APPENDIX C HYDROLOGIC EVALUATION

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Pre/Post-Development Hydrology Report

Blythe Solar Power Project
Riverside County, California

Prepared for
NextEra Blythe Solar Energy Center, LLC

Prepared by
AECOM

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ABBREVIATIONS AND ACRONYMS

AF	acre-feet
AF/yr	acre-feet per year
BLM	Bureau of Land Management
cfs	cubic feet per second
CN	curve number
DEM	digital elevation model
FEMA	Federal Emergency Management Agency
fps	feet per second
ft	feet
I-10	Interstate 10
LiDAR	light detection and ranging
BSPP	Blythe Solar Power Project
MW	megawatt
NOAA	National Ocean and Atmospheric Administration
NRCS	Natural Resources Conservation Service
PV	photovoltaic
SCS	Soils Conservation Survey (now NRCS)
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey

1. PROJECT DESCRIPTION

1.1 Introduction

In mid-2012, NextEra Blythe Solar Energy Center, LLC ("NextEra Blythe") purchased the Blythe Solar Power Project (BSPP), which is a fully permitted 1000 MW solar thermal power project (referred to as the "Approved Project"). NextEra Blythe is proposing to modify the power generating technology to photovoltaic (PV) solar technology, and reduce the footprint and power generation capacity of the project (referred to as the "Modified Project"). The Modified Project would have a nominal power generation capacity of 485 MW and would occupy approximately 4,138 acres located fully within the Approved Project boundaries.

The purpose of this study was to characterize the effects of development of the Modified Project on surface water drainage patterns at, and down-slope of the Modified Project site. To achieve this objective, pre-development site conditions were modeled for the 10-, 25-, and 100-year (24-hour duration) hydrologic events, and used as a benchmark for comparison with post-development modeling results.

Aspects of the Modified Project that have potential to impact surface water drainage conditions differently than those of the Approved Project are as follows:

- Replacement of concentrating solar helio-trough and associated HTF collections and circulation system with PV modules
- Reduction of Project footprint from approximately 6,831 acres to approximately 4,138 acres
- Less intensive grading of the site will be required to accommodate PV technology
- Elimination of large drainage control channels and structures

HEC-HMS was used to develop flood hydrographs for mountainous watersheds tributary to the Modified Project vicinity, and FLO-2D was used to route the flood hydrographs and local rainfall-runoff through the Modified Project site and vicinity. Development effects were quantified based on modeled changes in the following hydraulic parameters: maximum flow velocity, maximum flow depth, peak flow rate, and total outflow volume.

1.2 Site Description

The Modified Project site comprises approximately 4,138 acres located approximately 8 miles northwest of Blythe, California, and approximately 3 miles north of I-10. The area is located in the Sonoran Desert on the Palo Verde Mesa, approximately 2 miles east of the McCoy Mountains, and is within the jurisdictional boundaries of the BLM, and un-incorporated Riverside County. Figure 1 is a vicinity map showing the location of the Modified Project site and relevant geographic features in the surrounding area.

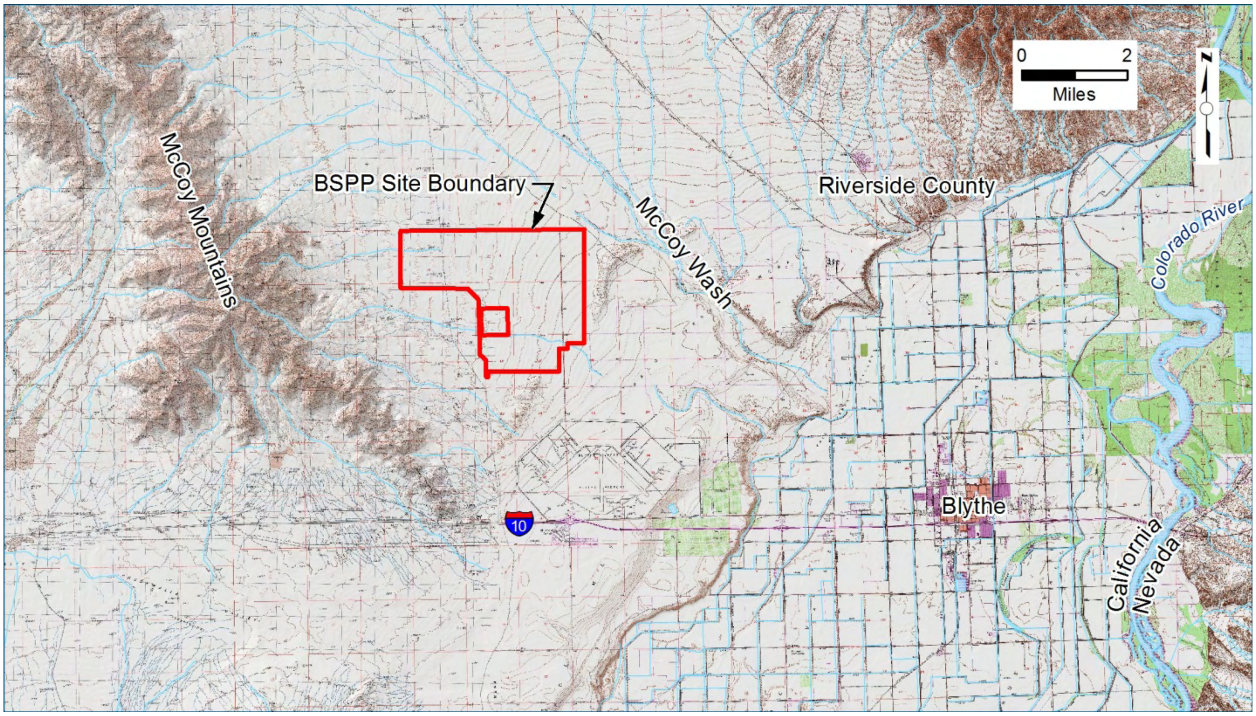

Figure 1: BSPP Solar Plant Site and Surrounding Areas

The general surface water flow pattern trends from higher elevations in the McCoy Mountains into shallow moderately defined channels at the base of the mountains. The major watercourse in the project area is McCoy Wash (northeast of the Modified Project site) which drains approximately 210 square miles of the Palo Verde Mesa, McCoy Mountains, Little Maria Mountains and Big Maria Mountains, and exits the mesa to the east of the Modified Project site. Alluvial fans radiate from the base of the McCoy Mountains and mesa discharging to a broad flat expanse of desert terrain sloping in a southeasterly direction across the BSPP site. Based on field observations, low flows from the ephemeral washes that traverse the Modified Project site in a west-to-east orientation transition into alluvial fans and abate into the landscape prior to connecting with the McCoy Wash.

Vegetation in the Sonoran Desert consists primarily of succulent cacti and drought resistant shrub adapted to sparse rainfall and well-draining soil. Soils generally consist of large, angular, cobbles in the up-slope mountainous terrain, and transition to finer, more closely packed, cobbles and pebbles in the project vicinity and at the Modified Project site.

Proposed construction of the Modified Project is anticipated to occur in four operational Units (phases); Unit 1, will be constructed in the first phase, and Units 2 through 4 will be constructed in subsequent phases. To ensure that the post-development modeling addressed the full range of potential hydrologic impacts related to the phased development approach, the following two development scenarios were simulated: 1) development of Unit 1 only, and 2) development of all Units. Figure 2 shows the preliminary site layout including areal coverage of PV panels, Unit boundaries, and other site development features.

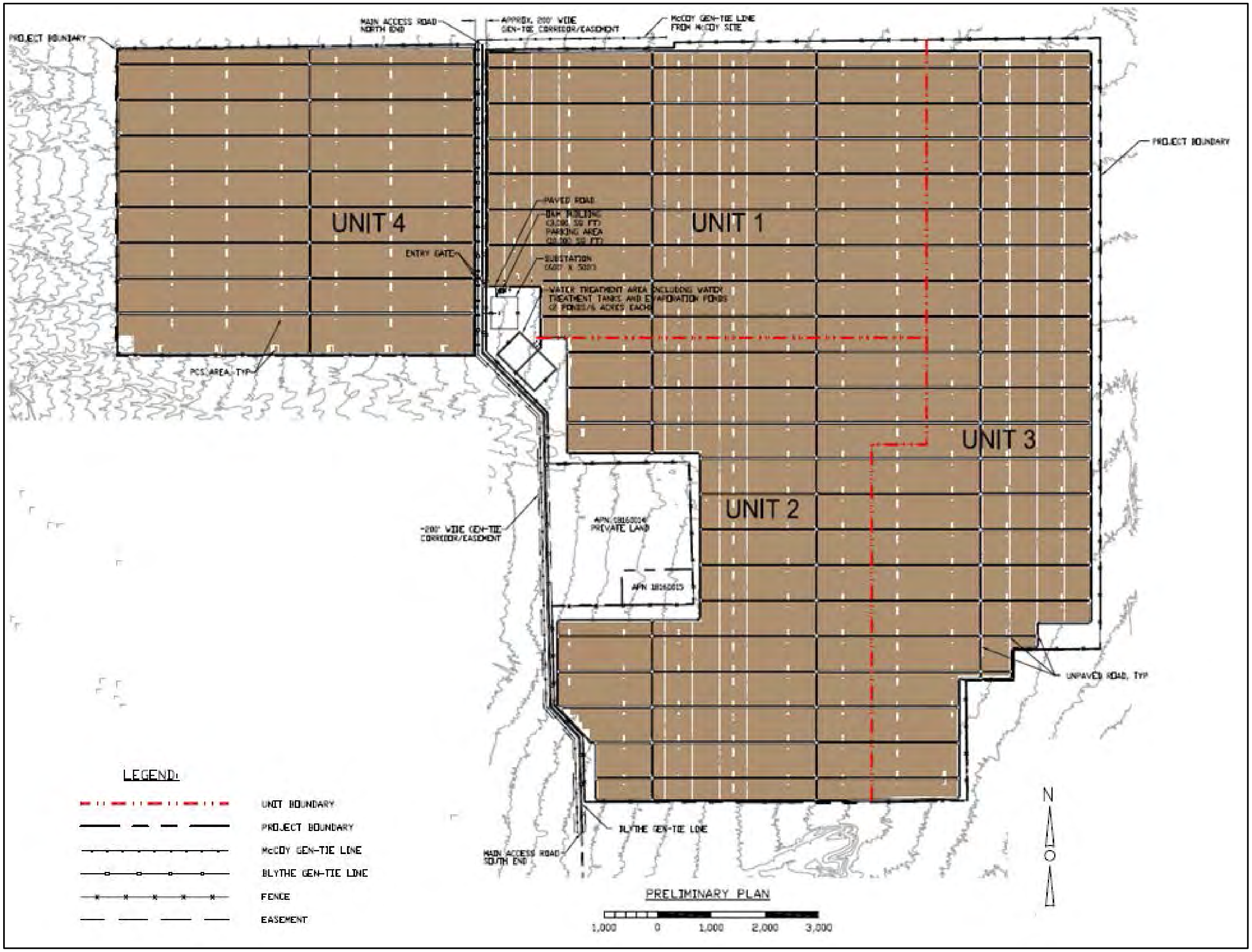

Figure 2: Draft Site Plan Showing Areal Coverage of PV Panels and Other Site Development Features (Source: WorleyParsons)

2. METHODOLOGY

HEC-HMS was used to develop flood hydrographs for mountainous watersheds tributary to the project vicinity. Pre- and post-development drainage conditions in the vicinity of the BSPP site were characterized using FLO-2D to route flood hydrographs and local rainfall-runoff through the BSPP site and Modified Project vicinity. This section provides a summary of the modeling approach and input parameters used in the models.

2.1 Spatial Configuration

Hydrologic and hydraulic model extents were established based on drainage basins which were delineated using topographic data to determine surface water flow directions. Figure 3 shows the boundaries of the HEC-HMS model sub-basins (purple) and the FLO-2D model boundary (black) in relation to the BSPP site.

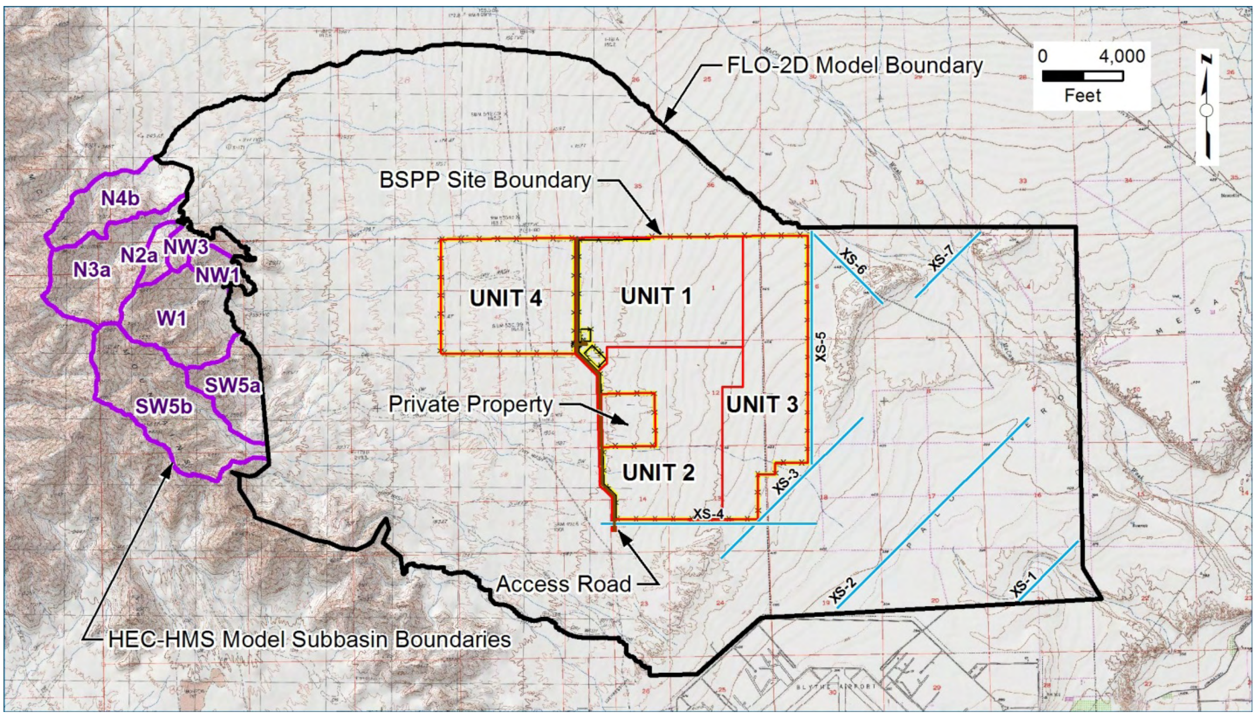

Figure 3: HEC-HMS and FLO-2D Model Boundaries

The HEC-HMS model domain includes all watersheds that contribute flows to the Modified Project boundary. The FLO-2D model boundaries were established to capture all flows tributary to the Modified Project site and all areas potentially receiving flows resulting from runoff from the Modified Project site.

Seven flow analysis cross-sections (XS-1 through XS-7) were established within the FLO-2D model. The flow analysis cross-sections are used to quantify changes in peak flow rate and total outflow volume leaving the BSPP site resulting from development-related changes to site conditions. Locations of the flow analysis cross-sections are shown as light in Figure 3 (light blue lines).

2.2 Hydrologic Modeling (HEC-HMS)

The BSPP site receives surface water flow from 8 tributary basins originating in the McCoy Mountains located approximately 2 miles west of the site. These watersheds were delineated with the ArcHydro suite within ArcGIS using 30-foot contour USGS DEM topographic data.

The 8 basins tributary to the Modified Project vicinity were individually modeled for the 10-, 25, and 100-year (24-hour duration) hydrologic events using HEC-HMS. The parameters used in the HMS model are described below and the values are listed in Table 1.

1. Runoff Methodology. The surface runoff calculations were performed by transforming the rainfall using the Standard SCS synthetic unit hydrograph (UH). The dimensionless UH is scaled by the lag time to produce the unit hydrograph that is applied for surface runoff calculation. The lag time for the Standard SCS UH is defined as the length of time between the centroid of precipitation and the peak flow of the hydrograph. Basin properties used to calculate lag time include; 1) length of the longest flowpath in the basin (L), 2) centroidal length from the centroid of the basin perpendicular to the longest flow path (Lca), 3) average basin slope, and 4) curve number (defined below).
2. Loss Method. The SCS method was selected to calculate infiltration within each sub basin. With this method, infiltration and initial abstraction are calculated based on the user-defined curve number (CN) which is based on the soil type and vegetation and defined in SCS TR-55[1]. Impervious areas are not included in infiltration loss calculations.
3. Precipitation Values and Distribution. The rainfall depths resulting from 10-, 25-, and 100-year (24-hour duration) precipitation events were obtained from the NOAA Atlas 14 document as reported in the Approved Project's *Revised Drainage Report for Pre-Development Hydrology and Post-Development Hydrology and Hydraulics*[2]

[1] United States Department of Agriculture - Natural Resources Conservation Service, Urban Hydrology for Small Watersheds, Technical Release TR 55, Table 2-2d. Major plants include saltbrush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus

[2] Kiewit Power Engineers Co. *Revised Drainage Report for Pre-Development Hydrology and Post-Development*

dated August 30, 2010. Rainfall depths used for the 10-, 25-, and 100-year return periods were 2.0 inches, 2.54 inches, and 3.44 inches, respectively. The SCS Type II storm distribution was used to distribute the precipitation over the 24-hour period.

Outflow hydrographs resulting from the three storm events were generated for each of the 8 tributary basins, and then used to define the inflow contributions along the western FLO-2D model boundary. The flow generated up-slope of the BSPP site would not be expected to change as a result of the site development; therefore, the same inflow hydrographs were used in all model scenarios. Table 1 shows the input parameters used to model each of the up-slope basins in HEC-HMS.

Table 1: HEC-HMS Offsite Basin Model Inputs

Basin	Basin Area (mi^2)	L (mi)	L_{CA} (mi)	Soil Type	CN (area-weighted)	Slope (%)	Lag Time (min)	Initial Abstraction (in)
N4b	0.57	1.60	0.77	B (33%), D (70%)	84	1.90%	12.2	0.381
N3a	0.75	1.81	1.13	B (7%), D (93%)	87	1.49%	15.2	0.299
N2a	0.12	0.88	0.50	B (13%), D (87%)	87	1.49%	8.0	0.299
NW3	0.17	0.51	0.33	B (18%), D (82%)	86	1.63%	5.5	0.326
NW1	0.13	0.57	0.25	B (9%), D (91%)	87	1.49%	5.3	0.299
W1	0.75	1.29	0.78	B (4%), D (96%)	88	1.36%	11.1	0.273
SW5a	0.43	0.88	0.37	B (19%), D (81%)	86	1.63%	7.3	0.326
SW5b	1.09	2.34	1.27	B (1%), D (99%)	88	1.36%	18.8	0.273

Notes:

1. All basins were assigned an imperviousness of 0%.

Hydrology and Hydraulics, Blythe Solar Power Project, Riverside County, California. Submitted to the California Energy Commission August 30, 2010.

2.3 Hydraulic Modeling (FLO-2D)

Inputs to the FLO-2D model include topographic data, ground surface and soil attributes (surface roughness, abstraction, and infiltration), and precipitation. Under the pre-development scenario, no adjustments to input parameters were made to differentiate the BSPP site from the surrounding areas. Post-development hydraulic modeling was conducted to address two site development scenarios: development of only Unit 1, and development all Units. Under the Unit 1 development scenario, parameter adjustments were made within the Unit 1 disturbance area to capture the effects of development of that area. Under the development of all Units scenario, parameter adjustments were made to the entire BSPP site to reflect the effects of full development of the site. This section provides a discussion of the FLO-2D model parameters and how they were varied to represent the various development scenarios.

2.3.1 Topography

The topographic dataset used in this study was generated by developing a mosaic of high-resolution LiDAR data (2-foot contour) with lower-resolution radar data (10-foot contour) and USGS DEM data (30-foot contour). Figure 4 shows the spatial distribution of the sources of topographic data used within the HEC-HMS and FLO-2D model domains. The datasets were combined into a final elevation dataset mosaic using the highest resolution data available for a given location, and filling in with lower resolution data where necessary. The ground surface was represented in the FLO-2D model as a grid consisting of 100-ft by 100-ft grid elements. The grid element elevations were assigned using the FLO-2D *Grid Developer System* to sample elevations from the elevation dataset mosaic.

Post-development changes in elevation are expected to be minimal and will generally not change from pre-development conditions. However, grid elements in contact with the proposed paved access road that runs north-south through the length of the Modified Project site were raised 0.5 feet to represent the post-development effects of the paved road section on surface water flow patterns[3]. Grid topography was not modified for the proposed gravel roads within the BSPP site boundary, as the finished surface of these roads is expected to be within 1 to 2 inches of the existing grade[3].

[3] WorleyParsons, *Email communication between Casey Dick (AECOM) and Juan Bravo, PE (WorleyParsons).* March 20 and 29, 2012.

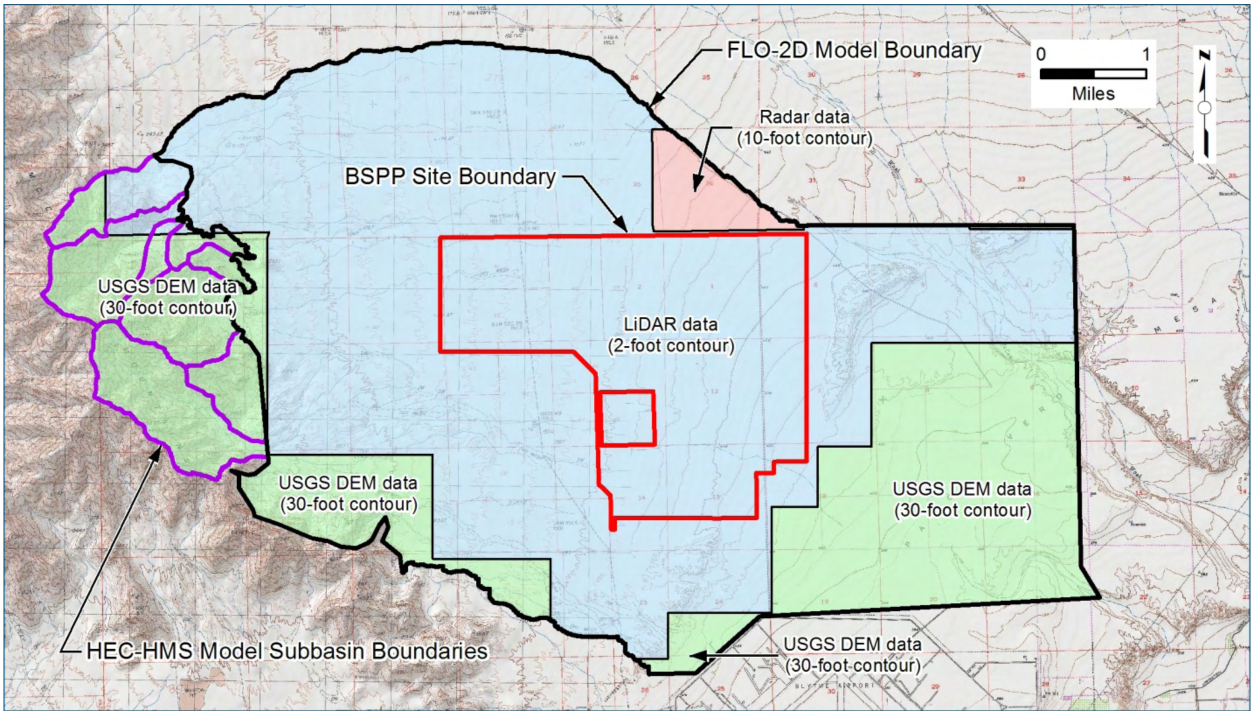

Figure 4: Spatial Distribution of Topographic Data Sources within the HEC-HMS and Flo-2D Model Domains

2.3.2 Surface Roughness

FLO-2D uses the Manning's n coefficient to account for the effects of surface roughness. The Manning's n roughness value utilized in FLO-2D is specific to overland flow computations[4], which is significantly higher than the Manning's n value specific to open channel flow computations[5].

Pre-development Manning's n values were estimated based on correlation of field photographs[6], site visits, aerial imagery, and sensitivity analyses. Manning's n was distributed spatially using ArcGIS shapefiles, and a composite overland flow Manning's n value was assigned to each grid cell to account for the local variations in vegetation and surface irregularity. The pre-development Manning's n values represent the sparse vegetation, sandy soils, and open ground with debris noted at the site[4].

Post-development changes to Manning's n values were estimated by applying adjustment factors to the base values to account for slight compaction due to construction activities,

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[4] FLO-2D Software Inc., FLO-2D Reference Manual (Version 2009), 2009.

[5] Army Corps of Engineers, HEC-1 Manual (1990) and Technical Engineering Design Guide, No. 19 (1997).

[6] United States Geological Survey, *Guide for Selecting Manning's Roughness Coefficients for Natural Channels and Flood Plains*, Arcement and Schneider, USGS Water-Supply Paper 2339, 1989.

installation of the PV panels and the mounting structures, and a surrounding access road with fencing. While some adjustment factors caused an increase in surface roughness (e.g., PV mounting structures), the composite adjustment resulted in a net decrease in surface roughness.

The chain-link fence enclosing the Modified Project site was represented in the FLO-2D model by an increased Manning's n value of 0.4 to simulate the additional drag that would be caused by the fence. This value was derived based on the assumption that the tortoise fencing in the lower 2 feet of the security fence would induce drag similar to that of *dense vegetation*[4].

Figures 5, 6, and 7 depict the spatial distribution of Manning's n for the three model scenarios.

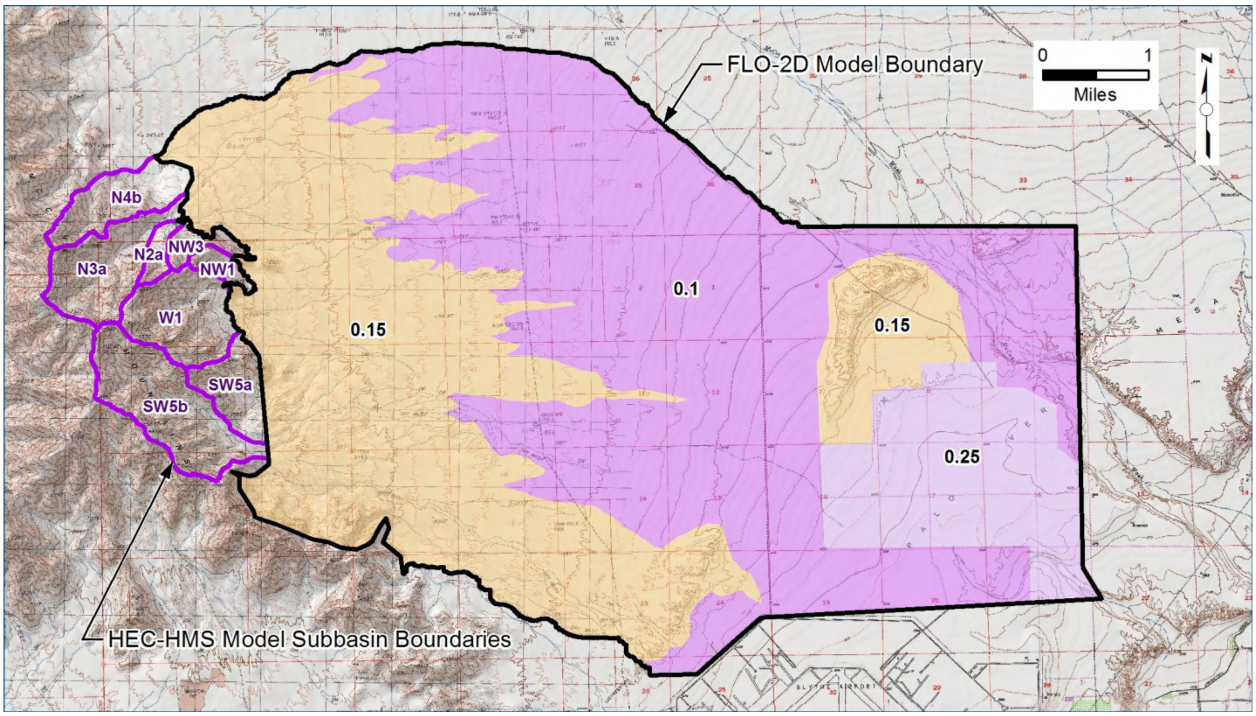

Figure 5: Pre-Development Manning's n Values

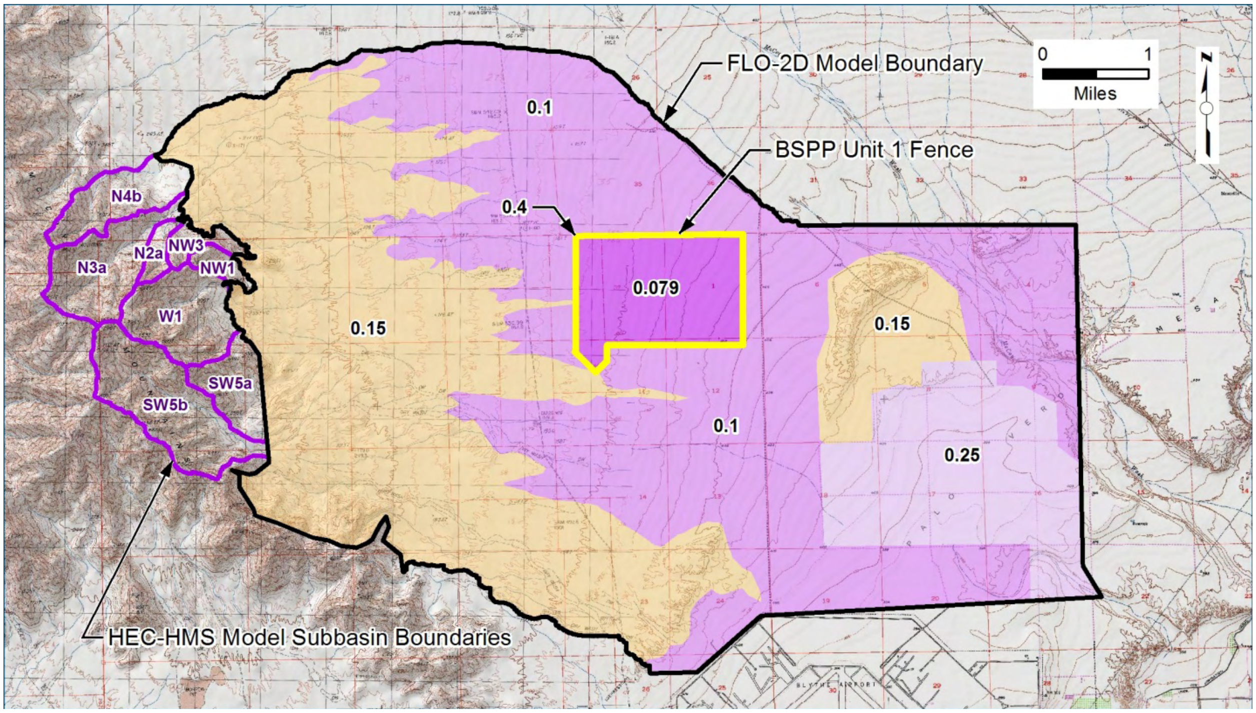

Figure 6: Post-Development (Unit 1) Manning's n Values

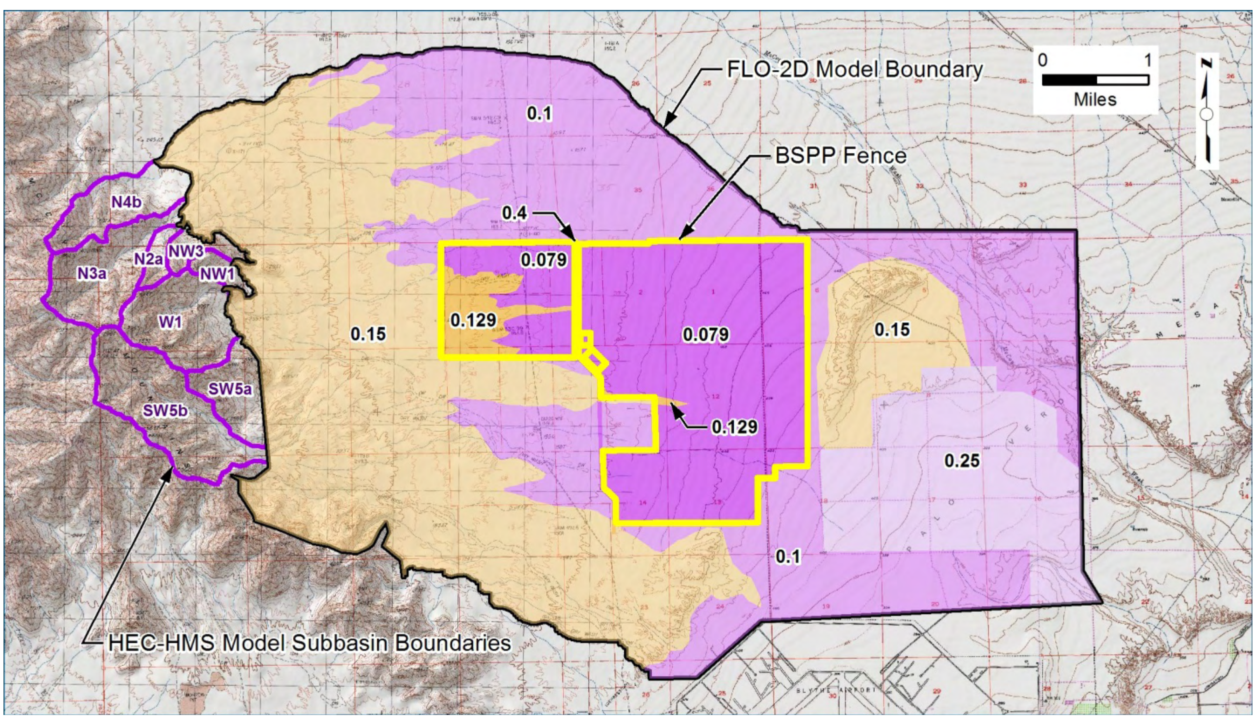

Figure 7: Post-Development (All Units) Manning's n Values

2.3.3 Infiltration

The SCS Curve Number approach was utilized in the FLO-2D model to account for infiltration of water into the subsurface. Curve number (CN) values representing Desert Shrub[7] Soil Groups B and D were used as base values. Pre-development CN values are 77 for Soil Group B and 88 for Soil Group B. CN values were spatially distributed using ArcGIS in a manner similar to that for distribution of Manning's n values.

Post-development CN values were increased to 82 for Soil Group B, and 89 for Soil Group D within the BSPPP site boundary to account for changes in the quality of cover related to site development. Primary factors contributing to post-development changes to CN values are the PV panels, facility buildings, slight compaction of soil due to construction activity, and construction of the access roads. CN values were increased only within the construction limits specific to each development scenario.

Figures 8, 9, and 10 depict the spatial distribution of CN values for the three model scenarios.

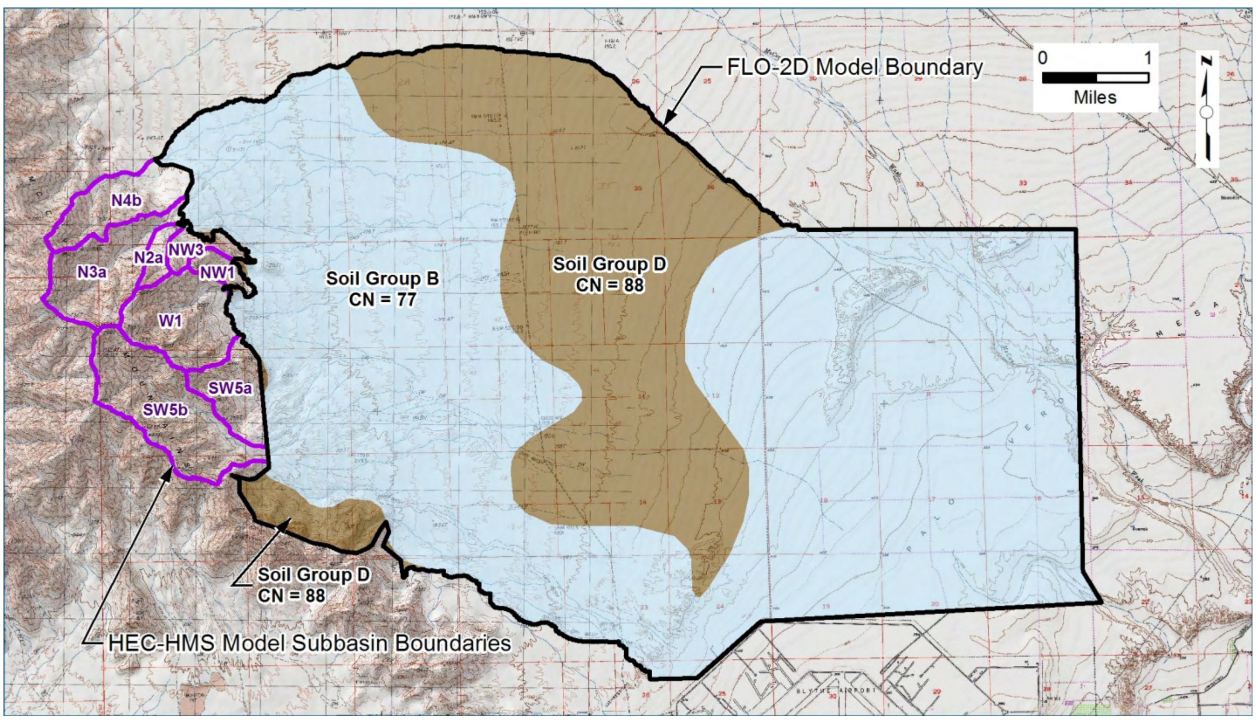

Figure 8: Pre-Development SCS Curve Number Values

[7] United States Department of Agriculture - Natural Resources Conservation Service, *Urban Hydrology for Small Watersheds*, Technical Release TR 55, Table 2-2d. Major plants include saltbrush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus.

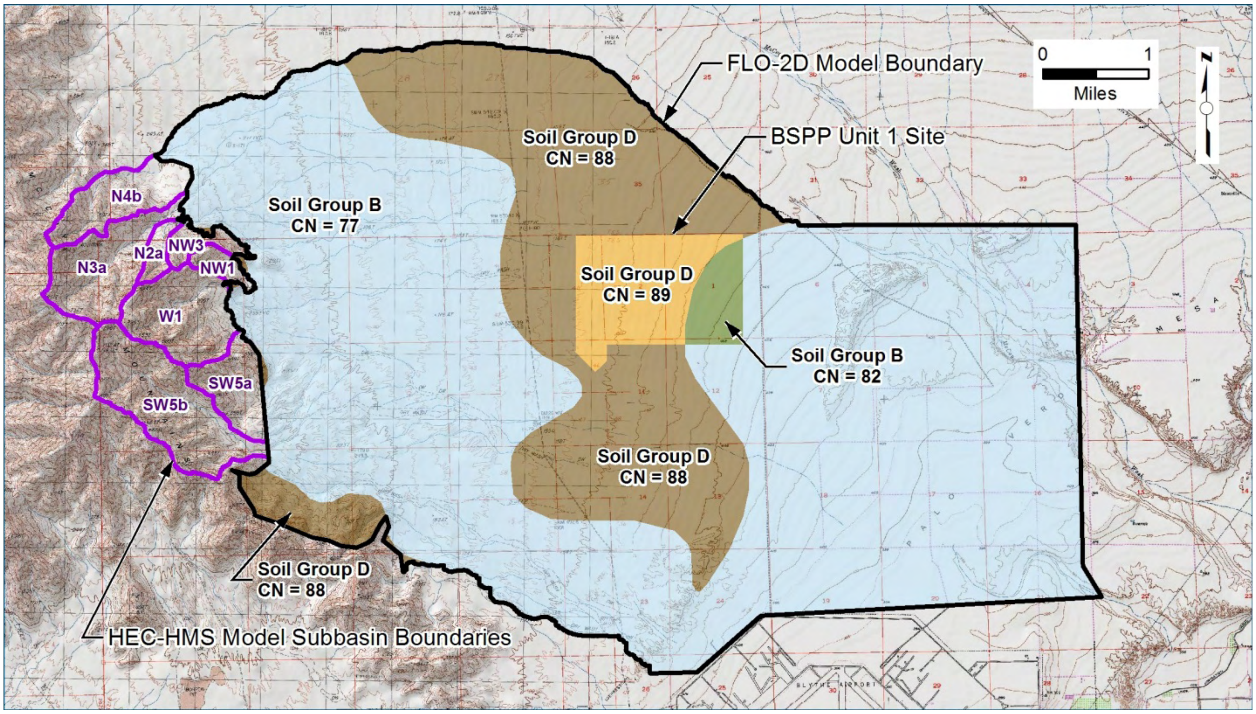

Figure 9: Post-Development (Unit 1) SCS Curve Number Values

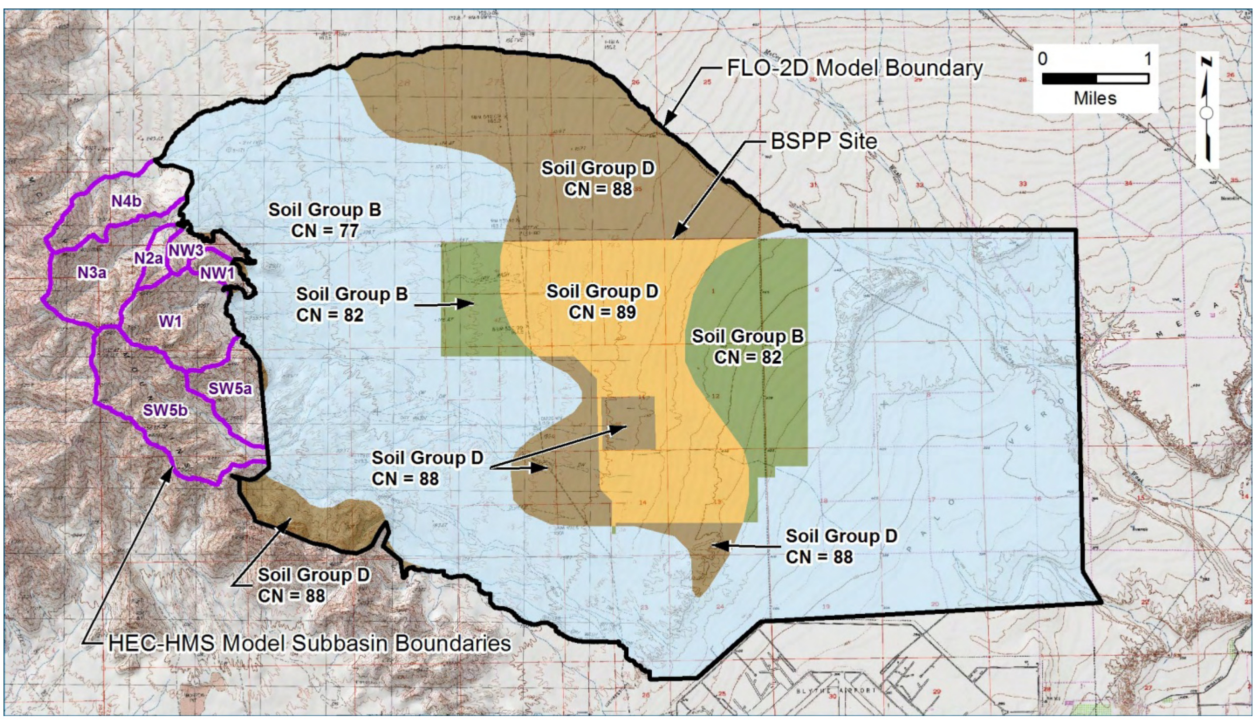

Figure 10: Post-Development (All Units) SCS Curve Number Values

2.3.4 Surface Abstraction

Surface abstraction refers to the amount of water lost to depression storage, evaporation, and interception during a hydrologic event. FLO-2D accounts for surface abstraction with the user defined variable TOLER. A TOLER value of 0.025 ft, representing *Natural Desert and Rangeland Surface Cover*[8], was specified for all model scenarios.

No changes in surface abstraction are assumed occur between the pre- and post-development conditions.

2.3.5 Precipitation

The rainfall depths resulting from 10-, 25-, and 100-year (24-hour duration) precipitation events were obtained from the NOAA Atlas 14 document as reported in the Approved Project's *Revised Drainage Report for Pre-Development Hydrology and Post-Development Hydrology and Hydraulics*[9] dated August 30, 2010. Figure 11 shows precipitation frequency data for the Modified Project vicinity. It is assumed that the 24-hour duration rainfall event is spatially distributed evenly over the hydrologic (HEC-HMS) and hydraulic (FLO-2D) model extents. Precipitation was distributed temporally as a Type II storm, in accordance with the U.S. Soil Conservation Service (now NRCS) Technical Release 55 recommendation for southeastern California. Rainfall depths used for the 10-, 25-, and 100-year return periods were 2.0 inches, 2.54 inches, and 3.44 inches, respectively.

No changes in precipitation are assumed occur between the pre- and post-development conditions.

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[8] Maricopa County Drainage Design Manual, 1992.

[9] Kiewit Power Engineers Co. *Revised Drainage Report for Pre-Development Hydrology and Post-Development Hydrology and Hydraulics, Blythe Solar Power Project, Riverside County, California*. Submitted to the California Energy Commission August 30, 2010.

POINT PRECIPITATION
FREQUENCY ESTIMATES
FROM NOAA ATLAS 14

California 33.673469 N 114.7465 W 479 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 4
G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2006
Extracted: Mon Nov 24 2008

Precipitation Frequency Estimates (inches)

ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.10	0.15	0.18	0.25	0.31	0.39	0.45	0.56	0.68	0.86	0.89	0.97	1.03	1.07	1.21	1.34	1.49	1.61
2	0.14	0.21	0.26	0.35	0.44	0.54	0.62	0.77	0.94	1.14	1.17	1.28	1.36	1.41	1.60	1.77	1.98	2.15
5	0.23	0.35	0.43	0.58	0.72	0.88	0.99	1.19	1.43	1.63	1.64	1.76	1.87	1.96	2.23	2.48	2.80	3.04
10	0.31	0.47	0.58	0.78	0.96	1.17	1.30	1.53	1.82	2.00	2.02	2.14	2.25	2.38	2.71	3.00	3.39	3.69
25	0.43	0.66	0.81	1.10	1.36	1.62	1.77	2.03	2.38	2.54	2.57	2.66	2.78	2.96	3.35	3.68	4.17	4.54
50	0.55	0.83	1.03	1.39	1.72	2.03	2.18	2.46	2.85	2.98	3.01	3.07	3.19	3.42	3.86	4.20	4.76	5.19
100	0.68	1.04	1.29	1.73	2.15	2.50	2.66	2.94	3.35	**3.44**	3.48	3.50	3.62	3.90	4.38	4.73	5.36	5.85
200	0.85	1.29	1.60	2.15	2.66	3.06	3.21	3.48	3.90	3.94	3.98	4.02	4.07	4.41	4.92	5.27	5.96	6.52
500	1.11	1.69	2.09	2.82	3.49	3.92	4.08	4.32	4.74	4.79	4.83	4.88	4.93	5.10	5.65	5.99	6.76	7.40
1000	1.35	2.06	2.56	3.44	4.26	4.72	4.86	5.07	5.49	5.54	5.60	5.66	5.71	5.77	6.22	6.55	7.37	8.07

* These precipitation frequency estimates are based on a partial duration series. **ARI** is the Average Recurrence Interval.
Please refer to NOAA Atlas 14 Document for more information. NOTE: Formatting forces estimates near zero to appear as zero.

Figure 11: Precipitation Frequency Estimates for the BSPP Vicinity (from Kiewit, 2010[9]).

3. RESULTS

3.1 HEC-HMS Results

Hydrographs resulting from HEC-HMS modeling of the up-slope tributary basins for the 10-, 25-, and 100-year hydrologic events are presented in Figures 12, 13, and 14, respectively. These hydrographs were used as inputs along the western (upstream) boundary of the FLO-2D model. Inflow hydrograph labels correspond to the HEC-HMS sub-basins shown in Figure 3.

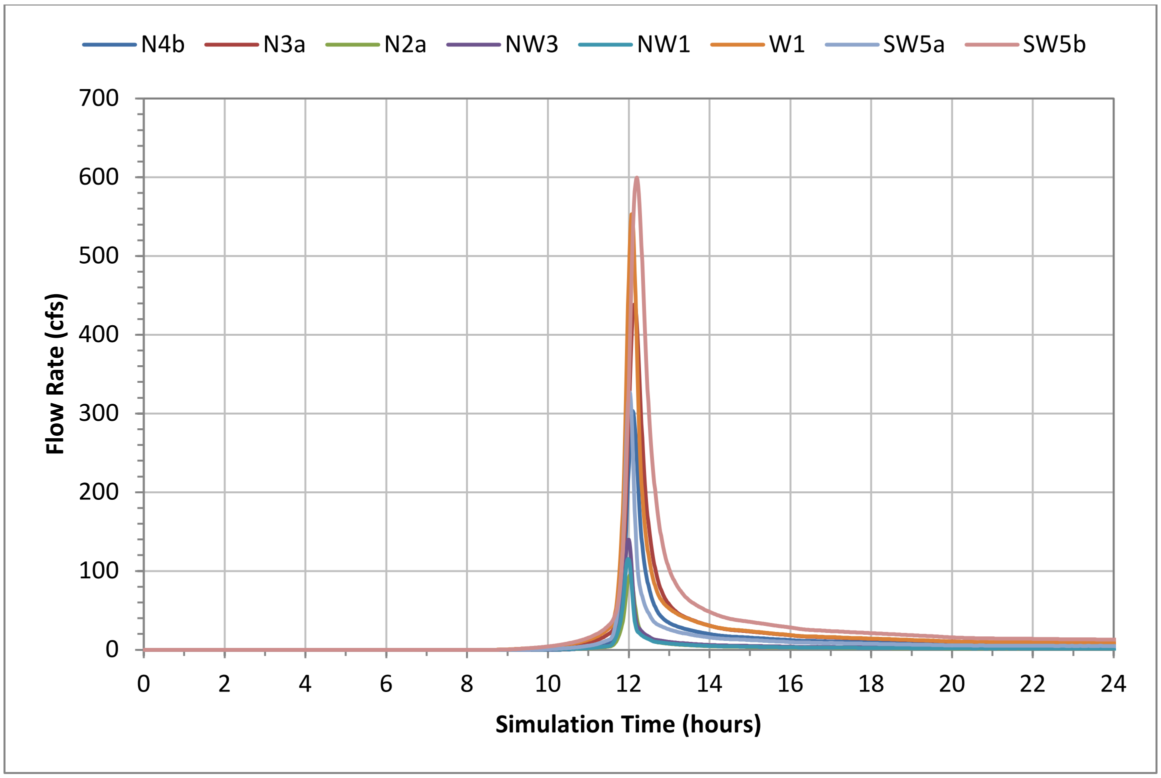


Figure 12: Offsite Hydrographs Resulting from 10-Year Hydrologic Event

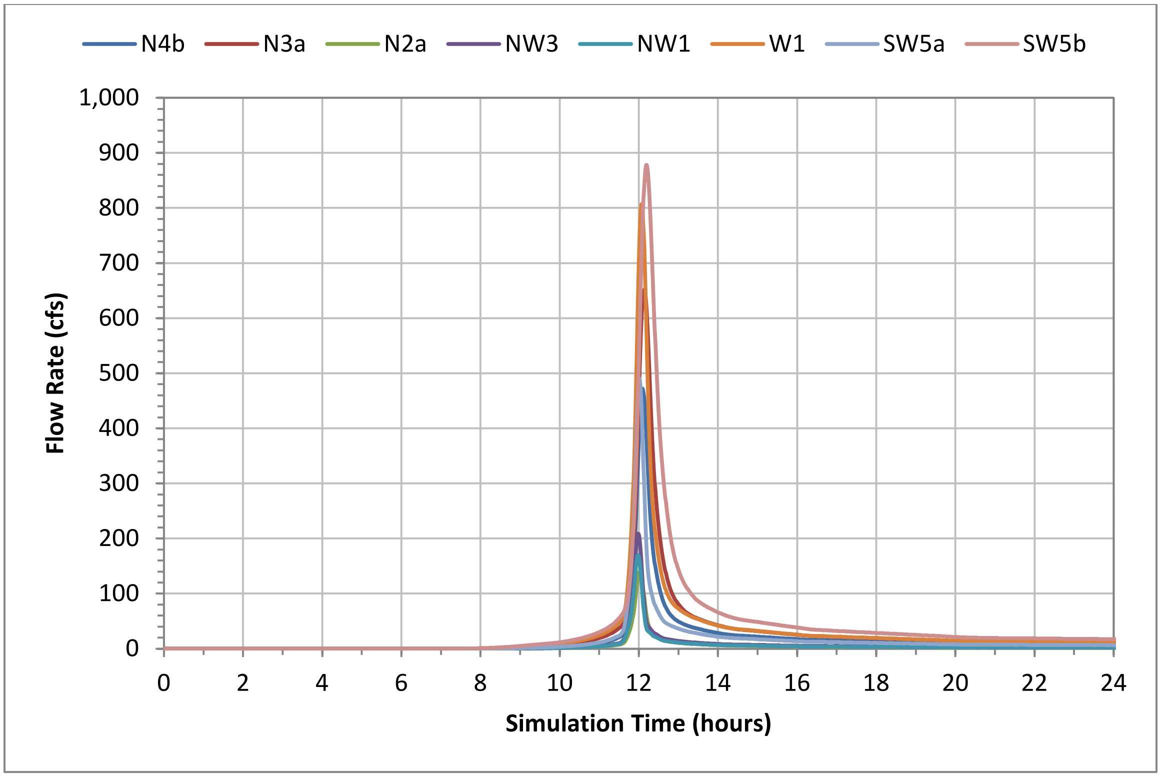


Figure 13: Offsite Hydrographs Resulting from 25-Year Hydrologic Event

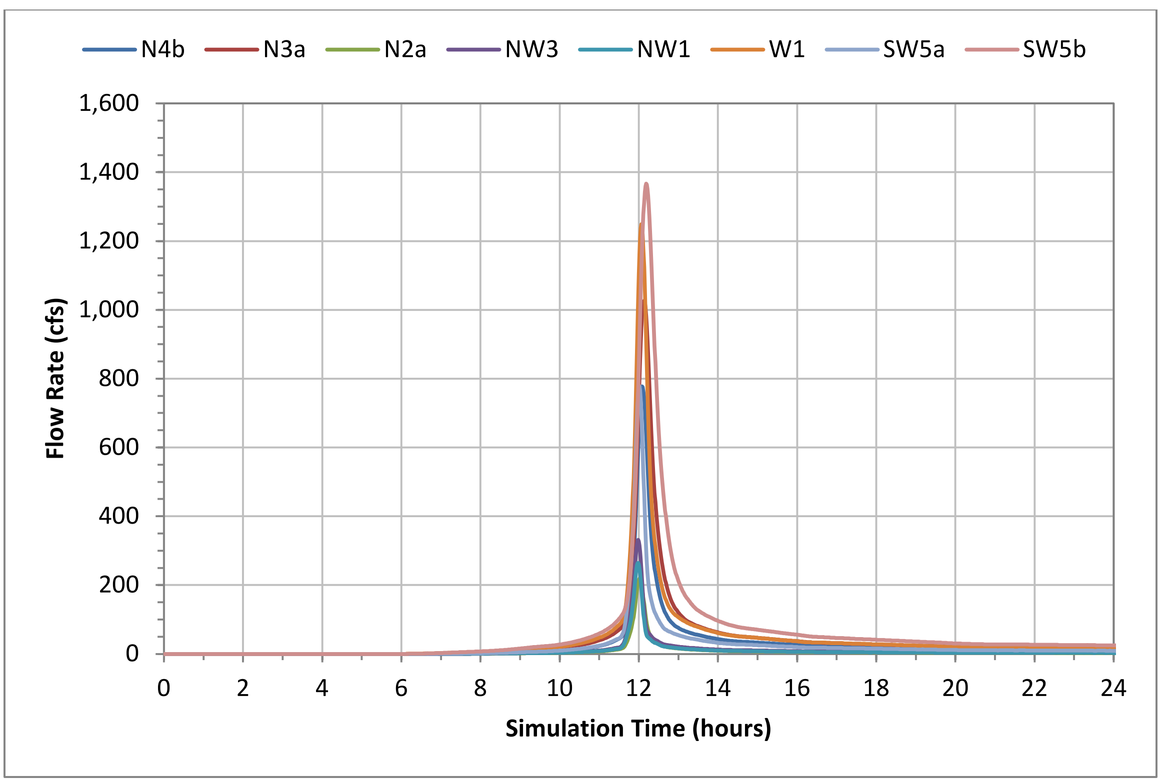


Figure 14: Offsite Hydrographs Resulting from 100-Year Hydrologic Event

Table 2 provides a summary of the HEC-HMS model results for each of the up-slope basins, including peak flow rate, time to peak, and total inflow volume for the 10-, 25-, and 100-year events.

Table 2: HEC-HMS Offsite Basin Model Results Summary

	10-Year Event			25-Year Event			100-Year Event		
Basin	Peak Flow Rate (cfs)	Time to Peak (hrs)	Total Volume (Ac-Ft)	Peak Flow Rate (cfs)	Time to Peak (hrs)	Total Volume (ac-ft)	Peak Flow Rate (cfs)	Time to Peak (hrs)	Total Volume (ac-ft)
N4b	303	12:06	22.8	472	12:06	34.9	777	12:05	57
N3a	438	12:08	36.5	651	12:08	53.8	1,027	12:08	84.8
N2a	95	12:02	5.8	140	12:02	8.6	219	12:01	13.6
NW3	140	11:59	7.8	209	11:59	11.6	331	11:59	18.5
NW1	115	11:59	6.3	170	11:59	9.3	265	11:59	14.7
W1	553	12:05	38.9	807	12:04	56.6	1,249	12:04	88.2
SW5a	328	12:01	19.6	491	12:01	29.3	778	12:01	46.7
SW5b	599	12:12	56.6	878	12:12	82.3	1,367	12:11	128.2

3.2 FLO-2D Results

Pre-development flow patterns on the site generally trend from west to east with a slight crescent pattern across the site. The crescent pattern is described by a minor change in flow direction from east at the western BSPP site boundary to southeast at the eastern BSPP site boundary.

Simulated post-development flow patterns on the BSPP site are very similar to those shown for the pre-development conditions. Slight changes are noted along the north-south fence-lines and along the paved access road alignment where the proposed fencing and access road create a minor backwatering effect on flows.

Simulated post-development flow patterns downstream of the BSPP site are also very similar to those shown for the pre-development conditions. For the development of all units scenario under the 100-year storm event, slight increases in maximum flow depth of approximately 0.1 to 0.2 feet are noted near the southeast corner of the FLO-2D model domain where flows tend to be concentrated prior to descending from the Mesa. No other material changes to maximum flow depth or maximum flow velocity were noted downstream of the BSPP site.

Tables 3, 4, and 5 provide a summary of peak flow rate at each of the seven flow analysis cross-sections (shown in Figure 5) under the three model scenarios, for the 10- and 100-year storm events, respectively. Tables 6, 7, and 8 provide a summary of total flow volume at each of the flow analysis cross-sections under the three model scenarios, for the 10- and 100-year storm events, respectively.

Table 3: Peak Flow Rate (CFS) at Flow Analysis Cross-Sections for 10-Year Event

	Pre-Development	Post-Development (Unit 1)	Change (Unit 1 – Pre)	Post Development (All Units)	Change (All Units – Pre)
XS-1	119.3	119.3	0.0	129.2	9.9
XS-2	175.8	177.8	2.0	190.9	15.1
XS-3	205.2	212.2	7.0	223.8	18.6
XS-4	108.3	112.2	3.9	113.0	4.7
XS-5	135.4	136.3	0.9	147.0	11.6
XS-6	1.8	1.8	0.0	1.6	-0.2
XS-7	4.3	4.4	0.1	4.2	-0.1

Table 4: Peak Flow Rate (CFS) at Flow Analysis Cross-Sections for 25-Year Event

	Pre-Development	Post-Development (Unit 1)	Change (Unit 1 – Pre)	Post Development (All Units)	Change (All Units – Pre)
XS-1	295.9	299.1	3.2	311.9	16.0
XS-2	412.1	414.9	2.8	432.1	20.0
XS-3	471.6	470.8	-0.8	499.1	27.5
XS-4	264.0	269.1	5.1	272.6	8.6
XS-5	306.7	308.6	1.9	317.1	10.4
XS-6	4.1	4.1	0.0	4.1	0.0
XS-7	18.0	17.8	-0.2	18.1	0.1

Table 5: Peak Flow Rate (CFS) at Flow Analysis Cross-Sections for 100-Year Event

	Pre-Development	Post-Development (Unit 1)	Change (Unit 1 – Pre)	Post Development (All Units)	Change (All Units – Pre)
XS-1	613.8	623.3	9.5	638.6	24.8
XS-2	844.1	859.4	15.3	898.7	54.6
XS-3	1149.4	1174.3	24.9	1212.1	62.7
XS-4	617.2	624.6	7.4	559.9	-57.3
XS-5	909.7	913.6	3.9	911.3	1.6
XS-6	10.7	10.7	0.0	10.6	-0.1
XS-7	48.6	48.6	0.0	48.9	0.3

Table 6: Total Outflow Volume (AF) at Flow Analysis Cross-Sections for 10-Year Event

	Pre-Development	Post-Development (Unit 1)	Change (Unit 1 – Pre)	Post Development (All Units)	Change (All Units – Pre)
XS-1	407.3	415.7	8.4	445.0	37.7
XS-2	511.9	519.8	7.9	522.3	10.4
XS-3	573.9	582.3	8.6	615.7	41.8
XS-4	152.6	153.7	1.1	156.7	4.1
XS-5	400.9	409.5	8.6	438.1	37.2
XS-6	0.8	0.8	0.0	0.8	0.0
XS-7	4.9	4.9	0.0	5.0	0.1

Table 7: Total Outflow Volume (AF) at Flow Analysis Cross-Sections for 25-Year Event

	Pre-Development	Post-Development (Unit 1)	Change (Unit 1 – Pre)	Post Development (All Units)	Change (All Units – Pre)
XS-1	853.3	863.7	10.4	900.9	47.6
XS-2	1016.9	1026.2	9.3	1067.5	50.6
XS-3	1077.8	1088.3	10.5	1130.6	52.8
XS-4	282.4	284.7	2.3	288.0	5.6
XS-5	754.0	764.6	10.6	801.0	47.0
XS-6	2.3	2.3	0.0	2.3	0.0
XS-7	16.0	16.0	0.0	16.0	0.0

Table 8: Total Outflow Volume (AF) at Flow Analysis Cross-Sections for 100-Year Event

	Pre-Development	Post-Development (Unit 1)	Change (Unit 1 – Pre)	Post Development (All Units)	Change (All Units – Pre)
XS-1	1598.4	1609.8	11.4	1652.4	54.0
XS-2	1966.8	1978.6	11.8	2033.7	66.9
XS-3	2014.3	2027.3	13.0	2083.3	69.0
XS-4	521.9	525.9	4.0	510.3	-11.4
XS-5	1416.6	1430.3	13.7	1467.2	50.6
XS-6	5.1	5.1	0.0	5.1	0.0
XS-7	38.1	38.1	0.0	38.1	0.0

Plots showing hydrographs for each of the flow analysis cross-sections under the three model scenarios, for the 10-, 25-, and 100-year storm events are presented in Appendices D, E, and F, respectively.

FLO-2D provides, as an output, volumetric mass balance of water inflows, losses, retention, and outflows represented by the following five components:

- **A.** Off-Site Surface Water Inflow (input from HEC-HMS model).
- **B.** On-Site Precipitation Inflow.
- **C.** On-Site Initial Abstraction and Infiltration Losses.
- **D.** On-Site Watershed Storage.
- **E.** Surface Water Outflow.

Perfect mass balance for a given simulation results in A + B - C - D = E. Mass balance results for each of the model scenarios are presented in Tables 9, 10, and 11.

Table 9: FLO-2D Mass Balance Results (AF) for 10-Year Hydrologic Event

Parameter	Row	Pre-Development	Unit 1		All Units	
		Volume	Volume	Change	Volume	Change
Off-Site SW Inflow	A	194.6	194.6	0.0	194.6	0.0
On-Site Precip. Inflow	B	3687.8	3687.8	0.0	3687.8	0.0
On-Site Initial Ab. and Infil. Loss	C	2594.9	2586.1	-8.8	2552.6	-42.3
On-Site Watershed Storage	D	642.7	643.3	0.6	643.3	0.6
Surface Water Outflow	E	644.8	653.1	8.3	686.6	41.8
Residual		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Table 10: FLO-2D Mass Balance Results (AF) for 25-Year Hydrologic Event

Parameter	Row	Pre-Development	Unit 1		All Units	
		Volume	Volume	Change	Volume	Change
Off-Site SW Inflow	A	286.6	286.6	0.0	286.6	0.0
On-Site Precip. Inflow	B	4683.6	4683.5	-0.1	4683.6	0.1
On-Site Initial Ab. and Infil. Loss	C	2936.8	2925.7	-11.1	2883.1	-53.7
On-Site Watershed Storage	D	656.5	657.0	0.5	657.0	0.5
Surface Water Outflow	E	1376.9	1387.4	10.5	1430.2	53.3
Residual		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Table 11: FLO-2D Mass Balance Results (AF) for 100-Year Hydrologic Event

Parameter	Row	Pre-Development	Unit 1		All Units	
		Volume	Volume	Change	Volume	Change
Off-Site SW Inflow	A	452.0	452.0	0.0	452.0	0.0
On-Site Precip. Inflow	B	6343.1	6343.1	0.0	6343.0	-0.1
On-Site Initial Ab. and Infil. Loss	C	3360.2	3346.3	-13.9	3291.0	-69.2
On-Site Watershed Storage	D	660.4	660.8	0.4	660.9	0.5
Surface Water Outflow	E	2774.5	2788.0	13.5	2843.1	68.6
Residual		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Maps showing the spatial distribution of maximum flow velocity, maximum flow depth, and the changes in these parameters resulting from development of the Modified Project for the 10-, 25-, and 100-year storm events are presented in Appendices A, B, and C, respectively. Table 12 provides a guide to the organization of these appendices.

Table 12: Appendix Map Matrix

Map Type	10-Year Event		25-Year Event		100-Year Event	
	Velocity	Depth	Velocity	Depth	Velocity	Depth
Pre-Development	A1	A6	B1	B6	C1	C6
Post-Development (Unit 1)	A2	A7	B2	B7	C2	C7
Change (Unit 1 – Pre)	A3	A8	B3	B8	C3	C8
Post-Development (All Units)	A4	A9	B4	B9	C4	C9
Absolute Change (All Units – Pre)	A5	A10	B5	B10	C5	C10

Noteworthy findings from the maps showing change between pre- and post-development conditions are summarized as follows:

- <u>Figures A3, B3, and C3: 10-, 25-, and 100-Year Storm Events – Max. Velocity – Unit 1:</u> Changes in maximum velocity are limited to small areas, particularly for the 10- and 25-year storms. Small changes in maximum velocity (0.1 - 0.2 fps), both increases and decreases, exist for the 10-year storm in the southwest corner of the Modified Project site (Figure A3). The 25-year storm indicates slight decreases in the southwest corner of the Modified Project site and small increases on the interior of the Modified Project site. Additionally, the 25-year storm shows very slight decreases (0.05 - 0.1 fps) in the southeast corner of the model boundary (Figure B3). The 100-year storm shows more widespread (but small) changes in maximum velocity, particularly on the interior of the Modified Project site and in the southeast area of the model boundary, with changes ranging from 0.05 - 0.2 fps.
- <u>Figures A5, B5, and C5: 10-, 25-, and 100-Year Storm Events – Max Velocity – All Units:</u> Small increases in maximum velocity (0.1 - 0.2 fps) are noted for all three storm events at limited locations within the Modified Project site and toward the southwest model boundary. Slight decreases in maximum velocity are also noted near the southwest corner of the model boundary for the 100-year storm (Figure C5). Increases in maximum velocity ranging from 0.1 - 0.2 fps are also observed for the 100-year storm along the southern and eastern boundaries of the Modified Project site.

* Figures A8, B8, and C8: 10-, 25-, and 100-Year Storm Events – Max Depth – Unit 1: Aside from 0.05 - 0.2 ft decreases in maximum flow depth in the southwest corner of the Modified Project site (Figures A8 and B8), very few changes in maximum flow depth are observed in the 10- and 25-year storm events for the Unit 1 development scenario. Under the 100-year storm event, very small areas in the southwest corner of the Modified Project site, the northeast corner of Unit 1, and to the southeast of the Modified Project site showed slight to moderate decreases in maximum flow depth (0.1 - 0.4 ft) (Figure C8).
* Figures A10, B10, and C10: 10, 25, and 100-Year Storm Events – Max Depth – All Units: Under the 10-year storm event, a few areas showed a small decrease in maximum depth (0.05 - 0.2 ft) just to the southeast of the Modified Project site. Additionally, a small area of slight maximum flow depth increases (0.1 - 0.2 ft) occurred near the southeast corner of the model boundary (Figure A10). The primary maximum flow depth changes in the 25-year storm were small increases (0.1 – 0.2 ft) in the southeastern corner of the model boundary. There were also isolated slight increases and decreases inside the Modified Project site (Figure B10). The 100-year storm event showed moderate (0.3 - 0.4 ft) maximum flow depth decreases along the southern and eastern boundaries of the Modified Project site with adjacent small increases in maximum flow depth (0.1 - 0.2 ft) in the same areas (Figure C10). There were also slight maximum flow depth increases in the southeast section of the model boundary.

Findings noted in the list above are consistent with the changes in flow characteristics observed in the flow analysis cross-sections.

4. CONCLUSIONS

Post-development flow conditions at and downstream of the Modified Project site are generally similar to the pre-development conditions, with some areas showing small increases in flow, and some areas showing small decreases in flow. Changes to flow patterns resulting from development of the BSPP site primarily consist of minor rerouting of flow within the Modified Project site resulting from development-related changes in interior surface roughness and construction of the access road and fencing. As illustrated in Tables 3 through 8 and on the maps showing changes between pre- and post-development conditions in Appendices A, B, and C; the changes to flow patterns downstream of the Modified Project site are limited to minor changes in peak flow rate, total outflow volume, maximum flow depth, and maximum velocity. The following list summarizes the simulated changes to the key hydraulic metrics related to surface water runoff resulting from development of the Modified Project:

1) The maximum simulated **increase in peak flow rate** at the flow analysis cross-sections was **+18.6 cfs**, **+27.5 cfs**, and **+62.7 cfs** for the 10-, 25-, and 100-year storm events, respectively (XS-3).

2) The maximum simulated **increase in outflow volume** at the flow analysis cross-sections was **+41.8 AF**, **+52.8 AF**, and **+69.0 AF** for the 10-, 25-, and 100-year storm events, respectively (XS-3).

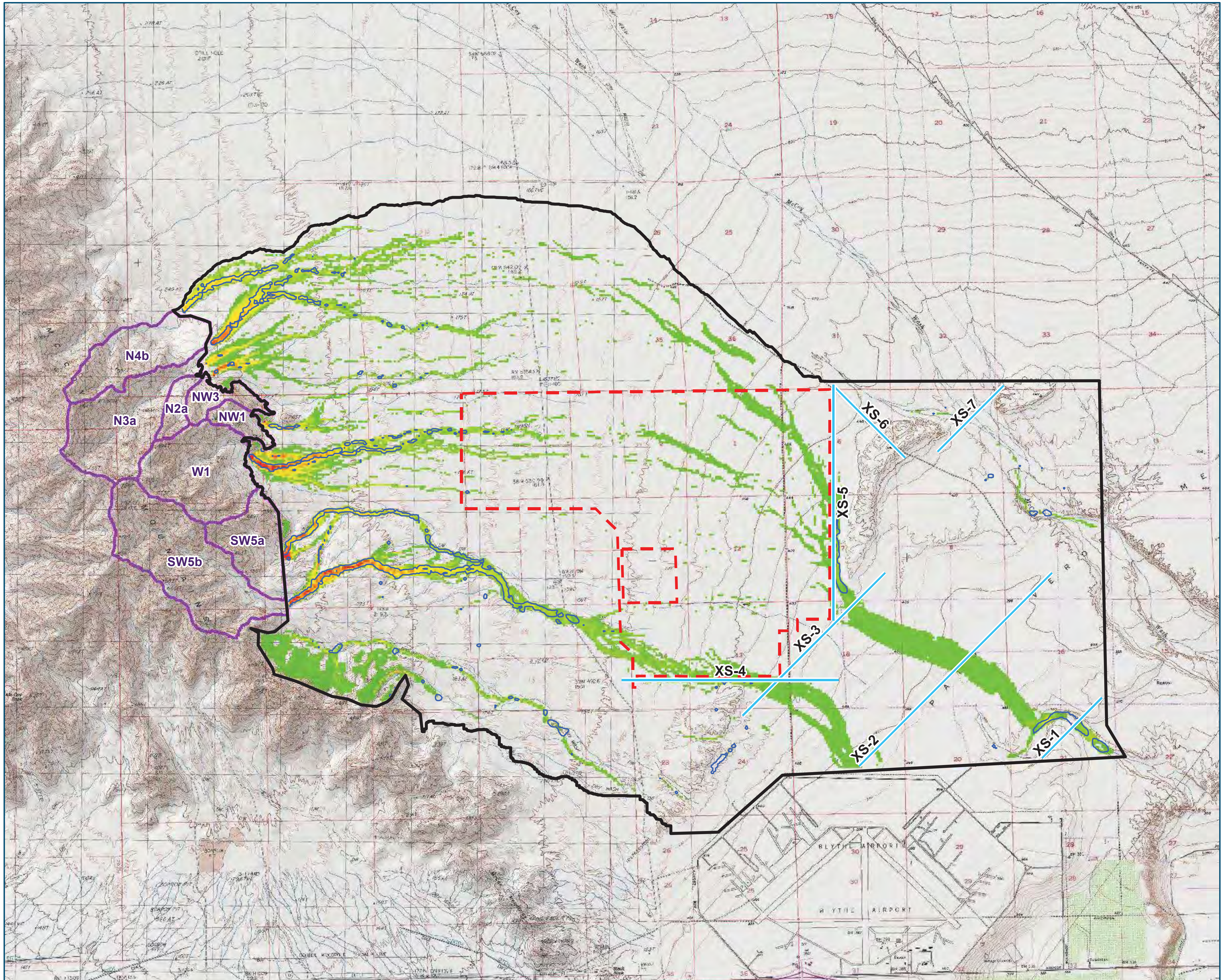
3) The maximum simulated **change in maximum velocity** downstream of the Modified Project site was **+/-0.3 fps**, which occurred under the development of all Units scenario. Changes to maximum velocities within the Modified Project site were similar in magnitude to those downstream of the site.

4) The maximum simulated **change in maximum flow depth** within the model domain was **+/-0.4 feet**, which occurred under the development of all Units scenario under the 100-year storm event. The majority of simulated changes in maximum flow depth (where changes are shown to occur) generally do not exceed ±0.2 feet (±2 inches) within and downstream of the site. Changes to maximum flow depths within the Modified Project site were similar in magnitude to those downstream of the site.

The anticipated changes to flow characteristics described above are considered to be very minor, and demonstrate that the Modified Project will not materially impact the drainage conditions associated with the 10-, 25-, or 100-year precipitation events within, or down-slope of the Modified Project site boundary.

APPENDIX A

10-year Storm Event Pre/Post-Development Hydrology
Maximum Velocity, Maximum Flow Depth, and Change Maps



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE A1
10-YEAR STORM EVENT
MAX VELOCITY
PRE-DEVELOPMENT

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Velocity (feet/second)

- 0.00 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25
- 1.26 - 1.50
- 1.51 - 1.75
- 1.76 - 2.00
- 2.01 - 2.25
- > 2.25

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

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PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
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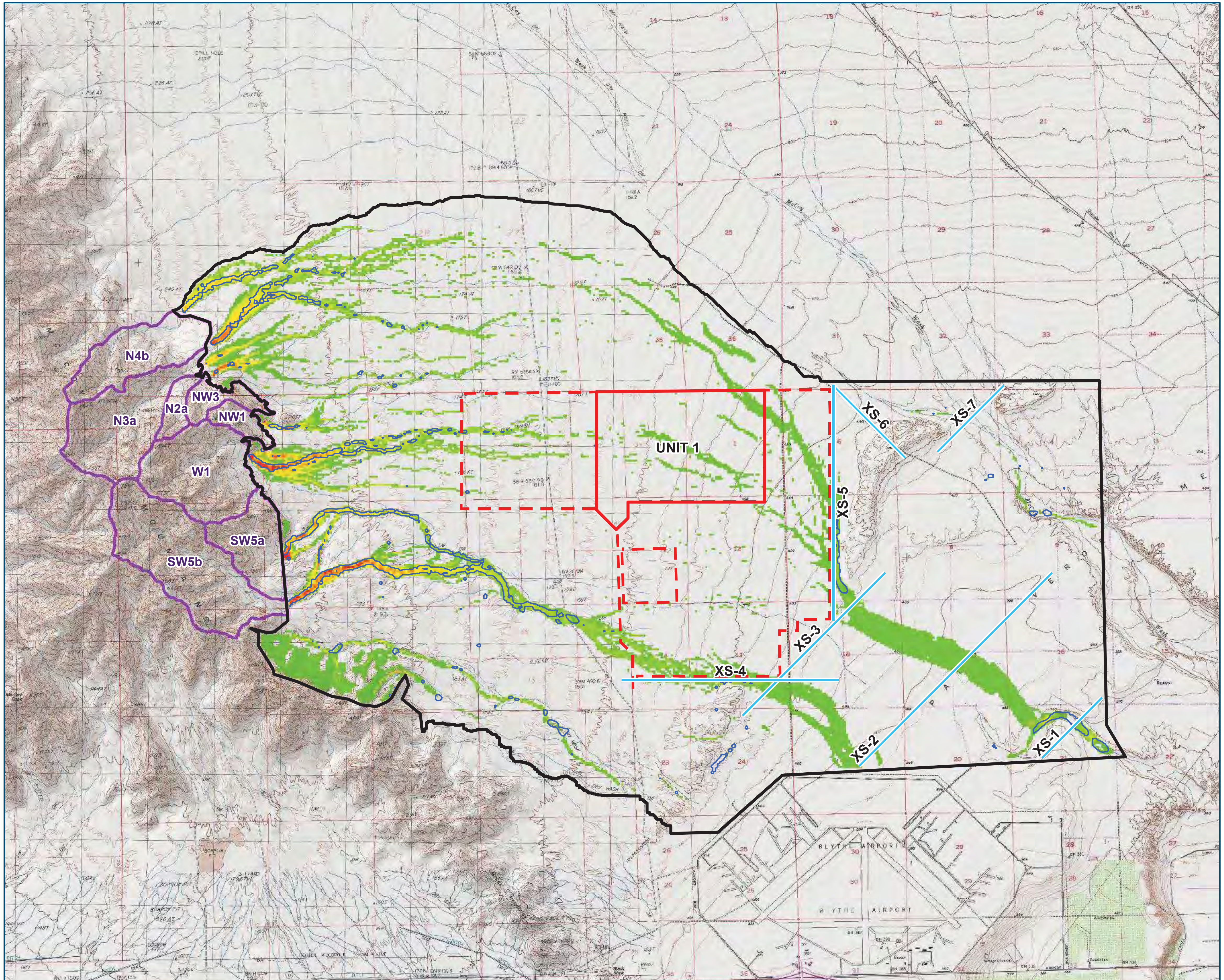
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra



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Riverside County, CA **03/29/2013**

FIGURE A2

10-YEAR STORM EVENT
MAX VELOCITY
POST-DEVELOPMENT (UNIT 1)

Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Velocity (feet/second)

- 0.00 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25
- 1.26 - 1.50
- 1.51 - 1.75
- 1.76 - 2.00
- 2.01 - 2.25
- > 2.25

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

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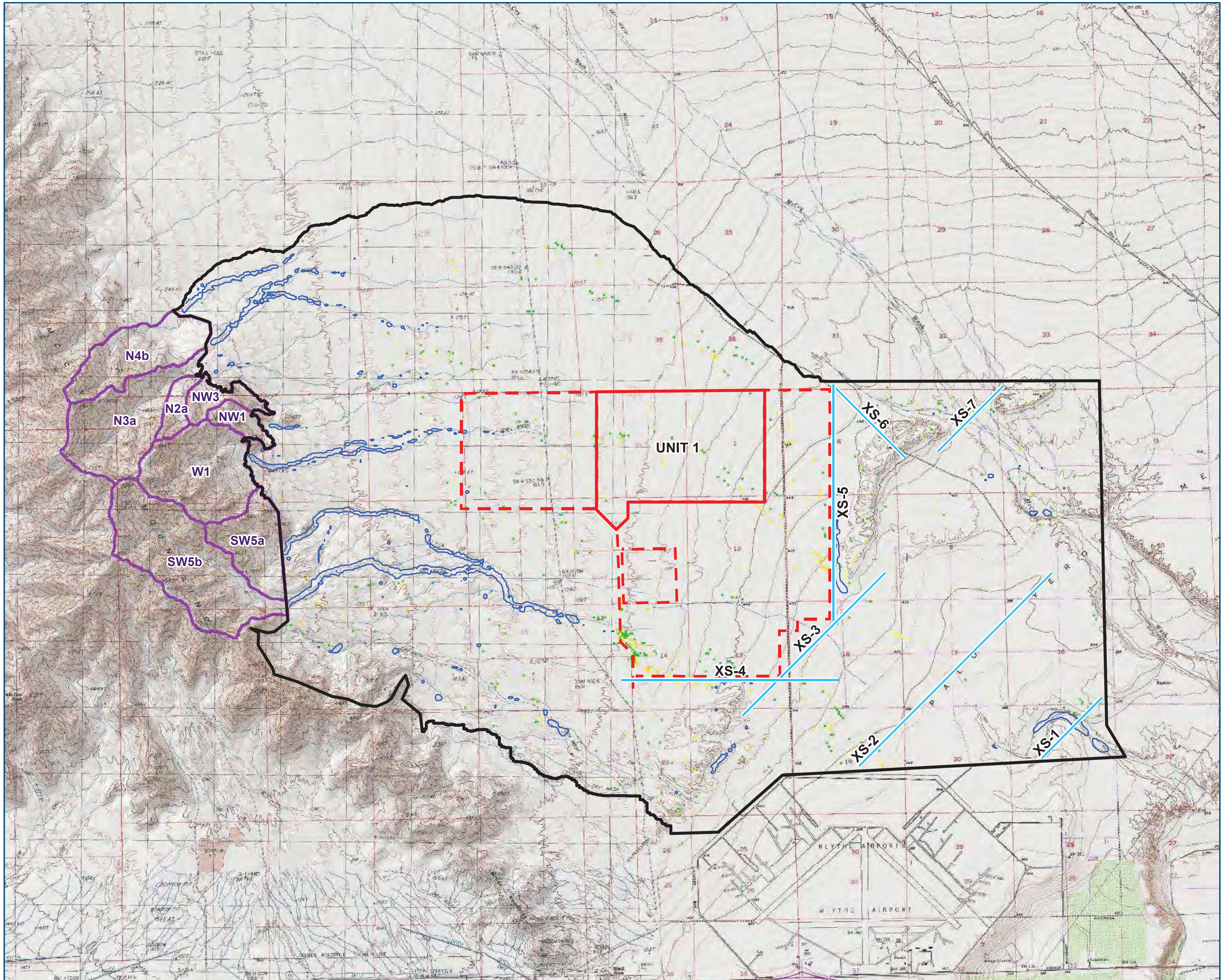
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

NEXTera ENERGY RESOURCES

AECOM



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE A3

10-YEAR STORM EVENT
CHANGE IN MAX VELOCITY
POST - PRE (UNIT 1)

Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

Change in Max Velocity (feet/second)

- > 0.7
- 0.6 - 0.7
- 0.5 - 0.6
- 0.4 - 0.5
- 0.3 - 0.4
- 0.2 - 0.3
- 0.1 - 0.2
- 0.05 - 0.1
- -0.05 - 0.05
- -0.1 - -0.05
- -0.2 - -0.1
- -0.3 - -0.2
- -0.4 - -0.3
- -0.5 - -0.4
- -0.6 - -0.5
- -0.7 - -0.6
- < -0.7

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

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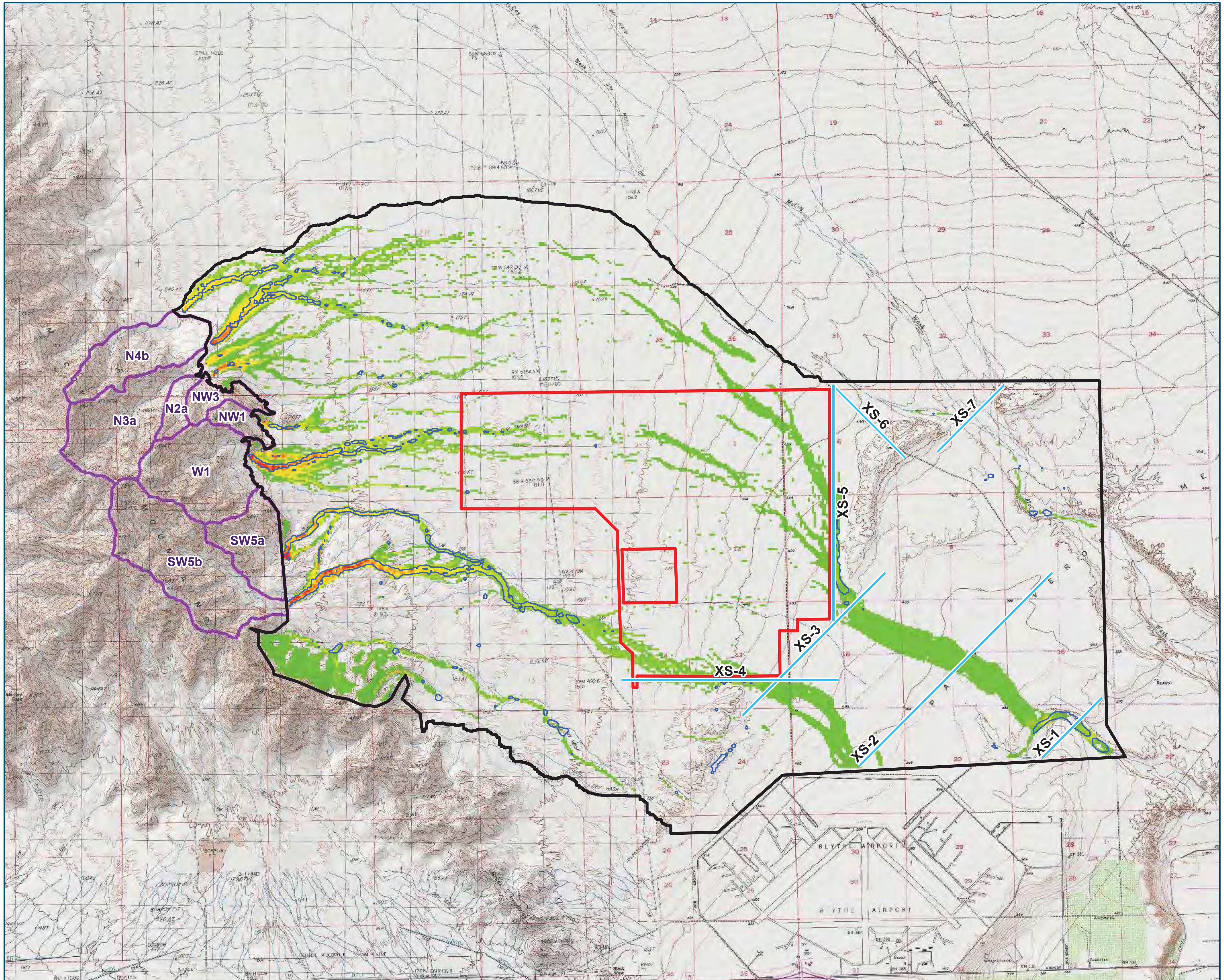
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE A4
10-YEAR STORM EVENT
MAX VELOCITY
POST-DEVELOPMENT (ALL UNITS)



Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Velocity (feet/second)

- 0.00 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25
- 1.26 - 1.50
- 1.51 - 1.75
- 1.76 - 2.00
- 2.01 - 2.25
- > 2.25

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

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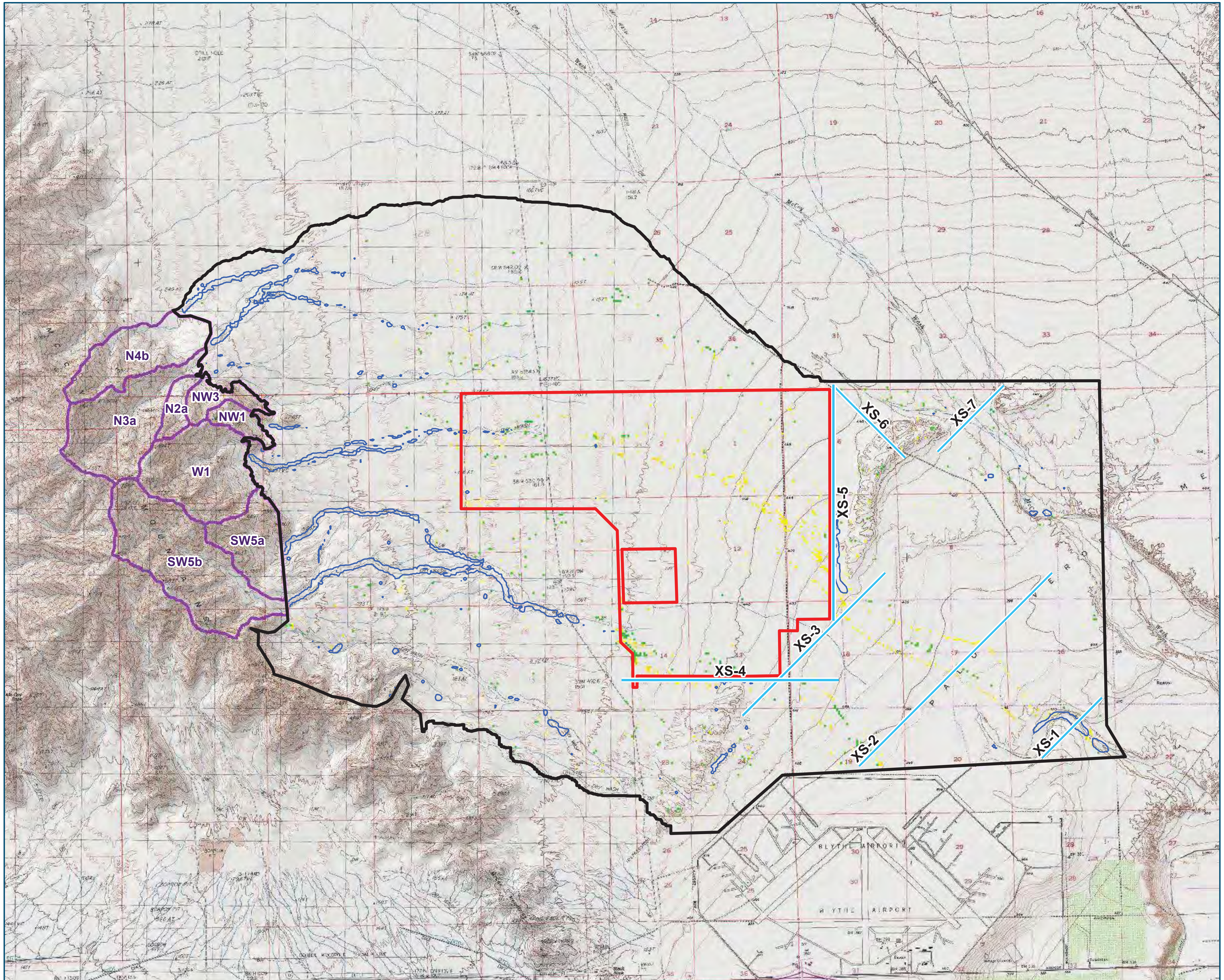


Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE A5
10-YEAR STORM EVENT
CHANGE IN MAX VELOCITY
POST - PRE (ALL UNITS)

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

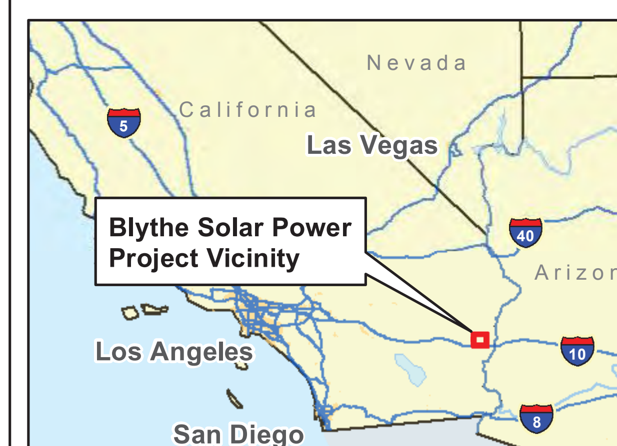
Change in Max Velocity (feet/second)

> 0.7	-0.1 - -0.05
0.6 - 0.7	-0.2 - -0.1
0.5 - 0.6	-0.3 - -0.2
0.4 - 0.5	-0.4 - -0.3
0.3 - 0.4	-0.5 - -0.4
0.2 - 0.3	-0.6 - -0.5
0.1 - 0.2	-0.7 - -0.6
0.05 - 0.1	< -0.7
-0.05 - 0.05	

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet
N

PROJECT LOCATOR MAP



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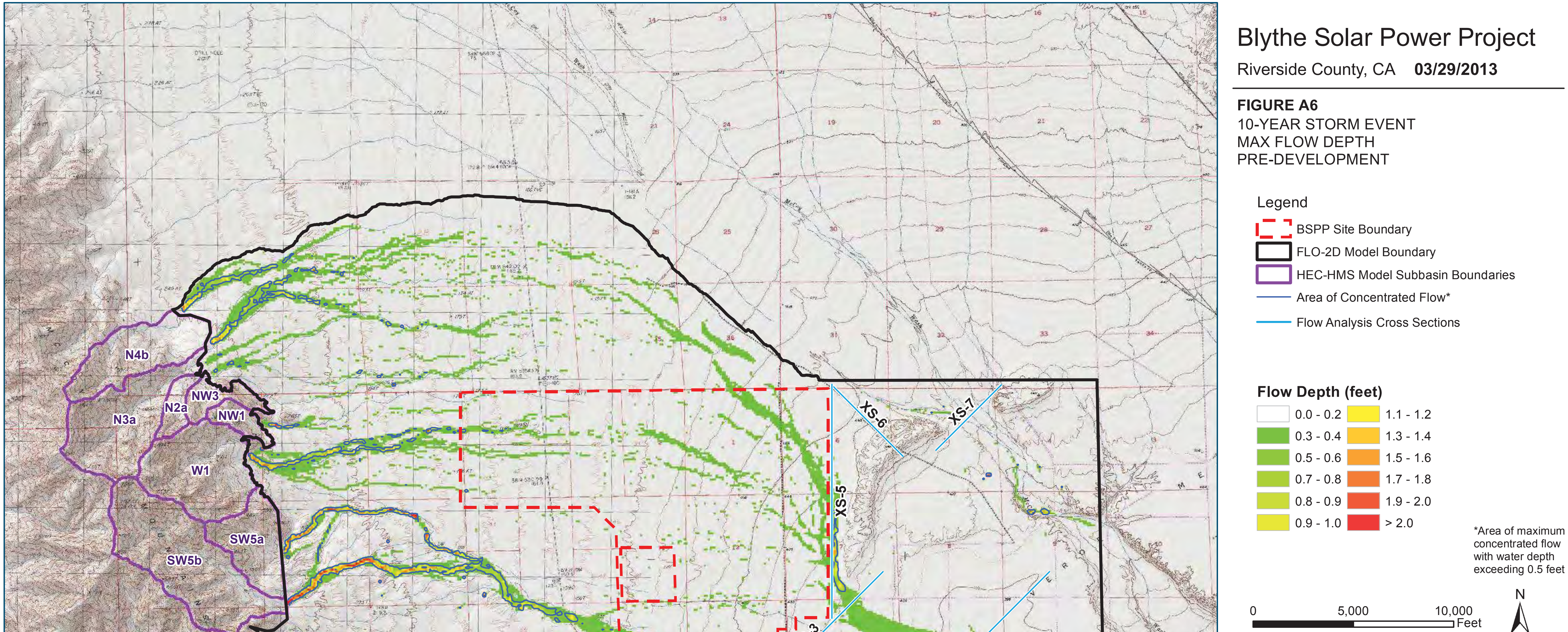
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE A6

10-YEAR STORM EVENT
MAX FLOW DEPTH
PRE-DEVELOPMENT



PROJECT LOCATOR MAP

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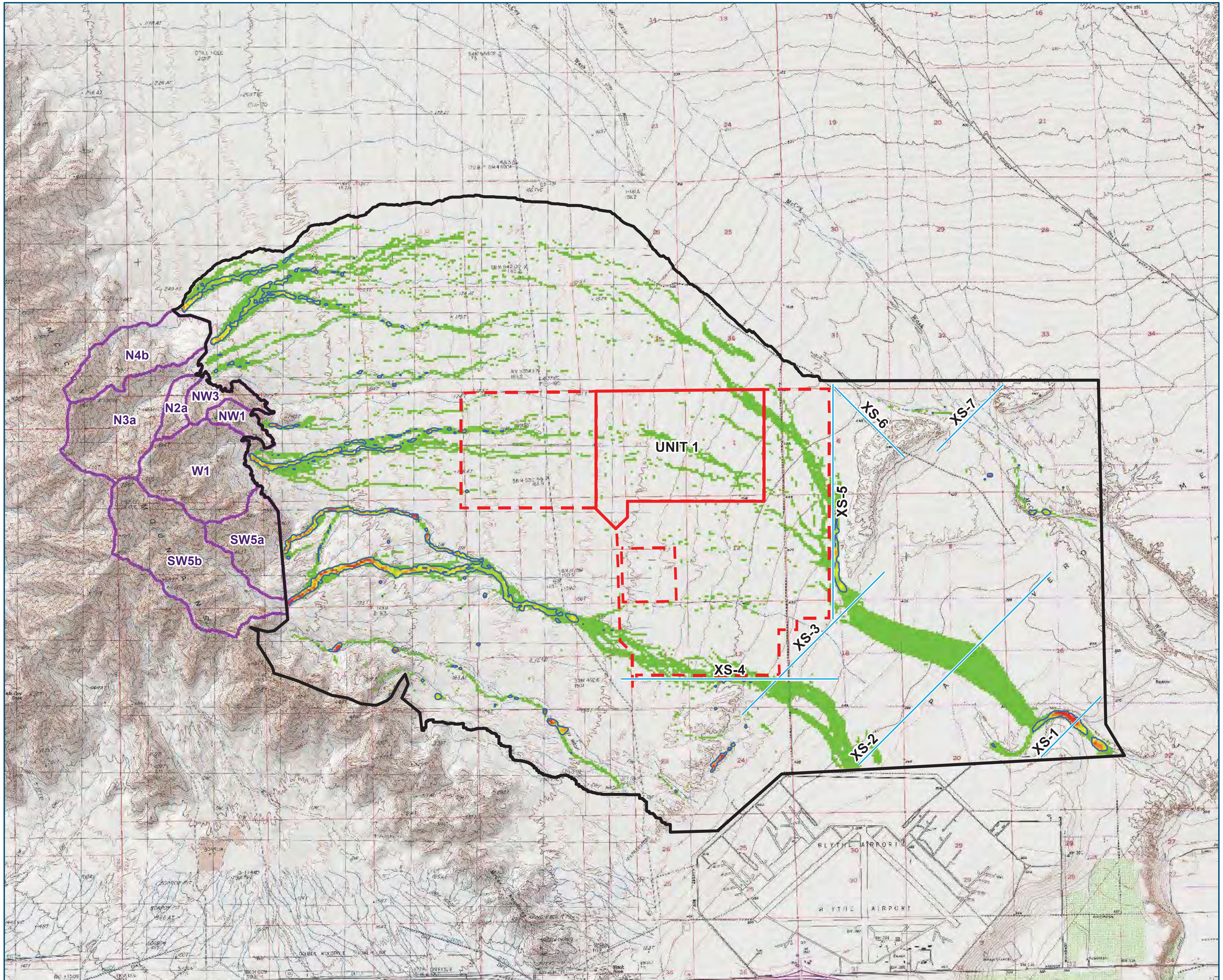
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE A7
10-YEAR STORM EVENT
MAX FLOW DEPTH
POST-DEVELOPMENT (UNIT 1)



Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Flow Depth (feet)

0.0 - 0.2	1.1 - 1.2
0.3 - 0.4	1.3 - 1.4
0.5 - 0.6	1.5 - 1.6
0.7 - 0.8	1.7 - 1.8
0.8 - 0.9	1.9 - 2.0
0.9 - 1.0	> 2.0

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

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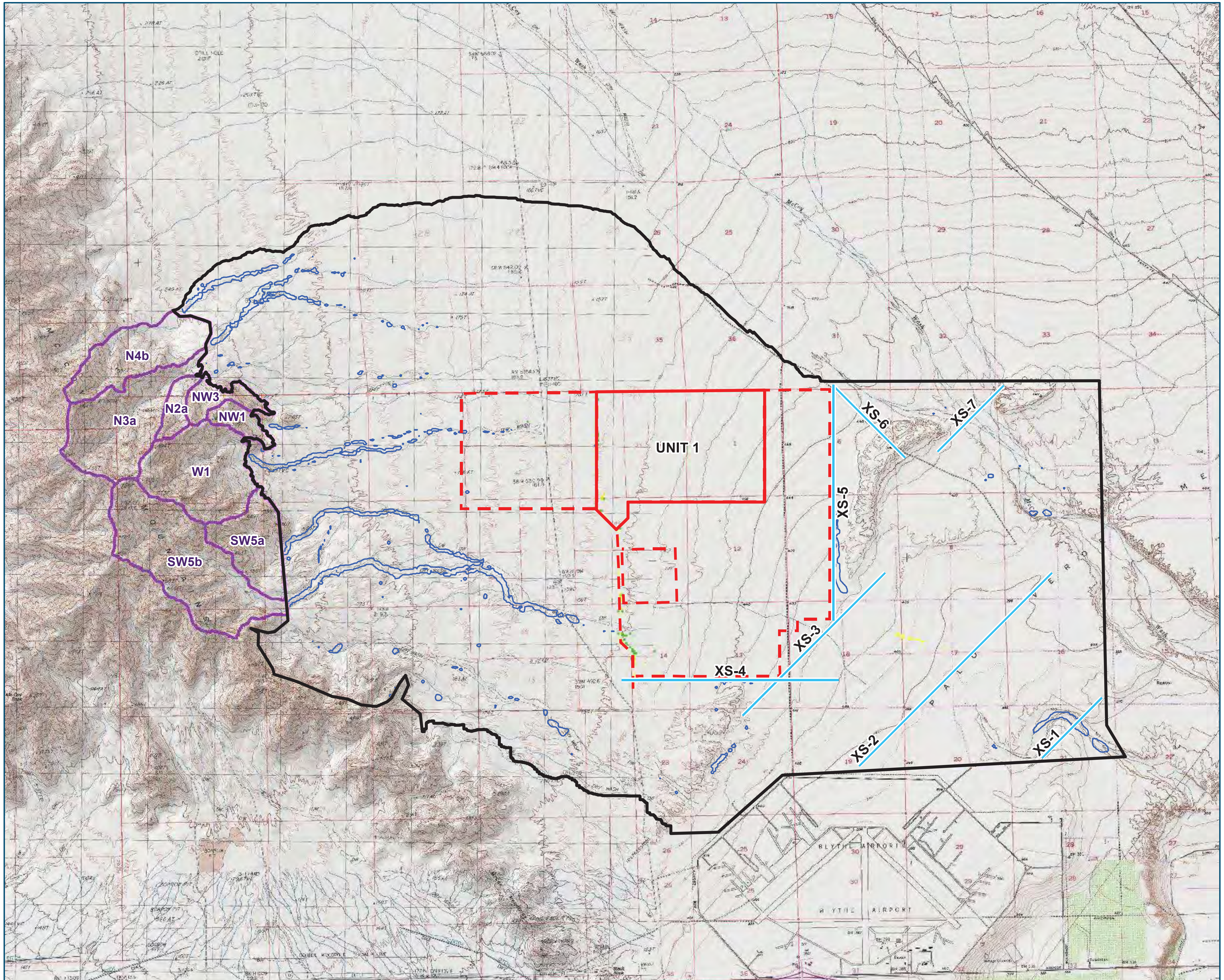

Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE A8
10-YEAR STORM EVENT
CHANGE IN MAX FLOW DEPTH
POST - PRE (UNIT 1)

Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

Change in Max Flow Depth (feet)

> 0.7	-0.1 - -0.05
0.6 - 0.7	-0.2 - -0.1
0.5 - 0.6	-0.3 - -0.2
0.4 - 0.5	-0.4 - -0.3
0.3 - 0.4	-0.5 - -0.4
0.2 - 0.3	-0.6 - -0.5
0.1 - 0.2	-0.7 - -0.6
0.05 - 0.1	< -0.7
-0.05 - 0.05	

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

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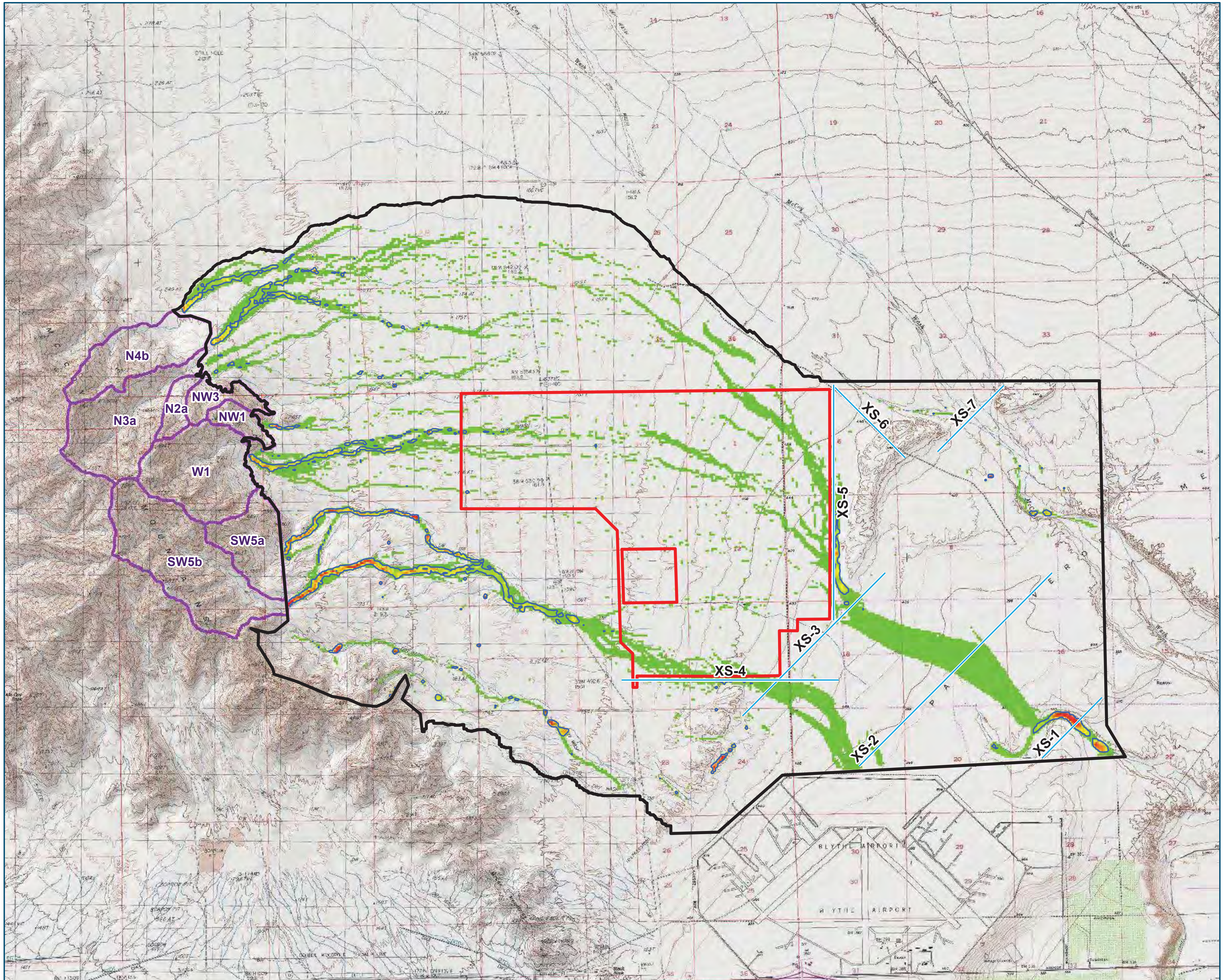
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE A9
10-YEAR STORM EVENT
MAX FLOW DEPTH
POST-DEVELOPMENT (ALL UNITS)

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Flow Depth (feet)

0.0 - 0.2	1.1 - 1.2
0.3 - 0.4	1.3 - 1.4
0.5 - 0.6	1.5 - 1.6
0.7 - 0.8	1.7 - 1.8
0.8 - 0.9	1.9 - 2.0
0.9 - 1.0	> 2.0

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

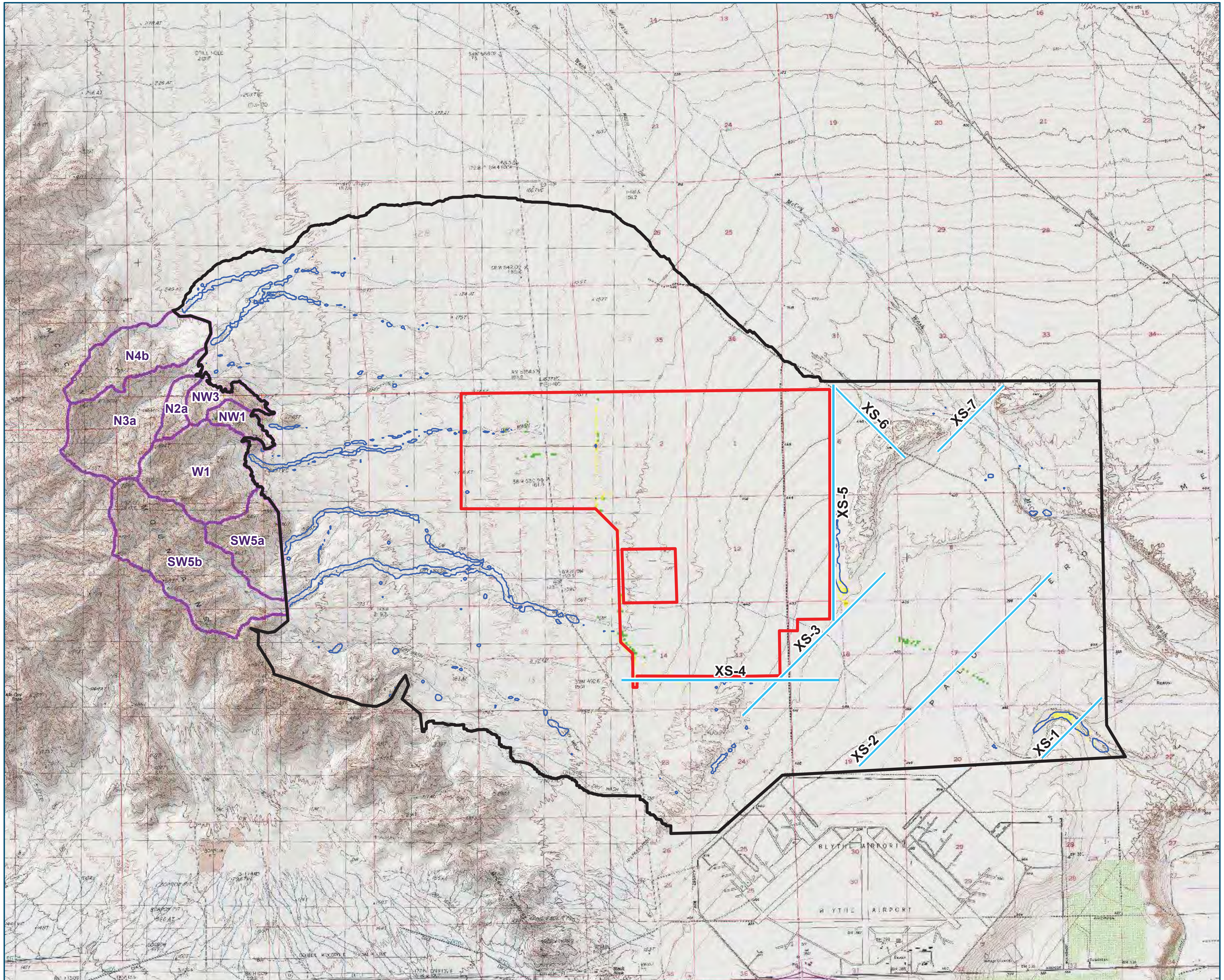
N

PROJECT LOCATOR MAP

File Name: Fig_A9_Depth_Post_10yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

NEXTera ENERGY RESOURCES
AECOM



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE A10

10-YEAR STORM EVENT
CHANGE IN MAX FLOW DEPTH
POST - PRE (ALL UNITS)

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

Change in Max Flow Depth (feet)

- > 0.7
- 0.6 - 0.7
- 0.5 - 0.6
- 0.4 - 0.5
- 0.3 - 0.4
- 0.2 - 0.3
- 0.1 - 0.2
- 0.05 - 0.1
- -0.05 - 0.05
- -0.1 - -0.05
- -0.2 - -0.1
- -0.3 - -0.2
- -0.4 - -0.3
- -0.5 - -0.4
- -0.6 - -0.5
- -0.7 - -0.6
- < -0.7

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

File Name: Fig_A10_Depth_Delta_10yr
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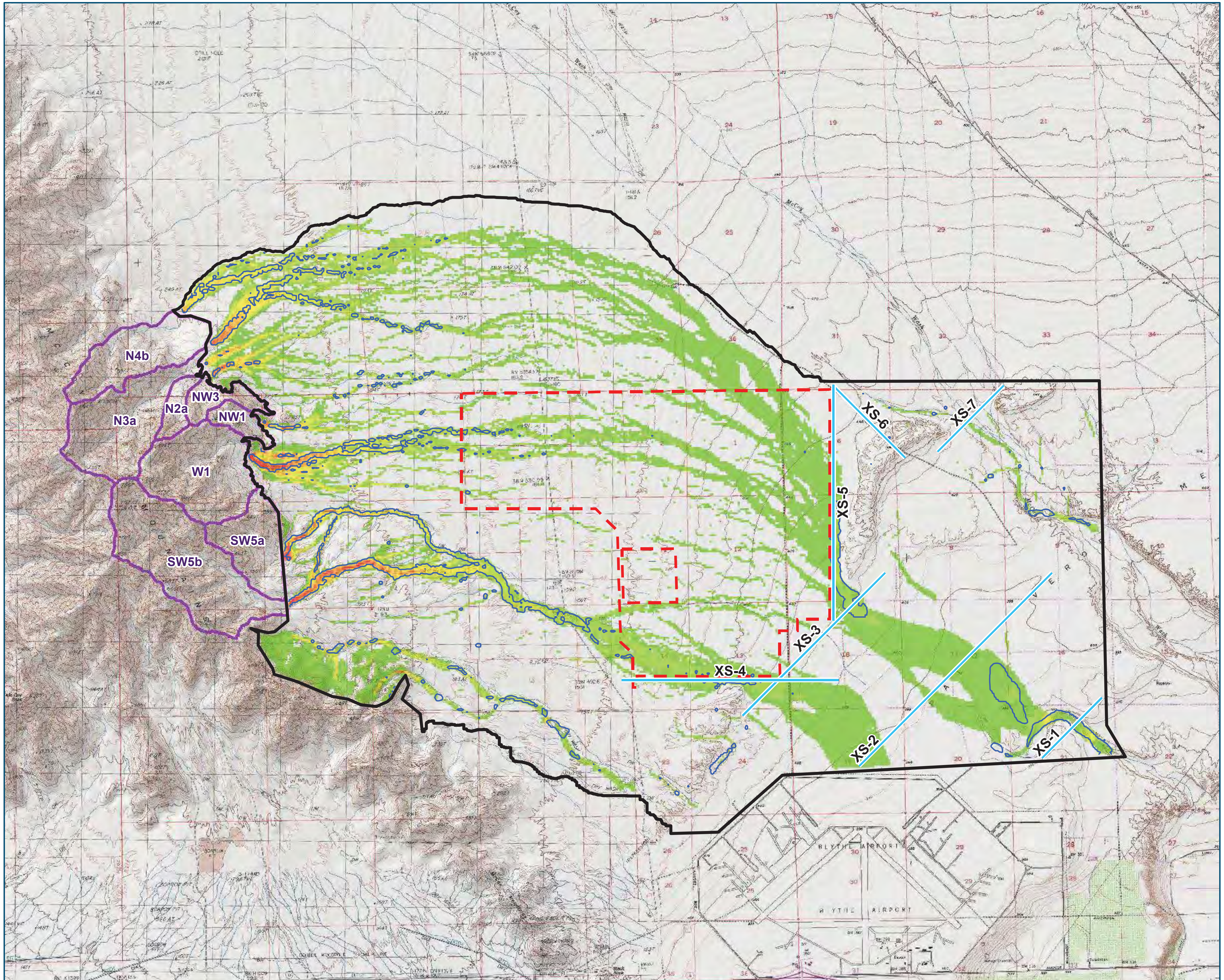
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

APPENDIX B

25-year Storm Event Pre/Post-Development Hydrology Maximum Velocity, Maximum Flow Depth, and Change Maps



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE B1
25-YEAR STORM EVENT
MAX VELOCITY
PRE-DEVELOPMENT

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Velocity (feet/second)

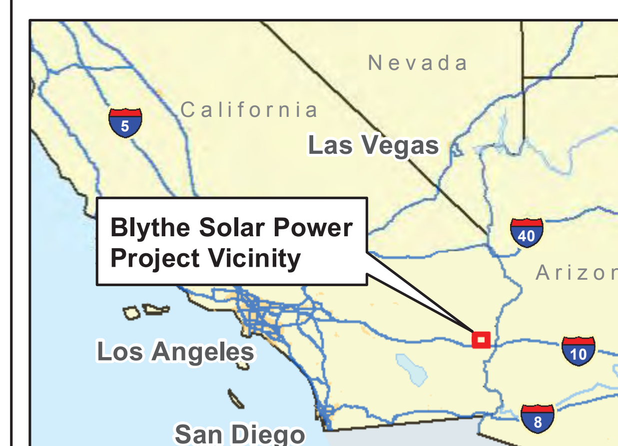
- 0.00 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25
- 1.26 - 1.50
- 1.51 - 1.75
- 1.76 - 2.00
- 2.01 - 2.25
- > 2.25

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP



File Name: Fig_B1_Velocity_Pre_25yr
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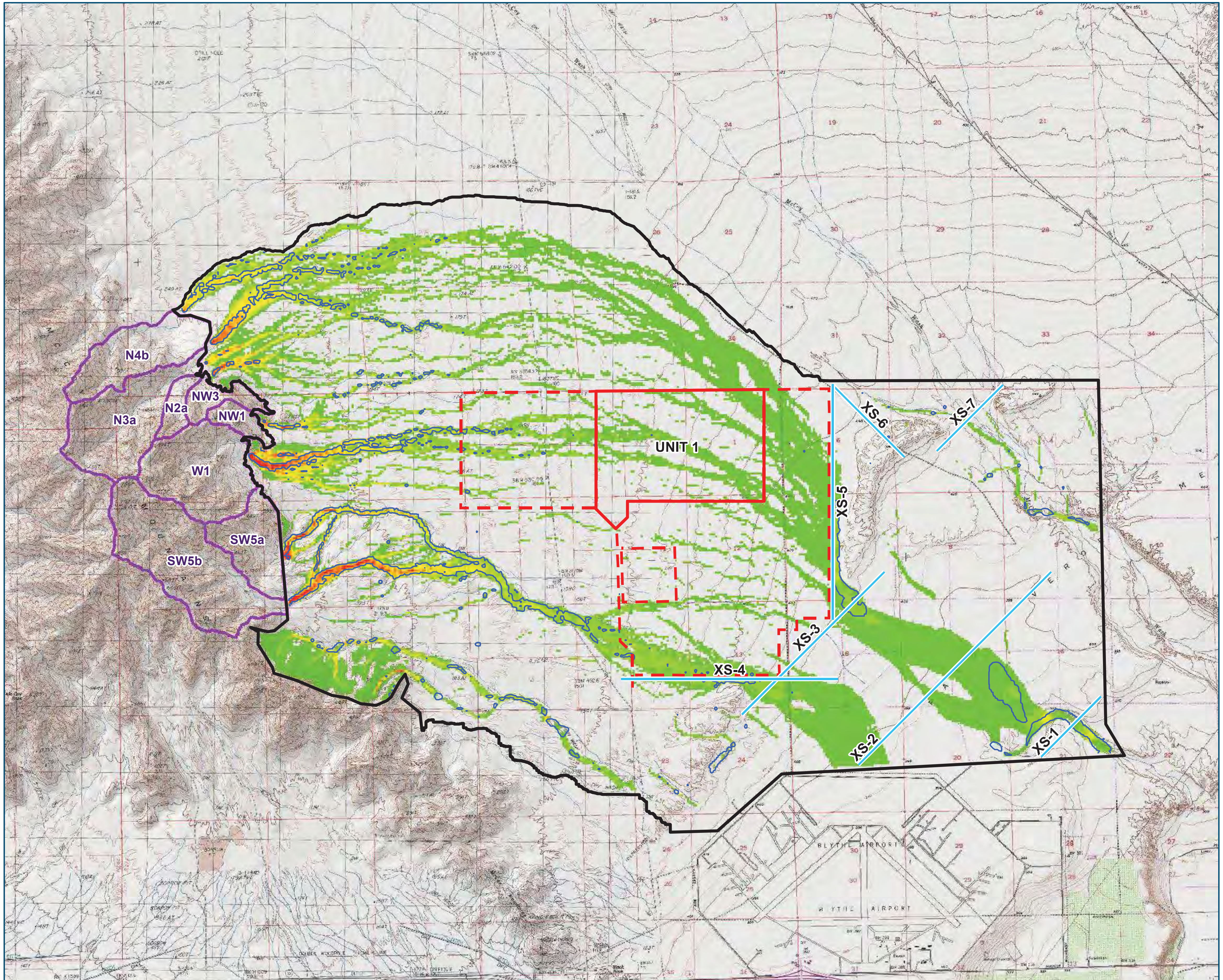
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE B2
25-YEAR STORM EVENT
MAX VELOCITY
POST-DEVELOPMENT (UNIT 1)

Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Velocity (feet/second)

- 0.00 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25
- 1.26 - 1.50
- 1.51 - 1.75
- 1.76 - 2.00
- 2.01 - 2.25
- > 2.25

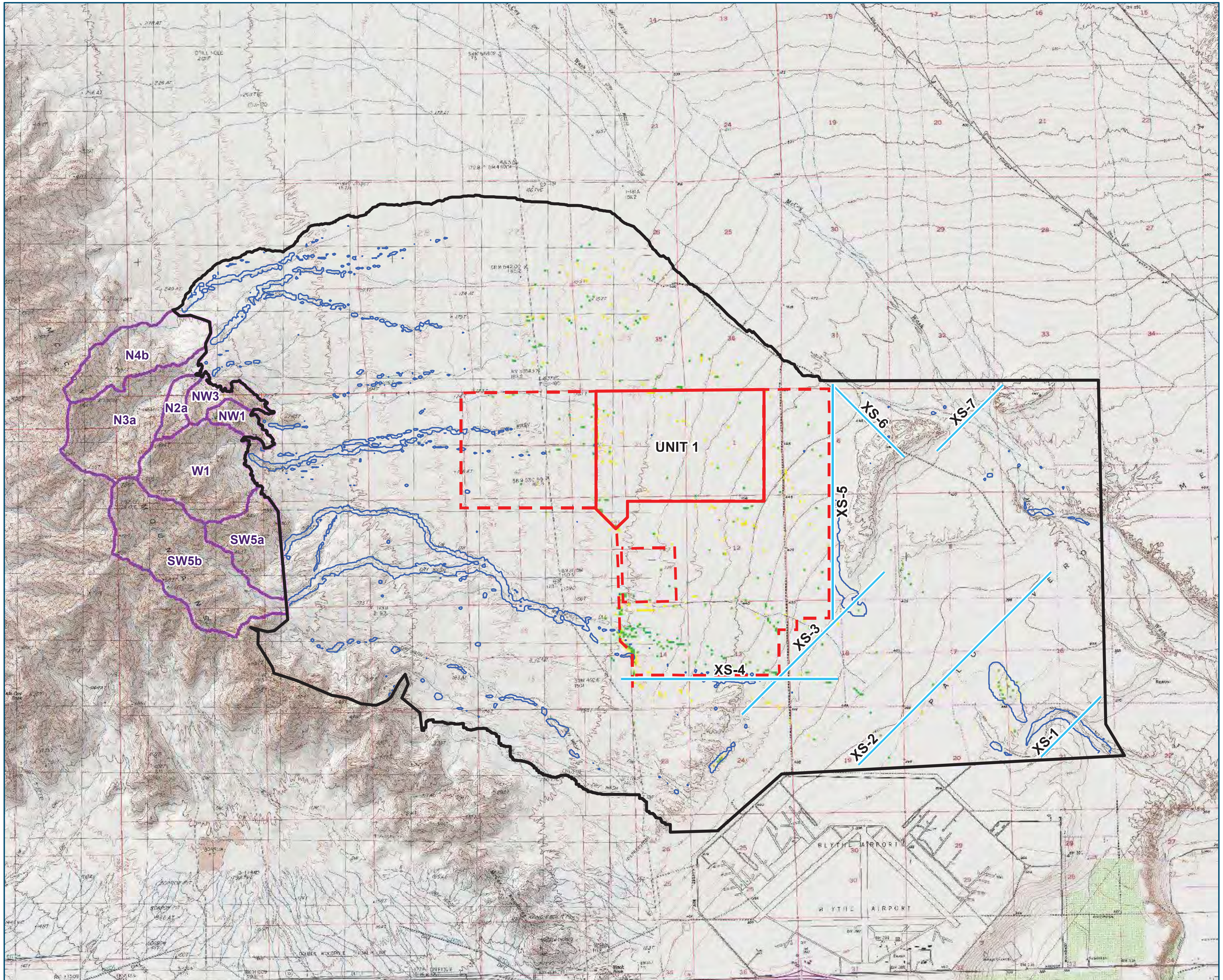
*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

File Name: Fig_B2_Velocity_U1Post_25yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE B3
25-YEAR STORM EVENT
CHANGE IN MAX VELOCITY
POST - PRE (UNIT 1)

Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

Change in Max Velocity (feet/second)

> 0.7	-0.1 - -0.05
0.6 - 0.7	-0.2 - -0.1
0.5 - 0.6	-0.3 - -0.2
0.4 - 0.5	-0.4 - -0.3
0.3 - 0.4	-0.5 - -0.4
0.2 - 0.3	-0.6 - -0.5
0.1 - 0.2	-0.7 - -0.6
0.05 - 0.1	< -0.7
-0.05 - 0.05	

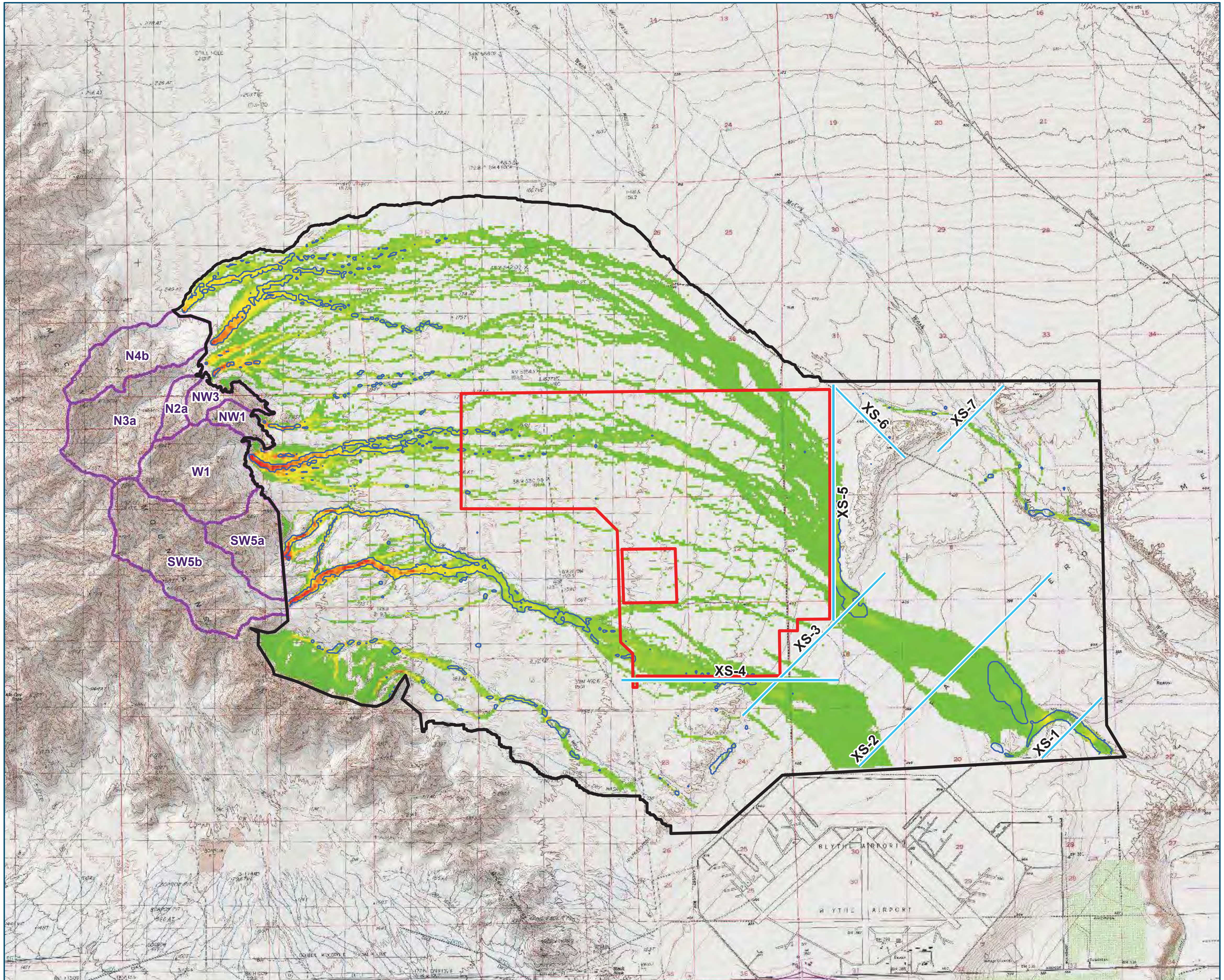
*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

File Name: Fig_B3_Velocity_U1Delta_25yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE B4
25-YEAR STORM EVENT
MAX VELOCITY
POST-DEVELOPMENT (ALL UNITS)

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Velocity (feet/second)

- 0.00 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25
- 1.26 - 1.50
- 1.51 - 1.75
- 1.76 - 2.00
- 2.01 - 2.25
- > 2.25

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

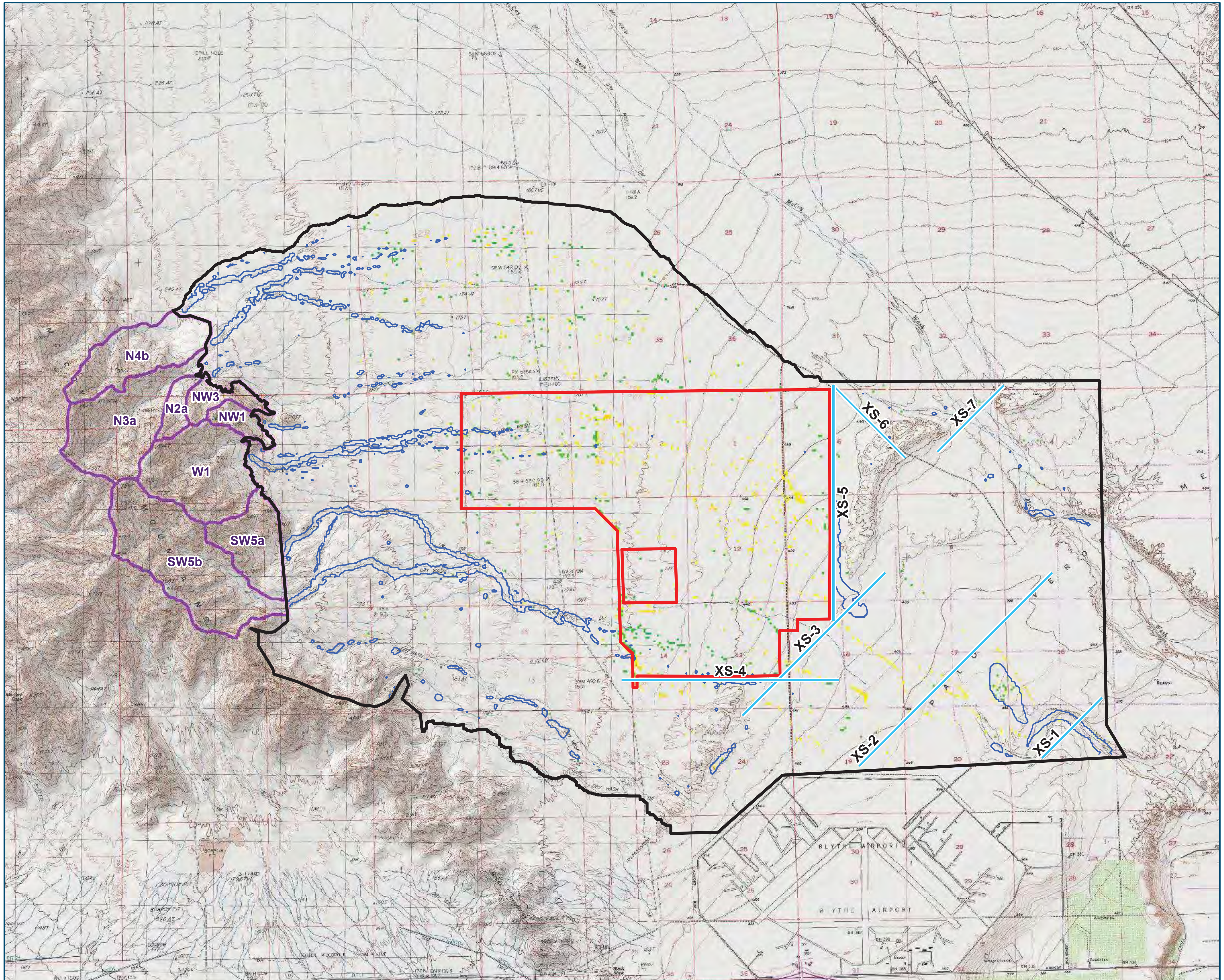
PROJECT LOCATOR MAP

File Name: Fig_B4_Velocity_Post_25yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

NEXTera ENERGY RESOURCES

AECOM



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE B5
25-YEAR STORM EVENT
CHANGE IN MAX VELOCITY
POST - PRE (ALL UNITS)

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

Change in Max Velocity (feet/second)

- > 0.7
- 0.6 - 0.7
- 0.5 - 0.6
- 0.4 - 0.5
- 0.3 - 0.4
- 0.2 - 0.3
- 0.1 - 0.2
- 0.05 - 0.1
- -0.05 - 0.05
- -0.1 - -0.05
- -0.2 - -0.1
- -0.3 - -0.2
- -0.4 - -0.3
- -0.5 - -0.4
- -0.6 - -0.5
- -0.7 - -0.6
- < -0.7

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

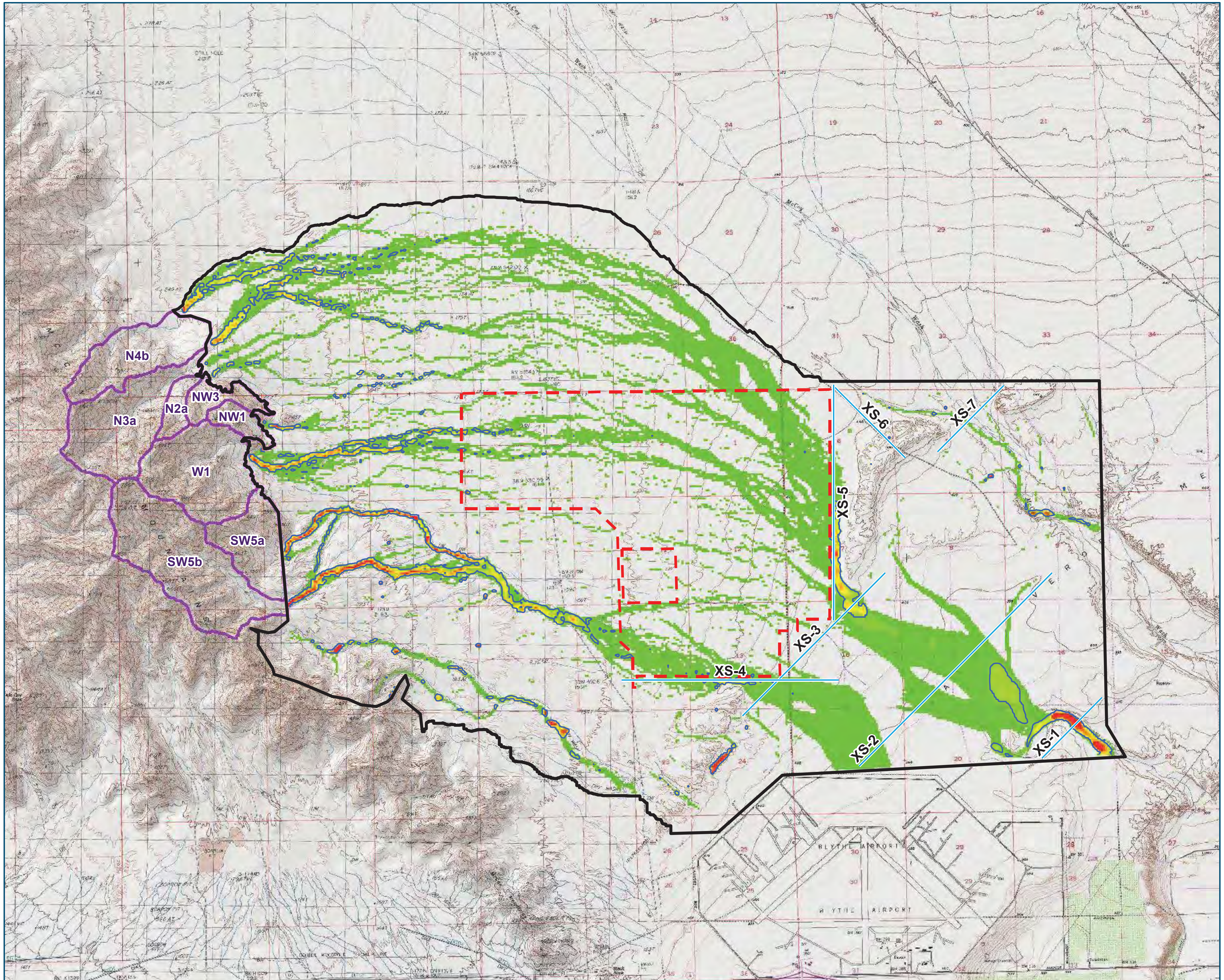
PROJECT LOCATOR MAP

File Name: Fig_B5_Velocity_Delta_25yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

NextEra Energy Resources

AECOM



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE B6
25-YEAR STORM EVENT
MAX FLOW DEPTH
PRE-DEVELOPMENT

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Flow Depth (feet)

0.0 - 0.2	1.1 - 1.2
0.3 - 0.4	1.3 - 1.4
0.5 - 0.6	1.5 - 1.6
0.7 - 0.8	1.7 - 1.8
0.8 - 0.9	1.9 - 2.0
0.9 - 1.0	> 2.0

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

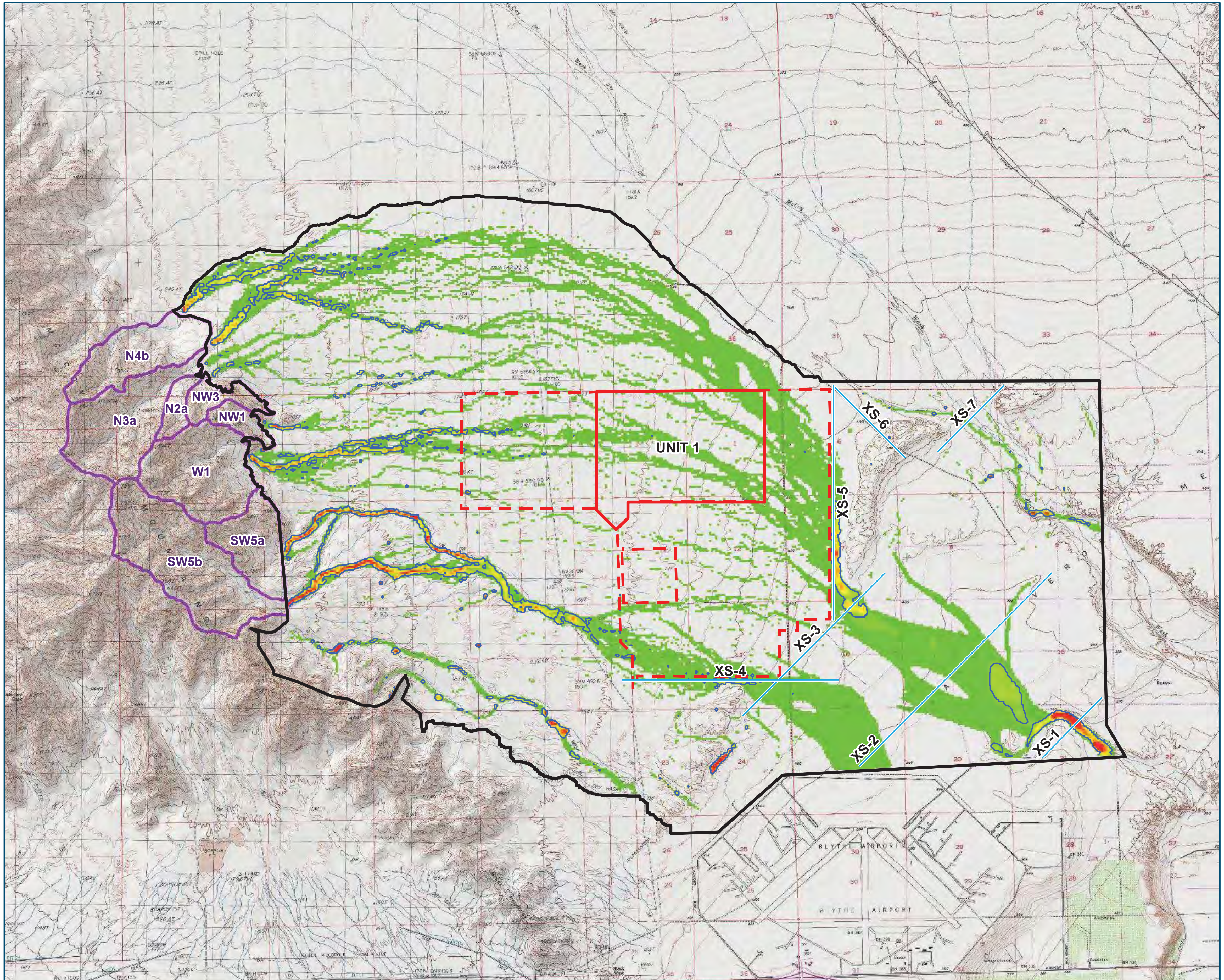
N

PROJECT LOCATOR MAP

File Name: Fig_B6_Velocity_Pre_25yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

NEXTera ENERGY RESOURCES
AECOM



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE B7
25-YEAR STORM EVENT
MAX FLOW DEPTH
POST-DEVELOPMENT (UNIT1)

Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Flow Depth (feet)

0.0 - 0.2	1.1 - 1.2
0.3 - 0.4	1.3 - 1.4
0.5 - 0.6	1.5 - 1.6
0.7 - 0.8	1.7 - 1.8
0.8 - 0.9	1.9 - 2.0
0.9 - 1.0	> 2.0

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

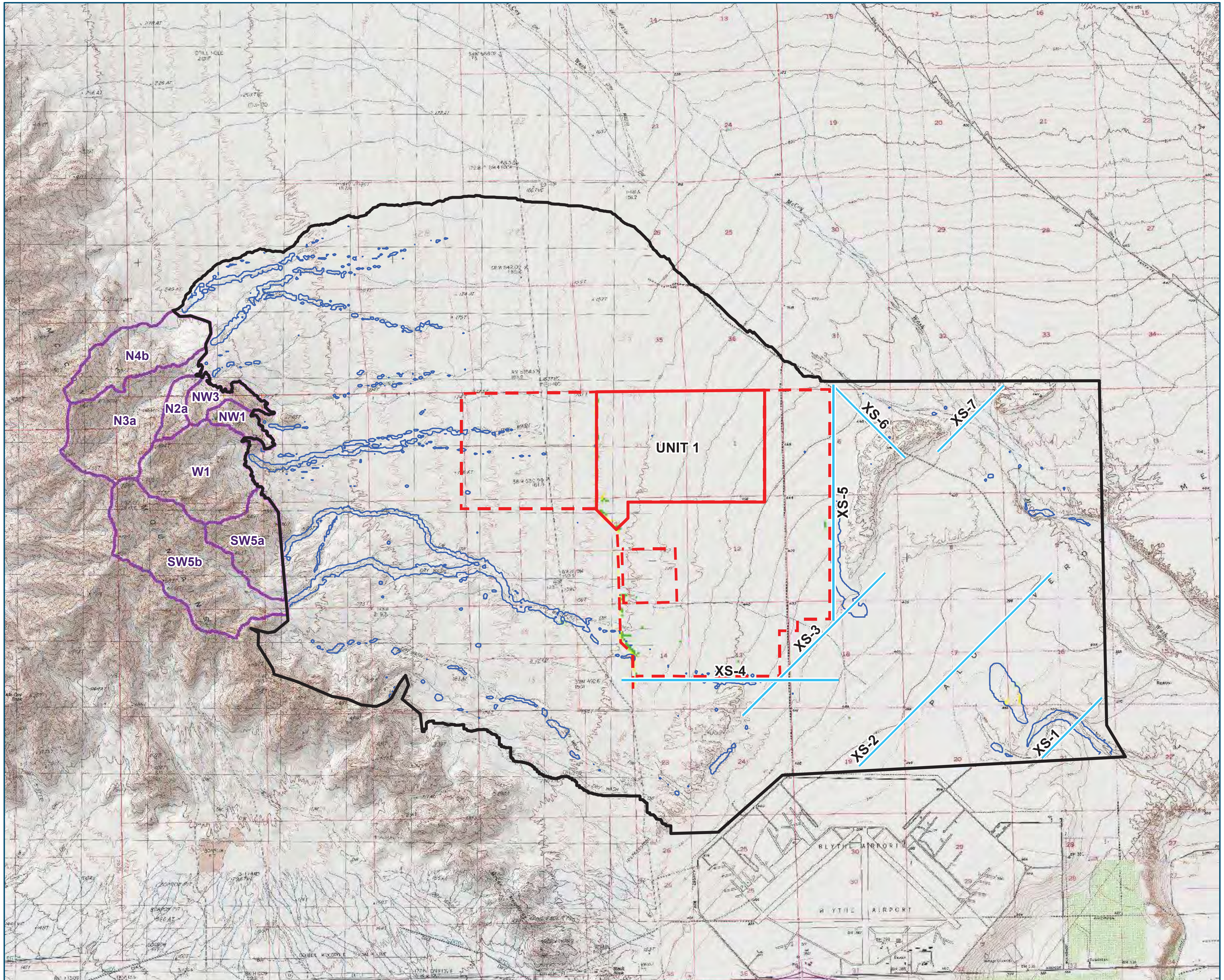
0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

File Name: Fig_B7_Depth_U1Post_25yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE B8

25-YEAR STORM EVENT
CHANGE IN MAX FLOW DEPTH
POST - PRE (UNIT 1)

Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

Change in Max Flow Depth (feet)

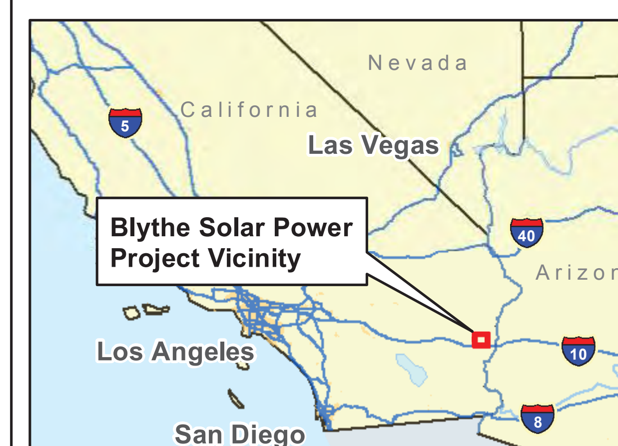
- > 0.7
- 0.6 - 0.7
- 0.5 - 0.6
- 0.4 - 0.5
- 0.3 - 0.4
- 0.2 - 0.3
- 0.1 - 0.2
- 0.05 - 0.1
- -0.05 - 0.05
- -0.1 - -0.05
- -0.2 - -0.1
- -0.3 - -0.2
- -0.4 - -0.3
- -0.5 - -0.4
- -0.6 - -0.5
- -0.7 - -0.6
- < -0.7

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP



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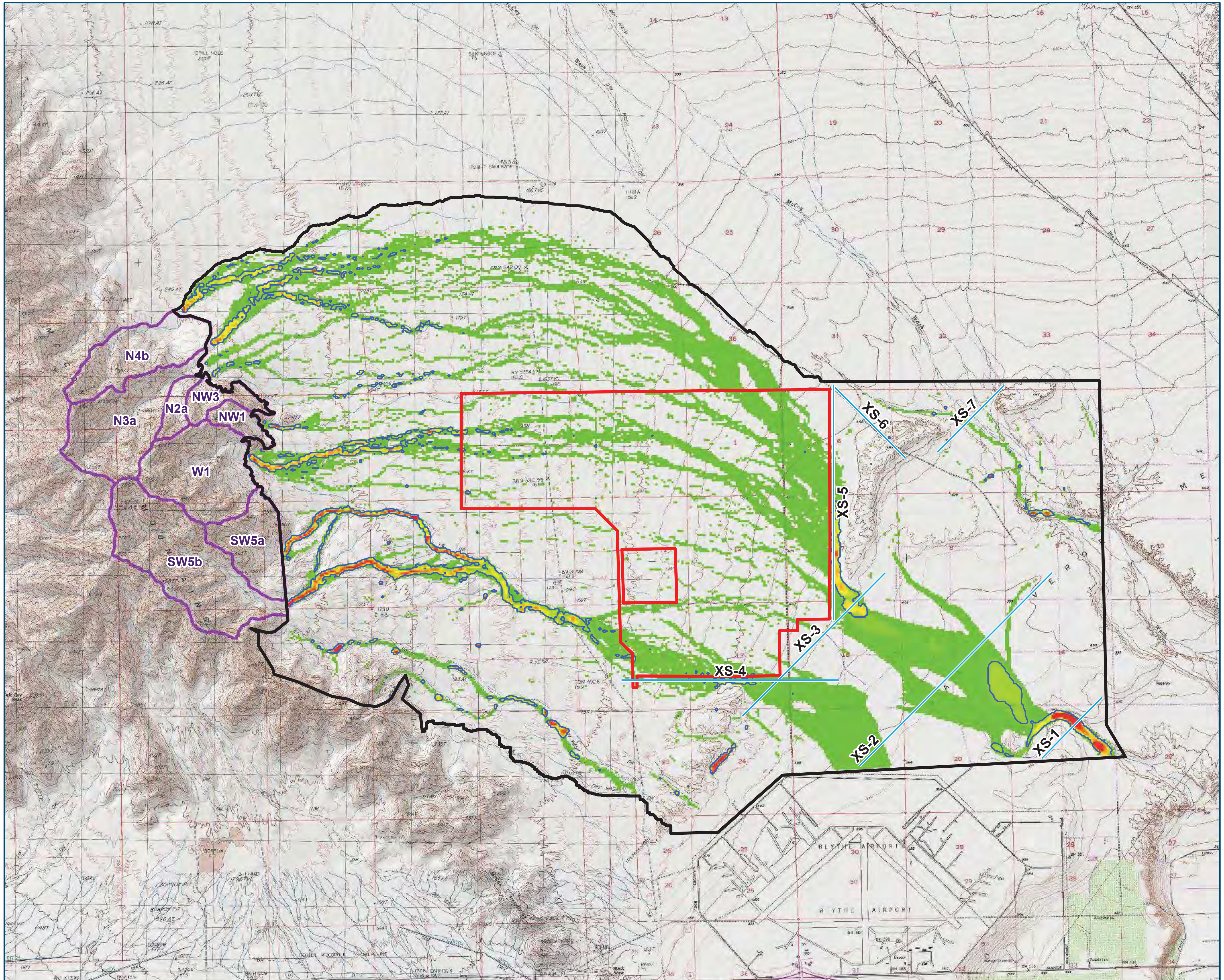
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

NextEra Energy Resources
AECOM



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE B9
25-YEAR STORM EVENT
MAX FLOW DEPTH
POST-DEVELOPMENT (ALL UNITS)

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Flow Depth (feet)

0.0 - 0.2	1.1 - 1.2
0.3 - 0.4	1.3 - 1.4
0.5 - 0.6	1.5 - 1.6
0.7 - 0.8	1.7 - 1.8
0.8 - 0.9	1.9 - 2.0
0.9 - 1.0	> 2.0

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

File Name: Fig_B9_Depth_Post_25yr
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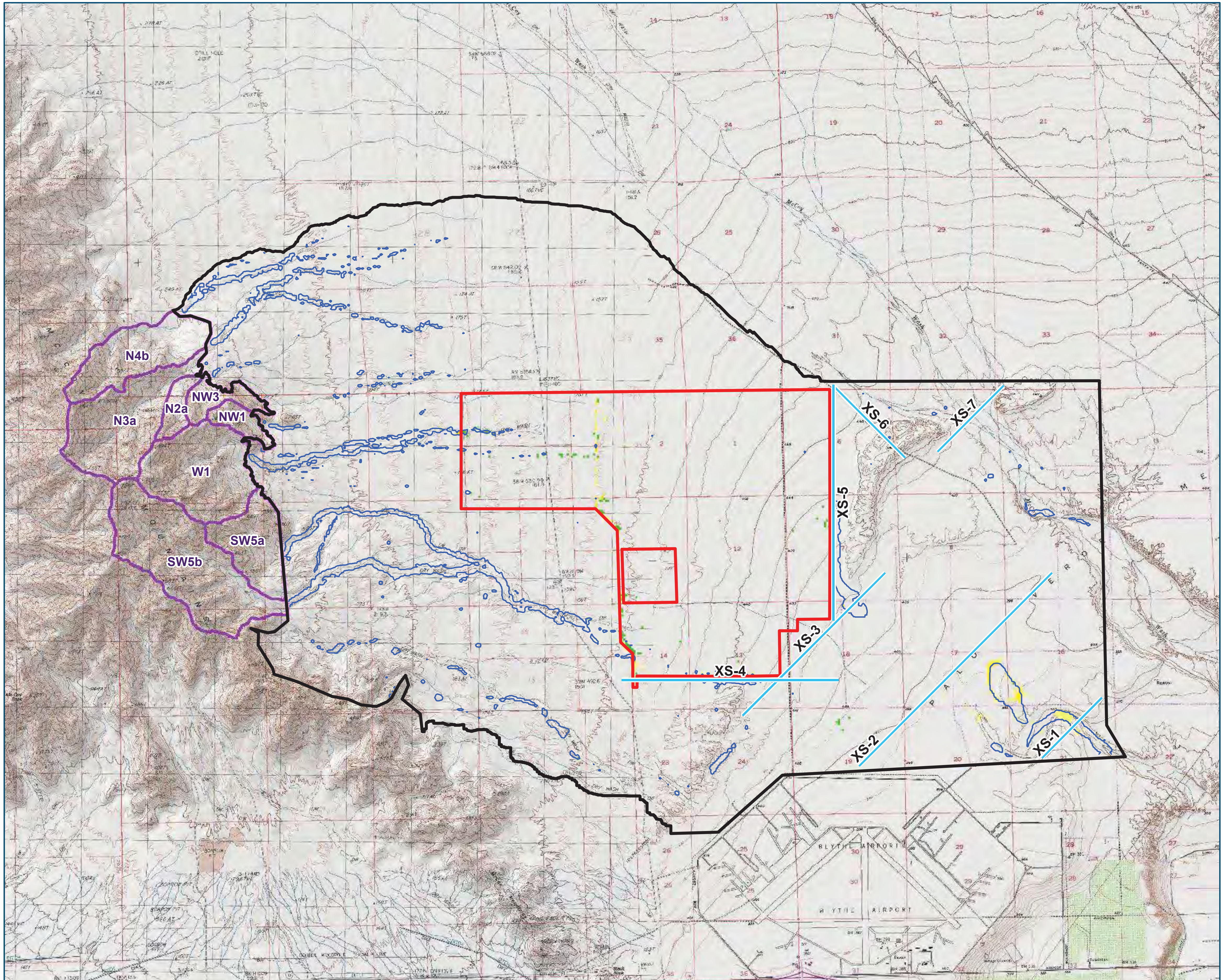
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE B10

25-YEAR STORM EVENT
CHANGE IN MAX FLOW DEPTH
POST - PRE (ALL UNITS)

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

Change in Max Flow Depth (feet)

- > 0.7
- 0.6 - 0.7
- 0.5 - 0.6
- 0.4 - 0.5
- 0.3 - 0.4
- 0.2 - 0.3
- 0.1 - 0.2
- 0.05 - 0.1
- -0.05 - 0.05
- -0.1 - -0.05
- -0.2 - -0.1
- -0.3 - -0.2
- -0.4 - -0.3
- -0.5 - -0.4
- -0.6 - -0.5
- -0.7 - -0.6
- < -0.7

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

File Name: Fig_B10_Depth_Delta_25yr
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PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

NextEra Energy Resources
AECOM

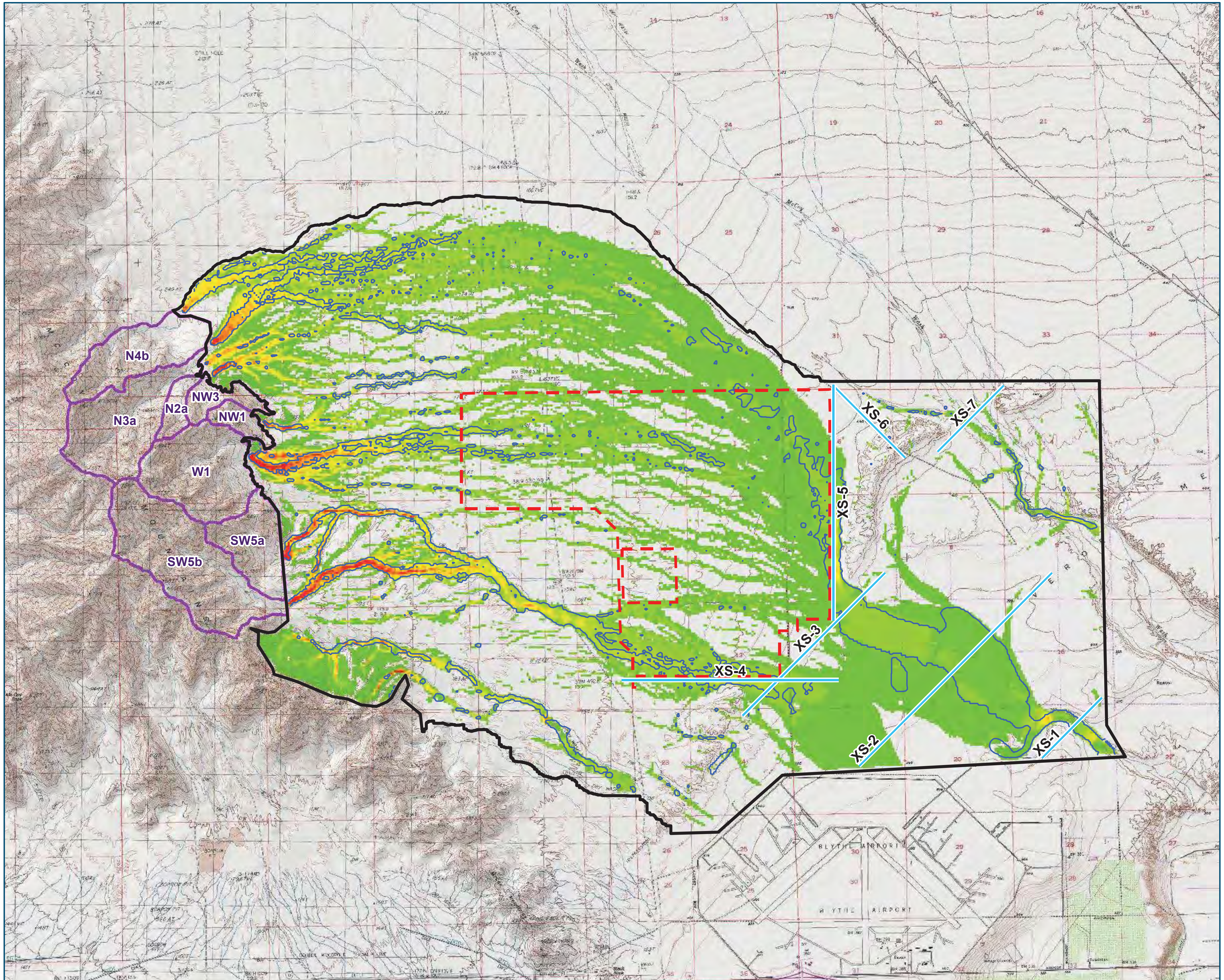
APPENDIX C

100-year Storm Event Pre/Post-Development Hydrology
Maximum Velocity, Maximum Flow Depth, and Change Maps

Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE C1
100-YEAR STORM EVENT
MAX VELOCITY
PRE-DEVELOPMENT



Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Velocity (feet/second)

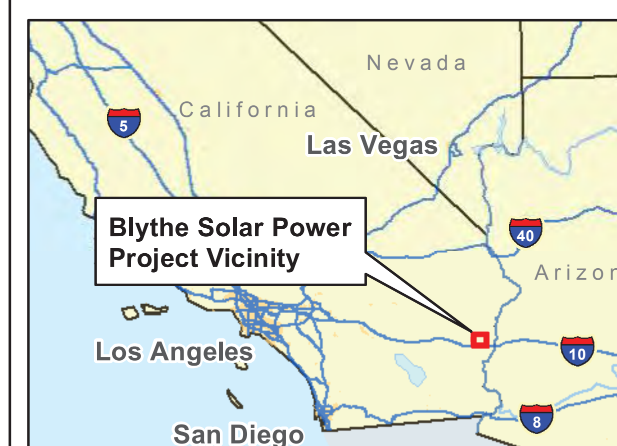
- 0.00 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25
- 1.26 - 1.50
- 1.51 - 1.75
- 1.76 - 2.00
- 2.01 - 2.25
- > 2.25

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP



File Name: Fig_C1_Velocity_Pre_100yr
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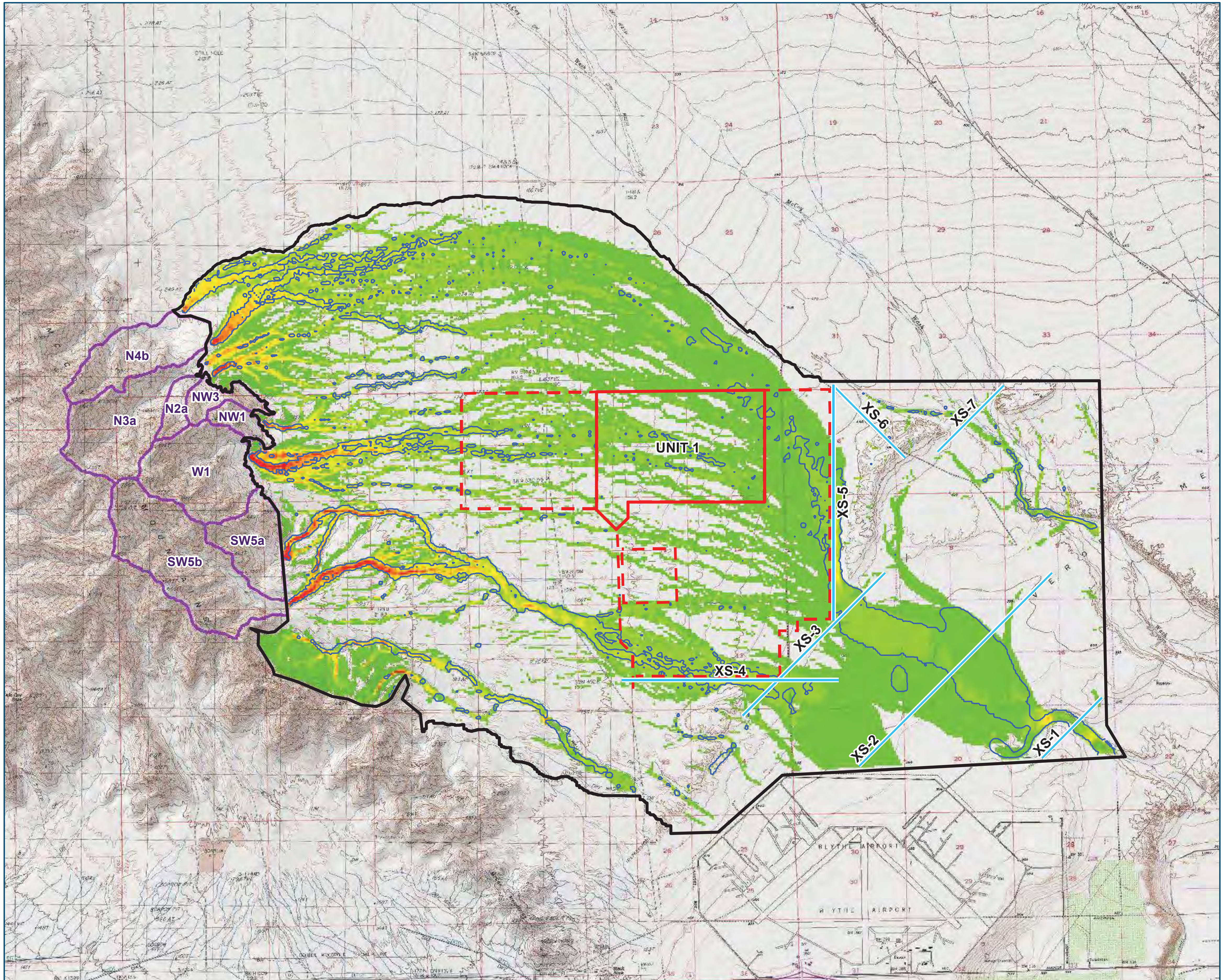
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

NEXTera ENERGY RESOURCES

AECOM



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE C2
100-YEAR STORM EVENT
MAX VELOCITY
POST-DEVELOPMENT (UNIT 1)

Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Velocity (feet/second)

- 0.00 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25
- 1.26 - 1.50
- 1.51 - 1.75
- 1.76 - 2.00
- 2.01 - 2.25
- > 2.25

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

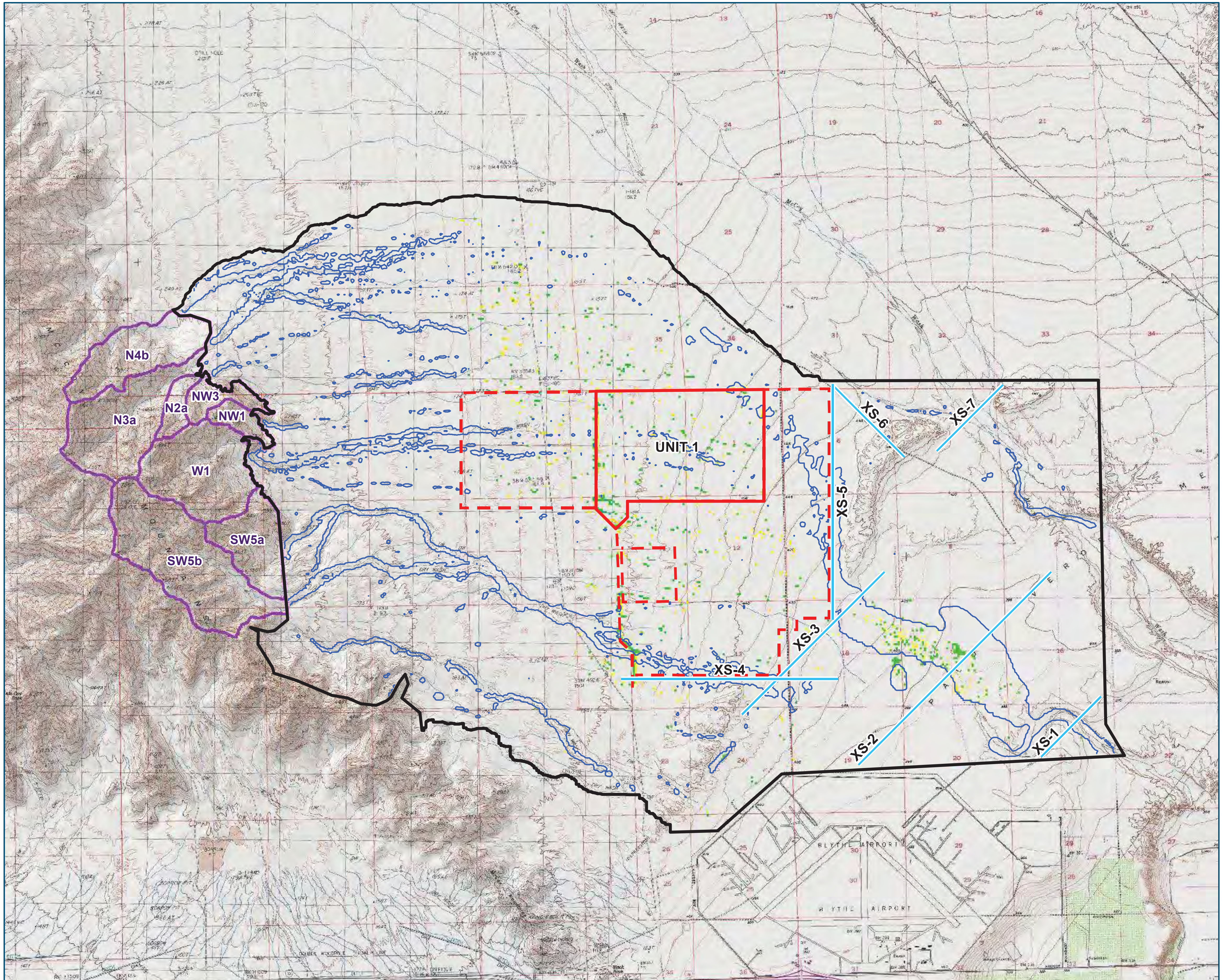
0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

File Name: Fig_C2_Velocity_U1Post_100yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

NEXTera ENERGY RESOURCES
AECOM



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE C3

100-YEAR STORM EVENT
CHANGE IN MAX VELOCITY
POST - PRE (UNIT 1)

Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

Change in Max Velocity (feet/second)

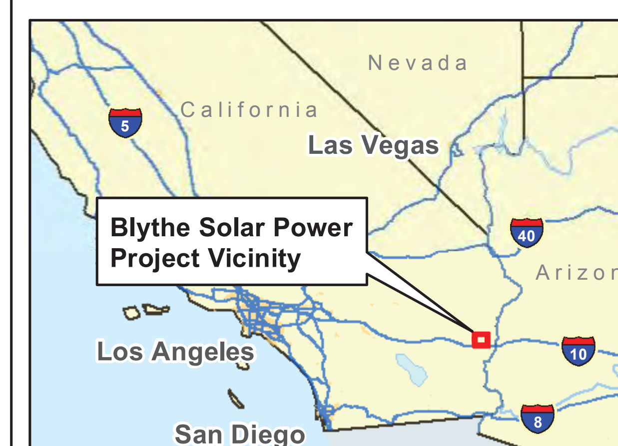
- > 0.7
- 0.6 - 0.7
- 0.5 - 0.6
- 0.4 - 0.5
- 0.3 - 0.4
- 0.2 - 0.3
- 0.1 - 0.2
- 0.05 - 0.1
- -0.05 - 0.05
- -0.1 - -0.05
- -0.2 - -0.1
- -0.3 - -0.2
- -0.4 - -0.3
- -0.5 - -0.4
- -0.6 - -0.5
- -0.7 - -0.6
- < -0.7

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP



File Name: Fig_C3_Velocity_U1Delta_100yr
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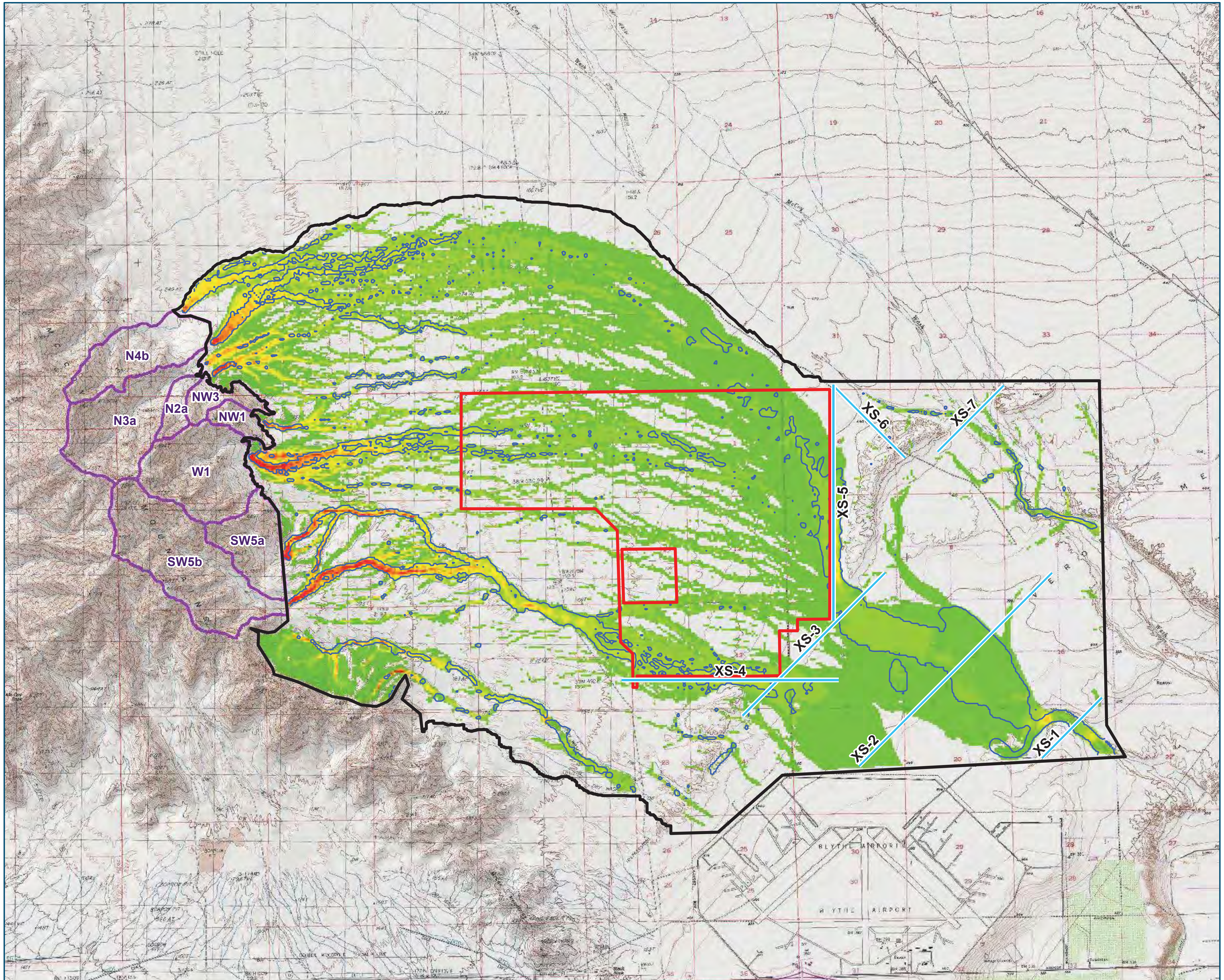
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE C4
100-YEAR STORM EVENT
MAX VELOCITY
POST-DEVELOPMENT (ALL UNITS)



Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Velocity (feet/second)

- 0.00 - 0.25
- 0.26 - 0.50
- 0.51 - 0.75
- 0.76 - 1.00
- 1.01 - 1.25
- 1.26 - 1.50
- 1.51 - 1.75
- 1.76 - 2.00
- 2.01 - 2.25
- > 2.25

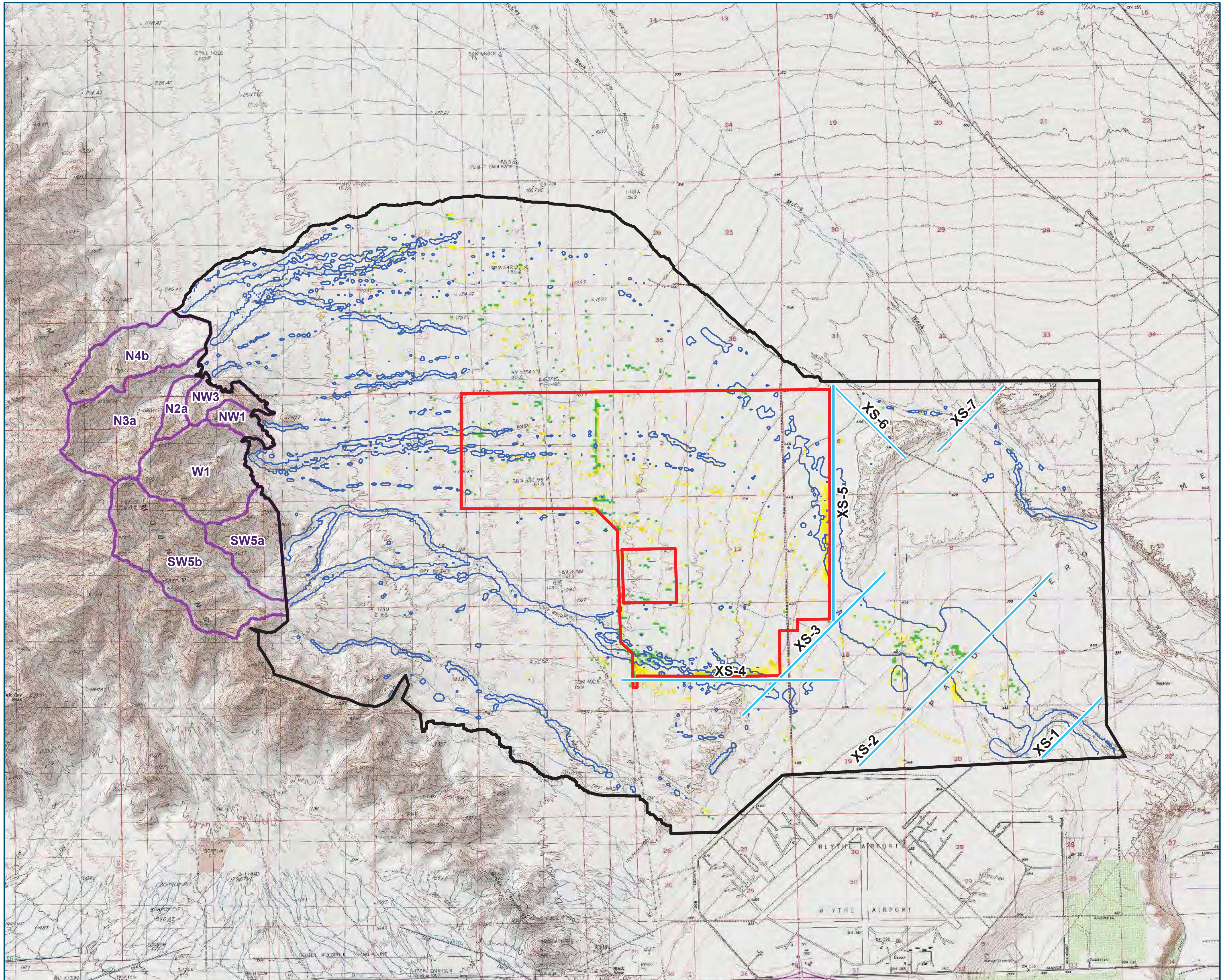
*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

File Name: Fig_C4_Velocity_Post_100yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE C5
100-YEAR STORM EVENT
CHANGE IN MAX VELOCITY
POST - PRE (ALL UNITS)

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

Change in Max Velocity (feet/second)

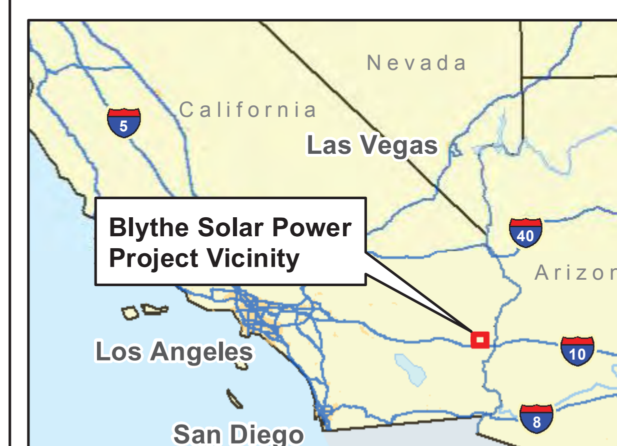
> 0.7	-0.1 - -0.05
0.6 - 0.7	-0.2 - -0.1
0.5 - 0.6	-0.3 - -0.2
0.4 - 0.5	-0.4 - -0.3
0.3 - 0.4	-0.5 - -0.4
0.2 - 0.3	-0.6 - -0.5
0.1 - 0.2	-0.7 - -0.6
0.05 - 0.1	< -0.7
-0.05 - 0.05	

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP



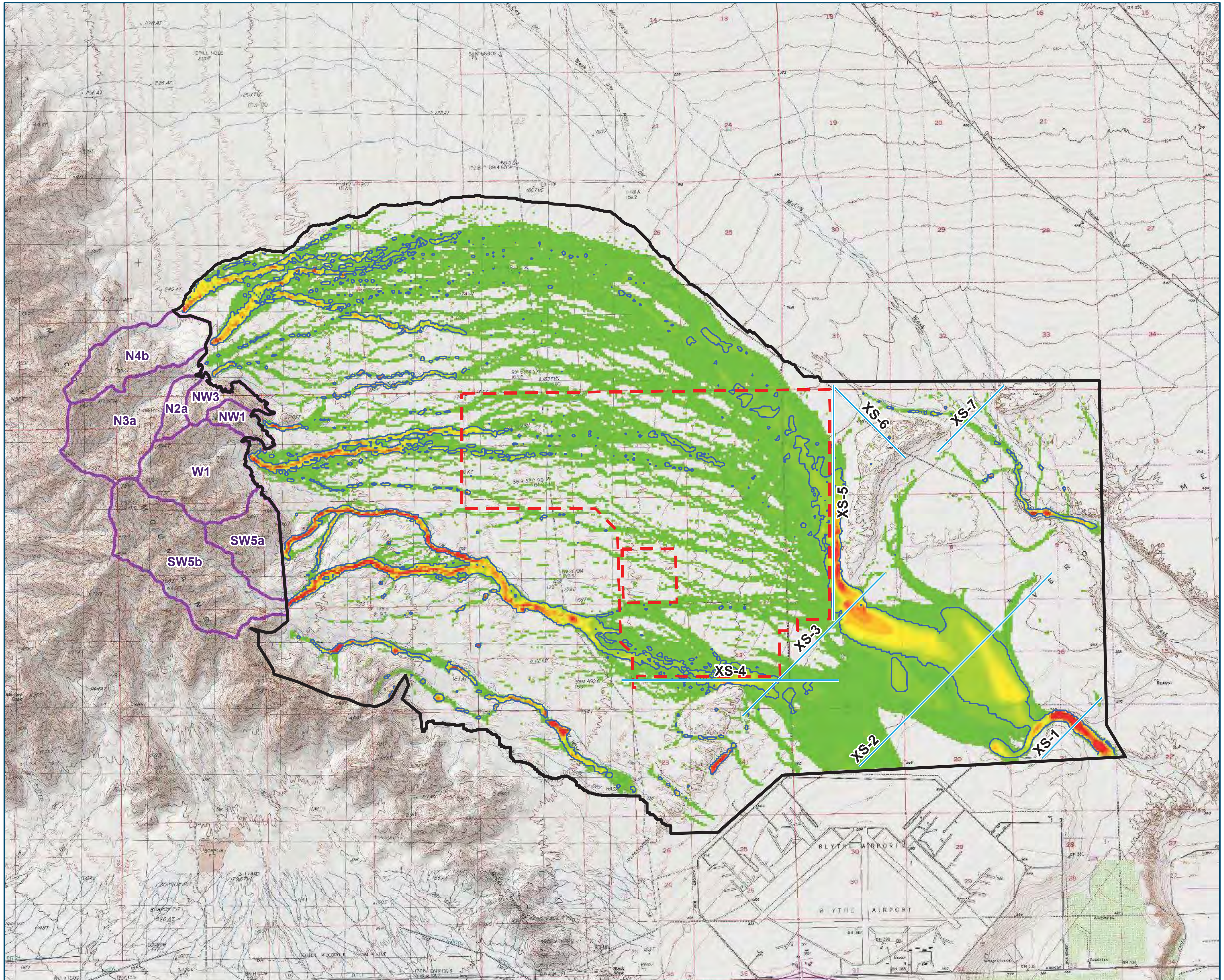
File Name: Fig_C5_Velocity_Delta_100yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE C6
100-YEAR STORM EVENT
MAX FLOW DEPTH
PRE-DEVELOPMENT



Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Flow Depth (feet)

0.0 - 0.2	1.1 - 1.2
0.3 - 0.4	1.3 - 1.4
0.5 - 0.6	1.5 - 1.6
0.7 - 0.8	1.7 - 1.8
0.8 - 0.9	1.9 - 2.0
0.9 - 1.0	> 2.0

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

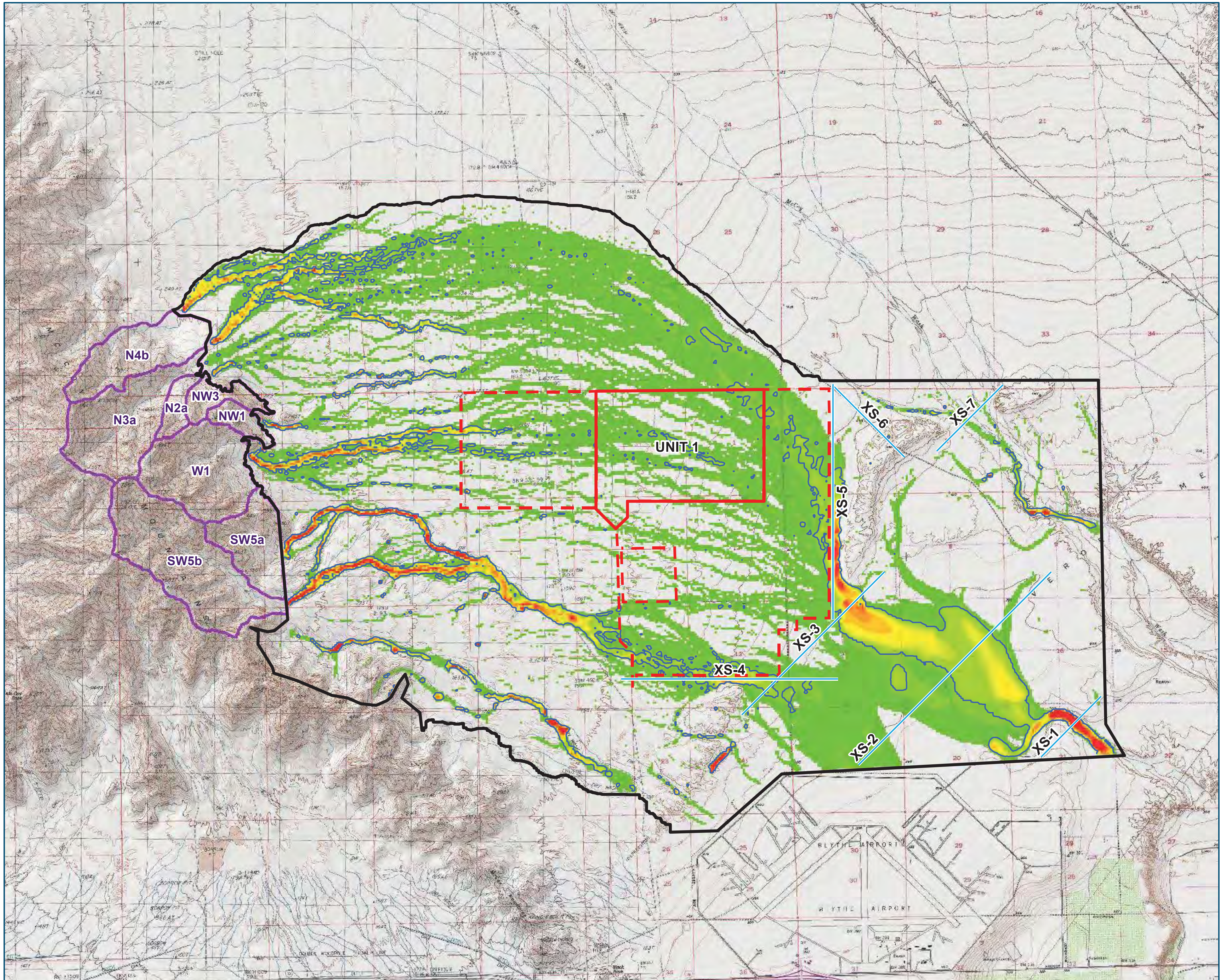
File Name: Fig_C6_Velocity_Pre_100yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE C7
100-YEAR STORM EVENT
MAX FLOW DEPTH
POST-DEVELOPMENT (UNIT 1)



Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Flow Depth (feet)

0.0 - 0.2	1.1 - 1.2
0.3 - 0.4	1.3 - 1.4
0.5 - 0.6	1.5 - 1.6
0.7 - 0.8	1.7 - 1.8
0.8 - 0.9	1.9 - 2.0
0.9 - 1.0	> 2.0

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

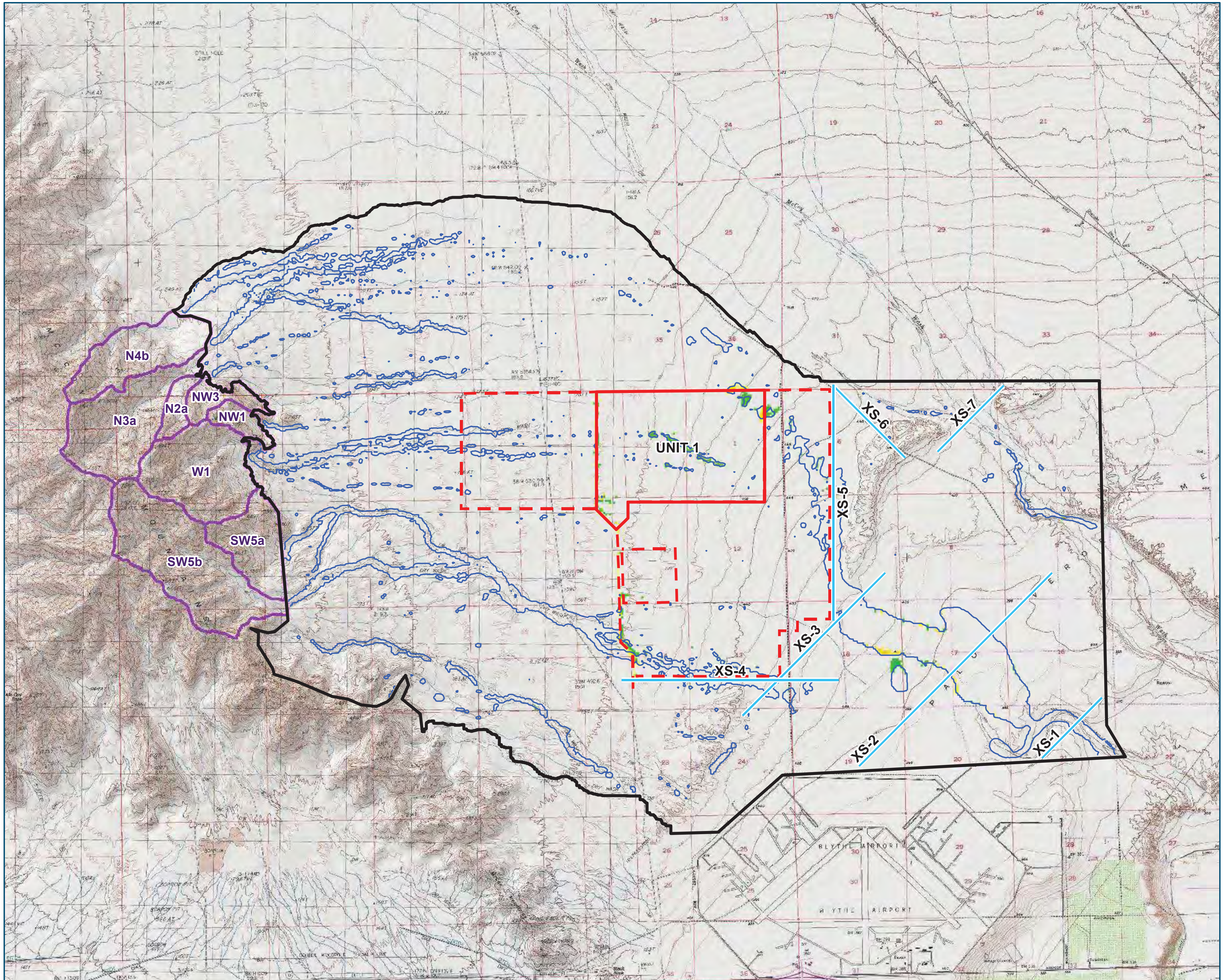
N

PROJECT LOCATOR MAP

File Name: Fig_C7_Depth_U1Post_100yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013
Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

NEXTera ENERGY RESOURCES

AECOM



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE C8

100-YEAR STORM EVENT
CHANGE IN MAX FLOW DEPTH
POST - PRE (UNIT 1)

Legend

- BSPP Unit 1 Boundary
- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

Change in Max Flow Depth (feet)

- > 0.7
- 0.6 - 0.7
- 0.5 - 0.6
- 0.4 - 0.5
- 0.3 - 0.4
- 0.2 - 0.3
- 0.1 - 0.2
- 0.05 - 0.1
- -0.05 - 0.05
- -0.1 - -0.05
- -0.2 - -0.1
- -0.3 - -0.2
- -0.4 - -0.3
- -0.5 - -0.4
- -0.6 - -0.5
- -0.7 - -0.6
- < -0.7

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

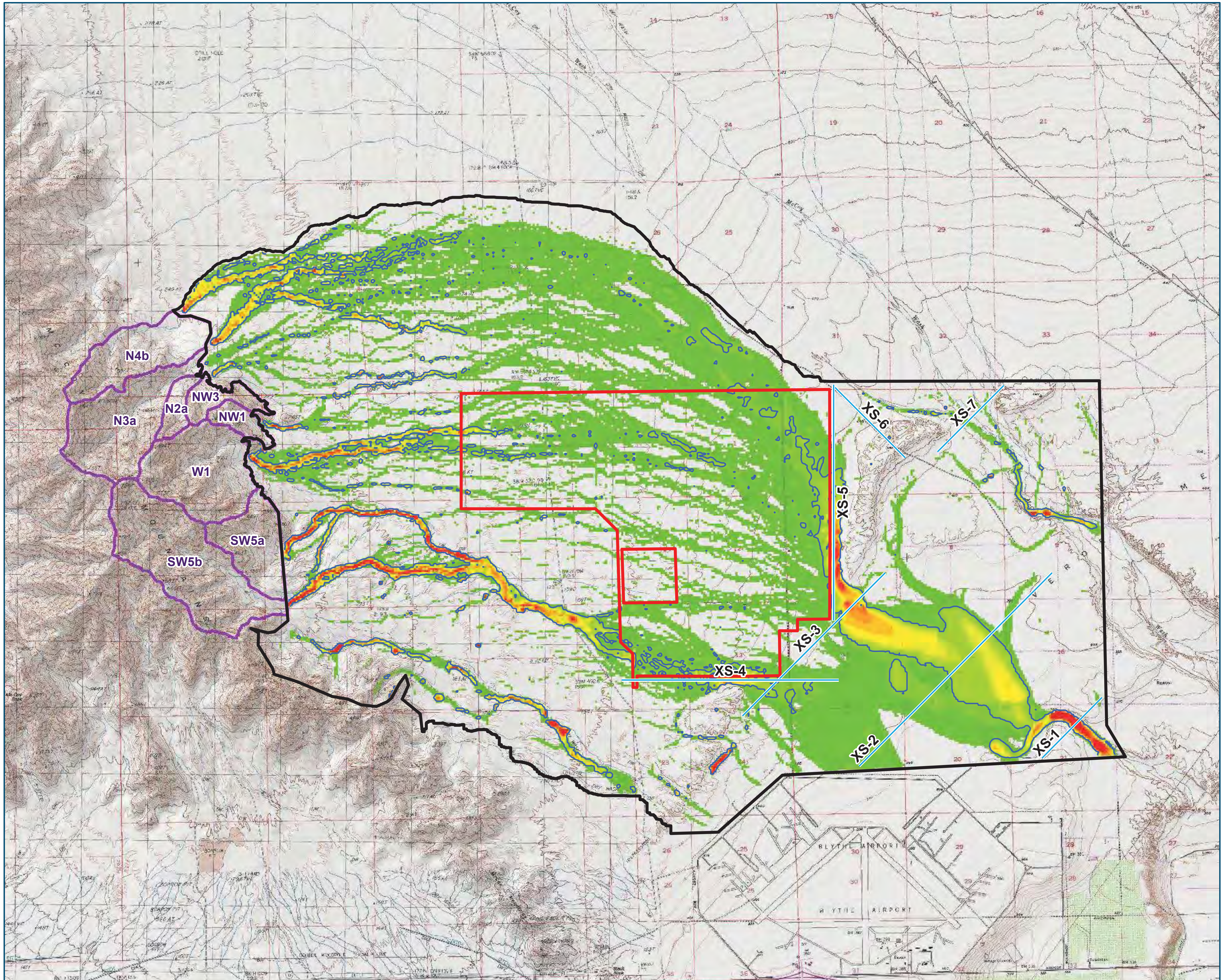
0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

File Name: Fig_C8_Depth_U1Delta_100yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE C9
100-YEAR STORM EVENT
MAX FLOW DEPTH
POST-DEVELOPMENT (ALL UNITS)

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow*
- Flow Analysis Cross Sections

Flow Depth (feet)

0.0 - 0.2	1.1 - 1.2
0.3 - 0.4	1.3 - 1.4
0.5 - 0.6	1.5 - 1.6
0.7 - 0.8	1.7 - 1.8
0.8 - 0.9	1.9 - 2.0
0.9 - 1.0	> 2.0

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

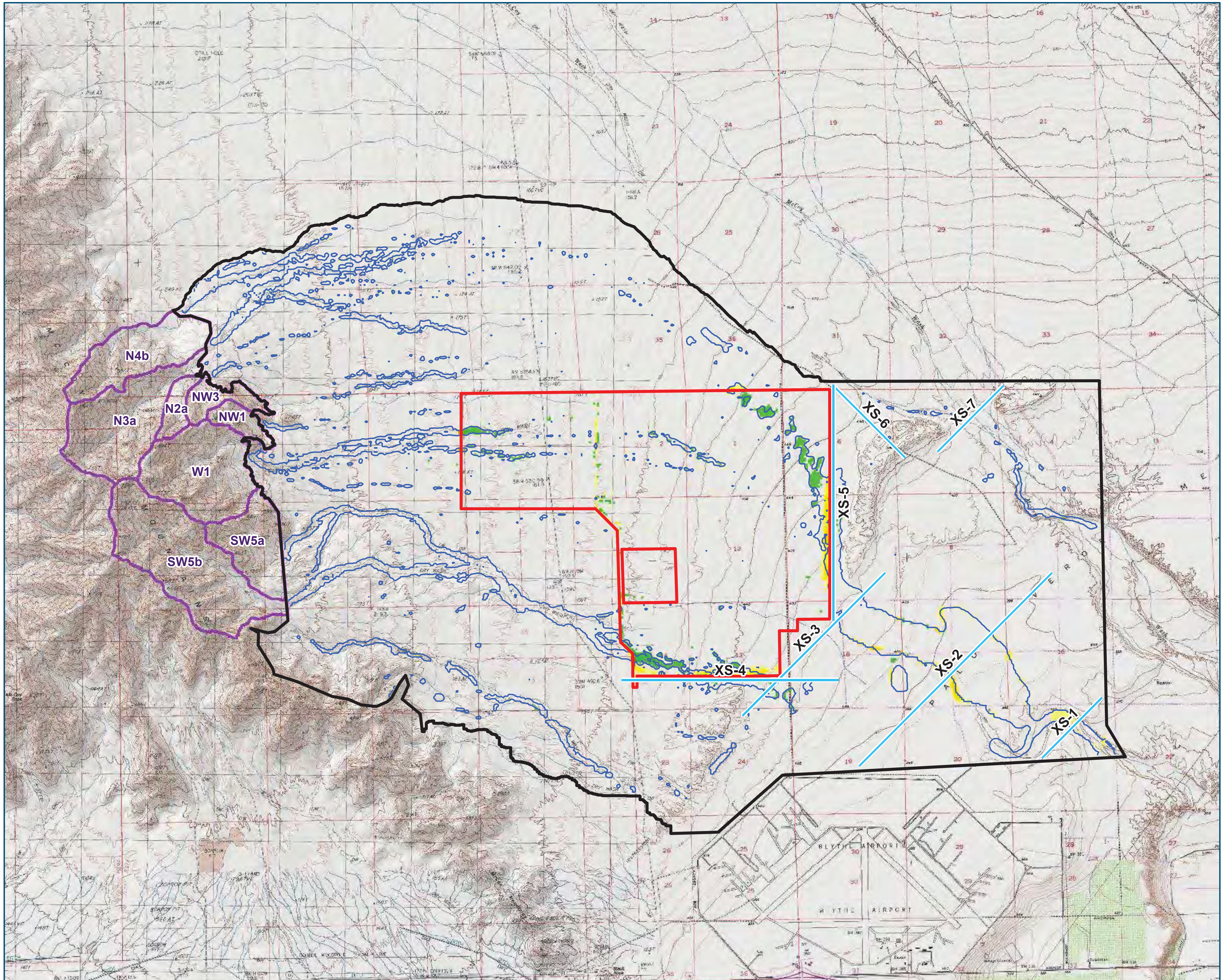
0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

File Name: Fig_C9_Depth_Post_100yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\BSPP
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\BSPP
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra



Blythe Solar Power Project

Riverside County, CA **03/29/2013**

FIGURE C10

100-YEAR STORM EVENT
CHANGE IN MAX FLOW DEPTH
POST - PRE (ALL UNITS)

Legend

- BSPP Site Boundary
- FLO-2D Model Boundary
- HEC-HMS Model Subbasin Boundaries
- Area of Concentrated Flow (Post-Development)*
- Flow Analysis Cross Sections

Change in Max Flow Depth (feet)

- > 0.7
- 0.6 - 0.7
- 0.5 - 0.6
- 0.4 - 0.5
- 0.3 - 0.4
- 0.2 - 0.3
- 0.1 - 0.2
- 0.05 - 0.1
- -0.05 - 0.05
- -0.1 - -0.05
- -0.2 - -0.1
- -0.3 - -0.2
- -0.4 - -0.3
- -0.5 - -0.4
- -0.6 - -0.5
- -0.7 - -0.6
- < -0.7

*Area of maximum concentrated flow with water depth exceeding 0.5 feet

0 5,000 10,000 Feet

N

PROJECT LOCATOR MAP

File Name: Fig_C10_Depth_Delta_100yr
MXD File Path: NextEra\60280294_Blythe\GIS\Layouts\DELTA_100YR
PDF File Path: NextEra\60280294_Blythe\GIS\Maps\DELTA_100YR
Date Modified: March 29, 2013

Projection: NAD 1983 State Plane, California VI, Feet
Data Sources: ESRI, USGS, US Census, TetraTech, NextEra

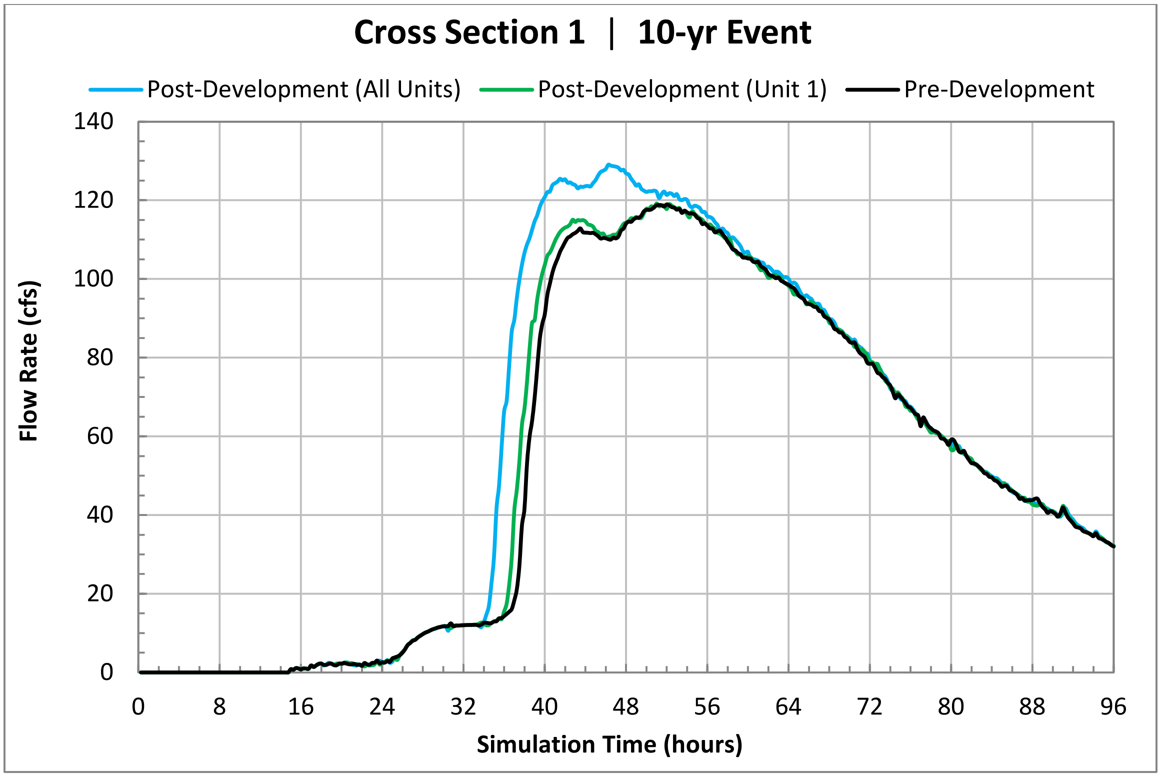
NEXTera ENERGY RESOURCES

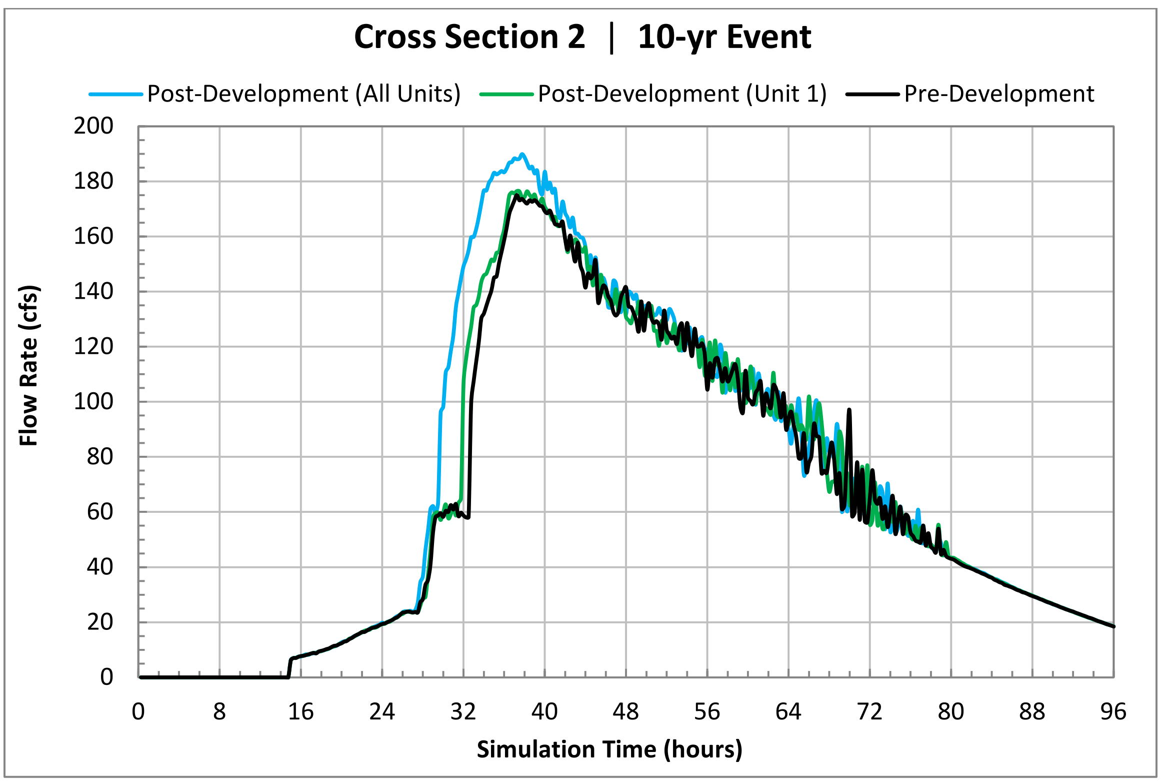
AECOM

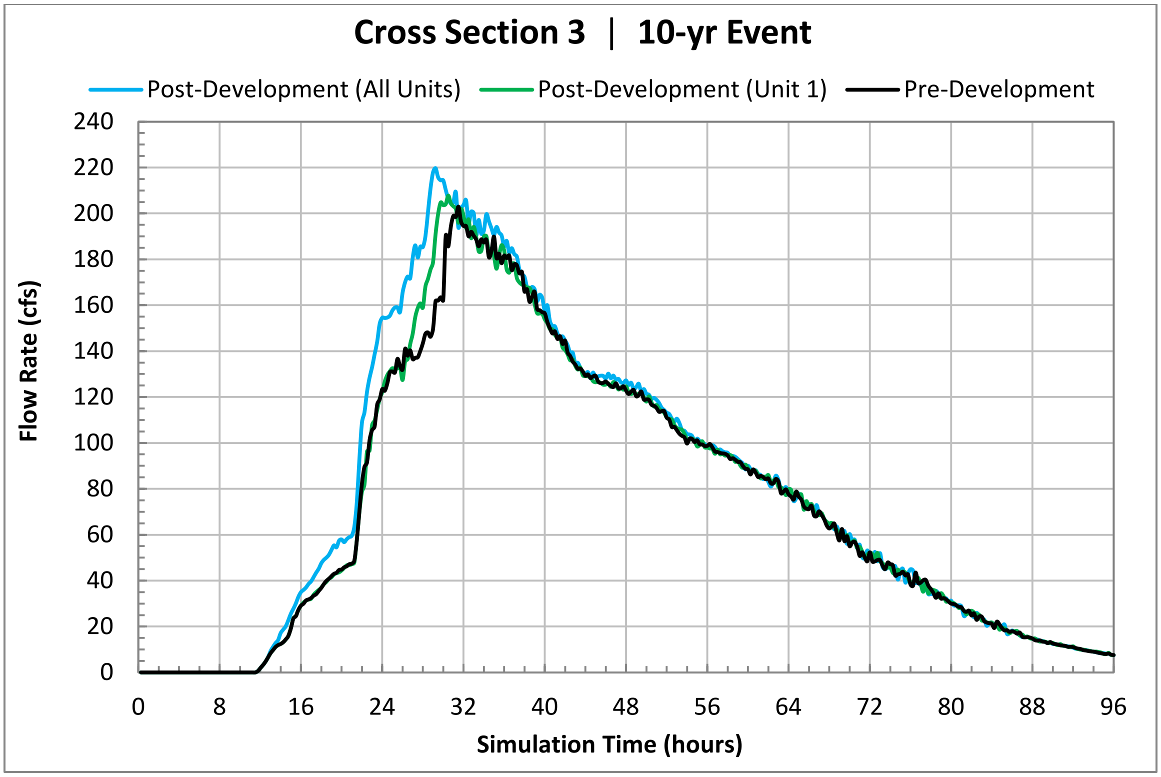
AECOM

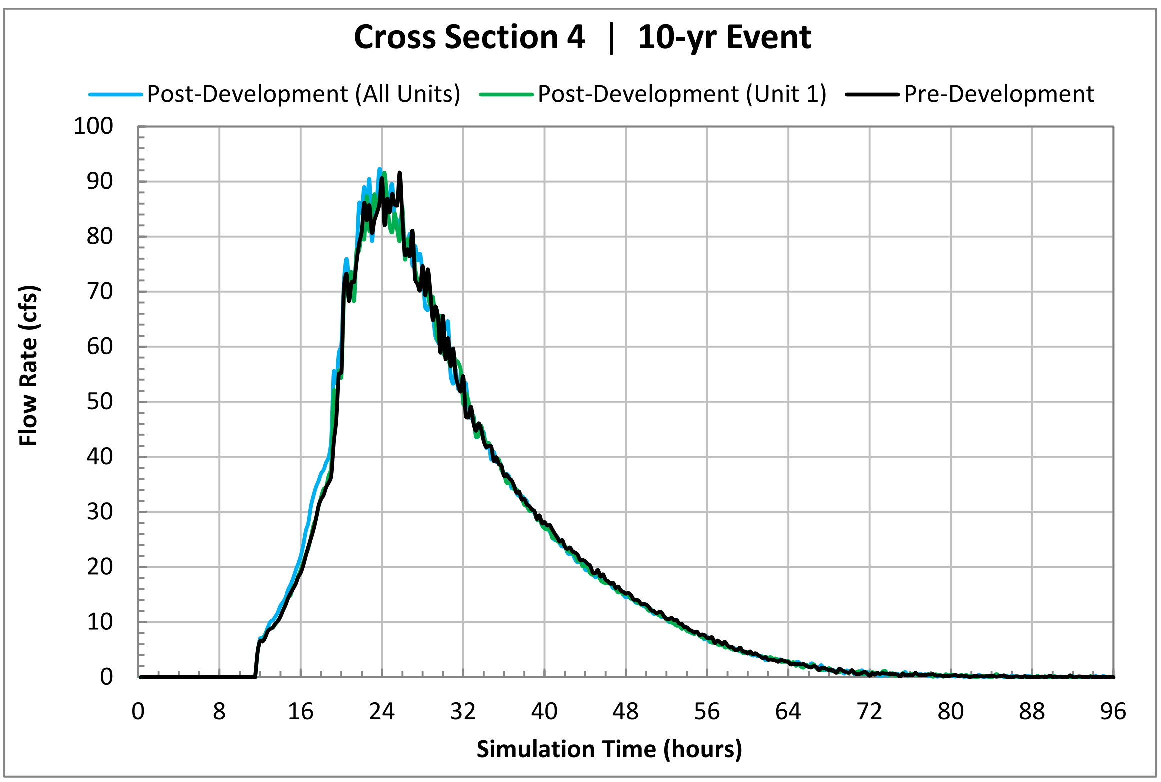
APPENDIX D

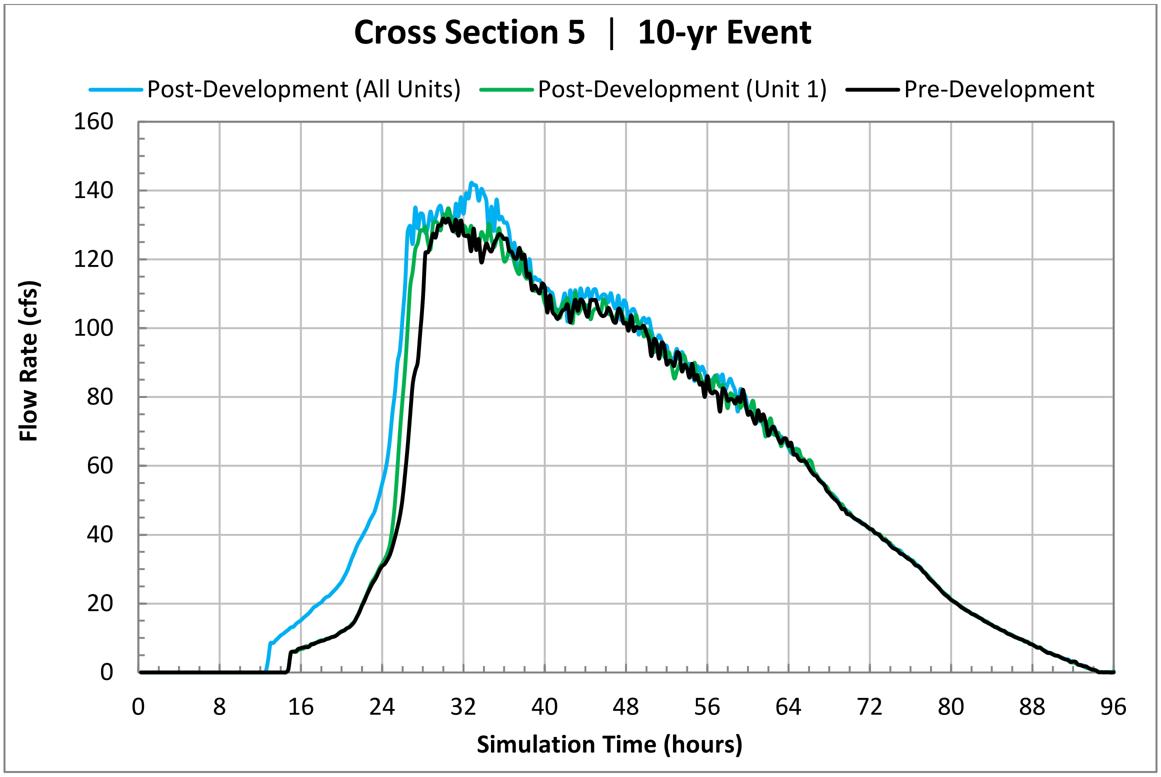
10-Year Event Hydrographs for Flow Measurement Cross-Sections

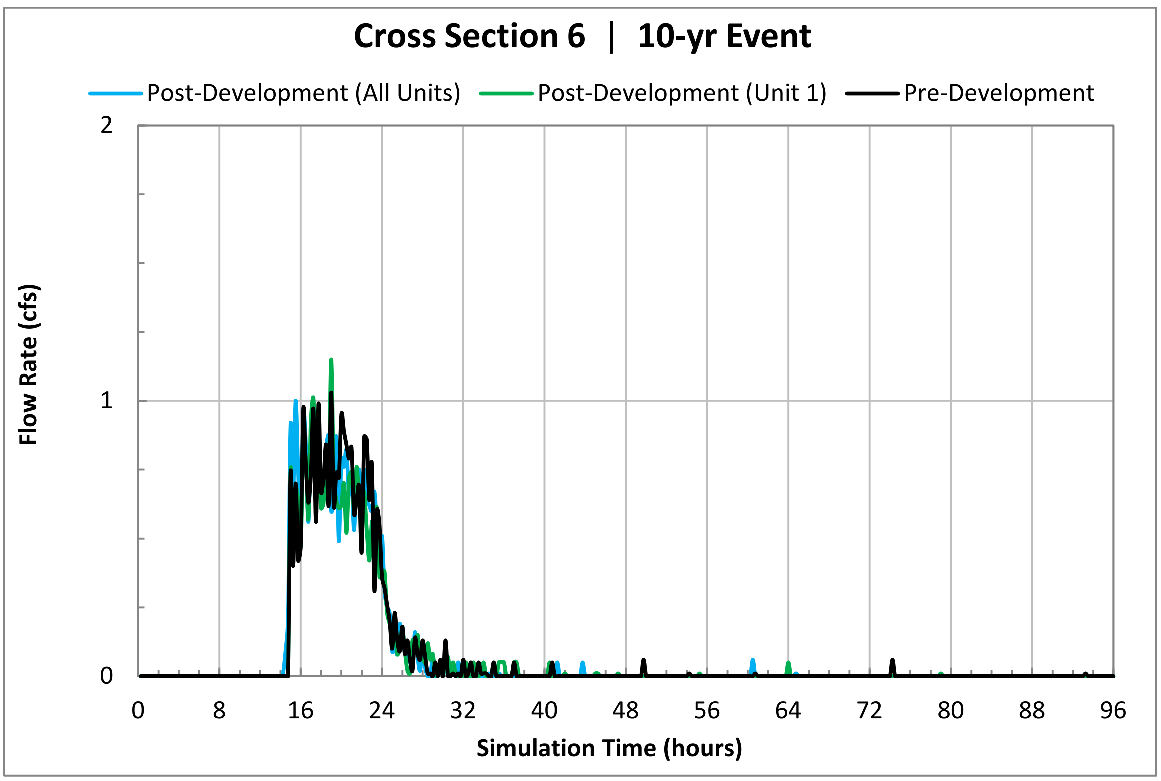

Cross Section 1 | 10-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
0
20
40
60
80
100
120
140
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

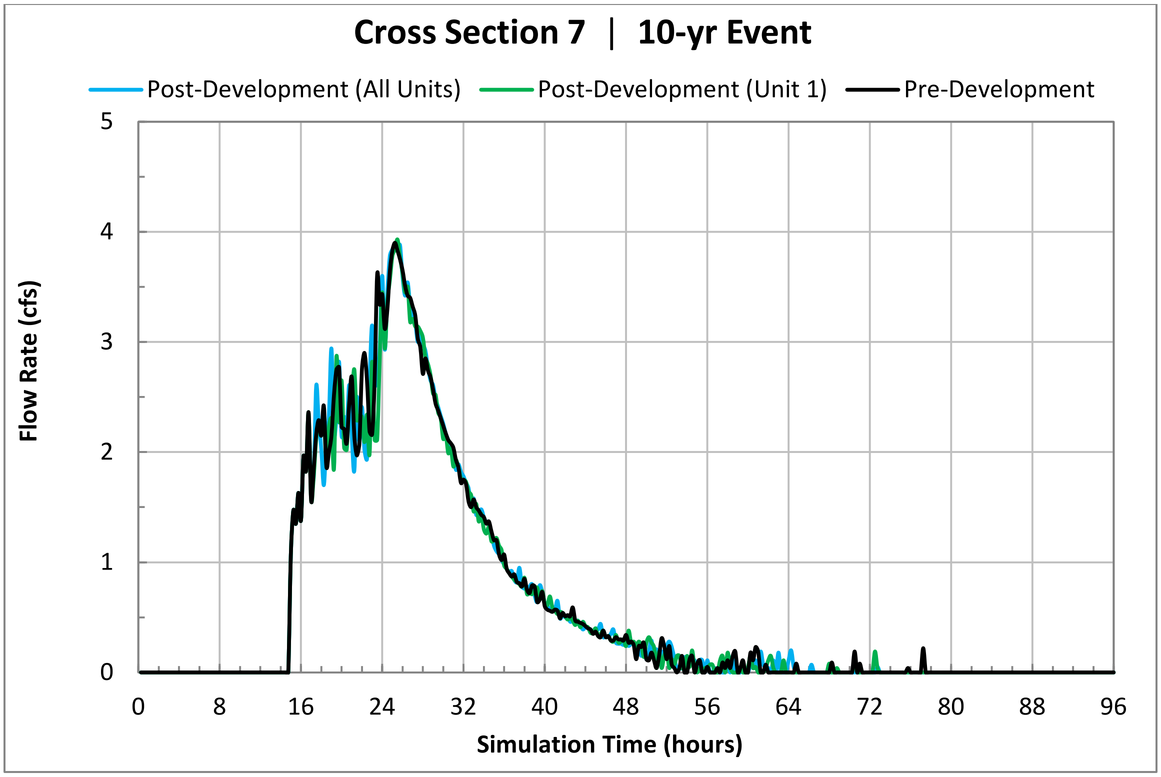

Cross Section 2 | 10-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
0
20
40
60
80
100
120
140
160
180
200
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)


Cross Section 3 | 10-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
240
220
200
180
160
140
120
100
80
60
40
20
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)


Cross Section 4 | 10-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
100
90
80
70
60
50
40
30
20
10
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

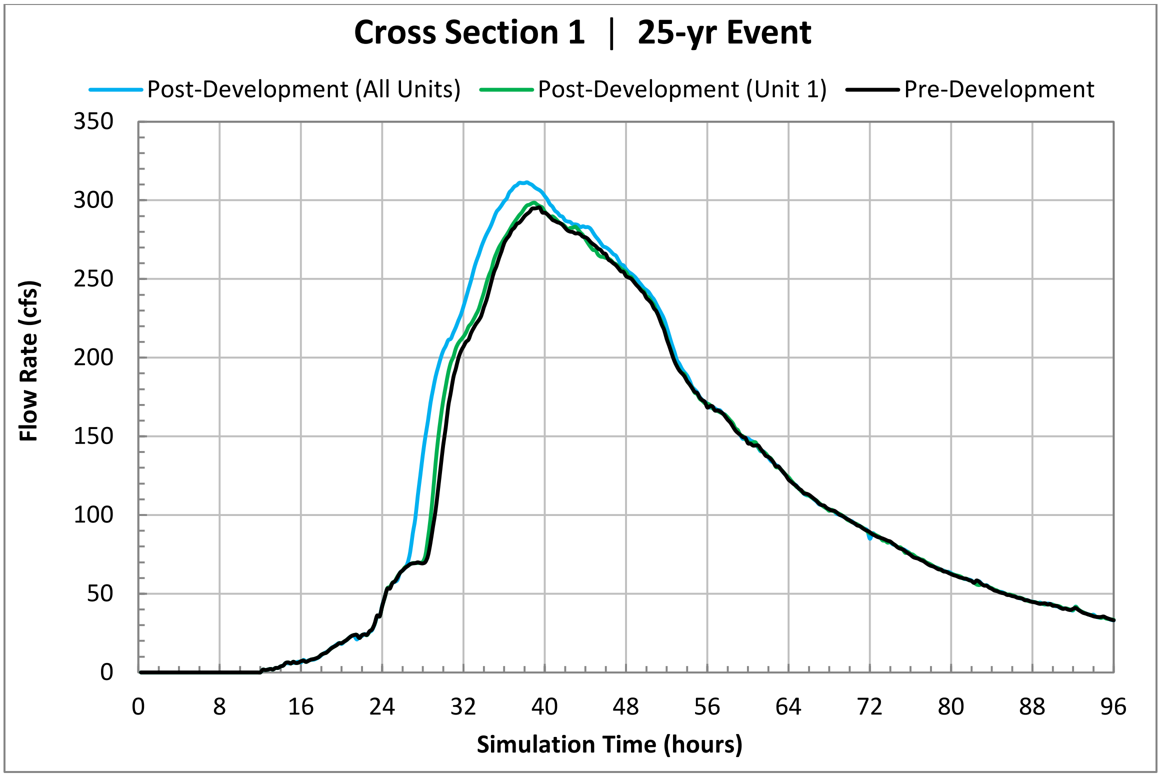

Cross Section 5 | 10-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
160
140
120
100
80
60
40
20
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

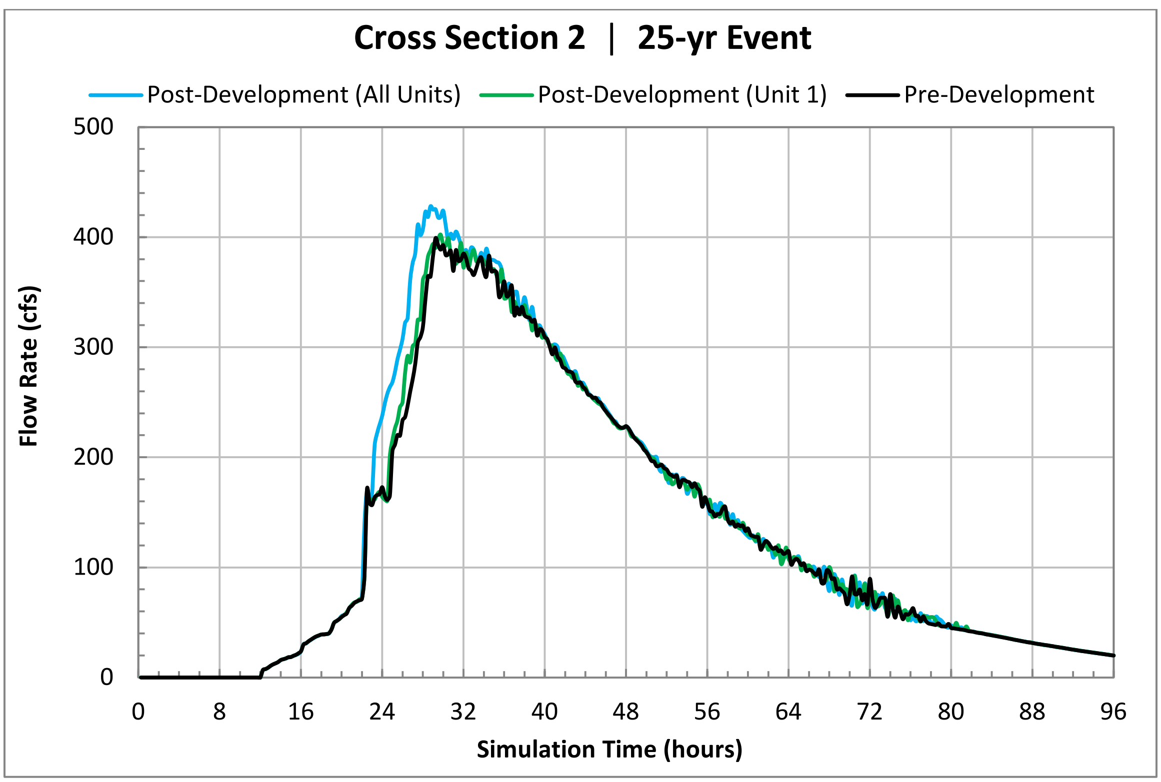

Cross Section 6 | 10-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
2
1
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

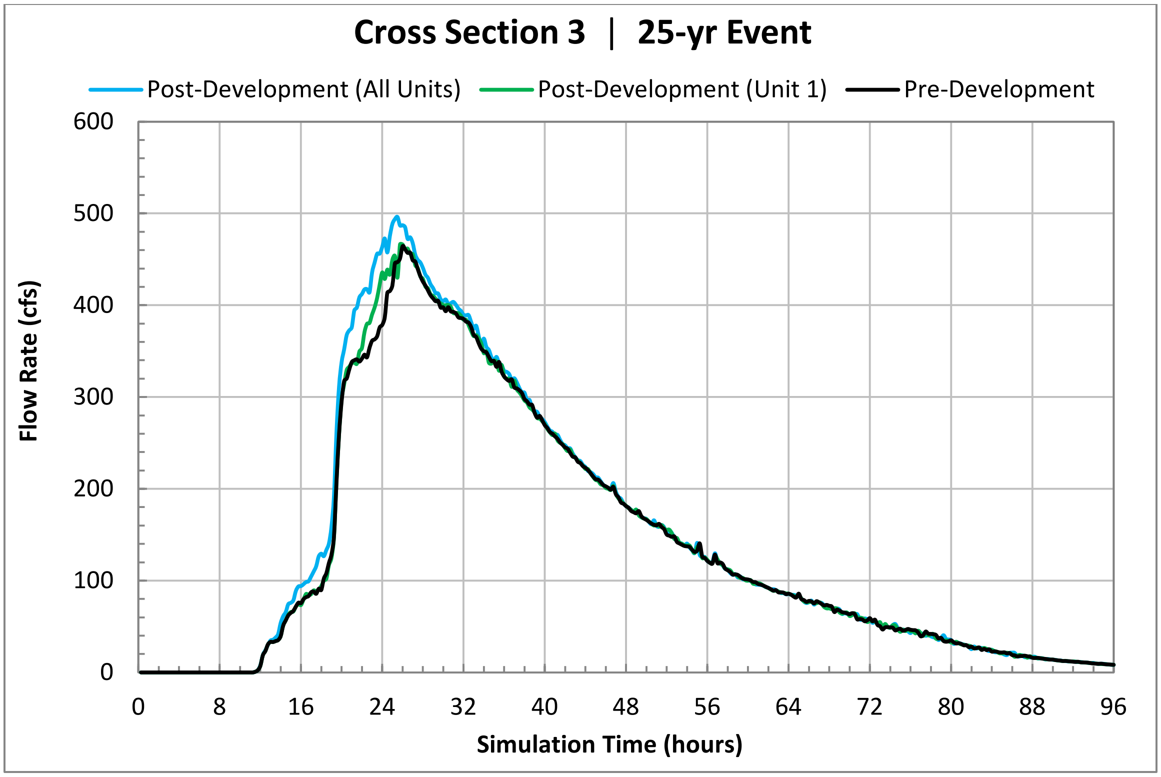

Cross Section 7 | 10-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
5
4
3
2
1
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

APPENDIX E

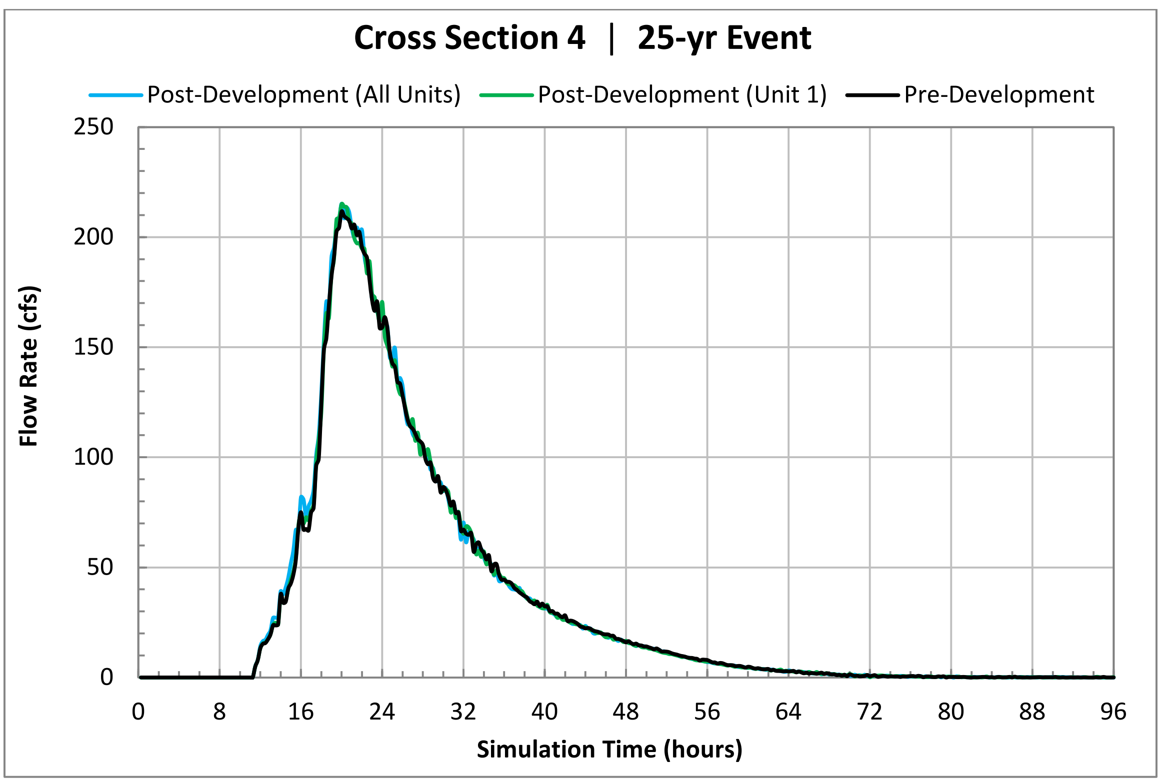
25-Year Event Hydrographs for Flow Measurement Cross-Sections


Cross Section 1 | 25-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
0
50
100
150
200
250
300
350
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

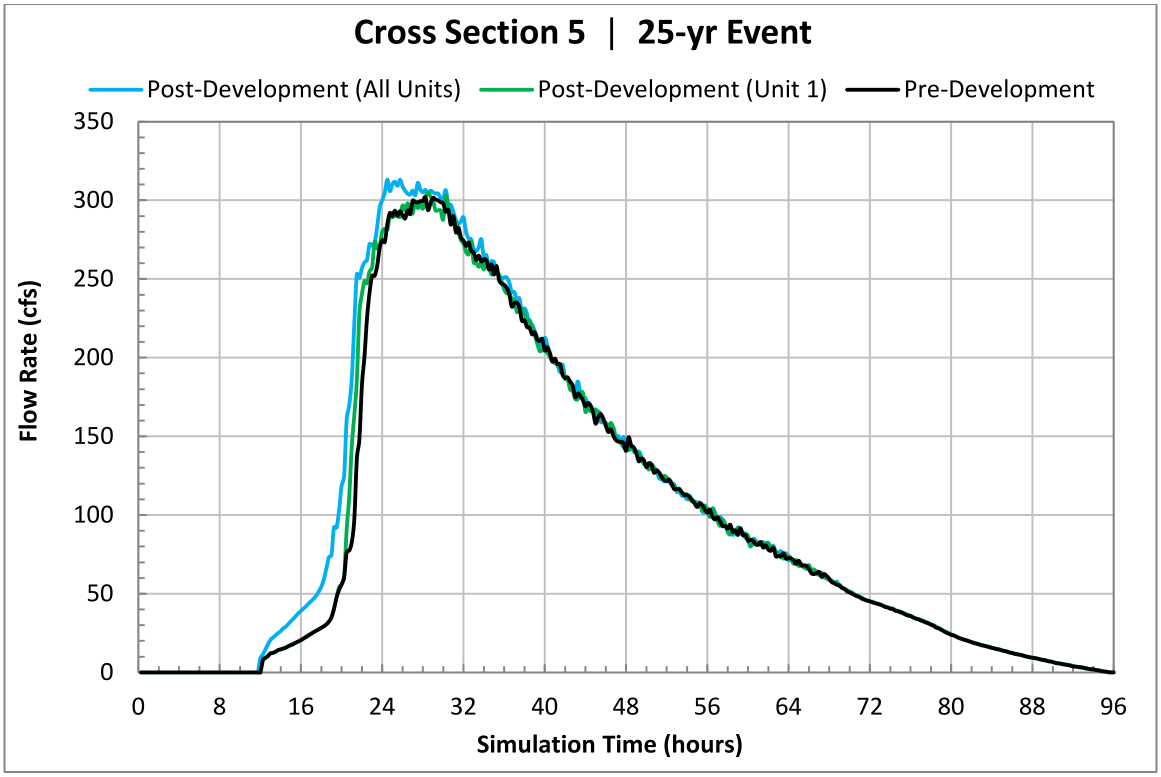

Cross Section 2 | 25-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
0
100
200
300
400
500
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

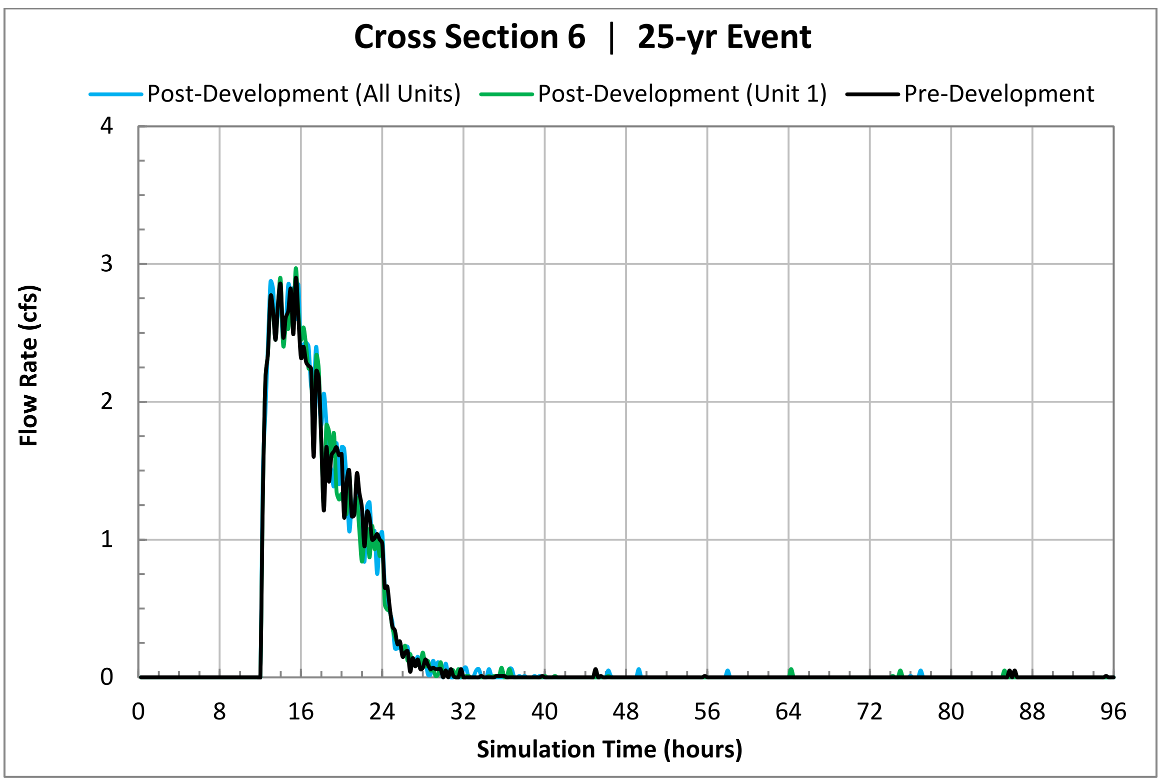


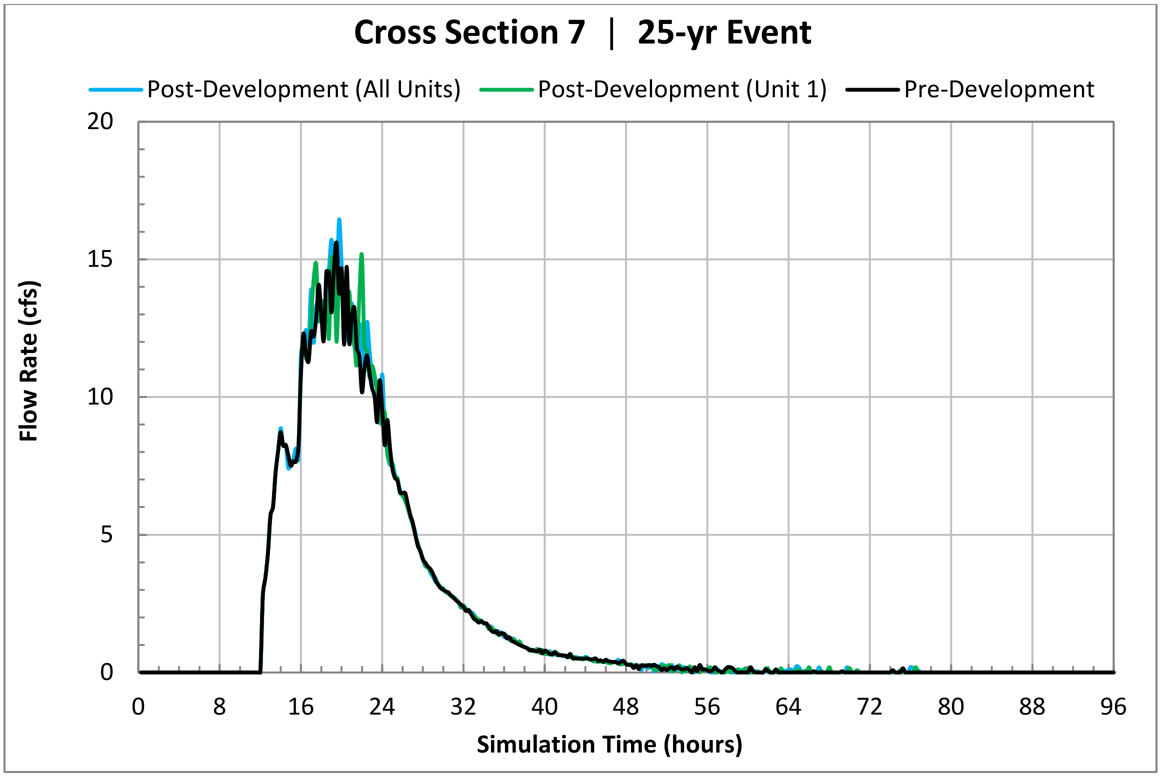
Cross Section 3 | 25-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
600
500
400
300
200
100
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)



Cross Section 4 | 25-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
250
200
150
100
50
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

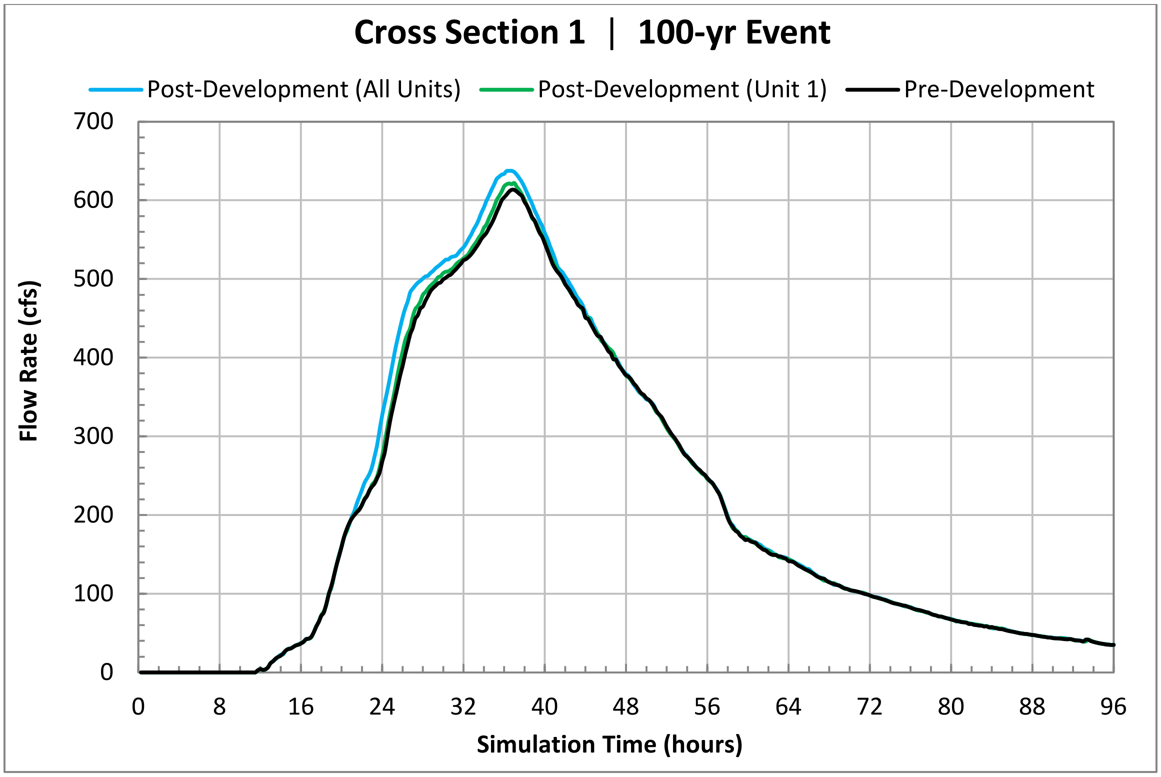

Cross Section 5 | 25-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
350
300
250
200
150
100
50
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

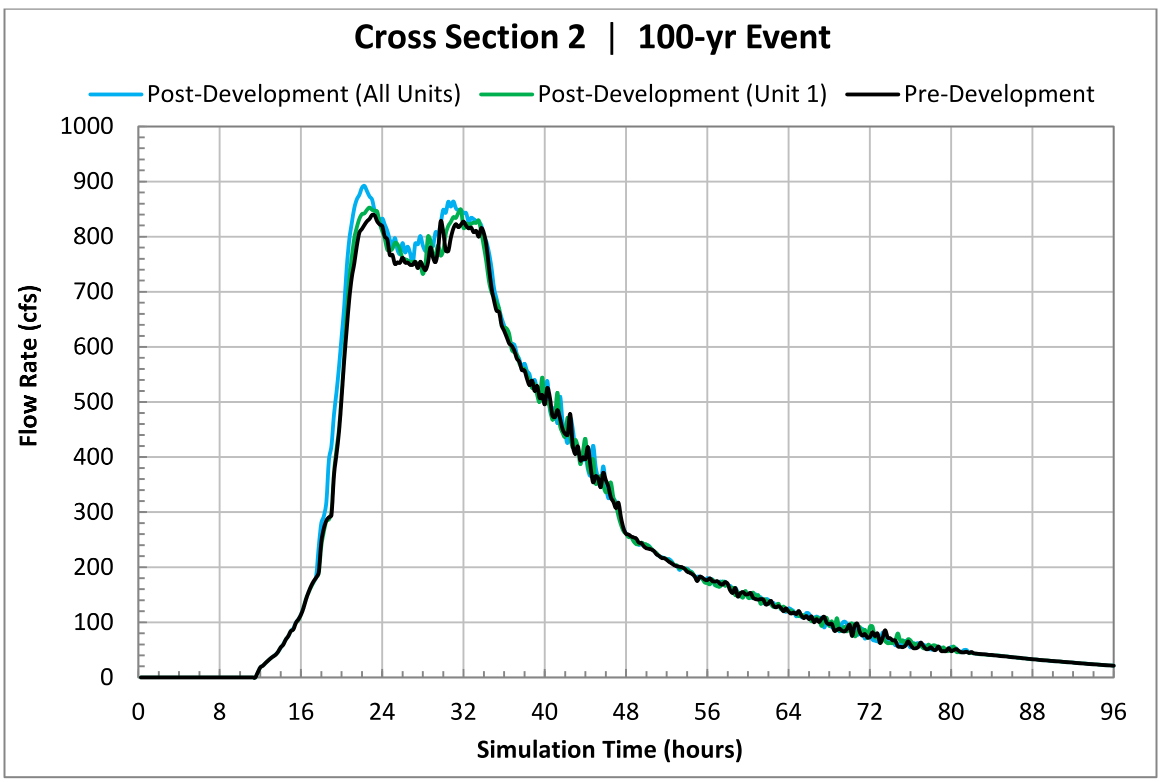

Cross Section 6 | 25-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
4
3
2
1
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

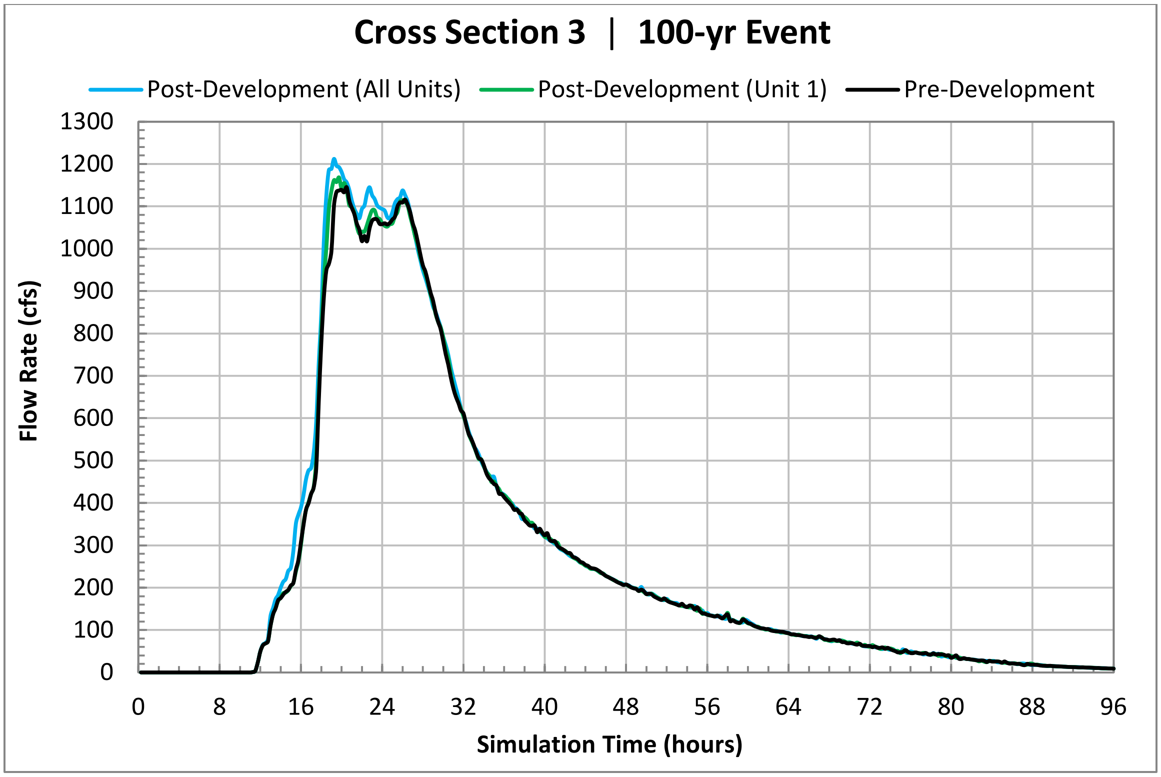

Cross Section 7 | 25-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
20
15
10
5
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

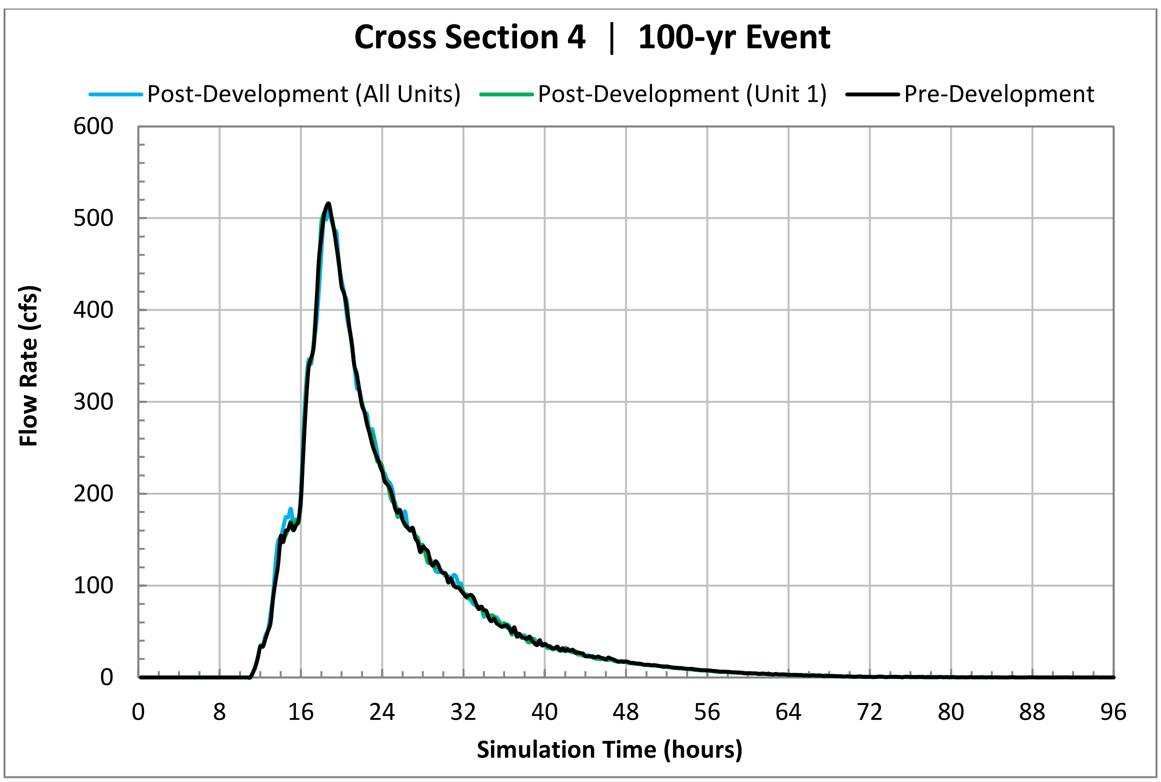
APPENDIX F

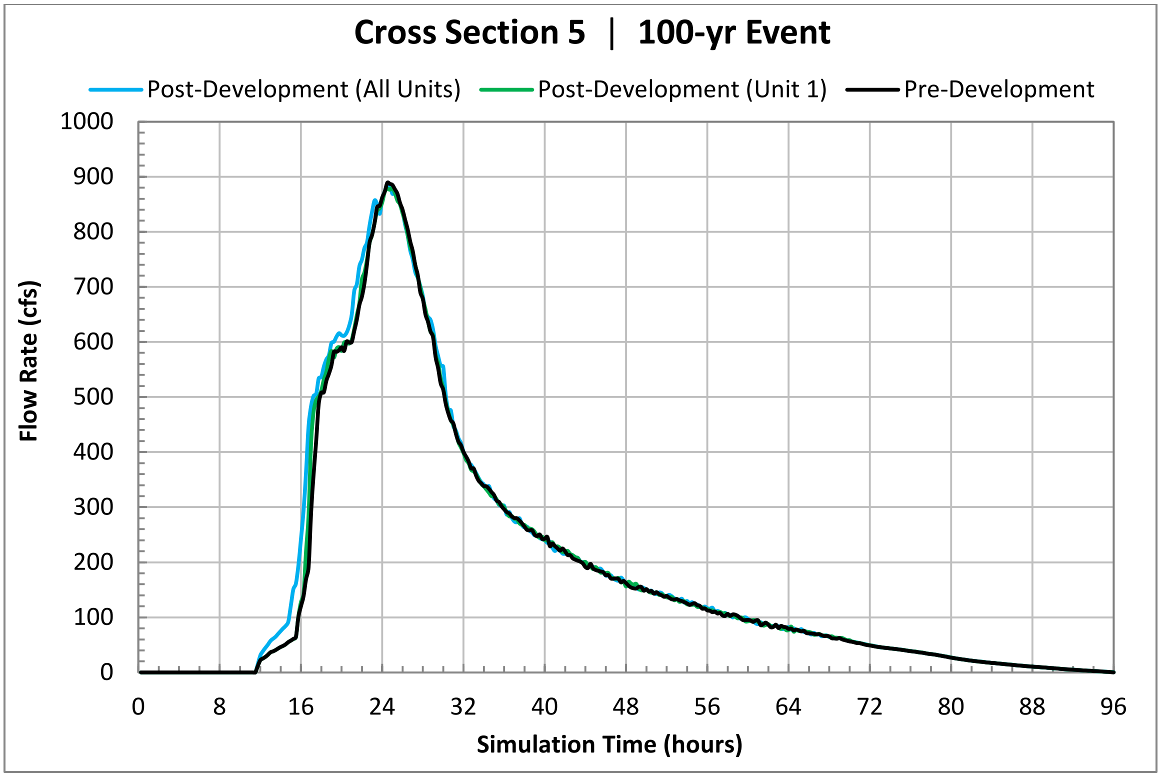
100-Year Event Hydrographs for Flow Measurement Cross-Sections

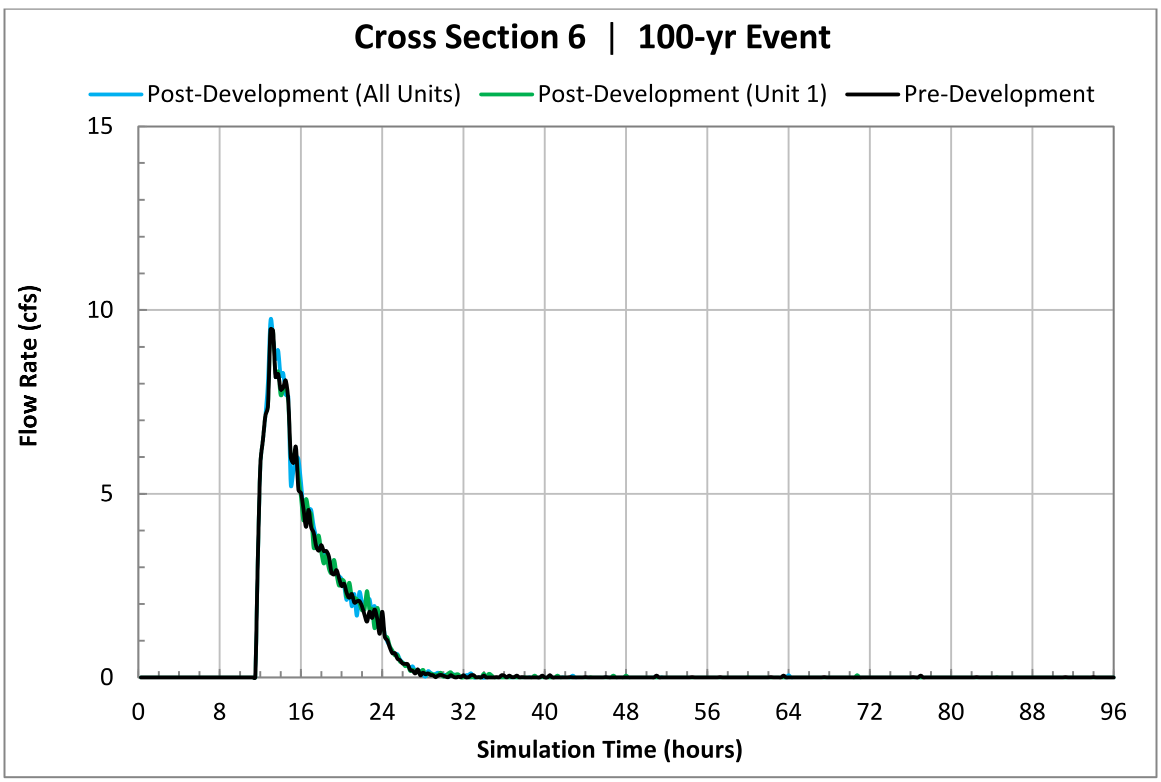

Cross Section 1 | 100-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
700
600
500
400
300
200
100
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)

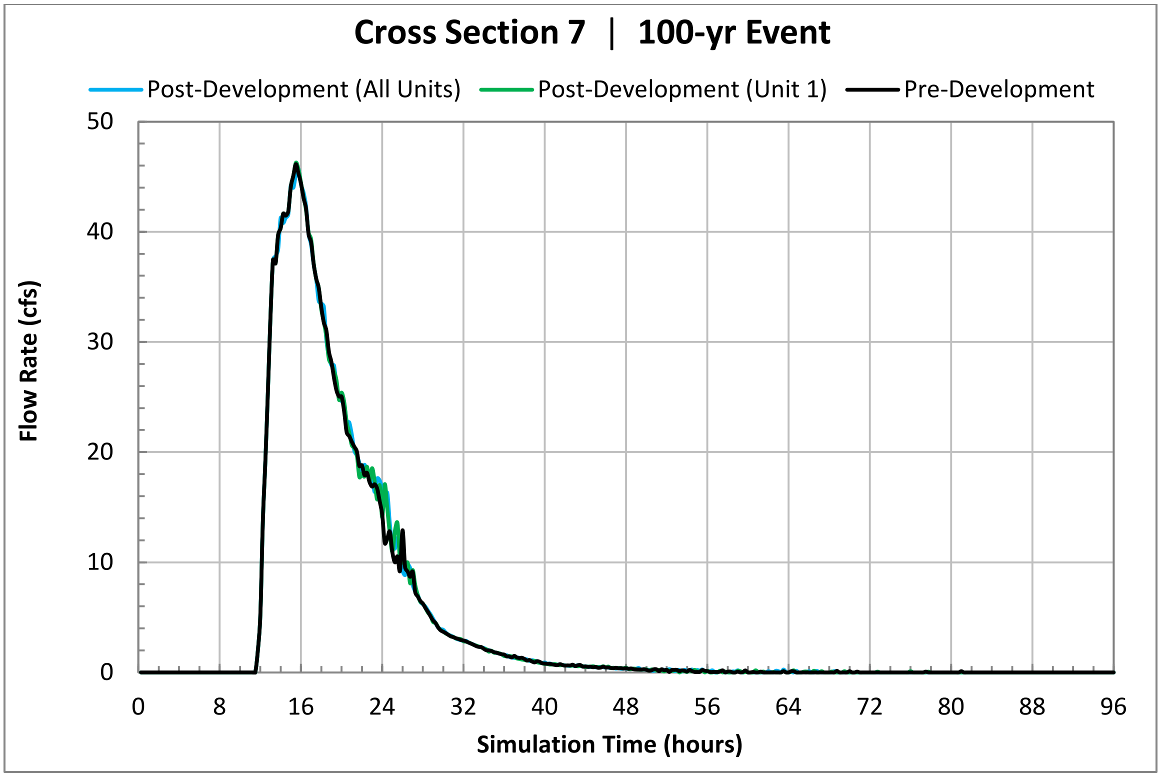

Cross Section 2 | 100-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
1000
900
800
700
600
500
400
300
200
100
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)


Cross Section 3 | 100-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)


Cross Section 4 | 100-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
0
100
200
300
400
500
600
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)


Cross Section 5 | 100-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
1000
900
800
700
600
500
400
300
200
100
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)


Cross Section 6 | 100-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
15
10
5
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)


Cross Section 7 | 100-yr Event
Post-Development (All Units)
Post-Development (Unit 1)
Pre-Development
Flow Rate (cfs)
50
40
30
20
10
0
0
8
16
24
32
40
48
56
64
72
80
88
96
Simulation Time (hours)