.25”	RCFCD Hyd. Plate E5.6
Percolation Rate	5 in/hr	

D. Detention Basin Sizing

ON-SITE RETENTION VOLUME REQUIRED – 100 YEAR STORM EVENT

100 YEAR FLOOD VOLUME (cuft)	VOLUME PROVIDED (cuft)	100 YEAR W.S. ELEVATION	FREEBOARD (ft)
77,746	112,215	1043.78	1.22

100 Peak Discharge Per Subarea:

SUBAREA DESIGNATION	TOTAL AREA (ACRES)	100 YEAR DISCHARGE
1	6.51	13.82 CFS
2	4.86	10.23 CFS
3	5.42	2.92 CFS
4	5.42	2.92 CFS
5	2.31	4.27 CFS
6	3.68	6.51 CFS

SEE ADDITIONAL ATTACHMENTS BELOW

E. Off-site Map & Hydrology Calculations
F. On-site Map & Hydrology Calculations

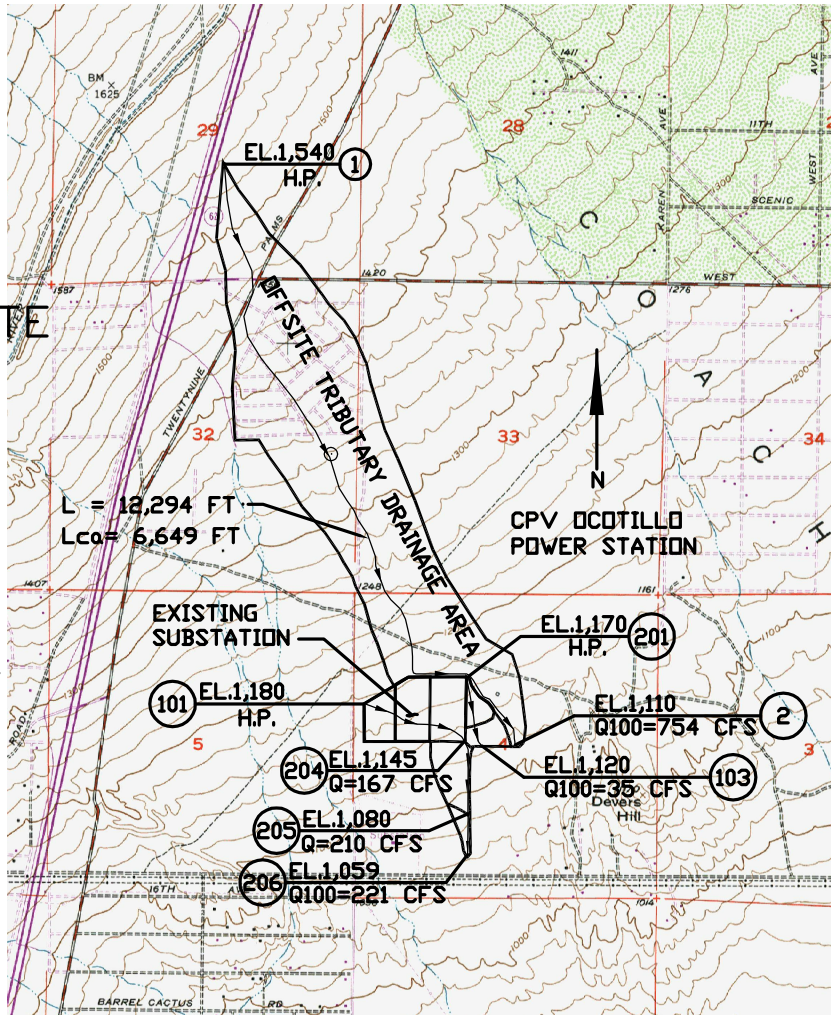
Attachment No. 1a Site Vicinity Map
Attachment No. 1b Index Map
Attachment No. 1c Site Plan Aerial Photograph
Attachment No. 2 Site Photograph
Attachment No. 3 Flood Insurance Rate Map
Attachment No. 4 ALTA/ACSM Land Title Survey Map
Attachment No. 5 Best Management Practices Plan
Attachment No. 6a Rough Grading Plan Sheet No. 1 of 4
Attachment No. 6b Rough Grading Plan Sheet No. 2 of 4
Attachment No. 6c Rough Grading Plan Sheet No. 3 of 4
Attachment No. 6d Rough Grading Plan Sheet No. 4 of 4
Attachment No. 7a Pre-development Drainage Area
Attachment No. 7b Post-development Drainage Area

Attachment E

IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
LOCATED IN A PORTION OF THE EAST 1/2 OF THE SE 1/4
OF THE SW 1/4 OF SEC. 4, T.3 S, R.4E., S.B.M..

C.P.V. SENTINEL POWER PLANT

PROJECT SITE



HYDROLOGY MAP LEGEND

——→	FLOW PATH/DIRECTION OF FLOW
▬▬	HYDROLOGIC BOUNDARY
②	HYDROLOGIC NODE
EL.=	GROUND ELEVATION (FT)
◯	CENTROID OF UH AREA
L=	LENGTH OF FLOWPATH
Lca=	LENGTH TO CENTROID
HP	HIGH POINT OF SUBAREA
Q100=	100-YEAR DISCHARGE AT NODE

ATTACHMENT E
OFFSITE HYDROLOGY MAP
APN: 668-130-005, 668-130-007, 668-140-001
PROJECT NAME: C.P.V. SENTINEL POWER PLANT
SITE ADDRESS: 62575 POWERLINE RD., DESERT HOT SPRINGS CA 92240
THE EAST 1/2 OF THE SE 1/4 OF THE SW 1/4 OF SEC. 4, T.3 S, R.4E., S.B.M.

Attachment E

HYDROLOGY CALCULATIONS
U n i t H y d r o g r a p h A n a l y s i s

Study date 12/19/07 File: cpv1100.out

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Offsite tributary
drainage area
Q100 = 754 cfs (377 AC)
Nodes 1 to 2 on
Hydrology Map

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 4047

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

CPV Ocotillo Power Station
Project
2016105300 Task 201.200
Offsite Hydrology (377 Acres)

Drainage Area = 377.00(Ac.) = 0.589 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 377.00(Ac.) = 0.589 Sq. Mi.
Length along longest watercourse = 12294.00(Ft.)
Length along longest watercourse measured to centroid = 6649.00(Ft.)
Length along longest watercourse = 2.328 Mi.
Length along longest watercourse measured to centroid = 1.259 Mi.
Difference in elevation = 430.00(Ft.)
Slope along watercourse = 184.6755 Ft./Mi.
Average Manning's 'N' = 0.025
Lag time = 0.335 Hr.
Lag time = 20.10 Min.
25% of lag time = 5.03 Min.
40% of lag time = 8.04 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
377.00	0.60	226.20

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
377.00	1.60	603.20

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.600(In)
Area Averaged 100-Year Rainfall = 1.600(In)

Point rain (area averaged) = 1.600(In)
Areal adjustment factor = 99.66 %
Adjusted average point rain = 1.595(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
143.000	50.00	0.500
234.000	53.00	0.000

Total Area Entered = 377.00(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
50.0	50.0	0.572	0.500	0.315	0.379	0.119
53.0	53.0	0.541	0.000	0.541	0.621	0.336
					Sum (F) =	0.455

Area averaged mean soil loss (F) (In/Hr) = 0.455
Minimum soil loss rate ((In/Hr)) = 0.228
(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.650

Slope of intensity-duration curve for a 1 hour storm =0.5800

U n i t H y d r o g r a p h
DESERT S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	24.875	1.341	5.094
2	0.167	49.749	5.178	19.674
3	0.250	74.624	12.916	49.072
4	0.333	99.498	21.564	81.933
5	0.417	124.373	14.822	56.315
6	0.500	149.248	9.030	34.311
7	0.583	174.122	6.344	24.105
8	0.667	198.997	4.817	18.303
9	0.750	223.871	3.796	14.422
10	0.833	248.746	3.012	11.445
11	0.917	273.621	2.552	9.698
12	1.000	298.495	2.211	8.400
13	1.083	323.370	1.771	6.729
14	1.167	348.244	1.450	5.509

15	1.250	373.119	1.307	4.967
16	1.333	397.994	1.152	4.377
17	1.417	422.868	0.990	3.760
18	1.500	447.743	0.847	3.216
19	1.583	472.618	0.763	2.901
20	1.667	497.492	0.648	2.460
21	1.750	522.367	0.566	2.152
22	1.833	547.241	0.449	1.705
23	1.917	572.116	0.369	1.402
24	2.000	596.991	0.250	0.950
25	2.083	621.865	0.268	1.018
26	2.167	646.740	0.298	1.133
27	2.250	671.614	0.298	1.134
28	2.333	696.489	0.298	1.134
29	2.417	721.364	0.246	0.934
30	2.500	746.238	0.157	0.596
31	2.583	771.113	0.155	0.591
32	2.667	795.987	0.133	0.506
			Sum = 100.000	Sum= 379.945

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	3.60	0.689	0.455	---	0.23
2	0.17	4.20	0.804	0.455	---	0.35
3	0.25	4.40	0.842	0.455	---	0.39
4	0.33	4.60	0.880	0.455	---	0.42
5	0.42	5.00	0.957	0.455	---	0.50
6	0.50	5.60	1.072	0.455	---	0.62
7	0.58	6.40	1.225	0.455	---	0.77
8	0.67	8.10	1.550	0.455	---	1.09
9	0.75	13.10	2.507	0.455	---	2.05
10	0.83	34.50	6.601	0.455	---	6.15
11	0.92	6.70	1.282	0.455	---	0.83
12	1.00	3.80	0.727	0.455	---	0.27
Sum =		100.0			Sum =	13.7

Flood volume = Effective rainfall 1.14(In)
times area 377.0(Ac.)/[(In)/(Ft.)] = 35.8(Ac.Ft)
Total soil loss = 0.46(In)
Total soil loss = 14.306(Ac.Ft)
Total rainfall = 1.59(In)
Flood volume = 1558953.3 Cubic Feet
Total soil loss = 623181.7 Cubic Feet

Peak flow rate of this hydrograph = 753.087(CFS)

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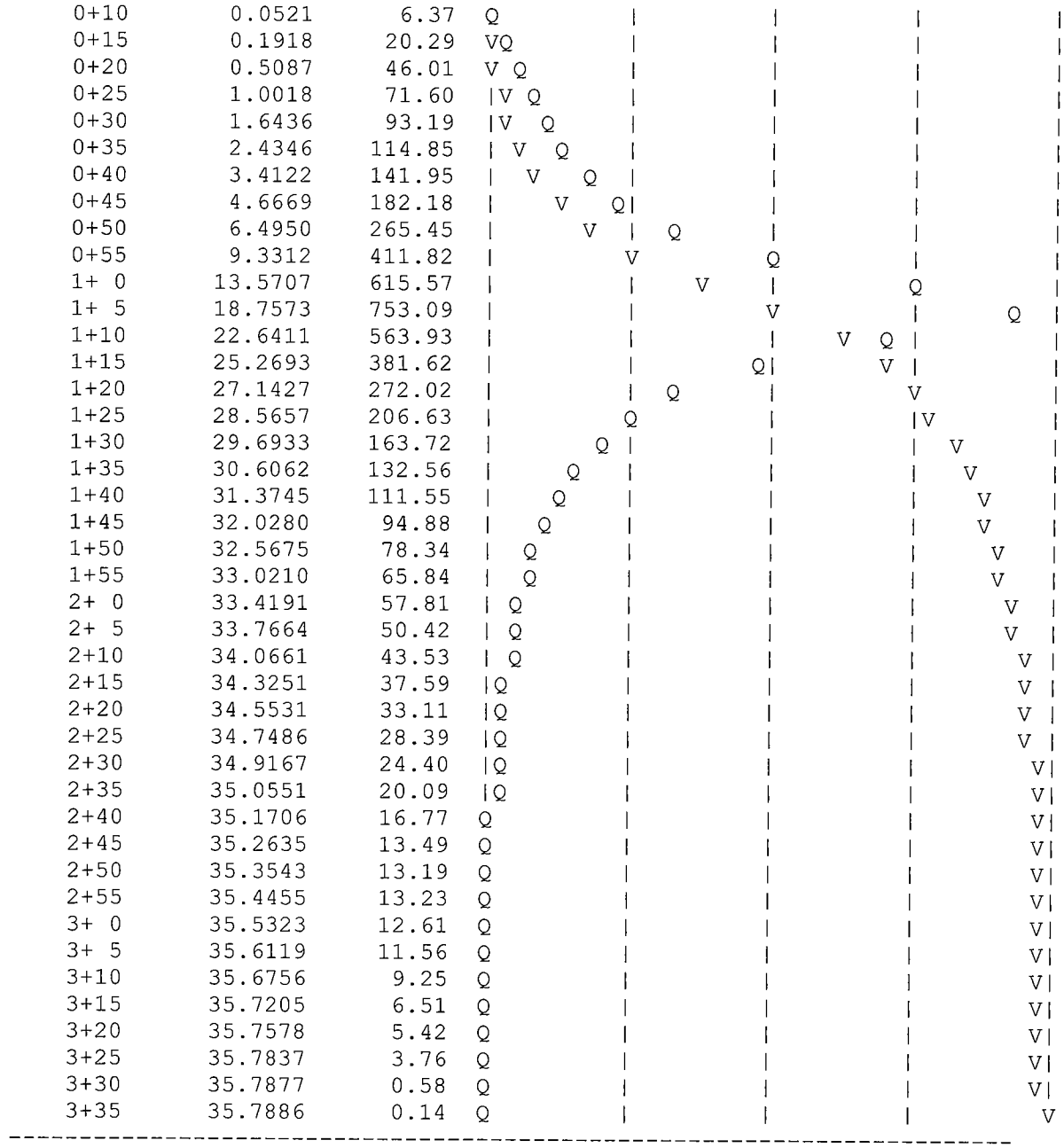
1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	200.0	400.0	600.0	800.0
0+ 5	0.0082	1.19	Q	|	|	|	|


0+10 0.0521 6.37
0+15 0.1918 20.29
0+20 0.5087 46.01
0+25 1.0018 71.60
0+30 1.6436 93.19
0+35 2.4346 114.85
0+40 3.4122 141.95
0+45 4.6669 182.18
0+50 6.4950 265.45
0+55 9.3312 411.82
1+ 0 13.5707 615.57
1+ 5 18.7573 753.09
1+10 22.6411 563.93
1+15 25.2693 381.62
1+20 27.1427 272.02
1+25 28.5657 206.63
1+30 29.6933 163.72
1+35 30.6062 132.56
1+40 31.3745 111.55
1+45 32.0280 94.88
1+50 32.5675 78.34
1+55 33.0210 65.84
2+ 0 33.4191 57.81
2+ 5 33.7664 50.42
2+10 34.0661 43.53
2+15 34.3251 37.59
2+20 34.5531 33.11
2+25 34.7486 28.39
2+30 34.9167 24.40
2+35 35.0551 20.09
2+40 35.1706 16.77
2+45 35.2635 13.49
2+50 35.3543 13.19
2+55 35.4455 13.23
3+ 0 35.5323 12.61
3+ 5 35.6119 11.56
3+10 35.6756 9.25
3+15 35.7205 6.51
3+20 35.7578 5.42
3+25 35.7837 3.76
3+30 35.7877 0.58
3+35 35.7886 0.14

HYDROLOGY CALCULATIONS
Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 12/19/07 File:swale.out

CPV hydrology
Area east of existing substation
13 Acres

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Drainage from triangular area to the north of the project.
Q100 = 35 cfs for 13 Acres
Nodes 101 to 103 on Hydrology Map

Program License Serial Number 4047

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Desert Hot Springs] area used.
10 year storm 10 minute intensity = 2.940(In/Hr)
10 year storm 60 minute intensity = 1.040(In/Hr)
100 year storm 10 minute intensity = 4.520(In/Hr)
100 year storm 60 minute intensity = 1.600(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.600(In/Hr)
Slope of intensity duration curve = 0.5800

++
Process from Point/Station 101.000 to Point/Station 102.000
**** INITIAL AREA EVALUATION ****

Initial area flow distance = 820.000(Ft.)
Top (of initial area) elevation = 1170.000(Ft.)
Bottom (of initial area) elevation = 1140.000(Ft.)
Difference in elevation = 30.000(Ft.)
Slope = 0.03659 s(percent)= 3.66
TC = k(0.530)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 15.036 min.
Rainfall intensity = 3.570(In/Hr) for a 100.0 year storm
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.760

```
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     16.284(CFS)
Total initial stream area =        6.000(Ac.)
Pervious area fraction = 1.000


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      102.000 to Point/Station      103.000
**** NATURAL CHANNEL TIME + SUBAREA FLOW ADDITION ****
------------------------------------------------------------------------------
Top of natural channel elevation =   1140.000(Ft.)
End of natural channel elevation =   1120.000(Ft.)
Length of natural channel  =   400.000(Ft.)
Estimated mean flow rate at midpoint of channel =     25.784(CFS)

Natural valley channel type used
L.A. County flood control district formula for channel velocity:
 Velocity(ft/s) = (7 + 8(q(English Units)^.352)(slope^0.5)
Velocity using mean channel flow =   7.18(Ft/s)

Correction to map slope used on extremely rugged channels with
drops and waterfalls (Plate D-6.2)
      Normal channel slope =  0.0500
Corrected/adjusted channel slope =  0.0500
Travel time =    0.93 min.     TC =   15.96  min.


 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.756
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      3.448(In/Hr) for a   100.0 year storm
Subarea runoff =     18.249(CFS) for      7.000(Ac.)
Total runoff =     34.534(CFS)      Total area =      13.000(Ac.)
End of computations, total study area =           13.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  67.0
```

HYDROLOGY CALCULATIONS
Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2004 Version 7.0
Rational Hydrology Study Date: 01/02/08 File:EXSUB.out

CPV Hydrology
Existing Substation to the west of Project
Including offsite drainage to the west side of the project site
61 Acres Total

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

Drainage from exist.sub-sta. to
the northwest of the project site.
Drains along the westerly boundary of
the project site.
Q100=221 cfs for 61 Acres
Nodes 201 to 206 on Hydrology Map

Program License Serial Number 4047

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 2

Standard intensity-duration curves data (Plate D-4.1)
For the [Desert Hot Springs] area used.
10 year storm 10 minute intensity = 2.940(In/Hr)
10 year storm 60 minute intensity = 1.040(In/Hr)
100 year storm 10 minute intensity = 4.520(In/Hr)
100 year storm 60 minute intensity = 1.600(In/Hr)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.600(In/Hr)
Slope of intensity duration curve = 0.5800

++
Process from Point/Station 201.000 to Point/Station 202.000
**** INITIAL AREA EVALUATION **** Exist. Substation

Initial area flow distance = 554.000(Ft.)
Top (of initial area) elevation = 1180.000(Ft.)
Bottom (of initial area) elevation = 1170.000(Ft.)
Difference in elevation = 10.000(Ft.)
Slope = 0.01805 s(percent)= 1.81
TC = k(0.300)*[(length^3)/(elevation change)]^0.2

```
Initial area time of concentration =    8.380 min.
Rainfall intensity =      5.012(In/Hr) for a   100.0 year storm
USER INPUT of soil data for subarea
Runoff Coefficient = 0.898
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  53.00
Pervious area fraction =  0.010; Impervious fraction =  0.990
Initial subarea runoff =     45.018(CFS)
Total initial stream area =       10.000(Ac.)
Pervious area fraction = 0.010


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      202.000 to Point/Station      203.000
**** IMPROVED CHANNEL TRAVEL TIME ****
```

Exist. Substation

```
Upstream point elevation =  1170.000(Ft.)
Downstream point elevation =  1158.000(Ft.)
Channel length thru subarea  =   644.000(Ft.)
Channel base width       =    0.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =     74.958(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    3.000(Ft.)
Flow(q) thru subarea =     74.958(CFS)
Depth of flow =   0.521(Ft.), Average velocity =   5.517(Ft/s)
Channel flow top width =   52.128(Ft.)
Flow Velocity =    5.52(Ft/s)
Travel time  =    1.95 min.
Time of concentration =   10.33 min.

Sub-Channel No. 1 Critical depth =      0.672(Ft.)
  '     '       '     Critical flow top width =     67.188(Ft.)
  '     '       '     Critical flow velocity=    3.321(Ft/s)
  '     '       '     Critical flow area =     22.571(Sq.Ft)

 Adding area flow to channel
USER INPUT of soil data for subarea
Runoff Coefficient = 0.898
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  53.00
Pervious area fraction =  0.010; Impervious fraction =  0.990
Rainfall intensity =      4.440(In/Hr) for a   100.0 year storm
Subarea runoff =     59.815(CFS) for     15.000(Ac.)
Total runoff =    104.833(CFS)      Total area =      25.000(Ac.)
Depth of flow =   0.591(Ft.), Average velocity =   6.000(Ft/s)

Sub-Channel No. 1 Critical depth =      0.773(Ft.)
  '     '       '     Critical flow top width =     77.344(Ft.)
  '     '       '     Critical flow velocity=    3.505(Ft/s)
```

```
'     '     '     Critical flow area =     29.910(Sq.Ft)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      203.000 to Point/Station      204.000
**** IMPROVED CHANNEL TRAVEL TIME ****
```

EXIST. SUBSTATION

```
Upstream point elevation =  1158.000(Ft.)
Downstream point elevation =  1145.000(Ft.)
Channel length thru subarea  =   700.000(Ft.)
Channel base width       =    0.000(Ft.)
Slope or 'Z' of left channel bank =  50.000
Slope or 'Z' of right channel bank =  50.000
Estimated mean flow rate at midpoint of channel =    135.708(CFS)
Manning's 'N'    = 0.015
Maximum depth of channel  =    3.000(Ft.)
Flow(q) thru subarea =    135.708(CFS)
Depth of flow =   0.652(Ft.), Average velocity =   6.392(Ft/s)
Channel flow top width =   65.165(Ft.)
Flow Velocity =    6.39(Ft/s)
Travel time  =    1.83 min.
Time of concentration =   12.15 min.

Sub-Channel No. 1 Critical depth =      0.855(Ft.)
  '     '     '     Critical flow top width =     85.547(Ft.)
  '     '     '     Critical flow velocity=    3.709(Ft/s)
  '     '     '     Critical flow area =     36.591(Sq.Ft)

 Adding area flow to channel
USER INPUT of soil data for subarea
Runoff Coefficient = 0.898
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  53.00
Pervious area fraction =  0.010; Impervious fraction =  0.990
Rainfall intensity =      4.040(In/Hr) for a   100.0 year storm
Subarea runoff =     61.672(CFS) for     17.000(Ac.)
Total runoff =    166.505(CFS) *    Total area =      42.000(Ac.) *
Depth of flow =   0.704(Ft.), Average velocity =   6.727(Ft/s)

Sub-Channel No. 1 Critical depth =      0.930(Ft.)
  '     '     '     Critical flow top width =     92.969(Ft.)
  '     '     '     Critical flow velocity=    3.853(Ft/s)
  '     '     '     Critical flow area =     43.216(Sq.Ft)
```

* substation Q100 and acreage - drains to northwest corner of project site. This drainage will continue southerly.

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      204.000 to Point/Station      205.000
**** IMPROVED CHANNEL TRAVEL TIME ****
```

offsite drainage to the west of project. §

```
Upstream point elevation =  1145.000(Ft.)
Downstream point elevation =  1080.000(Ft.)
Channel length thru subarea  =  1260.000(Ft.)
```

```
Channel base width       =    2.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    188.105(CFS)
Manning's 'N'    = 0.030
Maximum depth of channel  =    3.000(Ft.)
Flow(q) thru subarea =    188.105(CFS)
Depth of flow =   2.255(Ft.), Average velocity =  12.810(Ft/s)
Channel flow top width =   11.022(Ft.)
Flow Velocity =   12.81(Ft/s)
Travel time  =    1.64 min.
Time of concentration =   13.79 min.

Sub-Channel No. 1 Critical depth =      3.063(Ft.)
  '     '       '     Critical flow top width =     14.000(Ft.)
  '     '       '     Critical flow velocity=    7.562(Ft/s)
  '     '       '     Critical flow area =     24.875(Sq.Ft)

 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.766
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      3.754(In/Hr) for a   100.0 year storm
Subarea runoff =     43.134(CFS) for     15.000(Ac.)
Total runoff =    209.640(CFS)      Total area =      57.000(Ac.)
Depth of flow =   2.366(Ft.), Average velocity =  13.165(Ft/s)

Sub-Channel No. 1 Critical depth =      3.188(Ft.)
  '     '       '     Critical flow top width =     14.000(Ft.)
  '     '       '     Critical flow velocity=    7.874(Ft/s)
  '     '       '     Critical flow area =     26.625(Sq.Ft)


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
Process from Point/Station      205.000 to Point/Station      206.000
**** IMPROVED CHANNEL TRAVEL TIME ****
```

offsite drainage to the west of project.

```
Upstream point elevation =  1080.000(Ft.)
Downstream point elevation =  1059.000(Ft.)
Channel length thru subarea  =   728.000(Ft.)
Channel base width       =    2.000(Ft.)
Slope or 'Z' of left channel bank =   2.000
Slope or 'Z' of right channel bank =   2.000
Estimated mean flow rate at midpoint of channel =    215.124(CFS)
Manning's 'N'    = 0.030
Maximum depth of channel  =    3.000(Ft.)
Flow(q) thru subarea =    215.124(CFS)
Depth of flow =   2.715(Ft.), Average velocity =  10.661(Ft/s)
Channel flow top width =   12.862(Ft.)
Flow Velocity =   10.66(Ft/s)
Travel time  =    1.14 min.
```

```
Time of concentration =   14.93 min.

Sub-Channel No. 1 Critical depth =      3.219(Ft.)
  '     '       '     Critical flow top width =     14.000(Ft.)
  '     '       '     Critical flow velocity=    7.949(Ft/s)
  '     '       '     Critical flow area =     27.063(Sq.Ft)

 Adding area flow to channel
UNDEVELOPED (poor cover) subarea
Runoff Coefficient = 0.761
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 2)  =  67.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Rainfall intensity =      3.585(In/Hr) for a   100.0 year storm
Subarea runoff =     10.909(CFS) for      4.000(Ac.)
Total runoff =    220.549(CFS) ** Total area =      61.000(Ac.) **
Depth of flow =   2.745(Ft.), Average velocity =  10.728(Ft/s)

Sub-Channel No. 1 Critical depth =      3.250(Ft.)
  '     '       '     Critical flow top width =     14.000(Ft.)
  '     '       '     Critical flow velocity=    8.020(Ft/s)
  '     '       '     Critical flow area =     27.500(Sq.Ft)

End of computations, total study area =          61.00 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 0.318
Area averaged RI index number =  57.4
```

** Q100 And Accease at Southwest corner of project

Attachment F

CPV SENTINEL ENERGY PROJECT
HYDROLOGY MAP

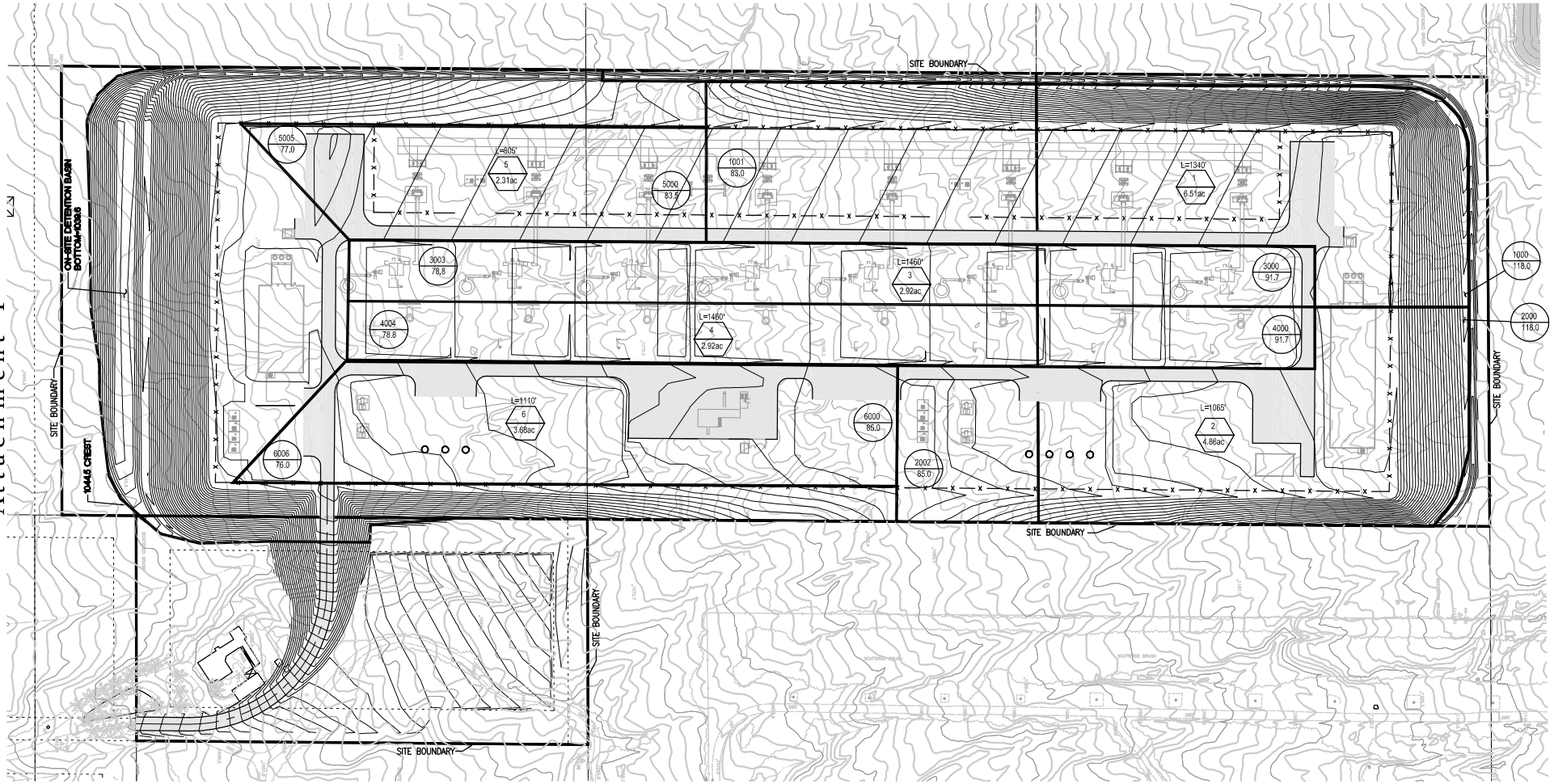
HYDROLOGY MAP LEGEND

- L= LENGTH OF WATERCOURSE
- AREA / ACRES — DRAINAGE AREA DESIGNATION / ACRES
- NODE / ELEV. — NODE NUMBER / ELEVATION @ NODE
- DRAINAGE AREA BOUNDARY

TOTAL TRIBUTARY AREA=30.46 ACRES
ON-SITE RETENTION VOLUME REQUIRED=77,750 CU. FT.
ON-SITE RETENTION VOLUME REQUIRED=112,215 CU. FT.

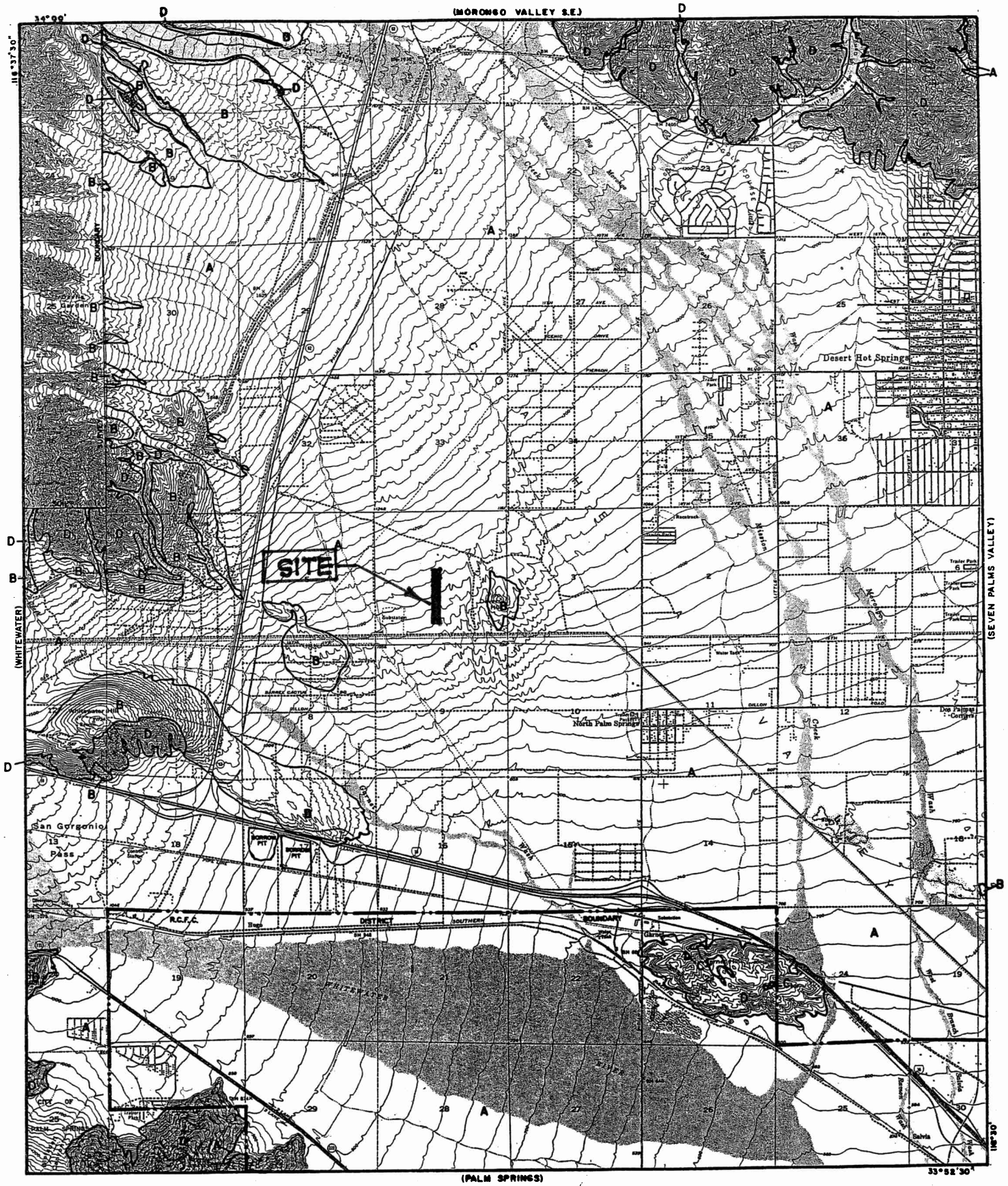
100 YEAR EVENT DISCHARGE PER SUBAREA

SUBAREA	AREA (ACRES)	100 YEAR DISCHARGE (CFS)
1	6.51	13.82
2	4.86	10.23
3	5.42	2.92
4	5.42	2.92
5	2.31	4.27
6	3.68	6.51



GRAPHIC SCALE
SCALE 1"=60'
0 30 60 120 180 240

	COUNTY OF RIVERSIDE	DESIGN: JRB DRAFT: JRB
	ON-SITE HYDROLOGY MAP CPV SENTINEL ENERGY PROJECT	CHECK: DRR DATE: JAN 2008
		HY1053101.DWG
	FOR: CALIFORNIA ENERGY COMMISSION	SHEET 1 OF 1



LEGEND

—— SOILS GROUP BOUNDARY

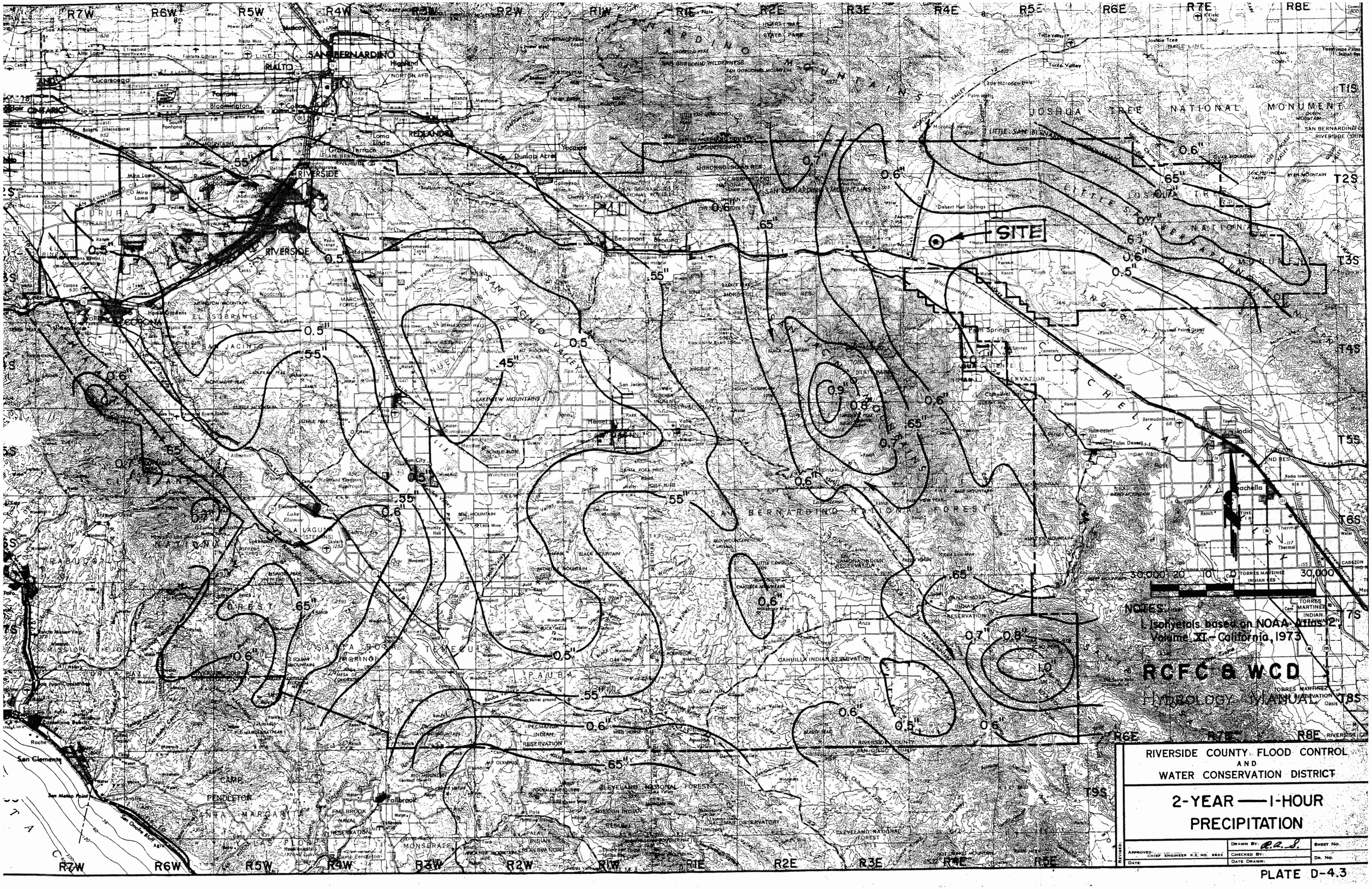
A SOILS GROUP DESIGNATION

RCFC&WCD

HYDROLOGY MANUAL

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR DESERT HOT SPRINGS



RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

2-YEAR — 1-HOUR PRECIPITATION

APPROVED CHIEF ENGINEER R.E. NO. 8822 DATE	DRAWN BY: R.A.S. CHECKED BY: DATE DRAWN:	SHEET No. DR. No.
REVISED		

PLATE D-4.3

SITE

NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973

RCFC & WCD
HYDROLOGY MANUAL

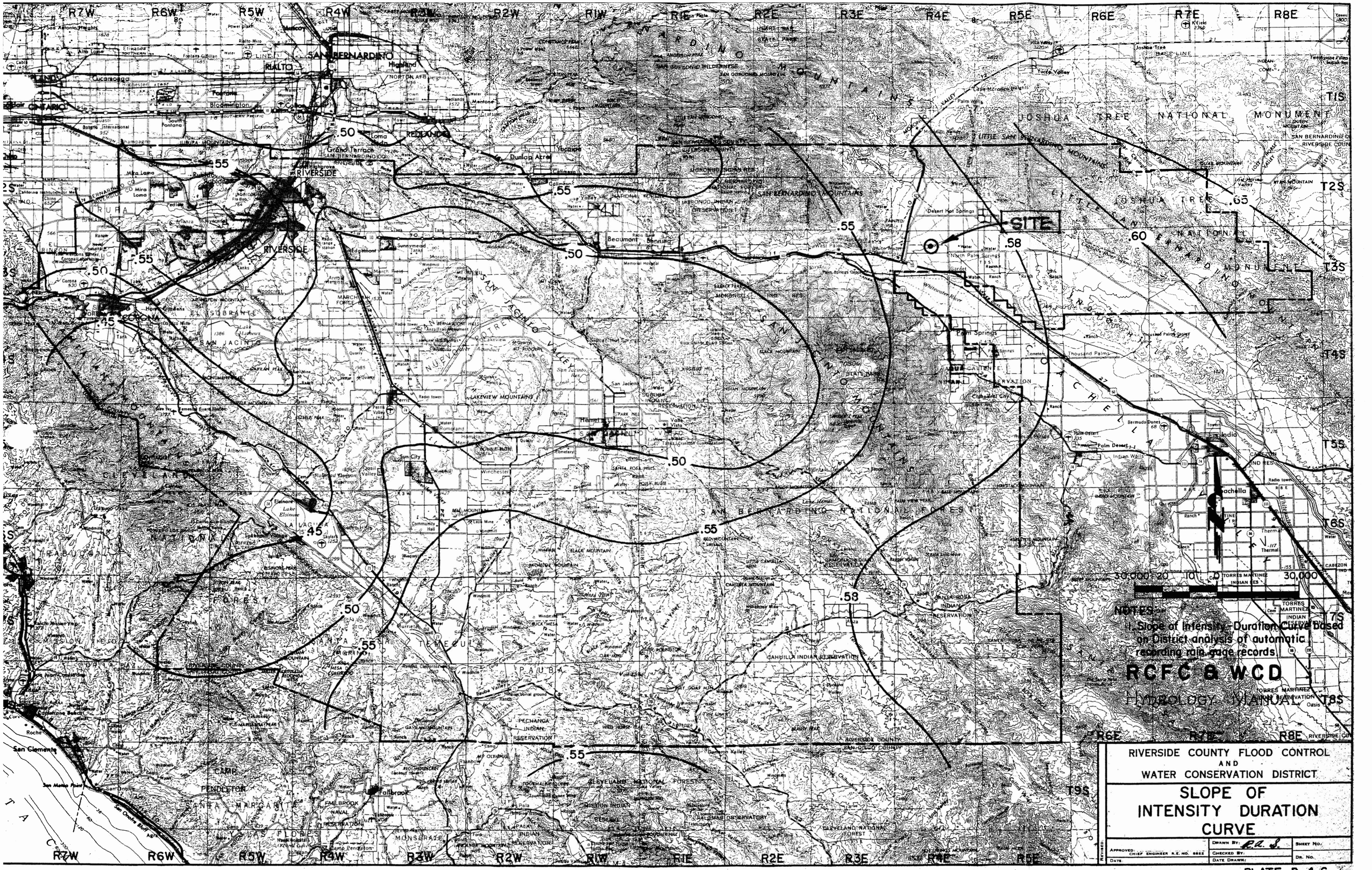
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

100-YEAR — 1-HOUR PRECIPITATION

APPROVED: CHIEF ENGINEER R.E. NO. 6822	DRAWN BY: R.A.S.	SHEET NO.
DATE	CHECKED BY:	DR. NO.
	DATE DRAWN:	

REVISED

PLATE D-4.4

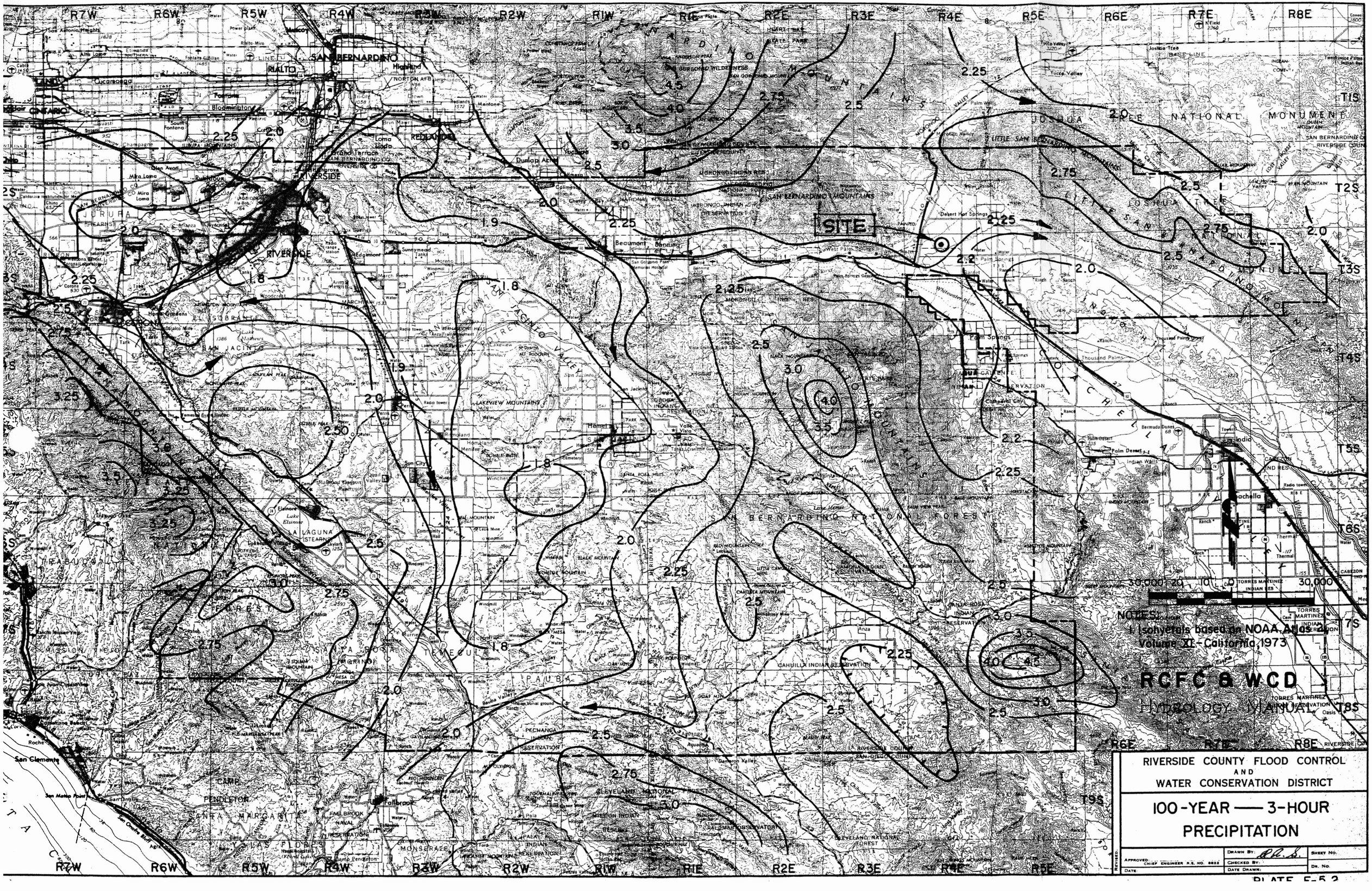


RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

SLOPE OF INTENSITY DURATION CURVE

APPROVED: CHIEF ENGINEER R.E. NO. 6822	DRAWN BY: R.A.S.	SHEET NO.
DATE	CHECKED BY:	DR. NO.
REVISED:	DATE DRAWN:	

PLATE D-4.6



NOTES:
1. Isohyetals based on NOAA Atlas 2 Volume XI - California, 1973

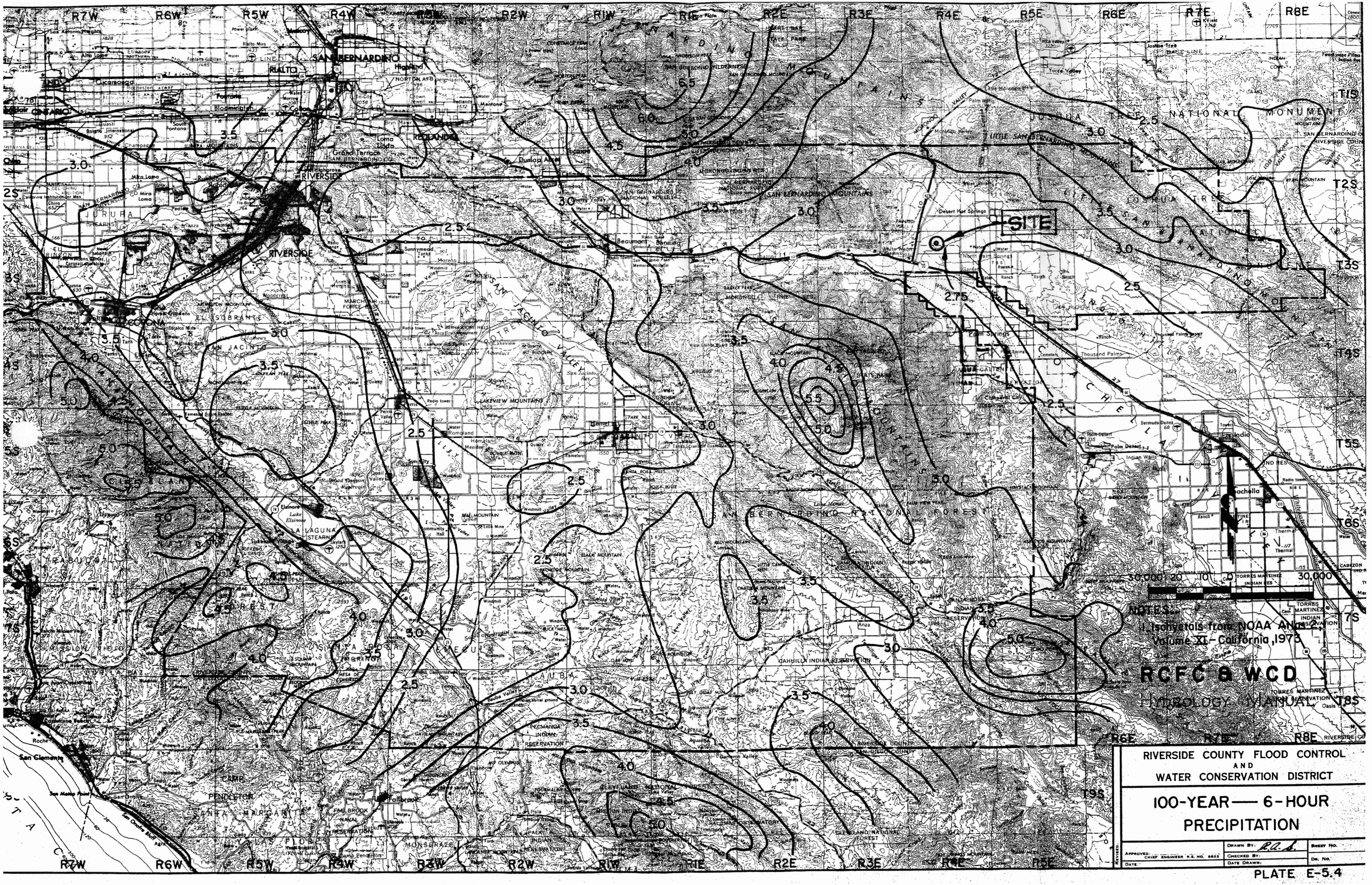
RCFC & WCD
HYDROLOGY MANUAL

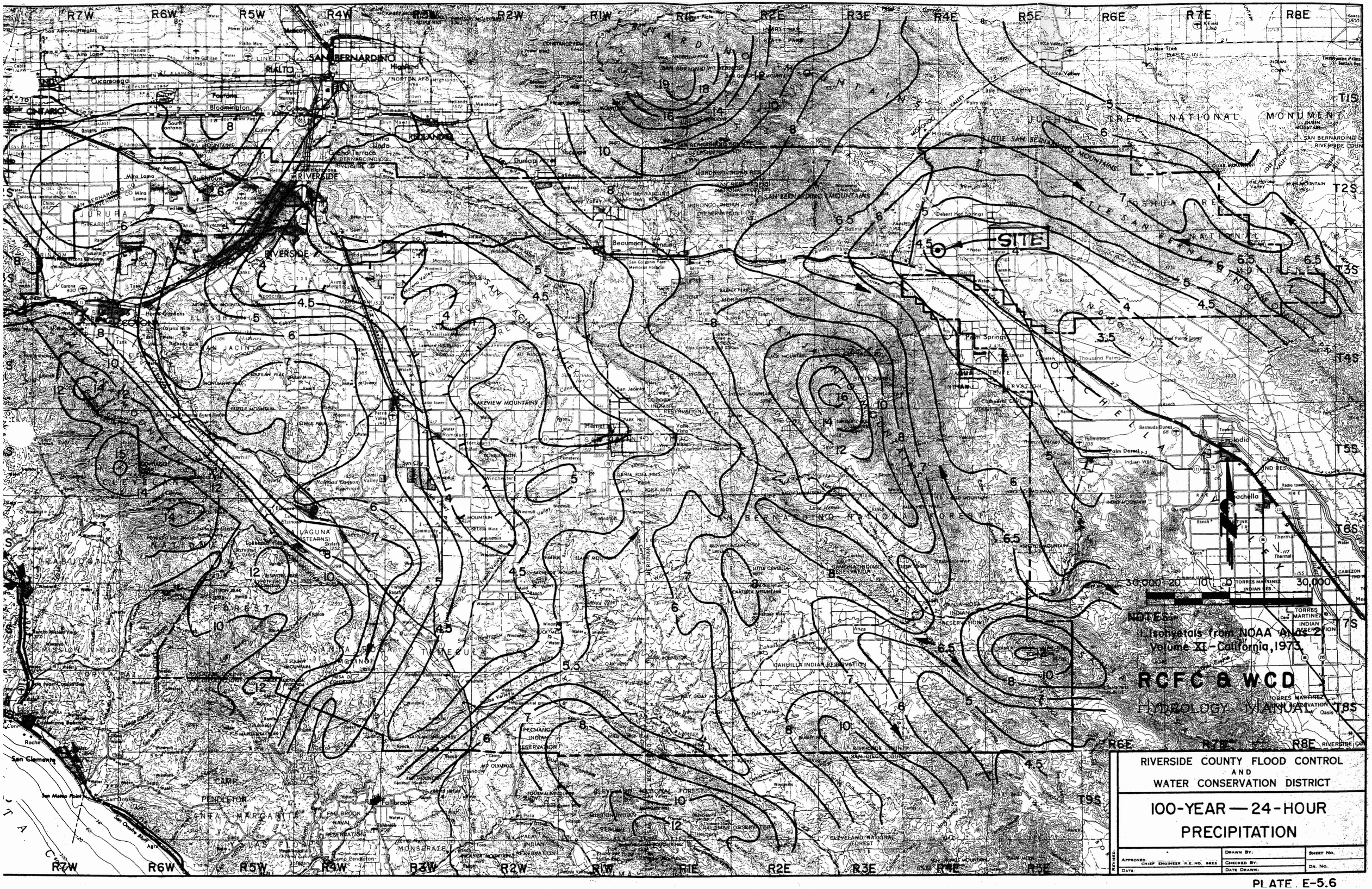
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

100-YEAR — 3-HOUR PRECIPITATION

APPROVED: CHIEF ENGINEER R.E. NO. 8822	DRAWN BY: R.L.S.	SHEET NO.
DATE:	CHECKED BY:	DR. NO.
REVISED:	DATE DRAWN:	

PLATE E-5.2


SITE
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 6-HOUR PRECIPITATION
PLATE E-5.4



NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.

RCFC & WCD
HYDROLOGY MANUAL

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

100-YEAR — 24-HOUR PRECIPITATION

APPROVED CHIEF ENGINEER R.E. NO. 6822	DRAWN BY:	SHEET NO.
DATE	CHECKED BY:	DR. NO.
REVISED	DATE DRAWN:	

PLATE E-5.6

	A	B	C	D
1	**RCFCD SYNTHETIC UNIT HYDROGRAPH**			
2	DATA INPUT SHEET			
3				
4	WORKSHEET PREPARED BY:	JAMES R. BAZUA		
5				
6	PROJECT NAME	CPV SENTINEL ENERGY PROJECT		
7	TKC JOB #	201_105300		
8				
9	CONCENTRATION POINT DESIGNATION	RETENTION BASIN		
10	AREA DESIGNATION	POWER PLAN		
11				
12	TRIBUTARY AREAS	ACRES		
13				
14	COMMERCIAL			
15	PAVING/HARDSCAPE			
16	SF - 1 ACRE	30		
17	SF - 1/2 ACRE			
18	SF - 1/4 ACRE			
19	MF - CONDOMINIUMS			
20	MF - APARTMENTS			
21	MOBILE HOME PARK			
22	LANDSCAPING			
23	RETENTION BASIN	0.46		
24	GOLF COURSE			
25	MOUNTAINOUS			
26	LOW LOSS RATE (PERCENT)	90%		
27				
28	LENGTH OF WATERCOURSE (L)	1900		
29	LENGTH TO POINT OPPOSITE CENTROID (Lca)	1000		
30				
31	ELEVATION OF HEADWATER	1092.7		
32	ELEVATION OF CONCENTRATION POINT	1075		
33				
34	AVERAGE MANNINGS 'N' VALUE	0.02		
35				
36	STORM FREQUENCY (YEAR)	100		
37				
38	POINT RAIN			
39	3-HOUR	2.4		
40	6-HOUR	2.8		
41	24-HOUR	5		
42				
43	BASIN CHARACTERISTICS:	ELEVATION	AREA	
44		1039.6	800	
45		1040	13250	
46		1041	16616	
47		1042	20054	
48		1043	23564	
49		1044	27146	
50		1045	30800	
51				
52	PERCOLATION RATE (in/hr)	5		
53				
54	DRYWELL DATA			
55	NUMBER USED	0		
56	PERCOLATION RATE (cfs)	0		

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD	PROJECT: CPV SENTINEL ENERGY PROJECT		
BASIC DATA CALCULATION FORM	TKC JOB # 201_105300		
SHORTCUT METHOD	BY MES R. BAZUA	DATE	12/19/2007

PHYSICAL DATA

[1] CONCENTRATION POINT	RETENTION BASIN
[2] AREA DESIGNATION	POWER PLAN
[3] AREA - ACRES	30.460
[4] L-FEET	1900
[5] L-MILES	0.360
[6] La-FEET	1000.00
[7] La-MILES	0.189
[8] ELEVATION OF HEADWATER	1092.7
[9] ELEVATION OF CONCENTRATION POINT	1075
[10] H-FEET	17.7
[11] S-FEET/MILE	49.2
[12] S^0.5	7.01
[13] L*LCA/S^0.5	0.010
[14] AVERAGE MANNINGS 'N'	0.02
[15] LAG TIME-HOURS	0.08
[16] LAG TIME-MINUTES	5.0
[17] 100% OF LAG-MINUTES	5.0
[18] 200% OF LAG-MINUTES	9.9
[19] UNIT TIME-MINUTES (100%-200% OF LAG)	5
[24] TOTAL PERCOLATION RATE (cfs)	1.83

RAINFALL DATA

[1] SOURCE
[2] FREQUENCY-YEARS 100
[3] DURATION:

3-HOURS				6-HOURS				24-HOURS			
[4] POINT RAIN INCHES (Plate E-5.2)	[5] AREA	[6]	[7] AVERAGE POINT RAIN INCHES	[8] POINT RAIN INCHES (Plate E-5.4)	[9] AREA	[10]	[11] AVERAGE POINT RAIN INCHES	[12] POINT RAIN INCHES (Plate E-5.6)	[13] AREA	[14]	[15] AVERAGE POINT RAIN INCHES
2.40	30.460	1.00	2.40	2.80	30.460	1.00	2.80	5.00	30.460	1.00	5.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
		0.00	0.00			0.00	0.00			0.00	0.00
SUM [5]	30.46	SUM [7]	2.40	SUM [9]	30.46	SUM [11]	2.80	SUM [13]	30.46	SUM [15]	5.00
[16] AREA ADJ FACTOR			1.000				1.000				1.000
[17] ADJ AVG POINT RAIN			2.40				2.80				5.00

STORM EVENT SUMMARY

DURATION		3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	0.86	0.66	0.50
FLOOD VOLUME	(cu-ft)	95,016	73,520	54,767
	(acre-ft)	2.18	1.69	1.26
REQUIRED STORAGE	(cu-ft)	77,746	48,641	5,034
	(acre-ft)	1.78	1.12	0.12
FACTOR OF SAFETY		1.44	2.31	22.29
STORAGE PROVIDED	(cu-ft)	112,215		
	(acre-ft)	2.58		
PEAK FLOW	(cfs)	53.39	38.77	4.75
MAXIMUM WSEL	(ft)	1,043.78	1,042.58	1,040.15

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD

PROJECT CPV SENTINEL ENERGY PROJECT
CONCENTRATION POINT: RETENTION BASIN
BY JAMES R. BAZUA DATE 12/19/2007

ADJUSTED LOSS RATE

SOIL GROUP [Plate C-1]	LAND USE	RI NUMBER [Plate E-6.1]	PERVIOUS AREA INFILTRATION RATE (in/hr) [Plate E-6.2]	DECIMAL PERCENT OF AREA IMPERVIOUS [Plate E-6.3]	ADJUSTED INFILTRATION RATE (in/hr)	AREA		AVERAGE ADJUSTED INFILTRATION RATE (in/hr)
A	COMMERCIAL	32	0.74	90%	0.14	0.00	0.000	0.0000
A	PAVING/HARDSCAPE	32	0.74	100%	0.07	0.00	0.000	0.0000
A	SF - 1 ACRE	32	0.74	20%	0.61	30.00	0.985	0.5976
A	SF - 1/2 ACRE	32	0.74	40%	0.47	0.00	0.000	0.0000
A	SF - 1/4 ACRE	32	0.74	50%	0.41	0.00	0.000	0.0000
A	MF - CONDOMINIUMS	32	0.74	65%	0.31	0.00	0.000	0.0000
A	MF - APARTMENTS	32	0.74	80%	0.21	0.00	0.000	0.0000
A	MOBILE HOME PARKS	32	0.74	75%	0.24	0.00	0.000	0.0000
A	LANDSCAPING	32	0.74	0%	0.74	0.00	0.000	0.0000
A	RETENTION BASINS	32	0.74	0%	0.74	0.46	0.015	0.0112
A	GOLF COURSE	32	0.74	0%	0.74	0.00	0.000	0.0000
D	MOUNTAINOUS	93	0.95	90%	0.18	0.00	0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					0.00		0.000	0.0000
					SUM	30.46	SUM	0.6088

VARIABLE LOSS RATE CURVE (24-HOUR STORM ONLY)

Fm= 0.304405778
C= 0.00564

Ft=C(24-(T/60))^1.55 = 0.00564 (24-(T/60))^1.55 + 0.30 in/hr

LOW LOSS RATE (80-90 PERCENT) = 90%

Where:

T=Time in minutes. To get an average value for each unit time period, Use T=1/2 the unit time for the first time period, T=1 1/2 unit time for the second period, etc.

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD 100 YEAR - 3 HOUR STORM EVENT	PROJECT: CPV SENTINEL ENERGY PROJECT CONCENTRATION POINT: RETENTION BASIN BY: AMES R. BAZU DATE 12/19/2007

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	30.46		
UNIT TIME-MINUTES	5		
LAG TIME - MINUTES	4.95		
UNIT TIME-PERCENT OF LAG	101.0		
TOTAL ADJUSTED STORM RAIN-INCHES	2.40		
CONSTANT LOSS RATE-in/hr	0.61		
LOW LOSS RATE - PERCENT	90%	TOTAL PERCOLATION RATE (cfs)	1.83 cfs

Unit Time Period	Time		Pattern Percent	Storm Rain in/hr	Loss Rate in/hr		Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
	Minutes	Hours	(Plate E-5.9)		Max	Low			
1	5	0.08	1.3	0.374	0.61	0.34	0.04	1.14	0.00
2	10	0.17	1.3	0.374	0.61	0.34	0.04	1.14	0.00
3	15	0.25	1.1	0.317	0.61	0.29	0.03	0.96	0.00
4	20	0.33	1.5	0.432	0.61	0.39	0.04	1.32	0.00
5	25	0.42	1.5	0.432	0.61	0.39	0.04	1.32	0.00
6	30	0.50	1.8	0.518	0.61	0.47	0.05	1.58	0.00
7	35	0.58	1.5	0.432	0.61	0.39	0.04	1.32	0.00
8	40	0.67	1.8	0.518	0.61	0.47	0.05	1.58	0.00
9	45	0.75	1.8	0.518	0.61	0.47	0.05	1.58	0.00
10	50	0.83	1.5	0.432	0.61	0.39	0.04	1.32	0.00
11	55	0.92	1.6	0.461	0.61	0.41	0.05	1.40	0.00
12	60	1.00	1.8	0.518	0.61	0.47	0.05	1.58	0.00
13	65	1.08	2.2	0.634	0.61	0.57	0.02	0.76	0.00
14	70	1.17	2.2	0.634	0.61	0.57	0.02	0.76	0.00
15	75	1.25	2.2	0.634	0.61	0.57	0.02	0.76	0.00
16	80	1.33	2.0	0.576	0.61	0.52	0.06	1.75	0.00
17	85	1.42	2.6	0.749	0.61	0.67	0.14	4.26	730.60
18	90	1.50	2.7	0.778	0.61	0.70	0.17	5.14	993.78
19	95	1.58	2.4	0.691	0.61	0.62	0.08	2.51	204.25
20	100	1.67	2.7	0.778	0.61	0.70	0.17	5.14	993.78
21	105	1.75	3.3	0.950	0.61	0.86	0.34	10.40	2572.82
22	110	1.83	3.1	0.893	0.61	0.80	0.28	8.65	2046.48
23	115	1.92	2.9	0.835	0.61	0.75	0.23	6.90	1520.13
24	120	2.00	3.0	0.864	0.61	0.78	0.26	7.77	1783.30
25	125	2.08	3.1	0.893	0.61	0.80	0.28	8.65	2046.48
26	130	2.17	4.2	1.210	0.61	1.09	0.60	18.30	4941.39
27	135	2.25	5.0	1.440	0.61	1.30	0.83	25.32	7046.79
28	140	2.33	3.5	1.008	0.61	0.91	0.40	12.16	3099.17
29	145	2.42	6.8	1.958	0.61	1.76	1.35	41.11	11783.93
30	150	2.50	7.3	2.102	0.61	1.89	1.49	45.49	13099.80
31	155	2.58	8.2	2.362	0.61	2.13	1.75	53.39	15468.37
32	160	2.67	5.9	1.699	0.61	1.53	1.09	33.21	9415.36
33	165	2.75	2.0	0.576	0.61	0.52	0.06	1.75	0.00
34	170	2.83	1.8	0.518	0.61	0.47	0.05	1.58	0.00
35	175	2.92	1.8	0.518	0.61	0.47	0.05	1.58	0.00
36	180	3.00	0.6	0.173	0.61	0.16	0.02	0.53	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.86
FLOOD VOLUME (acft)	2.18
FLOOD VOLUME (cuft)	95016.14
REQUIRED STORAGE (acft)	1.78
REQUIRED STORAGE (cuft)	77746.43
PEAK FLOW RATE (cfs)	53.39

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD 100 YEAR - 6 HOUR STORM EVENT	PROJECT: CPV SENTINEL ENERGY PROJECT CONCENTRATION POINT: RETENTION BASIN BY: JAMES R. BAZ DATE: 12/19/2007

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	30.46		
UNIT TIME-MINUTES	5		
LAG TIME - MINUTES	4.95		
UNIT TIME-PERCENT OF LAG	101.0		
TOTAL ADJUSTED STORM RAIN-INCHES	2.80		
CONSTANT LOSS RATE-in/hr	0.609		
LOW LOSS RATE - PERCENT	90%	TOTAL PERCOLATION RATE (cfs)	1.83 cfs

Unit Time Period	Time		Pattern Percent	Storm Rain in/hr	Loss Rate in/hr		Effective Rain	Flood Hydrograph Flow	Required Storage
	Minutes	Hours	(Plate E-5.9)		Max	Low	in/hr	cfs	cf
1	5	0.08	0.5	0.168	0.61	0.15	0.02	0.51	0.00
2	10	0.17	0.6	0.202	0.61	0.18	0.02	0.61	0.00
3	15	0.25	0.6	0.202	0.61	0.18	0.02	0.61	0.00
4	20	0.33	0.6	0.202	0.61	0.18	0.02	0.61	0.00
5	25	0.42	0.6	0.202	0.61	0.18	0.02	0.61	0.00
6	30	0.50	0.7	0.235	0.61	0.21	0.02	0.72	0.00
7	35	0.58	0.7	0.235	0.61	0.21	0.02	0.72	0.00
8	40	0.67	0.7	0.235	0.61	0.21	0.02	0.72	0.00
9	45	0.75	0.7	0.235	0.61	0.21	0.02	0.72	0.00
10	50	0.83	0.7	0.235	0.61	0.21	0.02	0.72	0.00
11	55	0.92	0.7	0.235	0.61	0.21	0.02	0.72	0.00
12	60	1.00	0.8	0.269	0.61	0.24	0.03	0.82	0.00
13	65	1.08	0.8	0.269	0.61	0.24	0.03	0.82	0.00
14	70	1.17	0.8	0.269	0.61	0.24	0.03	0.82	0.00
15	75	1.25	0.8	0.269	0.61	0.24	0.03	0.82	0.00
16	80	1.33	0.8	0.269	0.61	0.24	0.03	0.82	0.00
17	85	1.42	0.8	0.269	0.61	0.24	0.03	0.82	0.00
18	90	1.50	0.8	0.269	0.61	0.24	0.03	0.82	0.00
19	95	1.58	0.8	0.269	0.61	0.24	0.03	0.82	0.00
20	100	1.67	0.8	0.269	0.61	0.24	0.03	0.82	0.00
21	105	1.75	0.8	0.269	0.61	0.24	0.03	0.82	0.00
22	110	1.83	0.8	0.269	0.61	0.24	0.03	0.82	0.00
23	115	1.92	0.8	0.269	0.61	0.24	0.03	0.82	0.00
24	120	2.00	0.9	0.302	0.61	0.27	0.03	0.92	0.00
25	125	2.08	0.8	0.269	0.61	0.24	0.03	0.82	0.00
26	130	2.17	0.9	0.302	0.61	0.27	0.03	0.92	0.00
27	135	2.25	0.9	0.302	0.61	0.27	0.03	0.92	0.00
28	140	2.33	0.9	0.302	0.61	0.27	0.03	0.92	0.00
29	145	2.42	0.9	0.302	0.61	0.27	0.03	0.92	0.00
30	150	2.50	0.9	0.302	0.61	0.27	0.03	0.92	0.00
31	155	2.58	0.9	0.302	0.61	0.27	0.03	0.92	0.00
32	160	2.67	0.9	0.302	0.61	0.27	0.03	0.92	0.00
33	165	2.75	1.0	0.336	0.61	0.30	0.03	1.02	0.00
34	170	2.83	1.0	0.336	0.61	0.30	0.03	1.02	0.00
35	175	2.92	1.0	0.336	0.61	0.30	0.03	1.02	0.00
36	180	3.00	1.0	0.336	0.61	0.30	0.03	1.02	0.00
37	185	3.08	1.0	0.336	0.61	0.30	0.03	1.02	0.00
38	190	3.17	1.1	0.370	0.61	0.33	0.04	1.13	0.00
39	195	3.25	1.1	0.370	0.61	0.33	0.04	1.13	0.00
40	200	3.33	1.1	0.370	0.61	0.33	0.04	1.13	0.00
41	205	3.42	1.2	0.403	0.61	0.36	0.04	1.23	0.00
42	210	3.50	1.3	0.437	0.61	0.39	0.04	1.33	0.00
43	215	3.58	1.4	0.470	0.61	0.42	0.05	1.43	0.00
44	220	3.67	1.4	0.470	0.61	0.42	0.05	1.43	0.00
45	225	3.75	1.5	0.504	0.61	0.45	0.05	1.54	0.00
46	230	3.83	1.5	0.504	0.61	0.45	0.05	1.54	0.00
47	235	3.92	1.6	0.538	0.61	0.48	0.05	1.64	0.00
48	240	4.00	1.6	0.538	0.61	0.48	0.05	1.64	0.00
49	245	4.08	1.7	0.571	0.61	0.51	0.06	1.74	0.00
50	250	4.17	1.8	0.605	0.61	0.54	0.06	1.84	4.06
51	255	4.25	1.9	0.638	0.61	0.57	0.03	0.90	0.00
52	260	4.33	2.0	0.672	0.61	0.60	0.06	1.92	28.80
53	265	4.42	2.1	0.706	0.61	0.64	0.10	2.95	335.84
54	270	4.50	2.1	0.706	0.61	0.64	0.10	2.95	335.84
55	275	4.58	2.2	0.739	0.61	0.67	0.13	3.97	642.88
56	280	4.67	2.3	0.773	0.61	0.70	0.16	5.00	949.92

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD 100 YEAR - 6 HOUR STORM EVENT	PROJECT: CPV SENTINEL ENERGY PROJECT CONCENTRATION POINT: RETENTION BASIN BY: JAMES R. BAZ DATE: 12/19/2007

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	30.46		
UNIT TIME-MINUTES	5		
LAG TIME - MINUTES	4.95		
UNIT TIME-PERCENT OF LAG	101.0		
TOTAL ADJUSTED STORM RAIN-INCHES	2.80		
CONSTANT LOSS RATE-in/hr	0.609		
LOW LOSS RATE - PERCENT	90%	TOTAL PERCOLATION RATE (cfs)	1.83 cfs

Unit Time Period	Time		Pattern Percent	Storm Rain in/hr	Loss Rate in/hr		Effective Rain	Flood Hydrograph Flow	Required Storage
	Minutes	Hours	(Plate E-5.9)		Max	Low	in/hr	cfs	cf
57	285	4.75	2.4	0.806	0.61	0.73	0.20	6.02	1256.95
58	290	4.83	2.4	0.806	0.61	0.73	0.20	6.02	1256.95
59	295	4.92	2.5	0.840	0.61	0.76	0.23	7.04	1563.99
60	300	5.00	2.6	0.874	0.61	0.79	0.26	8.07	1871.03
61	305	5.08	3.1	1.042	0.61	0.94	0.43	13.18	3406.21
62	310	5.17	3.6	1.210	0.61	1.09	0.60	18.30	4941.39
63	315	5.25	3.9	1.310	0.61	1.18	0.70	21.37	5862.50
64	320	5.33	4.2	1.411	0.61	1.27	0.80	24.44	6783.61
65	325	5.42	4.7	1.579	0.61	1.42	0.97	29.56	8318.80
66	330	5.50	5.6	1.882	0.61	1.69	1.27	38.77	11082.13
67	335	5.58	1.9	0.638	0.61	0.57	0.03	0.90	0.00
68	340	5.67	0.9	0.302	0.61	0.27	0.03	0.92	0.00
69	345	5.75	0.6	0.202	0.61	0.18	0.02	0.61	0.00
70	350	5.83	0.5	0.168	0.61	0.15	0.02	0.51	0.00
71	355	5.92	0.3	0.101	0.61	0.09	0.01	0.31	0.00
72	360	6.00	0.2	0.067	0.61	0.06	0.01	0.20	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.66
FLOOD VOLUME (acft)	1.69
FLOOD VOLUME (cuft)	73520.02
REQUIRED STORAGE (acft)	1.12
REQUIRED STORAGE (cuft)	48640.91
PEAK FLOW RATE (cfs)	38.77

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD 100 YEAR - 24 HOUR STORM EVENT	PROJECT: CPV SENTINEL ENERGY PROJECT CONCENTRATION POINT: RETENTION BASIN BY: JAMES R. BAZ DATE: 12/19/2007

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	30.460	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.6088
LAG TIME - MINUTES	4.95	MINIMUM LOSS RATE (for var. loss) - in/hr	0.304
UNIT TIME-PERCENT OF LAG	303.0	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	5.00	C	0.00564
		PERCOLATION RATE (cfs)	1.83

Unit Time Period	Time		Pattern Percent	Storm Rain in/hr	Loss Rate in/hr		Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
	Minutes	Hours	(Plate E-5.9)		Max	Low			
1	15	0.25	0.2	0.040	1.075	0.036	0.004	0.12	0.00
2	30	0.50	0.3	0.060	1.063	0.054	0.006	0.18	0.00
3	45	0.75	0.3	0.060	1.050	0.054	0.006	0.18	0.00
4	60	1.00	0.4	0.080	1.038	0.072	0.008	0.24	0.00
5	75	1.25	0.3	0.060	1.026	0.054	0.006	0.18	0.00
6	90	1.50	0.3	0.060	1.013	0.054	0.006	0.18	0.00
7	105	1.75	0.3	0.060	1.001	0.054	0.006	0.18	0.00
8	120	2.00	0.4	0.080	0.989	0.072	0.008	0.24	0.00
9	135	2.25	0.4	0.080	0.977	0.072	0.008	0.24	0.00
10	150	2.50	0.4	0.080	0.965	0.072	0.008	0.24	0.00
11	165	2.75	0.5	0.100	0.954	0.090	0.010	0.30	0.00
12	180	3.00	0.5	0.100	0.942	0.090	0.010	0.30	0.00
13	195	3.25	0.5	0.100	0.930	0.090	0.010	0.30	0.00
14	210	3.50	0.5	0.100	0.919	0.090	0.010	0.30	0.00
15	225	3.75	0.5	0.100	0.907	0.090	0.010	0.30	0.00
16	240	4.00	0.6	0.120	0.896	0.108	0.012	0.37	0.00
17	255	4.25	0.6	0.120	0.884	0.108	0.012	0.37	0.00
18	270	4.50	0.7	0.140	0.873	0.126	0.014	0.43	0.00
19	285	4.75	0.7	0.140	0.862	0.126	0.014	0.43	0.00
20	300	5.00	0.8	0.160	0.851	0.144	0.016	0.49	0.00
21	315	5.25	0.6	0.120	0.840	0.108	0.012	0.37	0.00
22	330	5.50	0.7	0.140	0.829	0.126	0.014	0.43	0.00
23	345	5.75	0.8	0.160	0.818	0.144	0.016	0.49	0.00
24	360	6.00	0.8	0.160	0.807	0.144	0.016	0.49	0.00
25	375	6.25	0.9	0.180	0.796	0.162	0.018	0.55	0.00
26	390	6.50	0.9	0.180	0.786	0.162	0.018	0.55	0.00
27	405	6.75	1.0	0.200	0.775	0.180	0.020	0.61	0.00
28	420	7.00	1.0	0.200	0.765	0.180	0.020	0.61	0.00
29	435	7.25	1.0	0.200	0.754	0.180	0.020	0.61	0.00
30	450	7.50	1.1	0.220	0.744	0.198	0.022	0.67	0.00
31	465	7.75	1.2	0.240	0.734	0.216	0.024	0.73	0.00
32	480	8.00	1.3	0.260	0.724	0.234	0.026	0.79	0.00
33	495	8.25	1.5	0.300	0.714	0.270	0.030	0.91	0.00
34	510	8.50	1.5	0.300	0.704	0.270	0.030	0.91	0.00
35	525	8.75	1.6	0.320	0.694	0.288	0.032	0.97	0.00
36	540	9.00	1.7	0.340	0.684	0.306	0.034	1.04	0.00
37	555	9.25	1.9	0.380	0.675	0.342	0.038	1.16	0.00
38	570	9.50	2.0	0.400	0.665	0.360	0.040	1.22	0.00
39	585	9.75	2.1	0.420	0.655	0.378	0.042	1.28	0.00
40	600	10.00	2.2	0.440	0.646	0.396	0.044	1.34	0.00
41	615	10.25	1.5	0.300	0.637	0.270	0.030	0.91	0.00
42	630	10.50	1.5	0.300	0.627	0.270	0.030	0.91	0.00
43	645	10.75	2.0	0.400	0.618	0.360	0.040	1.22	0.00
44	660	11.00	2.0	0.400	0.609	0.360	0.040	1.22	0.00
45	675	11.25	1.9	0.380	0.600	0.342	0.038	1.16	0.00
46	690	11.50	1.9	0.380	0.591	0.342	0.038	1.16	0.00
47	705	11.75	1.7	0.340	0.583	0.306	0.034	1.04	0.00
48	720	12.00	1.8	0.360	0.574	0.324	0.036	1.10	0.00
49	735	12.25	2.5	0.500	0.565	0.450	0.050	1.52	0.00
50	750	12.50	2.6	0.520	0.557	0.468	0.052	1.58	0.00
51	765	12.75	2.8	0.560	0.549	0.504	0.011	0.35	0.00
52	780	13.00	2.9	0.580	0.540	0.522	0.040	1.21	0.00
53	795	13.25	3.4	0.680	0.532	0.612	0.148	4.50	2406.22
54	810	13.50	3.4	0.680	0.524	0.612	0.156	4.75	2627.31
55	825	13.75	2.3	0.460	0.516	0.414	0.046	1.40	0.00
56	840	14.00	2.3	0.460	0.508	0.414	0.046	1.40	0.00
57	855	14.25	2.7	0.540	0.501	0.486	0.039	1.20	0.00
58	870	14.50	2.6	0.520	0.493	0.468	0.027	0.83	0.00
59	885	14.75	2.6	0.520	0.485	0.468	0.035	1.05	0.00
60	900	15.00	2.5	0.500	0.478	0.450	0.022	0.67	0.00
61	915	15.25	2.4	0.480	0.471	0.432	0.009	0.29	0.00

RCFCD SYNTHETIC UNIT HYDROGRAPH METHOD 100 YEAR - 24 HOUR STORM EVENT	PROJECT: CPV SENTINEL ENERGY PROJECT CONCENTRATION POINT: RETENTION BASIN BY: JAMES R. BAZ DATE: 12/19/2007

EFFECTIVE RAIN CALCULATION FORM

DRAINAGE AREA-ACRES	30.460	CONSTANT LOSS RATE-in/hr	n/a
UNIT TIME-MINUTES	15	VARIABLE LOSS RATE (AVG) in/hr	0.6088
LAG TIME - MINUTES	4.95	MINIMUM LOSS RATE (for var. loss) - in/hr	0.304
UNIT TIME-PERCENT OF LAG	303.0	LOW LOSS RATE - DECIMAL	0.90
TOTAL ADJUSTED STORM RAIN-INCHES	5.00	C	0.00564
		PERCOLATION RATE (cfs)	1.83

Unit Time Period	Time		Pattern Percent	Storm Rain in/hr	Loss Rate in/hr		Effective Rain in/hr	Flood Hydrograph Flow cfs	Required Storage cf
	Minutes	Hours	(Plate E-5.9)		Max	Low			
62	930	15.50	2.3	0.460	0.463	0.414	0.046	1.40	0.00
63	945	15.75	1.9	0.380	0.456	0.342	0.038	1.16	0.00
64	960	16.00	1.9	0.380	0.449	0.342	0.038	1.16	0.00
65	975	16.25	0.4	0.080	0.443	0.072	0.008	0.24	0.00
66	990	16.50	0.4	0.080	0.436	0.072	0.008	0.24	0.00
67	1005	16.75	0.3	0.060	0.429	0.054	0.006	0.18	0.00
68	1020	17.00	0.3	0.060	0.423	0.054	0.006	0.18	0.00
69	1035	17.25	0.5	0.100	0.416	0.090	0.010	0.30	0.00
70	1050	17.50	0.5	0.100	0.410	0.090	0.010	0.30	0.00
71	1065	17.75	0.5	0.100	0.404	0.090	0.010	0.30	0.00
72	1080	18.00	0.4	0.080	0.398	0.072	0.008	0.24	0.00
73	1095	18.25	0.4	0.080	0.392	0.072	0.008	0.24	0.00
74	1110	18.50	0.4	0.080	0.386	0.072	0.008	0.24	0.00
75	1125	18.75	0.3	0.060	0.381	0.054	0.006	0.18	0.00
76	1140	19.00	0.2	0.040	0.375	0.036	0.004	0.12	0.00
77	1155	19.25	0.3	0.060	0.370	0.054	0.006	0.18	0.00
78	1170	19.50	0.4	0.080	0.365	0.072	0.008	0.24	0.00
79	1185	19.75	0.3	0.060	0.360	0.054	0.006	0.18	0.00
80	1200	20.00	0.2	0.040	0.355	0.036	0.004	0.12	0.00
81	1215	20.25	0.3	0.060	0.350	0.054	0.006	0.18	0.00
82	1230	20.50	0.3	0.060	0.346	0.054	0.006	0.18	0.00
83	1245	20.75	0.3	0.060	0.342	0.054	0.006	0.18	0.00
84	1260	21.00	0.2	0.040	0.337	0.036	0.004	0.12	0.00
85	1275	21.25	0.3	0.060	0.333	0.054	0.006	0.18	0.00
86	1290	21.50	0.2	0.040	0.330	0.036	0.004	0.12	0.00
87	1305	21.75	0.3	0.060	0.326	0.054	0.006	0.18	0.00
88	1320	22.00	0.2	0.040	0.323	0.036	0.004	0.12	0.00
89	1335	22.25	0.3	0.060	0.319	0.054	0.006	0.18	0.00
90	1350	22.50	0.2	0.040	0.316	0.036	0.004	0.12	0.00
91	1365	22.75	0.2	0.040	0.314	0.036	0.004	0.12	0.00
92	1380	23.00	0.2	0.040	0.311	0.036	0.004	0.12	0.00
93	1395	23.25	0.2	0.040	0.309	0.036	0.004	0.12	0.00
94	1410	23.50	0.2	0.040	0.307	0.036	0.004	0.12	0.00
95	1425	23.75	0.2	0.040	0.306	0.036	0.004	0.12	0.00
96	1440	24.00	0.2	0.040	0.305	0.036	0.004	0.12	0.00

EFFECTIVE RAIN & FLOOD VOLUMES SUMMARY

EFFECTIVE RAIN (in)	0.50
FLOOD VOLUME (acft)	1.26
FLOOD VOLUME (cuft)	54766.94
REQUIRED STORAGE (acft)	0.12
REQUIRED STORAGE (cuft)	5033.53
PEAK FLOW (cfs)	4.75

PROJECT: CPV SENTINEL ENERGY PROJECT
TKC JOB # 201_105300
RETENTION BASIN

BASIN CHARACTERISTICS

CONTOUR	DEPTH		AREA		VOLUME		
	INCR (ft)	TOTAL (ft)	INCR (sf)	TOTAL (sf)	INCR (cuft)	TOTAL (cuft)	(acre-ft)
1039.6	0	0		800	0	0	0.00
1040	0.4	0.4	12450	13250	2810	2810	0.06
1041	1	1.4	3366	16616	14933	17743	0.41
1042	1	2.4	3438	20054	18335	36078	0.83
1043	1	3.4	3510	23564	21809	57887	1.33
1044	1	4.4	3582	27146	25355	83242	1.91
1045	1	5.4	3654	30800	28973	112215	2.58

PERCOLATION CALCULATIONS

PERCOLATION RATE	5 in/hr	1.83 cfs

MAXWELL IV DRYWELLS

NUMBER USED	0	
RATE/DRYWELL	0 cfs	
TOTAL DISSIPATED		0 cfs

TOTAL PERCOLATION RATE 1.83 cfs

CPV SENTINEL ENERGY PROJECT
TKC JOB # 201_105300
100 YEAR - 3 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	1.14	342	342	549	-	1,039.60	-	0.00
2	10	1.14	342	342	549	-	1,039.60	-	0.00
3	15	0.96	289	289	549	-	1,039.60	-	0.00
4	20	1.32	395	395	549	-	1,039.60	-	0.00
5	25	1.32	395	395	549	-	1,039.60	-	0.00
6	30	1.58	474	474	549	-	1,039.60	-	0.00
7	35	1.32	395	395	549	-	1,039.60	-	0.00
8	40	1.58	474	474	549	-	1,039.60	-	0.00
9	45	1.58	474	474	549	-	1,039.60	-	0.00
10	50	1.32	395	395	549	-	1,039.60	-	0.00
11	55	1.40	421	421	549	-	1,039.60	-	0.00
12	60	1.58	474	474	549	-	1,039.60	-	0.00
13	65	0.76	227	227	549	-	1,039.60	-	0.00
14	70	0.76	227	227	549	-	1,039.60	-	0.00
15	75	0.76	227	227	549	-	1,039.60	-	0.00
16	80	1.75	526	526	549	-	1,039.60	-	0.00
17	85	4.26	1,279	1,279	549	731	1,039.70	731	0.02
18	90	5.14	1,542	2,273	549	1,724	1,039.85	1,724	0.04
19	95	2.51	753	2,477	549	1,929	1,039.87	1,929	0.04
20	100	5.14	1,542	3,471	549	2,922	1,040.01	2,922	0.07
21	105	10.40	3,121	6,044	549	5,495	1,040.18	5,495	0.13
22	110	8.65	2,595	8,090	549	7,542	1,040.32	7,542	0.17
23	115	6.90	2,069	9,610	549	9,062	1,040.42	9,062	0.21
24	120	7.77	2,332	11,394	549	10,845	1,040.54	10,845	0.25
25	125	8.65	2,595	13,440	549	12,892	1,040.68	12,892	0.30
26	130	18.30	5,490	18,382	549	17,833	1,041.00	17,833	0.41
27	135	25.32	7,595	25,428	549	24,880	1,041.39	24,880	0.57
28	140	12.16	3,648	28,528	549	27,979	1,041.56	27,979	0.64
29	145	41.11	12,333	40,312	549	39,763	1,042.17	39,763	0.91
30	150	45.49	13,648	53,411	549	52,863	1,042.77	52,863	1.21
31	155	53.39	16,017	68,880	549	68,331	1,043.41	68,331	1.57
32	160	33.21	9,964	78,295	549	77,746	1,043.78	77,746	1.78
33	165	1.75	526	78,273	549	77,724	1,043.78	77,724	1.78
34	170	1.58	474	78,198	549	77,649	1,043.78	77,649	1.78
35	175	1.58	474	78,123	549	77,574	1,043.78	77,574	1.78
36	180	0.53	158	77,732	549	77,184	1,043.76	77,184	1.77

CPV SENTINEL ENERGY PROJECT
TKC JOB # 201_105300
100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	5	0.51	154	154	549	-	1,039.60	-	0.00
2	10	0.61	184	184	549	-	1,039.60	-	0.00
3	15	0.61	184	184	549	-	1,039.60	-	0.00
4	20	0.61	184	184	549	-	1,039.60	-	0.00
5	25	0.61	184	184	549	-	1,039.60	-	0.00
6	30	0.72	215	215	549	-	1,039.60	-	0.00
7	35	0.72	215	215	549	-	1,039.60	-	0.00
8	40	0.72	215	215	549	-	1,039.60	-	0.00
9	45	0.72	215	215	549	-	1,039.60	-	0.00
10	50	0.72	215	215	549	-	1,039.60	-	0.00
11	55	0.72	215	215	549	-	1,039.60	-	0.00
12	60	0.82	246	246	549	-	1,039.60	-	0.00
13	65	0.82	246	246	549	-	1,039.60	-	0.00
14	70	0.82	246	246	549	-	1,039.60	-	0.00
15	75	0.82	246	246	549	-	1,039.60	-	0.00
16	80	0.82	246	246	549	-	1,039.60	-	0.00
17	85	0.82	246	246	549	-	1,039.60	-	0.00
18	90	0.82	246	246	549	-	1,039.60	-	0.00
19	95	0.82	246	246	549	-	1,039.60	-	0.00
20	100	0.82	246	246	549	-	1,039.60	-	0.00
21	105	0.82	246	246	549	-	1,039.60	-	0.00
22	110	0.82	246	246	549	-	1,039.60	-	0.00
23	115	0.82	246	246	549	-	1,039.60	-	0.00
24	120	0.92	276	276	549	-	1,039.60	-	0.00
25	125	0.82	246	246	549	-	1,039.60	-	0.00
26	130	0.92	276	276	549	-	1,039.60	-	0.00
27	135	0.92	276	276	549	-	1,039.60	-	0.00
28	140	0.92	276	276	549	-	1,039.60	-	0.00
29	145	0.92	276	276	549	-	1,039.60	-	0.00
30	150	0.92	276	276	549	-	1,039.60	-	0.00
31	155	0.92	276	276	549	-	1,039.60	-	0.00
32	160	0.92	276	276	549	-	1,039.60	-	0.00
33	165	1.02	307	307	549	-	1,039.60	-	0.00
34	170	1.02	307	307	549	-	1,039.60	-	0.00
35	175	1.02	307	307	549	-	1,039.60	-	0.00
36	180	1.02	307	307	549	-	1,039.60	-	0.00
37	185	1.02	307	307	549	-	1,039.60	-	0.00
38	190	1.13	338	338	549	-	1,039.60	-	0.00
39	195	1.13	338	338	549	-	1,039.60	-	0.00
40	200	1.13	338	338	549	-	1,039.60	-	0.00
41	205	1.23	368	368	549	-	1,039.60	-	0.00
42	210	1.33	399	399	549	-	1,039.60	-	0.00
43	215	1.43	430	430	549	-	1,039.60	-	0.00
44	220	1.43	430	430	549	-	1,039.60	-	0.00
45	225	1.54	461	461	549	-	1,039.60	-	0.00
46	230	1.54	461	461	549	-	1,039.60	-	0.00
47	235	1.64	491	491	549	-	1,039.60	-	0.00
48	240	1.64	491	491	549	-	1,039.60	-	0.00
49	245	1.74	522	522	549	-	1,039.60	-	0.00
50	250	1.84	553	553	549	4	1,039.60	4	0.00
51	255	0.90	270	274	549	-	1,039.60	-	0.00
52	260	1.92	577	577	549	29	1,039.60	29	0.00
53	265	2.95	884	913	549	365	1,039.65	365	0.01
54	270	2.95	884	1,249	549	700	1,039.70	700	0.02

CPV SENTINEL ENERGY PROJECT
TKC JOB # 201_105300
100 YEAR - 6 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
55	275	3.97	1,191	1,892	549	1,343	1,039.79	1,343	0.03
56	280	5.00	1,499	2,842	549	2,293	1,039.93	2,293	0.05
57	285	6.02	1,806	4,099	549	3,550	1,040.05	3,550	0.08
58	290	6.02	1,806	5,356	549	4,807	1,040.13	4,807	0.11
59	295	7.04	2,113	6,920	549	6,371	1,040.24	6,371	0.15
60	300	8.07	2,420	8,791	549	8,242	1,040.36	8,242	0.19
61	305	13.18	3,955	12,197	549	11,648	1,040.59	11,648	0.27
62	310	18.30	5,490	17,138	549	16,590	1,040.92	16,590	0.38
63	315	21.37	6,411	23,001	549	22,452	1,041.26	22,452	0.52
64	320	24.44	7,332	29,785	549	29,236	1,041.63	29,236	0.67
65	325	29.56	8,867	38,103	549	37,555	1,042.07	37,555	0.86
66	330	38.77	11,631	49,185	549	48,637	1,042.58	48,637	1.12
67	335	0.90	270	48,907	549	48,359	1,042.56	48,359	1.11
68	340	0.92	276	48,635	549	48,086	1,042.55	48,086	1.10
69	345	0.61	184	48,271	549	47,722	1,042.53	47,722	1.10
70	350	0.51	154	47,875	549	47,327	1,042.52	47,327	1.09
71	355	0.31	92	47,419	549	46,870	1,042.49	46,870	1.08
72	360	0.20	61	46,932	549	46,383	1,042.47	46,383	1.06

CPV SENTINEL ENERGY PROJECT
TKC JOB # 201_105300
100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
1	15	0.12	110	110	1646	-	1,039.60	-	0.00
2	30	0.18	164	164	1646	-	1,039.60	-	0.00
3	45	0.18	164	164	1646	-	1,039.60	-	0.00
4	60	0.24	219	219	1646	-	1,039.60	-	0.00
5	75	0.18	164	164	1646	-	1,039.60	-	0.00
6	90	0.18	164	164	1646	-	1,039.60	-	0.00
7	105	0.18	164	164	1646	-	1,039.60	-	0.00
8	120	0.24	219	219	1646	-	1,039.60	-	0.00
9	135	0.24	219	219	1646	-	1,039.60	-	0.00
10	150	0.24	219	219	1646	-	1,039.60	-	0.00
11	165	0.30	274	274	1646	-	1,039.60	-	0.00
12	180	0.30	274	274	1646	-	1,039.60	-	0.00
13	195	0.30	274	274	1646	-	1,039.60	-	0.00
14	210	0.30	274	274	1646	-	1,039.60	-	0.00
15	225	0.30	274	274	1646	-	1,039.60	-	0.00
16	240	0.37	329	329	1646	-	1,039.60	-	0.00
17	255	0.37	329	329	1646	-	1,039.60	-	0.00
18	270	0.43	384	384	1646	-	1,039.60	-	0.00
19	285	0.43	384	384	1646	-	1,039.60	-	0.00
20	300	0.49	439	439	1646	-	1,039.60	-	0.00
21	315	0.37	329	329	1646	-	1,039.60	-	0.00
22	330	0.43	384	384	1646	-	1,039.60	-	0.00
23	345	0.49	439	439	1646	-	1,039.60	-	0.00
24	360	0.49	439	439	1646	-	1,039.60	-	0.00
25	375	0.55	493	493	1646	-	1,039.60	-	0.00
26	390	0.55	493	493	1646	-	1,039.60	-	0.00
27	405	0.61	548	548	1646	-	1,039.60	-	0.00
28	420	0.61	548	548	1646	-	1,039.60	-	0.00
29	435	0.61	548	548	1646	-	1,039.60	-	0.00
30	450	0.67	603	603	1646	-	1,039.60	-	0.00
31	465	0.73	658	658	1646	-	1,039.60	-	0.00
32	480	0.79	713	713	1646	-	1,039.60	-	0.00
33	495	0.91	822	822	1646	-	1,039.60	-	0.00
34	510	0.91	822	822	1646	-	1,039.60	-	0.00
35	525	0.97	877	877	1646	-	1,039.60	-	0.00
36	540	1.04	932	932	1646	-	1,039.60	-	0.00
37	555	1.16	1,042	1,042	1646	-	1,039.60	-	0.00
38	570	1.22	1,097	1,097	1646	-	1,039.60	-	0.00
39	585	1.28	1,151	1,151	1646	-	1,039.60	-	0.00
40	600	1.34	1,206	1,206	1646	-	1,039.60	-	0.00
41	615	0.91	822	822	1646	-	1,039.60	-	0.00
42	630	0.91	822	822	1646	-	1,039.60	-	0.00
43	645	1.22	1,097	1,097	1646	-	1,039.60	-	0.00
44	660	1.22	1,097	1,097	1646	-	1,039.60	-	0.00
45	675	1.16	1,042	1,042	1646	-	1,039.60	-	0.00
46	690	1.16	1,042	1,042	1646	-	1,039.60	-	0.00
47	705	1.04	932	932	1646	-	1,039.60	-	0.00
48	720	1.10	987	987	1646	-	1,039.60	-	0.00
49	735	1.52	1,371	1,371	1646	-	1,039.60	-	0.00
50	750	1.58	1,426	1,426	1646	-	1,039.60	-	0.00
51	765	0.35	312	312	1646	-	1,039.60	-	0.00
52	780	1.21	1,087	1,087	1646	-	1,039.60	-	0.00
53	795	4.50	4,052	4,052	1646	2,406	1,039.94	2,406	0.06
54	810	4.75	4,273	6,679	1646	5,034	1,040.15	5,034	0.12
55	825	1.40	1,261	6,295	1646	4,649	1,040.12	4,649	0.11
56	840	1.40	1,261	5,910	1646	4,264	1,040.10	4,264	0.10
57	855	1.20	1,081	5,345	1646	3,699	1,040.06	3,699	0.08
58	870	0.83	743	4,442	1646	2,796	1,040.00	2,796	0.06
59	885	1.05	949	3,745	1646	2,099	1,039.90	2,099	0.05

CPV SENTINEL ENERGY PROJECT
TKC JOB # 201_105300
100 YEAR - 24 HOUR STORM EVENT

TIME UNIT PERIOD	(min)	FLOW IN (cfs)	VOLUME IN (cuft)	TOTAL IN BASIN (cuft)	PERC OUT (cuft)	TOTAL IN BASIN (cuft)	BASIN DEPTH (ft)	BALANCE IN BASIN (cuft)	(acre-ft)
60	900	0.67	604	2,704	1646	1,058	1,039.75	1,058	0.02
61	915	0.29	257	1,315	1646	-	1,039.60	-	0.00
62	930	1.40	1,261	1,261	1646	-	1,039.60	-	0.00
63	945	1.16	1,042	1,042	1646	-	1,039.60	-	0.00
64	960	1.16	1,042	1,042	1646	-	1,039.60	-	0.00
65	975	0.24	219	219	1646	-	1,039.60	-	0.00
66	990	0.24	219	219	1646	-	1,039.60	-	0.00
67	1005	0.18	164	164	1646	-	1,039.60	-	0.00
68	1020	0.18	164	164	1646	-	1,039.60	-	0.00
69	1035	0.30	274	274	1646	-	1,039.60	-	0.00
70	1050	0.30	274	274	1646	-	1,039.60	-	0.00
71	1065	0.30	274	274	1646	-	1,039.60	-	0.00
72	1080	0.24	219	219	1646	-	1,039.60	-	0.00
73	1095	0.24	219	219	1646	-	1,039.60	-	0.00
74	1110	0.24	219	219	1646	-	1,039.60	-	0.00
75	1125	0.18	164	164	1646	-	1,039.60	-	0.00
76	1140	0.12	110	110	1646	-	1,039.60	-	0.00
77	1155	0.18	164	164	1646	-	1,039.60	-	0.00
78	1170	0.24	219	219	1646	-	1,039.60	-	0.00
79	1185	0.18	164	164	1646	-	1,039.60	-	0.00
80	1200	0.12	110	110	1646	-	1,039.60	-	0.00
81	1215	0.18	164	164	1646	-	1,039.60	-	0.00
82	1230	0.18	164	164	1646	-	1,039.60	-	0.00
83	1245	0.18	164	164	1646	-	1,039.60	-	0.00
84	1260	0.12	110	110	1646	-	1,039.60	-	0.00
85	1275	0.18	164	164	1646	-	1,039.60	-	0.00
86	1290	0.12	110	110	1646	-	1,039.60	-	0.00
87	1305	0.18	164	164	1646	-	1,039.60	-	0.00
88	1320	0.12	110	110	1646	-	1,039.60	-	0.00
89	1335	0.18	164	164	1646	-	1,039.60	-	0.00
90	1350	0.12	110	110	1646	-	1,039.60	-	0.00
91	1365	0.12	110	110	1646	-	1,039.60	-	0.00
92	1380	0.12	110	110	1646	-	1,039.60	-	0.00
93	1395	0.12	110	110	1646	-	1,039.60	-	0.00
94	1410	0.12	110	110	1646	-	1,039.60	-	0.00
95	1425	0.12	110	110	1646	-	1,039.60	-	0.00
96	1440	0.12	110	110	1646	-	1,039.60	-	0.00

RATIONAL METHOD CALCULATIONS

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2001 Version 6.4

Rational Hydrology Study Date: 12/20/07

File:cpvsentinelarea1.out

SUBAREA 1 DISCHARGE

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

The Keith Companies, Moreno Valley, CA - S/N 707

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

2 year, 1 hour precipitation = 0.600(In.)
100 year, 1 hour precipitation = 1.600(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.600(In/Hr)
Slope of intensity duration curve = 0.5700

++

Process from Point/Station 1000.000 to Point/Station 1001.000

**** INITIAL AREA EVALUATION ****

Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 118.000(Ft.)
Bottom (of initial area) elevation = 83.000(Ft.)
Difference in elevation = 35.000(Ft.)
Slope = 0.03500 s(percent)= 3.50
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 22.001 min.
Rainfall intensity = 2.834(In/Hr) for a 100.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.749
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000

```
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  70.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     13.821(CFS)
Total initial stream area =        6.510(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            6.51 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  50.0
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2001 Version 6.4

Rational Hydrology Study Date: 12/20/07

File:CPVSENTINELAREA2.out

SUBAREA 2 DISCHARGE

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

The Keith Companies, Moreno Valley, CA - S/N 707

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

2 year, 1 hour precipitation = 0.600(In.)
100 year, 1 hour precipitation = 1.600(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.600(In/Hr)
Slope of intensity duration curve = 0.5700

++

Process from Point/Station 2000.000 to Point/Station 2002.000

**** INITIAL AREA EVALUATION ****

Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 118.000(Ft.)
Bottom (of initial area) elevation = 85.000(Ft.)
Difference in elevation = 33.000(Ft.)
Slope = 0.03300 s(percent)= 3.30
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 22.262 min.
Rainfall intensity = 2.816(In/Hr) for a 100.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.748
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000

```
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  70.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =     10.237(CFS)
Total initial stream area =        4.860(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            4.86 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  50.0
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2001 Version 6.4

Rational Hydrology Study Date: 12/20/07

File:CPVSENTINELAREA3.out

SUBAREA 3 DISCHARGE

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

The Keith Companies, Moreno Valley, CA - S/N 707

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

2 year, 1 hour precipitation = 0.600(In.)
100 year, 1 hour precipitation = 1.600(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.600(In/Hr)
Slope of intensity duration curve = 0.5700

++

Process from Point/Station 3000.000 to Point/Station 3003.000

**** INITIAL AREA EVALUATION ****

Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 91.700(Ft.)
Bottom (of initial area) elevation = 78.800(Ft.)
Difference in elevation = 12.900(Ft.)
Slope = 0.01290 s(percent)= 1.29
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 26.862 min.
Rainfall intensity = 2.530(In/Hr) for a 100.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.734
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000

```
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  70.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      5.423(CFS)
Total initial stream area =        2.920(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            2.92 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  50.0
```

Riverside County Rational Hydrology Program

CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2001 Version 6.4

Rational Hydrology Study Date: 12/20/07

File:CPVSENTINELAREA4.out

SUBAREA 4 DISCHARGE

********* Hydrology Study Control Information **********

English (in-lb) Units used in input data file

The Keith Companies, Moreno Valley, CA - S/N 707

Rational Method Hydrology Program based on
Riverside County Flood Control & Water Conservation District
1978 hydrology manual

Storm event (year) = 100.00 Antecedent Moisture Condition = 3

2 year, 1 hour precipitation = 0.600(In.)
100 year, 1 hour precipitation = 1.600(In.)

Storm event year = 100.0
Calculated rainfall intensity data:
1 hour intensity = 1.600(In/Hr)
Slope of intensity duration curve = 0.5700

++

Process from Point/Station 4000.000 to Point/Station 4004.000

**** INITIAL AREA EVALUATION ****

Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 91.700(Ft.)
Bottom (of initial area) elevation = 78.800(Ft.)
Difference in elevation = 12.900(Ft.)
Slope = 0.01290 s(percent)= 1.29
TC = k(0.710)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 26.862 min.
Rainfall intensity = 2.530(In/Hr) for a 100.0 year storm
UNDEVELOPED (fair cover) subarea
Runoff Coefficient = 0.734
Decimal fraction soil group A = 1.000
Decimal fraction soil group B = 0.000

```
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  70.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      5.423(CFS)
Total initial stream area =        2.920(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            2.92 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  50.0
```

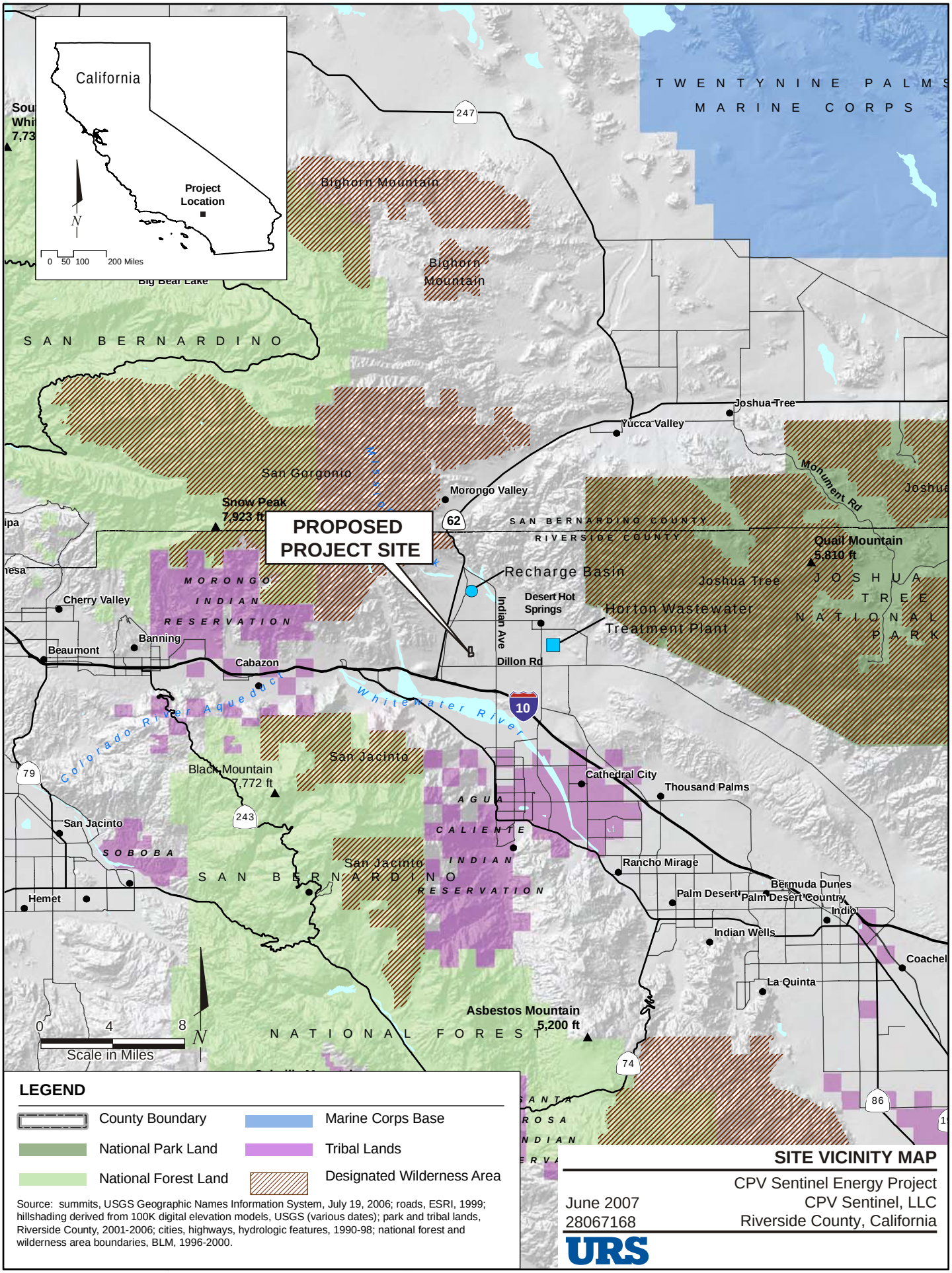
```
                Riverside County Rational Hydrology Program

     CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2001 Version
6.4
          Rational Hydrology Study        Date: 12/20/07
File:CPVSENTINELAREA5.out
     ---------------------------------------------------------------------
------
     SUBAREA 5 DISCHARGE



     ---------------------------------------------------------------------
------
      *********   Hydrology Study Control Information **********

      English (in-lb) Units used in input data file

     ---------------------------------------------------------------------
------
     The Keith Companies, Moreno Valley, CA - S/N   707
     ---------------------------------------------------------------------
------
     Rational Method Hydrology Program based on
     Riverside County Flood Control & Water Conservation District
     1978 hydrology manual

     Storm event (year) =  100.00 Antecedent Moisture Condition = 3

     2 year, 1 hour precipitation =  0.600(In.)
     100 year, 1 hour precipitation =  1.600(In.)

     Storm event year = 100.0
     Calculated rainfall intensity data:
     1 hour intensity =  1.600(In/Hr)
     Slope of intensity duration curve = 0.5700



     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
     Process from Point/Station     5000.000 to Point/Station
5005.000
     **** INITIAL AREA EVALUATION ****
     ____________________________________________________________________
____
     Initial area flow distance =   805.000(Ft.)
     Top (of initial area) elevation =    83.500(Ft.)
     Bottom (of initial area) elevation =    77.000(Ft.)
     Difference in elevation =     6.500(Ft.)
     Slope =    0.00807  s(percent)=       0.81
     TC = k(0.710)*[(length^3)/(elevation change)]^0.2
     Initial area time of concentration =   27.049 min.
     Rainfall intensity =      2.520(In/Hr) for a   100.0 year storm
     UNDEVELOPED (fair cover) subarea
     Runoff Coefficient = 0.734
     Decimal fraction soil group A = 1.000
     Decimal fraction soil group B = 0.000
```

```
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  70.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      4.270(CFS)
Total initial stream area =        2.310(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            2.31 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  50.0
```

```
                Riverside County Rational Hydrology Program

      CIVILCADD/CIVILDESIGN Engineering Software,(c) 1989 - 2001 Version
6.4
           Rational Hydrology Study        Date: 12/20/07
File:CPVSENTINELAREA6.out
      ---------------------------------------------------------------------
------
      SUBAREA 6 DISCHARGE



      ---------------------------------------------------------------------
------
       *********   Hydrology Study Control Information **********

       English (in-lb) Units used in input data file

      ---------------------------------------------------------------------
------
      The Keith Companies, Moreno Valley, CA - S/N   707
      ---------------------------------------------------------------------
------
      Rational Method Hydrology Program based on
      Riverside County Flood Control & Water Conservation District
      1978 hydrology manual

      Storm event (year) =  100.00 Antecedent Moisture Condition = 3

      2 year, 1 hour precipitation =  0.600(In.)
      100 year, 1 hour precipitation =  1.600(In.)

      Storm event year = 100.0
      Calculated rainfall intensity data:
      1 hour intensity =  1.600(In/Hr)
      Slope of intensity duration curve = 0.5700




      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
      Process from Point/Station     6000.000 to Point/Station
6006.000
      **** INITIAL AREA EVALUATION ****
      ------------------------------------------------------------------------
----
      Initial area flow distance =  1000.000(Ft.)
      Top (of initial area) elevation =    85.000(Ft.)
      Bottom (of initial area) elevation =    76.000(Ft.)
      Difference in elevation =     9.000(Ft.)
      Slope =    0.00900  s(percent)=       0.90
      TC = k(0.710)*[(length^3)/(elevation change)]^0.2
      Initial area time of concentration =   28.868 min.
      Rainfall intensity =      2.428(In/Hr) for a   100.0 year storm
      UNDEVELOPED (fair cover) subarea
      Runoff Coefficient = 0.729
      Decimal fraction soil group A = 1.000
      Decimal fraction soil group B = 0.000
```

```
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
RI index for soil(AMC 3)  =  70.00
Pervious area fraction =  1.000; Impervious fraction =  0.000
Initial subarea runoff =      6.509(CFS)
Total initial stream area =        3.680(Ac.)
Pervious area fraction = 1.000
End of computations, total study area =            3.68 (Ac.)
The following figures may
be used for a unit hydrograph study of the same area.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged RI index number =  50.0
```

Attachment 1a.



LEGEND

- County Boundary
- Marine Corps Base
- National Park Land
- Tribal Lands
- National Forest Land
- Designated Wilderness Area

Source: summits, USGS Geographic Names Information System, July 19, 2006; roads, ESRI, 1999; hillshading derived from 100K digital elevation models, USGS (various dates); park and tribal lands, Riverside County, 2001-2006; cities, highways, hydrologic features, 1990-98; national forest and wilderness area boundaries, BLM, 1996-2000.

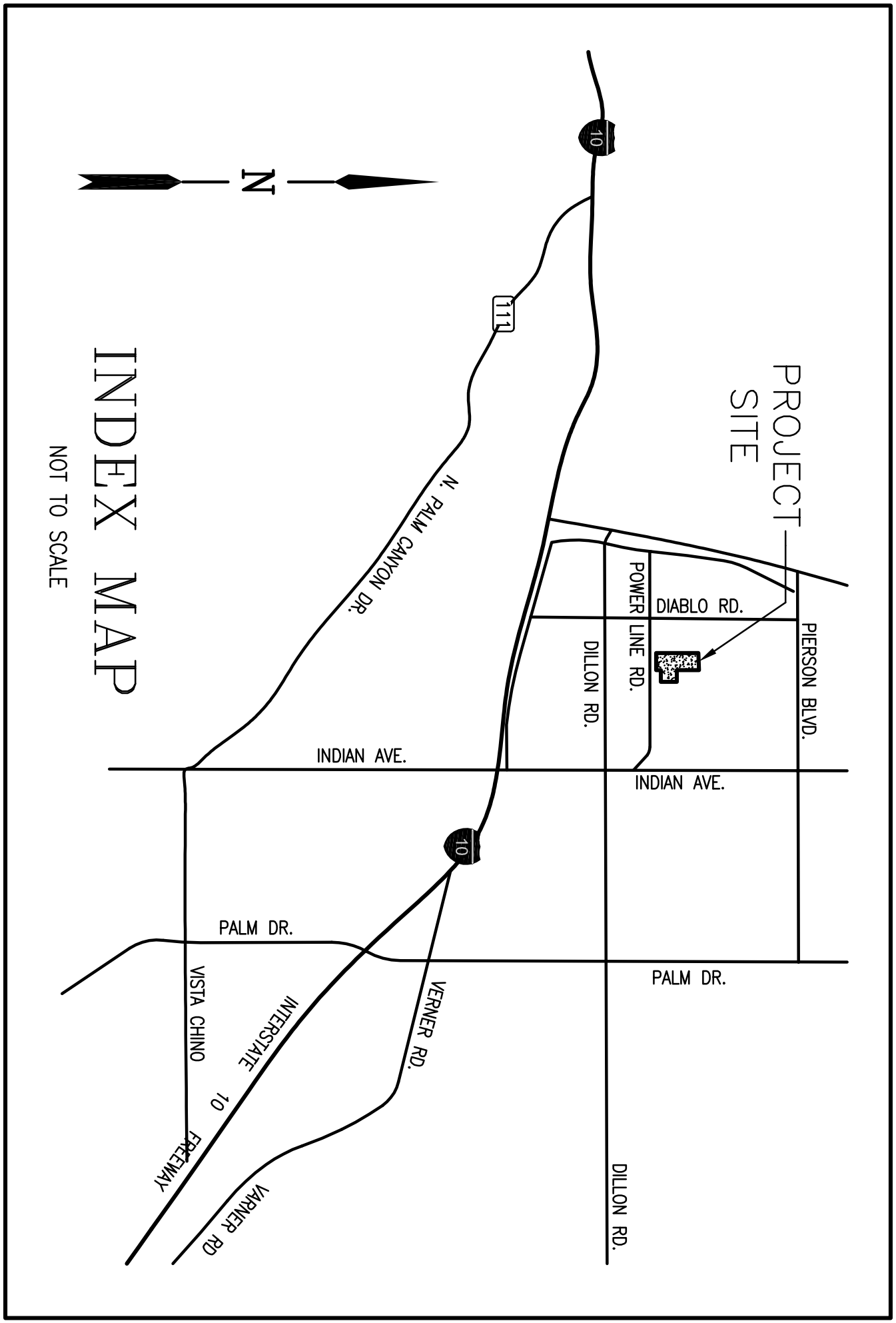
SITE VICINITY MAP

CPV Sentinel Energy Project
CPV Sentinel, LLC
Riverside County, California

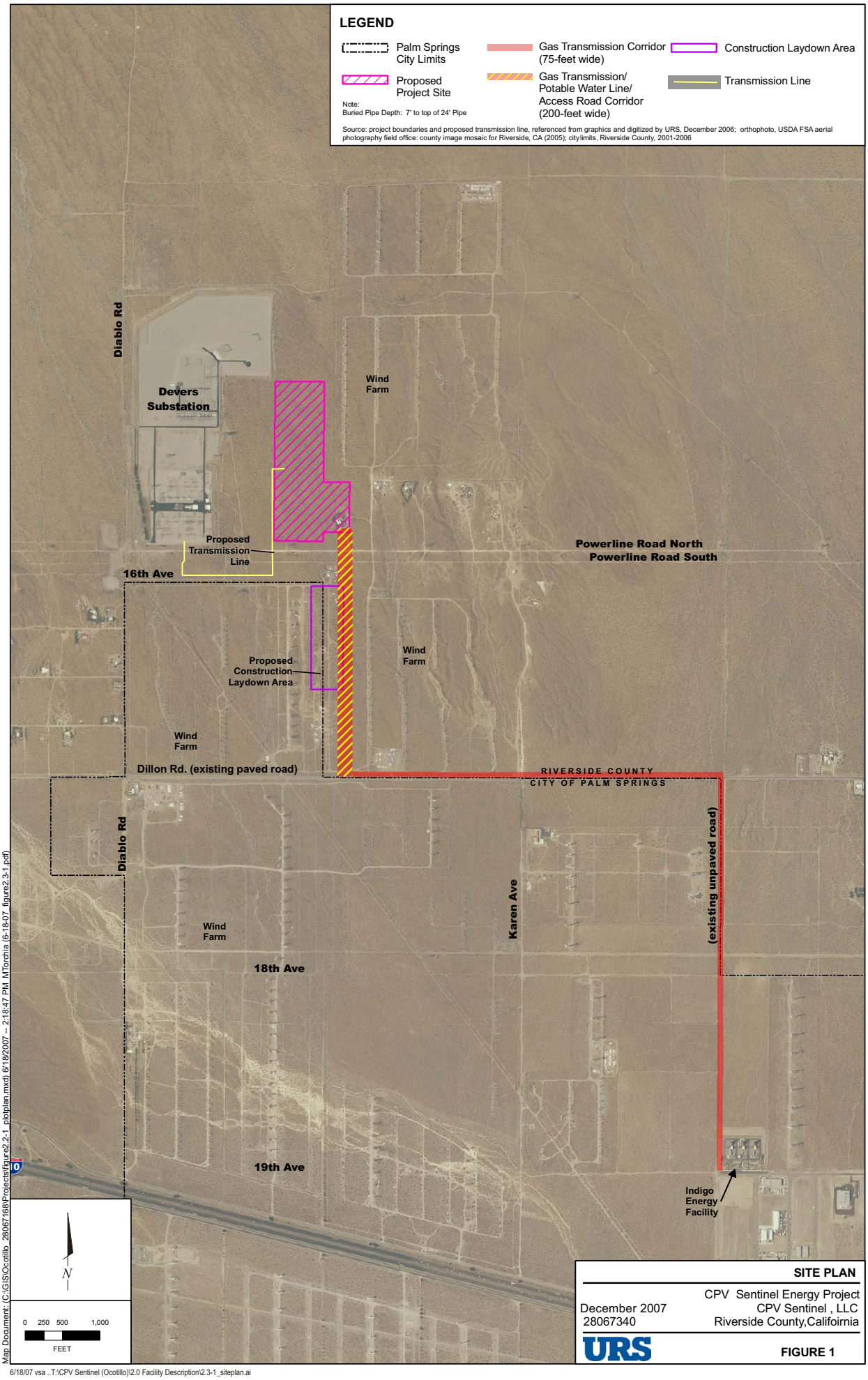
June 2007
28067168

URS

Attachment 1b.



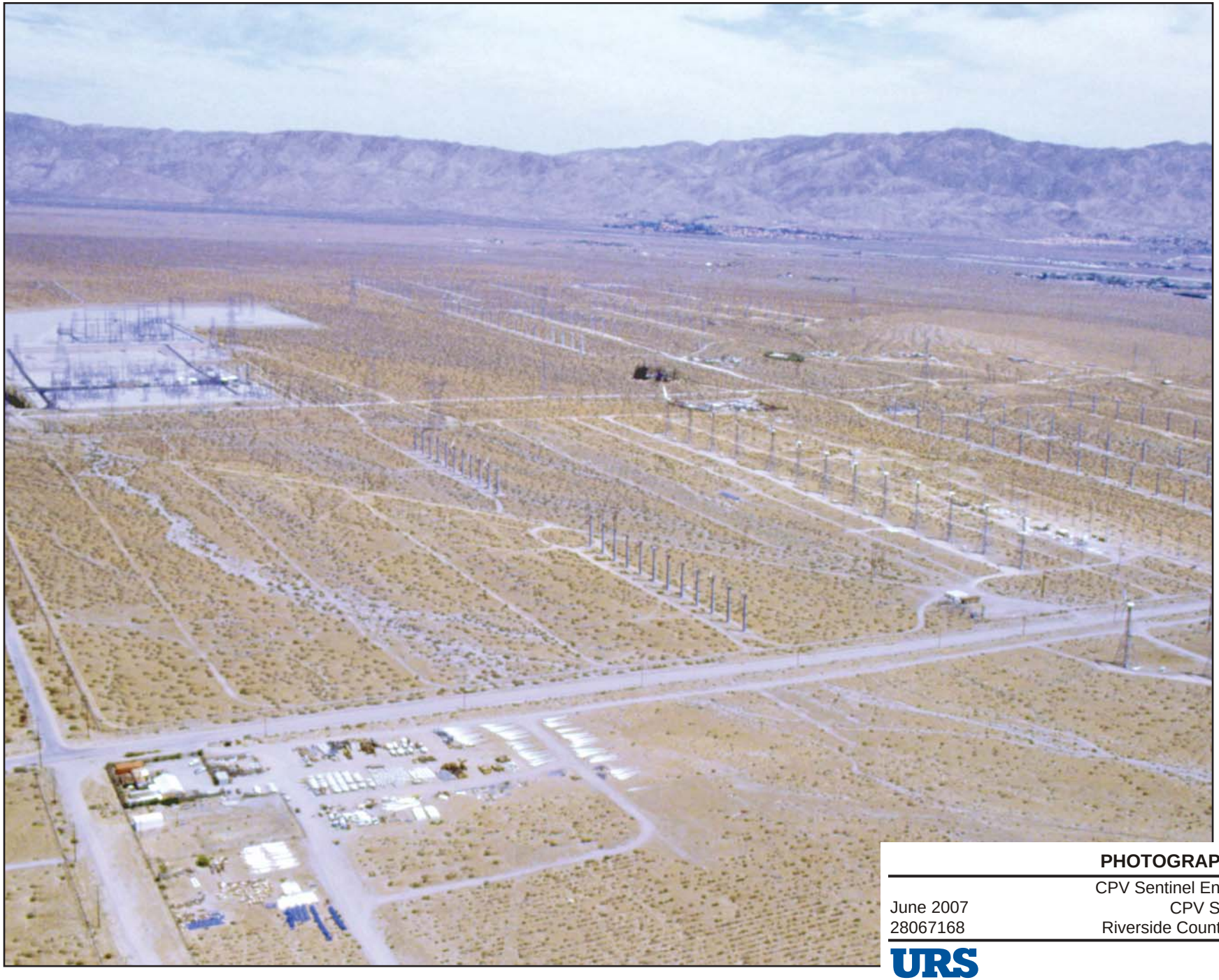
Attachment 1c.



Map Document: (C:\GIS\Ocotillo_28067168\Projects\figure2.2-1_plotplan.mxd) 6/18/2007 -- 2:18:47 PM MTorchia (6-18-07 figure2.3-1.pdf)

6/18/07 vsa ..T:\CPV Sentinel (Ocotillo)\2.0 Facility Description\2.3-1_siteplan.ai

Attachment 2

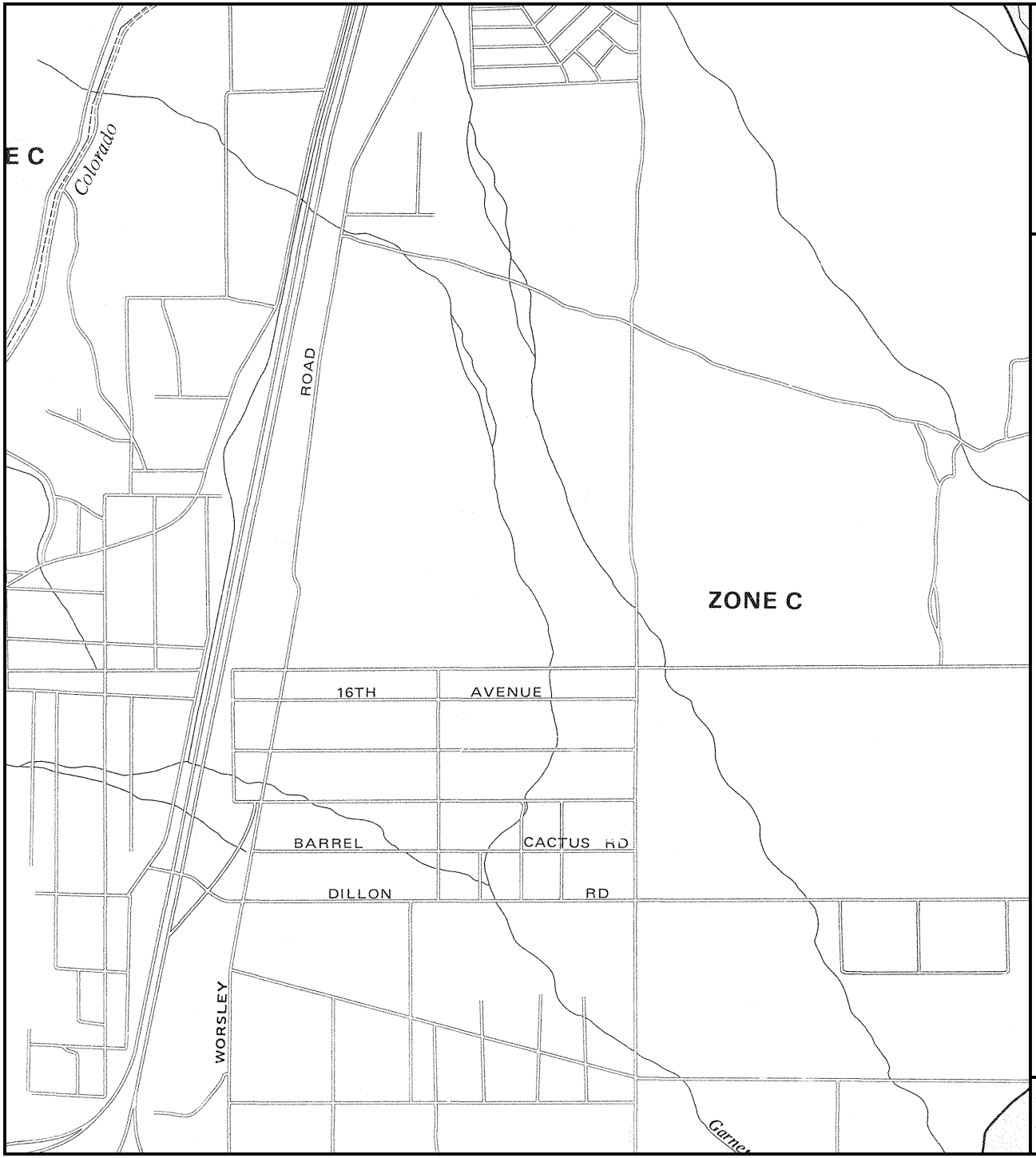


PHOTOGRAPH OF SITE

CPV Sentinel Energy Project
June 2007 — CPV Sentinel, LLC
28067168 — Riverside County, California

URS

Attachment 3



APPROXIMATE SCALE IN FEET
2000 0 2000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

RIVERSIDE COUNTY, CALIFORNIA
(UNINCORPORATED AREAS)

PANEL 900 OF 3600
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
060245 0900 D

MAP REVISED:
NOVEMBER 20, 1996

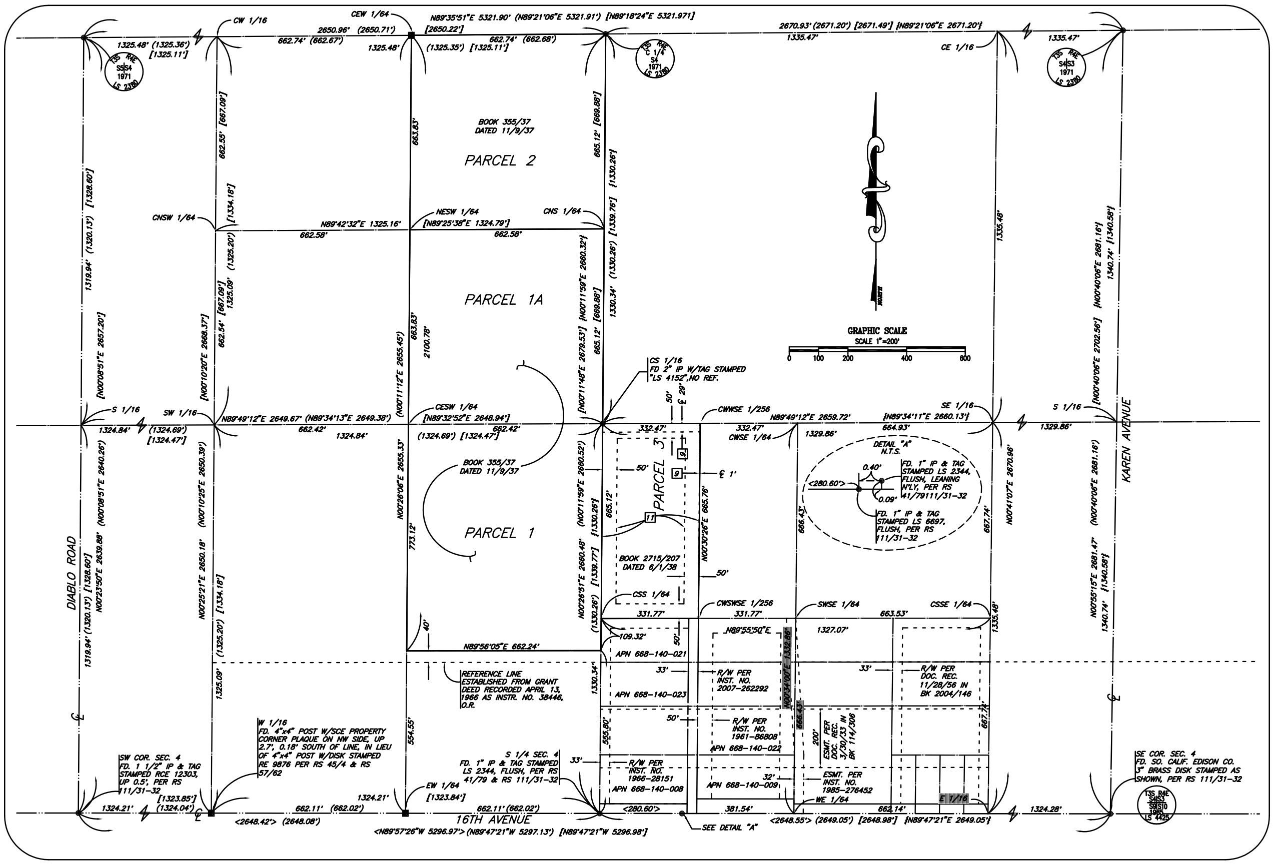
Federal Emergency Management Agency

Attachment 4

SHEET 1 OF 2 SHEETS

A.L.T.A. / A.C.S.M. LAND TITLE SURVEY

COUNTY OF RIVERSIDE, STATE OF CALIFORNIA



SURVEYOR'S NOTES:

UTILITY NOTE – UTILITIES ON SITE ARE SHOWN PER A FIELD SURVEY PERFORMED UNDER MY DIRECT SUPERVISION DURING DECEMBER, 2006. THIS SURVEY DOES NOT CONSTITUTE A COMPLETE "AS-CONSTRUCTED" SURVEY OF ALL UTILITIES. ALL ABOVE GROUND VISIBLE OR REASONABLY DISCOVERABLE IMPROVEMENTS, WITHIN 5 FEET OF THE PROPERTY LINES, ARE SHOWN HEREON.

NO STRUCTURES WERE LOCATED BY FIELD SURVEY WHICH ARE MORE THAN 5 FEET FROM THE PROPERTY LINES, EXCEPT AS SHOWN.

TITLE SEARCH – THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY STANTEC CONSULTING, INC. OR ANGELA DORF, PLS, TO DETERMINE OWNERSHIP OF THIS PROPERTY OR TO VERIFY THE DESCRIPTIONS PROVIDED; THE COMPATIBILITY OF THESE DESCRIPTIONS WITH THAT OF ADJACENT PROPERTIES; NOR EASEMENTS, RIGHTS-OF-WAY OR TITLE OF RECORD. STANTEC CONSULTING AND ANGELA DORF, RELIED UPON TITLE REPORT NO. 6070348852, PREPARED BY CHICAGO TITLE COMPANY DATED NOVEMBER 2, 2006.

POLICY OF PREPARER AS A MATTER OF POLICY, ONLY OFFICIALLY RELEASED COPIES OF THIS SURVEY HAVE A "WET" SIGNATURE ALONG WITH THE RELEASE/REVISION DATE(S) SHOWN. ANY MODIFICATIONS, UPDATES OR REVISIONS WITH THEIR EFFECTIVE RELEASE DATES WILL BE SHOWN THEREON. ANY PARTIES REQUIRING INFORMATION WHICH MAY BE DERIVED FROM THIS SURVEY AFTER THE INITIAL RELEASE DATE ARE ADVISED TO CONTACT THE OFFICE OF THE PREPARER TO INQUIRE ON THE PRESENT STATUS OF THE SURVEY AND IF LATER VERSIONS HAVE BEEN RELEASED. COPIES OF THIS SURVEY LACKING THE HEREINABOVE MENTIONED SIGNATURE ARE TO BE CONSIDERED NON-APPROVED NOR OFFICIALLY RELEASED VERSIONS OF THIS SURVEY.

BASIS OF BEARINGS – THE BEARINGS SHOWN HEREON ARE BASED ON THE GRID BEARING "NORTH 67°15'54" WEST" BETWEEN NATIONAL GEOLOGICAL SURVEY HORIZONTAL CONTROL STATIONS "TOMTIT 2" AND "RAMO" AS PER THE NATIONAL GEOLOGICAL SURVEY DATA SHEETS.

DATUM STATEMENT – COORDINATES SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83) ZONE VI, NAD 83 (1995.50 EPOCH ADJUSTMENT), AS PER THE NATIONAL GEOLOGICAL SURVEY DATA SHEETS.

UNLESS OTHERWISE NOTED, ALL DISTANCES SHOWN HEREON ARE GROUND. TO OBTAIN GRID DISTANCES, MULTIPLY GROUND DISTANCES BY 0.999927812.

BENCH MARK – TOP OF BRASS MONUMENT IN HAND WELL DN 1' ± AT INTERSECTION OF INDIAN AVE. & 20TH AVE. ELEV=740.88

FLOOD ZONE – THE PROPERTY SURVEYED IS SHOWN AS BEING IN FLOOD ZONE "C" ON FEMA MAP PANEL 060245 0900 C, REVISED SEPT. 30, 1988.

LEGEND

- ● INDICATES FOUND 2" IP BRASS DISK STAMPED AS SHOWN, PER RS 57/62 & P.M.B. 130/42-44, UNLESS OTHERWISE NOTED
- ■ INDICATES FOUND 2"x2" STAKE, NO TAG, UP 0.2' W/SCE PROPERTY CORNER WITNESS POST IN LIEU OF 2"x2" STAKE TAGGED LS 2380, PER RS 57/62, UNLESS OTHERWISE NOTED
- ( ) – RECORD PER RECORD OF SURVEY 57/62
- < > – RECORD AND MEASURED PER RECORD OF SURVEY 111/31-32
- [ ] – RECORD PER RECORD OF SURVEY 45/4
- { } – RECORD PER PARCEL MAP 19655, P.M.B. 130/42-44

- △ – DENOTES ITEMS NOT PLOTTABLE AND THEREFORE NOT SHOWN
- □ – PLOTTED HEREON
- ◇ – DENOTES ITEM BLANKET IN NATURE
- ○ – DENOTES ITEMS NOT ADDRESSED HEREON
- ⬠ – DOES NOT AFFECT SUBJECT PROPERTY
- ⚙ – DENOTES ITEMS DELETED

REVISION BLOCK:

NO.	DATE	DESCRIPTION
	12/5/06	FIRST RELEASE
1	3/02/07	FIRST RELEASE- SIGNED
2	4/12/07	SECOND RELEASE – SIGNED
3	9/21/07	THIRD RELEASE – SIGNED
4	10/31/07	FOURTH RELEASE – SIGNED
5	11/09/07	FIFTH RELEASE – SCE PARCELS ADDED

CERTIFICATION:

This is to certify (as defined in Section 8770.6 of the Professional Land Surveyors Act of the Business and Professions Code of the State of California), to CPV Sentinel and its affiliates and Chicago Title Company, that this map or plat and the survey on which it is based were made in accordance with "Minimum Standard Detail Requirements for ALTA/ACSM Land title Surveys," jointly established and adopted by ALTA and NSPS in 2005, and includes items 2, 3, 4, 8, 9, 10, 11(a) and 13 of Table A thereof. Pursuant to the Accuracy Standards as adopted by ALTA and NSPS and in effect on the date of this certification, undersigned further certifies that in my professional opinion, as a land surveyor registered in the State of California, the Relative Positional Accuracy of this survey dose not exceed that which is specified therein.

The undersigned prepared the attached print of survey, Drawing Job No. 20161053.00, dated 11/09/2007 (the "Survey") of the property reflected in the Survey.

Angela E. Dorf Date
Registration No. 8010
Dated: 12/31/08

LICENSED LAND SURVEYOR ANGELA E. DORF No. 8010 Exp. 12/31/08 STATE OF CALIFORNIA

PROPERTY DESCRIPTION:

VERBATIM FROM TITLE REPORT

SCHEDULE A

THE ESTATE OR INTEREST IN THE LAND HEREINFATER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

A FEE

TITLE TO THE ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

WINTEC ENERGY, LTD., A CALIFORNIA CORPORATION AS TO PARCELS 1 AND 1A AND D & E LAND CO., A DELAWARE LIMITED LIABILITY COMPANY AS TO PARCELS 2 AND 3

THE LAND REFERRED TO IN THIS REPORT IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF RIVERSIDE AND IS DESCRIBED AS FOLLOWS:

PARCEL 1:

THE EAST 1/2 OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 4, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SAN BERNARDINO BASE AND MERIDIAN.

EXCEPTING THEREFROM THAT PORTION TO THE SOUTHERN CALIFORNIA EDISON COMPANY, BY GRANT DEED RECORDED APRIL 13, 1966, AS INSTRUMENT NO. 38446, OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

PARCEL 1A:

THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 4, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SAN BERNARDINO BASE AND MERIDIAN.

PARCEL 2:

THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 4, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SAN BERNARDINO BASE AND MERIDIAN, RECORDS OF RIVERSIDE COUNTY.

PARCEL 3:

THE WEST 1/2 OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 4, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SAN BERNARDINO BASE AND MERIDIAN;

EXCEPTING THEREFROM ALL OIL, GAS AND OTHER MINERAL DEPOSITS, TOGETHER WITH THE RIGHT TO PROSPECT FOR, MINE AND REMOVE THE SAME, ACCORDING TO THE PROVISIONS OF THE ACT OF CONGRESS APPROVED JUNE 1, 1938 (52 STAT. 609), AS RESERVED IN THE PATENT RECORDED JUNE 16, 1960, AS INSTRUMENT NO. 53767, OFFICIAL RECORDS.

EXCEPTIONS:

VERBATIM FROM TITLE REPORT

1. PROPERTY TAXES, INCLUDING ANY PERSONAL PROPERTY TAXES AND ANY ASSESSMENTS COLLECTED WITH TAXES, FOR THE FISCAL YEAR 2006-2007.
   1ST INSTALLMENT: $355.97
   PENALTY: $35.58 (DUE AFTER DECEMBER 10)
   2ND INSTALLMENT: $355.97
   PENALTY AND COST: $55.58 (DUE AFTER APRIL 10)
   HOMEOWNERS EXEMPTION: $NONE
   CODE AREA: 061-040
   ASSESSMENT NO.: 668-130-007-9
   AFFECTS PARCELS 1 AND 1A

2. PROPERTY TAXES, INCLUDING ANY PERSONAL PROPERTY TAXES AND ANY ASSESSMENTS COLLECTED WITH TAXES, FOR THE FISCAL YEAR 2006-2007.
   1ST INSTALLMENT: $162.91
   PENALTY: $16.28 (DUE AFTER DECEMBER 10)
   2ND INSTALLMENT: $162.91
   PENALTY AND COST: $36.28 (DUE AFTER APRIL 10)
   HOMEOWNERS EXEMPTION: $NONE
   CODE AREA: 061-040
   ASSESSMENT NO.: 668-130-005-7
   AFFECTS PARCEL 2

3. PROPERTY TAXES, INCLUDING ANY PERSONAL PROPERTY TAXES AND ANY ASSESSMENTS COLLECTED WITH TAXES, FOR THE FISCAL YEAR 2006-2007.
   1ST INSTALLMENT: $523.53
   PENALTY: $52.34 (DUE AFTER DECEMBER 10)
   2ND INSTALLMENT: $523.53
   PENALTY AND COST: $72.34 (DUE AFTER APRIL 10)
   HOMEOWNERS EXEMPTION: $NONE
   CODE AREA: 061-040
   ASSESSMENT NO.: 668-140-001-4
   AFFECTS PARCEL 3

4. THE LIEN OF SUPPLEMENTAL OR ESCAPED ASSESSMENTS OF PROPERTY TAXES, IF ANY, MADE PURSUANT TO THE PROVISIONS OF PART 0.5, CHAPTER 3.5 OR PART 2, CHAPTER 3, ARTICLES 3 AND 4 RESPECTIVELY (COMMENCING WITH SECTION 75) OF THE REVENUE AND TAXATION CODE OF THE STATE OF CALIFORNIA AS A RESULT OF TRANSFER OF TITLE TO THE VESTEE NAMED IN SCHEDULE A; OR AS A RESULT OF CHANGES IN OWNERSHIP OR NEW CONSTRUCTION OCCURRING PRIOR TO DATE OF POLICY.

5. THE RIGHTS OF THE PUBLIC IN AND TO THAT PORTION OF THE HEREIN DESCRIBED LAND LYING WITHIN PUBLIC ROADS.

6. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT
   GRANTED TO: THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
   PURPOSE: PUBLIC UTILITIES
   RECORDED: MARCH 30, 1933, BOOK 114, PAGE 304, OFFICIAL RECORDS
   AFFECTS: A PORTION OF PARCELS 1 AND 1A

7. RESERVATION CONTAINED IN THE PATENT FROM THE UNITED STATES OF AMERICA,
   RECORDED: NOVEMBER 9, 1937, BOOK 355, PAGE 37, OF OFFICIAL RECORDS
   "SUBJECT TO ANY VESTED AND ACCRUED WATER RIGHTS FOR MINING, AGRICULTURAL, MANUFACTURING OR OTHER PURPOSES, AND RIGHTS TO DITCHES AND RESERVOIRS USED IN CONNECTION WITH SUCH WATER RIGHTS AS MAY BE RECOGNIZED AND ACKNOWLEDGED BY THE LOCAL CUSTOMS, LAWS AND DECISIONS OF COURTS, AND A RIGHT OF WAY FOR DITCHES OR CANALS CONSTRUCTED BY THE AUTHORITY OF THE UNITED STATES.
   AFFECTS PARCELS 1, 1A AND 2

8. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT
   GRANTED TO: SOUTHERN CALIFORNIA EDISON COMPANY
   PURPOSE: PUBLIC UTILITIES
   RECORDED: AUGUST 28, 1945, BOOK 686, PAGE 386, OFFICIAL RECORDS
   AFFECTS: A PORTION OF PARCELS 1 AND 1A
   REFERENCE IS MADE TO SAID DOCUMENT FOR FULL PARTICULARS.

9. AN EASEMENT FOR THE PURPOSE SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT
   GRANTED TO: CALIFORNIA ELECTRIC POWER COMPANY AND CALIFORNIA WATER AND TELEPHONE COMPANY
   PURPOSE: PUBLIC UTILITIES
   RECORDED: JANUARY 29, 1960, AS INSTRUMENT NO. 8302, OFFICIAL RECORDS
   AFFECTS: CANNOT BE LOCATED FROM THE RECORD

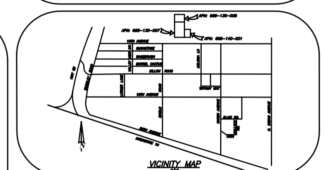
10. RESERVATION CONTAINED IN THE PATENT FROM THE UNITED STATES OF AMERICA,
    RECORDED: JUNE 16, 1960, AS INSTRUMENT NO. 53767, OFFICIAL RECORDS
    "SUBJECT TO ANY VESTED AND ACCRUED WATER RIGHTS FOR MINING, AGRICULTURAL, MANUFACTURING OR OTHER PURPOSES AND RIGHTS TO DITCHES AND RESERVOIRS USED IN CONNECTION WITH SUCH WATER RIGHTS AS MAY BE RECOGNIZED AND ACKNOWLEDGED BY THE LOCAL CUSTOMS, LAWS AND DECISIONS OF THE COURTS, AND A RIGHT OF WAY THEREON FOR DITCHES OR CANALS CONSTRUCTED BY THE AUTHORITY OF THE UNITED STATES.
    AFFECTS PARCEL 3

11. A RIGHT OF WAY NOT EXCEEDING 50 FEET IN WIDTH, FOR ROADWAY AND FOR PUBLIC UTILITY PURPOSES, LOCATED ALONG THE BOUNDARIES OF THE LAND DESCRIBED IN THE PATENT FROM THE UNITED STATES OF AMERICA, RECORDED JUNE 16, 1960, AS INSTRUMENT NO. 53767, OFFICIAL RECORDS.
    AFFECTS PARCEL 3

12. A DEED OF TRUST TO SECURE AN INDEBTEDNESS IN THE ORIGINAL AMOUNT SHOWN BELOW
    AMOUNT: $46,050.00
    DATED: DECEMBER 14, 1999
    TRUSTOR: WINTEC ENERGY, LTD., A CALIFORNIA CORPORATION
    TRUSTEE: CHICAGO TITLE COMPANY, A CALIFORNIA CORPORATION
    BENEFICIARY: BOBBY G. MORRIS AND BEVERLY J. MORRIS, HUSBAND AND WIFE AS JOINT TENANTS, AS TO AN UNDIVIDED 1/2 INTEREST AND ARMANDO ELIAS AND ANITA ELIAS, TRUSTEES OF THE ELIAS FAMILY TRUST DATED 01/19/96 AS TO AN UNDIVIDED 1/2 INTEREST
    RECORDED: FEBRUARY 25, 2000, INSTRUMENT NO. 069006, OFFICIAL RECORDS
    ORIGINAL LOAN NUMBER: NOT SHOWN
    AFFECTS PARCELS 1 AND 1A
    AN ASSIGNMENT OF THE BENEFICIAL INTEREST UNDER SAID DEED OF TRUST WHICH NAMES
    AS ASSIGNEE: FREDERICK W. NOBLE, AN UNMARRIED MAN
    RECORDED: MARCH 30, 2005, AS INSTRUMENT NO. 0246371, OFFICIAL RECORDS
    AFFECTS PARCELS 1 AND 1A

13. A DEED OF TRUST TO SECURE AN INDEBTEDNESS IN THE AMOUNT SHOWN BELOW
    AMOUNT: $87,500.00
    DATED: NOVEMBER 20, 2000
    TRUSTOR: FREDERICK W. NOBLE, AN UNMARRIED MAN
    TRUSTEE: CHICAGO TITLE COMPANY, A CALIFORNIA CORPORATION
    BENEFICIARY: JOHN D. HERBRANDSON, A WIDOWER
    RECORDED: JANUARY 31, 2001, INSTRUMENT NO. 2001-041294, OFFICIAL RECORDS
    ORIGINAL LOAN NUMBER: NONE SHOWN
    AFFECTS PARCEL 3

14. THE FACT THAT THE PUBLIC RECORD DOES NOT DISCLOSE THAT THE OWNERSHIP OF SAID LAND INCLUDES RIGHTS OF ACCESS TO OR FROM ANY PUBLIC STREET. NOTWITHSTANDING THE INSURING CLAUSES OF THE POLICY, THE COMPANY DOES NOT INSURE AGAINST LOSS OR DAMAGE BY REASON OF A LACK OF A RIGHT OF ACCESS TO AND FROM THE LAND.
    AFFECTS: PARCELS 1, 1A, 2 AND 3



CHICAGO TITLE COMPANY
TITLE REPORT NO. 602025419-K54

NOVEMBER 15, 2006

CURRENT OWNERS

WINTEC ENERGY, LTD.
A CALIFORNIA CORPORATION
D & E LAND CO.
A DELAWARE LIMITED LIABILITY COMPANY

C/O CPV
ATTN: MARK TURNER
8403 COLESVILLE ROAD, SUITE 915
SILVERSPRING, MD 20910

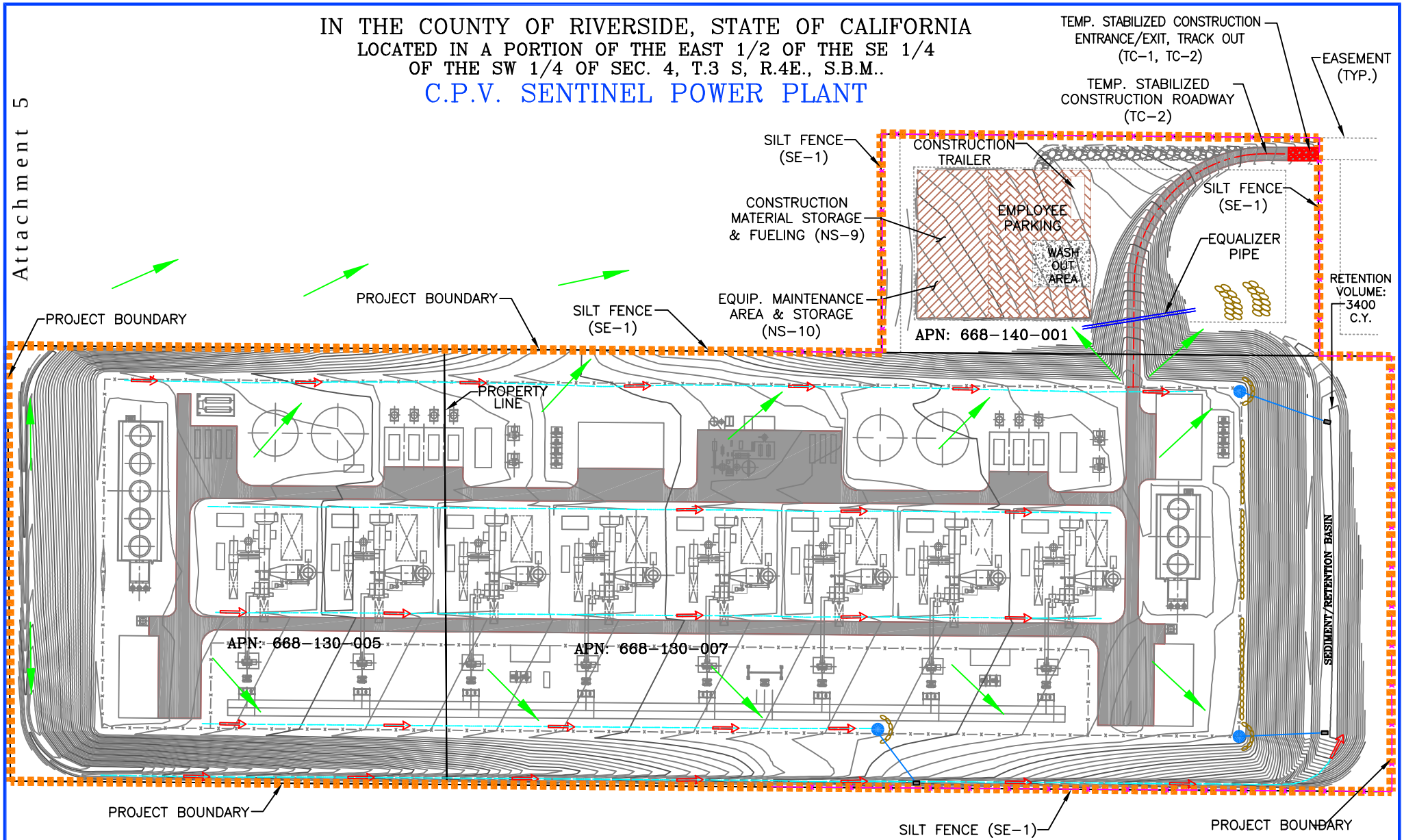
ENGINEER/MAP PREPARER:

STANTEC CONSULTING INC.
73-733 FRED WARING DRIVE
SUITE 100
PALM DESERT, CA 92260
760.346.9844
Stantec
stantec.com

Attachment 5

IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
LOCATED IN A PORTION OF THE EAST 1/2 OF THE SE 1/4
OF THE SW 1/4 OF SEC. 4, T.3 S, R.4E., S.B.M..

C.P.V. SENTINEL POWER PLANT



LEGEND

- SILT FENCE (SE-1)
- PROJECT BOUNDARY
- DIRECTION OF FLOW
- TRACK OUT / TEMPORARY CONSTRUCTION ENTRANCE TC-2
- PROP. PAVEMENT AREA
- EMPLOYEE PARKING AREA
- VEHICLE WASH OUT AREA
- CONSTRUCTION MATERIAL STORAGE & FUELING (NS-9)
  EQUIPMENT MAINTENANCE AREA & STORAGE (NS-10)
- VELOCITY DISSIPATION DEVICES (EC-10)
- EARTH DIKES & DRAINAGE SWALES (EC-9)
- STORM DRAIN INLET PROTECTION (SE-10)
- SLOPE DRAINS (EC-11)
- SAND BAG BARRIER (SE-8)

ATTACHMENT H
BEST MANAGEMENT PRACTICES PLAN

APN: 668-130-005, 668-130-007, 668-140-001

PROJECT NAME: C.P.V. SENTINEL POWER PLANT

SITE ADDRESS: 62575 POWERLINE RD., DESERT HOT SPRINGS CA 92240

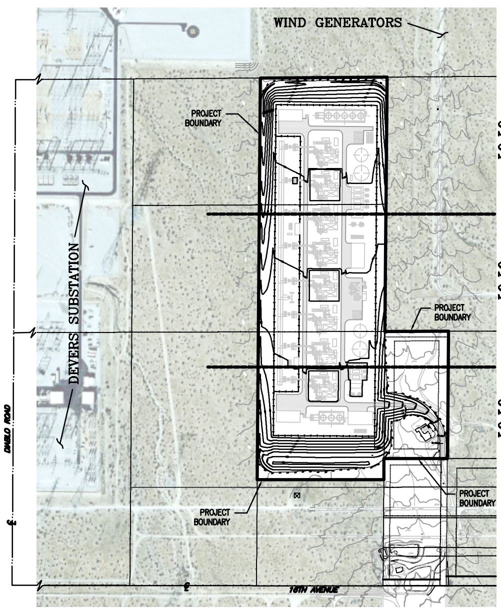
THE EAST 1/2 OF THE SE 1/4 OF THE SW 1/4 OF SEC. 4, T.3 S, R.4E., S.B.M.

Attachment 6a.

IN THE COUNTY OF RIVERSIDE
ROUGH GRADING IMPROVEMENT PLANS
A PORTION OF THE SOUTH 1/2 OF SECTION 4 T.3S., R.4E.

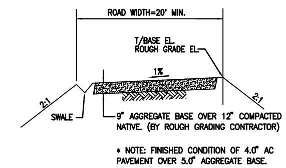
GENERAL GRADING NOTES

1. ALL GRADING SHALL CONFORM TO THE UNIFORM BUILDING CODE, CHAPTER 70, AS AMENDED BY ORDINANCE NO. 457.
2. ALL PROPERTY CORNERS SHALL BE CLEARLY DELINEATED IN THE FIELD PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION/GRADING.
3. DURING ROUGH GRADING OPERATIONS AND PRIOR TO CONSTRUCTION OF PERMANENT DRAINAGE STRUCTURES, TEMPORARY DRAINAGE CONTROL SHOULD BE PROVIDED TO PREVENT PONDING WATER AND DAMAGE TO EXISTING PROPERTIES.
4. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS.
5. NO FILL SHALL BE PLACED ON EXISTING GROUND UNTIL THE GROUND HAS BEEN CLEARED OF WEEDS DEBRIS, TOPSOIL AND OTHER DELETERIOUS MATERIAL.
6. MAXIMUM CUT AND FILL SLOPE=2:1
7. STABILITY CALCULATIONS WITH A FACTOR OF SAFETY OF AT LEAST ONE AND FIVE TENTHS (1.5) SHALL BE SUBMITTED BY A BUILDING AND SAFETY DEPARTMENT FOR CUT AND FILL SLOPES OVER 30' IN VERTICAL HEIGHT.
8. PROVIDE 5' WIDE BY 1' HIGH BERM OR EQUIVALENT ALONG THE TOP OF ALL FILL SLOPES OVER 5' HIGH.
9. PROVIDE A BROW DITCH, DESIGNED TO HANDLE 100YR Q STORM FLOWS, ALONG THE TOP OF CUT SLOPES.
10. MINIMUM BUILDING PAD AND DRAINAGE SWALE SLOPE SHALL BE=1% IF CUT OR FILL IS LESS THAN 10', 2% IF CUT OR FILL IS GREATER THAN 10'. DRAINAGE SWALE SHALL BE A MINIMUM OF 0.2' DEEP AND BE CONSTRUCTED A MINIMUM OF 2' FROM THE TOP OF CUT OR FILL SLOPES.
11. NO OBSTRUCTION OF FLOOD PLAINS OR NATURAL WATER COURSES SHALL BE PERMITTED.
12. ALL EXISTING DRAINAGE COURSES ON THE PROJECT SITE MUST CONTINUE TO FUCTION, ESPECIALLY DURING STORM CONDITIONS. PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS MUST BE USED TO PROTECT ADJOINING PROPERTIES DURING GRADING OPERATIONS.
13. FINISH GRADE SHALL BE SLOPED AWAY FROM ALL EXTERIOR WALLS AT NOT LESS THAN 1/2" PER FOOT FOR A MINIMUM OF 3'.
14. CUT AND FILL SLOPES EQUAL TO OR GREATER THAN 3' IN VERTICAL HEIGHT SHALL BE PLANTED WITH GRASS OR GROUND COVER TO PROTECT THE SLOPE FROM EROSION AND INSTABILITY IN ACCORDANCE WITH ORDINANCE NO. 457 PRIOR TO FINAL GRADING INSPECTION.
15. EROSION CONTROL: ALL SLOPES REQUIRED TO BE PLANTED SHALL BE PROVIDED WITH ROSEA ICE PLANT (OR EQUAL) GROUND COVER AT 12" ON CENTER. SLOPES EXCEEDING 15' IN VERTICAL HEIGHT SHALL BE PLANTED WITH APPROVED TREES SPACED NOT TO EXCEED 20' ON CENTER OR SHRUBS NOT TO EXCEED 10', OR A COMBINATION OF SHRUBS AND TREES NOT TO EXCEED 15' IN ADDITION TO A GRASS MIX OR GROUND COVER. SLOPES EXCEEDING 4' IN VERTICAL HEIGHT SHALL BE PROVIDED WITH AN IN-GROUND IRRIGATION SYSTEM. SLOPES EQUAL TO OR LESS THAN 4', MAY BE IRRIGATED BY HOSE BIB LOCATED AT THE TOP OR TOE OF THE SLOPE, SPACED TO MAKE USE OF A HOSE NO LONGER THAN 50' IN LENGTH. THE IRRIGATION SYSTEM SHALL BE PROVIDED WITH AN APPROPRIATE BACKFLOW DEVICE PER U.P.C., CHAPTER 10.
16. ALL GRADING SHALL BE DONE IN CONFORMANCE WITH RECOMENDATIONS OF THE PRELIMINARY SOILS INVESTIGATION BY EARTH SYSTEMS CONSULTANTS DATED 12/4/1997. TWO SETS OF THE FINAL COMPACTION REPORT SHALL BE SUBMITTED TO THE BUILDING AND SAFETY DEPARTMENT WHICH SHALL INCLUDE FOUNDATION DESIGN RECOMMENDATIONS AND CERTIFICATION THAT GRADING HAS BEEN DONE IN CONFORMENCE WITH THE RECOMMENDATIONS OF THE SITE INVESTIGATION REPORT.
17. IF STEEP SLOPING TERRAIN OCCURS UPON WHICH FILL IS TO BE PLACED, IT MUST BE CLEARED, KEYED AND BENCHED INTO FIRM NATIVE SOIL FOR FULL SUPPORT. PREPERATION SHALL BE APPROVED BY A SUITABLE QUALIFIED AND REGISTERED PROFESSIONAL PRIOR TO PLACEMENT OF FILL MATERIAL.
18. ALL GRADING SHALL BE DONE UNDER THE SUPERVISION OF A COMPETENT SOILS ENGINEER WHO SHALL CERTIFY THAT ALL FILL HAS BEEN PROPERLY PLACED AND WHO SHALL SUBMIT A FINAL COMPACTION REPORT FOR ALL FILL OVER 1' DEEP.
19. FINAL COMPACTION REPORT WILL BE REQUIRED FOR ALL FILLS GREATER THAN 1'.
20. A SUITABLY QUALIFIED AND REGISTERED PROFESSIONAL SHALL SUBMIT TO THE BUILDING AND SAFETY DEPARTMENT WRITTEN CERTIFICATION OF COMPLETION OF ROUGH GRADING IN ACCORDANCE WITH THE APPROVED GRADING PLAN PRIOR TO REQUESTING INSPECTION AND ISSUANCE OF THE BUILDING PERMIT. CERTIFICATION SHALL INCLUDE LINE, GRADE, ELEVATION AND LOCATION OF CUT/ FILL SLOPES.
21. A SUITABLY QUALIFIED AND REGISTERED PROFESSIONAL SHALL SUBMIT CERTIFICATION OF BUILDING PAD ELEVATION WHERE SPECIFIC ELEVATIOS ARE REQUIRED, THE ELEVATION (WITH RESPECT TO MEAN SEA LEVEL) SHALL BE GIVEN. IF AN ELEVATION WITH RESPECT TO ADJACENT GROUND SURFACE IS REQUIRED, THE ACTUAL DISTANCE ABOVE THE ADJACENT GROUND SHALL BE GIVEN.
22. A SUITABLY QUALIFIED AND REGISTERED PROFESSIONAL SHALL SUBMIT TO THE BUILDING AND SAFETY DEPARTMENT WRITTEN CERTIFICATION OF COMPLETION OF FINAL GRADING IN ACCORDANCE WITH THE APPOROVED PLANS FOR ALL GRADING DESIGNATED AS "ENGINEERED GRADING."
23. THE CONTRACTOR SHALL NOTIFY THE DISTRICT BUILDING AND SAFETY DEPARTMENT AT LEAST 24 HOURS IN ADVANCE REQUESTING FINISH LOT GRADE AND DRAINAGE INSPECTION. THIS INSPECTION MUST BE APPROVED PRIOR TO BUILDING PERMIT FINAL INSPECTION FOR EACH LOT.
24. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT, TWO DAYS BEFORE YOU DIG AT 1-800-227-2600.

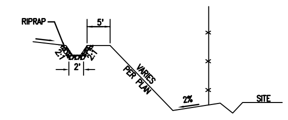


SEE SHEET 2
SEE SHEET 3
SEE SHEET 4

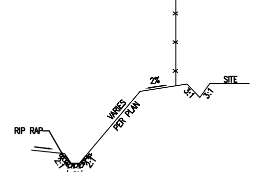
INDEX MAP
SCALE: 1" = 300'



ACCESS ROAD CROSS SECTION
N.T.S.



TYPICAL X-SECTION DETAIL
N.T.S.



TYPICAL X-SECTION DETAIL
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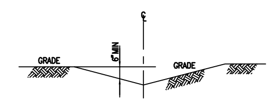


TYPICAL SWALE DETAIL
N.T.S.

LEGEND

FINISHED GRADE	FG
HIGH POINT	HP
LOW POINT	LP
GRADE BREAK	GB
PAD ELEVATION	PAD=
FLOWLINE	FL
FENCH LINE	
LIMITS OF GRADING	
PROPERTY LINE	
PROJECT BOUNDARY	
DIRECTION OF FLOW	
EARTH DIKES & DRAINAGE SWALES	
STORM DRAIN INLET PROTECTION	
SLOPE DRAINS	
SAND BAG BARRIER	

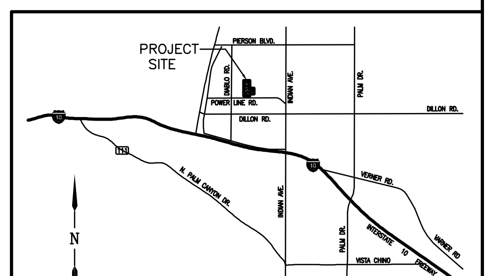
FLOOD ZONE

THE PROPERTY SHOWN AS BEING IN FLOOD ZONE "C" ON FEMA MAP PANEL 060245 0900 C, REVISED SEPT. 30, 1988

EARTH QUANTITIES

	CUT		FILL	
RAW	260,800	CY	248,800	CY
CLEARING/GRUBBING & SUBSIDENCE (0.2')	0	CY	12,000	CY
SHRINKAGE (15%)	0	CY	XXX	CY
DEMOLITION (0.25')	0	CY	XXX	CY
ACCESS SUB-GRADE (0.88')	XXX	CY	0	CY
SUB-TOTAL	260,800	CY	260,800	CY
SITE TO BALANCE	0		0	CY
TOTAL	2,314	CY	2,314	CY

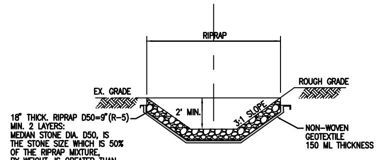
NOTE: STANTEC MAKES NO REPRESENTATION CONCERNING THE ESTIMATED QUANTITIES ON THESE PLANS OTHER THAN ALL SUCH FIGURES, INCLUDING ALL EARTHWORK NUMBERS, ARE PRELIMINARY ESTIMATES ONLY. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY MINOR DEVIATIONS BETWEEN ESTIMATED QUANTITIES AND THE ACTUAL QUANTITIES AT THE TIME OF CONSTRUCTION THE CONTRACTOR IS RESPONSIBLE TO PERFORM HIS/ HER OWN TAKEOFFS TO DETERMINE THE BID QUANTITIES.



INDEX MAP
NOT TO SCALE

ENGINEER'S NOTE

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THESE LOCATIONS ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES OR STRUCTURES ABOVE OR BELOW GROUND, SHOWN OR NOT SHOWN ON THESE PLANS. THE ENGINEER IS TO BE NOTIFIED OF ANY DISCREPANCIES, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN THE ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT ANY UTILITY LINES SHOWN, AND ANY OTHER LINES NOT OF RECORD, AND/OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE TO ANY UTILITIES OR STRUCTURES CAUSED BY HIS OPERATION.



RIPRAP DITCH DETAIL
N.T.S.

Underground Service Alert
Call: TOLL FREE
1-800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

BASIS OF BEARINGS:
THE BEARINGS SHOWN HEREON ARE BASED ON THE GRID BEARING "NORTH 67°15'54" WEST" BETWEEN NATIONAL GEOLOGICAL SURVEY HORIZONTAL CONTROL STATIONS "TOMTIT 2" AND "RAMO" AS PER THE NATIONAL GEOLOGICAL SURVEY DATA SHEETS.
BENCHMARK:
TOP OF BRASS MONUMENT IN HAND WELL DN 1' ± AT INTERSECTION OF INDIAN AVE. & 20TH AVE. ELEV=740.88.
(CCS83) ZONE VI, NAD 83 (1995.50 EPOCH ADJUSTMENT)
REFERENCES

NO.	DATE	INIT.	REVISIONS	APP'V'D	DATE

PREPARED UNDER THE SUPERVISION OF:
RCE NO. C60595 EXP 12/31/08 DATE
DALE C. ROSS

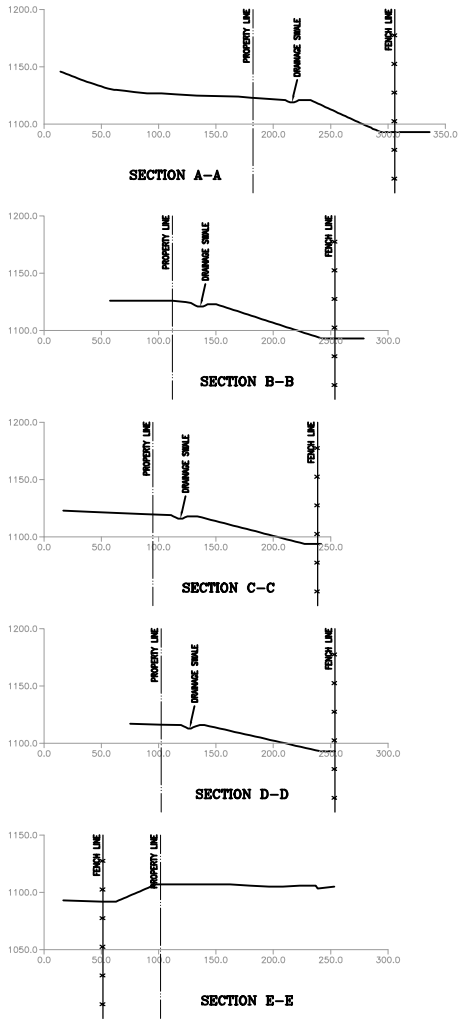
REGISTERED PROFESSIONAL ENGINEER
DALE C. ROSS
No. C60595
Exp. 12/31/08
CIVIL
STATE OF CALIFORNIA

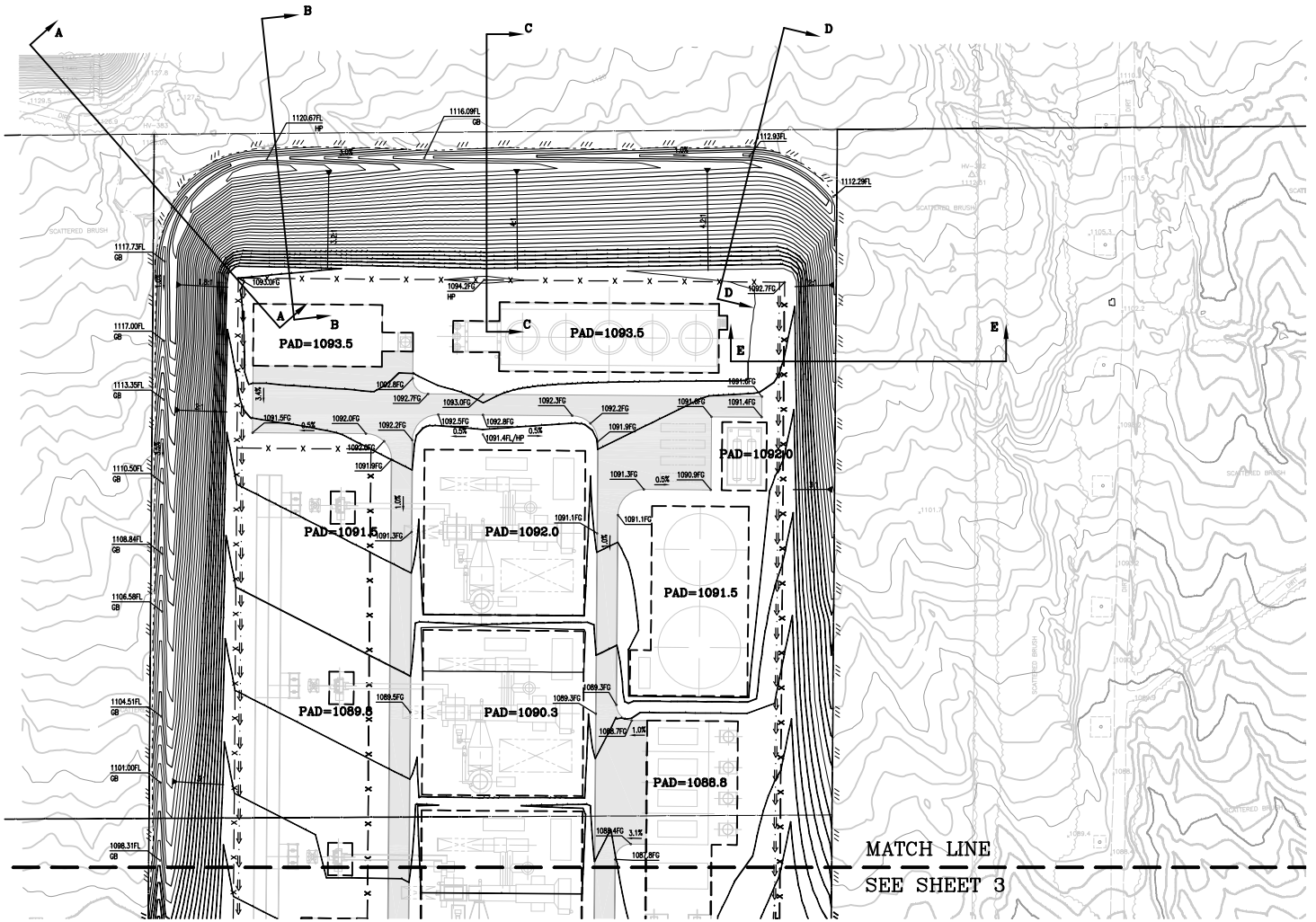
STANTEC CONSULTING INC.
73-733 FRED WARING DRIVE
SUITE 100
PALM DESERT, CA 92260
760.346.9844
stantec.com

CPV SENTINEL ENERGY PROJECT
TITLE SHEET AND DETAILS
ROUGH GRADING PLANS
COUNTY OF RIVERSIDE

DESIGN: SAH
DRAFT: SAH
CHECK: DRR
DATE: DEC 2007
DRAWING NO. C-1
SHEET 1 OF 4

Attachment 6b.





ENGINEER'S NOTE

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GRAPHIC SCALE
(IN FEET)
1 inch = 50 ft.

Underground Service Alert
Call: TOLL FREE
1-800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

BASIS OF BEARINGS:
THE BEARINGS SHOWN HEREON ARE BASED ON THE GRID BEARING "NORTH 67°15'54" WEST" BETWEEN NATIONAL GEOLOGICAL SURVEY HORIZONTAL CONTROL STATIONS "TOMTIT Z" AND "RAMO" AS PER THE NATIONAL GEOLOGICAL SURVEY DATA SHEETS.
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(CCS83) ZONE VI, NAD 83 (1995.50 EPOCH ADJUSTMENT)
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PREPARED UNDER THE SUPERVISION OF:
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DALE C. ROSS

REGISTERED PROFESSIONAL ENGINEER
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760.346.9844
stantec.com

CPV SENTINEL ENERGY PROJECT
TITLE SHEET
ROUGH GRADING PLANS
COUNTY OF RIVERSIDE

DESIGN: SAH DRAFT: SAH
CHECK: DRR DATE: DEC 2007
DRAWING NO. C-2
SHEET 2 OF 4

Plotted: Jan 02, 2008 - 1:41pm By: shokes
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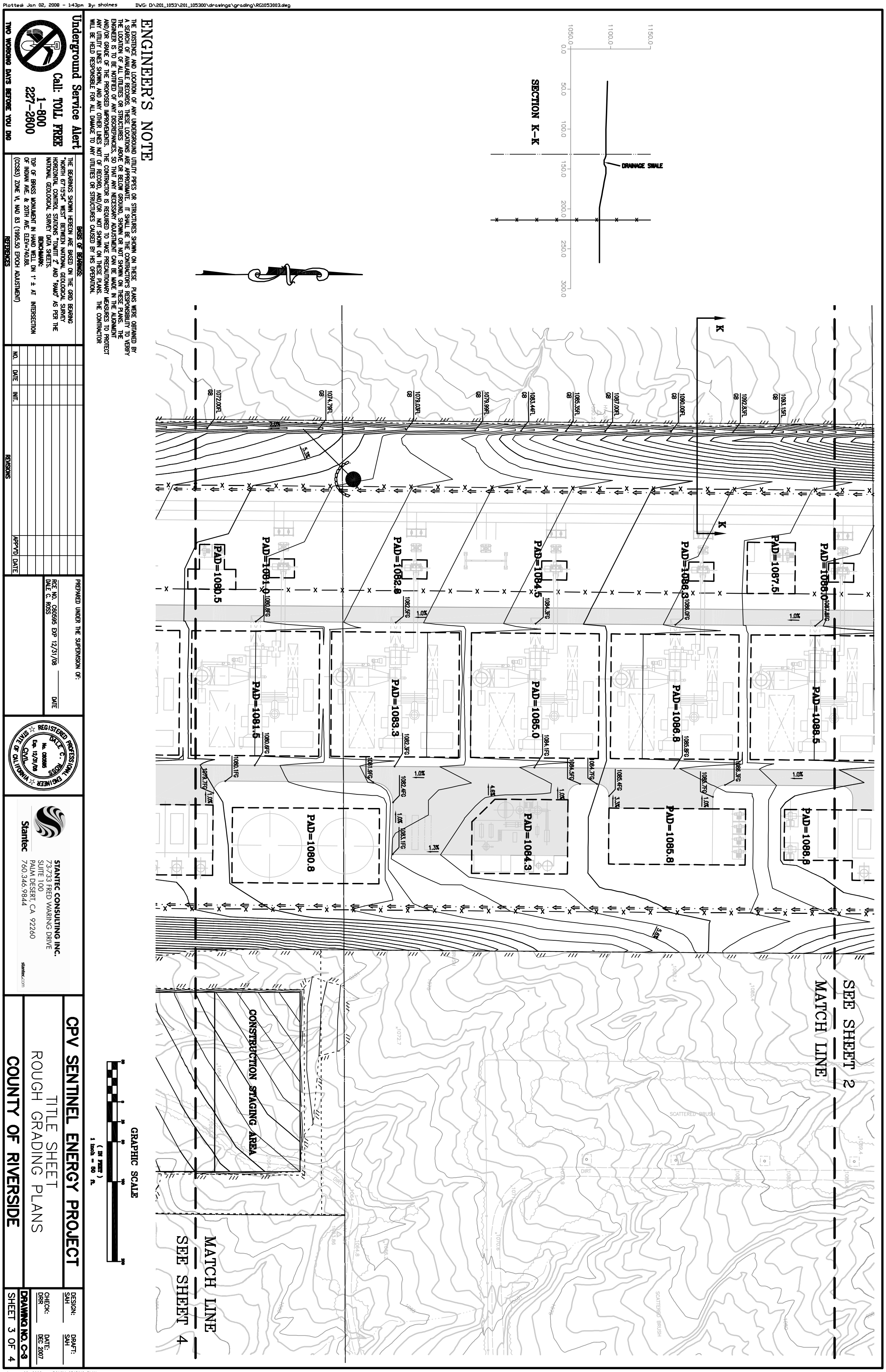
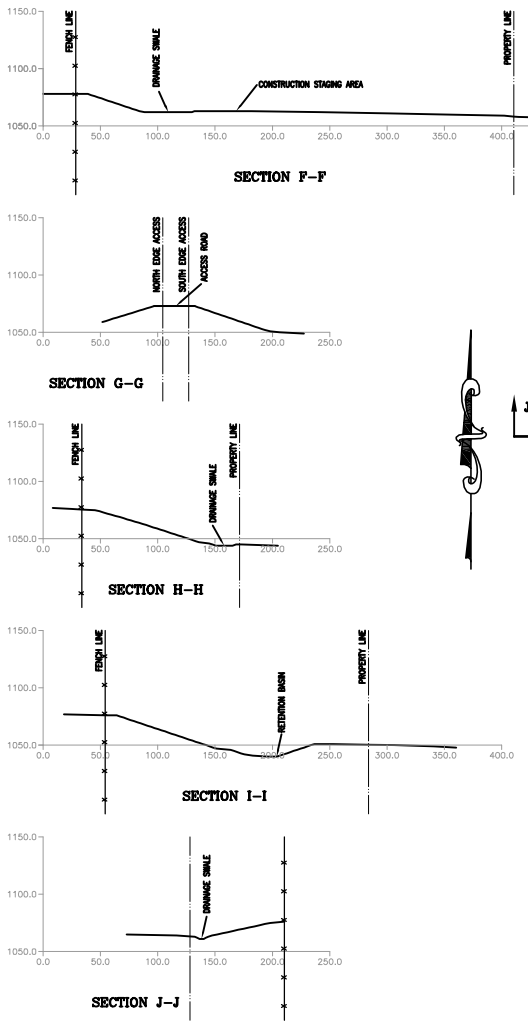
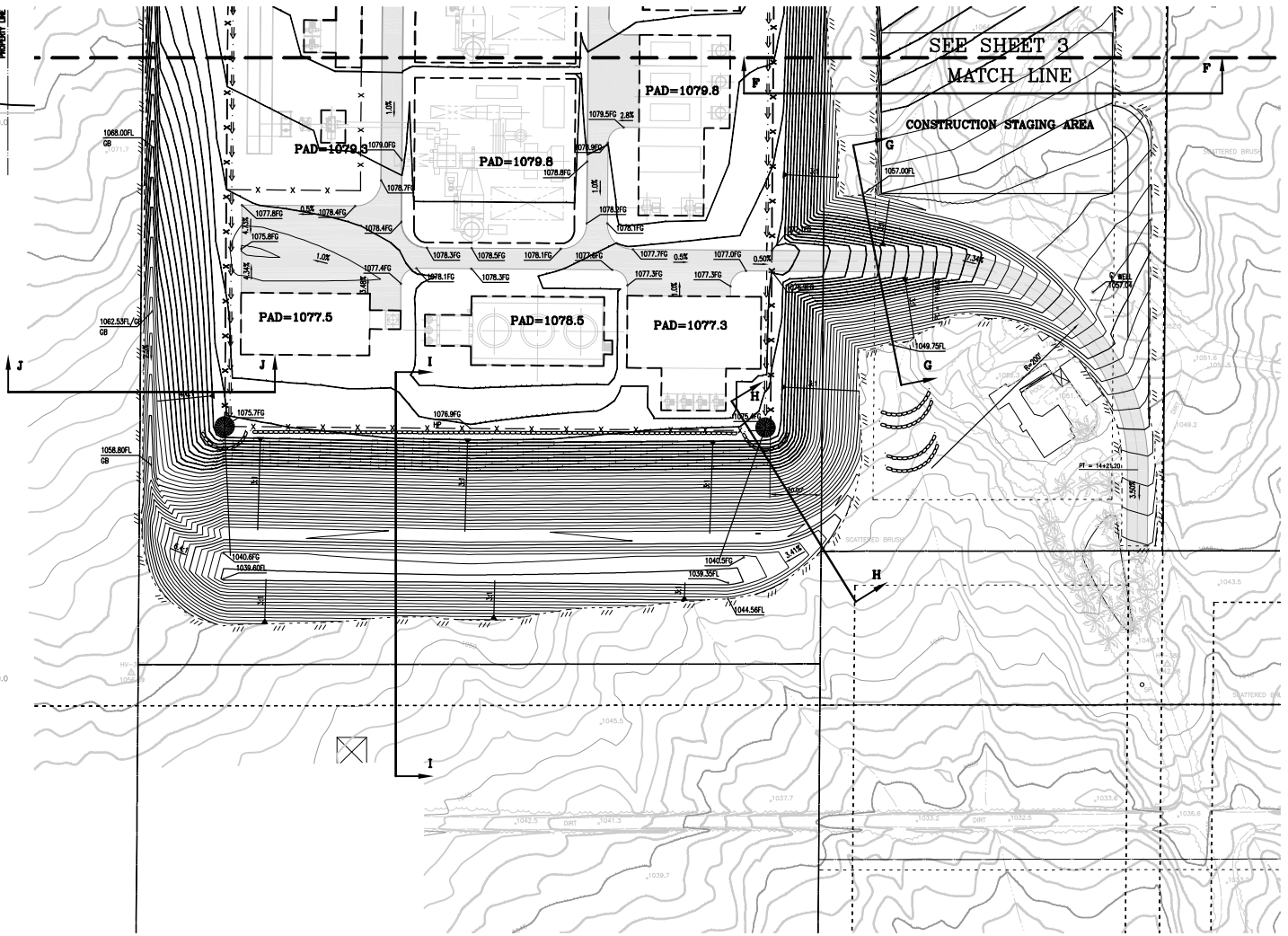
January 02, 2008 - ROUGH GRADING PLAN

Attachment 6c.



Attachment 6d.





ENGINEER'S NOTE

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THESE LOCATIONS ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES OR STRUCTURES ABOVE OR BELOW GROUND, SHOWN OR NOT SHOWN ON THESE PLANS. THE ENGINEER IS TO BE NOTIFIED OF ANY DISCREPANCIES, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN THE ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT ANY UTILITY LINES SHOWN, AND ANY OTHER LINES NOT OF RECORD, AND/OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE TO ANY UTILITIES OR STRUCTURES CAUSED BY HIS OPERATION.

CONSTRUCTION NOTES

GRAPHIC SCALE
(IN FEET)
1 inch = 50 ft.

Underground Service Alert
Call: TOLL FREE
1-800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

BASIS OF BEARINGS:
THE BEARINGS SHOWN HEREON ARE BASED ON THE GRID BEARING "NORTH 67°15'54" WEST" BETWEEN NATIONAL GEOLOGICAL SURVEY HORIZONTAL CONTROL STATIONS "TOMTIT 2" AND "RAMO" AS PER THE NATIONAL GEOLOGICAL SURVEY DATA SHEETS.

BENCHMARK:
TOP OF BRASS MONUMENT IN HAND WELL DN 1' ± AT INTERSECTION OF INDIAN AVE. & 20TH AVE. ELEV=740.88.
(CCS83) ZONE VI, NAD 83 (1995.50 EPOCH ADJUSTMENT)

REFERENCES

NO.	DATE	INIT.	REVISIONS	APP'VD	DATE

PREPARED UNDER THE SUPERVISION OF:

RCE NO. C60595 EXP 12/31/08 DATE
DALE C. ROSS

REGISTERED PROFESSIONAL ENGINEER
DALE C. ROSS
No. C60595
Exp. 12/31/08
CIVIL
STATE OF CALIFORNIA

Stantec
STANTEC CONSULTING INC.
73-733 FRED WARING DRIVE
SUITE 100
PALM DESERT, CA 92260
760.346.9844
stantec.com

CPV SENTINEL ENERGY PROJECT

TITLE SHEET
ROUGH GRADING PLANS

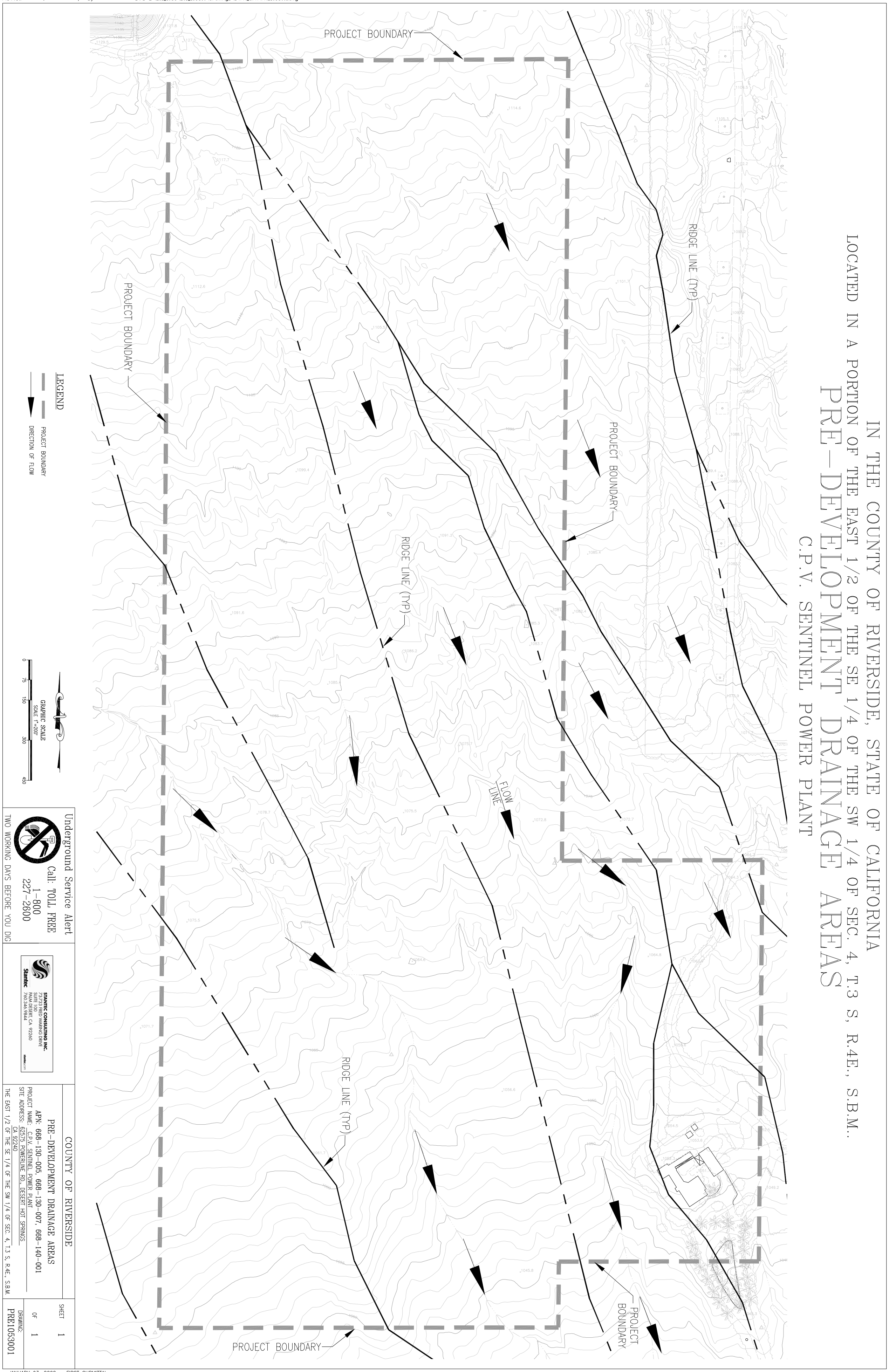
COUNTY OF RIVERSIDE

DESIGN:	DRAFT:
SAH	SAH
CHECK:	DATE:
DRR	DEC 2007

DRAWING NO. C-4
SHEET 4 OF 4

Attachment 7a.

Plotted: Jan 03, 2008 - 2:25pm By: chunter DWG: D:\201_1053\201_105300\drawings\strm_drn\PRE1053001.dwg



JANUARY 03, 2008 - FIRST SUBMITTAL

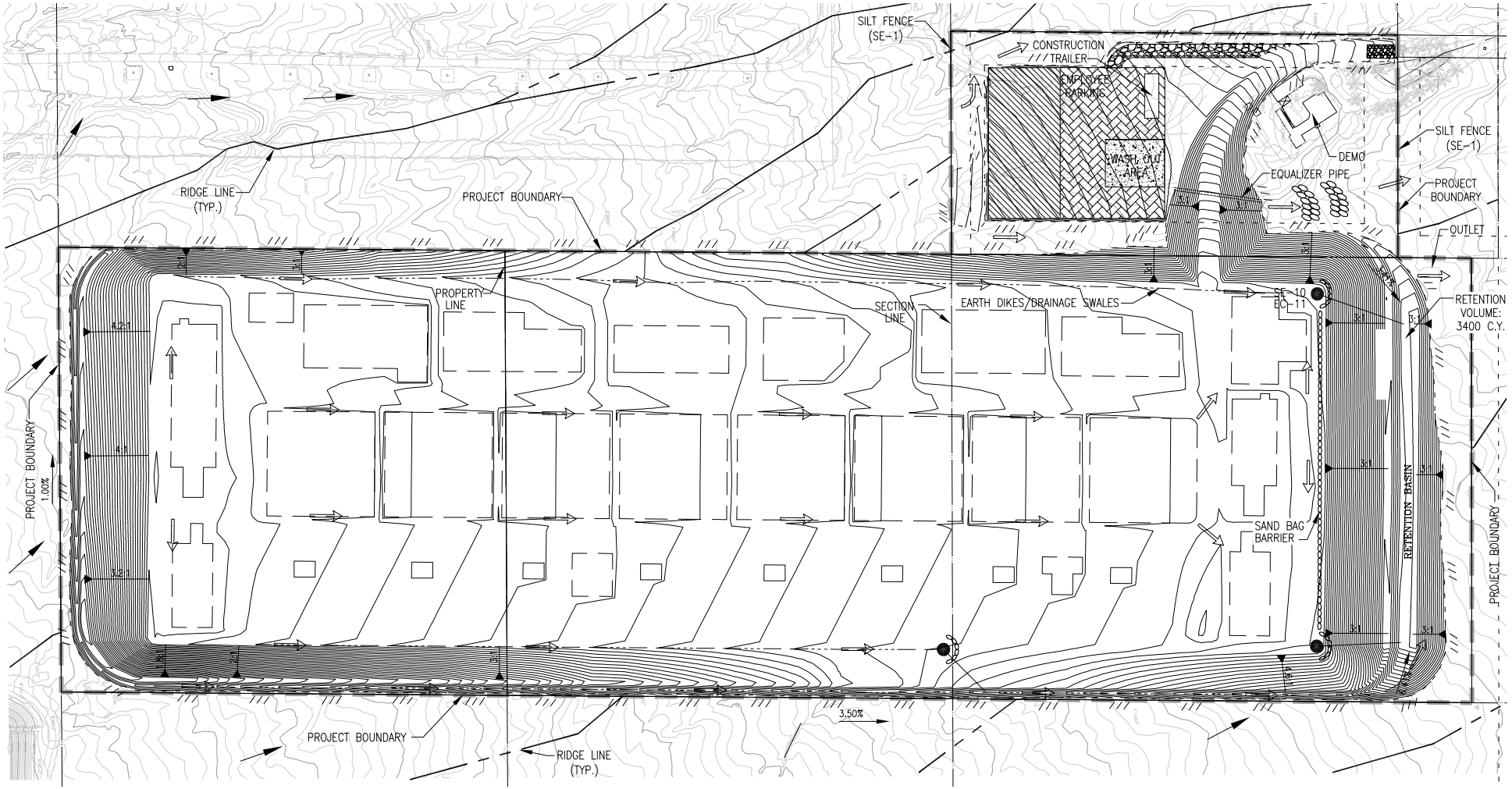
Attachment 7b.

IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

LOCATED IN A PORTION OF THE EAST 1/2 OF THE SE 1/4 OF THE SW 1/4 OF SEC. 4, T.3 S, R.4E., S.B.M..

POST-DEVELOPMENT DRAINAGE AREAS

C.P.V. SENTINEL POWER PLANT



LEGEND

- SILT FENCE (SE-1)
- PROJECT BOUNDARY
- DIRECTION OF FLOW
- EARTH DIKES & DRAINAGE SWALES (EC-9)
- STORM DRAIN INLET PROTECTION (SE-10)
- SLOPE DRAINS (EC-11)
- SAND BAG BARRIER (SE-8)
- PROPOSED DIRECTION OF FLOW
- EXISTING DIRECTION OF FLOW

GRAPHIC SCALE
SCALE 1"=200'
0 75 150 300 450

Underground Service Alert
Call: TOLL FREE
1-800
227-2600
TWO WORKING DAYS BEFORE YOU DIG

STANTEC CONSULTING INC.
73-733 FRED WARING DRIVE
SUITE 100
PALM DESERT, CA 92260
760.346.9844
Stantec

COUNTY OF RIVERSIDE

POST-DEVELOPMENT DRAINAGE AREAS

APN: 668-130-005, 668-130-007, 668-140-001

PROJECT NAME: C.P.V. SENTINEL POWER PLANT

SITE ADDRESS: 62575 POWERLINE RD., DESERT HOT SPRINGS CA 92240

THE EAST 1/2 OF THE SE 1/4 OF THE SW 1/4 OF SEC. 4, T.3 S, R.4E., S.B.M.

SHEET 1 OF 1

DRAWING: POST1053001

JANUARY 03, 2008 - FIRST SUBMITTAL

Plotted: Jan 03, 2008 - 2:05pm By: chartier DWG: D:\251_1053\251_105300\drawings\stm_dev\POST1053001.dwg