Mount Airy Water Storage Facility
Update
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**Storage Facility History**
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**Recommendation**
1. Repair Brick Tanks, Foundation & Roof
2. Replace Fluted Concrete Towers
The Mt. Airy Water Storage Facility is an historic icon.
History - Mt. Airy Water Storage Facility

- Built in 1926-27
- Architectural appeal and evolving engineering practices
- Includes 14 water tanks in one facility
<table>
<thead>
<tr>
<th>Years of Upgrades and Repairs</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>2020</td>
<td>2018 Evaluation/ Plan of Action determined with Community Input</td>
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<tr>
<td>2015</td>
<td>2013-14 Preliminary Engineering Report and 30% Concept Design</td>
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<tr>
<td>2010</td>
<td>2005 Assessment Report: up to $4.9M repairs identified – major project would need to go into outlying years of capital plan</td>
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<tr>
<td>2000</td>
<td>1991-92 Lighting Upgrades: Mt. Airy Town Council raised $50K to light the six towers</td>
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<td></td>
<td>Repair Project #3: $1.0M repairs on tanks; concrete repair; main roof; tuckpointing; and CMU walls</td>
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<tr>
<td>1990</td>
<td>1984 Major Roofing Repairs; major repairs on the seven 50 ft. diameter roofs</td>
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<tr>
<td>1980</td>
<td>1978 Repair Project #2: castellation and window replacement; concrete repair; CMU wall + main roof repair</td>
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<tr>
<td>1980</td>
<td>1962 Repair Project #1: brick, concrete, brick tuck-pointing repairs and waterproofing; structural crack repair</td>
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<tr>
<td>1950</td>
<td>1958 Tank Covers Added (7 total); built-up roofing; new concrete walk added between tanks</td>
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<tr>
<td>1940</td>
<td>1926-27 Construction of the Mt. Airy Tank Facility</td>
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**MT. AIRY TANK FACILITY: Repair and Upgrade History**
INSPECTION

Core Drilling
INSPECTION

Core Drilling
INSPECTION

Core Drilling
INSPECTION

Results

Brick Tank Repair:

• **100% of the Facility perimeter foundation needs repair**

• **Masonry Deterioration:** 15% of wall surfaces & 50% of tank tops

• **Roof & Interior:** Brick repair below tank covers; Masonry waterproofing; Roof repair and replacement; Steel repairs on tank interior

Fluted Concrete Tower Repair:

• **Significant Deterioration of Towers:** 75% above the roof; 60% below the roof; Freeze/ thaw cycles still occur behind repairs

• **Conventional repairs of Towers are not feasible:** Long-term repair solution requires full replacement of towers.
Results

- Maintenance History & Latest Inspection was presented.
- 3 Options for Rehab and Replacement were available.
- Community and historical concerns were discussed.
- GCWW re-evaluated the proposed Project plan.
- End Result: Project plan calls for a new approach which now includes a full rehab of facility.
Recommendation

Rehabilitation of Brickwork, Foundation, and Roof

Replace Concrete Fluted Towers
Aerial Facing Westward
Tank Repair Plan

Repair work will consist of brick, foundation and roof repairs.

Aerial Facing Westward

7 brick tanks will be rehabilitated
Tower Repair Plan

Repair work will consist of replacing fluted concrete towers and Mt. Airy Community sponsored lighting to maintain the overall aesthetic of the water storage facility.

6 failing concrete towers will be replaced with new, concrete facade

Aerial Facing Westward
Questions?

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