

# Section 5

## Floodplain Management Tools

### 5.1 Floodprone Areas

One of the major elements of the Master Plan is the updated 100-year floodplain and floodway boundary maps. This information provided the most up-to-date tools to protect homes and businesses from flood hazards and provide guidance for any additional development in the watershed. In addition, this component of the Master Plan reflects the conclusions of the Mayor's Floodplain Task Force, which recommended that the City continue to develop a comprehensive watershed approach to floodplain mapping using the latest technology and data available to keep the City's FEMA floodplain maps as accurate and reliable as possible.

The current FEMA Deadmans Run floodplain maps were based on a study completed by USACE and officially adopted for regulatory purposes in 1997. Through the City's Cooperating Technical Partnership (CTP) program with FEMA, the floodplain maps were updated as part of the Master Plan study process. The Master Plan study required the most recent modeling tools to update the floodplain boundary and to evaluate flooding issues. The floodplain boundary is delineated along the main stem of Deadmans Run and includes stream reaches that were previously mapped by FEMA. The study floodplains are referred to as "floodprone areas." These floodprone areas will be reflected on the FEMA floodplain maps at some time in the future when FEMA finalizes the Flood Insurance Rate Map Physical Map Revision and it is adopted by the City.

The study floodplain maps were submitted to FEMA in April 2007 for preliminary review and comment. The FEMA review process could potentially take several months to more than a year following the final submittal to FEMA and will include a public comment period. The comment period typically includes a FEMA-hosted public meeting before the maps become officially adopted. In the interim, the City intends to use study floodplains for the purposes of regulating the floodprone areas until the FEMA approval adoption process is finalized.

#### 5.1.1 Flood Insurance Certificates

The study's updated floodplain map encompasses approximately 982 buildings within the floodplain limits. Flood elevation certificates were offered to individuals whose properties were located near the outer edge of the flood fringe to verify whether the buildings were in fact located within the study's updated floodplain. Notification letters were sent to property owners to notify them of this one-time offer. The completed flood elevation certificate will be submitted as needed to FEMA. A community-wide Letter of Map Amendment (LOMA) will be completed by FEMA after the maps have been adopted.

#### 5.1.2 Floodplain Delineation Process

The 100- and 500-year floodplain were mapped for the Deadmans Run main channel using HEC-GeoRAS, which is a set of procedures, tools, and utilities for processing geospatial data in ArcView GIS. The HEC-GeoRAS post-processing was used to generate spatially accurate floodplain boundaries. The floodplain boundaries were delineated based on the

GIS data and HEC-RAS results. A manual quality control review was conducted to verify the accuracy of the automated process.

The confluence of Deadmans Run with Salt Creek was not simulated with the HEC-RAS computer model. Per FEMA requirements, stream confluences are to be simulated with HEC-RAS only if coincident peaks occur, which is not the case within this watershed. To accurately map the Deadmans Run floodplain at the confluence of Salt Creek, a level pool process was performed. A comparison of the draft updated Salt Creek DFIRM, which is currently under FEMA review, was made with the Deadmans Run model results and the higher controlling flood stage was mapped. In general, the 100-year floodplain north of the railroad near Cornhusker Highway is controlled by Salt Creek.

### **5.1.3 Study Floodplain and Floodway Maps**

Figure 5-1 represents an overview map depicting the entire watershed divided into two floodplain maps. The study floodplain maps are based on existing land use and infrastructure as described in Section 3. Figure 5-2 and Figure 5-3 provide additional detail and a comparison of the extents of the current effective FEMA floodplain with the study's updated 100-year floodplain. In addition to the floodplain extents, Figure 5-4 provides illustration of the depth of flooding in the lower reach of the watershed along Huntington Avenue. The depth of potential flooding is 5 to 7 feet in many areas, which could result in significant property damage and potential loss of life if the 100-year storm occurred.

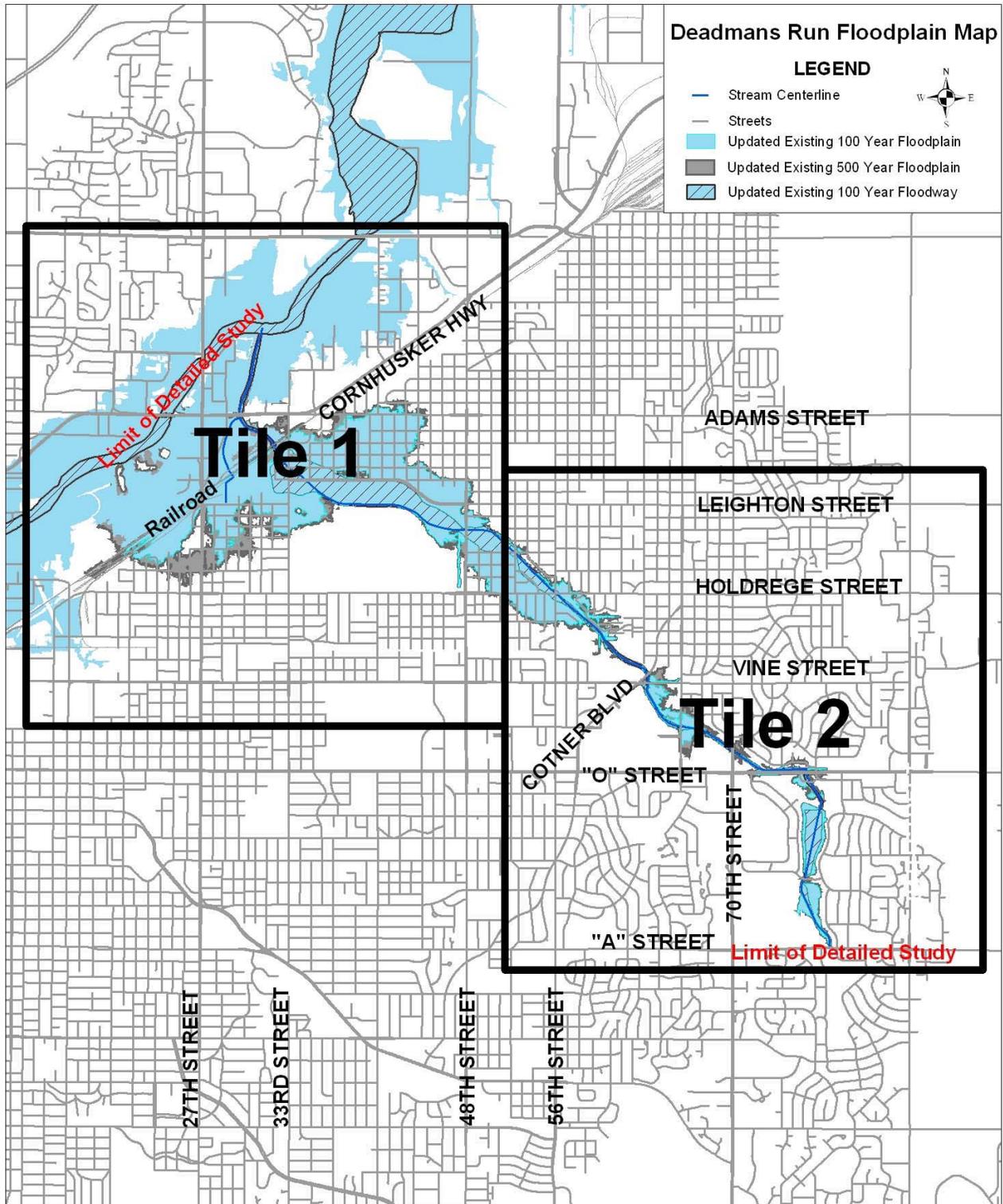


Figure 5-1  
Floodplain Map Tiles

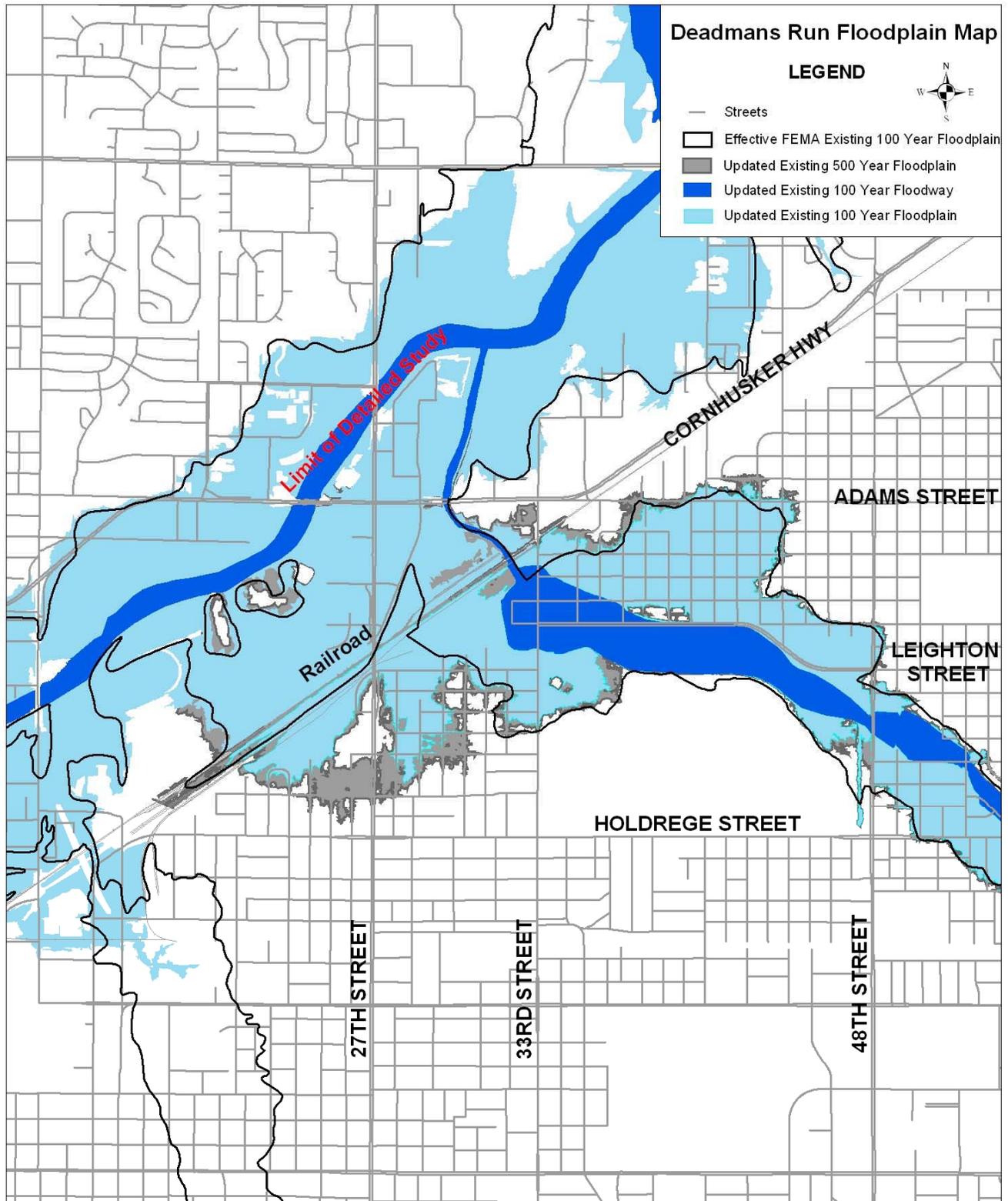


Figure 5-2  
Tile 1 Floodplain Map

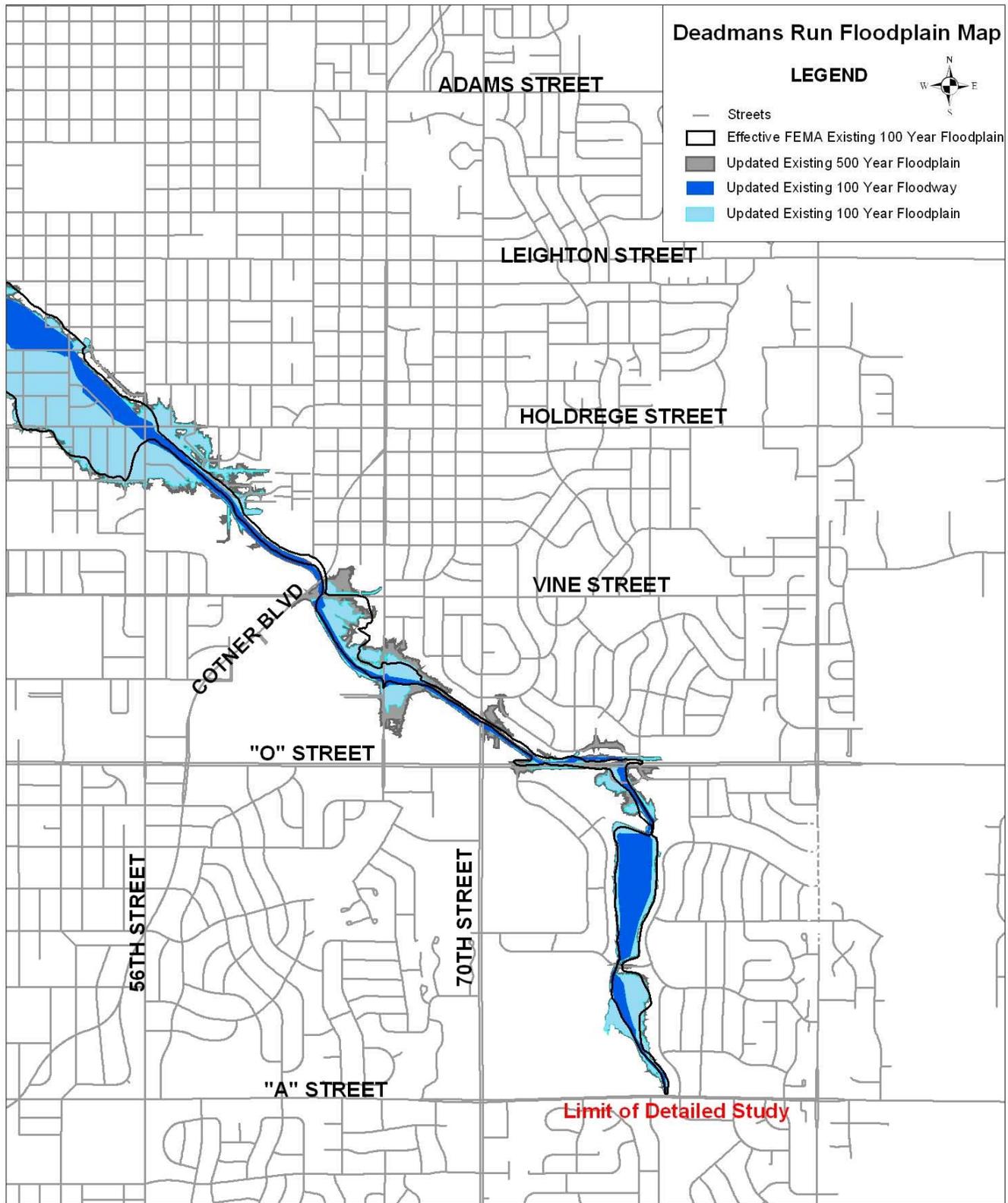


Figure 5-3  
Tile 2 Floodplain Map

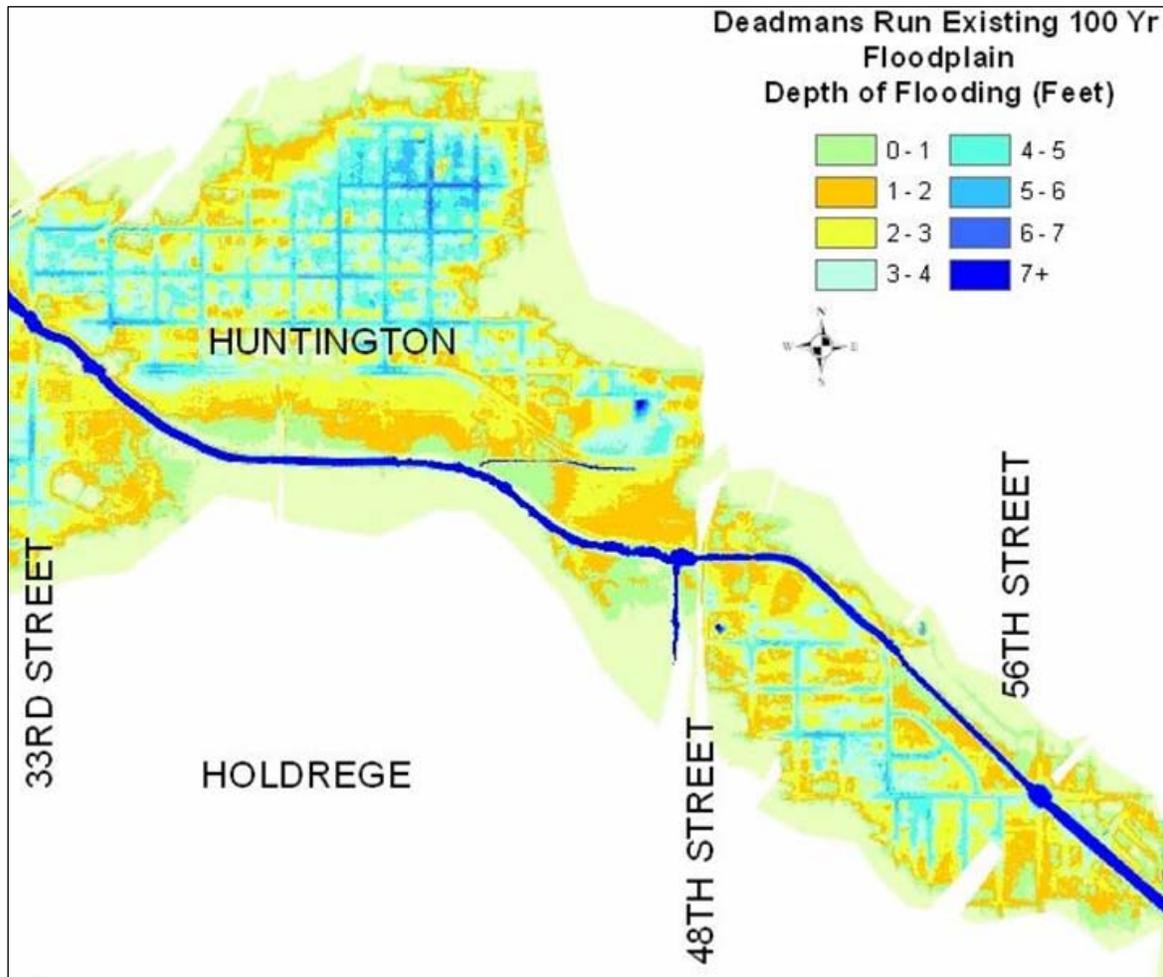


Figure 5-4  
Depth of 100-Year Storm