



**US Army Corps  
of Engineers®**

Appendix H

# Hydrology, Hydraulics and Coastal

South Pacific Division, Continuing Authorities Program  
San Francisco District



Continuing Authorities Program (CAP), Section 103

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## **1 Introduction and Background**

This coastal, hydrologic, and hydraulic appendix has been prepared under the authority of the Section 103 of the 1962 River and Harbor Act, in response to a request for Federal assistance from the South San Francisco/San Bruno Water Quality Control Plant and North Bayside System Unit Facilities (also referred to as South San Francisco Water Quality Control Plant, abbreviated as SSF WQCP). 165,000 full time residents and the daily population of San Francisco International Airport rely on plant. There have been no improvements to reduce flood risk in the area surrounding the plant. Flood risk is expected to increase over time due to the location in a low-lying area. Coastal storm risk flood events could cause disrupted wastewater treatment services and release of untreated raw sewage into the Bay. These events are likely to increase with a changing climate. Unpermitted discharges and mixing of contaminated water during flooding events could result in environmental degradation in the nearby sensitive habitat.

This appendix covers the coastal, hydrologic, and hydraulic engineering aspects of the project and addresses the inputs, development, and results of the hydraulic model scenarios. These calculations and tools were used to address flood risk problems due to sea level rise in the project area.

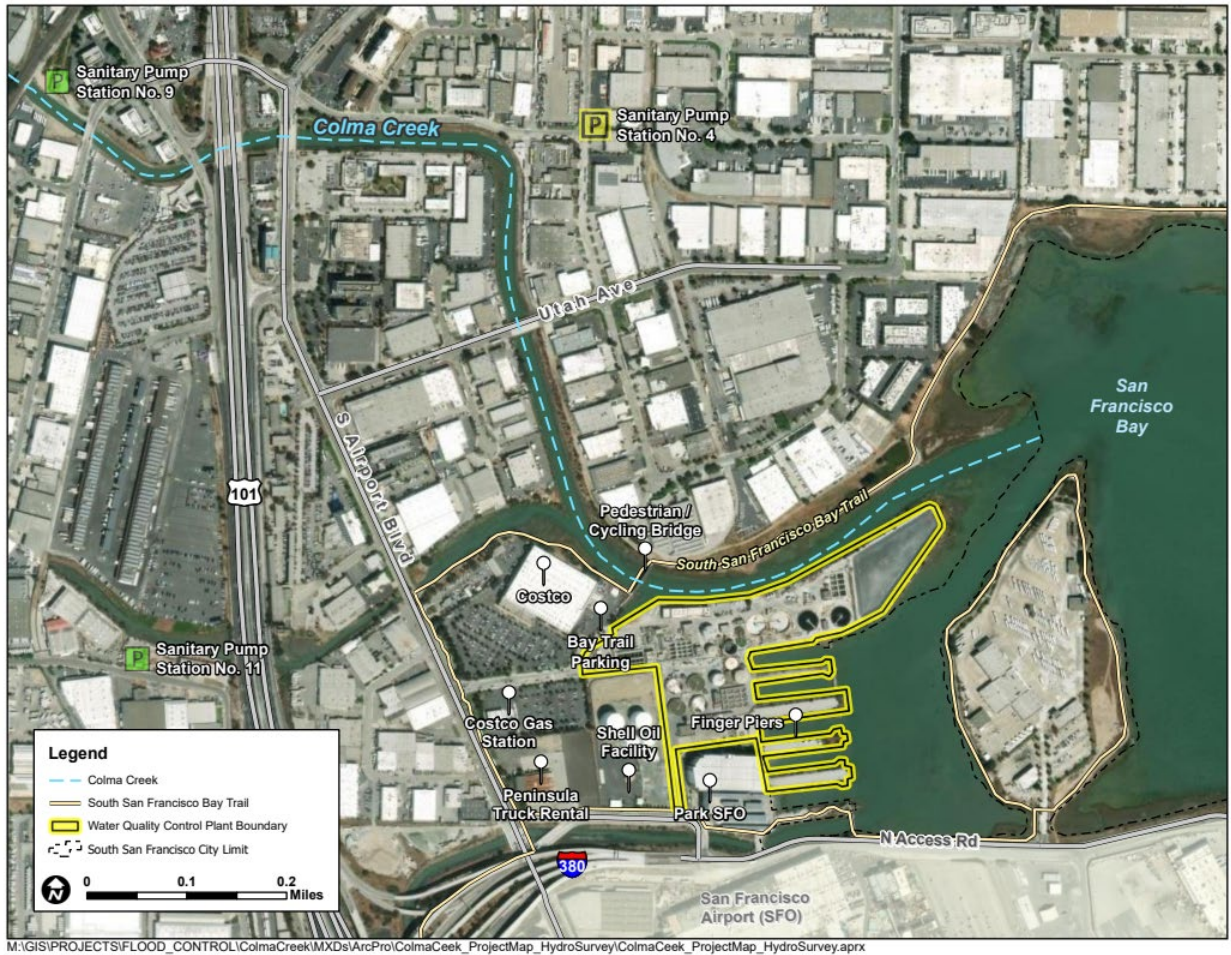


Figure 1. The project area of the SSF WQCP, locations of pump stations, and key infrastructure.

## 2 Prior Studies and Reports

Existing reports and data were reviewed. A synopsis of the information in each is provided below.

### 1) *San Bruno Creek/Colma Creek Resiliency Study (Moffat & Nichol and AGS, 2015)*

The scope of the study was to establish an interagency working group focused on the project area, conduct a sea level vulnerability assessment, and develop sea level rise adaptation strategies. The data relevant to this appendix are underlined>.

- a) The FEMA Coastal Hazard Study for San Mateo County did not include a riverine component, so the riverine hydraulics of the Colma Creek flood control channel were not reassessed. Additionally, the WQCP area is

downstream of Utah Ave, where tidal influences dominate.

Waves have little influence here as the project area is within the San Francisco Bay and is protected by the land mass that is SamTrans Bus Yard and Oyster Point to the north.

The extreme tides utilized from the FEMA-AECOM (2016) study include the contributions of interannual oscillations like El Nino and the Pacific Decadal Oscillation and freshwater inflows from the Sacramento-San Joaquin River Delta. The study used an extreme value analysis approach to determining extreme tide levels through all of San Francisco Bay using a record from 1973 to 2003 for Central SF Bay, which included historical El Nino years (1977-1978, 1982-1983, 1997-1998, 2009-2010 and 2015-2016) and historical storm surge events within the Bay (1/27/1983, 12/3/1983, 2/6/1998, 1/8/2005, 12/31/2006). During high precipitation events, large volumes of water drain into the Bay through the SAC-SJ Delta and out through the Golden Gate Strait and can elevate water levels throughout the Bay; this effect is more pronounced for areas located closer to the Delta.

b) This study focused on three governmental reports for sea level rise projections:

- The National Oceanic and Atmospheric Administration (NOAA) Climate Program Office (CPO), Global Sea Level Rise Scenarios for the United States National Climate Assessment (2012).
- The National Research Council (NRC), Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future (2012).
- The Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), State of California Sea-Level Rise Guidance Document (2013).

c) “In order to plan for future SLR, it is generally not useful to focus on specific dates and the SLR expected on those dates. A better approach is to consider specific increases and to understand the needs for additional flood protection based on those increased levels. This report considered 1-ft, 2-ft, and 3-ft of SLR.”

d) This flood risk assessment included the development of 1-D hydraulic models for each creek using HEC-RAS to determine water surface profiles for

each creek under a range of environmental conditions. The model was based on a previous model in 2004 by Schaaf & Wheeler, updated with information field surveyed in November 2011. The Colma Creek modeling assumed all the flood flows were kept within the channel, without overbank flooding, to determine the floodwall or levee elevations that would be necessary to contain all the flow within the channel. The analysis also determined the hydraulic capacity of the flood control channel capacity at various tidal elevations in the Bay. The San Bruno model developed by Schaaf & Wheeler as part of the SFO Shoreline Protection Study in 2015 was used as a basis for developing the model as well. Similar analysis to what was done on Colma Creek was performed on the San Bruno Creek.

e) This study performed a statistical analysis similar to a joint probability analysis for each creek. The analysis concluded that higher tidal residuals are associated with relatively high creek daily discharge values. However, there is not a linear correlation between the two. Instead, there is a threshold in the creek daily discharge values at 50 to 100 cfs. If the creek discharge is above the threshold value, then higher tidal residuals are observed. However, tidal residuals do not increase further for extremely high creek discharge values. These results support the conclusion that there is little correlation between the tidal residuals and the creek discharge when the analysis is limited to days with creek discharges above the threshold. However, the tidal residuals on those days are relatively large compared to the data set as a whole, and extreme high tidal residuals are always associated with creek discharges above the threshold. Therefore, an appropriate functional form for the conditional relationship between the creek discharge and tidal residuals is a step function: different probability distributions for the tidal elevation are defined for high discharge and low discharge days.

f) A comparison of 100-yr coincident water surface profiles for Colma Creek for present conditions with future conditions including SLR values of 1-ft, 2-ft, and 3-ft shows that SLR has a significant impact on flood elevations in the creek for the lowest reach downstream of Utah Avenue. In the reach between Utah Avenue and Hwy-101, SLR appears to have a much smaller impact on the water surface profiles. And in the reach upstream of Hwy-101, SLR appears to have only a negligible impact on flood stages in the creek.

g) Since the lower reaches of San Bruno Creek are protected from storm surge by a set of tide gates, the effects of tides on the water surface profiles are different than for Colma Creek, which is open to the bay. Here, water

levels are influenced by backwater effects from flood flows being trapped upstream of the tide gates during high tides.

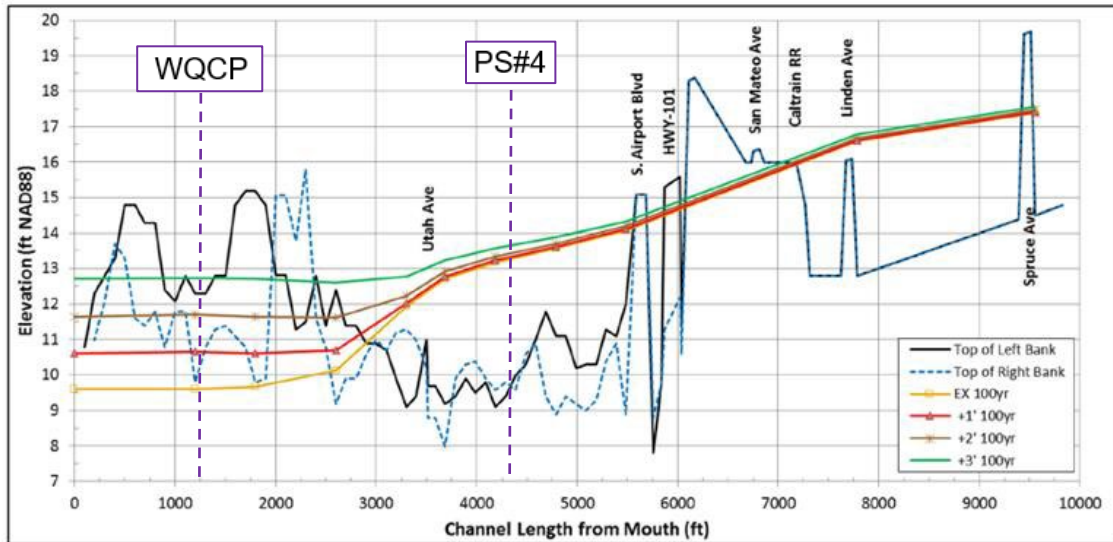


Figure 4-6. Colma Creek 100yr Coincident Water Surface Profiles with SLR of 0-ft, 1-ft, 2-ft and 3-ft

Figure 2. Visualization of 100yr water surface profiles with various amounts of SLR.

## 2) County of San Mateo Vulnerability Assessment (2018)

The purpose of the Vulnerability Assessment is to be the first step in increasing the resilience of the County’s economy, environment, and communities. This study creates an inventory of people, places, and critical infrastructure to assess risk; identifies impacts of flooding, sea level rise, and erosion on people, structures, and community functions; and develops solutions and reduces impacts in vulnerable communities. The data relevant to this appendix are underlined.

- a) The project used sea level rise inundation data from the United States Geological Survey (USGS) and from Point Blue’s Our Coast, Our Future tool, which provided the best available sea level rise data for the County at the time of the report. The scenarios indicate the projected extent of flooding should the project area experience a 1% chance annual storm plus sea level rise. The baseline scenario shows the possible extent of flooding with a 1% annual chance storm. The mid-level scenario shows the possible extent of flooding during a 1% chance annual storm plus 3.3 feet of sea level rise. The high-end scenario shows the possible extent of flooding during a 1% chance annual storm plus 6.6 feet of sea level rise. However, each parcel shown to be affected within a given scenario may not necessarily be inundated. The

scenarios only show what kind of flooding is possible. In the event of a storm, inundation may take place in a variable and unpredictable manner.

b) “Since the OCOF model is based on centimeters, the closest scenario to 3 feet is the 100-centimeter scenario, which equates to 3.3 feet. This scenario is also reflected in studies performed by the County of Marin and the City of San Francisco. The selection of the high-end scenario is in line with Coastal Commission’s Guidance Document recommendation to use an extreme scenario that presents a potential worst-case sea level rise scenario. Our team chose to combine these water levels with a hypothetical 1% annual chance flood to show the combined risk of sea level rise and a potential storm.”

3) *Northwest Hydraulic Consultants (NHC) Colma Creek H&H Modeling Analysis (2021)*

The purpose of this study is to evaluate the flood capacity of Colma Creek under current and future conditions using hydraulic modeling. The data relevant to this appendix are underlined.

a) This study used the NAS 2012 “Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future.” to come up with 3.01 ft of RSLR for year 2100.

b) “Future climate conditions will drastically impact the degree of flood protection offered by the existing Colma Creek flood control channel. The 100-year storm under current hydrology climate passes through much of the channel with 2 feet of freeboard. Under a future climate state, the 100-year storm spills along much of the reach from Spruce to Produce Avenue.”

c) “Sea-level rise (+3.01 feet) also presents a major increase in flood risk for the areas near Utah Avenue...the freeboard that was available immediately below Navigable Slough will no longer be available given the future MHHW stage. The higher stage there results in a much larger volume of water spilling from Navigable Slough and Colma Creek below Utah Avenue.”

4) *Sea Level Rise Vulnerability and Consequences Assessment (SLRVCA) by the City and County of San Francisco (2020)*

The purpose of this study is to describe the vulnerability of public buildings and infrastructure to SLR and coastal flooding, and the consequences of SLR-related flooding on people, the economy, and the environment. This information will inform



capital planning, project design, and policy decisions so the City can develop, prioritize, and implement appropriate adaptation strategies to build San Francisco's resilience to SLR. The data relevant to this appendix are underlined.

a) "The CPC Guidance recommends the NRC 2012 SLR projections for the "Likely" and "Upper Range" scenarios for guiding design and adaptation decisions, respectively. The 2018 State Guidance recommends a different suite of SLR projections. Although the NRC 2012 and State Guidance projections compare reasonably well, the State Guidance recommends slightly different projections in the latter half of the century. For example, the recommended upper range number for long-range (2100) adaptation planning increases from 66 inches (NRC 2012) to between 71 and 83 inches (State Guidance). In addition, the recommended likely value of SLR at 2100 changes from 36 inches (NRC 2012) to 33 to 41 inches (State Guidance)."

b) In 2014, the Intergovernmental Panel on Climate Change (IPCC) adopted a set of four GHG concentration trajectories scenarios known as "Representative Concentration Pathways," or RCPs.

- RCP 8.5 assumes anthropogenic (human-caused) global GHG emissions continue to rise over the next century (i.e., there are no significant efforts to limit or reduce emissions)
- RCP 6.0 assumes anthropogenic global GHG emissions peak in 2080 and then decline
- RCP 4.5 assumes anthropogenic global GHG emissions peak in 2040 and then decline
- RCP 2.6 assumes strict emissions reductions, with anthropogenic global emissions declining by about 70 percent between 2015 and 2050, to zero by 2080, and below zero thereafter (i.e., humans would absorb more GHGs from the atmosphere than they emit).

c) "Current State Guidance relies primarily on RCP 8.5 and RCP 2.6. RCP 8.5 was selected because, thus far, worldwide GHG emissions have continued to follow this trajectory; and RCP 2.6 was selected because, although it will be challenging to achieve at the global scale, it aligns with California's ambitious GHG reduction efforts. To date, the City of San Francisco has selected RCP 4.5 instead of RCP 2.6 as a more realistic potential lower bound for SLR plan"

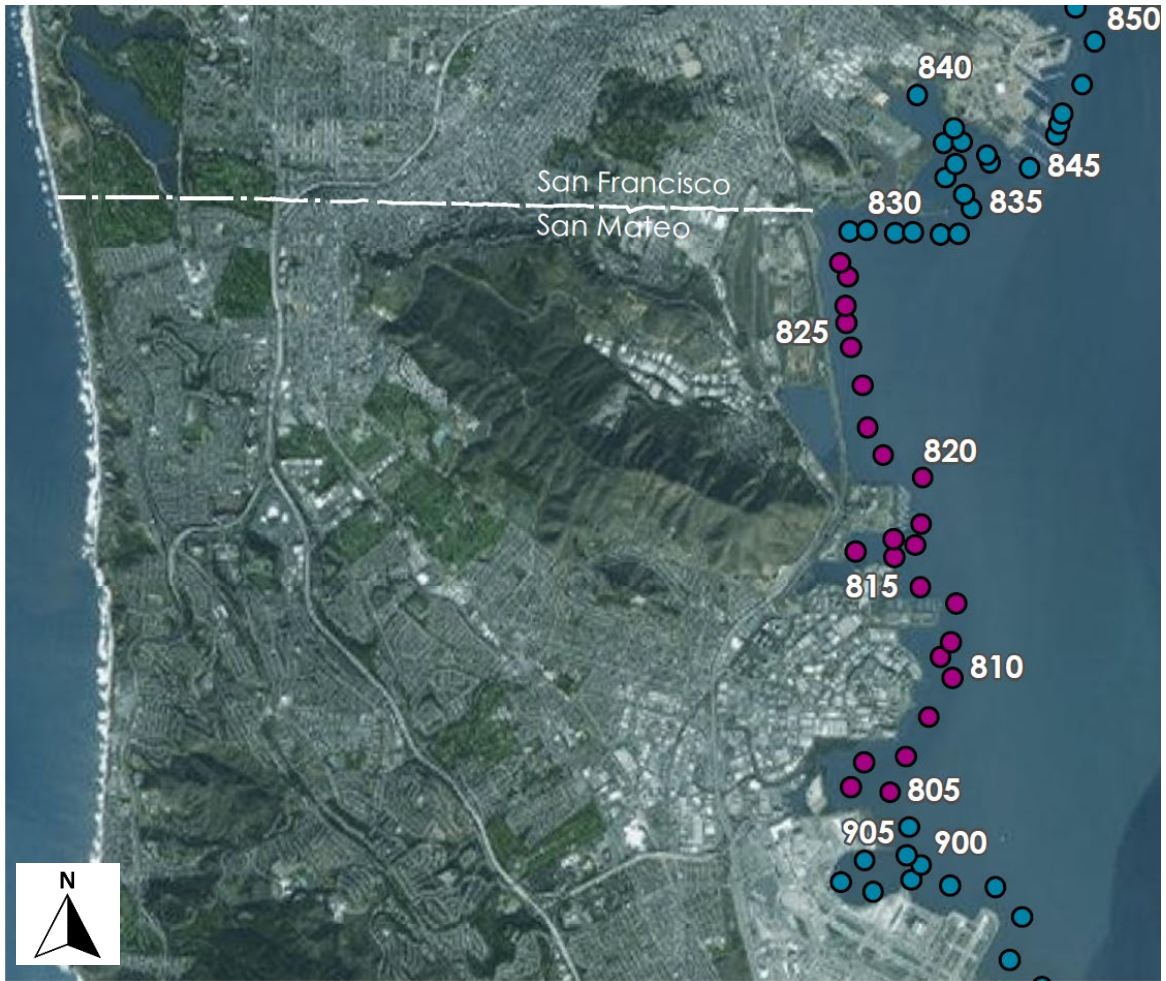
d) "This Assessment relies on a full range of SLR scenarios, from 12 to 108 inches, which provide compatibility with both the CPC Guidance and the State

Guidance. This Assessment employs the “One Map, Many Futures” framework developed through the Adapting to Rising Tides (ART) program created by the San Francisco Bay Conservation and Development Commission (BCDC). The One Map, Many Futures approach defines 10 primary scenarios that represent a range of possible combinations of extreme tide levels and SLR.”

### **3 Coastal Water Levels**

The San Francisco Bay Coastal System is a complex marine system with powerful waves and tidal currents, intricate estuarine circulation and sediment transport patterns, and significant anthropogenic influences. The Bay is an urbanized estuary that is impacted by numerous anthropogenic activities common to many large estuaries, including a mining legacy, channel dredging, aggregate mining, reservoirs, freshwater diversion, watershed modifications, urban run-off, ship traffic, exotic species introductions, land reclamation, and wetland restoration. (Barnard et al., 2013). In south San Francisco Bay, tidal ranges are highly variable with most of the coastal storm water level comprised of the astronomical or predicted tide component. Extreme astronomical tides occur twice on an annual basis and are commonly referred to as king tides. King tides occur during the winter storm season and when combined with coastal storms can increase the risk of coastal flooding.

The degree of subsidence locally and across the South Bay has rendered the area over time more vulnerable to flooding from coastal storms and extreme high tides. Flood risk will continue to increase with relative sea level rise (RLSR). Tidal water level information for the project area was developed from the FEMA-AECOM Tidal Datum study (FEMA-AECOM, 2016). The water levels are based on a basin wide hydrodynamic model simulation from 1956 to 2009. Peak storm tide levels by annual exceedance probability (AEP) for the project area at San Mateo, CA are referenced to point 806, Appendix B of the report (Figure 3).

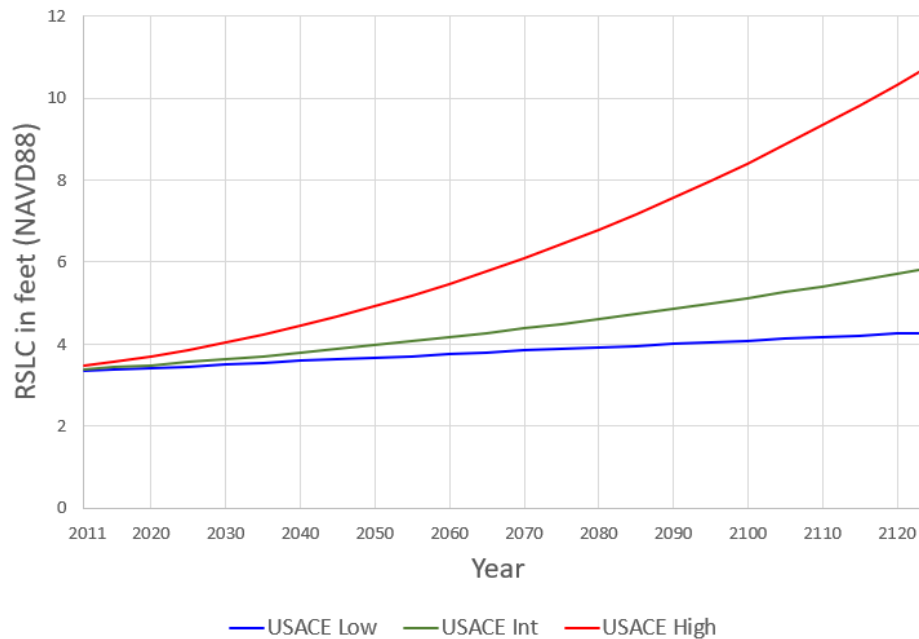


**Figure 3. Time Series data points from San Francisco Bay Tidal Datums and Extreme Tides Study, 2016**

AEP for a range of events were developed from the time series data at points along the San Francisco Bay shoreline using the Generalized Extreme Value (GEV) distribution and published in the San Francisco Bay Tidal Datums and Extreme Tides Study, 2016 Appendix B. The data extraction points referenced to the zero NAVD88 contour and are referenced to NAVD88. NAVD88 is the North American Vertical Datum of 1988, the official vertical datum in the National Spatial Reference System (NSRS). The time series data and published AEP events are referenced to the year 2011, projections to the period of analysis are made from 2011. Table 1 contains the extreme tidal elevations for future without project (FWOP) conditions for the analysis period 2023 to 2073.

Sea level change is an uncertainty, potentially increasing the frequency of extreme water levels. USACE Engineering Regulation (ER), USACE ER 1100-2-8162 (USACE 2019), incorporates new information, including projections by the Intergovernmental Panel on Climate Change and National Research Council (IPCC 2007, NRC 2012).

Planning studies and engineering designs are to evaluate the entire range of possible future rates of sea-level change (SLC), represented by three scenarios of “low”, “intermediate”, and “high” sea-level change, showing in Figure 4.



**Figure 4. Estimated RLSC projections for NOAA station 9414523 Redwood City, CA from 2011 to 2123.**

Utilizing the USACE Sea-Level Change Curve Calculator (Version 2021.12) and the relative sea level trend of 2.54 mm/yr (.00833 ft/yr) from NOAA station 9414523 Redwood City, California, a projection of extreme water levels can be made using the three SLC scenarios and the FEMA-AECOM Tidal Datum study data. The RSLR trend of NOAA station 9414523 Redwood City, California is most applicable because it best represents the tidal range in the vicinity of the project site while also including the vertical land movement due to the bay mud formation underlying the south bay shoreline. A single extreme water level was determined for each scenario, this value represents the maximum water level in the tidal hydrograph. Intermediate and High SLR were calculated for the 100%, 50%, 20%, 10%, 4%, 2%, 1%, and 0.2% AEP for the base year 2023, 2033, 2043, 2048, 2053, 2063, and 2073 years into the future. Low SLR rates are calculated for 100%, 50%, 20%, 10%, 4%, 2%, 1%, and 0.2% AEP, just for the base year 2023, 2048, and 2073 years, due to the low curve being essentially linear in the period of analysis.

**Table 1. Extreme tidal elevation for the low, intermediate, and high SLC scenarios.**

Plant to NAVD88 co	2.12	Extreme Tide Elevation							
		FEET-NAVD88							
		100% AEP	50% AEP	20% AEP	10% AEP	4% AEP	2% AEP	1% AEP	0.2% AEP
2011	FEMA/AECOM base year	8.09	8.39	8.75	9.03	9.44	9.78	10.17	11.27
2023 (base year)	USACE Low	8.19	8.49	8.85	9.13	9.54	9.88	10.27	11.37
	USACE Int	8.24	8.54	8.9	9.18	9.59	9.93	10.32	11.42
	USACE High	8.41	8.71	9.07	9.35	9.76	10.1	10.49	11.59
2033	USACE Int	8.39	8.69	9.05	9.33	9.74	10.08	10.47	11.57
	USACE High	8.76	9.06	9.42	9.7	10.11	10.45	10.84	11.94
2043	USACE Int	8.56	8.86	9.22	9.5	9.91	10.25	10.64	11.74
	USACE High	9.19	9.49	9.85	10.13	10.54	10.88	11.27	12.37
2048	USACE Low	8.4	8.7	9.06	9.34	9.75	10.09	10.48	11.58
	USACE Int	8.65	8.95	9.31	9.59	10	10.34	10.73	11.83
	USACE High	9.43	9.73	10.09	10.37	10.78	11.12	11.51	12.61
2053	USACE Int	8.74	9.04	9.4	9.68	10.09	10.43	10.82	11.92
	USACE High	9.69	9.99	10.35	10.63	11.04	11.38	11.77	12.87
2063	USACE Int	8.94	9.24	9.6	9.88	10.29	10.63	11.02	12.12
	USACE High	10.26	10.56	10.92	11.2	11.61	11.95	12.34	13.44
2073	USACE Low	8.61	8.91	9.27	9.55	9.96	10.3	10.69	11.79
	USACE Int	9.16	9.46	9.82	10.1	10.51	10.85	11.24	12.34
	USACE High	10.91	11.21	11.57	11.85	12.26	12.6	12.99	14.09

## 4 Hydraulic Analysis

### 4.1 Background

A hydraulic analysis for existing conditions was conducted by the USACE using the HEC-RAS 6.0 modeling software. HEC-RAS is a one and two-dimensional hydraulic model that solves the energy and momentum equations for open channel flow. HEC-RAS is developed by the Corps and used widely by Corps water resource staff, as well as other local, state, and national agencies and engineering consulting firms.

Unlike other projects that rely more on the HEC-RAS model for flooding extents, this project used the HEC-RAS model for viewing locations of breakout flooding as the extreme tide elevation is increased, and for viewing the terrain elevations for the buildings' depth of flooding tables. Water enters the model only from the bayside and is modeled by a constant stage. This type of simplistic model is also called a bathtub model.

Results layers from this model were not used for the economic analysis due to the lack of accuracy and detail in the terrain data for the project area. Rather, the floor slab elevation of each building of interest within the wastewater treatment plant area was evaluated individually against the table of extreme tide elevations (Table 1) to determine damages for each scenario (Appendix B). The model development focused on accurately portraying breakout flooding locations and showing which areas flood at various extreme tide elevations.

The WQCP area is below Utah Ave, so there is no need to model fluvial flooding. Therefore, the RAS model was developed to evaluate breakout points and inundation extents corresponding to tidal flooding. Pump Station 4 will be fully protected by a ring levee regardless of riverine contributions.

This level of analysis was scoped and deemed appropriate considering the scale and level of complexity required for this study. Additional with-project modeling of realistic tidal events with an unsteady downstream stage boundary to investigate one particular source of flooding was conducted as well (see Section 5.2).

#### **4.2 Model Domain**

The HEC-RAS model domain extends from 2000 ft north of Spruce Ave (upstream end) to the mouth of the creek at San Francisco Bay (downstream end). The two-dimensional flow area covers the WQCP area as well as the overland areas around the pump stations of interest. The domain extends up Colma Creek in order to view the effects of extreme tidal events inland.

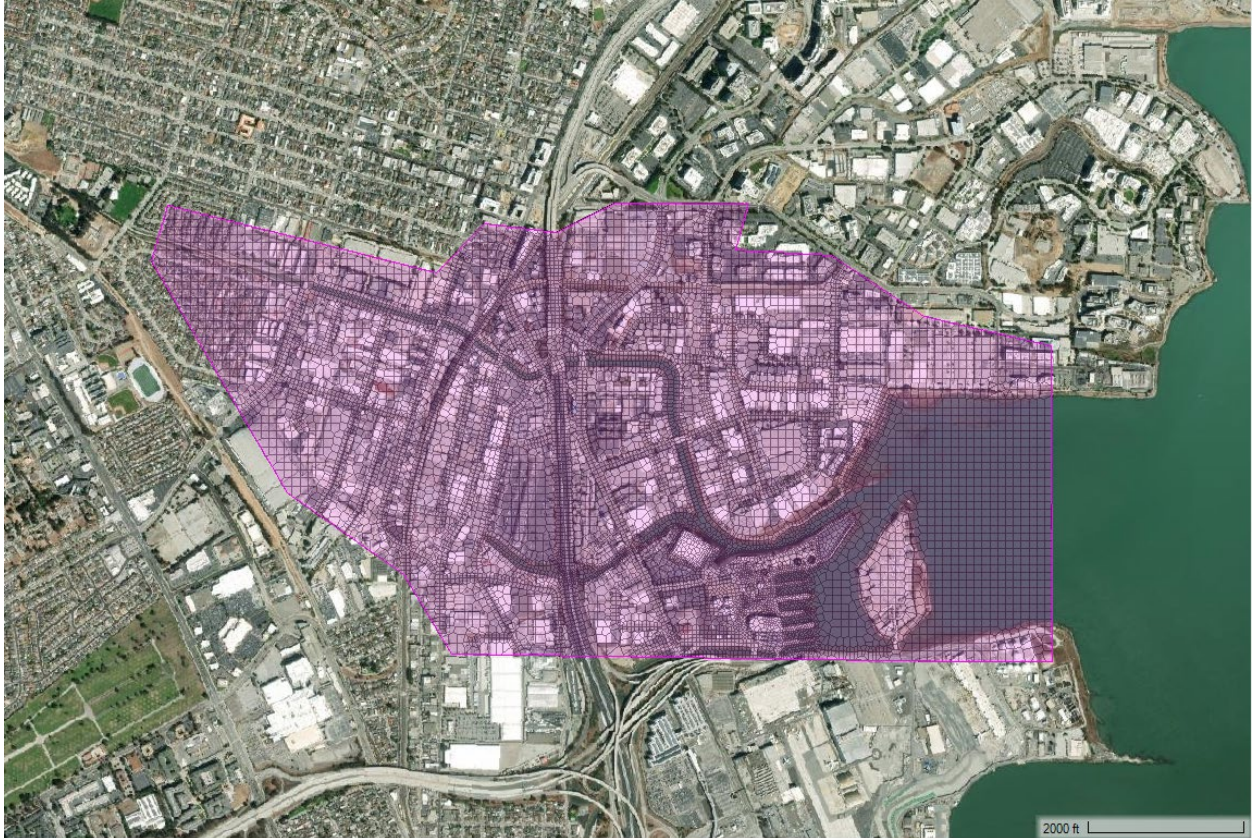


Figure 5. HEC-RAS model domain of Lower Colma Creek for the WQCP area.

### 4.3 Model Terrain

Channel and floodplain geometry for the models were developed using data from the 2017 San Mateo County LiDAR project. LiDAR stands for Light Detection and Ranging, which uses a pulsed laser light to measure distances. An aircraft or drone is used to fly over an area and measure distances using LiDAR. This data was used to create a 1m Digital Elevation Model (DEM), which is a representation of the topography with a resolution of 1m x 1m.

### 4.4 Computational Settings and Coefficients

The bathtub models do not require roughness values since they are steady-state models. Likewise, the computational settings are also simple. 30 minute computation and output intervals were used for these single-stage steady-state model runs.

### 4.5 Modeling Assumptions

- The area of interest is only the water treatment plant and the three pump stations of concern. The model extents cover these areas, as well as further upstream along Colma Creek to see the tidal influences.
- Manning’s roughness coefficients for the models are usually determined by the type of channel and overbank materials. However, since only coastal tide elevations were used and no fluvial flows were included, the roughness coefficient is not a factor for the constant single stage “bathtub” model. Similarly, landcover was also not necessary.
  - A roughness coefficient was defined only for the with-project unsteady downstream stage model runs, which were used to analyze concerns of overland flooding from breakouts further upstream on Colma Creek. This flooding was found to be superficial and only occurring due to the bathtub nature of the model (see section 5.2).
- Only coastal influences were considered in this modeling effort because the project area is dominated by tidal influences. Fluvial influences were determined to be negligible by the Resiliency Study (*Moffat & Nichol and AGS, 2015*). As such, no channel bathymetry or cross-sections were used to further define the terrain in the channel, and no bridges or culverts were modeled.
- The input boundary condition is a constant stage hydrograph representing the tide from the San Francisco Bay. The area of concern for the feasibility study is inundation and damages to the water treatment plant and its associated facilities as covered by the refinement region polygon. No economic analysis will be conducted on the damages and inundation south of the plant. Therefore, the inundation being prematurely cut off in this area is not an issue.

#### **4.6 Hydrology**

Extreme tide elevations from the coastal analysis were used as the hydrologic input from the bay. Table 1 documents these elevations. Scenarios in these table are a combination of 0, 10, 20, 25, 30, 40, or 50 years in the future; a flood event with an AEP of 100%, 50%, 20%, 10%, 4%, 2%, 1%, and 0.2%; and an USACE sea level rise assumption of low, intermediate, or high.

For existing conditions, the extreme tide elevations for each scenario are compared to the elevation of key infrastructure within the WQCP area. These structures are chosen due to their importance and vulnerability to flooding and are divided into zones and numbered. Appendix C summarizes the locations and functions of each building. While ground elevations were available on the as-built plans for some of these structures, there were issues with the vertical datums on these plans, and other buildings were lacking elevation information. Therefore, USACE sent out a survey team to acquire an accurate datum conversion as well as the building floor slab elevations for these



structures in September 2021. The vertical datum for all source data and for the project designs is NAVD88.

The numbers in the tables (Appendix B) for each structure represent the depth of flooding that will occur for each scenario. Negative numbers mean there is no flooding for that structure and scenario combination. These tables and flooding depths were used for the economic analysis.

#### **4.7 Additional Considerations**

The floodwalls on the north and south side of Colma creek were not represented in the terrain. Sensitivity analysis was conducted, and it was determined that they would not affect the project area and economic analysis due to the method of economic analysis conducted using building slab elevations and their position far upstream of the project area. These floodwalls were included during the additional model refinement (Section 5.2) for the unsteady downstream stage model runs.

#### **4.8 Uncertainty**

Uncertainties in this hydraulic analysis include potential unexpected or extreme changes to factors other than SLR over time such as precipitation and fluvial flows. While this study assumes that tidal influences dominate the project area since it is downstream of Utah Ave, changes in climate over the next 50 to 100 years could affect this assumption.

There is also uncertainty in the projection of sea level rise. While the best and standard calculations are made for this project, it is still uncertain what the actual rate of sea level rise will be in the next 100 years.

Lastly, because this study assumes no fluvial components and does not evaluate precipitation impacts, there is residual risk that increases in precipitation and fluvial flows could impact the project performance. However, this impact should be limited to the area upstream of Utah Ave, which includes Pump Station 4. The ring levee around Pump Station 4 is planned to be a conservative height, which should mitigate potential impacts from the fluvial and precipitation components, but some residual risk will always remain.

### **5 Formulation of Alternatives**

Initial alternative concepts for the WQCP area and Pump Station 4 were developed, compared, and analyzed by the project delivery team. In this appendix, only the hydrologic and hydraulic modeling aspects of the chosen alternatives will be discussed.

Three alternatives were generated, including a “no action” alternative:

- **No Action Alternative**
- **Alternative 1:** North floodwall, ring floodwall with stop log gate around pump station 4, and flood warning system.
- **Alternative 2:** North and South floodwalls, ring floodwall with stop log gate around pump station 4, and flood warning system.
- **Alternative 3:** Non-structural only - Floodproof 23 structures at the main plant, ring floodwall with stop log gate around pump station 4, and flood warning system.

The location of Pump Station 4 can be seen in Figures 5 and 7. This facility needs a ring floodwall with stop log gate due to complex infrastructure that cannot be individually floodproofed with non-structural means.

### 5.1 Modeling Alternatives

Alternatives 1 and 2 were modeled by using the terrain modifications tool in HEC-RAS. The floodwalls were represented by raised terrain added with the initial proposed footprints and dimensions. Breakout points where flooding occurs with these alternatives in place were viewed by gradually increasing the maximum tide elevation.

The two structural alternatives, Alternative 1 and Alternative 2, differ in the level of protection and cost. The north wall in Alternative 1 increases the minimum elevation to flood from 9.3 ft NAVD88 on the north side to 11.7 ft NAVD88 on the south side (Figures 8 and 9). This offers protection from any event that results in an extreme tide elevation of 11.74 ft NAVD88 or less. Adding the south floodwall as well in Alternative 2 increases the minimum elevation to flood from 11.7 ft NAVD88 on the south side to 13 ft NAVD88 on the west side due to overland flooding (detailed in section 5.2). Protection up to 13 ft NAVD88 covers every scenario in Table 1 except for the 2073, high rate of sea level rise, 0.2% AEP scenario.

Note that these alternatives only increase the minimum elevation to flood, which reduces the likelihood of flooding occurring, but the extent and damages resulting from flooding that does occur is unchanged from the no action alternative. Exact footprints of the north and south walls will need to be further detailed in the design phase.

These alternatives were viewed in HEC-RAS bathtub models to determine flood breakout locations. The economic analysis was done by comparing the new minimum elevation to flood against the extreme tide elevations of various storm events.

### 5.2 Additional Model Refinement

Additional flooding coming overland from the west side of the WQCP was identified in the bathtub model. While the alternative is supposed to provide the WQCP with protection up to 13 ft NAVD88, overland flooding entering the WQCP area was observed in the bathtub model results at 12.1 ft NAVD88. This was due to the bathtub model's hydrologic inputs, which held a constant single stage boundary at the extreme tide elevation.

To address this concern, the model was refined, and unsteady flow scenarios were run. This refinement occurred within a tight time frame so that the team could evaluate the results and make a decision ahead of the TSP meeting. The unsteady modeling confirmed that this flooding is not realistic, and that the WQCP is indeed protected to over 13 ft NAVD88.

Refinements included overland areas, roads, banks, bridge crossings, adding a normal depth boundary and looking up real tidal events for hydrologic input.

Model changes made include:

- Added an overall Manning's roughness value of 0.045, to better represent a composite roughness value for unsteady flow simulations.
  - A higher Manning's roughness value of 0.07 was tested and found to be less conservative, causing less flooding, since it is mostly overland flow.
- Modified terrain to simulate missing bridge crossings.
- Added break lines for most major roads by hand, as there was no time to get roads file from GIS.
- Added break lines to all banks and steep changes in elevation.
- Added normal depth boundary to the south side to prevent ponding in unsteady model runs.
- Increased cell sizes to be mostly 100x100 and 50x50 (refined to 25 or 30 along some break lines).
- Ran with 30s timestep interval to fulfill Courant number.
- Ran synthetic tidal events (sine-wave) by scaling a period of actual tidal events from the Redwood City gauge #9414523 from 0:00 02/09/2020 to 23:54 02/11/2020.
- Scaled entire event to maximum tide elevations of 12.65 ft, 12.995 ft, 13.11 ft, and 13.8 ft NAVD88.
- All model runs were with-project (Alternative 2, north and south walls at the WQCP).
- The model has north and south floodwalls set to 14.5 ft NAVD88 elevation in order to see if tide elevations greater than 13.5 ft NAVD88 elevation are coming up the road instead of just overtopping the project's floodwalls.

The results from this model refinement and unsteady downstream stage boundary simulations showed that flooding enters the WQCP area from multiple points, at varying maximum tide elevation scenarios. Overland flooding from the west begins to occur at tidal events with maximum elevation of 13 ft NAVD88. The only scenarios that are greater than or equal to this elevation are the 1% AEP 2073 High SLR at 12.99 ft and the 0.2% AEP 2073 High SLR at 14.09 ft NAVD88. In all other scenarios, Alternative 2 protects the WQCP plant completely.

At scenarios greater than 13 ft tide elevation, flooding occurs from the following points: over the south bank of the San Bruno creek and flowing overland up to the street entrance to the WQCP, around the west side of the North wall behind the Costco, around the south side of the South wall, and coming up from the channel south of the WQCP and flowing overland up to the street entrance to the WQCP.

The team met with the sponsors and decided to move forward with the TSP as planned, noting that the floodwall elevations could be scrutinized from 13.5 ft to 13 ft NAVD88 due to these modeling results. However, there are many arguments for keeping the floodwalls at 13.5 ft NAVD88 or raising them even higher. The extra 0.5 ft of wall could be argued as an extra safety factor to be conservative with the results of the model and help account for outside factors such as wind and debris. It is also more cost efficient to build the wall 1-2 feet higher now than to replace or upgrade the wall in the future, especially because it is a sheet pile I-wall with a concrete cap. Building it higher now helps with futureproofing as well. Future design extreme tide elevations may be even greater due to updated SLR rates or policies. If the walls are already taller, then the WQCP only needs to address the overland flow from the West for scenarios with extreme tide elevations greater than 13 ft NAVD88.

The unsteady flow model process, reasoning, and execution were reviewed during the DQC review process and found to be reasonable and accurate.

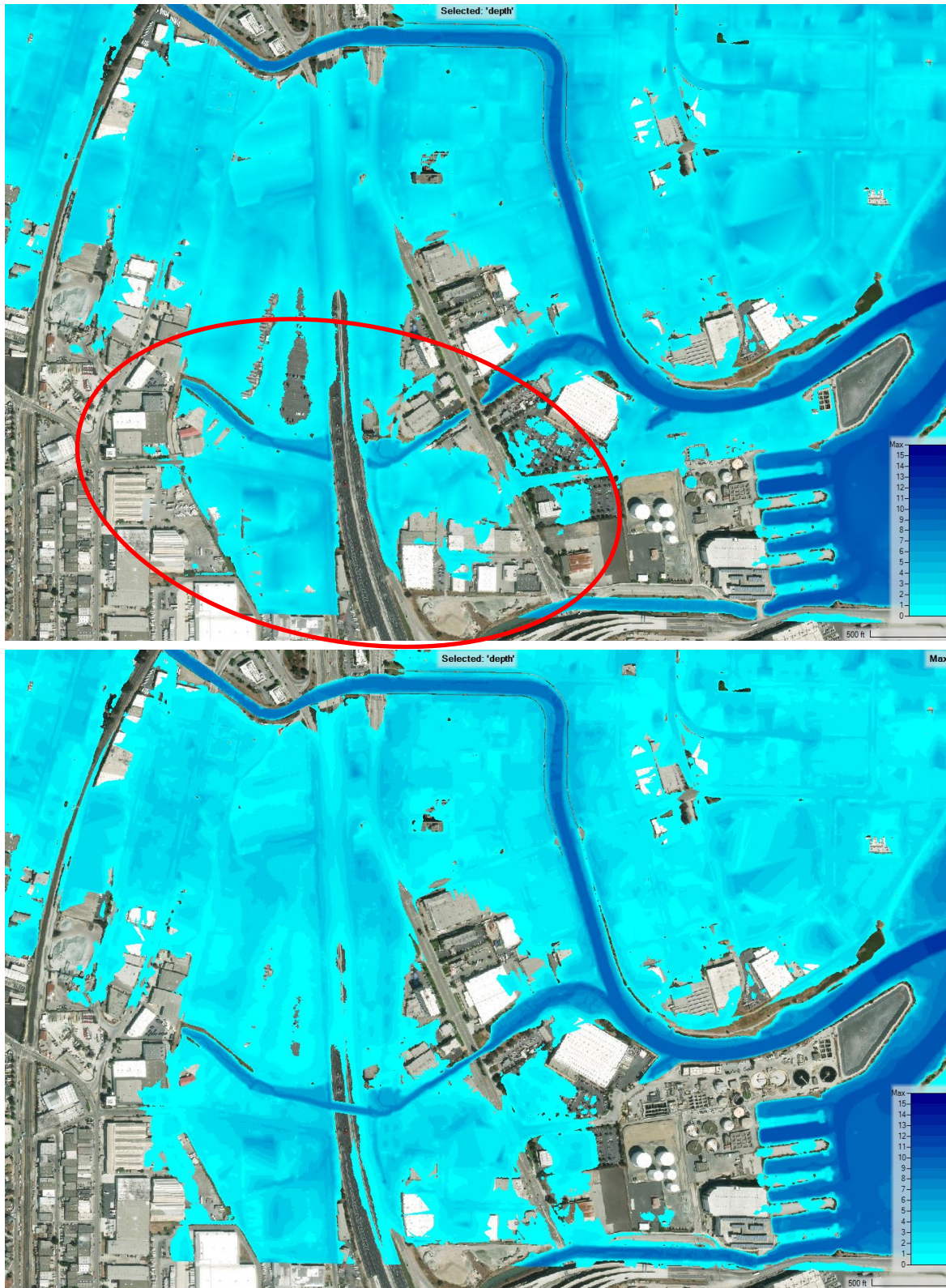
### **5.3 Induced Flooding**

The graphic below compares the maximum depth maps for Existing conditions and with-project Alternative 2. Both results maps are for a scenario with a synthetic hydrograph with a 12.65 ft peak tide elevation, which was scaled up from a real, historical tidal event. For reference, a 12.34 ft peak tide elevation represents the 2073 (50 yrs in the future), Intermediate SLR, 0.2% AEP (500-yr) event.

The induced flooding impacts from Alternative 2 are all located south of Colma Creek, to the west of the WQCP area. Alternative 2 causes greater flooding in the Costco parking lot, Costco gas station, the parking lot areas of M&P International, the streets near K1 Indoor Go Karts, and across the freeway in the parking areas of the industrial

warehouses. None of this flooding exceeds 1 ft depth or are expected to significantly impact these areas.

Everyday flows reach peak tide elevations of ~5-7 ft, which already do not break out of the channel and will not be impacted by the project, which influences flooding at the 10.47 ft to 13.5 ft peak tide elevation range.



**Figure 6. Comparison of Existing (top) vs With-Project Alt 2 (bottom) depth map results for unsteady flow models with 12.65 ft peak tide elevation.**

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Figure 7. Map of SFO, Colma Creek, and San Bruno Creek.



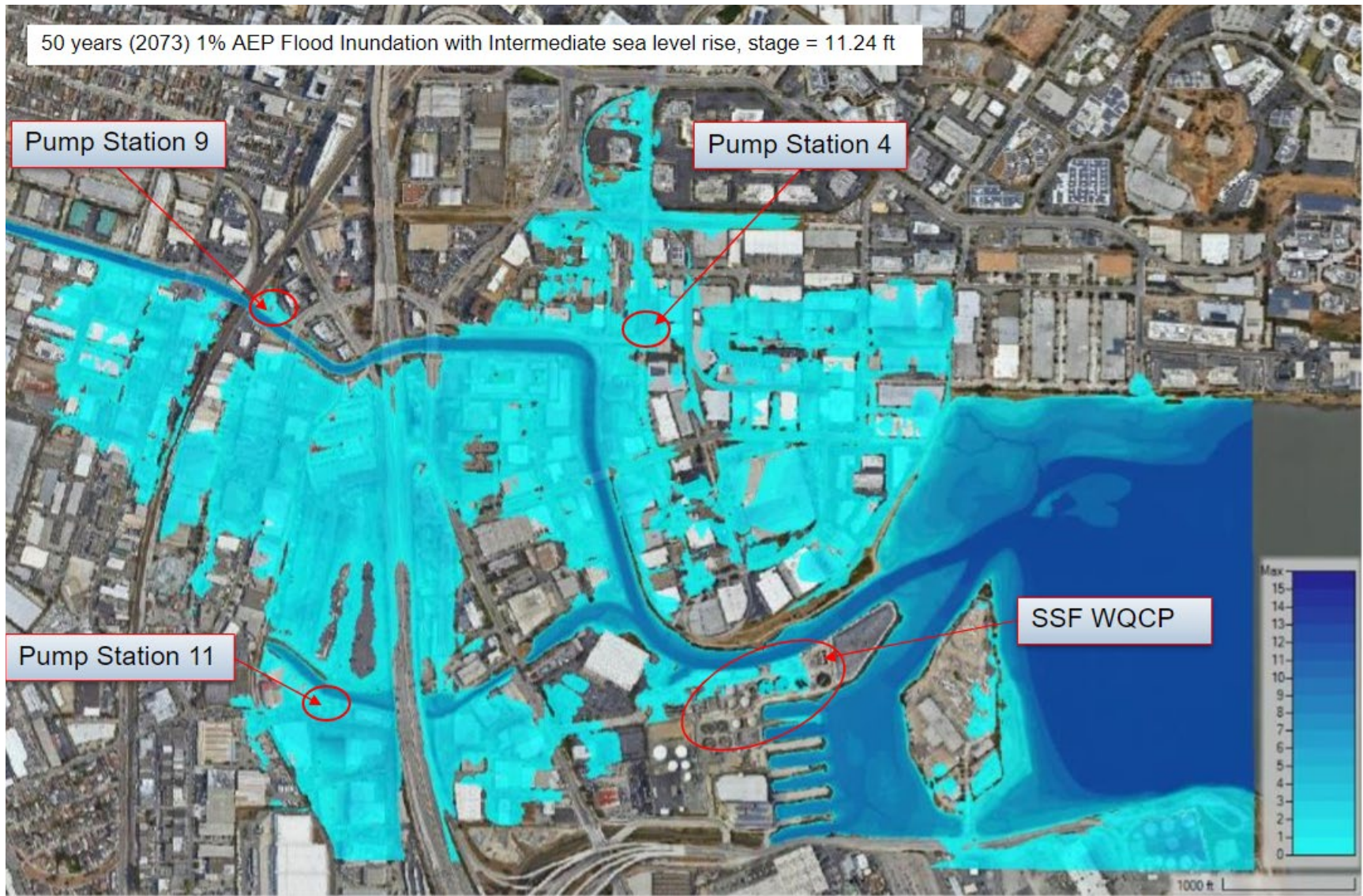


Figure 8. Locations of Pump Stations on 2073, 1% AEP Flood Inundation Map.

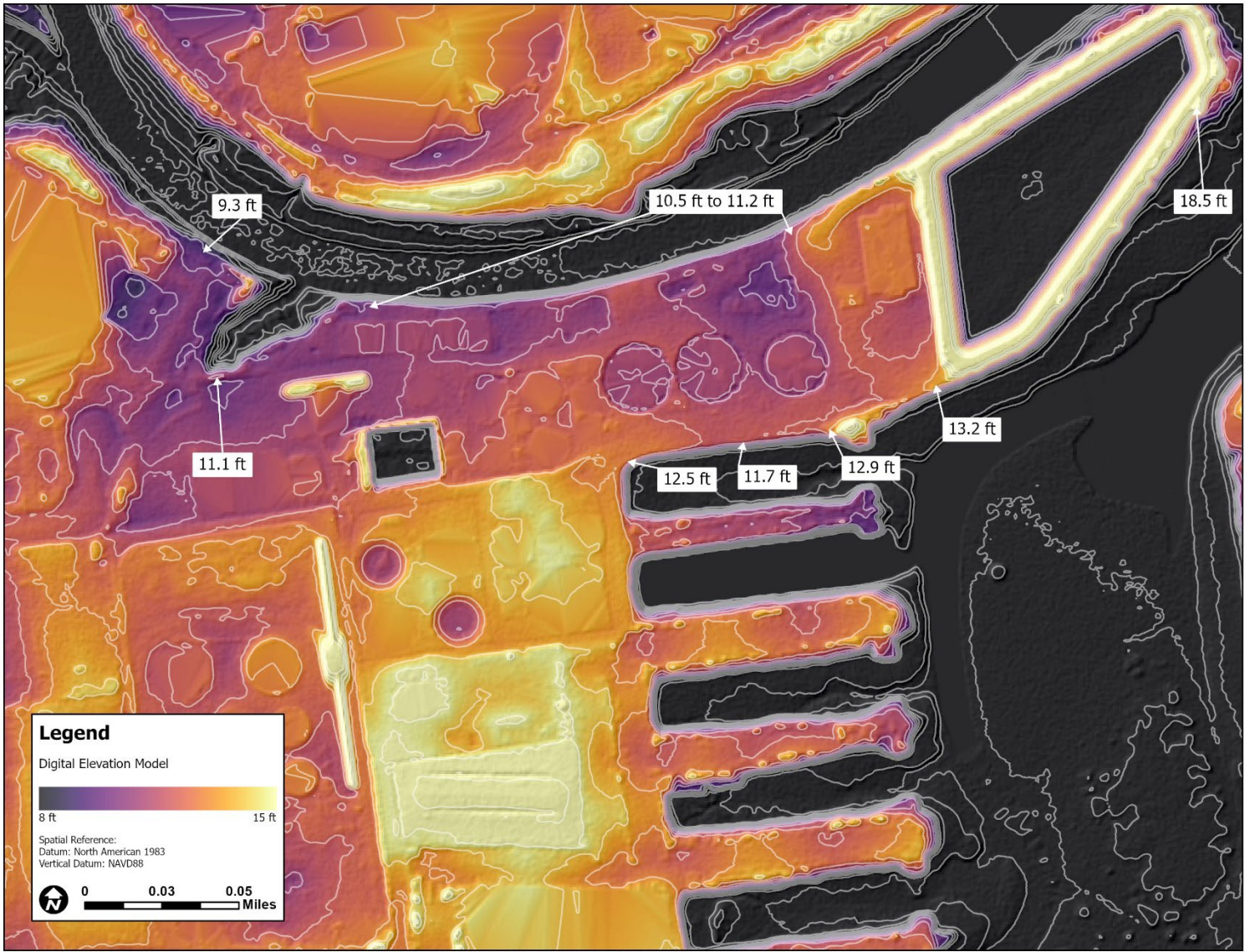


Figure 9. Topographic map with contours showing the low spots along the perimeter of the WQCP area.

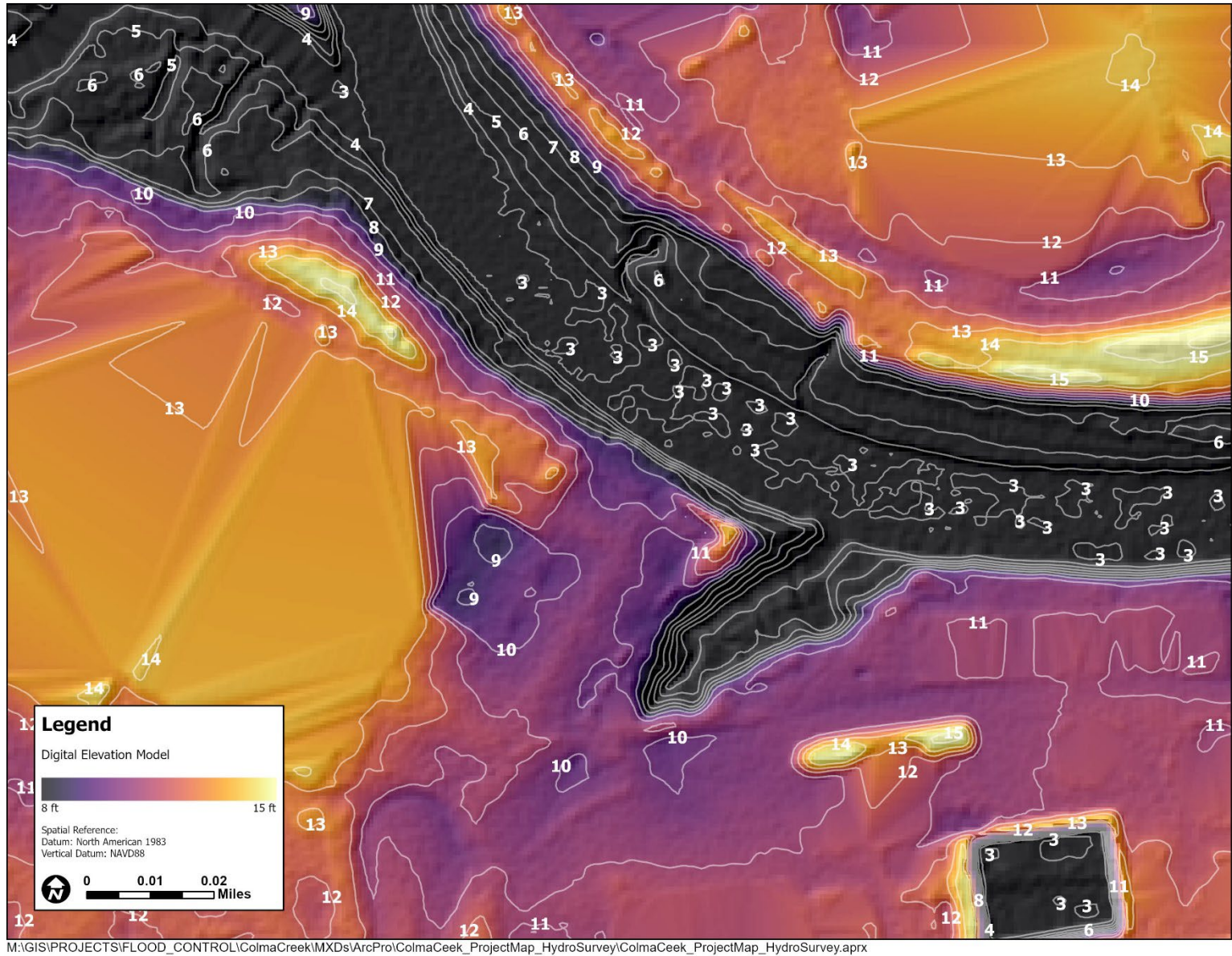
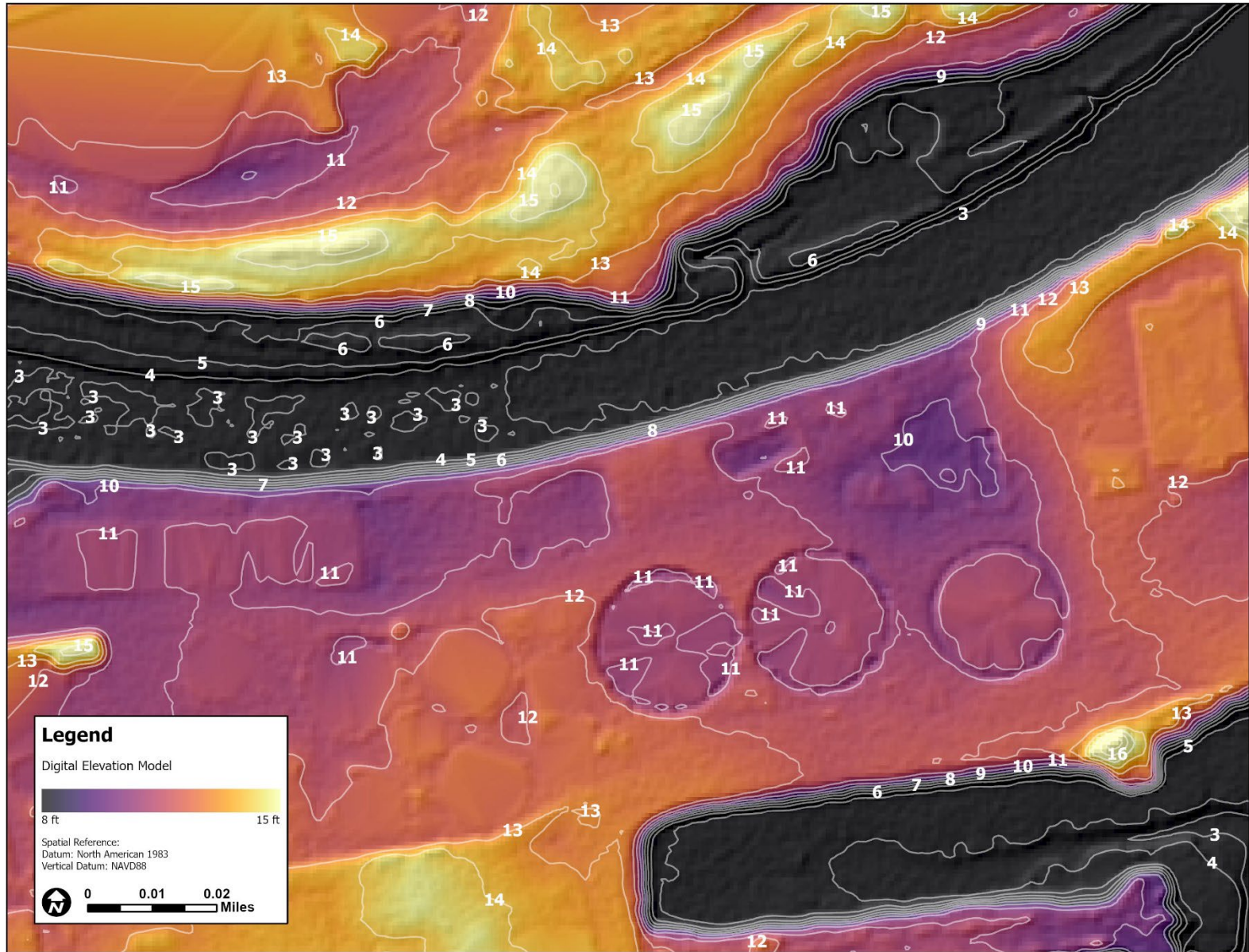
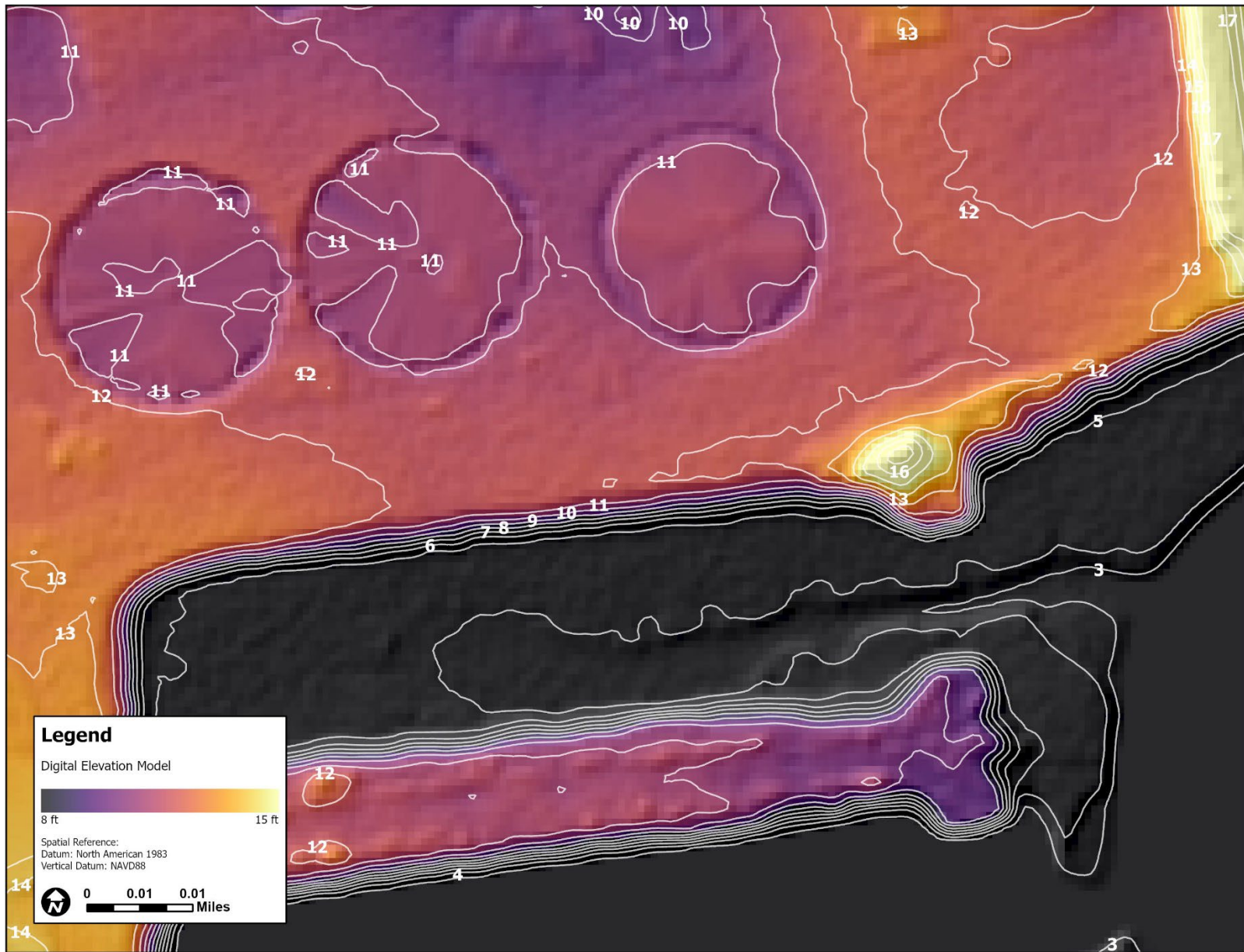


Figure 10. Closer look at the Costco and inlet area on a topographic map with contours.



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Figure 11. Closer look at the north bank of the WQCP on a topographic map with contours.



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**Figure 12. Closer look at the south bank of the WQCP on a topographic map with contours.**

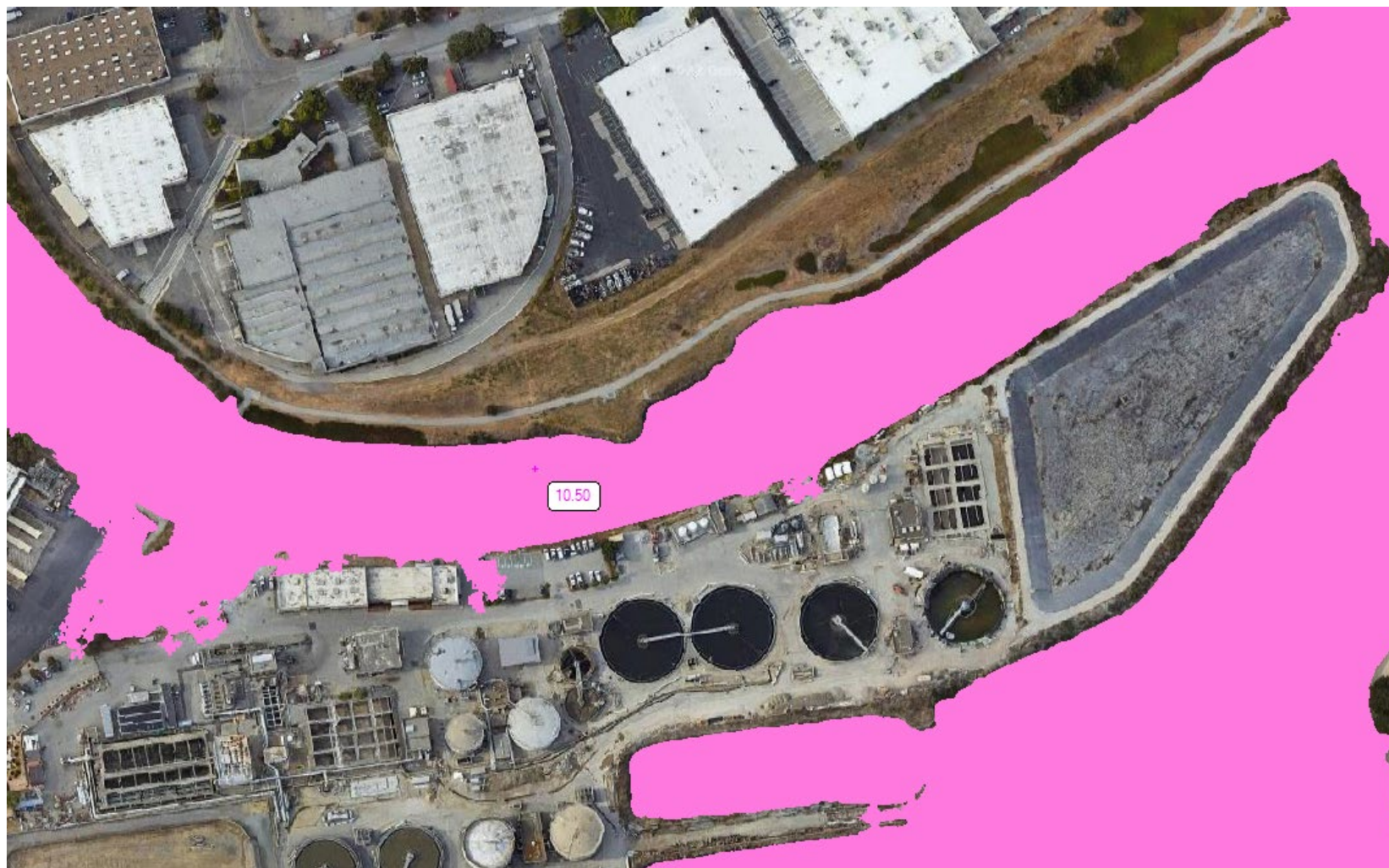


Figure 13. Locations of initial flooding on north side of WQCP area. Starts at 9.3 ft tide elevation, figure shows 10.5 ft for visualization.

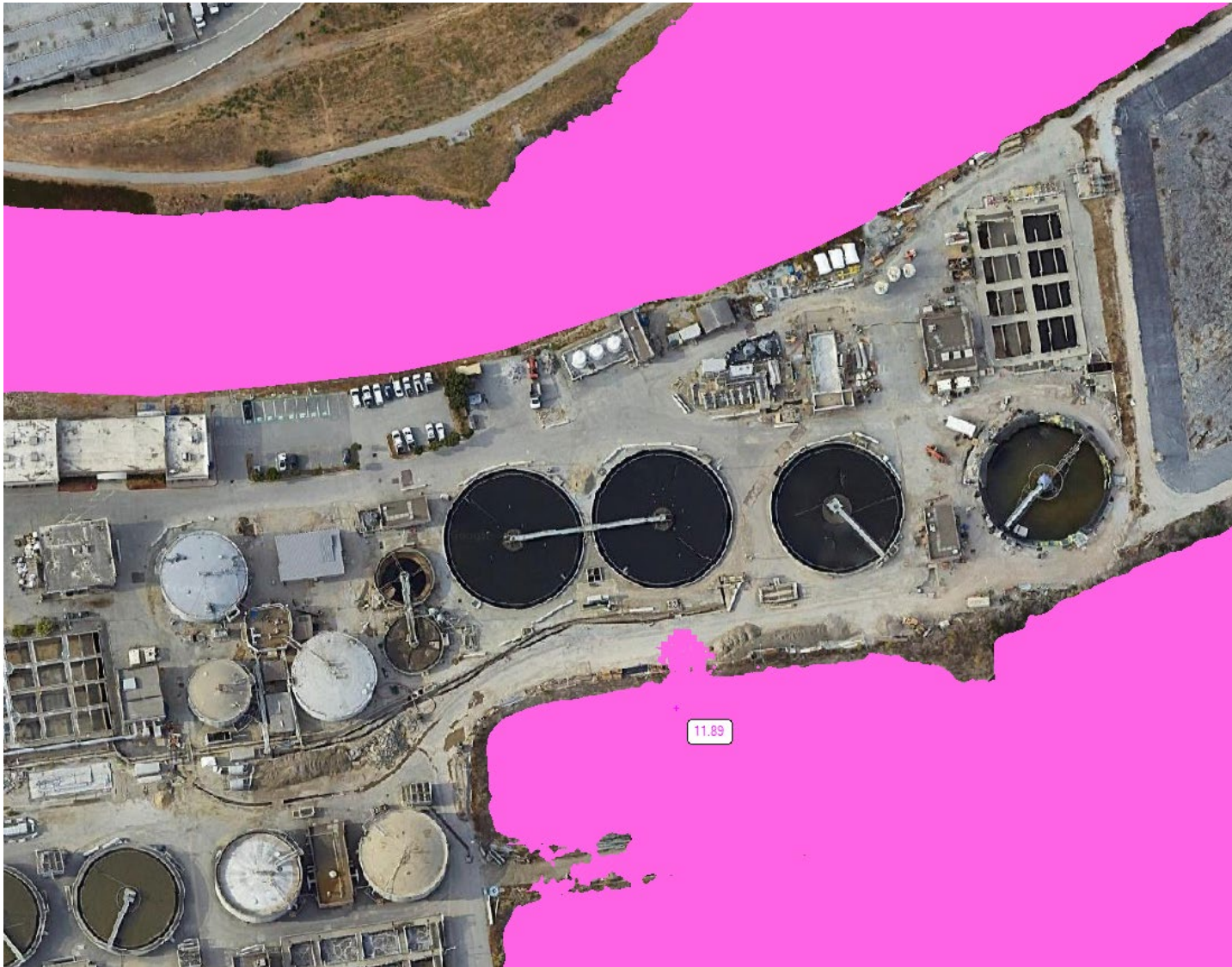


Figure 14. Location of flooding on south side of WQCP area, with North wall in place. Starts at 11.7 ft tide elevation, figure shows 11.89 ft for visualization.

## APPENDIX A: SITE PHOTOS



A1. View of Colma creek channel looking downstream from the south (WQCP) side.





A2. View of Colma Creek channel looking upstream from the south (WQCP) side.



A3. Marsh/wetland area near the northwestern corner of the WQCP area, by the trail bridge.



A4. Some facilities have a short wall to keep water out.



A5. View looking into the piers on the south side of the WQCP area.



A6. Example of electrical systems inside a building in the WQCP area.



A7. Electrical equipment outdoors in the WQCP area.



A8. Equipment at Pump Station 4.



A9. Electrical box in the Pump Station 4 area.



## **APPENDIX B: FLOOD DEPTH TABLES**

## B1. Flood Scenarios and Depths with **No** Action Alternative (Future Without Project)

### ZONE 1

Structure Elevation (ft in NAVD88 datum)		Depth of Water							
11.12		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.03	-2.73	-2.37	-2.09	-1.68	-1.34	-0.95	0.15
2023 (base year)	USACE Low	-2.93	-2.63	-2.27	-1.99	-1.58	-1.24	-0.85	0.25
	USACE Int	-2.88	-2.58	-2.22	-1.94	-1.53	-1.19	-0.8	0.3
	USACE High	-2.71	-2.41	-2.05	-1.77	-1.36	-1.02	-0.63	0.47
2033	USACE Int	-2.73	-2.43	-2.07	-1.79	-1.38	-1.04	-0.65	0.45
	USACE High	-2.36	-2.06	-1.7	-1.42	-1.01	-0.67	-0.28	0.82
2043	USACE Int	-2.56	-2.26	-1.9	-1.62	-1.21	-0.87	-0.48	0.62
	USACE High	-1.93	-1.63	-1.27	-0.99	-0.58	-0.24	0.15	1.25
2048	USACE Low	-2.72	-2.42	-2.06	-1.78	-1.37	-1.03	-0.64	0.46
	USACE Int	-2.47	-2.17	-1.81	-1.53	-1.12	-0.78	-0.39	0.71
	USACE High	-1.69	-1.39	-1.03	-0.75	-0.34	0	0.39	1.49
2053	USACE Int	-2.38	-2.08	-1.72	-1.44	-1.03	-0.69	-0.3	0.8
	USACE High	-1.43	-1.13	-0.77	-0.49	-0.08	0.26	0.65	1.75
2063	USACE Int	-2.18	-1.88	-1.52	-1.24	-0.83	-0.49	-0.1	1
	USACE High	-0.86	-0.56	-0.2	0.08	0.49	0.83	1.22	2.32
2073	USACE Low	-2.51	-2.21	-1.85	-1.57	-1.16	-0.82	-0.43	0.67
	USACE Int	-1.96	-1.66	-1.3	-1.02	-0.61	-0.27	0.12	1.22
	USACE High	-0.21	0.09	0.45	0.73	1.14	1.48	1.87	2.97

Notes: Used ground elevations on as-built plans Y-6 near this area, but no structure was found to be labeled.

Structure Elevation(ft)	12.025	Depth of Water							
		FEET-NAVD88							
ZONE 1 BUILDING 2		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-3.935	-3.635	-3.275	-2.995	-2.585	-2.245	-1.855	-0.755
2023 (base year)	USACE Low	-3.835	-3.535	-3.175	-2.895	-2.485	-2.145	-1.755	-0.655
	USACE Int	-3.785	-3.485	-3.125	-2.845	-2.435	-2.095	-1.705	-0.605
	USACE High	-3.615	-3.315	-2.955	-2.675	-2.265	-1.925	-1.535	-0.435
2033									
	USACE Int	-3.635	-3.335	-2.975	-2.695	-2.285	-1.945	-1.555	-0.455
	USACE High	-3.265	-2.965	-2.605	-2.325	-1.915	-1.575	-1.185	-0.085
2043									
	USACE Int	-3.465	-3.165	-2.805	-2.525	-2.115	-1.775	-1.385	-0.285
	USACE High	-2.835	-2.535	-2.175	-1.895	-1.485	-1.145	-0.755	0.345
2048	USACE Low	-3.625	-3.325	-2.965	-2.685	-2.275	-1.935	-1.545	-0.445
	USACE Int	-3.375	-3.075	-2.715	-2.435	-2.025	-1.685	-1.295	-0.195
	USACE High	-2.595	-2.295	-1.935	-1.655	-1.245	-0.905	-0.515	0.585
2053									
	USACE Int	-3.285	-2.985	-2.625	-2.345	-1.935	-1.595	-1.205	-0.105
	USACE High	-2.335	-2.035	-1.675	-1.395	-0.985	-0.645	-0.255	0.845
2063									
	USACE Int	-3.085	-2.785	-2.425	-2.145	-1.735	-1.395	-1.005	0.095
	USACE High	-1.765	-1.465	-1.105	-0.825	-0.415	-0.075	0.315	1.415
2073	USACE Low	-3.415	-3.115	-2.755	-2.475	-2.065	-1.725	-1.335	-0.235
	USACE Int	-2.865	-2.565	-2.205	-1.925	-1.515	-1.175	-0.785	0.315
	USACE High	-1.115	-0.815	-0.455	-0.175	0.235	0.575	0.965	2.065

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)	11.02	Depth of Water							
ZONE 1 BUILDING 3		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.93	-2.63	-2.27	-1.99	-1.58	-1.24	-0.85	0.25
2023 (base year)	USACE Low	-2.83	-2.53	-2.17	-1.89	-1.48	-1.14	-0.75	0.35
	USACE Int	-2.78	-2.48	-2.12	-1.84	-1.43	-1.09	-0.7	0.4
	USACE High	-2.61	-2.31	-1.95	-1.67	-1.26	-0.92	-0.53	0.57
2033	USACE Int	-2.63	-2.33	-1.97	-1.69	-1.28	-0.94	-0.55	0.55
	USACE High	-2.26	-1.96	-1.6	-1.32	-0.91	-0.57	-0.18	0.92
2043	USACE Int	-2.46	-2.16	-1.8	-1.52	-1.11	-0.77	-0.38	0.72
	USACE High	-1.83	-1.53	-1.17	-0.89	-0.48	-0.14	0.25	1.35
2048	USACE Low	-2.62	-2.32	-1.96	-1.68	-1.27	-0.93	-0.54	0.56
	USACE Int	-2.37	-2.07	-1.71	-1.43	-1.02	-0.68	-0.29	0.81
	USACE High	-1.59	-1.29	-0.93	-0.65	-0.24	0.1	0.49	1.59
2053	USACE Int	-2.28	-1.98	-1.62	-1.34	-0.93	-0.59	-0.2	0.9
	USACE High	-1.33	-1.03	-0.67	-0.39	0.02	0.36	0.75	1.85
2063	USACE Int	-2.08	-1.78	-1.42	-1.14	-0.73	-0.39	0	1.1
	USACE High	-0.76	-0.46	-0.1	0.18	0.59	0.93	1.32	2.42
2073	USACE Low	-2.41	-2.11	-1.75	-1.47	-1.06	-0.72	-0.33	0.77
	USACE Int	-1.86	-1.56	-1.2	-0.92	-0.51	-0.17	0.22	1.32
	USACE High	-0.11	0.19	0.55	0.83	1.24	1.58	1.97	3.07

Notes: Used ground elevations on as-built plans Y-1 near this area, but no structure was found to be labeled.

Structure Elevation(ft)	15.649	Depth of Water							
ZONE 1 BUILDING 4		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-7.559	-7.259	-6.899	-6.619	-6.209	-5.869	-5.479	-4.379
2023 (base year)	USACE Low	-7.459	-7.159	-6.799	-6.519	-6.109	-5.769	-5.379	-4.279
	USACE Int	-7.409	-7.109	-6.749	-6.469	-6.059	-5.719	-5.329	-4.229
	USACE High	-7.239	-6.939	-6.579	-6.299	-5.889	-5.549	-5.159	-4.059
2033									
	USACE Int	-7.259	-6.959	-6.599	-6.319	-5.909	-5.569	-5.179	-4.079
	USACE High	-6.889	-6.589	-6.229	-5.949	-5.539	-5.199	-4.809	-3.709
2043									
	USACE Int	-7.089	-6.789	-6.429	-6.149	-5.739	-5.399	-5.009	-3.909
	USACE High	-6.459	-6.159	-5.799	-5.519	-5.109	-4.769	-4.379	-3.279
2048	USACE Low	-7.249	-6.949	-6.589	-6.309	-5.899	-5.559	-5.169	-4.069
	USACE Int	-6.999	-6.699	-6.339	-6.059	-5.649	-5.309	-4.919	-3.819
	USACE High	-6.219	-5.919	-5.559	-5.279	-4.869	-4.529	-4.139	-3.039
2053									
	USACE Int	-6.909	-6.609	-6.249	-5.969	-5.559	-5.219	-4.829	-3.729
	USACE High	-5.959	-5.659	-5.299	-5.019	-4.609	-4.269	-3.879	-2.779
2063									
	USACE Int	-6.709	-6.409	-6.049	-5.769	-5.359	-5.019	-4.629	-3.529
	USACE High	-5.389	-5.089	-4.729	-4.449	-4.039	-3.699	-3.309	-2.209
2073	USACE Low	-7.039	-6.739	-6.379	-6.099	-5.689	-5.349	-4.959	-3.859
	USACE Int	-6.489	-6.189	-5.829	-5.549	-5.139	-4.799	-4.409	-3.309
	USACE High	-4.739	-4.439	-4.079	-3.799	-3.389	-3.049	-2.659	-1.559

Notes: Updated with lowest building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
10.62		FEET-NAVD88							
ZONE 1 BUILDING 5									
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.53	-2.23	-1.87	-1.59	-1.18	-0.84	-0.45	0.65
2023 (base year)	USACE Low	-2.43	-2.13	-1.77	-1.49	-1.08	-0.74	-0.35	0.75
	USACE Int	-2.38	-2.08	-1.72	-1.44	-1.03	-0.69	-0.3	0.8
	USACE High	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.97
2033									
	USACE Int	-2.23	-1.93	-1.57	-1.29	-0.88	-0.54	-0.15	0.95
	USACE High	-1.86	-1.56	-1.2	-0.92	-0.51	-0.17	0.22	1.32
2043									
	USACE Int	-2.06	-1.76	-1.4	-1.12	-0.71	-0.37	0.02	1.12
	USACE High	-1.43	-1.13	-0.77	-0.49	-0.08	0.26	0.65	1.75
2048	USACE Low	-2.22	-1.92	-1.56	-1.28	-0.87	-0.53	-0.14	0.96
	USACE Int	-1.97	-1.67	-1.31	-1.03	-0.62	-0.28	0.11	1.21
	USACE High	-1.19	-0.89	-0.53	-0.25	0.16	0.5	0.89	1.99
2053									
	USACE Int	-1.88	-1.58	-1.22	-0.94	-0.53	-0.19	0.2	1.3
	USACE High	-0.93	-0.63	-0.27	0.01	0.42	0.76	1.15	2.25
2063									
	USACE Int	-1.68	-1.38	-1.02	-0.74	-0.33	0.01	0.4	1.5
	USACE High	-0.36	-0.06	0.3	0.58	0.99	1.33	1.72	2.82
2073	USACE Low	-2.01	-1.71	-1.35	-1.07	-0.66	-0.32	0.07	1.17
	USACE Int	-1.46	-1.16	-0.8	-0.52	-0.11	0.23	0.62	1.72
	USACE High	0.29	0.59	0.95	1.23	1.64	1.98	2.37	3.47

Notes: Used ground elevations on as-built plans Y-1 near this area, but no structure was found to be labeled.

Structure Elevation(ft)	10.945	Depth of Water							
		FEET-NAVD88							
ZONE 1 BUILDING 6		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-2.855	-2.555	-2.195	-1.915	-1.505	-1.165	-0.775	0.325
2023 (base year)	USACE Low	-2.755	-2.455	-2.095	-1.815	-1.405	-1.065	-0.675	0.425
	USACE Int	-2.705	-2.405	-2.045	-1.765	-1.355	-1.015	-0.625	0.475
	USACE High	-2.535	-2.235	-1.875	-1.595	-1.185	-0.845	-0.455	0.645
2033	USACE Int	-2.555	-2.255	-1.895	-1.615	-1.205	-0.865	-0.475	0.625
	USACE High	-2.185	-1.885	-1.525	-1.245	-0.835	-0.495	-0.105	0.995
2043	USACE Int	-2.385	-2.085	-1.725	-1.445	-1.035	-0.695	-0.305	0.795
	USACE High	-1.755	-1.455	-1.095	-0.815	-0.405	-0.065	0.325	1.425
2048	USACE Low	-2.545	-2.245	-1.885	-1.605	-1.195	-0.855	-0.465	0.635
	USACE Int	-2.295	-1.995	-1.635	-1.355	-0.945	-0.605	-0.215	0.885
	USACE High	-1.515	-1.215	-0.855	-0.575	-0.165	0.175	0.565	1.665
2053	USACE Int	-2.205	-1.905	-1.545	-1.265	-0.855	-0.515	-0.125	0.975
	USACE High	-1.255	-0.955	-0.595	-0.315	0.095	0.435	0.825	1.925
2063	USACE Int	-2.005	-1.705	-1.345	-1.065	-0.655	-0.315	0.075	1.175
	USACE High	-0.685	-0.385	-0.025	0.255	0.665	1.005	1.395	2.495
2073	USACE Low	-2.335	-2.035	-1.675	-1.395	-0.985	-0.645	-0.255	0.845
	USACE Int	-1.785	-1.485	-1.125	-0.845	-0.435	-0.095	0.295	1.395
	USACE High	-0.035	0.265	0.625	0.905	1.315	1.655	2.045	3.145

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)	11.294	Depth of Water							
ZONE 1 BUILDING 7		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.204	-2.904	-2.544	-2.264	-1.854	-1.514	-1.124	-0.024
2023 (base year)	USACE Low	-3.104	-2.804	-2.444	-2.164	-1.754	-1.414	-1.024	0.076
	USACE Int	-3.054	-2.754	-2.394	-2.114	-1.704	-1.364	-0.974	0.126
	USACE High	-2.884	-2.584	-2.224	-1.944	-1.534	-1.194	-0.804	0.296
2033									
	USACE Int	-2.904	-2.604	-2.244	-1.964	-1.554	-1.214	-0.824	0.276
	USACE High	-2.534	-2.234	-1.874	-1.594	-1.184	-0.844	-0.454	0.646
2043									
	USACE Int	-2.734	-2.434	-2.074	-1.794	-1.384	-1.044	-0.654	0.446
	USACE High	-2.104	-1.804	-1.444	-1.164	-0.754	-0.414	-0.024	1.076
2048	USACE Low	-2.894	-2.594	-2.234	-1.954	-1.544	-1.204	-0.814	0.286
	USACE Int	-2.644	-2.344	-1.984	-1.704	-1.294	-0.954	-0.564	0.536
	USACE High	-1.864	-1.564	-1.204	-0.924	-0.514	-0.174	0.216	1.316
2053									
	USACE Int	-2.554	-2.254	-1.894	-1.614	-1.204	-0.864	-0.474	0.626
	USACE High	-1.604	-1.304	-0.944	-0.664	-0.254	0.086	0.476	1.576
2063									
	USACE Int	-2.354	-2.054	-1.694	-1.414	-1.004	-0.664	-0.274	0.826
	USACE High	-1.034	-0.734	-0.374	-0.094	0.316	0.656	1.046	2.146
2073	USACE Low	-2.684	-2.384	-2.024	-1.744	-1.334	-0.994	-0.604	0.496
	USACE Int	-2.134	-1.834	-1.474	-1.194	-0.784	-0.444	-0.054	1.046
	USACE High	-0.384	-0.084	0.276	0.556	0.966	1.306	1.696	2.796

Notes: Updated with building floor slab elevation from survey 09/26-27



Structure Elevation(ft)	11.602	Depth of Water							
ZONE 1 BUILDING 8		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.512	-3.212	-2.852	-2.572	-2.162	-1.822	-1.432	-0.332
2023 (base year)	USACE Low	-3.412	-3.112	-2.752	-2.472	-2.062	-1.722	-1.332	-0.232
	USACE Int	-3.362	-3.062	-2.702	-2.422	-2.012	-1.672	-1.282	-0.182
	USACE High	-3.192	-2.892	-2.532	-2.252	-1.842	-1.502	-1.112	-0.012
2033									
	USACE Int	-3.212	-2.912	-2.552	-2.272	-1.862	-1.522	-1.132	-0.032
	USACE High	-2.842	-2.542	-2.182	-1.902	-1.492	-1.152	-0.762	0.338
2043									
	USACE Int	-3.042	-2.742	-2.382	-2.102	-1.692	-1.352	-0.962	0.138
	USACE High	-2.412	-2.112	-1.752	-1.472	-1.062	-0.722	-0.332	0.768
2048	USACE Low	-3.202	-2.902	-2.542	-2.262	-1.852	-1.512	-1.122	-0.022
	USACE Int	-2.952	-2.652	-2.292	-2.012	-1.602	-1.262	-0.872	0.228
	USACE High	-2.172	-1.872	-1.512	-1.232	-0.822	-0.482	-0.092	1.008
2053									
	USACE Int	-2.862	-2.562	-2.202	-1.922	-1.512	-1.172	-0.782	0.318
	USACE High	-1.912	-1.612	-1.252	-0.972	-0.562	-0.222	0.168	1.268
2063									
	USACE Int	-2.662	-2.362	-2.002	-1.722	-1.312	-0.972	-0.582	0.518
	USACE High	-1.342	-1.042	-0.682	-0.402	0.008	0.348	0.738	1.838
2073	USACE Low	-2.992	-2.692	-2.332	-2.052	-1.642	-1.302	-0.912	0.188
	USACE Int	-2.442	-2.142	-1.782	-1.502	-1.092	-0.752	-0.362	0.738
	USACE High	-0.692	-0.392	-0.032	0.248	0.658	0.998	1.388	2.488

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
11.62		FEET-NAVD88							
ZONE 1 BUILDING 9									
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.53	-3.23	-2.87	-2.59	-2.18	-1.84	-1.45	-0.35
2023 (base year)	USACE Low	-3.43	-3.13	-2.77	-2.49	-2.08	-1.74	-1.35	-0.25
	USACE Int	-3.38	-3.08	-2.72	-2.44	-2.03	-1.69	-1.3	-0.2
	USACE High	-3.21	-2.91	-2.55	-2.27	-1.86	-1.52	-1.13	-0.03
2033	USACE Int	-3.23	-2.93	-2.57	-2.29	-1.88	-1.54	-1.15	-0.05
	USACE High	-2.86	-2.56	-2.2	-1.92	-1.51	-1.17	-0.78	0.32
2043	USACE Int	-3.06	-2.76	-2.4	-2.12	-1.71	-1.37	-0.98	0.12
	USACE High	-2.43	-2.13	-1.77	-1.49	-1.08	-0.74	-0.35	0.75
2048	USACE Low	-3.22	-2.92	-2.56	-2.28	-1.87	-1.53	-1.14	-0.04
	USACE Int	-2.97	-2.67	-2.31	-2.03	-1.62	-1.28	-0.89	0.21
	USACE High	-2.19	-1.89	-1.53	-1.25	-0.84	-0.5	-0.11	0.99
2053	USACE Int	-2.88	-2.58	-2.22	-1.94	-1.53	-1.19	-0.8	0.3
	USACE High	-1.93	-1.63	-1.27	-0.99	-0.58	-0.24	0.15	1.25
2063	USACE Int	-2.68	-2.38	-2.02	-1.74	-1.33	-0.99	-0.6	0.5
	USACE High	-1.36	-1.06	-0.7	-0.42	-0.01	0.33	0.72	1.82
2073	USACE Low	-3.01	-2.71	-2.35	-2.07	-1.66	-1.32	-0.93	0.17
	USACE Int	-2.46	-2.16	-1.8	-1.52	-1.11	-0.77	-0.38	0.72
	USACE High	-0.71	-0.41	-0.05	0.23	0.64	0.98	1.37	2.47

Notes: Used ground elevations on as-built plans Y-1 near this area, but no structure was found to be labeled.

Structure Elevation(ft)		Depth of Water							
12.681		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.591	-4.291	-3.931	-3.651	-3.241	-2.901	-2.511	-1.411
2023 (base year)	USACE Low	-4.491	-4.191	-3.831	-3.551	-3.141	-2.801	-2.411	-1.311
	USACE Int	-4.441	-4.141	-3.781	-3.501	-3.091	-2.751	-2.361	-1.261
	USACE High	-4.271	-3.971	-3.611	-3.331	-2.921	-2.581	-2.191	-1.091
2033									
	USACE Int	-4.291	-3.991	-3.631	-3.351	-2.941	-2.601	-2.211	-1.111
	USACE High	-3.921	-3.621	-3.261	-2.981	-2.571	-2.231	-1.841	-0.741
2043									
	USACE Int	-4.121	-3.821	-3.461	-3.181	-2.771	-2.431	-2.041	-0.941
	USACE High	-3.491	-3.191	-2.831	-2.551	-2.141	-1.801	-1.411	-0.311
2048	USACE Low	-4.281	-3.981	-3.621	-3.341	-2.931	-2.591	-2.201	-1.101
	USACE Int	-4.031	-3.731	-3.371	-3.091	-2.681	-2.341	-1.951	-0.851
	USACE High	-3.251	-2.951	-2.591	-2.311	-1.901	-1.561	-1.171	-0.071
2053									
	USACE Int	-3.941	-3.641	-3.281	-3.001	-2.591	-2.251	-1.861	-0.761
	USACE High	-2.991	-2.691	-2.331	-2.051	-1.641	-1.301	-0.911	0.189
2063									
	USACE Int	-3.741	-3.441	-3.081	-2.801	-2.391	-2.051	-1.661	-0.561
	USACE High	-2.421	-2.121	-1.761	-1.481	-1.071	-0.731	-0.341	0.759
2073	USACE Low	-4.071	-3.771	-3.411	-3.131	-2.721	-2.381	-1.991	-0.891
	USACE Int	-3.521	-3.221	-2.861	-2.581	-2.171	-1.831	-1.441	-0.341
	USACE High	-1.771	-1.471	-1.111	-0.831	-0.421	-0.081	0.309	1.409

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft) <b>ZONE 1 BUILDING 12</b>	12.188	Depth of Water							
		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.098	-3.798	-3.438	-3.158	-2.748	-2.408	-2.018	-0.918
2023 (base year)	USACE Low	-3.998	-3.698	-3.338	-3.058	-2.648	-2.308	-1.918	-0.818
	USACE Int	-3.948	-3.648	-3.288	-3.008	-2.598	-2.258	-1.868	-0.768
	USACE High	-3.778	-3.478	-3.118	-2.838	-2.428	-2.088	-1.698	-0.598
2033									
	USACE Int	-3.798	-3.498	-3.138	-2.858	-2.448	-2.108	-1.718	-0.618
	USACE High	-3.428	-3.128	-2.768	-2.488	-2.078	-1.738	-1.348	-0.248
2043									
	USACE Int	-3.628	-3.328	-2.968	-2.688	-2.278	-1.938	-1.548	-0.448
	USACE High	-2.998	-2.698	-2.338	-2.058	-1.648	-1.308	-0.918	0.182
2048	USACE Low	-3.788	-3.488	-3.128	-2.848	-2.438	-2.098	-1.708	-0.608
	USACE Int	-3.538	-3.238	-2.878	-2.598	-2.188	-1.848	-1.458	-0.358
	USACE High	-2.758	-2.458	-2.098	-1.818	-1.408	-1.068	-0.678	0.422
2053									
	USACE Int	-3.448	-3.148	-2.788	-2.508	-2.098	-1.758	-1.368	-0.268
	USACE High	-2.498	-2.198	-1.838	-1.558	-1.148	-0.808	-0.418	0.682
2063									
	USACE Int	-3.248	-2.948	-2.588	-2.308	-1.898	-1.558	-1.168	-0.068
	USACE High	-1.928	-1.628	-1.268	-0.988	-0.578	-0.238	0.152	1.252
2073	USACE Low	-3.578	-3.278	-2.918	-2.638	-2.228	-1.888	-1.498	-0.398
	USACE Int	-3.028	-2.728	-2.368	-2.088	-1.678	-1.338	-0.948	0.152
	USACE High	-1.278	-0.978	-0.618	-0.338	0.072	0.412	0.802	1.902

Notes: Updated with building floor slab elevation from survey 09/26-27

**ZONE 2**

Structure Elevation(ft)		Depth of Water							
11.15		FEET-NAVD88							
ZONE 2 BUILDING 1									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.06	-2.76	-2.4	-2.12	-1.71	-1.37	-0.98	0.12
2023 (base year)	USACE Low	-2.96	-2.66	-2.3	-2.02	-1.61	-1.27	-0.88	0.22
	USACE Int	-2.91	-2.61	-2.25	-1.97	-1.56	-1.22	-0.83	0.27
	USACE High	-2.74	-2.44	-2.08	-1.8	-1.39	-1.05	-0.66	0.44
2033	USACE Int	-2.76	-2.46	-2.1	-1.82	-1.41	-1.07	-0.68	0.42
	USACE High	-2.39	-2.09	-1.73	-1.45	-1.04	-0.7	-0.31	0.79
2043	USACE Int	-2.59	-2.29	-1.93	-1.65	-1.24	-0.9	-0.51	0.59
	USACE High	-1.96	-1.66	-1.3	-1.02	-0.61	-0.27	0.12	1.22
2048	USACE Low	-2.75	-2.45	-2.09	-1.81	-1.4	-1.06	-0.67	0.43
	USACE Int	-2.5	-2.2	-1.84	-1.56	-1.15	-0.81	-0.42	0.68
	USACE High	-1.72	-1.42	-1.06	-0.78	-0.37	-0.03	0.36	1.46
2053	USACE Int	-2.41	-2.11	-1.75	-1.47	-1.06	-0.72	-0.33	0.77
	USACE High	-1.46	-1.16	-0.8	-0.52	-0.11	0.23	0.62	1.72
2063	USACE Int	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.97
	USACE High	-0.89	-0.59	-0.23	0.05	0.46	0.8	1.19	2.29
2073	USACE Low	-2.54	-2.24	-1.88	-1.6	-1.19	-0.85	-0.46	0.64
	USACE Int	-1.99	-1.69	-1.33	-1.05	-0.64	-0.3	0.09	1.19
	USACE High	-0.24	0.06	0.42	0.7	1.11	1.45	1.84	2.94

Notes: Used lowest elevation bottom v-notch weir, clearly labeled for the structure on the as-built plans

Structure Elevation(ft)		Depth of Water							
10.92		FEET-NAVD88							
ZONE 2 BUILDING 2		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.83	-2.53	-2.17	-1.89	-1.48	-1.14	-0.75	0.35
2023 (base year)	USACE Low	-2.73	-2.43	-2.07	-1.79	-1.38	-1.04	-0.65	0.45
	USACE Int	-2.68	-2.38	-2.02	-1.74	-1.33	-0.99	-0.6	0.5
	USACE High	-2.51	-2.21	-1.85	-1.57	-1.16	-0.82	-0.43	0.67
2033									
	USACE Int	-2.53	-2.23	-1.87	-1.59	-1.18	-0.84	-0.45	0.65
	USACE High	-2.16	-1.86	-1.5	-1.22	-0.81	-0.47	-0.08	1.02
2043									
	USACE Int	-2.36	-2.06	-1.7	-1.42	-1.01	-0.67	-0.28	0.82
	USACE High	-1.73	-1.43	-1.07	-0.79	-0.38	-0.04	0.35	1.45
2048	USACE Low	-2.52	-2.22	-1.86	-1.58	-1.17	-0.83	-0.44	0.66
	USACE Int	-2.27	-1.97	-1.61	-1.33	-0.92	-0.58	-0.19	0.91
	USACE High	-1.49	-1.19	-0.83	-0.55	-0.14	0.2	0.59	1.69
2053									
	USACE Int	-2.18	-1.88	-1.52	-1.24	-0.83	-0.49	-0.1	1
	USACE High	-1.23	-0.93	-0.57	-0.29	0.12	0.46	0.85	1.95
2063									
	USACE Int	-1.98	-1.68	-1.32	-1.04	-0.63	-0.29	0.1	1.2
	USACE High	-0.66	-0.36	0	0.28	0.69	1.03	1.42	2.52
2073	USACE Low	-2.31	-2.01	-1.65	-1.37	-0.96	-0.62	-0.23	0.87
	USACE Int	-1.76	-1.46	-1.1	-0.82	-0.41	-0.07	0.32	1.42
	USACE High	-0.01	0.29	0.65	0.93	1.34	1.68	2.07	3.17

Notes: Elevation clearly labeled for the structure on the as-built plans

Structure Elevation(ft)		Depth of Water							
10.32		FEET-NAVD88							
ZONE 2 BUILDING 3		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.23	-1.93	-1.57	-1.29	-0.88	-0.54	-0.15	0.95
2023 (base year)	USACE Low	-2.13	-1.83	-1.47	-1.19	-0.78	-0.44	-0.05	1.05
	USACE Int	-2.08	-1.78	-1.42	-1.14	-0.73	-0.39	0	1.1
	USACE High	-1.91	-1.61	-1.25	-0.97	-0.56	-0.22	0.17	1.27
2033									
	USACE Int	-1.93	-1.63	-1.27	-0.99	-0.58	-0.24	0.15	1.25
	USACE High	-1.56	-1.26	-0.9	-0.62	-0.21	0.13	0.52	1.62
2043									
	USACE Int	-1.76	-1.46	-1.1	-0.82	-0.41	-0.07	0.32	1.42
	USACE High	-1.13	-0.83	-0.47	-0.19	0.22	0.56	0.95	2.05
2048	USACE Low	-1.92	-1.62	-1.26	-0.98	-0.57	-0.23	0.16	1.26
	USACE Int	-1.67	-1.37	-1.01	-0.73	-0.32	0.02	0.41	1.51
	USACE High	-0.89	-0.59	-0.23	0.05	0.46	0.8	1.19	2.29
2053									
	USACE Int	-1.58	-1.28	-0.92	-0.64	-0.23	0.11	0.5	1.6
	USACE High	-0.63	-0.33	0.03	0.31	0.72	1.06	1.45	2.55
2063									
	USACE Int	-1.38	-1.08	-0.72	-0.44	-0.03	0.31	0.7	1.8
	USACE High	-0.06	0.24	0.6	0.88	1.29	1.63	2.02	3.12
2073	USACE Low	-1.71	-1.41	-1.05	-0.77	-0.36	-0.02	0.37	1.47
	USACE Int	-1.16	-0.86	-0.5	-0.22	0.19	0.53	0.92	2.02
	USACE High	0.59	0.89	1.25	1.53	1.94	2.28	2.67	3.77

Notes: Between plan drawings, not as clear, took ground elevations near the structure.

Structure Elevation(ft)		Depth of Water							
11.186		FEET-NAVD88							
ZONE 2 BUILDING 4		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-3.096	-2.796	-2.436	-2.156	-1.746	-1.406	-1.016	0.084
2023 (base year)	USACE Low	-2.996	-2.696	-2.336	-2.056	-1.646	-1.306	-0.916	0.184
	USACE Int	-2.946	-2.646	-2.286	-2.006	-1.596	-1.256	-0.866	0.234
	USACE High	-2.776	-2.476	-2.116	-1.836	-1.426	-1.086	-0.696	0.404
2033									
	USACE Int	-2.796	-2.496	-2.136	-1.856	-1.446	-1.106	-0.716	0.384
	USACE High	-2.426	-2.126	-1.766	-1.486	-1.076	-0.736	-0.346	0.754
2043									
	USACE Int	-2.626	-2.326	-1.966	-1.686	-1.276	-0.936	-0.546	0.554
	USACE High	-1.996	-1.696	-1.336	-1.056	-0.646	-0.306	0.084	1.184
2048	USACE Low	-2.786	-2.486	-2.126	-1.846	-1.436	-1.096	-0.706	0.394
	USACE Int	-2.536	-2.236	-1.876	-1.596	-1.186	-0.846	-0.456	0.644
	USACE High	-1.756	-1.456	-1.096	-0.816	-0.406	-0.066	0.324	1.424
2053									
	USACE Int	-2.446	-2.146	-1.786	-1.506	-1.096	-0.756	-0.366	0.734
	USACE High	-1.496	-1.196	-0.836	-0.556	-0.146	0.194	0.584	1.684
2063									
	USACE Int	-2.246	-1.946	-1.586	-1.306	-0.896	-0.556	-0.166	0.934
	USACE High	-0.926	-0.626	-0.266	0.014	0.424	0.764	1.154	2.254
2073	USACE Low	-2.576	-2.276	-1.916	-1.636	-1.226	-0.886	-0.496	0.604
	USACE Int	-2.026	-1.726	-1.366	-1.086	-0.676	-0.336	0.054	1.154
	USACE High	-0.276	0.024	0.384	0.664	1.074	1.414	1.804	2.904

Notes: Updated with building floor slab elevation from survey 09/26-27



Structure Elevation(ft)		Depth of Water							
10.614		FEET-NAVD88							
ZONE 2 BUILDING 5		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-2.524	-2.224	-1.864	-1.584	-1.174	-0.834	-0.444	0.656
2023 (base year)	USACE Low	-2.424	-2.124	-1.764	-1.484	-1.074	-0.734	-0.344	0.756
	USACE Int	-2.374	-2.074	-1.714	-1.434	-1.024	-0.684	-0.294	0.806
	USACE High	-2.204	-1.904	-1.544	-1.264	-0.854	-0.514	-0.124	0.976
2033									
	USACE Int	-2.224	-1.924	-1.564	-1.284	-0.874	-0.534	-0.144	0.956
	USACE High	-1.854	-1.554	-1.194	-0.914	-0.504	-0.164	0.226	1.326
2043									
	USACE Int	-2.054	-1.754	-1.394	-1.114	-0.704	-0.364	0.026	1.126
	USACE High	-1.424	-1.124	-0.764	-0.484	-0.074	0.266	0.656	1.756
2048	USACE Low	-2.214	-1.914	-1.554	-1.274	-0.864	-0.524	-0.134	0.966
	USACE Int	-1.964	-1.664	-1.304	-1.024	-0.614	-0.274	0.116	1.216
	USACE High	-1.184	-0.884	-0.524	-0.244	0.166	0.506	0.896	1.996
2053									
	USACE Int	-1.874	-1.574	-1.214	-0.934	-0.524	-0.184	0.206	1.306
	USACE High	-0.924	-0.624	-0.264	0.016	0.426	0.766	1.156	2.256
2063									
	USACE Int	-1.674	-1.374	-1.014	-0.734	-0.324	0.016	0.406	1.506
	USACE High	-0.354	-0.054	0.306	0.586	0.996	1.336	1.726	2.826
2073	USACE Low	-2.004	-1.704	-1.344	-1.064	-0.654	-0.314	0.076	1.176
	USACE Int	-1.454	-1.154	-0.794	-0.514	-0.104	0.236	0.626	1.726
	USACE High	0.296	0.596	0.956	1.236	1.646	1.986	2.376	3.476

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
11.888		FEET-NAVD88							
ZONE 2 BUILDING 6		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.798	-3.498	-3.138	-2.858	-2.448	-2.108	-1.718	-0.618
2023 (base year)	USACE Low	-3.698	-3.398	-3.038	-2.758	-2.348	-2.008	-1.618	-0.518
	USACE Int	-3.648	-3.348	-2.988	-2.708	-2.298	-1.958	-1.568	-0.468
	USACE High	-3.478	-3.178	-2.818	-2.538	-2.128	-1.788	-1.398	-0.298
2033									
	USACE Int	-3.498	-3.198	-2.838	-2.558	-2.148	-1.808	-1.418	-0.318
	USACE High	-3.128	-2.828	-2.468	-2.188	-1.778	-1.438	-1.048	0.052
2043									
	USACE Int	-3.328	-3.028	-2.668	-2.388	-1.978	-1.638	-1.248	-0.148
	USACE High	-2.698	-2.398	-2.038	-1.758	-1.348	-1.008	-0.618	0.482
2048	USACE Low	-3.488	-3.188	-2.828	-2.548	-2.138	-1.798	-1.408	-0.308
	USACE Int	-3.238	-2.938	-2.578	-2.298	-1.888	-1.548	-1.158	-0.058
	USACE High	-2.458	-2.158	-1.798	-1.518	-1.108	-0.768	-0.378	0.722
2053									
	USACE Int	-3.148	-2.848	-2.488	-2.208	-1.798	-1.458	-1.068	0.032
	USACE High	-2.198	-1.898	-1.538	-1.258	-0.848	-0.508	-0.118	0.982
2063									
	USACE Int	-2.948	-2.648	-2.288	-2.008	-1.598	-1.258	-0.868	0.232
	USACE High	-1.628	-1.328	-0.968	-0.688	-0.278	0.062	0.452	1.552
2073	USACE Low	-3.278	-2.978	-2.618	-2.338	-1.928	-1.588	-1.198	-0.098
	USACE Int	-2.728	-2.428	-2.068	-1.788	-1.378	-1.038	-0.648	0.452
	USACE High	-0.978	-0.678	-0.318	-0.038	0.372	0.712	1.102	2.202

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
12.683		FEET-NAVD88							
ZONE 2 BUILDING 7		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-4.593	-4.293	-3.933	-3.653	-3.243	-2.903	-2.513	-1.413
2023 (base year)	USACE Low	-4.493	-4.193	-3.833	-3.553	-3.143	-2.803	-2.413	-1.313
	USACE Int	-4.443	-4.143	-3.783	-3.503	-3.093	-2.753	-2.363	-1.263
	USACE High	-4.273	-3.973	-3.613	-3.333	-2.923	-2.583	-2.193	-1.093
2033									
	USACE Int	-4.293	-3.993	-3.633	-3.353	-2.943	-2.603	-2.213	-1.113
	USACE High	-3.923	-3.623	-3.263	-2.983	-2.573	-2.233	-1.843	-0.743
2043									
	USACE Int	-4.123	-3.823	-3.463	-3.183	-2.773	-2.433	-2.043	-0.943
	USACE High	-3.493	-3.193	-2.833	-2.553	-2.143	-1.803	-1.413	-0.313
2048	USACE Low	-4.283	-3.983	-3.623	-3.343	-2.933	-2.593	-2.203	-1.103
	USACE Int	-4.033	-3.733	-3.373	-3.093	-2.683	-2.343	-1.953	-0.853
	USACE High	-3.253	-2.953	-2.593	-2.313	-1.903	-1.563	-1.173	-0.073
2053									
	USACE Int	-3.943	-3.643	-3.283	-3.003	-2.593	-2.253	-1.863	-0.763
	USACE High	-2.993	-2.693	-2.333	-2.053	-1.643	-1.303	-0.913	0.187
2063									
	USACE Int	-3.743	-3.443	-3.083	-2.803	-2.393	-2.053	-1.663	-0.563
	USACE High	-2.423	-2.123	-1.763	-1.483	-1.073	-0.733	-0.343	0.757
2073	USACE Low	-4.073	-3.773	-3.413	-3.133	-2.723	-2.383	-1.993	-0.893
	USACE Int	-3.523	-3.223	-2.863	-2.583	-2.173	-1.833	-1.443	-0.343
	USACE High	-1.773	-1.473	-1.113	-0.833	-0.423	-0.083	0.307	1.407

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
12.52		FEET-NAVD88							
ZONE 2 BUILDING 8		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
Elevations from as-builts, survey, or terrain									
2011	FEMA/AECOM base year	-4.43	-4.13	-3.77	-3.49	-3.08	-2.74	-2.35	-1.25
2023 (base year)	USACE Low	-4.33	-4.03	-3.67	-3.39	-2.98	-2.64	-2.25	-1.15
	USACE Int	-4.28	-3.98	-3.62	-3.34	-2.93	-2.59	-2.2	-1.1
	USACE High	-4.11	-3.81	-3.45	-3.17	-2.76	-2.42	-2.03	-0.93
2033									
	USACE Int	-4.13	-3.83	-3.47	-3.19	-2.78	-2.44	-2.05	-0.95
	USACE High	-3.76	-3.46	-3.1	-2.82	-2.41	-2.07	-1.68	-0.58
2043									
	USACE Int	-3.96	-3.66	-3.3	-3.02	-2.61	-2.27	-1.88	-0.78
	USACE High	-3.33	-3.03	-2.67	-2.39	-1.98	-1.64	-1.25	-0.15
2048	USACE Low	-4.12	-3.82	-3.46	-3.18	-2.77	-2.43	-2.04	-0.94
	USACE Int	-3.87	-3.57	-3.21	-2.93	-2.52	-2.18	-1.79	-0.69
	USACE High	-3.09	-2.79	-2.43	-2.15	-1.74	-1.4	-1.01	0.09
2053									
	USACE Int	-3.78	-3.48	-3.12	-2.84	-2.43	-2.09	-1.7	-0.6
	USACE High	-2.83	-2.53	-2.17	-1.89	-1.48	-1.14	-0.75	0.35
2063									
	USACE Int	-3.58	-3.28	-2.92	-2.64	-2.23	-1.89	-1.5	-0.4
	USACE High	-2.26	-1.96	-1.6	-1.32	-0.91	-0.57	-0.18	0.92
2073	USACE Low	-3.91	-3.61	-3.25	-2.97	-2.56	-2.22	-1.83	-0.73
	USACE Int	-3.36	-3.06	-2.7	-2.42	-2.01	-1.67	-1.28	-0.18
	USACE High	-1.61	-1.31	-0.95	-0.67	-0.26	0.08	0.47	1.57

Notes: Elevation clearly labeled for the structure on the as-built plans

Structure Elevation(ft)	13.42	Depth of Water							
ZONE 2 BUILDING 9		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-5.33	-5.03	-4.67	-4.39	-3.98	-3.64	-3.25	-2.15
2023 (base year)	USACE Low	-5.23	-4.93	-4.57	-4.29	-3.88	-3.54	-3.15	-2.05
	USACE Int	-5.18	-4.88	-4.52	-4.24	-3.83	-3.49	-3.1	-2
	USACE High	-5.01	-4.71	-4.35	-4.07	-3.66	-3.32	-2.93	-1.83
2033	USACE Int	-5.03	-4.73	-4.37	-4.09	-3.68	-3.34	-2.95	-1.85
	USACE High	-4.66	-4.36	-4	-3.72	-3.31	-2.97	-2.58	-1.48
2043	USACE Int	-4.86	-4.56	-4.2	-3.92	-3.51	-3.17	-2.78	-1.68
	USACE High	-4.23	-3.93	-3.57	-3.29	-2.88	-2.54	-2.15	-1.05
2048	USACE Low	-5.02	-4.72	-4.36	-4.08	-3.67	-3.33	-2.94	-1.84
	USACE Int	-4.77	-4.47	-4.11	-3.83	-3.42	-3.08	-2.69	-1.59
	USACE High	-3.99	-3.69	-3.33	-3.05	-2.64	-2.3	-1.91	-0.81
2053	USACE Int	-4.68	-4.38	-4.02	-3.74	-3.33	-2.99	-2.6	-1.5
	USACE High	-3.73	-3.43	-3.07	-2.79	-2.38	-2.04	-1.65	-0.55
2063	USACE Int	-4.48	-4.18	-3.82	-3.54	-3.13	-2.79	-2.4	-1.3
	USACE High	-3.16	-2.86	-2.5	-2.22	-1.81	-1.47	-1.08	0.02
2073	USACE Low	-4.81	-4.51	-4.15	-3.87	-3.46	-3.12	-2.73	-1.63
	USACE Int	-4.26	-3.96	-3.6	-3.32	-2.91	-2.57	-2.18	-1.08
	USACE High	-2.51	-2.21	-1.85	-1.57	-1.16	-0.82	-0.43	0.67

Notes: Lower than the terrain lidar which shows about 17.7 ft at the crest. Still no flooding in any scenario.

**ZONE 3**

Structure Elevation(ft)		Depth of Water							
12.12		FEET-NAVD88							
ZONE 3 BUILDING 1									
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.03	-3.73	-3.37	-3.09	-2.68	-2.34	-1.95	-0.85
2023 (base year)	<b>USACE Low</b>	<b>-3.93</b>	<b>-3.63</b>	<b>-3.27</b>	<b>-2.99</b>	<b>-2.58</b>	<b>-2.24</b>	<b>-1.85</b>	<b>-0.75</b>
	<b>USACE Int</b>	<b>-3.88</b>	<b>-3.58</b>	<b>-3.22</b>	<b>-2.94</b>	<b>-2.53</b>	<b>-2.19</b>	<b>-1.8</b>	<b>-0.7</b>
	<b>USACE High</b>	<b>-3.71</b>	<b>-3.41</b>	<b>-3.05</b>	<b>-2.77</b>	<b>-2.36</b>	<b>-2.02</b>	<b>-1.63</b>	<b>-0.53</b>
2033	<b>USACE Int</b>	-3.73	-3.43	-3.07	-2.79	-2.38	-2.04	-1.65	-0.55
	<b>USACE High</b>	-3.36	-3.06	-2.7	-2.42	-2.01	-1.67	-1.28	-0.18
2043	<b>USACE Int</b>	-3.56	-3.26	-2.9	-2.62	-2.21	-1.87	-1.48	-0.38
	<b>USACE High</b>	-2.93	-2.63	-2.27	-1.99	-1.58	-1.24	-0.85	0.25
2048	<b>USACE Low</b>	<b>-3.72</b>	<b>-3.42</b>	<b>-3.06</b>	<b>-2.78</b>	<b>-2.37</b>	<b>-2.03</b>	<b>-1.64</b>	<b>-0.54</b>
	<b>USACE Int</b>	<b>-3.47</b>	<b>-3.17</b>	<b>-2.81</b>	<b>-2.53</b>	<b>-2.12</b>	<b>-1.78</b>	<b>-1.39</b>	<b>-0.29</b>
	<b>USACE High</b>	<b>-2.69</b>	<b>-2.39</b>	<b>-2.03</b>	<b>-1.75</b>	<b>-1.34</b>	<b>-1</b>	<b>-0.61</b>	<b>0.49</b>
2053	<b>USACE Int</b>	-3.38	-3.08	-2.72	-2.44	-2.03	-1.69	-1.3	-0.2
	<b>USACE High</b>	-2.43	-2.13	-1.77	-1.49	-1.08	-0.74	-0.35	0.75
2063	<b>USACE Int</b>	-3.18	-2.88	-2.52	-2.24	-1.83	-1.49	-1.1	0
	<b>USACE High</b>	-1.86	-1.56	-1.2	-0.92	-0.51	-0.17	0.22	1.32
2073	<b>USACE Low</b>	<b>-3.51</b>	<b>-3.21</b>	<b>-2.85</b>	<b>-2.57</b>	<b>-2.16</b>	<b>-1.82</b>	<b>-1.43</b>	<b>-0.33</b>
	<b>USACE Int</b>	<b>-2.96</b>	<b>-2.66</b>	<b>-2.3</b>	<b>-2.02</b>	<b>-1.61</b>	<b>-1.27</b>	<b>-0.88</b>	<b>0.22</b>
	<b>USACE High</b>	<b>-1.21</b>	<b>-0.91</b>	<b>-0.55</b>	<b>-0.27</b>	<b>0.14</b>	<b>0.48</b>	<b>0.87</b>	<b>1.97</b>

Notes: Used ground elevations on as-built plans Y-3 near this area, but no structure was found to be labeled.

Structure Elevation(ft)		Depth of Water							
13.12		FEET-NAVD88							
ZONE 3 BUILDING 2		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-5.03	-4.73	-4.37	-4.09	-3.68	-3.34	-2.95	-1.85
2023 (base year)	USACE Low	-4.93	-4.63	-4.27	-3.99	-3.58	-3.24	-2.85	-1.75
	USACE Int	-4.88	-4.58	-4.22	-3.94	-3.53	-3.19	-2.8	-1.7
	USACE High	-4.71	-4.41	-4.05	-3.77	-3.36	-3.02	-2.63	-1.53
2033									
	USACE Int	-4.73	-4.43	-4.07	-3.79	-3.38	-3.04	-2.65	-1.55
	USACE High	-4.36	-4.06	-3.7	-3.42	-3.01	-2.67	-2.28	-1.18
2043									
	USACE Int	-4.56	-4.26	-3.9	-3.62	-3.21	-2.87	-2.48	-1.38
	USACE High	-3.93	-3.63	-3.27	-2.99	-2.58	-2.24	-1.85	-0.75
2048	USACE Low	-4.72	-4.42	-4.06	-3.78	-3.37	-3.03	-2.64	-1.54
	USACE Int	-4.47	-4.17	-3.81	-3.53	-3.12	-2.78	-2.39	-1.29
	USACE High	-3.69	-3.39	-3.03	-2.75	-2.34	-2	-1.61	-0.51
2053									
	USACE Int	-4.38	-4.08	-3.72	-3.44	-3.03	-2.69	-2.3	-1.2
	USACE High	-3.43	-3.13	-2.77	-2.49	-2.08	-1.74	-1.35	-0.25
2063									
	USACE Int	-4.18	-3.88	-3.52	-3.24	-2.83	-2.49	-2.1	-1
	USACE High	-2.86	-2.56	-2.2	-1.92	-1.51	-1.17	-0.78	0.32
2073	USACE Low	-4.51	-4.21	-3.85	-3.57	-3.16	-2.82	-2.43	-1.33
	USACE Int	-3.96	-3.66	-3.3	-3.02	-2.61	-2.27	-1.88	-0.78
	USACE High	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.97

Notes: Elevation clearly labeled for the structure on the as-built plans

Structure Elevation(ft)		Depth of Water							
13.62		FEET-NAVD88							
ZONE 3 BUILDING 3		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-5.53	-5.23	-4.87	-4.59	-4.18	-3.84	-3.45	-2.35
2023 (base year)	USACE Low	-5.43	-5.13	-4.77	-4.49	-4.08	-3.74	-3.35	-2.25
	USACE Int	-5.38	-5.08	-4.72	-4.44	-4.03	-3.69	-3.3	-2.2
	USACE High	-5.21	-4.91	-4.55	-4.27	-3.86	-3.52	-3.13	-2.03
2033									
	USACE Int	-5.23	-4.93	-4.57	-4.29	-3.88	-3.54	-3.15	-2.05
	USACE High	-4.86	-4.56	-4.2	-3.92	-3.51	-3.17	-2.78	-1.68
2043									
	USACE Int	-5.06	-4.76	-4.4	-4.12	-3.71	-3.37	-2.98	-1.88
	USACE High	-4.43	-4.13	-3.77	-3.49	-3.08	-2.74	-2.35	-1.25
2048	USACE Low	-5.22	-4.92	-4.56	-4.28	-3.87	-3.53	-3.14	-2.04
	USACE Int	-4.97	-4.67	-4.31	-4.03	-3.62	-3.28	-2.89	-1.79
	USACE High	-4.19	-3.89	-3.53	-3.25	-2.84	-2.5	-2.11	-1.01
2053									
	USACE Int	-4.88	-4.58	-4.22	-3.94	-3.53	-3.19	-2.8	-1.7
	USACE High	-3.93	-3.63	-3.27	-2.99	-2.58	-2.24	-1.85	-0.75
2063									
	USACE Int	-4.68	-4.38	-4.02	-3.74	-3.33	-2.99	-2.6	-1.5
	USACE High	-3.36	-3.06	-2.7	-2.42	-2.01	-1.67	-1.28	-0.18
2073	USACE Low	-5.01	-4.71	-4.35	-4.07	-3.66	-3.32	-2.93	-1.83
	USACE Int	-4.46	-4.16	-3.8	-3.52	-3.11	-2.77	-2.38	-1.28
	USACE High	-2.71	-2.41	-2.05	-1.77	-1.36	-1.02	-0.63	0.47

Notes: Lowest elevation of elevations clearly labeled for the structure on the as-built plans



Structure Elevation(ft)		Depth of Water							
14.963		FEET-NAVD88							
ZONE 3 BUILDING 4		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-6.873	-6.573	-6.213	-5.933	-5.523	-5.183	-4.793	-3.693
2023 (base year)	USACE Low	-6.773	-6.473	-6.113	-5.833	-5.423	-5.083	-4.693	-3.593
	USACE Int	-6.723	-6.423	-6.063	-5.783	-5.373	-5.033	-4.643	-3.543
	USACE High	-6.553	-6.253	-5.893	-5.613	-5.203	-4.863	-4.473	-3.373
2033									
	USACE Int	-6.573	-6.273	-5.913	-5.633	-5.223	-4.883	-4.493	-3.393
	USACE High	-6.203	-5.903	-5.543	-5.263	-4.853	-4.513	-4.123	-3.023
2043									
	USACE Int	-6.403	-6.103	-5.743	-5.463	-5.053	-4.713	-4.323	-3.223
	USACE High	-5.773	-5.473	-5.113	-4.833	-4.423	-4.083	-3.693	-2.593
2048	USACE Low	-6.563	-6.263	-5.903	-5.623	-5.213	-4.873	-4.483	-3.383
	USACE Int	-6.313	-6.013	-5.653	-5.373	-4.963	-4.623	-4.233	-3.133
	USACE High	-5.533	-5.233	-4.873	-4.593	-4.183	-3.843	-3.453	-2.353
2053									
	USACE Int	-6.223	-5.923	-5.563	-5.283	-4.873	-4.533	-4.143	-3.043
	USACE High	-5.273	-4.973	-4.613	-4.333	-3.923	-3.583	-3.193	-2.093
2063									
	USACE Int	-6.023	-5.723	-5.363	-5.083	-4.673	-4.333	-3.943	-2.843
	USACE High	-4.703	-4.403	-4.043	-3.763	-3.353	-3.013	-2.623	-1.523
2073	USACE Low	-6.353	-6.053	-5.693	-5.413	-5.003	-4.663	-4.273	-3.173
	USACE Int	-5.803	-5.503	-5.143	-4.863	-4.453	-4.113	-3.723	-2.623
	USACE High	-4.053	-3.753	-3.393	-3.113	-2.703	-2.363	-1.973	-0.873

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
14.32		FEET-NAVD88							
ZONE 3 BUILDING 5		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-6.23	-5.93	-5.57	-5.29	-4.88	-4.54	-4.15	-3.05
2023 (base year)	USACE Low	-6.13	-5.83	-5.47	-5.19	-4.78	-4.44	-4.05	-2.95
	USACE Int	-6.08	-5.78	-5.42	-5.14	-4.73	-4.39	-4	-2.9
	USACE High	-5.91	-5.61	-5.25	-4.97	-4.56	-4.22	-3.83	-2.73
2033									
	USACE Int	-5.93	-5.63	-5.27	-4.99	-4.58	-4.24	-3.85	-2.75
	USACE High	-5.56	-5.26	-4.9	-4.62	-4.21	-3.87	-3.48	-2.38
2043									
	USACE Int	-5.76	-5.46	-5.1	-4.82	-4.41	-4.07	-3.68	-2.58
	USACE High	-5.13	-4.83	-4.47	-4.19	-3.78	-3.44	-3.05	-1.95
2048	USACE Low	-5.92	-5.62	-5.26	-4.98	-4.57	-4.23	-3.84	-2.74
	USACE Int	-5.67	-5.37	-5.01	-4.73	-4.32	-3.98	-3.59	-2.49
	USACE High	-4.89	-4.59	-4.23	-3.95	-3.54	-3.2	-2.81	-1.71
2053									
	USACE Int	-5.58	-5.28	-4.92	-4.64	-4.23	-3.89	-3.5	-2.4
	USACE High	-4.63	-4.33	-3.97	-3.69	-3.28	-2.94	-2.55	-1.45
2063									
	USACE Int	-5.38	-5.08	-4.72	-4.44	-4.03	-3.69	-3.3	-2.2
	USACE High	-4.06	-3.76	-3.4	-3.12	-2.71	-2.37	-1.98	-0.88
2073	USACE Low	-5.71	-5.41	-5.05	-4.77	-4.36	-4.02	-3.63	-2.53
	USACE Int	-5.16	-4.86	-4.5	-4.22	-3.81	-3.47	-3.08	-1.98
	USACE High	-3.41	-3.11	-2.75	-2.47	-2.06	-1.72	-1.33	-0.23

Notes: Used ground elevations on as-built plans Y-3 near this area, but no structure was found to be labeled.

Structure Elevation(ft)		Depth of Water							
14.032		FEET-NAVD88							
ZONE 3 BUILDING 6		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-5.942	-5.642	-5.282	-5.002	-4.592	-4.252	-3.862	-2.762
2023 (base year)	USACE Low	-5.842	-5.542	-5.182	-4.902	-4.492	-4.152	-3.762	-2.662
	USACE Int	-5.792	-5.492	-5.132	-4.852	-4.442	-4.102	-3.712	-2.612
	USACE High	-5.622	-5.322	-4.962	-4.682	-4.272	-3.932	-3.542	-2.442
2033									
	USACE Int	-5.642	-5.342	-4.982	-4.702	-4.292	-3.952	-3.562	-2.462
	USACE High	-5.272	-4.972	-4.612	-4.332	-3.922	-3.582	-3.192	-2.092
2043									
	USACE Int	-5.472	-5.172	-4.812	-4.532	-4.122	-3.782	-3.392	-2.292
	USACE High	-4.842	-4.542	-4.182	-3.902	-3.492	-3.152	-2.762	-1.662
2048	USACE Low	-5.632	-5.332	-4.972	-4.692	-4.282	-3.942	-3.552	-2.452
	USACE Int	-5.382	-5.082	-4.722	-4.442	-4.032	-3.692	-3.302	-2.202
	USACE High	-4.602	-4.302	-3.942	-3.662	-3.252	-2.912	-2.522	-1.422
2053									
	USACE Int	-5.292	-4.992	-4.632	-4.352	-3.942	-3.602	-3.212	-2.112
	USACE High	-4.342	-4.042	-3.682	-3.402	-2.992	-2.652	-2.262	-1.162
2063									
	USACE Int	-5.092	-4.792	-4.432	-4.152	-3.742	-3.402	-3.012	-1.912
	USACE High	-3.772	-3.472	-3.112	-2.832	-2.422	-2.082	-1.692	-0.592
2073	USACE Low	-5.422	-5.122	-4.762	-4.482	-4.072	-3.732	-3.342	-2.242
	USACE Int	-4.872	-4.572	-4.212	-3.932	-3.522	-3.182	-2.792	-1.692
	USACE High	-3.122	-2.822	-2.462	-2.182	-1.772	-1.432	-1.042	0.058

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
14.782		FEET-NAVD88							
ZONE 3 BUILDING 7		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-6.692	-6.392	-6.032	-5.752	-5.342	-5.002	-4.612	-3.512
2023 (base year)	USACE Low	-6.592	-6.292	-5.932	-5.652	-5.242	-4.902	-4.512	-3.412
	USACE Int	-6.542	-6.242	-5.882	-5.602	-5.192	-4.852	-4.462	-3.362
	USACE High	-6.372	-6.072	-5.712	-5.432	-5.022	-4.682	-4.292	-3.192
2033									
	USACE Int	-6.392	-6.092	-5.732	-5.452	-5.042	-4.702	-4.312	-3.212
	USACE High	-6.022	-5.722	-5.362	-5.082	-4.672	-4.332	-3.942	-2.842
2043									
	USACE Int	-6.222	-5.922	-5.562	-5.282	-4.872	-4.532	-4.142	-3.042
	USACE High	-5.592	-5.292	-4.932	-4.652	-4.242	-3.902	-3.512	-2.412
2048	USACE Low	-6.382	-6.082	-5.722	-5.442	-5.032	-4.692	-4.302	-3.202
	USACE Int	-6.132	-5.832	-5.472	-5.192	-4.782	-4.442	-4.052	-2.952
	USACE High	-5.352	-5.052	-4.692	-4.412	-4.002	-3.662	-3.272	-2.172
2053									
	USACE Int	-6.042	-5.742	-5.382	-5.102	-4.692	-4.352	-3.962	-2.862
	USACE High	-5.092	-4.792	-4.432	-4.152	-3.742	-3.402	-3.012	-1.912
2063									
	USACE Int	-5.842	-5.542	-5.182	-4.902	-4.492	-4.152	-3.762	-2.662
	USACE High	-4.522	-4.222	-3.862	-3.582	-3.172	-2.832	-2.442	-1.342
2073	USACE Low	-6.172	-5.872	-5.512	-5.232	-4.822	-4.482	-4.092	-2.992
	USACE Int	-5.622	-5.322	-4.962	-4.682	-4.272	-3.932	-3.542	-2.442
	USACE High	-3.872	-3.572	-3.212	-2.932	-2.522	-2.182	-1.792	-0.692

Notes: Updated with building floor slab elevation from survey 09/26-27

Pump Stations (Building Slab Elevations 09/30/21 Survey NAVD88)

Structure Elevation(ft)		Depth of Water							
10.91		FEET-NAVD88							
Pump Station 4									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.82	-2.52	-2.16	-1.88	-1.47	-1.13	-0.74	0.36
2023 (base year)	USACE Low	-2.72	-2.42	-2.06	-1.78	-1.37	-1.03	-0.64	0.46
	USACE Int	-2.67	-2.37	-2.01	-1.73	-1.32	-0.98	-0.59	0.51
	USACE High	-2.5	-2.2	-1.84	-1.56	-1.15	-0.81	-0.42	0.68
2033	USACE Int	-2.52	-2.22	-1.86	-1.58	-1.17	-0.83	-0.44	0.66
	USACE High	-2.15	-1.85	-1.49	-1.21	-0.8	-0.46	-0.07	1.03
2043	USACE Int	-2.35	-2.05	-1.69	-1.41	-1	-0.66	-0.27	0.83
	USACE High	-1.72	-1.42	-1.06	-0.78	-0.37	-0.03	0.36	1.46
2048	USACE Low	-2.51	-2.21	-1.85	-1.57	-1.16	-0.82	-0.43	0.67
	USACE Int	-2.26	-1.96	-1.6	-1.32	-0.91	-0.57	-0.18	0.92
	USACE High	-1.48	-1.18	-0.82	-0.54	-0.13	0.21	0.6	1.7
2053	USACE Int	-2.17	-1.87	-1.51	-1.23	-0.82	-0.48	-0.09	1.01
	USACE High	-1.22	-0.92	-0.56	-0.28	0.13	0.47	0.86	1.96
2063	USACE Int	-1.97	-1.67	-1.31	-1.03	-0.62	-0.28	0.11	1.21
	USACE High	-0.65	-0.35	0.01	0.29	0.7	1.04	1.43	2.53
2073	USACE Low	-2.3	-2	-1.64	-1.36	-0.95	-0.61	-0.22	0.88
	USACE Int	-1.75	-1.45	-1.09	-0.81	-0.4	-0.06	0.33	1.43
	USACE High	0	0.3	0.66	0.94	1.35	1.69	2.08	3.18

Notes: Updated with building floor slab elevation from survey 09/30

Structure Elevation(ft)		Depth of Water							
13.58		FEET-NAVD88							
Pump Station 9		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
Elevations from as-builts, survey, or terrain									
2011	FEMA/AECOM base year	-5.49	-5.19	-4.83	-4.55	-4.14	-3.8	-3.41	-2.31
2023 (base year)	USACE Low	-5.39	-5.09	-4.73	-4.45	-4.04	-3.7	-3.31	-2.21
	USACE Int	-5.34	-5.04	-4.68	-4.4	-3.99	-3.65	-3.26	-2.16
	USACE High	-5.17	-4.87	-4.51	-4.23	-3.82	-3.48	-3.09	-1.99
2033									
	USACE Int	-5.19	-4.89	-4.53	-4.25	-3.84	-3.5	-3.11	-2.01
	USACE High	-4.82	-4.52	-4.16	-3.88	-3.47	-3.13	-2.74	-1.64
2043									
	USACE Int	-5.02	-4.72	-4.36	-4.08	-3.67	-3.33	-2.94	-1.84
	USACE High	-4.39	-4.09	-3.73	-3.45	-3.04	-2.7	-2.31	-1.21
2048	USACE Low	-5.18	-4.88	-4.52	-4.24	-3.83	-3.49	-3.1	-2
	USACE Int	-4.93	-4.63	-4.27	-3.99	-3.58	-3.24	-2.85	-1.75
	USACE High	-4.15	-3.85	-3.49	-3.21	-2.8	-2.46	-2.07	-0.97
2053									
	USACE Int	-4.84	-4.54	-4.18	-3.9	-3.49	-3.15	-2.76	-1.66
	USACE High	-3.89	-3.59	-3.23	-2.95	-2.54	-2.2	-1.81	-0.71
2063									
	USACE Int	-4.64	-4.34	-3.98	-3.7	-3.29	-2.95	-2.56	-1.46
	USACE High	-3.32	-3.02	-2.66	-2.38	-1.97	-1.63	-1.24	-0.14
2073	USACE Low	-4.97	-4.67	-4.31	-4.03	-3.62	-3.28	-2.89	-1.79
	USACE Int	-4.42	-4.12	-3.76	-3.48	-3.07	-2.73	-2.34	-1.24
	USACE High	-2.67	-2.37	-2.01	-1.73	-1.32	-0.98	-0.59	0.51

Notes: Updated with building floor slab elevation from survey  
09/30

Structure Elevation(ft)		Depth of Water							
12.7		FEET-NAVD88							
Pump Station 11		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-4.61	-4.31	-3.95	-3.67	-3.26	-2.92	-2.53	-1.43
2023 (base year)	USACE Low	-4.51	-4.21	-3.85	-3.57	-3.16	-2.82	-2.43	-1.33
	USACE Int	-4.46	-4.16	-3.8	-3.52	-3.11	-2.77	-2.38	-1.28
	USACE High	-4.29	-3.99	-3.63	-3.35	-2.94	-2.6	-2.21	-1.11
2033	USACE Int	-4.31	-4.01	-3.65	-3.37	-2.96	-2.62	-2.23	-1.13
	USACE High	-3.94	-3.64	-3.28	-3	-2.59	-2.25	-1.86	-0.76
2043	USACE Int	-4.14	-3.84	-3.48	-3.2	-2.79	-2.45	-2.06	-0.96
	USACE High	-3.51	-3.21	-2.85	-2.57	-2.16	-1.82	-1.43	-0.33
2048	USACE Low	-4.3	-4	-3.64	-3.36	-2.95	-2.61	-2.22	-1.12
	USACE Int	-4.05	-3.75	-3.39	-3.11	-2.7	-2.36	-1.97	-0.87
	USACE High	-3.27	-2.97	-2.61	-2.33	-1.92	-1.58	-1.19	-0.09
2053	USACE Int	-3.96	-3.66	-3.3	-3.02	-2.61	-2.27	-1.88	-0.78
	USACE High	-3.01	-2.71	-2.35	-2.07	-1.66	-1.32	-0.93	0.17
2063	USACE Int	-3.76	-3.46	-3.1	-2.82	-2.41	-2.07	-1.68	-0.58
	USACE High	-2.44	-2.14	-1.78	-1.5	-1.09	-0.75	-0.36	0.74
2073	USACE Low	-4.09	-3.79	-3.43	-3.15	-2.74	-2.4	-2.01	-0.91
	USACE Int	-3.54	-3.24	-2.88	-2.6	-2.19	-1.85	-1.46	-0.36
	USACE High	-1.79	-1.49	-1.13	-0.85	-0.44	-0.1	0.29	1.39

Notes: Updated with building floor slab elevation from survey  
09/30

**B2. Flood Scenarios and Depths with Alternative 1: North Wall (highlighted = scenario where flooding occurs in WQCP area, red number = depth of flooding for this building)**

ZONE 1									
Structure Elevation(ft)		Depth of Water							
ZONE 1 BUILDING 1		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.03	-2.73	-2.37	-2.09	-1.68	-1.34	-0.95	0.15
2023 (base year)	USACE Low	-2.93	-2.63	-2.27	-1.99	-1.58	-1.24	-0.85	0.25
	USACE Int	-2.88	-2.58	-2.22	-1.94	-1.53	-1.19	-0.80	0.30
	USACE High	-2.71	-2.41	-2.05	-1.77	-1.36	-1.02	-0.63	0.47
2033	USACE Int	-2.73	-2.43	-2.07	-1.79	-1.38	-1.04	-0.65	0.45
	USACE High	-2.36	-2.06	-1.70	-1.42	-1.01	-0.67	-0.28	0.82
2043	USACE Int	-2.56	-2.26	-1.90	-1.62	-1.21	-0.87	-0.48	0.62
	USACE High	-1.93	-1.63	-1.27	-0.99	-0.58	-0.24	0.15	1.25
2048	USACE Low	-2.72	-2.42	-2.06	-1.78	-1.37	-1.03	-0.64	0.46
	USACE Int	-2.47	-2.17	-1.81	-1.53	-1.12	-0.78	-0.39	0.71
	USACE High	-1.69	-1.39	-1.03	-0.75	-0.34	0.00	0.39	1.49
2053	USACE Int	-2.38	-2.08	-1.72	-1.44	-1.03	-0.69	-0.30	0.80
	USACE High	-1.43	-1.13	-0.77	-0.49	-0.08	0.26	0.65	1.75
2063	USACE Int	-2.18	-1.88	-1.52	-1.24	-0.83	-0.49	-0.10	1.00
	USACE High	-0.86	-0.56	-0.20	0.08	0.49	0.83	1.22	2.32
2073	USACE Low	-2.51	-2.21	-1.85	-1.57	-1.16	-0.82	-0.43	0.67
	USACE Int	-1.96	-1.66	-1.30	-1.02	-0.61	-0.27	0.12	1.22
	USACE High	-0.21	0.09	0.45	0.73	1.14	1.48	1.87	2.97

Notes: Used ground elevations on as-built plans Y-6 near this area, but no structure was found to be labeled.



Structure Elevation(ft)	12.025	Depth of Water							
ZONE 1 BUILDING 2		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.94	-3.64	-3.28	-3.00	-2.59	-2.25	-1.86	-1.11
2023 (base year)	USACE Low	-3.84	-3.54	-3.18	-2.90	-2.49	-2.15	-1.76	-1.71
	USACE Int	-3.79	-3.49	-3.13	-2.85	-2.44	-2.10	-1.71	-1.71
	USACE High	-3.62	-3.32	-2.96	-2.68	-2.27	-1.93	-1.54	-1.11
2033	USACE Int	-3.64	-3.34	-2.98	-2.70	-2.29	-1.95	-1.56	-1.71
	USACE High	-3.27	-2.97	-2.61	-2.33	-1.92	-1.58	-1.19	-0.09
2043	USACE Int	-3.47	-3.17	-2.81	-2.53	-2.12	-1.78	-1.39	-0.29
	USACE High	-2.84	-2.54	-2.18	-1.90	-1.49	-1.15	-1.11	0.34
2048	USACE Low	-3.63	-3.33	-2.97	-2.69	-2.28	-1.94	-1.55	-1.71
	USACE Int	-3.38	-3.08	-2.72	-2.44	-2.03	-1.69	-1.30	-0.20
	USACE High	-2.60	-2.30	-1.94	-1.66	-1.25	-1.11	-1.11	0.58
2053	USACE Int	-3.29	-2.99	-2.63	-2.35	-1.94	-1.60	-1.21	-0.11
	USACE High	-2.34	-2.04	-1.68	-1.40	-0.99	-0.65	-0.26	0.84
2063	USACE Int	-3.09	-2.79	-2.43	-2.15	-1.74	-1.40	-1.01	0.09
	USACE High	-1.77	-1.47	-1.11	-0.83	-0.42	-0.08	0.32	1.42
2073	USACE Low	-3.42	-3.12	-2.76	-2.48	-2.07	-1.73	-1.34	-0.24
	USACE Int	-2.87	-2.57	-2.21	-1.93	-1.52	-1.18	-0.79	0.32
	USACE High	-1.12	-0.82	-0.46	-0.18	0.23	0.57	0.97	2.07

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
11.02		FEET-NAVD88							
ZONE 1 BUILDING 3		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.93	-2.63	-2.27	-1.99	-1.58	-1.24	-0.85	0.25
2023 (base year)	USACE Low	-2.83	-2.53	-2.17	-1.89	-1.48	-1.14	-0.75	0.35
	USACE Int	-2.78	-2.48	-2.12	-1.84	-1.43	-1.09	-0.70	0.40
	USACE High	-2.61	-2.31	-1.95	-1.67	-1.26	-0.92	-0.53	0.57
2033	USACE Int	-2.63	-2.33	-1.97	-1.69	-1.28	-0.94	-0.55	0.55
	USACE High	-2.26	-1.96	-1.60	-1.32	-0.91	-0.57	-0.18	0.92
2043	USACE Int	-2.46	-2.16	-1.80	-1.52	-1.11	-0.77	-0.38	0.72
	USACE High	-1.83	-1.53	-1.17	-0.89	-0.48	-0.14	0.25	1.35
2048	USACE Low	-2.62	-2.32	-1.96	-1.68	-1.27	-0.93	-0.54	0.56
	USACE Int	-2.37	-2.07	-1.71	-1.43	-1.02	-0.68	-0.29	0.81
	USACE High	-1.59	-1.29	-0.93	-0.65	-0.24	0.10	0.49	1.59
2053	USACE Int	-2.28	-1.98	-1.62	-1.34	-0.93	-0.59	-0.20	0.90
	USACE High	-1.33	-1.03	-0.67	-0.39	0.02	0.36	0.75	1.85
2063	USACE Int	-2.08	-1.78	-1.42	-1.14	-0.73	-0.39	0.00	1.10
	USACE High	-0.76	-0.46	-0.10	0.18	0.59	0.93	1.32	2.42
2073	USACE Low	-2.41	-2.11	-1.75	-1.47	-1.06	-0.72	-0.33	0.77
	USACE Int	-1.86	-1.56	-1.20	-0.92	-0.51	-0.17	0.22	1.32
	USACE High	-0.11	0.19	0.55	0.83	1.24	1.58	1.97	3.07

Notes: Used ground elevations on as-built plans Y-1 near this area, but no structure was found to be labeled.

Structure Elevation(ft)	15.649	Depth of Water							
ZONE 1 BUILDING 4		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-7.56	-7.26	-6.90	-6.62	-6.21	-5.87	-5.48	-4.38
2023 (base year)	USACE Low	-7.46	-7.16	-6.80	-6.52	-6.11	-5.77	-5.38	-4.28
	USACE Int	-7.41	-7.11	-6.75	-6.47	-6.06	-5.72	-5.33	-4.23
	USACE High	-7.24	-6.94	-6.58	-6.30	-5.89	-5.55	-5.16	-4.06
2033	USACE Int	-7.26	-6.96	-6.60	-6.32	-5.91	-5.57	-5.18	-4.08
	USACE High	-6.89	-6.59	-6.23	-5.95	-5.54	-5.20	-4.81	-3.71
2043	USACE Int	-7.09	-6.79	-6.43	-6.15	-5.74	-5.40	-5.01	-3.91
	USACE High	-6.46	-6.16	-5.80	-5.52	-5.11	-4.77	-4.38	-3.28
2048	USACE Low	-7.25	-6.95	-6.59	-6.31	-5.90	-5.56	-5.17	-4.07
	USACE Int	-7.00	-6.70	-6.34	-6.06	-5.65	-5.31	-4.92	-3.82
	USACE High	-6.22	-5.92	-5.56	-5.28	-4.87	-4.53	-4.14	-3.04
2053	USACE Int	-6.91	-6.61	-6.25	-5.97	-5.56	-5.22	-4.83	-3.73
	USACE High	-5.96	-5.66	-5.30	-5.02	-4.61	-4.27	-3.88	-2.78
2063	USACE Int	-6.71	-6.41	-6.05	-5.77	-5.36	-5.02	-4.63	-3.53
	USACE High	-5.39	-5.09	-4.73	-4.45	-4.04	-3.70	-3.31	-2.21
2073	USACE Low	-7.04	-6.74	-6.38	-6.10	-5.69	-5.35	-4.96	-3.86
	USACE Int	-6.49	-6.19	-5.83	-5.55	-5.14	-4.80	-4.41	-3.31
	USACE High	-4.74	-4.44	-4.08	-3.80	-3.39	-3.05	-2.66	-1.56

Notes: Updated with lowest building floor slab elevation from survey 09/26-27

Structure Elevation(ft)	10.62	Depth of Water							
ZONE 1 BUILDING 5		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.53	-2.23	-1.87	-1.59	-1.18	-0.84	-0.45	0.65
2023 (base year)	USACE Low	-2.43	-2.13	-1.77	-1.49	-1.08	-0.74	-0.35	0.75
	USACE Int	-2.38	-2.08	-1.72	-1.44	-1.03	-0.69	-0.30	0.80
	USACE High	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.97
2033	USACE Int	-2.23	-1.93	-1.57	-1.29	-0.88	-0.54	-0.15	0.95
	USACE High	-1.86	-1.56	-1.20	-0.92	-0.51	-0.17	0.22	1.32
2043	USACE Int	-2.06	-1.76	-1.40	-1.12	-0.71	-0.37	0.02	1.12
	USACE High	-1.43	-1.13	-0.77	-0.49	-0.08	0.26	0.65	1.75
2048	USACE Low	-2.22	-1.92	-1.56	-1.28	-0.87	-0.53	-0.14	0.96
	USACE Int	-1.97	-1.67	-1.31	-1.03	-0.62	-0.28	0.11	1.21
	USACE High	-1.19	-0.89	-0.53	-0.25	0.16	0.50	0.89	1.99
2053	USACE Int	-1.88	-1.58	-1.22	-0.94	-0.53	-0.19	0.20	1.30
	USACE High	-0.93	-0.63	-0.27	0.01	0.42	0.76	1.15	2.25
2063	USACE Int	-1.68	-1.38	-1.02	-0.74	-0.33	0.01	0.40	1.50
	USACE High	-0.36	-0.06	0.30	0.58	0.99	1.33	1.72	2.82
2073	USACE Low	-2.01	-1.71	-1.35	-1.07	-0.66	-0.32	0.07	1.17
	USACE Int	-1.46	-1.16	-0.80	-0.52	-0.11	0.23	0.62	1.72
	USACE High	0.29	0.59	0.95	1.23	1.64	1.98	2.37	3.47

Notes: Used ground elevations on as-built plans Y-1 near this area, but no structure was found to be labeled.

Structure Elevation(ft)	10.945	Depth of Water							
		FEET-NAVD88							
ZONE 1 BUILDING 6		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-2.86	-2.56	-2.20	-1.92	-1.51	-1.17	-0.78	0.32
2023 (base year)	USACE Low	-2.76	-2.46	-2.10	-1.82	-1.41	-1.07	-0.68	0.42
	USACE Int	-2.71	-2.41	-2.05	-1.77	-1.36	-1.02	-0.63	0.48
	USACE High	-2.54	-2.24	-1.88	-1.60	-1.19	-0.85	-0.46	0.65
2033	USACE Int	-2.56	-2.26	-1.90	-1.62	-1.21	-0.87	-0.48	0.63
	USACE High	-2.19	-1.89	-1.53	-1.25	-0.84	-0.50	-0.11	0.99
2043	USACE Int	-2.39	-2.09	-1.73	-1.45	-1.04	-0.70	-0.31	0.80
	USACE High	-1.76	-1.46	-1.10	-0.82	-0.41	-0.07	0.32	1.43
2048	USACE Low	-2.55	-2.25	-1.89	-1.61	-1.20	-0.86	-0.47	0.64
	USACE Int	-2.30	-2.00	-1.64	-1.36	-0.95	-0.61	-0.22	0.89
	USACE High	-1.52	-1.22	-0.86	-0.58	-0.17	0.17	0.57	1.67
2053	USACE Int	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.98
	USACE High	-1.26	-0.96	-0.60	-0.32	0.09	0.43	0.82	1.93
2063	USACE Int	-2.01	-1.71	-1.35	-1.07	-0.66	-0.32	0.07	1.18
	USACE High	-0.69	-0.39	-0.03	0.25	0.66	1.01	1.40	2.50
2073	USACE Low	-2.34	-2.04	-1.68	-1.40	-0.99	-0.65	-0.26	0.84
	USACE Int	-1.79	-1.49	-1.13	-0.85	-0.44	-0.10	0.30	1.40
	USACE High	-0.04	0.27	0.63	0.90	1.32	1.66	2.05	3.15

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)	11.294	Depth of Water							
ZONE 1 BUILDING 7		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.20	-2.90	-2.54	-2.26	-1.85	-1.51	-1.12	-0.02
2023 (base year)	USACE Low	-3.10	-2.80	-2.44	-2.16	-1.75	-1.41	-1.02	0.08
	USACE Int	-3.05	-2.75	-2.39	-2.11	-1.70	-1.36	-0.97	0.13
	USACE High	-2.88	-2.58	-2.22	-1.94	-1.53	-1.19	-0.80	0.30
2033	USACE Int	-2.90	-2.60	-2.24	-1.96	-1.55	-1.21	-0.82	0.28
	USACE High	-2.53	-2.23	-1.87	-1.59	-1.18	-0.84	-0.45	0.65
2043	USACE Int	-2.73	-2.43	-2.07	-1.79	-1.38	-1.04	-0.65	0.45
	USACE High	-2.10	-1.80	-1.44	-1.16	-0.75	-0.41	-0.02	1.08
2048	USACE Low	-2.89	-2.59	-2.23	-1.95	-1.54	-1.20	-0.81	0.29
	USACE Int	-2.64	-2.34	-1.98	-1.70	-1.29	-0.95	-0.56	0.54
	USACE High	-1.86	-1.56	-1.20	-0.92	-0.51	-0.17	0.22	1.32
2053	USACE Int	-2.55	-2.25	-1.89	-1.61	-1.20	-0.86	-0.47	0.63
	USACE High	-1.60	-1.30	-0.94	-0.66	-0.25	0.09	0.48	1.58
2063	USACE Int	-2.35	-2.05	-1.69	-1.41	-1.00	-0.66	-0.27	0.83
	USACE High	-1.03	-0.73	-0.37	-0.09	0.32	0.66	1.05	2.15
2073	USACE Low	-2.68	-2.38	-2.02	-1.74	-1.33	-0.99	-0.60	0.50
	USACE Int	-2.13	-1.83	-1.47	-1.19	-0.78	-0.44	-0.05	1.05
	USACE High	-0.38	-0.08	0.28	0.56	0.97	1.31	1.70	2.80

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)	11.602	Depth of Water							
ZONE 1 BUILDING 8		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.51	-3.21	-2.85	-2.57	-2.16	-1.82	-1.43	-0.33
2023 (base year)	USACE Low	-3.41	-3.11	-2.75	-2.47	-2.06	-1.72	-1.33	-0.23
	USACE Int	-3.36	-3.06	-2.70	-2.42	-2.01	-1.67	-1.28	-0.18
	USACE High	-3.19	-2.89	-2.53	-2.25	-1.84	-1.50	-1.11	-0.01
2033	USACE Int	-3.21	-2.91	-2.55	-2.27	-1.86	-1.52	-1.13	-0.03
	USACE High	-2.84	-2.54	-2.18	-1.90	-1.49	-1.15	-0.76	0.34
2043	USACE Int	-3.04	-2.74	-2.38	-2.10	-1.69	-1.35	-0.96	0.14
	USACE High	-2.41	-2.11	-1.75	-1.47	-1.06	-0.72	-0.33	0.77
2048	USACE Low	-3.20	-2.90	-2.54	-2.26	-1.85	-1.51	-1.12	-0.02
	USACE Int	-2.95	-2.65	-2.29	-2.01	-1.60	-1.26	-0.87	0.23
	USACE High	-2.17	-1.87	-1.51	-1.23	-0.82	-0.48	-0.09	1.01
2053	USACE Int	-2.86	-2.56	-2.20	-1.92	-1.51	-1.17	-0.78	0.32
	USACE High	-1.91	-1.61	-1.25	-0.97	-0.56	-0.22	0.17	1.27
2063	USACE Int	-2.66	-2.36	-2.00	-1.72	-1.31	-0.97	-0.58	0.52
	USACE High	-1.34	-1.04	-0.68	-0.40	0.01	0.35	0.74	1.84
2073	USACE Low	-2.99	-2.69	-2.33	-2.05	-1.64	-1.30	-0.91	0.19
	USACE Int	-2.44	-2.14	-1.78	-1.50	-1.09	-0.75	-0.36	0.74
	USACE High	-0.69	-0.39	-0.03	0.25	0.66	1.00	1.39	2.49

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)	11.62	Depth of Water							
ZONE 1 BUILDING 9		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.53	-3.23	-2.87	-2.59	-2.18	-1.84	-1.45	-0.35
2023 (base year)	USACE Low	-3.43	-3.13	-2.77	-2.49	-2.08	-1.74	-1.35	-0.25
	USACE Int	-3.38	-3.08	-2.72	-2.44	-2.03	-1.69	-1.30	-0.20
	USACE High	-3.21	-2.91	-2.55	-2.27	-1.86	-1.52	-1.13	-0.03
2033	USACE Int	-3.23	-2.93	-2.57	-2.29	-1.88	-1.54	-1.15	-0.05
	USACE High	-2.86	-2.56	-2.20	-1.92	-1.51	-1.17	-0.78	0.32
2043	USACE Int	-3.06	-2.76	-2.40	-2.12	-1.71	-1.37	-0.98	0.12
	USACE High	-2.43	-2.13	-1.77	-1.49	-1.08	-0.74	-0.35	0.75
2048	USACE Low	-3.22	-2.92	-2.56	-2.28	-1.87	-1.53	-1.14	-0.04
	USACE Int	-2.97	-2.67	-2.31	-2.03	-1.62	-1.28	-0.89	0.21
	USACE High	-2.19	-1.89	-1.53	-1.25	-0.84	-0.50	-0.11	0.99
2053	USACE Int	-2.88	-2.58	-2.22	-1.94	-1.53	-1.19	-0.80	0.30
	USACE High	-1.93	-1.63	-1.27	-0.99	-0.58	-0.24	0.15	1.25
2063	USACE Int	-2.68	-2.38	-2.02	-1.74	-1.33	-0.99	-0.60	0.50
	USACE High	-1.36	-1.06	-0.70	-0.42	-0.01	0.33	0.72	1.82
2073	USACE Low	-3.01	-2.71	-2.35	-2.07	-1.66	-1.32	-0.93	0.17
	USACE Int	-2.46	-2.16	-1.80	-1.52	-1.11	-0.77	-0.38	0.72
	USACE High	-0.71	-0.41	-0.05	0.23	0.64	0.98	1.37	2.47

Notes: Used ground elevations on as-built plans Y-1 near this area, but no structure was found to be labeled.



Structure Elevation(ft)		Depth of Water							
12.681		FEET-NAVD88							
ZONE 1 BUILDING 10									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.59	-4.29	-3.93	-3.65	-3.24	-2.90	-2.51	-1.41
2023 (base year)	USACE Low	-4.49	-4.19	-3.83	-3.55	-3.14	-2.80	-2.41	-1.31
	USACE Int	-4.44	-4.14	-3.78	-3.50	-3.09	-2.75	-2.36	-1.26
	USACE High	-4.27	-3.97	-3.61	-3.33	-2.92	-2.58	-2.19	-1.09
2033	USACE Int	-4.29	-3.99	-3.63	-3.35	-2.94	-2.60	-2.21	-1.11
	USACE High	-3.92	-3.62	-3.26	-2.98	-2.57	-2.23	-1.84	-0.74
2043	USACE Int	-4.12	-3.82	-3.46	-3.18	-2.77	-2.43	-2.04	-0.94
	USACE High	-3.49	-3.19	-2.83	-2.55	-2.14	-1.80	-1.41	-0.31
2048	USACE Low	-4.28	-3.98	-3.62	-3.34	-2.93	-2.59	-2.20	-1.10
	USACE Int	-4.03	-3.73	-3.37	-3.09	-2.68	-2.34	-1.95	-0.85
	USACE High	-3.25	-2.95	-2.59	-2.31	-1.90	-1.56	-1.17	-0.07
2053	USACE Int	-3.94	-3.64	-3.28	-3.00	-2.59	-2.25	-1.86	-0.76
	USACE High	-2.99	-2.69	-2.33	-2.05	-1.64	-1.30	-0.91	0.19
2063	USACE Int	-3.74	-3.44	-3.08	-2.80	-2.39	-2.05	-1.66	-0.56
	USACE High	-2.42	-2.12	-1.76	-1.48	-1.07	-0.73	-0.34	0.76
2073	USACE Low	-4.07	-3.77	-3.41	-3.13	-2.72	-2.38	-1.99	-0.89
	USACE Int	-3.52	-3.22	-2.86	-2.58	-2.17	-1.83	-1.44	-0.34
	USACE High	-1.77	-1.47	-1.11	-0.83	-0.42	-0.08	0.31	1.41

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft) <b>ZONE 1 BUILDING 12</b>	12.188	Depth of Water							
		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.10	-3.80	-3.44	-3.16	-2.75	-2.41	-2.02	-0.92
2023 (base year)	<b>USACE Low</b>	<b>-4.00</b>	<b>-3.70</b>	<b>-3.34</b>	<b>-3.06</b>	<b>-2.65</b>	<b>-2.31</b>	<b>-1.92</b>	<b>-0.82</b>
	<b>USACE Int</b>	<b>-3.95</b>	<b>-3.65</b>	<b>-3.29</b>	<b>-3.01</b>	<b>-2.60</b>	<b>-2.26</b>	<b>-1.87</b>	<b>-0.77</b>
	<b>USACE High</b>	<b>-3.78</b>	<b>-3.48</b>	<b>-3.12</b>	<b>-2.84</b>	<b>-2.43</b>	<b>-2.09</b>	<b>-1.70</b>	-0.60
2033									
	<b>USACE Int</b>	-3.80	-3.50	-3.14	-2.86	-2.45	-2.11	-1.72	<b>-0.62</b>
	<b>USACE High</b>	-3.43	-3.13	-2.77	-2.49	-2.08	-1.74	-1.35	<b>-0.25</b>
2043									
	<b>USACE Int</b>	-3.63	-3.33	-2.97	-2.69	-2.28	-1.94	-1.55	<b>-0.45</b>
	<b>USACE High</b>	-3.00	-2.70	-2.34	-2.06	-1.65	-1.31	-0.92	<b>0.18</b>
2048	<b>USACE Low</b>	<b>-3.79</b>	<b>-3.49</b>	<b>-3.13</b>	<b>-2.85</b>	<b>-2.44</b>	<b>-2.10</b>	<b>-1.71</b>	<b>-0.61</b>
	<b>USACE Int</b>	<b>-3.54</b>	<b>-3.24</b>	<b>-2.88</b>	<b>-2.60</b>	<b>-2.19</b>	<b>-1.85</b>	<b>-1.46</b>	<b>-0.36</b>
	<b>USACE High</b>	<b>-2.76</b>	<b>-2.46</b>	<b>-2.10</b>	<b>-1.82</b>	<b>-1.41</b>	-1.07	-0.68	<b>0.42</b>
2053									
	<b>USACE Int</b>	-3.45	-3.15	-2.79	-2.51	-2.10	-1.76	-1.37	<b>-0.27</b>
	<b>USACE High</b>	-2.50	-2.20	-1.84	-1.56	-1.15	-0.81	<b>-0.42</b>	<b>0.68</b>
2063									
	<b>USACE Int</b>	-3.25	-2.95	-2.59	-2.31	-1.90	-1.56	-1.17	<b>-0.07</b>
	<b>USACE High</b>	-1.93	-1.63	-1.27	-0.99	-0.58	<b>-0.24</b>	<b>0.15</b>	<b>1.25</b>
2073	<b>USACE Low</b>	<b>-3.58</b>	<b>-3.28</b>	<b>-2.92</b>	<b>-2.64</b>	<b>-2.23</b>	<b>-1.89</b>	<b>-1.50</b>	<b>-0.40</b>
	<b>USACE Int</b>	<b>-3.03</b>	<b>-2.73</b>	<b>-2.37</b>	<b>-2.09</b>	<b>-1.68</b>	<b>-1.34</b>	<b>-0.95</b>	<b>0.15</b>
	<b>USACE High</b>	<b>-1.28</b>	-0.98	-0.62	<b>-0.34</b>	<b>0.07</b>	<b>0.41</b>	<b>0.80</b>	<b>1.90</b>

Notes: Updated with building floor slab elevation from survey 09/26-27

**ZONE 2**

Structure Elevation(ft)		Depth of Water							
11.15		FEET-NAVD88							
ZONE 2 BUILDING 1									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.06	-2.76	-2.40	-2.12	-1.71	-1.37	-0.98	0.12
2023 (base year)	USACE Low	-2.96	-2.66	-2.30	-2.02	-1.61	-1.27	-0.88	0.22
	USACE Int	-2.91	-2.61	-2.25	-1.97	-1.56	-1.22	-0.83	0.27
	USACE High	-2.74	-2.44	-2.08	-1.80	-1.39	-1.05	-0.66	0.44
2033	USACE Int	-2.76	-2.46	-2.10	-1.82	-1.41	-1.07	-0.68	0.42
	USACE High	-2.39	-2.09	-1.73	-1.45	-1.04	-0.70	-0.31	0.79
2043	USACE Int	-2.59	-2.29	-1.93	-1.65	-1.24	-0.90	-0.51	0.59
	USACE High	-1.96	-1.66	-1.30	-1.02	-0.61	-0.27	0.12	1.22
2048	USACE Low	-2.75	-2.45	-2.09	-1.81	-1.40	-1.06	-0.67	0.43
	USACE Int	-2.50	-2.20	-1.84	-1.56	-1.15	-0.81	-0.42	0.68
	USACE High	-1.72	-1.42	-1.06	-0.78	-0.37	-0.03	0.36	1.46
2053	USACE Int	-2.41	-2.11	-1.75	-1.47	-1.06	-0.72	-0.33	0.77
	USACE High	-1.46	-1.16	-0.80	-0.52	-0.11	0.23	0.62	1.72
2063	USACE Int	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.97
	USACE High	-0.89	-0.59	-0.23	0.05	0.46	0.80	1.19	2.29
2073	USACE Low	-2.54	-2.24	-1.88	-1.60	-1.19	-0.85	-0.46	0.64
	USACE Int	-1.99	-1.69	-1.33	-1.05	-0.64	-0.30	0.09	1.19
	USACE High	-0.24	0.06	0.42	0.70	1.11	1.45	1.84	2.94

Notes: Used lowest elevation bottom v-notch weir, clearly labeled for the structure on the as-built plans

Structure Elevation(ft)		Depth of Water							
10.92		FEET-NAVD88							
ZONE 2 BUILDING 2		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.83	-2.53	-2.17	-1.89	-1.48	-1.14	-0.75	0.35
2023 (base year)	USACE Low	-2.73	-2.43	-2.07	-1.79	-1.38	-1.04	-0.65	0.45
	USACE Int	-2.68	-2.38	-2.02	-1.74	-1.33	-0.99	-0.60	0.50
	USACE High	-2.51	-2.21	-1.85	-1.57	-1.16	-0.82	-0.43	0.67
2033									
	USACE Int	-2.53	-2.23	-1.87	-1.59	-1.18	-0.84	-0.45	0.65
	USACE High	-2.16	-1.86	-1.50	-1.22	-0.81	-0.47	-0.08	1.02
2043									
	USACE Int	-2.36	-2.06	-1.70	-1.42	-1.01	-0.67	-0.28	0.82
	USACE High	-1.73	-1.43	-1.07	-0.79	-0.38	-0.04	0.35	1.45
2048	USACE Low	-2.52	-2.22	-1.86	-1.58	-1.17	-0.83	-0.44	0.66
	USACE Int	-2.27	-1.97	-1.61	-1.33	-0.92	-0.58	-0.19	0.91
	USACE High	-1.49	-1.19	-0.83	-0.55	-0.14	0.20	0.59	1.69
2053									
	USACE Int	-2.18	-1.88	-1.52	-1.24	-0.83	-0.49	-0.10	1.00
	USACE High	-1.23	-0.93	-0.57	-0.29	0.12	0.46	0.85	1.95
2063									
	USACE Int	-1.98	-1.68	-1.32	-1.04	-0.63	-0.29	0.10	1.20
	USACE High	-0.66	-0.36	0.00	0.28	0.69	1.03	1.42	2.52
2073	USACE Low	-2.31	-2.01	-1.65	-1.37	-0.96	-0.62	-0.23	0.87
	USACE Int	-1.76	-1.46	-1.10	-0.82	-0.41	-0.07	0.32	1.42
	USACE High	-0.01	0.29	0.65	0.93	1.34	1.68	2.07	3.17

Notes: Elevation clearly labeled for the structure on the as-built plans

Structure Elevation(ft)		Depth of Water							
10.32		FEET-NAVD88							
ZONE 2 BUILDING 3									
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.23	-1.93	-1.57	-1.29	-0.88	-0.54	-0.15	0.95
2023 (base year)	USACE Low	-2.13	-1.83	-1.47	-1.19	-0.78	-0.44	-0.05	1.05
	USACE Int	-2.08	-1.78	-1.42	-1.14	-0.73	-0.39	0.00	1.10
	USACE High	-1.91	-1.61	-1.25	-0.97	-0.56	-0.22	0.17	1.27
2033									
	USACE Int	-1.93	-1.63	-1.27	-0.99	-0.58	-0.24	0.15	1.25
	USACE High	-1.56	-1.26	-0.90	-0.62	-0.21	0.13	0.52	1.62
2043									
	USACE Int	-1.76	-1.46	-1.10	-0.82	-0.41	-0.07	0.32	1.42
	USACE High	-1.13	-0.83	-0.47	-0.19	0.22	0.56	0.95	2.05
2048	USACE Low	-1.92	-1.62	-1.26	-0.98	-0.57	-0.23	0.16	1.26
	USACE Int	-1.67	-1.37	-1.01	-0.73	-0.32	0.02	0.41	1.51
	USACE High	-0.89	-0.59	-0.23	0.05	0.46	0.80	1.19	2.29
2053									
	USACE Int	-1.58	-1.28	-0.92	-0.64	-0.23	0.11	0.50	1.60
	USACE High	-0.63	-0.33	0.03	0.31	0.72	1.06	1.45	2.55
2063									
	USACE Int	-1.38	-1.08	-0.72	-0.44	-0.03	0.31	0.70	1.80
	USACE High	-0.06	0.24	0.60	0.88	1.29	1.63	2.02	3.12
2073	USACE Low	-1.71	-1.41	-1.05	-0.77	-0.36	-0.02	0.37	1.47
	USACE Int	-1.16	-0.86	-0.50	-0.22	0.19	0.53	0.92	2.02
	USACE High	0.59	0.89	1.25	1.53	1.94	2.28	2.67	3.77

Notes: Between plan drawings, not as clear, took ground elevations near the structure.

Structure Elevation(ft)		Depth of Water							
11.186		FEET-NAVD88							
ZONE 2 BUILDING 4									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.10	-2.80	-2.44	-2.16	-1.75	-1.41	-1.02	0.08
2023 (base year)	USACE Low	-3.00	-2.70	-2.34	-2.06	-1.65	-1.31	-0.92	0.18
	USACE Int	-2.95	-2.65	-2.29	-2.01	-1.60	-1.26	-0.87	0.23
	USACE High	-2.78	-2.48	-2.12	-1.84	-1.43	-1.09	-0.70	0.40
2033									
	USACE Int	-2.80	-2.50	-2.14	-1.86	-1.45	-1.11	-0.72	0.38
	USACE High	-2.43	-2.13	-1.77	-1.49	-1.08	-0.74	-0.35	0.75
2043									
	USACE Int	-2.63	-2.33	-1.97	-1.69	-1.28	-0.94	-0.55	0.55
	USACE High	-2.00	-1.70	-1.34	-1.06	-0.65	-0.31	0.08	1.18
2048	USACE Low	-2.79	-2.49	-2.13	-1.85	-1.44	-1.10	-0.71	0.39
	USACE Int	-2.54	-2.24	-1.88	-1.60	-1.19	-0.85	-0.46	0.64
	USACE High	-1.76	-1.46	-1.10	-0.82	-0.41	-0.07	0.32	1.42
2053									
	USACE Int	-2.45	-2.15	-1.79	-1.51	-1.10	-0.76	-0.37	0.73
	USACE High	-1.50	-1.20	-0.84	-0.56	-0.15	0.19	0.58	1.68
2063									
	USACE Int	-2.25	-1.95	-1.59	-1.31	-0.90	-0.56	-0.17	0.93
	USACE High	-0.93	-0.63	-0.27	0.01	0.42	0.76	1.15	2.25
2073	USACE Low	-2.58	-2.28	-1.92	-1.64	-1.23	-0.89	-0.50	0.60
	USACE Int	-2.03	-1.73	-1.37	-1.09	-0.68	-0.34	0.05	1.15
	USACE High	-0.28	0.02	0.38	0.66	1.07	1.41	1.80	2.90

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
10.614		FEET-NAVD88							
ZONE 2 BUILDING 5		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.52	-2.22	-1.86	-1.58	-1.17	-0.83	-0.44	0.66
2023 (base year)	USACE Low	-2.42	-2.12	-1.76	-1.48	-1.07	-0.73	-0.34	0.76
	USACE Int	-2.37	-2.07	-1.71	-1.43	-1.02	-0.68	-0.29	0.81
	USACE High	-2.20	-1.90	-1.54	-1.26	-0.85	-0.51	-0.12	0.98
2033									
	USACE Int	-2.22	-1.92	-1.56	-1.28	-0.87	-0.53	-0.14	0.96
	USACE High	-1.85	-1.55	-1.19	-0.91	-0.50	-0.16	0.23	1.33
2043									
	USACE Int	-2.05	-1.75	-1.39	-1.11	-0.70	-0.36	0.03	1.13
	USACE High	-1.42	-1.12	-0.76	-0.48	-0.07	0.27	0.66	1.76
2048	USACE Low	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.97
	USACE Int	-1.96	-1.66	-1.30	-1.02	-0.61	-0.27	0.12	1.22
	USACE High	-1.18	-0.88	-0.52	-0.24	0.17	0.51	0.90	2.00
2053									
	USACE Int	-1.87	-1.57	-1.21	-0.93	-0.52	-0.18	0.21	1.31
	USACE High	-0.92	-0.62	-0.26	0.02	0.43	0.77	1.16	2.26
2063									
	USACE Int	-1.67	-1.37	-1.01	-0.73	-0.32	0.02	0.41	1.51
	USACE High	-0.35	-0.05	0.31	0.59	1.00	1.34	1.73	2.83
2073	USACE Low	-2.00	-1.70	-1.34	-1.06	-0.65	-0.31	0.08	1.18
	USACE Int	-1.45	-1.15	-0.79	-0.51	-0.10	0.24	0.63	1.73
	USACE High	0.30	0.60	0.96	1.24	1.65	1.99	2.38	3.48

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
11.888		FEET-NAVD88							
ZONE 2 BUILDING 6		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.80	-3.50	-3.14	-2.86	-2.45	-2.11	-1.72	-0.62
2023 (base year)	USACE Low	-3.70	-3.40	-3.04	-2.76	-2.35	-2.01	-1.62	-0.52
	USACE Int	-3.65	-3.35	-2.99	-2.71	-2.30	-1.96	-1.57	-0.47
	USACE High	-3.48	-3.18	-2.82	-2.54	-2.13	-1.79	-1.40	-0.30
2033									
	USACE Int	-3.50	-3.20	-2.84	-2.56	-2.15	-1.81	-1.42	-0.32
	USACE High	-3.13	-2.83	-2.47	-2.19	-1.78	-1.44	-1.05	0.05
2043									
	USACE Int	-3.33	-3.03	-2.67	-2.39	-1.98	-1.64	-1.25	-0.15
	USACE High	-2.70	-2.40	-2.04	-1.76	-1.35	-1.01	-0.62	0.48
2048	USACE Low	-3.49	-3.19	-2.83	-2.55	-2.14	-1.80	-1.41	-0.31
	USACE Int	-3.24	-2.94	-2.58	-2.30	-1.89	-1.55	-1.16	-0.06
	USACE High	-2.46	-2.16	-1.80	-1.52	-1.11	-0.77	-0.38	0.72
2053									
	USACE Int	-3.15	-2.85	-2.49	-2.21	-1.80	-1.46	-1.07	0.03
	USACE High	-2.20	-1.90	-1.54	-1.26	-0.85	-0.51	-0.12	0.98
2063									
	USACE Int	-2.95	-2.65	-2.29	-2.01	-1.60	-1.26	-0.87	0.23
	USACE High	-1.63	-1.33	-0.97	-0.69	-0.28	0.06	0.45	1.55
2073	USACE Low	-3.28	-2.98	-2.62	-2.34	-1.93	-1.59	-1.20	-0.10
	USACE Int	-2.73	-2.43	-2.07	-1.79	-1.38	-1.04	-0.65	0.45
	USACE High	-0.98	-0.68	-0.32	-0.04	0.37	0.71	1.10	2.20

Notes: Updated with building floor slab elevation from survey 09/26-27



Structure Elevation(ft)		Depth of Water							
12.683		FEET-NAVD88							
ZONE 2 BUILDING 7		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.59	-4.29	-3.93	-3.65	-3.24	-2.90	-2.51	-1.41
2023 (base year)	USACE Low	-4.49	-4.19	-3.83	-3.55	-3.14	-2.80	-2.41	-1.31
	USACE Int	-4.44	-4.14	-3.78	-3.50	-3.09	-2.75	-2.36	-1.26
	USACE High	-4.27	-3.97	-3.61	-3.33	-2.92	-2.58	-2.19	-1.09
2033									
	USACE Int	-4.29	-3.99	-3.63	-3.35	-2.94	-2.60	-2.21	-1.11
	USACE High	-3.92	-3.62	-3.26	-2.98	-2.57	-2.23	-1.84	-0.74
2043									
	USACE Int	-4.12	-3.82	-3.46	-3.18	-2.77	-2.43	-2.04	-0.94
	USACE High	-3.49	-3.19	-2.83	-2.55	-2.14	-1.80	-1.41	-0.31
2048	USACE Low	-4.28	-3.98	-3.62	-3.34	-2.93	-2.59	-2.20	-1.10
	USACE Int	-4.03	-3.73	-3.37	-3.09	-2.68	-2.34	-1.95	-0.85
	USACE High	-3.25	-2.95	-2.59	-2.31	-1.90	-1.56	-1.17	-0.07
2053									
	USACE Int	-3.94	-3.64	-3.28	-3.00	-2.59	-2.25	-1.86	-0.76
	USACE High	-2.99	-2.69	-2.33	-2.05	-1.64	-1.30	-0.91	0.19
2063									
	USACE Int	-3.74	-3.44	-3.08	-2.80	-2.39	-2.05	-1.66	-0.56
	USACE High	-2.42	-2.12	-1.76	-1.48	-1.07	-0.73	-0.34	0.76
2073	USACE Low	-4.07	-3.77	-3.41	-3.13	-2.72	-2.38	-1.99	-0.89
	USACE Int	-3.52	-3.22	-2.86	-2.58	-2.17	-1.83	-1.44	-0.34
	USACE High	-1.77	-1.47	-1.11	-0.83	-0.42	-0.08	0.31	1.41

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
12.52		FEET-NAVD88							
ZONE 2 BUILDING 8									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.43	-4.13	-3.77	-3.49	-3.08	-2.74	-2.35	-1.25
2023 (base year)	USACE Low	-4.33	-4.03	-3.67	-3.39	-2.98	-2.64	-2.25	-1.15
	USACE Int	-4.28	-3.98	-3.62	-3.34	-2.93	-2.59	-2.20	-1.10
	USACE High	-4.11	-3.81	-3.45	-3.17	-2.76	-2.42	-2.03	-0.93
2033									
	USACE Int	-4.13	-3.83	-3.47	-3.19	-2.78	-2.44	-2.05	-0.95
	USACE High	-3.76	-3.46	-3.10	-2.82	-2.41	-2.07	-1.68	-0.58
2043									
	USACE Int	-3.96	-3.66	-3.30	-3.02	-2.61	-2.27	-1.88	-0.78
	USACE High	-3.33	-3.03	-2.67	-2.39	-1.98	-1.64	-1.25	-0.15
2048	USACE Low	-4.12	-3.82	-3.46	-3.18	-2.77	-2.43	-2.04	-0.94
	USACE Int	-3.87	-3.57	-3.21	-2.93	-2.52	-2.18	-1.79	-0.69
	USACE High	-3.09	-2.79	-2.43	-2.15	-1.74	-1.40	-1.01	0.09
2053									
	USACE Int	-3.78	-3.48	-3.12	-2.84	-2.43	-2.09	-1.70	-0.60
	USACE High	-2.83	-2.53	-2.17	-1.89	-1.48	-1.14	-0.75	0.35
2063									
	USACE Int	-3.58	-3.28	-2.92	-2.64	-2.23	-1.89	-1.50	-0.40
	USACE High	-2.26	-1.96	-1.60	-1.32	-0.91	-0.57	-0.18	0.92
2073	USACE Low	-3.91	-3.61	-3.25	-2.97	-2.56	-2.22	-1.83	-0.73
	USACE Int	-3.36	-3.06	-2.70	-2.42	-2.01	-1.67	-1.28	-0.18
	USACE High	-1.61	-1.31	-0.95	-0.67	-0.26	0.08	0.47	1.57

Notes: Elevation clearly labeled for the structure on the as-built plans

Structure Elevation(ft)		Depth of Water							
13.42		FEET-NAVD88							
ZONE 2 BUILDING 9		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-5.33	-5.03	-4.67	-4.39	-3.98	-3.64	-3.25	-2.15
2023 (base year)	USACE Low	-5.23	-4.93	-4.57	-4.29	-3.88	-3.54	-3.15	-2.05
	USACE Int	-5.18	-4.88	-4.52	-4.24	-3.83	-3.49	-3.10	-2.00
	USACE High	-5.01	-4.71	-4.35	-4.07	-3.66	-3.32	-2.93	-1.83
2033									
	USACE Int	-5.03	-4.73	-4.37	-4.09	-3.68	-3.34	-2.95	-1.85
	USACE High	-4.66	-4.36	-4.00	-3.72	-3.31	-2.97	-2.58	-1.48
2043									
	USACE Int	-4.86	-4.56	-4.20	-3.92	-3.51	-3.17	-2.78	-1.68
	USACE High	-4.23	-3.93	-3.57	-3.29	-2.88	-2.54	-2.15	-1.05
2048	USACE Low	-5.02	-4.72	-4.36	-4.08	-3.67	-3.33	-2.94	-1.84
	USACE Int	-4.77	-4.47	-4.11	-3.83	-3.42	-3.08	-2.69	-1.59
	USACE High	-3.99	-3.69	-3.33	-3.05	-2.64	-2.30	-1.91	-0.81
2053									
	USACE Int	-4.68	-4.38	-4.02	-3.74	-3.33	-2.99	-2.60	-1.50
	USACE High	-3.73	-3.43	-3.07	-2.79	-2.38	-2.04	-1.65	-0.55
2063									
	USACE Int	-4.48	-4.18	-3.82	-3.54	-3.13	-2.79	-2.40	-1.30
	USACE High	-3.16	-2.86	-2.50	-2.22	-1.81	-1.47	-1.08	0.02
2073	USACE Low	-4.81	-4.51	-4.15	-3.87	-3.46	-3.12	-2.73	-1.63
	USACE Int	-4.26	-3.96	-3.60	-3.32	-2.91	-2.57	-2.18	-1.08
	USACE High	-2.51	-2.21	-1.85	-1.57	-1.16	-0.82	-0.43	0.67

Notes: Lower than the terrain lidar which shows about 17.7 ft at the crest. Still no flooding in any scenario.

ZONE 3

Structure Elevation(ft)		Depth of Water							
12.12		FEET-NAVD88							
ZONE 3 BUILDING 1									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.03	-3.73	-3.37	-3.09	-2.68	-2.34	-1.95	-0.85
2023 (base year)	USACE Low	-3.93	-3.63	-3.27	-2.99	-2.58	-2.24	-1.85	-0.75
	USACE Int	-3.88	-3.58	-3.22	-2.94	-2.53	-2.19	-1.80	-0.70
	USACE High	-3.71	-3.41	-3.05	-2.77	-2.36	-2.02	-1.63	-0.53
2033	USACE Int	-3.73	-3.43	-3.07	-2.79	-2.38	-2.04	-1.65	-0.55
	USACE High	-3.36	-3.06	-2.70	-2.42	-2.01	-1.67	-1.28	-0.18
2043	USACE Int	-3.56	-3.26	-2.90	-2.62	-2.21	-1.87	-1.48	-0.38
	USACE High	-2.93	-2.63	-2.27	-1.99	-1.58	-1.24	-0.85	0.25
2048	USACE Low	-3.72	-3.42	-3.06	-2.78	-2.37	-2.03	-1.64	-0.54
	USACE Int	-3.47	-3.17	-2.81	-2.53	-2.12	-1.78	-1.39	-0.29
	USACE High	-2.69	-2.39	-2.03	-1.75	-1.34	-1.00	-0.61	0.49
2053	USACE Int	-3.38	-3.08	-2.72	-2.44	-2.03	-1.69	-1.30	-0.20
	USACE High	-2.43	-2.13	-1.77	-1.49	-1.08	-0.74	-0.35	0.75
2063	USACE Int	-3.18	-2.88	-2.52	-2.24	-1.83	-1.49	-1.10	0.00
	USACE High	-1.86	-1.56	-1.20	-0.92	-0.51	-0.17	0.22	1.32
2073	USACE Low	-3.51	-3.21	-2.85	-2.57	-2.16	-1.82	-1.43	-0.33
	USACE Int	-2.96	-2.66	-2.30	-2.02	-1.61	-1.27	-0.88	0.22
	USACE High	-1.21	-0.91	-0.55	-0.27	0.14	0.48	0.87	1.97

Notes: Used ground elevations on as-built plans Y-3 near this area, but no structure was found to be labeled.

Structure Elevation(ft)		Depth of Water							
13.12		FEET-NAVD88							
ZONE 3 BUILDING 2		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-5.03	-4.73	-4.37	-4.09	-3.68	-3.34	-2.95	-1.85
2023 (base year)	USACE Low	-4.93	-4.63	-4.27	-3.99	-3.58	-3.24	-2.85	-1.75
	USACE Int	-4.88	-4.58	-4.22	-3.94	-3.53	-3.19	-2.80	-1.70
	USACE High	-4.71	-4.41	-4.05	-3.77	-3.36	-3.02	-2.63	-1.53
2033									
	USACE Int	-4.73	-4.43	-4.07	-3.79	-3.38	-3.04	-2.65	-1.55
	USACE High	-4.36	-4.06	-3.70	-3.42	-3.01	-2.67	-2.28	-1.18
2043									
	USACE Int	-4.56	-4.26	-3.90	-3.62	-3.21	-2.87	-2.48	-1.38
	USACE High	-3.93	-3.63	-3.27	-2.99	-2.58	-2.24	-1.85	-0.75
2048	USACE Low	-4.72	-4.42	-4.06	-3.78	-3.37	-3.03	-2.64	-1.54
	USACE Int	-4.47	-4.17	-3.81	-3.53	-3.12	-2.78	-2.39	-1.29
	USACE High	-3.69	-3.39	-3.03	-2.75	-2.34	-2.00	-1.61	-0.51
2053									
	USACE Int	-4.38	-4.08	-3.72	-3.44	-3.03	-2.69	-2.30	-1.20
	USACE High	-3.43	-3.13	-2.77	-2.49	-2.08	-1.74	-1.35	-0.25
2063									
	USACE Int	-4.18	-3.88	-3.52	-3.24	-2.83	-2.49	-2.10	-1.00
	USACE High	-2.86	-2.56	-2.20	-1.92	-1.51	-1.17	-0.78	0.32
2073	USACE Low	-4.51	-4.21	-3.85	-3.57	-3.16	-2.82	-2.43	-1.33
	USACE Int	-3.96	-3.66	-3.30	-3.02	-2.61	-2.27	-1.88	-0.78
	USACE High	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.97

Notes: Elevation clearly labeled for the structure on the as-built plans

Structure Elevation(ft)	13.62	Depth of Water							
ZONE 3 BUILDING 3		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-5.53	-5.23	-4.87	-4.59	-4.18	-3.84	-3.45	-2.35
2023 (base year)	USACE Low	-5.43	-5.13	-4.77	-4.49	-4.08	-3.74	-3.35	-2.25
	USACE Int	-5.38	-5.08	-4.72	-4.44	-4.03	-3.69	-3.30	-2.20
	USACE High	-5.21	-4.91	-4.55	-4.27	-3.86	-3.52	-3.13	-2.03
2033	USACE Int	-5.23	-4.93	-4.57	-4.29	-3.88	-3.54	-3.15	-2.05
	USACE High	-4.86	-4.56	-4.20	-3.92	-3.51	-3.17	-2.78	-1.68
2043	USACE Int	-5.06	-4.76	-4.40	-4.12	-3.71	-3.37	-2.98	-1.88
	USACE High	-4.43	-4.13	-3.77	-3.49	-3.08	-2.74	-2.35	-1.25
2048	USACE Low	-5.22	-4.92	-4.56	-4.28	-3.87	-3.53	-3.14	-2.04
	USACE Int	-4.97	-4.67	-4.31	-4.03	-3.62	-3.28	-2.89	-1.79
	USACE High	-4.19	-3.89	-3.53	-3.25	-2.84	-2.50	-2.11	-1.01
2053	USACE Int	-4.88	-4.58	-4.22	-3.94	-3.53	-3.19	-2.80	-1.70
	USACE High	-3.93	-3.63	-3.27	-2.99	-2.58	-2.24	-1.85	-0.75
2063	USACE Int	-4.68	-4.38	-4.02	-3.74	-3.33	-2.99	-2.60	-1.50
	USACE High	-3.36	-3.06	-2.70	-2.42	-2.01	-1.67	-1.28	-0.18
2073	USACE Low	-5.01	-4.71	-4.35	-4.07	-3.66	-3.32	-2.93	-1.83
	USACE Int	-4.46	-4.16	-3.80	-3.52	-3.11	-2.77	-2.38	-1.28
	USACE High	-2.71	-2.41	-2.05	-1.77	-1.36	-1.02	-0.63	0.47

Notes: Lowest elevation of elevations clearly labeled for the structure on the as-built plans

Structure Elevation(ft)		Depth of Water							
14.963		FEET-NAVD88							
ZONE 3 BUILDING 4		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-6.87	-6.57	-6.21	-5.93	-5.52	-5.18	-4.79	-3.69
2023 (base year)	USACE Low	-6.77	-6.47	-6.11	-5.83	-5.42	-5.08	-4.69	-3.59
	USACE Int	-6.72	-6.42	-6.06	-5.78	-5.37	-5.03	-4.64	-3.54
	USACE High	-6.55	-6.25	-5.89	-5.61	-5.20	-4.86	-4.47	-3.37
2033									
	USACE Int	-6.57	-6.27	-5.91	-5.63	-5.22	-4.88	-4.49	-3.39
	USACE High	-6.20	-5.90	-5.54	-5.26	-4.85	-4.51	-4.12	-3.02
2043									
	USACE Int	-6.40	-6.10	-5.74	-5.46	-5.05	-4.71	-4.32	-3.22
	USACE High	-5.77	-5.47	-5.11	-4.83	-4.42	-4.08	-3.69	-2.59
2048	USACE Low	-6.56	-6.26	-5.90	-5.62	-5.21	-4.87	-4.48	-3.38
	USACE Int	-6.31	-6.01	-5.65	-5.37	-4.96	-4.62	-4.23	-3.13
	USACE High	-5.53	-5.23	-4.87	-4.59	-4.18	-3.84	-3.45	-2.35
2053									
	USACE Int	-6.22	-5.92	-5.56	-5.28	-4.87	-4.53	-4.14	-3.04
	USACE High	-5.27	-4.97	-4.61	-4.33	-3.92	-3.58	-3.19	-2.09
2063									
	USACE Int	-6.02	-5.72	-5.36	-5.08	-4.67	-4.33	-3.94	-2.84
	USACE High	-4.70	-4.40	-4.04	-3.76	-3.35	-3.01	-2.62	-1.52
2073	USACE Low	-6.35	-6.05	-5.69	-5.41	-5.00	-4.66	-4.27	-3.17
	USACE Int	-5.80	-5.50	-5.14	-4.86	-4.45	-4.11	-3.72	-2.62
	USACE High	-4.05	-3.75	-3.39	-3.11	-2.70	-2.36	-1.97	-0.87

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
14.32		FEET-NAVD88							
ZONE 3 BUILDING 5									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-6.23	-5.93	-5.57	-5.29	-4.88	-4.54	-4.15	-3.05
2023 (base year)	USACE Low	-6.13	-5.83	-5.47	-5.19	-4.78	-4.44	-4.05	-2.95
	USACE Int	-6.08	-5.78	-5.42	-5.14	-4.73	-4.39	-4.00	-2.90
	USACE High	-5.91	-5.61	-5.25	-4.97	-4.56	-4.22	-3.83	-2.73
2033									
	USACE Int	-5.93	-5.63	-5.27	-4.99	-4.58	-4.24	-3.85	-2.75
	USACE High	-5.56	-5.26	-4.90	-4.62	-4.21	-3.87	-3.48	-2.38
2043									
	USACE Int	-5.76	-5.46	-5.10	-4.82	-4.41	-4.07	-3.68	-2.58
	USACE High	-5.13	-4.83	-4.47	-4.19	-3.78	-3.44	-3.05	-1.95
2048	USACE Low	-5.92	-5.62	-5.26	-4.98	-4.57	-4.23	-3.84	-2.74
	USACE Int	-5.67	-5.37	-5.01	-4.73	-4.32	-3.98	-3.59	-2.49
	USACE High	-4.89	-4.59	-4.23	-3.95	-3.54	-3.20	-2.81	-1.71
2053									
	USACE Int	-5.58	-5.28	-4.92	-4.64	-4.23	-3.89	-3.50	-2.40
	USACE High	-4.63	-4.33	-3.97	-3.69	-3.28	-2.94	-2.55	-1.45
2063									
	USACE Int	-5.38	-5.08	-4.72	-4.44	-4.03	-3.69	-3.30	-2.20
	USACE High	-4.06	-3.76	-3.40	-3.12	-2.71	-2.37	-1.98	-0.88
2073	USACE Low	-5.71	-5.41	-5.05	-4.77	-4.36	-4.02	-3.63	-2.53
	USACE Int	-5.16	-4.86	-4.50	-4.22	-3.81	-3.47	-3.08	-1.98
	USACE High	-3.41	-3.11	-2.75	-2.47	-2.06	-1.72	-1.33	-0.23

Notes: Used ground elevations on as-built plans Y-3 near this area, but no structure was found to be labeled.



Structure Elevation(ft)		Depth of Water							
14.032		FEET-NAVD88							
ZONE 3 BUILDING 6		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-5.94	-5.64	-5.28	-5.00	-4.59	-4.25	-3.86	-2.76
2023 (base year)	USACE Low	-5.84	-5.54	-5.18	-4.90	-4.49	-4.15	-3.76	-2.66
	USACE Int	-5.79	-5.49	-5.13	-4.85	-4.44	-4.10	-3.71	-2.61
	USACE High	-5.62	-5.32	-4.96	-4.68	-4.27	-3.93	-3.54	-2.44
2033									
	USACE Int	-5.64	-5.34	-4.98	-4.70	-4.29	-3.95	-3.56	-2.46
	USACE High	-5.27	-4.97	-4.61	-4.33	-3.92	-3.58	-3.19	-2.09
2043									
	USACE Int	-5.47	-5.17	-4.81	-4.53	-4.12	-3.78	-3.39	-2.29
	USACE High	-4.84	-4.54	-4.18	-3.90	-3.49	-3.15	-2.76	-1.66
2048	USACE Low	-5.63	-5.33	-4.97	-4.69	-4.28	-3.94	-3.55	-2.45
	USACE Int	-5.38	-5.08	-4.72	-4.44	-4.03	-3.69	-3.30	-2.20
	USACE High	-4.60	-4.30	-3.94	-3.66	-3.25	-2.91	-2.52	-1.42
2053									
	USACE Int	-5.29	-4.99	-4.63	-4.35	-3.94	-3.60	-3.21	-2.11
	USACE High	-4.34	-4.04	-3.68	-3.40	-2.99	-2.65	-2.26	-1.16
2063									
	USACE Int	-5.09	-4.79	-4.43	-4.15	-3.74	-3.40	-3.01	-1.91
	USACE High	-3.77	-3.47	-3.11	-2.83	-2.42	-2.08	-1.69	-0.59
2073	USACE Low	-5.42	-5.12	-4.76	-4.48	-4.07	-3.73	-3.34	-2.24
	USACE Int	-4.87	-4.57	-4.21	-3.93	-3.52	-3.18	-2.79	-1.69
	USACE High	-3.12	-2.82	-2.46	-2.18	-1.77	-1.43	-1.04	0.06

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
14.782		FEET-NAVD88							
ZONE 3 BUILDING 7		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-6.69	-6.39	-6.03	-5.75	-5.34	-5.00	-4.61	-3.51
2023 (base year)	USACE Low	-6.59	-6.29	-5.93	-5.65	-5.24	-4.90	-4.51	-3.41
	USACE Int	-6.54	-6.24	-5.88	-5.60	-5.19	-4.85	-4.46	-3.36
	USACE High	-6.37	-6.07	-5.71	-5.43	-5.02	-4.68	-4.29	-3.19
2033									
	USACE Int	-6.39	-6.09	-5.73	-5.45	-5.04	-4.70	-4.31	-3.21
	USACE High	-6.02	-5.72	-5.36	-5.08	-4.67	-4.33	-3.94	-2.84
2043									
	USACE Int	-6.22	-5.92	-5.56	-5.28	-4.87	-4.53	-4.14	-3.04
	USACE High	-5.59	-5.29	-4.93	-4.65	-4.24	-3.90	-3.51	-2.41
2048	USACE Low	-6.38	-6.08	-5.72	-5.44	-5.03	-4.69	-4.30	-3.20
	USACE Int	-6.13	-5.83	-5.47	-5.19	-4.78	-4.44	-4.05	-2.95
	USACE High	-5.35	-5.05	-4.69	-4.41	-4.00	-3.66	-3.27	-2.17
2053									
	USACE Int	-6.04	-5.74	-5.38	-5.10	-4.69	-4.35	-3.96	-2.86
	USACE High	-5.09	-4.79	-4.43	-4.15	-3.74	-3.40	-3.01	-1.91
2063									
	USACE Int	-5.84	-5.54	-5.18	-4.90	-4.49	-4.15	-3.76	-2.66
	USACE High	-4.52	-4.22	-3.86	-3.58	-3.17	-2.83	-2.44	-1.34
2073	USACE Low	-6.17	-5.87	-5.51	-5.23	-4.82	-4.48	-4.09	-2.99
	USACE Int	-5.62	-5.32	-4.96	-4.68	-4.27	-3.93	-3.54	-2.44
	USACE High	-3.87	-3.57	-3.21	-2.93	-2.52	-2.18	-1.79	-0.69

Notes: Updated with building floor slab elevation from survey 09/26-27

**B3. Flood Scenarios and Depths with Alternative 2: North and South Walls (highlighted = scenario where flooding occurs in WQCP area, red number = depth of flooding for this building)**

ZONE 1									
Structure Elevation(ft)		Depth of Water							
ZONE 1 BUILDING 1		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.03	-2.73	-2.37	-2.09	-1.68	-1.34	-0.95	0.15
2023 (base year)	USACE Low	-2.93	-2.63	-2.27	-1.99	-1.58	-1.24	-0.85	0.25
	USACE Int	-2.88	-2.58	-2.22	-1.94	-1.53	-1.19	-0.80	0.30
	USACE High	-2.71	-2.41	-2.05	-1.77	-1.36	-1.02	-0.63	0.47
2033	USACE Int	-2.73	-2.43	-2.07	-1.79	-1.38	-1.04	-0.65	0.45
	USACE High	-2.36	-2.06	-1.70	-1.42	-1.01	-0.67	-0.28	0.82
2043	USACE Int	-2.56	-2.26	-1.90	-1.62	-1.21	-0.87	-0.48	0.62
	USACE High	-1.93	-1.63	-1.27	-0.99	-0.58	-0.24	0.15	1.25
2048	USACE Low	-2.72	-2.42	-2.06	-1.78	-1.37	-1.03	-0.64	0.46
	USACE Int	-2.47	-2.17	-1.81	-1.53	-1.12	-0.78	-0.39	0.71
	USACE High	-1.69	-1.39	-1.03	-0.75	-0.34	0.00	0.39	1.49
2053	USACE Int	-2.38	-2.08	-1.72	-1.44	-1.03	-0.69	-0.30	0.80
	USACE High	-1.43	-1.13	-0.77	-0.49	-0.08	0.26	0.65	1.75
2063	USACE Int	-2.18	-1.88	-1.52	-1.24	-0.83	-0.49	-0.10	1.00
	USACE High	-0.86	-0.56	-0.20	0.08	0.49	0.83	1.22	2.32
2073	USACE Low	-2.51	-2.21	-1.85	-1.57	-1.16	-0.82	-0.43	0.67
	USACE Int	-1.96	-1.66	-1.30	-1.02	-0.61	-0.27	0.12	1.22
	USACE High	-0.21	0.09	0.45	0.73	1.14	1.48	1.87	2.97

Notes: Used ground elevations on as-built plans Y-6 near this area, but no structure was found to be labeled.

Structure Elevation(ft)	12.025	Depth of Water							
ZONE 1 BUILDING 2		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.94	-3.64	-3.28	-3.00	-2.59	-2.25	-1.86	-1.11
2023 (base year)	USACE Low	-3.84	-3.54	-3.18	-2.90	-2.49	-2.15	-1.76	-1.71
	USACE Int	-3.79	-3.49	-3.13	-2.85	-2.44	-2.10	-1.71	-1.71
	USACE High	-3.62	-3.32	-2.96	-2.68	-2.27	-1.93	-1.54	-1.11
2033									
	USACE Int	-3.64	-3.34	-2.98	-2.70	-2.29	-1.95	-1.56	-1.71
	USACE High	-3.27	-2.97	-2.61	-2.33	-1.92	-1.58	-1.19	-0.09
2043									
	USACE Int	-3.47	-3.17	-2.81	-2.53	-2.12	-1.78	-1.39	-0.29
	USACE High	-2.84	-2.54	-2.18	-1.90	-1.49	-1.15	-1.11	0.34
2048	USACE Low	-3.63	-3.33	-2.97	-2.69	-2.28	-1.94	-1.55	-1.71
	USACE Int	-3.38	-3.08	-2.72	-2.44	-2.03	-1.69	-1.30	-0.20
	USACE High	-2.60	-2.30	-1.94	-1.66	-1.25	-1.11	-1.11	0.58
2053									
	USACE Int	-3.29	-2.99	-2.63	-2.35	-1.94	-1.60	-1.21	-0.11
	USACE High	-2.34	-2.04	-1.68	-1.40	-0.99	-0.65	-0.26	0.84
2063									
	USACE Int	-3.09	-2.79	-2.43	-2.15	-1.74	-1.40	-1.01	0.09
	USACE High	-1.77	-1.47	-1.11	-0.83	-0.42	-0.08	0.32	1.42
2073	USACE Low	-3.42	-3.12	-2.76	-2.48	-2.07	-1.73	-1.34	-0.24
	USACE Int	-2.87	-2.57	-2.21	-1.93	-1.52	-1.18	-0.79	0.32
	USACE High	-1.12	-0.82	-0.46	-0.18	0.23	0.57	0.97	2.07

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)	11.02	Depth of Water							
		FEET-NAVD88							
ZONE 1 BUILDING 3		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-2.93	-2.63	-2.27	-1.99	-1.58	-1.24	-0.85	0.25
2023 (base year)	USACE Low	-2.83	-2.53	-2.17	-1.89	-1.48	-1.14	-0.75	0.35
	USACE Int	-2.78	-2.48	-2.12	-1.84	-1.43	-1.09	-0.70	0.40
	USACE High	-2.61	-2.31	-1.95	-1.67	-1.26	-0.92	-0.53	0.57
2033	USACE Int	-2.63	-2.33	-1.97	-1.69	-1.28	-0.94	-0.55	0.55
	USACE High	-2.26	-1.96	-1.60	-1.32	-0.91	-0.57	-0.18	0.92
2043	USACE Int	-2.46	-2.16	-1.80	-1.52	-1.11	-0.77	-0.38	0.72
	USACE High	-1.83	-1.53	-1.17	-0.89	-0.48	-0.14	0.25	1.35
2048	USACE Low	-2.62	-2.32	-1.96	-1.68	-1.27	-0.93	-0.54	0.56
	USACE Int	-2.37	-2.07	-1.71	-1.43	-1.02	-0.68	-0.29	0.81
	USACE High	-1.59	-1.29	-0.93	-0.65	-0.24	0.10	0.49	1.59
2053	USACE Int	-2.28	-1.98	-1.62	-1.34	-0.93	-0.59	-0.20	0.90
	USACE High	-1.33	-1.03	-0.67	-0.39	0.02	0.36	0.75	1.85
2063	USACE Int	-2.08	-1.78	-1.42	-1.14	-0.73	-0.39	0.00	1.10
	USACE High	-0.76	-0.46	-0.10	0.18	0.59	0.93	1.32	2.42
2073	USACE Low	-2.41	-2.11	-1.75	-1.47	-1.06	-0.72	-0.33	0.77
	USACE Int	-1.86	-1.56	-1.20	-0.92	-0.51	-0.17	0.22	1.32
	USACE High	-0.11	0.19	0.55	0.83	1.24	1.58	1.97	3.07

Notes: Used ground elevations on as-built plans Y-1 near this area, but no structure was found to be labeled.

Structure Elevation(ft)	15.649	Depth of Water							
ZONE 1 BUILDING 4		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-7.56	-7.26	-6.90	-6.62	-6.21	-5.87	-5.48	-4.38
2023 (base year)	USACE Low	-7.46	-7.16	-6.80	-6.52	-6.11	-5.77	-5.38	-4.28
	USACE Int	-7.41	-7.11	-6.75	-6.47	-6.06	-5.72	-5.33	-4.23
	USACE High	-7.24	-6.94	-6.58	-6.30	-5.89	-5.55	-5.16	-4.06
2033									
	USACE Int	-7.26	-6.96	-6.60	-6.32	-5.91	-5.57	-5.18	-4.08
	USACE High	-6.89	-6.59	-6.23	-5.95	-5.54	-5.20	-4.81	-3.71
2043									
	USACE Int	-7.09	-6.79	-6.43	-6.15	-5.74	-5.40	-5.01	-3.91
	USACE High	-6.46	-6.16	-5.80	-5.52	-5.11	-4.77	-4.38	-3.28
2048	USACE Low	-7.25	-6.95	-6.59	-6.31	-5.90	-5.56	-5.17	-4.07
	USACE Int	-7.00	-6.70	-6.34	-6.06	-5.65	-5.31	-4.92	-3.82
	USACE High	-6.22	-5.92	-5.56	-5.28	-4.87	-4.53	-4.14	-3.04
2053									
	USACE Int	-6.91	-6.61	-6.25	-5.97	-5.56	-5.22	-4.83	-3.73
	USACE High	-5.96	-5.66	-5.30	-5.02	-4.61	-4.27	-3.88	-2.78
2063									
	USACE Int	-6.71	-6.41	-6.05	-5.77	-5.36	-5.02	-4.63	-3.53
	USACE High	-5.39	-5.09	-4.73	-4.45	-4.04	-3.70	-3.31	-2.21
2073	USACE Low	-7.04	-6.74	-6.38	-6.10	-5.69	-5.35	-4.96	-3.86
	USACE Int	-6.49	-6.19	-5.83	-5.55	-5.14	-4.80	-4.41	-3.31
	USACE High	-4.74	-4.44	-4.08	-3.80	-3.39	-3.05	-2.66	-1.56

Notes: Updated with lowest building floor slab elevation from survey 09/26-27

Structure Elevation(ft)	10.62	Depth of Water							
ZONE 1 BUILDING 5		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.53	-2.23	-1.87	-1.59	-1.18	-0.84	-0.45	0.65
2023 (base year)	USACE Low	-2.43	-2.13	-1.77	-1.49	-1.08	-0.74	-0.35	0.75
	USACE Int	-2.38	-2.08	-1.72	-1.44	-1.03	-0.69	-0.30	0.80
	USACE High	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.97
2033	USACE Int	-2.23	-1.93	-1.57	-1.29	-0.88	-0.54	-0.15	0.95
	USACE High	-1.86	-1.56	-1.20	-0.92	-0.51	-0.17	0.22	1.32
2043	USACE Int	-2.06	-1.76	-1.40	-1.12	-0.71	-0.37	0.02	1.12
	USACE High	-1.43	-1.13	-0.77	-0.49	-0.08	0.26	0.65	1.75
2048	USACE Low	-2.22	-1.92	-1.56	-1.28	-0.87	-0.53	-0.14	0.96
	USACE Int	-1.97	-1.67	-1.31	-1.03	-0.62	-0.28	0.11	1.21
	USACE High	-1.19	-0.89	-0.53	-0.25	0.16	0.50	0.89	1.99
2053	USACE Int	-1.88	-1.58	-1.22	-0.94	-0.53	-0.19	0.20	1.30
	USACE High	-0.93	-0.63	-0.27	0.01	0.42	0.76	1.15	2.25
2063	USACE Int	-1.68	-1.38	-1.02	-0.74	-0.33	0.01	0.40	1.50
	USACE High	-0.36	-0.06	0.30	0.58	0.99	1.33	1.72	2.82
2073	USACE Low	-2.01	-1.71	-1.35	-1.07	-0.66	-0.32	0.07	1.17
	USACE Int	-1.46	-1.16	-0.80	-0.52	-0.11	0.23	0.62	1.72
	USACE High	0.29	0.59	0.95	1.23	1.64	1.98	2.37	3.47

Notes: Used ground elevations on as-built plans Y-1 near this area, but no structure was found to be labeled.

Structure Elevation(ft)	10.945	Depth of Water							
ZONE 1 BUILDING 6		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.86	-2.56	-2.20	-1.92	-1.51	-1.17	-0.78	0.32
2023 (base year)	USACE Low	-2.76	-2.46	-2.10	-1.82	-1.41	-1.07	-0.68	0.42
	USACE Int	-2.71	-2.41	-2.05	-1.77	-1.36	-1.02	-0.63	0.48
	USACE High	-2.54	-2.24	-1.88	-1.60	-1.19	-0.85	-0.46	0.65
2033	USACE Int	-2.56	-2.26	-1.90	-1.62	-1.21	-0.87	-0.48	0.63
	USACE High	-2.19	-1.89	-1.53	-1.25	-0.84	-0.50	-0.11	0.99
2043	USACE Int	-2.39	-2.09	-1.73	-1.45	-1.04	-0.70	-0.31	0.80
	USACE High	-1.76	-1.46	-1.10	-0.82	-0.41	-0.07	0.32	1.43
2048	USACE Low	-2.55	-2.25	-1.89	-1.61	-1.20	-0.86	-0.47	0.64
	USACE Int	-2.30	-2.00	-1.64	-1.36	-0.95	-0.61	-0.22	0.89
	USACE High	-1.52	-1.22	-0.86	-0.58	-0.17	0.17	0.57	1.67
2053	USACE Int	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.98
	USACE High	-1.26	-0.96	-0.60	-0.32	0.09	0.43	0.82	1.93
2063	USACE Int	-2.01	-1.71	-1.35	-1.07	-0.66	-0.32	0.07	1.18
	USACE High	-0.69	-0.39	-0.03	0.25	0.66	1.01	1.40	2.50
2073	USACE Low	-2.34	-2.04	-1.68	-1.40	-0.99	-0.65	-0.26	0.84
	USACE Int	-1.79	-1.49	-1.13	-0.85	-0.44	-0.10	0.30	1.40
	USACE High	-0.04	0.27	0.63	0.90	1.32	1.66	2.05	3.15

Notes: Updated with building floor slab elevation from survey 09/26-27



Structure Elevation(ft)	11.294	Depth of Water							
ZONE 1 BUILDING 7		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.20	-2.90	-2.54	-2.26	-1.85	-1.51	-1.12	-0.02
2023 (base year)	USACE Low	-3.10	-2.80	-2.44	-2.16	-1.75	-1.41	-1.02	0.08
	USACE Int	-3.05	-2.75	-2.39	-2.11	-1.70	-1.36	-0.97	0.13
	USACE High	-2.88	-2.58	-2.22	-1.94	-1.53	-1.19	-0.80	0.30
2033	USACE Int	-2.90	-2.60	-2.24	-1.96	-1.55	-1.21	-0.82	0.28
	USACE High	-2.53	-2.23	-1.87	-1.59	-1.18	-0.84	-0.45	0.65
2043	USACE Int	-2.73	-2.43	-2.07	-1.79	-1.38	-1.04	-0.65	0.45
	USACE High	-2.10	-1.80	-1.44	-1.16	-0.75	-0.41	-0.02	1.08
2048	USACE Low	-2.89	-2.59	-2.23	-1.95	-1.54	-1.20	-0.81	0.29
	USACE Int	-2.64	-2.34	-1.98	-1.70	-1.29	-0.95	-0.56	0.54
	USACE High	-1.86	-1.56	-1.20	-0.92	-0.51	-0.17	0.22	1.32
2053	USACE Int	-2.55	-2.25	-1.89	-1.61	-1.20	-0.86	-0.47	0.63
	USACE High	-1.60	-1.30	-0.94	-0.66	-0.25	0.09	0.48	1.58
2063	USACE Int	-2.35	-2.05	-1.69	-1.41	-1.00	-0.66	-0.27	0.83
	USACE High	-1.03	-0.73	-0.37	-0.09	0.32	0.66	1.05	2.15
2073	USACE Low	-2.68	-2.38	-2.02	-1.74	-1.33	-0.99	-0.60	0.50
	USACE Int	-2.13	-1.83	-1.47	-1.19	-0.78	-0.44	-0.05	1.05
	USACE High	-0.38	-0.08	0.28	0.56	0.97	1.31	1.70	2.80

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)	11.602	Depth of Water							
ZONE 1 BUILDING 8		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.51	-3.21	-2.85	-2.57	-2.16	-1.82	-1.43	-0.33
2023 (base year)	USACE Low	-3.41	-3.11	-2.75	-2.47	-2.06	-1.72	-1.33	-0.23
	USACE Int	-3.36	-3.06	-2.70	-2.42	-2.01	-1.67	-1.28	-0.18
	USACE High	-3.19	-2.89	-2.53	-2.25	-1.84	-1.50	-1.11	-0.01
2033	USACE Int	-3.21	-2.91	-2.55	-2.27	-1.86	-1.52	-1.13	-0.03
	USACE High	-2.84	-2.54	-2.18	-1.90	-1.49	-1.15	-0.76	0.34
2043	USACE Int	-3.04	-2.74	-2.38	-2.10	-1.69	-1.35	-0.96	0.14
	USACE High	-2.41	-2.11	-1.75	-1.47	-1.06	-0.72	-0.33	0.77
2048	USACE Low	-3.20	-2.90	-2.54	-2.26	-1.85	-1.51	-1.12	-0.02
	USACE Int	-2.95	-2.65	-2.29	-2.01	-1.60	-1.26	-0.87	0.23
	USACE High	-2.17	-1.87	-1.51	-1.23	-0.82	-0.48	-0.09	1.01
2053	USACE Int	-2.86	-2.56	-2.20	-1.92	-1.51	-1.17	-0.78	0.32
	USACE High	-1.91	-1.61	-1.25	-0.97	-0.56	-0.22	0.17	1.27
2063	USACE Int	-2.66	-2.36	-2.00	-1.72	-1.31	-0.97	-0.58	0.52
	USACE High	-1.34	-1.04	-0.68	-0.40	0.01	0.35	0.74	1.84
2073	USACE Low	-2.99	-2.69	-2.33	-2.05	-1.64	-1.30	-0.91	0.19
	USACE Int	-2.44	-2.14	-1.78	-1.50	-1.09	-0.75	-0.36	0.74
	USACE High	-0.69	-0.39	-0.03	0.25	0.66	1.00	1.39	2.49

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)	11.62	Depth of Water							
ZONE 1 BUILDING 9		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.53	-3.23	-2.87	-2.59	-2.18	-1.84	-1.45	-0.35
2023 (base year)	USACE Low	-3.43	-3.13	-2.77	-2.49	-2.08	-1.74	-1.35	-0.25
	USACE Int	-3.38	-3.08	-2.72	-2.44	-2.03	-1.69	-1.30	-0.20
	USACE High	-3.21	-2.91	-2.55	-2.27	-1.86	-1.52	-1.13	-0.03
2033	USACE Int	-3.23	-2.93	-2.57	-2.29	-1.88	-1.54	-1.15	-0.05
	USACE High	-2.86	-2.56	-2.20	-1.92	-1.51	-1.17	-0.78	0.32
2043	USACE Int	-3.06	-2.76	-2.40	-2.12	-1.71	-1.37	-0.98	0.12
	USACE High	-2.43	-2.13	-1.77	-1.49	-1.08	-0.74	-0.35	0.75
2048	USACE Low	-3.22	-2.92	-2.56	-2.28	-1.87	-1.53	-1.14	-0.04
	USACE Int	-2.97	-2.67	-2.31	-2.03	-1.62	-1.28	-0.89	0.21
	USACE High	-2.19	-1.89	-1.53	-1.25	-0.84	-0.50	-0.11	0.99
2053	USACE Int	-2.88	-2.58	-2.22	-1.94	-1.53	-1.19	-0.80	0.30
	USACE High	-1.93	-1.63	-1.27	-0.99	-0.58	-0.24	0.15	1.25
2063	USACE Int	-2.68	-2.38	-2.02	-1.74	-1.33	-0.99	-0.60	0.50
	USACE High	-1.36	-1.06	-0.70	-0.42	-0.01	0.33	0.72	1.82
2073	USACE Low	-3.01	-2.71	-2.35	-2.07	-1.66	-1.32	-0.93	0.17
	USACE Int	-2.46	-2.16	-1.80	-1.52	-1.11	-0.77	-0.38	0.72
	USACE High	-0.71	-0.41	-0.05	0.23	0.64	0.98	1.37	2.47

Notes: Used ground elevations on as-built plans Y-1 near this area, but no structure was found to be labeled.

Structure Elevation(ft) <b>ZONE 1 BUILDING 10</b>	12.681	Depth of Water							
		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.59	-4.29	-3.93	-3.65	-3.24	-2.90	-2.51	-1.41
2023 (base year)	USACE Low	-4.49	-4.19	-3.83	-3.55	-3.14	-2.80	-2.41	-1.31
	USACE Int	-4.44	-4.14	-3.78	-3.50	-3.09	-2.75	-2.36	-1.26
	USACE High	-4.27	-3.97	-3.61	-3.33	-2.92	-2.58	-2.19	-1.09
2033	USACE Int	-4.29	-3.99	-3.63	-3.35	-2.94	-2.60	-2.21	-1.11
	USACE High	-3.92	-3.62	-3.26	-2.98	-2.57	-2.23	-1.84	-0.74
2043	USACE Int	-4.12	-3.82	-3.46	-3.18	-2.77	-2.43	-2.04	-0.94
	USACE High	-3.49	-3.19	-2.83	-2.55	-2.14	-1.80	-1.41	-0.31
2048	USACE Low	-4.28	-3.98	-3.62	-3.34	-2.93	-2.59	-2.20	-1.10
	USACE Int	-4.03	-3.73	-3.37	-3.09	-2.68	-2.34	-1.95	-0.85
	USACE High	-3.25	-2.95	-2.59	-2.31	-1.90	-1.56	-1.17	-0.07
2053	USACE Int	-3.94	-3.64	-3.28	-3.00	-2.59	-2.25	-1.86	-0.76
	USACE High	-2.99	-2.69	-2.33	-2.05	-1.64	-1.30	-0.91	0.19
2063	USACE Int	-3.74	-3.44	-3.08	-2.80	-2.39	-2.05	-1.66	-0.56
	USACE High	-2.42	-2.12	-1.76	-1.48	-1.07	-0.73	-0.34	0.76
2073	USACE Low	-4.07	-3.77	-3.41	-3.13	-2.72	-2.38	-1.99	-0.89
	USACE Int	-3.52	-3.22	-2.86	-2.58	-2.17	-1.83	-1.44	-0.34
	USACE High	-1.77	-1.47	-1.11	-0.83	-0.42	-0.08	0.31	1.41

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft) <b>ZONE 1 BUILDING 12</b>	12.188	Depth of Water							
		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.10	-3.80	-3.44	-3.16	-2.75	-2.41	-2.02	-0.92
2023 (base year)	USACE Low	-4.00	-3.70	-3.34	-3.06	-2.65	-2.31	-1.92	-0.82
	USACE Int	-3.95	-3.65	-3.29	-3.01	-2.60	-2.26	-1.87	-0.77
	USACE High	-3.78	-3.48	-3.12	-2.84	-2.43	-2.09	-1.70	-0.60
2033									
	USACE Int	-3.80	-3.50	-3.14	-2.86	-2.45	-2.11	-1.72	-0.62
	USACE High	-3.43	-3.13	-2.77	-2.49	-2.08	-1.74	-1.35	-0.25
2043									
	USACE Int	-3.63	-3.33	-2.97	-2.69	-2.28	-1.94	-1.55	-0.45
	USACE High	-3.00	-2.70	-2.34	-2.06	-1.65	-1.31	-0.92	0.18
2048	USACE Low	-3.79	-3.49	-3.13	-2.85	-2.44	-2.10	-1.71	-0.61
	USACE Int	-3.54	-3.24	-2.88	-2.60	-2.19	-1.85	-1.46	-0.36
	USACE High	-2.76	-2.46	-2.10	-1.82	-1.41	-1.07	-0.68	0.42
2053									
	USACE Int	-3.45	-3.15	-2.79	-2.51	-2.10	-1.76	-1.37	-0.27
	USACE High	-2.50	-2.20	-1.84	-1.56	-1.15	-0.81	-0.42	0.68
2063									
	USACE Int	-3.25	-2.95	-2.59	-2.31	-1.90	-1.56	-1.17	-0.07
	USACE High	-1.93	-1.63	-1.27	-0.99	-0.58	-0.24	0.15	1.25
2073	USACE Low	-3.58	-3.28	-2.92	-2.64	-2.23	-1.89	-1.50	-0.40
	USACE Int	-3.03	-2.73	-2.37	-2.09	-1.68	-1.34	-0.95	0.15
	USACE High	-1.28	-0.98	-0.62	-0.34	0.07	0.41	0.80	1.90

Notes: Updated with building floor slab elevation from survey 09/26-27

**ZONE 2**

Structure Elevation(ft)		Depth of Water							
11.15		FEET-NAVD88							
ZONE 2 BUILDING 1									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.06	-2.76	-2.40	-2.12	-1.71	-1.37	-0.98	0.12
2023 (base year)	USACE Low	-2.96	-2.66	-2.30	-2.02	-1.61	-1.27	-0.88	0.22
	USACE Int	-2.91	-2.61	-2.25	-1.97	-1.56	-1.22	-0.83	0.27
	USACE High	-2.74	-2.44	-2.08	-1.80	-1.39	-1.05	-0.66	0.44
2033	USACE Int	-2.76	-2.46	-2.10	-1.82	-1.41	-1.07	-0.68	0.42
	USACE High	-2.39	-2.09	-1.73	-1.45	-1.04	-0.70	-0.31	0.79
2043	USACE Int	-2.59	-2.29	-1.93	-1.65	-1.24	-0.90	-0.51	0.59
	USACE High	-1.96	-1.66	-1.30	-1.02	-0.61	-0.27	0.12	1.22
2048	USACE Low	-2.75	-2.45	-2.09	-1.81	-1.40	-1.06	-0.67	0.43
	USACE Int	-2.50	-2.20	-1.84	-1.56	-1.15	-0.81	-0.42	0.68
	USACE High	-1.72	-1.42	-1.06	-0.78	-0.37	-0.03	0.36	1.46
2053	USACE Int	-2.41	-2.11	-1.75	-1.47	-1.06	-0.72	-0.33	0.77
	USACE High	-1.46	-1.16	-0.80	-0.52	-0.11	0.23	0.62	1.72
2063	USACE Int	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.97
	USACE High	-0.89	-0.59	-0.23	0.05	0.46	0.80	1.19	2.29
2073	USACE Low	-2.54	-2.24	-1.88	-1.60	-1.19	-0.85	-0.46	0.64
	USACE Int	-1.99	-1.69	-1.33	-1.05	-0.64	-0.30	0.09	1.19
	USACE High	-0.24	0.06	0.42	0.70	1.11	1.45	1.84	2.94

Notes: Used lowest elevation bottom v-notch weir, clearly labeled for the structure on the as-built plans

Structure Elevation(ft)		Depth of Water							
10.92		FEET-NAVD88							
ZONE 2 BUILDING 2		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.83	-2.53	-2.17	-1.89	-1.48	-1.14	-0.75	0.35
2023 (base year)	USACE Low	-2.73	-2.43	-2.07	-1.79	-1.38	-1.04	-0.65	0.45
	USACE Int	-2.68	-2.38	-2.02	-1.74	-1.33	-0.99	-0.60	0.50
	USACE High	-2.51	-2.21	-1.85	-1.57	-1.16	-0.82	-0.43	0.67
2033									
	USACE Int	-2.53	-2.23	-1.87	-1.59	-1.18	-0.84	-0.45	0.65
	USACE High	-2.16	-1.86	-1.50	-1.22	-0.81	-0.47	-0.08	1.02
2043									
	USACE Int	-2.36	-2.06	-1.70	-1.42	-1.01	-0.67	-0.28	0.82
	USACE High	-1.73	-1.43	-1.07	-0.79	-0.38	-0.04	0.35	1.45
2048	USACE Low	-2.52	-2.22	-1.86	-1.58	-1.17	-0.83	-0.44	0.66
	USACE Int	-2.27	-1.97	-1.61	-1.33	-0.92	-0.58	-0.19	0.91
	USACE High	-1.49	-1.19	-0.83	-0.55	-0.14	0.20	0.59	1.69
2053									
	USACE Int	-2.18	-1.88	-1.52	-1.24	-0.83	-0.49	-0.10	1.00
	USACE High	-1.23	-0.93	-0.57	-0.29	0.12	0.46	0.85	1.95
2063									
	USACE Int	-1.98	-1.68	-1.32	-1.04	-0.63	-0.29	0.10	1.20
	USACE High	-0.66	-0.36	0.00	0.28	0.69	1.03	1.42	2.52
2073	USACE Low	-2.31	-2.01	-1.65	-1.37	-0.96	-0.62	-0.23	0.87
	USACE Int	-1.76	-1.46	-1.10	-0.82	-0.41	-0.07	0.32	1.42
	USACE High	-0.01	0.29	0.65	0.93	1.34	1.68	2.07	3.17

Notes: Elevation clearly labeled for the structure on the as-built plans

Structure Elevation(ft)		Depth of Water							
10.32		FEET-NAVD88							
ZONE 2 BUILDING 3									
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.23	-1.93	-1.57	-1.29	-0.88	-0.54	-0.15	0.95
2023 (base year)	USACE Low	-2.13	-1.83	-1.47	-1.19	-0.78	-0.44	-0.05	1.05
	USACE Int	-2.08	-1.78	-1.42	-1.14	-0.73	-0.39	0.00	1.10
	USACE High	-1.91	-1.61	-1.25	-0.97	-0.56	-0.22	0.17	1.27
2033									
	USACE Int	-1.93	-1.63	-1.27	-0.99	-0.58	-0.24	0.15	1.25
	USACE High	-1.56	-1.26	-0.90	-0.62	-0.21	0.13	0.52	1.62
2043									
	USACE Int	-1.76	-1.46	-1.10	-0.82	-0.41	-0.07	0.32	1.42
	USACE High	-1.13	-0.83	-0.47	-0.19	0.22	0.56	0.95	2.05
2048	USACE Low	-1.92	-1.62	-1.26	-0.98	-0.57	-0.23	0.16	1.26
	USACE Int	-1.67	-1.37	-1.01	-0.73	-0.32	0.02	0.41	1.51
	USACE High	-0.89	-0.59	-0.23	0.05	0.46	0.80	1.19	2.29
2053									
	USACE Int	-1.58	-1.28	-0.92	-0.64	-0.23	0.11	0.50	1.60
	USACE High	-0.63	-0.33	0.03	0.31	0.72	1.06	1.45	2.55
2063									
	USACE Int	-1.38	-1.08	-0.72	-0.44	-0.03	0.31	0.70	1.80
	USACE High	-0.06	0.24	0.60	0.88	1.29	1.63	2.02	3.12
2073	USACE Low	-1.71	-1.41	-1.05	-0.77	-0.36	-0.02	0.37	1.47
	USACE Int	-1.16	-0.86	-0.50	-0.22	0.19	0.53	0.92	2.02
	USACE High	0.59	0.89	1.25	1.53	1.94	2.28	2.67	3.77

Notes: Between plan drawings, not as clear, took ground elevations near the structure.



Structure Elevation(ft)	11.186	Depth of Water							
ZONE 2 BUILDING 4		FEET-NAVD88							
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.10	-2.80	-2.44	-2.16	-1.75	-1.41	-1.02	0.08
2023 (base year)	USACE Low	-3.00	-2.70	-2.34	-2.06	-1.65	-1.31	-0.92	0.18
	USACE Int	-2.95	-2.65	-2.29	-2.01	-1.60	-1.26	-0.87	0.23
	USACE High	-2.78	-2.48	-2.12	-1.84	-1.43	-1.09	-0.70	0.40
2033	USACE Int	-2.80	-2.50	-2.14	-1.86	-1.45	-1.11	-0.72	0.38
	USACE High	-2.43	-2.13	-1.77	-1.49	-1.08	-0.74	-0.35	0.75
2043	USACE Int	-2.63	-2.33	-1.97	-1.69	-1.28	-0.94	-0.55	0.55
	USACE High	-2.00	-1.70	-1.34	-1.06	-0.65	-0.31	0.08	1.18
2048	USACE Low	-2.79	-2.49	-2.13	-1.85	-1.44	-1.10	-0.71	0.39
	USACE Int	-2.54	-2.24	-1.88	-1.60	-1.19	-0.85	-0.46	0.64
	USACE High	-1.76	-1.46	-1.10	-0.82	-0.41	-0.07	0.32	1.42
2053	USACE Int	-2.45	-2.15	-1.79	-1.51	-1.10	-0.76	-0.37	0.73
	USACE High	-1.50	-1.20	-0.84	-0.56	-0.15	0.19	0.58	1.68
2063	USACE Int	-2.25	-1.95	-1.59	-1.31	-0.90	-0.56	-0.17	0.93
	USACE High	-0.93	-0.63	-0.27	0.01	0.42	0.76	1.15	2.25
2073	USACE Low	-2.58	-2.28	-1.92	-1.64	-1.23	-0.89	-0.50	0.60
	USACE Int	-2.03	-1.73	-1.37	-1.09	-0.68	-0.34	0.05	1.15
	USACE High	-0.28	0.02	0.38	0.66	1.07	1.41	1.80	2.90

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
10.614		FEET-NAVD88							
ZONE 2 BUILDING 5		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-2.52	-2.22	-1.86	-1.58	-1.17	-0.83	-0.44	0.66
2023 (base year)	USACE Low	-2.42	-2.12	-1.76	-1.48	-1.07	-0.73	-0.34	0.76
	USACE Int	-2.37	-2.07	-1.71	-1.43	-1.02	-0.68	-0.29	0.81
	USACE High	-2.20	-1.90	-1.54	-1.26	-0.85	-0.51	-0.12	0.98
2033									
	USACE Int	-2.22	-1.92	-1.56	-1.28	-0.87	-0.53	-0.14	0.96
	USACE High	-1.85	-1.55	-1.19	-0.91	-0.50	-0.16	0.23	1.33
2043									
	USACE Int	-2.05	-1.75	-1.39	-1.11	-0.70	-0.36	0.03	1.13
	USACE High	-1.42	-1.12	-0.76	-0.48	-0.07	0.27	0.66	1.76
2048	USACE Low	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.97
	USACE Int	-1.96	-1.66	-1.30	-1.02	-0.61	-0.27	0.12	1.22
	USACE High	-1.18	-0.88	-0.52	-0.24	0.17	0.51	0.90	2.00
2053									
	USACE Int	-1.87	-1.57	-1.21	-0.93	-0.52	-0.18	0.21	1.31
	USACE High	-0.92	-0.62	-0.26	0.02	0.43	0.77	1.16	2.26
2063									
	USACE Int	-1.67	-1.37	-1.01	-0.73	-0.32	0.02	0.41	1.51
	USACE High	-0.35	-0.05	0.31	0.59	1.00	1.34	1.73	2.83
2073	USACE Low	-2.00	-1.70	-1.34	-1.06	-0.65	-0.31	0.08	1.18
	USACE Int	-1.45	-1.15	-0.79	-0.51	-0.10	0.24	0.63	1.73
	USACE High	0.30	0.60	0.96	1.24	1.65	1.99	2.38	3.48

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
11.888		FEET-NAVD88							
ZONE 2 BUILDING 6		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-3.80	-3.50	-3.14	-2.86	-2.45	-2.11	-1.72	-0.62
2023 (base year)	USACE Low	-3.70	-3.40	-3.04	-2.76	-2.35	-2.01	-1.62	-0.52
	USACE Int	-3.65	-3.35	-2.99	-2.71	-2.30	-1.96	-1.57	-0.47
	USACE High	-3.48	-3.18	-2.82	-2.54	-2.13	-1.79	-1.40	-0.30
2033									
	USACE Int	-3.50	-3.20	-2.84	-2.56	-2.15	-1.81	-1.42	-0.32
	USACE High	-3.13	-2.83	-2.47	-2.19	-1.78	-1.44	-1.05	0.05
2043									
	USACE Int	-3.33	-3.03	-2.67	-2.39	-1.98	-1.64	-1.25	-0.15
	USACE High	-2.70	-2.40	-2.04	-1.76	-1.35	-1.01	-0.62	0.48
2048	USACE Low	-3.49	-3.19	-2.83	-2.55	-2.14	-1.80	-1.41	-0.31
	USACE Int	-3.24	-2.94	-2.58	-2.30	-1.89	-1.55	-1.16	-0.06
	USACE High	-2.46	-2.16	-1.80	-1.52	-1.11	-0.77	-0.38	0.72
2053									
	USACE Int	-3.15	-2.85	-2.49	-2.21	-1.80	-1.46	-1.07	0.03
	USACE High	-2.20	-1.90	-1.54	-1.26	-0.85	-0.51	-0.12	0.98
2063									
	USACE Int	-2.95	-2.65	-2.29	-2.01	-1.60	-1.26	-0.87	0.23
	USACE High	-1.63	-1.33	-0.97	-0.69	-0.28	0.06	0.45	1.55
2073	USACE Low	-3.28	-2.98	-2.62	-2.34	-1.93	-1.59	-1.20	-0.10
	USACE Int	-2.73	-2.43	-2.07	-1.79	-1.38	-1.04	-0.65	0.45
	USACE High	-0.98	-0.68	-0.32	-0.04	0.37	0.71	1.10	2.20

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
12.683		FEET-NAVD88							
ZONE 2 BUILDING 7		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.59	-4.29	-3.93	-3.65	-3.24	-2.90	-2.51	-1.41
2023 (base year)	USACE Low	-4.49	-4.19	-3.83	-3.55	-3.14	-2.80	-2.41	-1.31
	USACE Int	-4.44	-4.14	-3.78	-3.50	-3.09	-2.75	-2.36	-1.26
	USACE High	-4.27	-3.97	-3.61	-3.33	-2.92	-2.58	-2.19	-1.09
2033									
	USACE Int	-4.29	-3.99	-3.63	-3.35	-2.94	-2.60	-2.21	-1.11
	USACE High	-3.92	-3.62	-3.26	-2.98	-2.57	-2.23	-1.84	-0.74
2043									
	USACE Int	-4.12	-3.82	-3.46	-3.18	-2.77	-2.43	-2.04	-0.94
	USACE High	-3.49	-3.19	-2.83	-2.55	-2.14	-1.80	-1.41	-0.31
2048	USACE Low	-4.28	-3.98	-3.62	-3.34	-2.93	-2.59	-2.20	-1.10
	USACE Int	-4.03	-3.73	-3.37	-3.09	-2.68	-2.34	-1.95	-0.85
	USACE High	-3.25	-2.95	-2.59	-2.31	-1.90	-1.56	-1.17	-0.07
2053									
	USACE Int	-3.94	-3.64	-3.28	-3.00	-2.59	-2.25	-1.86	-0.76
	USACE High	-2.99	-2.69	-2.33	-2.05	-1.64	-1.30	-0.91	0.19
2063									
	USACE Int	-3.74	-3.44	-3.08	-2.80	-2.39	-2.05	-1.66	-0.56
	USACE High	-2.42	-2.12	-1.76	-1.48	-1.07	-0.73	-0.34	0.76
2073	USACE Low	-4.07	-3.77	-3.41	-3.13	-2.72	-2.38	-1.99	-0.89
	USACE Int	-3.52	-3.22	-2.86	-2.58	-2.17	-1.83	-1.44	-0.34
	USACE High	-1.77	-1.47	-1.11	-0.83	-0.42	-0.08	0.31	1.41

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
12.52		FEET-NAVD88							
ZONE 2 BUILDING 8									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.43	-4.13	-3.77	-3.49	-3.08	-2.74	-2.35	-1.25
2023 (base year)	USACE Low	-4.33	-4.03	-3.67	-3.39	-2.98	-2.64	-2.25	-1.15
	USACE Int	-4.28	-3.98	-3.62	-3.34	-2.93	-2.59	-2.20	-1.10
	USACE High	-4.11	-3.81	-3.45	-3.17	-2.76	-2.42	-2.03	-0.93
2033									
	USACE Int	-4.13	-3.83	-3.47	-3.19	-2.78	-2.44	-2.05	-0.95
	USACE High	-3.76	-3.46	-3.10	-2.82	-2.41	-2.07	-1.68	-0.58
2043									
	USACE Int	-3.96	-3.66	-3.30	-3.02	-2.61	-2.27	-1.88	-0.78
	USACE High	-3.33	-3.03	-2.67	-2.39	-1.98	-1.64	-1.25	-0.15
2048	USACE Low	-4.12	-3.82	-3.46	-3.18	-2.77	-2.43	-2.04	-0.94
	USACE Int	-3.87	-3.57	-3.21	-2.93	-2.52	-2.18	-1.79	-0.69
	USACE High	-3.09	-2.79	-2.43	-2.15	-1.74	-1.40	-1.01	0.09
2053									
	USACE Int	-3.78	-3.48	-3.12	-2.84	-2.43	-2.09	-1.70	-0.60
	USACE High	-2.83	-2.53	-2.17	-1.89	-1.48	-1.14	-0.75	0.35
2063									
	USACE Int	-3.58	-3.28	-2.92	-2.64	-2.23	-1.89	-1.50	-0.40
	USACE High	-2.26	-1.96	-1.60	-1.32	-0.91	-0.57	-0.18	0.92
2073	USACE Low	-3.91	-3.61	-3.25	-2.97	-2.56	-2.22	-1.83	-0.73
	USACE Int	-3.36	-3.06	-2.70	-2.42	-2.01	-1.67	-1.28	-0.18
	USACE High	-1.61	-1.31	-0.95	-0.67	-0.26	0.08	0.47	1.57

Notes: Elevation clearly labeled for the structure on the as-built plans

Structure Elevation(ft)		Depth of Water							
13.42		FEET-NAVD88							
ZONE 2 BUILDING 9		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-5.33	-5.03	-4.67	-4.39	-3.98	-3.64	-3.25	-2.15
2023 (base year)	USACE Low	-5.23	-4.93	-4.57	-4.29	-3.88	-3.54	-3.15	-2.05
	USACE Int	-5.18	-4.88	-4.52	-4.24	-3.83	-3.49	-3.10	-2.00
	USACE High	-5.01	-4.71	-4.35	-4.07	-3.66	-3.32	-2.93	-1.83
2033									
	USACE Int	-5.03	-4.73	-4.37	-4.09	-3.68	-3.34	-2.95	-1.85
	USACE High	-4.66	-4.36	-4.00	-3.72	-3.31	-2.97	-2.58	-1.48
2043									
	USACE Int	-4.86	-4.56	-4.20	-3.92	-3.51	-3.17	-2.78	-1.68
	USACE High	-4.23	-3.93	-3.57	-3.29	-2.88	-2.54	-2.15	-1.05
2048	USACE Low	-5.02	-4.72	-4.36	-4.08	-3.67	-3.33	-2.94	-1.84
	USACE Int	-4.77	-4.47	-4.11	-3.83	-3.42	-3.08	-2.69	-1.59
	USACE High	-3.99	-3.69	-3.33	-3.05	-2.64	-2.30	-1.91	-0.81
2053									
	USACE Int	-4.68	-4.38	-4.02	-3.74	-3.33	-2.99	-2.60	-1.50
	USACE High	-3.73	-3.43	-3.07	-2.79	-2.38	-2.04	-1.65	-0.55
2063									
	USACE Int	-4.48	-4.18	-3.82	-3.54	-3.13	-2.79	-2.40	-1.30
	USACE High	-3.16	-2.86	-2.50	-2.22	-1.81	-1.47	-1.08	0.02
2073	USACE Low	-4.81	-4.51	-4.15	-3.87	-3.46	-3.12	-2.73	-1.63
	USACE Int	-4.26	-3.96	-3.60	-3.32	-2.91	-2.57	-2.18	-1.08
	USACE High	-2.51	-2.21	-1.85	-1.57	-1.16	-0.82	-0.43	0.67

Notes: Lower than the terrain lidar which shows about 17.7 ft at the crest. Still no flooding in any scenario.

ZONE 3

Structure Elevation(ft)		Depth of Water							
12.12		FEET-NAVD88							
ZONE 3 BUILDING 1									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-4.03	-3.73	-3.37	-3.09	-2.68	-2.34	-1.95	-0.85
2023 (base year)	USACE Low	-3.93	-3.63	-3.27	-2.99	-2.58	-2.24	-1.85	-0.75
	USACE Int	-3.88	-3.58	-3.22	-2.94	-2.53	-2.19	-1.80	-0.70
	USACE High	-3.71	-3.41	-3.05	-2.77	-2.36	-2.02	-1.63	-0.53
2033	USACE Int	-3.73	-3.43	-3.07	-2.79	-2.38	-2.04	-1.65	-0.55
	USACE High	-3.36	-3.06	-2.70	-2.42	-2.01	-1.67	-1.28	-0.18
2043	USACE Int	-3.56	-3.26	-2.90	-2.62	-2.21	-1.87	-1.48	-0.38
	USACE High	-2.93	-2.63	-2.27	-1.99	-1.58	-1.24	-0.85	0.25
2048	USACE Low	-3.72	-3.42	-3.06	-2.78	-2.37	-2.03	-1.64	-0.54
	USACE Int	-3.47	-3.17	-2.81	-2.53	-2.12	-1.78	-1.39	-0.29
	USACE High	-2.69	-2.39	-2.03	-1.75	-1.34	-1.00	-0.61	0.49
2053	USACE Int	-3.38	-3.08	-2.72	-2.44	-2.03	-1.69	-1.30	-0.20
	USACE High	-2.43	-2.13	-1.77	-1.49	-1.08	-0.74	-0.35	0.75
2063	USACE Int	-3.18	-2.88	-2.52	-2.24	-1.83	-1.49	-1.10	0.00
	USACE High	-1.86	-1.56	-1.20	-0.92	-0.51	-0.17	0.22	1.32
2073	USACE Low	-3.51	-3.21	-2.85	-2.57	-2.16	-1.82	-1.43	-0.33
	USACE Int	-2.96	-2.66	-2.30	-2.02	-1.61	-1.27	-0.88	0.22
	USACE High	-1.21	-0.91	-0.55	-0.27	0.14	0.48	0.87	1.97

Notes: Used ground elevations on as-built plans Y-3 near this area, but no structure was found to be labeled.

Structure Elevation(ft)		Depth of Water							
13.12		FEET-NAVD88							
ZONE 3 BUILDING 2		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-5.03	-4.73	-4.37	-4.09	-3.68	-3.34	-2.95	-1.85
2023 (base year)	USACE Low	-4.93	-4.63	-4.27	-3.99	-3.58	-3.24	-2.85	-1.75
	USACE Int	-4.88	-4.58	-4.22	-3.94	-3.53	-3.19	-2.80	-1.70
	USACE High	-4.71	-4.41	-4.05	-3.77	-3.36	-3.02	-2.63	-1.53
2033									
	USACE Int	-4.73	-4.43	-4.07	-3.79	-3.38	-3.04	-2.65	-1.55
	USACE High	-4.36	-4.06	-3.70	-3.42	-3.01	-2.67	-2.28	-1.18
2043									
	USACE Int	-4.56	-4.26	-3.90	-3.62	-3.21	-2.87	-2.48	-1.38
	USACE High	-3.93	-3.63	-3.27	-2.99	-2.58	-2.24	-1.85	-0.75
2048	USACE Low	-4.72	-4.42	-4.06	-3.78	-3.37	-3.03	-2.64	-1.54
	USACE Int	-4.47	-4.17	-3.81	-3.53	-3.12	-2.78	-2.39	-1.29
	USACE High	-3.69	-3.39	-3.03	-2.75	-2.34	-2.00	-1.61	-0.51
2053									
	USACE Int	-4.38	-4.08	-3.72	-3.44	-3.03	-2.69	-2.30	-1.20
	USACE High	-3.43	-3.13	-2.77	-2.49	-2.08	-1.74	-1.35	-0.25
2063									
	USACE Int	-4.18	-3.88	-3.52	-3.24	-2.83	-2.49	-2.10	-1.00
	USACE High	-2.86	-2.56	-2.20	-1.92	-1.51	-1.17	-0.78	0.32
2073	USACE Low	-4.51	-4.21	-3.85	-3.57	-3.16	-2.82	-2.43	-1.33
	USACE Int	-3.96	-3.66	-3.30	-3.02	-2.61	-2.27	-1.88	-0.78
	USACE High	-2.21	-1.91	-1.55	-1.27	-0.86	-0.52	-0.13	0.97

Notes: Elevation clearly labeled for the structure on the as-built plans



Structure Elevation(ft)	13.62	Depth of Water							
ZONE 3 BUILDING 3		FEET-NAVD88							
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-5.53	-5.23	-4.87	-4.59	-4.18	-3.84	-3.45	-2.35
2023 (base year)	USACE Low	-5.43	-5.13	-4.77	-4.49	-4.08	-3.74	-3.35	-2.25
	USACE Int	-5.38	-5.08	-4.72	-4.44	-4.03	-3.69	-3.30	-2.20
	USACE High	-5.21	-4.91	-4.55	-4.27	-3.86	-3.52	-3.13	-2.03
2033	USACE Int	-5.23	-4.93	-4.57	-4.29	-3.88	-3.54	-3.15	-2.05
	USACE High	-4.86	-4.56	-4.20	-3.92	-3.51	-3.17	-2.78	-1.68
2043	USACE Int	-5.06	-4.76	-4.40	-4.12	-3.71	-3.37	-2.98	-1.88
	USACE High	-4.43	-4.13	-3.77	-3.49	-3.08	-2.74	-2.35	-1.25
2048	USACE Low	-5.22	-4.92	-4.56	-4.28	-3.87	-3.53	-3.14	-2.04
	USACE Int	-4.97	-4.67	-4.31	-4.03	-3.62	-3.28	-2.89	-1.79
	USACE High	-4.19	-3.89	-3.53	-3.25	-2.84	-2.50	-2.11	-1.01
2053	USACE Int	-4.88	-4.58	-4.22	-3.94	-3.53	-3.19	-2.80	-1.70
	USACE High	-3.93	-3.63	-3.27	-2.99	-2.58	-2.24	-1.85	-0.75
2063	USACE Int	-4.68	-4.38	-4.02	-3.74	-3.33	-2.99	-2.60	-1.50
	USACE High	-3.36	-3.06	-2.70	-2.42	-2.01	-1.67	-1.28	-0.18
2073	USACE Low	-5.01	-4.71	-4.35	-4.07	-3.66	-3.32	-2.93	-1.83
	USACE Int	-4.46	-4.16	-3.80	-3.52	-3.11	-2.77	-2.38	-1.28
	USACE High	-2.71	-2.41	-2.05	-1.77	-1.36	-1.02	-0.63	0.47

Notes: Lowest elevation of elevations clearly labeled for the structure on the as-built plans

Structure Elevation(ft)		Depth of Water							
14.963		FEET-NAVD88							
ZONE 3 BUILDING 4		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-6.87	-6.57	-6.21	-5.93	-5.52	-5.18	-4.79	-3.69
2023 (base year)	USACE Low	-6.77	-6.47	-6.11	-5.83	-5.42	-5.08	-4.69	-3.59
	USACE Int	-6.72	-6.42	-6.06	-5.78	-5.37	-5.03	-4.64	-3.54
	USACE High	-6.55	-6.25	-5.89	-5.61	-5.20	-4.86	-4.47	-3.37
2033									
	USACE Int	-6.57	-6.27	-5.91	-5.63	-5.22	-4.88	-4.49	-3.39
	USACE High	-6.20	-5.90	-5.54	-5.26	-4.85	-4.51	-4.12	-3.02
2043									
	USACE Int	-6.40	-6.10	-5.74	-5.46	-5.05	-4.71	-4.32	-3.22
	USACE High	-5.77	-5.47	-5.11	-4.83	-4.42	-4.08	-3.69	-2.59
2048	USACE Low	-6.56	-6.26	-5.90	-5.62	-5.21	-4.87	-4.48	-3.38
	USACE Int	-6.31	-6.01	-5.65	-5.37	-4.96	-4.62	-4.23	-3.13
	USACE High	-5.53	-5.23	-4.87	-4.59	-4.18	-3.84	-3.45	-2.35
2053									
	USACE Int	-6.22	-5.92	-5.56	-5.28	-4.87	-4.53	-4.14	-3.04
	USACE High	-5.27	-4.97	-4.61	-4.33	-3.92	-3.58	-3.19	-2.09
2063									
	USACE Int	-6.02	-5.72	-5.36	-5.08	-4.67	-4.33	-3.94	-2.84
	USACE High	-4.70	-4.40	-4.04	-3.76	-3.35	-3.01	-2.62	-1.52
2073	USACE Low	-6.35	-6.05	-5.69	-5.41	-5.00	-4.66	-4.27	-3.17
	USACE Int	-5.80	-5.50	-5.14	-4.86	-4.45	-4.11	-3.72	-2.62
	USACE High	-4.05	-3.75	-3.39	-3.11	-2.70	-2.36	-1.97	-0.87

Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
14.32		FEET-NAVD88							
ZONE 3 BUILDING 5		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-6.23	-5.93	-5.57	-5.29	-4.88	-4.54	-4.15	-3.05
2023 (base year)	USACE Low	-6.13	-5.83	-5.47	-5.19	-4.78	-4.44	-4.05	-2.95
	USACE Int	-6.08	-5.78	-5.42	-5.14	-4.73	-4.39	-4.00	-2.90
	USACE High	-5.91	-5.61	-5.25	-4.97	-4.56	-4.22	-3.83	-2.73
2033									
	USACE Int	-5.93	-5.63	-5.27	-4.99	-4.58	-4.24	-3.85	-2.75
	USACE High	-5.56	-5.26	-4.90	-4.62	-4.21	-3.87	-3.48	-2.38
2043									
	USACE Int	-5.76	-5.46	-5.10	-4.82	-4.41	-4.07	-3.68	-2.58
	USACE High	-5.13	-4.83	-4.47	-4.19	-3.78	-3.44	-3.05	-1.95
2048	USACE Low	-5.92	-5.62	-5.26	-4.98	-4.57	-4.23	-3.84	-2.74
	USACE Int	-5.67	-5.37	-5.01	-4.73	-4.32	-3.98	-3.59	-2.49
	USACE High	-4.89	-4.59	-4.23	-3.95	-3.54	-3.20	-2.81	-1.71
2053									
	USACE Int	-5.58	-5.28	-4.92	-4.64	-4.23	-3.89	-3.50	-2.40
	USACE High	-4.63	-4.33	-3.97	-3.69	-3.28	-2.94	-2.55	-1.45
2063									
	USACE Int	-5.38	-5.08	-4.72	-4.44	-4.03	-3.69	-3.30	-2.20
	USACE High	-4.06	-3.76	-3.40	-3.12	-2.71	-2.37	-1.98	-0.88
2073	USACE Low	-5.71	-5.41	-5.05	-4.77	-4.36	-4.02	-3.63	-2.53
	USACE Int	-5.16	-4.86	-4.50	-4.22	-3.81	-3.47	-3.08	-1.98
	USACE High	-3.41	-3.11	-2.75	-2.47	-2.06	-1.72	-1.33	-0.23

Notes: Used ground elevations on as-built plans Y-3 near this area, but no structure was found to be labeled.

Structure Elevation(ft)		Depth of Water							
14.032		FEET-NAVD88							
ZONE 3 BUILDING 6									
Elevations from as-builts, survey, or terrain		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
2011	FEMA/AECOM base year	-5.94	-5.64	-5.28	-5.00	-4.59	-4.25	-3.86	-2.76
2023 (base year)	USACE Low	-5.84	-5.54	-5.18	-4.90	-4.49	-4.15	-3.76	-2.66
	USACE Int	-5.79	-5.49	-5.13	-4.85	-4.44	-4.10	-3.71	-2.61
	USACE High	-5.62	-5.32	-4.96	-4.68	-4.27	-3.93	-3.54	-2.44
2033									
	USACE Int	-5.64	-5.34	-4.98	-4.70	-4.29	-3.95	-3.56	-2.46
	USACE High	-5.27	-4.97	-4.61	-4.33	-3.92	-3.58	-3.19	-2.09
2043									
	USACE Int	-5.47	-5.17	-4.81	-4.53	-4.12	-3.78	-3.39	-2.29
	USACE High	-4.84	-4.54	-4.18	-3.90	-3.49	-3.15	-2.76	-1.66
2048	USACE Low	-5.63	-5.33	-4.97	-4.69	-4.28	-3.94	-3.55	-2.45
	USACE Int	-5.38	-5.08	-4.72	-4.44	-4.03	-3.69	-3.30	-2.20
	USACE High	-4.60	-4.30	-3.94	-3.66	-3.25	-2.91	-2.52	-1.42
2053									
	USACE Int	-5.29	-4.99	-4.63	-4.35	-3.94	-3.60	-3.21	-2.11
	USACE High	-4.34	-4.04	-3.68	-3.40	-2.99	-2.65	-2.26	-1.16
2063									
	USACE Int	-5.09	-4.79	-4.43	-4.15	-3.74	-3.40	-3.01	-1.91
	USACE High	-3.77	-3.47	-3.11	-2.83	-2.42	-2.08	-1.69	-0.59
2073	USACE Low	-5.42	-5.12	-4.76	-4.48	-4.07	-3.73	-3.34	-2.24
	USACE Int	-4.87	-4.57	-4.21	-3.93	-3.52	-3.18	-2.79	-1.69
	USACE High	-3.12	-2.82	-2.46	-2.18	-1.77	-1.43	-1.04	0.06

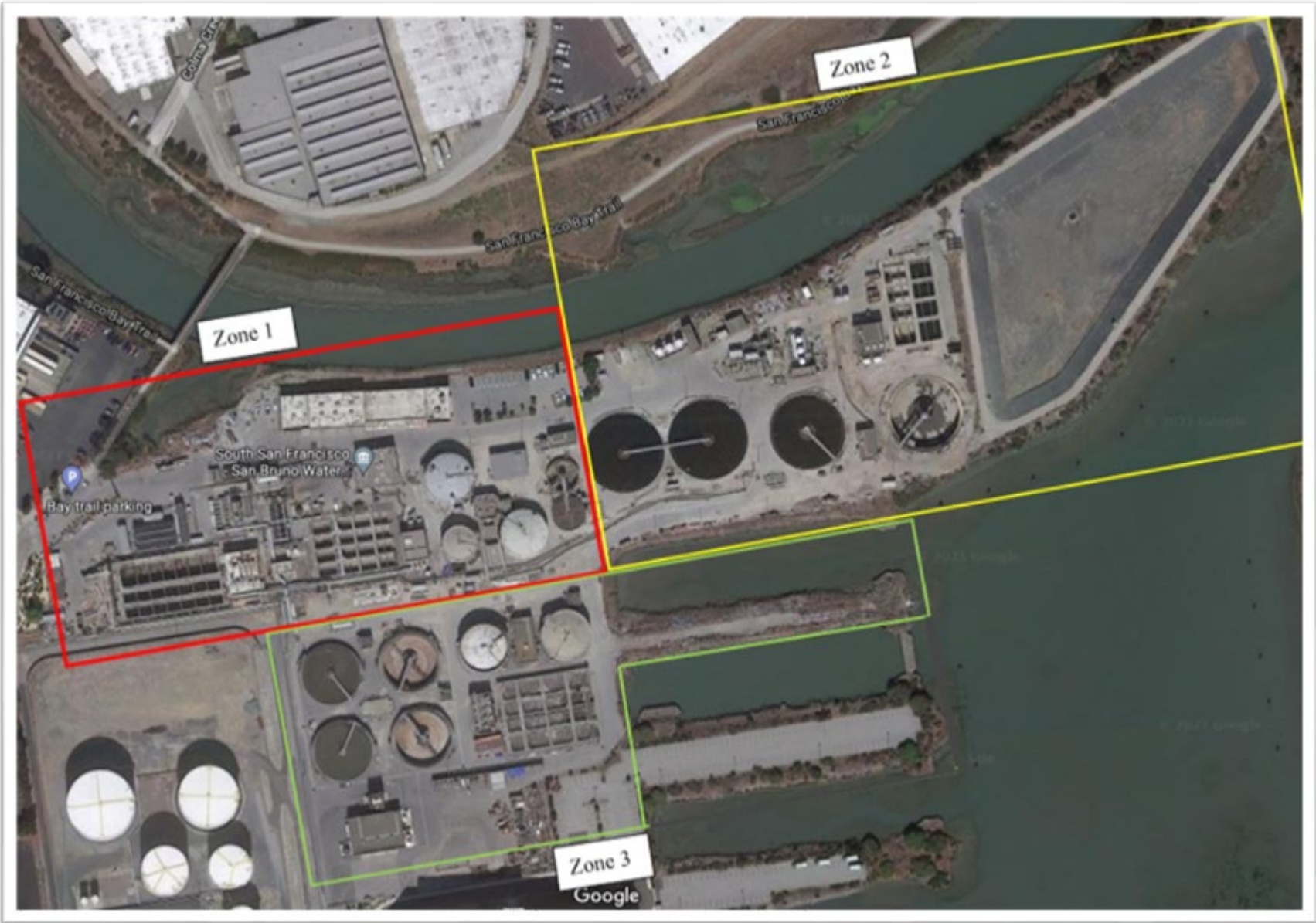
Notes: Updated with building floor slab elevation from survey 09/26-27

Structure Elevation(ft)		Depth of Water							
14.782		FEET-NAVD88							
ZONE 3 BUILDING 7		1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
<i>Elevations from as-builts, survey, or terrain</i>									
2011	FEMA/AECOM base year	-6.69	-6.39	-6.03	-5.75	-5.34	-5.00	-4.61	-3.51
2023 (base year)	USACE Low	-6.59	-6.29	-5.93	-5.65	-5.24	-4.90	-4.51	-3.41
	USACE Int	-6.54	-6.24	-5.88	-5.60	-5.19	-4.85	-4.46	-3.36
	USACE High	-6.37	-6.07	-5.71	-5.43	-5.02	-4.68	-4.29	-3.19
2033									
	USACE Int	-6.39	-6.09	-5.73	-5.45	-5.04	-4.70	-4.31	-3.21
	USACE High	-6.02	-5.72	-5.36	-5.08	-4.67	-4.33	-3.94	-2.84
2043									
	USACE Int	-6.22	-5.92	-5.56	-5.28	-4.87	-4.53	-4.14	-3.04
	USACE High	-5.59	-5.29	-4.93	-4.65	-4.24	-3.90	-3.51	-2.41
2048	USACE Low	-6.38	-6.08	-5.72	-5.44	-5.03	-4.69	-4.30	-3.20
	USACE Int	-6.13	-5.83	-5.47	-5.19	-4.78	-4.44	-4.05	-2.95
	USACE High	-5.35	-5.05	-4.69	-4.41	-4.00	-3.66	-3.27	-2.17
2053									
	USACE Int	-6.04	-5.74	-5.38	-5.10	-4.69	-4.35	-3.96	-2.86
	USACE High	-5.09	-4.79	-4.43	-4.15	-3.74	-3.40	-3.01	-1.91
2063									
	USACE Int	-5.84	-5.54	-5.18	-4.90	-4.49	-4.15	-3.76	-2.66
	USACE High	-4.52	-4.22	-3.86	-3.58	-3.17	-2.83	-2.44	-1.34
2073	USACE Low	-6.17	-5.87	-5.51	-5.23	-4.82	-4.48	-4.09	-2.99
	USACE Int	-5.62	-5.32	-4.96	-4.68	-4.27	-3.93	-3.54	-2.44
	USACE High	-3.87	-3.57	-3.21	-2.93	-2.52	-2.18	-1.79	-0.69

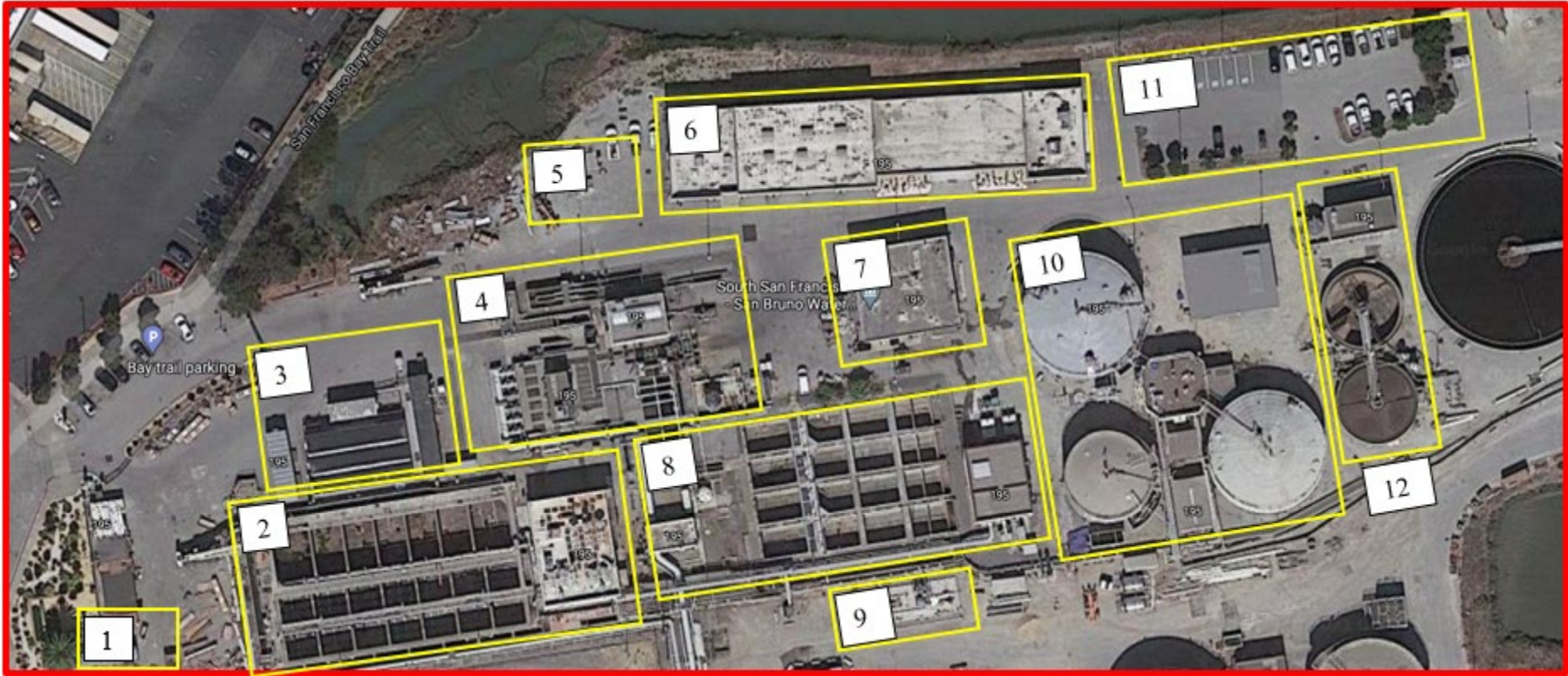
Notes: Updated with building floor slab elevation from survey 09/26-27

**APPENDIX C: BUILDING ZONES AND FACILITY FUNCTIONS**

**South San Francisco – San Bruno Water Quality Control Plant**



Zone 1



**Table 1: Zone 1 - Description of Facilities**

Building	Name/ID	Square Feet/Perimeter Feet	Stories	Construction	Purpose/Function
1	Natural Gas / Potable Water Feed	151 Perimeter Ft 1,421 Square Ft	1	Steel	High Pressure Natural Gas (PG&E) and Potable Water (CAL Water)
2	Aeration Basins 5,6,7 / Blower Building 1 / Cogeneration Building	698 Perimeter Ft 25,079 Square Ft	1	Concrete	Aerobic Activated Sludge Treatment / Associated Blowers / Cogen Engine / Associated Electrical MCC's & PLC's
3	MCC - B / Temporary Contractor Trailers	427 Perimeter Ft 10,627 Square Ft	1	Steel	Electrical Motor Control Center and Temp. Contractor Trailers

4	Influent Pump Station / Headworks Facilities / Influent Chemical Facility	555 Perimeter Ft 18,166 Square Ft	2	Concrete	Influent Pumps / Bar Screens / Grit Removal / Ferric/Polymer Chemicals / Associated Electrical MCC's & PLC's
5	Stormwater No. 4 Pump Station / Septage Receiving Station	289 Perimeter Ft 4,619 Square Ft	1	Concrete	Plant Stormwater Station and Septage Receiving Station
6	Maintenance Shop / Offices / Laboratory	669 Perimeter Ft 17,401 Square Ft	1	Steel	Maintenance Shop / Offices / Laboratory for Water Analysis / Associated Electrical MCC's & PLC's
7	Administration Building	302 Perimeter Ft 5,588 Square Ft	2	Concrete	Offices / Operations Control Center / SCADA & City Network Servers
8	Old Sludge Building / Equalization Tanks 1,2,3,4 / Generator No. 1 Building / EMS MCC / Transformer K	703 Perimeter Ft 25,023 Square Ft	2	Concrete	Pumps / Storage Tanks / Back - Up Utility Power Generator No. 1 / Associated Electrical MCC's & PLC's / EMS MCC / Transformer K Power Supply
9	Digester Gas Conditioning System	190 Perimeter Ft 1,967 Square Ft	1	Steel	Digester Gas Cleaning System / Associated Electrical MCC's
10	Digester 1,3 / Sludge Storage Tank / Digester Control Building / RTS Skid / Boiler No. 1 & 2	766 Perimeter Ft 36,498 Square Ft	1	Concrete	Anaerobic Digesters / Digester Thickening Equipment / Digester Mixing and Heating Equipment / Associated Electrical MCC's & PLC's
11	Employee Parking Lot / (Future Solar Panels)	528 Perimeter Ft 14,332 Square Ft	1	Concrete	Employee Parking Lot and Future Solar Panels
12	DAFT Building / Daft 1 & 2 / Stormwater 3 Pump Station	450 Perimeter Ft 10,512 Square Ft	1	Concrete	Waste Activated Sludge Thickening Equipment / Stormwater PS / Associated Electrical MCC's & PLC's



**Zone 2**



**Table 2: Zone 2 - Description of Facilities**

Building	Name/ID	Square Feet/Perimeter Feet	Stories	Construction	Purpose/Function
1	Secondary Clarifiers No. 1 & 2 / RAS/WAS Facility No. 1	751 Perimeter Ft 31,614 Square Ft	1	Concrete	Settling Tanks and Return and Waste pumps / Associated Electrical MCC's & PLC's
2	Mixed Liquor Channel / Flow Splitter No. 3	719 Perimeter Ft 15,415 Square Ft	1	Concrete	Flow Conveyance & Diversion Structures
3	Final Effluent Pump Station	315 Perimeter Ft 5,381 Square Ft	1	Concrete	Effluent Pump Station for SSF, SB, Burlingame, Millbrae & SFIA to SF Bay Outfall / Associated Electrical MCC's & PLC's
4	Sodium Bisulfite Dechlorination Facility	523 Perimeter Ft 10,875 Square Ft	1	Concrete	Dechlorination Facility for SSF, SB, Burlingame, Millbrae & SFIA to SF Bay Outfall / Pumps / Tanks / Associated Electrical MCC's & PLC's
5	Sodium Hypochlorite Disinfection Facility	261 Perimeter Ft 4,073 Square Ft	1	Concrete	Disinfection Facility / Pumps / Tanks / Associated Electrical MCC's & PLC's
6	Secondary Clarifiers No. 3 & 4 / RAS/WAS Facility No. 2	885 Perimeter Ft 41,462 Square Ft	2	Concrete	Settling Tanks and Return and Waste pumps / Associated Electrical MCC's & PLC's
7	Back - Up Utility Power Generator No. 2 / Transformer K-1 & K-3	269 Perimeter Ft 4,403 Square Ft	1	Concrete	Back - Up Utility Power Generator No. 2 / Associated Electrical MCC's & PLC's / Transformer K-1 and K-3 Power Supply
8	Chlorine Contact Basins / 3 Water Pumps / Near Shore Discharge Pipe / Stormwater No. 2 & 5 Pump Stations	800 Perimeter Ft 33,512 Square Ft	1	Concrete	Disinfection Tanks / 3 Water Pumps / Near Shore Discharge Pipe directly to Colma Creek / Storm Water PS's / Associated Electrical MCC's & PLC's
9	Effluent Storage Pond / Effluent Storage Pond Pumps	1,679 Perimeter Ft 144,886 Square Ft	1	Liner/Concrete	Digester Gas Cleaning System / Associated Electrical MCC's

### Zone 3

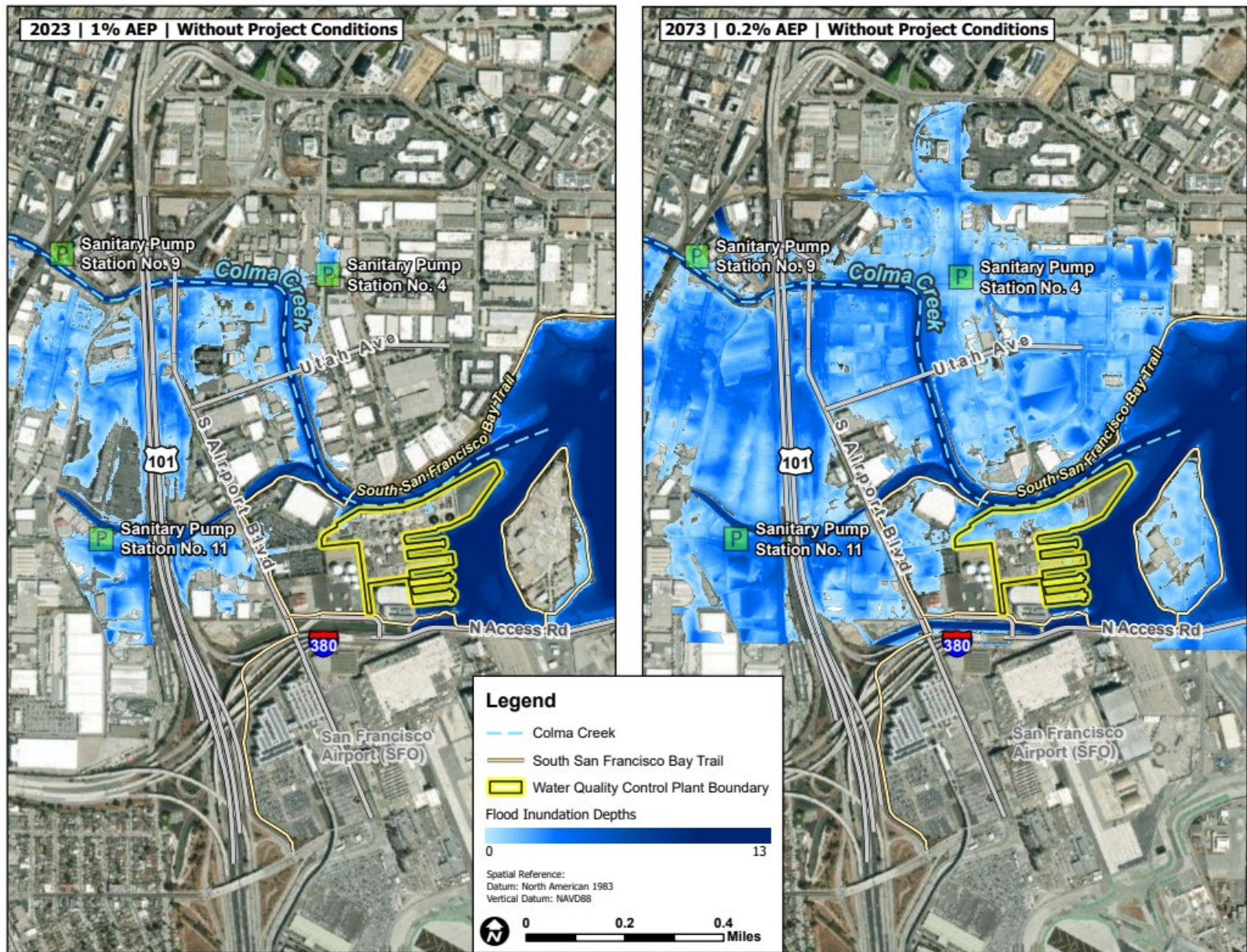


**Table 3: Zone 3 - Description of Facilities**

Building	Name/ID	Square Feet/Perimeter Feet	Stories	Construction	Purpose/Function
1	Transformer K-2	159 Perimeter Ft 1,428 Square Ft	1	Steel	Power Supply to portion of facility.
2	12kV Plant Feed	160 Perimeter Ft 1,444 Square Ft	1	Steel	12,000 Volts Power Supply from PG&E to K, K1, K2, K3 Transformers

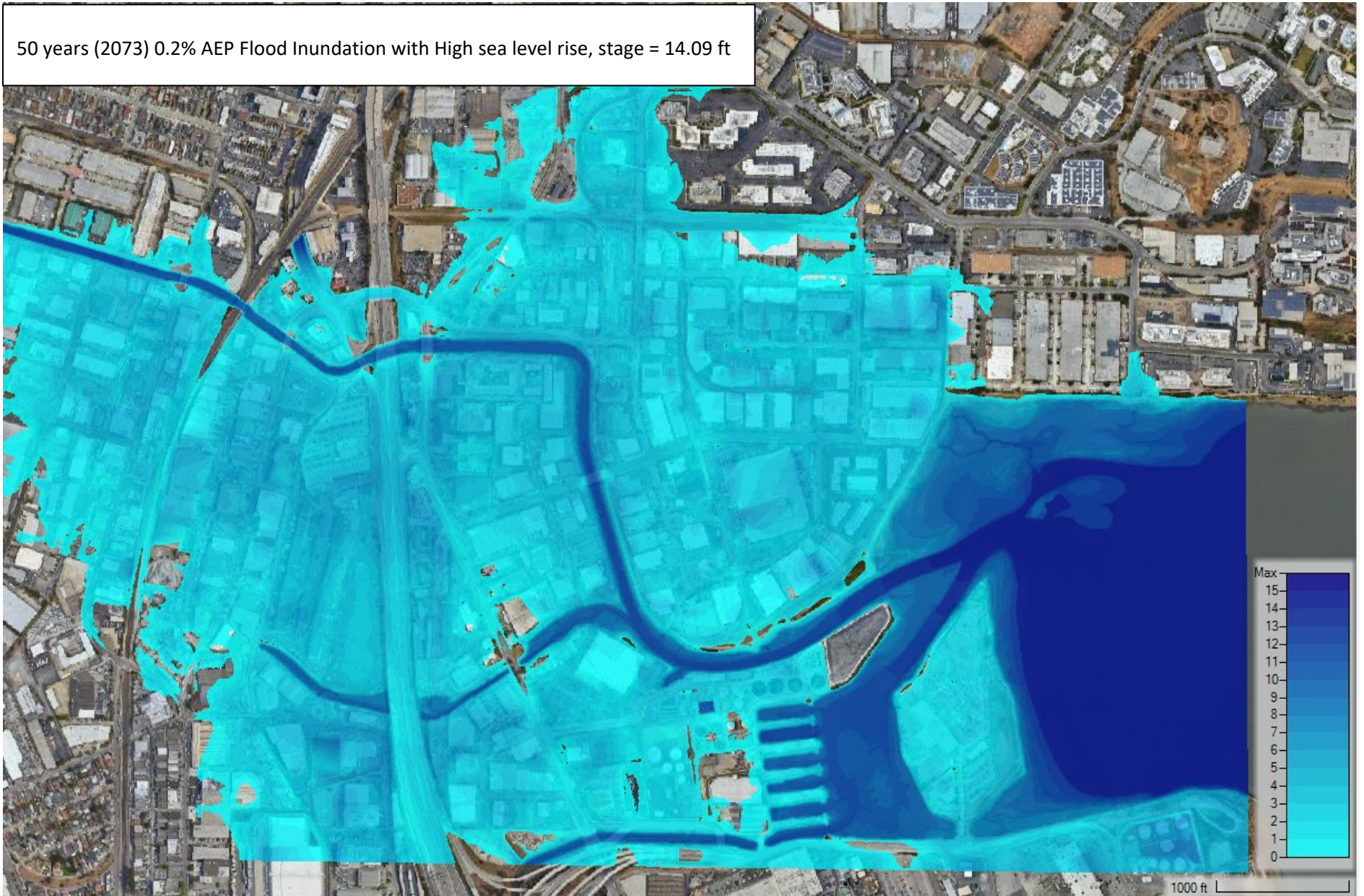
3	Primary Clarifiers / Primary Sludge Facility / Stormwater Station No. 1	882 Perimeter Ft 48,363 Square Ft	1	Concrete	Settling tanks for Sewage and Associate Pumps/ Associated Electrical MCC's & PLC's
4	Dewatering Facility	467 Perimeter Ft 13,259 Square Ft	1	Concrete	Qty. 2 (2m) Belt Presses for Dewatering Digested Sludge from Digesters / Associated Electrical MCC's & PLC's
5	Vactor and Street Sweeping Pits and Plant Storage Area	700 Perimeter Ft 30,522 Square Ft	1	Concrete	Vactor and Street Sweeping Dumping pits. Generator / pumps/ misc. Plant Storage
6	Aerations Basins No. 8 & 9 / Blower Building No. 2	645 Perimeter Ft 24,301 Square Ft	2	Concrete	Aerobic Activated Sludge Treatment / Associated Blowers / Associated Electrical MCC's & PLC's
7	Digesters No 4 & 5 / Boiler No. 3	637 Perimeter Ft 22,792 Square Ft	1	Concrete	Anaerobic Digesters / Digester Mixing and Heating Equipment / Associated Electrical MCC's & PLC's
8	Storage Land Finger	1,129 Perimeter Ft 44,456 Square Ft	1	Dirt	Plant Storage for Misc. Equipment

APPENDIX D: EXISTING CONDITIONS FLOOD MAPS

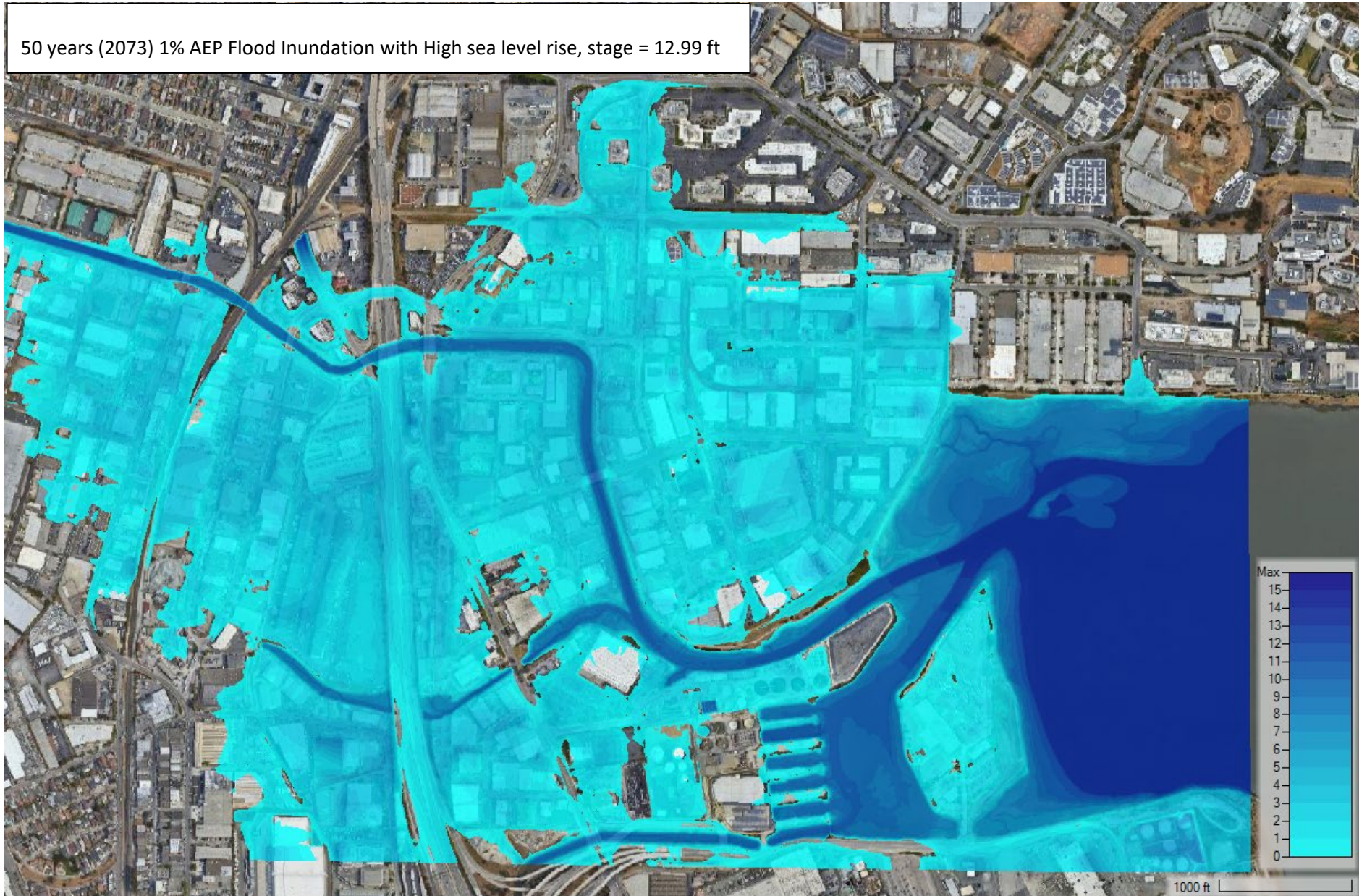


M:\GIS\PROJECTS\FLOOD\_CONTROL\ColmaCreek\MXD\ArcPro\ColmaCreek\_ProjectMap\_HydroSurvey\ColmaCreek\_ProjectMap\_HydroSurvey3.aprx

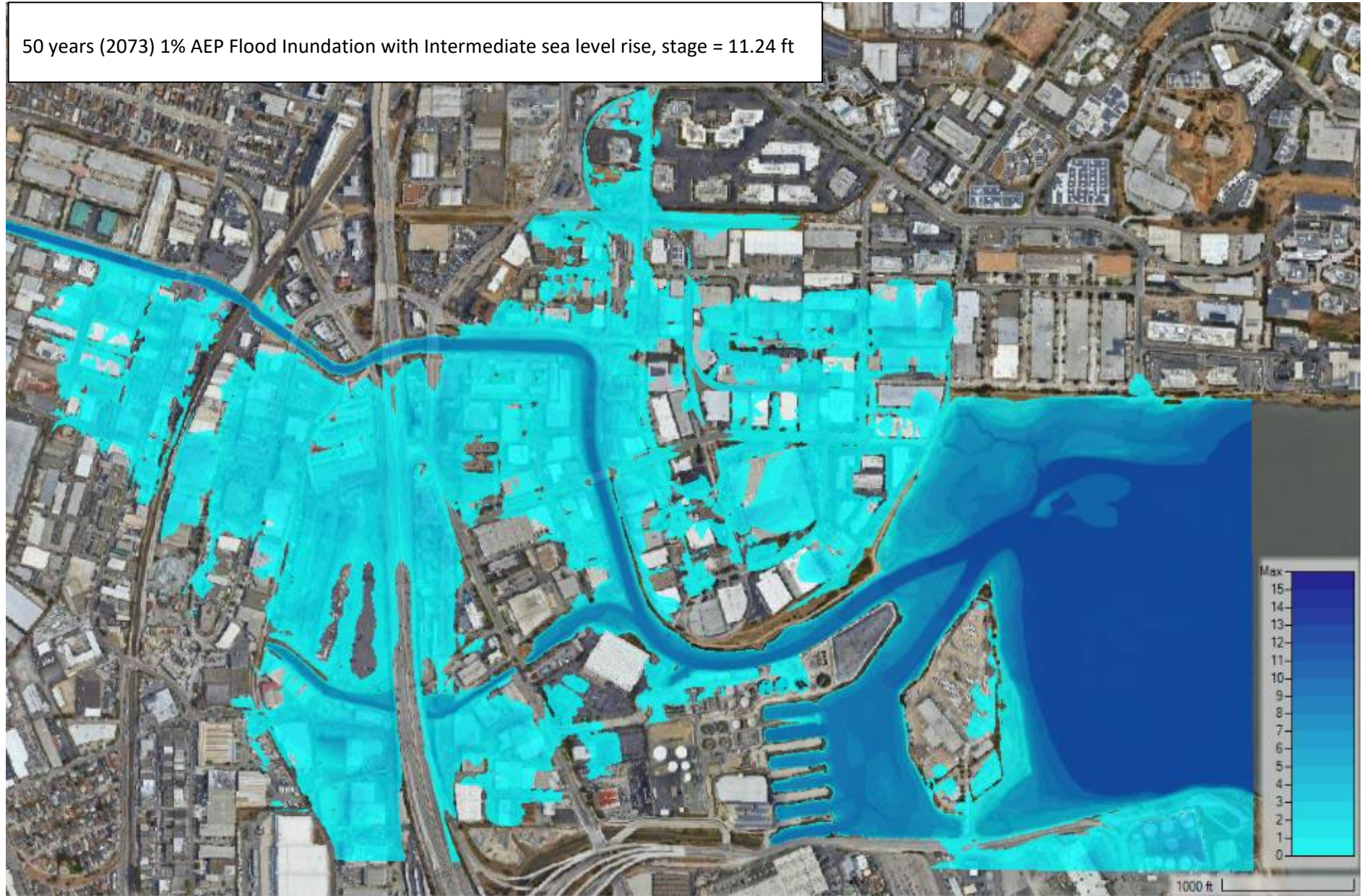
50 years (2073) 0.2% AEP Flood Inundation with High sea level rise, stage = 14.09 ft



50 years (2073) 1% AEP Flood Inundation with High sea level rise, stage = 12.99 ft

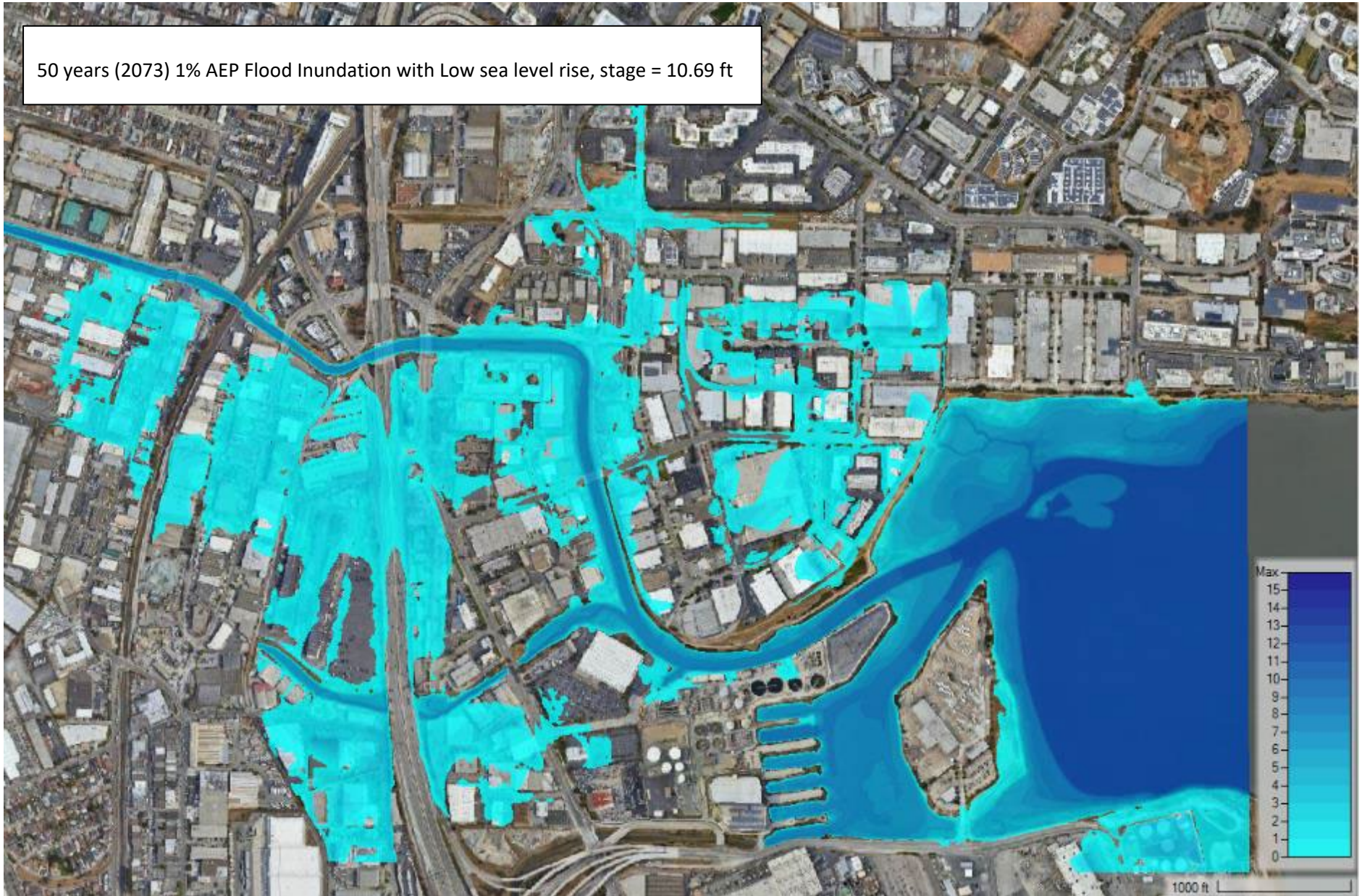


50 years (2073) 1% AEP Flood Inundation with Intermediate sea level rise, stage = 11.24 ft

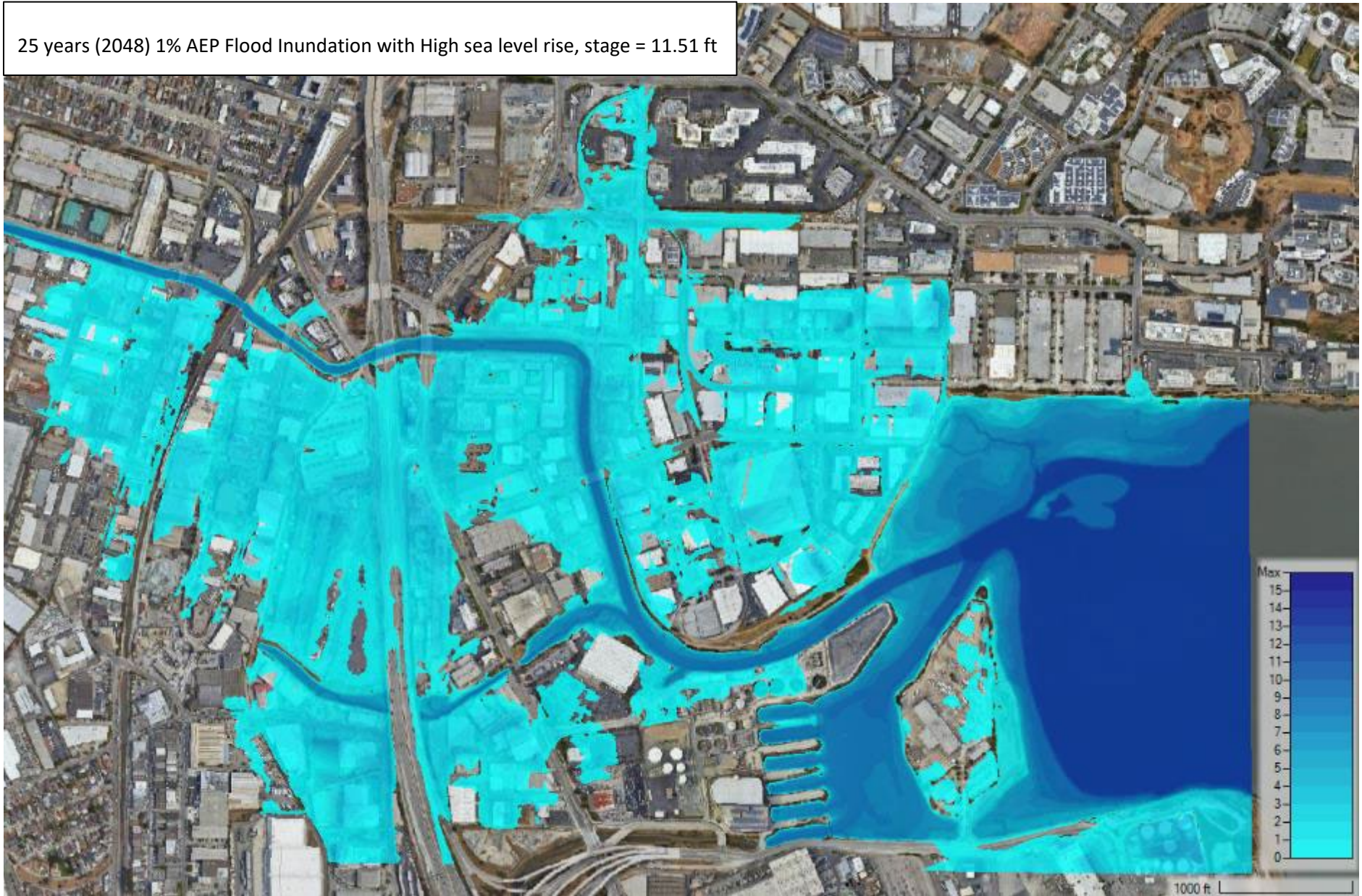




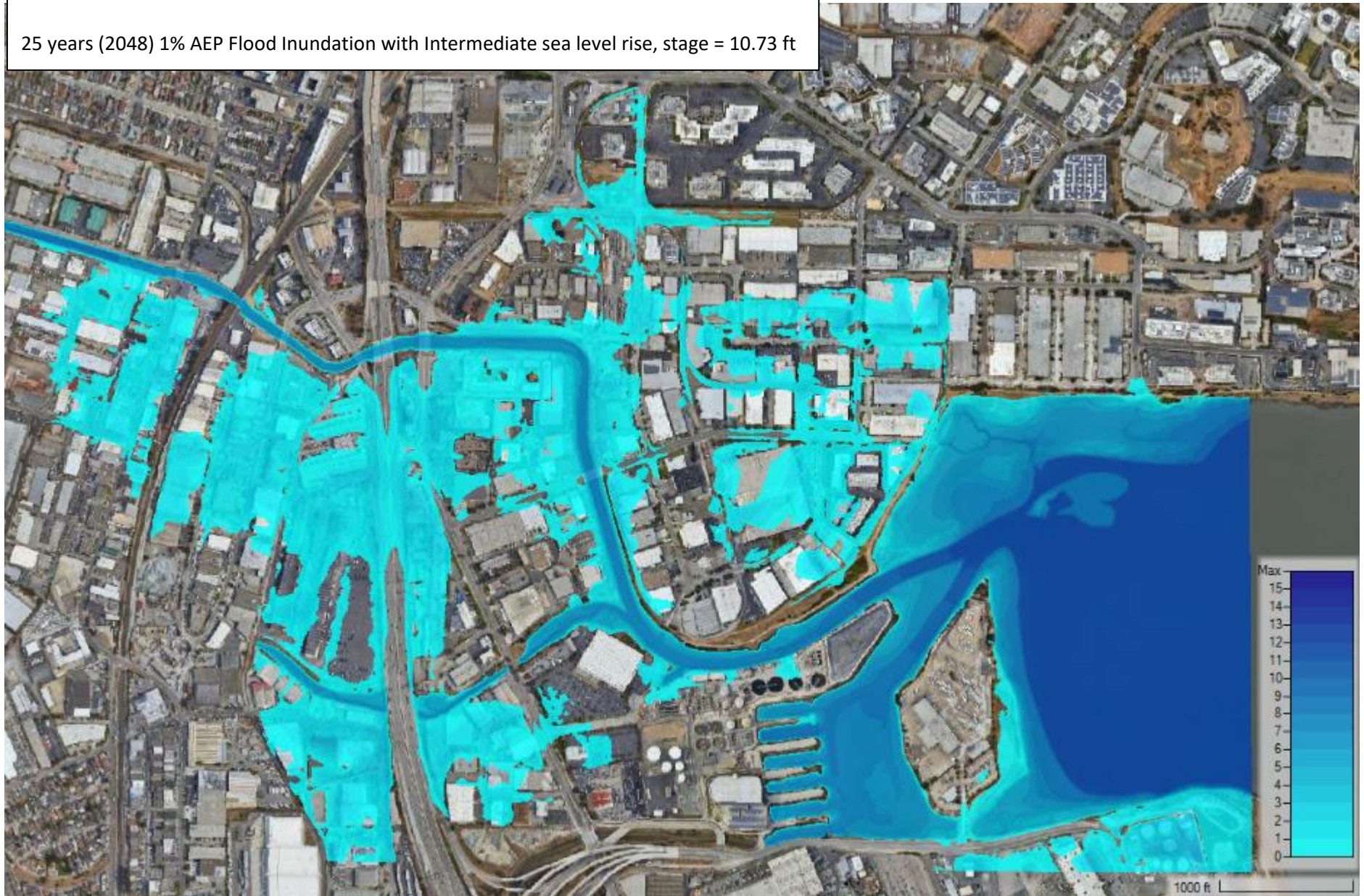
50 years (2073) 1% AEP Flood Inundation with Low sea level rise, stage = 10.69 ft



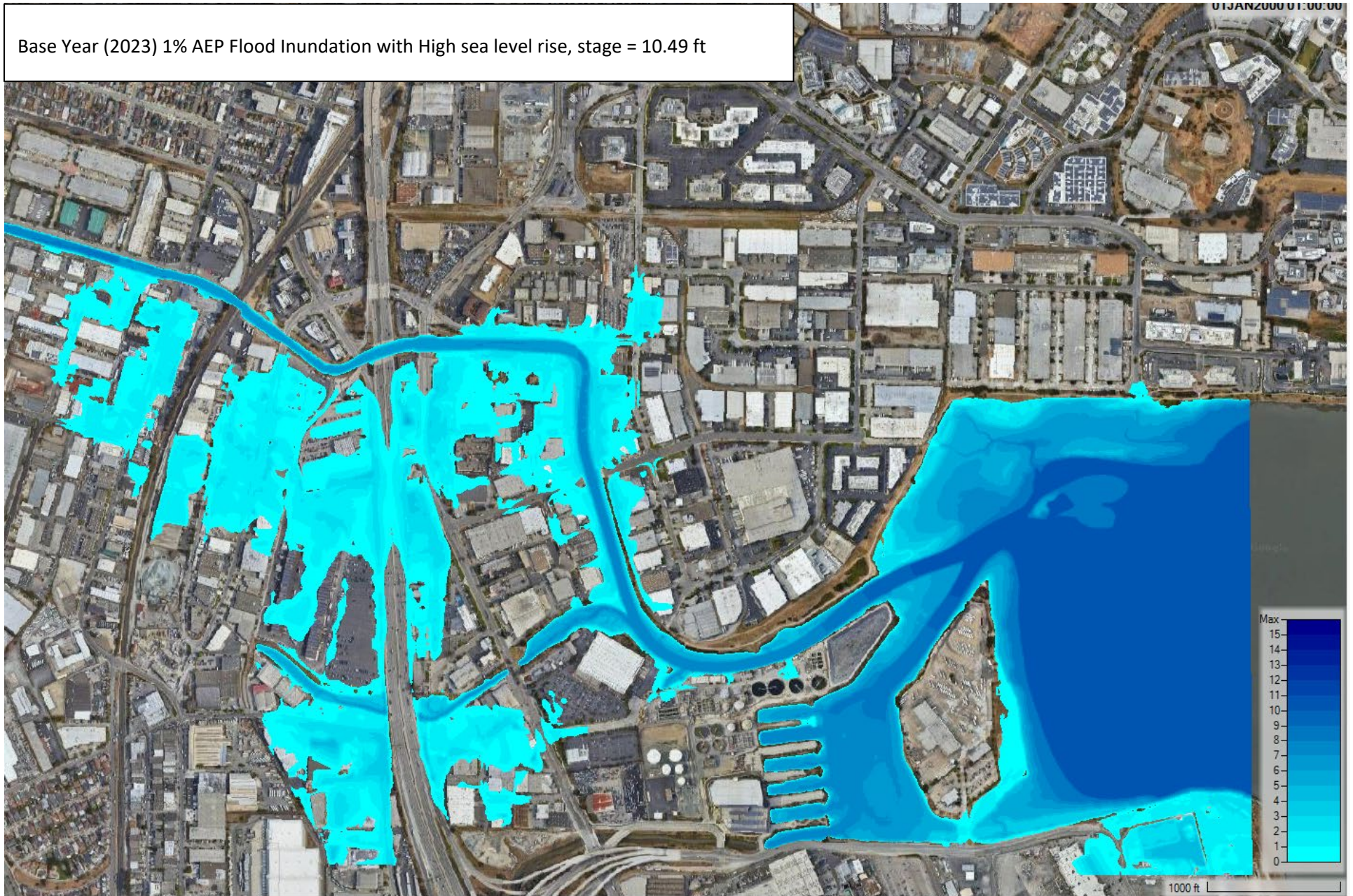
25 years (2048) 1% AEP Flood Inundation with High sea level rise, stage = 11.51 ft



25 years (2048) 1% AEP Flood Inundation with Intermediate sea level rise, stage = 10.73 ft



Base Year (2023) 1% AEP Flood Inundation with High sea level rise, stage = 10.49 ft



## **APPENDIX E: HEC-RAS MODEL REVIEW**

This section summarizes the review of the Future Without-Project Conditions HEC-RAS model. This review was conducted by Patrick Sing from the SPN Water Resources Section in July 2021. The memorandum for record of this review is provided in the attachments.

The following are comments from Mr. Sing that resulted from the review of the HEC-RAS model of FWOP conditions. Additionally, included is the response provided by Mr. Kim and backcheck by Mr. Sing during a meeting conducted on 21 July 2021.

Comment #1: “The description box for the HEC-RAS model on the main menu contains outdated and incorrect information and is also missing important information.

Recommendations: Indicate version of program that was used to develop the model (which is version 5.0.7 per previous verbal communication with Mr. Kim). Correct the citation of “NGVD88”, as this should be “NAVD88” instead. Indicate name of most recent hydraulic engineer that updated the model (Mr. Kim) and indicate date of latest revision (2021). Indicate source of digital elevation model (which is the county of San Mateo per previous verbal communication with Mr. Kim). Remove mention of the “backwater computation Q100 against tides 6-ft to 15.3 ft” as this is not included in the current version of the model.

Response from Mr. Kim: Comment acknowledged. Description box will be updated appropriately.

Backcheck by Mr. Sing: Comment closed.”

Comment #2: “The input boundary condition for the model is a constant stage hydrograph representing tide from San Francisco Bay at the brown location at the eastern end of the model domain. Although the model was run through the unsteady flow analysis, the constant stage value of 12.34 ft (for year 2073, 100-yr event, intermediate sea level change scenario) essentially represents steady flow through the 2D model grid system. The eastern extent of the 2D model domain clearly covers the full extent of the inundation for a 12.34 ft water elevation; the northern extent appears to cover the full extent as well; the southern extent does not appear to cover the full extent, as it appears that a couple feet of water is being cut off prematurely.

Recommendations: There are few paths forward to address the issue described above. One path forward is to simply extend the 2D model domain further south, assuming that the digital elevation model covers that area, so that the entire southern extent of the model domain reaches a ground elevation of 12.34 ft, thereby ensuring that inundation does not get

prematurely cut off. Another path forward is to change the input hydrograph to represent an actual tidal event where there is a rising limb and falling limb of hydrograph, and the peak elevation of 12.34 ft only occurs for a short period of time. The model is currently configured to have 12.34 ft of water from San Francisco Bay enter the study area for a period of two full days; in an actual extreme tide event, you would not have a peak elevation for a duration of two full days, so there is the possibility that the inundation currently computed is being overestimated, particularly near the southern most extent of the model domain. Of course, this path which would require more labor and computation time, as the modeler would have to modify the flow files and rerun the model using an appropriate time step. The model as currently configured with the constant 12.34 ft of water input hydrograph is using a 30-minute time step and can run to completion within seconds; a model with an actual unsteady flow hydrograph would require a much smaller time step (to satisfy the Courant Number requirement) and would require at least several minutes of computation time. The refinement region that is currently used in the model domain should be accounted for in the selection of time step (since cell spacing affects the Courant Number) if a true steady flow hydrograph is used. The final path forward is to simply keep the model setup as-is and provide an explanation in the modeling documentation as to why the inundation is being prematurely cut off. One possible reason could be because the feasibility study area is limited to only certain parts of the watershed; or possibly the feasibility study team is only concerned about inundation of certain areas or certain features, like the water treatment plant. Whatever the reason may be, it can be provided in the modeling documentation.

Response from Mr. Kim: Area of concern for the feasibility study is inundation and damages to the water treatment plant and its associated facilities as covered by the refinement region polygon. No economic analysis will be conducted on the damages and inundation south of the plant in the area highlighted in this comment. No changes to the model domain are proposed at this time.

Backcheck by Mr. Sing: Comment will be closed for now, assuming that the above is described in the modeling documentation and then provided to SPN Water Resources Section.”

Note: This comment is addressed later as part of the additional model refinement (see section 5.2).

Comment #3: “The spreadsheet that describes the maximum water elevations for all of the extreme tide events indicates that anticipated regional sea level rise rate for Redwood City tide gage was used for this analysis. The study area appears to be somewhat equidistant from both the San Francisco (Presidio) and Redwood City tide gages on the western side of San Francisco Bay; there is also the Alameda tide gage on the eastern side of San Francisco Bay. It should be noted that all three gages have their own regional sea level rise rates.

Recommendation: Add short explanation to the spreadsheet and/or modeling documentation regarding why the regional sea level rise rate for the Redwood City tide gage is being used instead of the one for Presidio and Alameda tide gages for this feasibility study area.

Response from Mr. Kim: Regional sea level change scenario rate for Redwood City tide gage is the most conservative of the three gages mentioned above and therefore was used to provide the most conservative inundation estimate. Short explanation can be added to the model documentation and/or spreadsheet.

Backcheck by Mr. Sing: Comment will be closed for now, assuming that the above is described in the modeling documentation and then provided to SPN Water Resources Section.”