ALERT Rain and Stream Gauges for Enhanced Storm Response
Project Summary

• Original gauge system became obsolete
• City obtained $100K total in grant funding from two Department of Water Resources Flood Emergency Response Grants
• Contracted with WEST Consultants and High Sierra Electronics to perform the work – work completed in 2022
• Equipment included seven rain gauges, four stream gauges, and one base station
• Data hosted on Contrail web interface available to the public
Gauge Locations

- Rain and Stream Gauge
  - Hinkle Creek at Oak Ave
  - Willow Creek at Silberhorn Dr
  - Willow / Humbug Confluence at Blue Ravine Rd
  - Alder Creek at Prairie City Rd

- Rain Gauge
  - Water Treatment Plant
  - Livermore Community Park
  - Zone 5 Water Tank

- Gauges Operated by Others
  - Folsom Point Dyke 8 – Rain Gauge (Bureau of Reclamation)
  - American River at Hazel Ave – Stream Gauge (State Parks)
Rain Gauge

- Hinkle Creek at Oak Ave
- Livermore Community Park
- Willow/Humbug Confluence
Stream Gauge

- Alder Creek at Prairie City
- Hinkle Creek at Oak Avenue
- Willow/Humbug Confluence
Website

https://folsom.onerain.com

The City of Folsom owns and maintains multiple rain and stream gauges throughout the City to monitor rainfall and stream levels. This data is shared with the National Weather Service and the California Department of Water Resources for weather and flood forecasts and warnings in the region. The City is currently implementing advanced emergency response systems for construction throughout the area.

The current gauges in the City of Folsom consist of the following:

- An AL002 rain gauge located at the Folsom Water Treatment Plant.
- An AL002 rain gauge located at Collins Community Park.
- An AL002 rain gauge located near the Zone 9 Water Tank in Folsom Plan Area.
- An AL002 rain and stream gauge on White Rock Road near Folsom Boulevard.
- An AL007 rain and stream gauge on Willow Creek downstream of the Landing Creek Road Bridge.
- An AL006 rain and stream gauge on marching creek near collections point.
- An AL002 rain and stream gauge on Alamitos Creek near maintenance facility.

To view current rain and stream data in Folsom, please visit: https://folsom.onerain.com
### Data Collection – Rain Gauge

<table>
<thead>
<tr>
<th>Site</th>
<th>15 Min</th>
<th>30 Min</th>
<th>1 Hour</th>
<th>3 Hour</th>
<th>6 Hour</th>
<th>12 Hour</th>
<th>24 Hour</th>
<th>48 Hour</th>
<th>7 Day</th>
<th>30 Day</th>
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<tbody>
<tr>
<td>Acker Dr at Prairie City Rd</td>
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<td>Folsom Point Driv E</td>
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<tr>
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<tr>
<td>Willow Creek at Slipherom Dr</td>
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<td>Willow/Hunting Confluence at Blue Ravine</td>
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</tbody>
</table>

**Out of Service:** Yes

**End Time:** 2022-09-19 16:54:56
Data Collection – Stream Gauge

Stage (7)

- 269.31 ft (an hour ago)
- 271.37 ft (Value Max)
- 269.28 ft (Value Min)

17 April, 2022 - 24 April, 2022

Graph showing water level changes from April 17 to April 24, 2022.
Analysis

![Graph showing rainfall data over time]

- **Folsom WTP (47501)**: Rain Increment (0A)
- **Willow/Humbug Confluence at Blue Ravine (47503)**: Stage (7)
Enhanced Storm Response

- Pre-Storm Event
  - Earlier recognition
  - Automatic notifications to City staff
    - High water alerts
    - High intensity rainfall alerts

- Post-Storm Event
  - Correlate data to design storm events
  - Establish additional thresholds

Figure 24. Early flood threat recognition leads to earlier and longer response times.
During Storm Example

Sibley Street at Willow Creek crossing prone to flooding during high flow events
After Storm Example

Folsom Water Treatment Plant

Total Rainfall = 2.52 inches

Maximum 1-Hour Rainfall:
- Cell 1 = 0.28 inches
- Cell 2 = 0.68 inches
- Cell 3 = 1.28 inches

Peak Intensity = 2.56 in/hr