

Reflective Cracking Construction Notes

Date: Jan 12, 2017

Project: Reflective Cracking Indoor Phase 5

Temperature: N/A

Working Hours: 7:00 AM – 3:30 PM

Sub-Contractor(s): United Concrete, AE Stone, Martin Ackley and Associates subcontractor to AE Stone

Equipment: Hand Tools, Vogele Super 700, Volvo double drum roller, John Deere side dump loader

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The P-401 material placement for the Phase V construction was completed on January 12, 2017, as shown below in Figure 1. Personnel representing CSRA, Gemini, the FAA, and the NAPTF Materials Testing Lab were present during the material placement. Subcontractor support was provided by AE Stone and United Concrete during the material placement.

NAPTF laboratory personnel were present at material supply plant to monitor the QC testing and provide project documentation.

The CSRA instrumentation team completed the installation of the strain gages on the existing PCC surface utilizing a PG 64-22 binder to secure the gages in the planned locations. The team monitored the instrumentation throughout the placement. Data from the installed instrumentation was periodically reviewed to determine if any damaged occurred during placement activities. All (24) embedded strain gages were functional at the completion of the placement activities.

To assure bonding of the HMA layer to the PCC surface, AE Stone dispersed PG 64-22 asphalt binder throughout the test item. The dispersion method was unmeasured and non-uniform. The result was pooling of the binder material throughout the South side test item. CSRA engineers consulted with the Principle Investigator and FAA personnel regarding the pooling and placement techniques. It was determined that no corrective action could be taken on the existing test item however modifications to the technique and amount of material dispersed were taken in subsequent lifts.

A total of three material loads were utilized to complete the placement of all test items. Trucks arrived at approximately 11:15 am, 2:00 pm, and 4:15 pm during the placement. Each truck was sampled and tested prior to transporting the material to the site. Material lifts were sequentially placed within the test items to meet the design thickness.

Placement Sequence. (All material lifts were placed to meet 1 ½” compacted thickness)

- South side test item – lift 1 of 4
- North side test item – lift 1 of 2
- North side test item – lift 2 of 2
- South side test item – lifts 2, 3, and 4

AE Stone utilized a Vogele Super 700 Pathway paver for the material placement. Material was loaded into the paver using a John Deere side dump loader. Material was loaded into the paver in the material sampling area adjacent (West) to the test items. Additional material was supplied as

needed into the paver prior to entering the test item. Placement of all material lifts was completed from West to East across the test items.

Once placed, the material was compacted with a 38" Volvo double drum roller. Throughout the placement all compaction efforts were completed in static mode. No vibratory action was used at the request of the Principle Investigator to protect the installed instrumentation.

Material temperatures and densities were monitored by Martin Ackley and Associates, subcontractor to AE Stone, throughout the material placement. Compaction efforts and temperatures were closely monitored during the placement activities to determine an effective method to achieve the maximum in-place densities.

After Asphalt placement was done United Concrete removed formwork from the test items. A temporary structure was built over the test items to facilitate the installation of the surface gages on the test item surfaces. The structure was constructed of rigid foam insulation board and was designed to retain heat in the general area during the installation. The North and South thermocouple trees were installed. Preparation for the (24) surface gage locations was started and will continue through early February.

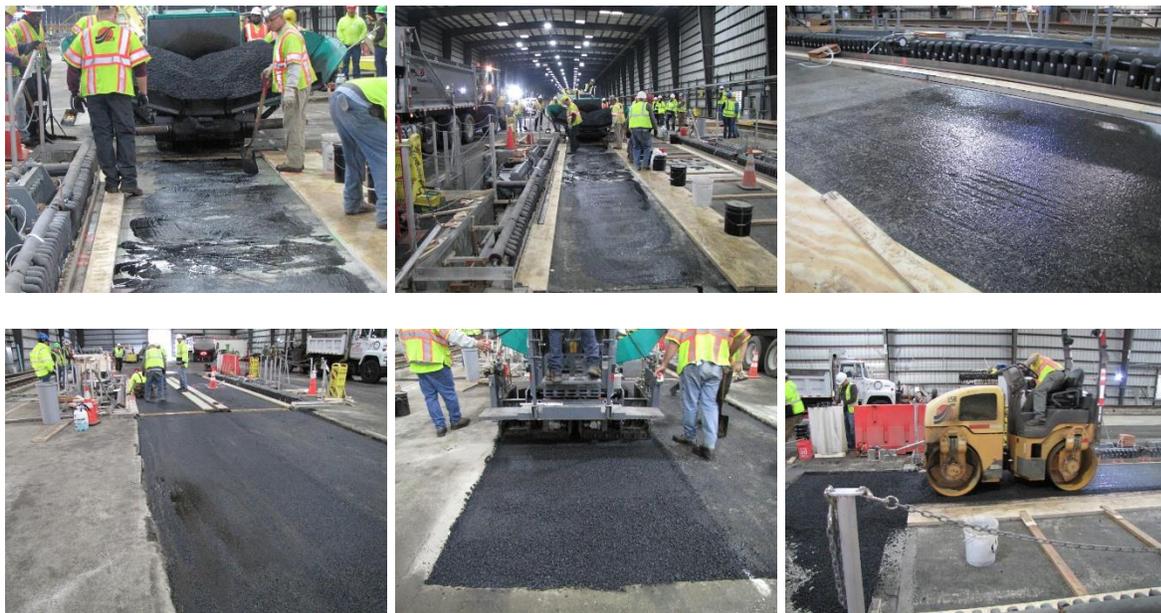


Figure 1. Paving Operation.