

Water Treatment Plant 4

Quarterly Briefing Environmental Board

May 16, 2012



WTP 4 – Approved GMPs

GMP	Scope of Work	Current Status	Approvals
GMP 1	Raw Water Intake, RW Tunnels	In Construction	December 2010
GMP 2	Raw Water Pump Station	In Construction	September 2011
GMP 3A	Procure Process Equipment	Fabrication/Delivery	May 2010
GMP 3B	Clearwells & Upflow Clarifiers	Nearing Completion	June 2010
GMP 3C	WTP Filter Complex and Site Walls	In Construction	November 2010
GMP 3D	WTP Washwater, Solids and Chemical Facilities	In Construction	April 2011
GMP 3E	WTP Electrical & Underground Mech and WTP & RWPS SCADA	In Construction	July 2011
GMP 3F	Lime Handling Facility	In Construction	December 2011
GMP 3G	Admin Bldg and Maint Bldg	Const. Start - May 2012	April 2012
GMP 5	Jollyville Transmission Main	In Construction	July 2011

WTP 4 – Upcoming GMPs

GMP	Scope of Work	Current Status	Approvals
GMP 3H	Medium Service Pump Station (MSPS)	Advertises – May	July 2012 (negotiate GMP)
GMP 3I	Site Security & BHR Ductbank	Sole Source Negotiations (Security) in Progress	August 2012 (negotiate GMP)
GMP 4	RWPS & WTP Site Finishes	Advertises – September	November 2012 (negotiate GMP)

Raw Water System

RW Intake Site



Raw Water System – Intake



- Drilling of the Raw Water Intake Shaft in progress.



- Fabricating one (1) of three (3) permanent Intake Screens.

Raw Water System Pump Station Site



Raw Water System – RWPS Site



- RW Tunnel shaft work continuing.
- RWTM tunneling complete.
- RWPS Construction beginning.

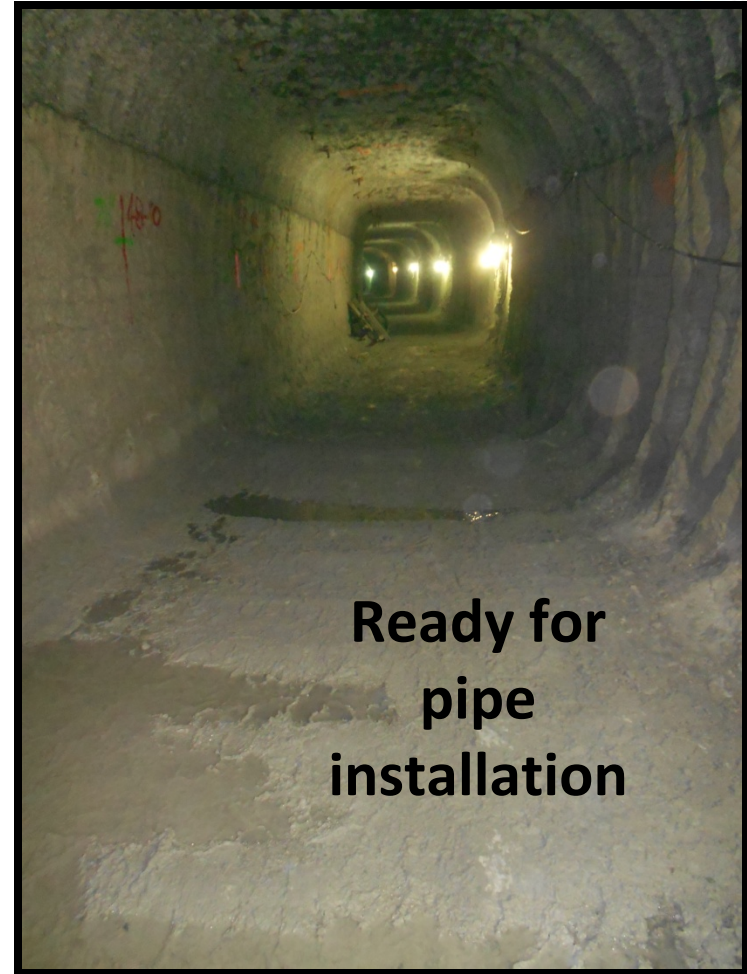
- RWPS foundation excavation in progress.



Raw Water System - TM



**End of RWTM tunnel
at WTP 4 site.**



**Ready for
pipe
installation**

WTP 4 Plant Site



WTP 4 – Plant Facilities

- Completed Design of Medium Service Pump Station (MSPS) and Bullick Hollow Road Electrical Ductbank
- GMPs
 - 3A - Equipment: review/fabrication phase (varies)
 - 3B - Clearwells & Clarifiers: 90% complete & on schedule.
 - 3C - Filters & Site Walls: 50% complete & on schedule.
 - 3D - Washwater, Solids & Chemical Facilities: 27% complete & on schedule.
 - 3E - Electrical, SCADA and Underground Mechanical: 25% complete & on schedule.
 - 3F - Lime Handling Building: Foundation work in progress.

WTP 4 Plant Site



Clearwells

- Floor, walls and roof are complete.
- Concrete finish work in progress.

WTP 4 Plant Site



Upflow Clarifiers

- UFC 1 & 2: Successful completion of hydro-testing.
- Catwalk work in progress.



WTP 4 Plant Site



Filter Complex

- In progress



Centrifuge Building



WTP 4 Plant Site



**Solids Handling
Containment Area**



Washwater Facility

WTP 4 Plant Site



Electrical Substation Building

A wide-angle photograph of a construction site for an electrical substation building. The structure is a long, rectangular concrete foundation with rebar visible. The ground is dirt and gravel, with some construction materials and orange safety fencing in the foreground. In the background, there are green hills under a clear sky.



Sodium Hypochlorite Building

A photograph of a construction site for a Sodium Hypochlorite Building. The structure is a large, rectangular concrete building with a complex roof structure. The ground is dirt and gravel, with some construction materials and orange safety fencing in the foreground. In the background, there are green hills under a clear sky. A timestamp "04/26/2012 12:47" is visible in the bottom right corner.



Chemical Building

A photograph of a construction site for a Chemical Building. The structure is a large, rectangular concrete building with a complex roof structure. The ground is dirt and gravel, with some construction materials and orange safety fencing in the foreground. In the background, there are green hills under a clear sky. A timestamp "04/24/2012 14:17" is visible in the bottom right corner.

Jollyville TM Shaft Sites



Jollyville Reservoir Shaft Site



Four Points Shaft Site



WTP 4 – Finished Water System

– Four Points Site

- Shaft excavation is complete.
- TBM delivered and tunneling to WTP 4 [Reach 1] is in progress (16% complete).

– Jollyville Reservoir Site

- Shaft excavation is in progress and scheduled to complete in May.
- Delivery of Reach 2 & 3 TBMs expected in June/July.

Jollyville TM

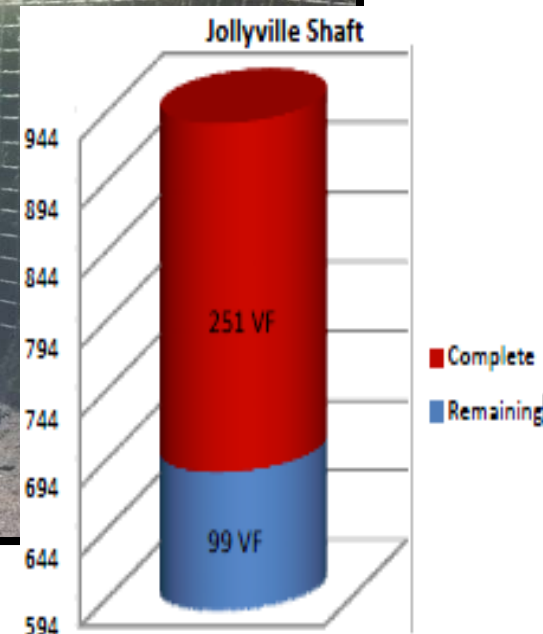
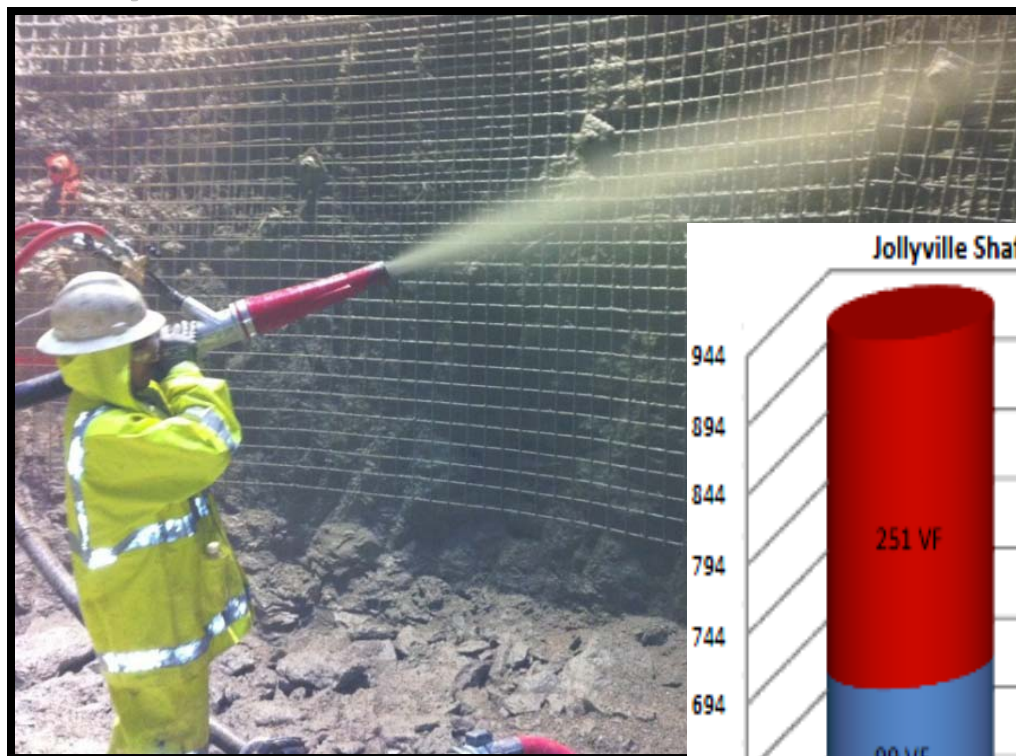
Four Points Shaft



- Shaft excavation is complete.
- Tunneling to WTP 4 (Reach 1) is in progress with Tunnel Boring Machine (TBM).

Jollyville TM

Jollyville Reservoir Shaft



- Shaft excavation is ongoing.
- Rings to 159'; balance is shotcrete (photo).

Environmental Compliance

Environmental Compliance

Plant and Raw Water System

- Received over 3" of rain May 5 – May 10
 - Plant site stable. No offsite sediment discharges
 - Rain captured in large excavations/trenches or diverted into interior areas
- Weekly & post rain event inspections continue
 - SWP3 - Suggested BMP - Tree Protection
- Pre-trenching for process pipe (5.2 miles) continues
 - 6 voids mitigated
- RWPS water quality discharge continues to exceed Environmental Commissioning goal

Raw Water Intake

- Coordination with LCRA continues
 - Work plan submitted for sand blasting and painting operations
 - Spill plan revision for concrete pours on the lake
 - Spoils management and disposal plan for riser shaft drilling
 - Water quality monitoring and results submitted daily during dredging activities
 - Turbidity curtain installed at staging area (Keller Marina)

Sand Blasting/Painting Tent



03/28/2012 10:26

Turbidity Curtain



04/18/2012 16:06

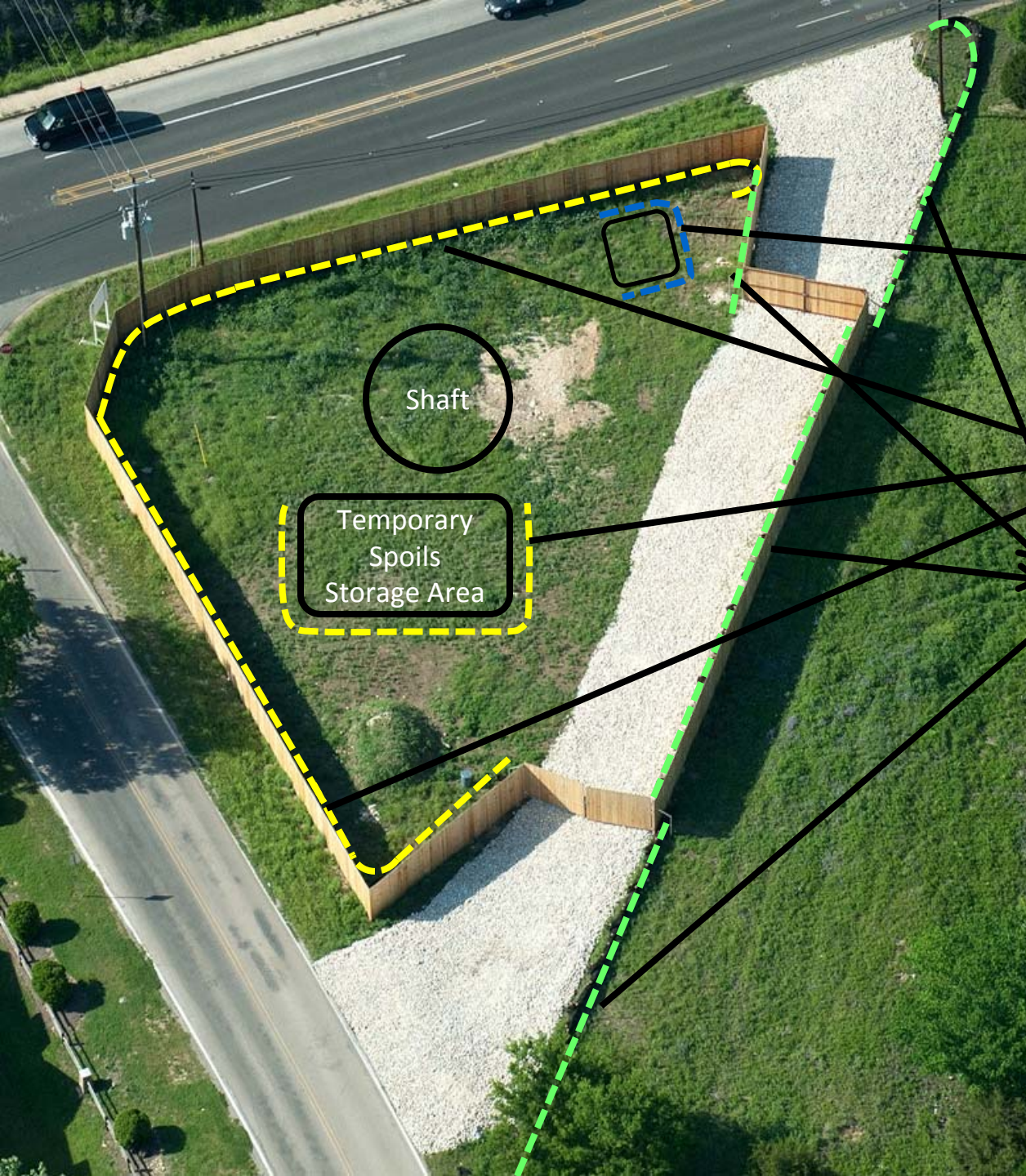
Jollyville Transmission Main

- Four Points Shaft
 - Enhanced grouting program successful. JT-128 currently at 96% recovery to background level
 - Approximate cost \$300k
 - Tunnel inflow – no measureable inflow
- Spicewood Springs Shaft
 - Minor additions to erosion & sedimentation controls
 - Vegetative filter strip
 - No bulk fuel or chemical storage

Water Release at Four Points

- Discharge line failure May 9th
- Approximately 10,000 gallons shaft water (presumes 20% error level)
- Water samples collected; analytical results .25ppm residual chlorine
- Steel I-beam braces added to help prevent future failures





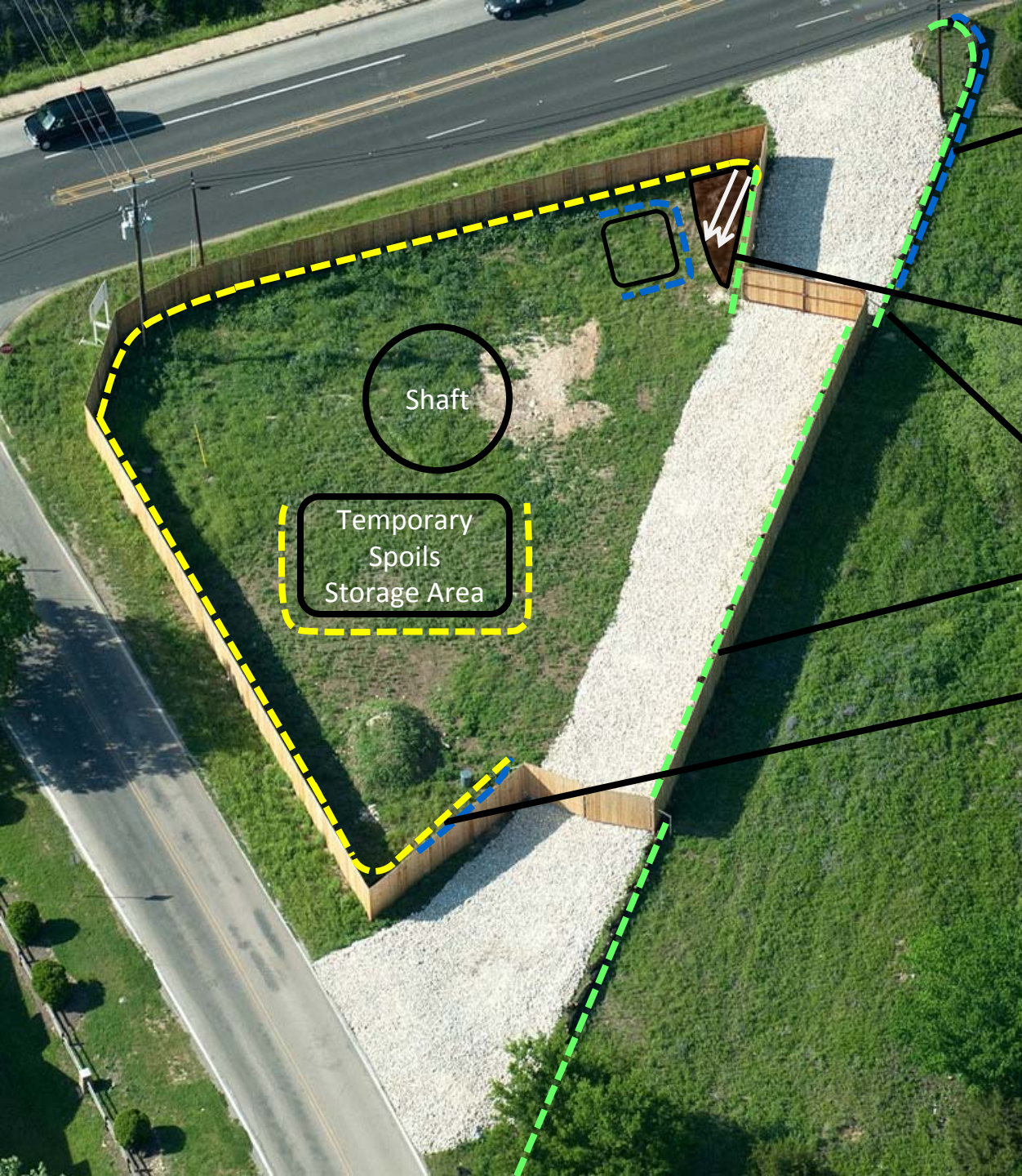
Shaft

Temporary
Spoils
Storage Area

Mulch Sock

Silt Fence

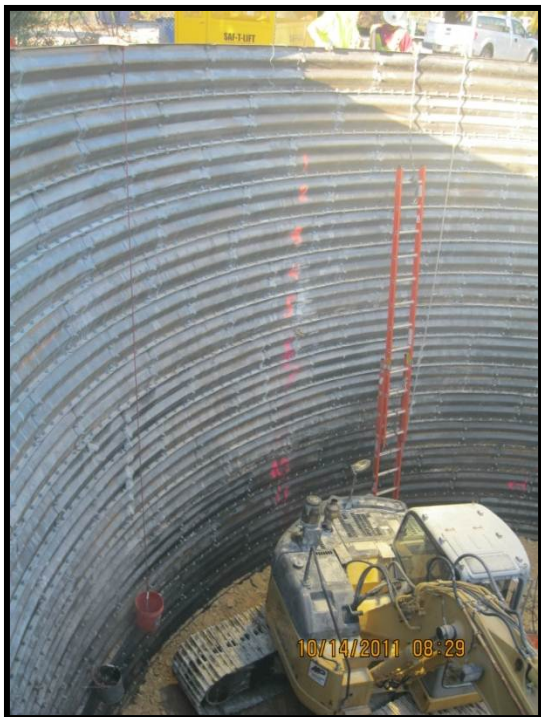
Mulch Sock & Silt Fence



1. Extend silt fence & mulch sock to construction entrance, add J-hook and mulch sock.
2. Utilize existing onsite material (topsoil) and grade to drain to southwest (existing drainage is to the northeast)
3. Close the gap on silt fence & mulch sock located outside of fence.
4. Install leftover mulch sock along fence, starting at J-hook of silt fence

Spicewood Springs Shaft Design

Original Design

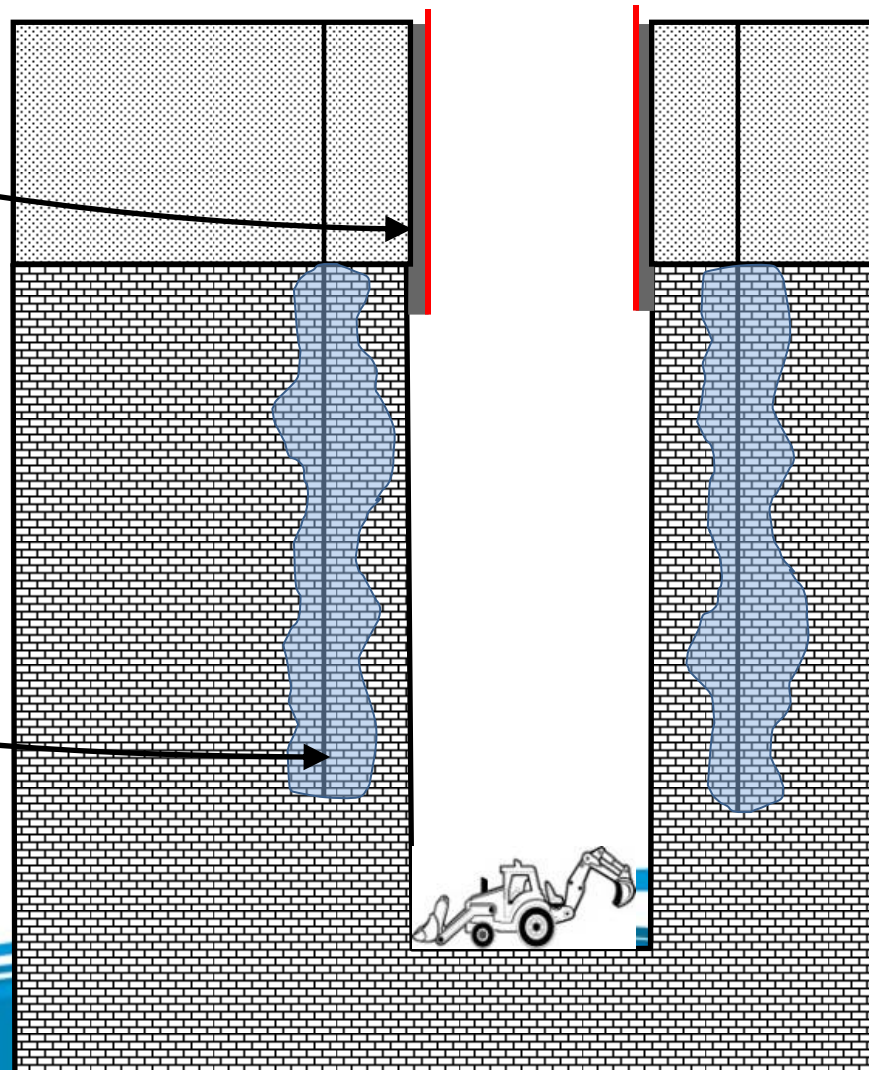


**Liner Plates with
Annular Grout**

Fill/Soil
Glen Rose

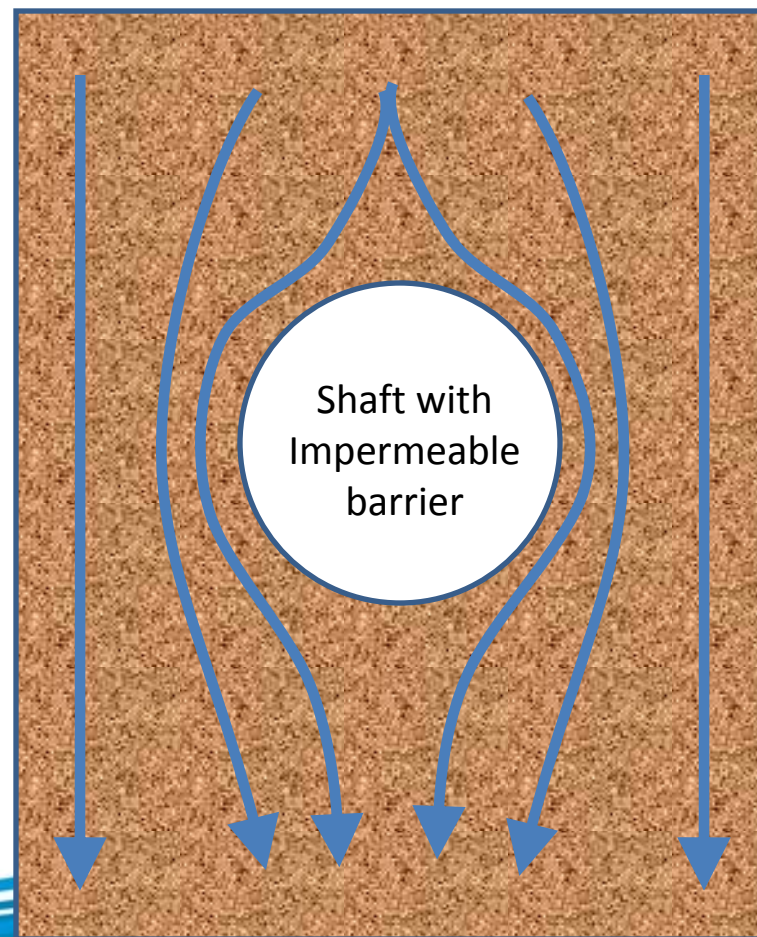
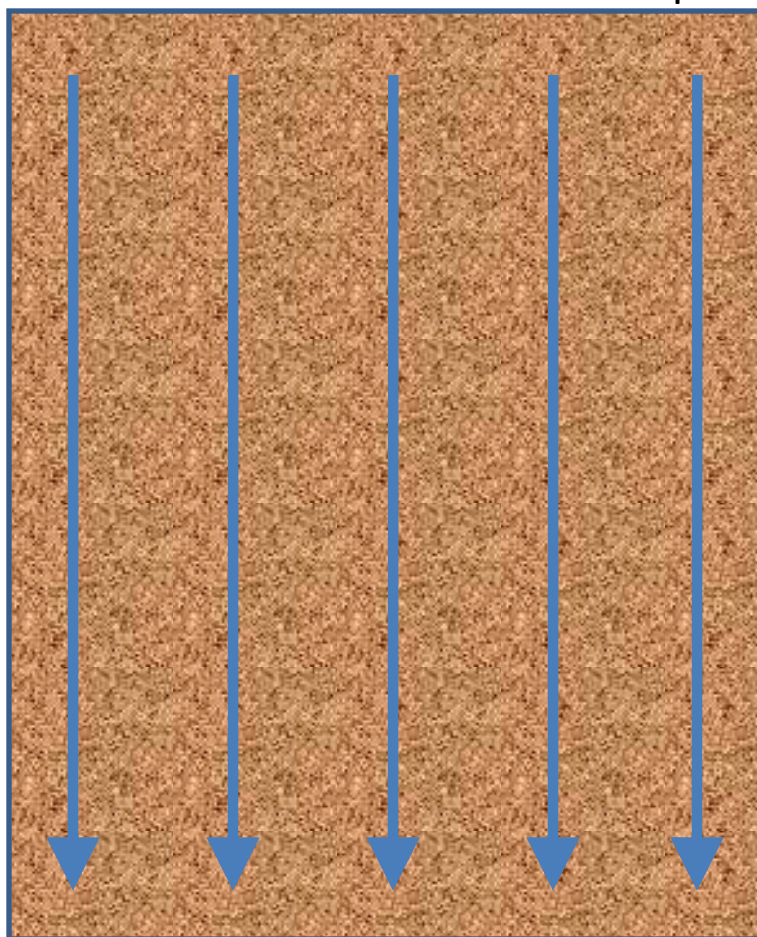


**Pre-Excavation
Grouting**

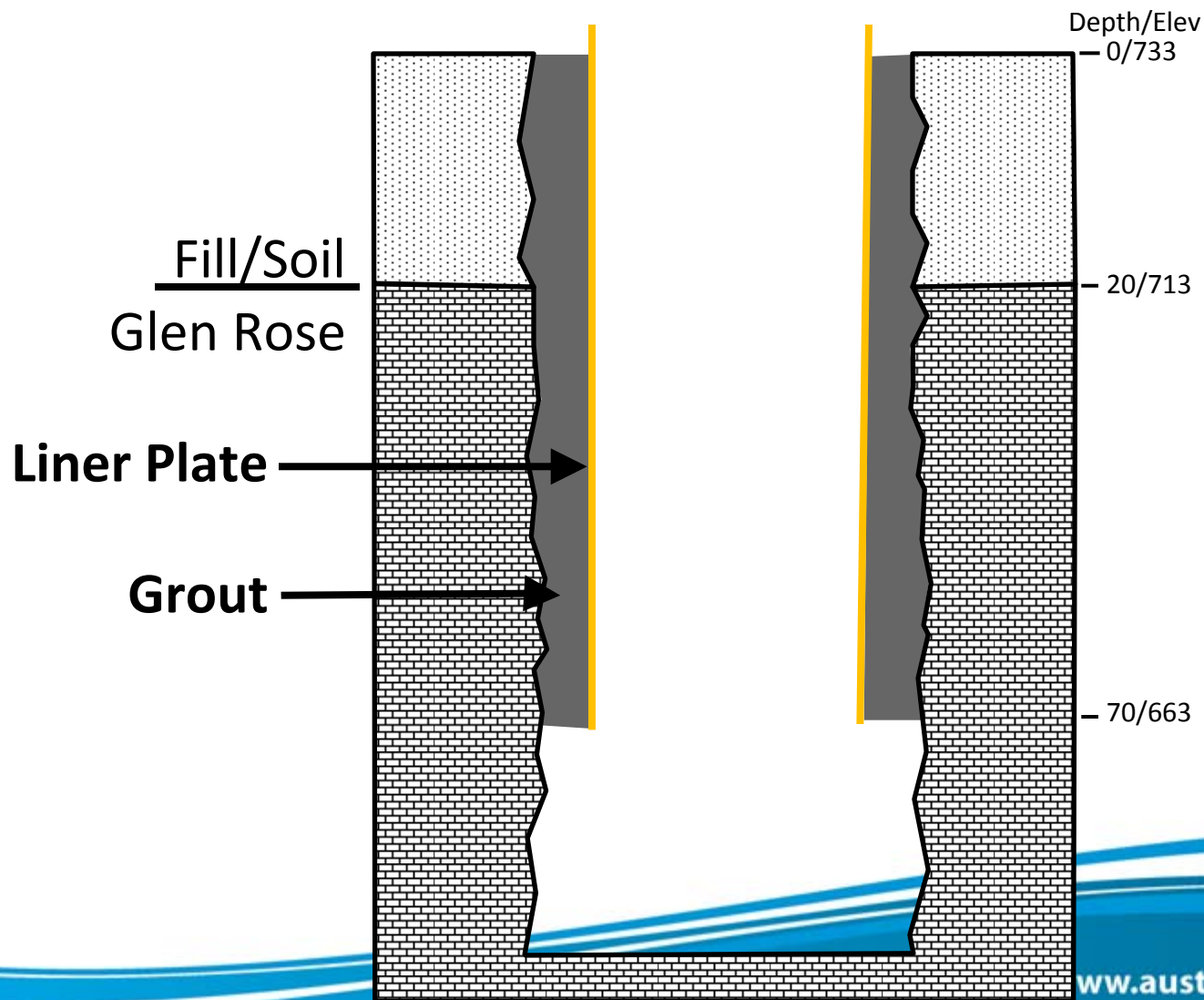


Groundwater Flow Paths

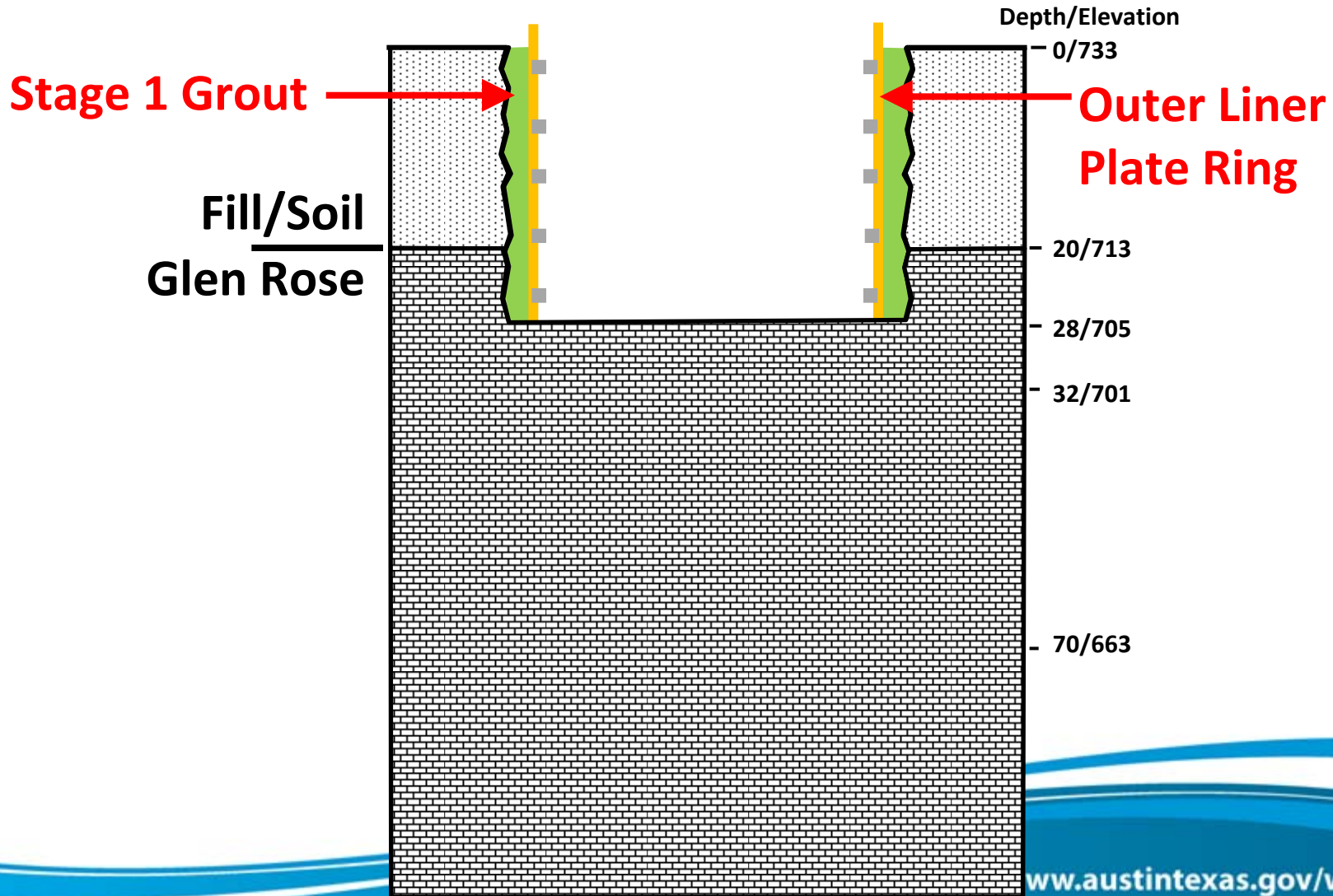
Plan view of flow paths through medium with high horizontal permeability, pre- and post-shaft construction



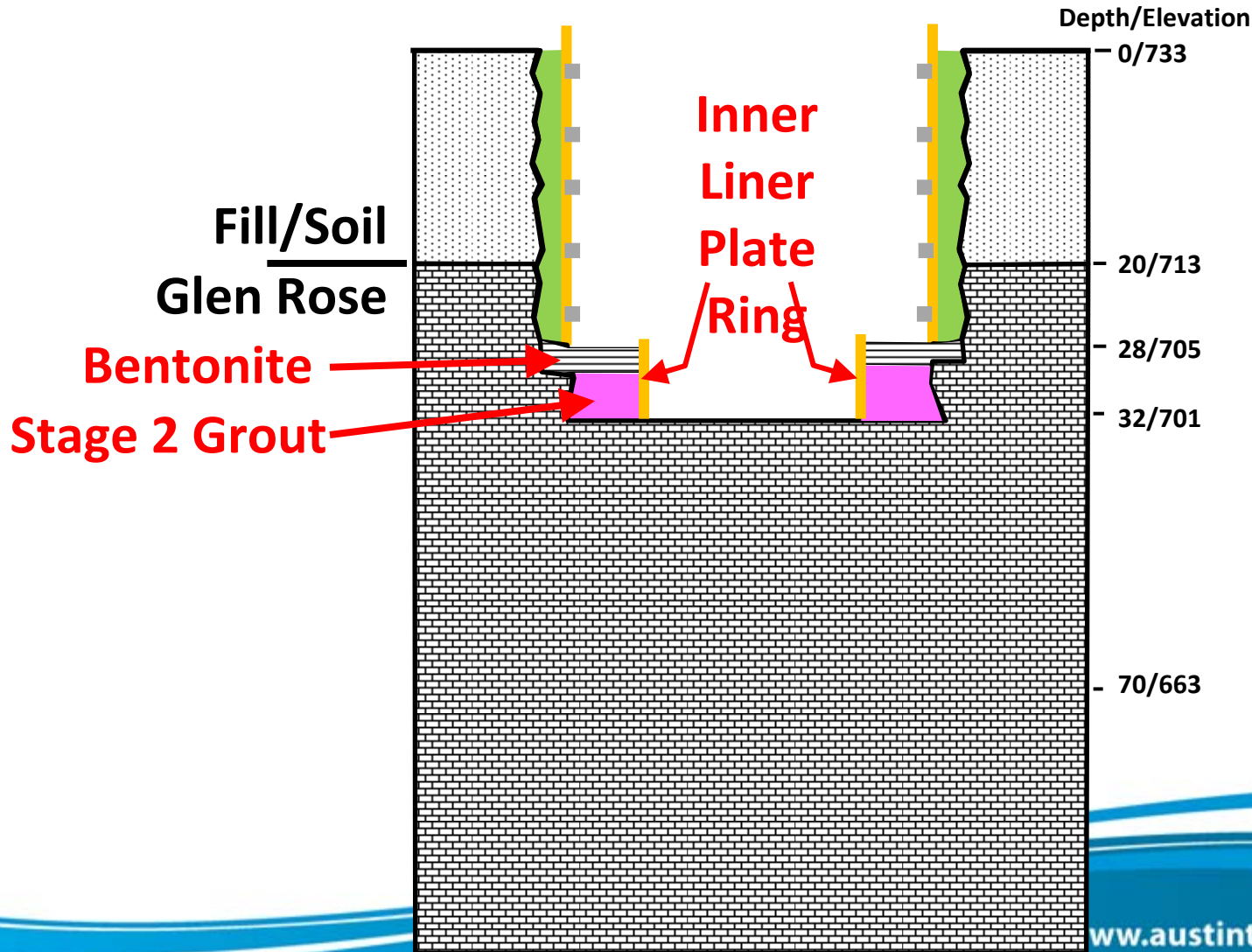
Contractor's Design



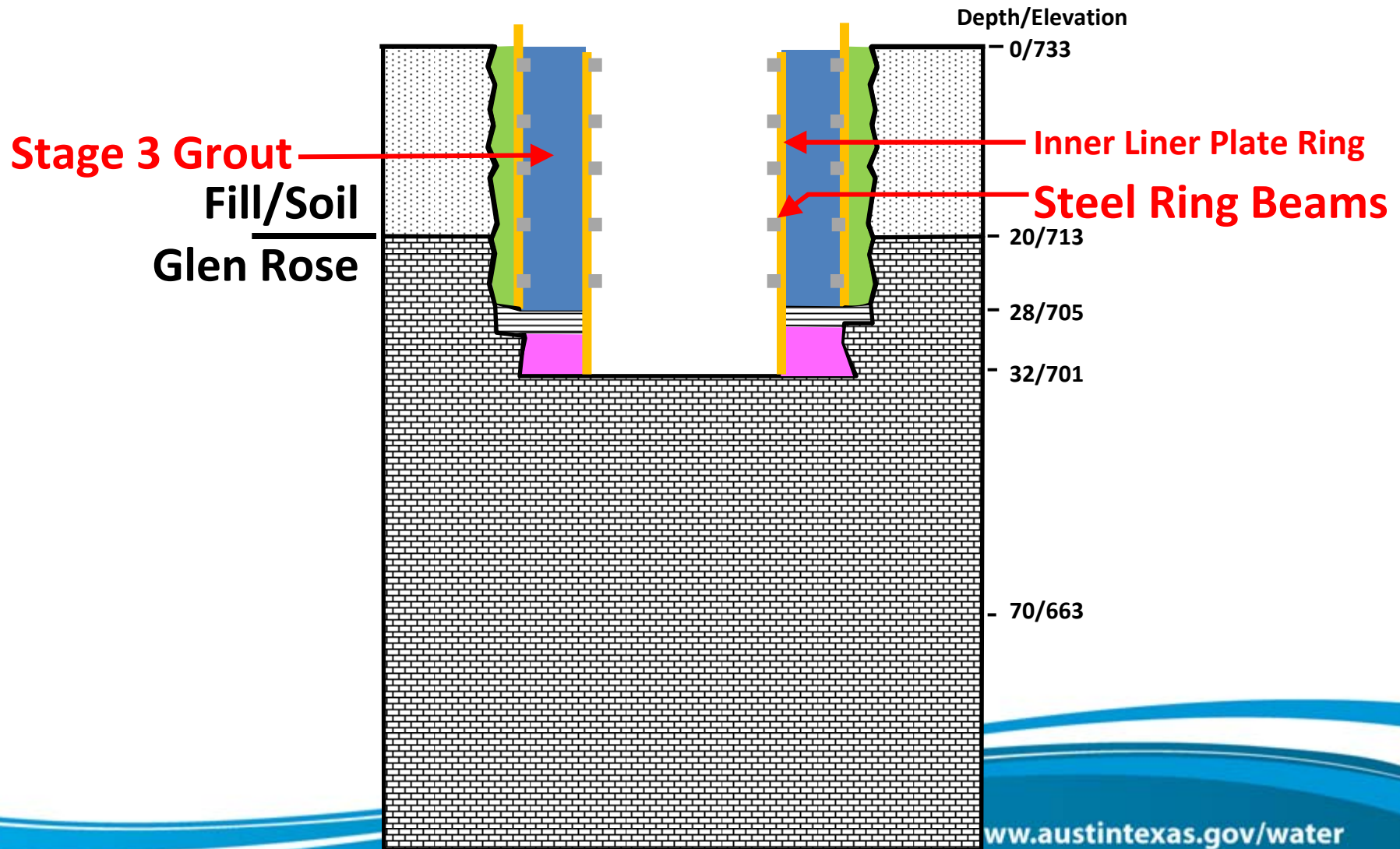
Modified Design Step 1



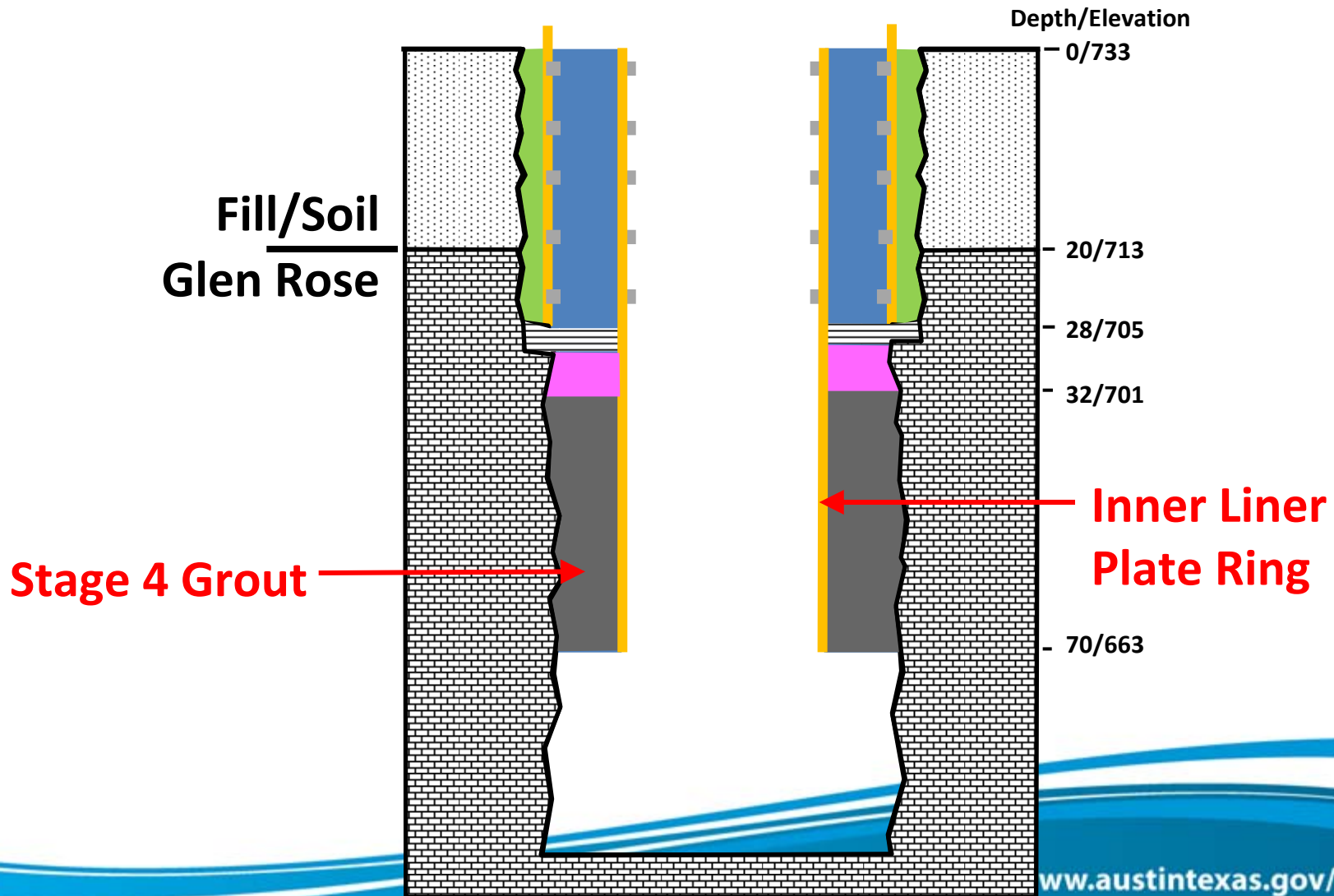
Modified Design Step 2



Modified Design Step 3



Modified Design Step 4



Bull Creek Clean-Up

Contractor organized clean up on March 24th. Removed 3 pick-up truck loads of trash, including metal, plastic bottles, laminate flooring, toys, remote controls, BBQ grill, rebar, gates, and other odds and ends.





Questions?

info@wtpfour.com

<http://austingo.austintexas.gov/department/water>

**Water Treatment
Plant 4**

