2016/2017 Storm Damage

- After 5 years of drought conditions, the Pineapple Express storms returned to California with a vengeance this past winter season.
- These storms caused approximately $122 million in roadway damages.
- There are over 220 major and minor repair sites in Santa Cruz County.
- Another $8 million in damage to other infrastructure (water, sewer, parks and flood control facilities).
2016/2017 Storm Damage

Bear Creek Road PM 0.20
Soquel San Jose Road PM 5.91

Alba Road PM 1.58
Nelson Road PM 0.44
2016/2017 Storm Damage

2016/2017 Storm Damage
2016/2017 Storm Damage

60" Drainage Pipe Failure

Beginning Construction

Impacts to Residents

- Some roads are still closed indefinitely (the ones that slid off the side of a mountain)
- Longer commutes as residents have fewer alternate routes (State Highway 1, 9, and 17 were all closed)
- We had multiple days of closed County roads and restrictions on travel
- Several years of expected repairs (5 or more)
- Private property damage
- Private and CSAs also severely impacted
Postcards

From beautiful ... Santa Cruz County!

Soldier Pile Wall with Tiebacks

Empire Grade PM 15.0
Concrete Crib Wall

Alba Road PM 0.92

Concrete Stitch Pile CIDH Wall

Redwood Lodge Road PM 1.65
Recent Repairs 2017 Storms

Mt. Charlie Rd PM 3.5 - RSP (Rock Slope Protection) gravity wall

Volunteer Efforts

During times of major disaster events, volunteers play a key role in helping the community return to normal.

- Amateur Radio Emergency Service (ARES)
- Sheriff’s Emergency Search & Rescue
- Santa Cruz County Animal Shelter
- Equine Evacuation
- Red Rover Animal Rescue
- California Voluntary Organizations Active In Disaster (VOAD)
- Red Cross (Central Coast CA)
- California Conservation Corps (CCC)
- Santa Cruz Volunteer Initiative Program
- County of Santa Cruz Parks, Open Space and Cultural Services
- Community Emergency Response Team (CERT) Auxiliary of Santa Cruz County
Consultant Contracts

- Request for Qualifications – Storm Damaged Roads
- 5 consultants at $1 million each
- Bid $10 to 20 million worth of projects each year

Storm Cleanup Expenditures

- Over $30 million in completed repair work and $7 million in clearing roads of debris material (about $90 million left to do on repair work)
- $2 million for repair work on the flood control levees
- $1 million for a sinkhole repair at the State Park in Seacliff – saving two sewer lines and one force main
- Need to find $20 to 25 million to match state and federal emergency funds over the next 5-6 years
Matching Funding Sources

New Funding Sources
- Measure D sales tax - $2.6 million/yr. (new)
- Grants - $2 million/yr. (Average)
- Transportation Fee - $1.4 million/yr.
- State SB1 – Climbs to $8.1 million – 5th yr.
- First time in 16 years, the Board gave us $1 million General Fund monies for storm damage repair work
- New emergency ¼ cent sales tax (no)
- Federal Infrastructure Bill (wait and see)

Rebuilding County Roads
- Expect to rebuild the storm damage repair sites over the next 5 or more years
- We proposed some portion of Measure D sales tax and State gas tax funds as a local match to rebuild Santa Cruz County roads
- Work equally split between FHWA and FEMA/CalOES
- Completed all documentation as soon as possible to FEMA and FHWA to get in line for reimbursement (one of first in the State)
- FHWA work is well underway – Already restored many major roadways and have 90 percent obligation for funding
- FEMA is a little more difficult, stay persistent on working with them
General Contractor/Engineering Assistance – Emergency Work

- Graniterock
- Granite Construction
- Durden Construction
- CMAG Engineering
- Anderson/Pacific
- Earthworks Paving
- Lewis Trees
- Bowman & Williams
- Jim Walters
- Furlo & Furlo
- Haro Kasunich
- Heavy Equipment
- United Rentals

- Christianson Tree Service
- Pacific Highway Rentals
- John Shelton
- Interstate Sales
- Community Tree
- Sunbelt Rentals
- Jeff Hill & Sons
- Cal West Construction
- Rain for Rent
- Huerta’s Tree Service

General Contractor/Engineering Assistance – Emergency Work

- SCUP
- Lewis Tree
- Monteith Construction
- King Crane
- BATS
- Flint Trading
- Kittleson Environmental
- A+ Construction
- JJ Albanese
- MGE Underground
- Sunderland Tree Service
- Drill Tech Drilling
- Valley Paving
- Conley Construction
- Cresco
- Dana Bland and Associates
- Interstate Sales
- Safeway Sign
- Santana Paving
- Cal Eng Geology Inc
- Security Shoring
- Pacific Firewood
Preparing For Winter

• Have your emergency contractor lists up to date before winter hits (rate sheets, W9s, insurance, etc.)
• Have utility contacts up to date and a main contact number (PG&E, AT&T, Comcast, etc.)
• Have Agency contacts for coordination (Caltrans, Fire Departments, local Cities)
• Coordinate Public Works staff involvement with the Emergency Operation Center
• Have sufficient sandbags available for the public’s use

Lessons Learned – During Event

• Safely install barricades, traffic control measures, and advance road closure signage – Have materials ready to go to storm damaged sites
• Document storm damage at each site (take photos and keep written records of work type activities)
• Keep the road closure list up to date for the public’s use (Can I get out or can I get home?)
• Keep your Facebook/Other Media up to date – highlight the good work that was done and what is expected to be done (timelines – be realistic)
• Keep safety in mind at all times – crews need rest time (coordinate 12 hour shifts and on-call schedules)
• Keep your electives informed (publicity events)
Lessons Learned - Cleanup

- Retain contractors for support and track their work for completeness at each damaged site
- Designate appropriate staff for inspection of contractor’s work (or hire out)
- In removing debris material, keep records/tags on all dump truck trips in removing debris
- Document extensively all cleanup work completed at each repair site (take photos and document location)
- Be patient with the public – have empathy
- Use the media to your advantage

Procedure Manual

- Development of a Procedure Manual (Tool Box) for response to emergency events for both County staff and contractors – Know your contract requirements for your agency and its limitations
- Know FEMA, CalOES and FHWA regulations
- Develop a simple handout for contractors to fully explain required work activities for debris removal or emergency repair work (including the need to fully document with photos, time and material costs, etc. at each repair site)
- Don’t hesitate to retain a consultant with expertise in working with FEMA and FHWA to assist in documentation and submittals
Questions?

IN SOME COUNTRIES PEOPLE DRIVE ON THE LEFT SIDE OF THE ROAD

IN THE SANTA CRUZ MOUNTAINS WE DRIVE ON WHAT IS LEFT OF THE ROAD

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