



*Ventura Countywide
Stormwater Quality
Management Program*

**2012-2013
Permit Year**

Ventura Countywide Stormwater Quality Management Program Annual Report

Attachment D: Water Quality Monitoring Appendices A and B



December 13, 2013

Camarillo
County of Ventura
Fillmore
Moorpark
Ojai
Oxnard
Port Hueneme
Santa Paula
Simi Valley
Thousand Oaks
Ventura
Ventura County Watershed Protection
District

Attachment E: Total Maximum Daily Load Data and Reports

1. Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for Ventura County and City of Thousand Oaks. July 2012 - June 2013
2. Calleguas Creek Watershed TMDL Compliance Monitoring 4th Year Annual Monitoring Report

**Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for
Ventura County and City of Thousand Oaks. July 2012 - June 2013**

Appendix A: Major Outfall Station Fact Sheets

Camarillo

Waterbody: Camarillo Hills Drain (tributary to Revolon Slough)

Location: Daily Rd. overcrossing (34°13'10.00"N, 119° 3'58.06"W)

Pros: Likely well-defined rating table

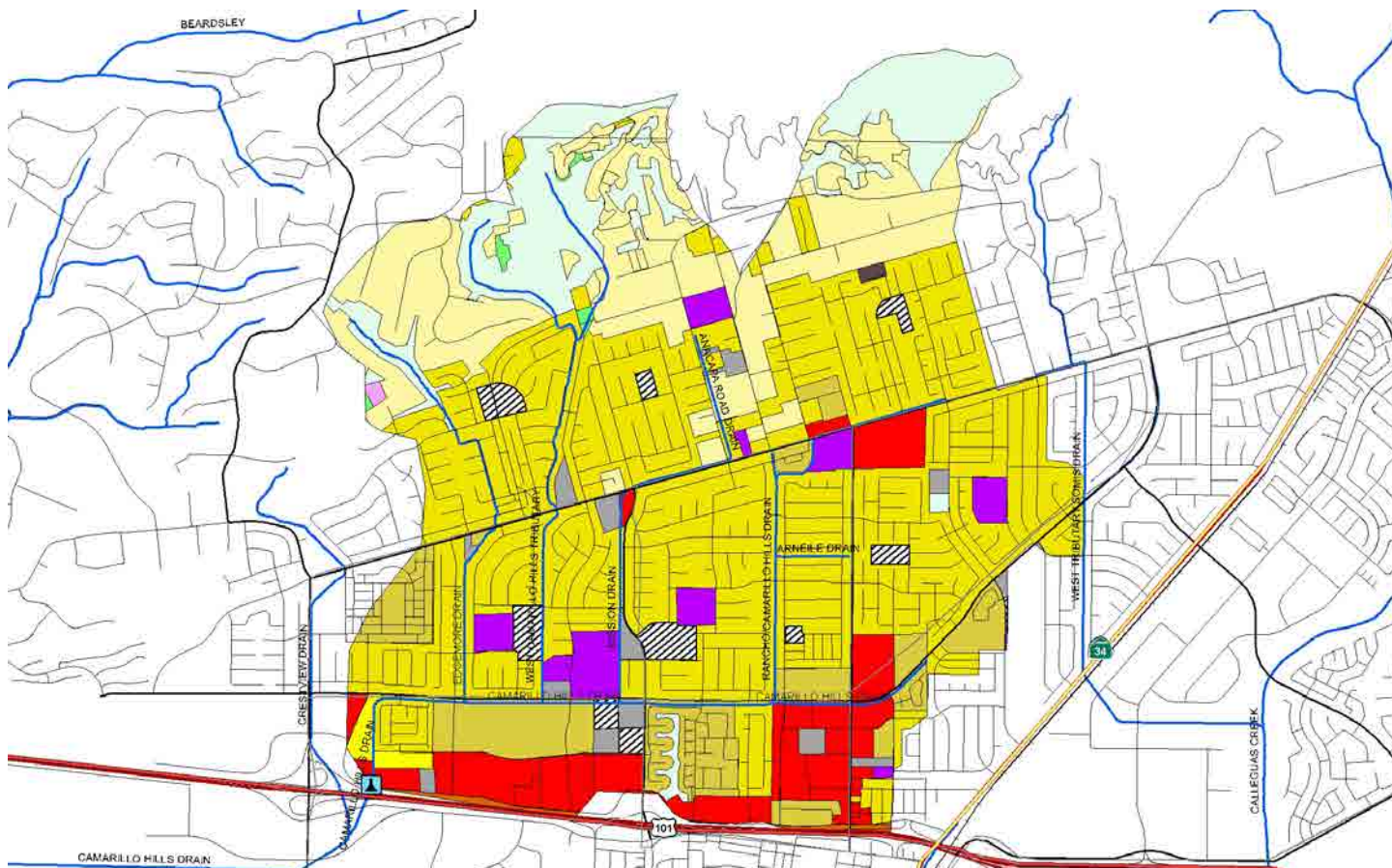
Cons: Moderate potential for vandalism

Outstanding Site Selection Tasks: None

Other Potential Sites: None

Dry Season Flow Potential: Likely intermittent year-round flow due to urban runoff





Entire City

Land Use	Acres	% of Total Watershed
Agriculture	1585.8	12.6%
Com_Indus. Mix	12.5	0.1%
Commer.	657.2	5.2%
Extraction	58.4	0.5%
Facility	129.5	1.0%
Industrial_1	32.2	0.2%
Industrial_3	622.6	4.9%
Military_2	5.7	0.1%
No Info Given	202.2	1.6%
Recreation	489.4	3.9%
Res.1	1305.9	10.4%
Res.2	443.4	3.5%
Res.3	3253.5	25.9%
Res.4	525.0	4.2%
Schools	325.0	2.6%
Transportation	954.2	7.6%
Under Construction	294.8	2.3%
Utilities	255.8	2.0%
Vacant Undifferentiated	1423.4	11.4%
Totals	12576.4	100.0%

Selected Subwatershed

Land Use	Acres	% of Total Watershed
Agriculture	6.1	0.2%
Commercial	213.5	7.7%
Facility	48.5	1.7%
No Info Given	57.4	2.1%
Res.1	453.4	16.3%
Res.2	235.0	8.5%
Res.3	1365.5	49.1%
Res.4	15.2	0.5%
Schools	80.6	2.9%
Transportation	11.7	0.4%
Under Construction	2.6	0.1%
Utilities	2.3	0.1%
Vacant Undifferentiated	287.4	10.3%
Totals	2779.1	100.0%

Fillmore

Waterbody: North Fillmore Drain (tributary to Sespe Creek)

Location: 75 yds. southwest of Old Telegraph Rd.
(34°24'16.51"N, 118°55'50.47"W)

Pros: Some portion of vegetation could be cleared by City of Fillmore

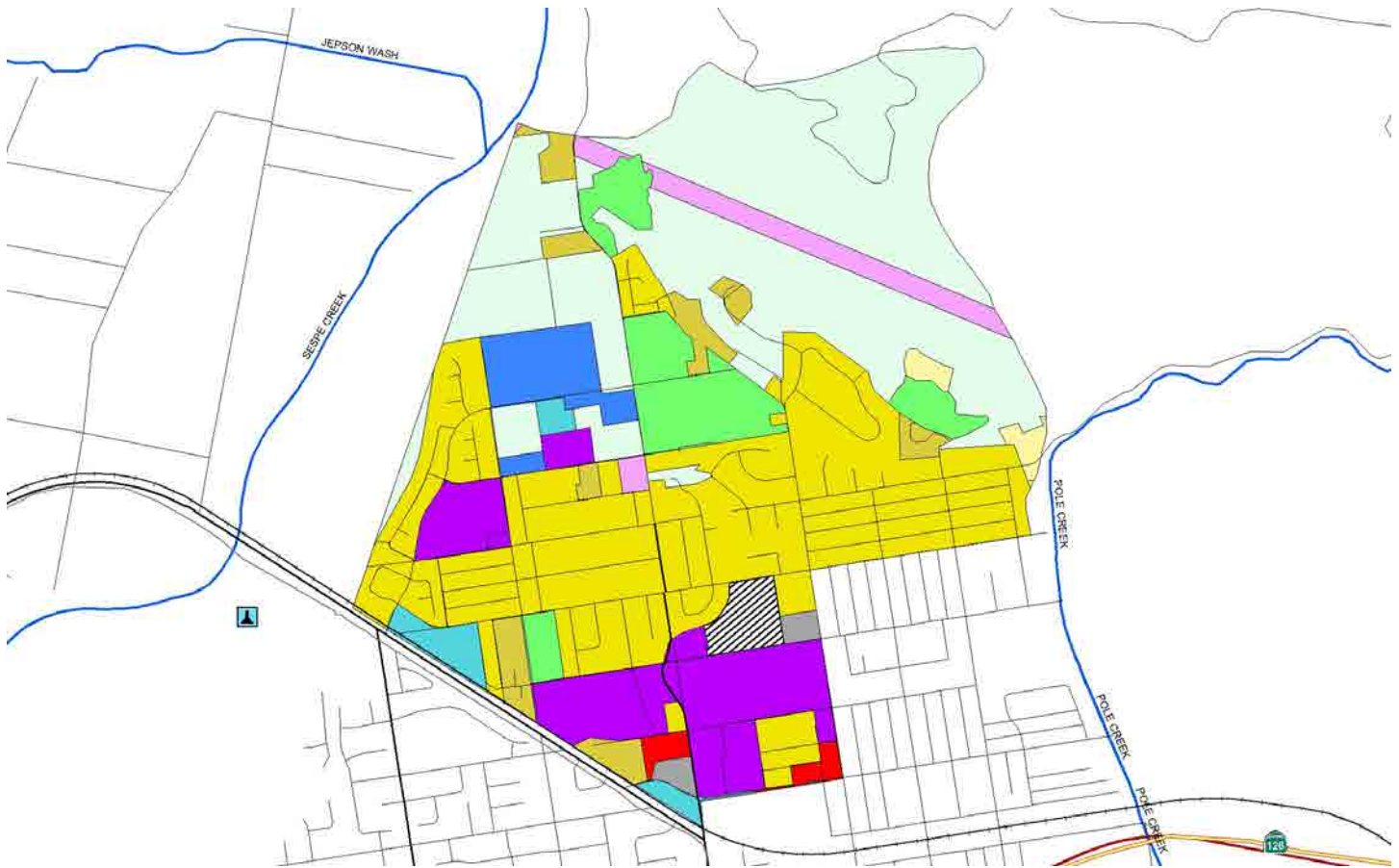
Cons: Potential for vandalism

Outstanding Site Selection Tasks: None

Other Potential Sites: C Street Drain and Central Ave. Drain

Dry Season Flow Potential: Likely intermittent year-round flow due to urban runoff





Entire City

Land Use	Acres	% of Total Watershed
Agriculture	274.8	13.0%
Com_Indus. Mix	10.4	1.0%
Commercial	103.2	5.0%
Facility	27.3	1.0%
Industrial_1	31.3	2.0%
Industrial_3	28.7	1.0%
No Info Given	21.9	1.0%
Res.1	52.8	3.0%
Res.2	44.6	2.0%
Res.3	693.1	34.0%
Schools	87.6	4.0%
Transportation	6.4	0.0%
Under Constructoni	58.4	3.0%
Utilities	45.8	2.0%
Vacant Undifferentiated	582.5	28.0%
Totals	2068.7	100.0%

Selected Subwatershed

Land Use	Acres	% of Total Watershed
Agriculture	52.5	6.9%
Commercial	6.3	0.8%
Facility	5.1	0.7%
Industrial_1	14.1	1.9%
Industrial_3	23.4	3.1%
No Info Given	9.9	1.3%
Res.1	6.1	0.8%
Res.2	29.7	3.9%
Res.3	255.7	33.6%
Schools	75.3	9.9%
Utilities	23.1	3.0%
Vacant Undifferentiated	260.6	34.2%
Totals	761.7	100.0%

Meiners Oaks (Unincorporated)

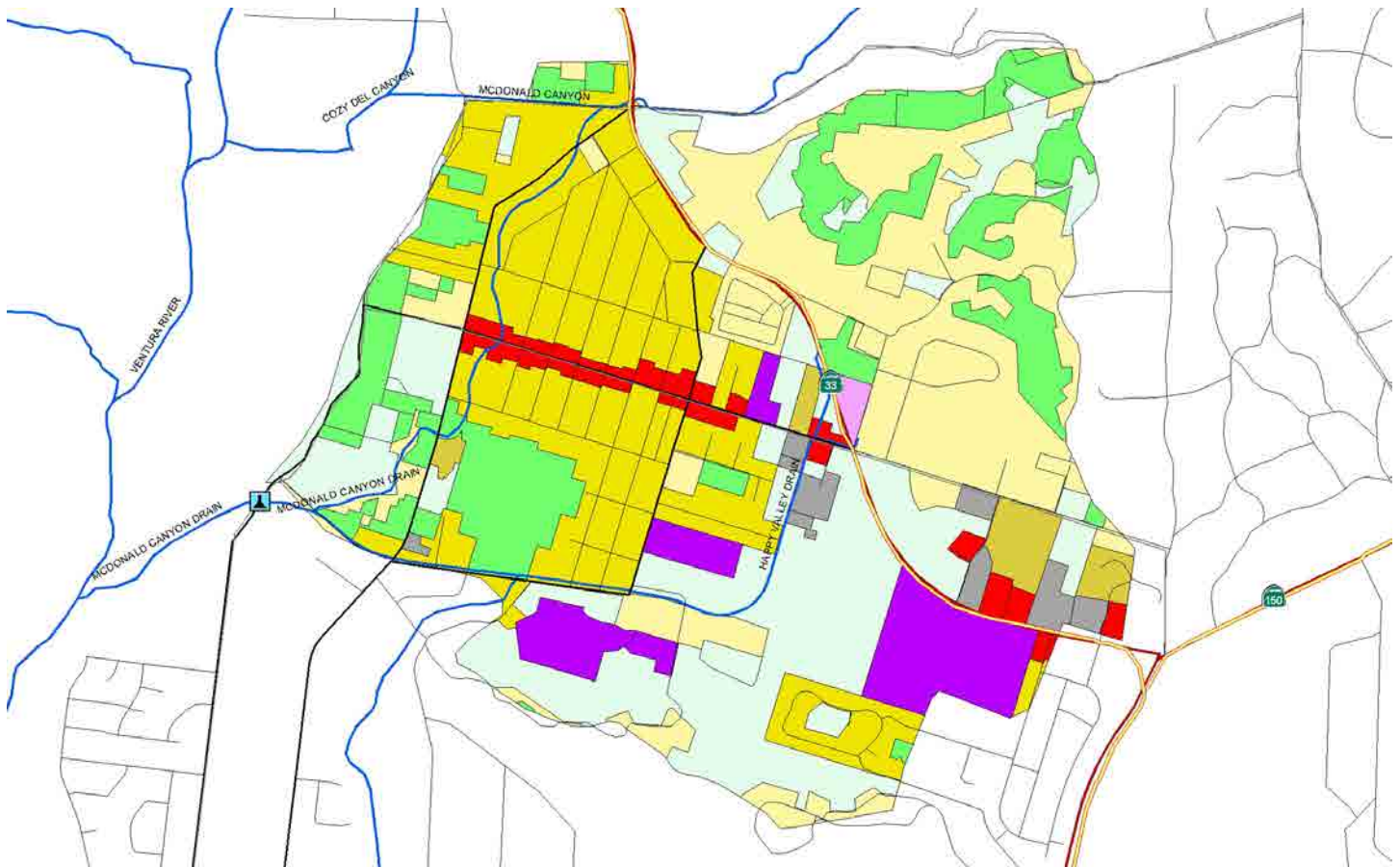
Waterbody: Happy Valley Drain (tributary to Ventura River)

Location: Southwest of Lomita Rd. and Rice Rd. intersection (34°26'43.98"N, 119°17'25.18"W)

Pros: Good control, good access, existing stream flow gauge

Dry Season Flow Potential: Unknown at end of rainy season; unlikely later in summer





Entire City

Land Use	Acres	% of Total Watershed
Agriculture	658.0	21.5%
Cemeteries	0.0	0.0%
Commercial	33.0	1.1%
Facility	15.5	0.5%
Recreation	29.9	1.0%
Res.1	812.3	26.5%
Res.2	43.9	1.4%
Res.3	463.4	15.1%
Schools	46.5	1.5%
Utilities	19.3	0.6%
Vacant Undifferentiated	945.0	30.8%
Totals	3066.8	100.0%

Selected Subwatershed

Land Use	Acres	% of Total Watershed
Agriculture	152.1	14.8%
Commercial	30.8	3.0%
Facility	20.8	2.0%
Res.1	234.0	22.8%
Res.2	22.0	2.1%
Res.3	249.9	24.4%
Schools	63.6	6.2%
Utilities	3.8	0.4%
Vacant Undifferentiated	248.8	24.3%
Totals	1025.9	100.0%

Moorpark

Waterbody: Gabbert Canyon Drain (tributary to Arroyo Las Posas)

Location: North side of SR 118 near southwest corner of So. Cal. Edison property (34°16'44.29"N, 118°54'19.40"W)

Pros: Likely well-defined rating table

Cons: Aerial deposition from vehicular traffic on 118, potential for vandalism

Outstanding Site Selection Tasks: Move sampling location shown on watershed map

Other Potential Sites: Upstream current location, although site would interfere with access road

Dry Season Flow Potential: Likely intermittent year-round flow due to urban runoff



Ojai

Waterbody: Fox Canyon Barranca (tributary to San Antonio Creek)

Location: Concrete box channel upstream Ojai Valley Athletic Club and downstream pedestrian walkway (34°26'41.25"N, 119°14'28.43"W)

Pros: Numerous bridges to sample from, located behind VCWPD gate, likely well-defined rating table

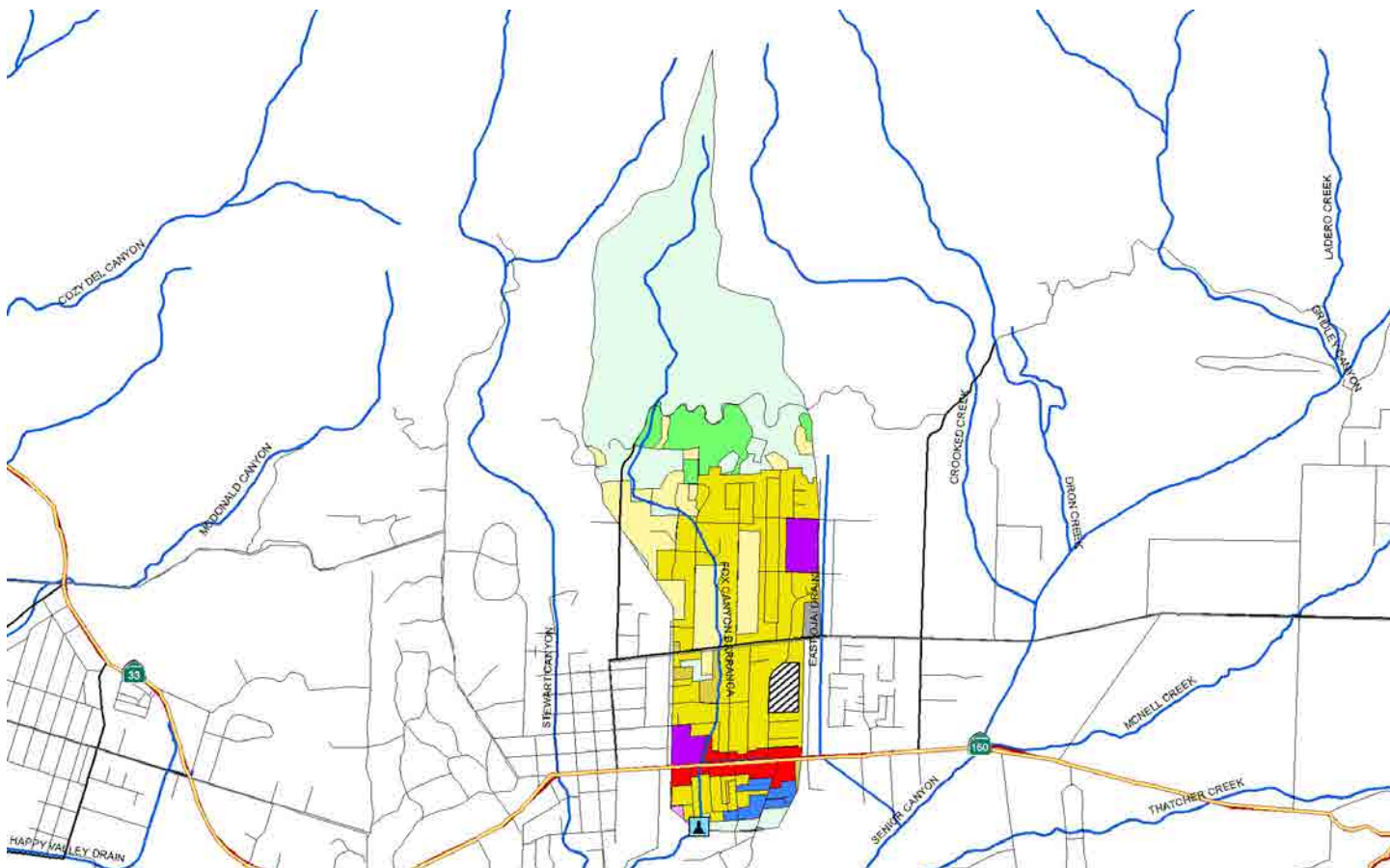
Cons: Some potential for vandalism

Outstanding Site Selection Tasks: Work with VCWPD O&M to ensure enclosure doesn't interfere with maintenance activities

Other Potential Sites: Downstream where Stewart Canyon crosses beneath Ventura St. (bioassessment #8)

Dry Season Flow Potential: Likely intermittent year-round flow due to urban runoff





Entire Watershed

Land Use	Acres	% of Total Watershed
Agriculture	83.1	3.0%
Cemeteries	3.8	0.1%
Com_Indus. Mix	7.6	0.3%
Commercial	155.1	5.6%
Facility	43.2	1.5%
Industrial_3	13.2	0.5%
No Info Given	55.6	2.0%
Recreation	312.1	11.2%
Res.1	620.7	22.2%
Res.2	61.3	2.2%
Res.3	534.8	19.1%
Res.4	3.3	0.1%
Schools	100.6	3.6%
Utilities	32.9	1.2%
Vacant Undifferentiated	767.1	27.5%
Totals	2794.7	100.0%

Selected Subwatershed

Land Use	Acres	% of Total Watershed
Agriculture	37.3	5.0%
Commercial	23.8	3.2%
Facility	4.1	0.6%
Industrial_3	11.4	1.5%
No Info Given	10.0	1.3%
Recreation	0.1	0.0%
Res.1	84.3	11.3%
Res.2	8.0	1.1%
Res.3	210.9	28.2%
Res.4	0.1	0.0%
Schools	20.2	2.7%
Utilities	1.0	0.1%
Vacant Undifferentiated	337.5	45.1%
Totals	748.6	100.0%

Oxnard

Waterbody: El Rio Drain (tributary to Santa Clara River)

Location: Pedestrian bridge 50 yds. southwest bend of Winchester Dr. ($34^{\circ}14'10.10''\text{N}$, $119^{\circ}11'3.93''\text{W}$)

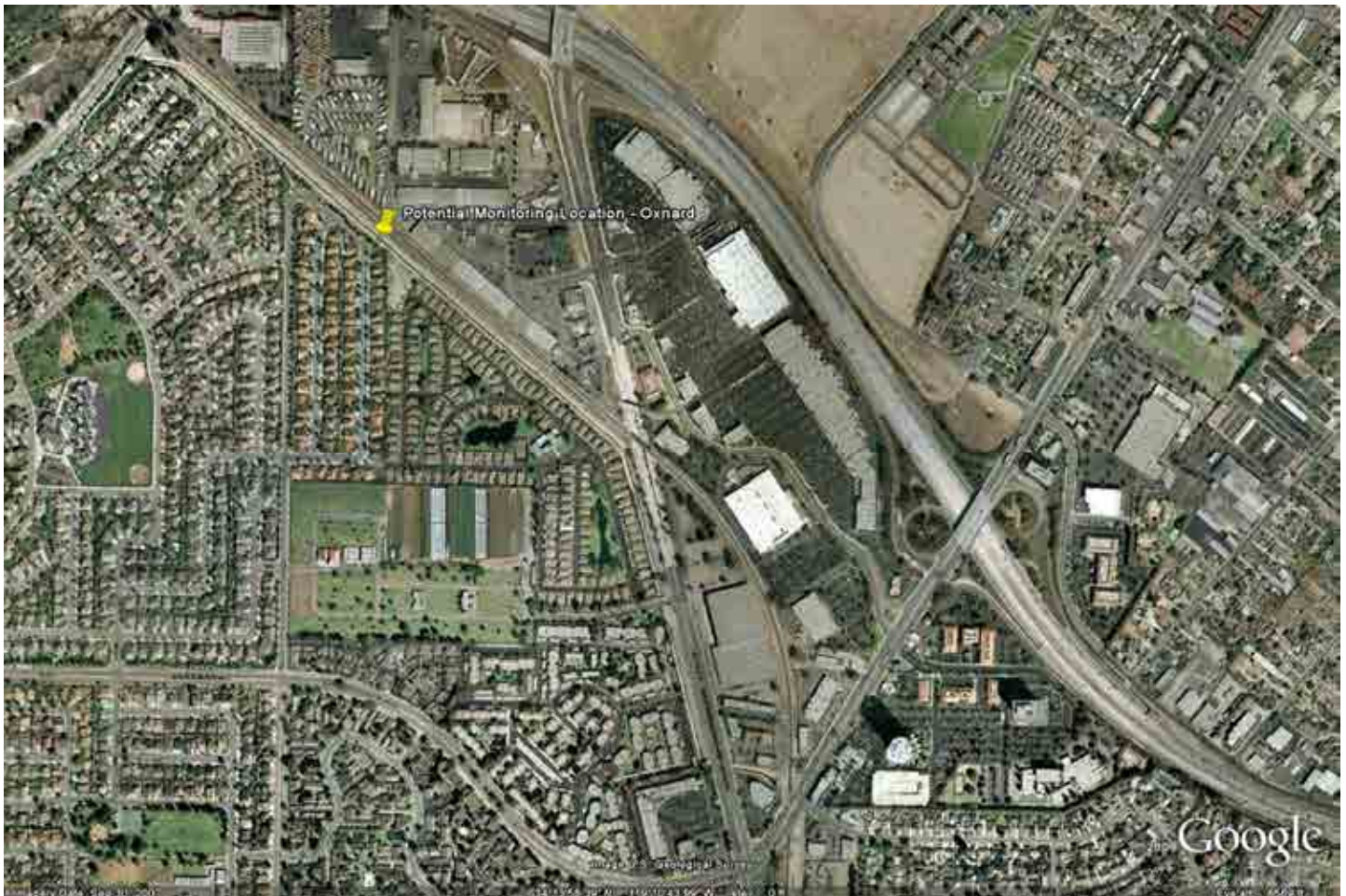
Pros: Likely well-defined rating table

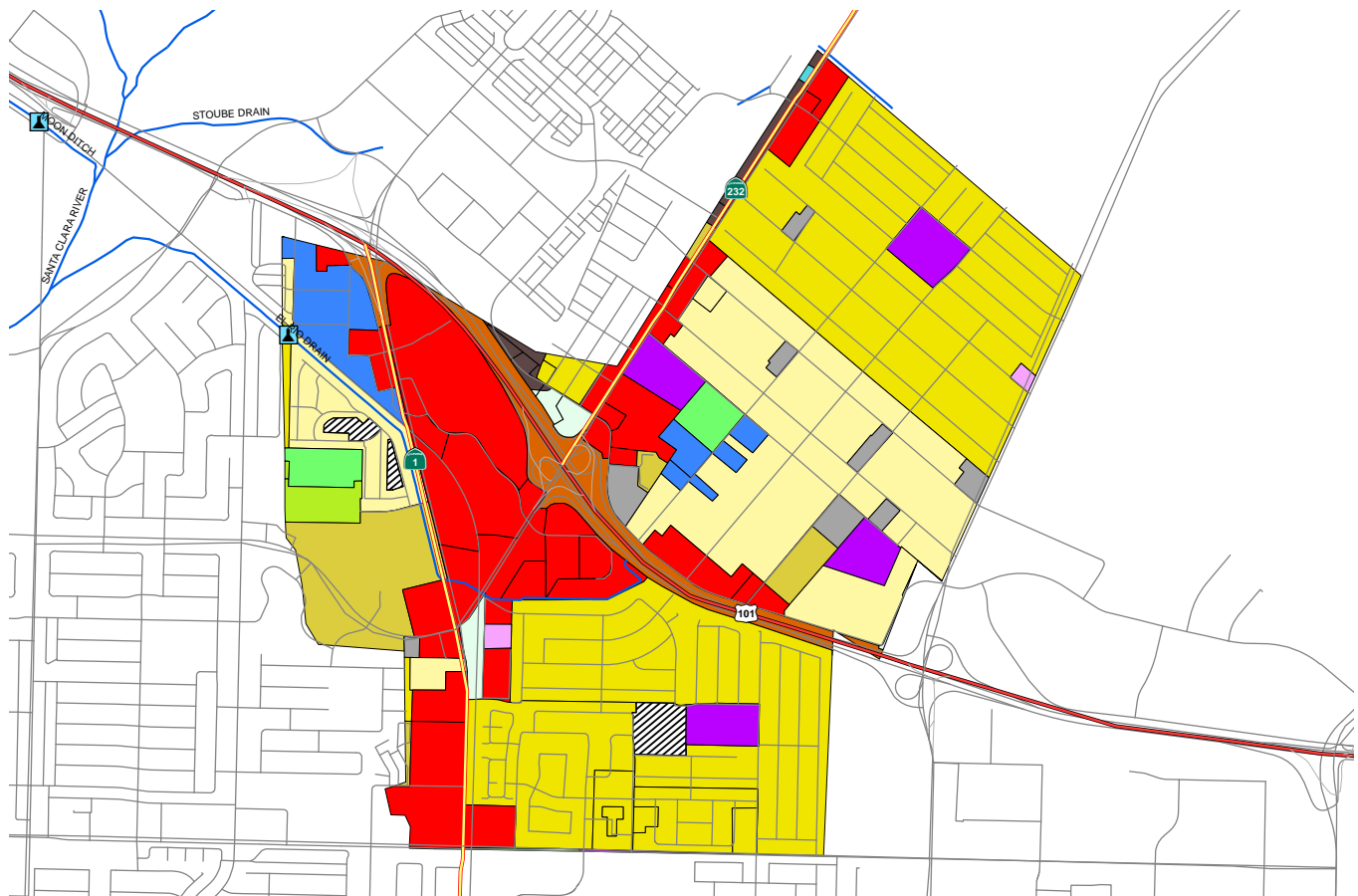
Cons: High potential for vandalism

Outstanding Site Selection Tasks: None

Other Potential Sites: None

Dry Season Flow Potential: Likely intermittent year-round flow due to urban runoff





Entire City

Land Use	Acres	% of Total Watershed
Agriculture	969.4	5.6%
Cemeteries	22.4	0.1%
Com_Indus. Mix	165.1	0.9%
Commercial	1385.9	8.0%
Extraction	227.3	1.3%
Facility	244.8	1.4%
Industrial_1	163.7	1.0%
Industrial_3	1104.0	6.5%
Industrial_4	62.3	0.4%
Military_1	1.7	0.0%
Military_2	4.0	0.0%
No Info Given	371.6	2.2%
Recreation	679.4	3.9%
Res.1	369.1	2.2%
Res.2	1149.3	6.7%
Res.3	5892.4	34.3%
Res.4	163.0	1.0%
Schools	703.5	4.1%
Transportation	560.5	3.3%
Under Construction	802.6	4.7%
Utilities	298.0	1.8%
Vacant Undifferentiated	1740.2	10.1%
Water	82.0	0.5%
Totals	17162.2	100.0%

Selected Subwatershed

Land Use	Acres	% of Total Watershed
Agriculture	19.0	1.5%
Cemeteries	9.7	0.7%
Commercial	253.5	19.5%
Facility	22.1	1.7%
Industrial_1	0.7	0.1%
Industrial_3	40.4	3.1%
No Info Given	14.0	1.1%
Res.1	243.3	18.7%
Res.2	69.8	5.4%
Res.3	500.1	38.5%
Schools	42.9	3.3%
Transportation	55.3	4.3%
Under Construction	12.4	1.0%
Utilities	3.5	0.3%
Vacant Undifferentiated	11.7	0.9%
Totals	1298.2	100.0%

Port Hueneme

Waterbody: Hueneme Drain (tributary to Pacific Ocean)

Location: Pump Station 300 yds. downstream
Surfside Dr. (34°8'26.91"N, 119°11'17.58"W)

Pros: Grass-covered sides fairly stable

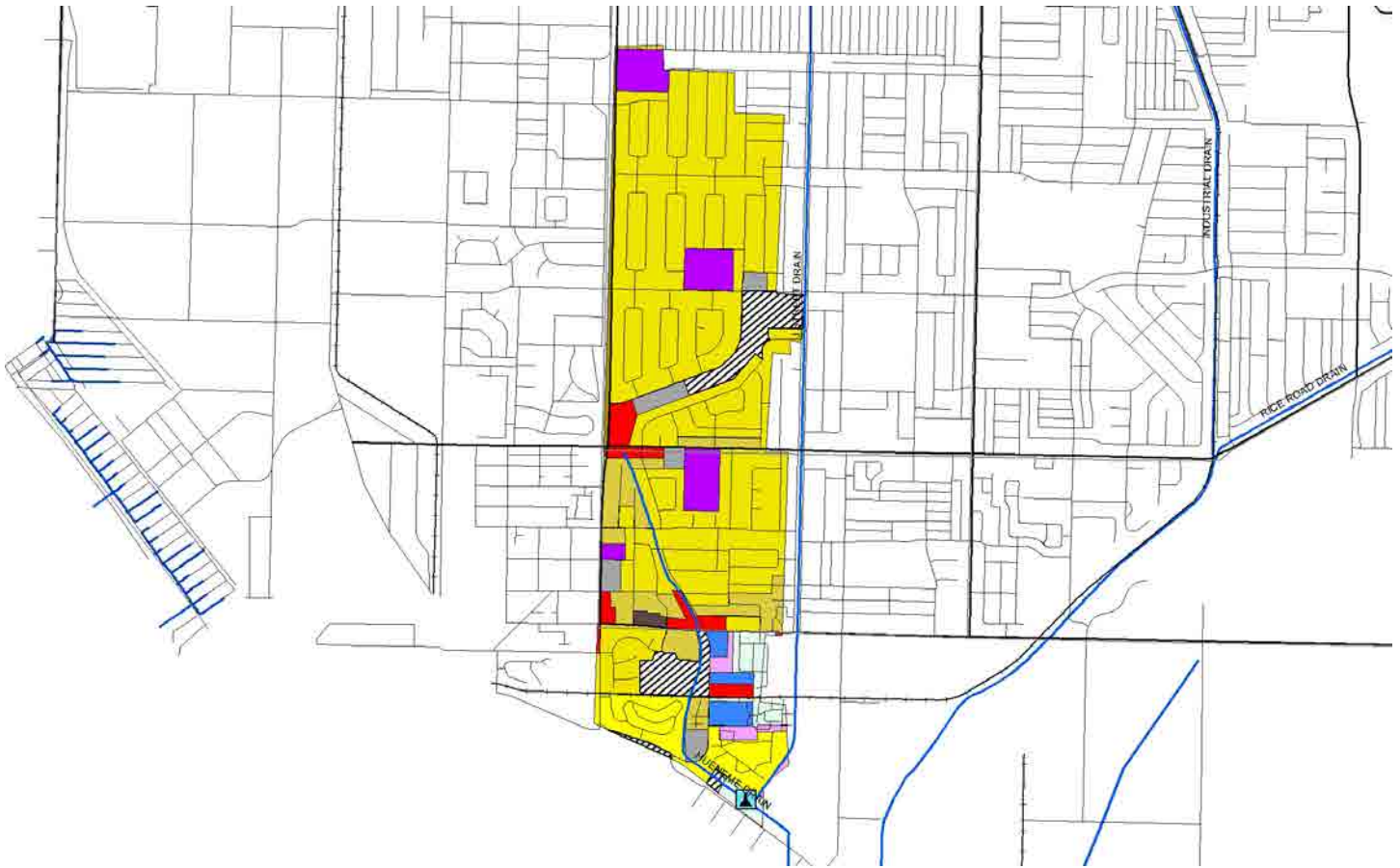
Cons: Lots of activity nearby, high potential for vandalism, stagnant water

Outstanding Site Selection Tasks: Verify positive flow

Other Potential Sites: At Surfside Rd. at lower end of Bubbling Springs Park

Dry Season Flow Potential: Likely year-round flow due to urban runoff and groundwater contribution





Entire City

Land Use	Acres	% of Total Watershed
Commercial	105.4	3.7%
Facility	20.4	0.7%
Industrial_1	32.5	1.1%
Industrial_3	34.9	1.2%
Military_2	1558.4	54.0%
No Info Given	53.7	1.9%
Recreation	38.5	1.3%
Res.2	308.3	10.7%
Res.3	432.9	15.0%
Res.4	104.3	3.6%
Schools	41.6	1.4%
Transportation	29.7	1.0%
Under Construction	2.1	0.1%
Utilities	6.0	0.2%
Vacant Undifferentiated	35.4	1.2%
Water	83.6	2.9%
Totals	2887.9	100.0%

Selected Subwatershed

Land Use	Acres	% of Total Watershed
Commercial	19.2	3.3%
Facility	15.1	2.6%
Industrial_3	10.0	1.7%
Military_2	5.7	1.0%
No Info Given	35.8	6.1%
Res.2	45.5	7.7%
Res.3	359.1	60.9%
Res.4	40.9	6.9%
Schools	32.6	5.5%
Under Construction	2.1	0.4%
Utilities	6.5	1.1%
Vacant Undifferentiated	16.8	2.9%
Totals	589.4	100.0%

Santa Paula

Waterbody: 11th Street Drain (tributary to Santa Clara River)

Location: Upstream Santa Paula Airport
(34°20'54.99"N, 119° 3'19.82"W)

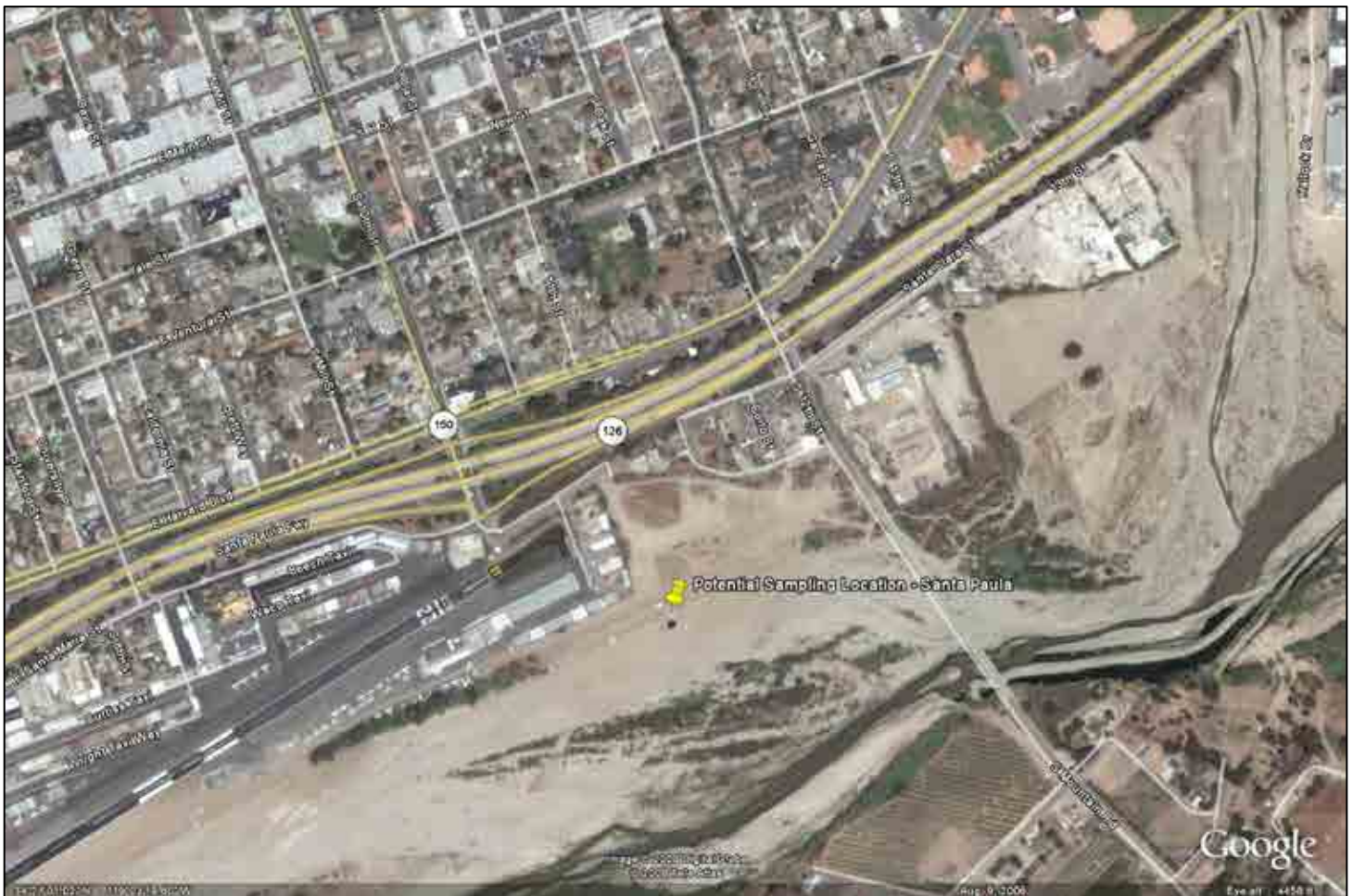
Pros: Excellent flat pad on top of outfall for sampling equipment

Cons: High potential for vandalism

Outstanding Site Selection Tasks: None

Other Potential Sites: None

Dry Season Flow Potential: Likely intermittent year-round flow due to urban runoff. No flow at time of initial observation





Entire City

Land Use	Acres	% of Total Watershed
Agriculture	210.3	7.0%
Cemeteries	19.4	0.7%
Com_Indus. Mix	4.6	0.2%
Commercial	235.4	7.8%
Extraction	30.5	1.0%
Facility	42.4	1.4%
Industrial_1	73.7	2.4%
Industrial_3	133.0	4.5%
No Info Given	33.5	1.1%
Recreation	4.7	0.2%
Res.1	266.9	8.9%
Res.2	86.8	2.9%
Res.3	1065.9	35.5%
Res.4	46.8	1.6%
Schools	91.7	3.1%
Transportation	166.4	5.5%
Under Construction	8.7	0.3%
Utilities	41.1	1.4%
Vacant Undifferentiated	440.6	14.7%
Totals	3002.4	100.0%

Selected Subwatershed

Land Use	Acres	% of Total Watershed
Commercial	9.4	14.7%
Industrial_1	2.5	4.0%
Res.2	2.8	4.3%
Res.3	30.5	47.7%
Schools	6.4	10.0%
Transportation	6.8	10.6%
Utilities	4.9	7.6%
Vacant Undifferentiated	0.8	1.2%
Totals	64.0	100.0%

Simi Valley

Waterbody: Bus Canyon Drain (tributary to Arroyo Simi)

Location: North of intersection at 5th St. and Los Angeles Ave. (34°16'18.59"N, 118°47'1.51"W)

Pros: Likely well-defined rating table, located behind VCWPD gate

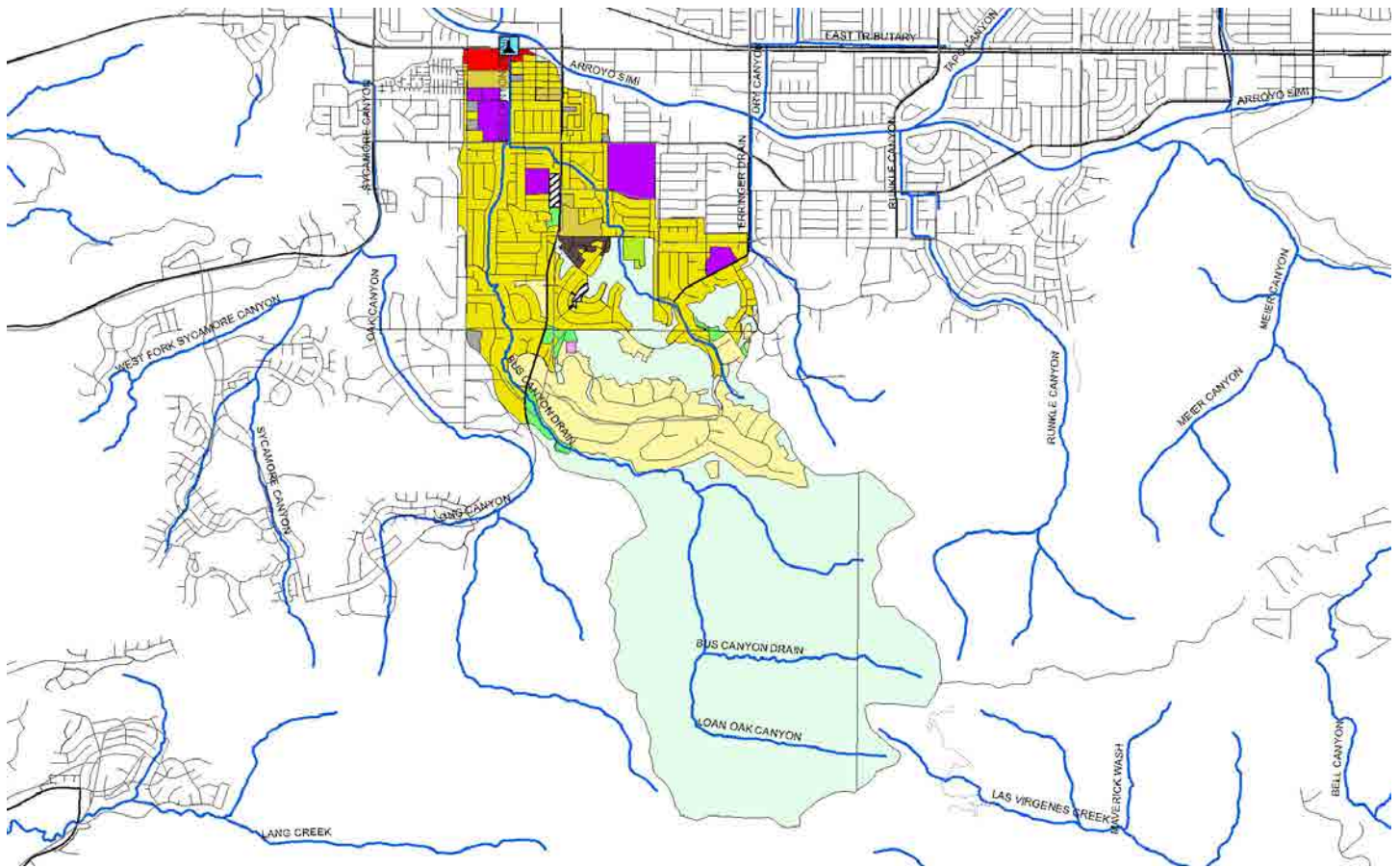
Cons: Pedestrian traffic on levee nearby

Outstanding Site Selection Tasks: Assess impacts of large groundwater discharge upstream, move sampling location shown on watershed map

Other Potential Sites: Upstream at 5th and Ventura Ave.

Dry Season Flow Potential: Likely year round flow due to urban runoff and groundwater discharge upstream





Entire City

Land Use	Acres	% of Total Watershed
Agriculture	435.5	1.6%
Cemeteries	34.3	0.1%
Com_Indus. Mix	24.4	0.1%
Commercial	1051.4	3.9%
Extraction	111.8	0.4%
Facility	217.1	0.8%
Industrial_1	50.3	0.2%
Industrial_3	353.3	1.3%
Industrial_4	5.9	0.0%
No Info Given	382.0	1.5%
Recreation	560.9	2.0%
Res.1	1025.0	3.7%
Res.2	586.0	2.2%
Res.3	7947.7	29.5%
Res.4	110.7	0.4%
Schools	517.5	1.9%
Transportation	546.9	2.0%
Under Construction	385.6	1.4%
Utilities	261.0	1.0%
Vacant Undifferentiated	12291.5	45.6%
Totals	26898.6	100.0%

Selected Subwatershed

Land Use	Acres	% of Total Watershed
Agriculture	33.0	1.0%
Cemeteries	10.1	0.3%
Commercial	22.6	0.7%
Facility	12.9	0.4%
No Info Given	9.4	0.3%
Res.1	395.5	11.9%
Res.2	40.3	1.2%
Res.3	782.9	23.6%
Schools	96.7	2.9%
Under Construction	15.5	0.5%
Utilities	1.8	0.1%
Vacant Undifferentiated	1900.0	57.2%
Totals	3320.7	100.0%

Thousand Oaks

Waterbody: North Fork Arroyo Conejo (tributary to Conejo Creek)

Location: Hill Canyon WWTP sampling location R-1 (34°12'49.16"N, 118°55'16.24"W)

Pros: Very secure, helpful staff onsite, fairly well-defined channel, accessible via concrete stairs

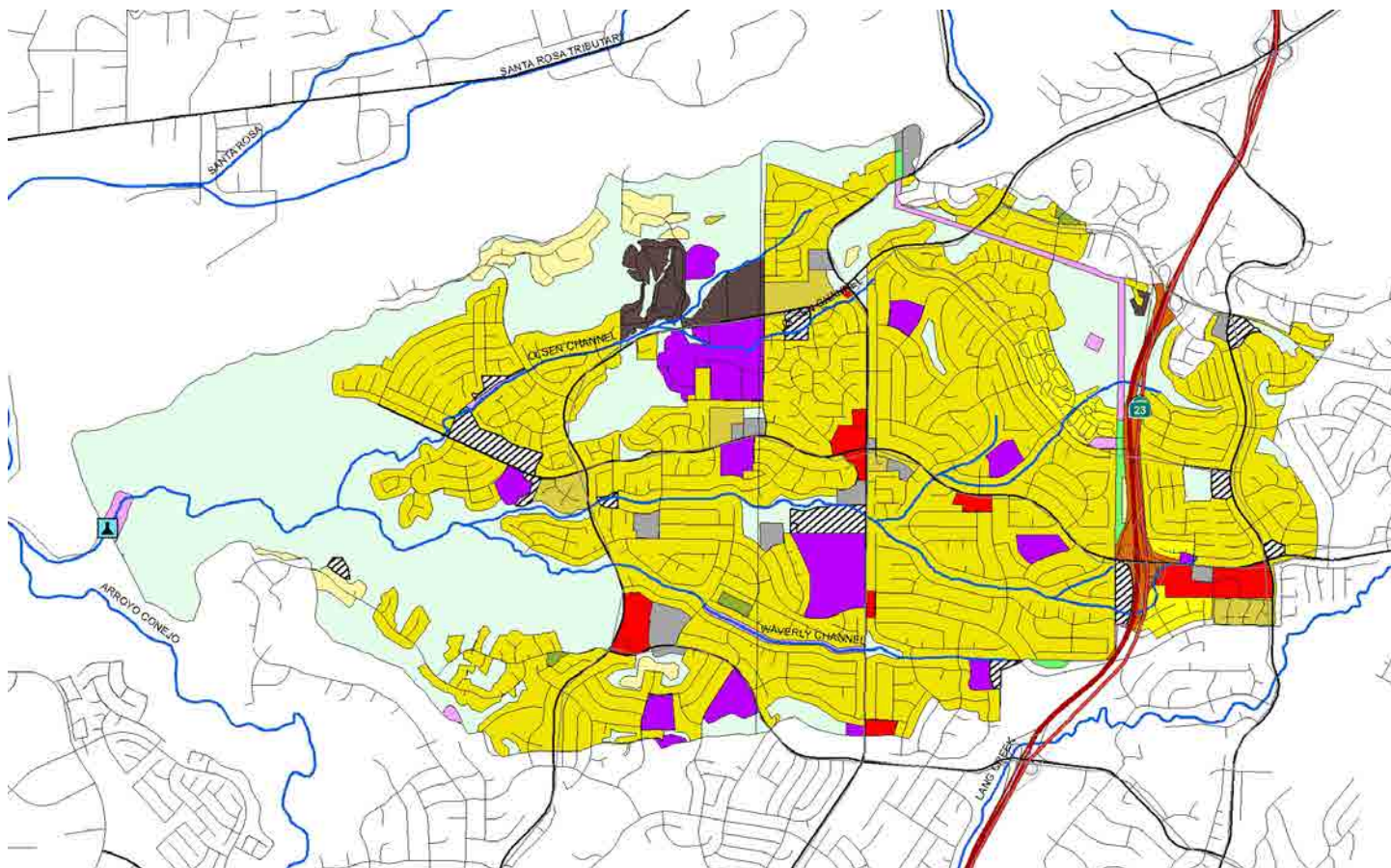
Cons: Late-night access to WWTP could present problem

Outstanding Site Selection Tasks: None

Other Potential Sites: None

Dry Season Flow Potential: Likely year-round flow due to urban runoff





Entire City

Land Use	Acres	% of Total Watershed
Agriculture	207.0	0.6%
Com_Indus. Mix	23.2	0.1%
Commercial	1499.7	4.2%
Extraction	9.0	0.0%
Facility	291.6	0.8%
Industrial_1	94.3	0.3%
Industrial_3	457.7	1.3%
No Info Given	459.2	1.3%
Recreation	574.2	1.7%
Res.1	1683.9	4.7%
Res.2	1000.3	2.8%
Res.3	9323.6	26.4%
Res.4	288.1	0.8%
Schools	587.6	1.7%
Transportation	605.4	1.7%
Under Construction	281.6	0.8%
Utilities	260.6	0.7%
Vacant Undifferentiated	17465.1	49.7%
Totals	35111.8	100.0%

Selected Subwatershed

Land Use	Acres	% of Total Watershed
Agriculture	13.5	0.3%
Commercial	83.5	1.6%
Facility	67.3	1.3%
No Info Given	95.4	1.8%
Recreation	8.7	0.2%
Res.1	89.8	1.7%
Res.2	71.5	1.4%
Res.3	2643.8	51.0%
Res.4	84.0	1.6%
Schools	224.2	4.3%
Transportation	61.5	1.2%
Under Construction	79.4	1.5%
Utilities	53.3	1.0%
Vacant Undifferentiated	1603.6	31.0%
Totals	5179.3	100.0%

Ventura

Waterbody: Moon Ditch (tributary to Santa Clara River)

Location: Between Leland St. and US 101, north of Johnson Dr. (34°14'35.86"N, 119°11'40.86"W)

Pros: Likely well-defined rating table, fairly good protection (located behind VCWPD gate)

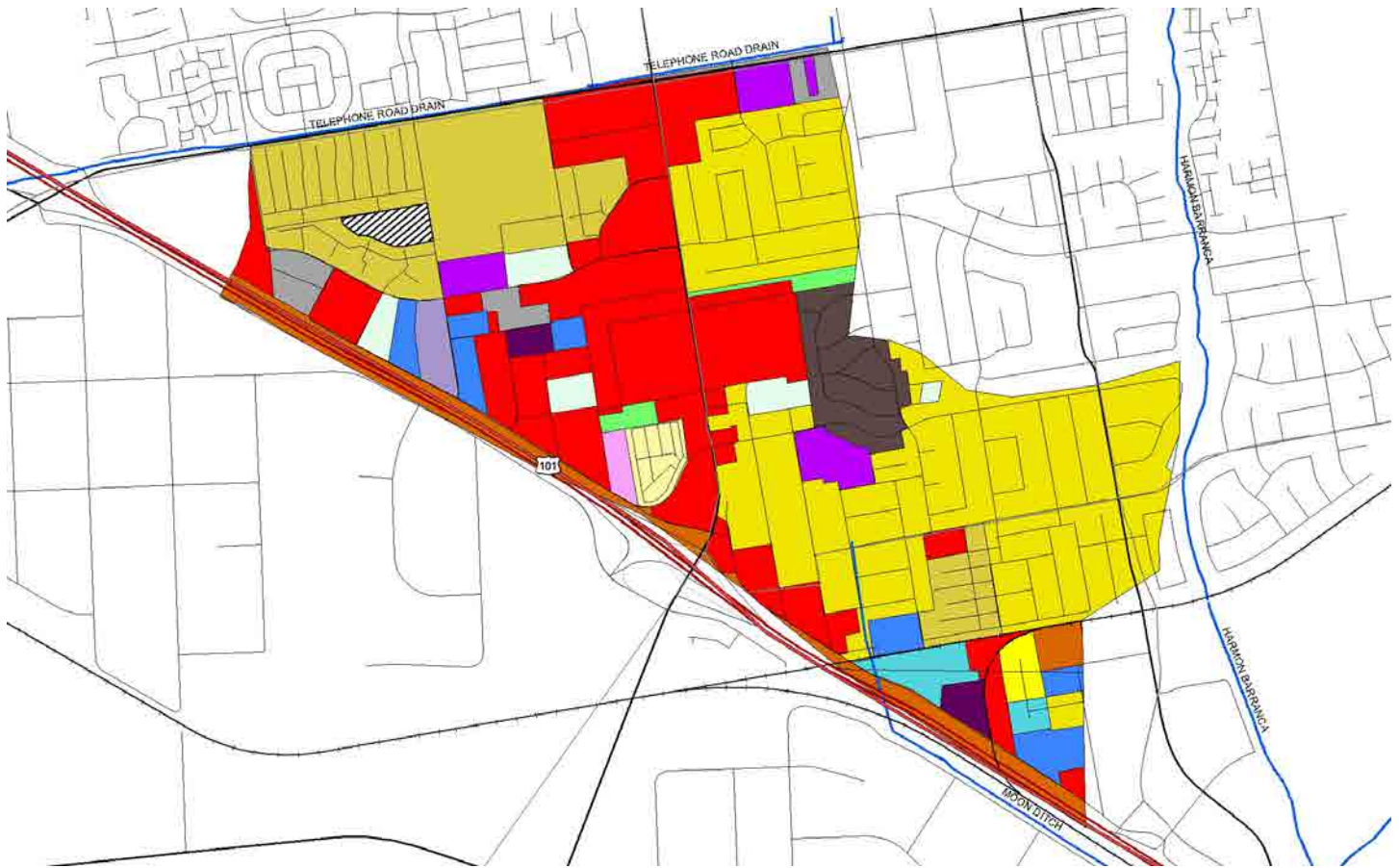
Cons: Wide concrete bottom will spread out low flows, placement of intake somewhat difficult

Outstanding Site Selection Tasks: None

Other Potential Sites: None

Dry Season Flow Potential: Likely intermittent year-round flow due to urban runoff





Entire City

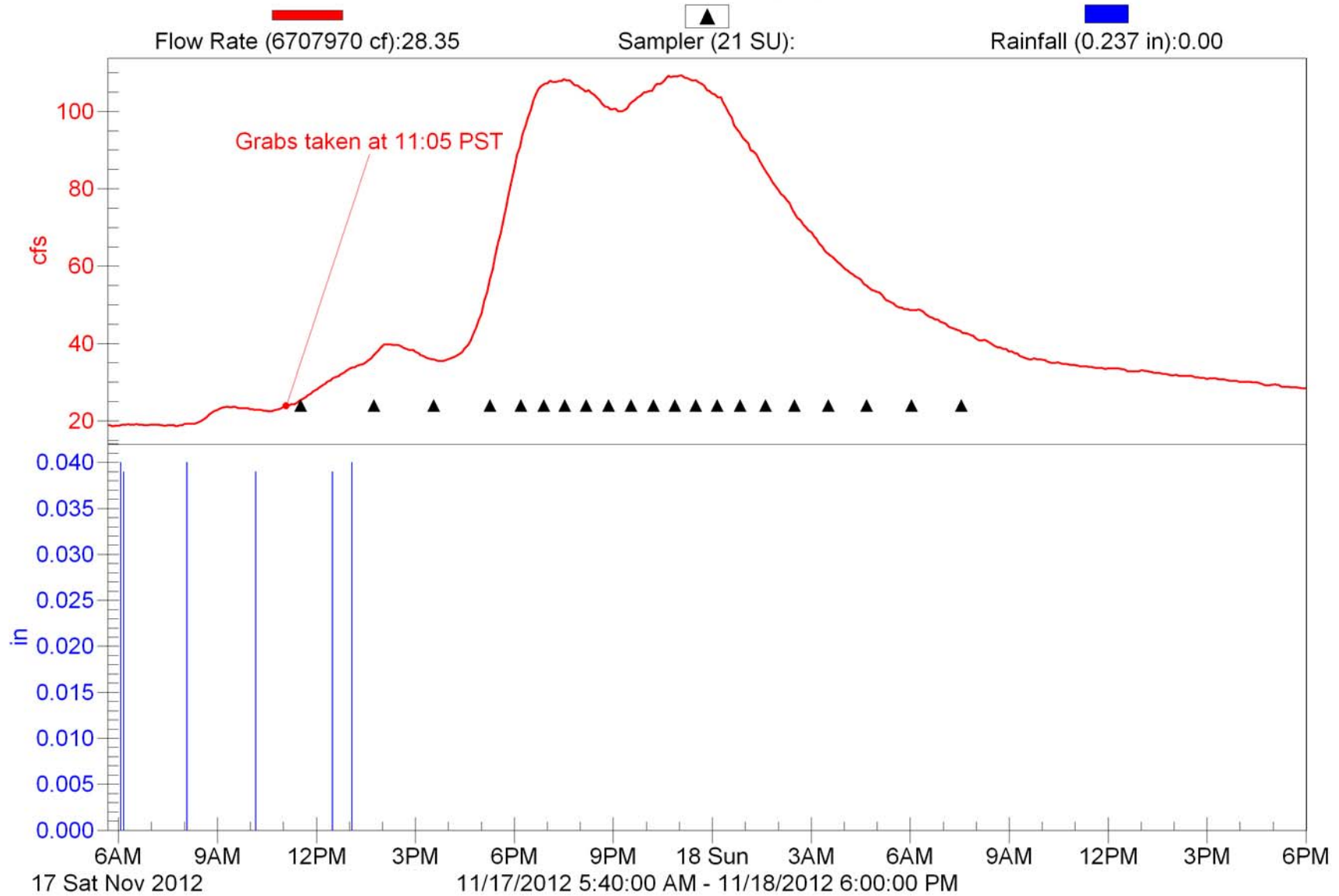
Land Use	Acres	% of Total Watershed
Agriculture	667.6	4.7%
Cemeteries	72.6	0.5%
Com_Indus. Mix	95.4	0.7%
Commercial	1402.9	10.0%
Extraction	39.2	0.3%
Facility	303.8	2.2%
Industrial_1	90.5	0.6%
Industrial_3	619.6	4.5%
Military_2	3.6	0.0%
No Info Given	285.7	2.1%
Recreation	516.3	3.7%
Res.1	361.1	2.6%
Res.2	924.0	6.6%
Res.3	5209.6	37.2%
Res.4	72.4	0.5%
Res.5	2.8	0.0%
Schools	495.8	3.6%
Transportation	570.0	4.1%
Under Construction	73.7	0.5%
Utilities	125.4	0.9%
Vacant Undifferentiated	2018.1	14.4%
Water	61.5	0.4%
Totals	14011.6	100.0%

Selected Subwatershed

Land Use	Acres	% of Total Watershed
Agriculture	5.8	0.8%
Com_Indus. Mix	6.5	0.9%
Commercial	171.7	24.3%
Extraction	6.3	0.9%
Facility	14.6	2.1%
Industrial_1	10.8	1.5%
Industrial_3	23.0	3.2%
No Info Given	5.4	0.8%
Res.1	8.7	1.2%
Res.2	109.1	15.4%
Res.3	234.8	33.2%
Res.4	4.8	0.7%
Schools	18.4	2.6%
Transportation	40.7	5.8%
Under Construction	26.6	3.8%
Utilities	3.5	0.5%
Vacant Undifferentiated	16.3	2.3%
Totals	707.1	100.0%

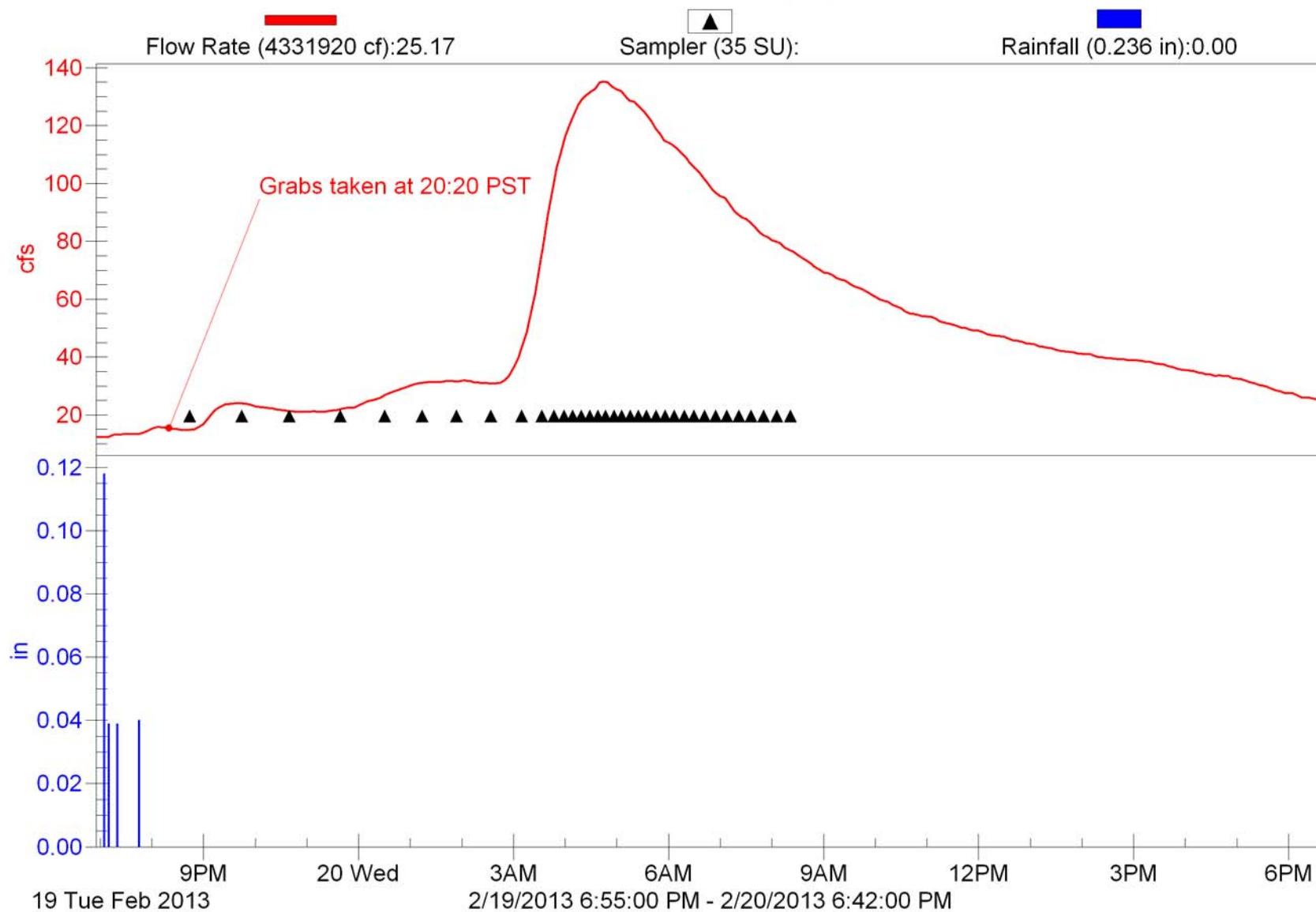
Appendix B. Event Hydrographs

ME-CC
2012/13 NPDES Event 2 (Wet)



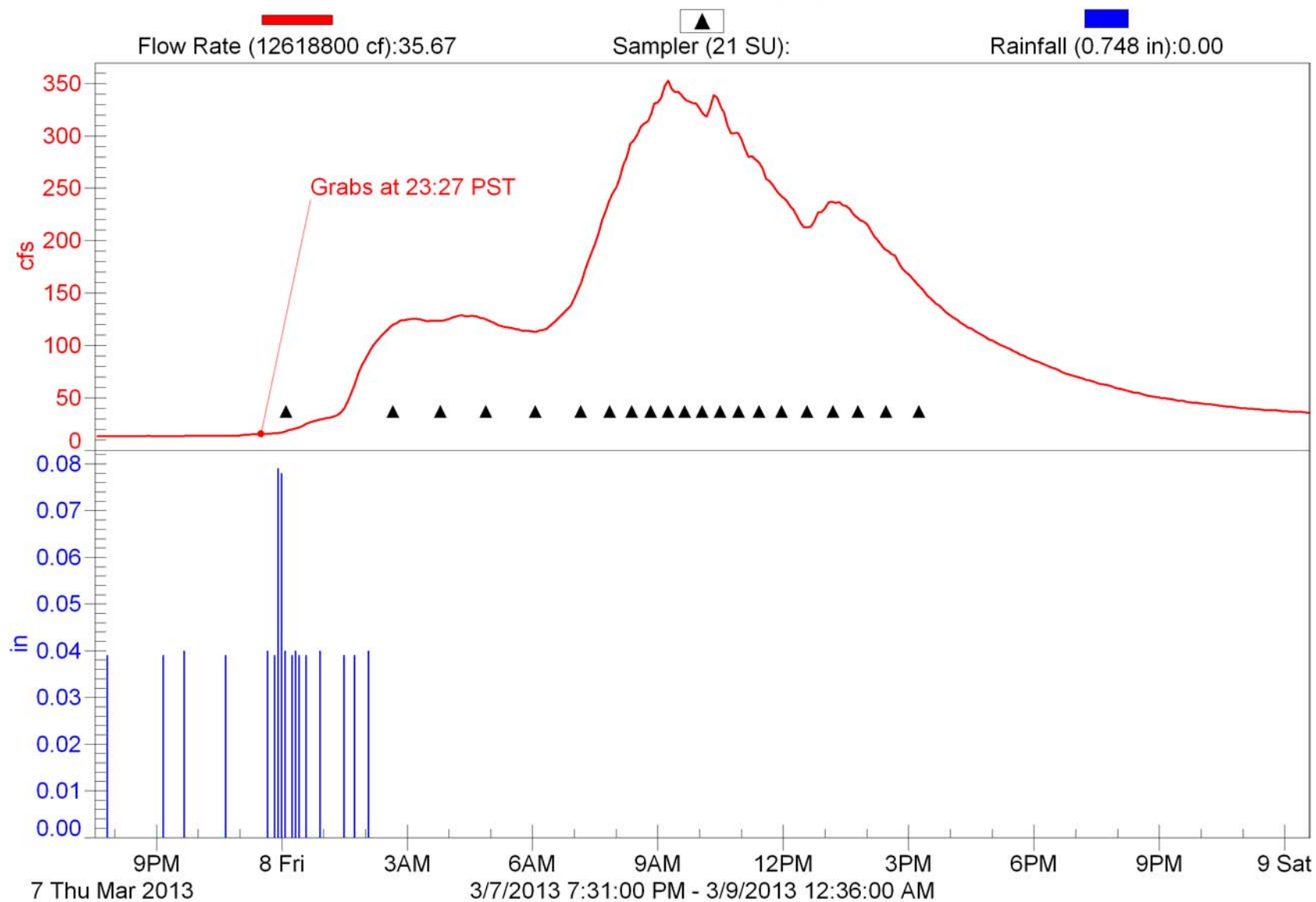
ME-CC

2012/13 NPDES Event 3 (Wet)



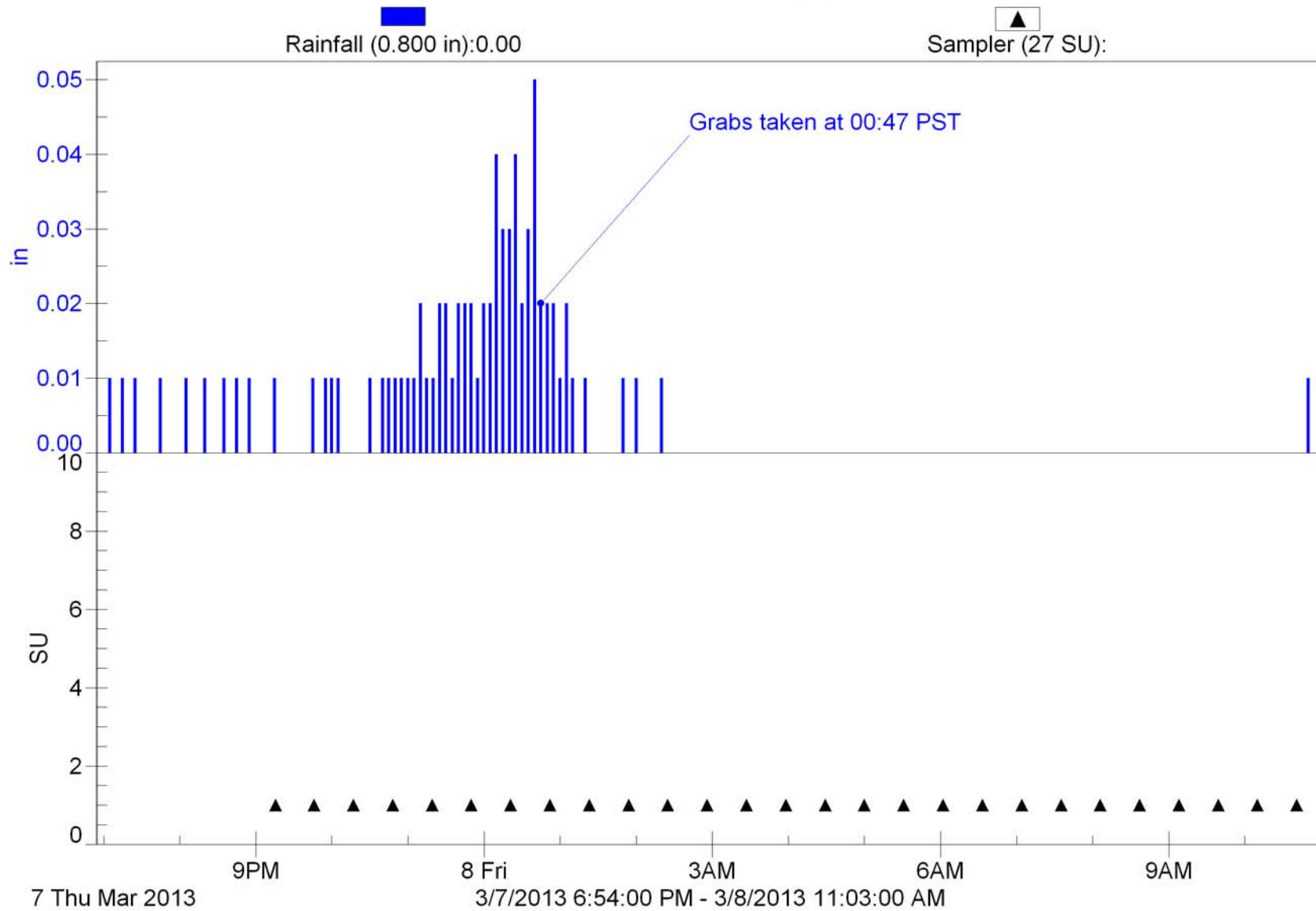
ME-CC

2012/13 NPDES Event 4 (Wet)



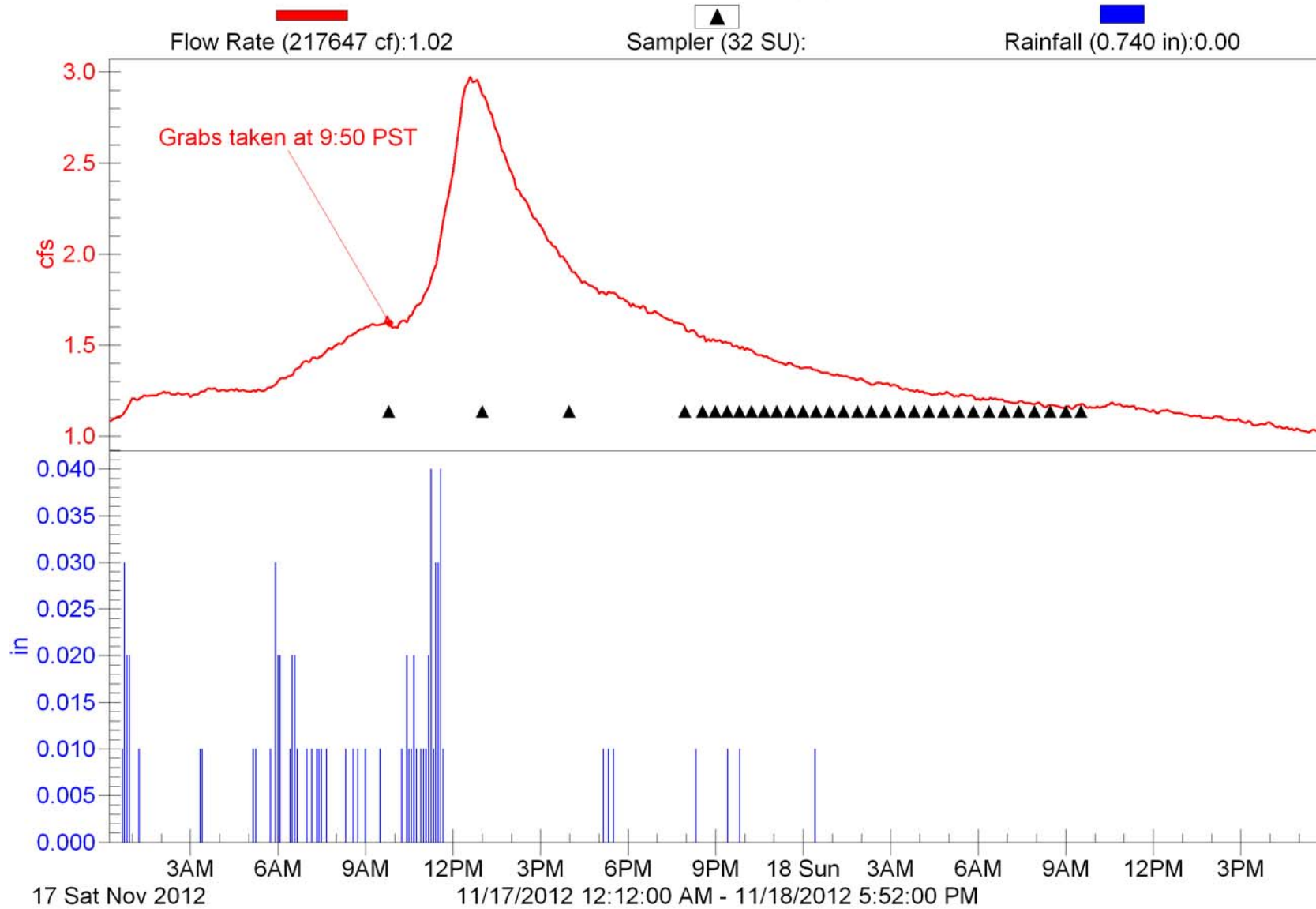
ME-SCR

2012/13 NPDES Event #4 (Wet)

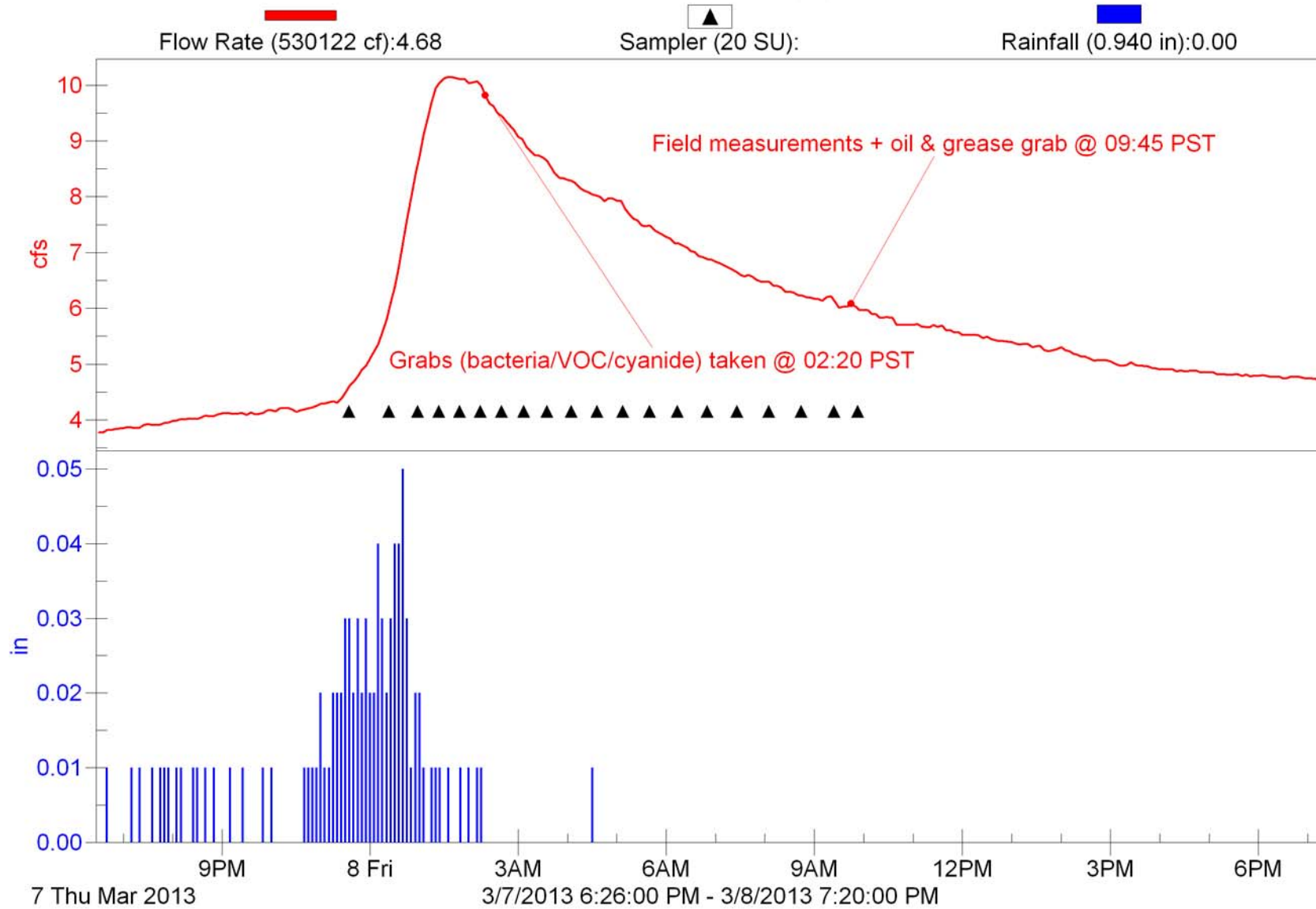


ME-VR2

2012/13 NPDES Event #2 (Wet)

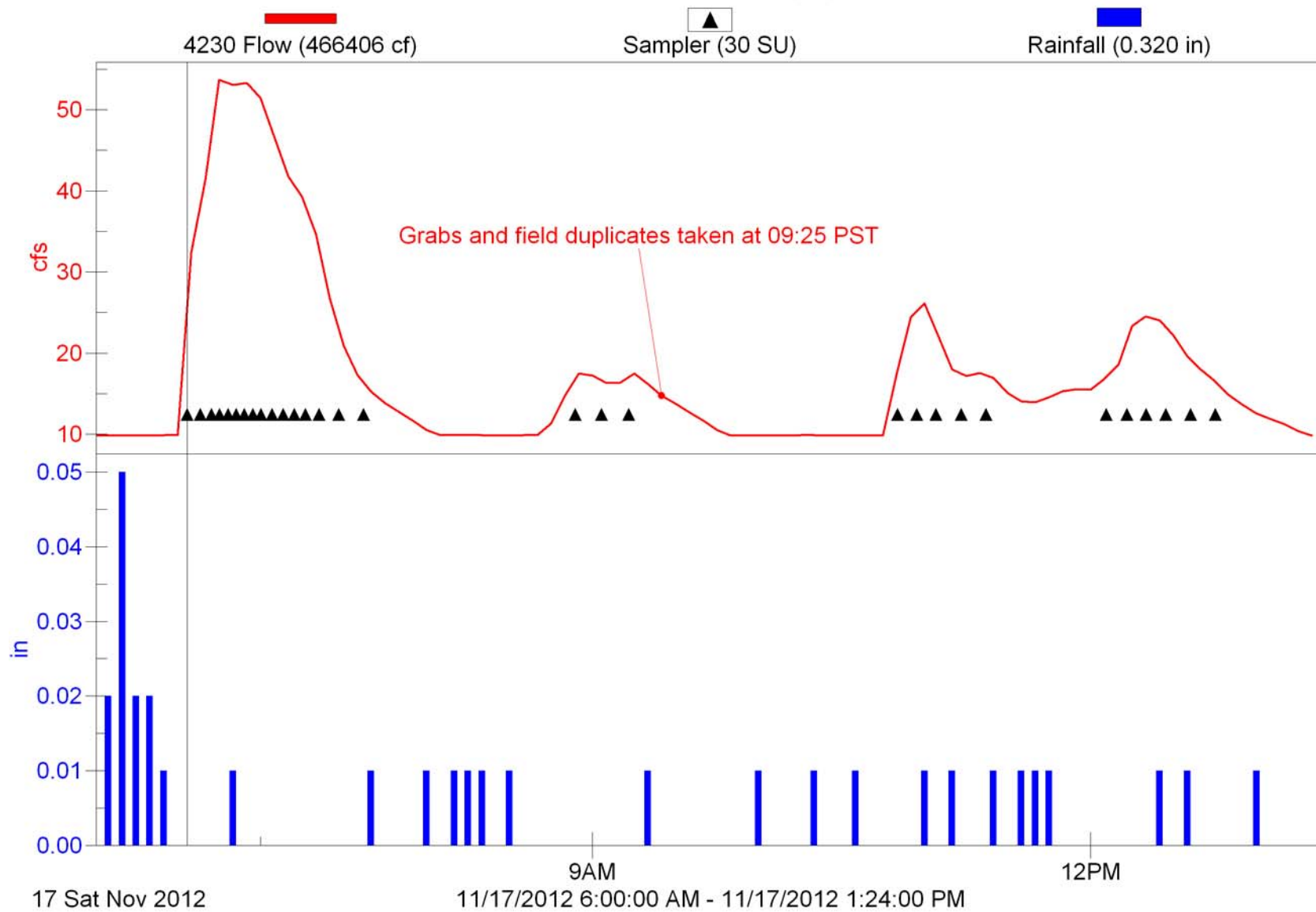


ME-VR2
2012/13 NPDES Event #4 (Wet)



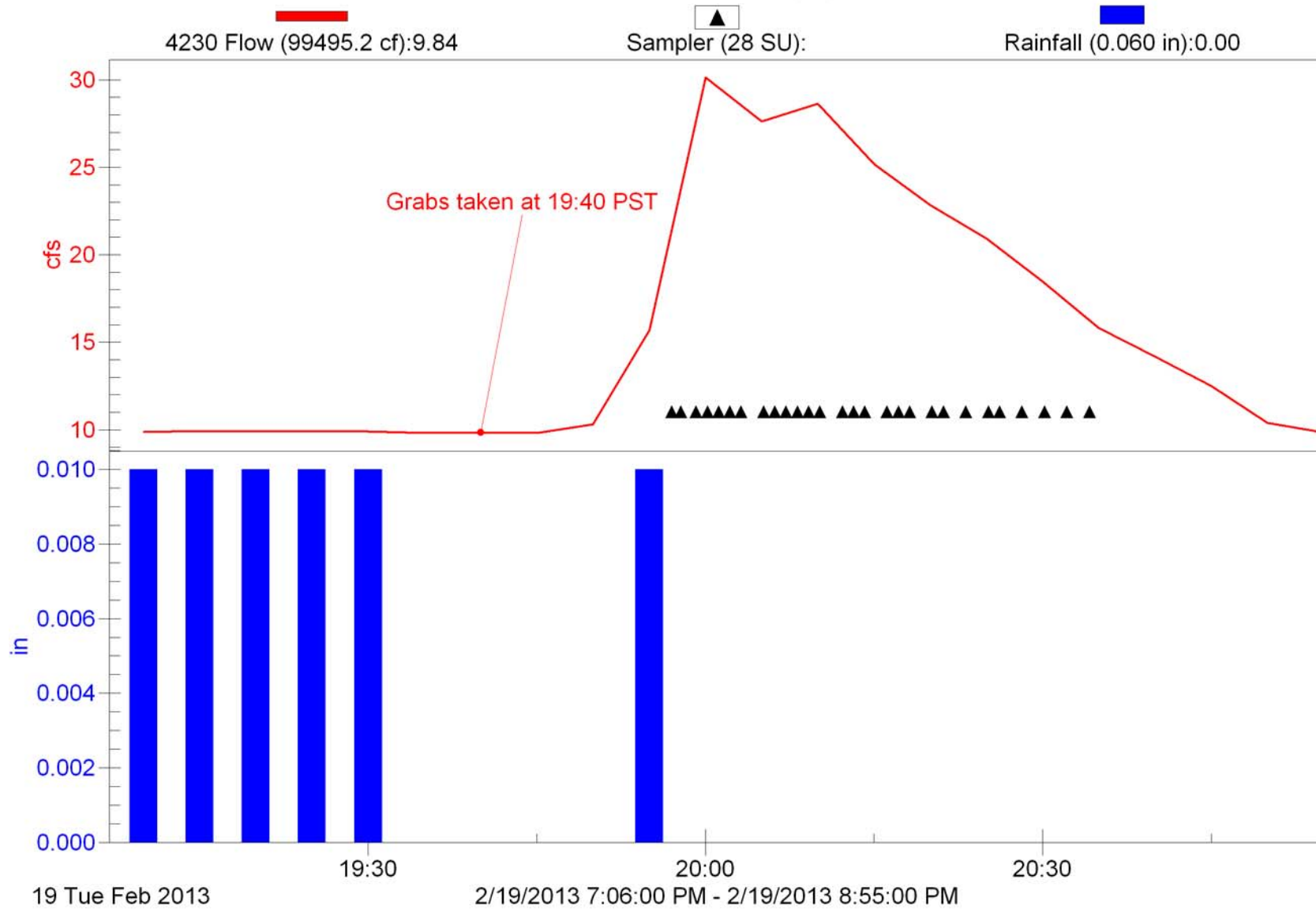
Camarillo-1

2012/13 NPDES Event #2 (Wet)



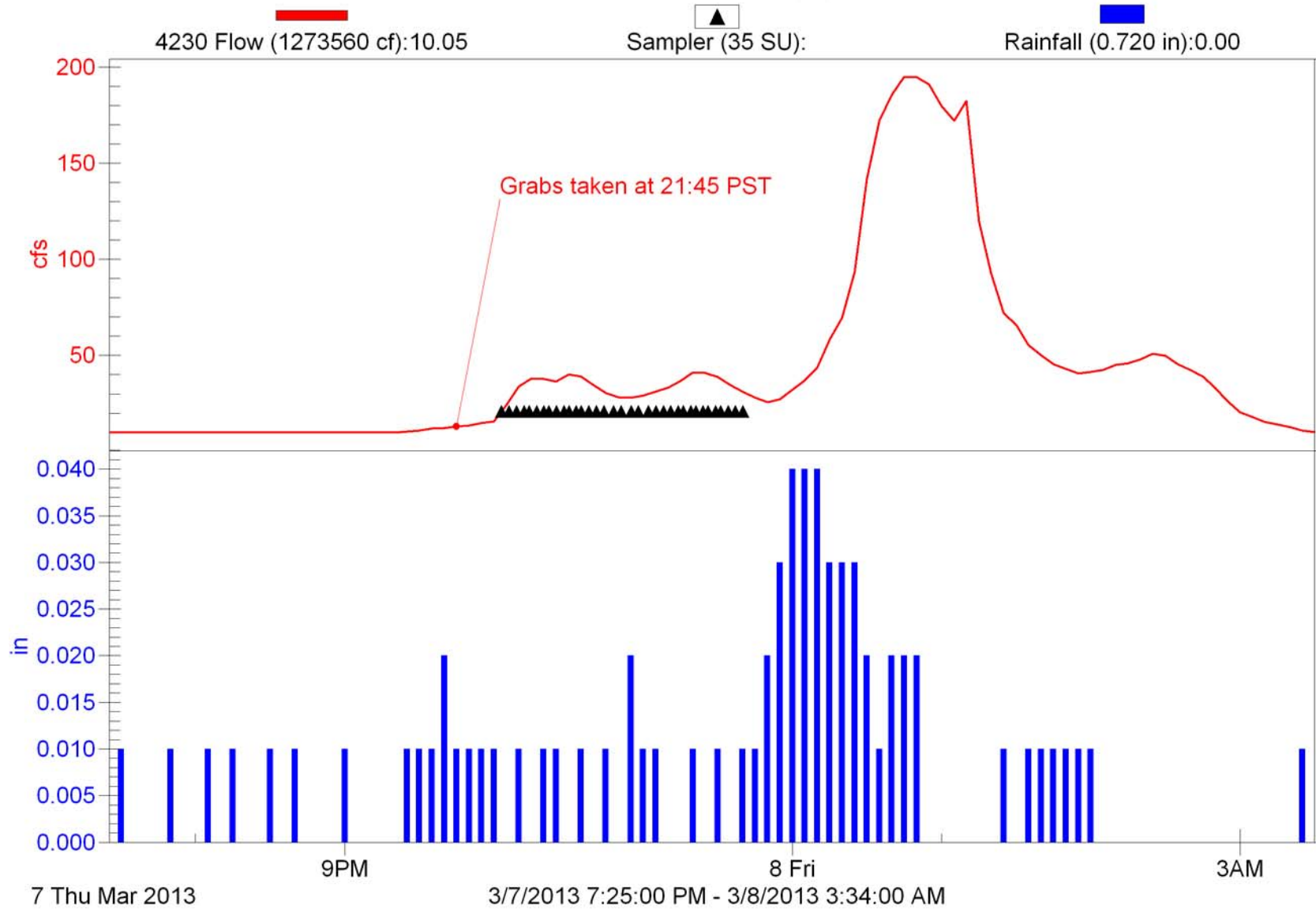
Camarillo-1

2012/13 NPDES Event #3 (Wet)



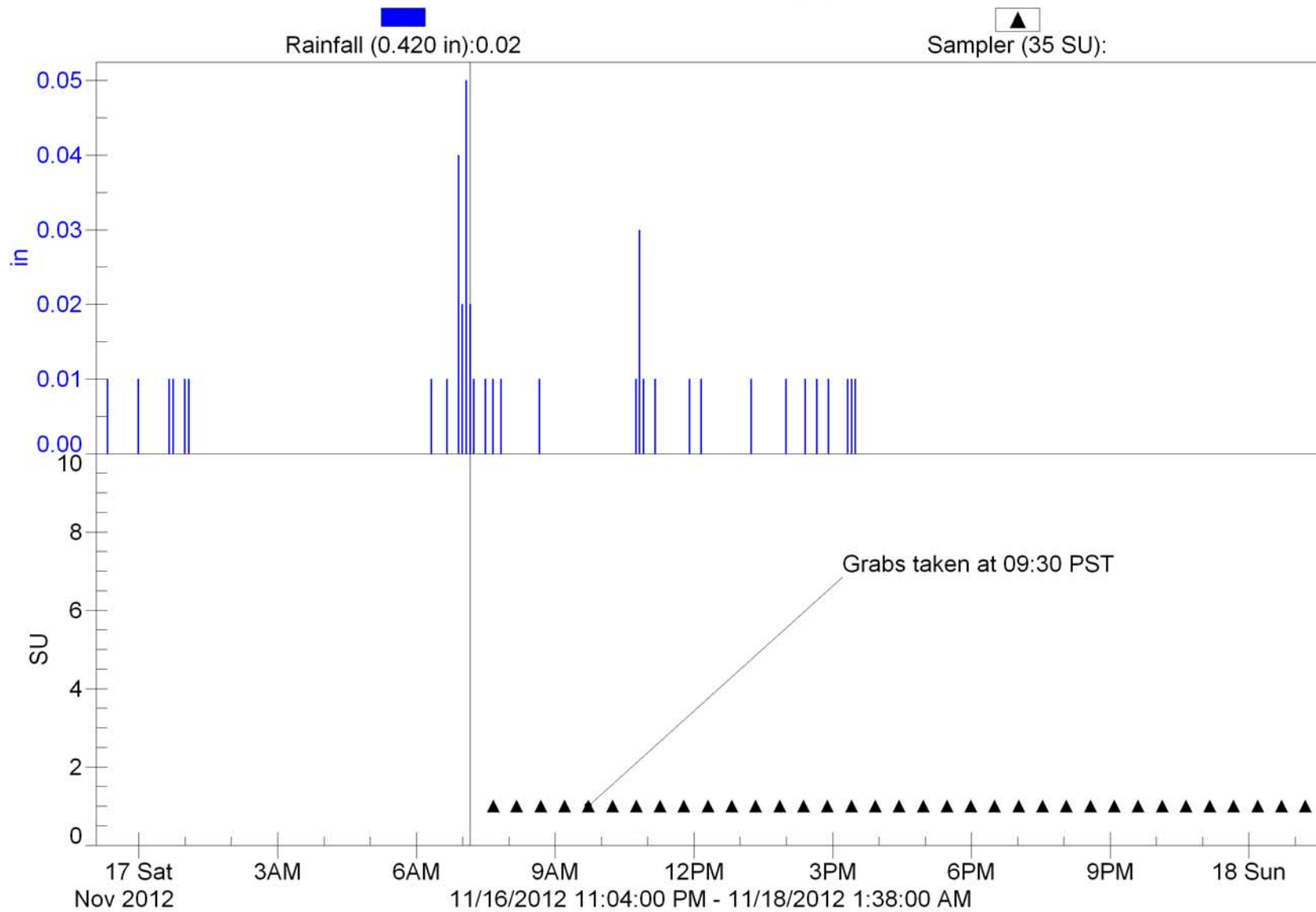
Camarillo-1

2012/13 NPDES Event #4 (Wet)



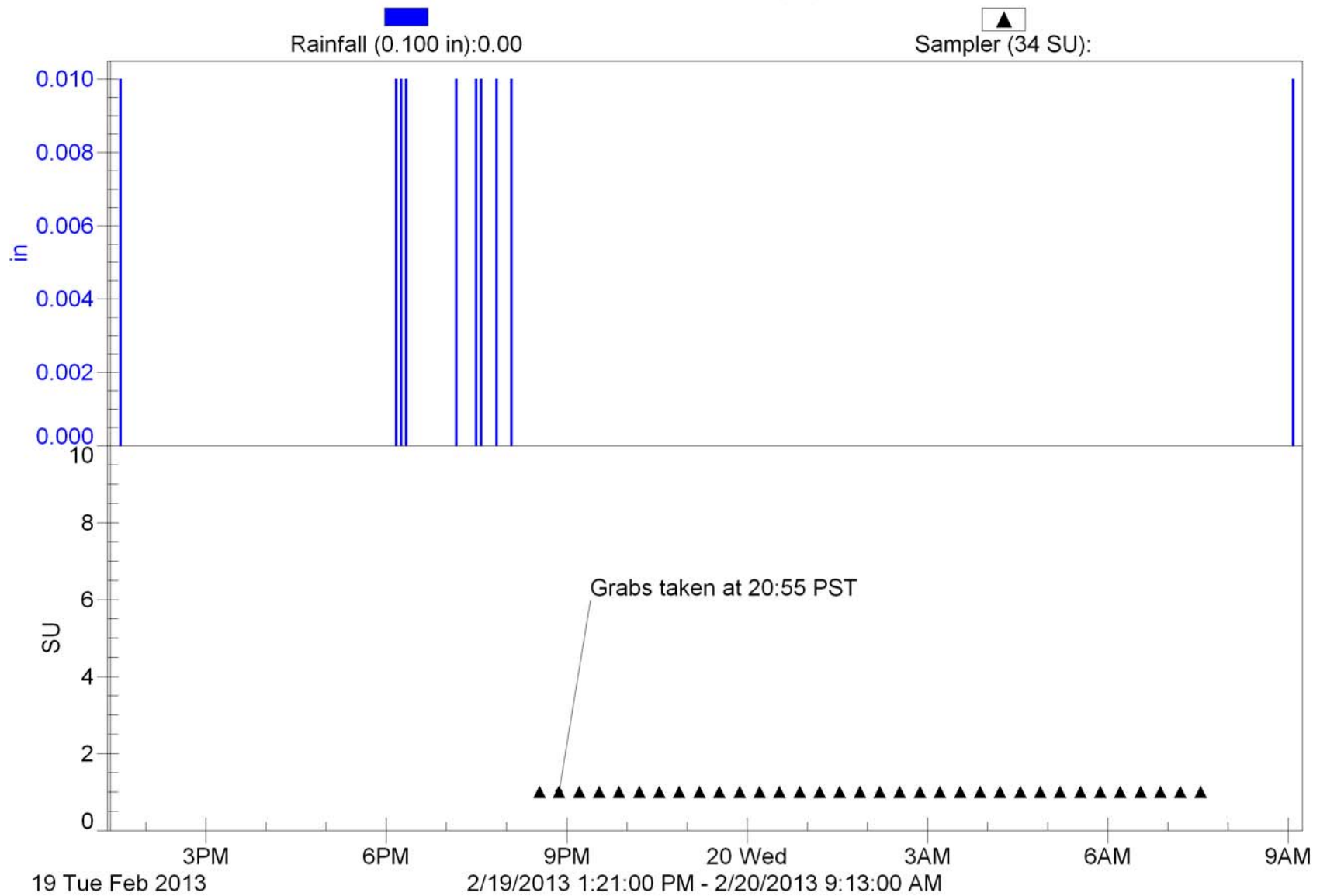
Fillmore-1

2012/13 NPDES Event #2 (Wet)



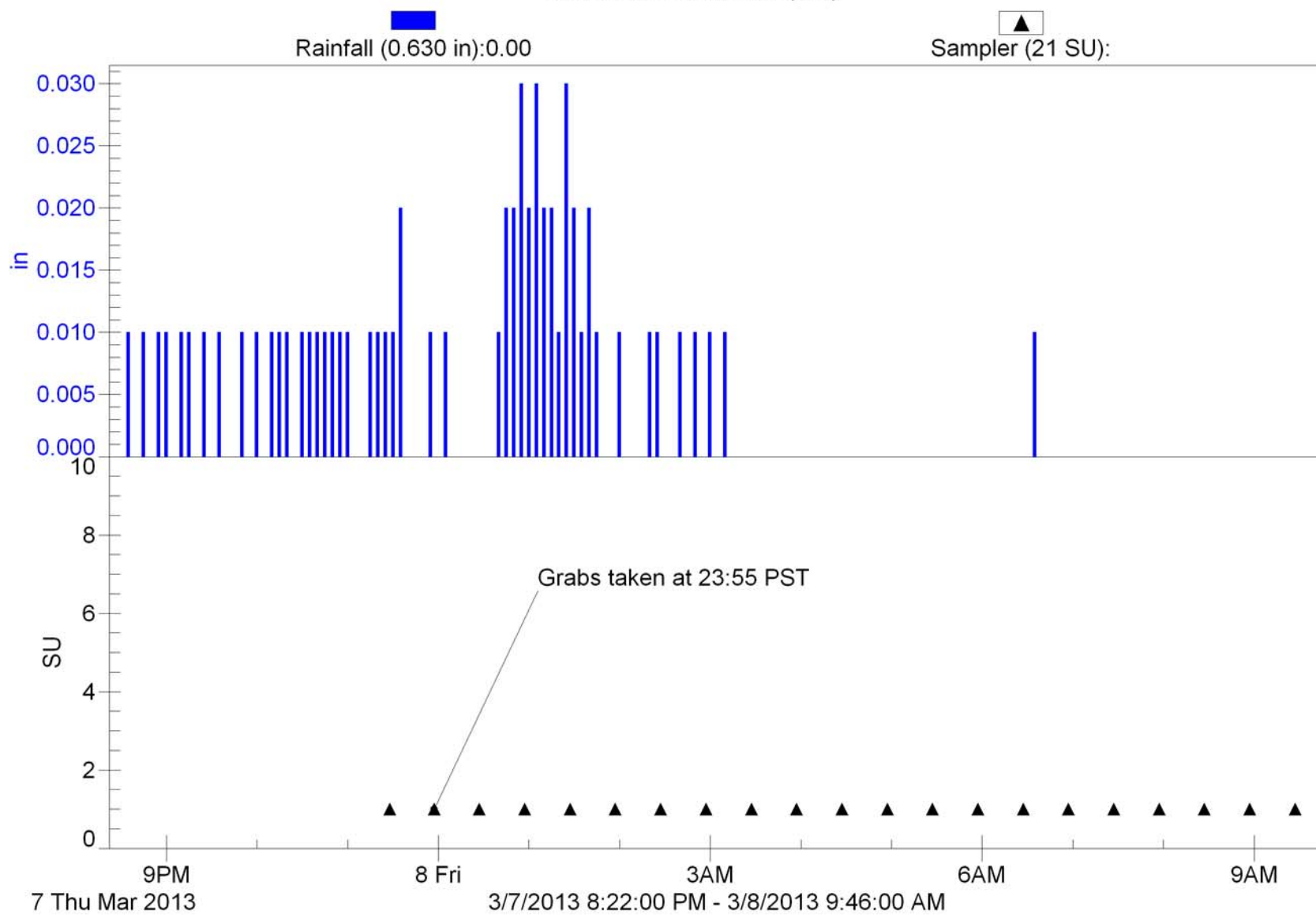
Fillmore-1

2012/13 NPDES Event #3 (Wet)



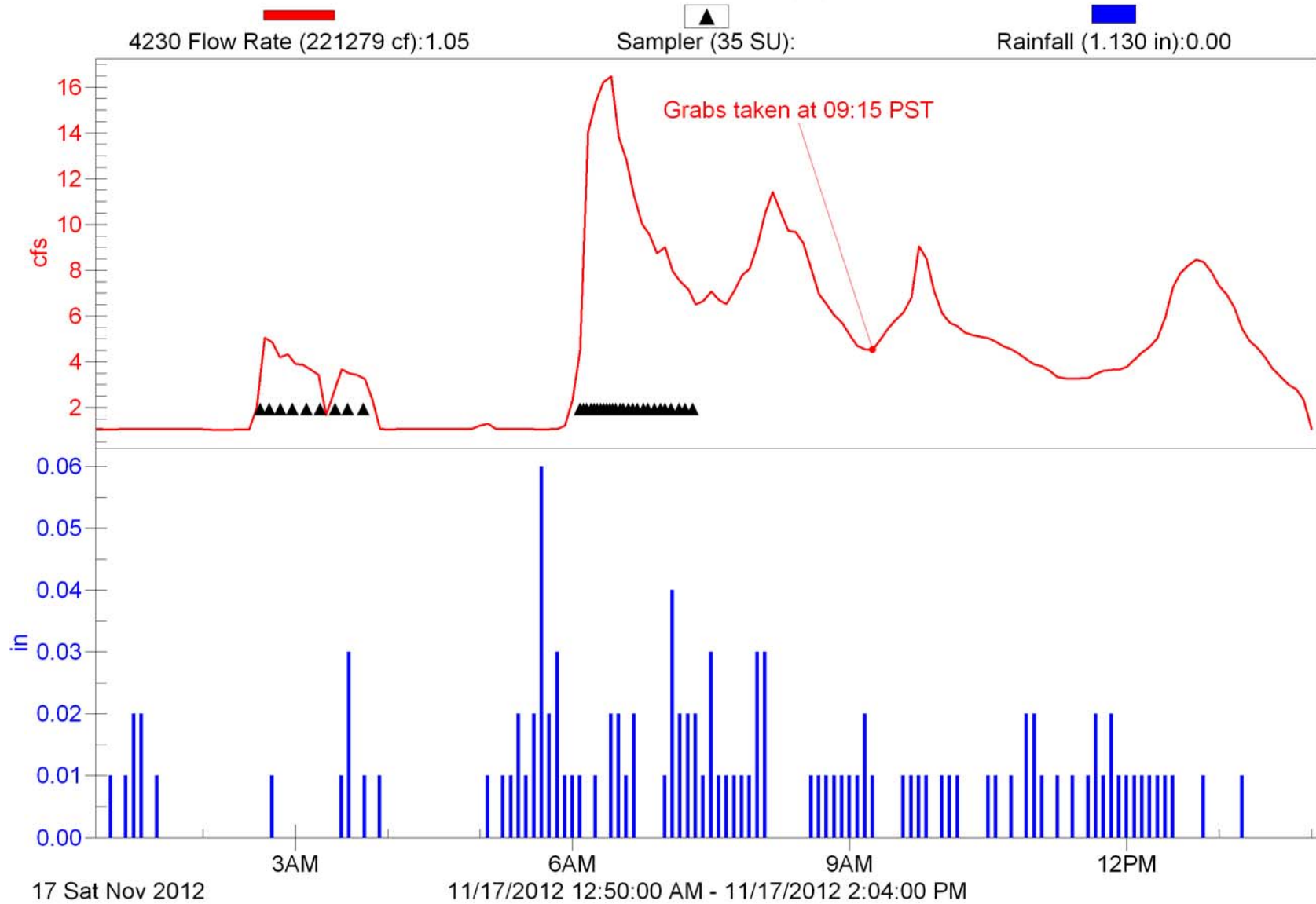
Fillmore-1

2012/13 NPDES Event #4 (Wet)



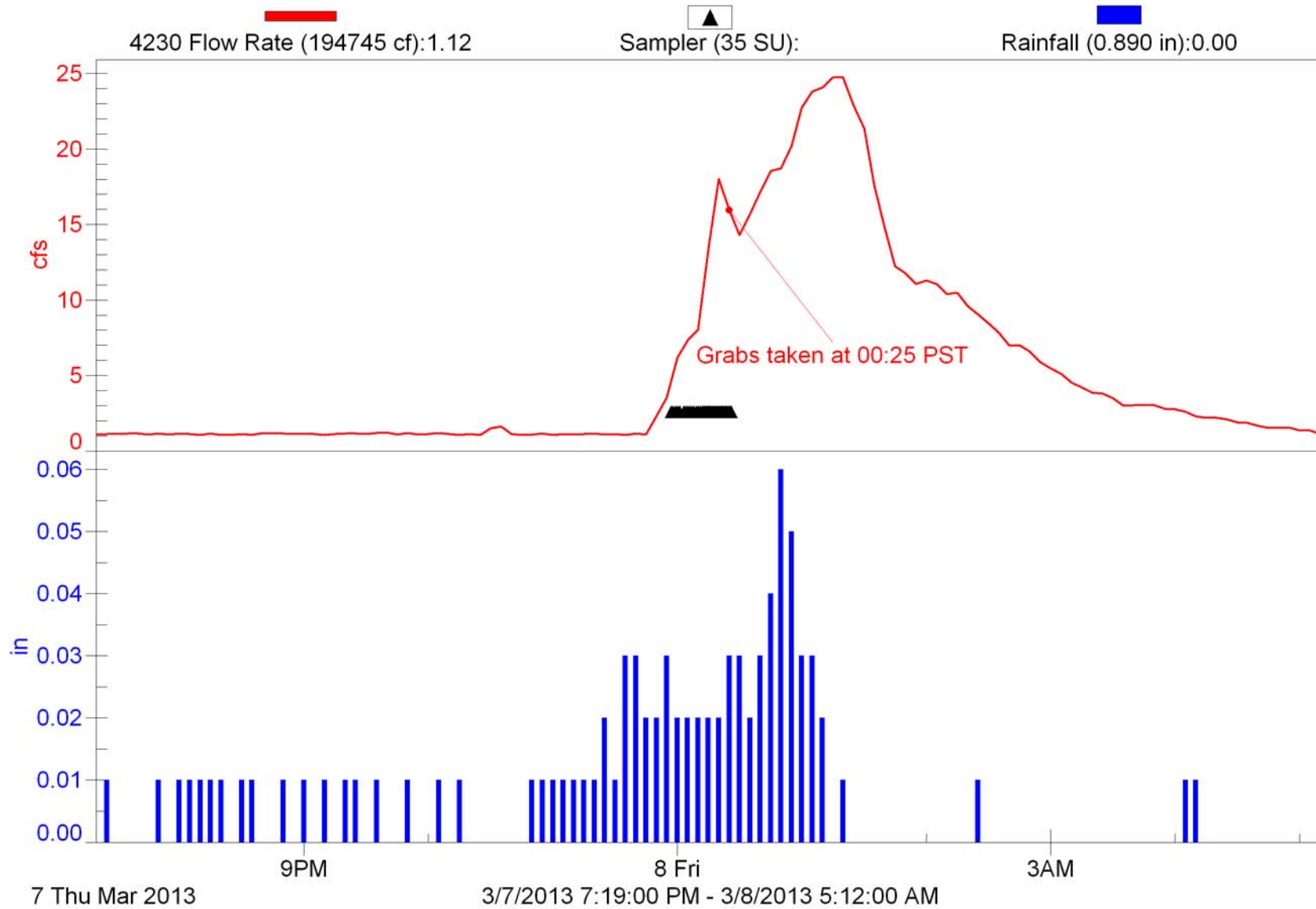
Meiners Oaks-1

2012/13 NPDES Event #2 (Wet)



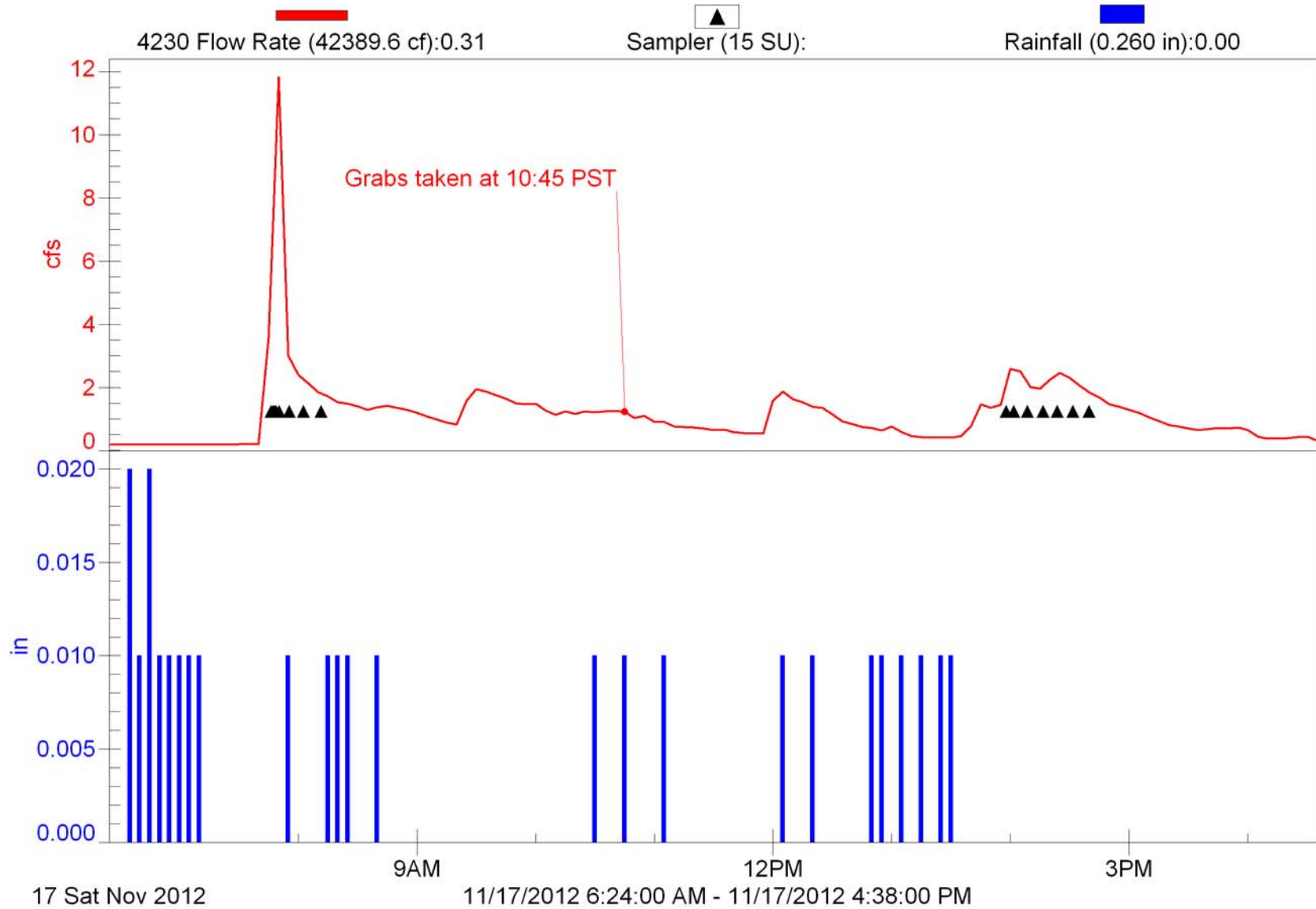
Meiners Oaks-1

2012/13 NPDES Event #4 (Wet)



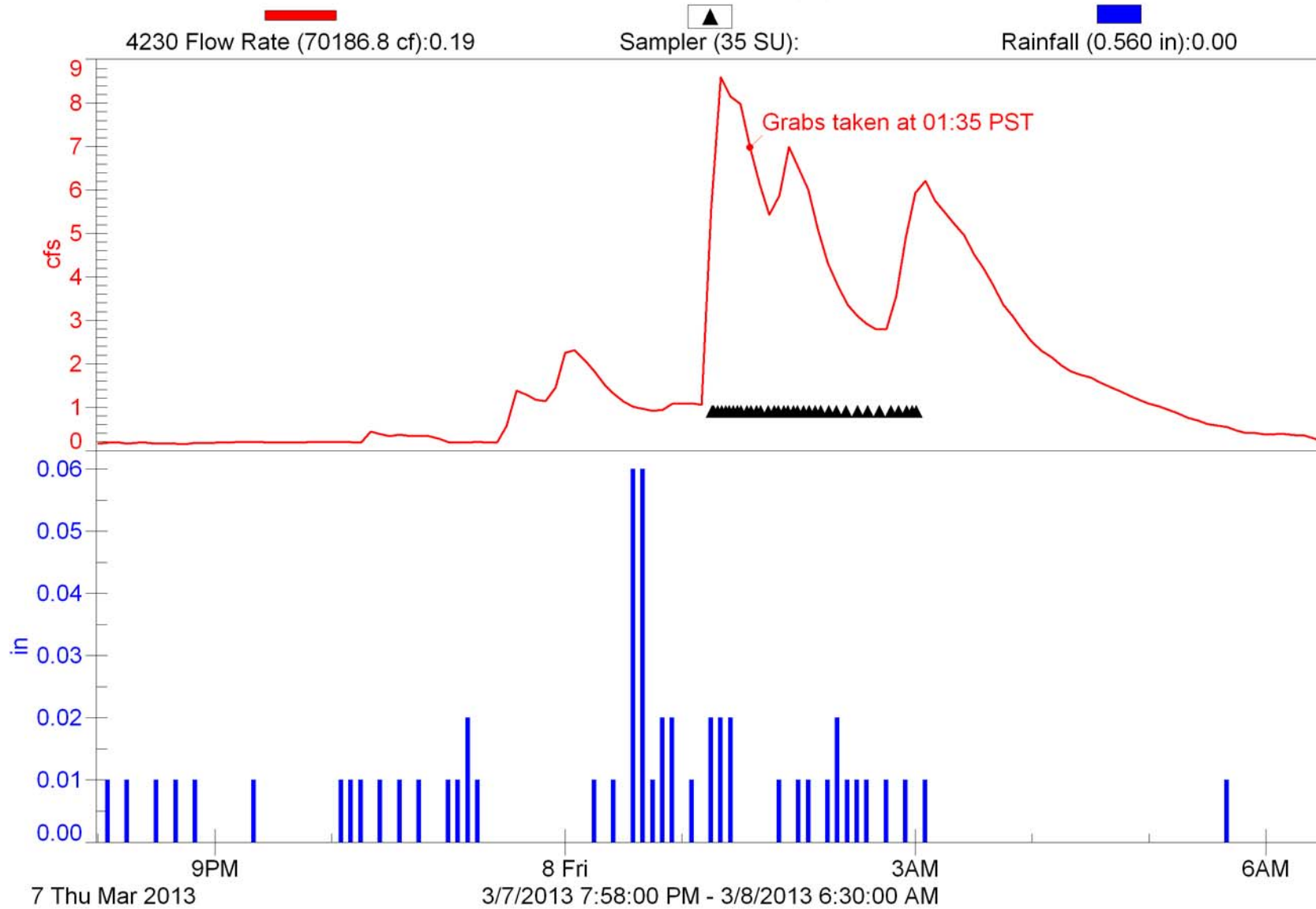
Moorpark-1

2012/13 NPDES Event #2 (Wet)



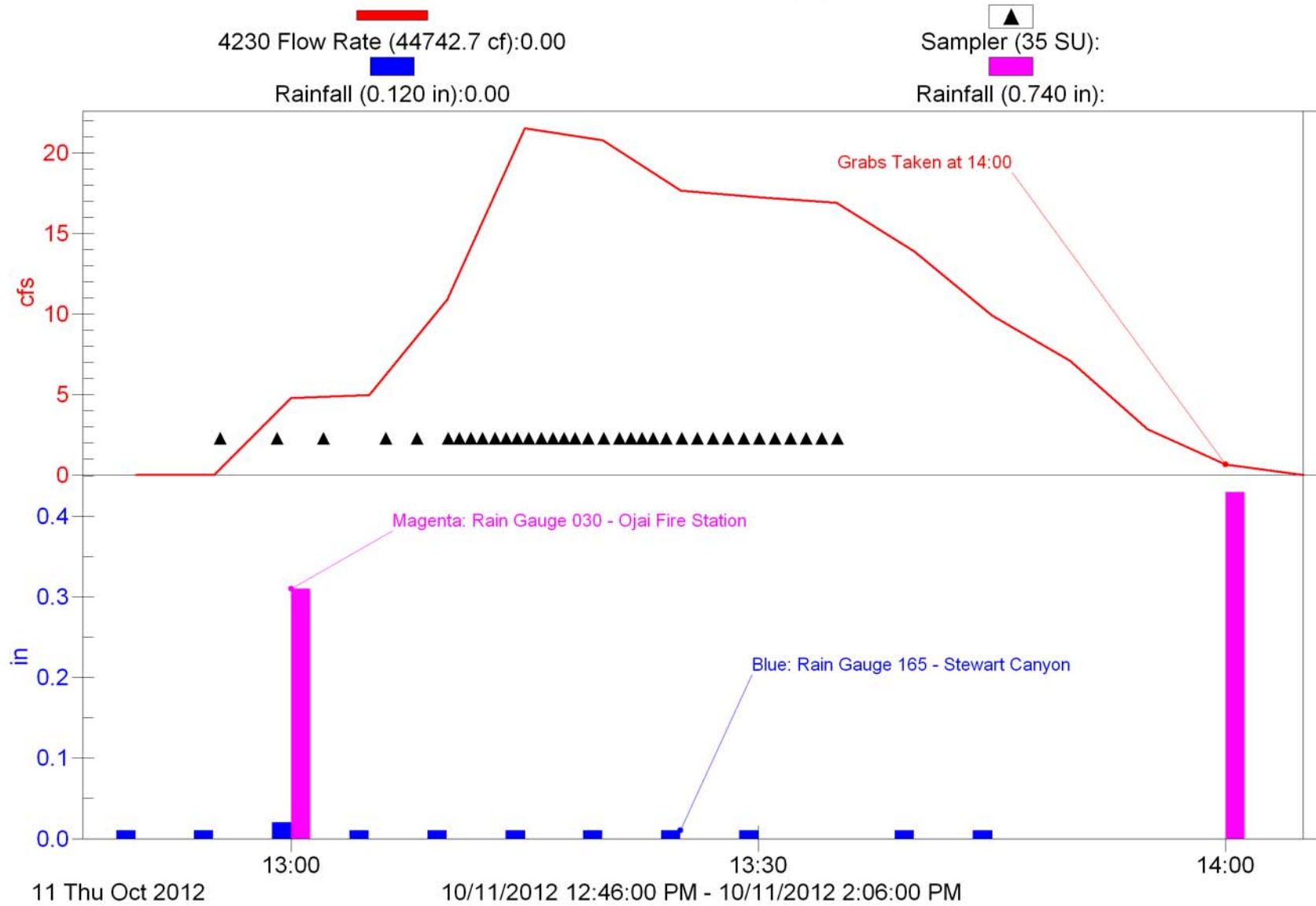
Moorpark-1

2012/13 NPDES Event #4 (Wet)



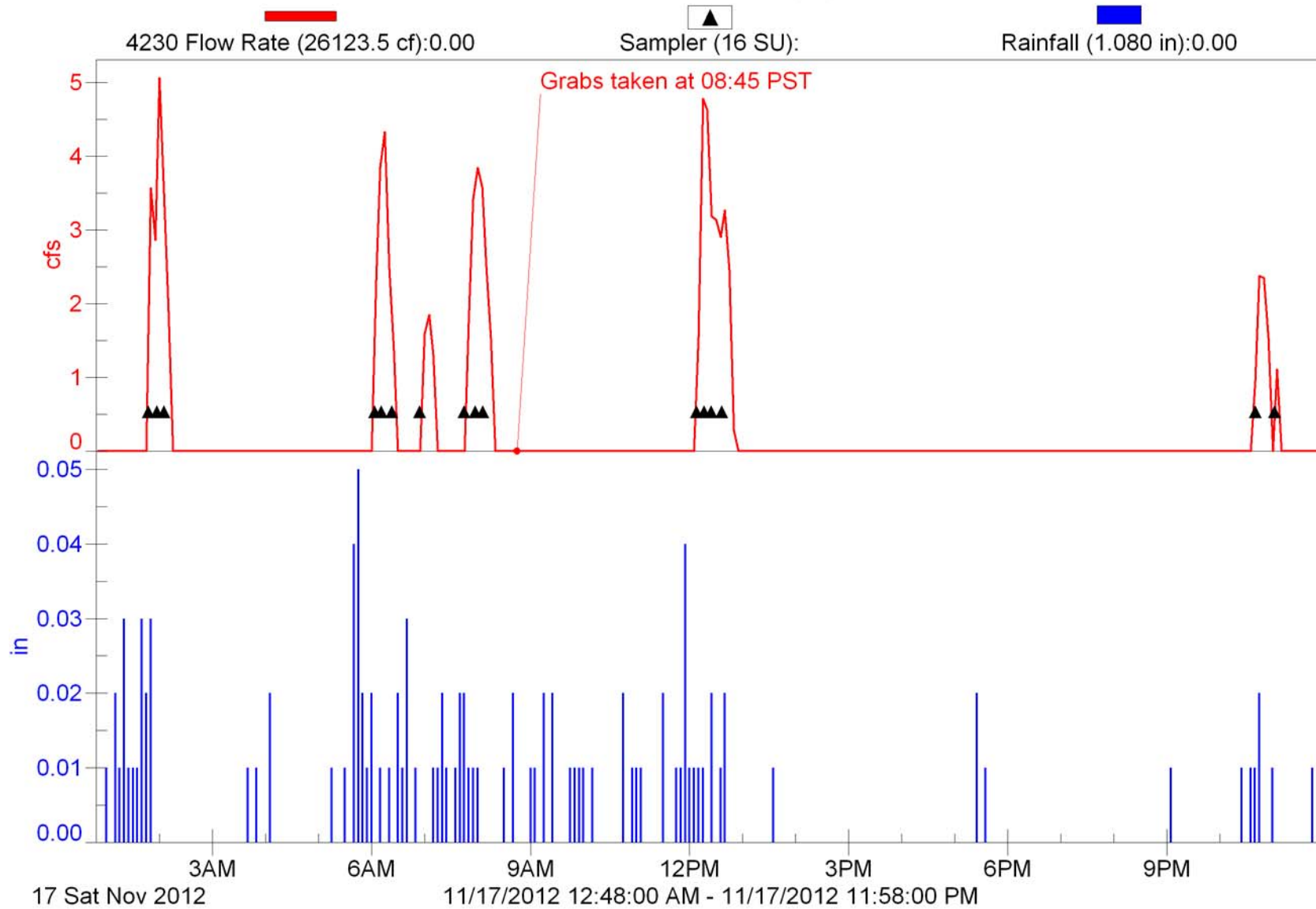
Ojai-1

2012/13 NPDES Event #1 (Wet)



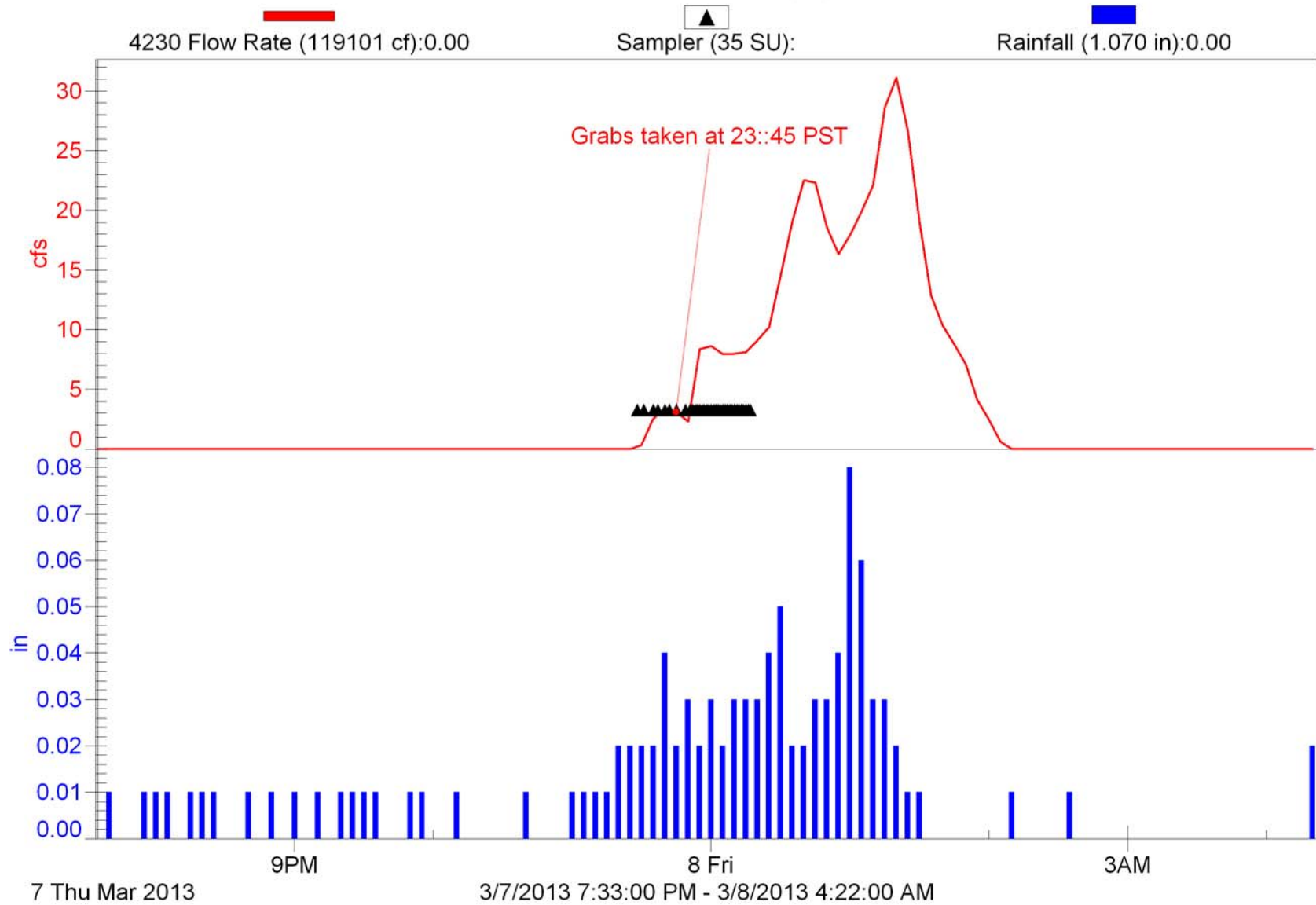
Ojai-1

2012/13 NPDES Event #2 (Wet)



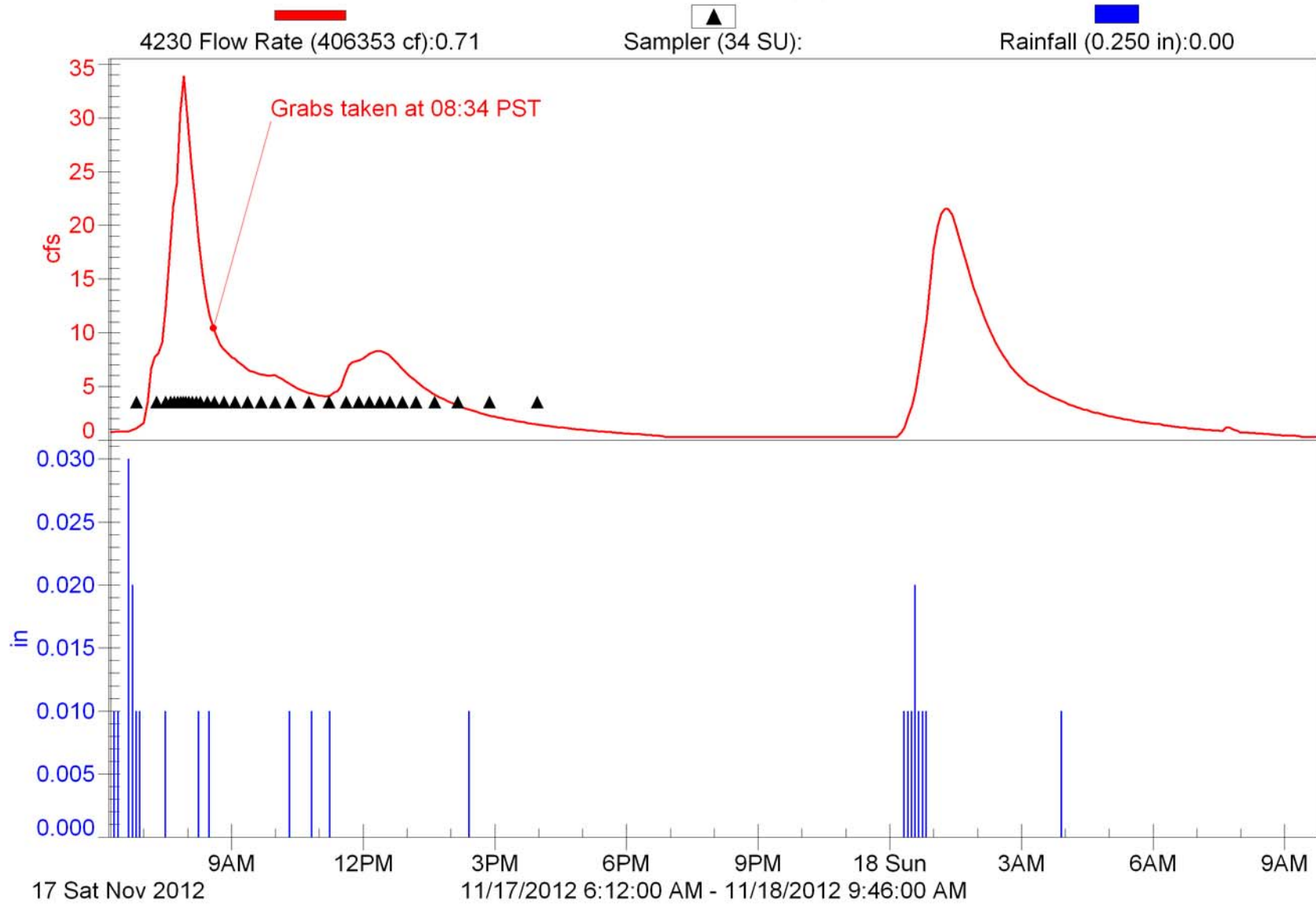
Ojai-1

2012/13 NPDES Event #4 (Wet)



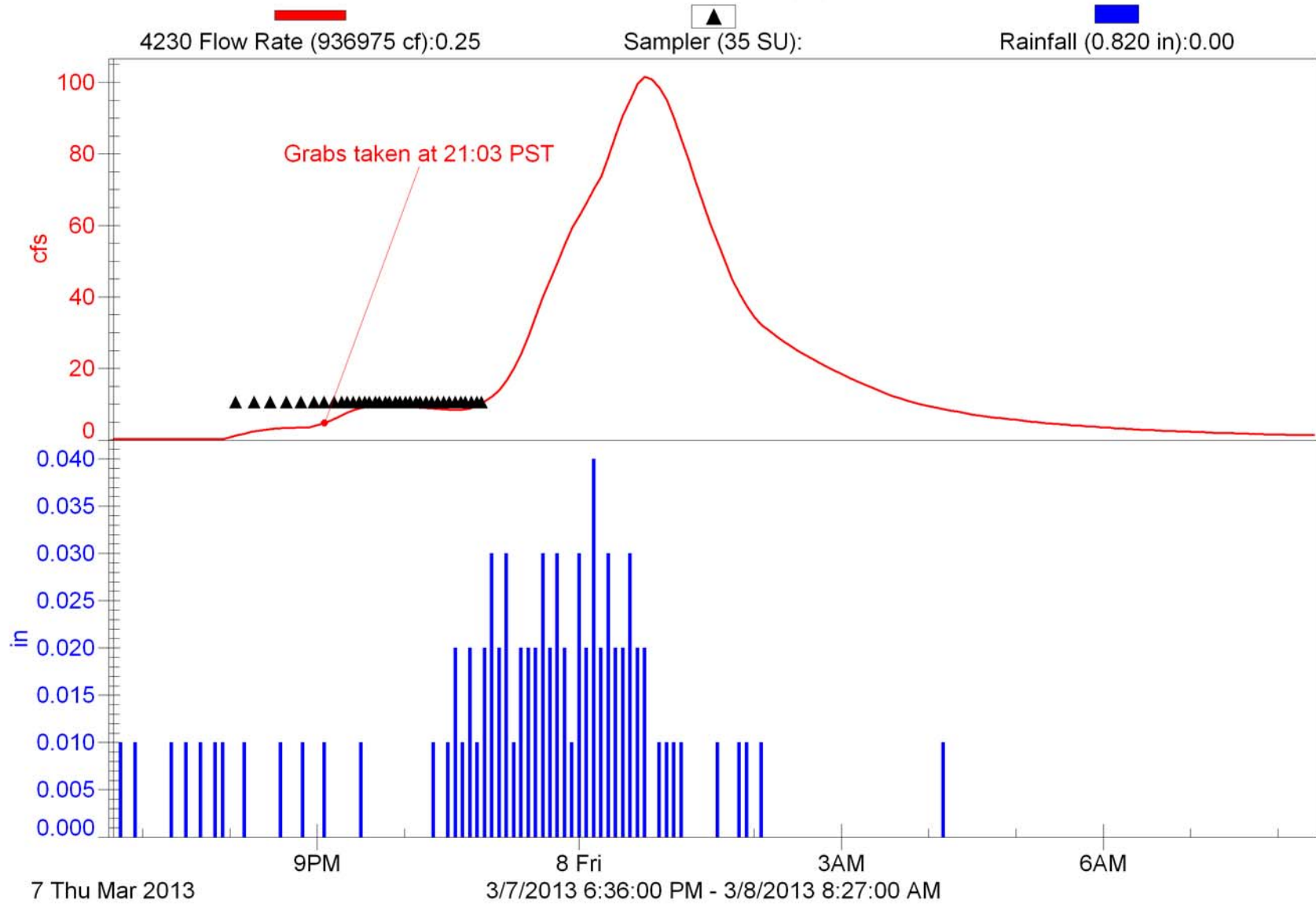
Oxnard-1

2012/13 NPDES Event #2 (Wet)



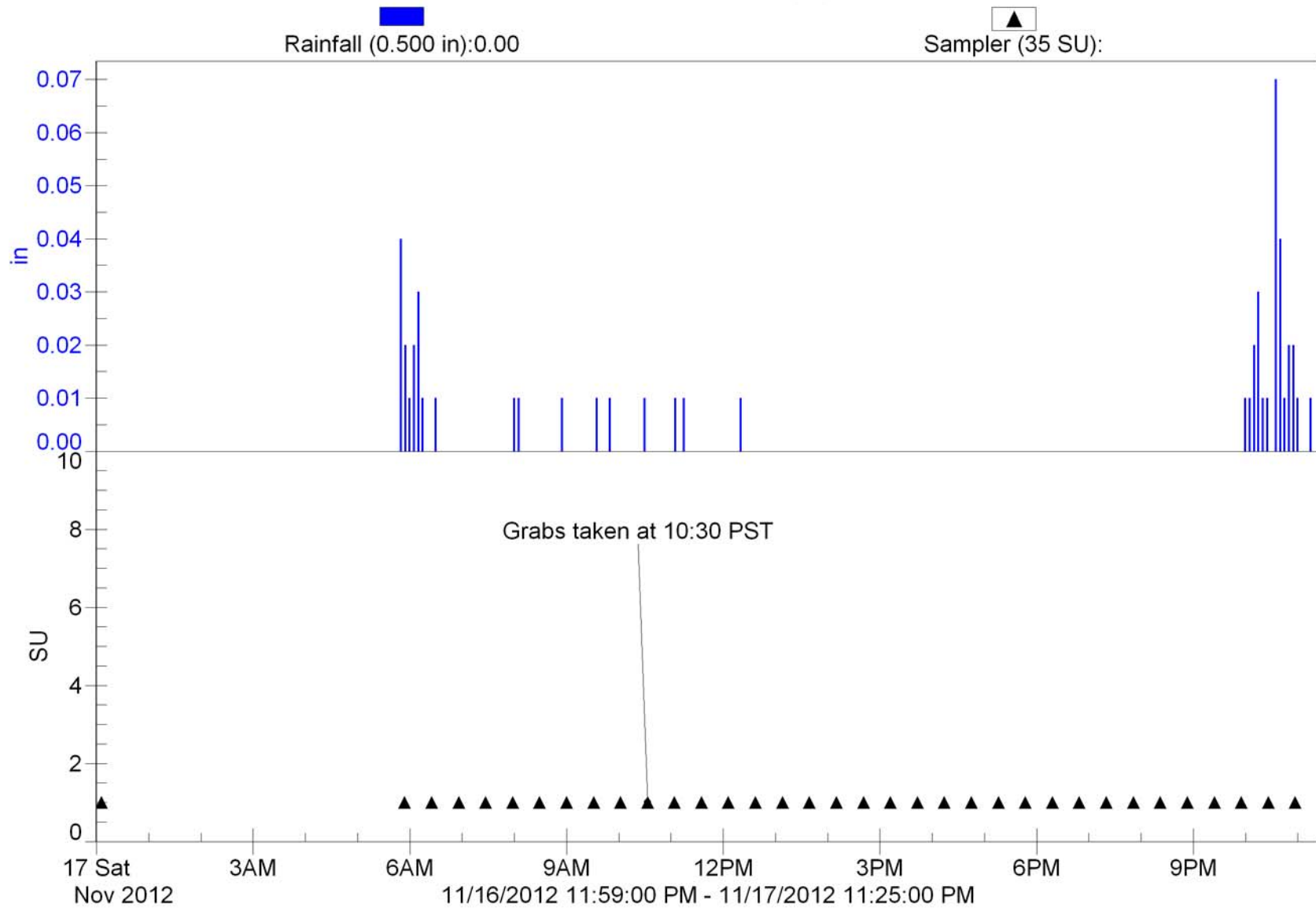
Oxnard-1

2012/13 NPDES Event #4 (Wet)



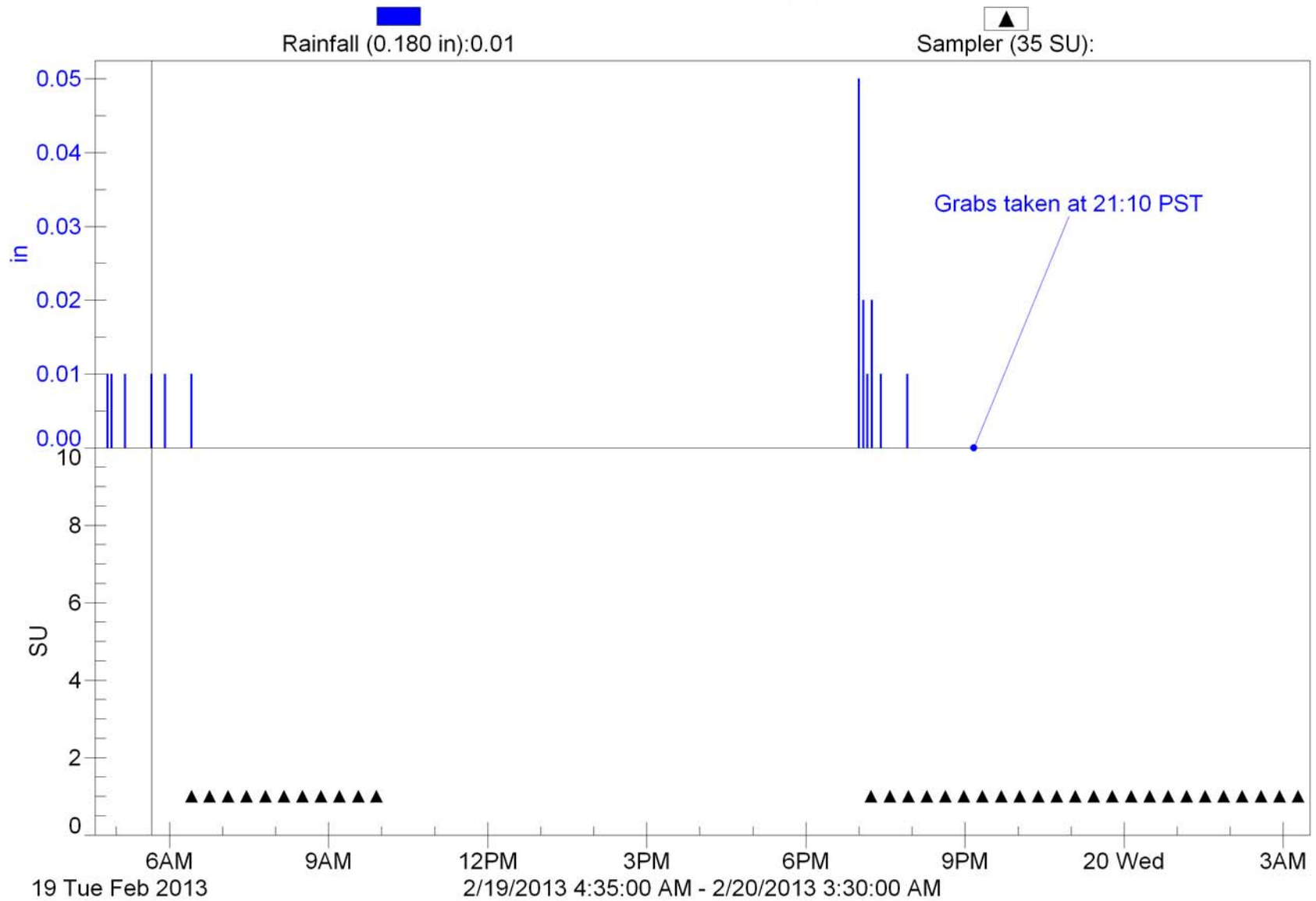
Port Hueneme-1

2012/13 NPDES Event #2 (Wet)



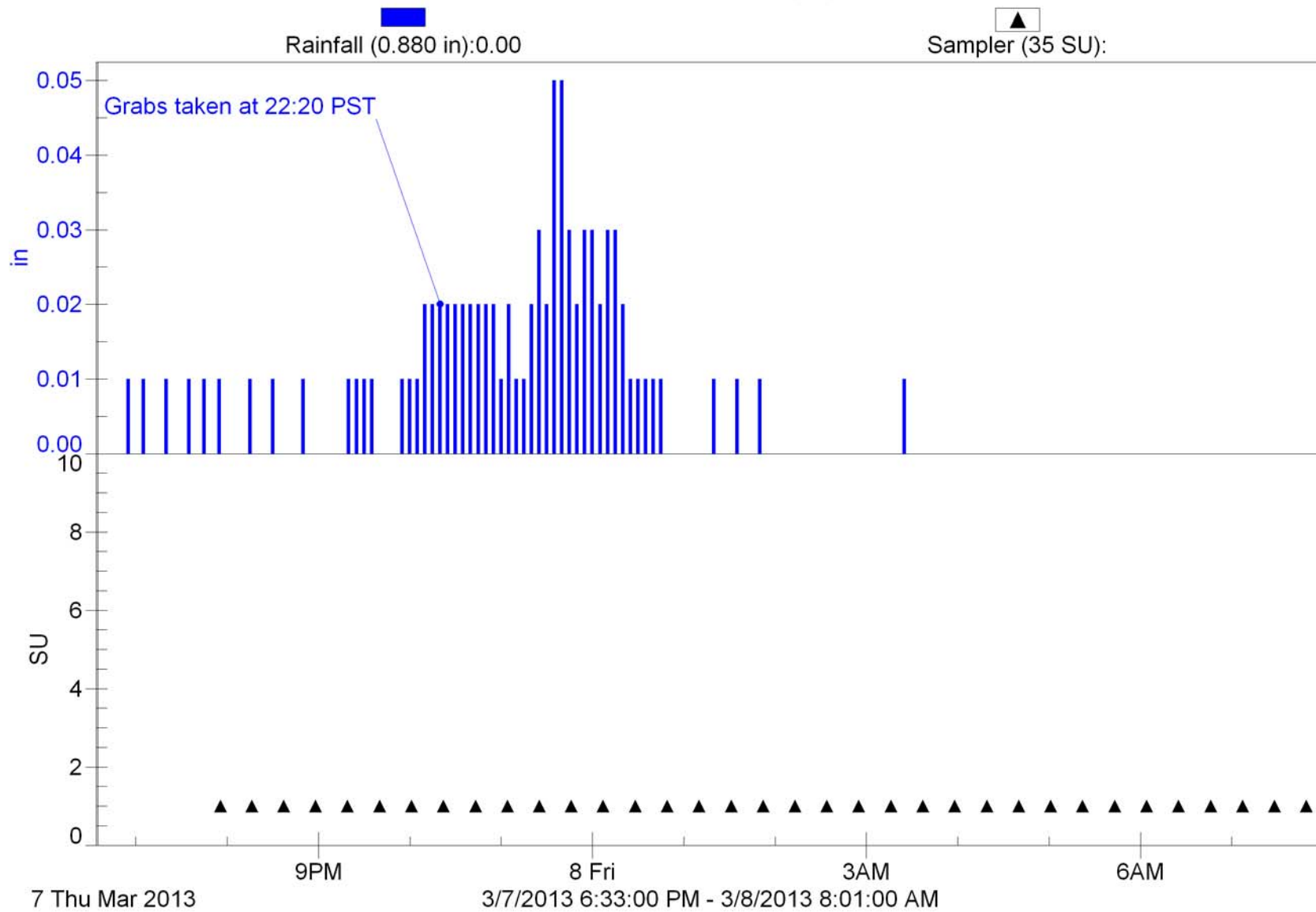
Port Hueneme-1

2012/13 NPDES Event #3 (Wet)



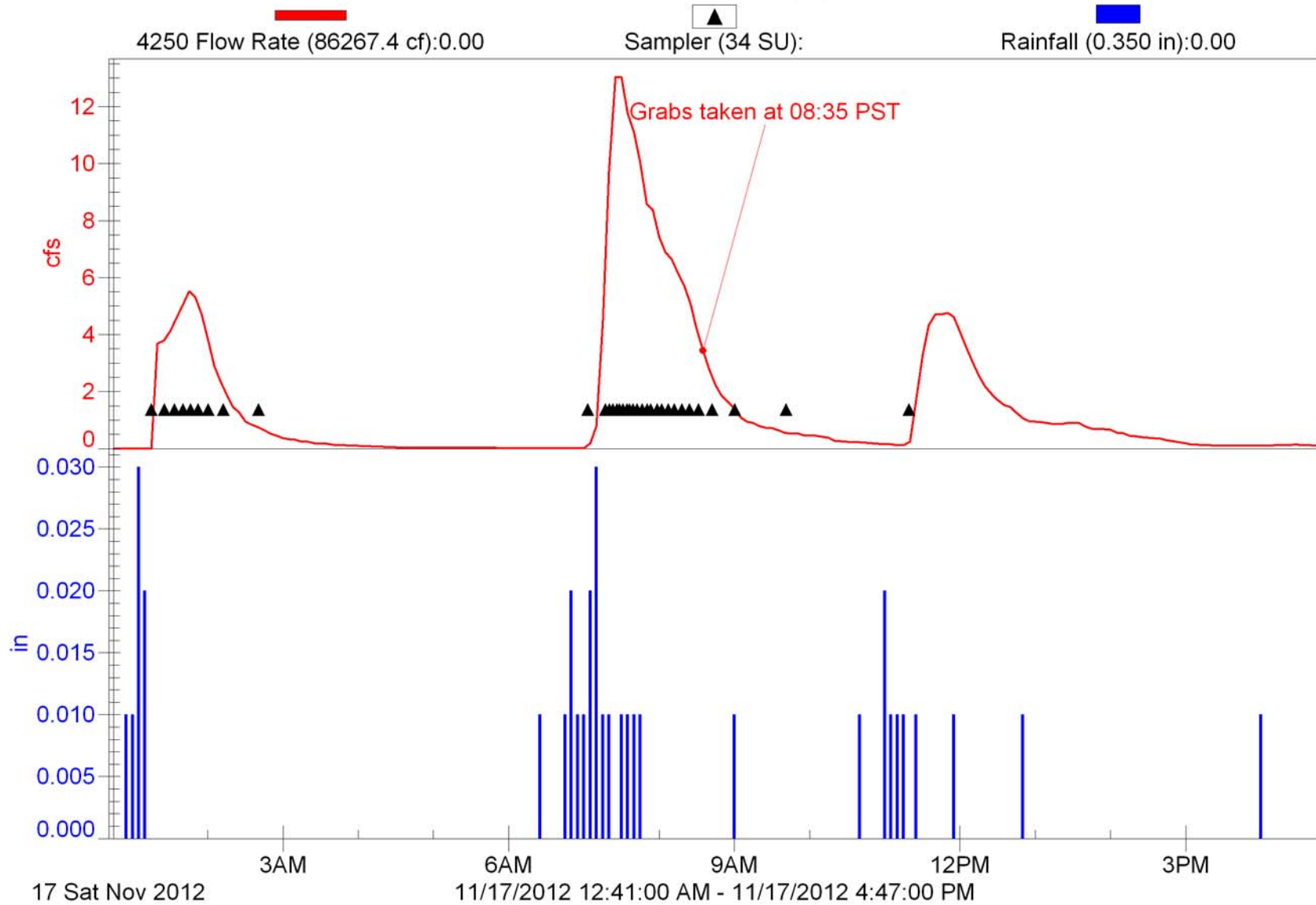
Port Hueneme-1

2012/13 NPDES Event #4 (Wet)



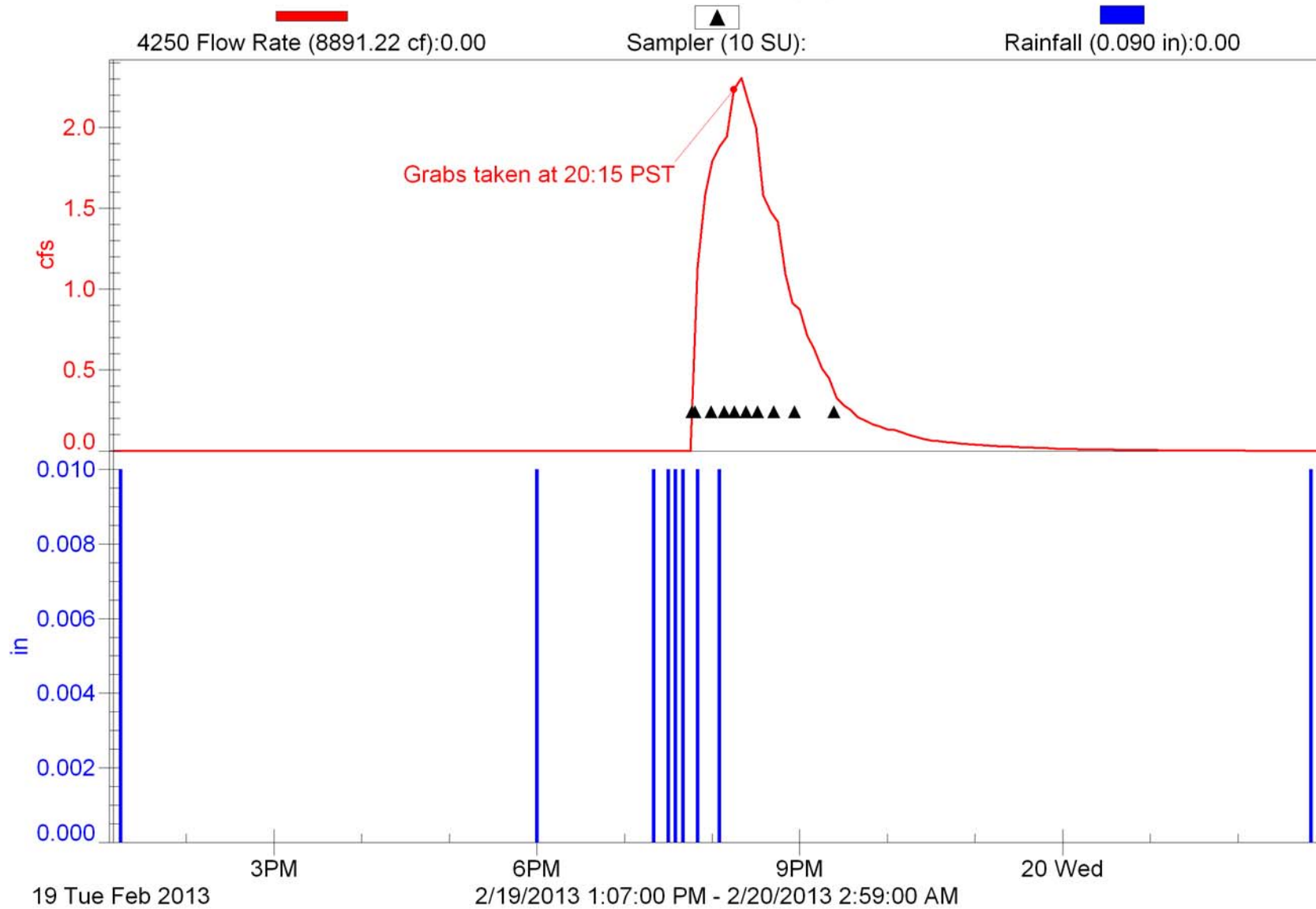
Santa Paula-1

2012/13 NPDES Event #2 (Wet)



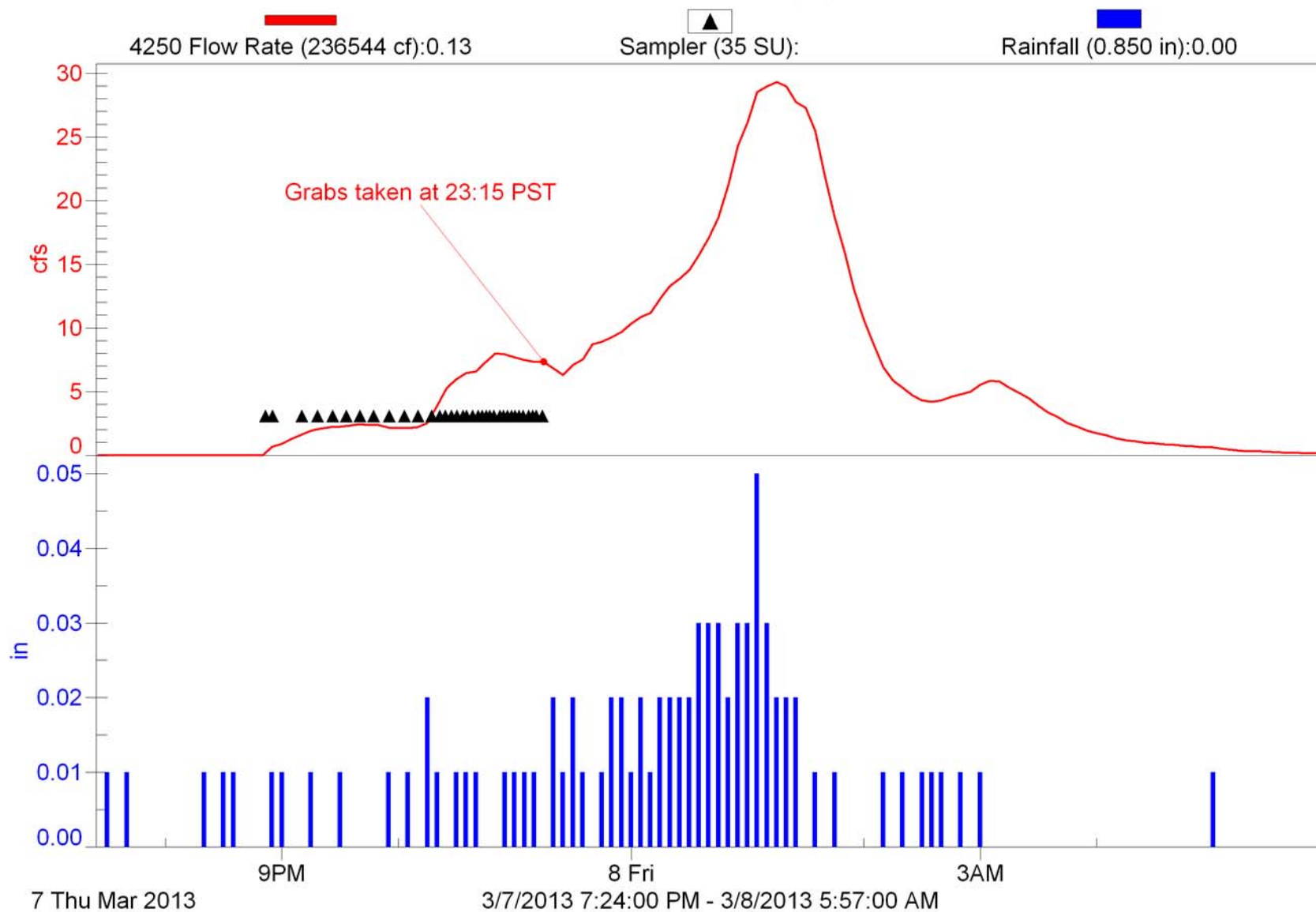
Santa Paula-1

2012/13 NPDES Event #3 (Wet)



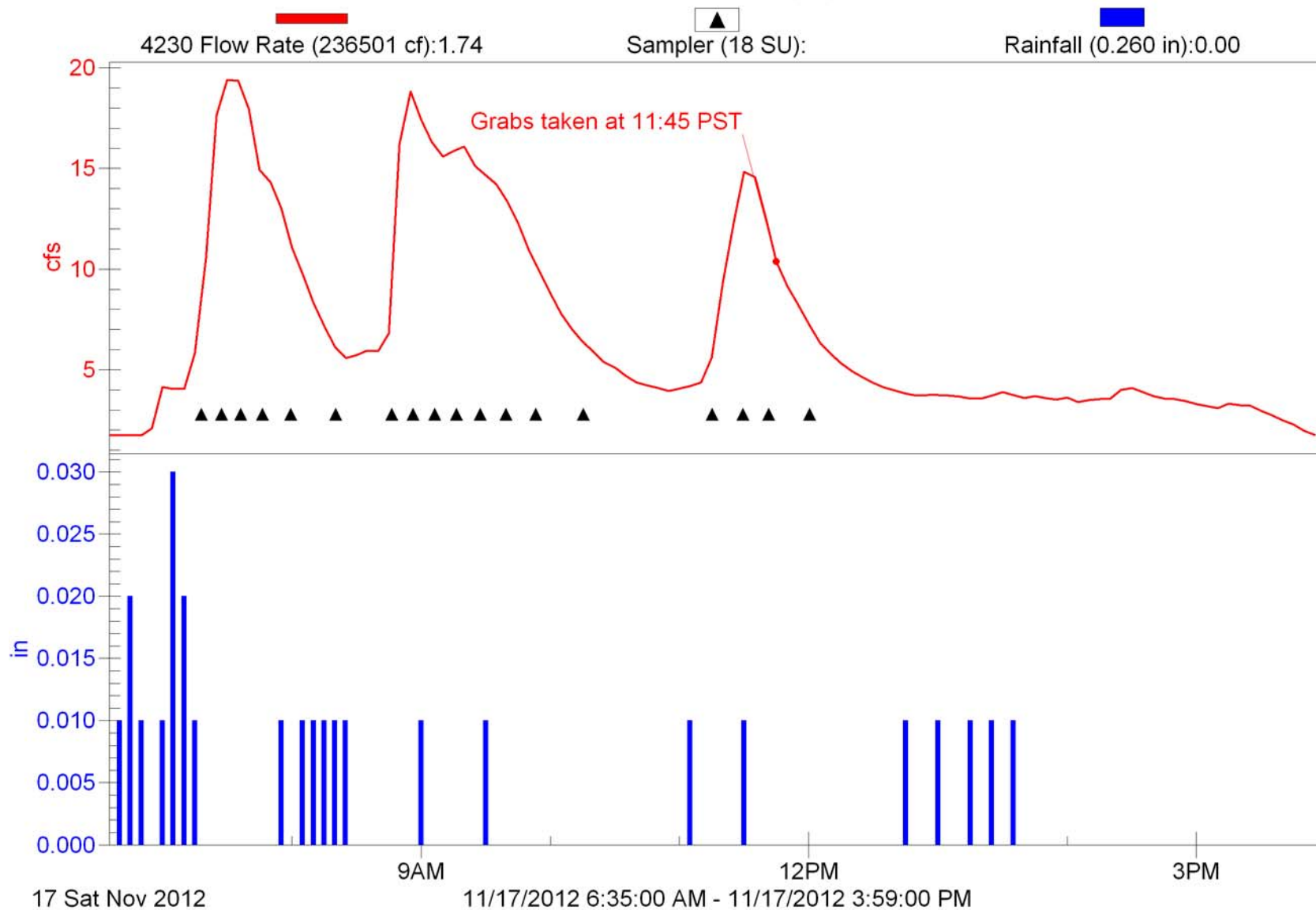
Santa Paula-1

2012/13 NPDES Event #4 (Wet)

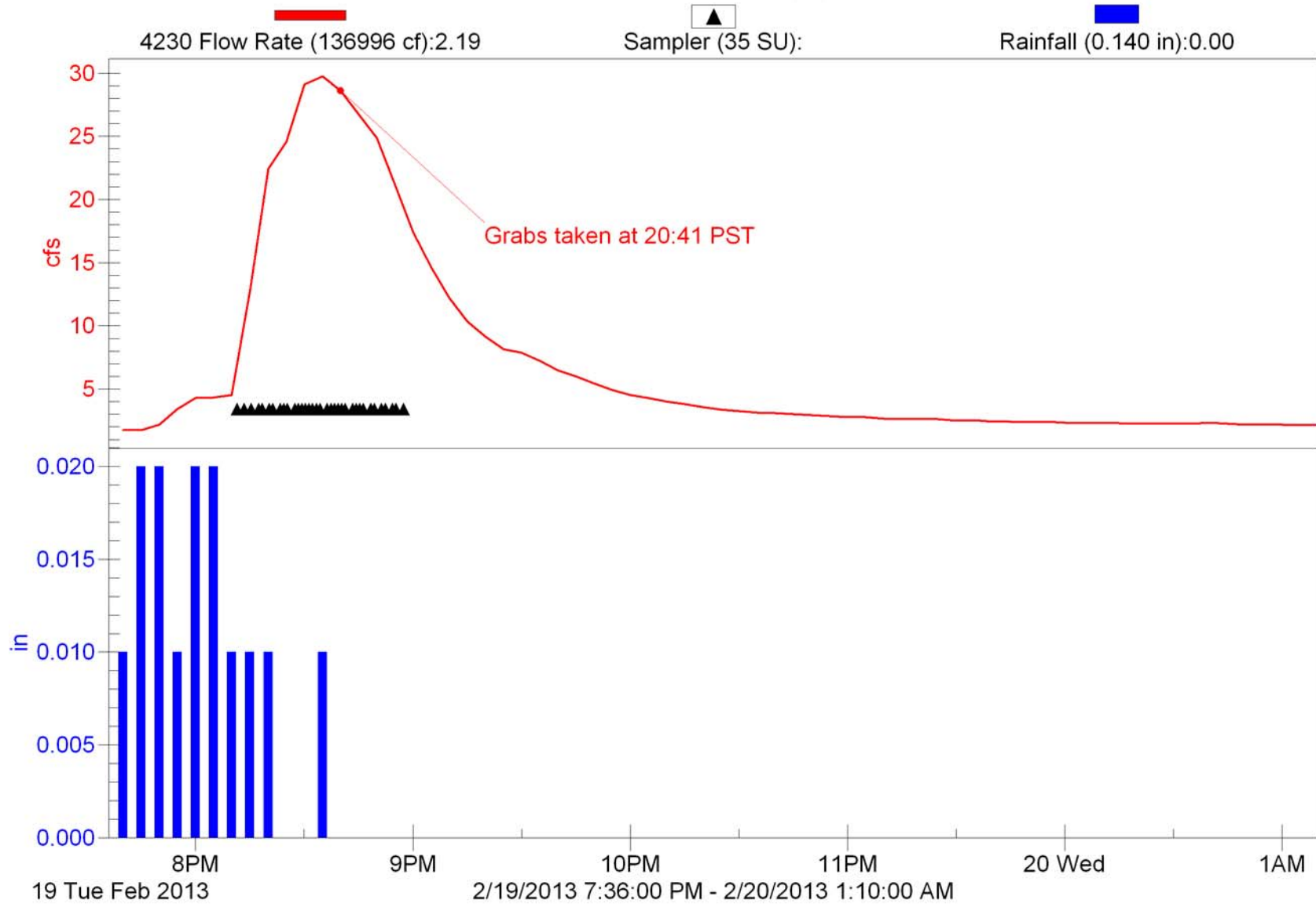


Simi Valley-1

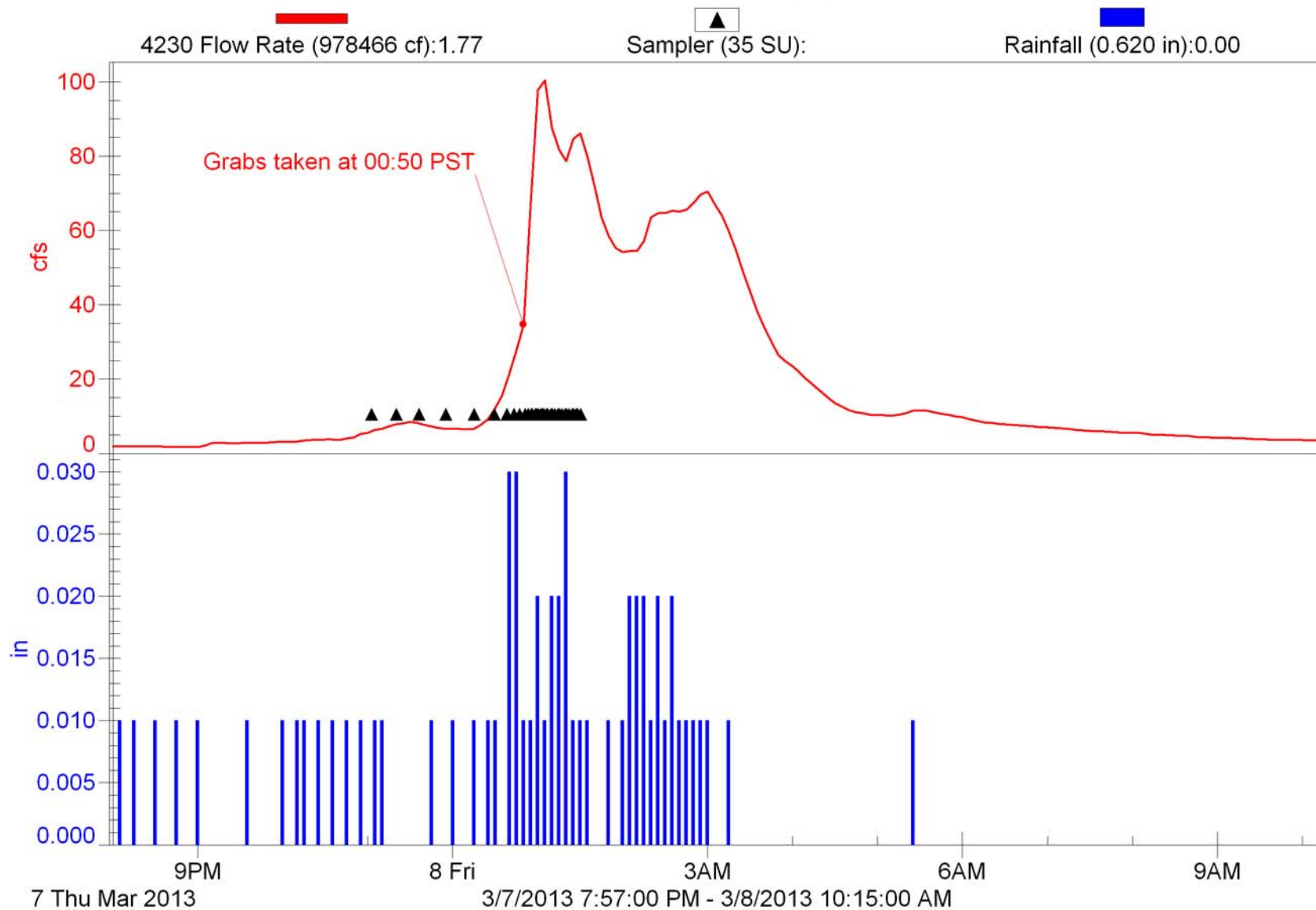
2012/13 NPDES Event #2 (Wet)



Simi Valley-1 2012/13 NPDES Event #3 (Wet)

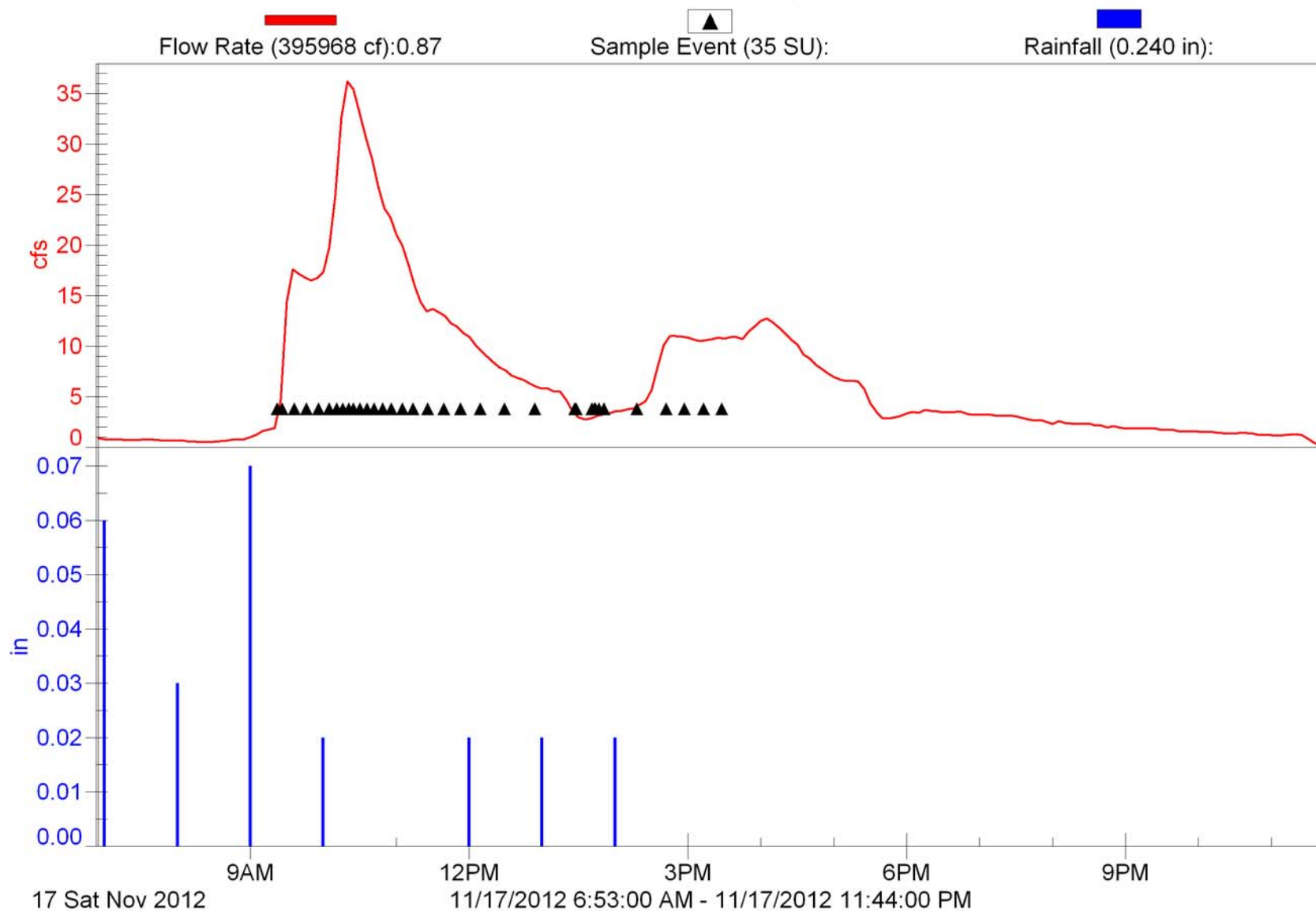


Simi Valley-1 2012/13 NPDES Event #4 (Wet)



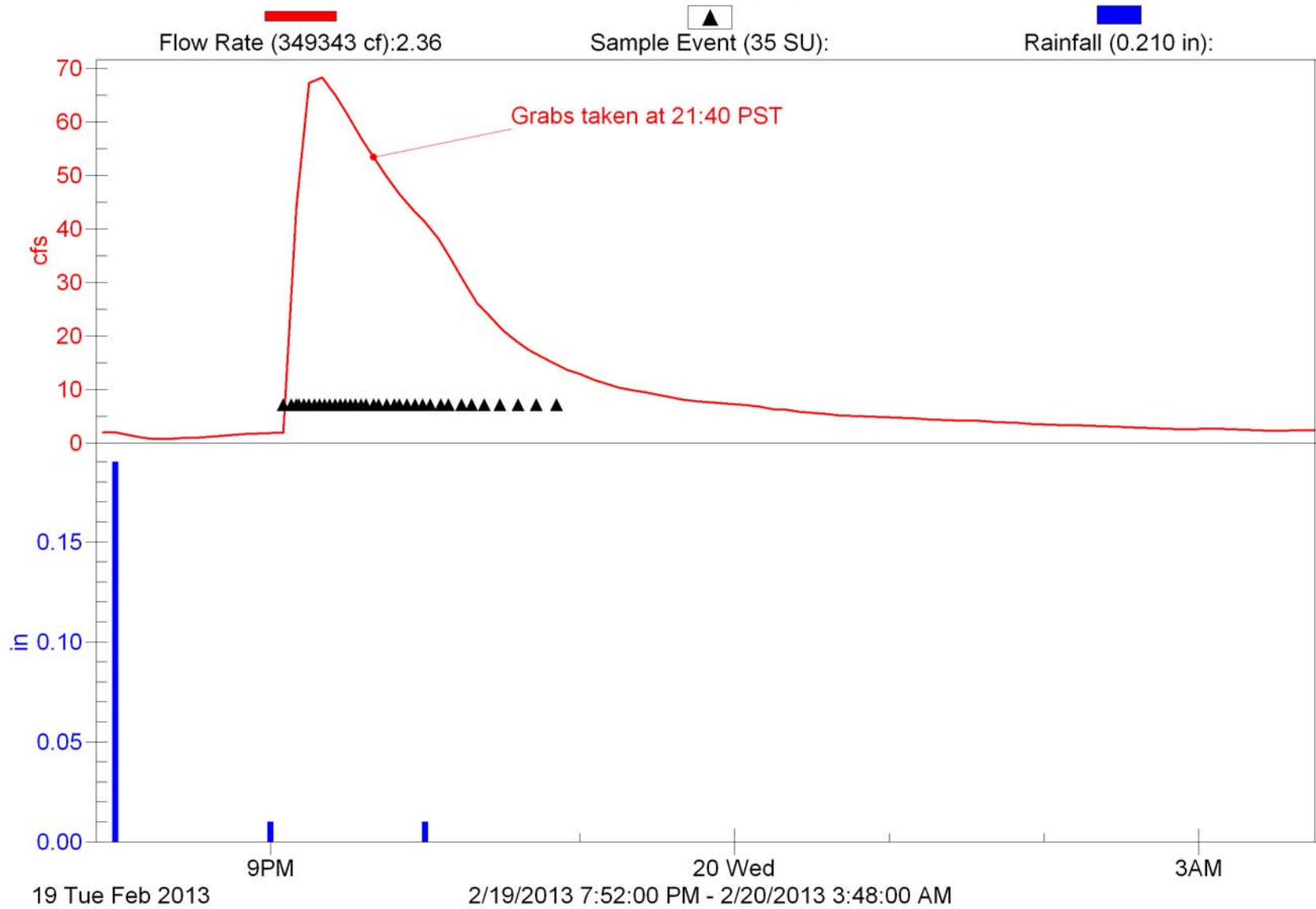
Thousand Oaks-1

2012/13 Event #2 (Wet)



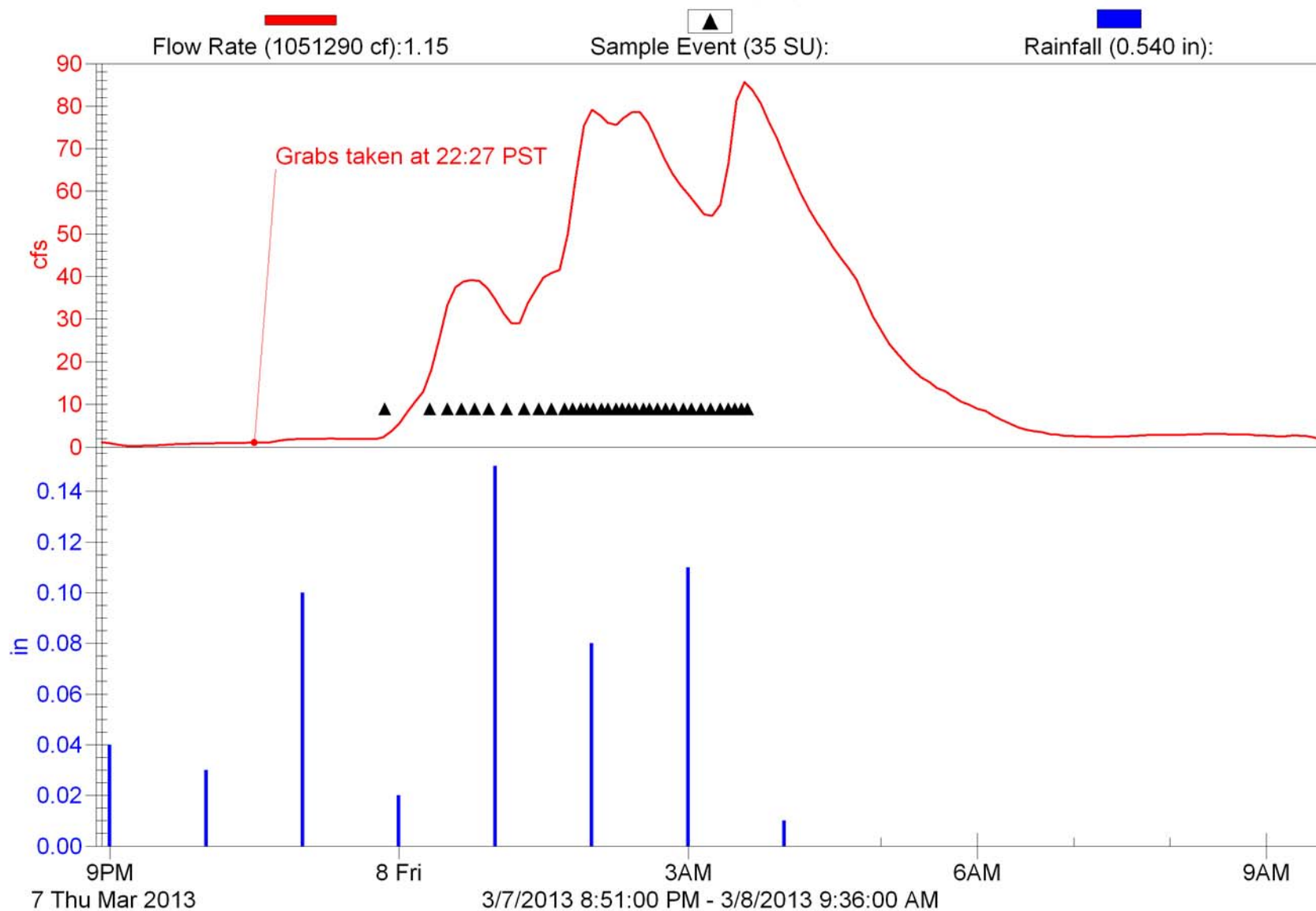
Thousand Oaks-1

2012/13 Event #3 (Wet)



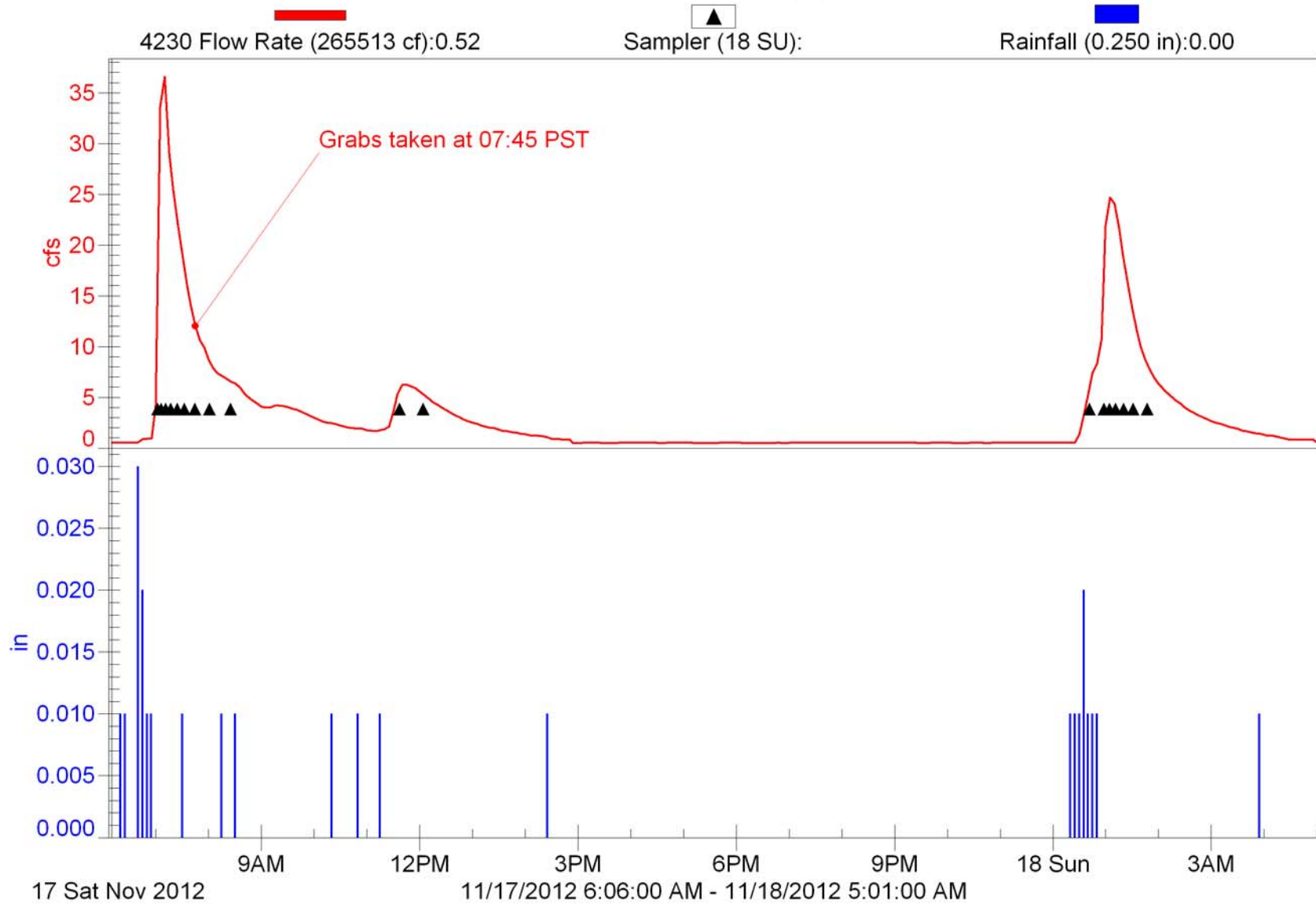
Thousand Oaks-1

2012/13 Event #4 (Wet)



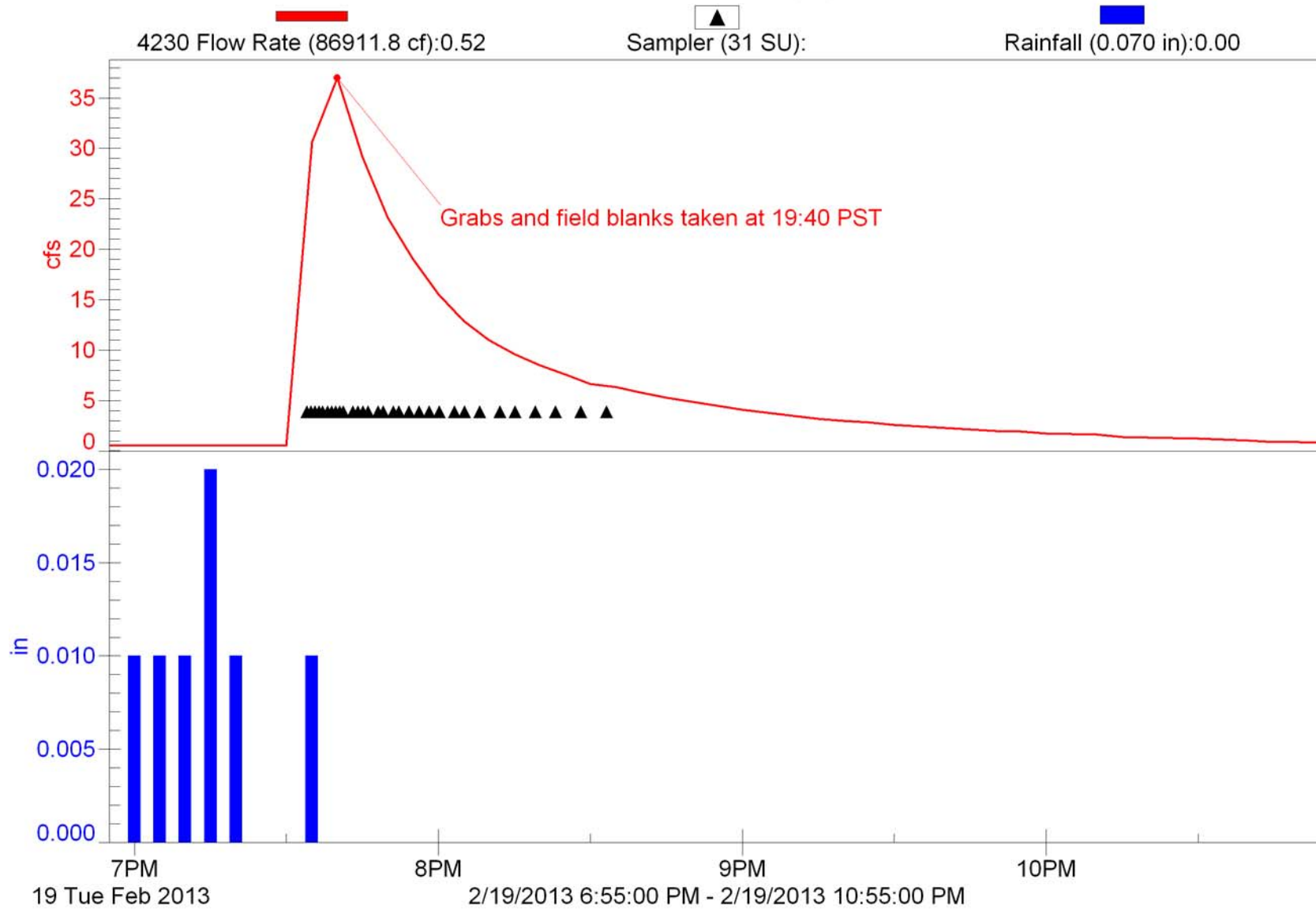
Ventura-1

2012/13 NPDES Event #2 (Wet)



Ventura-1

2012/13 NPDES Event #3 (Wet)



Ventura-1

2012/13 NPDES Event #4 (Wet)

