

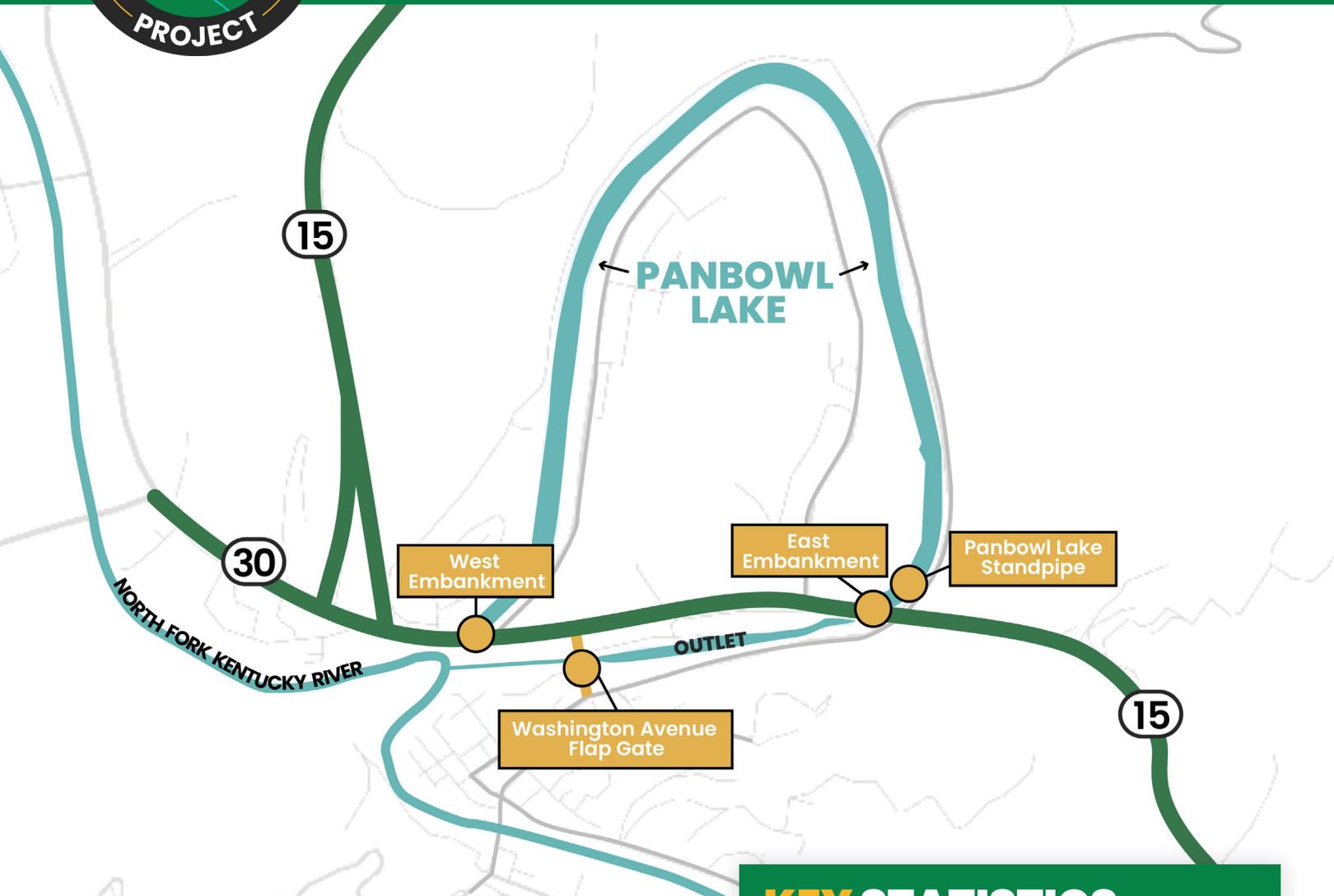


PANBOWL LAKE

City of Jackson, Breathitt County



KENTUCKY
TRANSPORTATION
CABINET



ABOUT PANBOWL LAKE

Panbowl Lake was created in the 1960s when part of the North Fork of the Kentucky River was impounded during construction of KY Highway 15. The highway serves as a dam, making an earthen embankment at each end of the old river channel. KY 15 separates Panbowl Lake from the winding river at the west embankment. The dam is regulated by the Kentucky Energy and Environment Cabinet Division of Water.

KEY STATISTICS

TWO EMBANKMENTS

West:

1035' long
35' high
53' wide

East:

975' long
40' high
52' wide

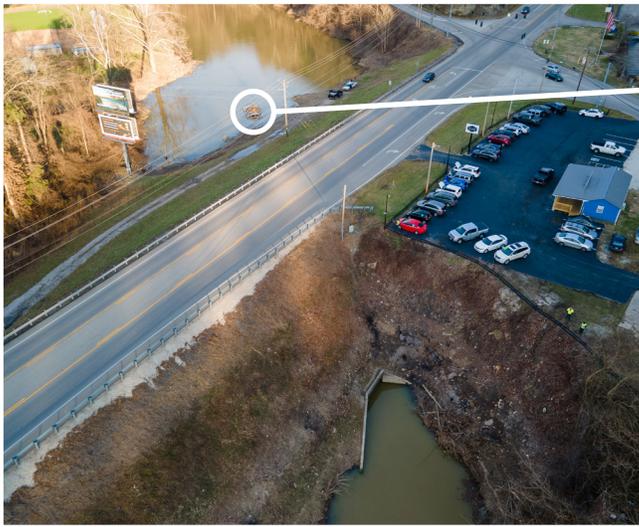
NORMAL LAKE
ELEVATION

713 feet

TOP OF DAM
ELEVATION

741 feet

EAST EMBANKMENT



Debris gate over standpipe

The east embankment has the only drainage structure for Panbowl Lake, a standpipe riser connected to a concrete culvert under KY 15. The top of the standpipe has an elevation of 713 feet and helps keep the water in Panbowl Lake at this same level.

OUTLET CHANNEL AND FLAP GATE



Excess water from the lake flows from the east embankment culvert along an outlet channel that runs parallel to KY 15 and under Washington Avenue. A flap gate helps prevent water from back flowing from the North Fork of the Kentucky River to the lake.

WEST EMBANKMENT

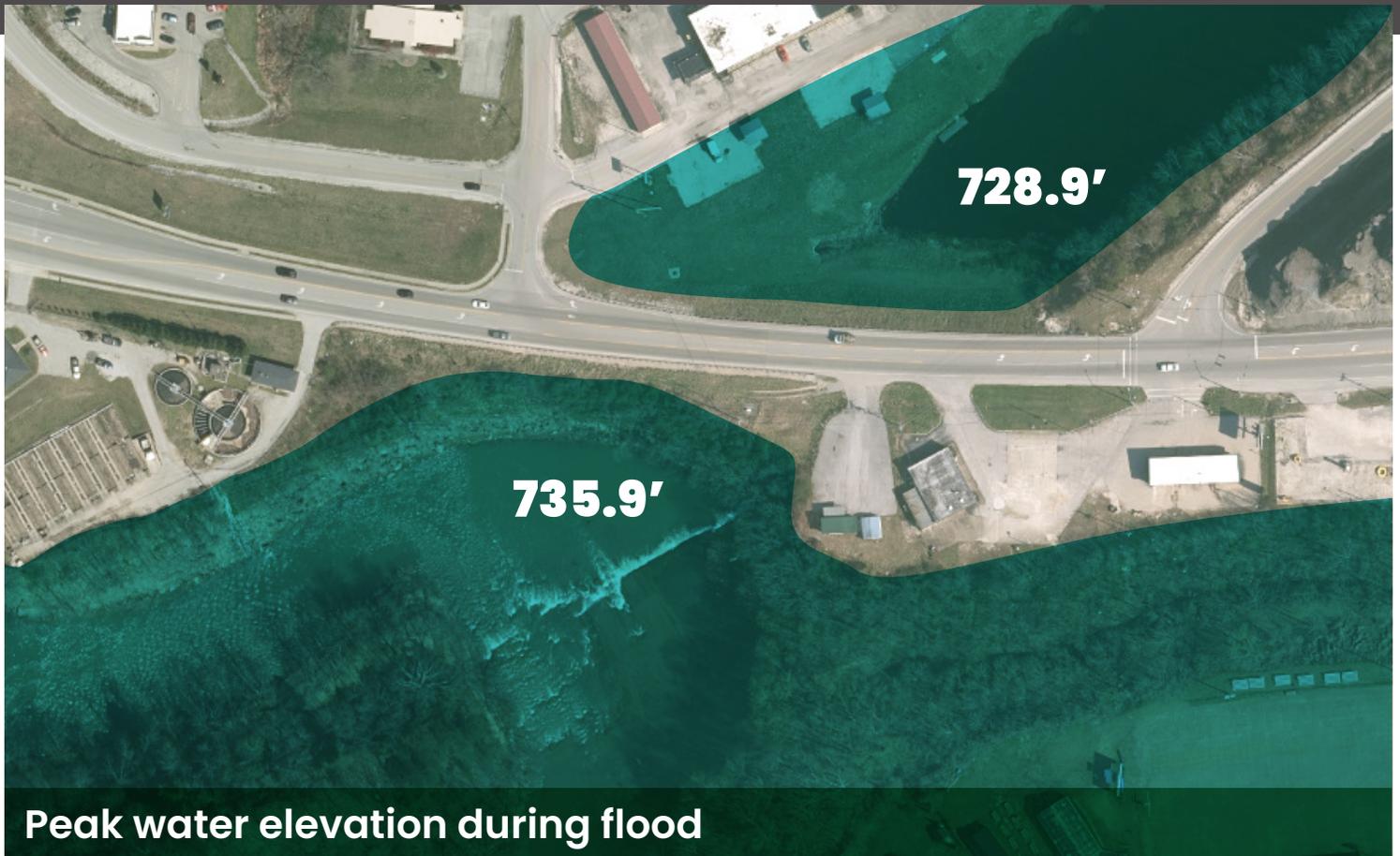


The west embankment separates the river from Panbowl Lake. Like the east embankment, there are different slope measurements on either side of the road. Fill material in the embankments includes topsoil, asphalt, rock, coarse grained alluvium, bedrock, shale/sandstone and groundwater.

MARCH 2021 FLOOD

In late February and early March 2021, rain and runoff into the North Fork of the Kentucky River caused water levels to rise dramatically in a short amount of time. The river crested on March 1 at an elevation of 735.9 feet. The flood was the 10th highest flood in Jackson's history and the worst since 1984.

Water from the river seeped through west embankment, causing water levels on the lake to rise to an elevation of 728.9 feet (16 feet above normal). This caused a slope stability issue, but the Kentucky Division of Water Dam Safety determined that KY 15 could remain open to traffic and there was no threat of the dam breaching.



Peak water elevation during flood

ENGINEERING STUDY

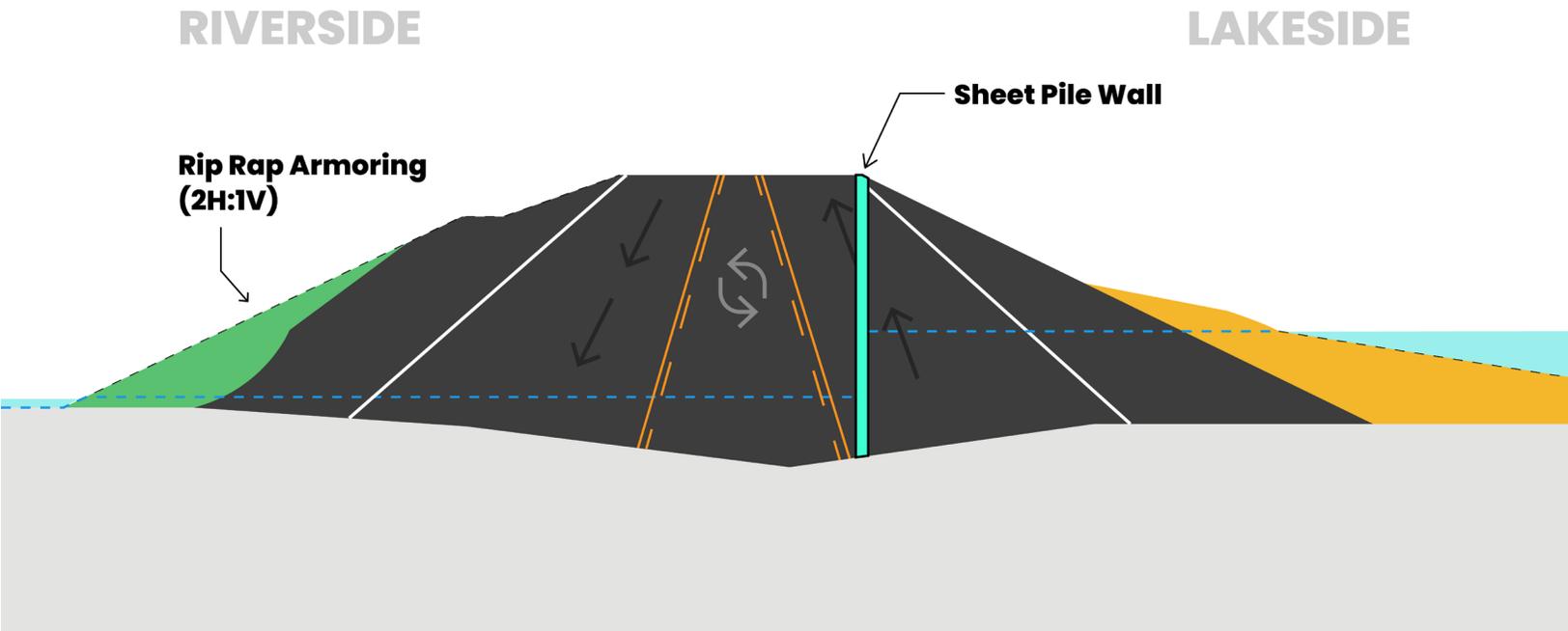
In the wake of the historic flood, the Kentucky Transportation Cabinet (KYTC) requested an engineering study to evaluate the condition of the embankments as well as conduct a hydrologic and hydraulic assessment of Panbowl Lake. Recommendations include:

- ▶ Replace debris gate over the east embankment standpipe
- ▶ Remove vegetation along the embankments
- ▶ Install sheet pile wall
- ▶ Flatten slopes
- ▶ Replace Washington Avenue flap gate and add a secondary gate
- ▶ Install drawdown valve at the east embankment
- ▶ Widen Kentucky 15

SHORT-TERM ENHANCEMENTS

Vegetation along the embankments has been removed, which will allow for easier access and inspection of the dam. The debris gate over the standpipe at the east embankment was replaced in July 2021.

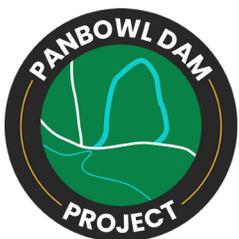
With approved funding, sheet piling (metal retaining wall) will be installed at the west embankment in summer 2022 and rip rap (heavy rock) will be added to strengthen the slopes.



LONG-TERM ENHANCEMENTS

The widening of KY 15 and Washington Avenue will include replacing the flap gate and implementing other recommendations. Construction is anticipated to start in 2024-2025. The widening project will involve putting fill material into the lake to support the new KY 15 embankments and extended culverts. The engineering study determined that this added material to Panbowl Lake would not cause a significant impact to the overall water capacity of the lake.

LEARN MORE



Questions about the Panbowl Lake dam or the KY 15 widening project should be directed to KYTC District 10.