

LEAD INDUSTRIES ASSOCIATION, INC.

292 MADISON AVENUE

NEW YORK, N. Y. 10017

TELEPHONE - AREA CODE 212

OR 6-8026

August 24, 1964

SUBJECT: Lead Paints on
Benjamin Franklin Bridge,
Philadelphia

To Members of the Lead Industries Association, Inc.:

Attached please find a reprint entitled "Big Bridge Job in Philly" that describes in some detail the largest single painting contract ever let in the Philadelphia, Pa., area, the painting of the Benjamin Franklin Bridge over the Delaware River.

The paint system will include red lead and linseed oil for the spot primer and intermediate coat and white lead and oil tinted gray and green for the finish coat. This is the fifth time the bridge has been painted with a three coat lead and oil system and was last painted in 1956-57.

We are distributing approximately 8,000 of these reprints to our mailing lists of paint companies, painting contractors, highway and corrosion engineers and others. Copies, up to 25, are available free of charge to members and above this quantity at our cost of \$4.00 per hundred.

Sincerely yours,



David M. Borcina
Secretary

DMB:so



Look Ahead with Lead

American PAINTING
CONTRACTOR

Published by American Paint Journal Co., St. Louis, Mo. 63103

**Big Bridge
Job
in Philly**

Distributed By:
Lead Industries Association, Inc.
292 Madison Ave., New York, N.Y. 10017

*Reprinted from
July, 1964 Issue*

Big Bridge Job in Philly

Benjamin Franklin Bridge spanning the Delaware at Philadelphia is getting its 67th paint job



By Joe DRAGONETTI

THE largest single painting contract ever let in the Philadelphia area—the Benjamin Franklin Bridge over the Delaware River—was awarded recently to an old-line Philadelphia painting firm, the Henry S. Rau Co., Inc.

Will the Rau Co. make money on the \$539,944 bid, its biggest job to date?

There's no assurance of it.

"We'll just have to wait and see how we come out when the job is finished," said Stanley Sablosky, new president of the 33-year-old painting and engineering organization.

The bridge connects Philadelphia with Camden, N.J. The paint job—requiring a lead and oil three-coat system—is the fifth to be given the big span in its history. It is the third time the Rau Co. bid on the job, unsuccessfully on the other two occasions.

Sablosky, who recently succeeded A. Harrison Knoxe as president of the Rau firm at the latter's retirement, said the back files on previous bids

Third time's a charm for Rau Co., winner of area's biggest paint job after two unsuccessful tries

kept by Knoxe played an important part in estimating the work. In addition, the new president practically went over every square foot of the bridge surface in arriving at his figures.

Then, to play safe, he lopped off \$5,000 from the estimate and sent in the bid. As it finally turned out, he need not have done this, because even without the added leeway the Rau Co. could have gotten the award at \$46 less than the nearest bidder.

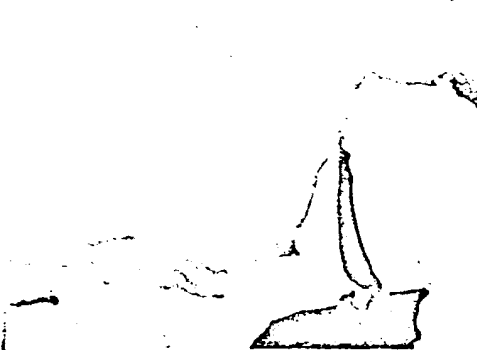
But that, Sablosky said, would have been too close for comfort. He does not regret taking off the \$5,000.

In announcing the successful bidder, Frank M. Siemering, chairman of the Delaware River Port Authority, said that five companies sought the contract and their prices ranged up to \$727,000. Bids were opened at noon on March 13, as specified.

The Benjamin Franklin Bridge was last painted in 1956-57 at a cost of \$386,685, indicating rising costs of labor and materials in the past decade. Also, the present specifications are more extensive than the previous ones.

Specifications for the newest repainting stipulate that the work shall be completed in 245 working days, with no painting to be done after November 1, or when the temperature is below 40 degrees or the humidity is above 75 per cent. Sablosky is personally supervising the job.

A total of 77,000 tons of steel is included in the painting, a figure



A major bridge painting job requires a lot of planning. Stanley Sablosky, now president of the Henry S. Rau Co., checks over his materials requirements.

which includes main cables and suspension ropes.

Paint must meet rigid specifications and the men applying it must use round or oval brushes, except in inaccessible areas where specially-made sheepskin daubers will be employed, according to the specs.

Painters are allowed to carry no solvent with them or have it "within reach" under penalty of discharge.

First step in the work was extensive surface preparation and red lead spotting. Two finish coats are specified. The existing gray color is being repeated except in underpasses where the present green will be copied.

The contractor is responsible for protecting both vehicles and pedestrians and must install mechanical ventilation in such enclosed areas as the inside of bridge towers.

Another requirement was the establishment of three cleaning stations for vehicles which might become paint-flecked. One of these is on the Camden Plaza, a second on the Philadelphia Plaza, and a third in the vicinity of the storage yard under the bridge approach in Camden, west of Delaware Avenue.

Sablosky, whose background includes engineering and law in addition to contracting experience, said he ex-

pects to use 80 men at peak periods. About 70 per cent of the work will be below decks. Special equipment will be required and safety engineering is an important phase of the job. New cables and trolleys will be purchased by the Rau Co. to assure the utmost in safety.

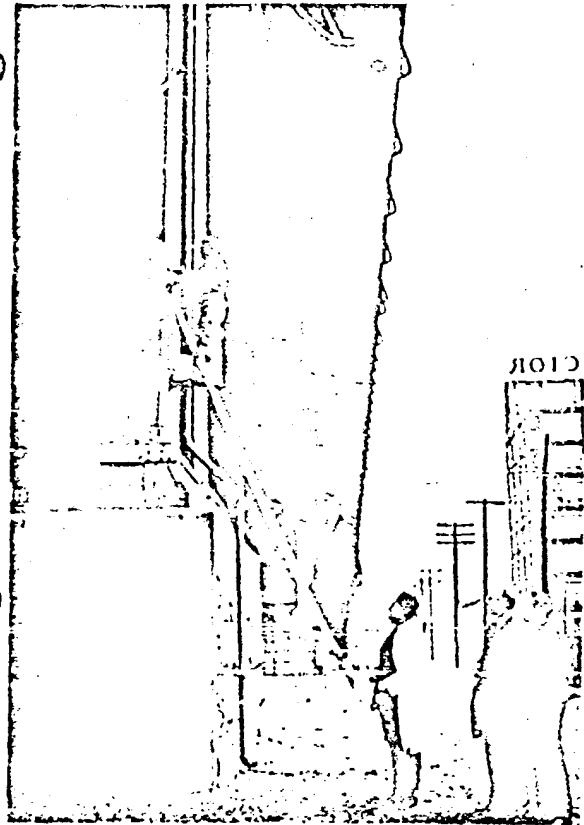
Although this is the biggest job ever handled by Rau, it has had extensive previous experience on big projects, especially structural steel painting.

In general, the contract covers the cleaning and painting of the bridge and approaches, using a three-coat system consisting of a spot primer, a spot intermediate and one complete final coat of finished paint. Some minor exceptions were specified.

Special stress is put on workmanship. Before applying paint, surfaces must be thoroughly cleaned of rust, scale, dirt, concrete, lumps of paint, grease or oil, salt deposits and other deleterious foreign matter, and shall

Group of notables turned out to see the job started. From left are Steve Marvies, project superintendent; unidentified painter; Paul McMurray (limbing ladder); Port Authority director; Arthur Legan, vice president of Allied Paint Manufacturing Co.; Stanley Sablosky, Rau Co.; and Louis Otter, president of Allied.

LIA24199



be submitted for inspection and approval by the engineer or his inspectors.

Grease shall be removed by wiping with a cloth dipped in a mixture of one-half benzine and one-half turpentine. Wherever the existing paint has broken down and there is any evidence of rust or otherwise defective paint film, the specifications make clear that the area shall be cleaned to bare metal by wire brushing, scraping, sand-blasting or other approved means.

Immediately after inspection and acceptance of the cleaning work, the area is spot-painted with one coat of the specified primer followed by a spot coat of the intermediate-type.

"Cleaning and spot painting shall proceed ahead of the final painting in a systematic manner," the specifications said. "It shall be completed and approved before the finish coat is applied. The drying time between spot coats, shall be determined by the engineer, but in no case shall it be less than 72 hours."

The contract further specifies that as soon as the cleaning and spot-painting has been completed and a sufficient interval of time, to be determined by the engineer but in no case less than 72 hours, has elapsed, the entire surface of structure so designated shall be painted with one complete coat of paint.

The specifications are thorough in many other aspects of the job.

For example, the containers in which the paint is delivered and the containers which are to be taken on the work "shall be effectively covered, or otherwise protected against the entrance of rain or other material or adulterant."

"Paint shall be applied as soon as the specified areas are clean and inspected, using the paint as it comes from the containers without the addition of any thinners or other materials."

The contractor is required to "remove such of the sections of grating

as are immediately above the top flanges of the floor beams, stringers and angles, including those at the top of the towers, and to replace them as soon as the flanges are painted."

The gratings are to receive one coat of the finish paint. Areas where gratings have been removed shall be roped off and warning signs shall be prominently displayed, the regulations provide.

"Extreme diligence shall be exercised to see that gratings, when re-positioned, shall be securely bolted down. Any gratings so removed shall be replaced at the end of each working day."

In each main tower the Authority maintains elevators with a maximum load-carrying capacity of 500 pounds for the use of its maintenance personnel. These facilities "will be made available to the contractor subject to their proper use and care."

The Authority warns that care must be exercised with high voltage cables. At no time shall any portion of the cable system be used to suspend scaffolding or rigging from.

The actual paint specifications are detailed. Four types of coatings are required for the work under the contract with R&U, as follows:

1. Red lead spot primer coat.
2. Intermediate spot primer coat.
3. Finish coat, gray.
4. Finish coat, green.

The materials, including red lead, white lead, chrome oxide green, raw linseed oil, boiled linseed oil, turpentine and iron oxide—shall conform to current applicable specifications of the American Society for Testing Materials, it was stipulated.

The drier shall be composed of lead and manganese oxide in combination with pure linseed oil and turpentine. It must be free of adulterants, sediment and suspended matter. A mixture

of one part drier and 15 parts raw linseed oil, when spread in a thin film on glass, shall dry within nine hours at 72 degrees F."

The red lead primer was to consist of red lead mixed with linseed oil in the approximate proportions of 25 pounds of red lead to a gallon of oil. The mixed paint was required to weigh less than 23.10 pounds at the time of application.

White lead and a tinting pigment mixed with linseed oil in the proportions of 22 pounds of white lead to a gallon of oil were specified for the final finish coat in the color gray. The following composition was spelled out:

Pigment, per cent by weight, 72%; basic carbonate white lead, 100%.

Vehicle, 28%. Raw linseed oil, 66%; boiled linseed oil, 32%, and thinner and drier, 8%.

Finish coat, green, consists of white lead, chrome oxide green and linseed oil in proportions specified. The mixed paint must not weigh less than 13.8 pounds per gallon with the following composition:

Pigment, per cent by weight, 52%; basic carbonate white lead, 68%, and chrome oxide green, 32%.

Vehicle, per cent by weight, 48%; raw linseed oil, 61%; boiled linseed oil, 33%, and thinner and drier, 6%.

Tinting pigments on the finish coat were to consist mainly of black manganese oxide.

All the paint used on the job must come from an approved supplier having "prior experience in the manufacture of paints of the general character specified and who can cite structures other than sample panels on which such paints have rendered satisfactory service for a period of not less than five years when used as components of a three-coat system," the specs said.

Traffic on the Benjamin Franklin Bridge is exceptionally heavy, especially

in spring and summer months, and special care is necessary by the painting contractor in order not to interfere with this movement of vehicles.

The contractor also was put on notice that the space beneath the Philadelphia and Camden approaches is leased for the public parking of motor vehicles.

"It is of the utmost importance that the contractor carry on his operations in these areas in complete cooperation with the operator of said parking facilities," the agreement made plain.

"This particularly applies to the parking areas between Delaware Avenue and Second Street under the Camden approach and between Front Street and Fourth Street under the Philadelphia approach. The Authority will notify the operators of the parking facilities so that progressive areas will be available as the contractor works."

No vehicles of the contractor are permitted to be stopped on the roadway of the bridge or approaches and ramps longer than to discharge or take on employees or materials, and such operations must be conducted with the utmost dispatch to prevent interference with traffic.

"Vehicles so employed will be required to be equipped with a red flashing signal, visible throughout 360 degrees. Contractor's vehicles shall remain at a designated spot on the Plaza until a Police escort vehicle is available.

"Contractor's employees will not be permitted to cross the roadway of the bridge. No materials of any kind may be stored, even temporarily, on the roadway of the bridge."

A special ceremony was held at the Camden, N. J., abutment to signal the beginning of the paint job.

Among those who attended the ceremony were Daniel M. Kramer, director of engineering for the Delaware River

be submitted for inspection and approval by the engineer or his inspectors.

Grease shall be removed by wiping with a cloth dipped in a mixture of one-half benzine and one-half turpentine. Whenever the existing paint has broken down and there is any evidence of rust or otherwise defective paint film, the specifications make clear that the area shall be cleaned to bare metal by wire brushing, scraping, sand-blasting or other approved means.

Immediately after inspection and acceptance of the cleaning work, the area is spot-painted with one coat of the specified primer followed by a spot coat of the intermediate-type.

"Cleaning and spot painting shall proceed ahead of the final painting in a systematic manner," the specifications said. "It shall be completed and approved before the finish coat is applied. The drying time between spot coats, shall be determined by the engineer, but in no case shall it be less than 72 hours."

The contract further specifies that as soon as the cleaning and spot-painting has been completed and a sufficient interval of time, to be determined by the engineer but in no case less than 72 hours, has elapsed, the entire surface of structure so designated shall be painted with one complete coat of paint.

The specifications are thorough in many other aspects of the job.

For example, the containers in which the paint is delivered and the containers which are to be taken on the work "shall be effectively covered, or otherwise protected against the entrance of rain or other material or adulterant."

"Paint shall be applied as soon as the specified areas are clean and inspected, using the paint as it comes from the containers without the addition of any thinners or other materials."

The contractor is required to "remove such of the sections of grating

as are immediately above the top flanges of the floor beams, stringers and angles, including those at the top of the towers, and to replace them as soon as the flanges are painted."

The gratings are to receive one coat of the finish paint. Areas where gratings have been removed shall be roped off and warning signs shall be prominently displayed, the regulations provide.

"Extreme diligence shall be exercised to see that gratings, when re-positioned, shall be securely bolted down. Any gratings so removed shall be replaced at the end of each working day."

In each main tower the Authority maintains elevators with a maximum load-carrying capacity of 500 pounds for the use of its maintenance personnel. These facilities "will be made available to the contractor subject to their proper use and care."

The Authority warns that care must be exercised with high voltage cables. At no time shall any portion of the cable system be used to suspend scaffolding or rigging from.

The actual paint specifications are detailed. Four types of coatings are required for the work under the contract with Rau, as follows:

1. Red lead spot primer coat.
2. Intermediate spot primer coat.
3. Finish coat, gray.
4. Finish coat, green.

The materials, including red lead, white lead, chrome oxide green, raw linseed oil, boiled linseed oil, turpentine and iron oxide—shall conform to current applicable specifications of the American Society for Testing Materials, it was stipulated.

"The drier shall be composed of lead and manganese oxide in combination with pure linseed oil and turpentine. It must be free of adulterants, sediment and suspended matter. A mixture

of one part drier and 15 parts raw linseed oil, when spread in a thin film on glass, shall dry within nine hours at 72 degrees F."

The red lead primer was to consist of red lead mixed with linseed oil in the approximate proportions of 25 pounds of red lead to a gallon of oil. The mixed paint was required to weigh less than 23.10 pounds at the time of application.

White lead and a tinting pigment mixed with linseed oil in the proportions of 22 pounds of white lead to a gallon of oil were specified for the final finish coat in the color gray. The following composition was spelled out:

Pigment, per cent by weight, 72%; basic carbonate white lead, 100%.

Vehicle, 28%. Raw linseed oil, 60%; boiled linseed oil, 32%, and thinner and drier, 8%.

Finish coat, green, consists of white lead, chrome oxide green and linseed oil in proportions specified. The mixed paint must not weigh less than 13.8 pounds per gallon with the following composition:

Pigment, per cent by weight, 52%; basic carbonate white lead, 68%; and chrome oxide green, 32%.

Vehicle, per cent by weight, 48%; raw linseed oil, 61%; boiled linseed oil, 33%, and thinner and drier, 6%.

Tinting pigments on the finish coat were to consist mainly of black manganese oxide.

All the paint used on the job must come from an approved supplier having "prior experience in the manufacture of paints of the general character specified and who can cite structures other than sample panels on which such paints have rendered satisfactory service for a period of not less than five years when used as components of a three-coat system," the specs said.

Traffic on the Benjamin Franklin Bridge is exceptionally heavy, especially

in spring and summer months, and special care is necessary by the painting contractor in order not to interfere with this movement of vehicles.

The contractor also was put on notice that the space beneath the Philadelphia and Camden approaches is leased for the public parking of motor vehicles.

"It is of the utmost importance that the contractor carry on his operations in these areas in complete cooperation with the operator of said parking facilities," the agreement made plain.

"This particularly applies to the parking areas between Delaware Avenue and Second Street under the Camden approach and between Front Street and Fourth Street under the Philadelphia approach. The Authority will notify the operators of the parking facilities so that progressive areas will be available as the contractor works."

No vehicles of the contractor are permitted to be stopped on the roadway of the bridge or approaches and ramps longer than to discharge or take on employees or materials, and such operations must be conducted with the utmost dispatch to prevent interference with traffic.

"Vehicles so employed will be required to be equipped with a red flashing signal, visible throughout 360 degrees. Contractor's vehicles shall remain at a designated spot on the Plaza until a Police escort vehicle is available.

"Contractor's employees will not be permitted to cross the roadway of the bridge. No materials of any kind may be stored, even temporarily, on the roadway of the bridge."

A special ceremony was held at the Camden, N. J., abutment to signal the beginning of the paint job.

Among those who attended the ceremony were Daniel M. Kramer, director of engineering for the Delaware River

Port Authority, who wrote the specifications for the contract; Stanley Sablosky, president, and A. David Lundy, a director of the Henry S. Rau Co. Inc., the painting contractor.

Others present were Louis Oller, president, and Arthur Logan, vice president, of the Allied Paint Manufacturing Co. Inc., the paint supplier; Frank M. Steinberg, chairman, and Paul MacMurray, executive director of the

Port Authority, and Louis Casdia, of Local 1171, Brotherhood of Painters.

Also present was Steve Mavrelos, who is superintending the job for Rau. This is the fourth time he has worked on a painting job for this bridge and the second time as superintendent.

According to Casdia, about 7,500 man days are involved in the job. Oller estimated that between 20,000 and 25,000 gallons of paint will be used. ■