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Facilities and Services
Project Development
and Engineering

New Mexico State University Campus-Wide Tunnel System Repair Plan

Introduction

- NMSU is actively repairing section of the utility tunnel system, which services the majority of buildings on campus
- Repairs were initiated as a result of a 2013 structural integrity study by Bohannon Huston Inc.
- Deficiencies discovered during a water line rehabilitate project prompted a full investigation of the structural integrity of the entire tunnel system
- Responsive action
 - Develop a strategic plan to repair and replace the most critical sections of tunnel
 - Implement enhancements and to the tunnel design to prolong life of repaired section
 - Implement measure to delay continued deterioration of tunnel system

Utility Tunnel System

- Approximately 15,000 linear feet of tunnel
- Initial date of construction unknown
- Conveys steam, chilled water, domestic water, gas and electricity
- Structural integrity inspections in 2013 & 2016
- Scheduled repairs began in 2015

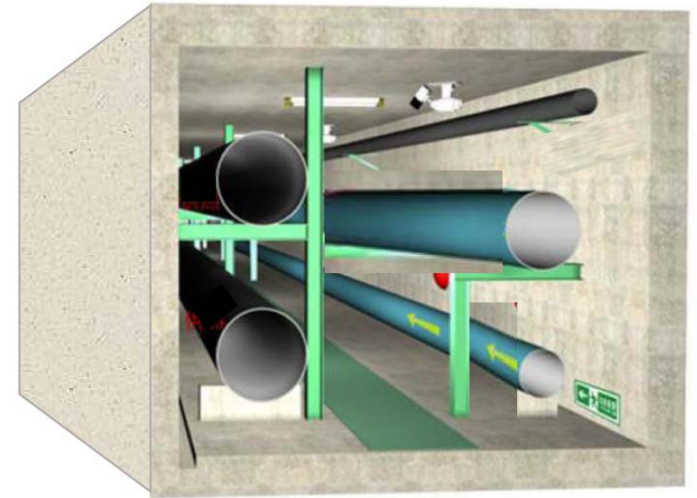


Categorization

- **Category A:** Highest priority sections of tunnel that are in danger of imminent failure or are severely deteriorated
- **Category B:** High priority section of tunnel that are compromised and require prompt repairs before increased deterioration occurs
- **Category C:** Medium priority areas that should be monitored and repair is recommended within three to five years
- **Category D:** Low priority condition is isolated and not likely to spread or affect the structural integrity of the tunnel.

Repair Cost

- Average repair cost of \$2,225 per lineal foot
- **Category A**
 - Approximately 1420 lineal feet of category A level deficiencies
 - Estimated repair cost of \$3,159,500
- **Category B**
 - Approximately 2820 lineal feet of category B level deficiencies
 - Estimated repair cost of \$6,274,500



Proposed Repair Schedule

- 5 years to complete Category A&B level areas
- Average repair section per year of 848 lineal feet
 - Repairs initiated as 2 or more projects per year
- Estimated yearly repair cost per section \$1,886,800
 - Includes design and administration cost
 - Includes complete construction cost

Existing Conditions



Lid Section Failure

Extensive Reinforcement Corrosion



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Existing Conditions

Extensive Reinforcement Corrosion



Preceding Repairs



Phase III Repair 338 Lineal Feet
Stewart St.

Phase I Repair 271 Lineal Feet
Stewart St.



Thank You!

Questions?

The logo for New Mexico State University, featuring the letters "NM" stacked above "STATE" in a bold, serif font, all contained within a white square that has a maroon border. The square is positioned on a maroon background.

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