Tolt Dam Early Warning System Progress

Carnation City Council Meeting

March 2, 2021

Seattle Public Utilities

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Dam Safety and Weekly Test

- Weekly tests operating
- Personnel at outdoor sirens to monitor performance during weekly test
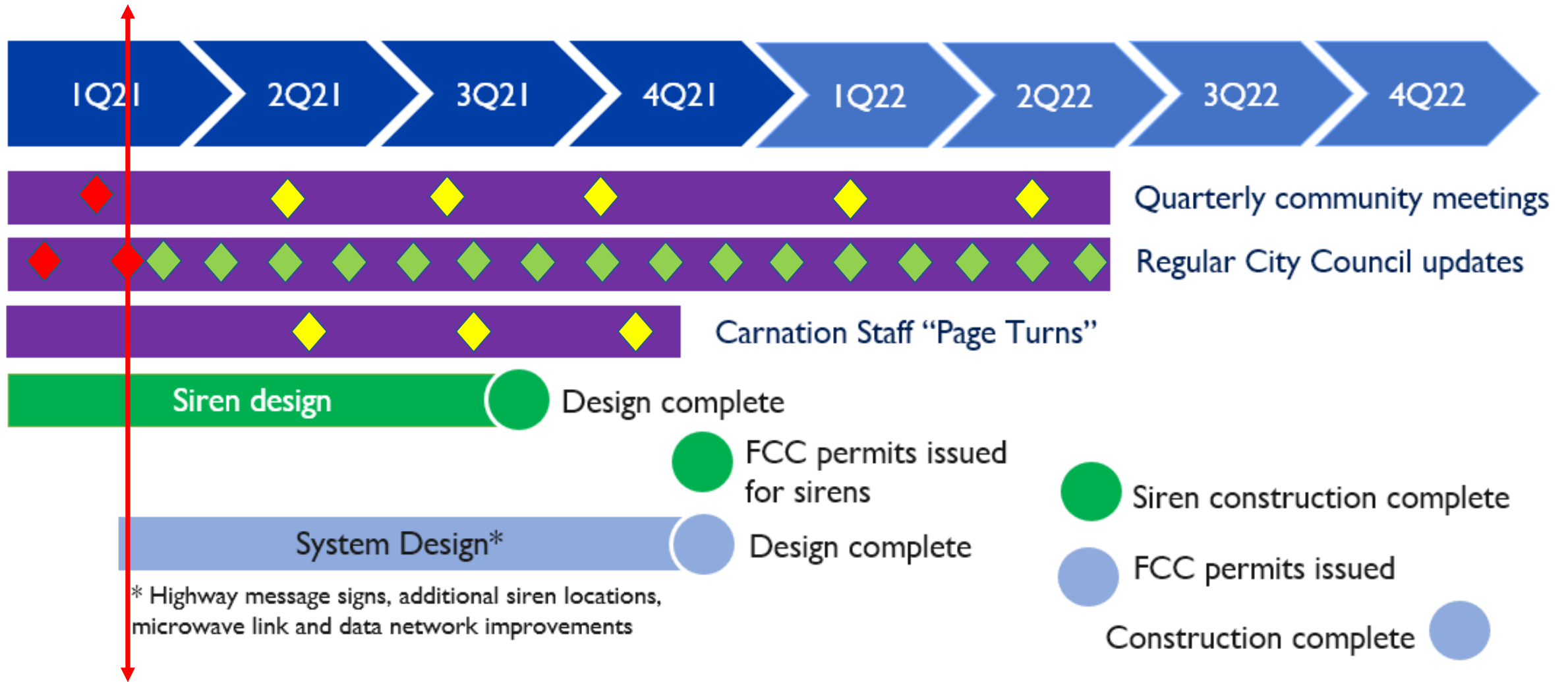
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Evacuation Planning

- King County Office of Emergency Management (KCOEM) evacuation planning – meeting 2/22, focus: traffic mgt

- Alert King County text alerts – implemented
  - KCOEM demo at 2/24 SPU community meeting
  - Link to sign up on SPU website

- Inundation mapping online tool – KCOEM implementing

- SPU toured evacuation hill 1/29 with Mayor Lisk, CM Hawkins, KCCM Lambert

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Project schedule

| 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 |

Quarterly community meetings

Regular City Council updates

Carnation Staff "Page Turns"

Siren design — Design complete

FCC permits issued for sirens

Siren construction complete

System Design* — Design complete

FCC permits issued

Construction complete

* Highway message signs, additional siren locations, microwave link and data network improvements

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1Q21 Community Design Meeting

Recap

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How do we use feedback?

- ➢ **Gather Input**
- ➢ **Code**
- ➢ **Themes**
- ➢ **Findings**
- ➢ **Insights**
- ➢ **Synthesize**

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How do we use feedback?

➢ **Gather Input**
  - Community Design Meeting
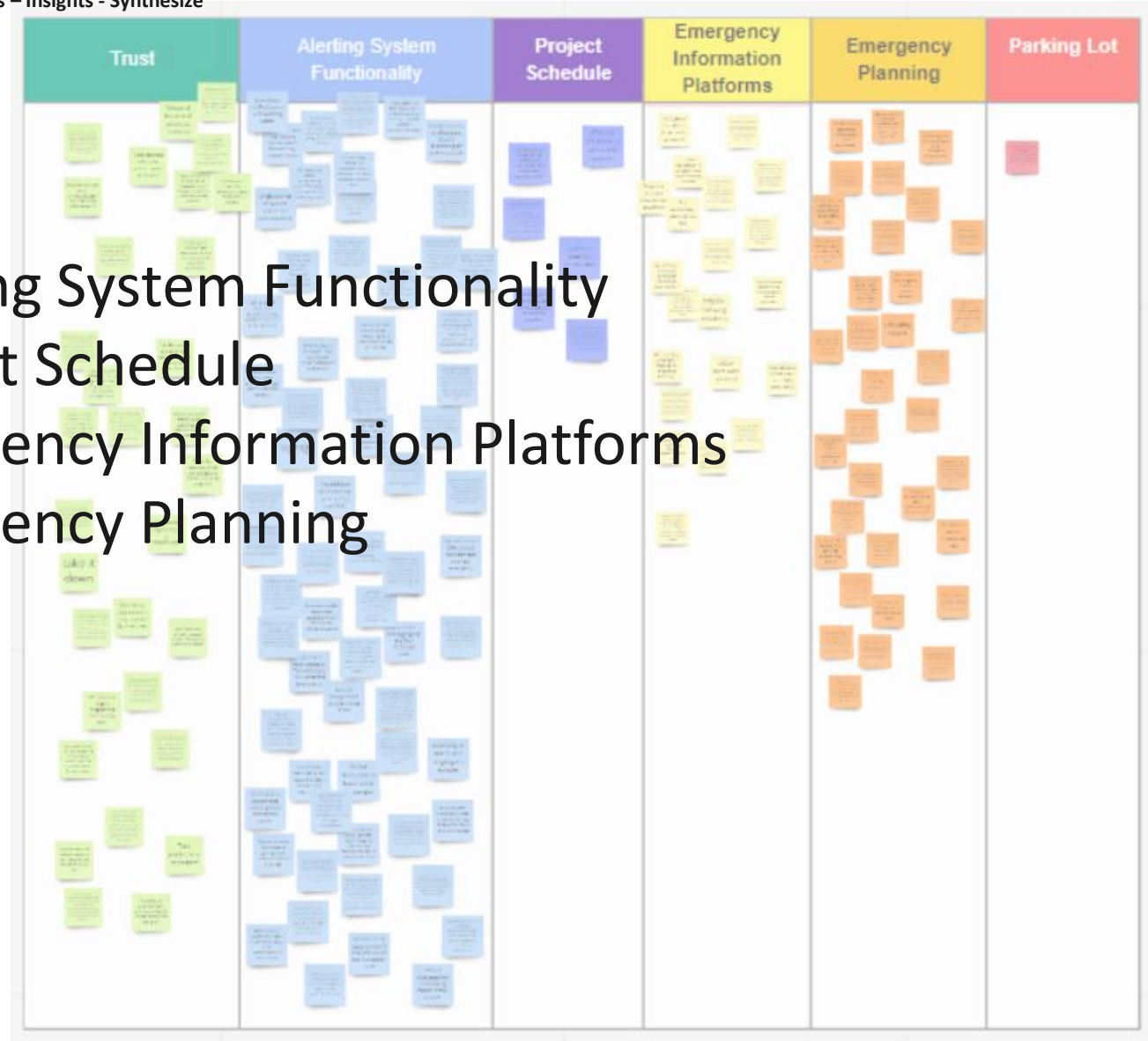   - website
    - direct contact
    - email

140+ Comments

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➢ **Code**

How do we use feedback?

Comment	Source	Code 1	Code 2	Code 3	Theme 1	Finding	Insights
Concern about visitors who are hiking or floating the river	Frank BR notes Sheila	visitor notification			Emergency Planning		
Concern about educating businesses and employees	Frank BR notes Sheila	business emergency planning			Emergency Planning		
Volunteer board member, Carnation Citizen Corps Council, background in emergency planning. Lives in downtown Carnation. Was there for July 28 false alarm. Sirens/voice seems to change inexplicably. July alarm sounded extremely different than what residents are used to. It took very long between the verbal alerts (like two minutes in between). Didn't come across as necessarily an authentic alarm.	Frank BR notes	siren clarity	confusion		Alerting Tone/ Message/Sign		
Was there for false alarm – it took three cycles to understand what the voice was saying. Clarity has improved since. Message needs to happen more quickly. The tone is too long before the message happens. She had to go outside and stand in the yard to hear what it was saying.	Frank BR notes	siren clarity	confusion		Alerting Tone/ Message/Sign		
At minimum, there should be something that sounds different for a real emergency versus a test. Real emergency message July 28 did not sound like the message on the website. There was conversation about using a more universal audible alert sound.	Frank BR notes	siren clarity	universal tones	difference between alert and website messages	Alerting Tone/ Message/Sign		
Carnation gets a lot of visitors in summer to recreate. Concern about how to ensure visitors are educated about the risk and what to pay attention to. Perhaps provide dam safety information at frequent visitor stops.	Frank BR notes	visitor notification	signage		Emergency Planning		
Signs have been added at Tolt McDonald Park since the false alarm.	Frank BR notes	signage improvements			Alerting Tone/ Message/Sign		
On the Oregon coast, there were markers on the road as to where the tsunami inundation zone ends. Might be good to paint lines on the road as to where the zone ends. Trail at end of NE 50th has inadequate signage. It is obscured by parked cars. Signage painted on or near the road would be helpful. During the July event that as he and his family were leaving he felt there were many vehicles headed towards Carnation.	Frank BR notes	signage improvements	tsunami		Alerting Tone/ Message/Sign		
A sign that flashes "You're in a flood zone. Do not enter when this is flashing." Roundabout on 203 at Fall City signage would be good.	Frank BR notes	signage improvements	tsunami		Alerting Tone/ Message/Sign		
Educating the business owners such as the Fall City company that puts people floating on the river. Also a lot of Carnation businesses in the strip mall had employees who didn't know what to do.	Frank BR notes				Emergency Planning		
Perhaps requiring as part of business license requirement that they have evacuation planning/routes posted.	Frank BR notes	business emergency planning	condition of business license		Emergency Planning		
Chamber of Commerce gives welcome packets to new residents and they	Frank BR notes	information for new residents			Emergency		

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How do we use feedback?

➢ **Themes**
1. Trust
2. Alerting System Functionality
3. Project Schedule
4. Emergency Information Platforms
5. Emergency Planning

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➢ **Findings & Insights**

INPUT
I agree the verbal message is difficult to make out, but at city hall on July 28th, after the pause from the different tone, it was actually the words "The Tolt Dam has failed..." that really got through to us.

INPUT
My vote is to better synchronize tones. The longer tone was initially confusing to me.

INPUT
I finally heard the sound that I heard on July 28th, when the system failed and went off incorrectly. It sounded like a commercial sawmill continuously running (this did not strike me as a dam alarm), which is nothing like the test alarm which sounds more like a very loud fire alarm or tornado alert. The voice that is usually very relaxed sounded, sounded notably stressed, which is appropriate if there really is a failure. (just some notes, if this helps)

CODING
Real alarm tone different than normal test tone, real alarm voice different, real alarm tone different, real alarm voice impactful, verbal difficult to hear, confusion

THEME
Alerting System Functionality

FINDING
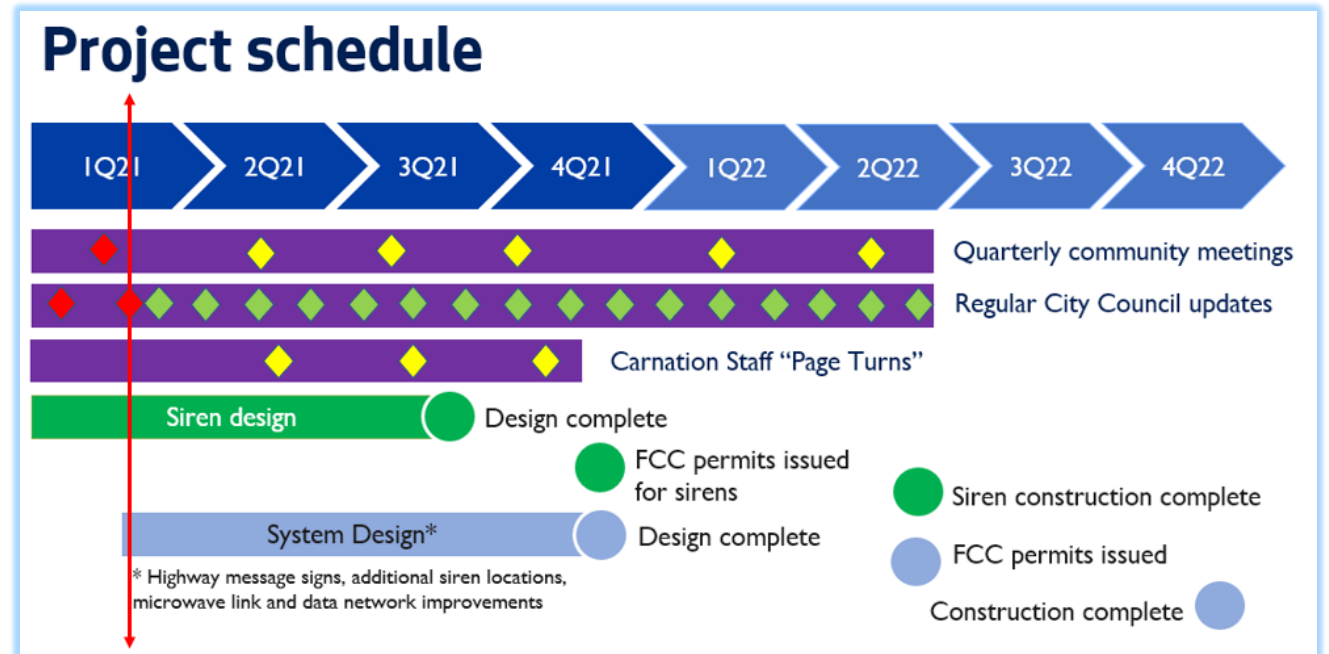People notice a difference between a real emergency alert and normal testing alert tone & voice

INSIGHT
People are self-interpreting the change between test alerts and real alerts and it causes confusion

Synthesize into the Design Solution

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Next Steps

- Schedule 2Q Community Mtg
- March/April/May/June Council Meetings
- Schedule 1st "Page Turn"
- Continue design for Sirens
- Continue design for full system replacement

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Questions?

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