

# There's Many a Step Between An Idea and a Completed Bridge; Work Well Underway on Two New Spans Across the Willamette

By Conrad G. Prange  
Staff Writer, The Statesman

How is a bridge built? How do spans, like those crossing the Willamette river at Salem and at Independence ever get started? Who or what is it that combines taxpayers' dollars with concrete and steel and provides a safe if breathtaking crossing for motorists, pedestrians and kids on bicycles?

Well, Willamette river bridges started with the citizens. They complained about traffic tie-ups and floods (in Salem) and the "long way around" (at Independence).

The state highway department took the matter from there. It authorized construction of the bridges. Then came the private contractors who bid on the job and who do the actual work of pouring the piers and riveting the superstructure.

### Most Work Let Out

Only in rare instances does the highway department build its own bridges. If the structure is below the \$5,000 cost mark, or if the bidding can't be settled or if there is something in the construction of the span which makes it impossible to let out on the bids, then the commission sends out a crew to do the job.

Once the commission approves the construction of a bridge, the ball is passed to R. H. Baldock, state highway engineer. He laterals the task to his bridge division, headed by Glenn S. Paxson.

First of all a survey crew surveys the site and draws a map, showing among other things, the elevation of the riverbed, and suggests a bridge roadway. Then an exploration crew drills holes in the river bed and surrounding terrain to determine the kind of foundation the structure will require.

### Plans Sent to Designer

A planning engineer takes over and collaborates all the data and makes cost estimates on various types of spans. The bridge department mulls this information over and sends it on to a designer who then designs the bridge.

The new bridge at Salem will be a steel plate girder type with approaches of concrete viaduct. The Independence span is of the same type with wood pile trestle at the east, or Marion county end, and steel girders on the superstructure.

Five concrete piers will support the main river span on the Salem bridge.

When the design of the bridge is approved, then such things as material quantity, specifications and detail, traffic controls, and an estimated cost are drawn up and the job is advertised for bids.

### Goes to Lowest Bidder

The job almost always goes to the "lowest responsible bidder." The \$246,570 pier contract on the Salem span fell to Lee Hoffman company of Portland. Bids on the superstructure are expected to be called for at the September meeting of the highway commission.

The entire contract for the Independence bridge went to the Macco company of Los Angeles, Calif.

When the bids are assigned, the contractor takes over, blows his whistle and the fight is on to wrestle the tons and tons of concrete and steel high above the river — and to have it done as soon as possible.

The highway department assigns one of its own engineers to the job — known as the resident engineer. He inspects the job and makes sure the work is of the quality contracted for.

### Interference at Minimum

Other than that, the resident engineer keeps hands off the job. The state has long made it a practice of never interfering, if possible, with the contractor's work. "We try to refrain from telling the contractor how to do the job," one official said.

Luther L. Jensen, one of the bridge department's top engineers and a friendly sandy-haired man, is resident engineer on the Salem and Independence bridges. Assisting him are department engineers, Tom Hill and Al Mauck.

Work on two piers is under way now on the west bank of the Willamette at Salem where the Marion street bridge will cross. It is hoped to have the pier job done this fall. During the winter months the land approaches will be built. And, if the schedule is maintained, the superstructure will begin next spring.

### Opening Due in Fall

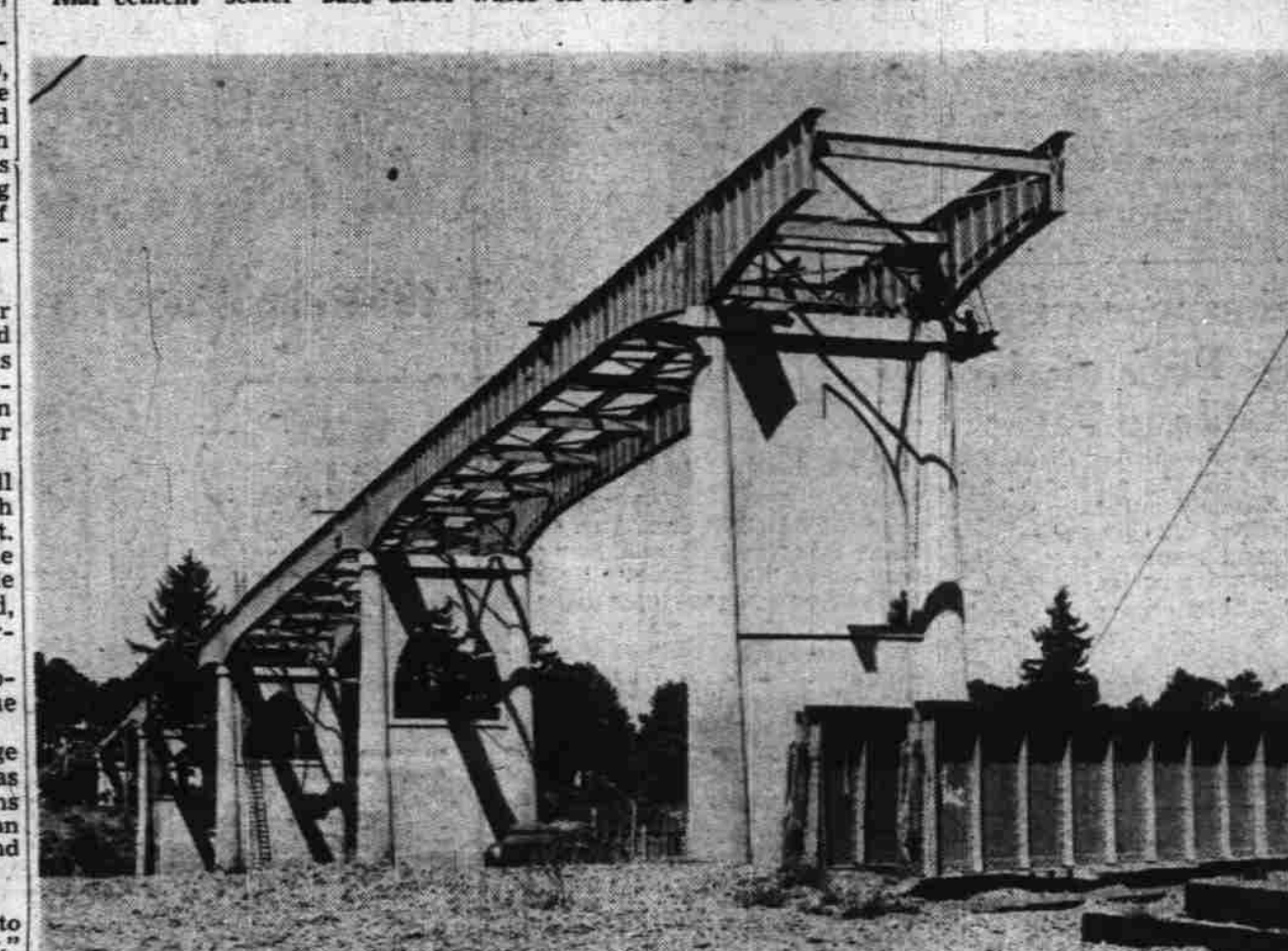
At Independence, where the superstructure has already begun, it is hoped to have the bridge open for traffic by late fall or early winter. Completion date target for the span at Salem is late in 1951.

In constructing the piers in the river, square steel boxes are constructed in the water and firmly imbedded in the bottom. The water is pumped out and the piers are then built. At any rate, this is the way it was done at Independence.

At Salem, though, the river bottom is so fluid that the water cannot be pumped out without taking the bottom with it. So first a "sealer" layer of cement will be laid under water. Then the water will be pumped out and the pier



Workmen weld together huge hoppers into which cement for piers will be poured at Salem bridge site. Long pipes go down through water with ends resting on bottom. Concrete is pushed down to form initial cement "sealer" base under water on which piers will be built.



Huge steel main support girders of the Independence bridge west approach tower high over Willamette river. Crews hope to open the bridge to traffic late this fall. Marion street bridge at Salem will be of similar construction design. (All photos by Don Dill, Statesman staff photographer.)

constructed on the concrete bottom.

In designing the Salem bridge, engineers had to keep several facts in mind. Pier spacing had to be wide enough and the bridge high enough for river navigation. The east approach must pass over the railroad tracks on Front street and come to grade at North Commercial street.

### View Unobstructed

It is always advantageous, says the bridge department, not to have view-blocking and traffic-obstructing trusses and beams rising above and over the top of

the bridge — as, for instance, at Jefferson.

Both the Salem and Independence spans will carry nothing above their road surfaces but a handrail. The handrails will be high enough to prevent anyone from falling off but not too high for kids to spit over.

The recent national emergency has caused highway department men to keep their fingers crossed. All materials necessary to complete the Independence bridge are on hand. But no vital steel is stockpiled for the Salem bridge — yet.

### No Word Received

To date, state officials say, no word has come from either the government or the steel companies to indicate a restriction on bridge steel sales. Bridge men remember, though, that during the last war steel for non-war uses became mighty scarce.

But anyway, at this date both bridges are going full blast. If the gods of luck and perseverance are willing, traffic should roll over the Salem bridge late in 1951. When that happens, the men who planned, built and designed it will be erecting a steel arch in another section of the state.

## Ceremony at Damsite Draws Dignitaries

Statesman News Service  
(Story also on page 1.)

DETROIT, Aug. 5 — Ceremonies noting the start of construction on Detroit dam drew dignitaries from many parts of the Willamette valley to the site of the project Saturday.

Representing Salem were Russell Pratt, for the chamber of commerce, and City Engineer J. Harold Davis, for the mayor's office. Marion county was represented by Judge Grant Murphy.

Ivan Oakes, executive secretary, headed delegates representing the Willamette River Basin commission. Others were Ronald Jones of Brooks and Wade Newbegin.

Mayors introduced included Albert Millsap, Gates; Charles Haseman, Idanha; Peter Tweed, Lebanon; Ed Cardwell, Sweet Home.

Problems Difficult  
Col. D. S. Burns, district army engineer, told a crowd of several hundred that contractors' problems on the project had been most difficult due to the narrow gorge, steep slopes and limited working space. He listed the many steps preparatory to actual construction including the acquisition of 7,000

acres of land from 200 owners.

When completed the dam will back up the waters of the North Santiam river when they are raging torrents and release them uniformly.

Many Functions  
Its functions will be manifold. As a power producer it will be an auxiliary of the Bonneville power authority, supplying current chiefly to meet peak loads.

As an aid to navigation it will raise the Willamette river during the summer low-flow, making it navigable for tugboats as far as Corvallis. The present low flow at Salem will be more than doubled.

As a flood-control project, Detroit dam, with others in the Willamette Basin project, will free millions of acres from seasonal flooding that has caused millions of dollars in damage annually.

The project also will be a source of water for towns in the area. Salem already has a request in for additional water from it.

Detroit dam also will provide a setting for recreational facilities, will aid in the abatement of stream pollution and will make huge irrigation projects possible in this area.

The Nunatagmiut Eskimos, a nearly extinct Alaskan tribe, were nomadic caribou hunters two generations ago.

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## 4 Salem Police Officers Raid 'Jungle' Camp

Four Salem police officers staged a dawn raid on jungle camp under a railroad bridge in west Salem Saturday, arresting five transients on vagrancy charges.

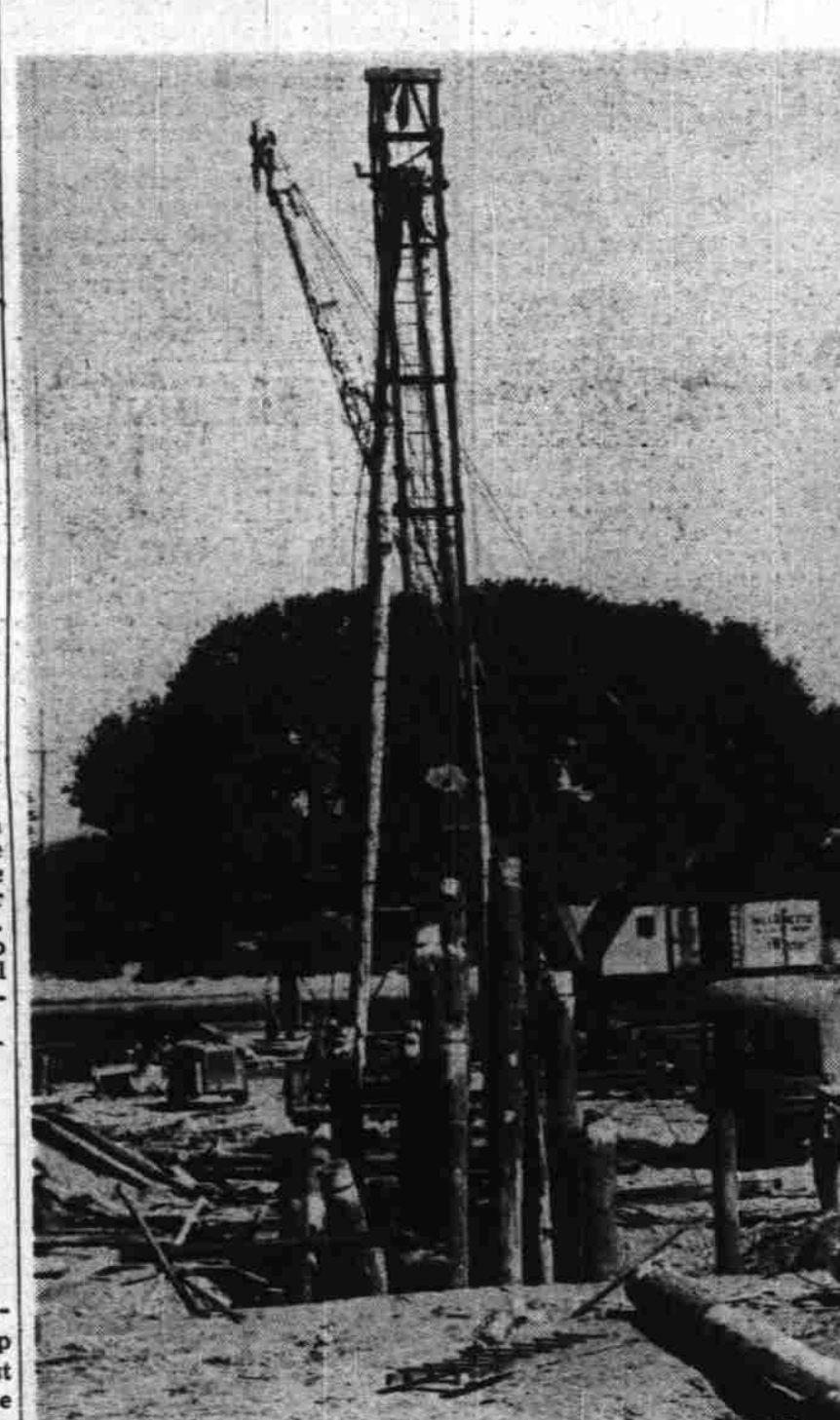
All five were given suspended sentences in municipal court later Saturday morning and were ordered to leave town.

The 6:30 a.m. raid climaxed a long, hectic night for city policemen who arrested 15 men on intoxication charges at various intervals and booked two additional vagrants. Officers also had three reckless driving arrests and three disorderly conduct arrests.

The Marion county sheriff's office picked up where the city police left off Saturday afternoon, booking two more for vagrancy and arresting five transient workers in Stayton on charges of creating a public disturbance. Officers said all five were involved in a fight at Stayton.



Hoffman company crewmen wrestle huge steam jack-hammer as it drives walls of steel box deep into mud bottom on west side of Willamette river at Salem. When box is completed in river, water is pumped out and pier formations set on river bottom.



Towering pile driver manned by crews of Lee Hoffman company of Portland, bridge contractor, drives piling for pier to Marion street span on west bank of Willamette river. After being driven deep into river loam, pilings will be sawed off and concrete pier constructed around and over them.

## Public Records

### CIRCUIT COURT

Audrey M. Mondy vs. Clifford Mondy: Suit for divorce charging cruel and inhuman treatment asks for custody of a minor child and \$30 per month support money. Married April 10, 1947.  
John Schukart vs. P. G. Gerousbeck and others: Defendants file reply admitting and denying.  
Jack Bilyeu vs. Leah Bilyeu: Suit for divorce charging cruel and inhuman treatment asks for custody of two minor children and certain real property. Married Nov. 3, 1938.  
Mildred Helen Larson vs. Leonard George Larson: Complaint for divorce alleging cruel and inhuman treatment. Married Aug. 1, 1934, at Colfax, Wash.  
John W. Merrifield vs. Alta L. Merrifield: Defendant files answer to amended complaint and files counter-claim for divorce, alleging cruel and inhuman treatment; seeks \$10,000 maintenance money and \$500 attorney's fees from plaintiff, and restoration of former name of Alta L. Lindholm.

### LOWELL D. DURHAM, U. S. NAVY,

pleaded guilty to charge of illegal possession of intoxicating liquor, fined \$25.  
Robert Keith Fresnall, pleaded guilty to charge of disorderly conduct, paid \$25 fine, pleaded innocent to charge of reckless driving, trial set for August 17, posted \$50 bail.  
John C. Greaver, 1210 Spruce st., pleaded guilty to charge of disorderly conduct, paid \$75 fine.  
Dale Joseph Schafer, Albany, pleaded guilty to charge of reckless driving, paid \$35 fine.  
Joseph P. DeWhitt, 165 S. 25th st., pleaded guilty to charges of disorderly conduct and being intoxicated, paid \$90 total fine.

### MARRIAGE LICENSE APPLICATIONS

Kenneth Knutson, 21, sawmill employe, Silverton, and Beverly Anderson, 18, student, Woodburn.  
Richard H. Wallace, 23, army, 570 N. Winter st., and Patricia Doss, bookkeeper, 1205 S. 14th st., both of Salem.  
Sonny MacNelson, 19, logger, and Marian Ellen King, 19, payroll clerk, both of Mill City.  
Dean E. Booster, 23, truck driver, and Martha DuRette, 21, school teacher, both of Gervais.  
Elmer Louie Gerig, 20, plywood worker, Lebanon, and Florence Adeline Schrock, 18, domestic, Seio.

### DISTRICT COURT

Kenneth Orville Smith, charged with robbery, bound over to grand jury after plea of guilty, held in lieu of \$2,500 bail.  
Ray S. Kauffman, logging without a permit, fined \$50 and costs.  
Dale Venema, reckless driving, fined \$75 and costs.  
John and Rose Awnack, both charged with larceny, case dismissed at request of complainant.

### PROBATE COURT

J. C. Cannoy estate: Order closes estate.  
Aura Adella Chapler estate: Order approves final account.  
Gary Keppinger guardianship estate: Order closes guardianship.  
Leonard G. Holmes guardianship estate: Order appoints Pioneer Trust company as guardian.  
Albert G. Wulfemeyer estate: Order appoints Anna M. Wulfemeyer as administratrix and Sam Schirman, W. F. Downes and Bessie M. Elofson as appraisers.  
Moses D. Vinyard estate: September 9 set for final account hearing.  
John McClenathan estate: Estate appraised at \$1,989.

### MUNICIPAL COURT

Kenneth Glen Snyder, Silverton, charged with reckless driving, held in lieu of \$75 bail.

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