

MEMO

TO: Akoni Danielsen, David J. Powers & Assoc. DATE: December 28, 2012
FROM: Charles D. Anderson, PE JOB #: DPOW.65.12
SUBJECT: North San Jose Floodplain Management Policy Criteria for Samsung Site

This memorandum documents that conceptual grading plans for the Samsung site at 3655 North First Street meet applicable provisions of the City of San Jose's North San Jose Floodplain Management Policy.

The Samsung site is generally bound by North First Street to the (plan) east, Tasman Drive to the south, a site occupied by Cisco Systems to the west, and an adjacent developed parcel to the north. Flood flows are generally from the (plan) south to the north following a path parallel to North First Street, which bounds the eastern edge of the Samsung Site. Flow flows are therefore generally perpendicular to Tasman Drive, which bounds the southern edge of the site.

North San Jose Floodplain Management Policies

The City of San Jose has established policies that govern development within north San Jose as related to flood hazard mitigation and impact avoidance. The objective of the City is to provide consistent policies throughout the area to allow increased development density, protect new structures from flooding, minimize potential increases in flood depths, and ensure consistency with FEMA requirements and the City's floodplain management ordinance. The following policies described in the City's September 2006 *Floodplain Management Study Update* apply:

1. Finished floors for new development shall be at or above the established 100-year water surface elevation.
2. New development shall include onsite conveyance areas to allow shallow flooding to cross the site. Onsite blockage for buildings and other development shall be restricted to include onsite conveyance.
3. Onsite flood conveyance will be at the approximate elevation of the street sidewalk at the site.
4. Onsite flood blockage restrictions are established based on a percentage of the site width perpendicular to the direction of flood flow across the site (generally in an east-west direction, or perpendicular to North First Street).

Finished Floor Elevations

As shown on the attached Figure 1, the regulatory base flood (100-year) elevation is 12 feet NAVD at Tasman Drive, which bounds the southern edge of the Samsung site. Conceptual grading plans provided by NBBJ for the site are based on a site survey performed on a vertical datum related to City of San Jose bench marks. According to the site surveyor, the conversion between the site survey datum and NAVD is to subtract 1.19 feet from NAVD. Therefore the effective regulatory base flood elevation is 10.81 feet on the project datum.

Conceptual grading plans show building finish flood elevations at 12 feet and 13 feet on the project datum. These elevations meet the North San Jose Floodplain Management Policy requirement. Furthermore, the indicated lowest adjacent grade elevation of 11 feet is above the regulatory base flood elevation and meets National Flood Insurance Program requirements for the elevation of structures above a special flood hazard zone.

Onsite Flood Blockage

Figure 1 shows that the maximum onsite blockage allowed at the Samsung site is 75 percent. Blockage is defined as any area on a site with an elevation that is higher than the approximate elevation of the back edge of the street sidewalk surrounding the site, which is about elevation 9 feet (project survey datum) at North First Street and Tasman Drive. Onsite conveyance of shallow flooding must be maintained to an amount of at least 25 percent of the site width perpendicular to the direction of flood flow across the site (or generally perpendicular to North First Street). At least 25 percent of the site width in any given cross section must be at the same elevation or lower than the adjacent sidewalk and thus essentially maintain existing topography.

A conceptual building layout and grading plan furnished by NBBJ shows that shallow onsite flow conveyance will be provided adjacent to North First Street on the east and through an open parking structure on the west. Flood waters flow across the site from south to north. Blocked areas include obstructions and ground elevations above elevation 9 feet on the project datum. Obstructions within the parking structure include structural columns, walls, and foundations with an elevation above 9 feet. The two most restricted cross sections are located at the north and south edges of the parking structure respectively as shown on the attached Figure 2, which also shows ground elevations that exceed 9 feet. The percent blockage is calculated in Table 1 as the length of cross section blocked by obstructions or grade higher than the back of sidewalk elevation (9 feet), divided by the total length of cross section within the Samsung site boundary, assumed to the street right-of-way along North First Street.

Table 1
Cross Section Blockage Calculations

Location	Total Length (feet)	Length Ground > 9 ft (feet)	Length Other Obstructions (feet)	Length Blocked (feet)	Percent Blocked
North edge of parking structure and building	1,042	618	114	732	70%
South edge of parking structure and building	1,195	643	114	757	63%

At the most critical cross section location on the north edge of the proposed parking structure and adjacent building, 70 percent of the site is blocked. This meets the maximum applicable site blockage criterion of 75 percent.

North San Jose Floodplain Management Policy

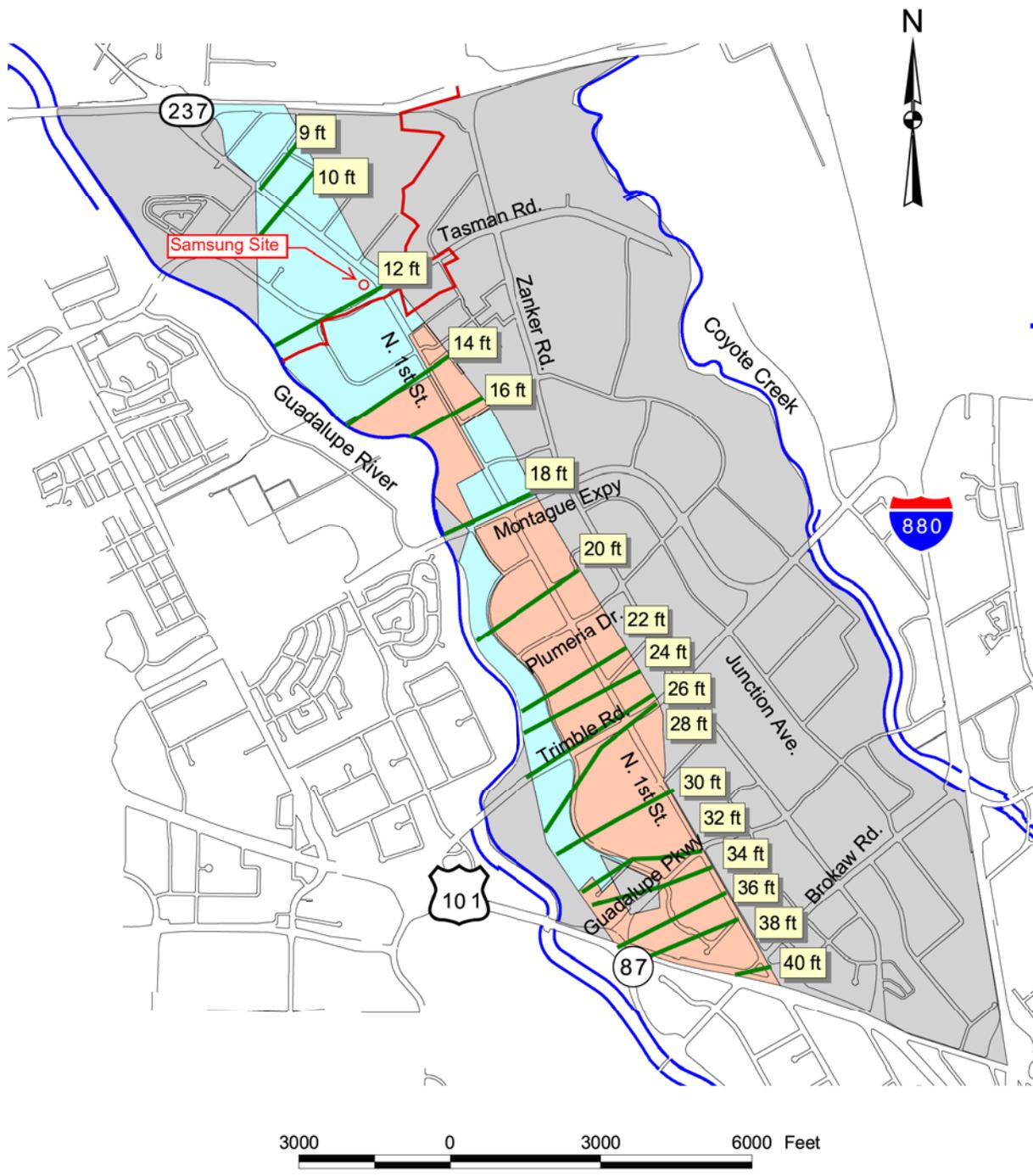
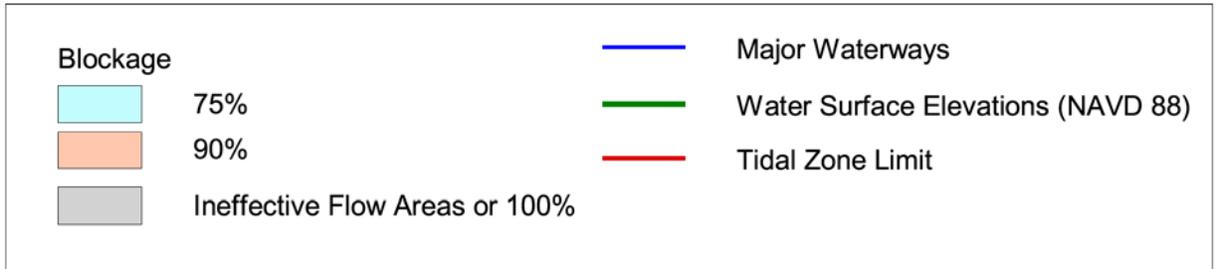
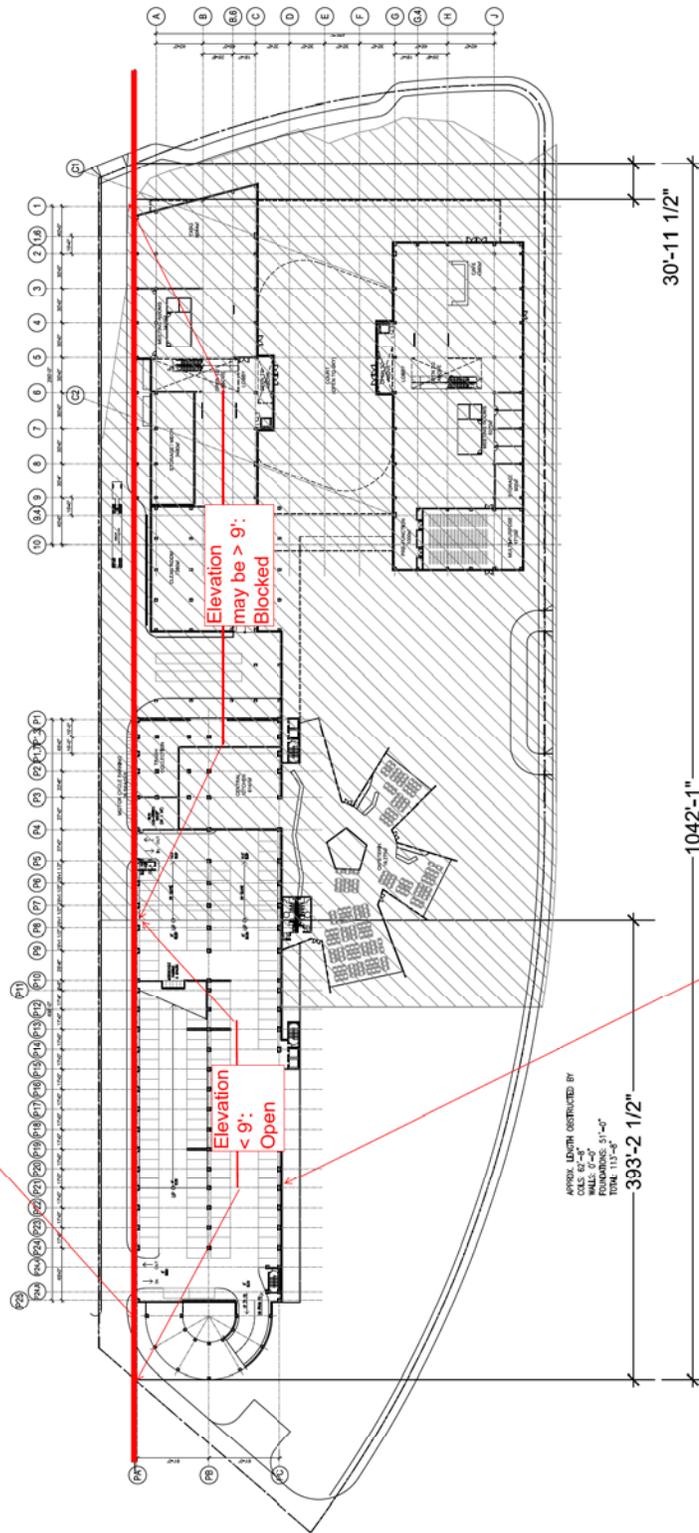


FIGURE 1

- Total length of site measured along most restricted cross section = 1042'-1"
- 25% of total length of site = 260'-6 1/4"
- Length of site at 9' elevation = 424'-2"
- Length of obstructions = 113'-3"
- Length of unobstructed open area along most restricted cross section = 310'-7"
- Elevation at or below 9' is considered open.



- Total length of site measured along **2nd** most restricted cross section = 1195'-0"
- 25% of total length of site = 299'-0"
- Length of unobstructed open area along most restricted cross section = 341'-0"
- Elevation at or below 9' is considered open.

FIGURE 2