H. F. 2310. S. F. No. 1694-A—11-56—3M. 47043.

WASHINGTON
STATE HIGHWAY COMMISSION
DEPARTMENT OF HIGHWAYS
Olympia, Washington

FINAL RECORD NOTES

BOOK NO. SSH.NO. 21-B

STATE HIGHWAY NO. PORT WASHINGTON NARROWS BRIDGE PROJECT

SECTION CONCRETE SUBSTRUCTURE & SUPERSTRUCTURE

NATURE OF IMPROVEMENT BRIDGE CONSTRUCTION
Grading, Paving, Graveling, Bridge

COUNTY KITSAP

CONTRACT NO. 5565, UNIT 2 FEDERAL AID NO. NONE

STATION ---- TO STATION ----

LENGTH ----

CONTRACTOR PETER KIEWIT SONS' COMPANY

WORK BEGUN JULY 8, 1957

WORK COMPLETED FEBRUARY 2, 1959

RESIDENT ENGINEER ORAL I. CONYERS for RALPH A. TUDOR

DISTRICT ENGINEER H. C. HIGGINS, ENGINEER OF TOLL FACILITIES

21-B
2843

CHECKED AND APPROVED: H. C. Higgins
District Engineer

INDEX

PORT WASHINGTON NARROWS BRIDGE PROJECT

CONTRACT NO. 5565, UNIT 2 CONCRETE SUBSTRUCTURE AND SUPERSTRUCTURE

HISTORY

CONTRACT NO. 5565, UNIT 2

PORT WASHINGTON NARROWS BRIDGE

CONCRETE SUBSTRUCTURE AND SUPERSTRUCTURE

This contract called for the improvement of Secondary State Highway 21-B by the construction of the concrete substructure and superstructure portion of a bridge across the Port Washington Narrows in the City of Bremerton. The improvement consists of constructing 16 reinforced concrete bridge piers and abutments and approximately 312 linear feet of T-beam superstructure, 793 linear feet of box girder superstructure, 609 linear feet of lightweight concrete deck slab and other incidental items. The three spans of steel plate girders, which support the lightweight concrete deck slab, were fabricated and erected under contract number 5465.

A portion of the work proposed under this contract, Piers 5, 6, 7, and 8 and abutments 1 and 16 were to be completed within 200 working days after the date of execution of the contract to permit the erection of the three spans of steel plate girders and the construction of the approaches. The work was to be completed to a stage that the bridge could be used by vehicular and pedestrian traffic within 320 working days after the date of execution of the contract and the total work was to be completed within an additional 60 working days after the bridge could be used by vehicular and pedestrian traffic.

The low bidder on Tuesday, June 18, 1957 was Peter Kiewit Sons' Company of Vancouver, Washington with a bid of $2,324,834.00. Four other proposals were received ranging from $2,735,061.00 to a high of $3,885,859.00.

The contract with Peter Kiewit Sons' Company was executed on July 8, 1957.

Permission was granted to sublet 12.12% of the total contract amount to the following firms:

1. Teel Bros. of Bremerton, Washington
   Item No. 1 Common Excavation Including Haul

2. The Hart Construction Company of Tacoma, Washington
   Item No. 4 (Partial) Shoring and Cribs (Drive, Cutoff, Cap and Brace False-work Bents)

3. Pioneer Towing Company of Seattle, Washington
   Item No. 5 Riprap in Place

4. Soule' Steel Company of Seattle, Washington
   Item No. 13 (Partial) Superstructure Steel Reinforcing Bars (Placing Only)
   Item No. 14 (Partial) Steel Reinforcing Bars (Placing Only)

5. Northwest Electrical Engineering Company of Seattle, Washington (Cont.)
   Item No. 21 Telephone Conduit Expansions in Place
   Item No. 22 Electrical Items in Place
   Item No. 23 Navigation Light Brackets in Place

6. Acme Iron Works of Seattle, Washington
   Item No. 24 Standard Bridge Railing Type No. 2 in Place

7. H. P. Fisher & Sons of Seattle, Washington
   Item No. 25 Painting Steel Superstructure

The Contractor moved to the job site on July 1, 1957 and started the construction of their office building, panel yard and storage area; located on City of Bremerton property lying South of Lebo Blvd. and West of the bridge right-of-way. An access road was constructed at this time from Lebo Blvd. along the North bank to the waters edge.

Work began July 13, 1957 on the item of shoring and cribs with the driving of the first falsework bent adjacent to the North bank. Falsework timber piles were driven by a barge mounted Vulcan No. 1 single-acting steam hammer with each pile driven to a maximum of $\frac{1}{4}$" average for the last ten blows and with at least a ten foot penetration. The bottom of the Narrows was found to be very firm, requiring the use of a high pressure water jet during driving operations. Eight-pile falsework bents were driven on approximately 16 foot centers from the North bank to pier 8 and 4 pile bents were driven between piers 8 and 7. Piles in each bent were spaced at 8 foot centers. After driving, the pile bents were braced and capped and a wood plank deck was constructed at elevation 130 to provide access to all water piers North of the navigation channel. After completion of the falsework bents North of pier 7, the same procedure was used in driving falsework piles and constructing a work dock from the South bank out to pier 6. Eight pile bents were driven from the South side of pier 3 to pier 5 and 4 pile bents were driven from pier 5 to pier 6. The South work dock was constructed at elevation 125. Due to the high velocity tide action, these falsework bents required considerable maintenance and a great deal of bracing. The eight pile bents served as a foundation for the work dock during construction of the water piers and were later utilized as a foundation for the box girder superstructure falsework. The driving of falsework bents was completed on September 17, 1957.

The common excavation was started on the North bank on July 15, 1957 with the use of a D-8 dozer working the top of the cut and a Marion shovel loading dump trucks at the bottom. Work was suspended on this item after removal of the major portion to permit construction of the piers located in the cut sections. Final grading was not completed until the month of November, 1958, just prior to completion of the contract.

Eight of the bridge pier foundations, pier no. 3, 4, 5, 6, 7, 8, 9, and 10 were constructed within sheet pile cofferdams. Two or three steel frames were used in each cofferdam depending upon the depth of the tremie seal. The MP-116 sheet piles were driven with a 9-B-3 McKiernan-Terry double acting steam hammer. Due to the very dense and compact material, it was necessary to use a high pressure water jet as each pile was driven or extracted. The Contractor operated on a three shift basis during the driving and extraction of the sheet pile cofferdams.

The first cofferdam, at Pier 10 was started on August 12, 1957. This cofferdam was constructed primarily to retain the toe of the North bank while the pier footing and lower column sections were being constructed. More actual trouble was experienced on this dry land cofferdam at pier 10 than on any of the remaining seven. Ground water was emitting from the bank just north of the pier which in turn washed great quantities of material against the cofferdam; thus creating a very costly and time consuming operation. Later, a perforated drain line was installed in the area, which intercepts the ground water and has prevented further scouring of the bank.

The construction of cofferdams continued in the following sequence: pier 9, pier 8, pier 7, pier 3, pier 6, pier 5, and pier 4. During driving operations, the sheet piling of each dofferdam toed in at the bottom and would not permit the lowering of the bottom cofferdam frame to the proper elevation. In each cell, the frame finally became stuck and all or at least a portion of the lower frame was imbedded in the tremie seal concrete. The cofferdams served adequately. After the initial de-watering, work on the lower column sections was performed under favorable conditions in what were better than average, water tight cofferdam cells.

Excavation was started August 29, 1957 for the footings of pier 12. Excavation for those piers located on dry land was accomplished with a D-6 dozer and a crane operated drag line. The underwater excavation within the cofferdams was done with the use of a 10 inch diameter air siphon, handled by a mobile crane operating from the work dock. It was necessary to wash and loosen the very dense material with a high pressure water jet before the siphon could excavate. The jet consisted of a four inch line reduced to a $1\frac{1}{2}$ inch nozzle, emitting approximately 500 gallons of water per minute. The jet was operated during the first part of the excavation, with the nozzle directed straight down. During the last two feet of excavation, the jet nozzle was mounted at right angles to the pipe in anattempt to cut a level surface and eliminate the numerous depressions found in the first cell excavated. A diver spent at least one day in each cell directing the excavation operations and cutting down the ridges of material that had been missed. Each cell was then inspected and approved by a diver before the tremie seal concrete was placed. The last structure excavation was completed on March 18, 1958.

All concrete placed under this contract was delivered to the site in transit mix trucks by the Kenyon Materials Company of Bremerton. Natural aggregates were barged to the central mix plant from the Pioneer Sand and Gravel Company pit near Steilacoom, Washington. The lightweight concrete aggregates were shipped by rail from the Empire Building Materials Company pit near Portland, Oregon to Tacoma where they were loaded in barges and transported to the plant. Type II Portland Cement manufactured by the Olympic Portland Cement Company was used in all concrete except the Class H concrete placed in the tremie seals of Piers 3 and 4. Cement manufactured by the Permanente Cement Company was used in these two seals. Darex was used in all concrete as an air entraining agent and Pozzolith No. 3 was added to the lightweight concrete as a cement dispersing agent. The concrete proved to be very workable and of excellent quality. Numerous concrete cylinders were made and tested during construction with the following average 28 day results: Class H at 3,855 p.s.i.; Class B at 4,032 p.s.i.; Class A at 4,163 p.s.i.; and Lightweight Concrete at 4,093 p.s.i.

The placement of Class H tremie concrete was started at pier 9 on October 10, 1957. Concrete was transported to the site in transit mix trucks and dumped directly into the two tremie hoppers used to pour each seal. The tremie hoppers and pipes located near the one-third points of the cell, were raised and lowered by either a pair of cranes or a pair of stiff leg booms mounted on the work dock and operated by a double drum stationary Skaget hoist. Numerous problems were encountered on each tremie seal pour that required correction before the next one could be started. The Contractor's operations were improved on each successive pour as can be evidenced by the improved pour rate of the last pour over the first. The first tremie seal was made at the rate of 52 cubic yards per hour which resulted in an 8 inch lift per hour. On the last tremie seal, that at pier 4, the rate was 86 cubic yards per hour providing a lift of 15 inches per hour. After the tremie seals were placed, the cofferdams were de-watered and the top of the seal was cleaned up in the area of the pier columns and bottom strut. The tops of all seals were quite uniform in elevation, with the center one half nearly level. The end one quarters of each seal sloped downward slightly to the inside face of the column dowels. The concrete flow was then apparently restricted by the column dowels imbedded in the top five feet of the seal for the top surface was approximately two feet lower on all seals at the outside edges, adjacent to the column dowels. The last tremie seal concrete was placed on March 19 , 1958 in Pier No. 4.

Pier construction was accomplished in the usual manner with sections of the concrete forms constructed and assembled at a central panel yard. The steel reinforcing bands were placed in the forms before erection and the vertical reinforcing steel was placed by crane after the forms were in position. Pier column and strut concrete was placed with mobile cranes through concrete hoppers and tremie pipes. The first concrete pour was made September 5, 1957 in the footings of Pier No. 12. Pier construction was

completed on August 1, 1958 with the placement of concrete in the mid strut of pier 4. The substructure concrete work was excellent in quality as can be evidenced by the finished product.

The construction of the concrete T-beam and box girder portions of the superstructure began in March of 1958. This work proceeded in a usual manner to completion in August of 1958. Roadway deck slabs were finished with a Clary screed and Master vibrating rod, operating on channel screeds set flush with the top surface of the concrete. The finishing machines were operated lengthwise on the deck, one on each side of centerline. The roadway deck slabs were placed during the hottest weather recorded in Bremerton during the past several years. The concrete was taking its initial set as close as ten feet behind the finishing machines, making it virtually impossible to attain a deck with better than average riding qualities.

The erection by others of the three spans of plate girder superstructure was completed to a stage that this Contractor could commence forming for the lightweight concrete deck the last part of August. The first lightweight concrete roadway slab section was placed on September 8, 1958. The total deck, consisting of 14 sections, was placed in alternate sections for the full width of the roadway with the last section placed on September 17, 1958. The placement of lightweight concrete in the sidewalks and median of these three spans was completed on September 25, 1958.

The placement of riprap on the two banks and around the footings of the water piers was began on September 30, 1958. The material was obtained from Pit I-6 at Gorst, Washington, then transported to the site by barge. Placement was by a barge mounted crane operating a clam-shell bucket. Each water pier was inspected twice by a pair of Scuba divers during the placing of the riprap to ensure proper placement and adequate coverage. The riprap operations were completed on November 28, 1958.

Painting of the three spans of steel plate girders began on October 31, 1958 with the application of the first field coat of formula B-1 paint. The second and third field coats, aluminum formula D-1, were then applied and the painting was completed on February 2, 1959.

On Tuesday, November 25, 1958, the bridge, as a part of the Port Washington Narrows Bridge Project, was dedicated and opened to traffic.

All work was satisfactorily completed by February 2, 1959 and was accepted on that date by the Resident Engineer.

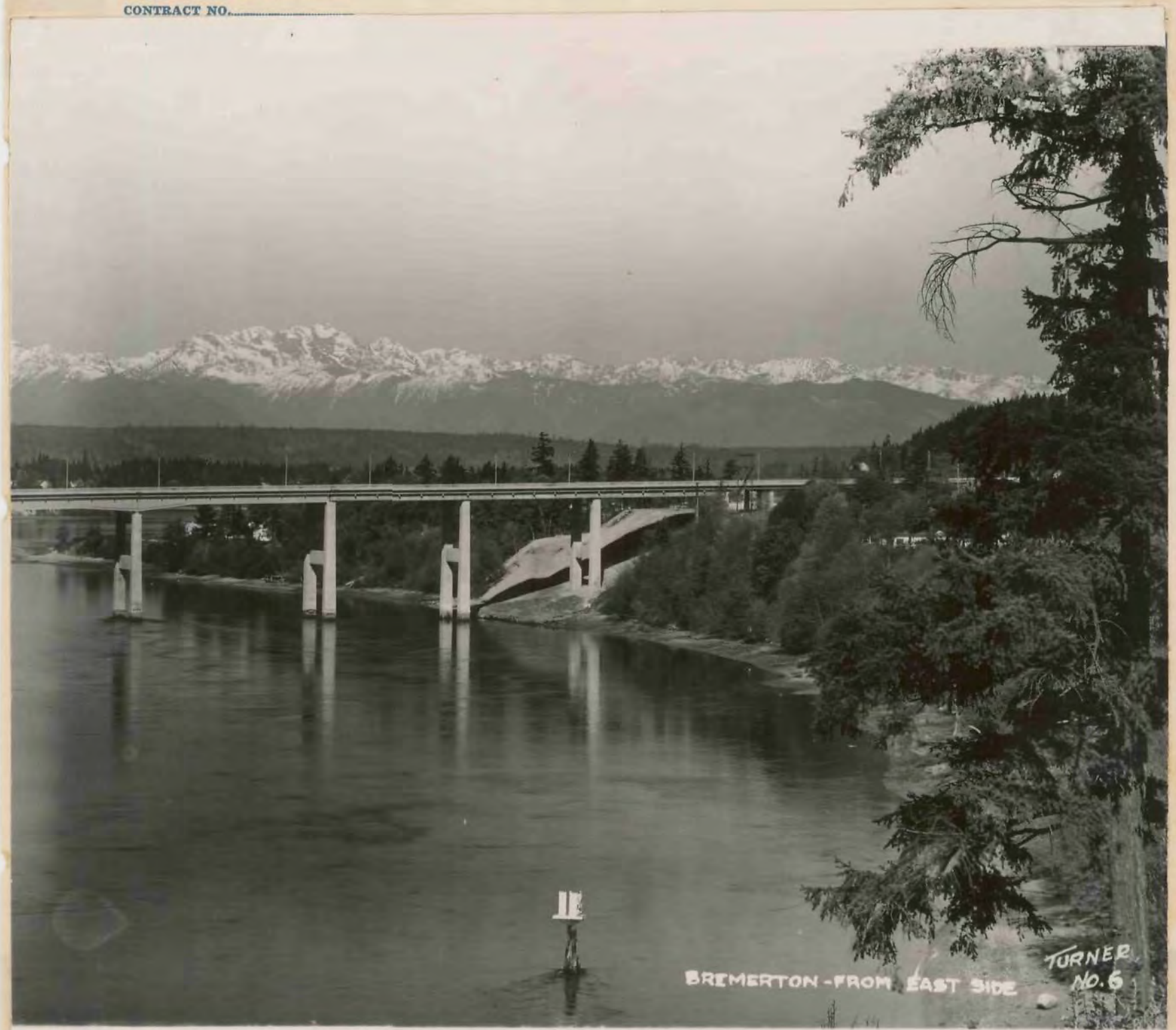
Each phase of the contract work was completed within the time specified in the Special Provisions. Due to the steel superstructure portion of the bridge not being

completed under contract number 5465, the Contractor was not able to commence unrestricted work on the lightweight concrete deck on August 12, 1958 as specified. This slight delay did not effect the date the bridge was to be ready for vehicular or pedestrian traffic. Because of inclement weather which caused delays to the painting, the contract completion date was extended a total of twenty working days. The contract was completed in 380 working days, the exact number of days specified.

The final estimate for this contract showed an underrun of $8,898.51, which equals 0.36% of the preliminary estimate of cost.

STATE HIGHWAY NO.....

CONTRACT NO.....



STATE HIGHWAY NO.....

SHEET NO.....

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

DATE: JULY 15, 1957
REMARKS: Pile Driver starting first falsework bent at North Bank.

DATE: JULY 23, 1957
REMARKS: Falsework bents. Looking South from North Bank. Pier 9 lies between two furthest bents.

STATE HIGHWAY NO.

CONTRACT NO. 5565

SHEET NO.

DATE: JULY 24, 1957
REMARKS: Construction of North work dock.

JUL • 57

DATE: JULY 24, 1957
REMARKS: Looking North from South Bank on centerline.

JUL • 57 •

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

AUG • 57 •

DATE: AUGUST 1, 1957
REMARKS: North Bank common excavation.

AUG • 57 •

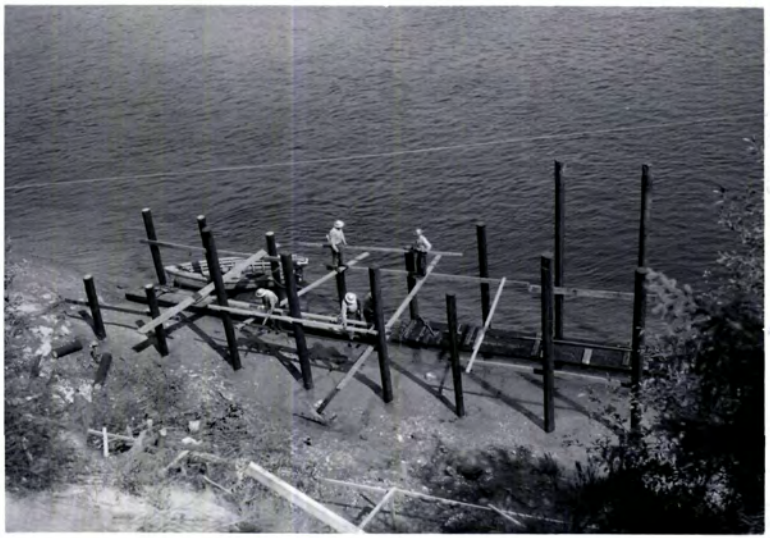
DATE: AUGUST 1, 1957
REMARKS: Vertical scarf just North of Pier No. 10. Caused by water emitting from face of bank.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

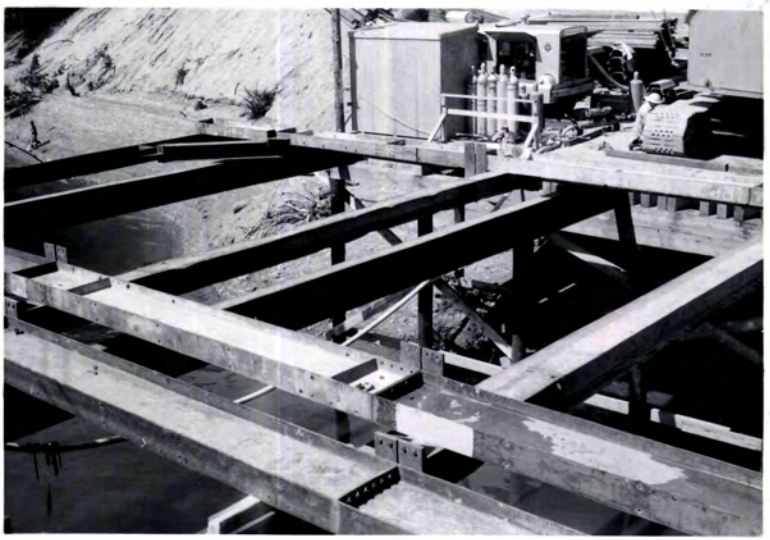
SHEET NO.....

AUG • 57 •



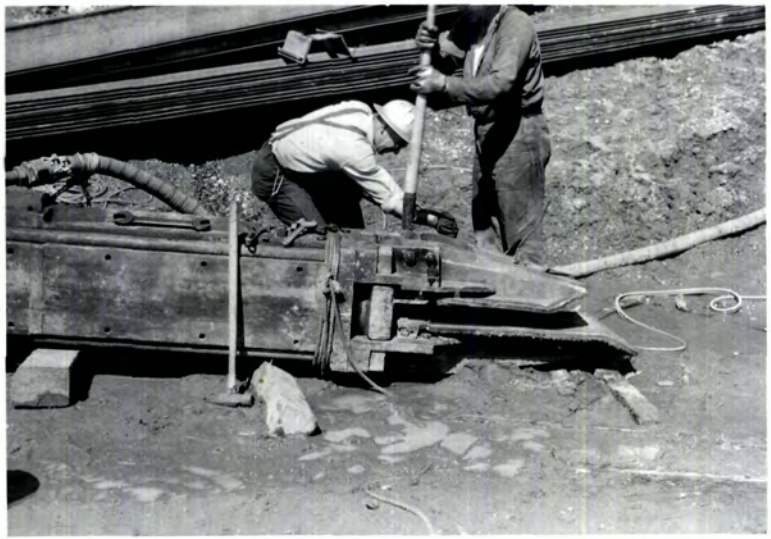
DATE: AUGUST 13, 1957
REMARKS: Cutting off falsework piles at South Bank.

AUG • 57



DATE: AUGUST 14, 1957
REMARKS: Assembling Pier No. 9 Cofferdam Frames.

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.



DATE: AUGUST 14, 1957
REMARKS: Skirts on Pile driver.

DATE: AUGUST 14, 1957
REMARKS: First Sheet on Pier No. 10 Cofferdam.

STATE HIGHWAY NO.....

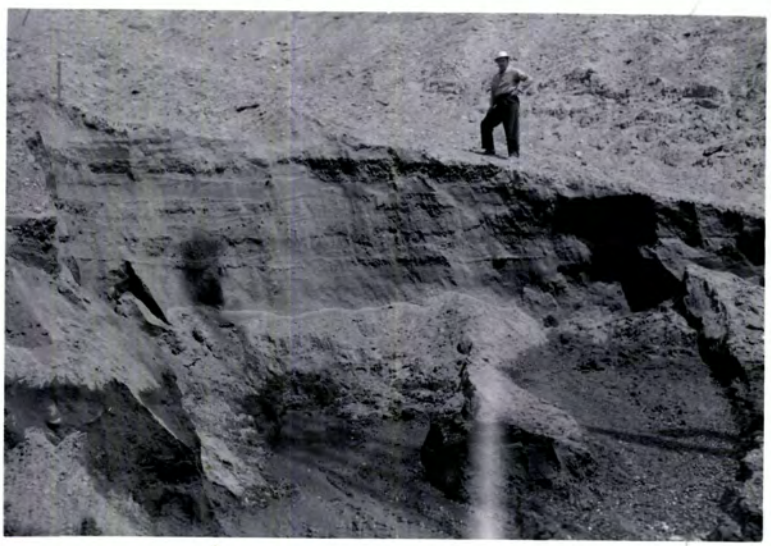
CONTRACT NO. 5565

SHEET NO.....

AUG • 57

DATE: AUGUST 16, 1957
REMARKS: Frames and North Line of Pier 10 Cofferdam. Note piles forced out of line by material from bank.

AUG • 57 •



DATE: AUGUST 16, 1957
REMARKS: Vertical Scarf North of Pier 10 caused by water emitting from bank.

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

SEP • 57

DATE: AUGUST 29, 1957
REMARK: Riprap placed north of Pier No. 10 to hold fines and prevent bank erosion.

SEP • 57 •

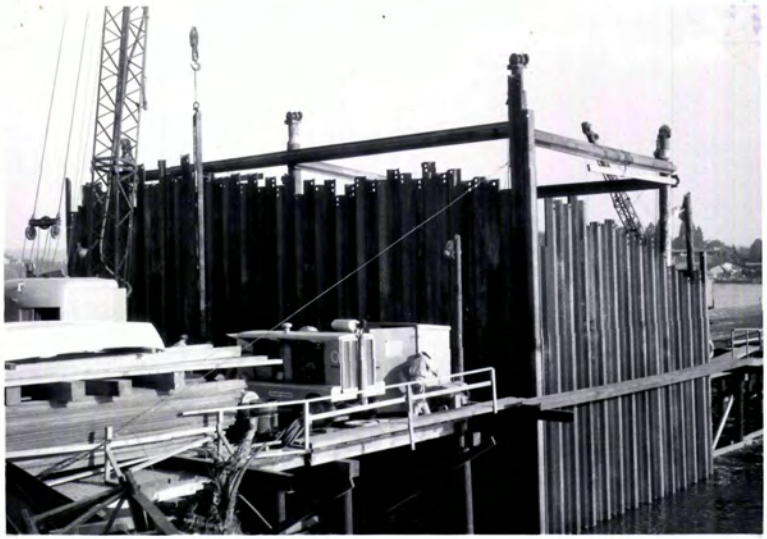
DATE: AUGUST 23, 1957
REMARKS: Looking South from North Bank. Pier No. 10 coffer-dam in foreground and Pier No. 9 spud pile in place.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: AUGUST 27, 1957
REMARKS: Sheets threaded at Pier No. 9.



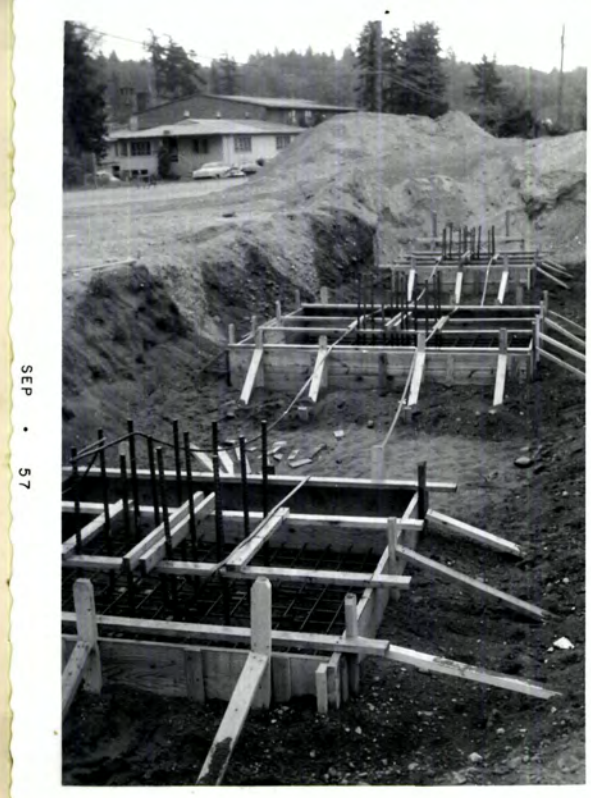
SEP • 57

DATE: SEPTEMBER 5, 1957
REMARKS: Pier No. 12 footings.

SEP • 57

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

DATE: SEPTEMBER 5, 1957
REMARKS: First concrete placement in Pier No. 12 footing.



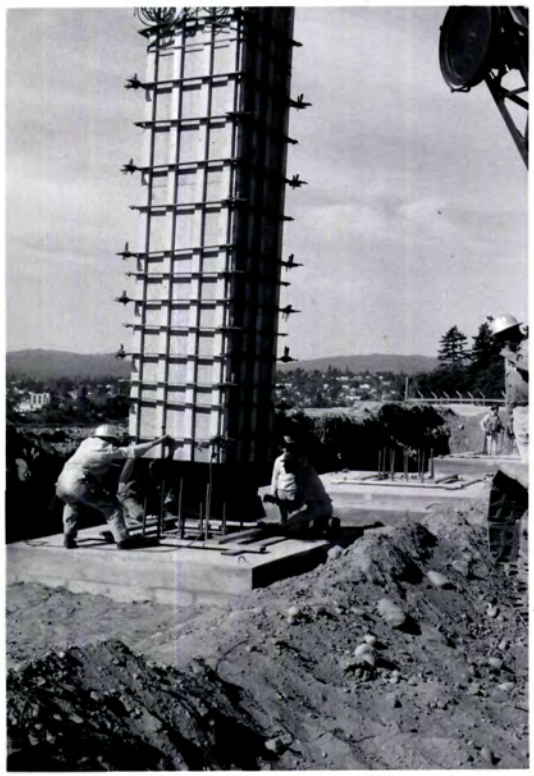
DATE: SEPTEMBER 5, 1957
REMARKS: Pier No. 13 Footings.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: SEPTEMBER 9, 1957
REMARKS: Setting Column forms for Pier No. 12.



DATE: SEPTEMBER 14, 1957
REMARKS: Pier No. 13 footings in foreground. Contractors panel yard and office in background. Looking West.

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

DATE: SEPTEMBER 14, 1957
REMARKS: Pier No. 14 footings. Note east footing, in foreground, skewed to miss water line under sidewalk.

DATE: SEPTEMBER 14, 1957
REMARKS: Pier No. 15 footings.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: SEPTEMBER 14, 1957
REMARKS: Curing of Pier No. 12 columns. Looking West.

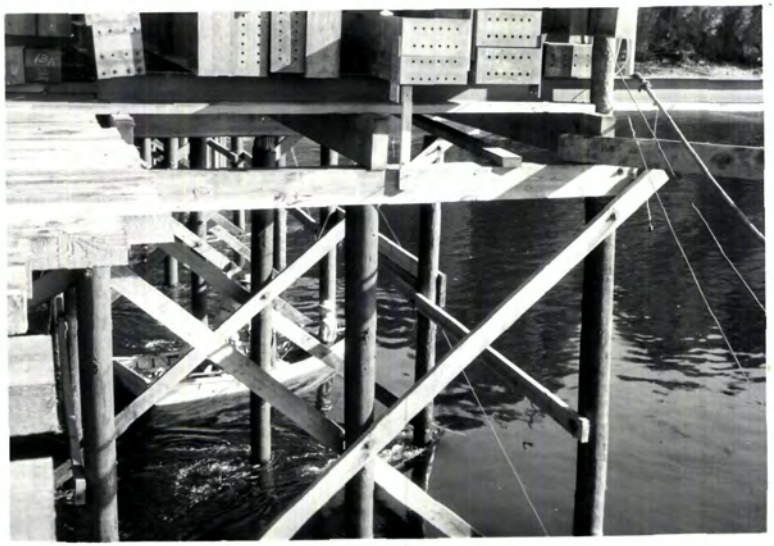
SEP · 57

DATE: SEPTEMBER 14, 1957
REMARKS: Sheets on Pier No. 9 partially driven.

· SEP · 57

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

DATE: SEPTEMBER 14, 1957
REMARKS: Pier No. 10 Cofferdam.



DATE: SEPTEMBER 18, 1957
REMARKS: Placing bent cables North of Pier No. 8.

STATE HIGHWAY NO.....

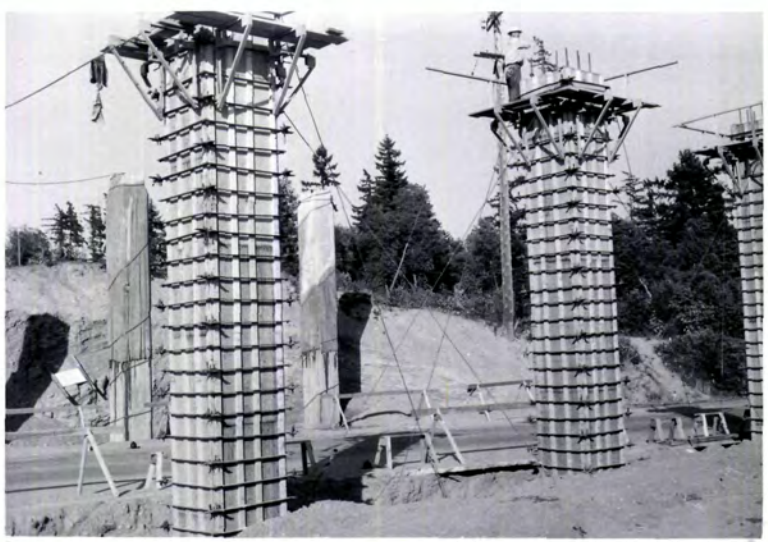
CONTRACT NO. 5565

SHEET NO.....

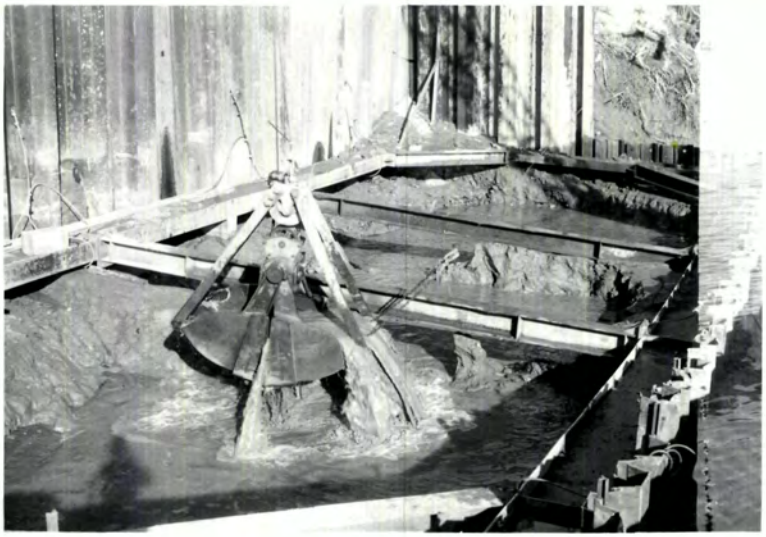
DATE: SEPTEMBER 18, 1957
REMARKS: Pouring Abutment 16 footings.

SEP • 57

DATE: SEPTEMBER 23, 1957
REMARKS: Pouring Pier No. 14 Columns.

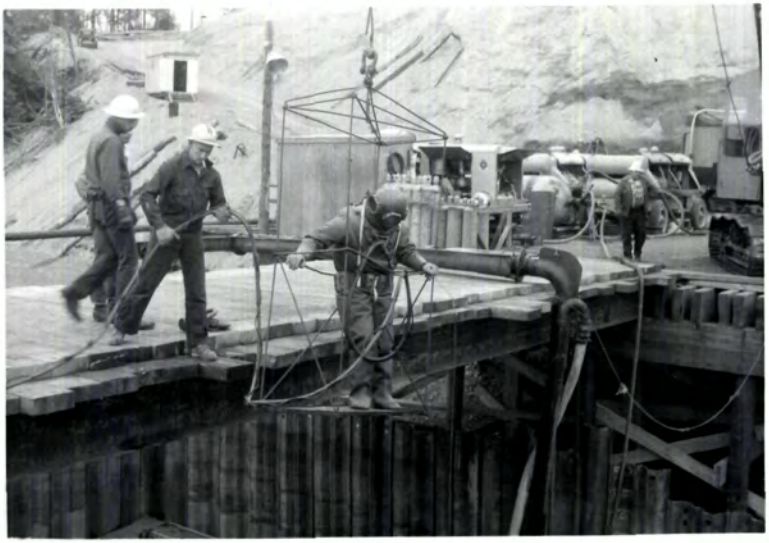


SEP • 57



SEP • 57

DATE: SEPTEMBER 24, 1957
REMARKS: Excavation at Pier No. 10. Water has collected from that emitting from bank just to the north of the cofferdam.



OCT • 57

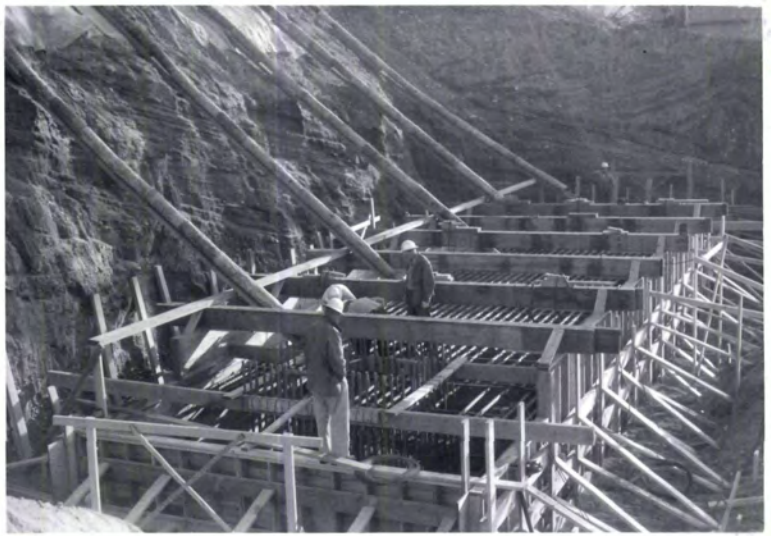
DATE: OCTOBER 7, 1957
REMARKS: Diver in Pier No. 9 to check on excavation.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

OCT • 57



DATE: OCTOBER 10, 1957
REMARKS: Pouring Pier No. 11 footing.

OCT • 57

DATE: OCTOBER 7, 1957
REMARKS: Air lift excavation in Pier No. 9.

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

DATE: OCTOBER 7, 1957
REMARKS: Excavation in Pier No. 10.

DATE: OCTOBER 9, 1957
REMARKS: Contractor checking
Excavation of Pier No. 9.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: OCTOBER 9, 1957
REMARKS: Concrete dry batcher.

DATE: OCTOBER 9, 1957
REMARKS: Project looking North-West from South Bank.

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

DATE: OCTOBER 9, 1957
REMARKS: Column dowels for Pier No. 9.

DATE: OCTOBER 11, 1957
REMARKS: Tremie Pour Pier No. 9.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: OCTOBER 11, 1957
REMARKS: Tremie pour at Pier No. 9
Driving sheets at Pier No. 8 and sheets threaded at Pier No. 7. Pier No. 11 footing in foreground.
Looking South from North Bank.

DATE: OCTOBER 16, 1957
REMARKS: Strut forms in Pier No. 10.
Frame members were imbedded in the strut.

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

OCT . 57

.....DATE: OCTOBER 17, 1957
REMARKS: Pier No. 10 East footing and structure.

OCT . 57

DATE: OCTOBER 18, 1957
REMARKS: Pier No. 10 cofferdam after footings and bottom strut had been poured. Note bracing to hold north line of piling.

OCT . 57

.....DATE: OCTOBER 18, 1957
REMARKS: Excavation at Pier No. 8.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: OCTOBER 18, 1957
REMARKS: Pier No. 9 column forms.

...DATE: OCTOBER 30, 1957
REMARKS: Excavation in Cell No. 7

DATE: OCTOBER 22, 1957
REMARKS: Project looking South
from Pier No. 12.

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

NOV · 57

.....DATE: OCTOBER 25, 1957
REMARKS: Trenching Pier No. 8 top of tremie seal to divert water from strut area.

DATE: OCTOBER 30, 1957
REMARKS: Bottom lift column forms on Pier No. 10. Pier No. 11 complete in background.

NOV · 57

NOV · 57

.....DATE: OCTOBER 30, 1957
REMARKS: South working dock looking North from Pier No. 4.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: NOVEMBER 14, 1957
REMARKS: Setting up for tremie pour at Pier No. 7.

NOV . 57

JAN . 58 .

...DATE: NOVEMBER 26, 1957
REMARKS: Clean-up and chipping Cell No. 7 to eliminate sand seam discovered when drilling for column dowels.

DATE: DECEMBER 11, 1957
REMARKS: Pier No. 9 upper column forms in place. Looking North.

JAN . 58

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

JAN • 58

.....DATE: DECEMBER 11, 1957
REMARKS: Pier No. 2 footing and strut forms in place. Looking East.

JAN • 58

DATE: DECEMBER 11, 1957
REMARKS: Project looking North from South Bank.

JAN • 58

.....DATE: JANUARY 2, 1958
REMARKS: Start of falsework between Piers No. 10 and 11.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: JANUARY 21, 1958
REMARKS: Pumping at Pier No. 3 cofferdam.

...DATE: JANUARY 21, 1958
REMARKS: Erecting forms at Abutment 16.

DATE: FEBRUARY 12, 1958
REMARKS: Diver at Cell No. 6.

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

.....DATE: FEBRUARY 13, 1958
REMARKS: Lower slab pour box girder between Piers No. 11 and 10.

DATE: FEBRUARY 19, 1958
REMARKS: Pile driver at Pier No. 5 cofferdam.

.....DATE: FEBRUARY 26, 1958
REMARKS: Falsework, east side looking South between Piers No. 10 and 8.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: FEBRUARY 26, 1958
REMARKS: Project looking North from South bank. West column of Pier No. 2 in right foreground.

...DATE: FEBRUARY 26, 1958
REMARKS: Looking North from Pier No. 6 cofferdam at Pier No. 7.

DATE: MARCH 19, 1958
REMARKS: T-beam spans between Piers No. 11 and 12. Looking North from Pier No. 12.

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

DATE: APRIL 28, 1958
REMARKS: Box girder forms in span 9.

.....DATE: APRIL 28, 1958
REMARKS: Box girder bottom slab between Piers No. 8 and 9. Looking North from Pier No. 8.

.....DATE: MAY 15, 1958
REMARKS: Falsework for T-beams over Lebo Blvd. Looking East.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: MAY 28, 1958
REMARKS: T-beam spans 13, 14, 15. Looking South from Abutment No. 16.

...DATE: JULY 9, 1958
REMARKS: Bottom deck slab re-steel in box girder span No. 3. Looking South from Pier No. 4.

DATE: JULY 9, 1958
REMARKS: Box girder forms in span No. 2. Looking North from Pier No. 2.

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

.....DATE: JULY 10, 1958
REMARKS: Tieing re-steel in box girder span no. 2.

DATE: JULY 10, 1958
REMARKS: Removing falsework bents from span no. 8 with water rig.

.....DATE: JULY 10, 1958
REMARKS: Setting one of the last falsework bents on span no. 4 with water rig.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: JULY 10, 1958
REMARKS: Placing concrete in bottom slab of span no. 3 box girder.

DATE: AUGUST 25, 1958
REMARKS: Roadway deck forms on steel spans. Looking South from near Pier No. 8

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

DATE: SEPTEMBER 8, 1958
REMARKS: Placing lightweight concrete in second section of steel span North of Pier No. 5. Note Clary screed and removal of flush screed.

DATE: SEPTEMBER 8, 1958
REMARKS: Placing lightweight concrete in second section of steel span North of Pier No. 5.

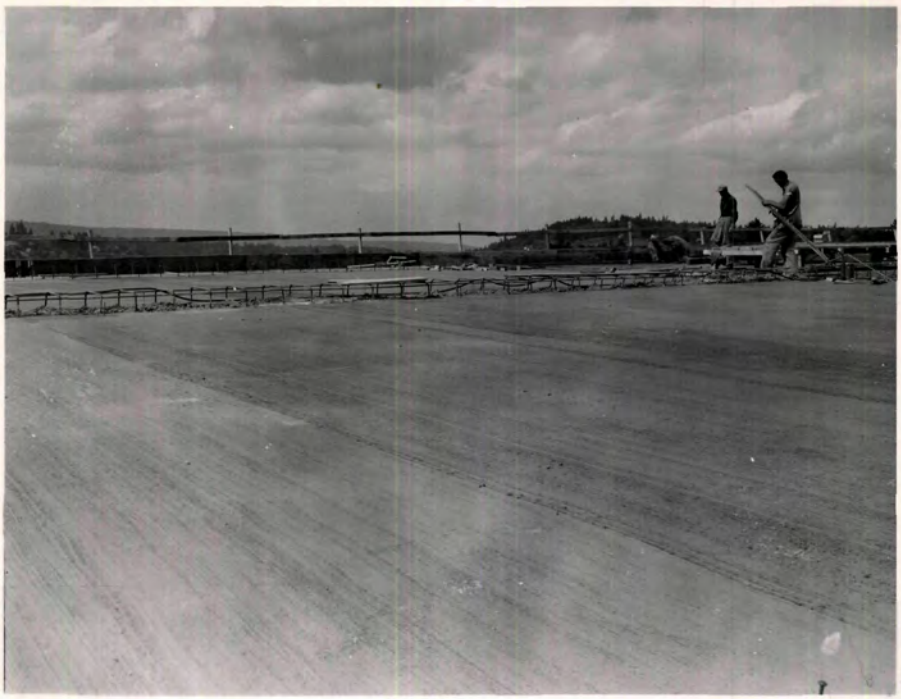
STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

DATE: SEPTEMBER 9, 1958
REMARKS: Lightweight concrete deck in fourth and sixth sections North of Pier No. 5. Master vibrator used on East half and Clary screed on West half.

DATE: ----
REMARKS: Finish on lightweight concrete roadway slab.



H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

NOV 1958

DATE: OCTOBER 14, 1958
REMARKS: Placing riprap at Pier No. 7.

.....DATE: OCTOBER 14, 1958
REMARKS: Barge load of riprap for Pier No. 7.

NOV 1958

DEC 58

.....DATE: OCTOBER 22, 1958
REMARKS: Placing riprap at Pier No. 5.

STATE HIGHWAY NO.....

CONTRACT NO. 5565

SHEET NO.....

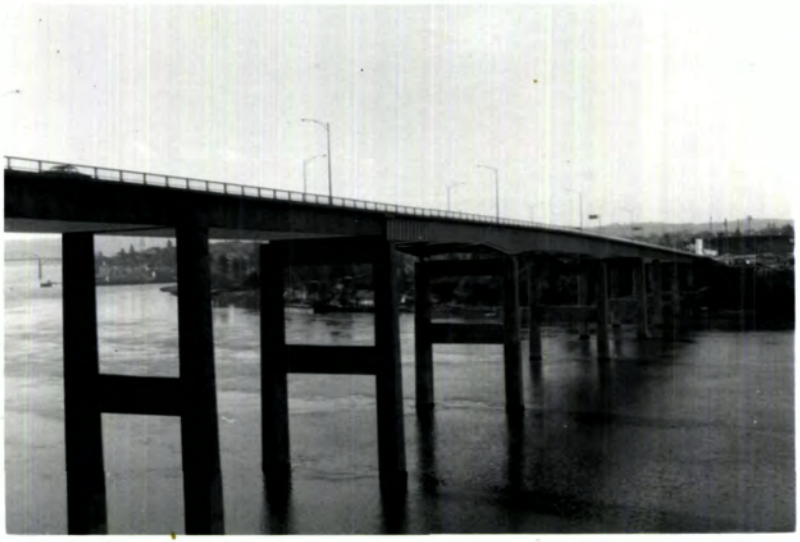
DATE: JANUARY 19, 1959
REMARKS: Painting the West plate girder. Looking North from Pier No. 6.

...DATE: JANUARY 19, 1959
REMARKS: Looking North from Pier No. 7.

DATE: MARCH 12, 1959
REMARKS: Completed Bridge. Looking South-West from North bank. Water line on bridge was installed by the City of Bremerton.

H. F. 23.13. S. F. No. 1694-D—10-58—5M. 54599.

• MAR 59



DATE: MARCH 12, 1959
REMARKS: Completed Bridge. Looking South-East from North Bank.

• MAR 59

DATE: MARCH 12, 1959
REMARKS: Completed portion of Bridge over Lebo Blvd. Looking North-West.