Tunnel Technical Feasibility

• Process

• Finding: Tunnel is Feasible

• Principle characteristics and anticipated conditions are within the realm of previously constructed tunnels
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Tunnel Construction
Tunnel Grouting
Feasible Tunnel Cross-Section

- 12 ft. excavated opening
- 9 in. thick segmental concrete lining (gasketed)
- 3 in. grout annulus
- 10 ft. internal diameter
- 30 in. product line
- Ventilation
Tunnel Cross-Section

Gastau tunnel (17.5 ft internal diameter)
Geotechnical Site Investigation
Contemporary Comparison
Eurasia Tunnel

- 45 ft excavated diameter
- 430 ft below water
- Experienced 12-14 bar water pressure

2.1 mile long, 45 ft diameter

TRAKYA Formation
mudstones, sandstones, basalt

Marine Sediments

TRAKYA Formation
Lake Mead Intake 3 Tunnel

- 20 ft excavated diameter
- 450+ ft below water
- Up to 14 bar water pressure
Rondout Bypass Tunnel

- 22 ft excavated diameter
- 900 ft deep
- Potential 20 bar water pressure
- Under construction now
Feasible Approach

figure from Corrub tunnel, Ireland
North Shore Portal

Niagara tunnel portal
(45 ft diam. TBM)
South Shore Portal
South Shore Portal
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