Allen Creek Railroad Berm Opening Project

The railroad berm near the mouth of Allen Creek in the vicinity of Depot Street and Main Street, just west of the Ann Arbor Amtrak Station, is oriented perpendicular to the overland drainage flow pattern and causes the floodplain depth in this area of the City to be as deep as 10 feet. Upstream of the influence of this berm, flood depths are more typically in the 3 to 5 foot range. See Attached visual overview of the area.

In December of 2013, the City and its consultant completed a Feasibility Study to determine if it was possible to create openings in the railroad berm to accommodate passage of floodwaters and to allow pedestrians to cross safely under the railroad to get to the park facilities to the north.

The study determined that such dual openings are feasible and a preferred concept was selected. The complete feasibility study is available at www.a2gov.org/AllenCreekBermStudy. See the attached graphic of the feasibility study area.

The Feasibility Study indicated that it is possible to lower the floodplain elevation in the area by as much as 6.5 feet as well as to accommodate non-motorized access under the railroad.

Two separate culverts (each 60 feet long) would be constructed. A lower culvert (20' span x 6' rise) would be used to convey floodwaters to the north side of the railroad tracks, and a higher culvert (14' span x 8' rise) would be used to accommodate pedestrians. Both culverts would be 3-sided concrete pre-cast sections set on pile-supported footings (see Figure 15). It will be necessary to construct a concrete drop structure to allow floodwaters to flow into the lower culvert from the adjacent parking lot.

A short (~4-foot) floodwall would need to be constructed to isolate the pedestrian culvert from the 1% storm flood depths in the parking lot at 201 Depot. This will allow the pedestrian culvert to be isolated from the floodwaters that will favor the lower culvert. The downstream side of the pedestrian culvert will require additional walls to isolate the pedestrian underpass from the Huron River 1% storm floodplain.

The upstream end of the lower (flood conveyance) culvert will be surrounded by a concrete chamber that provides the vertical transition from elevation 770.0 to 763.5. The top of the concrete chamber will act as a weir. A grating/cover should be installed over the top of the chamber to discourage anyone from entering the chamber, which will be over six feet deep. The bottom of the chamber should be sloped so as to avoid any standing water and making cleanout/maintenance easier.

MDOT (railroad owner) is supportive of the preferred alternative provided a shoofly is constructed to accommodate continued train passage during construction. It is hoped that, post-construction, the bridge constructed for this shoofly can remain to provide pedestrian access across the point where the enclosed Allen Creek discharges to the Huron River.

Two potential pedestrian routes to and from the proposed railroad berm opening area were identified, but a preferred route was not determined during the feasibility study. Access issues also remain to be resolved at the terminus of those routes.

A phased FEMA Flood Mitigation Grant will be applied for to cover 75% of the stormwater/flood mitigation part of the project:

Phase 1 - Engineering Design and Construction Plans, and Phase 2 FEMA Grant development

Phase 2 - Construction

The current project estimate is $4,305,000. $3,040,000 is attributable to the stormwater/flood mitigation aspect of the project. The remaining $1,265,000 is related to the pedestrian access and is currently not funded. The pedestrian portion has several potential funding sources, including a potential TAP grant, but will have to be determined prior to the Phase 2 FEMA Grant application.

Timeline:

March 1, 2016 - FEMA Grant application due by (Jerry Hancock)

June/July 2016 – FEMA approval of grant for Phase 1

August 2016 – Grant Agreement to City Council (Jerry Hancock)

August 2016 – Issue RFP for Engineering Design and Construction Plans, Phase 2 FEMA Grant development, Easement acquisition, and permitting.

November 2016 – Resolution to City Council to hire consultant for Engineering Design and Construction Plans, Phase 2 FEMA Grant development, Easement acquisition, and permitting.

August 2017 – Submit FEMA Grant application for Phase 2 (Jerry Hancock)

November 2017 – Grant Agreement to City Council (Jerry Hancock)

January 2018– Issue ITB for construction contractor

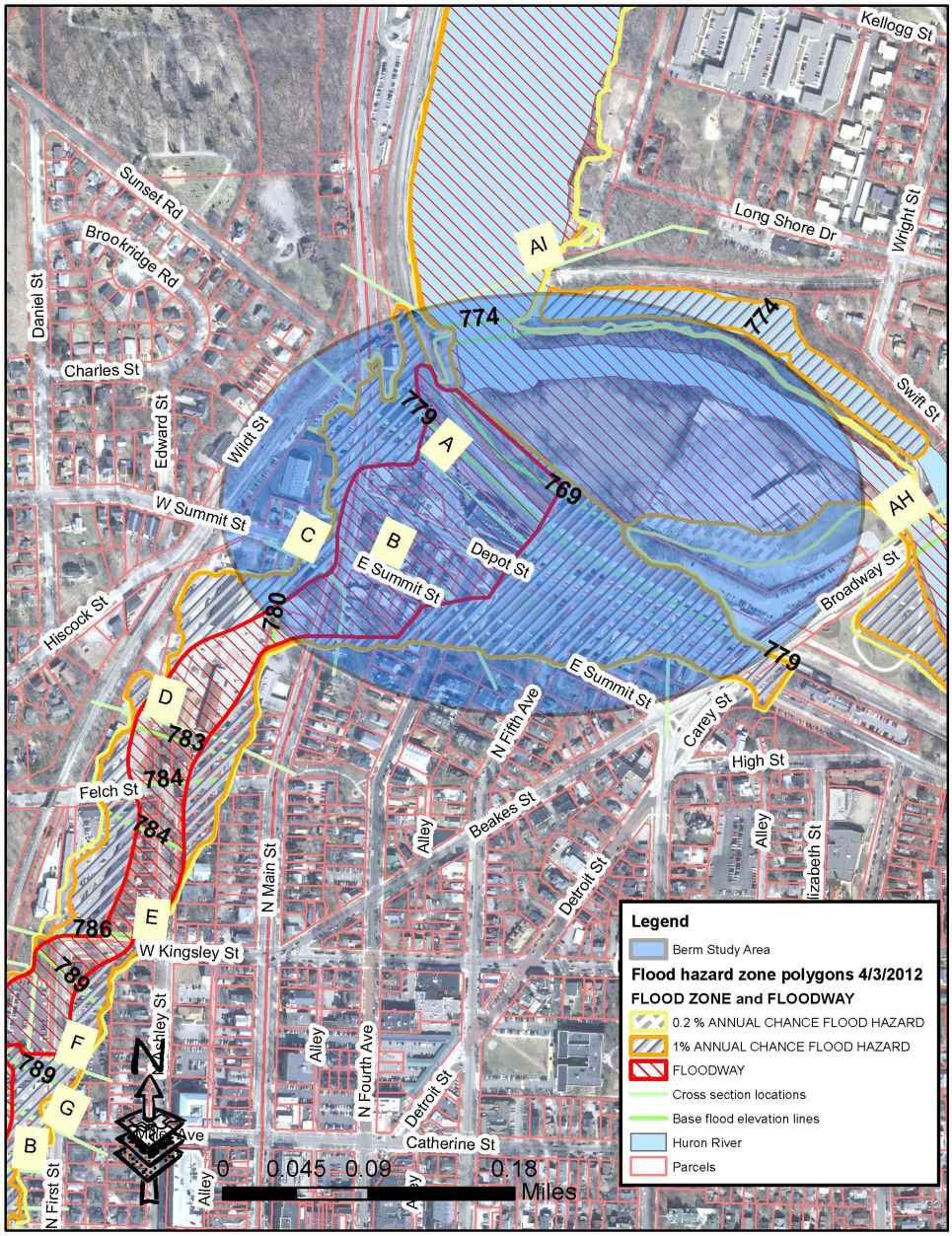
March 2018 – Construction contract to City Council

Spring/Summer of 2018 – Construct project

September 25, 2018* – Construction required to be completed for FEMA Grant

* There is a possibility to get a one year extension, and then another (max 2 years)

Allen Creek Berm Study Area



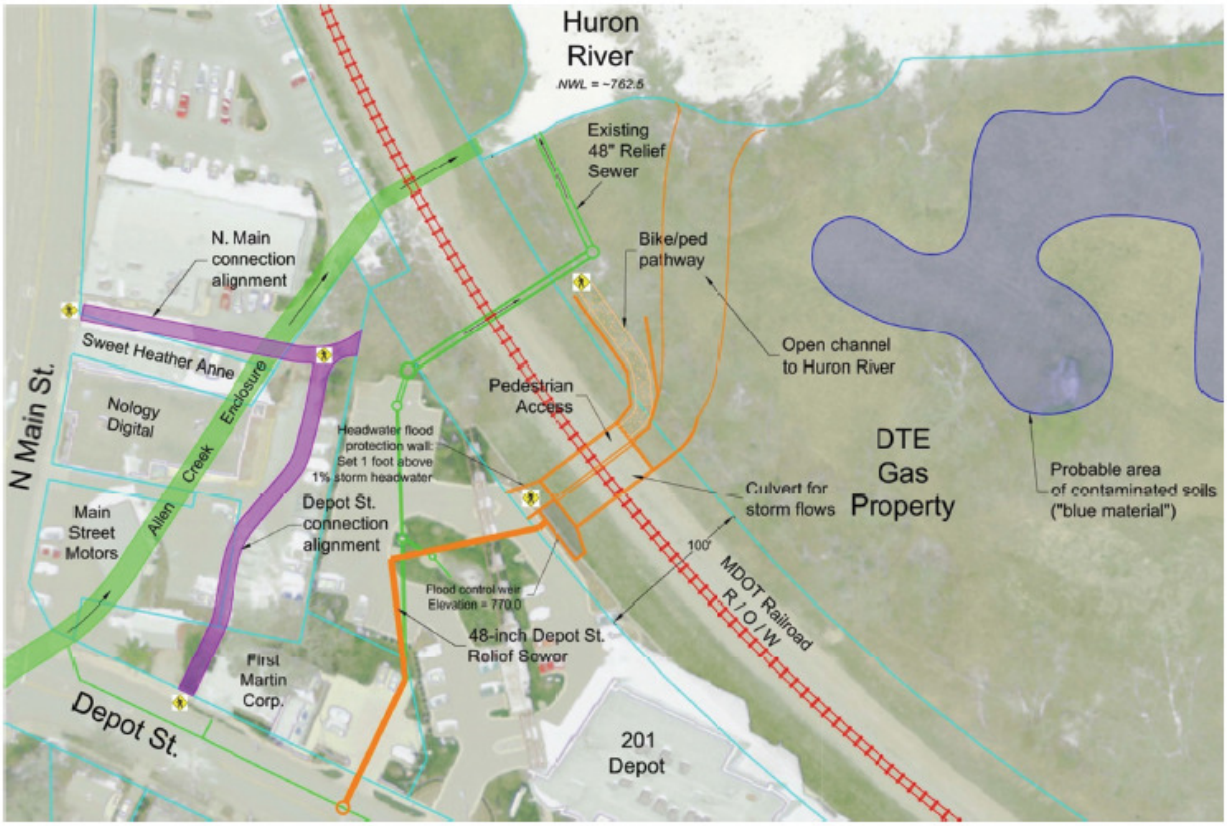


Figure 14
Preferred Alternative

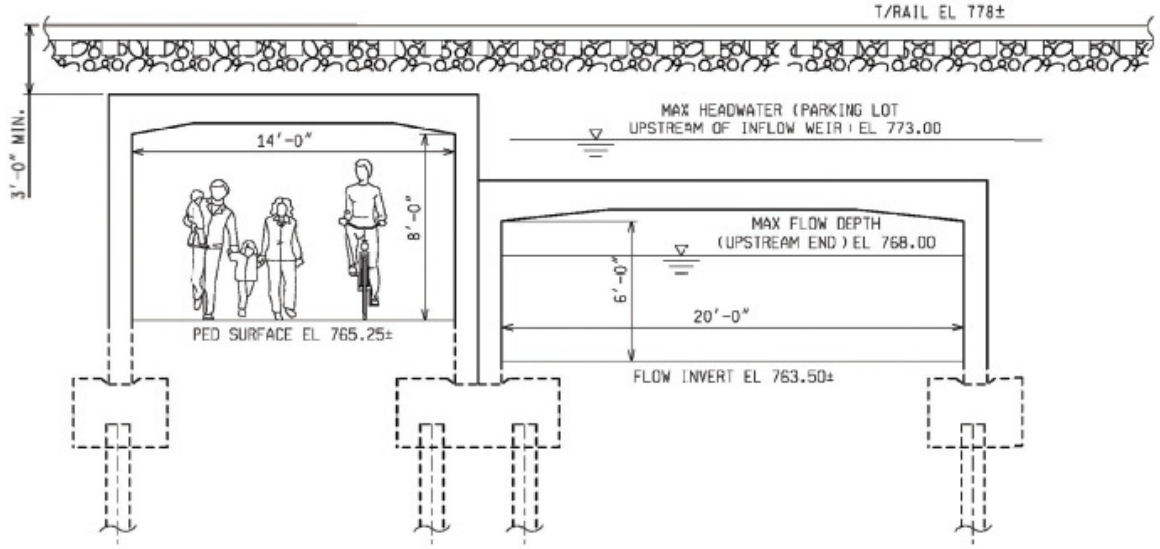


Figure 15
Preferred Alternative – Culvert Cross Section