

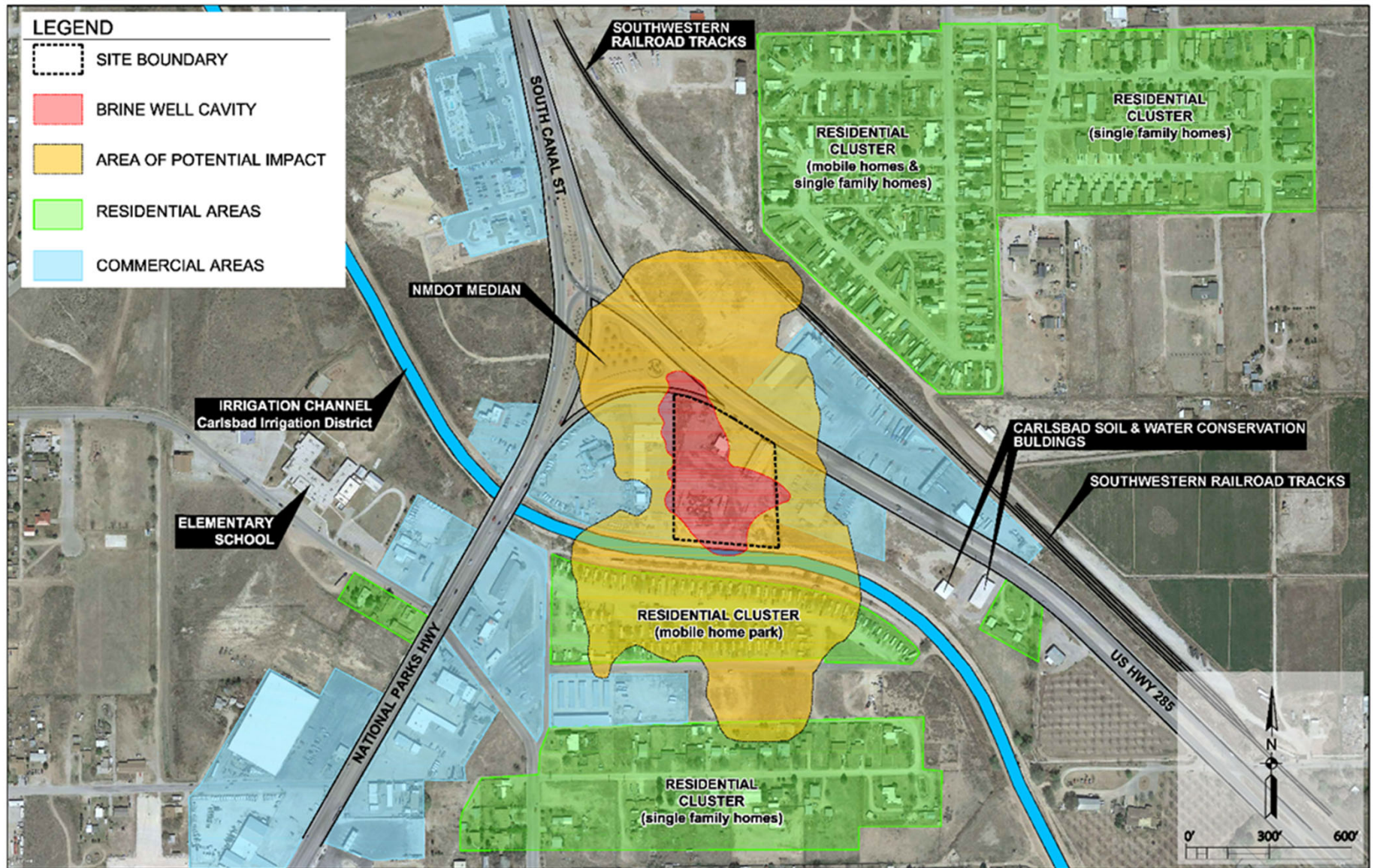
Update on Stabilization of the Brine Well in Carlsbad

TRANSPORTATION INFRASTRUCTURE REVENUE SUBCOMMITTEE

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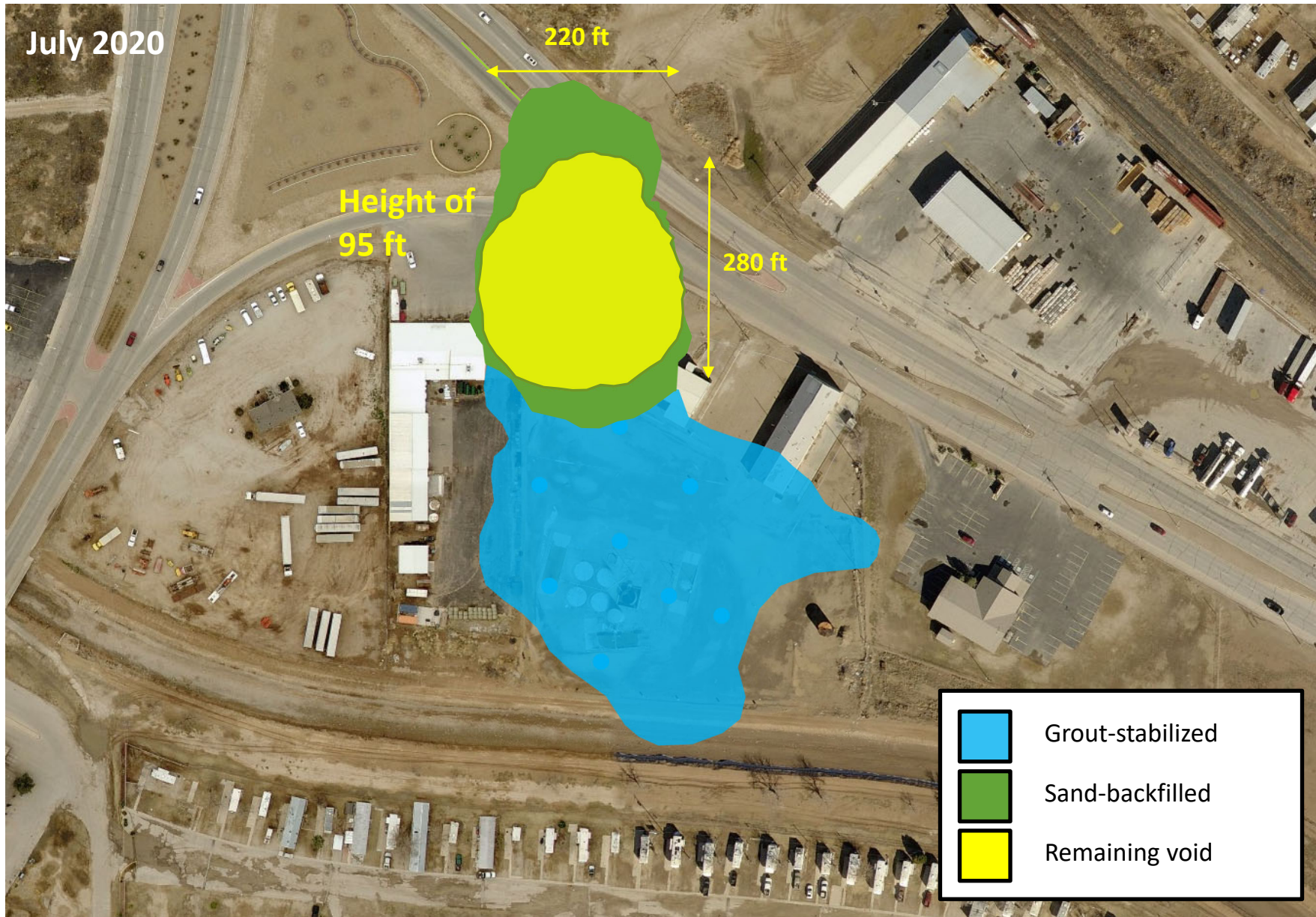


History of Work at the Site

- Drilling and grouting operations began in September of 2019.
- By late-November 2019, the southern portion of the cavern had been stabilized after injecting 5,371 cubic yards of grout. The canal, the trailer park south of the canal, and the church are no longer threatened.
- In December of 2019, we discovered a very large void (96,000 cubic yards) in the northern portion of the cavern which extends beneath US 285.
 - It is the result of significant roof failures occurring over the past 20+ years.
- It was determined that the backfilling material should be changed from grout to sand which provides equal stability at a lower unit cost.
 - Operations transitioned to sand injection in January 2020
- Work schedules had to be modified during March 2020 in response to the pandemic.

History of Work at the Site

- To date 100,563 cubic yards of sand have been injected, but a significant portion (~64%) infiltrated into the rubble pile at the bottom of the void.
- Sand injection was paused at the end of July 2020 when it was projected that the available funding would be insufficient to complete the project leaving a remaining void measured at 59,847 cubic yards.
- There were no lost-time accidents over the 11 months of field operations.
- The potential for catastrophic disruption of US 285 has been greatly reduced, but not eliminated. A very high threat to groundwater remains that can only be mitigated by additional backfilling.
- An additional \$18M was secured during 2021 from the Legislature (\$5M), NMDOT (\$10M), Eddy County (\$1.5M), and the City of Carlsbad (\$1.5M).



Estimate of Additional Sand Needed to Complete Stabilization

Remaining void volume as measured by sonar	59,900 yds ³
Accuracy of the sonar survey (+9%)	+ 5,400 yds ³
Air gap at the top of the void	+ 2,400 yds ³
Future infiltration into the rubble (<i>50% of unaccounted volume</i>)	+ 13,500 yds ³
Sand settlement	+ 1,800 yds ³
Contingency (20%)	+ 16,600 yds ³
Void which cannot be cost-effectively filled	<u>- 23,100 yds³</u>
Estimate of additional sand needed	76,500 yds³

Moving Forward

- August 25, 2021 - Contractor directed to proceed with scheduling of subcontractors and remobilization.
- August 30, 2021 – Site preparation began in Carlsbad.
- September 13, 2021 – Driller mobilized to site.
- September 20, 2021 – Re-entry and under reaming of sand injection/brine extraction wells began along with continuous on-site manning of the monitoring system as alarms were shut off.
- Week of September 20, 2021 – Mobilization to the BLM sand pit northeast of Carlsbad. The BLM is providing sand at no material cost under a free use permit.

Moving Forward

- September 23, 2021 – Second amendment to brine well remediation contract fully executed.
- Week of September 27, 2021 – Sonar logging of 4 injection/extraction wells.
- Week of October 4, 2021 – Configuration of sand slurry and brine piping along with pump testing.
- Week of October 11, 2021 – Deployment of sand resumes using 2 crews operating 24/7.

Contracting Update – Overview of Recently Approved Amendments

Amendment #2 to the Wood Contract

- **Amendment implements final remedial plan developed by Wood and the EMNRD Technical Panel**
 - This plan was the basis for funding ask in FY22 session.
- **The amendment obligates Wood to:**
 - Implement key elements of 2020 plan, and
 - Bakes in underlying rate structure.
 - Key Caveats:
 - Amendment assumes conditions have not changed.
 - If conditions have changed, Agreement has a path to resolve.
- **The amendment also ensures:**
 - State/Wood meets site reclamation and restoration obligations, and
 - Leaves open the possibility for post remediation monitoring (if funding allows).

Extension of Jenkins Use Agreement

- Existing agreement had a fixed term.
- Amendment extends term and allows for mos. to mos. in exchange for a slight inc. in rent.