

## A & B. Install and Calibrate Webcam #1 & Webcam #2

Example: <https://chehalis.onerain.com/dashboard/?dashboard=324429df-f069-47fc-8287-5e8fd7f19120&refresh=300&scroll=0>

Dashboard

Home / Dashboards / WSDOT I-5 Cameras Example

### WSDOT I-5 Cameras Example

Camera images courtesy of Washington State Department of Transportation (WSDOT)  
/ This page will automatically refresh images every 5 minutes

SR 14

Mill Plain Blvd

29th St

35th St

© WSDOT Aug 16, 2018 3:35 AM PDT

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[aws] For support please contact: [contrail.support@onerain.com](mailto:contrail.support@onerain.com) (303) 774-2033

## D. Update Flood Warning Website to Improve Communication and Usability

Examples: <https://onera.in.com/company/customers/>

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Secure | <https://onera.in.com/company/customers/>

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The Rainfall Company

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### Sonoma County Water Agency, California

In October 2007, the Sonoma County region experienced damaging firestorms. The resulting fire burn scars and ground conditions throughout the Tubbs and Nuns areas left the region highly vulnerable to life-threatening flash flooding and debris flows during heavy rainstorms. Heading into the rainy season, a flood warning network was needed as quickly as possible. Led by Sonoma County Water Agency with assistance from OneRain, a complete ALERT2™ flood warning network was designed and installed from the ground-up to assist the County and National Weather Service in detecting flooding conditions. A new fully functional ALERT2 flood warning network was operational by the end of February 2018.

Public Website Home Page: <https://sonoma.onera.in.com/home.php>

Regional Map: <https://sonoma.onera.in.com/map/>

Explore Dashboards: [Nuns Rainfall Dashboard](#)



### County of Sacramento, California

Sacramento County Rainfall and Stream Level information System comprises two Contrail Base Stations and approximately 50 gauging sites.

Public Website Home Page: <https://www.sacfflood.org/home.php>

Explore Dashboards: <http://www.sacfflood.org/dashboard/>

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### City of Overland Park/Johnson County, Kansas

Overland Park/Johnson County ALERT flood warning system public website, which provides real-time data from over 170 remote weather stations located throughout the Kansas City Metropolitan area. The majority of the stations report real-time rainfall, and many also report stream levels, air temperature, humidity, wind speed/direction, pavement temperature, and other weather data. Overland Park's system integrates ALERT/ALERT2, RWIS (Road Weather Information System) data, as well as other available regional data (METAR airport weather), and USGS.

Public Website Home Page: <https://www.stormwatch.com>

View of sites and sensors: [Map](#)

Example of Road Weather: [Road Weather Information System \(RWIS\) Dashboard](#)

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### Urban Drainage Flood Control District, Denver, Colorado

Review real-time rainfall-related and weather activity throughout the region. The District covers Denver and parts of the six surrounding counties: Adams, Arapahoe, Boulder, Broomfield, Douglas and Jefferson. The area includes 32 incorporated cities and towns.

Public Website: <https://udfcd.onera.in.com/home.php>

Regional view: [pan and zoom map](#)

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### San Jacinto River Authority, Texas

Rainfall Visualization & Decision Support. Integration of ALERT via direct and via OneRain's StormLink™ satellite concentration.

Public Website Home Page: <https://sanjacinto.onera.in.com/home.php>

Regional view: [pan and zoom map](#)

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### Santa Cruz County, California

Flood Control District, Flood Control and Water Conservation, Water. Integration of ALERT and USGS, RAWS and third party data.

Public Website Home Page: <https://santacruz.onera.in.com/home.php>

Regional view: [pan and zoom map](#)

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### Doña Ana County Flood Commission, New Mexico

This Regional Real-time Hydrologic Monitoring Network, managed by the Doña Ana County Flood Commission, is a collaborative project of the Doña Ana County Flood Commission, the Elephant Butte Irrigation District, the City of Las Cruces, the National Weather Service, and New Mexico State University. A dual server Contrail architecture enables Doña Ana County Flood Commission to operate in mission critical mode in addition to providing a public URL website that presents data from their network of gauges. The system aggregates a number of additional gauging sources from other agencies, including USGS and local irrigation districts, into their Contrail data collection software platform.

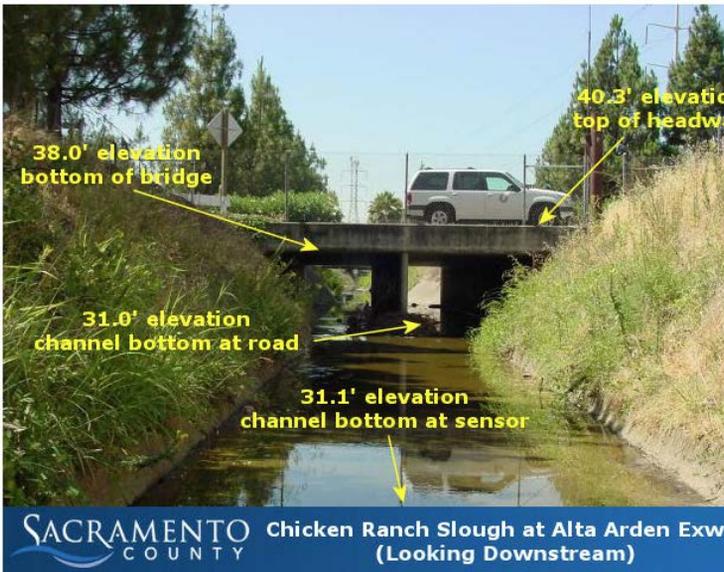
Public Website Home Page: <https://weather.donaanacounty.org>

Regional view: [pan and zoom map](#)

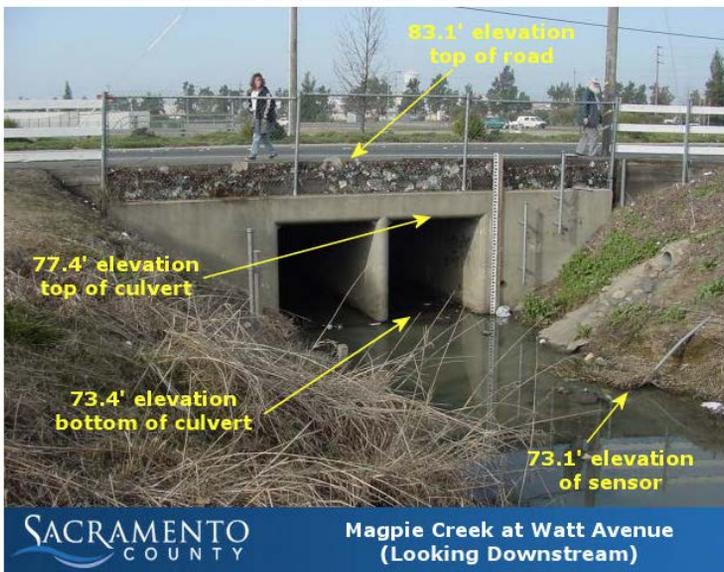
E. Incorporate Pics Translating River Stage to Tangible Visuals  
Example: Sacramento County Alert System (<https://sacflood.org/home.php>)



[https://sacflood.org/site.php?site\\_id=1106&site=610b6a8c-35d7-4efa-aa20-17c1e9f04db9](https://sacflood.org/site.php?site_id=1106&site=610b6a8c-35d7-4efa-aa20-17c1e9f04db9)



[https://sacflood.org/site.php?site\\_id=1121&site=342f61cd-32c7-4ce6-9c21-64cd09dcd19](https://sacflood.org/site.php?site_id=1121&site=342f61cd-32c7-4ce6-9c21-64cd09dcd19)



[https://sacflood.org/site.php?site\\_id=1120&site=46373e92-e058-4d1f-bd1a-878501a6289e](https://sacflood.org/site.php?site_id=1120&site=46373e92-e058-4d1f-bd1a-878501a6289e)

## Scott Boettcher

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**From:** David Curtis <dcurtis@westconsultants.com>  
**Sent:** Monday, August 13, 2018 6:21 PM  
**To:** Scott Boettcher  
**Subject:** RE: High-Level Proposal?? -----RE: Any chance we can talk today? ----- RE: Any Update? ----- RE: Question ----- FW: Webcams

Here are some budget numbers.

1. Adding/installing/calibrating webcams (1 or 2 webcams)
  - a. Install 1 or 2 webcams that interface with Contrail at Chehalis and/or Skookumchuck at Centralia. Jeff Budnick found locations to mount webcams at both sites. Chehalis would ideally be mounted on the police property on one of their buildings where they store impounded cars. Skookumchuck would be on an unused pole we would need permission to use. Webcam costs range from ~\$5.5k per site and labor is approximately \$3.5k per site for the Centralia gages, including coordination on permits/permissions. Data fees would be on the order of \$50/site/month. (i.e. Two year "calibration" \$50/month 24 month = \$1200/site.)
    - i. Camera, cables, cell modem, antenna, surge protection, mounting, etc. \$5,500/site
    - ii. Installation and coordination: \$3,500/site
    - iii. "Calibration" (2 years): \$1,200/site
      1. Note: Camera maintenance is expected to be minimal and could be rolled into WEST's normal routine gage maintenance procedures.
    - iv. Total per site: \$10,200/site
2. Updating the flood warning website to improve communication and usability
  - a. Review current configuration, research and design new page layouts, implement, QA/QC, and test updates. \$6000
3. Incorporating pics that translate what various stage readings actually look like on the ground
  - a. Survey 4 gages (Chehalis at Centralia, Skookumchuck at Centralia plus two other high priority sites and produce photos for Contrail similar to Sacflood Contrail site. A cross section and major bridge elevations would be surveyed. Horizontal datum would be arbitrary, but vertical would be NAVD88. \$7,500 total for 4 sites.

David C. Curtis, Ph.D., F.EWRI  
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## Scott Boettcher

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**From:** David Curtis <dcurtis@westconsultants.com>  
**Sent:** Tuesday, August 14, 2018 7:21 AM  
**To:** Scott Boettcher  
**Subject:** Web cams

Cost update from Jeff

Dave if you haven't submitted the cost yet for the WebCams maybe add an extra \$500 for materials. I realized that the cell modem will probably need to be inside of a small electrical enclosure

David C. Curtis, Ph.D., F.EWRI  
Sr. Vice President

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