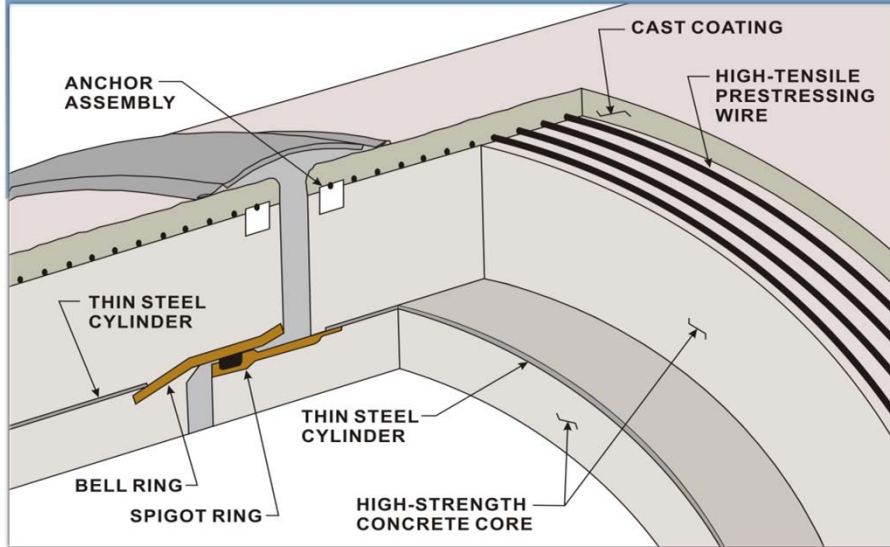




# Pre-stressed Concrete Cylinder Pipe (PCCP) Program

Updated: September 2016

# What is PCCP?



# System Overview

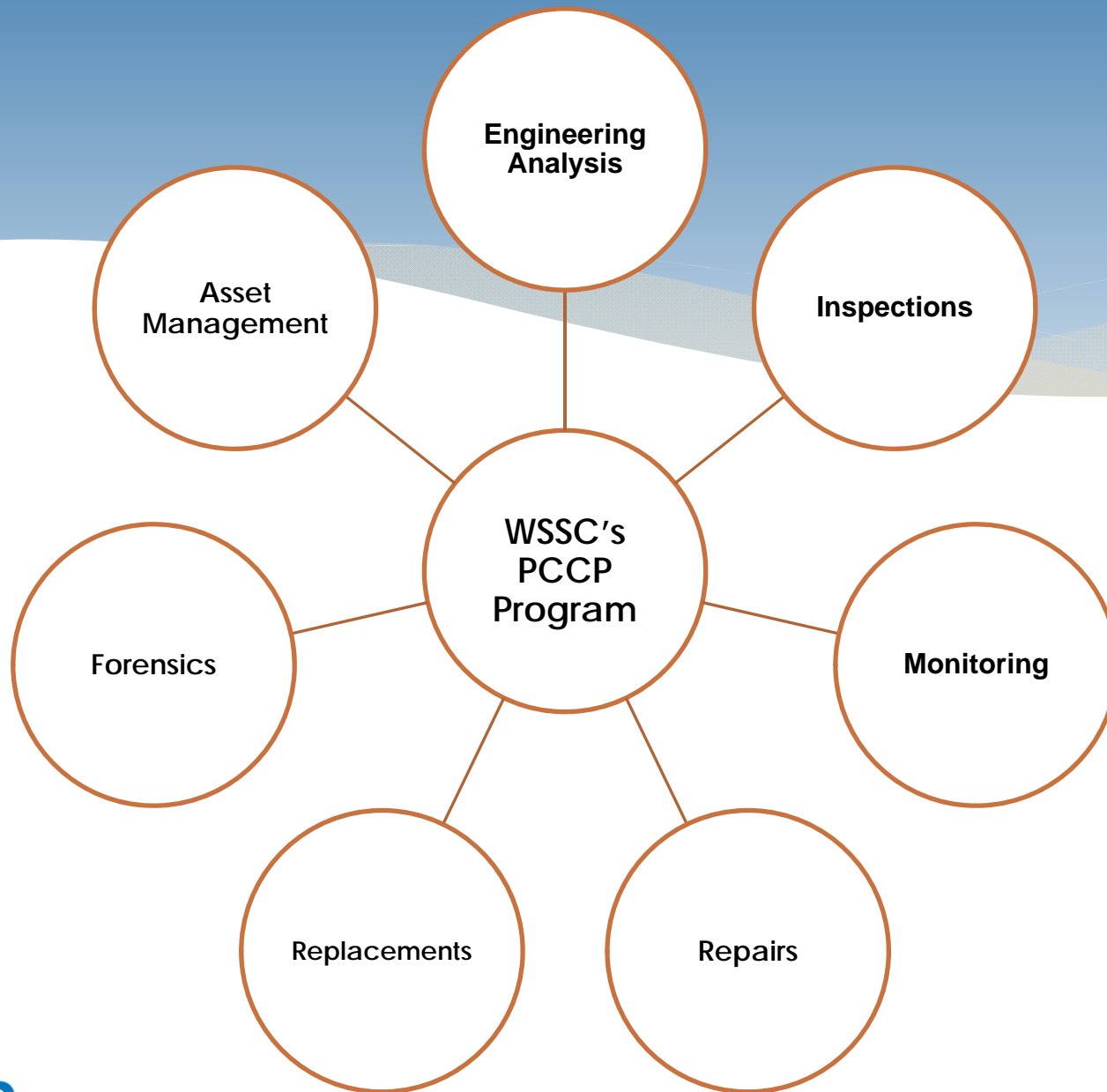
Water System	5,600 miles	
Total PCCP	337 miles	
36" - 96" PCCP	145 miles	
	≥ 48" PCCP	77 miles
	36" - 42" PCCP	68 miles
Wire Break Monitoring	~ 90 miles	

**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  $\geq 48$ " 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



# Repair and Replacement

- \* 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



# Monitoring

- \* 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



# Forensics

