



Memo

To: LAWSS Board
Cc:
From: Susan MacFarlane
Date: 2017-01-19
Re: LAWSS acquiring the Brigden and Wyoming Water Towers

The Brigden Water Tower is located in St. Clair Township. It was built in 1972. Based on a recent inspection by Landmark in January 2016 it requires about \$50,000 in repairs which will be completed by St. Clair Township this year. The tower currently has revenue of \$150/month from Eastlink. If LAWSS were to assume ownership of this water tower then LAWSS should also assume ownership and control of the water main along Courtright Line to the water tower. It is also of note that chlorination is done at Brigden Water Tower so that would have to be performed by LAWSS/OCWA staff.

Landmark's recent report on Brigden Water Tower (2015) is attached. A letter from St. Clair Township regarding the history of this water tower is also attached. Currently, Brigden Water Tower does not have a fence around the property and this may be required if LAWSS takes over ownership of the Water Tower since LAWSS currently has fences around all of our other water towers.

The Wyoming Water tower is located in Wyoming, Ontario. The tower is about 50 years old. In 2013, the interior of the tower was lined with an epoxy liner and the bottom half of the outside of the tower was covered with an epoxy coating. The tower currently has revenue of \$350/month. If LAWSS were to assume ownership of this water tower then LAWSS should also assume ownership and control of the water main from Confederation Line to the Water Tower.

The inspection report for the Wyoming Water Tower by P.W. Makar in 2016 is attached.

OCWA's tower maintenance proposal is attached. It is assumed that no new staff at LAWSS would be required however adding these towers to the system would increase OCWA's liability and responsibility. Note also that costs have been included for weekly inspection (Wyoming), visit 3 times

per week for chlorination (Brigden), annual inspection (including climbing towers), grass cutting and snow removal. This price does not include detailed inspection reports that are required periodically to assess paint condition.

Susan MacFarlane

David Fielding

From: Shortridge <rdshortridge@cogeco.ca>
Sent: May-08-16 9:17 AM
To: David Fielding
Cc: Raj Roopchand
Subject: Water Tank Report
Attachments: Wyoming Tank Report May 2016.pdf

David

Attached you will find the inspection report for the standpipe. As the reports will point out, the repairs went quite smoothly. If there are any questions regarding the report, please let me know.

Rob Shortridge

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Wyoming Water Standpipe
Wyoming, Ontario

Interior Coating Repair Inspection

May 3 - 6, 2016

Project Intent:

The coating contractor has arrived on site with the intention of making repairs to the interior lining. This process begins with the removal of all failed coating and rust. The soundly adhering paint, around the repair site, is abraded to give it a slight profile for the coating to 'grab' onto. The same material, that has been applied within the vessel, will be used for all repairs. The surface preparation and coating application method to be used, has been specified by the coating manufacturer. The material being used is 'Amerthane 490', which is a 100% solids, polyurethane coating.

It is our understanding that a portion of these 'repairs' are considered to be 'warranty' repairs while others issues would be the responsibility of the vessel's owner. The goal of PW Makar Coatings Inspection Ltd, for this project was to assist in determining which issues fall under the warranty repair versus those that require attention through the normal wear - and - tear of a lining that exposed to constant immersion in water, in a four season environment.

Visual Assessment

From a general observation, the overall lining appears to be in good condition. There are several sites where a white coloured coating has been applied to the original coating. There are several sites where the white, touch up material displays small corrosion stains within it. Although for the most part, more recently applied material appears to be tightly adhering. See Images #1, 2 & 4 for examples.

There is a significant amount of a white staining visible throughout the vessel up to, what is believed to be the usual 'fill line'. Close inspection shows that white staining material can be easily removed from the surface. See Images #1 - 4 for examples.

Areas that require attention, for general maintenance, are mostly seen along weld seams. A number of these were inspected after being prepared for coating. In each instance, the surface preparation complied with the coating suppliers specification. See Images #1, 2 & 4 for examples.

Contractor's Procedure

With the exception of several inches of water on the floor, the vessel was drained when the contractor arrived. A swing stage (floating work platform) was installed from anchors on roof which allows a span the width of the platform and from near the roof down to the floor, to be addressed. As work progresses, the platform is repositioned to access adjacent lanes.

Repair Procedure

The contractor advised that each site to be repaired will power tool cleaned as per SSPC-SP3 utilizing a 'bristle blasted'. This is a power tool that is designed to remove all loose rust and failed coating, while imparting a profile to the cleaned surface. See Images #8 & 9 for details. The coating will be mixed and applied as per the coating suppliers specifications.

Repair Inspection

Repairs, which include surface preparation and recoating were verified by inspection. Environmental measurements were taken from six (6) locations within the vessel including three (3) from an elevated position. In each instance, levels were above the coating suppliers required minimum level. See Images #11, 12 & 13 for details.

Note

At the completion of the coating repair work, the contractor spent time to clean the bottom ring of the vessel. A small, high pressure water wash unit was attached by the operator (CH2MHill personal) to a nearby hydrant. Image 17, 18 & 19.

Wyoming Standpipe - May 3 - 5, 2016



Image #1. May 3rd. Generally, the interior coating appears in reasonable condition.

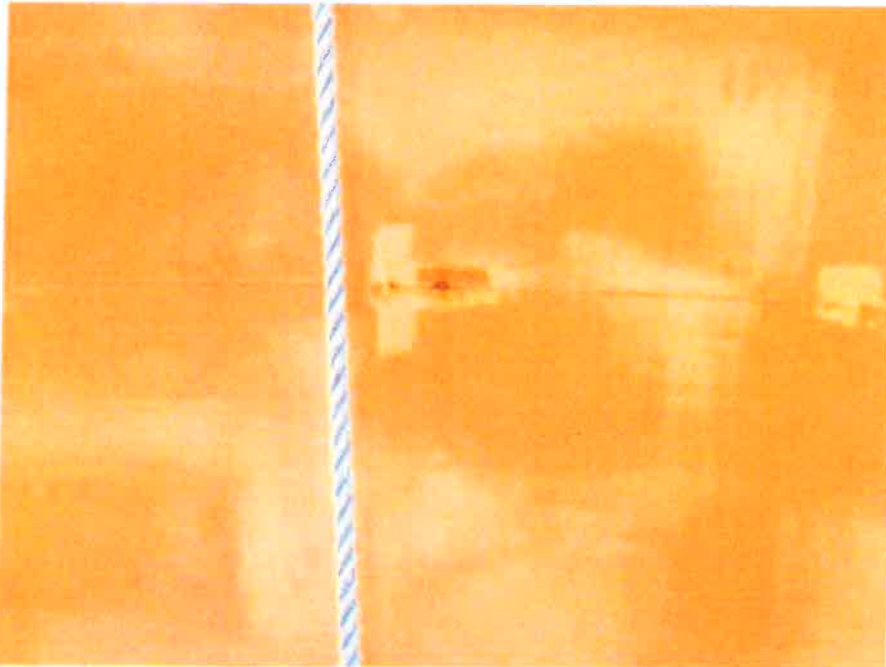


Image #2. May 3. The majority of repairs were noted along weld seams.



Image #2. May 3. There is a white haze on much of the surface below the normal fill line.



Image #3. May 3. This haze can be easily removed.



Image #4. May 3. There are a number of sites that have been previously repaired. Most of these are intact, while some have corrosion staining visible within them.



Image #5. May 3. There are a number of small corrosion sites visible.

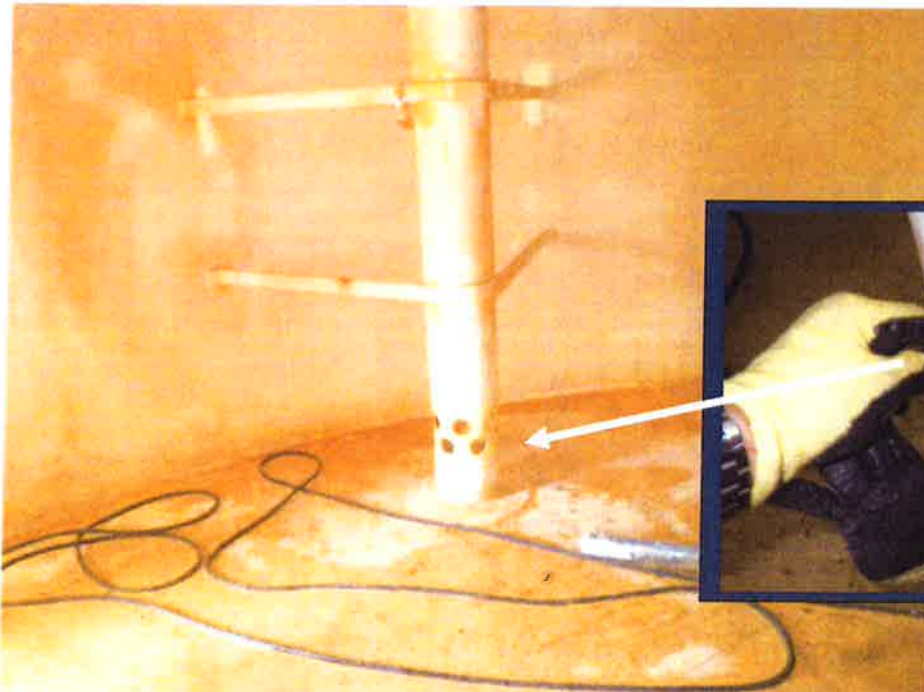


Image #6. May 3. The lower area of the fill pipe where failed coating was noted, although there isn't any significant corrosion visible.



Image #7. May 3. There are a number of small corrosion sites visible.



Image #8. May 4th. Surface preparation is being addressed using a 'bristle blaster'.



Image #9. May 4th. This unit removes failed paint and rust while imparting a profile to the surface.

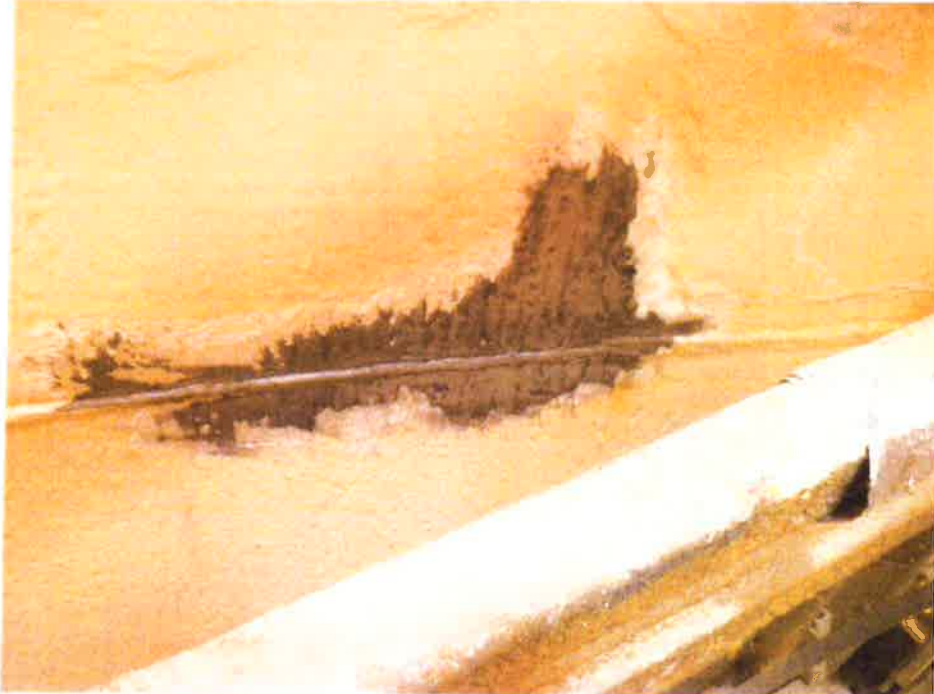


Image #10. May 4th. Note how the coating around the repair site has been feather-edged to ensure that there are no loose edges.



Image #11. May 4th. Note surface profile visible in the bare steel, which is ideal for the requirements of the coating at application.

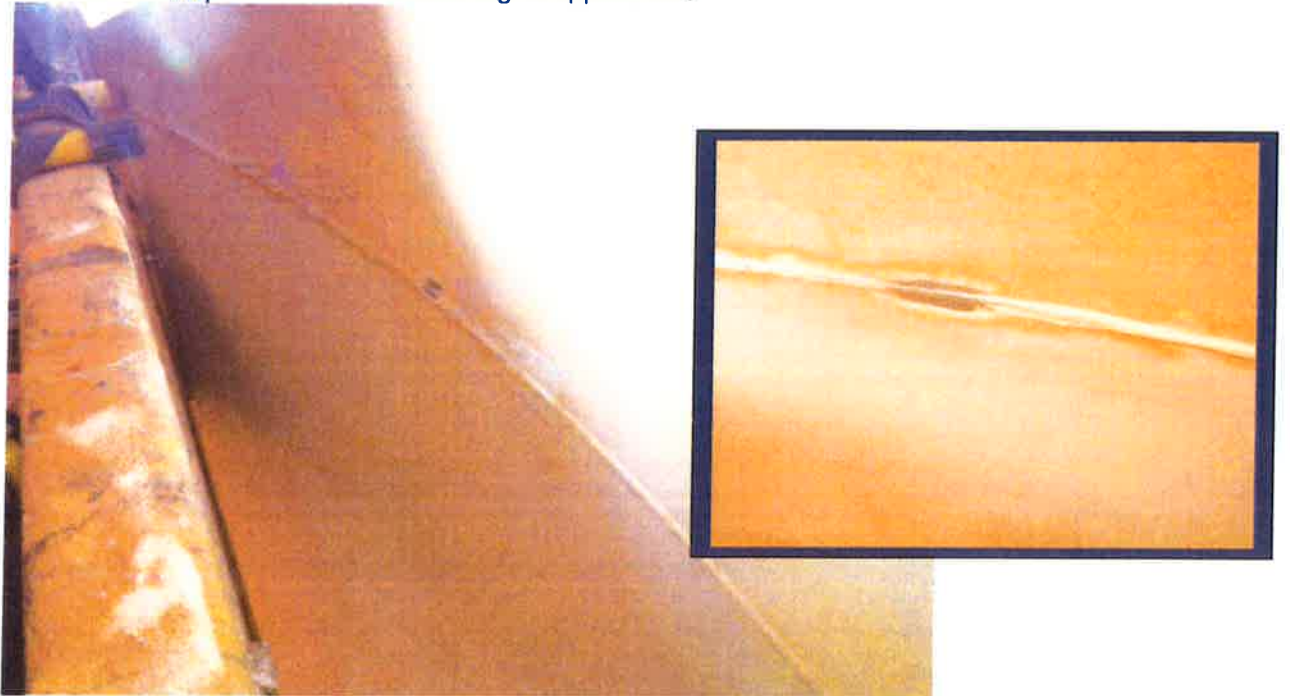


Image #12. May 4th. Repair site along a weld seam following surface preparation using the bristle blaster.



Image #13. May 4th. Small repair sites are hand abraded to feather-edge before bristle blasted to give profile to the surface.

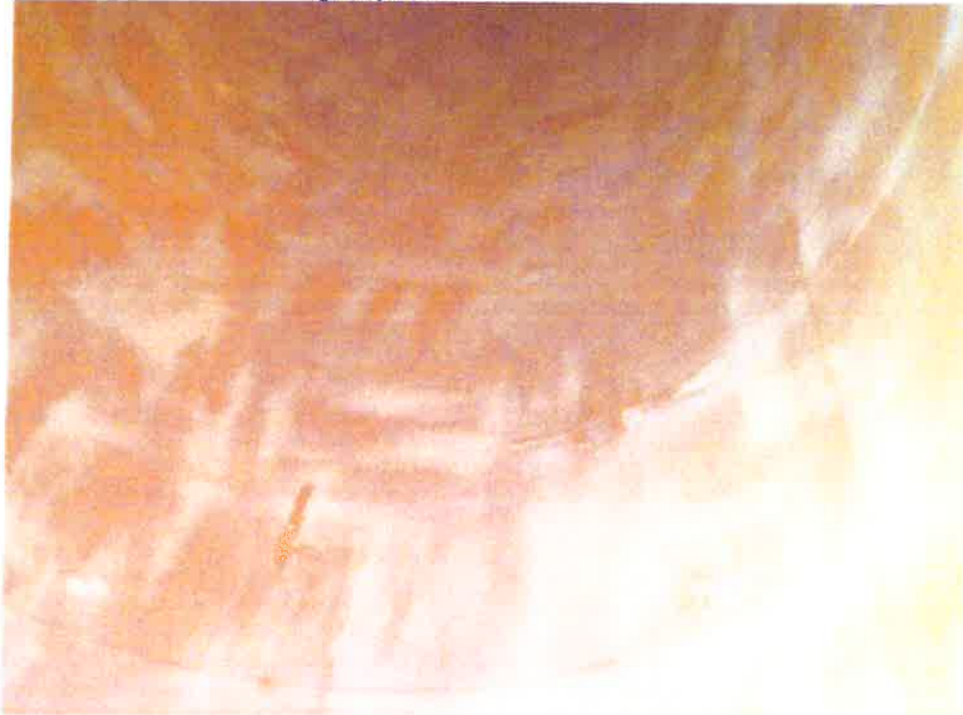


Image #14. May 5th. Repaired site on wall.

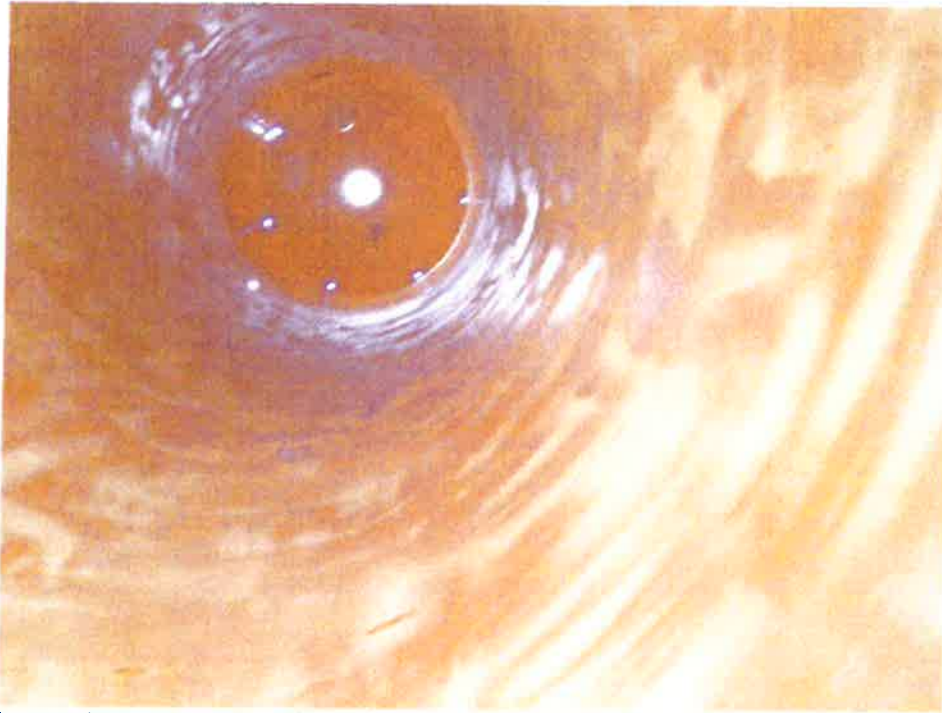


Image #15. May 5th. All repairs completed on walls and weld seams.



Air Temp:	16.8C
Surface Temp:	13.9C
Relative Humidity:	55.1%
Dew Point:	7.8
ST-DP	= 6.2***
***The coating manufacturer requires a minimum difference of 3 degree Celsius (5F) between the surface temperature and the dew point at the time of paint application.	

Image #16. May 5th. All Environmental Measurements taken from various locations within the vessel yielded levels above the coating suppliers requirements.



Image #17. May 5th. Mildew visible along bottom of vessel exterior. In some areas, the mold is very thick and well anchored to the surface.



Image #18. May 6th. Contractor using high pressure water washer to remove mildew.



Image #19. May 6th. Cleaned area of the bottom ring.

RWS - 05/07/16