

MEMORANDUM FOR RECORD

SUBJECT: Site Visit to Point Pleasant Canal to witness demonstration application of "Humidur" protective bulkhead coating

DATES: October 19

ATTENDANCE: Thomas Heary (CENAP-EN-DC), Anthony DePasquale (CENAP-EN-DC), Jerry Jones(CENAP-OP) , Tor Solvang(Acotec), David Sciacchitano (Acotec) and Jeff Steinke (Acotec Subcontractor), Ed Voigt(CENAP-PA), etc.

LOCATION: Point Pleasant Canal on east side at approximately station 72+00

1. Contractor has work barge with tug and tender on site. Contractor used the barge-based crane to lift the DZI inspection box into place against the steel sheet piles. The piles in that area are Z27 piles installed in 1971. The piles were coated in the late 1980's with an epoxy coating on the top 7'.
2. Contractor had no difficulty in setting the DZI and dewatering the chamber. Contractor set the DZI at 1000 hours and dewatered the chamber in 5 minutes. The steel was grit blasted to white metal in an approximate 8 square feet area; it took over one hour to complete the grit blasting. The contractor then switched to high pressure (35,000 psi) water blasting. The remainder of the dewatered steel sheetpile was cleaned in approximately 90 minutes (a rate of 100 s.f. per hour). The subcontractor doing the liquid blasting stated that the confining space of the inspection box prevented him from completing the cleaning in a quicker time. The box that would be used for large scale coating would be twice the width (8 feet) and up to 14 feet in length. A finer second sand blasting was used to go over the water blasted areas. Tor Solvang stated that the light finish sand blasting is not required but that it helps to completely dry the steel before application of the coating. Visually, the finer second grit blasting seemed to really bring the steel to a white metal condition.
3. There were a number of pin or slightly larger size holes visible in the upper 2-3 feet of the steel sheet piling. A rough number would be around 7-10. No hole was anywhere near the size of 1 square inch. The holes were leaking water down the front of the sheetpiling. The leakage was from the liquid blasting water that had leaked from the pump and ponded on the landside of the bulkhead. The contractor plugged the holes with a mix of humidur and grit sand. The mixture made a thick paste that was applied to the holes before the spray application. The contractor also applied a brush application of the coating to the steel nuts and inner edge of the sheetpile knuckles before spraying.
4. Spray application of humidur went smoothly and took under 10 minutes for roughly 100 s.f. The mil thickness of the spray application is on the order of 25 to 30 mils (at pitted corroded areas the thickness was on the order of 50 mils) . The pump for spraying is a special pump that accommodates highly viscous liquids. Tor Solvang performed most of the spray application. Tor Solvang explained to the workers present at the site how to perform the spray application. The workers completed the spraying operation. See attached photos.



PHOTO #1 – SETTING THE DZI AGAINST STEEL SHEETPILE BULKHEAD



PHOTO #2 – INITIAL GRIT BLASTING OF EXISTING STEEL SHEETPILES WITHIN DZI



PHOTO #3 – LIQUID BLASTING OF STEEL SHEETPILES WITHIN DZI USING POTABLE WATER



PHOTO #4- SHEETPILE AFTER LIQUID BLATING



PHOTO #5- SHEETPILES AFTER COMPLETION OF SECOND FINER SANDBLASTING



PHOTO #6- BRUSH APPLICATION OF "HUMIDUR" TO NUTS AND KNUCKLES OF SHEETS AND PLUGGIN OF PIN HOLES WITH HUMIDUR PASTE



PHOTO #7- SPRAY APPLICATION OF HUMIDUR



PHOTO #8 – FINISHED COATING OF HUMIDUR ON SHEETPILES WITHIN INSPECTION BOX



PHOTO #9 – DZI REMOVED WITHIN MINUTES AFTER COMPLETION OF COATING

Thomas E. Heary
Civil Engineer