Appendix D – Floodplains

The following is a summary of changes in floodplain mapping, impacts and regulations since the November 2007 EA.

Mapping:
Floodplain mapping changes in the project area are shown on Figures D-1, D-2, D-3 and D-4. There is little change in the actual areas mapped as floodplain. However, Flood Insurance Rate Maps (FIRM) for the entire Spokane County were revised by FEMA in July 2010 to incorporate three new floodplain studies, convert to current digital format (DFIRMs), and change the elevation datum to NAVD 1988. There were also some adjustments due to better topographic data. As part of the digital conversion, there were changes in the zone terminology. Zone B floodplains (shallow and 500-year floodplains) are now called Shaded Zone X. Zone A floodplains with detailed studies and elevations that used to be numbered Zone As are now referred to as Zone AEs.

For the western part of the project, (see Fig. D-1) which is all shallow flooding area (now Shaded X) the changes in the maps were minimal. The mapped area at the north east end near Palmer Road was narrowed, presumably due to better topography.

For the eastern portion of project, the floodplain map changes are more substantial. The area from Bigelow Gulch Road to Progress Road was the subject of a new detailed study by FEMA, resulting in base flood elevations and a defined floodway for the streams north of Progress Road. A floodway is a designated area in the floodplain, usually the main channel and adjacent areas that are subject to high velocities and therefore stricter regulations. South of Forker Road (within the City of Spokane Valley) (Fig.D-4) the changes are only in terminology and slight shift in location, again presumably due to better topography information. Within the impact area of the project south of Forker, there is little change. The area is now a Shaded X and located about 20 feet further away from Progress Road.

The City of Spokane Valley has submitted a LOMR proposal to FEMA to revise the FIRM for the area south of Progress Road. The change has been reviewed and engineering accepted by FEMA but is still in the public review/notice period. As currently proposed, there will be no change in zoning of the impact area with this change. It will still be a zoned as a Shaded X and mapped areas will be similar in the area of the project.

Regulatory Changes:
The Spokane County Flood Damage Protection Ordinance was revised and approved by the Spokane County Board of County Commissioners on March 22, 2011. Changes to the 3.20 Flood Damage Protection Ordinance in 2011 included but are not limited to:

- Updated zone terminology as part of the digital conversion in 2010
- Added language on cumulative substantial damage
- Added and revised language on elevation certificates
- Added language on increased cost of compliance
- Added language on option to waive engineering studies in some cases
- Revised plat dedication language for subdivision proposals
- Added and updated language on wet floodproofing
• Added language to increase base flood elevation up to one foot in cases where cumulative effects have been calculated and impact is limited
• Updated language on fee schedule and agreement to pay fees for engineering study review

The City of Spokane Valley Chapter 21.30 Floodplain Regulations were revised and approved by the City Council on June 15, 2010 per ordinance no. 10-010. The revision incorporated the Flood Insurance Study and Flood Insurance Rate Maps dated July 6, 2010. Any impact to the floodplain south of Forker will be subject to these floodplain regulations. However, since the impact is limited to Shaded X areas, no floodplain permit is required under these regulations. Unlike the County Flood Ordinance, Shaded X areas are not considered special flood hazard areas under the City’s regulations.

**Impacts:**

Although the maps and regulations have changed since the 2007 EA, the impacts of the project to the floodplain have not changed substantially. At the west end of the project the new roadway will still encroach in the shallow Zone X floodplain with a small sliver of fringe fill. Compared to the large flood storage area (3 acres fill footprint vs. 53 acres of flood storage) the fill is minimal. Impacts can be mitigated with improved stormwater facilities along the new roadway.

At the east end, along Forker Rd, the floodplain is now also a floodway and subject to more stringent regulations, including a zero rise limitation. Crossings will still need to be designed based on a detailed hydraulic model per the floodplain mitigation commitments and Spokane County Code but any changes can be accommodated in the design with larger culverts. The culvert changes are not likely to be substantive however as some have already been designed for fish passage.

Also, back in 2007 zero rise was a floodplain requirement unless property owners granted permission. Although not noted in the 2007 EA, the regulations at that time would have required property owner permission for any base flood elevation increase. This in many cases is effectively the same as floodway no rise restriction.

Again, an analysis of the effects of the proposed action on floodplains indicates that none would rise to a level of significance. The floodplains have been there and were accounted for during the EA process. The regulations and some of the shapes of the floodplains have had minor shifts since that time. The largest impact is that project will be held to stricter development standards- for example the “no-rise” requirement. But since the project design has been expecting floodplain development regulations all along, this is a minor impact to the project. The studies, design considerations, and permitting compliance listed in this section were taken into account in combination with proposed mitigation. The impacts represent no substantial change from the 2007 EA.
Figure D-2: Bigelow East Floodplain - Upper Forker

- Roads
- Tax Parcels
- Historic
  - A
  - B
- Effective - DFIRM
  - Shaded X
  - A
  - AE
  - X
- 2014 Pictometry
Figure D-4: Bigelow East Floodplain - Lower Forker