

Papich Construction, Inc. Erects New 21st Century Asphalt Plant for City of Los Angeles

By Brian Hoover



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The City of Los Angeles (the City), Department of Public Works Bureau of Street Services is just about ready to open their new Asphalt Plant No. 1 after receiving a complete makeover to modernize the previously outdated facility. With some components of the plant dating back to the 1940s, everyone would agree that it was time for an upgrade. The aging plant has long needed to be replaced to bring production

capabilities up to modern standards. The former asphalt plant was permitted to produce up to 584,000 tons (950 tons per day) of hot mix asphalt product each year, but due to wear and age, was only capable of putting out around 200,000 tons annually. The new plant now offers a production capacity of up to 700,000 tons of HMA per year (400-tons per hour) and is also capable of producing warm mix asphalt. The City can now more than triple their production



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in their road construction efforts to maintain and reconstruct the approximately 6,500 centerline miles of streets and 800 centerline miles of alleys that make Los Angeles the most extensive municipal street system in the nation.

The project contained several phases or segments, including the demolition of the existing Asphalt Plant No. 1, excavation and removal of contaminated soils, transport of clean fill material on-site, construction of a modern plant, and construction of the administration and maintenance building. Papich Construction, Inc. (Papich) was the low bidder on this \$31,073,000 design-build project with an original construction completion estimate of around

25 months. Papich knows a thing or two about asphalt plants, having two hot mix asphalt plants of their own in Santa Margarita and Paso Robles. Eric Hopkins is a project manager for Papich, and he also helped oversee the construction of the new L.A. plant. "The bid was originally advertised in December 2015, and we were awarded the contract from the City in June 2016," says Hopkins. "We were then given the notice to proceed in October 2016, and this is when we began hard demolition of the existing plant."

The design/build project also called for a new HMA production and storage system to house all of the aggregate, RAP, and asphalt oil needed to produce the HMA products. In addition

to the new administration and maintenance building, Papich also constructed a new control/electrical structure, fuel island, vehicle entry, circulation and parking area, as well as installing some utilities, stormwater management and lighting systems. The new plant's production capabilities will require an increase in raw materials including around 340,000 tons per year of both raw aggregate materials and reclaimed asphalt pavement (RAP), as well as 21,000 tons per year of asphalt oil. "The old plant was only capable of producing HMA with a RAP content of up to 7.5 percent, whereas the new modern plant is set up and approved for the use of as much as 50 percent RAP,"



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says Hopkins. "We were able to salvage some of the HMA silos, but due to the restricted size of the site, the contract called for the installation of five new raw aggregate silos." According to Hopkins, these five aggregate silos were supplied by Astec Industries, Inc. with each yielding a capacity of 600 tons (3,000 tons of total storage). "There is just no room on the site for large piles of aggregate, so the logical choice was to build these silos where the trucks will come in and dump the aggregate through a grisly screed and then into a 20-foot-deep pit, where conveyor transfers the material to the five virgin aggregate silos," says Hopkins.

The new RAP system offers (2) 10' x 14' RAP bins with a

Telsmith 4230 inline crusher and has a capacity of 3,500 tons. Operators will utilize wheel loaders to load and transfer the RAP material from the bins to a feed hopper, which will then deposit the material onto a covered conveyor and then to the scalping screen. The material is sorted by size, with oversized material moving onto a horizontal shaft impactor and redirected by through the scalping screed. The product is then finally conveyed from the screen, directly to the dryer drum.

Papich was able to salvage a few of the HMA silos, the drag flats, some RAP conveyors, as well as the control house, but the rest of the plant was dismantled and shipped to scrap yards and

recycling centers. This included the baghouse, drum and batch tower, along with many other components. Astec Industries, Inc. supplied the bulk of new equipment for the modern HMA plant including a new hot mix elevator that will be used to feed (3) new 300-ton asphalt storage silos capable of storing HMA for up to four days. Additionally, Astec supplied three new 25,000-gallon asphalt cement storage tanks through their sister company, CEI, Inc. They also provided an 8' x 40' Astec Double Barrel Drum feeding a Twin Shaft mixer that is rated at 400 TPH with 50 percent RAP capability. The drum is fitted with a VFD and patented Stack Temperature control system, and

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the silo system comes equipped with an 18,000 CFM Astec Fiber-red Blue smoke collection system. Astec also delivered a new 12' x 27' control house and 11' x 40' power center, as well as an asphalt tank farm, complete with (3) 35,000 gallon CEI asphalt tanks and an 8,000 gallon TAC tank. There were other suppliers like, Butler-Justice, Inc., who supplied the dust collectors for the RAP and cold feed systems. A new baghouse was supplied by _____, and it is self-cleaning and equipped with a baghouse leak detection system, automatic high-temperature shut-off, and enclosed valves to meet and exceed 'New Source' emissions requirements.

But before any of this modern state-of-the-art equipment could be installed, the site had to be demoed and prepped with rough grading and the installation of around 3,000 cubic yards of concrete and more than 2,200 cubic yards of aggregate. The demolition process continued until the end of 2016 with nearly 5,000 cubic yards of demolition material being recycled or exported off-site to the appropriate waste facility. Any and all hazardous materials were removed and properly disposed of to a licensed hazardous waste facility by qualified professionals prior to demolition. After demolition, the rough grading began with the excavation and removal of contaminated soil off-site and the import of clean material on-site. This was followed by the compaction and grading of the site. Once all of the civil and initial paving work was complete, and all of the building footprints were over-excavated and recompacted, Papich began forming and pouring the foundations. The aggregate pit is situated right next to the foundation that



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supports the five massive silos, and due to the extreme weight, a massive foundation was required on the open, unsupported side. "This particular foundation called for six separate pours, one a top of the other, and 2,500 cubic yards of concrete," says Hopkins. This was followed finally by the erection of the administration and maintenance building, and then all of the new asphalt plant components were installed, including the HMA silos, HMA elevator, pugmill mixer and double drum burner. "We began pouring the foundations in fall 2017, and erecting the plant itself in winter 2018," says Hopkins. "We worked double shifts this past summer to ensure that we met all of our deadlines and specifications. We had an extremely knowledgeable crew working both for and with us on this project, and I am proud to be associated with the installation of this new modern plant. It is important that I take a moment to thank everyone who has contributed to the success of this project. The list is long, and they all know who they are, but I will mention a special thanks to our entire Papich crew, the folks at the City of Los Angeles,

Astec Industries, CEI, Inc., Butler-Justice and every other vendor and supplier we worked alongside."

Papich is wrapping up the final process of testing, and the office building is also very close to completion. This is a sustainable infrastructure project that Papich will receive both LEED and ISI Envision certification for, as well as other honors and awards that are sure to follow. It is estimated that the new Asphalt Plant No. 1 will save taxpayers around \$5 million a year and produce clean, environmentally friendly paving materials for Los Angeles' 28,000 lane miles of streets. The plant is built to meet or exceed the latest air quality standards of the South Coast Air Quality Management District, and the low-impact design will significantly reduce pollutants from stormwater runoff, at a far lower cost per ton of asphalt. The plant is expected to last a minimum of 50-years and pay for itself in around seven. For additional information on the new City of Los Angeles Asphalt Plant No. 1 or Papich Construction, Inc., please visit www.papichco.com or call (805) 773-3016. **CC**