Pre-stressed Concrete Cylinder Pipe (PCCP) Program

Updated: September 2016
What is PCCP?
## System Overview

<table>
<thead>
<tr>
<th>Water System</th>
<th>5,600 miles</th>
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</thead>
<tbody>
<tr>
<td>Total PCCP</td>
<td>337 miles</td>
</tr>
<tr>
<td>36&quot; - 96&quot; PCCP</td>
<td>145 miles</td>
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<tr>
<td>≥ 48&quot; PCCP</td>
<td>77 miles</td>
</tr>
<tr>
<td>36&quot; - 42&quot; PCCP</td>
<td>68 miles</td>
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<tr>
<td>Wire Break Monitoring</td>
<td>~ 90 miles</td>
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Largest Wire Break Monitoring System in USA (Drinking Water)
PCCP Management Program

- An Asset Management strategy for 36-inch and larger PCCP water transmission mains
- Program first established in early 1980s
- In 2007, WSSC initiated the current strategy using a regular inspection plan
Inspections

* Annual inspection goal is ~ 18 miles

* All PCCP ≥ 48” have been inspected multiple times and continuously monitored for wire breaks

* Inspection of 36” – 42” PCCP began in 2013 and is on an 8 to 10 year inspection schedule

* Carryout emergency inspections - as needed
Small segment Carbon Fiber Reinforced Polymer (CFRP) repair versus segment replacement is based primarily on the location of pipe.

For smaller diameters (36” & 42”), dewatering, access, ventilation, etc. may necessitate segment replacement versus CFRP repair.

Each location is unique.
WSSC monitors PCCP wire breaks using Acoustic Fiber Optic (AFO) Monitoring System

- Current monitoring ~ 90± miles
- Alerts received by WSSC staff and appropriate action taken
- AFO Monitoring does not prevent pipe failure; It provides an early warning