



Infrastructure Solutions Group LLC

*McAlester Concrete
Clearwells Evaluation*

September 8th 2020



Clearwells



- Infrastructure Solutions Group, LLC was contracted to provide an investigation of the Water Treatment Plant Concrete Clearwells
- The Clearwells consist of Two (2) - 1.0 million gallon Concrete Basins for a Total Storage Capacity of 2.0 million gallons
- The Clearwells were constructed in the early 1980s when the Water Treatment Plant was constructed
- The West Basin has been offline for at least 3 years due to Excessive Water Loss
- The Basins are separated by a Center Wall where each Basin can be operated independently with a Common Pumping Basin

- Issues Identified:
 - Excessive Water Loss due to Exterior Concrete Wall Cracking



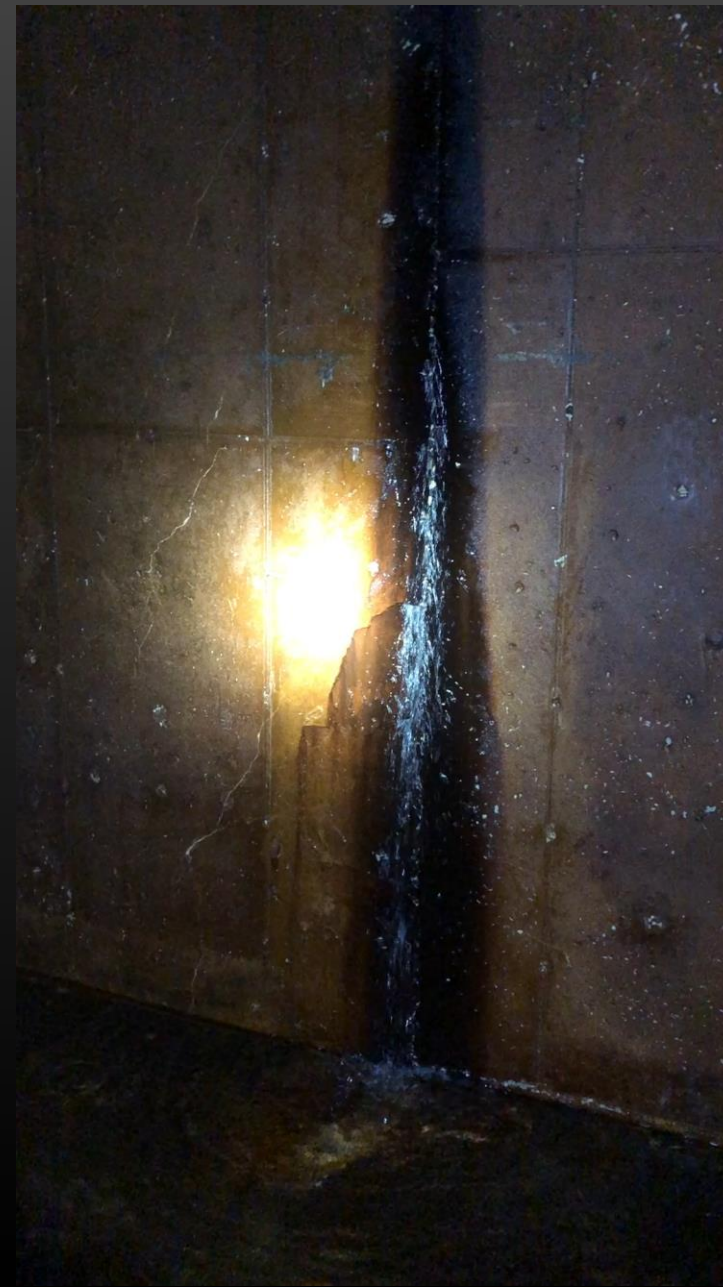
- Issues Identified:
 - Excessive Water Loss due to Deterioration of the Expansion/Construction Joints



- Issues Identified:
 - Exposed Rebar inside the Clearwell due to Concrete Deterioration



- Issues Identified:
 - Failures in the Separator Wall Preventing Adequate Maintenance due to Concrete Deterioration



- Issues Identified – Water Loss:
 - East Foundation Drain
 - South Foundation Drain





Clearwells



- Estimated Treated Water Loss (East Basin Only)
 - East Foundation Drain
 - 63,000 gallons lost per day
 - 23,000,000 gallons lost per year
 - South Foundation Drain
 - 259,000 gallons lost per day
 - 95,000,000 gallons lost per year
 - Total loss 322,000 gallons per day
 - Total loss 118,000,000 gallons per year
- Estimated cost
 - \$3.25 per 1,000 gallons to Produce
 - \$382,000 per year

McALESTER PUBLIC WORKS
AUTHORITY

OPTIONS FOR CLEARWELL
IMPROVEMENTS

Existing Clearwell

New Piping

120 foot diameter
1.0 million gallons each

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Clearwells



- Clearwell Options:
 - New Steel Ground Storage Tanks
 - 2 each – 1.0 million gallon tanks
 - Estimated Cost \$2,643,300.00
 - Advantage
 - 50+ year life (with maintenance)
 - Can be used with Future Water Treatment Plant if Constructed in the Same Local Area
 - Located on Existing Property
 - Disadvantage
 - Capital Cost
 - Maintenance Cost
 - Time



Clearwells



- Clearwell Options:
 - New Pre-Stressed Concrete Ground Storage Tanks
 - 2 each – 1.0 million gallon tanks
 - Estimated Cost \$2,685,700.00
 - Advantage
 - 50+ year life
 - Can be used with Future Water Treatment Plant if Constructed in the Same Local Area
 - Located on Existing Property
 - Less Maintenance Cost than Steel Tank
 - Disadvantage
 - Capital Cost
 - Time



Clearwells



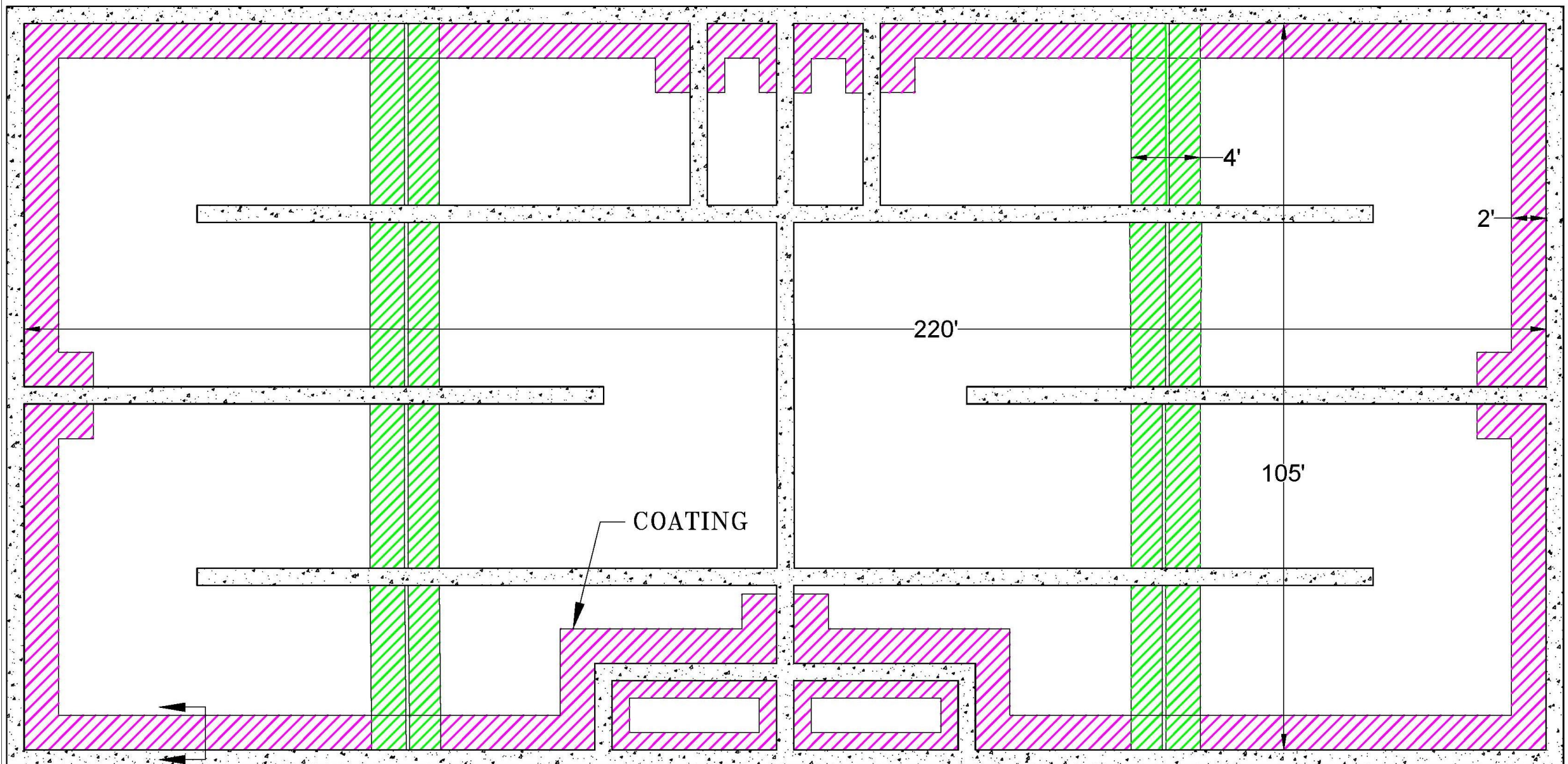
- Clearwell Options:
 - New Pre-Stressed Concrete Ground Storage Tank
 - 1 each – 2.0 million gallon tanks
 - Estimated Cost \$2,137,200.00
 - Advantage
 - 50+ year life
 - Can be used with Future Water Treatment Plant if Constructed in the Same Local Area
 - Located on Existing Property
 - Less Maintenance Cost
 - Disadvantage
 - Capital Cost
 - Time
 - No Redundancy



Clearwells



- Clearwell Options:
 - Rehabilitate Existing Concrete Clearwell
 - 2 each – 1.0 million gallon tanks
 - Estimated Cost \$850,000.00
 - Advantage
 - Less Maintenance Cost
 - Less Capital Cost
 - Time (Can Move Forward with Funding in Place)
 - Disadvantage
 - 10+ year life
 - Can not be used with Future Water Treatment Plant



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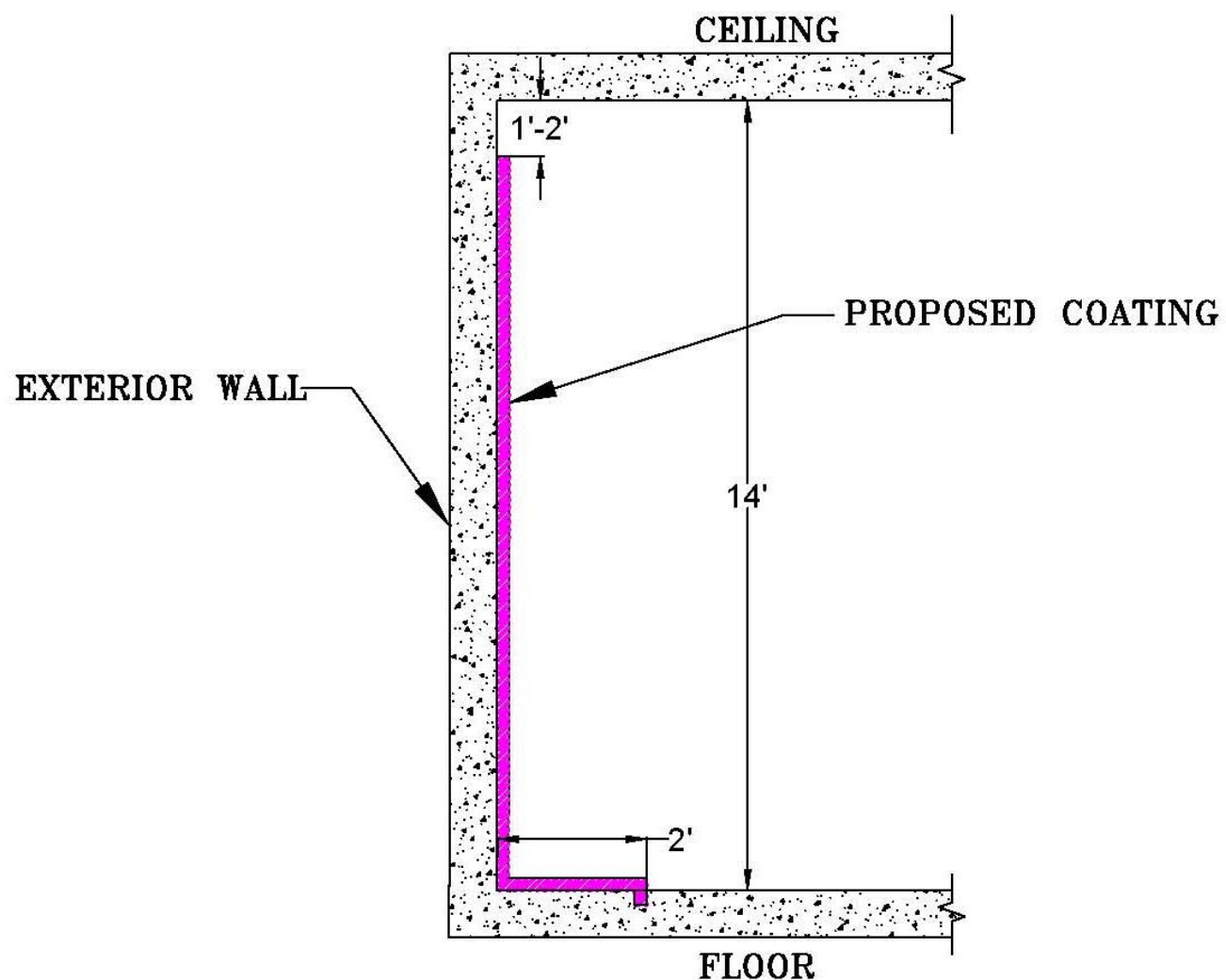
COATING OF EXTERIOR WALL



COATING OF THE CONSTRUCTION/
EXPANSION JOINT



EXHIBIT
CLEARWELL LAYOUT





Clearwells

McALESTEROK
Small Town. Big Frontier.

	Opinion of Probable Construction Cost	
	City of McAlester	
	September 8th 2020	
	Clearwell Summary	
2 each New Steel Ground Storage Tanks (Total 2 million gallons)		\$2,643,300.00
2 each New Pre-Stressed Concrete Ground Storage Tanks (Total 2 million gallons)		\$2,685,700.00
1 each New Pre-Stressed Concrete Ground Storage Tanks (Total 2 million gallons)		\$2,137,200.00
Rehabilitation the Interior of the Existing Clearwell (Total 2 million gallons)		\$ 850,000.00
The costs shown are estimated costs and represent our best judgment; however these estimated costs are not guarantees that the actual costs will not vary from these estimated costs.		



Clearwells



- Rehabilitation Approach:
 - Request for Bids process 45 days
 - Pre-Bid Meetings with Prospective Contractors and Material Suppliers for Pre-Approval (minimum 1 week before bid due date)
 - Require a minimum of five (5) year warranty for Rehabilitation Work
 - Selection Committee
 - City Staff and City Engineer
 - Price
 - Warranty
 - Schedule