W. 6. E. 1

Memorandum Date: 5/26/11
Order Date: 6/15/11

TO: Board of County Commissioners

DEPARTMENT: Public Works

PRESENTED BY: Bill Morgan, County Engineer

AGENDA ITEM TITLE: Order/In the matter of ratifying applications submitted by Public Works for grant funding under the National Historic Covered Bridge Preservation Program (NHCBP) for Belknap, Office, Unity, and Pengra Covered Bridges, and delegating authority to the County Administrator to execute all related agreements, amendments, and construction contracts in the event of successful application(s).

I. MOTION

Move approval of Board Order ratifying the applications submitted by Public Works for grant funding under the National Historic Covered Bridge Preservation Program (NHCBP) and authorizing the County Administrator to execute all related agreements, amendments, and construction contracts in the event of a successful application(s).

II. AGENDA ITEM SUMMARY

Due to short timelines, the Department is asking the Board to review the applications that have already been submitted to ODOT for inclusion in the state submittal of projects under the NHCBP.

As part of a call for applications on May 6, 2011, local agencies were given just over two weeks to apply for the available funding. Lane County reviewed current covered bridge needs and submitted four applications for Belknap and Office Covered Bridges for rehabilitation work, and Unity and Pengra Covered Bridges for re-roofing. Work on Belknap, Unity, and Pengra Covered Bridges is planned for FY 11-12, with Office Covered Bridge planned for FY12-13. The projects request NHCBPP funds to help defray the costs associated with proposed work. Any funds received from this program need to be matched at 10.27% by the Lane County Road Fund.

Rehabilitation. Note 18 on Page 30 of the current CIP states "This line item is for covered bridge maintenance projects as identified in the National Bridge Inventory Program. The funds allocated will be used to provide for emergency maintenances or as local matches required for securing external funds."

D. Financial and/or Resource Considerations

The financial implications of not taking action on this item are that the expenditure of Road Fund resources that could not be used for other priorities will have to be used. With award of this grant, Road Fund resources can go to fund other priorities that otherwise would need to wait for adequate funding.

E. Analysis

In order to satisfy *APM Chapter 1, Section 2A, Issue I*, the following is the list of questions that need to be answered when a Board agenda item relates to approval of a grant or any project or proposal with limited duration funding.

1. What is the match requirement, if any, and how is that to be covered for the duration of the grant?

For this program the match requirement is 10.27% of the total project cost. This amount will come from the Road Fund, and is identified in the current CIP and approved by the Lane County Board of Commissioners.

2. Will the grant require expenditures for Material and Services or capital not fully paid for by the grant?

The project will be completed by competitive bid and is expected to be fully reimbursable according to the match split (89.73/10.27)

3. Will the grant funds be fully expended before county funds need to be spent?

Yes. This will be covered under a reimbursement agreement where the Road Fund will be used to reimburse the State for project costs according to the match split (89.73/10.27).

4. How will the administrative work of the grant be covered if the grant funds don't cover it?

Grant funds will cover this activity in proportion to the match split (89.73/10.27).

5. Have grant stakeholders been informed of the grant sunsetting policy so there is no misunderstanding when the funding ends? Describe plan for service if funding does not continue.

The grant is a one-time, project specific allocation that will need to be completed within the agreed to timeline. There is no expectation that there will be continued funding.

c. What will happen to the software application/system after the grant funding has ended?

Not Applicable

d. Who will pay for ongoing maintenance and staff costs, if any?

Not Applicable

F. Alternatives/Options

The Board's options are to approve the motion stated above, to deny the motion, or to take some other course of action.

V. TIMING/IMPLEMENTATION

Upon award of the grant, which should be known before December 2011, an interagency agreement will be forthcoming from ODOT. It is anticipated that some project construction could commence in 2012.

VI. RECOMMENDATION

Staff is recommending that the Board approve the motion.

VII. FOLLOW-UP

At this point, we are awaiting the results of the project selection process to determine if any of the proposed project applications are successful. If awarded, staff will coordinate with ODOT to implement the project(s) and establish the agreement(s) to complete the project(s).

VII. ATTACHMENTS

- Board Order

- 2011 National Historic Covered Bridge Preservation Program Grant Applications

2011
National Historic Covered Bridge Preservation Program Grant Application

STATE: Oregon
BRIDGE: Belknap Covered Bridge
OWNER: Lane County
STATE RANKING:

school buses until its recent load posting limited the weight of these vehicles. Out of direction distance is 4.3 miles.

Is a general plan and elevation attached as required? Yes

Previous repair work (description, year, etc.)

Restoration was undertaken in 1992. Work included re-painting, re-roofing, and repairing or replacing decayed or damaged members on the house, placing new floor decking, bridge rail, and exterior stringers, minor repair work on the truss, and miscellaneous work and new decking on bridge approach.

Provide a description of proposed work including wood preservative system, fire protection, vandalism and arson prevention systems to be used. (Note: Fire Retardant Treatments affect the properties of wood and are also not recommended by AASHTO or the Industry).

The major work items for this bridge includes replacing the inside downstream 10x18 bottom chord from Pier 2 to the first splice (~40 feet), and replacing the inside 10x14 diagonal between U7 and L8 (~26 feet). Both of these members have experienced decay that has resulted in a substantial loss of load carrying capability. In order to compete this work the chord will require shoring and temporary post tensioning in order to lift the existing structure to allow for replacement of the rotten members and also to deliver the existing deadload to the repair locations. At the completion of the major repairs the truss will require retuning, which is accomplished by adjusting the tension in each of the 48 tension rods.

Other work items that should be completed at the same time as these major repairs include: fumigating the structure for bugs; replacing decayed floorboards and stringers; lag screwing loose decking to the stringers; cleaning, blasting, and repainting the tension rods to eliminate and protect against corrosion; replacing a section of guardrail that will be removed in order to facilitate chord replacement; and repainting house.

Does the State have a historic bridge inventory/management plan accepted by the State Historic Preservation Officer (SHPO)? A programmatic agreement for historic bridges with the SHPO, FHWA and the Advisory Council on Historic Preservation (ACHP) may substitute.

ODOT has an existing historic bridge inventory, published in 1989 as Historic Highway Bridges of Oregon. ODOT has also developed a *Historic Bridge Preservation Plan* that has been accepted by the Oregon SHPO, Oregon Division of FHWA and ACHP. A Programmatic Agreement that addresses work on historic bridges (including covered bridges) is also currently under development by ODOT, FHWA, the Oregon SHPO and ACHP.

State if the SHPO has certified that this project is warranted in accordance with the SHPO's State-wide historic preservation plan; how it benefits state-wide preservation efforts; how it

Schedule for start of work (month/year): 6/12

Schedule for completion of work (month/year): 10/12

Cost Estimates:

	A FHWA Funds Requested (89.73%)	**B** Other Sources (10.27%)	**A+B** (100%)
Preliminary Engineering cost, if requested	$49,710	$5,690	$55,400
Substructure cost of covered span	$	$	$0
Superstructure cost of covered span	$149,850	$17,150	$167,000
Cost of fire protection, vandalism and arson prevention	$	$	$0
Other costs (Define)			
-Bug Protection	$8,970	$1,030	$10,000
-Paint House	$89,730	$10,270	$100,000
-Construction Engineering	$44,685	$5,115	$49,800
-Contingency	$24,855	$2,845	$27,700
-ODOT Admin	$22,430	$2,570	$25,000
Total cost of project	**$390,230**	**$44,670**	**$434,900**

Note: Percentages are based on sliding scale participation.

Additional Comments:

2011
National Historic Covered Bridge Preservation Program Grant Application

STATE:	Oregon
BRIDGE:	Office Covered Bridge
OWNER:	Lane County
STATE RANKING:	

Previous repair work (description, year, etc.)

1993 restoration project worked on the following: bridge approaches, remove and replace decking as required, install felloe guards, replace walkway decking, install window eaves, reconstruct the portal ends, replace damaged house siding, paint bridge house, and chemically treat truss members with approved funigant.

Provide a description of proposed work including wood preservative system, fire protection, vandalism and arson prevention systems to be used. (Note: Fire Retardant Treatments affect the properties of wood and are also not recommended by AASHTO or the Industry).

Deterioration of this bridge is being caused by three different conditions. The proposed work will mitigate each of these conditions and also will take care of miscellaneous maintenance items that will help extend the lifespan of the bridge.

The first major cause of deterioration is the addition of two waterlines which serve the town of Westfir. These waterlines were placed in the overhanging sidewalk section of the bridge and are causing distress to the floorbeams. The proposed repair would strengthen these floorbeams by splicing additional wood members onto the floorbeams and would carry the loads back into the truss.

The second cause of deterioration is poor drainage at the ends of the bridge. Ponding at the ends of the bridge have led to decay in the Bent 1 cap beam as well as a diagonal and end post at Bent 1. Drain systems will be added at each end of the bridge to help prevent deterioration. The End Post, Cap Beam and Truss diagonal will all be replaced.

The third cause of deterioration is bug damage in the outer leaf of the upstream bottom chord. This bug damage was repaired in 1992 with epoxy wood resin, and the bridge has been treated for insects. However continued insect damage has been observed in this chord, and because this is a tension carrying member the wood epoxy resin provides little overall strength to the structure. The proposed work would include removing the upstream walls of the bridge and temporarily bracing and post tensioning the structure so that the outside leaf of the chord can be removed and replaced.

Additional work items for this bridge include replacing decayed stringers and floorboards, lag screwing loose floorboards to the stringers, fumigating the structure, repairing insect damage and replacing damaged roof shingles.

Does the State have a historic bridge inventory/management plan accepted by the State Historic Preservation Officer (SHPO)? A programmatic agreement for historic bridges with the SHPO, FHWA and the Advisory Council on Historic Preservation (ACHP) may substitute.

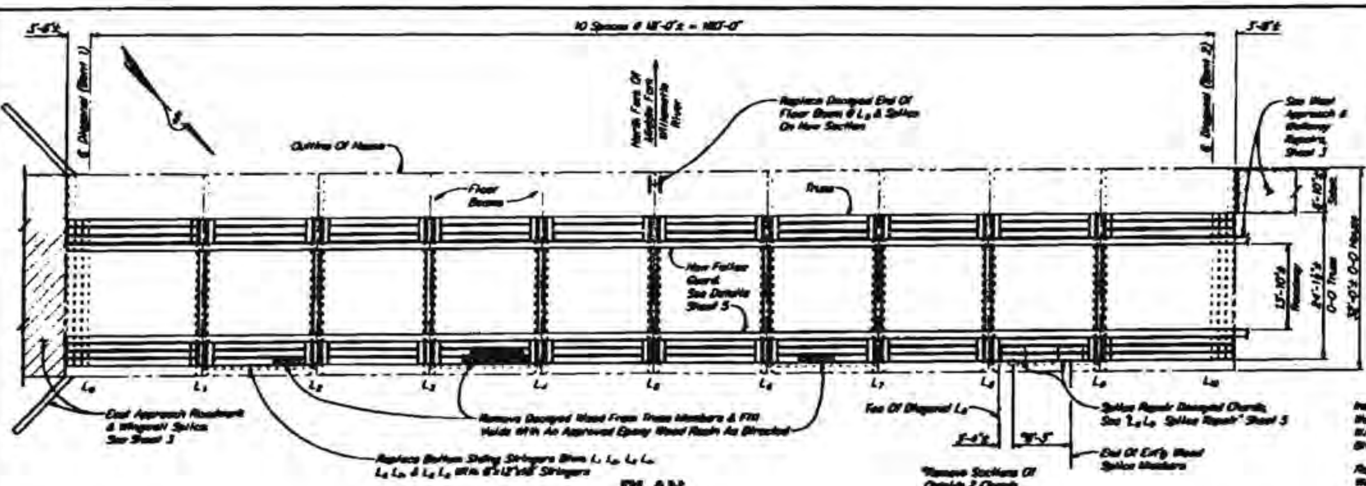
The report will be managed by Brad Lemhouse, Senior Engineering Associate.

State Department of Transportation Contact Person
Name: Chris Leedham, P.E.
Title: Structural Design Engineer
Agency: Oregon DOT
Ph: (503) 986-3383
Fax : (503) 986-3407
e-mail: christopher.r.leedham@odot.state.or.us

Local Agency Contact Person (if applicable):
Name: Bill Morgan, P.E.
Title: County Engineer
Agency: Lane County
Ph: (541) 682-6990
Fax: (541) 682-6946
e-mail: bill.morgan@co.lane.or.us

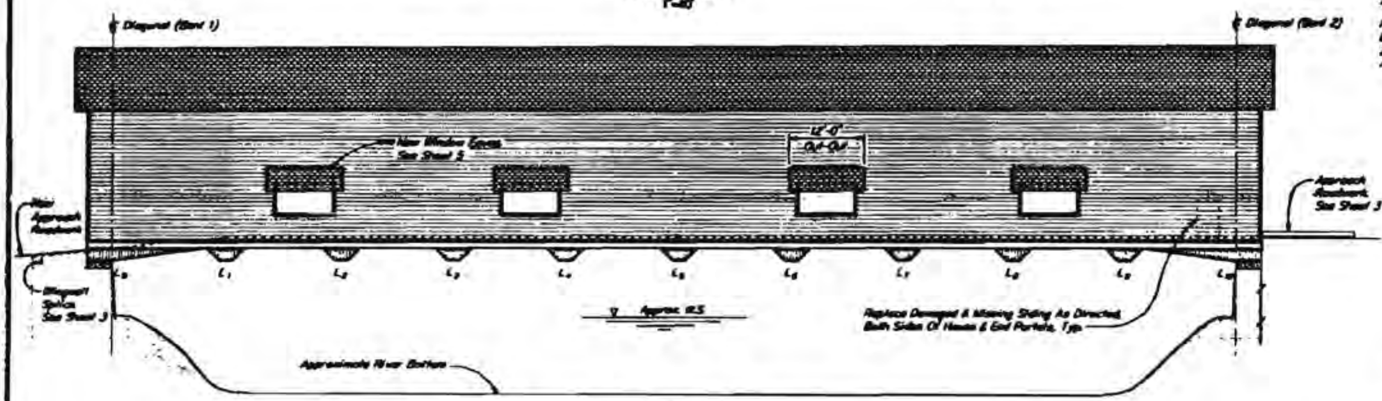
FHWA Division Office Contact Person:
Name: Tim Rogers
Title: Oregon Division Bridge Engineer
Division: Oregon Division Office
Ph: (503) 587-4706
Fax: (503) 399-5838
e-mail: timothy.rogers@fhwa.dot.gov

State Historic Preservation Officer(SHPO)
Name: Roger Roper
Title: Deputy SHPO, Oregon
Office: Oregon Parks & Recreation Department
Ph: (503) 986-0677
Fax: (503) 986-0793
e-mail: roger.roper@state.or.us



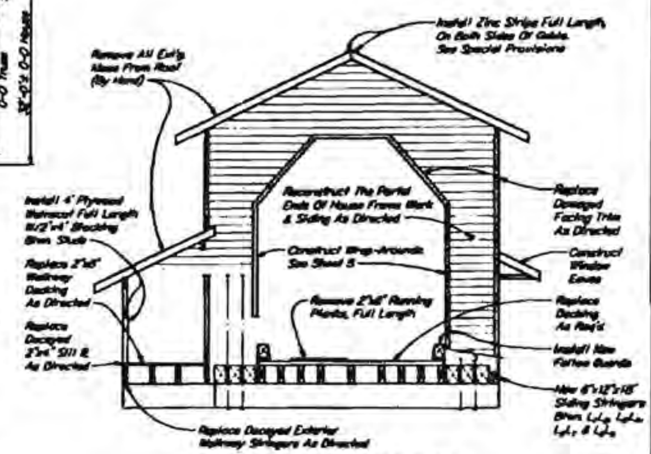
PLAN

1"=20'



ELEVATION

1"=10'



TYPICAL SECTION

3/16"=1'-0"

WORK TO BE DONE:

APPROACH WORK:

East approach - Splice height extension onto both concrete wingwalls. Clear and grub area as directed. Construct new asphalt roadway and walkway approach. See Sheet No. 3.

West approach - Remove madrone tree between roadway and walkway and clear and grub area as directed. Construct new asphalt roadway and walkway. Place riprap on north embankment. Construct ditches. See Sheet No. 3.

TRUSS SUPERSTRUCTURE:

Remove 2"x6" deck running planks full length.

Replace damaged or decayed 4"x12" rough sawn decking as directed.

Install new felloe guards.

Remove decayed wood from truss chord members and fill voids with an approved epoxy wood resin as directed.

Remove decayed sections of bottom chords between L_7 and L_9 right. Install new chord sections and spacer blocks and attach with splice plates and shear plates.

Remove decayed end of floor beam under walkway at L_6 left and splice on new section.

Replace exterior siding stringers between L_1L_2, L_4L_5, L_5L_6, and L_8L_9 right with new 6"x12"x18' stringers.

Replace decayed exterior walkway stringers with new 6"x18" stringers, as directed.

Replace 2"x8" rough sawn walkway decking as directed.

Replace decayed 2"x4" sill plate along walkway where siding is missing, as directed.

Clean all decay causing material, collected dirt & debris etc. from truss, bracing, floor beams etc. as directed.

Tighten all nuts & bolts as directed through out. Equalize tension in tie rods. Replace all missing nuts through out truss (bracing, anchor bolts, chord splice bolts, 2nd nut on tension rods etc.)

Chemically treat truss members with approved fumigant.

HOUSE AND ROOF:

Remove all moss from roof by hand scraping. Install zinc strips full length on both sides of roof peak.

Install 4' high wainscot full length left side of walkway with 1/2" A/C grade plywood. Install 2"x4" blocking between studs flush with top of wainscot.

Install window eaves over the four windows on the right side of the house.

Reconstruct the portal ends of house frame work, siding & facing trim as directed. Construct portal wrap-arounds on both ends of the bridge.

Replace damaged and missing house siding as directed.

Apply 2 coats of red paint to exterior of house, wrap-arounds and underside of roof overhangs. Apply 2 coats of white paint to portal, eaves, and window trim. Apply 1 coat of white paint to interior truss and house (everywhere except decking, lower chords and felloe guards). Paint color and brand to be approved prior to application.

Install 20T weight limit signs. See special provisions.

NOTE:
THE SCALE OF THIS PRINT IS 1/2 THAT OF THE ORIGINAL DWG.

DRAWING NO. 63164
BRIDGE NO. 39C650

REV.	DESCRIPTION	BY	DATE

OBEC Consulting Engineers

OFFICE BRIDGE

BRIDGE NO. 21-3E-7

LANE COUNTY — OREGON

PLAN & ELEVATION

ASST. CHIEF BRIDGE ENG.

DESIGNED G. Asplund

SHEET 4

2011 APPLICATION
National Historic Covered Bridge Preservation Program

State **OREGON** Priority Ranking: ____

County: Lane County

Congressional District/Representative: Fourth District / Congressmen Peter DeFazio

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NBI structure number: 014721 Year Built: 1936

Bridge Name: Unity Covered Bridge

Location (e.g., county, city, route):

Located 20 miles southeast of Springfield on Jasper-Lowell Road in the Unity area 2 miles north of Lowell.

Covered Bridge Owner (Include an address):

Lane County, 3040 N Delta Hwy, Eugene, OR 97408-1696

Is the structure on the National Register of Historic Places? (Yes/No) Yes

- If not -

Is the structure eligible for listing on the National Register of Historic Places?

What are the qualities that qualify the bridge for the National Register?

This bridge was built in 1936 with a housed Howe thru truss design.

Structure description (e.g., # of spans, length, width, design type, description of decking, beams/stringers, sides & roof, wood species, wood preservation system in use, historical significance, builder, type of traffic on bridge.)

The bridge is of the Howe thru truss design, is a 90' single span bridge, has a 19.2' roadway width, and a 12.2' vertical clearance. This bridge represents the "standard" Lane County bridge design typical of the era. An eye level full length awning window on one side provides cross traffic visibility for motorist safety. This bridge is open to traffic and spans Fall Creek.

Is a general plan and elevation attached as required? Yes

The project is to re-roof the bridge with no work on load bearing truss member that would address carrying capacity, except that new material will be of a lighter weight thus reducing the bridge dead load. The bridge currently has 10-20-30 ton weight limits for single axle and double axle trucks and semis respectively. The bridge is single lane only for trucks.

Describe the plan for documentation of the bridge and the work performed.

Documentation will be provided as the final load rating report and project recommendation.

State Department of Transportation Contact Person
Name: Chris Leedham, P.E.
Title: Structural Design Engineer
Agency: Oregon DOT
Ph: (503) 986-3383
Fax : (503) 986-3407
e-mail: christopher.r.leedham@odot.state.or.us

Local Agency Contact Person (if applicable):
Name: Bill Morgan, P.E.
Title: County Engineer
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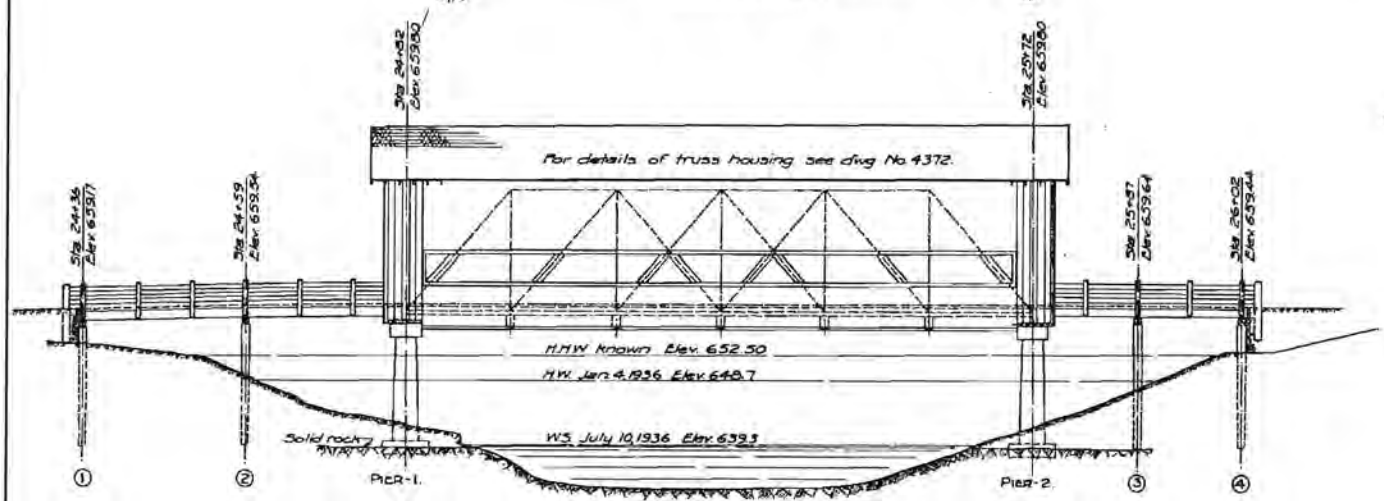
Fax: (541) 682-6946
e-mail: bill.morgan@co.lane.or.us

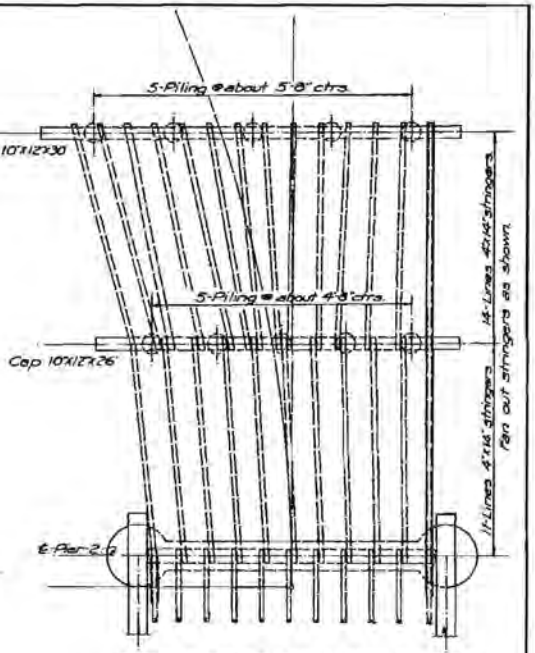
FHWA Division Office Contact Person:
Name: Tim Rogers
Title: Oregon Division Bridge Engineer
Division: Oregon Division Office
Ph: (503) 587-4706
Fax: (503) 399-5838
e-mail: timothy.rogers@fhwa.dot.gov

State Historic Preservation Officer(SHPO)
Name: Roger Roper
Title: Deputy SHPO, Oregon
Office: Oregon Parks & Recreation Department
Ph: (503) 986-0677
Fax: (503) 986-0793
e-mail: roger.roper@state.or.us

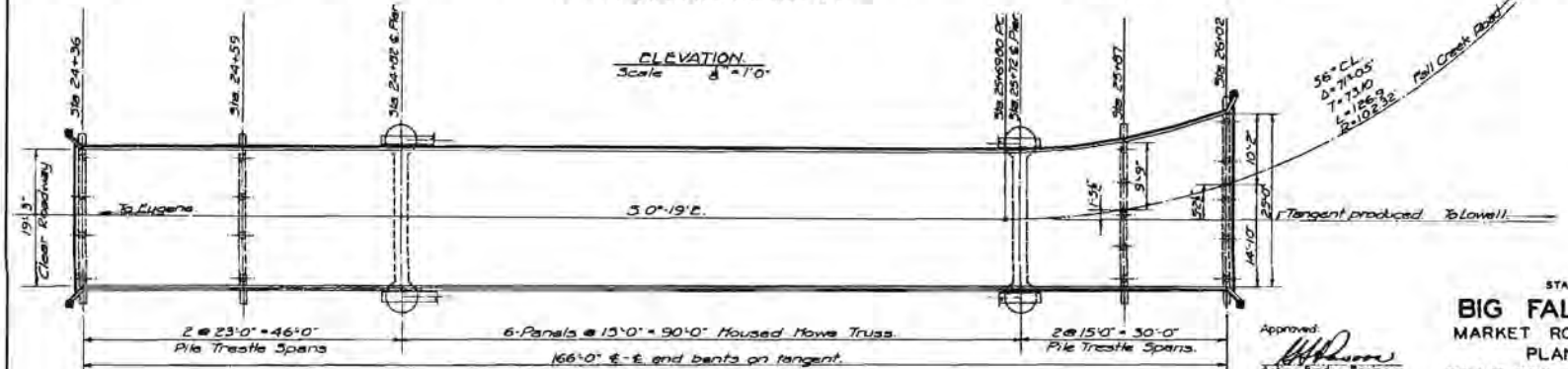
Note:
Elevations shown are top of deck @ ℄ of roadway.

VERTICAL CURVE DIAGRAM.
Not to Scale.





STRINGER PLACING PLAN - SOUTH APPROACH
Scale ℄ = 1'-0"
For details and dimensions not shown see trestle dwg. No. 3762.



ELEVATION
Scale ℄ = 1'-0"

DECK PLAN
Scale ℄ = 1'-0"

Approved:
Acting Bridge Engineer.
State Highway Engineer.

OREGON
STATE HIGHWAY COMMISSION.

BIG FALL CREEK BRIDGE.

MARKET ROAD NO. 36. -- LANE COUNTY.

PLAN AND ELEVATION.

SCALE AS NOTED.	DRAWN BY L.S.S.	SHEET 1 OF 5.
SEPT. 9, 1936.	TRACED BY C.M.J.	BRIDGE NO. 2315.
CALC. BK. NO. 182	CHECKED BY	DRAWING NO. 6022.

ACCOMPANIED BY DWGS. NO. 8023-4372-3760 & 3762.

2011 APPLICATION
National Historic Covered Bridge Preservation Program

State **OREGON** Priority Ranking: ____

County: Lane

Congressional District/Representative: U.S. Congressional District 4

NBI structure number: 39C004 Year Built: 1938

Bridge Name: Pengra Covered Bridge

Location (e.g., county, city, route):

Located on Place Road just off of Jasper-Lowell Road.

Covered Bridge Owner (Include an address):

Lane County, 3040 N Delta Hwy, Eugene OR 97408-1696

Is the structure on the National Register of Historic Places? (Yes/No) Yes

- If not -

Is the structure eligible for listing on the National Register of Historic Places?

What are the qualities that qualify the bridge for the National Register?

Constructed in 1938 with a housed Howe truss design. Named for the first General Surveyor of Oregon in 1862, this bridge has the two longest bridge timbers ever cut in Oregon. Measuring 16" X 18"X 126' the timbers were rough hewn in the woods and then finished on-site.

Structure description (e.g., # of spans, length, width, design type, description of decking, beams/stringers, sides & roof, wood species, wood preservation system in use, historical significance, builder, type of traffic on bridge.)

The bridge is of the Howe truss design with a 126-foot span length.

Is a general plan and elevation attached as required? Yes

Previous repair work (description, year, etc.)

the bridge dead load. The bridge currently has 10-20-30 ton weight limits for single and double axle trucks and semis repectively. The bridge is single lane only for trucks.

Describe the plan for documentation of the bridge and the work performed.

Historical information regarding Pengra Covered Bridge will be researched through various sources including, but not limited to, Eugene Public Library, Oregon Covered Bridge Society, and Lane County Public Works archives.

Photo and diary documentation will be taken as a matter of course during the construction contract daily inspections. Financial reporting can be captured by the Department's cost accounting system that tracks Labor, Equipment and Materials costs. A break-out of contract costs can be reported through the successful contractor's regular invoices.

Upon completion of the project all relevant information will be consolidated and referenced for the final report.

The report will be managed by Brad Lemhouse, Senior Engineering Associate.

State Department of Transportation Contact Person
Name: Chris Leedham, P.E.
Title: Structural Design Engineer
Agency: Oregon DOT
Ph: (503) 986-3383
Fax : (503) 986-3407
e-mail: christopher.r.leedham@odot.state.or.us

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e-mail: bill.morgan@co.lane.or.us

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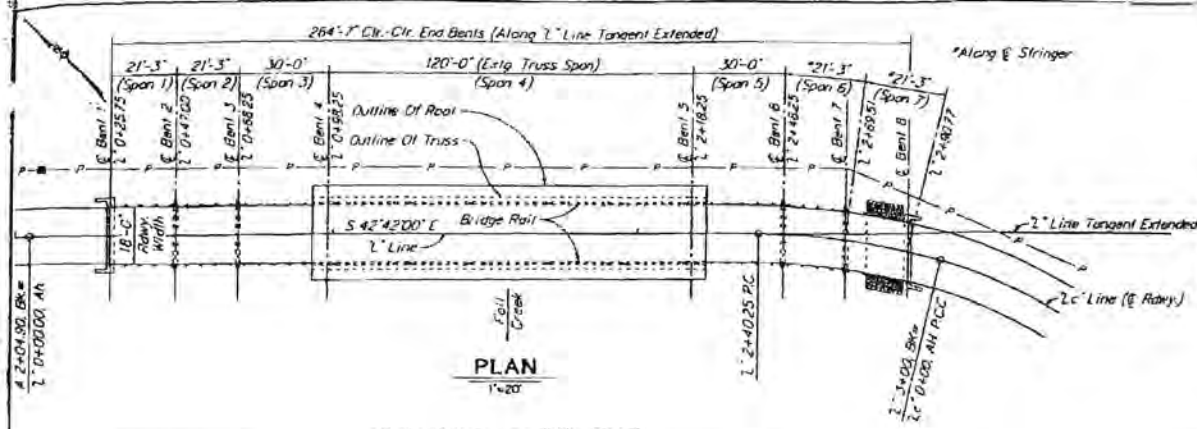
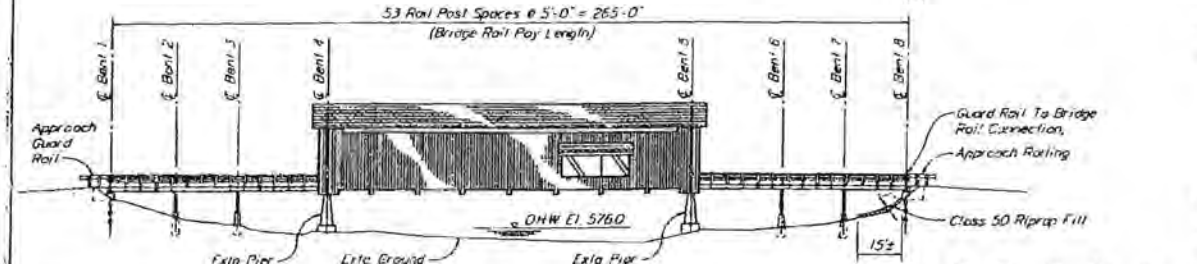
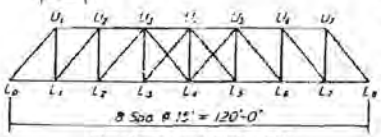
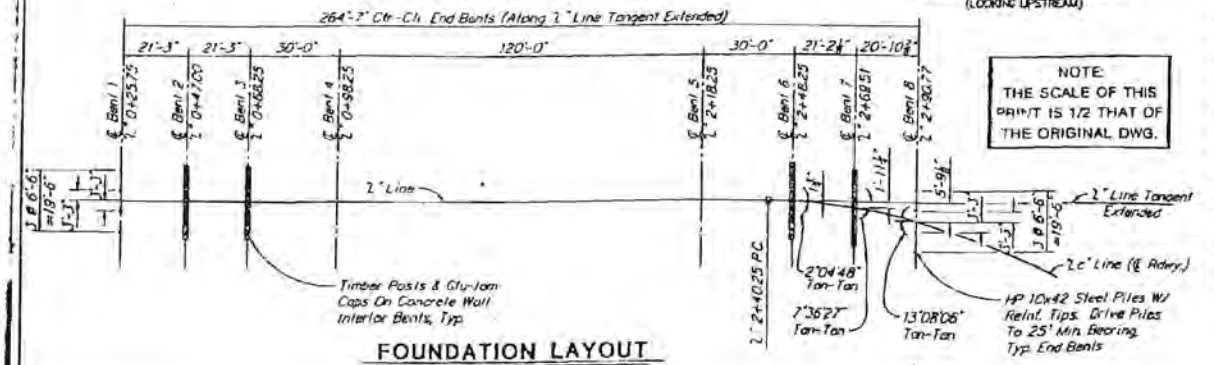




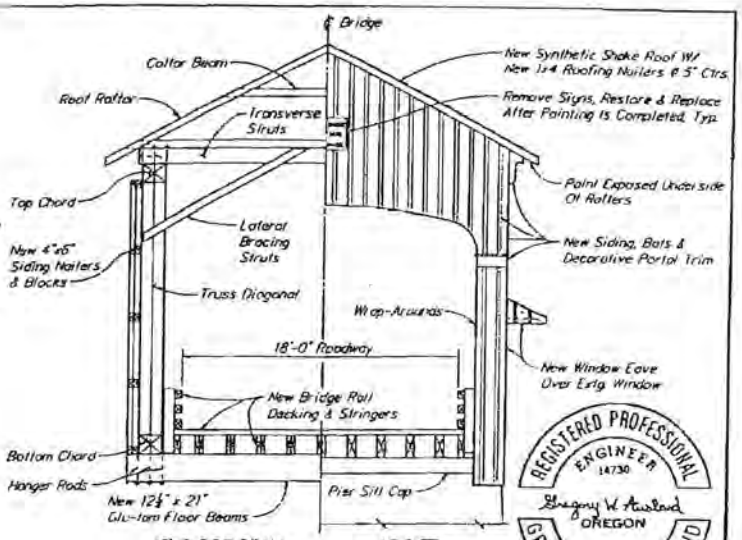
TBM - Spike In Guy Pole #319908 N. Side Little Fall Creek Road, El. 590.11



TRUSS DIAGRAM
(LOOKING UPSTREAM)



NOTE:
THE SCALE OF THIS PRINT IS 1/2 THAT OF THE ORIGINAL DWG.



TYPICAL SECTION
1/4"=1'-0"

REGISTERED PROFESSIONAL ENGINEER 14730 Gregory W. Ausland OREGON JAN 23, 1979 GREGORY W. AUSLAND

Expiration Date 12-31-95

WORK TO BE DONE

GENERAL

See Sheet 2A For Roadwork Details.

Remove existing north and interior timber bents, concrete footings, and bent, and approach spans. Remove remaining interior bent concrete footing south end.

Construct concrete cap and backwall and bents on driven piling. Construct concrete footings, pedded timber piling, and cap interior bents.

Replace all stringers with glu-lam stringers.

Redeck structure with pressure treated 4x12 planks typical. Over approach bents place 3½"x24" glu-lam decking. Lag bolt decking over all bent sill plates and house floor beams.

Install new bridge rail system. Apply one coat of primer and two coats of white paint to bridge rail. Install approach guard rail and connect to bridge rail.

Patch upstream face of pier of Bent 4 where concrete has spalled.

TRUSS SUPERSTRUCTURE

Support truss with temporary shoring.

Power wash clean truss after house is removed.

Remove all decayed wood from truss members as directed and fill voids with an approved epoxy wood resin.

Replace diagonal member L8U7 left.

Install steel bearing plate between truss diagonal L2U3 at L2 left.

Reinforce split upper transverse strut at U7 right with through bolts and malleable iron washers.

Replace all floor beams with 12½"x21" glu-lam beams and retighten vertical steel hanger rods after floor beams are replaced to obtain desired truss camber. Close upper diagonal gaps at U3 and U4 left and square up truss.

Remove and replace lower cross bracing.

Replace corbel at L0 right. Anchor All Corbels To Pier.

Chemically treat existing truss members and corbels with approved fungicide.

HOUSE AND ROOF

Remove house below to reinforcing trusses. Template existing portal openings and window before removing. Rebuild house with new siding, belts, siding nailers, and blocks (existing materials may be reused as approved).

Remove roof and nailers. Replace with 1x4 nailers on 5" centers and roof with synthetic shake roof per specifications.

Install Simpson HT anchors between rafters and rafter sill plate. Lag bolt additional rafter sill plate blocks to top chord (2 new blocks per panel). Install Simpson H.15 angles between blocks and rafter sill plate.

Rebuild Window And install window eave over window.

Lag bolt 1 row 4x6 siding nailers and blocks to diagonals. Place bottom 4x6 siding nailer on top of floor beam.

Apply one coat of primer to exterior of new siding, belts and window members. Apply two coats of white paint to exterior of house, wrap-arounds, window, eaves, and underside of roof overhangs. In addition, apply two coats of white paint to exposed truss diagonals and hanger rods at window.

Coordinate to supply and install 101-201-301 weight limit signs and One Way Traffic For Trucks and Buses signs on posts each end of approach spans and historic information sign at the west end parking area.

See specifications and bridge plans for further information.

NO.	DESCRIPTION	BY	DATE

OBEC Consulting Engineers
244 COUNTRY CLUB ROAD
EUGENE, OREGON 97401 (503)[illegible]-4080

PENGRA COVERED BRIDGE
BRIDGE NO. 18-1W-32
LANE COUNTY OREGON

PLAN & ELEVATION

APPROVED BY _____ TITLE _____

DESIGNED G. Ausland | PROJ. NO. 3-383
DRAWN D. Hines | CHKD. LHF | FILE NO. 6426 | SHEET 3