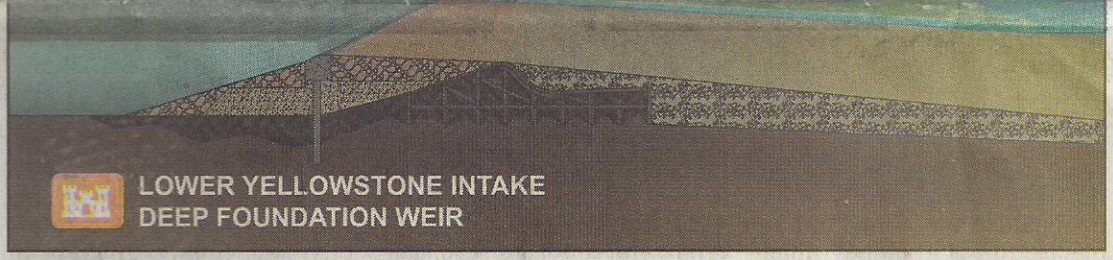

Graphic courtesy of the U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers presented a new design plan to replace the current Intake Diversion Dam during a meeting of the Lower Yellowstone Irrigation Project Tuesday night in Sidney.

Corps of Engineers lays out new plans for Intake Diversion Dam

By Jason Stuart
Ranger-Review Staff Writer

The U.S. Army Corps of Engineers is forging ahead with a new design to replace the existing Intake Diversion Dam structure and create a fish bypass channel around the dam.

The Corps presented its new design plan to the Lower Yellowstone Irrigation Project in Sidney on Tuesday night.

The existing timber and rock structure at Intake is over a century old. The Corps' new plan is to replace that structure with a concrete weir.

After originally considering installing a single, massive block of unreinforced concrete 24 feet wide at the top, the Corps is now leaning towards a weir design that would be six feet wide at the top, would be reinforced and would be anchored by pilings driven deep into the riverbed.

The wider weir design fell out of favor after Montana Fish, Wildlife and Parks expressed concerns about the ability of fish to move across the wider structure.

"That's what we're hearing from FWP, is why are you building 'Hoover Dam' in the Yellowstone River," said Chris Fassero, the Corps' project manager.

Fassero stressed that the new structure would not be a "dam," but rather a weir that would function the same as the current Intake structure, but be made of concrete.

LYIP manager James Brower concurred with Fassero's classification of the proposed new structure.

"Some people are up in arms saying we don't want any 'dams' in the Yellowstone River," Brower said. "This project that the Corps is presenting isn't a new dam."

According to Curtis Miller, a hydraulic engineer with the Corps, the proposed concrete weir would be slightly higher than the existing structure, approximately 7/10 of a foot higher. He also added that since it would be a uniform concrete barrier rather than uneven broken rock, it would be better at building up a "head" of water for diversion into the irrigation canal.

"Right now, you have that concern about not getting your water because of the varying rock height," Miller said.

With the concrete weir in place, Corps officials said there would also no longer be a need for the irrigation district to continually replace rock at the top of the diversion dam.

"The function is to provide enough head so we can create enough flow so we don't have to continue to place rock," Fassero said.

According to Brower, that would suit the LYIP just fine.

"We had to add a record amount of rock in 2012 just to get enough head to secure our water rights," Brower said. "The project is pleased with the Corps retrofitting our old wooden dam that requires yearly rocking."

Irrigation project commissioners did question the ability of a concrete structure to withstand the force of winter river ice. But Miller said he was sure the concrete weir would hold up.

"The design, it's stout," Miller said.

Fassero added the design is being vetted by the Corps' Cold Regions Research and Engineering Lab to determine the necessary strength of the concrete to withstand river ice pressure.

"Our objective in the design is to make sure it's durable," Fassero said.

The other portion of the

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adult males, were transported to the Billings Clinic. The extent of their injuries was unknown at press time.

Hilbert said he believed all the individuals in the Stratus are from Sidney, and the driver of the semi truck was from Glendive. According to Hilbert, the semi driver may have sustained minor injuries

the scene.

The accident was called in at approximately 8:45 a.m. on May 17. According to Hilbert, witnesses at the scene said the passenger car, which had been traveling northbound on Highway 16, veered into the lane of the oncoming semi, which was traveling southbound.

and injured have not been released. It is unknown whether alcohol, drugs, or excessive speed were factors in the collision.

The accident is currently under investigation, according to Hilbert.

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project is the fish bypass channel, which is primarily intended to help the recovery of the endangered pallid sturgeon.

The Corps' proposal is to cut a 3-mile long channel through Joe's Island on the river's east bank. According to Corps officials, the channel would be "anchored" at certain points in its course.

"The idea is you anchor certain parts of that channel to keep them fixed, then the natural flow of the water helps stabilize it," Fassero said.

The channel would also feature "hardened structures" at its entrance and exit. The structure at its entrance at Intake would be to help ensure it doesn't wash out, while the structure at its mouth upstream would help control the flow of water into the channel and prevent too much water from flowing into the fish bypass.

"The design is such that if the flow goes down to 3,000 cubic feet per second, we can still guarantee the irrigation diversion," Fassero said.

With the river flow at 3,000 cfs, Corps officials said only about 10 percent of the flow would go into the bypass channel, ensuring the irrigation district would have enough flow to secure its water rights.

While LYIP officials may be more or less content with the concrete weir proposal, they are less certain about the viability of the bypass channel, however.

"We're worried about that thing washing out in a flood event," Brower said.

LYIP's concern is primarily based on the financial responsibility associated with maintaining the channel. While the federal government would fund construction of the project, once complete the operation and maintenance of it – both the diversion dam and the bypass channel – would be the responsibility of the LYIP.

"The irrigation project doesn't want to pay for that fish bypass," Brower said.

However, the Corps' current plan is at the point they describe as a "30 percent design," meaning that the design is "pretty well set," according to Fassero.

Going back to the drawing board again – the Corps already scrapped one fish passage design for Intake, which would have been a "rock ramp" – is simply not an option at this point, Fassero argued.

"The fish passage portion of the project is kind of a race against the clock to get something in place before the pallid sturgeon goes extinct," Fassero said.

Brower agreed with the Corps' assessment concerning pallid sturgeon recovery.

"If they go back to the drawing board, it could be another 10 years and they could miss a chance to save the fish," Brower said.

The estimated cost of the project is between $50-60 million. Brower said the Corps has told him they hope to begin construction by the fall of 2014.

Corps officials said they plan to hold public meetings on the issue in Glendive and Sidney over the course of this summer.

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